

PW8

Pick-Up Header

Operator's Manual

215932 Revision A

Original Instruction

PW8 Pick-Up Header



Published May 2022.

© 2022 MacDon Industries, Ltd.

The information in this publication is based on the information available and in effect at the time of printing. MacDon Industries, Ltd. makes no representation or warranty of any kind, whether expressed or implied, with respect to the information in this publication. MacDon Industries, Ltd. reserves the right to make changes at any time without notice.

California Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm. Battery posts, terminals, and related accessories contain lead and lead components. Wash your hands after handling a battery.

Declaration of Conformity

 <h2 style="margin: 0;">EC Declaration of Conformity</h2>	
<p>[1] MacDon</p> <p>MacDon Industries Ltd. 680 Moray Street, Winnipeg, Manitoba, Canada R3J 3S3</p>	<p>[4] As per Shipping Document</p> <p>[5] May 3, 2022</p>
<p>[2] Combine Pick-Up Header</p> <p>[3] MacDon PW8</p>	<p>[6] _____</p> <p style="text-align: center;">Adrienne Tankeu Product Integrity</p>

EN	BG	CZ	DA
<p>We, [1]</p> <p>Declare, that the product:</p> <p>Machine Type: [2]</p> <p>Name & Model: [3]</p> <p>Serial Number(s): [4]</p> <p>fulfils all the relevant provisions of the Directive 2006/42/EC.</p> <p>Harmonized standards used, as referred to in Article 7(2):</p> <p style="text-align: center;">EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Place and date of declaration: [5]</p> <p>Identity and signature of the person empowered to draw up the declaration: [6]</p> <p>Name and address of the person authorized to compile the technical file:</p> <p>Benedikt von Riedesel General Manager, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Germany) bvonriedesel@macdon.com</p>	<p>Ние, [1]</p> <p>декларираме, че следният продукт:</p> <p>Тип машина: [2]</p> <p>Наименование и модел: [3]</p> <p>Сериен номер(а) [4]</p> <p>отговаря на всички приложими разпоредби на директива 2006/42/ЕО.</p> <p>Използвани са следните хармонизирани стандарти според чл. 7(2):</p> <p style="text-align: center;">EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Място и дата на декларацията: [5]</p> <p>Име и подпис на лицето, упълномощено да изготви декларацията: [6]</p> <p>Име и адрес на лицето, упълномощено да състави техническия файл:</p> <p>Бенедикт фон Рийдесел Управител, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Германия) bvonriedesel@macdon.com</p>	<p>My, [1]</p> <p>Prohláštujeme, že produkt:</p> <p>Typ zařízení: [2]</p> <p>Název a model: [3]</p> <p>Sériové(á) číslo(a): [4]</p> <p>splňuje všechna relevantní ustanovení směrnice 2006/42/EC.</p> <p>Byly použity harmonizované standardy, jak je uvedeno v článku 7(2):</p> <p style="text-align: center;">EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Místo a datum prohlášení: [5]</p> <p>Identita a podpis osoby oprávněné k vydání prohlášení: [6]</p> <p>Jméno a adresa osoby oprávněné k vyplnění technického souboru:</p> <p>Benedikt von Riedesel generální ředitel, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Německo) bvonriedesel@macdon.com</p>	<p>Vi, [1]</p> <p>erklærer, at produktet:</p> <p>Maskintype [2]</p> <p>Navn og model: [3]</p> <p>Serienummer (-numre): [4]</p> <p>Opfylder alle bestemmelser i direktiv 2006/42/EF.</p> <p>Anvendte harmoniserede standarder, som henviser til i paragraf 7(2):</p> <p style="text-align: center;">EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Sted og dato for erklæringen: [5]</p> <p>Identitet på og underskrift fra den person, som er bemyndiget til at udarbejde erklæringen: [6]</p> <p>Navn og adresse på den person, som er bemyndiget til at udarbejde den tekniske fil:</p> <p>Benedikt von Riedesel Direktør, MacDon Europe GmbH Hagenauer Straße 59 D-65203 Wiesbaden (Tyskland) bvonriedesel@macdon.com</p>

DE	ES	ET	FR
<p>Wir, [1]</p> <p>Erklären hiermit, dass das Produkt:</p> <p>Maschinentyp: [2]</p> <p>Name & Modell: [3]</p> <p>Seriennummer (n): [4]</p> <p>alle relevanten Vorschriften der Richtlinie 2006/42/EG erfüllt.</p> <p>Harmonisierte Standards wurden, wie in folgenden Artikeln angegeben, verwendet 7(2):</p> <p style="text-align: center;">EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Ort und Datum der Erklärung: [5]</p> <p>Name und Unterschrift der Person, die dazu befugt ist, die Erklärung auszustellen: [6]</p> <p>Name und Anschrift der Person, die dazu berechtigt ist, die technischen Unterlagen zu erstellen:</p> <p>Benedikt von Riedesel General Manager, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden bvonriedesel@macdon.com</p>	<p>Nosotros [1]</p> <p>declaramos que el producto:</p> <p>Tipo de máquina: [2]</p> <p>Nombre y modelo: [3]</p> <p>Números de serie: [4]</p> <p>cumple con todas las disposiciones pertinentes de la directriz 2006/42/EC.</p> <p>Se utilizaron normas armonizadas, según lo dispuesto en el artículo 7(2):</p> <p style="text-align: center;">EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Lugar y fecha de la declaración: [5]</p> <p>Identidad y firma de la persona facultada para draw redactar la declaración: [6]</p> <p>Nombre y dirección de la persona autorizada para elaborar el expediente técnico:</p> <p>Benedikt von Riedesel Gerente general - MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Alemania) bvonriedesel@macdon.com</p>	<p>Meie, [1]</p> <p>deklareerime, et toode</p> <p>Seadme tüüp: [2]</p> <p>Nimi ja mudel: [3]</p> <p>Seerianumberid: [4]</p> <p>vastab kõigile direktiivi 2006/42/EÜ asjakohastele sätetele.</p> <p>Kasutatud on järgnevaid harmoniseeritud standardeid, millele on viidatud ka punktis 7(2):</p> <p style="text-align: center;">EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Deklaratsiooni koht ja kuupäev: [5]</p> <p>Deklaratsiooni koostamiseks volitatud isiku nimi ja allkiri: [6]</p> <p>Tehnilise dokumendi koostamiseks volitatud isiku nimi ja aadress:</p> <p>Benedikt von Riedesel Peadirektor, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Saksamaa) bvonriedesel@macdon.com</p>	<p>Nous soussignés, [1]</p> <p>Déclarons que le produit :</p> <p>Type de machine : [2]</p> <p>Nom et modèle : [3]</p> <p>Numéro(s) de série : [4]</p> <p>Est conforme à toutes les dispositions pertinentes de la directive 2006/42/EC.</p> <p>Utilisation des normes harmonisées, comme indiqué dans l'Article 7(2):</p> <p style="text-align: center;">EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Lieu et date de la déclaration : [5]</p> <p>Identité et signature de la personne ayant reçu le pouvoir de rédiger cette déclaration : [6]</p> <p>Nom et adresse de la personne autorisée à constituer le dossier technique :</p> <p>Benedikt von Riedesel Directeur général, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Allemagne) bvonriedesel@macdon.com</p>

EC Declaration of Conformity

<p style="text-align: center;">IT</p> <p>Noi, [1] Dichiaro che il prodotto: Tipo di macchina: [2] Nome e modello: [3] Numero(i) di serie: [4] soddisfa tutte le disposizioni rilevanti della direttiva 2006/42/CE.</p> <p>Utilizzo degli standard armonizzati, come indicato nell'Articolo 7(2): EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Luogo e data della dichiarazione: [5] Nome e firma della persona autorizzata a redigere la dichiarazione: [6] Nome e persona autorizzata a compilare il file tecnico: Benedikt von Riedesel General Manager, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Germania) bvonriedesel@macdon.com</p>	<p style="text-align: center;">HU</p> <p>Mi, [1] Ezennel kijelentjűk, hogy a következű termék: Gép típusa: [2] Név és modell: [3] Szériaszám(ok): [4] teljesíti a következű irányelv összes vonatkozó előírásait: 2006/42/EK.</p> <p>Az alábbi harmonizált szabványok kerültek alkalmazásra a 7(2) cikkely szerint: EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>A nyilatkozattétel ideje és helye: [5] Azon személy kiléte és aláírása, aki jogosult a nyilatkozat elkészítésére: [6] Azon személy neve és aláírása, aki felhatalmazott a műszaki dokumentáció összeállítására: Benedikt von Riedesel Vezérigazgató, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Németország) bvonriedesel@macdon.com</p>	<p style="text-align: center;">LT</p> <p>Mes, [1] Pareiškiami, kad šis produktas: Mašinos tipas: [2] Pavadinimas ir modelis: [3] Serijos numeris (-iai): [4] atitinka taikomus reikalavimus pagal Direktyvą 2006/42/EB.</p> <p>Naudojami harmonizuoti standartai, kai nurodoma straipsnyje 7(2): EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Deklaracijos vieta ir data: [5] Asmens tapatybės duomenys ir parašas asmens, įgalioto sudaryti šią deklaraciją: [6] Vardas ir pavardė asmens, kuris įgaliotas sudaryti šį techninį failą: Benedikt von Riedesel Generalinis direktorius, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Vokietija) bvonriedesel@macdon.com</p>	<p style="text-align: center;">LV</p> <p>Mēs, [1] Deklarējam, ka produkts: Mašīnas tips: [2] Nosaukums un modelis: [3] Sērijas numurs(-i): [4] Atbilst visām būtiskajām Direktīvas 2006/42/EK prasībām.</p> <p>Piemēroti šādi saskaņotie standarti, kā minēts 7. pantā 2. punktā: EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Deklarācijas parakstīšanas vieta un datums: [5] Tās personas vārds, uzvārds un paraksts, kas ir pilnvarota sagatavot šo deklarāciju: [6] Tās personas vārds, uzvārds un adrese, kas ir pilnvarota sastādīt tehnisko dokumentāciju: Benedikts fon Rīdzelis Generāldirektors, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Vācija) bvonriedesel@macdon.com</p>
<p style="text-align: center;">NL</p> <p>Wij, [1] Verklaren dat het product: Machinetype: [2] Naam en model: [3] Serienummer(s): [4] voldoet aan alle relevante bepalingen van de Richtlijn 2006/42/EC.</p> <p>Geharmoniseerde normen toegepast, zoals vermeld in Artikel 7(2): EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Plaats en datum van verklaring: [5] Naam en handtekening van de bevoegde persoon om de verklaring op te stellen: [6] Naam en adres van de geautoriseerde persoon om het technisch dossier samen te stellen: Benedikt von Riedesel Algemeen directeur, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Duitsland) bvonriedesel@macdon.com</p>	<p style="text-align: center;">PO</p> <p>My niżej podpisani, [1] Oświadczamy, że produkt: Typ urządzenia: [2] Nazwa i model: [3] Numer serijny/numery seryjne: [4] spełnia wszystkie odpowiednie przepisy dyrektywy 2006/42/WE.</p> <p>Zastosowaliśmy następujące (zharmonizowane) normy zgodnie z artykułem 7(2): EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Data i miejsce oświadczenia: [5] Imię i nazwisko oraz podpis osoby upoważnionej do przygotowania deklaracji: [6] Imię i nazwisko oraz adres osoby upoważnionej do przygotowania dokumentacji technicznej: Benedikt von Riedesel Dyrektor generalny, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Niemcy) bvonriedesel@macdon.com</p>	<p style="text-align: center;">PT</p> <p>Nós, [1] Declaramos, que o produto: Tipo de máquina: [2] Nome e Modelo: [3] Número(s) de Série: [4] cumpre todas as disposições relevantes da Directiva 2006/42/CE.</p> <p>Normas harmonizadas aplicadas, conforme referido no Artigo 7(2): EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Local e data da declaração: [5] Identidade e assinatura da pessoa autorizada a elaborar a declaração: [6] Nome e endereço da pessoa autorizada a compilar o ficheiro técnico: Benedikt von Riedesel Gerente Geral, MacDon Europa Ltda. Hagenauer Straße 59 65203 Wiesbaden (Alemanha) bvonriedesel@macdon.com</p>	<p style="text-align: center;">RO</p> <p>Noi, [1] Declaram, că următorul produs: Tipul mașinii: [2] Denumirea și modelul: [3] Număr (numere) serie: [4] corespunde tuturor dispozițiilor esențiale ale directivei 2006/42/EC.</p> <p>Au fost aplicate următoarele standarde armonizate conform articolului 7(2): EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Data și locul declarației: [5] Identitatea și semnătura persoanei împuternicite pentru întocmirea declarației: [6] Numele și semnătura persoanei autorizate pentru întocmirea cărții tehnice: Benedikt von Riedesel Manager General, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Germania) bvonriedesel@macdon.com</p>
<p style="text-align: center;">SR</p> <p>Mi, [1] Izjavljujemo da proizvod Tip mašine: [2] Naziv i model: [3] Serijski broj(ovi): [4] Ispunjava sve relevantne odredbe direktive 2006/42/EC.</p> <p>Korišćeni su usklađeni standardi kao što je navedeno u članu 7(2): EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Datum i mesto izdavanja deklaracije: [5] Identitet i potpis lica ovlašćenog za sastavljanje deklaracije: [6] Ime i adresa osobe ovlašćene za sastavljanje tehničke datoteke: Benedikt von Riedesel Generalni direktor, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Nemačka) bvonriedesel@macdon.com</p>	<p style="text-align: center;">SV</p> <p>Mi, [1] Intygat att produkten: Maskintyp: [2] Namn och modell: [3] Serienummer: [4] uppfyller alla relevanta villkor i direktivet 2006/42/EG.</p> <p>Harmonierade standarder används, såsom anges i artikel 7(2): EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Plats och datum för intyget: [5] Identitet och signatur för person med befogenhet att upprätta intyget: [6] Namn och adress för person behörig att upprätta den tekniska dokumentationen: Benedikt von Riedesel Administrativ chef, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Tyskland) bvonriedesel@macdon.com</p>	<p style="text-align: center;">SL</p> <p>Mi, [1] izjavljamo, da izdelek: Vrsta stroja: [2] Ime in model: [3] Serijska/-e številka/-e: [4] ustreza vsem zadevnim določbam Direktive 2006/42/ES.</p> <p>Uporabljeni usklajeni standardi, kot je navedeno v členu 7(2): EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Kraj in datum izjave: [5] Istovetnost in podpis osebe, opolnomočene za pripravo izjave: [6] Ime in naslov osebe, pooblaščenca za pripravo tehnične datoteke: Benedikt von Riedesel Generalni direktor, MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Nemčija) bvonriedesel@macdon.com</p>	<p style="text-align: center;">SK</p> <p>My, [1] týmto prehlasujeme, že tento výrobok: Typ zariadenia: [2] Názov a model: [3] Výrobné číslo: [4] splňa príslušné ustanovenia a základné požiadavky smernice č. 2006/42/ES.</p> <p>Použitie harmonizované normy, ktoré sa uvádzajú v článku č. 7(2): EN ISO 4254-1:2013 EN ISO 4254-7:2009</p> <p>Miesto a dátum prehlásenia: [5] Meno a podpis osoby oprávnenej vypracovať toto prehlásenie: [6] Meno a adresa osoby oprávnenej zostaviť technický súbor: Benedikt von Riedesel Generálny riaditeľ MacDon Europe GmbH Hagenauer Straße 59 65203 Wiesbaden (Nemecko) bvonriedesel@macdon.com</p>

UK Declaration of Conformity

[1] **MacDon** [4] As per Shipping Document

MacDon Industries Ltd.
680 Moray Street,
Winnipeg, Manitoba, Canada
R3J 3S3

[5] May 20, 2022

[2] Combine Pick-Up Header

[6] _____

[3] MacDon PW8

Adrienne Tankeu
Product Integrity

We, [1]

Declare, that the product:

Machine Type: [2]

Name & Model: [3]

Serial Number(s): [4]

fulfills all relevant provisions of the Supply of Machinery (Safety) Regulations 2008

Designated standards used are :

EN ISO 4254-1:2015

EN ISO 4254-7:2017

Place and date of declaration: [5]

Identity and signature of the person empowered to draw up the declaration: [6]

Introduction

The MacDon PW8 Pick-Up Header is designed to pick up windrows and feed them into a combine. This manual contains operating and maintenance procedures for the pick-up header for the following combines:

Combine	Model
Case IH	50/60/7088, 51/61/7150, 51/61/7130, 72/82/9250, 51/61/7140, 70/8010, 71/81/9120, 72/82/9230, and 72/82/9240
Challenger®	600B Series, IDEAL™ 7, 8, and 9 Series
Fendt®	IDEAL™ 7, 8, and 9 Series
Gleaner®	R65, 66, 67, 75, 76, 77, and all S and A Series
John Deere	96/97/9860STS, 96/97/9870, S650/660/670/680/690, 9660WTS, and T670
Massey Ferguson®	9005/9500 Series, IDEAL™ 7, 8, and 9 Series
New Holland	All CR/CX Series
Versatile	RT490

When setting up the machine or making adjustments, review and follow the recommended machine settings in all relevant MacDon publications. Failure to do so may compromise machine function and machine life and may result in a hazardous situation.

MacDon provides warranty for Customers who operate and maintain their equipment as described in this manual. A copy of the MacDon Industries Limited Warranty Policy, which explains this warranty, should have been provided to you by your Dealer. Damage resulting from any of the following conditions will void the warranty:

- Accident
- Misuse
- Abuse
- Improper maintenance or neglect
- Abnormal or extraordinary use of the machine
- Failure to use the machine, equipment, component, or part in accordance with the manufacturer's instructions

Conventions

- Right and left are determined from the operator's position. The front of the header is the side that faces the crop; the back of the header is the side that connects to the combine.
- Unless otherwise noted, use the standard torque values provided in Chapter [8.1 Torque Specifications, page 329](#).

NOTE:

Keep your MacDon publications up-to-date. The most current version can be downloaded from our website (www.macdon.com) or from our Dealer-only site (<https://portal.macdon.com>) (login required).

Keep this manual handy for frequent reference and to pass on to new Operators or Owners. The PW8 Pick-Up Header Parts Catalog also is supplied with your new header. Call your Dealer if you need assistance, information, or additional copies of the manuals.

Store the operator's manual and the parts catalog in manual case (A) attached to the back of the header.

Carefully read all the material provided before attempting to maintain, service, or use the machine.

Use this manual as your first source of information about the machine. If you follow the instructions provided in this manual, the pick-up header will work well for many years. Use the Table of Contents and the Index to guide you to specific areas. Study the Table of Contents to familiarize yourself with how the material is organized.

This manual is available in English, French, Portuguese, Russian, and Spanish.

These manuals can be ordered from MacDon, downloaded from the MacDon Dealer Portal (<https://portal.macdon.com>) (login required), or downloaded from the MacDon website (<http://www.macdon.com>).

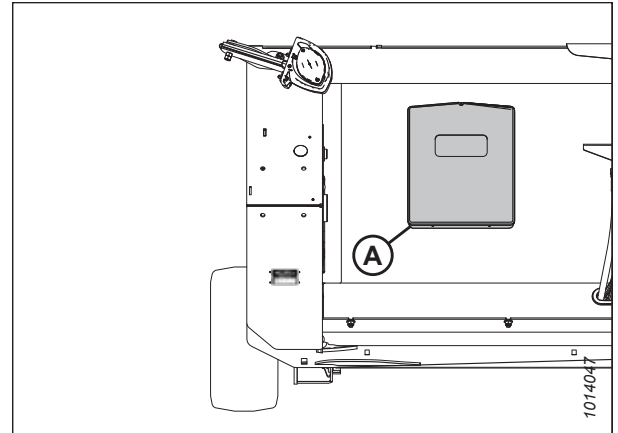


Figure 1: Manual Case

Summary of Changes

The following table lists the changes made from the previous version of this document:

Section	Summary of Change	Internal Use Only
5.3.2 Greasing Points, page 217	Corrected grease interval for optional caster wheels.	Engineering
8.1 Torque Specifications, page 329	Corrected missing torque information.	Publications

Serial Number

Serial number plate (A) is located on the left endsheet.

Record the serial number of your MacDon PW8 Pick-Up Header here:

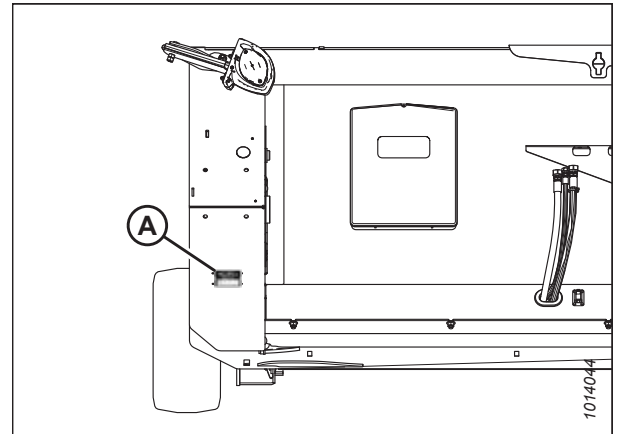


Figure 2: Left Side — Rear View

TABLE OF CONTENTS

Declaration of Conformity i

Introduction iv

Summary of Changes..... vi

Serial Number vii

Chapter 1: Safety 1

 1.1 Safety Alert Symbols 1

 1.2 Signal Words 2

 1.3 General Safety 3

 1.4 Maintenance Safety 5

 1.5 Hydraulic Safety 6

 1.6 Safety Signs 7

 1.6.1 Installing Safety Decals..... 7

 1.7 Safety Sign Locations..... 8

 1.8 Understanding Safety Signs 10

Chapter 2: Product Overview 17

 2.1 Header Specifications 17

 2.2 Header Dimensions..... 18

 2.3 Component Locations 19

 2.4 Definitions 20

Chapter 3: Operation 21

 3.1 Owner/Operator Responsibilities 21

 3.2 Operational Safety..... 22

 3.3 Endshields..... 23

 3.3.1 Opening Left Endshield 23

 3.3.2 Closing Left Endshield 24

 3.3.3 Removing Left Endshield 25

 3.3.4 Installing Left Endshield 26

 3.3.5 Removing Right Endshield 28

 3.3.6 Installing Right Endshield..... 28

 3.4 Header Lift Cylinder Safety Props 30

 3.5 Engaging Hold-Down Lift Cylinder Safety Props 31

 3.6 Daily Start-Up Check 32

 3.7 Shutting Down the Machine 33

 3.8 Break-In Period 34

 3.9 Header Attachment and Detachment..... 35

 3.9.1 IDEAL™ 35

 Attaching Header to IDEAL™ Combine..... 35

 Detaching Header from IDEAL™ Series Combine 38

 3.9.2 Case IH..... 41

TABLE OF CONTENTS

Attaching Header to Case IH Combine	41
Detaching Header from Case IH Combine.....	44
3.9.3 Challenger®, Gleaner®, and Massey Ferguson®	47
Attaching Header to Challenger®, Gleaner®, and Massey Ferguson® Combines	48
Detaching Header from Challenger®, Gleaner®, and Massey Ferguson® Combine.....	53
3.9.4 John Deere 60, 70, S, and T Series.....	55
Attaching Header to John Deere 60, 70, S, or T Series Combine	55
Detaching Header from John Deere 60, 70, S, and T Series Combine.....	59
3.9.5 New Holland CR/CX Series Combine	61
Attaching Header to New Holland CR/CX Series Combine.....	61
Detaching Header from New Holland CR/CX Combine	65
3.9.6 Versatile	67
Attaching Header to Versatile Combine	67
Detaching Header from Versatile Combine.....	72
3.10 Header Transport.....	75
3.10.1 Transport Lights	75
3.11 Header Operation	76
3.11.1 Operating Speed	76
Adjusting Draper Speed	77
3.11.2 Auger Operation	77
Auger Speed	77
Checking Auger Position	78
Auger Float.....	78
Adjusting Auger Position	80
Stripper Plate Clearance.....	81
Adjusting the Stripper Bracket Width – Gleaner® Combines	83
3.11.3 Operating Height.....	86
Header Height.....	86
Pick-Up Height	87
3.11.4 Adjusting Header Float	89
3.11.5 Hold-Downs	91
Hold-Down Position	91
Adjusting Hold-Down Rod Angle.....	92
3.11.6 Crop Deflectors	92
Removing Crop Deflectors from Field Position	92
Installing Crop Deflectors	93
3.11.7 Driveline	94
Clutch.....	94
Driveline Guard	94
3.12 Unplugging Header	96
3.13 Adjusting the Pan Seal Assembly	97
3.14 Storing Header	98
Chapter 4: Auto Header Height Control	99
4.1 Configuring Auto Header Height Control System	99
4.2 Auto Header Height Control Sensor Operation.....	100
4.3 Header Height Sensors	101
4.3.1 Removing Header Height Sensor Assembly — Left Side.....	101

TABLE OF CONTENTS

4.3.2 Installing Header Height Sensor Assembly — Left Side 102

4.3.3 Removing Header Height Control System — Right Side 103

4.3.4 Installing Header Height Sensor Assembly — Right Side 105

4.4 Height Sensor Output Voltage Range – Combine Requirements 107

4.4.1 Manually Checking Voltage Range..... 107

4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side 110

4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side 110

4.5 Case IH 5130/6130/7130 and 5140/6140/7140 Midrange Combines..... 113

4.5.1 Setting up the Header on the Combine Display – Case IH 5130/6130/7130; 5140/6140/7140..... 113

4.5.2 Checking Voltage Range from Combine Cab – Case IH 5130/6130/7130; 5140/6140/7140 114

4.5.3 Calibrating Auto Header Height Control – Case IH 5130/6130/7130; 5140/6140/7140..... 116

4.5.4 Setting Preset Cutting Height – Case IH 5130/6130/7130; 5140/6140/7140..... 117

4.6 Case IH 7010/8010, 7120/8120/9120, 7230/8230/9230, and 7240/8240/9240 Combines..... 120

4.6.1 Checking Voltage Range from Combine Cab – Case 8010 120

4.6.2 Checking Voltage Range from Combine Cab – Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230;
7240/8240/9240 122

4.6.3 Calibrating Auto Header Height Control – Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230;
7240/8240/9240 – Software Versions Below 28.00 123

4.6.4 Calibrating Auto Header Height Control – Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230;
7240/8240/9240 – Software Versions Above 28.00 125

4.6.5 Setting Preset Cutting Height – Case 7010/8010, 7120/8120/9120, 7230/8230/9230,
7240/8240/9240 127

4.7 Challenger® Combines 129

4.7.1 Checking Voltage Range from Combine Cab – Challenger® 6 and 7 Series 129

4.7.2 Engaging Auto Header Height Control – Challenger® 6 Series 130

4.7.3 Calibrating Auto Header Height Control – Challenger® 6 Series 131

4.7.4 Adjusting Header Height – Challenger® 6 Series 132

4.7.5 Adjusting Header Raise/Lower Rate – Challenger® 6 Series 133

4.7.6 Setting Sensitivity of Auto Header Height Control – Challenger® 6 Series 135

4.8 Gleaner® R65/R66/R75/R76 and S Series Combines – Except S9 Series 136

4.8.1 Checking Voltage Range from Combine Cab – Gleaner® R65/R66/R75/R76 and S Series 136

4.8.2 Engaging Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series 137

4.8.3 Calibrating Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series 138

4.8.4 Turning Accumulator Off – Gleaner® R65/R66/R75/R76 and S Series 140

4.8.5 Adjusting Header Raise/Lower Rate – Gleaner® R65/R66/R75/R76 and S Series 140

4.8.6 Adjusting Ground Pressure – Gleaner® R65/R66/R75/R76 and S Series 141

4.8.7 Adjusting Sensitivity of Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series 142

4.8.8 Troubleshooting Alarms and Diagnostic Faults – Gleaner® R65/R66/R75/R76 and S Series 143

4.9 Gleaner® S9 Series Combines 146

4.9.1 Setting up Header – Gleaner® S9 Series 146

4.9.2 Setting up Automatic Header Controls – Gleaner® S9 Series 150

4.9.3 Calibrating Header – Gleaner® S9 Series 152

4.9.4 Operating Header – Gleaner® S9 Series 156

4.9.5 Header In-Field Settings – Gleaner® S9 Series 157

TABLE OF CONTENTS

4.10 IDEAL™ Series Combines	160
4.10.1 Setting up Header – IDEAL™ Series.....	160
4.10.2 Setting up Automatic Header Controls – IDEAL™ Series.....	165
4.10.3 Calibrating Header – IDEAL™ Series.....	166
4.10.4 Operating Header – IDEAL™ Series.....	168
4.10.5 Reviewing Header In-Field Settings – IDEAL™ Series.....	170
4.11 John Deere 60 Series Combines	172
4.11.1 Checking Voltage Range from Combine Cab – John Deere 60 Series.....	172
4.11.2 Calibrating Auto Header Height Control – John Deere 60 Series.....	173
4.11.3 Turning Off Accumulator – John Deere 60 Series.....	174
4.11.4 Setting Sensing Grain Header Height – John Deere 60 Series.....	175
4.11.5 Setting Sensitivity of Auto Header Height Control – John Deere 60 Series.....	176
4.11.6 Adjusting Threshold for Drop Rate Valve – John Deere 60 Series.....	177
4.12 John Deere 70 Series Combines	178
4.12.1 Checking Voltage Range from Combine Cab – John Deere 70 Series.....	178
4.12.2 Calibrating Feeder House Speed – John Deere 70 Series.....	180
4.12.3 Calibrating Auto Header Height Control – John Deere 70 Series.....	180
4.12.4 Setting Sensitivity of Auto Header Height Control – John Deere 70 Series.....	182
4.12.5 Adjusting Manual Header Raise/Lower Rate – John Deere 70 Series.....	182
4.13 John Deere S and T Series Combines	184
4.13.1 Checking Voltage Range from Combine Cab – John Deere S and T Series.....	184
4.13.2 Calibrating Feeder House Fore-Aft Tilt Range – John Deere S and T Series.....	186
4.13.3 Calibrating Auto Header Height Control – John Deere S and T Series.....	188
4.13.4 Setting Sensitivity of Auto Header Height Control – John Deere S and T Series.....	190
4.13.5 Adjusting Manual Header Raise/Lower Rate – John Deere S and T Series.....	191
4.13.6 Setting Preset Cutting Height – John Deere S and T Series.....	192
4.14 New Holland Combines CR/CX Series – CR Series, Model Year 2014 and Earlier	195
4.14.1 Checking Voltage Range from Combine Cab – New Holland CX/CR Series.....	195
4.14.2 Engaging Auto Header Height Control – New Holland CR/CX Series.....	197
4.14.3 Calibrating Auto Header Height Control – New Holland CR/CX Series.....	197
Calibrating Maximum Stubble Height.....	199
4.14.4 Adjusting Header Raise Rate – New Holland CR/CX Series.....	200
4.14.5 Setting Header Lower Rate – New Holland CR/CX Series.....	200
4.14.6 Setting Auto Header Height Control Sensitivity – New Holland CR/CX Series.....	201
4.14.7 Setting Preset Cutting Height – New Holland CR/CX Series.....	201
4.15 New Holland Combines – CR Series, Model Year 2015 and Later	203
4.15.1 Engaging Auto Header Height Control – New Holland CR Series.....	203
4.15.2 Checking Voltage Range from Combine Cab – New Holland CR Series.....	205
4.15.3 Calibrating Auto Header Height Control – New Holland CR Series.....	207
4.15.4 Setting Auto Height – New Holland CR Series.....	209
4.15.5 Setting Maximum Work Height – New Holland CR Series.....	210
Chapter 5: Maintenance and Servicing	213
5.1 Preparing Header for Servicing	213

TABLE OF CONTENTS

5.2	Maintenance Requirements	214
5.2.1	Maintenance Schedule/Record	214
5.2.2	Preseason/Annual Service	215
5.2.3	End-of-Season Service.....	215
5.3	Lubrication	216
5.3.1	Greasing Procedure	216
5.3.2	Greasing Points	217
5.3.3	Lubricating Auger Drive Chain	220
5.4	Installing Sealed Bearing	221
5.5	Drives	222
5.5.1	Header Driveshaft	222
5.5.2	Header Driveline	222
	Removing Header Driveline	222
	Installing Header Driveline	223
	Replacing Driveline Clutch	225
	Removing Driveline Guard.....	226
	Installing Driveline Guard	228
	Cleaning Driveline Splined Shaft	230
5.5.3	Draper Drive Motors and Hydraulic Hoses	231
	Removing Front Hydraulic Motor.....	231
	Installing Front Hydraulic Motor	232
	Removing Rear Hydraulic Motor.....	233
	Installing Rear Hydraulic Motor	234
	Removing Hydraulic Motor Hoses	234
	Installing Hydraulic Motor Hoses	237
5.5.4	Auger Drive.....	238
	Auger Drive Chain.....	239
	Auger Drive Sprockets	241
5.6	Auger Maintenance	247
5.6.1	Replacing Auger Fingers	247
5.6.2	Replacing Auger Finger Guides	248
5.6.3	Replacing Auger Finger Holders	249
5.6.4	Replacing Stripper Plates	253
5.6.5	Replacing Flighting Extensions	254
5.7	Decks	256
5.7.1	Draper Belts	256
	Removing Front Draper Belt	256
	Installing Front Draper Belt.....	257
	Removing Rear Draper Belt	259
	Installing Rear Draper Belt.....	261
5.7.2	Draper Fingers and Guides.....	263
	Replacing Draper Fingers	263
	Replacing Draper Guides.....	264
5.7.3	Draper Deck Roller Bearings.....	265
	Replacing Drive Roller Bearing on Left Side of Rear Deck	266
	Replacing Drive Roller Bearing on Right Side of Rear Deck.....	269
	Replacing Idler Roller Bearing on Left Side of Rear Deck	274
	Replacing Idler Roller Bearing on Right Side of Rear Deck	274

TABLE OF CONTENTS

Aligning Rear Draper Deck Rollers.....	275
Replacing Drive Roller Bearing on Left Side of Front Deck	278
Replacing Drive Roller Bearing on Right Side of Front Deck	280
Replacing Front Deck Idler Roller Bearings	281
Aligning Front Draper Deck Rollers.....	283
5.8 Header Spring Float Assembly.....	288
5.8.1 Removing Header Spring Float Assembly.....	288
5.8.2 Installing Header Spring Float Assembly	289
5.9 Hold-Downs.....	292
5.9.1 Replacing Fiberglass Rods.....	292
5.9.2 Replacing Master Hold-Down Cylinder	293
Removing Master Cylinder	293
Installing Master Cylinder.....	295
5.9.3 Replacing Slave Hold-Down Cylinder.....	296
Removing Slave Cylinder	296
Installing Slave Cylinder	298
5.9.4 Bleeding Cylinders and Lines	299
5.9.5 Hydraulic Hoses and Lines	300
Removing Master Cylinder Hose.....	301
Installing Master Cylinder Hose	304
5.10 Draper Speed Sensor	306
5.10.1 Checking Draper Speed Sensor Position.....	306
5.10.2 Adjusting Draper Speed Sensor.....	307
5.10.3 Replacing Draper Speed Sensor	308
5.11 Wheels and Tires	310
5.11.1 Removing Wheel.....	310
5.11.2 Installing Wheel	311
5.11.3 Inflating Tires	312
5.12 Lights.....	313
5.12.1 Adjusting Transport Lights	313
5.12.2 Replacing Transport Light Bulb	313
5.12.3 Replacing Lens	314
5.12.4 Replacing Lamp Housing.....	314
Chapter 6: Options and Attachments	317
6.1 Hold-Down Performance Kit	317
6.2 Seed Saver Performance Kit	318
6.3 Auger Dent Repair Kit.....	319
6.4 Combine Completion Package Kits.....	320
6.5 Pivoting Caster Wheels Kit	323
Chapter 7: Troubleshooting.....	325
Chapter 8: Reference	329
8.1 Torque Specifications	329
8.1.1 Metric Bolt Specifications	329

TABLE OF CONTENTS

8.1.2 Metric Bolt Specifications Bolting into Cast Aluminum 331

8.1.3 Flare-Type Hydraulic Fittings 332

8.1.4 O-Ring Boss Hydraulic Fittings – Adjustable 333

8.1.5 O-Ring Boss Hydraulic Fittings – Non-Adjustable 334

8.1.6 O-Ring Face Seal Hydraulic Fittings 335

8.1.7 Tapered Pipe Thread Fittings 336

8.2 Conversion Chart 338

Index 339

Recommended Fluids and Lubricants 345

Chapter 1: Safety

Understanding and consistently following these safety procedures will help to ensure the safety of those operating the machine and of bystanders.

1.1 Safety Alert Symbols

The safety alert symbol indicates important safety messages in this manual and on safety signs on the machine.

This symbol means:

- **ATTENTION!**
- **BECOME ALERT!**
- **YOUR SAFETY IS INVOLVED!**

Carefully read and follow the safety message accompanying this symbol.

Why is safety important to you?

- Accidents disable and kill
- Accidents cost
- Accidents can be avoided



Figure 1.1: Safety Symbol

1.2 Signal Words

Three signal words, **DANGER**, **WARNING**, and **CAUTION**, are used to alert you to hazardous situations. Two signal words, **IMPORTANT** and **NOTE**, identify non-safety related information.

Signal words are selected using the following guidelines:

DANGER

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. It may also be used to alert against unsafe practices.

CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may be used to alert against unsafe practices.

IMPORTANT:

Indicates a situation that, if not avoided, could result in a malfunction or damage to the machine.

NOTE:

Provides additional information or advice.

1.3 General Safety

Protect yourself when assembling, operating, and servicing machinery.

CAUTION

The following general farm safety precautions should be part of your operating procedure for all types of machinery.

Wear all protective clothing and personal safety devices that could be necessary for the job at hand. Do **NOT** take chances. You may need the following:

- Hard hat
- Protective footwear with slip-resistant soles
- Protective glasses or goggles
- Heavy gloves
- Wet weather gear
- Respirator or filter mask

In addition, take the following precautions:

- Be aware that exposure to loud noises can cause hearing impairment. Wear suitable hearing protection devices such as earmuffs or earplugs to help protect against loud noises.



Figure 1.2: Safety Equipment



Figure 1.3: Safety Equipment

- Provide a first aid kit in case of emergencies.
- Keep a properly maintained fire extinguisher on the machine. Familiarize yourself with its use.
- Keep young children away from machinery at all times.
- Be aware that accidents often happen when Operators are fatigued or in a hurry. Take time to consider the safest way to accomplish a task. **NEVER** ignore the signs of fatigue.

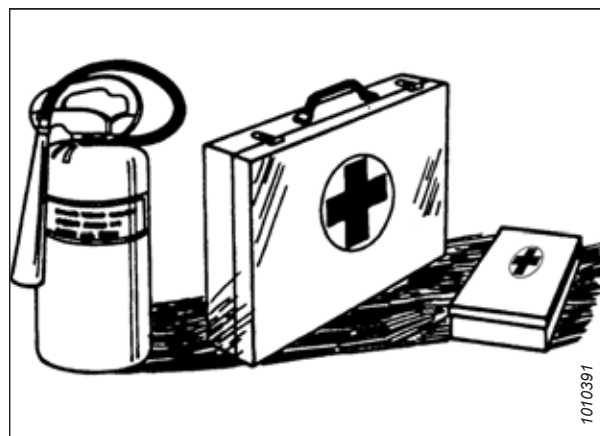


Figure 1.4: Safety Equipment

SAFETY

- Wear close-fitting clothing and cover long hair. **NEVER** wear dangling items such as hoodies, scarves or bracelets.
- Keep all shields in place. **NEVER** alter or remove safety equipment. Ensure that the driveline guards can rotate independently of their shaft, and that they can telescope freely.
- Use only service and repair parts made or approved by the equipment manufacturer. Parts from other manufacturers may not meet the correct strength, design, or safety requirements.



Figure 1.5: Safety around Equipment

- Keep hands, feet, clothing, and hair away from moving parts. **NEVER** attempt to clear obstructions or objects from a machine while the engine is running.
- Do **NOT** modify the machine. Unauthorized modifications may impair the functionality and/or safety of the machine. It may also shorten the machine's service life.
- To avoid injury or death from the unexpected startup of the machine, **ALWAYS** stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

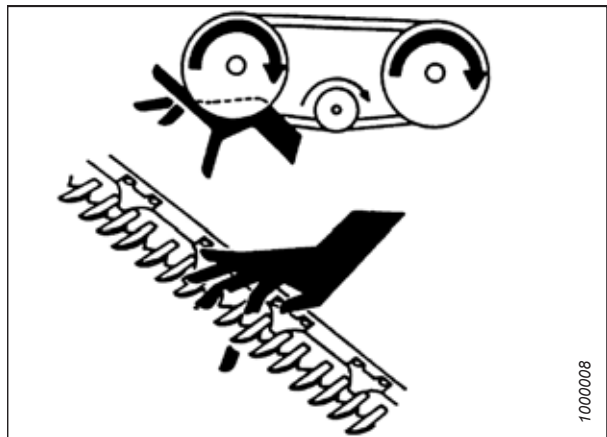


Figure 1.6: Safety around Equipment

- Keep the machine service area clean and dry. Wet and/or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment. Ensure that all electrical outlets and tools are properly grounded.
- Keep the work area well-lit.
- Keep machinery clean. Straw and chaff on a hot engine are fire hazards. Do **NOT** allow oil or grease to accumulate on service platforms, ladders, or controls. Clean machines before they are stored.
- **NEVER** use gasoline, naphtha, or any volatile material for cleaning purposes. These materials may be toxic and/or flammable.
- When storing machinery, cover any sharp or extending components to prevent injury from accidental contact.



Figure 1.7: Safety around Equipment

1.4 Maintenance Safety

Protect yourself when maintaining machinery.

To ensure your safety while maintaining the machine:

- Review the operator's manual and all safety items before operating or performing maintenance on the machine.
- Place all controls in Neutral, stop the engine, set the parking brake, remove the ignition key, and wait for all moving parts to stop before servicing, adjusting, or repairing the machine.
- Follow good shop practices:
 - Keep service areas clean and dry
 - Ensure that electrical outlets and tools are properly grounded
 - Keep the work area well lit
- Relieve pressure from hydraulic circuits before servicing and/or disconnecting the machine.
- Ensure that all components are tight and that steel lines, hoses, and couplings are in good condition before applying pressure to hydraulic systems.
- Keep hands, feet, clothing, and hair away from all moving and/or rotating parts.
- Clear the area of bystanders, especially children, when carrying out any maintenance, repairs, or adjustments.
- Install the transport lock or place safety stands under the frame before working under the machine.
- If more than one person is servicing the machine at the same time, be aware that rotating a driveline or another mechanically driven component by hand (for example, accessing a lubricant fitting) will cause drive components in other areas (belts, pulleys, and knives) to move. Stay clear of driven components at all times.
- Wear protective gear when working on the machine.
- Wear heavy gloves when working on knife components.



Figure 1.8: Safety around Equipment

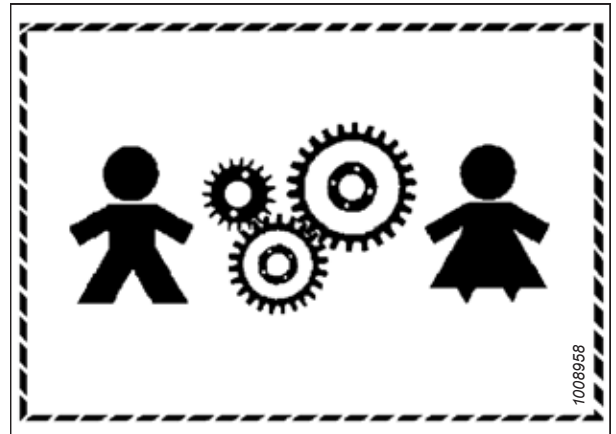


Figure 1.9: Equipment is NOT Safe for Children



Figure 1.10: Safety Equipment

1.5 Hydraulic Safety

Protect yourself when assembling, operating, and servicing hydraulic components.

- Always place all hydraulic controls in Neutral before leaving the operator's seat.
- Make sure that all components in the hydraulic system are kept clean and in good condition.
- Replace any worn, cut, abraded, flattened, or crimped hoses and steel lines.
- Do **NOT** attempt any makeshift repairs to hydraulic lines, fittings, or hoses by using tapes, clamps, cements, or welding. The hydraulic system operates under extremely high pressure. Makeshift repairs can fail suddenly and create hazardous conditions.

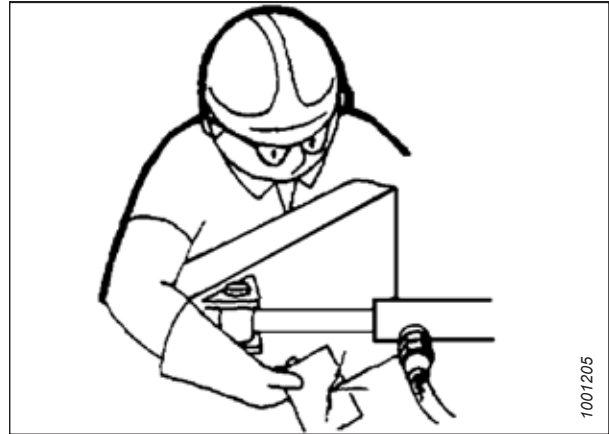


Figure 1.11: Testing for Hydraulic Leaks

- Wear proper hand and eye protection when searching for high-pressure hydraulic fluid leaks. Use a piece of cardboard as a backstop instead of your hands to isolate and identify a leak.
- If injured by a concentrated, high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin.



Figure 1.12: Hydraulic Pressure Hazard

- Ensure that all components are tight and that steel lines, hoses, and couplings are in good condition before applying pressure to a hydraulic system.

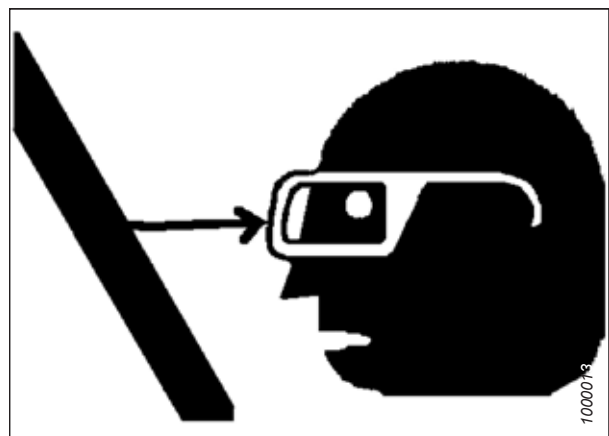


Figure 1.13: Safety around Equipment

1.6 Safety Signs

Safety signs are decals placed on the machine where there is a risk of personal injury, or where the Operator should take extra precautions before operating the controls. They are usually yellow.

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or illegible.
- If the original part on which a safety sign was installed is replaced, ensure that the repair part displays the current safety sign.
- Replacement safety signs are available from your MacDon Dealer Parts Department.

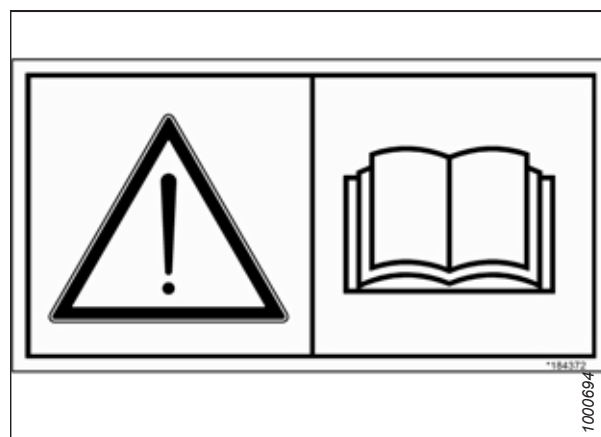


Figure 1.14: Operator's Manual Decal

1.6.1 Installing Safety Decals

Replace any safety decals that are worn or damaged.

1. Decide exactly where you are going to place the decal.
2. Clean and dry the installation area.
3. Remove the smaller portion of the split backing paper.
4. Place the decal in position and slowly peel back the remaining paper, smoothing the decal as it is applied.
5. Prick small air pockets with a pin and smooth them out.

1.7 Safety Sign Locations

Replace any missing or damaged decals.

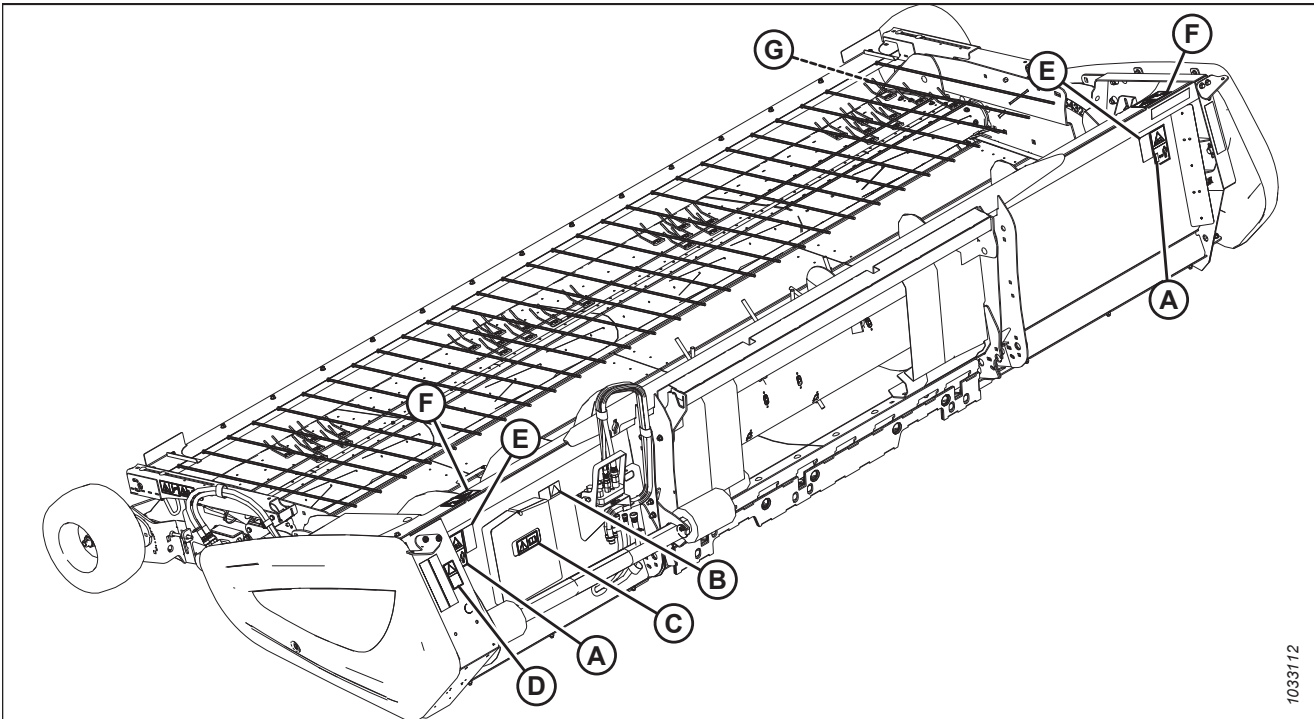


Figure 1.15: Header Decals

A - MD #184370
 D - MD #184422
 G - MD #304865 (North America)

B - MD #166466
 E - MD #184420

C - MD #184372
 F - MD #237298

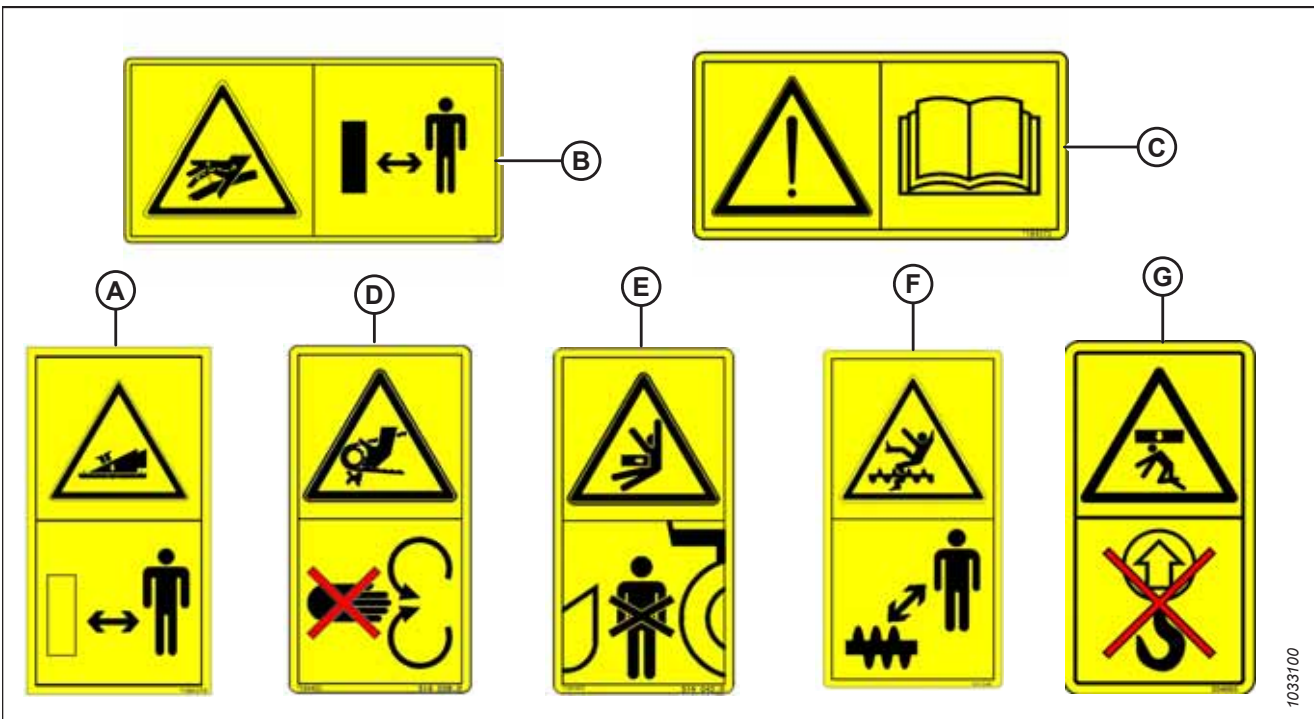


Figure 1.16: Header Decals

SAFETY

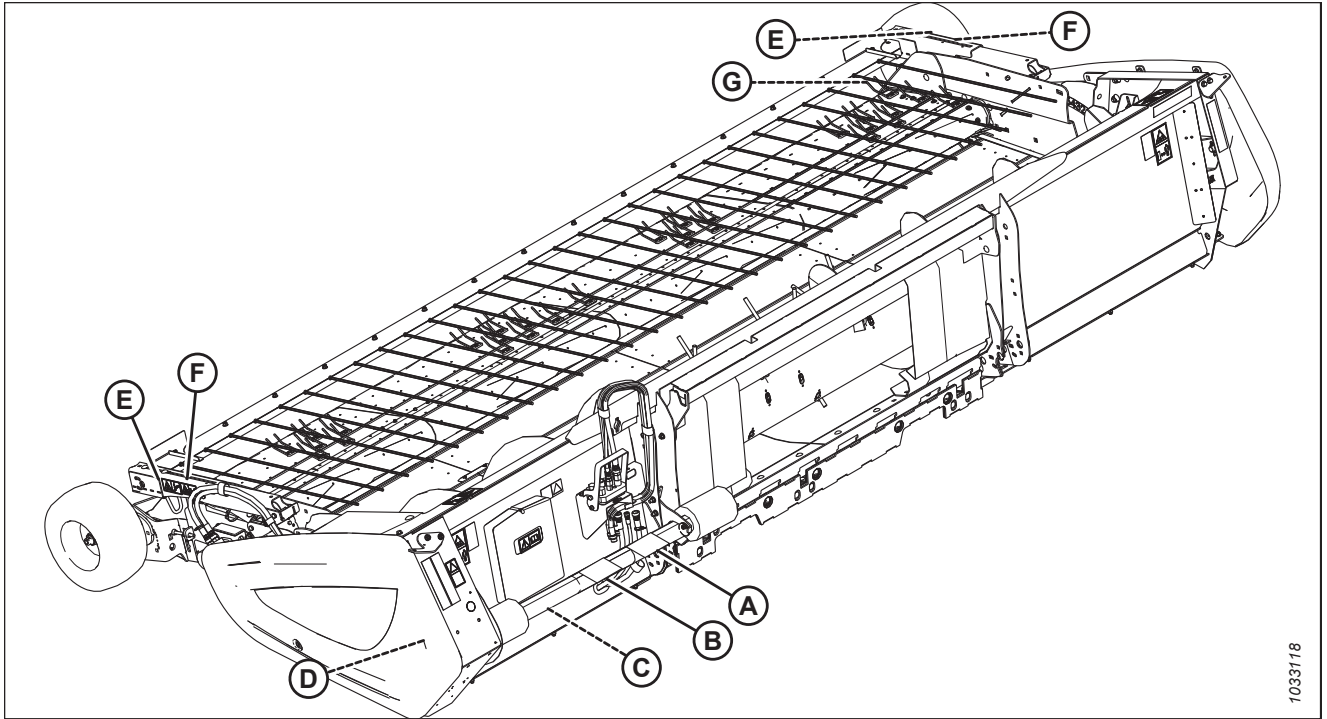


Figure 1.17: Driveline and Hold-Down Decals

A - MD #30316

D - MD #184422 (Behind Endshield)

G - MD #304865 (North America)

B - See footnote¹

E - MD #237229

C - MD #36651

F - MD #237254

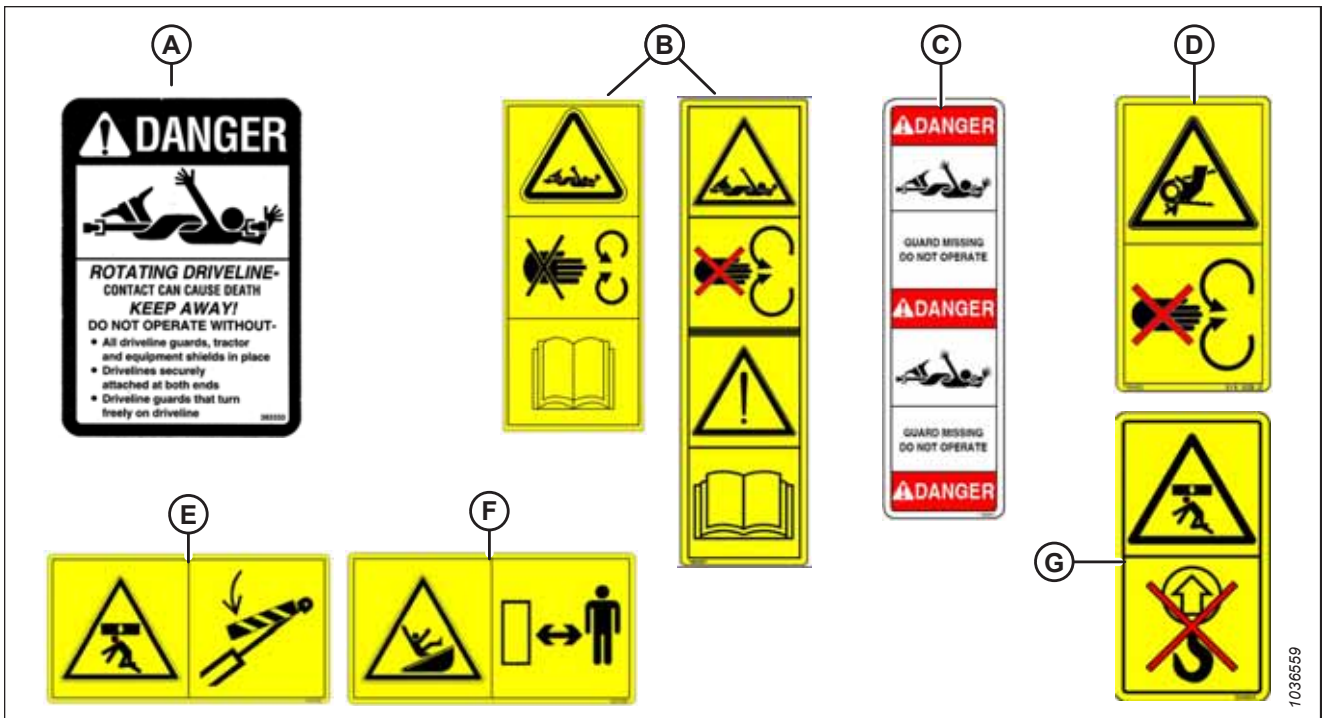


Figure 1.18: Driveline and Hold-Down Decals

1. MD #191099 (if Waltersheid supplies the driveline) or MD #194521 (if Weasler supplies the driveline)

1.8 Understanding Safety Signs

Refer to this topic to learn the hazards that each type of safety decal denotes.

MD #30316

Driveline entanglement hazard

DANGER

- A rotating driveline contact can cause death—**keep away!**

Do **NOT** operate the header without:

- All driveline guards and equipment shields in place.
- Drivelines securely attached at both ends.
- Driveline guards that turn freely on the driveline.



Figure 1.19: MD #30316

MD #36651

Driveline entanglement hazard

DANGER

- A rotating driveline contact can cause death—**keep away!**

Do **NOT** operate without:

- Stopping the engine and removing the key before opening the shield.
- All driveline guards and equipment shields in place.



Figure 1.20: MD #36651

MD #166466

High-pressure oil hazard

WARNING

High-pressure hydraulic fluid can penetrate human skin, which can cause serious injury such as gangrene, which can be fatal. To prevent this:

- Do **NOT** go near hydraulic fluid leaks.
- Do **NOT** use a finger or skin to check for hydraulic fluid leaks.
- Lower the load or relieve the pressure in the hydraulic system before loosening any hydraulic fittings.
- If you are injured, seek emergency medical help. **IMMEDIATE** surgery is required to remove hydraulic fluid which has penetrated the skin.



Figure 1.21: MD #166466

SAFETY

MD #184370

Crushing hazard

DANGER

To prevent injury or death from being crushed or pinned:

- Fully raise the header, stop the engine, remove the key from the ignition, and engage the mechanical safety locks on the combine before going under the header.
- Alternatively, rest the header on the ground, stop the engine, and remove the key from the ignition.



Figure 1.22: MD #184370

MD #184372

General hazard pertaining to machine operation and servicing

DANGER

To prevent injury or death from the improper or unsafe operation of the machine:

- Read the operator's manual and follow all safety instructions. If you do not have a manual, obtain one from your Dealer.
- Do **NOT** allow untrained persons to operate the machine.
- Review these safety instructions with all machine Operators every year.
- Ensure that all safety signs are installed and are legible.
- Make certain that bystanders are clear of the header before starting the engine and during operation of the header.
- Keep riders off of the machine.
- Keep all shields in place. Stay clear of moving parts.
- Disengage the header drive, put the transmission into Neutral, and wait for all movement to stop before leaving the operator's position.
- Stop the engine and remove the key from the ignition before servicing, adjusting, lubricating, cleaning, or unplugging the machine.
- Before servicing a header in the raised position, engage the combine's cylinder safety props.
- Display a slow-moving vehicle emblem and activate the header's warning lights when operating the header on roadways (unless these actions are prohibited by law).

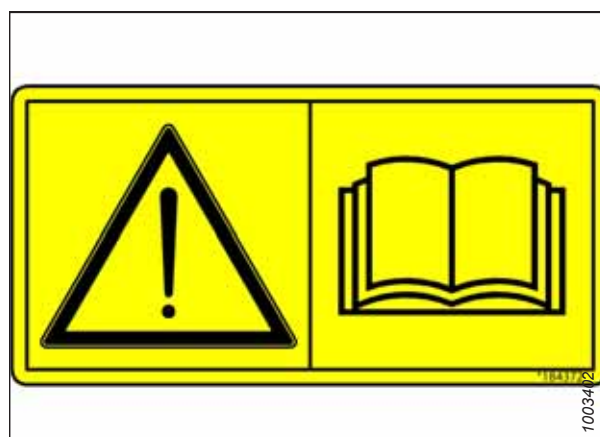


Figure 1.23: MD #184372

SAFETY

MD #184420

Crushing hazard

DANGER

To prevent injury or death from being pinned or crushed:

- Stay clear of the header when any of its parts are in motion.



Figure 1.24: MD #184420

MD #184422

Hand and arm entanglement hazard

WARNING

To prevent injury:

- Stop the engine and remove the key before opening any shielding.
- Do **NOT** operate the header without the shields in place.



Figure 1.25: MD #184422

MD #191099

Auger entanglement hazard

DANGER

To prevent injury:

- Stop the engine and remove the key before opening the shield.
- Do **NOT** operate the header without shields in place.

General hazard pertaining to machine operation and servicing

DANGER

To prevent injury or death from the improper or unsafe operation of this machine:

- Read the operator's manual and follow these safety instructions. If you do not have a manual, obtain one from your Dealer.
- Do **NOT** allow untrained persons to operate the machine.
- Review these safety instructions with all Operators every year.
- Ensure that all safety signs are installed and are legible.
- Make certain that bystanders are clear of the header before starting the engine and while operating the header.
- Keep riders off of the machine.
- Keep all shields in place during operation and stay clear of moving parts.
- Disengage the header drive, put the transmission into Neutral, and wait for all movement to stop before leaving the operator's position.
- Stop the engine and remove the key from the ignition before servicing, adjusting, lubricating, cleaning, or unplugging the header.
- Engage the safety locks to prevent the unit from falling while it is being serviced in the raised position.
- Display a slow-moving vehicle emblem and activate the warning lights when operating the header on roadways (unless these actions are prohibited by law).

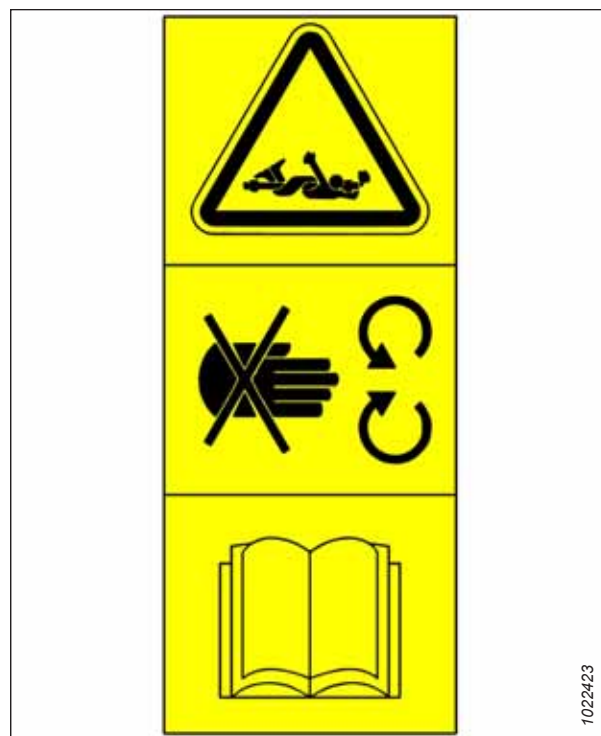


Figure 1.26: MD #191099

1022423

SAFETY

MD #237229

Header crushing hazard

DANGER

To prevent injury or death from being crushed or pinned:

- Fully raise the header, stop the engine, remove the key from the ignition, and engage the mechanical safety locks on the combine before going under the header.
- Alternatively, rest the header on the ground, stop the engine, and remove the key from the ignition before servicing the machine.



Figure 1.27: MD #237229

MD #237254

Header entanglement hazard

DANGER

To prevent injury from entanglement with moving parts:

- Stand clear of the header while it is running.



Figure 1.28: MD #237254

MD #237298

Auger entanglement hazard

DANGER

To prevent injury:

- Stop the engine and remove the key from the ignition before opening the shield.
- Do **NOT** operate the header without the shields in place.



Figure 1.29: MD #237298

SAFETY

MD #304865

Header crushing hazard

WARNING

To prevent injury or death from the fall of a raised header:

- Do **NOT** lift the header at the marked locations.
- Only use locations marked for this purpose to lower the header from the vertical to the horizontal position.



Figure 1.30: MD #304865

Chapter 2: Product Overview

Refer to this section to learn about the dimensions, weights, and equipment specifications for your pick-up header and its systems.

2.1 Header Specifications

Refer to this section to learn about the physical characteristics and equipment specifications of the pick-up header.

Table 2.1 Header Specifications

Components	Specifications
Frame and Structure	
Width to edge of tires	Refer to 2.2 Header Dimensions, page 18
Width (transport lights extended)	Refer to 2.2 Header Dimensions, page 18
Depth	Refer to 2.2 Header Dimensions, page 18
Height (transport lights extended)	Refer to 2.2 Header Dimensions, page 18
Weight (not including completion packages)	1366 kg (3006 lb.)
Carrier	Case IH, New Holland, John Deere, Versatile
Lighting	Two amber transport
Manual storage	Header-mounted storage case
Pick-up	
Actual picking width	Refer to 2.2 Header Dimensions, page 18
Draper width	Refer to 2.2 Header Dimensions, page 18
Quantity of pick-up fingers	392
Draper drives	Two 97 cc (5.9 in. ³) hydraulic motors
Auger	
Diameter (including flighting)	615 mm (24 in.)
Tube diameter	410 mm (16 in.)
Quantity of fingers	13–22
Finger diameter	16 mm (5/8 in.) diameter induction hardened
Speed (combine dependent)	141–204 rpm
Driveline	
Type	Heavy-duty PTO type, fully shielded with built-in clutch
Connections	Locking collar
Tires	
Size	18-1/2 / 8-1/2 x 8
Pressure	240–310 kPa (35–45 psi)

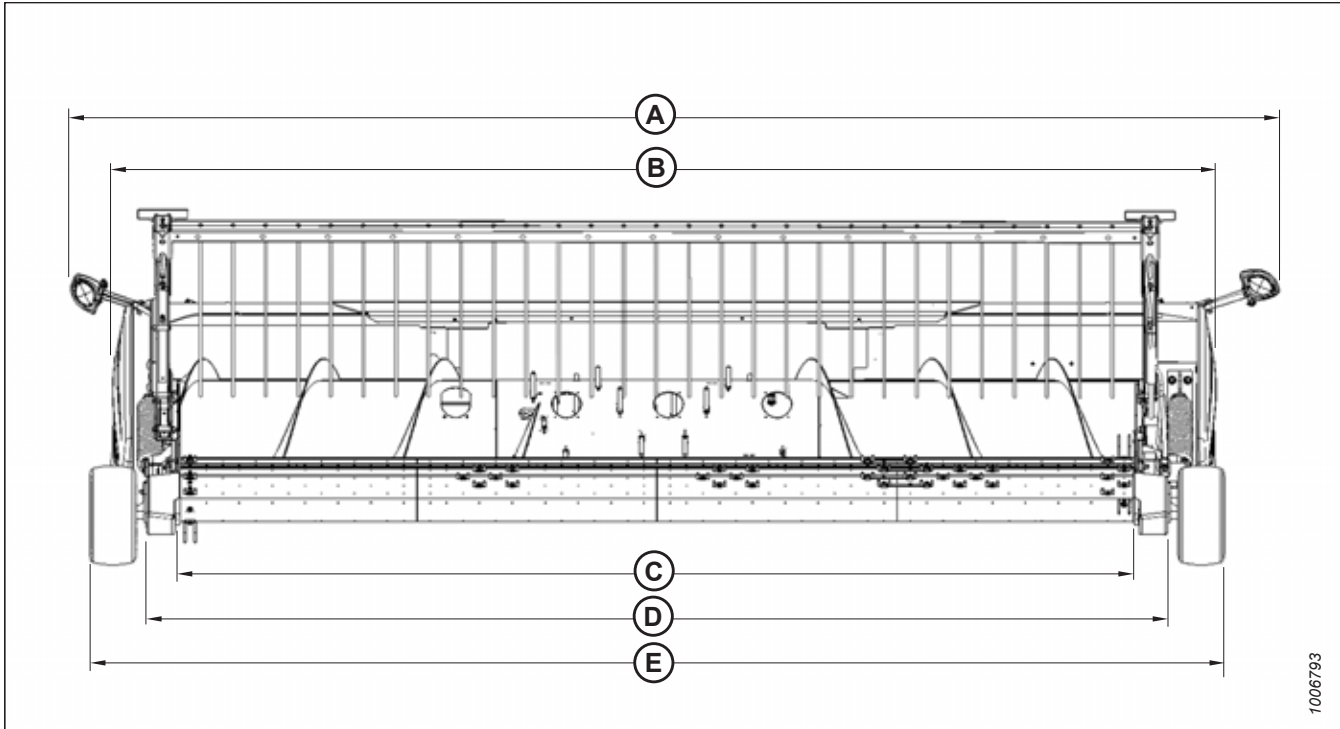
NOTE:

The specifications and design of this pick-up header are subject to change without notice or without obligation to revise previously sold units.

2.2 Header Dimensions

The length and width of your pick-up header can be specified in several ways, including frame size and wheel-to-wheel width.

Figure 2.1: Header Dimensions

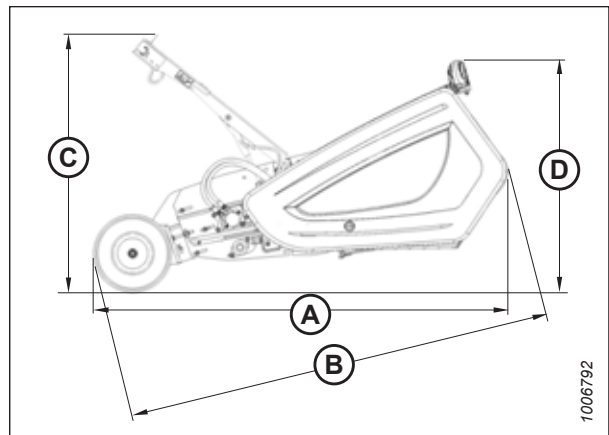


1006793

A - 565.8 cm (222 3/4 in.)
D - 476.6 cm (187 5/8 in.)

B - 516.9 cm (203 1/2 in.)
E - 531.8 cm (209 3/8 in.)

C - 452.3 cm (178 1/8 in.)



1006792

Figure 2.2: Header Dimensions

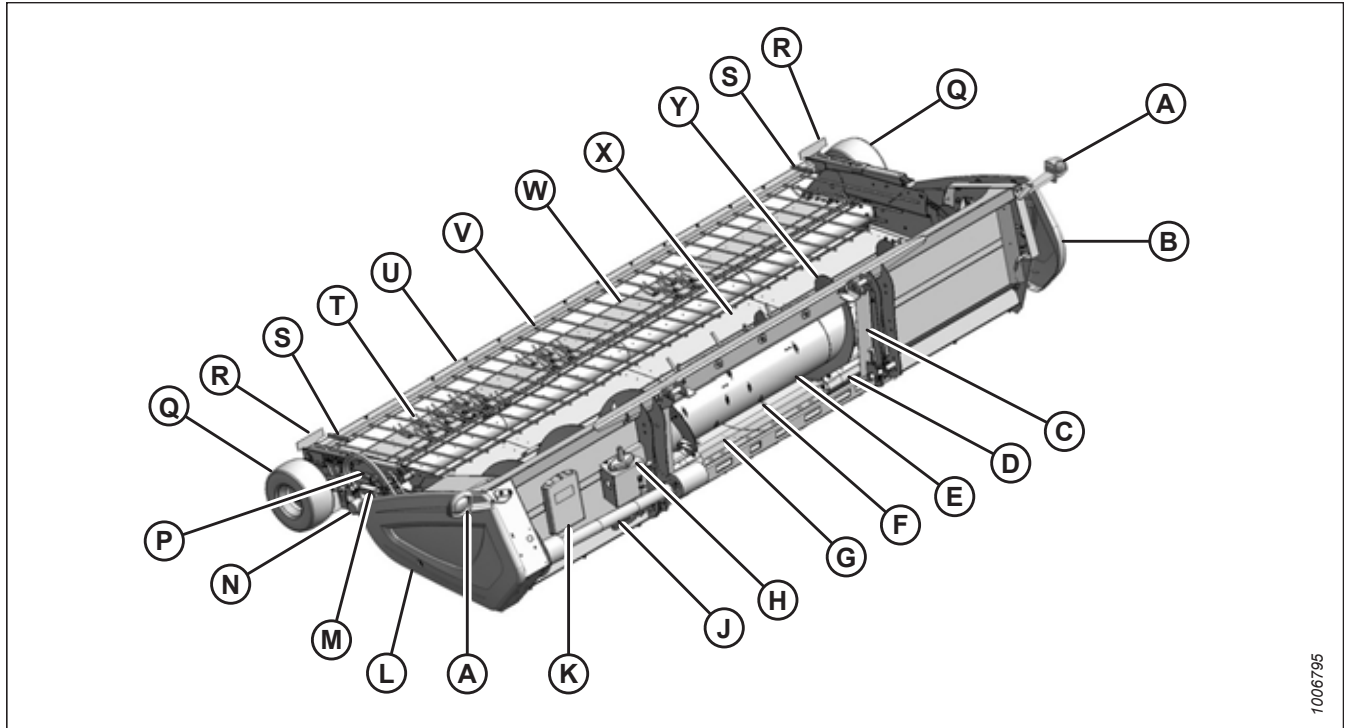
A - 246.1 cm (96 7/8 in.)
C - 154.4 cm (60 3/4 in.)

B - 251.3 cm (98 7/8 in.)
D - 138.1 cm (54 3/8 in.)

2.3 Component Locations

Knowing the location and the identity of key components is critical to operating and properly maintaining the machine.

Figure 2.3: PW8 Pick-Up Header



A - Transport Light
 D - Stripper Plate
 G - Auger Pan
 K - Manual Case
 N - Draper Drive Motor
 R - Reflector
 U - Hold-Down
 X - Rear Draper Deck

B - Endshield (Fixed)
 E - Auger
 H - Multicoupler Receptacle
 L - Endshield (Latched)
 P - Hold-Down Lift Cylinder
 S - Handle
 V - Hold-Down Fiberglass Rod
 Y - Auger Flighting

C - Transition Frame
 F - Auger Finger
 J - Driveline
 M - Hold-Down Cylinder Safety Prop
 Q - Gauge Wheel
 T - Draper Finger
 W - Forward Draper Deck

1006795

PRODUCT OVERVIEW

2.4 Definitions

The following terms, abbreviations, and acronyms may be used in this manual.

Term	Definition
AHHC	Auto header height control
API	American Petroleum Institute
ASTM	American Society of Testing and Materials
Bolt	A headed and externally threaded fastener that is designed to be paired with a nut
CGVW	Combined gross vehicle weight
Finger tight	Finger tight is a reference position where sealing surfaces or components are making contact with each other and the fitting has been tightened to a point where the fitting is no longer loose
F.F.F.T.	Flats from finger tight
GVW	Gross vehicle weight
hp	Horsepower
JIC	Joint Industrial Council: A standards body that developed the standard sizing and shape for original 37° flared fitting
n/a	Not applicable
Nut	An internally threaded fastener that is designed to be paired with a bolt
NPT	National Pipe Thread: A style of fitting used for low pressure port openings, threads on NPT fittings are uniquely tapered for an interference fit
ORB	O-ring boss: A style of fitting commonly used in port openings on manifolds, pumps, and motors
ORFS	O-ring face seal: A style of fitting commonly used for connecting hoses and tubes. This style of fitting is also commonly called an O-ring seal (ORS)
Pick-up header	A machine that attaches to a combine and picks up grain that has been cut and laid in windrows
PTO	Power take-off
RoHS (Reduction of Hazardous Substances)	A directive by the European Union to restrict the use of certain hazardous substances (such as hexavalent chromium used in some yellow zinc platings)
SAE	Society of Automotive Engineers
Screw	A headed and externally threaded fastener that threads into preformed threads or forms its own thread in one of the mating parts
Soft joint	A joint made with the use of a fastener where the joining materials are compressible or experience relaxation over a period of time
spm	Strokes per minute
Tension	Axial load placed on a bolt or screw, usually measured in Newtons (N) or pounds (lb.)
T.F.F.T.	Turns from finger tight
Torque	The product of a force X lever arm length, usually measured in Newton-meters (Nm) or foot-pounds (lbf·ft)
Torque angle	A tightening procedure where the fitting is assembled to a precondition (finger tight) and then the nut is turned further a number of degrees or a number of flats to achieve its final position
Torque-tension	The relationship between the assembly torque applied to a piece of hardware and the axial load it induces in the bolt or screw
Washer	A thin cylinder with a hole or slot located in the center and is to be used as a spacer, load distribution element or a locking mechanism

Chapter 3: Operation

Review the procedures in this section to ensure that you safely enjoy the best possible performance while operating the header.

3.1 Owner/Operator Responsibilities

Owning and operating heavy equipment comes with certain duties.



CAUTION

- **It is your responsibility to read and understand this manual completely before operating the header. Contact your Dealer if an instruction is not clear to you.**
- **Follow all safety messages in the manual and on safety decals applied to the machine.**
- **Remember that YOU are the key to safety. Good safety practices protect you and the people around you.**
- **Before allowing anyone to operate the header, for however short a time or distance, make sure that they have been instructed in its safe and proper use.**
- **Review the manual and all safety-related items with all Operators of this machine annually.**
- **Be alert for other Operators not using the recommended procedures or not following safety precautions. Immediately correct improper use of this machine to prevent accidents.**
- **Do NOT modify the machine. Unauthorized modifications may impair the function and/or safety of this machine and affect its service life.**
- **The safety information given in this manual does NOT replace the safety codes, the requirements of insurance policies, or the laws governing your area. It is your responsibility to ensure that you operate your machine in compliance with these standards.**

3.2 Operational Safety

Follow all the safety and operational instructions given in this manual and in your combine operator's manual. If you do not have a combine operator's manual, get one from your Dealer and read it thoroughly.

CAUTION

- Never start or move the machine until you are sure that all bystanders have cleared the area.
- To avoid bodily injury or death from the unexpected startup of machine, always stop the combine engine and remove the key before adjusting the machine or removing plugged material.
- Check for excessive vibration and unusual noises. If there is any indication of trouble, shut the machine down and inspect it.

CAUTION

Follow the proper shutdown procedure:

- Engage the combine brake.
- Turn off the engine and remove the key.
- Wait for all movement to stop.
- Dismount and engage safety props before inspecting the raised machine.
- Operate only in daylight or good artificial light.

3.3 Endshields

The endshields are molded polyethylene covers attached to the ends of the header. They provide shielding for the header drive components and also display the make of the combine. The left endshield is hinged to the endsheet and can be opened for routine maintenance or easily removed for major servicing. The right endshield is bolted directly to the header.

3.3.1 Opening Left Endshield

Opening the endshield is a simple procedure. For some maintenance or repair procedures, it may be necessary to remove the left endshield on the pick-up header entirely.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the engine and remove the key from the ignition.
3. Use a slotted screwdriver to unlock endshield (B) by turning latch (A) counterclockwise until it stops (slightly more than one half turn).

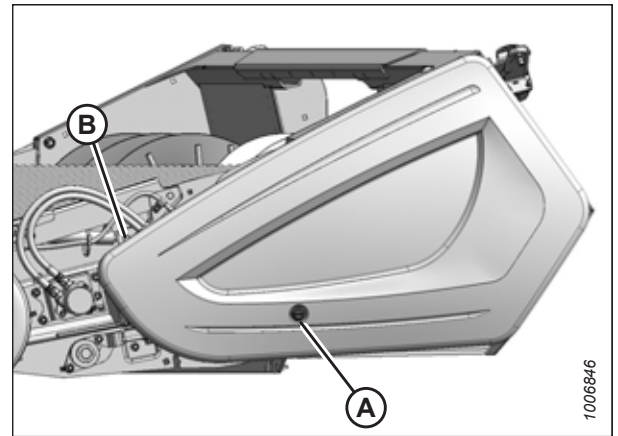


Figure 3.1: Endshield Closed

4. Grasp the forward end of endshield (A) and pull it open until support (B) engages and holds the endshield in the open position.

NOTE:

If additional access to the drive area is required, remove the endshield. For instructions, refer to [3.3.3 Removing Left Endshield, page 25](#).

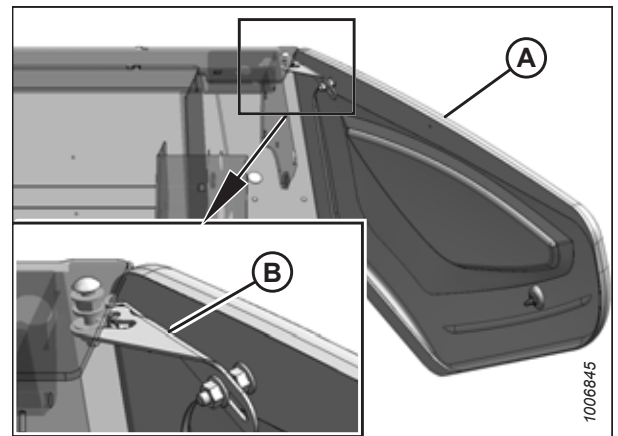


Figure 3.2: Endshield Open

3.3.2 Closing Left Endshield

Close the endshield when your maintenance or repair tasks are complete.

1. Move endshield (A) slightly so that support (B) can be moved out of the locked position.

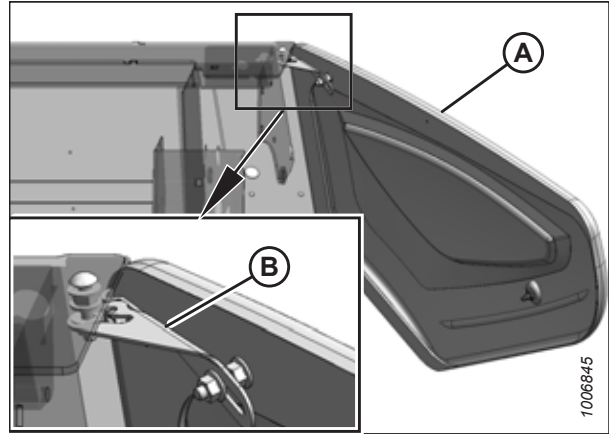


Figure 3.3: Endshield Support

2. Close endshield (A), ensuring that magnet (B) and stop (C) in the header frame are aligned. This will ensure that latch (D) aligns with receptacle (E).

NOTE:

The positions of latch (D) and magnet (B) are factory-set and should not require adjustment.

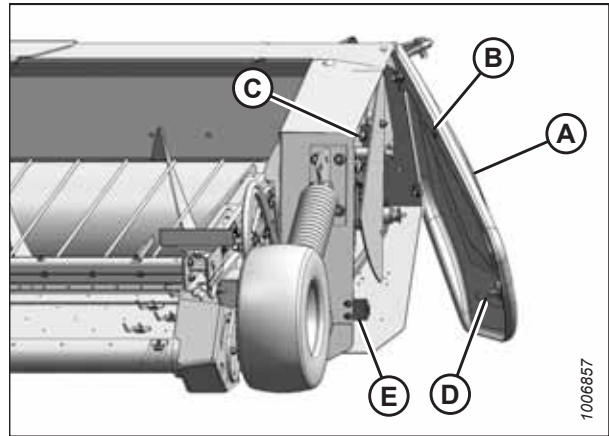


Figure 3.4: Endshield

3. If the front of the endshield needs to be raised or lowered, loosen nuts (B) on clips (C) at the back of endshield (A), and reposition the endshield. Tighten nuts (B).

IMPORTANT:

Do **NOT** overtighten nuts (B). Overtightening can damage the endshield.

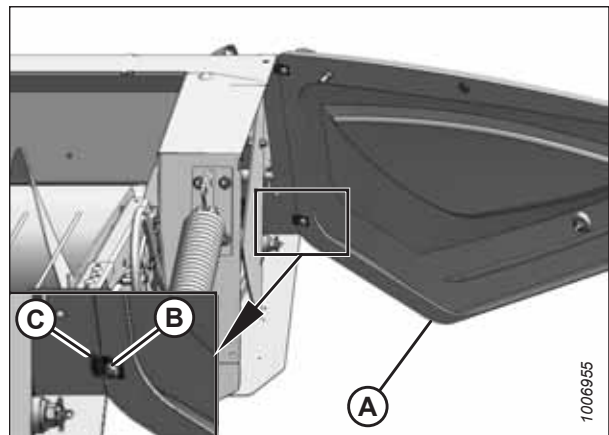


Figure 3.5: Endshield Adjustment

OPERATION

4. Close endshield (C) and use a slotted screwdriver to turn latch (A) clockwise until it stops (slightly more than one half turn).

NOTE:

When the latch is fully engaged, the slot will align with notch (B), and the endshield will draw tightly against the header.

5. Verify the following:
 - The endshield is positioned against the header endsheet.
 - The endshield is aligned with the cutout in the frame.
 - Latch (A) is engaged.

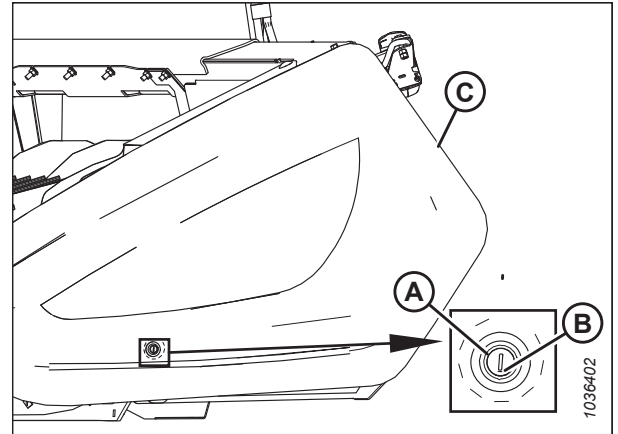


Figure 3.6: Endshield Closed

3.3.3 Removing Left Endshield

Remove the left endshield to gain better access to the left side of the pick-up header.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the engine and remove the key from the ignition.
3. Grasp the forward end of endshield (C) and pull it open until support (B) engages and holds the endshield in an open position.
4. Remove nut (A) securing support (B) to endshield (C) and move support (B) off of the bolt.

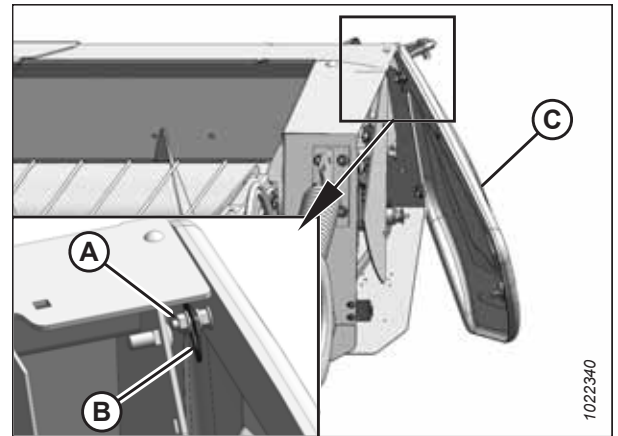


Figure 3.7: Removing Support

OPERATION

5. Swing endshield (A) fully backward and loosen nuts (B) on clips (C) at the back of the endshield so that the clips disengage from the slots in the header frame.
6. Move endshield (A) away from the header.

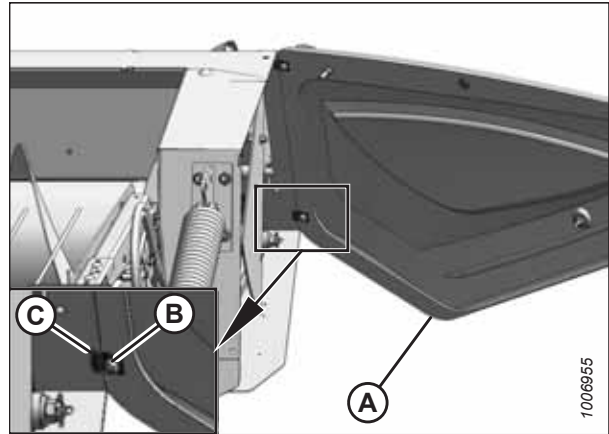


Figure 3.8: Removing Endshield

3.3.4 Installing Left Endshield

Endshields protect people from moving parts while protecting components from debris; reinstall the endshield when you are done servicing the left side of the header.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the engine and remove the key from the ignition.
3. Hold endshield (A) up to the frame and insert clips (C) into the slots in the header frame.
4. Tighten nuts (B) on clips (C) just enough to hold the endshield in place.

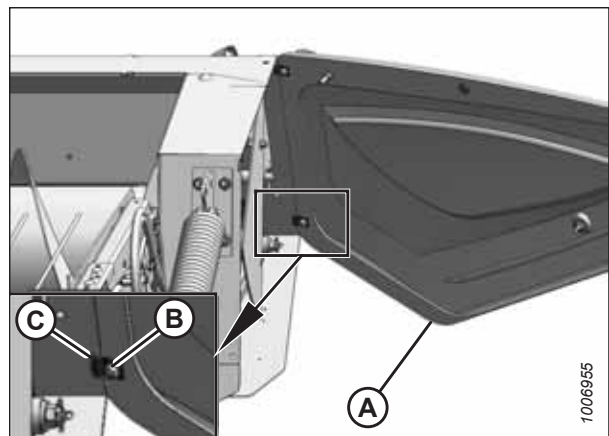


Figure 3.9: Attaching Endshield

OPERATION

5. Close endshield (A), ensuring that magnet (B) and stop (C) in the header frame are aligned. Doing so will ensure that latch (D) aligns with receptacle (E).

NOTE:

The positions of latch (D) and magnet (B) are factory-set and should not require adjustment.

6. If adjustment is necessary, loosen the nuts on the clips installed in Step 3, [page 26](#) and reposition endshield (A). Tighten the nuts.

IMPORTANT:

Do **NOT** overtighten the nuts on the clips. Overtightening the nuts can damage the endshield.

7. Open endshield (C) slightly so that support (B) can be installed onto the endshield. Check that washer (D) is between the support and the endshield.
8. Install nut (A), leaving a gap of 8–10 mm (5/16–3/8 in.) between the nut and washer (D), which allows support (B) to move.

9. Move endshield (A) slightly so that support (B) can be moved out of the locked position.

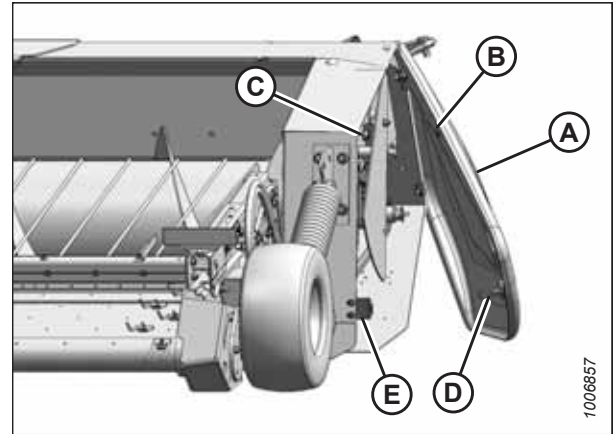


Figure 3.10: Aligning Endshield

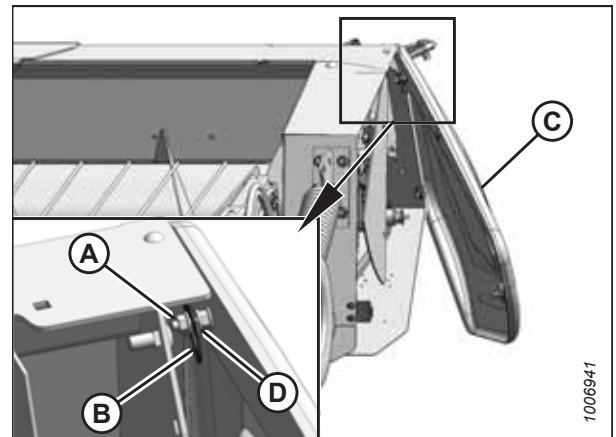


Figure 3.11: Attaching Support

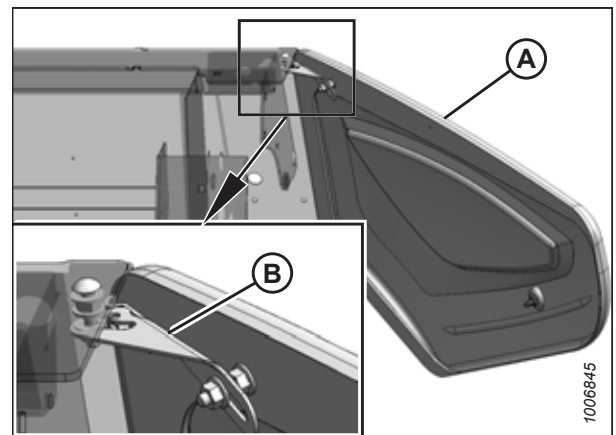


Figure 3.12: Endshield Support

OPERATION

10. Close endshield (C) and use a slotted screwdriver to turn latch (A) clockwise until it stops (slightly more than one half turn).

NOTE:

When the latch is fully engaged, the slot will align with notch (B), and the endshield will draw tightly against the header.

11. Verify the following:
 - The endshield is positioned against the header endsheet.
 - The endshield is aligned with the cutout in the frame.
 - Latch (A) is engaged.

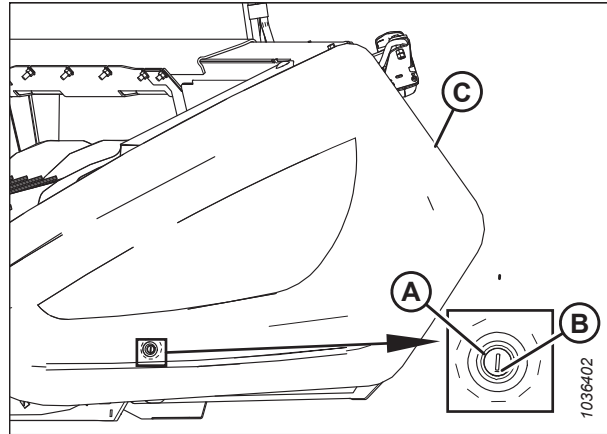


Figure 3.13: Endshield Closed

3.3.5 Removing Right Endshield

Remove the right endshield to gain better access to the right side of the pick-up header.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the engine, and remove the key from the ignition.
3. Remove nuts and bolts (B) from the lower endshield brackets on the header frame.
4. Remove nuts and bolts (A) from the upper endshield brackets on the header frame.
5. Remove endshield (C) from the header frame.

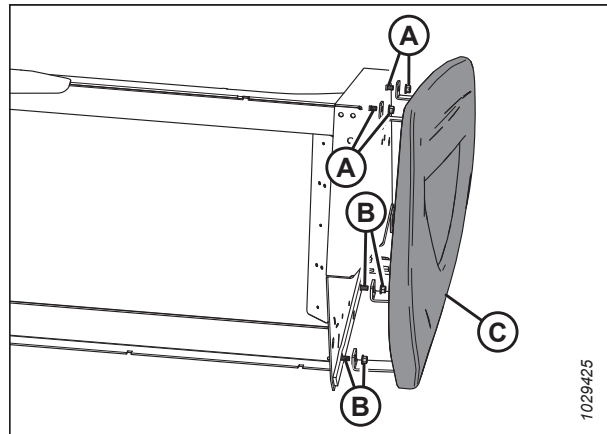


Figure 3.14: Right Endshield

3.3.6 Installing Right Endshield

Endshields protect people from moving parts while protecting components from debris; reinstall the endshield when you are done servicing the right side of the header.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

OPERATION

1. Lower the header to the ground.
2. Shut down the engine, and remove the key from the ignition.
3. Position endshield (C) against the header frame, and install nuts and bolts (B) to attach the upper endshield brackets to the header frame. Do **NOT** tighten the nuts at this time.
4. Install nuts and bolts (A) to attach the lower endshield brackets to frame.
5. Tighten all hardware.

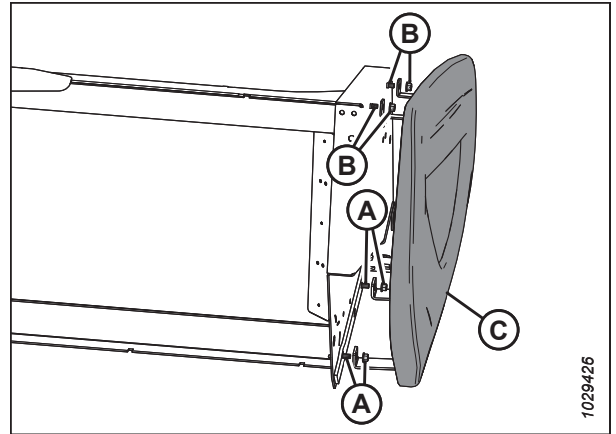


Figure 3.15: Right Endshield

3.4 Header Lift Cylinder Safety Props

The lift cylinder safety props on your combine provide a mechanical stop to keep the header elevated when the engine is off.

Refer to your combine's operator's manual for instructions on how to engage the lift cylinder safety props.

IMPORTANT:

Always engage the combine safety props before working on the header in an elevated position.

3.5 Engaging Hold-Down Lift Cylinder Safety Props

The hold-down lift cylinder safety props provide a mechanical stop to keep the hold-down elevated when the engine is off.

DANGER

To prevent bodily injury or death from the unexpected start-up or fall of a raised machine, always stop the engine and remove the key before leaving the operator's seat, and always engage the safety props before going under the machine.

IMPORTANT:

To prevent damage to the hold-down support arms, do **NOT** transport the header with the cylinder safety props engaged.

NOTE:

John Deere combines use the fore/aft hydraulic circuit to control the hold-down cylinders.

1. Raise hold-down (A) to its maximum height.

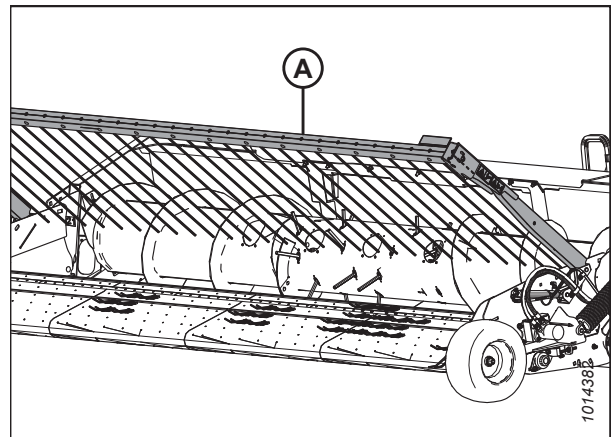


Figure 3.16: Hold-Down in Raised Position

2. Remove retaining pin (A) from the safety prop.
3. Raise safety prop (B) to the engaged position.
4. Install retaining pin (A) onto safety prop (B).
5. Lower hold-down (C) onto safety prop (B).

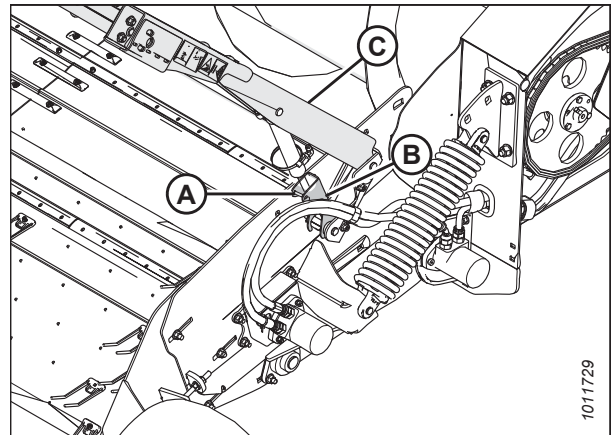


Figure 3.17: Safety Prop Engaged

3.6 Daily Start-Up Check

Perform this procedure before starting the combine and pick-up header.

CAUTION

- Ensure that the combine and header are properly attached and that all controls are in neutral and the combine brake is engaged.
- Clear the area of bystanders, pets, etc. Keep children away from the machinery. Walk around the machine to make sure no one is under, on, or close to it.
- Wear close-fitting clothing and protective shoes with slip-resistant soles.
- Remove foreign objects from the machine and the surrounding area.
- Carry with you any protective clothing and personal safety devices that could be necessary through the day. Don't take chances. You may need a hard hat, protective glasses or goggles, heavy gloves, a respirator or filter mask, or wet weather gear.
- Protect against noise. Wear suitable hearing protection devices such as ear muffs or ear plugs to help protect against objectionable or loud noises.



Figure 3.18: Safety Equipment

Perform the following checks each day before startup:

1. Check the machine for leaks or any parts that are missing, broken, or not working correctly.

NOTE:

Follow the proper procedure when searching for pressurized fluid leaks to prevent injuries. For instructions, refer to [5.9.5 Hydraulic Hoses and Lines, page 300](#).

2. Clean all lights and reflective surfaces on the machine and check the lights for proper operation.
3. Perform all daily maintenance procedures. Refer to [5.2.1 Maintenance Schedule/Record, page 214](#) for details.

3.7 Shutting Down the Machine

Perform this procedure to safely shut down the combine and pick-up header.



DANGER

Ensure that all bystanders have cleared the area.

Before leaving the combine seat for any reason, follow this entire procedure:

1. Park the combine on level ground if possible.
2. Lower the header fully.
3. Place all controls in neutral, and engage the combine brake.
4. Shut down the engine, and remove the key from the ignition.
5. Wait for all movement to stop before leaving the operator's seat.

3.8 Break-In Period

Follow this procedure during the first 10 hours of operating your pick-up header.

DANGER

To prevent injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

1. After attaching the header to the combine for the first time, operate the machine at low speed for five minutes while carefully watching and listening **FROM THE OPERATOR'S SEAT** for any sounds of binding or interfering parts.
2. Refer to *5.2.1 Maintenance Schedule/Record, page 214* and perform the instructions listed under the heading **10 Hours**.

NOTE:

Until you become familiar with the sound and feel of your new header, be extra alert and attentive.

3.9 Header Attachment and Detachment

The process to attach the pick-up header to, and detach it from, a combine depends on the make and model of the machine.

This section provides instructions for attaching/detaching the PW8 Pick-Up Header to/from the combines listed in Table 3.1, page 35.

Table 3.1 Attaching/Detaching PW8 Header to/from Combine

Combine	Refer to
Case IH	3.9.2 Case IH, page 41
Challenger®, Gleaner®, and Massey Ferguson®	3.9.3 Challenger®, Gleaner®, and Massey Ferguson®, page 47
IDEAL™	3.9.1 IDEAL™, page 35
John Deere 60, 70, and S Series	3.9.4 John Deere 60, 70, S, and T Series, page 55
New Holland CR and CX	3.9.5 New Holland CR/CX Series Combine, page 61
Versatile	3.9.6 Versatile, page 67

3.9.1 IDEAL™

This section provides instructions for attaching/detaching the pick-up header to/from IDEAL™ combines.

This includes the following combines:

- Massey Ferguson® 7, 8, and 9 Series
- IDEAL™ 7, 8, and 9 Series

Attaching Header to IDEAL™ Combine

Attach the header to the combine to be able to operate the header using the combine operator's console.

! DANGER

To prevent injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

! DANGER

Check to be sure all bystanders have cleared the area.

1. Pull lever (A) up to retract pins (B) at the base of the feeder house.
2. Start the engine.

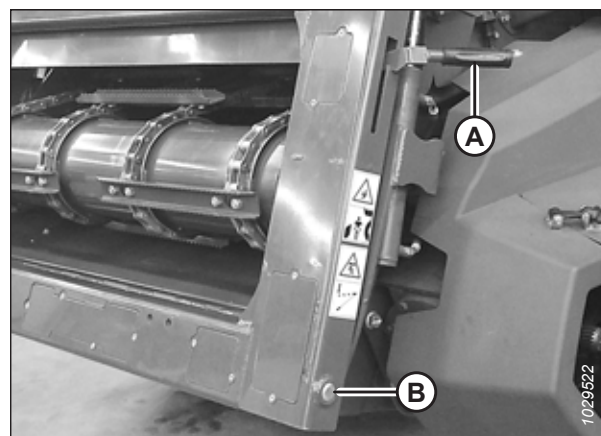


Figure 3.19: IDEAL™ Feeder House

OPERATION

3. Drive the combine slowly up to the header until the feeder house is directly under top beam (A), and pins (B) are under hooks (C).

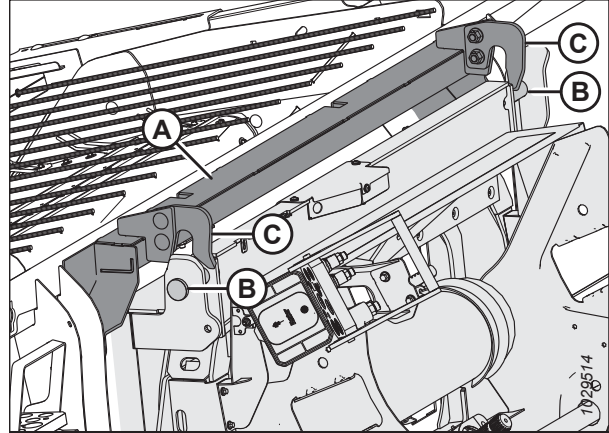


Figure 3.20: Feeder House

4. Raise the feeder house until transition frame top beam (A) is fully resting on the feeder house. Raise the header slightly off of the ground.

IMPORTANT:

The full weight of the header must be on the feeder house, **NOT** on pins (B).

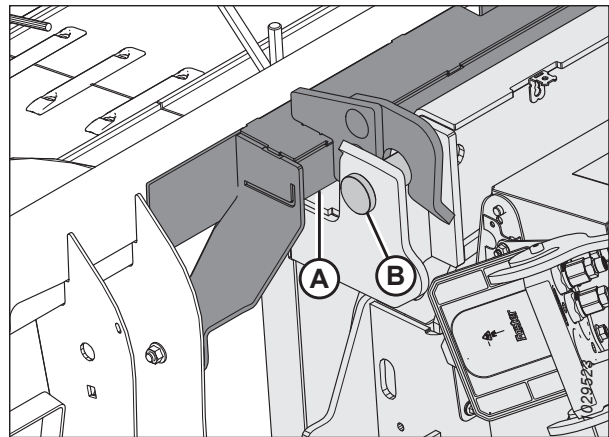


Figure 3.21: Top Beam Resting on Feeder House

5. Position the bottom of the feeder house so that locking pins (A) align with the holes in mounts (C).
6. Shut down the engine, and remove the key from the ignition.
7. Push lever (B) down to extend locking pins (A) so that they engage with mounts (C).

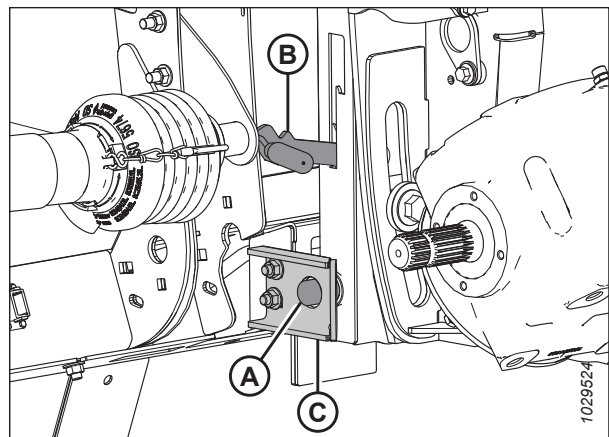


Figure 3.22: Feeder House Locking Pins

OPERATION

8. If you are unable to push down the lever, check the alignment of the mounts on both sides of the feeder house. If necessary, loosen nuts (A) and position mount (B) to line up with the pin. Retighten the nuts and ensure that both locking pins are extended into the mounts.

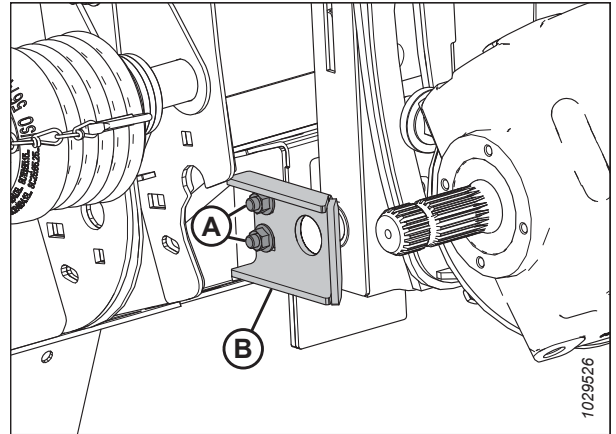


Figure 3.23: Transition Frame Adjustable Mount

9. Open the combine output shaft cover.
10. Pull collar (A) back to release the driveline from support bracket (B).

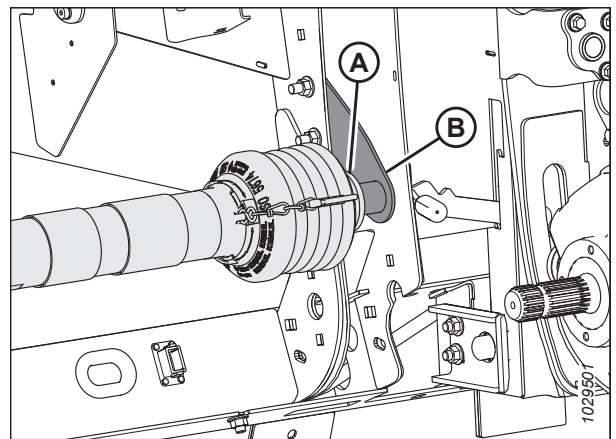


Figure 3.24: Driveline in Storage Position

11. Pull back collar (A) on the end of the driveline and push the driveline end onto combine output shaft (B) until the collar locks.
12. Close the combine output shaft cover.

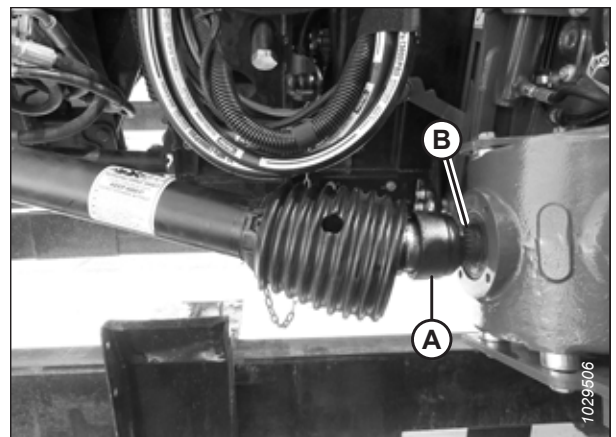


Figure 3.25: Connecting Driveline to Combine

OPERATION

13. Lower handle (A) to release multicoupler (B) from the header.
14. Open cover (C) on the combine receptacle.
15. Push handle (D) to the fully open position.
16. Clean the mating surfaces of the multicoupler and the receptacle, if necessary.

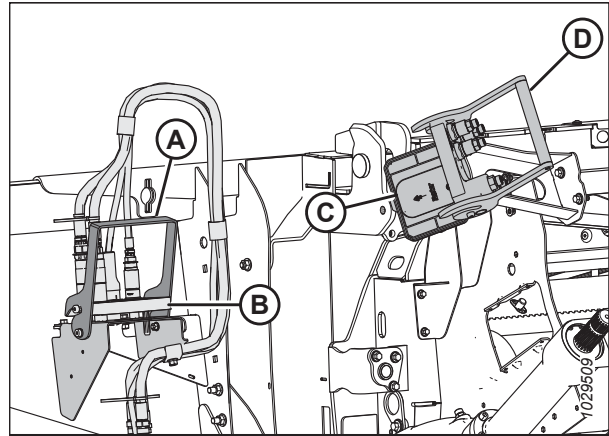


Figure 3.26: Multicoupler Receptacles

17. Position multicoupler (A) onto the combine receptacle, and pull handle (B) to fully engage the multicoupler into the receptacle.

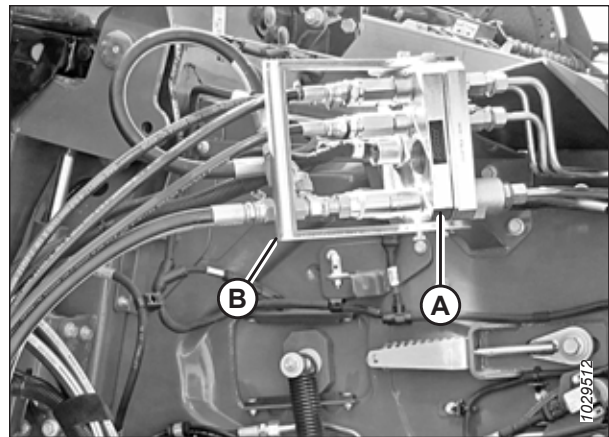


Figure 3.27: Multicoupler Connected to Combine

Detaching Header from IDEAL™ Series Combine

Be sure to place the header driveline on its storage bracket when detaching it from an IDEAL™ combine.

⚠ DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Drive the combine to a level area and position the header slightly off the ground.
2. Shut down the engine and remove the key from the ignition.

OPERATION

3. Lower handle (A) on header receptacle (B).

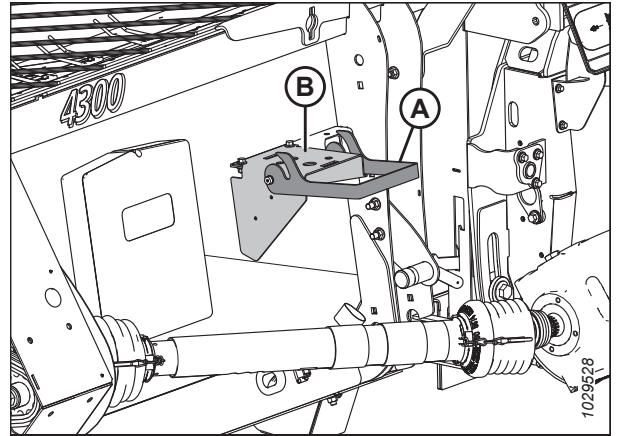


Figure 3.28: Header Receptacle

4. Push combine receptacle handle (B) to the fully open position to release multicoupler (A).

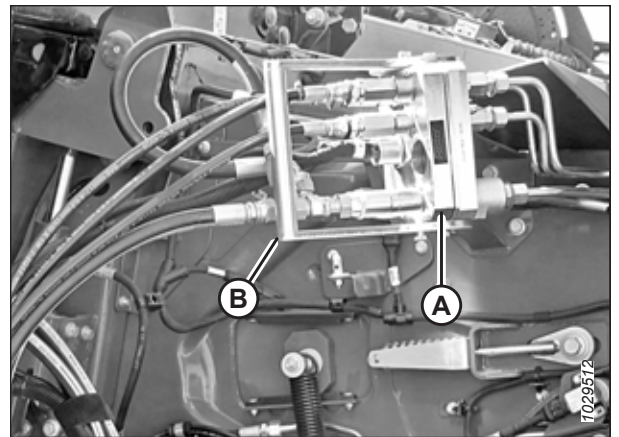


Figure 3.29: Combine Receptacle

5. Position multicoupler (B) onto the header receptacle, and move handle (A) to the vertical position to lock the multicoupler.

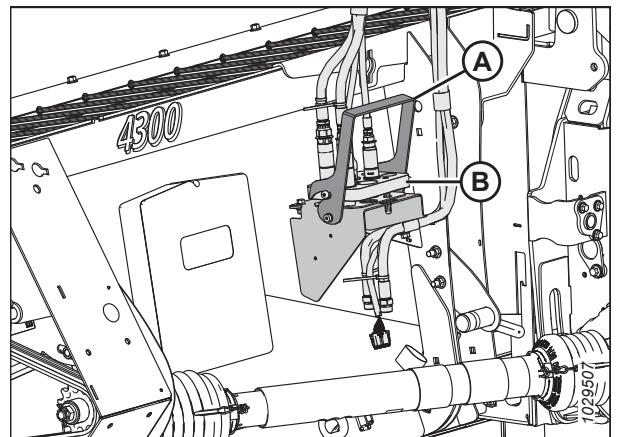


Figure 3.30: Locking Multicoupler

OPERATION

6. Open the combine output shaft cover.
7. Pull back driveline collar (A) and remove the driveline from combine output shaft (B).

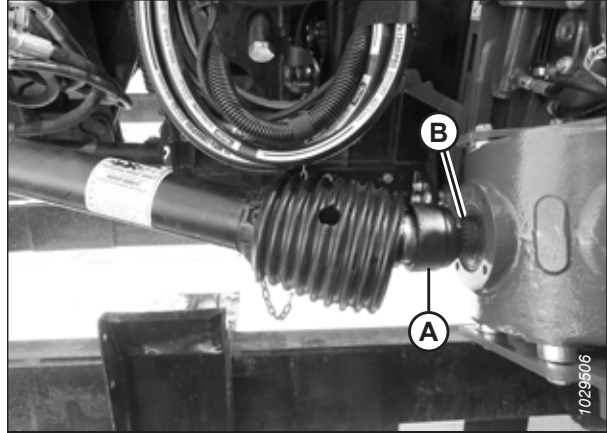


Figure 3.31: Detaching Driveline

8. Pull back collar (A) on the end of the driveline and push onto storage bracket (B) until the collar locks.
9. Close the combine output shaft cover.

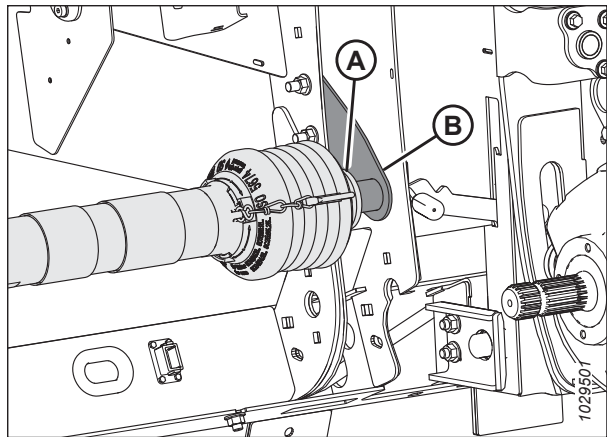


Figure 3.32: Driveline in Storage Position

10. Pull lever (A) up to retract pins (B) at the base of the feeder house.

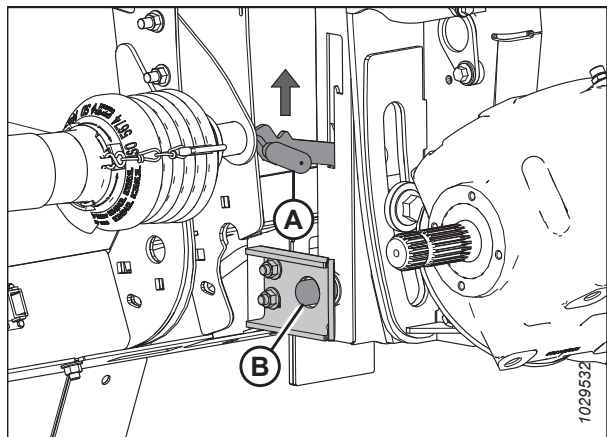


Figure 3.33: Feeder House Locking Pins

OPERATION

11. Start the combine and lower the header to the ground until feeder house pins (A) are clear of hooks (B).
12. Slowly back the combine away from the header.

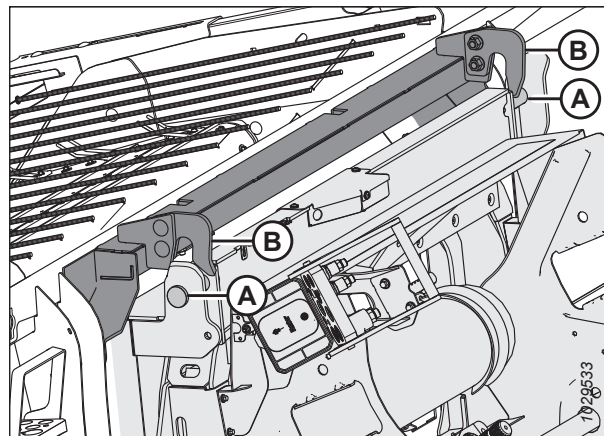


Figure 3.34: Lowering Feeder House

3.9.2 Case IH

This section provides instructions for attaching/detaching the pick-up header to/from Case IH 50/60/7088, 51/61/7130, 51/61/7140, 70/8010, 71/81/9120, 72/82/9230, and 72/82/9240 combines.

Attaching Header to Case IH Combine

Attach the header to the combine to be able to operate the header using the combine operator's console.

DANGER

To prevent injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

DANGER

Check to be sure all bystanders have cleared the area.

1. Pull handle (A) on the combine to raise hooks (B) on both sides of the feeder house.

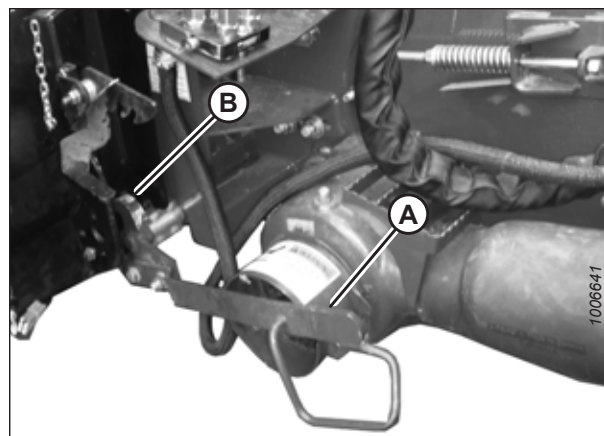


Figure 3.35: Feeder House Locks

OPERATION

2. Start the engine.
3. Drive the combine slowly up to the header until feeder house saddle (A) is directly under header top beam (B).
4. Raise the feeder house slightly to lift the header, ensuring that feeder house saddle (A) is properly engaged in the header frame.
5. Shut down the engine, and remove the key from the ignition.

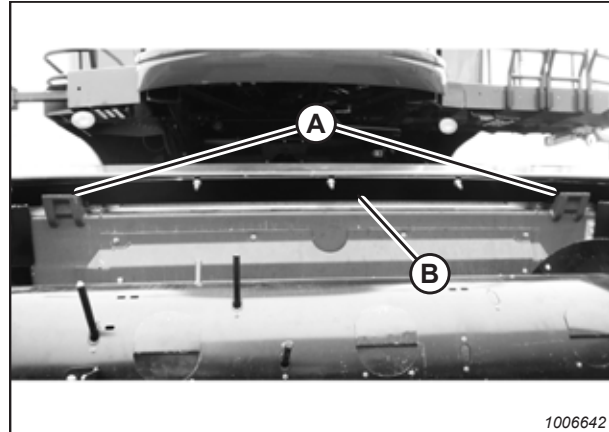


Figure 3.36: Header on Combine

6. Lift lever (A) on the header at the left side of the feeder house and push handle (B) on the combine to engage locks (C) on both sides of the feeder house.
7. Push down on lever (A) so that the slot in the lever engages handle (B). This will lock the handle in place.
8. If locks (C) do not fully engage with the spacer tube and the bolt on the header, loosen nut (E) and adjust the position of the spacer tube and bolt (D) as necessary (on both sides of the header). Tighten the nut.
9. Loosen bolts (F) and adjust the lock as needed to obtain a full lock on spacer tube and bolt (D) when lift lever (A) and handle (B) are engaged. Retighten the bolts.

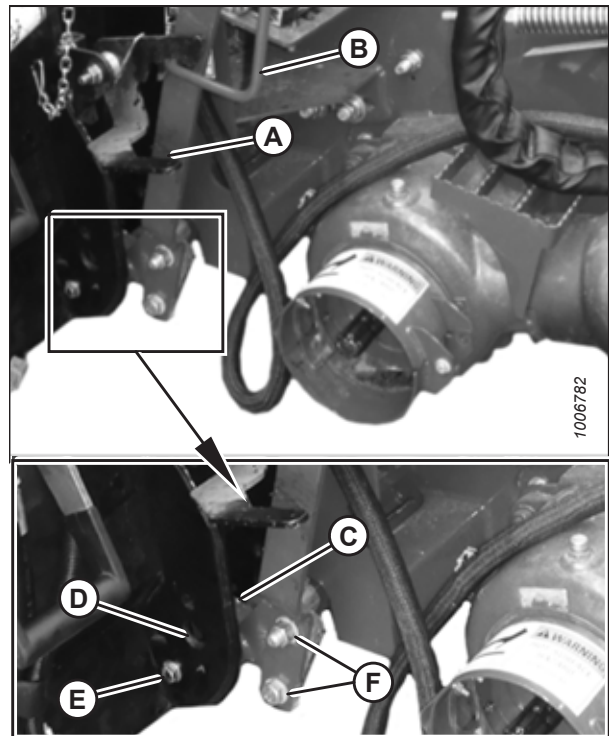


Figure 3.37: Engaging Locks

OPERATION

10. Rotate disc (B) on header driveline storage hook (A) and remove the driveline from the hook.

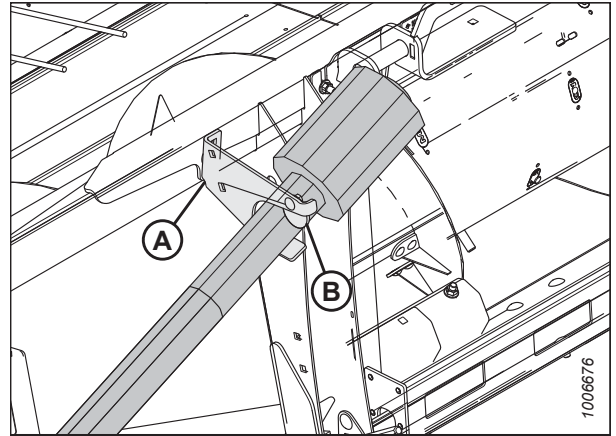


Figure 3.38: Driveline in Storage Position

11. Lift the driveshield covering the combine output shaft. Pull back collar (A) on the end of the driveline and push it onto combine output shaft (B) until the collar locks. Replace the driveshield.

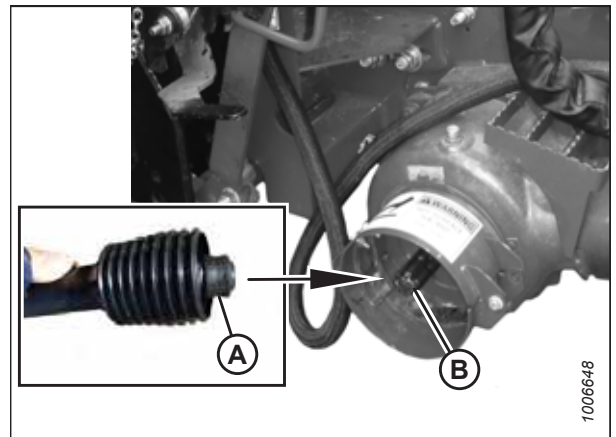


Figure 3.39: Attaching Driveline

12. Open cover (A) on the header receptacle.
13. Push in lock button (B) and pull handle (C) upward to the fully open position.
14. Remove coupler (D) from the combine and clean the mating surfaces.

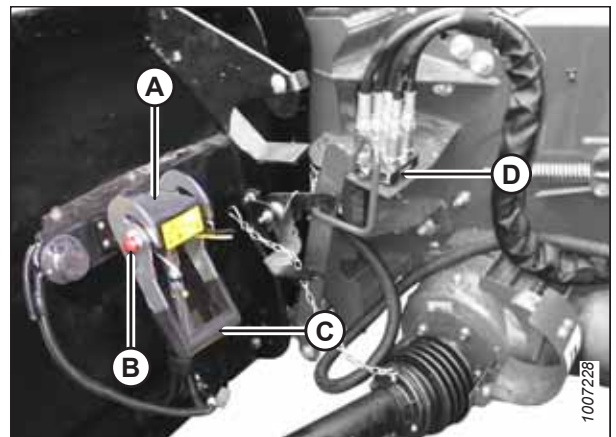


Figure 3.40: Coupler Lock

OPERATION

15. Position coupler (A) onto the header receptacle and push handle (B) downward to engage the coupler pins in the receptacle.
16. Push the handle to the closed position until lock button (C) snaps out.
17. Open cover (D) on the header electrical receptacle.
18. Remove electrical connector (E) from the storage cup on the combine.
19. Align the lugs on electrical connector (E) with the slots in the receptacle. Push the connector onto the receptacle and turn the collar on the connector to lock it in place.

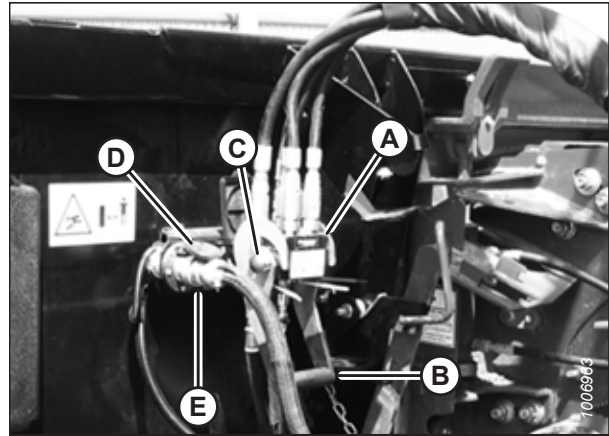


Figure 3.41: Attaching Coupler

Detaching Header from Case IH Combine

Be sure to place the header driveline on its storage hook when detaching it from a Case IH combine.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Drive the combine to a level area.
2. Raise the header until it is 30 cm (12 in.) off of the ground.
3. Shut down the engine, and remove the key from the ignition.
4. Place 10 cm by 10 cm (4 in. by 4 in.) blocks under the header frame.
5. Lower the header onto the blocks.
6. Push in lock button (C), and pull handle (B) upward to release coupler (A).

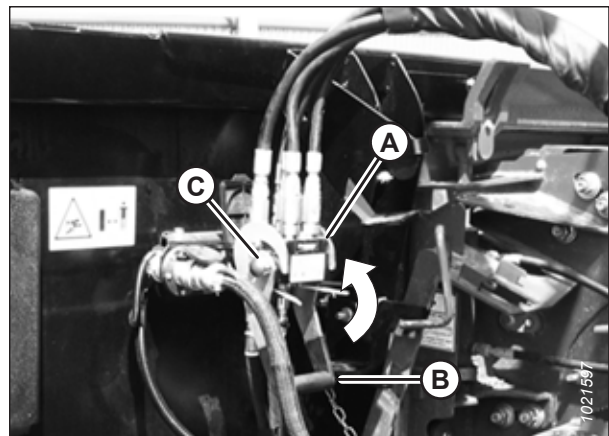


Figure 3.42: Releasing Coupler

OPERATION

7. Position coupler (A) onto storage plate (B) on the combine.

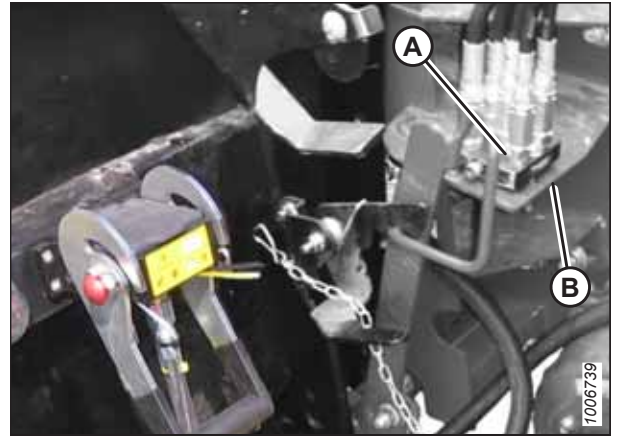


Figure 3.43: Coupler Storage Location

8. Disconnect electrical connector (A) from the header.

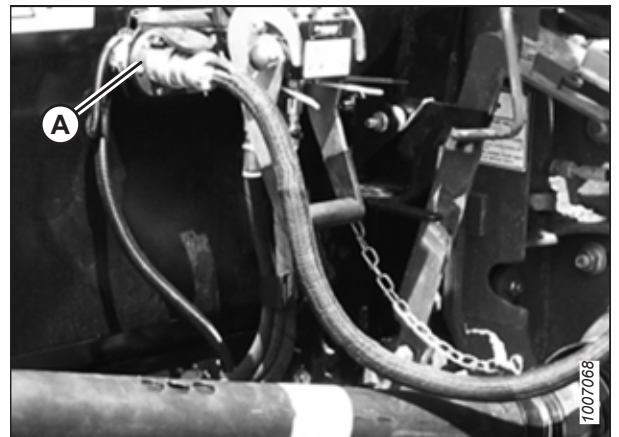


Figure 3.44: Electrical Connector

9. Place electrical connector (A) into storage cup (B) on the combine.

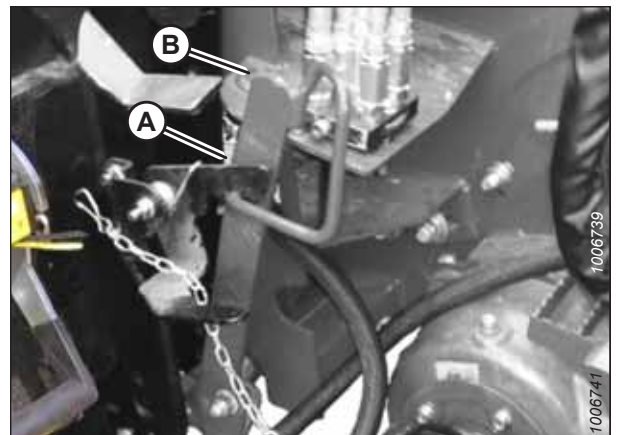


Figure 3.45: Electrical Connector Storage

OPERATION

10. Close the cover on header electrical receptacle (A).
11. Push handle (B) on the header down into the storage position until lock button (C) snaps out.
12. Close cover (D).

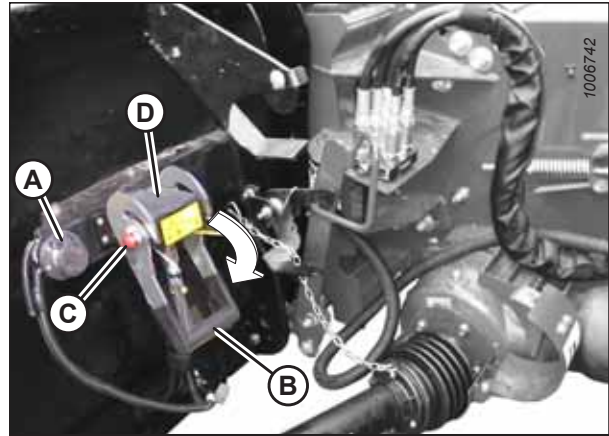


Figure 3.46: Locking Multicoupler

13. Open driveshield (A) on the combine.
14. Open the driveshield. Pull back collar (B) on driveline (C), and remove the driveline from the combine. Close the driveshield.

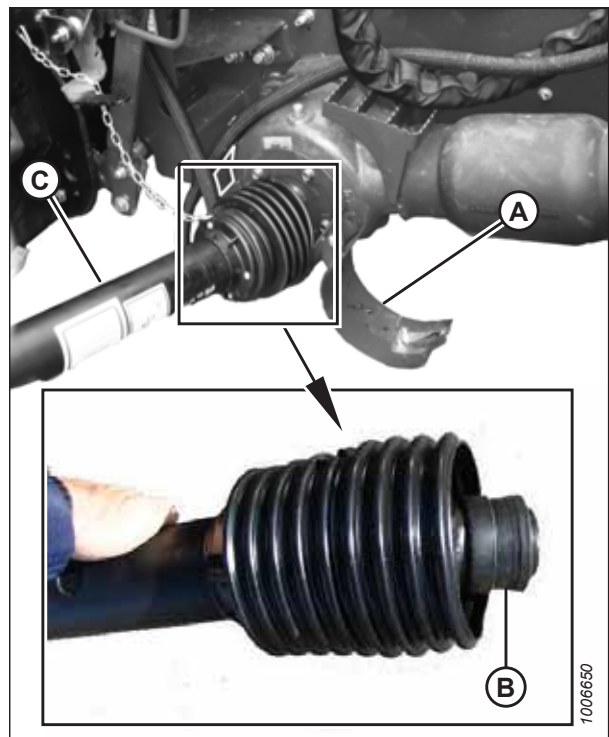


Figure 3.47: Detaching Driveline

OPERATION

- Slide the driveline into storage hook (A) on the header and rotate disc (B) to secure the driveline.

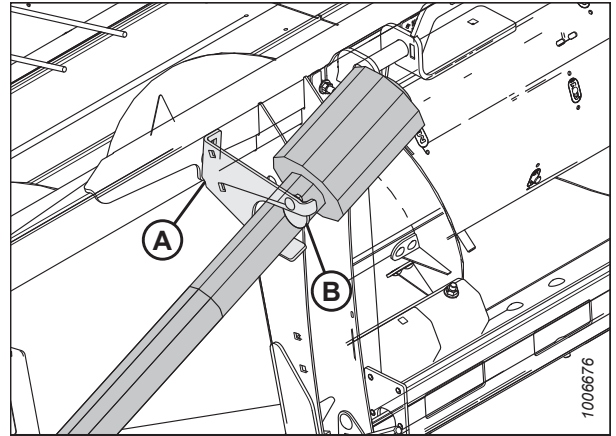


Figure 3.48: Driveline in Storage Position

- Close driveshield (A) on the combine.

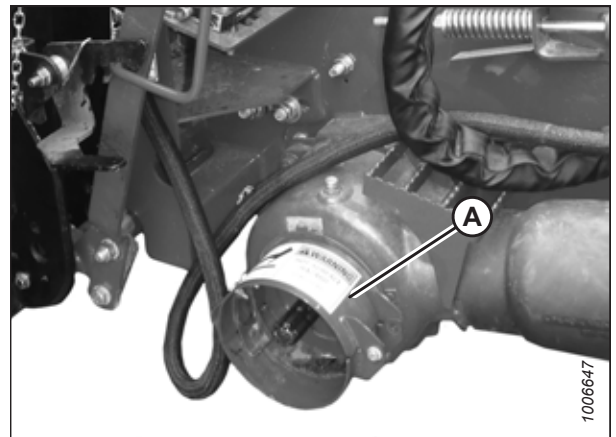


Figure 3.49: Driveshield

- Lift lever (A) and lower handle (B) to disengage feeder house/header lock (C).
- Lower the feeder house until it disengages from the header support.
- Slowly back the combine away from the header.

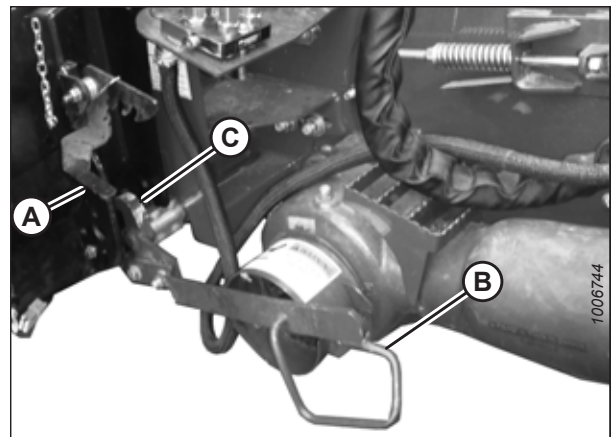


Figure 3.50: Disengaging Header

3.9.3 Challenger®, Gleaner®, and Massey Ferguson®

This section provides instructions for attaching/detaching the pick-up header to/from the following Challenger®, Gleaner®, and Massey Ferguson® combines:

- Challenger® 600B Series

OPERATION

- Gleaner® R65, 66, 67, 75, 76, 77, and all S and A Series
- Massey Ferguson® 9005, and 9500 Series

Attaching Header to Challenger®, Gleaner®, and Massey Ferguson® Combines

Attach the header to the combine to be able to operate the header using the combine operator's console.

⚠ DANGER

To prevent injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

⚠ DANGER

Check to be sure all bystanders have cleared the area.

1. Retract hooks (A) at the base of the feeder house using tool (B). The tool is stored on the left side of the feeder house when not in use.

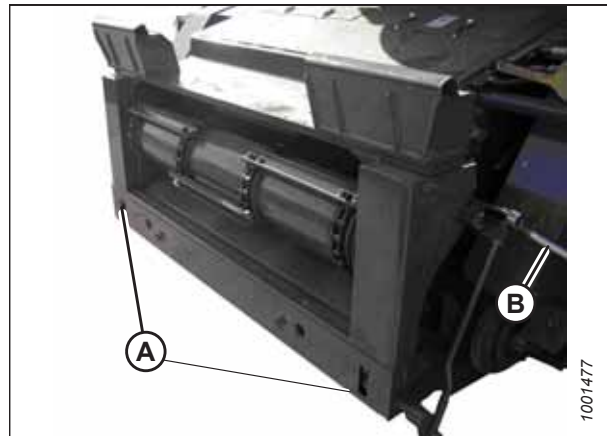


Figure 3.51: Feeder House – All AGCO Combines except Gleaner® R and S Series

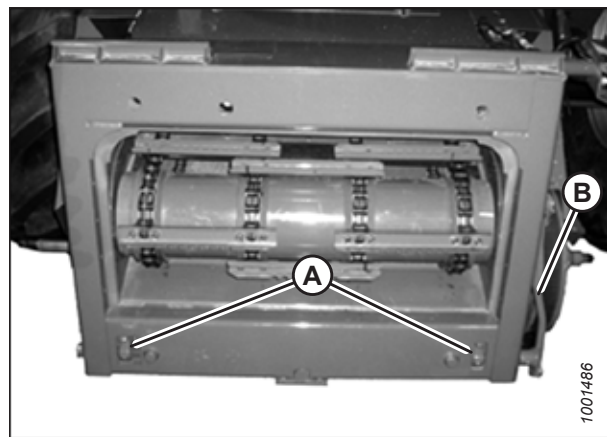


Figure 3.52: Feeder House – Gleaner® R and S Series

OPERATION

2. Check distance (A) between the underside of top beam (B) and the alignment holes in lower beam (C) on the header. Distance (A) should measure 793–799 mm (31–31 1/2 in.).
3. If necessary, loosen six bolts (D) and adjust lower beam (C) to adjust distance (A) to the correct value. Tighten the bolts.

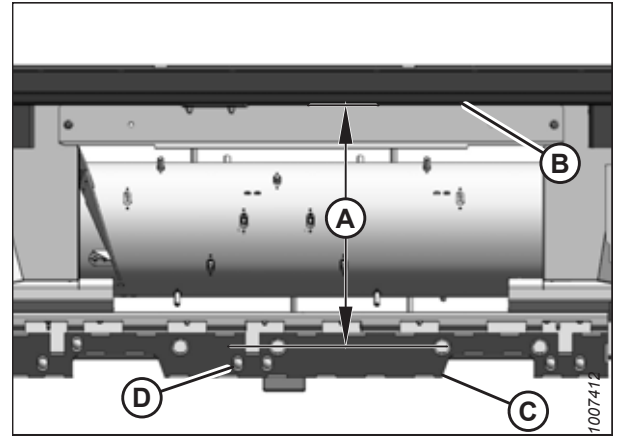


Figure 3.53: Lower Beam Adjustment

4. Start the engine.
5. Drive the combine slowly up to the header until the top of feeder house (A) is directly under top beam (B), and alignment pins (C) on feeder house are aligned with holes (D) in the header frame.

NOTE:

Take note of two guides (E) on either side of the header opening when aligning the header with the combine's feeder house.

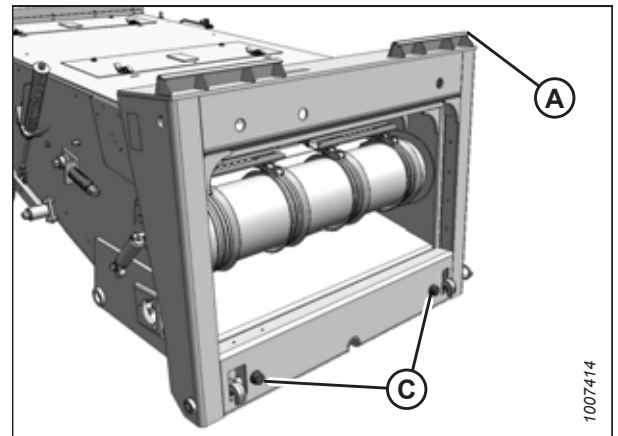


Figure 3.54: AGCO Combine Feeder House

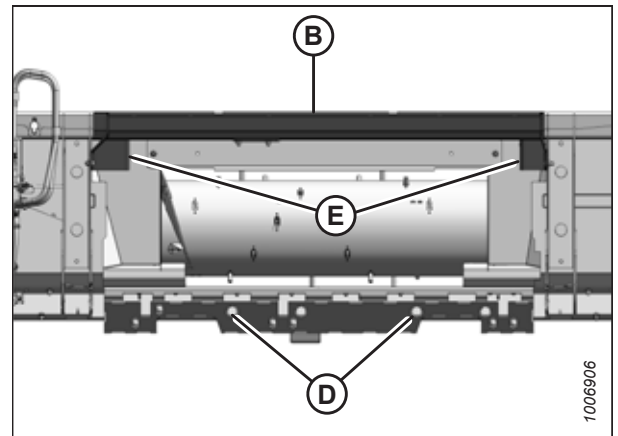


Figure 3.55: Header Opening – All AGCO Combines except Gleaner® R and S Series

OPERATION

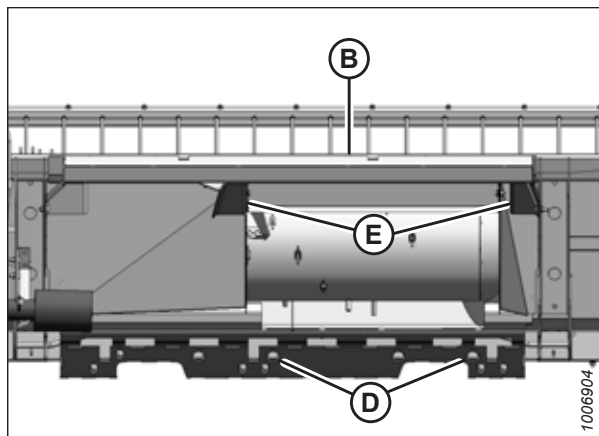


Figure 3.56: Header Opening – Gleaner® R and S Series

6. Raise the feeder house, ensuring that feeder house saddle (A) and the alignment pins are properly engaged in the header frame.
7. Position the header slightly off the ground, stop the engine, and remove the key from the ignition.

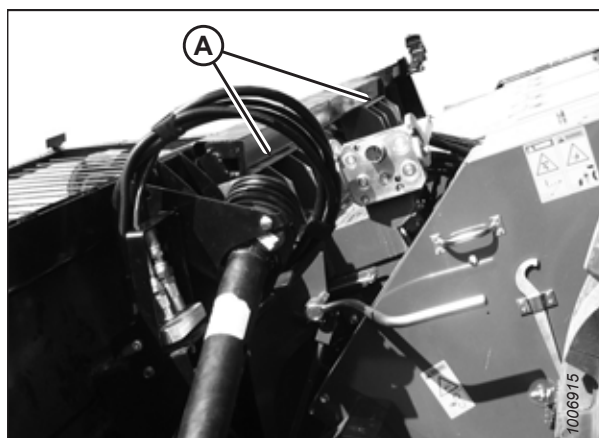


Figure 3.57: Feeder House Saddle – All AGCO Combines except Gleaner® R and S Series

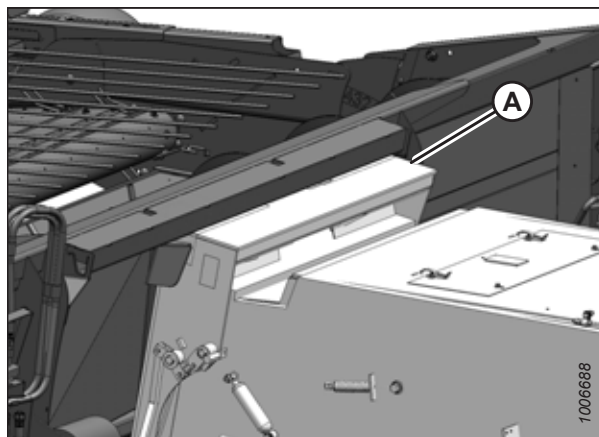


Figure 3.58: Feeder House Saddle – Gleaner® R and S Series

OPERATION

8. Insert the hooks into the header by moving lever (A) from the horizontal to the vertical position.

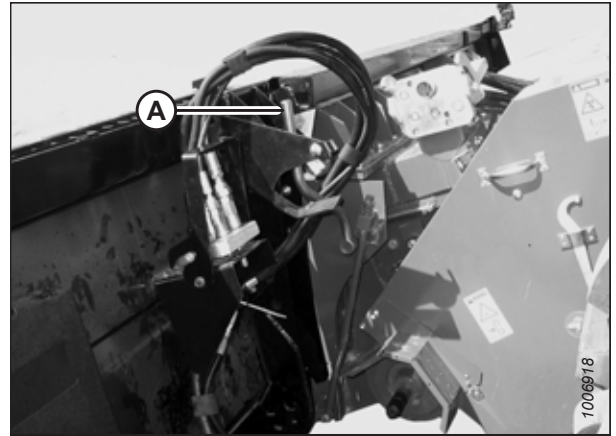


Figure 3.59: Engaging Hooks

9. Rotate disc (B) on header driveline storage hook (A), and remove the driveline from the hook.

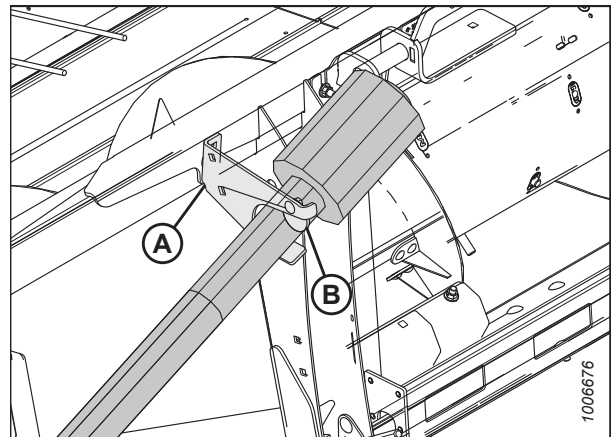


Figure 3.60: Driveline in Storage Position

10. Pull back collar (A) on the end of the driveline and push the driveline onto combine output shaft (B) until the collar locks.

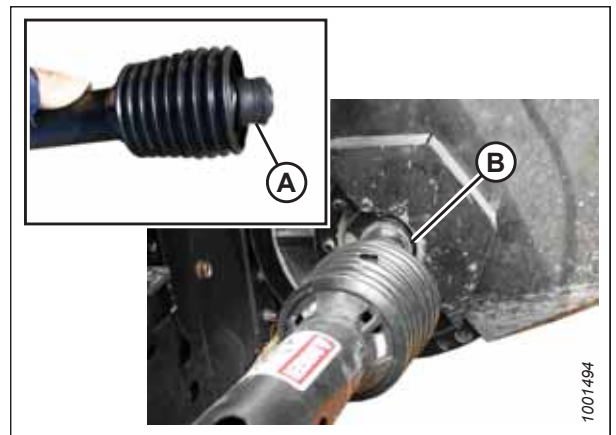


Figure 3.61: Connecting Driveline to Combine

OPERATION

11. Lower handle (A) to release coupler (B) from the header.

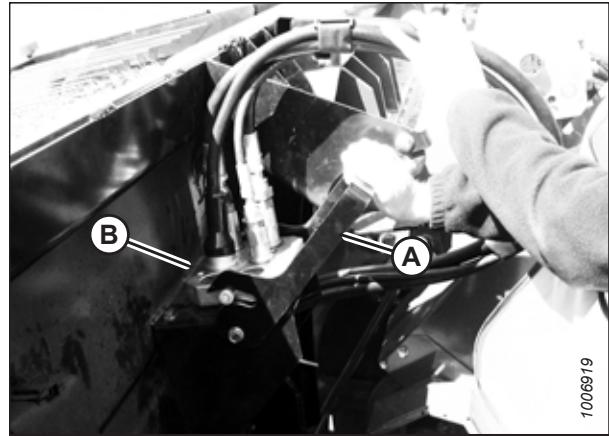


Figure 3.62: Coupler

12. Push handle (A) on the combine to the fully open position.
13. Clean the mating surfaces of coupler (B) and receptacle (C), if necessary.

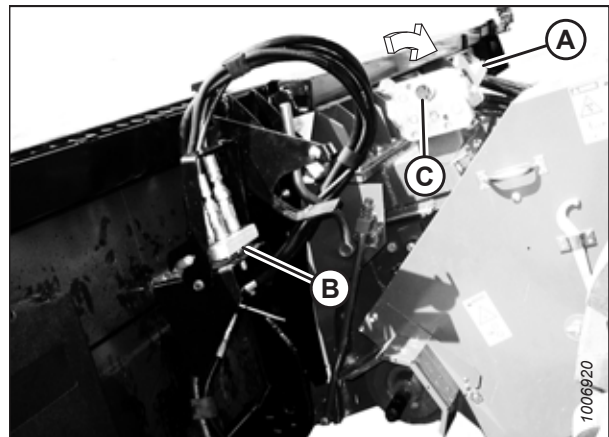


Figure 3.63: Opening Receptacle

14. Position coupler (A) onto the combine receptacle, and pull handle (B) to fully engage the coupler into the receptacle.

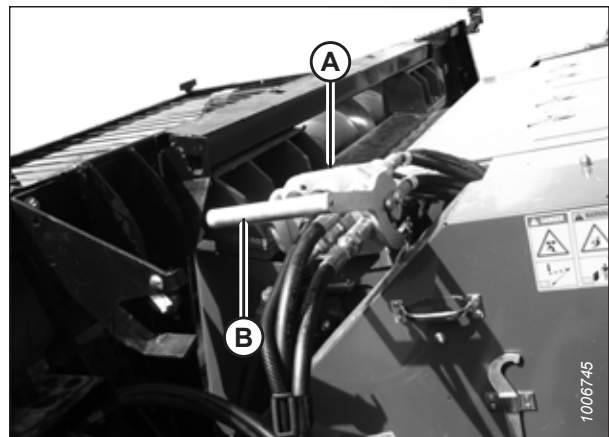


Figure 3.64: Coupler

OPERATION

Detaching Header from Challenger®, Gleaner®, and Massey Ferguson® Combine

Be sure to place the header driveline on its storage bracket when detaching it from a Challenger®, Gleaner®, or Massey Ferguson® combine.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Drive the combine to a level area and position the header slightly off the ground.
2. Shut down the engine, and remove the key from the ignition.
3. Lower handle (A) on header receptacle (B).
4. Push handle (C) on the combine receptacle to the fully open position to release multicoupler (D).

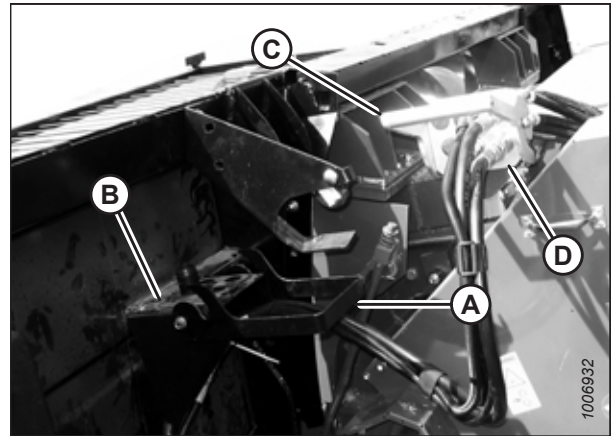


Figure 3.65: Opening Receptacle

5. Position multicoupler (A) onto the header receptacle, and move handle (B) to the vertical position to lock the coupler.

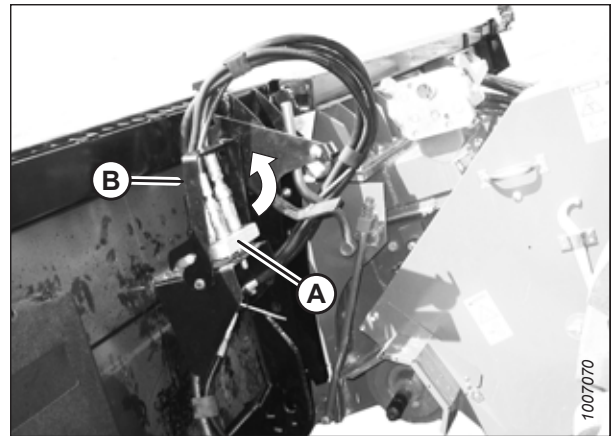


Figure 3.66: Locking Coupler

OPERATION

6. Pull back collar (A) on driveline (B), and remove the driveline from the combine.

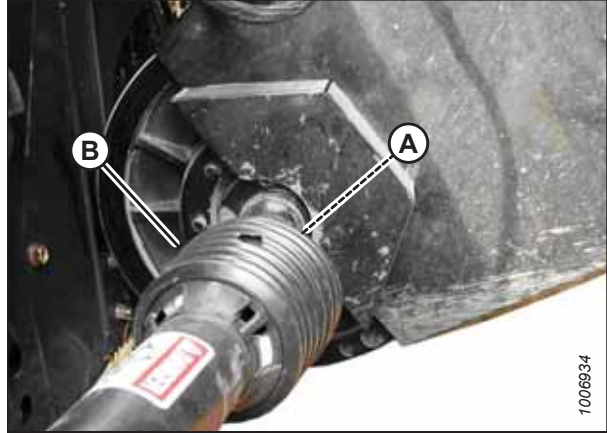


Figure 3.67: Detaching Driveline

7. Slide driveline into storage hook (A) on the header and rotate disc (B) to secure the driveline.

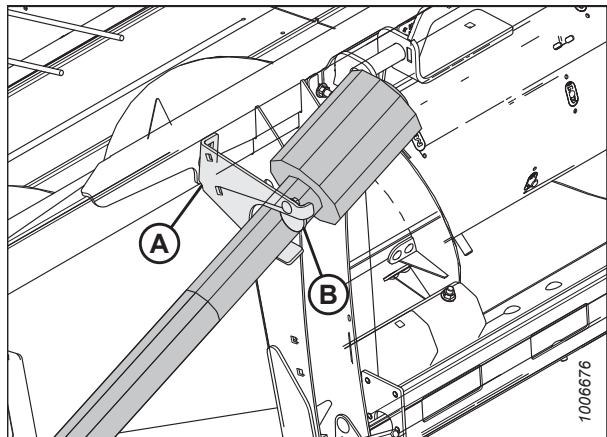


Figure 3.68: Driveline in Storage Position

8. Attach tool (A) to locking mechanism (B) on the feeder house, and pull the tool back to the horizontal position to unlock the header from the feeder house.

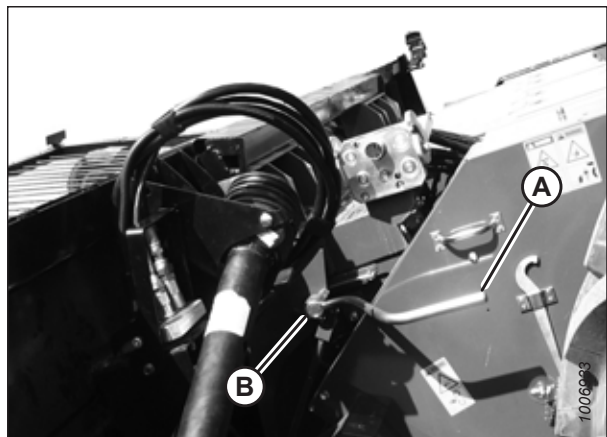


Figure 3.69: AGCO Except Gleaner R and S

OPERATION

9. Lower the feeder house until posts (A) are fully disengaged from header top beam (B).
10. Slowly back the combine away from the header.

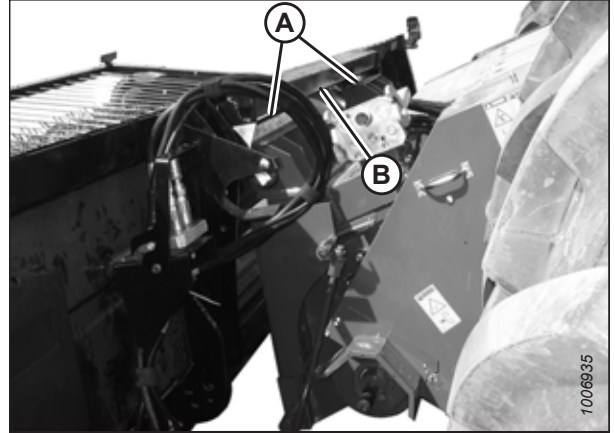


Figure 3.70: Disengaging Header

3.9.4 John Deere 60, 70, S, and T Series

This section provides instructions for attaching/detaching the PW8 Pick-Up Header to/from John Deere 96/97/9860STS, 96/97/9870, S650/660/670/680/690, 9660WTS, and T670 combines.

Attaching Header to John Deere 60, 70, S, or T Series Combine

Attach the header to the combine to be able to operate the header using the combine operator's console.

DANGER

To prevent injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

DANGER

Check to be sure all bystanders have cleared the area.

1. Push handle (A) on the combine coupler toward the feeder house to retract pins (B) at the bottom corners of the feeder house.

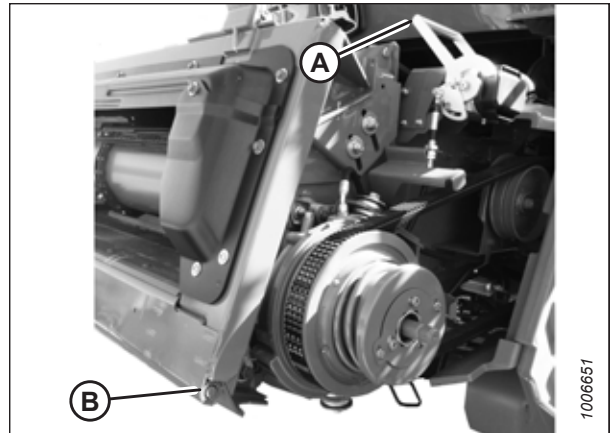


Figure 3.71: Feeder House Locks

OPERATION

2. Start the engine.
3. Drive the combine slowly up to the header until feeder house saddles (A) are directly under header top beam (B).
4. Raise the feeder house to lift the header, ensuring that feeder house saddles (A) are properly engaged in the header frame.
5. Position the header slightly off the ground, stop the engine, and remove the key from the ignition.

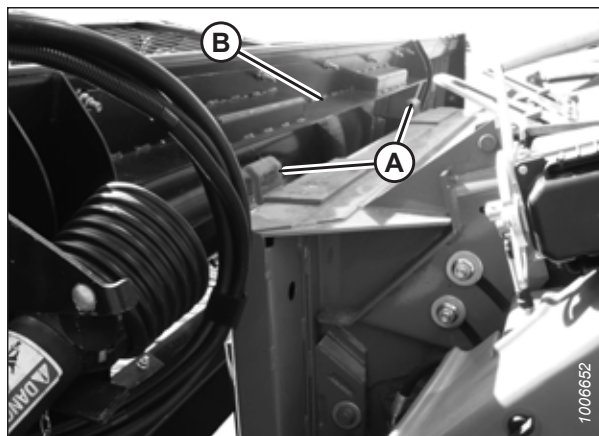


Figure 3.72: Header on Combine

6. Open driveshield (A) on the combine feeder house.

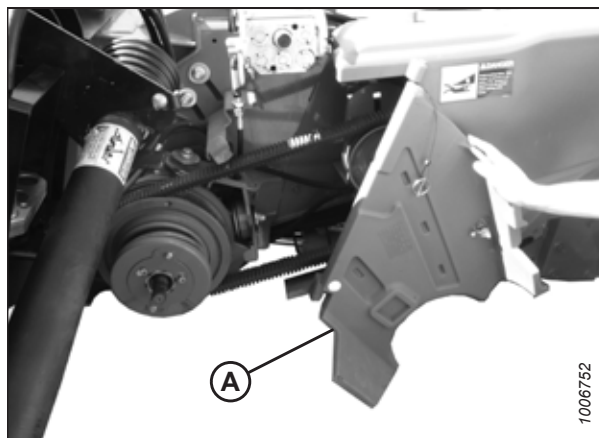


Figure 3.73: Combine Driveshield

7. Rotate disc (B) on header driveline storage hook (A) and remove the driveline from the hook.

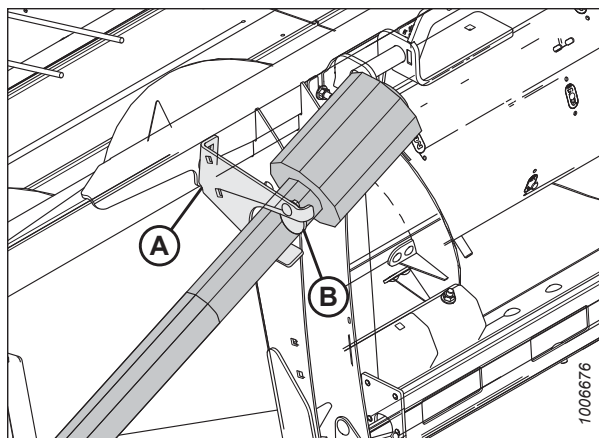


Figure 3.74: Driveline in Storage Position

OPERATION

8. Pull back collar (A) on the end of the driveline and slide the driveline onto the feeder house driveshaft until the collar locks.
9. Close the feeder house driveshield.

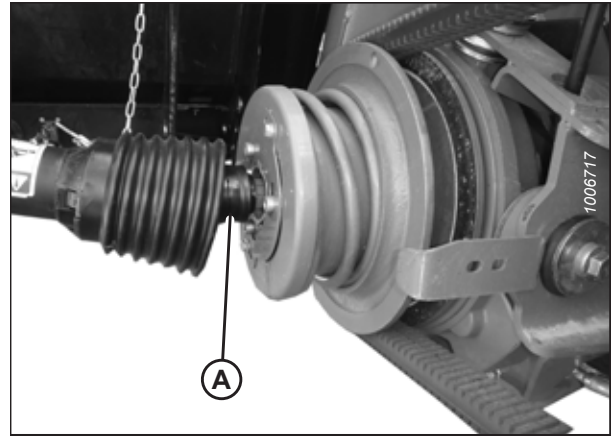


Figure 3.75: Attaching Driveline to Combine

10. Remove cover (A) from the combine multicoupler receptacle.

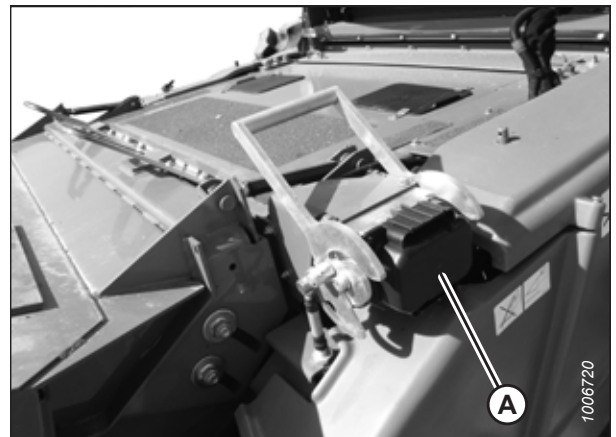


Figure 3.76: Combine Receptacle

11. Pull handle (A) on the header to release multicoupler (B) from the storage position, remove the coupler, and push the handle back into the header.



Figure 3.77: Releasing Coupler

OPERATION

12. Place coupler (A) onto the combine receptacle.
13. Pull out knob (B) to release the handle, and pull handle (C) to engage the pins in coupler.

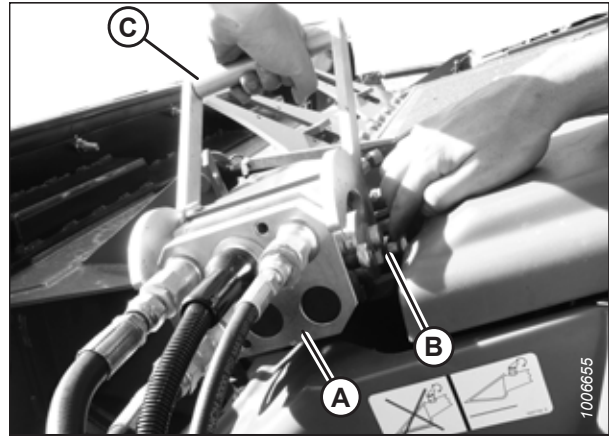


Figure 3.78: Engaging Coupler

14. Pull handle (A) from the vertical to the fully horizontal position to fully engage the multicoupler and to extend pins (B) at the base of the feeder house into locking plates (C). Knob (D) will engage with the lock handle.

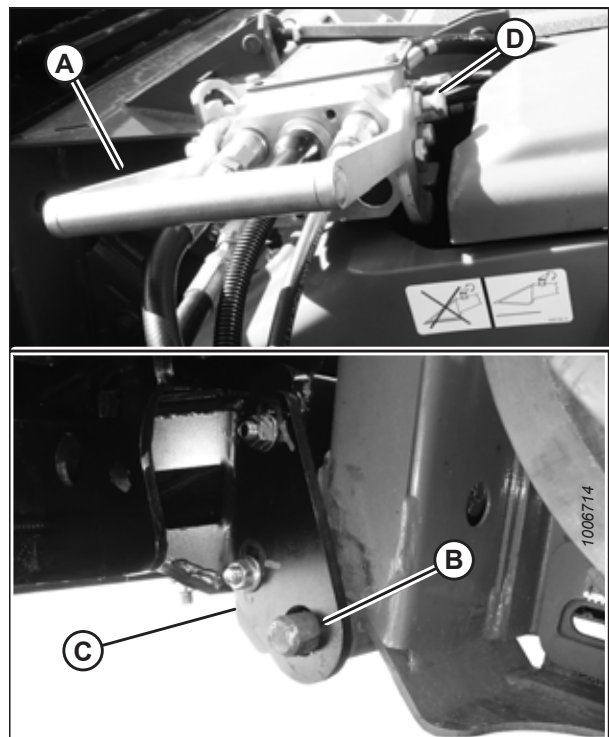


Figure 3.79: Locking Feeder House

OPERATION

NOTE:

If the handle does not move to the fully horizontal position, verify that locking plates (A) on the header are aligned with locking pins (B) on either side of the feeder house. If necessary, loosen nuts (C) and adjust plates (A) to line up with pins (B). Retighten the nuts.

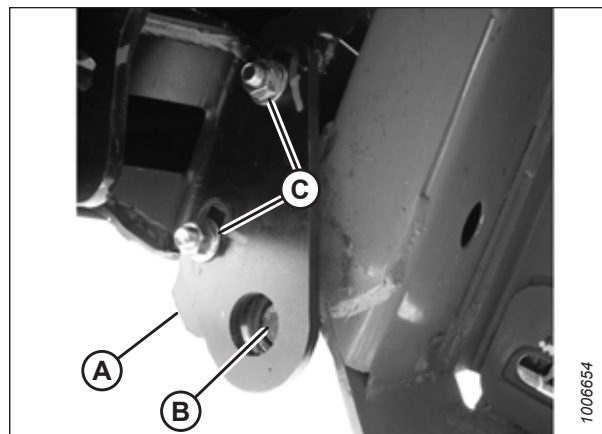


Figure 3.80: Aligning Locking Plates

Detaching Header from John Deere 60, 70, S, and T Series Combine

Be sure to place the header driveline on its storage hook when detaching it from a John Deere combine.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Drive the combine to a level area.
2. Raise the header until it is 30 cm (12 in.) off of the ground.
3. Shut down the engine, and remove the key from the ignition.
4. Place 10 cm by 10 cm (4 in. by 4 in.) blocks under the header frame.
5. Lower the header onto the blocks.
6. Pull out knob (A) on the combine multicoupler, and move handle (B) toward the feeder house to release coupler (C) from the combine and to retract the locking pins at the base of the feeder house.

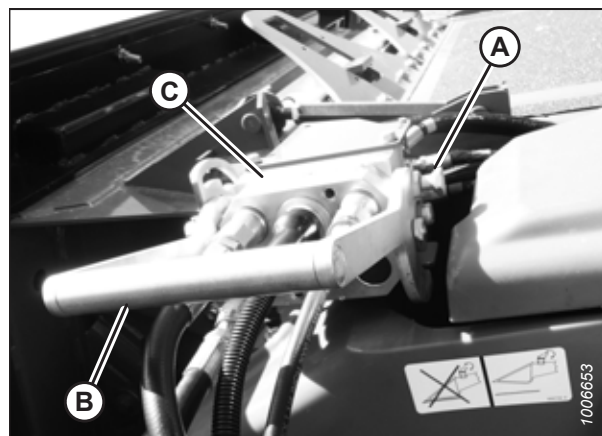


Figure 3.81: Releasing Multicoupler

OPERATION

7. Lower handle (A) on the header, and position coupler (B) onto the header as shown.

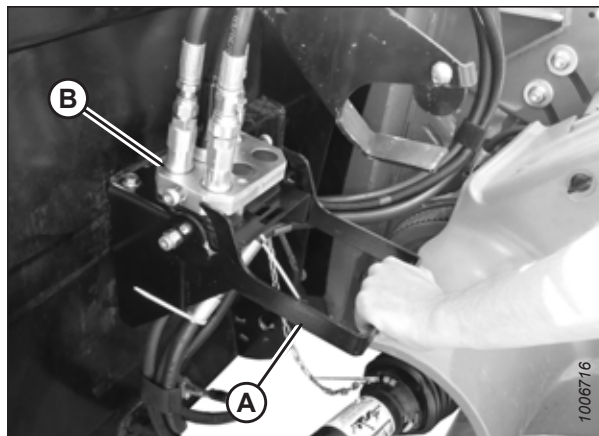


Figure 3.82: Replacing Coupler

8. Raise handle (A) to lock the coupler.
9. Open feeder house driveshield (B).

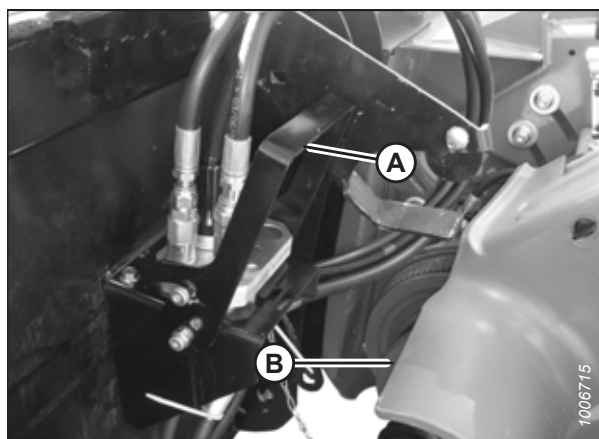


Figure 3.83: Locking Coupler

10. Pull back collar (A) on the driveline, and remove the driveline from the combine output shaft.

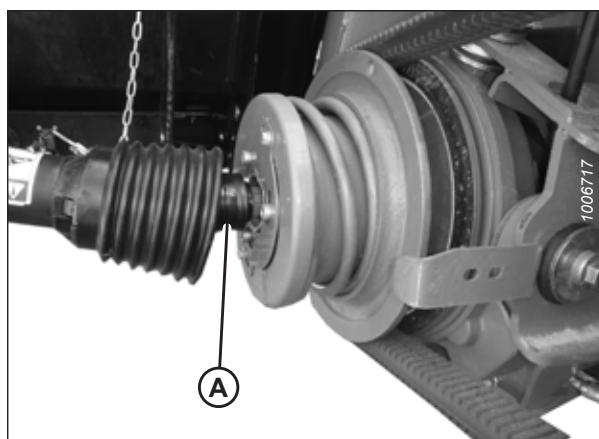


Figure 3.84: Detaching Driveline

OPERATION

- Slide the driveline into storage hook (A) on the header and rotate disc (B) to secure the driveline.

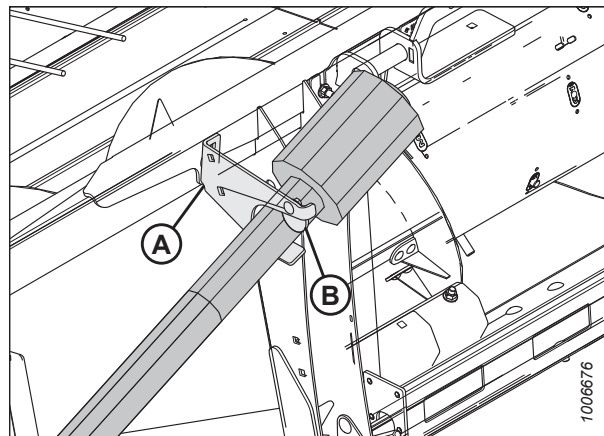


Figure 3.85: Driveline

- Close combine driveshield (A).
- Lower the feeder house until saddle (B) disengages and clears header top beam (C).
- Slowly back the combine away from the header.

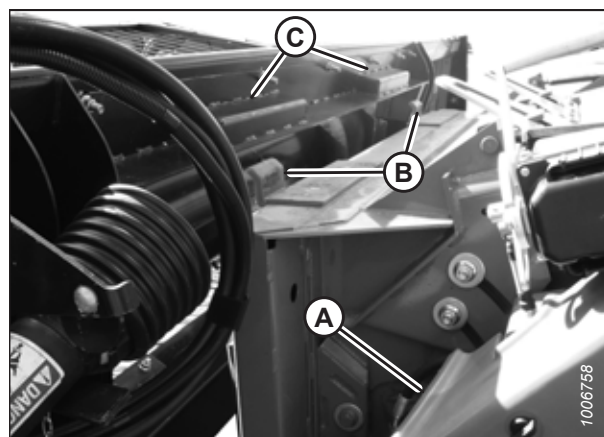


Figure 3.86: Disengaging Header

3.9.5 New Holland CR/CX Series Combine

This section provides instructions for attaching/detaching the PW8 Pick-Up Header to/from all New Holland CR/CX Series combines.

Attaching Header to New Holland CR/CX Series Combine

Attach the header to the combine to be able to operate the header using the combine operator's console.

DANGER

To prevent injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

DANGER

Check to be sure all bystanders have cleared the area.

OPERATION

1. Pull handle (A) on the the combine to raise hooks (B) on both sides of the feeder house.

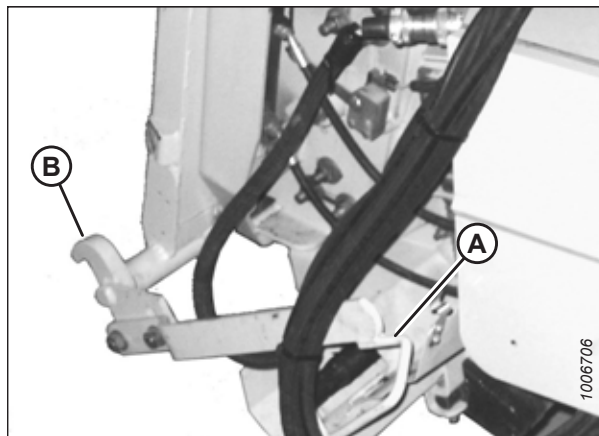


Figure 3.87: Feeder House Locks

2. Start the engine.
3. Drive the combine slowly up to the header until feeder house saddle (A) is directly under header top beam (B).
4. Raise the feeder house to lift the header, ensuring that feeder house saddle (A) is properly engaged with the header frame.

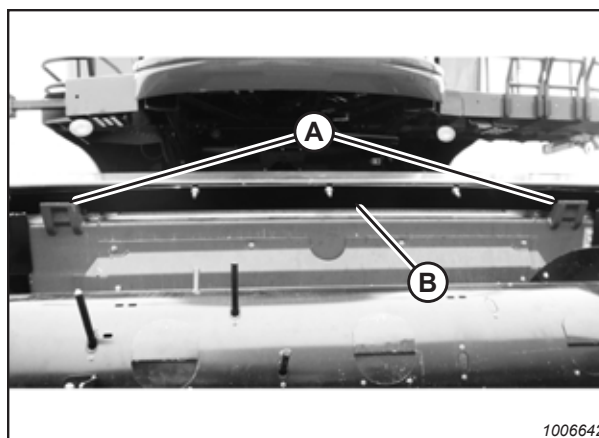


Figure 3.88: Header on Combine

OPERATION

5. Shut down the engine, and remove the key from the ignition.
6. Lift lever (A) on the left side of the header's feeder house and push handle (B) on the combine so that hooks (C) engage pins (D) on both sides of the feeder house.
7. Push down on lever (A) so that the slot in the lever engages handle (B).
8. If locks (C) do not fully engage pins (D) on the header, loosen nut (E) and adjust the position of pin (D) on both sides of the feeder house as needed. Tighten nut (E).
9. Loosen bolts (F) and adjust the lock as needed to fully lock pin (D) when lift lever (A) and handle (B) are engaged. Retighten bolts (F).

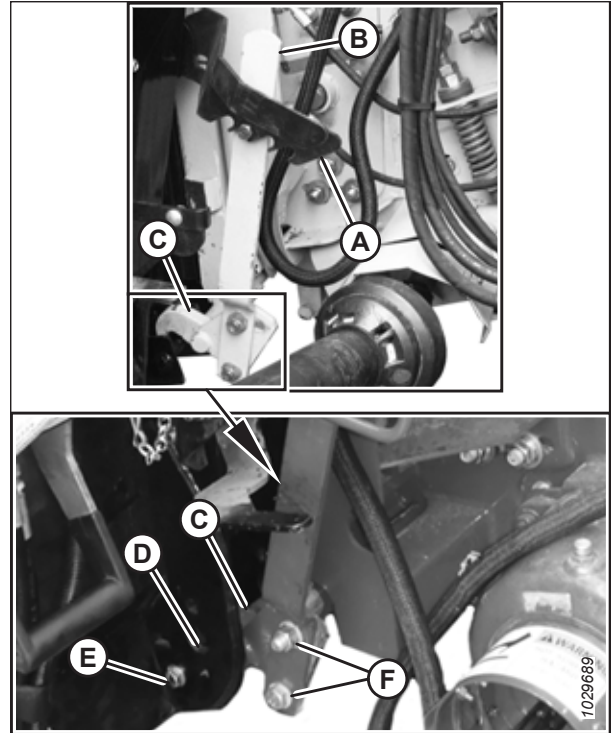


Figure 3.89: Engaging Locks

10. Rotate disc (B) on header driveline storage hook (A) and remove the driveline from the hook.

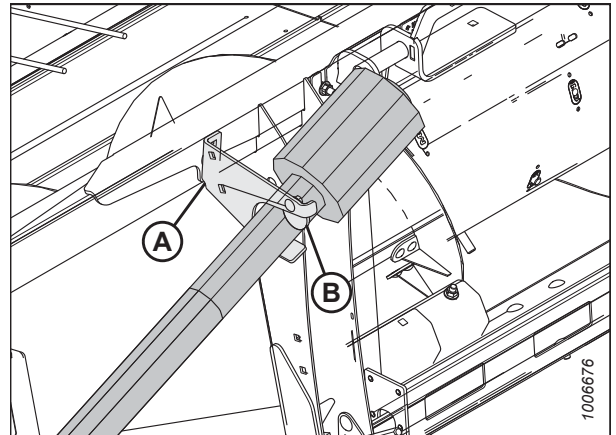


Figure 3.90: Driveline in Storage Position

OPERATION

11. Open the driveshield. Pull back collar (B) on the end of the driveline and push it onto combine output shaft (A) until the collar locks. Close the driveshield.

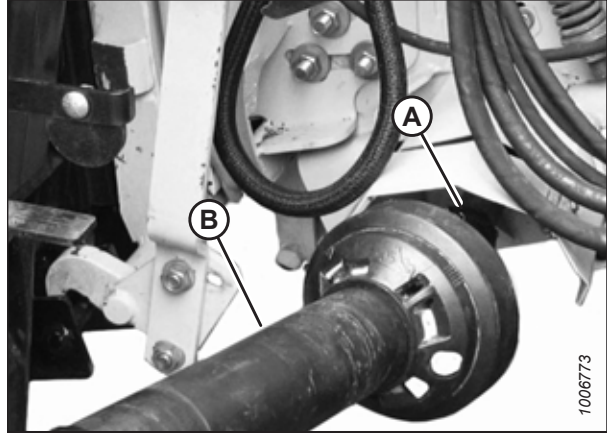


Figure 3.91: Attaching Driveline

12. Open cover (A).
13. Push in lock button (B) and pull handle (C) halfway up to the open position.

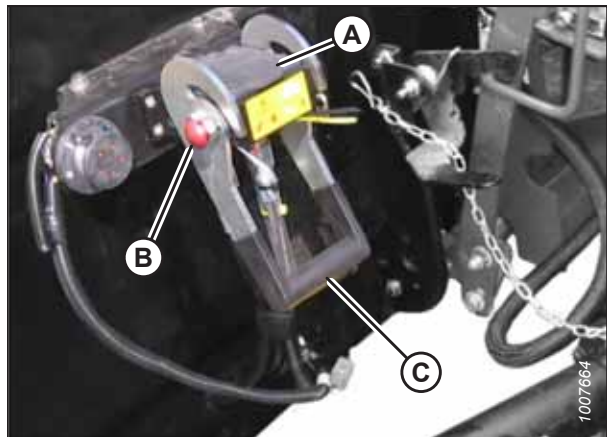


Figure 3.92: Header Receptacle

14. Remove coupler (A) from its storage position on the combine. Clean the mating surface of the coupler.

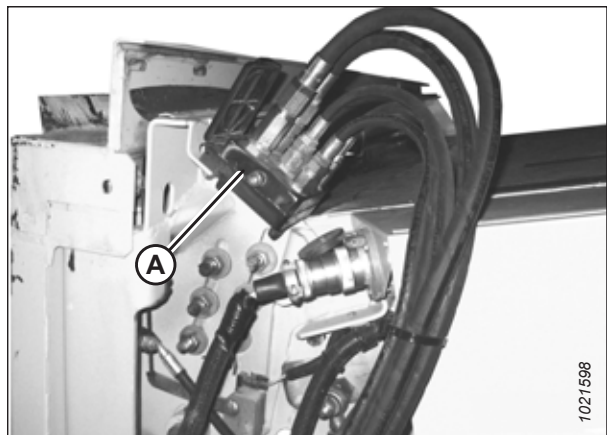


Figure 3.93: Combine Coupler/Connector

OPERATION

15. Position the coupler onto header receptacle (A) and push handle (B) downward to engage the pins into the receptacle.
16. Push handle (B) to the closed position until lock button (C) snaps out.
17. Open cover (D) on the header electrical receptacle.
18. Remove electrical connector (E) from the combine.
19. Align the lugs on electrical connector (E) with the slots in the header receptacle, push the connector onto the receptacle, and turn the collar on the connector to lock it in place.

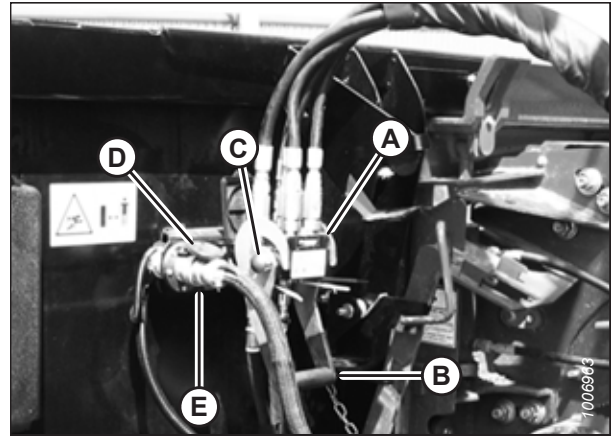


Figure 3.94: Attaching Coupler

Detaching Header from New Holland CR/CX Combine

Be sure to place the header driveline on its storage hook when detaching it from a New Holland combine.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Drive the combine to a level area.
2. Raise the header until it is 30 cm (12 in.) off of the ground.
3. Shut down the engine, and remove the key from the ignition.
4. Place 10 cm by 10 cm (4 in. by 4 in.) blocks under the header frame.
5. Lower the header onto the blocks.
6. Push in lock button (C), and pull handle (B) upward to release coupler (A).
7. Remove coupler (A) from the header receptacle.

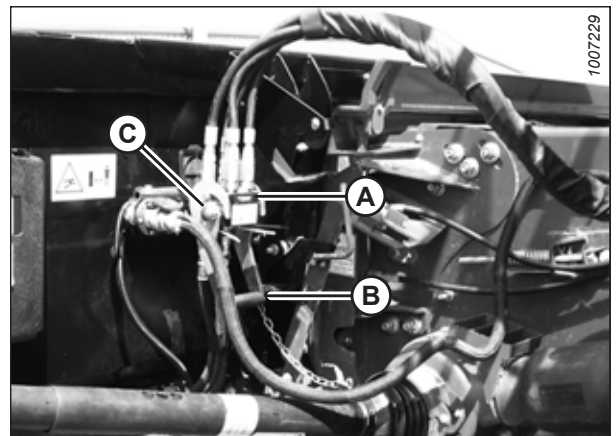


Figure 3.95: Releasing Coupler

OPERATION

8. Position coupler (A) onto storage plate (B) on the combine.
9. Disconnect the electrical connector from the header and place it in storage cup (C) on the combine.

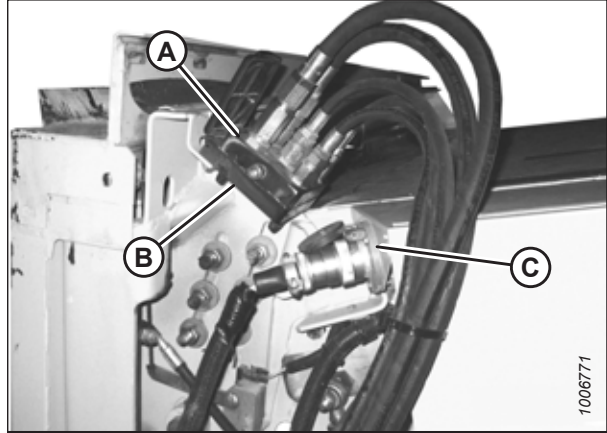


Figure 3.96: Coupler and Electrical Connector Storage Location

10. Close cover (A) on the header hydraulic receptacle and cover (B) on the electrical receptacle.
11. Push handle (C) on the header down into the storage position until lock button (D) snaps out.

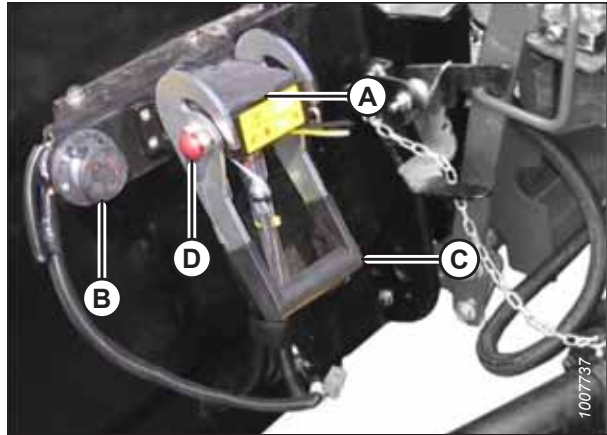


Figure 3.97: Locking Multicoupler

12. Pull back collar (A) on driveline (B) and remove the driveline from the combine.

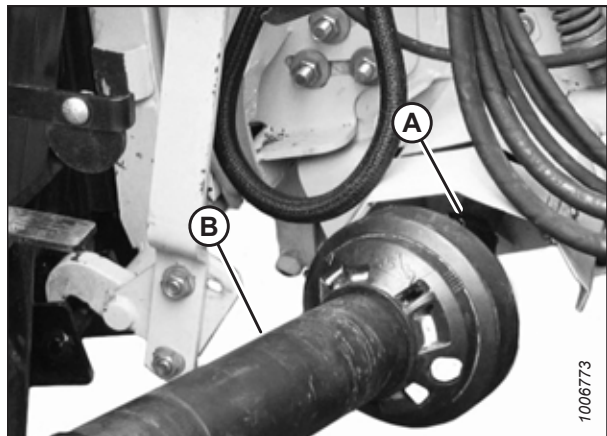


Figure 3.98: Detaching Driveline

OPERATION

- Slide the driveline onto storage hook (A) on header and rotate disc (B) to secure the driveline.

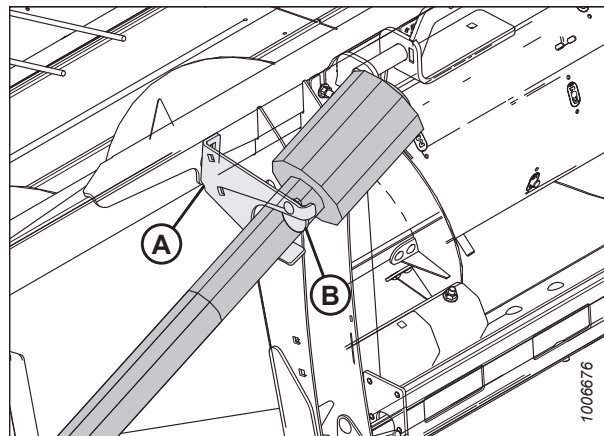


Figure 3.99: Driveline

- Lift lever (A) and pull and lower handle (B) to disengage feeder house/header lock (C).
- Lower the feeder house until it disengages from the header support.
- Slowly back the combine away from the header.

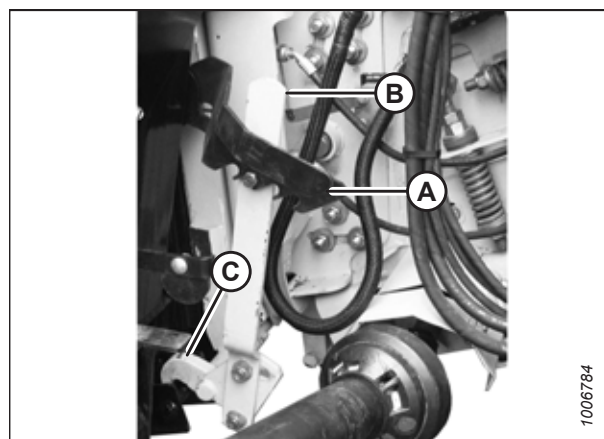


Figure 3.100: Disengaging Header

3.9.6 Versatile

This section provides instructions for attaching/detaching the PW8 Pick-Up Header to/from Versatile RT490 combines.

Attaching Header to Versatile Combine

Attach the header to the combine to be able to operate the header using the combine operator's console.

DANGER

To prevent injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

DANGER

Check to be sure all bystanders have cleared the area.

OPERATION

1. Check that pins (A) at the lower corners of the header opening are retracted.

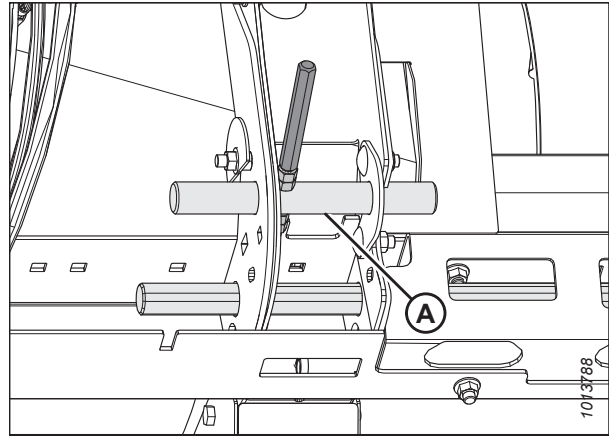


Figure 3.101: Locking Pins Retracted

2. Start the engine.
3. Drive the combine slowly up to the header until feeder house posts (A) are directly under header top brackets (B).
4. Raise the feeder house to lift the header, ensuring that posts (A) are properly engaged around header frame (B).
5. Position the header slightly off the ground, stop the engine, and remove the key from the ignition.

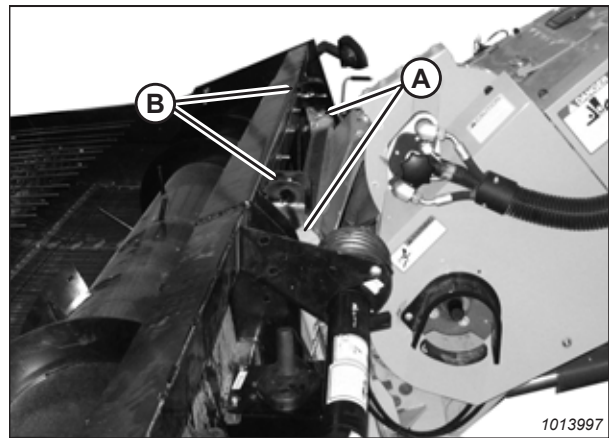


Figure 3.102: Picking up Header

6. Grasp handle (A) and slide pin (B) into feeder house receptacle (C) until pin stop (D) drops down to lock the pin as shown in the inset illustration. Ensure that the pin is engaged on the opposite side of the feeder house.
7. If pin (B) does not align with feeder house receptacle (C), or if the header pan and the bottom of feeder house opening are not properly aligned, you can reposition the top beam by performing Step 8, page 69 to Step 17, page 70.

NOTE:

If the pin aligns with feeder house receptacle (C), proceed to Step 21, page 70.

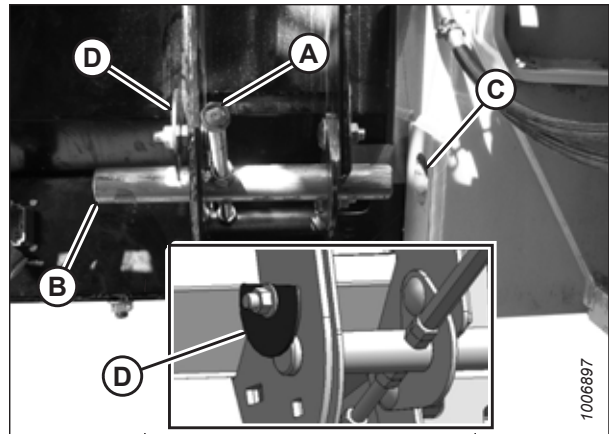


Figure 3.103: Feeder House Lock

OPERATION

8. Measure the misalignment between pin (A) and feeder house receptacle (B).
9. Start the engine.
10. Lower the header until it is 30 cm (12 in.) off of the ground.
11. Shut down the engine, and remove the key from the ignition.
12. Place 10 cm by 10 cm (4 in. by 4 in.) blocks under the header frame.
13. Lower the header onto the blocks. The feeder house should disengage from the top beam.

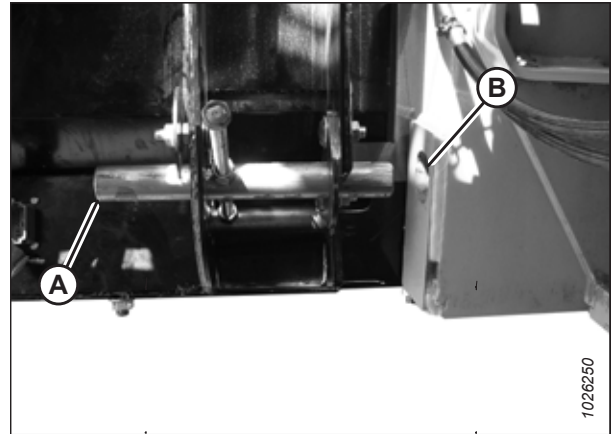


Figure 3.104: Feeder House Lock

14. Loosen seven bolts (A) along top beam (B) on the auger side of the header.

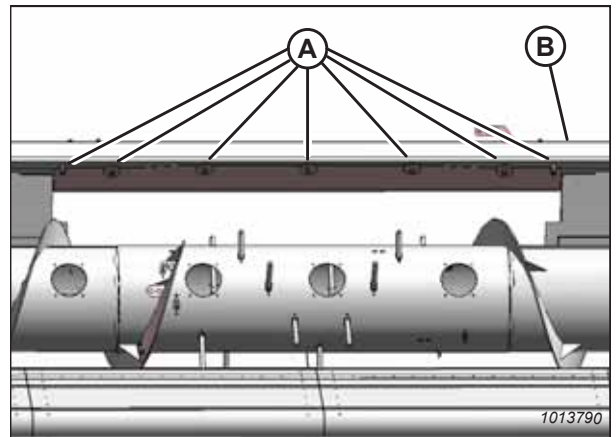


Figure 3.105: Top Beam — Front View

15. Loosen seven bolts (A) along top beam (B) on the back side of the header.

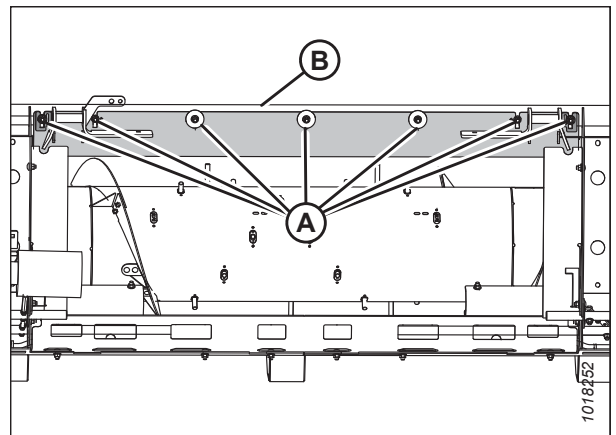


Figure 3.106: Top Beam — Rear View

OPERATION

16. Move support channel (A) according to the measurement made in Step 8, [page 69](#) to align the locking pin with the feeder house receptacle. For instructions, refer to Step 6, [page 68](#).
17. Tighten all the bolts.
18. Start the engine.

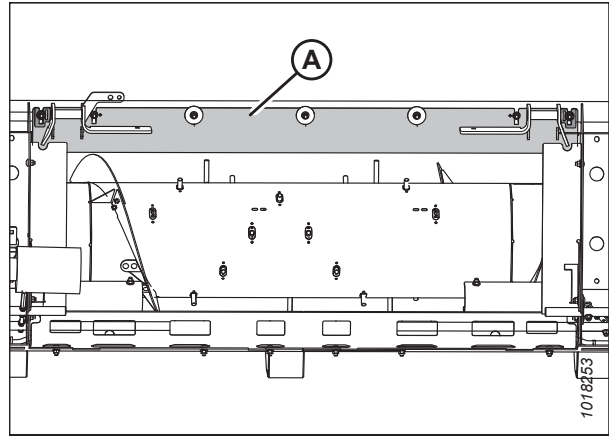


Figure 3.107: Top Beam — Rear View

19. Raise the feeder house to lift the header, ensuring that posts (A) are properly engaged around header frame (B).
20. Shut down the engine, and remove the key from the ignition.

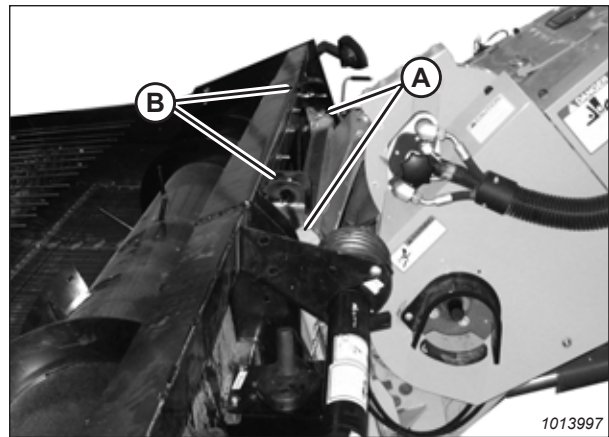


Figure 3.108: Picking up Header

21. Rotate disc (B) on header driveline storage hook (A), and remove the driveline from the hook.

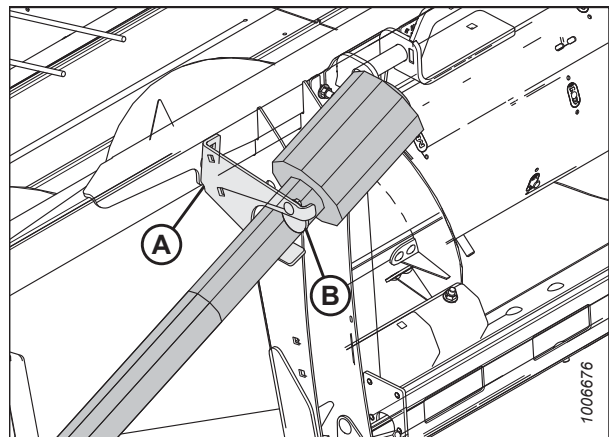


Figure 3.109: Driveline in Storage Position

OPERATION

22. Pull back collar (A) at the end of the driveline and push it onto combine output shaft (B) until the collar locks.

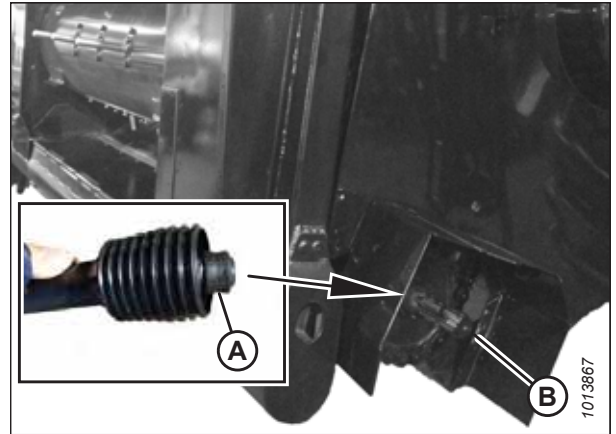


Figure 3.110: Driveline

23. Open cover (A) on the header receptacle.
24. Push in lock button (B) and pull handle (C) upward to the fully open position.

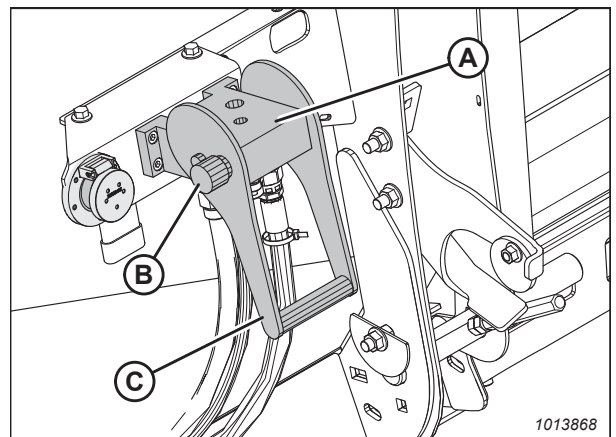


Figure 3.111: Coupler Lock

25. Remove coupler (A) from the combine and clean the mating surfaces.

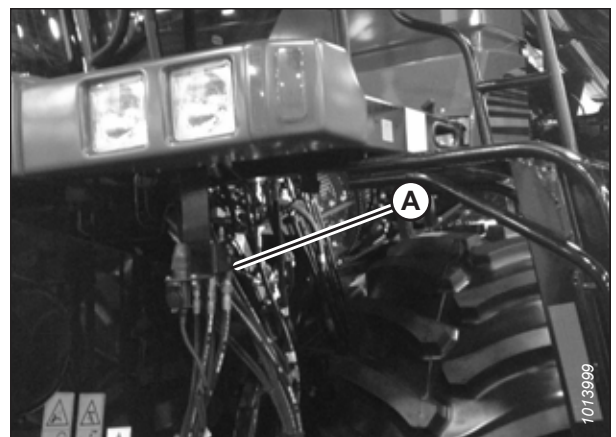


Figure 3.112: Versatile Coupler

OPERATION

26. Position coupler (A) onto the header receptacle and push handle (B) downward to engage the coupler pins into the receptacle.
27. Push the handle to the closed position until lock button (C) snaps out.
28. Open cover (D) on the header electrical receptacle.
29. Remove electrical connector (E) from the storage cup on the combine.
30. Align the lugs on electrical connector (E) with the slots in the receptacle, push the connector onto the receptacle, and turn the collar on the connector to lock it in place.

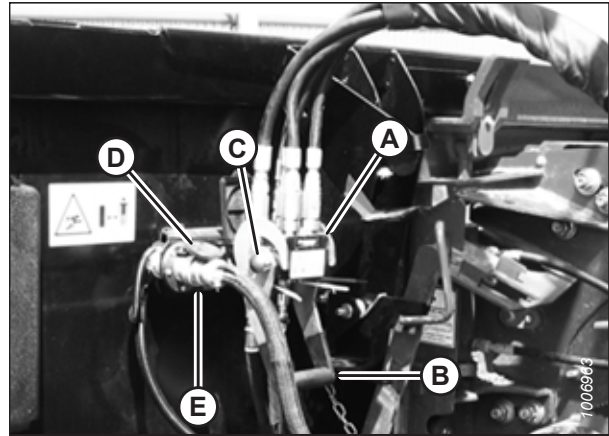


Figure 3.113: Attaching Coupler

Detaching Header from Versatile Combine

Be sure to place the header driveline on its storage hook when detaching it from a Versatile combine.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Drive the combine to a level area.
2. Raise the header until it is 30 cm (12 in.) off of the ground.
3. Shut down the engine, and remove the key from the ignition.
4. Place 10 cm by 10 cm (4 in. by 4 in.) blocks under the header frame.
5. Lower the header onto the blocks.
6. Push in lock button (C), and pull handle (B) upward to release coupler (A).
7. Remove coupler (A) from the header receptacle.

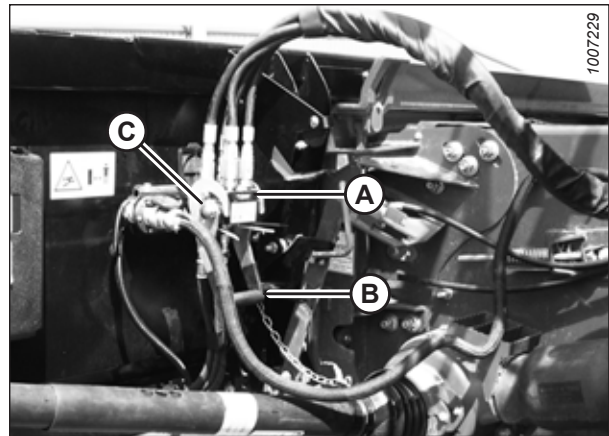


Figure 3.114: Releasing Coupler

OPERATION

8. Position coupler (A) onto storage plate (B) on the combine.
9. Disconnect the electrical connector from the header and place it in storage cup (C) on the combine. Replace the electrical cover.

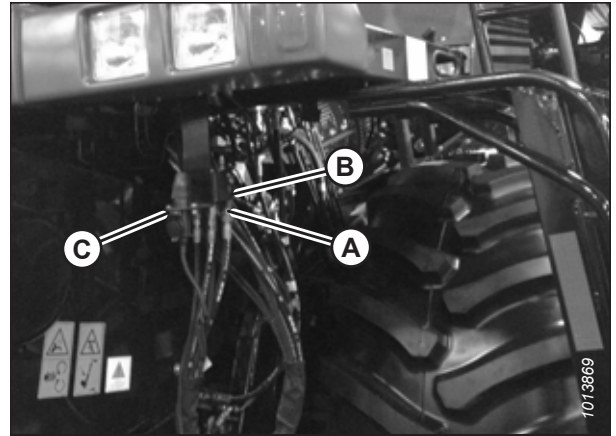


Figure 3.115: Coupler and Electrical Connector Storage Location

10. Close cover (A) on the header hydraulic receptacle and cover (B) on the electrical receptacle.
11. Push handle (C) down into the storage position until lock button (D) snaps out.

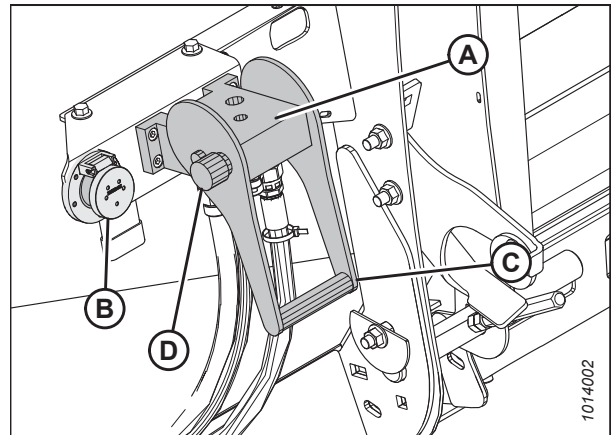


Figure 3.116: Locking Multicoupler

12. Pull back the collar on driveline (A) and remove the driveline from the combine.

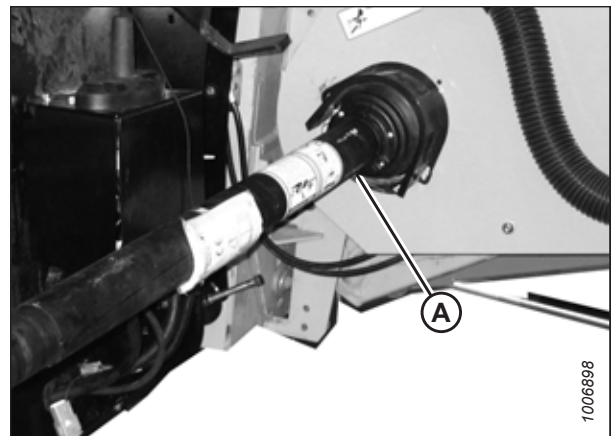


Figure 3.117: Detaching Driveline

OPERATION

- Slide the driveline into storage hook (A) on the header and rotate disc (B) to secure the driveline.

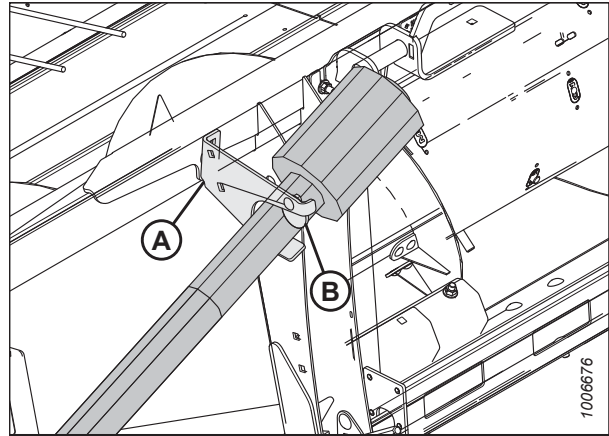


Figure 3.118: Driveline

- Rotate pin stop (C) from the lowered position as shown in the inset illustration, and disengage pin (B) from the feeder house using handle (A).

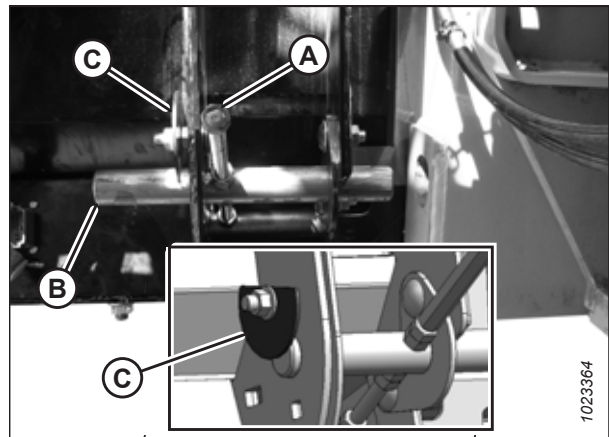


Figure 3.119: Feeder House Lock

- Start the combine. Lower the feeder house until feeder house posts (A) disengage from the header.
- Slowly back the combine away from the header.

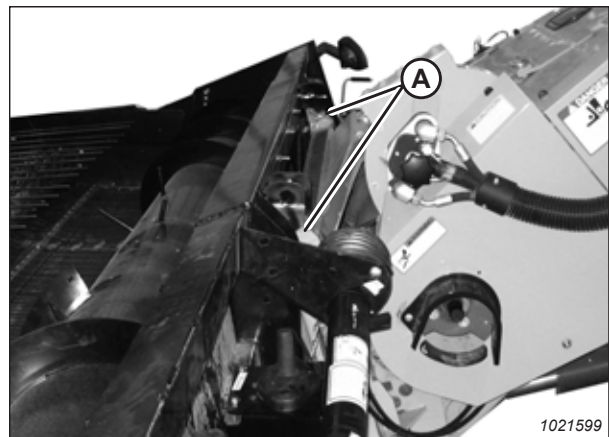


Figure 3.120: Disengaging Header

3.10 Header Transport

Refer to your combine operator's manual for instructions on how to transport a header attached to the combine.

3.10.1 Transport Lights

Transport lights (A), which are mounted on both ends of the header, are activated by switches inside the combine cab. They function as flashing amber hazard lights and turn signals, and should be positioned perpendicular to the endsheet.

Refer to your combine operator's manual for operating instructions.

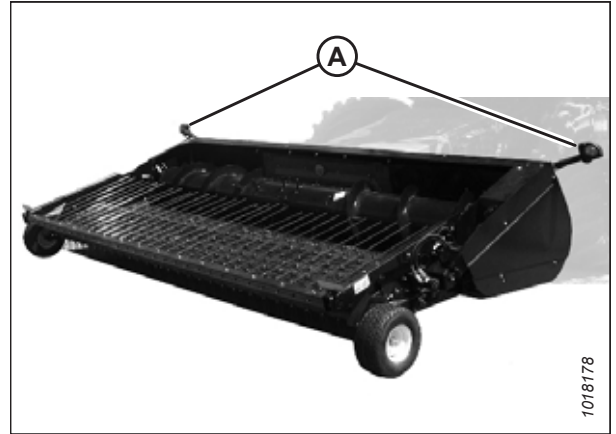


Figure 3.121: Transport Lights

3.11 Header Operation

Satisfactory operation of the header in all situations requires making adjustments to the header according to the operating conditions.

Proper operation of the header reduces crop loss and increases productivity. Proper adjustments and timely maintenance will increase the service life of your machine.

The variables listed in Table 3.2, *page 76* and those detailed in this chapter affect header performance.

You will quickly become adept at adjusting the machine to achieve the results you desire. Most of the adjustments have been preset at the factory, but the settings can be changed to suit operating conditions.

Table 3.2 Operating Variables

Variable	Refer to
Operating speed	<i>3.11.1 Operating Speed, page 76</i>
Auger speed	<i>Auger Speed, page 77</i>
Auger position	<i>Checking Auger Position, page 78</i>
Stripper plates	<i>Stripper Plate Clearance, page 81</i>
Header height	<i>Header Height, page 86</i>
Pick-up height	<i>Pick-Up Height, page 87</i>
Header flotation	<i>3.11.4 Adjusting Header Float, page 89</i>
Hold-down position	<i>Hold-Down Position, page 91</i>
Hold-down rod angle	<i>Adjusting Hold-Down Rod Angle, page 92</i>

3.11.1 Operating Speed

The performance of the pick-up header is mainly governed by the speed at which the drapers are turning and by the forward speed of the combine.

- If the swath is pushed ahead, the draper speed is too low and some of the crop may remain unpicked.
- If the swath is torn apart and is pulled toward the combine header, the draper speed is too high and uneven combine feeding will occur.

Generally, optimal harvest performance is achieved when the swath is continually pushed ahead slightly as the combine moves forward.

The speed of the draper can be adjusted from the combine cab by regulating the flow of oil to the pick-up header's hydraulic motors; typically, this is done by using the combine's reel speed controls. The ratio of the pick-up speed to the combine ground speed can be set using the combine header controls. Refer to your combine operator's manual for further instructions.

IMPORTANT:

Do **NOT** overspeed the pick-up header. Overspeeding causes premature wear of drive components and adversely affects pick-up performance.

OPERATION

The following operating speed is suggested:

Front and Rear Deck Aft Roller: 51 rpm per 1.6 km/h (1 mph) of combine ground speed.

Example: For combining at 8 km/h (5 mph), the rear roller shaft should run at $51 \times (8/1.6) = 255$ rpm ($51 \times 5 \text{ mph} = 255$ rpm).

Adjusting Draper Speed

If compatible, draper speed is displayed on the combine; otherwise, draper speed is measured at the aft roller on the rear pick-up deck.

1. **Combines equipped with speed sensor:** The combine displays the draper speed as measured by speed sensor (A) on the rear driven draper roller. The setting is adjustable by using the reel speed control in the combine.

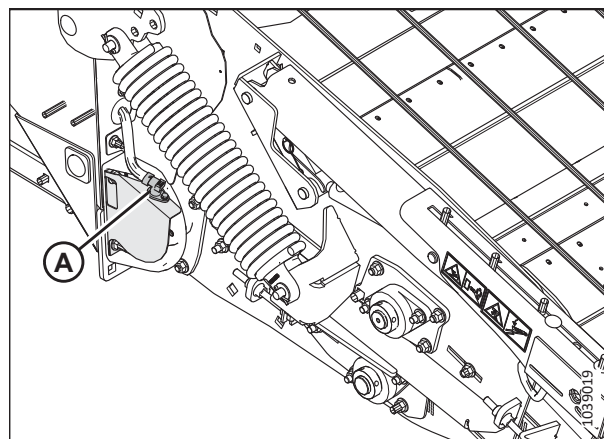


Figure 3.122: Draper Roller With Speed Sensor

2. **Case, New Holland, and Versatile Combines:** Check aft roller (A) rpm with a handheld tachometer.

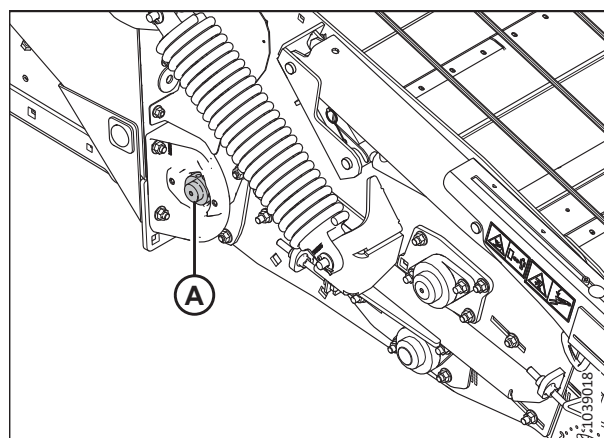


Figure 3.123: Draper Roller Without Speed Sensor

3.11.2 Auger Operation

The performance of the pick-up header's auger depends on the output speed of the combine's feeder house, its position and float settings, and the presence of certain options such as stripper plates.

Auger Speed

The header is equipped with an auger drive sprocket specific to the make and model of the combine. The auger is driven by a chain directly connected to the feeder house sprocket, so that the speed of the auger depends on the speed of the combine's feeder house. The auger speed can be changed from the combine cab.

Contact your Dealer to learn about different sprocket options.

Refer to *Auger Drive Sprockets*, page 241 for instructions on changing the sprocket.

OPERATION

Checking Auger Position

The position of the auger is critical for ensuring the smooth flow of crop into the feeder house. The position is factory-set for normal crop conditions, but can be adjusted to suit different crops and operating conditions. Check the position of the auger prior to operating the pick-up header to ensure that the auger rotates freely without touching the auger pan or stripper bars.

1. Ensure that clearance (A) between auger flighting (B) and pan (C) is 5–14 mm (3/16–9/16 in.).

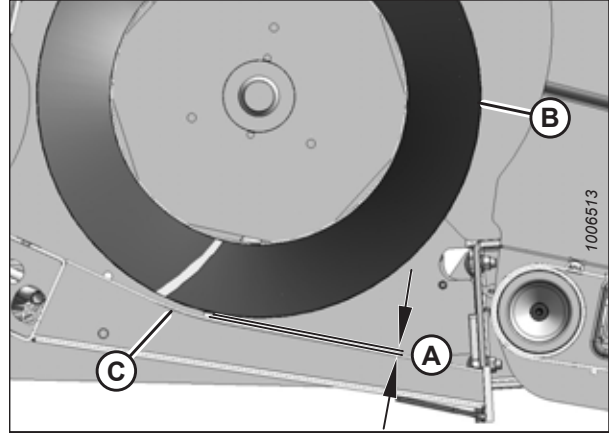


Figure 3.124: Clearance between Auger and Pan

2. Ensure that clearance (A) between auger fingers (B) and pan (C) is 20–25 mm (13/16–1 in.).
3. If clearance (A) does not match the specifications, refer to [Adjusting Auger Position, page 80](#) for adjustment instructions.

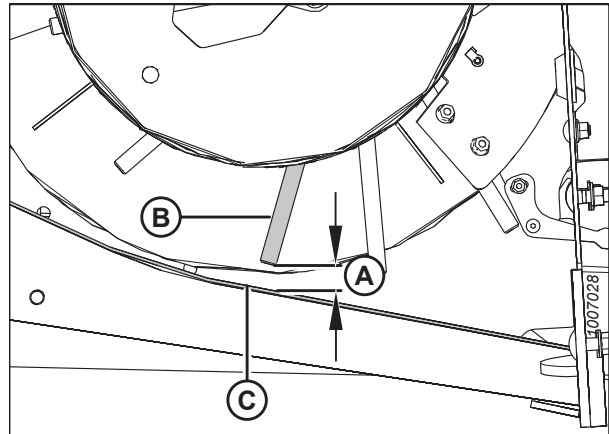


Figure 3.125: Clearance between Finger and Pan

Auger Float

The auger has an upward float range of 74 mm (3 in.), but it can be locked to operate in rigid-header mode.

Locking Auger Float

Locking the auger float prevents any vertical movement of the auger drum.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the combine, and remove the key from the ignition.

OPERATION

3. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).
4. Remove the right endshield. For instructions, refer to [3.3.5 Removing Right Endshield, page 28](#).
5. Loosen two bolts (A) on auger upstops (B) on the left side of the header.
6. Slide stops (B) downward until they contact rubber blocks (C) on the auger arm.
7. Tighten bolts (A).

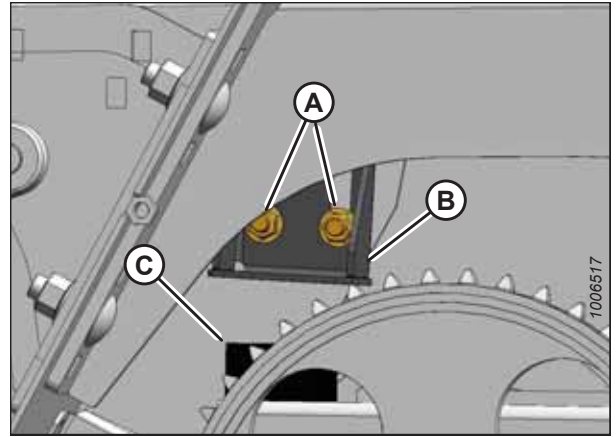


Figure 3.126: Left Stop

8. Loosen two bolts (A) on auger upstops (B) on the right side of the header.
9. Slide stops (B) downwards until they contact rubber blocks (C) on the auger arm.
10. Tighten bolts (A).
11. Close the left endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).
12. Install the right endshield. For instructions, refer to [3.3.6 Installing Right Endshield, page 28](#).

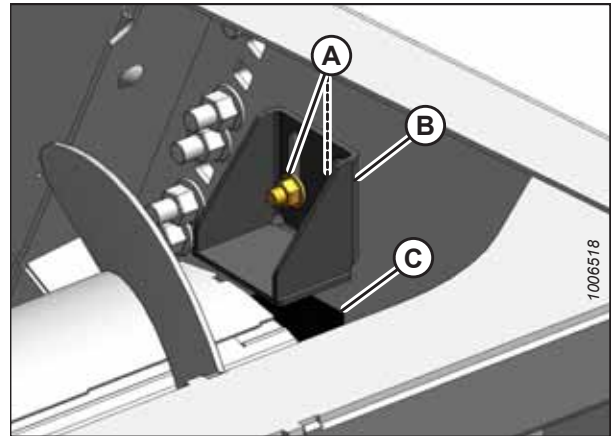


Figure 3.127: Right Stop

Unlocking Auger Float

By moving the upstop blocks, the float height of the auger can be set to the desired range.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the combine and remove the key from the ignition.
3. Open left endshield (A). For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).
4. Remove the right endshield. For instructions, refer to [3.3.5 Removing Right Endshield, page 28](#).

OPERATION

- Loosen two bolts (A) on auger upstops (B) on the left side of header.
- Slide stops (C) upwards.

NOTE:

The height of the stop determines the float range of the auger.

- Tighten bolts (A).

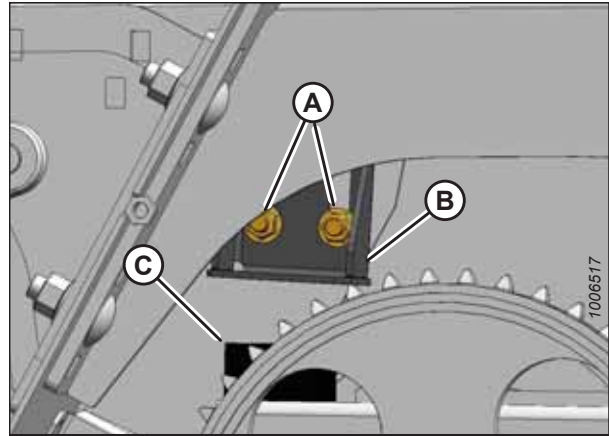


Figure 3.128: Left Stop

- Loosen two bolts (A) on auger upstops (B) at the right side of the header.
- Slide stops (C) upwards. The height of the stop determines the float range of the auger.
- Tighten bolts (A).
- Close left endshield (A). For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).
- Install the right endshield. For instructions, refer to [3.3.6 Installing Right Endshield, page 28](#).

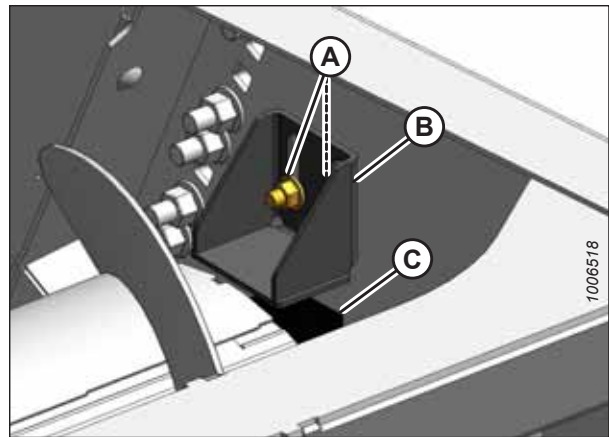


Figure 3.129: Right Stop

Adjusting Auger Position

The auger is adjustable on both ends of the header. Adjust the position of the auger as needed in order to maintain uniform clearance across the entire width of the header.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

- Lower the header to the ground.
- Shut down the combine and remove the key from the ignition.
- Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).
- Remove the right endshield. For instructions, refer to [3.3.5 Removing Right Endshield, page 28](#).

NOTE:

Access the auger/pan area from the top of the header.

OPERATION

5. Loosen two nuts (A) on the auger stops at both ends of the header.
6. Loosen jam nuts (B) on adjuster bolts (C).
7. Turn adjuster bolt (C) to raise or lower the auger.
8. Manually rotate the auger to check for interference and to check the clearance between the auger flighting and the auger pan. Adjust the clearance if necessary.
9. Tighten jam nuts (B) and downstop nuts (A).
10. Check the clearance between the auger flighting and the stripper plates and adjust it if necessary. For instructions, refer to [Stripper Plate Clearance](#), page 81.

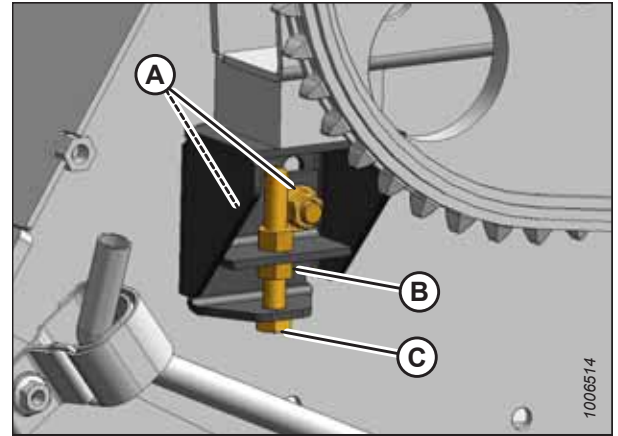


Figure 3.130: Left Auger Stop

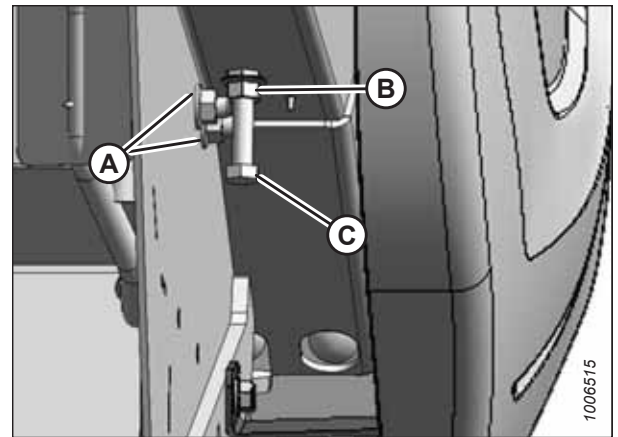


Figure 3.131: Right Auger Stop

Stripper Plate Clearance

The pick-up header is equipped with a pair of stripper plates located on either side of the center opening. The stripper plates are designed to minimize crop carryover behind the auger, but they require proper adjustment.

Stripper plates (A) can be found on either side of the header's center opening. The clearance between the stripper plates and the auger flighting is factory-set to 3–8 mm (1/8–5/16 in.).

NOTE:

- If the clearance between the auger flighting and the stripper plates is too large, crop has a tendency to wrap around the auger, disrupting the flow of crop into the combine.
- If the clearance is too small, the auger flighting may contact the stripper plates, resulting in excessive wear to the flighting and the stripper plates.

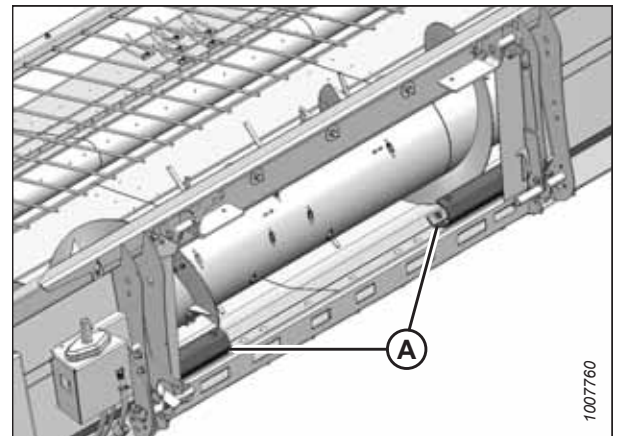


Figure 3.132: Stripper Plates

OPERATION

Checking Stripper Plate Clearance

Check the clearance between the stripper plates and the auger flighting whenever the auger position is changed. Adjust the clearance if necessary.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the combine and remove the key from the ignition.
3. Rotate the auger manually to check for interference and to check the clearance between auger flighting (A) and stripper plates (B).

NOTE:

Access the auger/stripper plate area from the top of the header.

4. Start the combine's engine.
5. Run the header slowly, and listen for contact between auger flighting (A) and stripper plates (B). Gradually increase the speed of the header until it is operating at full speed.

If there is any contact between the auger flighting and the stripper plates, adjust the stripper plate clearance. For instructions, refer to [Adjusting Stripper Plate Clearance](#), page 82.

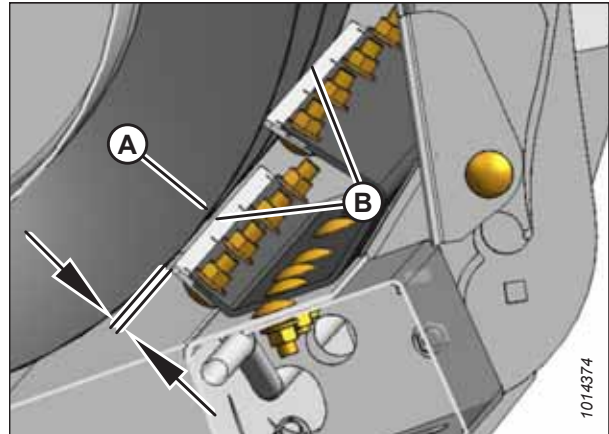


Figure 3.133: Stripper Plate Clearance

Adjusting Stripper Plate Clearance

Adjust the clearance between the stripper plates and the auger flighting so that there is no interference between these parts.

DANGER

To prevent injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

1. Lower the header to the ground.
2. Shut down the engine, and remove the key from the ignition.

OPERATION

3. Loosen nuts (A) on stripper plate (B), and adjust the stripper plate to achieve clearance (C) of 3–8 mm (1/8–5/16 in.).
4. Tighten nuts (A).
5. Check the clearance between the stripper plates and the auger flighting. For instructions, refer to [Checking Stripper Plate Clearance, page 82](#).

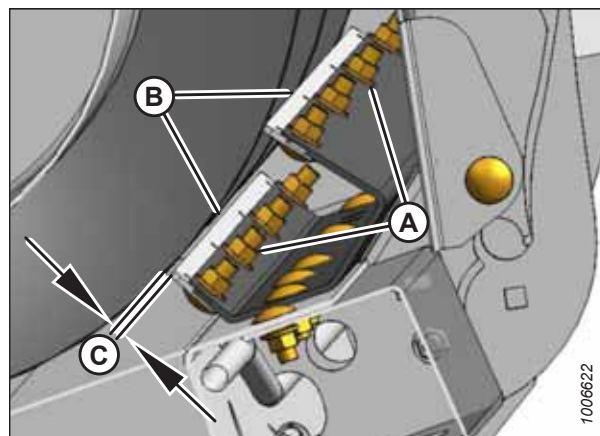


Figure 3.134: Stripper Plate Clearance

Adjusting the Stripper Bracket Width – Gleaner® Combines

The width of the stripper bracket is factory-set to 816 mm (32-1/8 in.). It can be adjusted to 725 mm (28-1/2 in.) or 893 mm (35-1/8 in.) in order to modify flow of crop into the feeder house.

1. Loosen three bolts (A) and remove cover (B) on both sides of the header to expose the stripper bracket attachment hardware.
2. Use the information in the following illustrations to adjust the stripper bracket width:
 - [Figure 3.136, page 84](#)
 - [Figure 3.137, page 84](#)
 - [Figure 3.138, page 85](#)

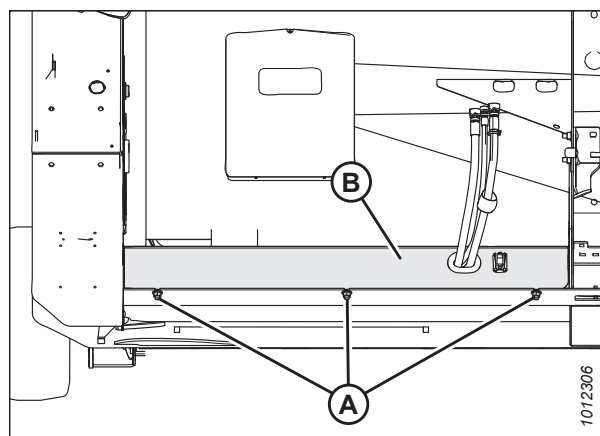


Figure 3.135: Left Cover – Right Side Opposite

OPERATION

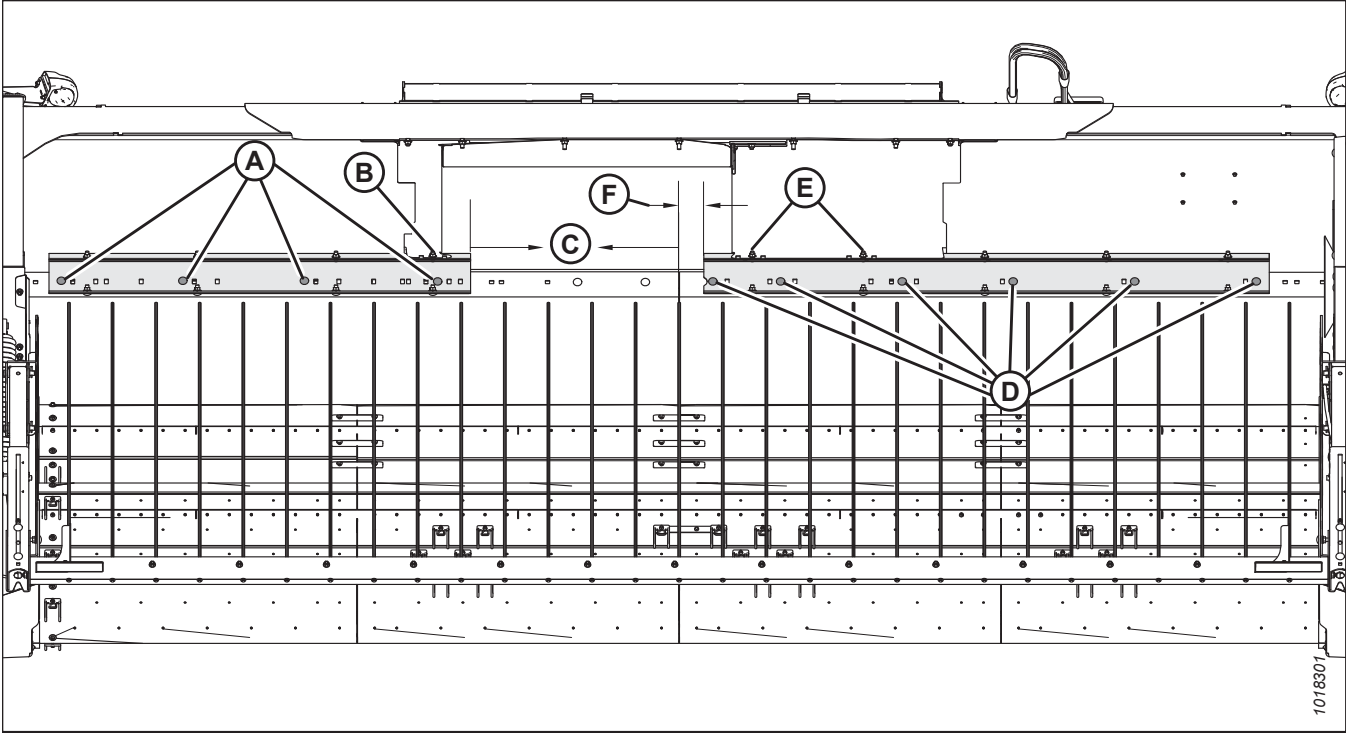


Figure 3.136: Factory Configuration 816 mm (32-1/8 in.)

A - Right Stripper Bracket Bolts x 4
D - Left Stripper Bracket Bolts x 6

B - Right Side Filler Bolt
E - Left Side Filler Bolts

C - Right Stripper to Center of Feed Pan 729 mm
F - Left Stripper to Center of Feed Pan 87 mm

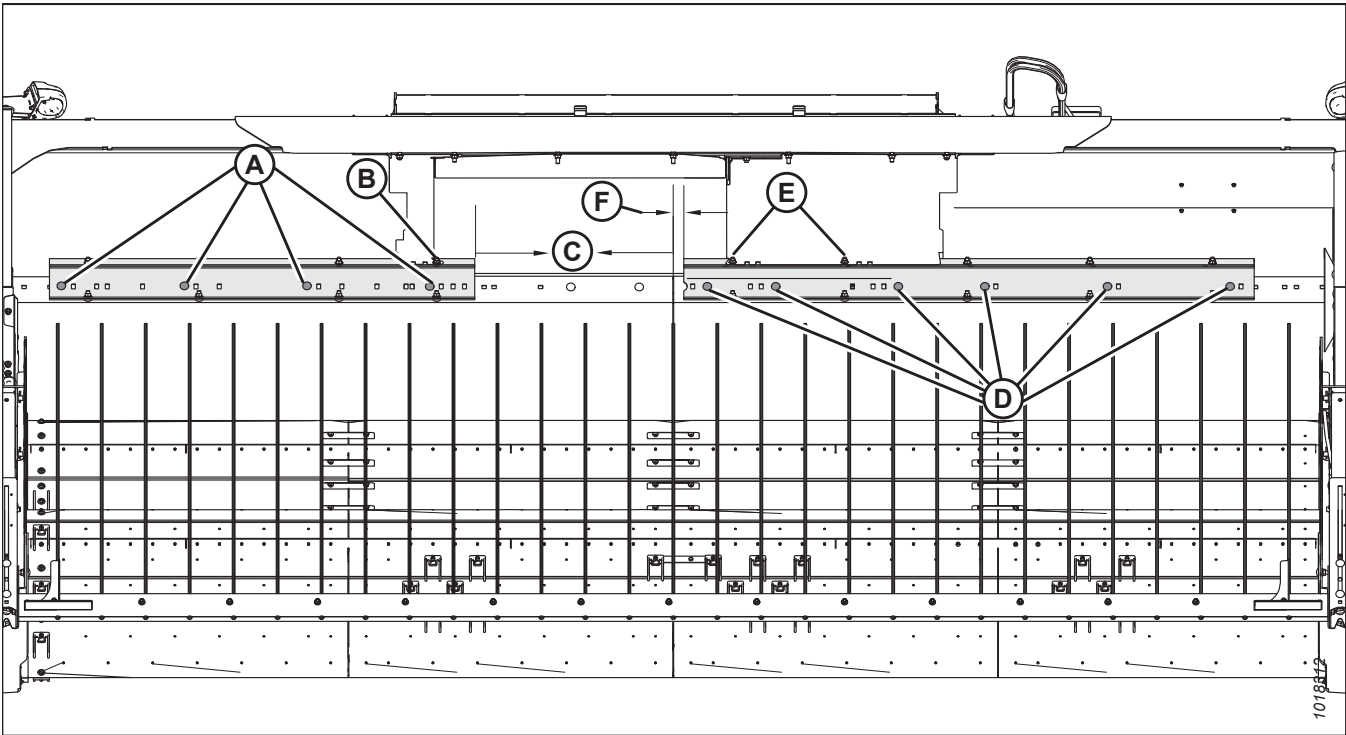


Figure 3.137: Narrow Configuration 725 mm (28-1/2 in.)

A - Right Stripper Bracket Bolts x 4
D - Left Stripper Bracket Bolts x 6

B - Right Side Filler Bolt
E - Left Side Filler Bolts

C - Right Stripper to Center of Feed Pan 688 mm
F - Left Stripper to Center of Feed Pan 37 mm

OPERATION

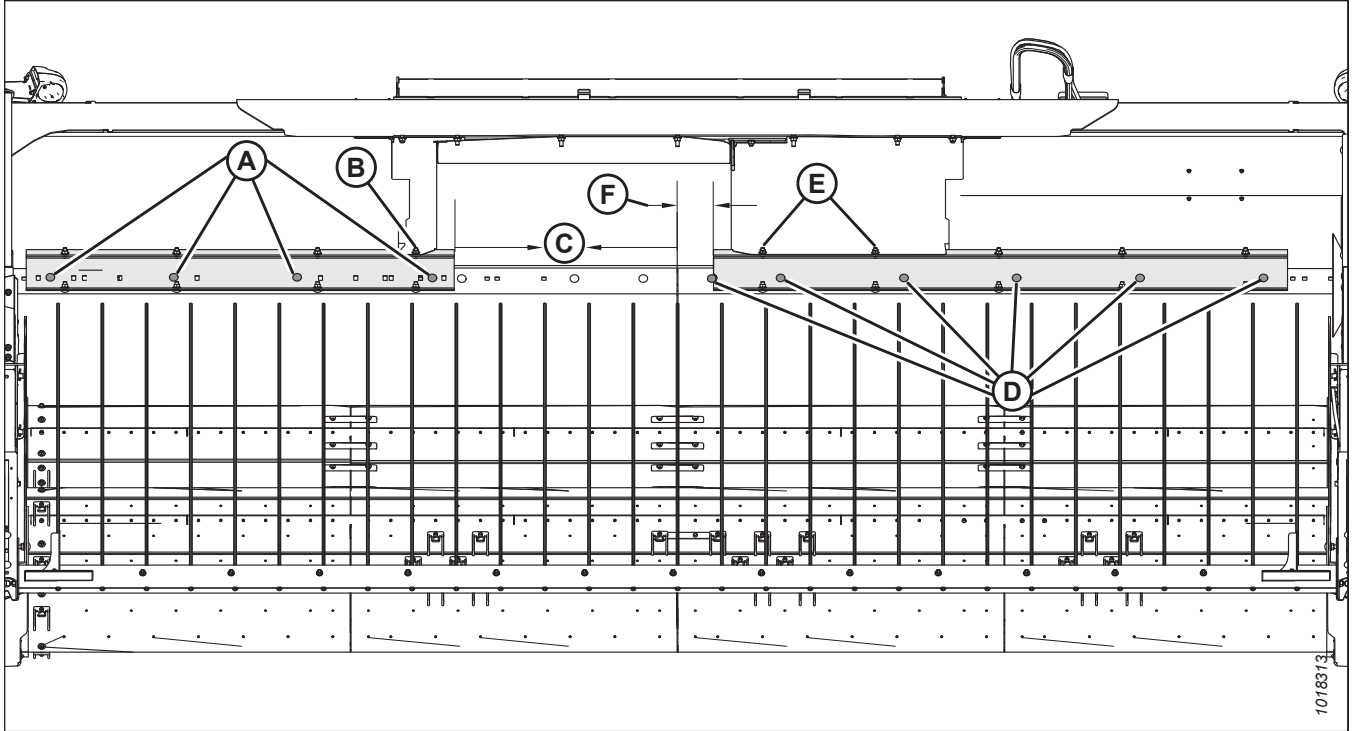


Figure 3.138: Wide Configuration 893 mm (35-1/8 in.)

A - Right Stripper Bracket Bolts x 4
D - Left Stripper Bracket Bolts x 6

B - Right Side Filler Bolt
E - Left Side Filler Bolts

C - Right Stripper to Center of Feed Pan 769 mm
F - Left Stripper to Center of Feed Pan 124 mm

3. Check the clearance between the auger flighting and the stripper plates, and adjust it if necessary. Refer to [Stripper Plate Clearance, page 81](#).
4. When your adjustments are complete, replace cover (B) and secure it with bolts (A) on both sides of the header.

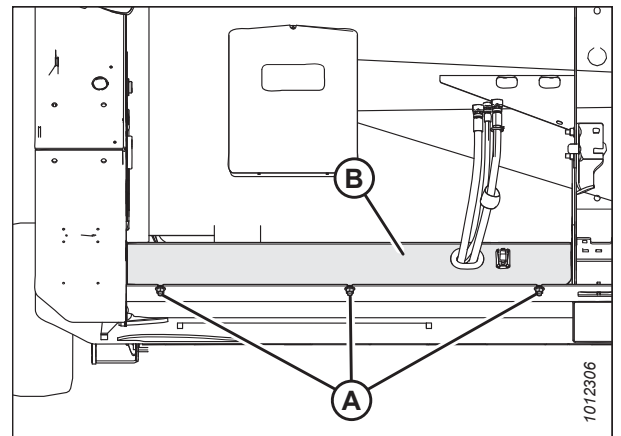


Figure 3.139: Left Cover – Right Side Opposite

3.11.3 Operating Height

The header and pick-up heights can be adjusted to suit various harvest conditions. Adjustments may depend on whether or not your combine is equipped with auto header height control (AHHC).

Header Height

Header height is the distance between the deck pivot and the ground.

Header height (A) should be set between 4 and 5 on the end plate decal or 305 mm (12 in.) above the ground.

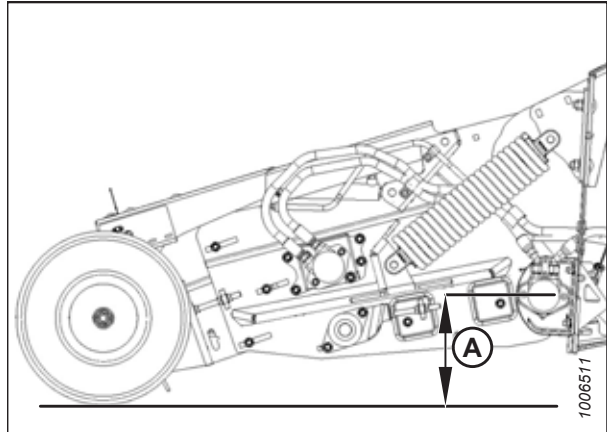


Figure 3.140: Header Height

Header height adjustments are made using the combine's header height control. Numbered decals (A) on both sides of the header indicate the header operating height if the combine is not equipped with an in-cab header height display.

The position of end plate (B) on numbered decals (A) represents the height of the header. Setting the end plate position between 4 and 5 will achieve the recommended operating height of 305 mm (12 in.).

NOTE:

Position 1 represents the lowest header height and position 7 represents the highest.

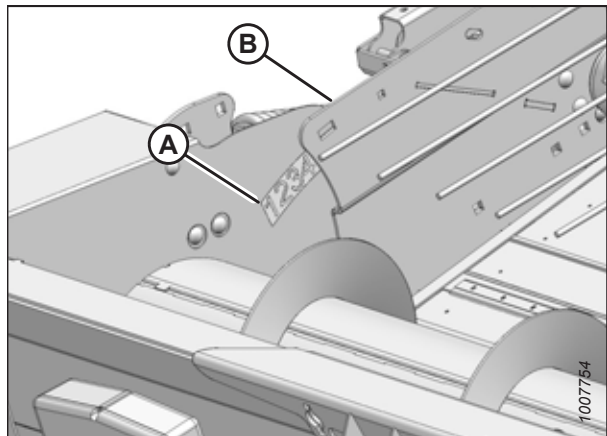


Figure 3.141: Height Gauge

If your combine is factory-equipped with auto header height control (AHHC), refer to the following operating and adjustment information. If the AHHC system is not functioning properly, the sensor output voltage or header height range may require adjustment. For more information, refer to [4.1 Configuring Auto Header Height Control System, page 99](#).

1. Ensure that the optimum operating height is 305 mm (12 in.) off the ground under normal conditions with the AHHC set to the **NEUTRAL** position.
2. Use the AHHC to change the pick-up operating height to suit your particular harvest conditions. Refer to your combine operator's manual for details.
3. If the AHHC sensor requires adjustment, refer to [4.1 Configuring Auto Header Height Control System, page 99](#).

OPERATION

Pick-Up Height

Pick-up height is the distance between the pick-up fingers and the ground.

Pick-up height (A) should be set to 25 mm (1 in.) for most harvest conditions. However:

- If the pick-up leaves material in the swath, then the pick-up height is too high and should be decreased.
- If the pick-up fingers are wearing quickly or are picking up dirt and stones, then the pick-up height is too low and should be increased.

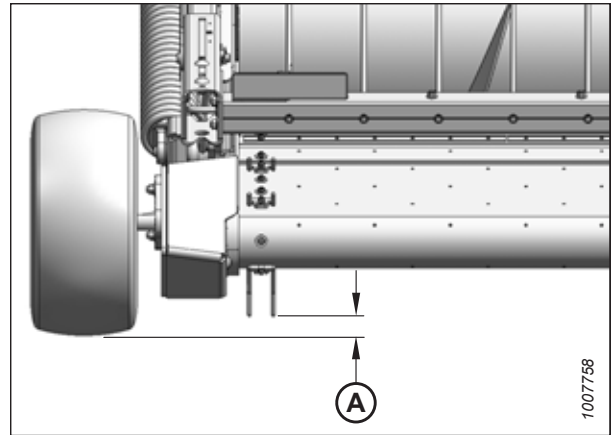


Figure 3.142: Pick-Up Height

Adjusting Pick-Up Height

If the header is leaving crop unpicked, or if the header is picking up dirt and stones, you may need to adjust the pick-up height.

DANGER

To prevent bodily injury or death from the unexpected start-up or fall of a raised machine, always stop the engine and remove the key before leaving the operator's seat, and always engage the safety props before going under the machine.

1. Check that the tire pressure is set to 240–310 kPa (35–45 psi).
2. Adjust operating height (A) until the rear roller is 305 mm (12 in.) off the ground. For instructions, refer to [Header Height, page 86](#).

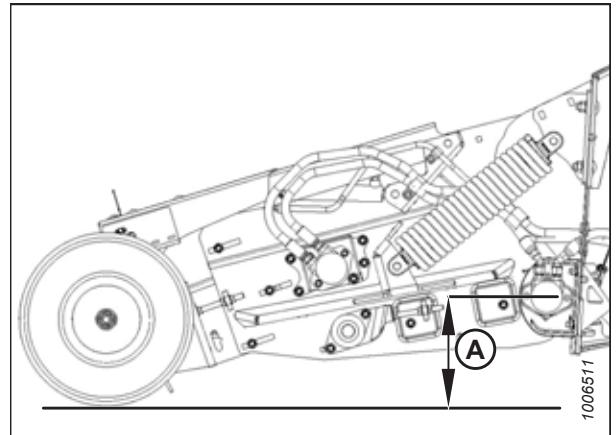


Figure 3.143: Operating Height

OPERATION

3. Measure pick-up height (A). Refer to *Pick-Up Height*, page 87, and complete Steps 4, page 88 to 10, page 88 if adjustment is necessary.

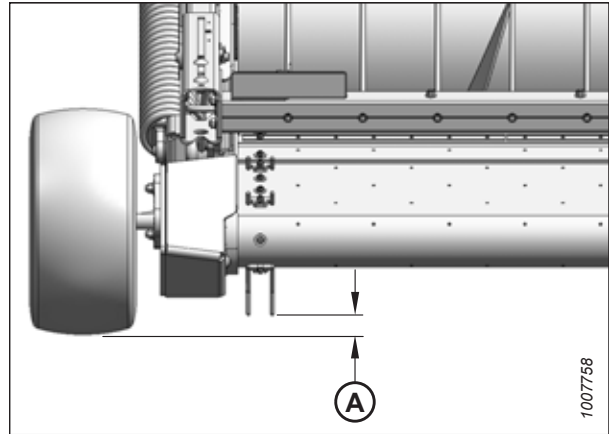


Figure 3.144: Pick-Up Height

4. Use the combine controls to fully raise the header and take the load off the wheels.
5. Engage the combine lift cylinder safety props.
6. Shut down the engine, and remove the key from the ignition.
7. Loosen two bolts (A) securing wheel spindle assembly (B) to the front of the pick-up header.
8. Rotate wheel spindle assembly (B) to raise or lower the wheel and achieve the desired clearance between the draper fingers and the ground.

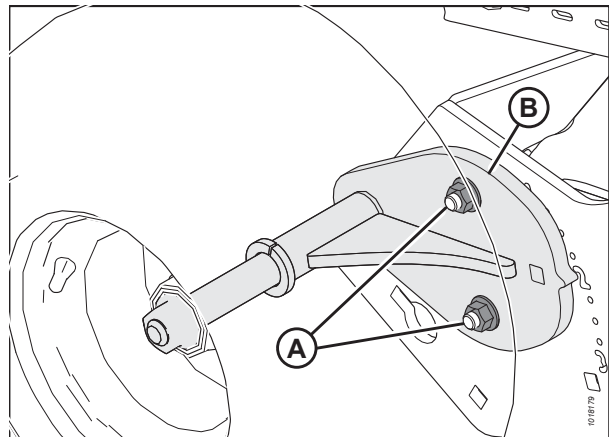


Figure 3.145: Pick-Up Height Adjustment

NOTE:

The pick-up header's height is factory-set to position number 2 to provide 25 mm (1 in.) clearance between the draper header fingers and the ground. Rotating wheel spindle assembly (A) towards position 1 will lower the wheel and thereby increase the clearance between the draper header fingers and the ground, while rotating wheel spindle assembly (A) towards position 3 will raise the wheel and thereby decrease the clearance.

9. Tighten nuts (A).
10. Repeat Step 4, page 88 to Step 9, page 88 for the opposite side.

NOTE:

The wheel assembly on each side of the pick-up header needs to be adjusted equally to maintain an even ground clearance across the pick-up header.

11. Adjust the combine's auto header height control (AHHC) if necessary. For instructions, refer to *4.1 Configuring Auto Header Height Control System*, page 99.

3.11.4 Adjusting Header Float

The header float setting is factory-configured but can be adjusted for various harvest conditions.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Attach the header to the combine feeder house and ensure that it is latched securely. It is not necessary to attach the driveline or hydraulic connections. For instructions, refer to the relevant combine attaching procedure in: [3.9 Header Attachment and Detachment, page 35](#).
2. Lower the combine feeder house so that the front draper deck rotates upwards to the full floated-up position. The header frame will be close to the ground and the coil spring will be fully collapsed.

NOTE:

The tension of the coil spring is factory-set to the second hole from the bottom on the float anchor.

3. Shut down the combine and remove the key from the ignition.
4. Open left endshield (A). For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).

NOTE:

The right spring float assembly can be removed or adjusted without removing the right endshield. For improved access, remove four M12 carriage bolts and hex flange nuts from the endshield support (not shown) and remove the right endshield.

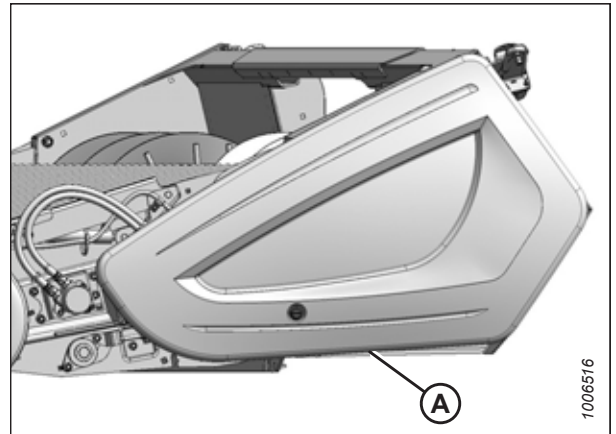


Figure 3.146: Left Endshield

5. Ensure that all spring tension has been released from spring float assembly (A). Remove cotter pin (B), clevis pin (C), and three flat washers (D).

NOTE:

When the spring tension is fully released, the spring coils should be fully collapsed and the spring float assembly should rock from side to side when moved by hand. If pressure on the clevis pin is still present, raise or lower the header slightly.

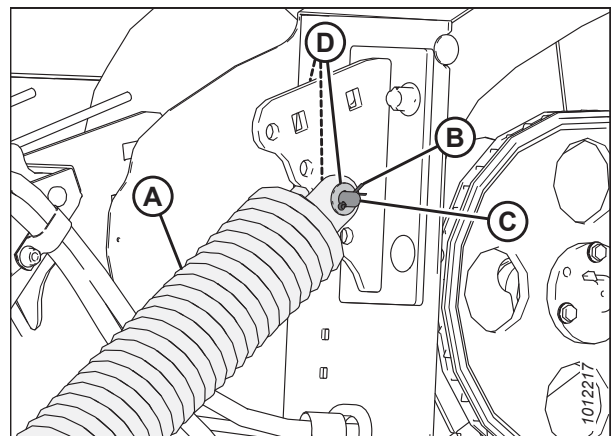


Figure 3.147: Left Spring Float Assembly

OPERATION

6. Move spring float assembly (A) to float anchor holes (B) to reduce the pressure on the ground wheel, or move spring float assembly to float anchor hole (C) to increase the pressure on the ground wheel.

IMPORTANT:

To prevent damage to the draper deck, the left and right spring float assemblies must be set to the same anchor hole position.

NOTE:

If the spring float assembly hole (A) does not align with float anchor holes (B) and (C), raise or lower header as necessary.

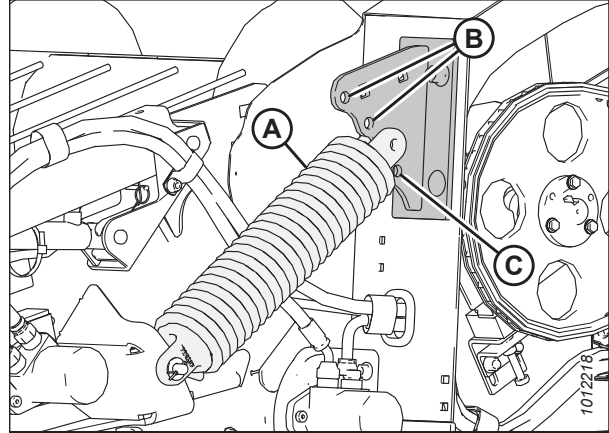


Figure 3.148: Left Spring Float Anchor

7. Insert clevis pin (A) from the inboard side through the rod end of spring float assembly (B), along with three flat washers (C), and anchor (D) as shown. Secure the clevis pin with cotter pin (E).
8. Repeat Steps 4, [page 89](#) to 7, [page 90](#) on the opposite side of the header, ensuring that the left and right spring float assemblies are set to the same anchor hole position.
9. Close the left endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).
10. Replace the right endshield, if it was removed.

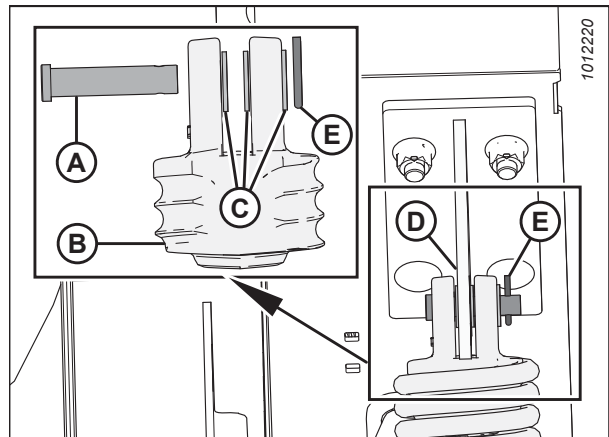


Figure 3.149: Left Spring Float Assembly Clevis Pin

3.11.5 Hold-Downs

Hold-downs help the crop transition smoothly from the drapers to the auger. They can be adjusted to suit various harvest conditions.

Hold-Down Position

Hold-down position refers to the position of the fiberglass rods on the hold-downs relative to the crop swath and can be adjusted according to harvest conditions.

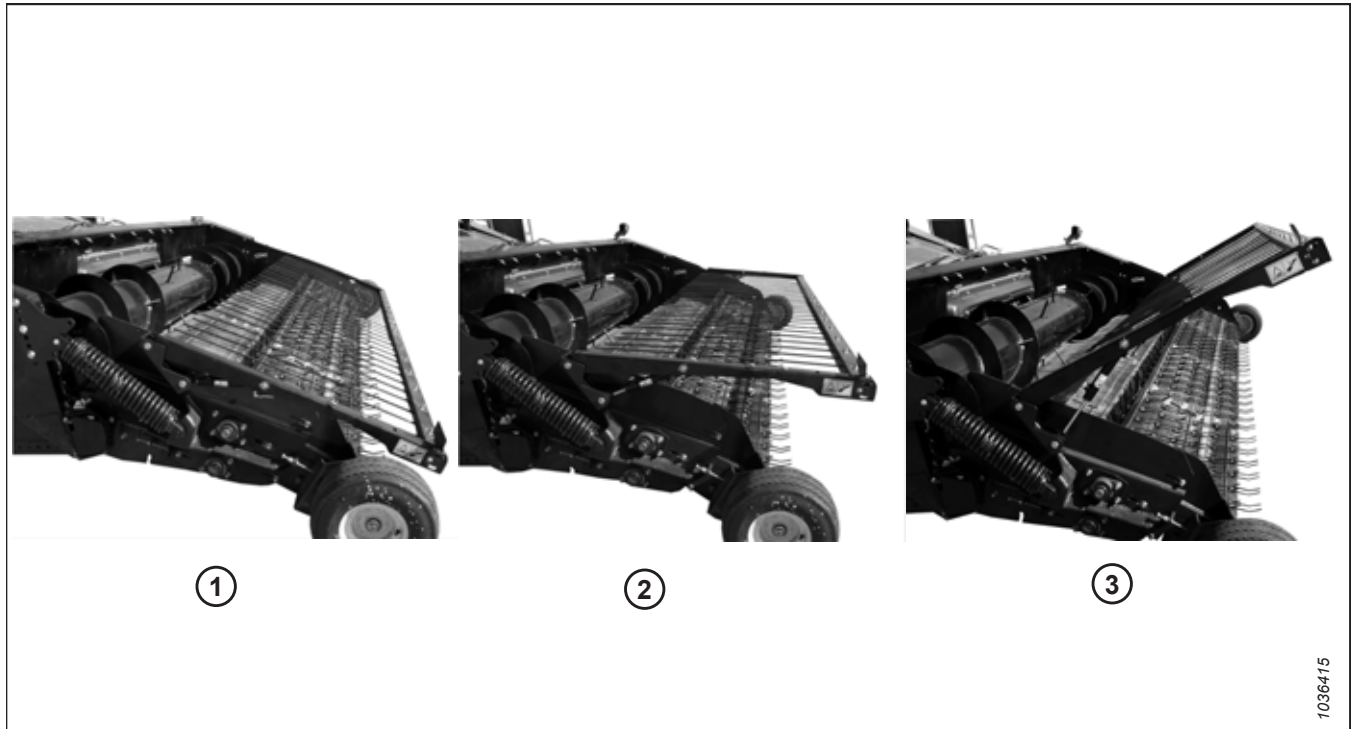


Figure 3.150: Hold-Down Positions

Fiberglass rods (A) on the hold-down ensure that contact between the swath and pick-up belts is maintained, which ensures the smooth feeding of crop into the auger.

Adjust the hold-down position using the combine's reel height control. Select the appropriate hold-down position for the harvest conditions:

- Position 1: short crop
- Position 2: average crop
- Position 3: heavy crop

IMPORTANT:

To prevent damage to the hold-down, always fully raise the hold-down before reversing the combine feeder house to unplug the feeder.

OPERATION

Adjusting Hold-Down Rod Angle

The angle between the fiberglass rods and the hold-down support arms is factory-set to optimize crop flow into the combine. The factory setting should be satisfactory for most crop conditions, but the rod angle is adjustable.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Shut down the engine, and remove the key from the ignition.
2. Loosen two hex head M12 nuts (A) on both ends of hold-down crossbar (B) until the crossbar rotates.
3. Rotate crossbar (B) to the desired angle using handle (C).
4. Tighten nuts (A).

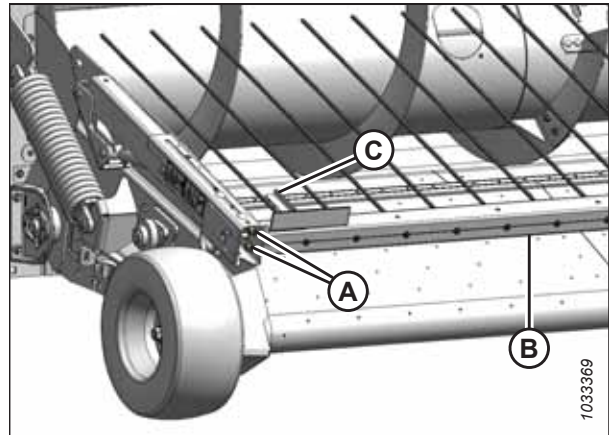


Figure 3.151: Hold-Down Rods

3.11.6 Crop Deflectors

When there is a tendency for stems to collect under the hold-down support arm pivot, crop deflectors can be installed. They are bolted to the frame inside the left endsheet for shipment from the factory and should have been removed at the dealership during setup and installed or retained by the Operator. Under no circumstances should the header be run until the crop deflectors are removed from inside the header drive compartment.

CAUTION

To avoid damage to the header drive, do NOT operate the header with the crop deflectors bolted in the shipping location inside the header drive compartment.

Removing Crop Deflectors from Field Position

The crop deflectors may have been installed at the Dealership. Follow this procedure to remove them.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the hold-down.
2. Lower the header to the ground.
3. Shut the down combine and remove the key from ignition.

OPERATION

4. On the right side of the header, remove two M12 x 25 bolts and nuts (B). Remove crop deflector (A).
5. Repeat Step 4, [page 93](#) on the left side of the header.
6. Store the deflectors and their hardware in the combine cab or in another safe, dry location.

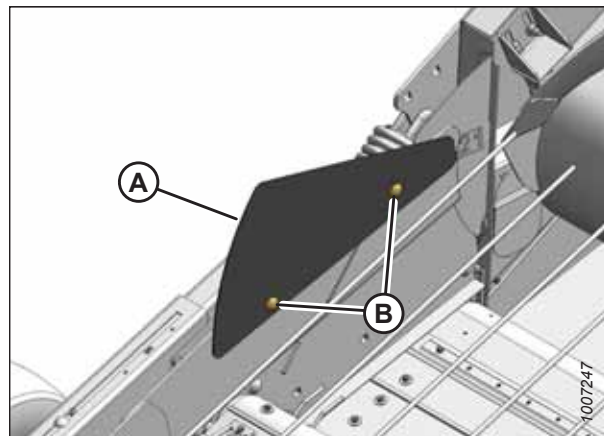


Figure 3.152: Crop Deflector

Installing Crop Deflectors

Install crop deflectors to prevent crop from piling up around the hold-down support arm pivot.



DANGER

To prevent injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

To install the crop deflectors, proceed as follows:

1. Retrieve the crop deflectors from the auger drive compartment.
2. Lower the hold-down.
3. Lower the header to the ground.
4. Shut the down combine and remove the key from ignition.
5. On the right side of the header, position crop deflector (A) on the header endsheet as shown. Secure the crop deflector with two M12 x 25 bolts and nuts (B).

NOTE:

The bolt heads must face inboard.

6. Repeat Step 5, [page 93](#) to install the left deflector.

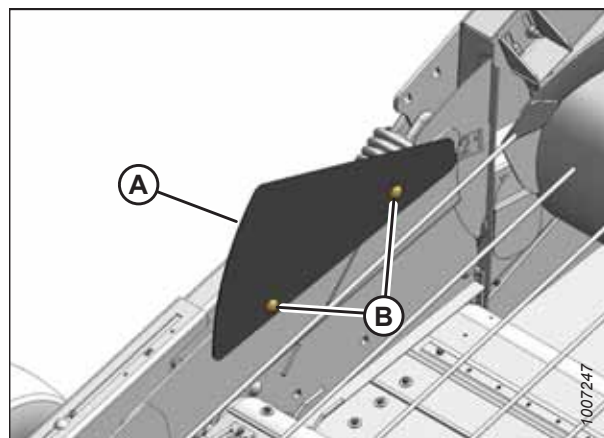


Figure 3.153: Crop Deflector

3.11.7 Driveline

The driveline connects the header's chain drive to the combine's feeder house. Follow these procedures to maximize the life of the driveline.

Clutch

The header-to-combine driveline contains a radial pin clutch that provides protection against overload. When the auger encounters an obstruction, an overload occurs and the clutch slips while making a rattling sound and pulsating action. Frequent slippage of more than 2 or 3 seconds may result in clutch damage.

Clutch (A) can be seen at the header end of the driveline in this photo.

IMPORTANT:

Prolonged operation of the header with the clutch slipping will cause damage to the header and/or clutch.

If clutch is damaged, it must be replaced. Refer to [Replacing Driveline Clutch, page 225](#) for instructions.

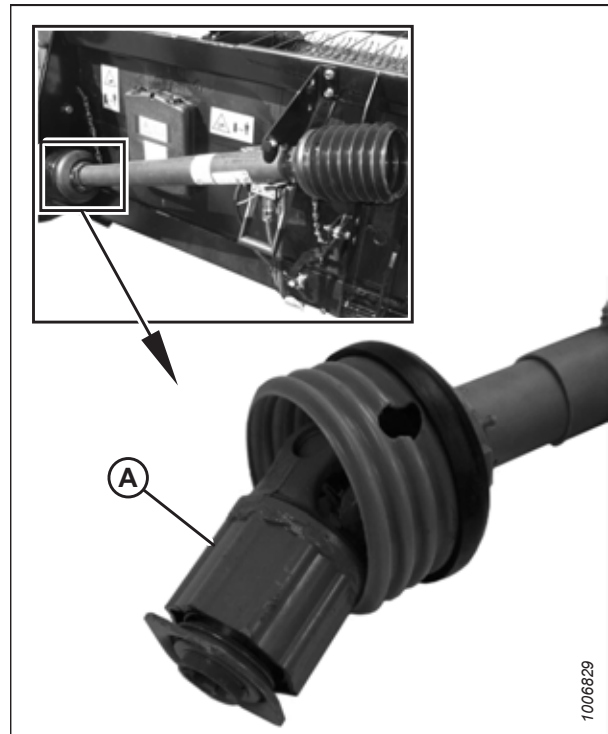


Figure 3.154: Radial Pin Clutch

Driveline Guard

The driveline guard protects the driveline from dust and dirt.

⚠ DANGER

To avoid serious injury or death, do NOT operate the machine if the guard is missing.

OPERATION

Driveline guard (A) must always remain attached to the driveline. Tethers (light chains) (B) on either end of the driveline guard prevent the guard from rotating. Remove the guard for maintenance purposes only (refer to [Removing Driveline Guard](#), page 226).

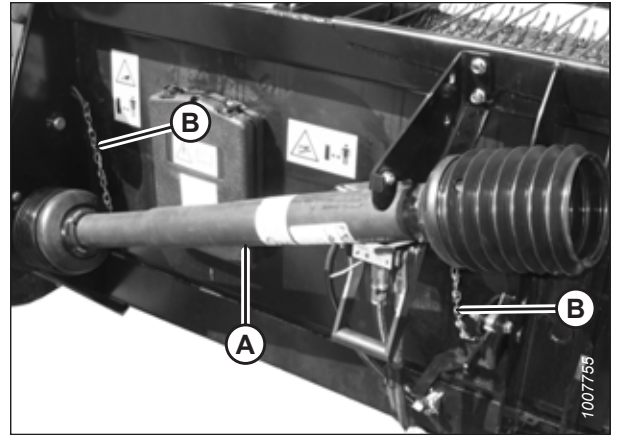


Figure 3.155: Driveline Guard

3.12 Unplugging Header

Be sure to disengage the header drive before attempting to clear a plugged pick-up header.

1. Stop the forward movement of the combine and disengage the header.
2. Fully raise the hold-down.
3. Disengage the pick-up header's draper drive.

IMPORTANT:

- To prevent damage to the feeder motor, do **NOT** engage the feeder reverser for more than five seconds if the feeder and auger will not turn.
 - To prevent damage to the hold-down rods, raise the hold-down assembly before reversing the header.
4. Run the feeder backwards using the reverse controls inside the combine cab to clear the plug.

3.13 Adjusting the Pan Seal Assembly

The pan seal assembly provides a tighter seal for the rear draper. However, the draper connection hardware will eventually wear down the rubber flap. If plugging occurs between the rear draper and the pan seal bar, the rubber flap can be removed to eliminate the pan seal.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

To remove the pan seal:

1. Raise the header fully and engage the combine safety props.
2. Shut down the engine, and remove the key from the ignition.
3. Remove eight M12 carriage bolts and hex flange nuts (A) from support (B) and pan seal bar (C). Remove rubber flap (D).
4. Store rubber flap (D) for reinstallation, or flip the rubber flap upside down, install eight M12 carriage bolts and hex flange nuts (A) through support (B), hole (E) in rubber flap, and pan seal bar (C), and torque the hardware to 61 Nm (45 lbf-ft).

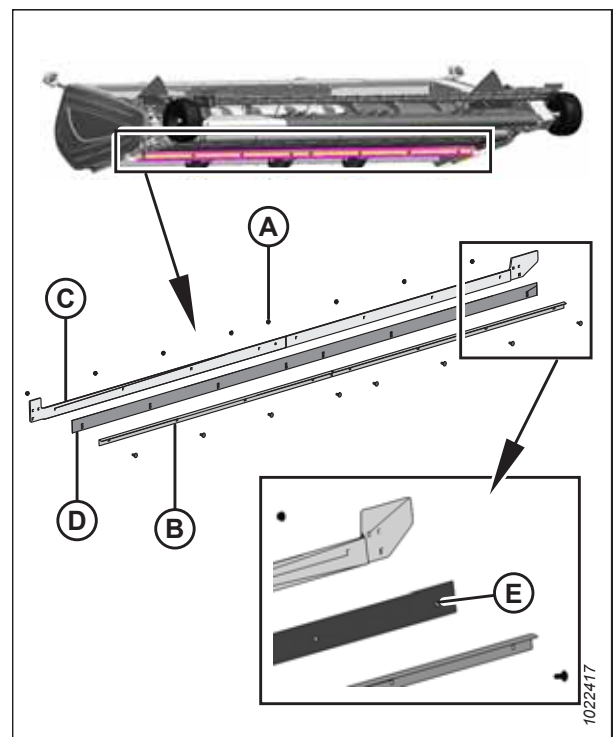


Figure 3.156: Seal Assembly

3.14 Storing Header

Performing these procedures will extend the service life of your pick-up header.

CAUTION

Never use gasoline, naphtha, or any volatile material for cleaning purposes. These materials may be toxic and/or flammable.

1. Clean the header thoroughly.
2. Store the machine in a dry, protected place if possible. If you are storing the header outside, cover the header with a waterproof canvas or other protective material.
3. Raise the header and engage the header lift cylinder safety props on the combine.
4. Rest the header on blocks if possible. This will take the weight off the tires and prevent flat spots from developing.
5. Repaint all worn or chipped painted surfaces to prevent rust.
6. Lubricate the header thoroughly, leaving excess grease on fittings to keep moisture out of the bearings.
7. Apply grease to exposed threads, cylinder rods, and the sliding surfaces of components.
8. Check for and repair any worn components.
9. Check for broken components and order replacements from your Dealer. Immediate repair of these items will save time and effort at the beginning of next season.
10. Replace or tighten any missing or loose hardware. For more information, refer to [8.1 Torque Specifications, page 329](#).

Chapter 4: Auto Header Height Control

The auto header height control (AHHC) topics provide combine model-specific instructions for optimizing header performance.

4.1 Configuring Auto Header Height Control System

The auto header height control (AHHC) feature works in conjunction with the AHHC option available on certain combine models. The system must be configured to work with the particular combine with which the header is paired.

Sensors installed at each end of the header send a signal to the combine allowing it to maintain a consistent cutting height as the header follows the contours of the ground.

To configure the AHHC system on the combine with which the header is paired, do the following:

1. Ensure that the AHHC sensor's output voltage range is appropriate for the combine. For more information, refer to [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#).
2. Prepare the combine to use the AHHC feature.
3. Calibrate the AHHC system so that the combine can correctly interpret the data sent by the height sensors on the header. Once calibration is complete, the AHHC feature is ready to be used. However, for each make and model of combine, certain settings can be used to improve the performance of the AHHC feature:
 - [4.5 Case IH 5130/6130/7130 and 5140/6140/7140 Midrange Combines, page 113](#)
 - [4.6 Case IH 7010/8010, 7120/8120/9120, 7230/8230/9230, and 7240/8240/9240 Combines, page 120](#)
 - [4.7 Challenger® Combines, page 129](#)
 - [4.8 Gleaner® R65/R66/R75/R76 and S Series Combines – Except S9 Series, page 136](#)
 - [4.9 Gleaner® S9 Series Combines, page 146](#)
 - [4.10 IDEAL™ Series Combines, page 160](#)
 - [4.11 John Deere 60 Series Combines, page 172](#)
 - [4.12 John Deere 70 Series Combines, page 178](#)
 - [4.13 John Deere S and T Series Combines, page 184](#)
 - [4.14 New Holland Combines CR/CX Series – CR Series, Model Year 2014 and Earlier, page 195](#)
 - [4.15 New Holland Combines – CR Series, Model Year 2015 and Later, page 203](#)

NOTE:

If the header is not equipped to work with a specific combine model, an appropriate combine completion package will need to be installed onto the header. Completion packages come with instructions for installing height sensors.

NOTE:

Procedures for configuring the AHHC system to work with Versatile combines are **NOT** included in this manual.

4.2 Auto Header Height Control Sensor Operation

The sensors that send height signals to the combine are essentially large resistors that allow a position sensor arm to move and thereby send a position signal to the combine.

The position sensors supplied with the auto header height control (AHHC) system are 1000 ohm (1 k) industrial series variable resistors. Each sensor consists of a sealed unit with one three-pin connection point (A) and two mounting holes (B). A signal wire is connected internally to movable wiper (C), which sweeps across a high resistance filament band. An external arm is attached to movable wiper (C) and, as it moves, the wiper moves across the resistance filament to change the resistance at the signal wire, which changes the output voltage. The resistance across the power and ground pins should be approximately 100 ohms. Normal operating signal voltages are 0.5–4.5 VDC or 5–95% of available voltage.

- A sensor operating with a signal voltage **below 5%** is considered to be shorted.
- A sensor with a signal voltage **above 95%** is considered to be open.
- A change in header height will cause the voltage signal to change.

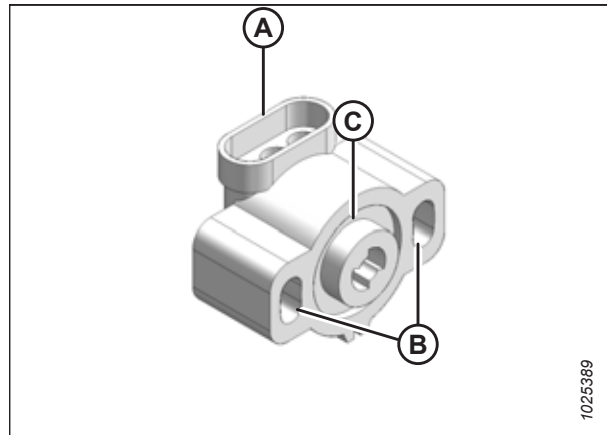


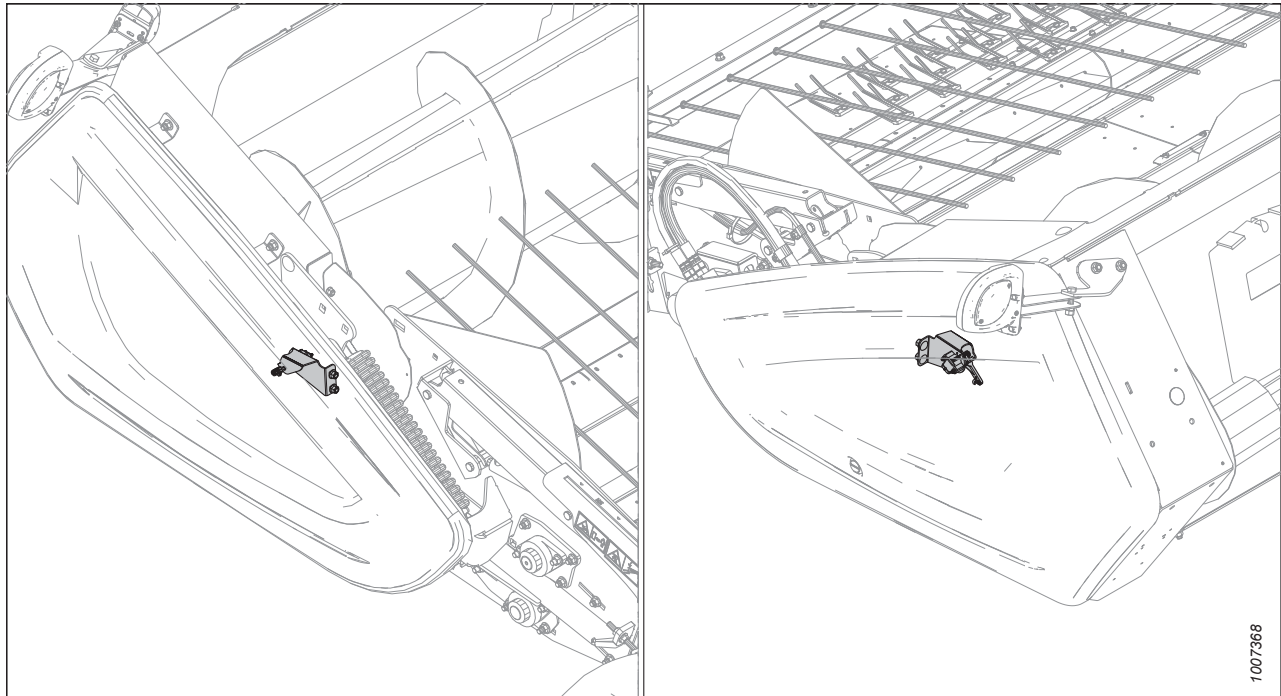
Figure 4.1: Variable Resistor Type Sensor

4.3 Header Height Sensors

The header is equipped with two height sensors—one at each end of the header. The height sensors do not require maintenance, but they may need to be repaired or replaced.

The sensors may require calibration if there are problems with pick-up height control. Contact your Dealer for more information.

Figure 4.2: Height Sensors



4.3.1 Removing Header Height Sensor Assembly — Left Side

Remove and replace the left header height sensor if calibration fails to resolve sensor output problems.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header fully.
2. Shut down the engine, and remove the key from the ignition.
3. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).

AUTO HEADER HEIGHT CONTROL

4. Disconnect wire harness (A).
5. Push up on rod end clip (B). Slide linkage rod (C) out of rod end clip (B).

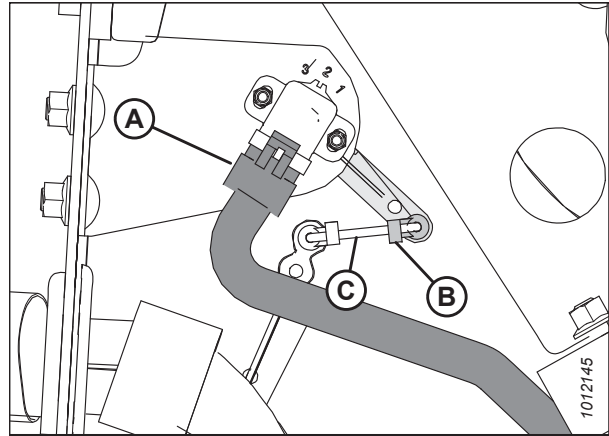


Figure 4.3: Header Height Sensor Assembly – Left Side

6. Remove nuts and bolts (A).
7. Remove sensor (B) and control arm (C).

NOTE:

Note the orientation of the control arm before removing it. The new control arm must be reinstalled in the same orientation.

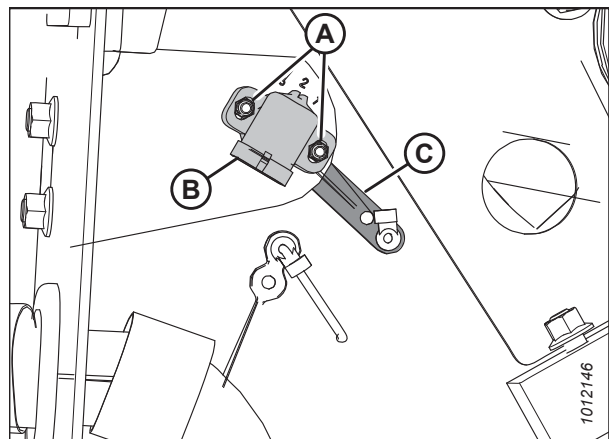


Figure 4.4: Header Height Sensor Assembly – Left Side

4.3.2 Installing Header Height Sensor Assembly — Left Side

Be sure to install the left header height sensor with its control arm in a position identical to that of the removed sensor.

1. Install control arm (C). Ensure that the flat side is facing towards the header.
2. Install sensor (B). Install the bolts in their slots and secure them with nuts (A).

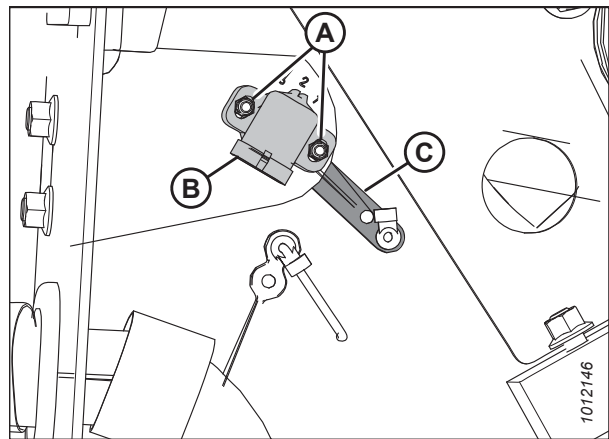


Figure 4.5: Header Height Sensor Assembly – Left Side

AUTO HEADER HEIGHT CONTROL

3. Slide linkage rod (C) into rod end clip (B). Secure the rod end clip by pressing it onto linkage rod (C).
4. Connect wire harness (A).
5. Close the left endshield. Refer to [3.3.2 Closing Left Endshield](#), page 24 for instructions.

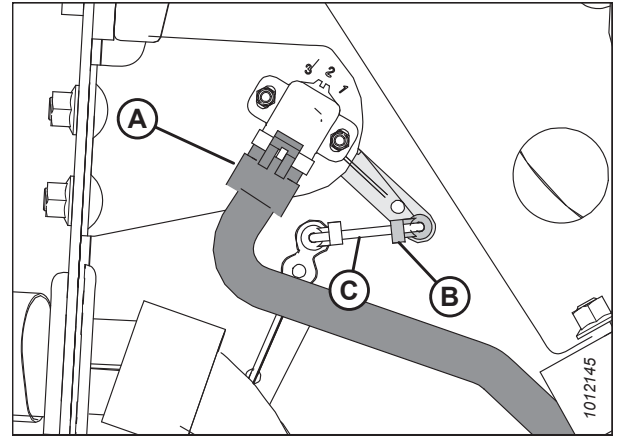


Figure 4.6: Header Height Sensor Assembly – Left Side

4.3.3 Removing Header Height Control System — Right Side

Remove and replace the right header height sensor if calibration fails to resolve sensor output problems.

DANGER

To prevent bodily injury or death from the unexpected start-up or fall of a raised machine, always stop the engine and remove the key before leaving the operator's seat, and always engage the safety props before going under the machine for any reason.

1. Raise the hold-down and engage the lift cylinder safety props.
2. Lower the header fully.
3. Shut down the engine, and remove the key from the ignition.
4. Locate the access panel on the inside of the right end frame. Remove two bolts (A) from access panel (B).
5. Remove access panel (B).

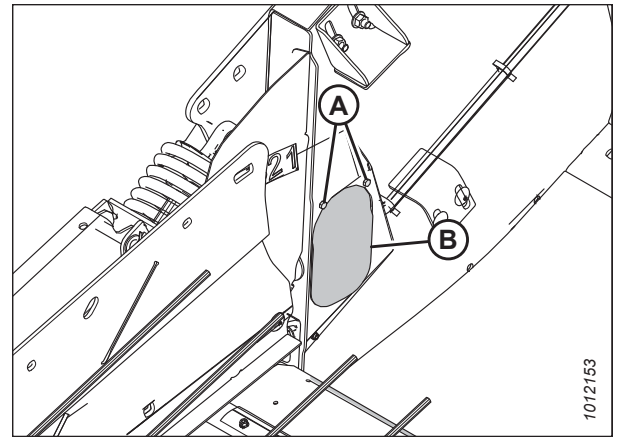


Figure 4.7: Header Height System Access Panel – Right Side

AUTO HEADER HEIGHT CONTROL

6. Disconnect wire harness (A).
7. Push up on rod end clip (B). Slide linkage rod (C) out of rod end clip (B).

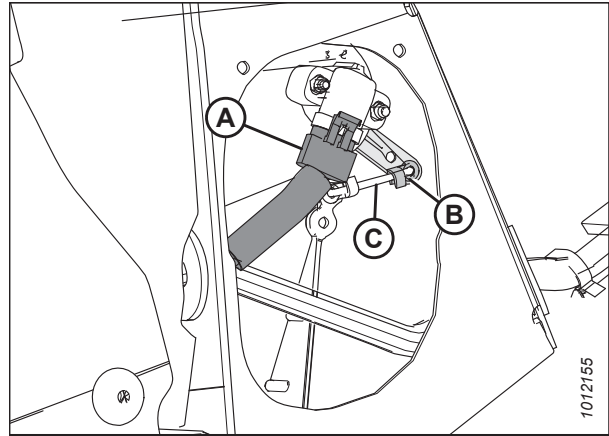


Figure 4.8: Header Height Sensor Assembly – Right Side

8. Remove nuts and bolts (A).
9. Remove sensor (B) and control arm (C).

NOTE:

Note the orientation of the control arm before removing it. The new control arm must be reinstalled in the same orientation.

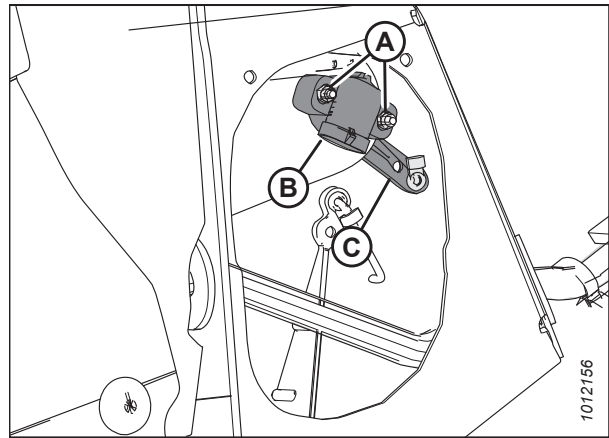


Figure 4.9: Header Height Sensor Assembly – Right Side

10. Locate plug (A) on the outboard side of the endsheet and remove the plug to gain access to nut (B), which secures the long control arm to the frame.
11. Remove nut (B).

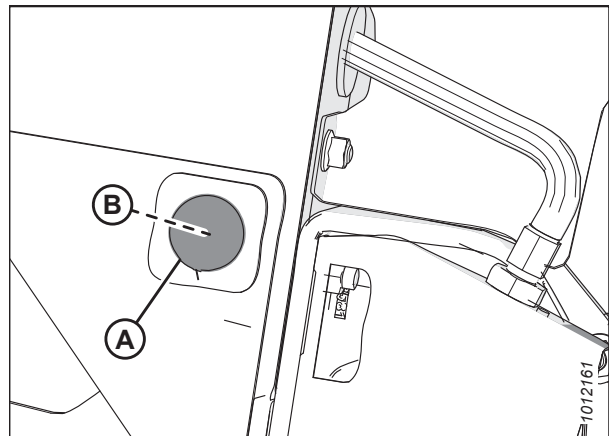


Figure 4.10: Right Endsheets

AUTO HEADER HEIGHT CONTROL

12. Remove long control arm (A) complete with the linkage rod, the rod end clip, and the activator arm.

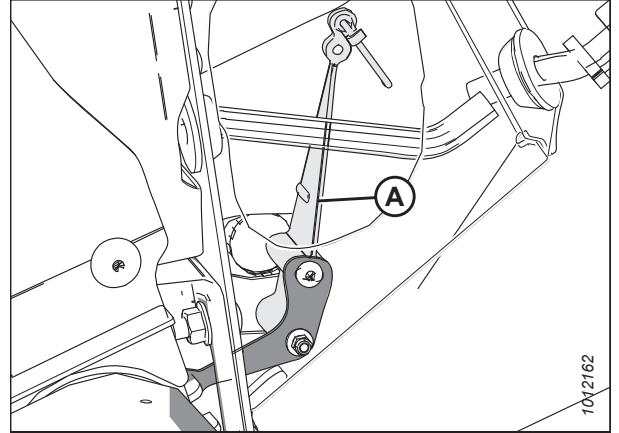


Figure 4.11: Header Height Sensor Assembly – Right Side

4.3.4 Installing Header Height Sensor Assembly — Right Side

Be sure to install the right header height sensor with its control arm in a position identical to that of the removed sensor.

1. Install long control arm (A) complete with the linkage rod, the rod end clip, and the activator arm.

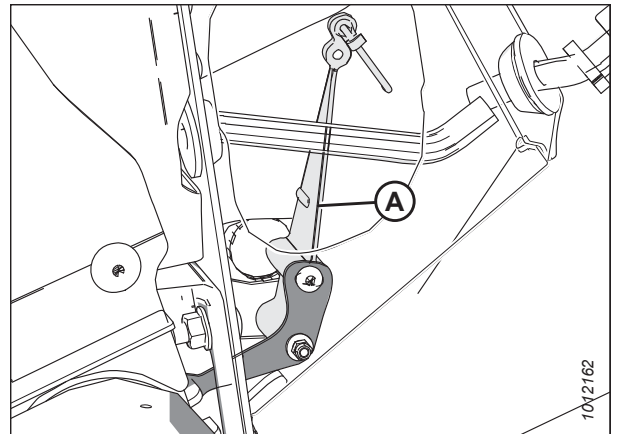


Figure 4.12: Header Height Sensor Assembly – Right Side

2. Install nut (B).
3. Install hole plug (A).

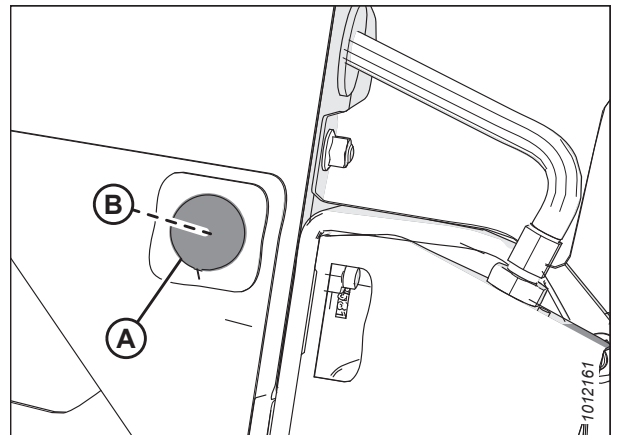


Figure 4.13: Right Endsheets

AUTO HEADER HEIGHT CONTROL

4. Install control arm (C). Ensure that the flat side is facing towards the header.
5. Install sensor (B). Install the bolts in their slots and secure them with nuts (A).

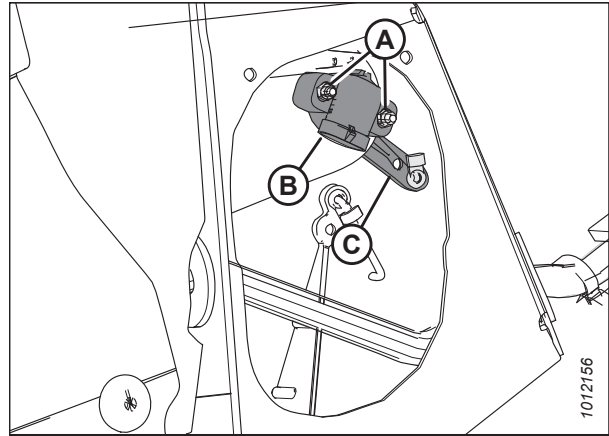


Figure 4.14: Header Height Sensor Assembly – Right Side

6. Slide linkage rod (C) into rod end clip (B). Secure the rod end clip by pressing it onto linkage rod (C).
7. Connect wire harness (A).

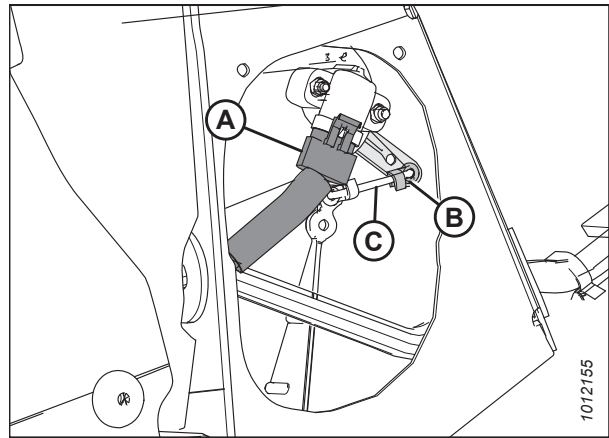


Figure 4.15: Header Height Sensor Assembly – Right Side

8. Install access panel (B) and secure it with bolts (A).

NOTE:

The auger has been removed from the illustration for the sake of clarity.

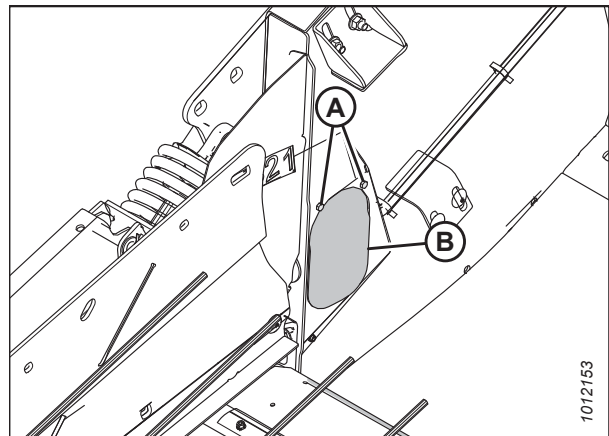


Figure 4.16: Access Panel

4.4 Height Sensor Output Voltage Range – Combine Requirements

The height sensor output must be within a specific voltage range for each combine or the auto header height control (AHHC) feature will not work properly.

Table 4.1 Combine Voltage Range

Combine	Low Voltage Limit	High Voltage Limit	Minimum Range
Case IH 7/8010, 5/6/7088, 7/8/9120, 5/6/7130, 5/6/7140, 7/8/9230, 7/8/9240	0.7 V	4.3 V	2.5 V
Challenger®	0.7 V	4.3 V	2.5 V
Gleaner®	0.7 V	4.3 V	2.5 V
IDEAL™	0.7 V	4.3 V	2.5 V
John Deere 60/70/S/T Series	0.7 V	4.3 V	2.5 V
Massey Ferguson®	0.7 V	4.3 V	2.5 V
New Holland CR/CX – 5 V system	0.7 V	4.3 V	2.5 V
New Holland CR/CX – 10 V system	3.0 V	7.0 V	4.1–4.4 V

NOTE:

For instructions on manually checking the voltage range, refer to [4.4.1 Manually Checking Voltage Range, page 107](#).

4.4.1 Manually Checking Voltage Range

In some combines, the output voltage range for the auto header height control (AHHC) sensors can be checked from the cab. Otherwise, follow this procedure.

1. Position the header so that the header wheels are approximately 150 mm (6 in.) above the ground.

NOTE:

Ensure that the float spring is fully extended. For instructions, refer to [3.11.4 Adjusting Header Float, page 89](#). If the float spring is not fully extended, the voltage may go out of range during header operation, which can cause the AHHC system to malfunction.

2. Shut down the combine. Position the key so that power is still supplied to the sensors.
3. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).

AUTO HEADER HEIGHT CONTROL

4. Locate left height sensor (A).

NOTE:

The sensor and the connector may not be exactly as shown.

5. With the connector plugged into the sensor, measure the voltage between orange signal wire (B) in the middle position on the connector and brown ground wire (C) at one side of the connector. The voltage obtained from this reading tells you the maximum voltage for the left sensor.

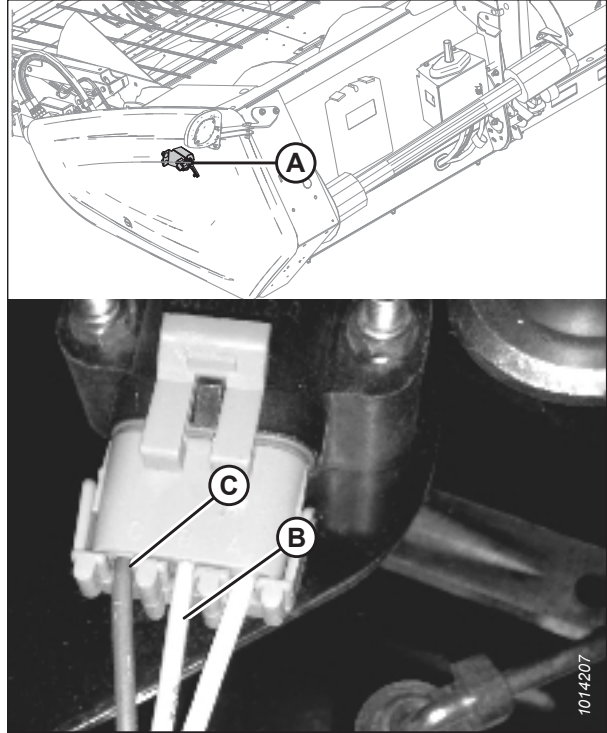


Figure 4.17: Left Height Sensor

6. Locate access panel (A) on the inside of the right endsheet.

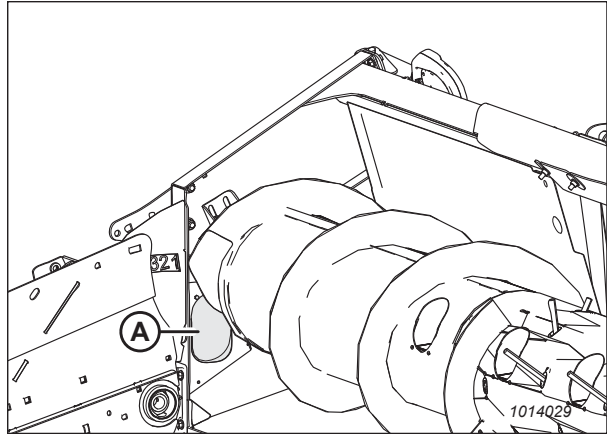


Figure 4.18: Right Access Panel

AUTO HEADER HEIGHT CONTROL

- Remove two bolts (A) and access panel (B).

NOTE:

The auger has been removed from the illustrations in this procedure for the sake of clarity.

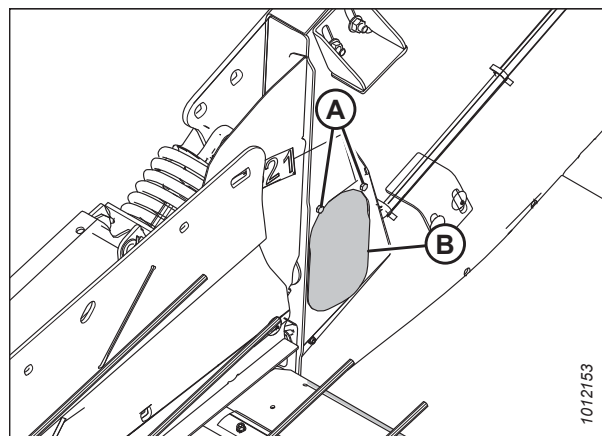


Figure 4.19: Access Panel – Right Side

- Locate right height sensor (A).

NOTE:

The sensor may not be exactly as shown.

- With the connector plugged into the sensor, measure the voltage between orange signal wire (B) in the middle position on the connector and brown ground wire (C) on one side of the connector. The voltage obtained from this reading tells you the maximum voltage for the right sensor.
- Start the combine and fully lower the combine feeder house. Ensure that the float springs are fully compressed.
- Shut down the combine and position the key so that power is still supplied to the sensors.
- Repeat the voltage measurement procedures described in Steps 5, [page 108](#) and 9, [page 109](#) for both sensors. The voltages obtained from these readings tells you the minimum voltages for each sensor.

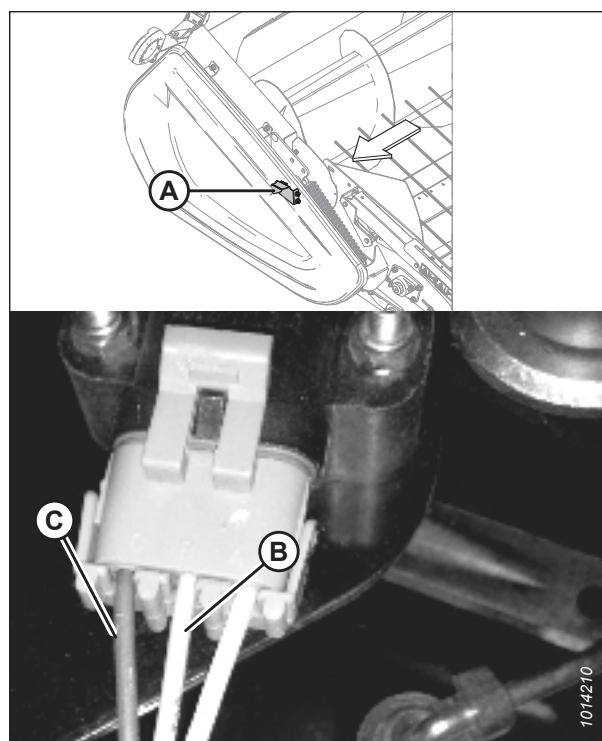


Figure 4.20: Right Height Sensor

- Compare the voltage measurements to the values specified in [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#).
- If the sensor voltage is outside of the low or high limits, or if the voltage range is less than the specified value, adjustments are required. For instructions, refer to [4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side, page 110](#) or [4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side, page 110](#).

4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side

If the voltage output range of the left header height sensor does not match the specifications, the sensor's voltage range must be adjusted.

DANGER

To prevent injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

1. Lower the header to the ground, shut down the combine, and remove the key from the ignition.
2. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).
3. Loosen nuts (A).
4. Rotate control (B) until the desired voltage range is achieved. For instructions, refer to [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#).

NOTE:

If the voltage range is too large or too small, you may need to relocate linkage rod (C) to a different hole in sensor control arm (D). If that doesn't work, relocate linkage rod (C) to a different hole in sensor control arm (E).

5. Tighten nuts (A).
6. Close the left endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).

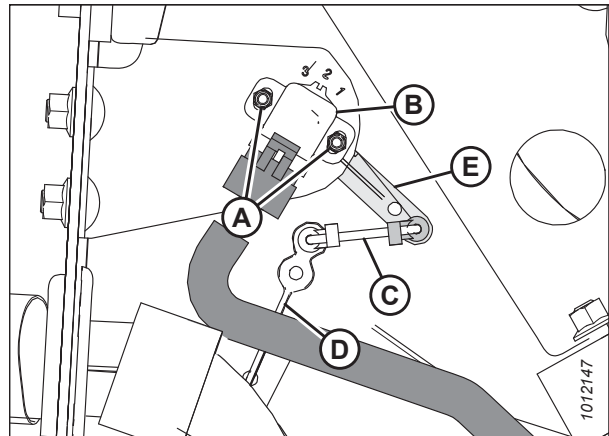


Figure 4.21: Header Height Sensor Assembly – Left Side

4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side

If the voltage output range of the right header height sensor does not match the specifications, the sensor's voltage range must be adjusted.

DANGER

To prevent injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

1. Raise the hold-down and engage the lift cylinder safety props.
2. Lower the header fully.
3. Shut down the engine, and remove the key from the ignition.

AUTO HEADER HEIGHT CONTROL

4. Locate access panel (A) on the inside of the right endsheet.

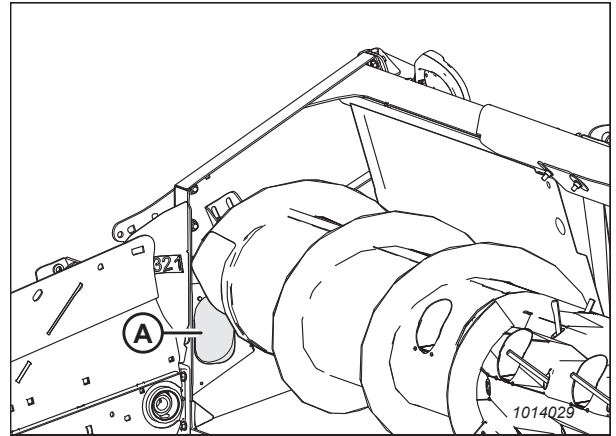


Figure 4.22: Access Panel – Right Side

5. Remove two bolts (A) and access panel (B).

NOTE:

The auger has been removed from the illustrations in this procedure for the sake of clarity.

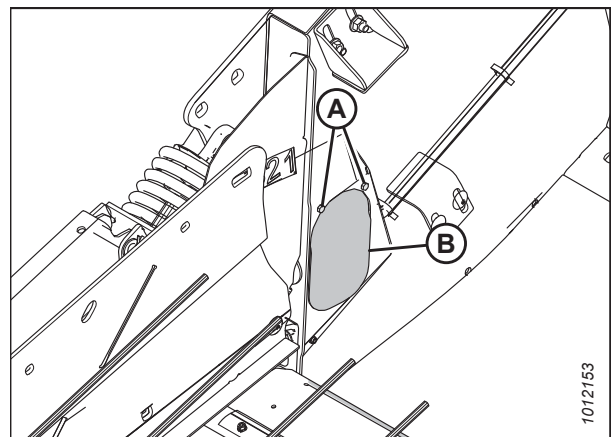


Figure 4.23: Access Panel – Right Side

6. Loosen nuts (A).
7. Rotate sensor (B) until the desired voltage range is achieved. For instructions, refer to [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#).

NOTE:

If the voltage range is too large or too small, you may need to relocate linkage rod (C) to a different hole in sensor control arm (D). If that doesn't work, relocate linkage rod (C) to a different hole in sensor control arm (E).

8. Tighten nuts (A).

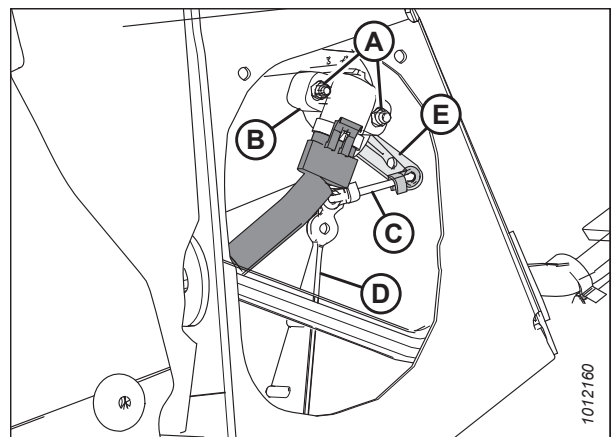


Figure 4.24: Header Height Sensor Assembly – Right Side

AUTO HEADER HEIGHT CONTROL

9. Install access panel (B) and secure it with bolts (A).

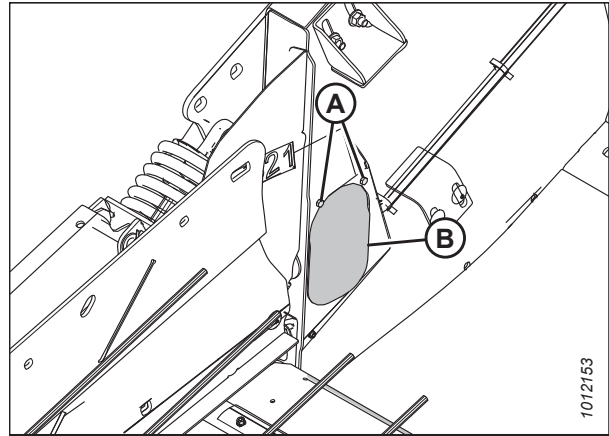


Figure 4.25: Access Panel – Right Side

1012153

4.5 Case IH 5130/6130/7130 and 5140/6140/7140 Midrange Combines

To make your header's auto header height control (AHHC) system compatible with Case IH 5, 6 and 7 (Midrange) series combines, you must set your combine's header configuration options for the particular model of header, check the height sensor voltage range, and calibrate the AHHC system to ensure that it is working correctly.

4.5.1 Setting up the Header on the Combine Display – Case IH 5130/6130/7130; 5140/6140/7140

Set these initial configuration options on your Case IH 5,6 and 7 (Midrange) series combine when setting up the auto header height control (AHHC) system.

1. On the main page of the combine display, select TOOLBOX (A).

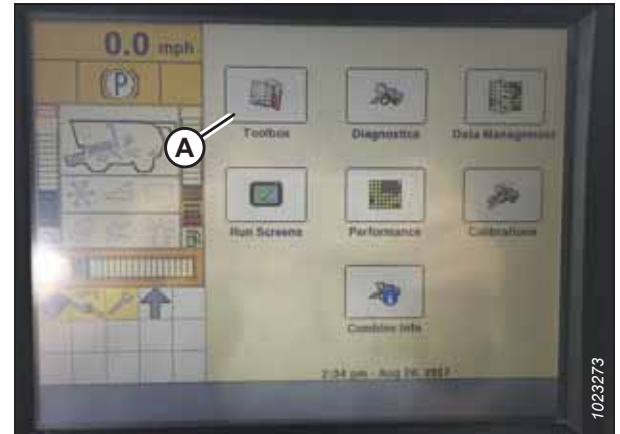


Figure 4.26: Case IH Combine Display

2. Select HEAD 1 tab (A). The HEADER SETUP page appears.
3. From CUTTING TYPE menu (B), select PLATFORM.

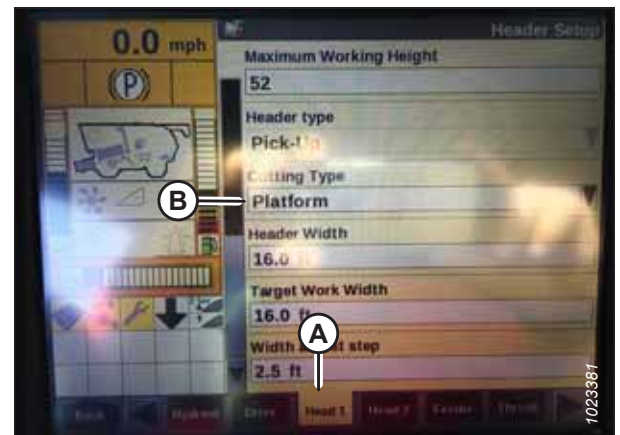


Figure 4.27: Case IH Combine Display

AUTO HEADER HEIGHT CONTROL

4. Select HEAD 2 tab (A). The HEADER SETUP 2 page appears.
5. From HEADER PRESSURE FLOAT menu (B), select NOT INSTALLED.



Figure 4.28: Case IH Combine Display

6. From BELT DRIVE TYPE menu (A), select
 - 1 - for most pick-up headers
 - 2 - for 4.9 m (16 ft.) Rake-Up pick-up headers
 - 3 - for SwathMaster pick-up headers

NOTE:

Selecting the proper belt drive optimizes the auto-belt to ground speed setting.

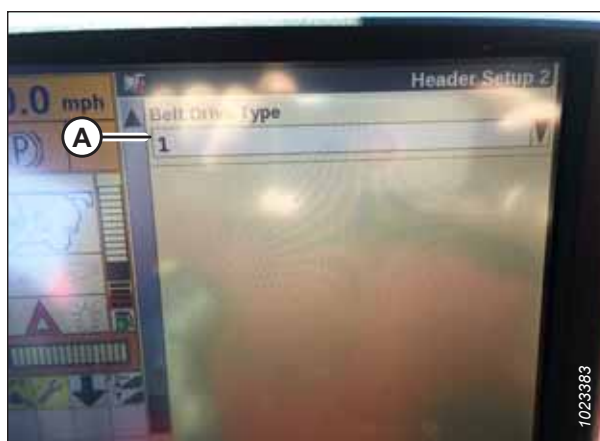


Figure 4.29: Case IH Combine Display

4.5.2 Checking Voltage Range from Combine Cab – Case IH 5130/6130/7130; 5140/6140/7140

To ensure that the auto header height control (AHC) system on your header works correctly with your Case IH 5, 6, and 7 (Midrange) series combine, the output voltage from the header height control sensors must be verified.

NOTE:

Changes may have been made to combine controls or display since this document was published. Refer to combine operator's manual for updates.

DANGER

Check to be sure all bystanders have cleared the area.

1. Raise the header until the header wheels are 150 mm (6 in.) above the ground.

AUTO HEADER HEIGHT CONTROL

2. On the main page of the combine display, select DIAGNOSTICS (A). The DIAGNOSTICS page opens.

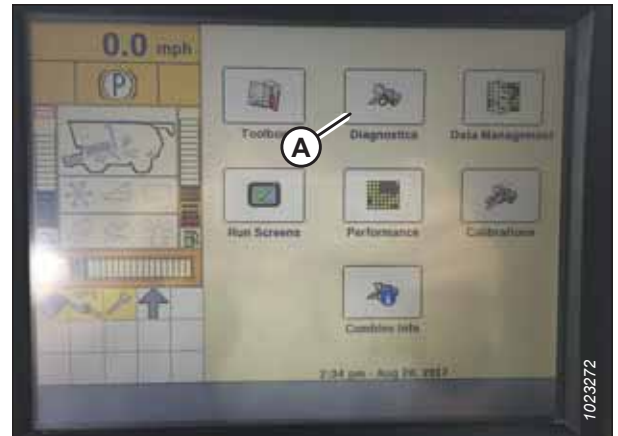


Figure 4.30: Case IH Combine Display

3. Select SETTINGS (A). The SETTINGS page opens.
4. From GROUP menu (B), select HEADER.

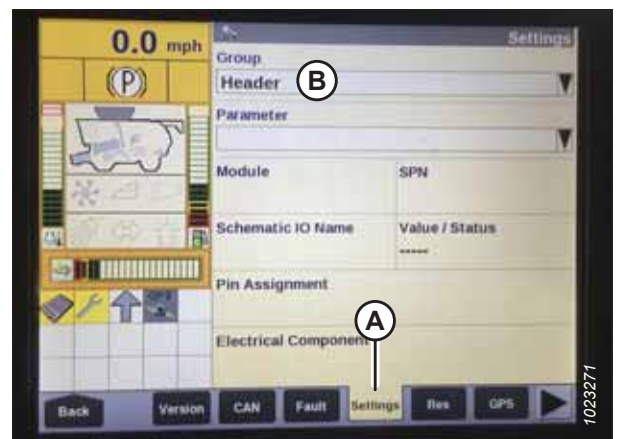


Figure 4.31: Case IH Combine Display

5. From the PARAMETER menu, select LEFT HEIGHT/TILT SENSOR (A).



Figure 4.32: Case IH Combine Display

AUTO HEADER HEIGHT CONTROL

- The SETTINGS page updates to display the voltage in VALUE/STATUS field (A). Lower the feeder house fully, and then raise it 305 mm (12 in.) off the ground to view the full range of voltage readings.
- If the sensor voltage is not within the low and high limits shown in [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#), or if the range between the low and high limits is insufficient, you need to make adjustments to the height sensors. For instructions, refer to [4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side, page 110](#) and [4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side, page 110](#).



Figure 4.33: Case IH Combine Display

4.5.3 Calibrating Auto Header Height Control – Case IH 5130/6130/7130; 5140/6140/7140

The auto header height control (AHHC) sensor output must be calibrated for Case IH 5, 6, and 7 (Midrange) series combines, or the AHHC feature will not work properly.

NOTE:

This procedure applies to combines with a software version below 28.00. For instructions on calibrating the AHHC for combines with software version 28.00 or above, refer to [4.6.4 Calibrating Auto Header Height Control – Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230; 7240/8240/9240 – Software Versions Above 28.00, page 125](#).

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

- Ensure that all header electrical and hydraulic connections are complete.
- Lower the combine feeder house all the way down.
- Hold the DOWN button for 2 seconds.
- Push the RAISE button and hold it until the feeder house travels all the way up. It will stop 61 cm (2 ft.) above the ground for 5 seconds, then it will resume rising. This is an indication that the calibration procedure has been successful.



Figure 4.34: Calibrating Auto Header Height

4.5.4 Setting Preset Cutting Height – Case IH 5130/6130/7130; 5140/6140/7140

Your Case IH 5, 6, or 7 (Midrange) series combine can have up to two auto header height control (AHHC) header height presets configured at one time.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for the most up-to-date information.

⚠ DANGER

Check to be sure all bystanders have cleared the area.

1. Engage the separator and the header.
2. Manually raise or lower the header to the desired cutting height.
3. Press 1 on button (A). A yellow light next to the button will light up.
4. Manually raise or lower the header to a second desired cutting height.
5. Press 2 on button (A). A yellow light next to the button will light up.



Figure 4.35: Case Combine Console



Figure 4.36: Case Combine Console

AUTO HEADER HEIGHT CONTROL

Up and down arrows should now appear in MANUAL HEIGHT box (A) on the RUN 1 page on the combine display. This indicates that the auto header height control (AHC) is functioning.



Figure 4.37: Case Combine Display – Run 1 Page

6. To enable the presets, activate AHC button (A) to place the header on the ground. To enable the first preset, tap the button once. To enable the second preset, tap the button twice.

To lift the header to maximum working height, hold the SHIFT button on the back of the ground speed lever (GSL) while tapping AHC button (A).



Figure 4.38: Case Combine Joystick

7. The maximum working height can be adjusted on the HEADER SETUP page on the combine display. Enter the desired height in MAXIMUM WORKING HEIGHT field (A).



Figure 4.39: Case Combine Display – Header Setup Page

AUTO HEADER HEIGHT CONTROL

8. If you need to change the position of one of the presets, you can fine-tune this setting with button (A) on the combine console.



Figure 4.40: Case Combine Console

4.6 Case IH 7010/8010, 7120/8120/9120, 7230/8230/9230, and 7240/8240/9240 Combines

To make your header’s auto header height control (AHHC) system compatible with Case IH 7, 8 or 9 series combines, you must set your combine’s header configuration options for the particular model of header, check the height sensor voltage range, and calibrate the AHHC system to ensure that it is working correctly.

4.6.1 Checking Voltage Range from Combine Cab – Case 8010

To ensure that the auto header height control (AHHC) system on your header works correctly with your Case IH 8010 combine, the output voltage from the header height control sensors must be verified.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.

⚠ DANGER

Check to be sure all bystanders have cleared the area.

1. Raise the header until the header wheels are 150 mm (6 in.) above the ground.
2. Select DIAG (A) on the Universal display MAIN page. The DIAG page appears.

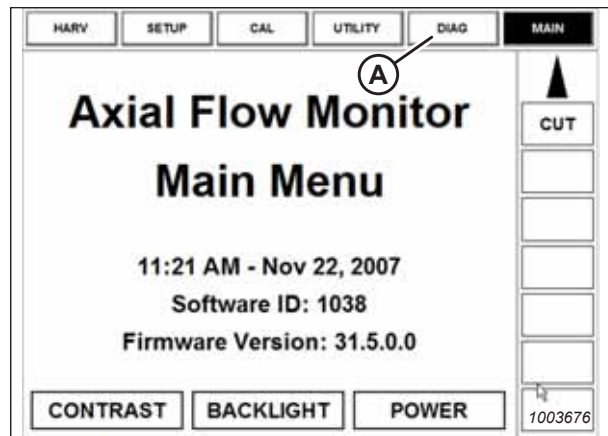


Figure 4.41: Case 8010 Combine Display

3. Select SUB SYSTEM (A). The SUB SYSTEM page appears.

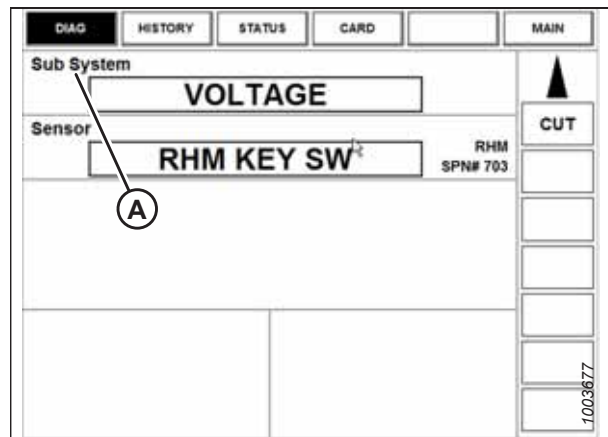


Figure 4.42: Case 8010 Combine Display

AUTO HEADER HEIGHT CONTROL

4. Select HDR HEIGHT/TILT (A). The SENSOR page appears.

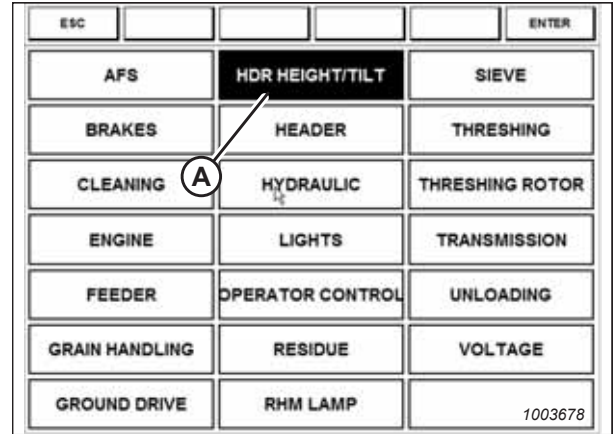


Figure 4.43: Case 8010 Combine Display

5. Select LEFT SEN (A). The exact voltage is displayed. Raise and lower the header to see the full range of voltage readings.

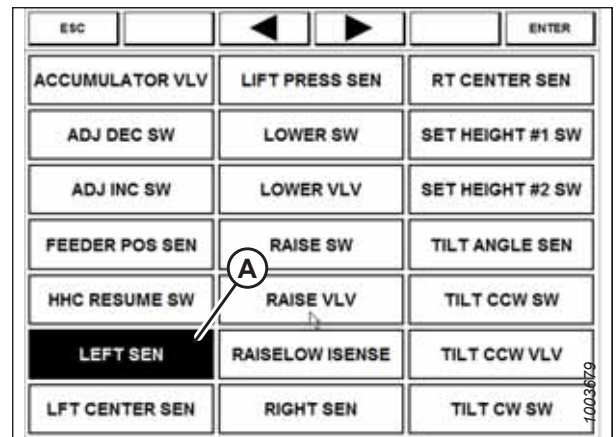


Figure 4.44: Case 8010 Combine Display

6. If the sensor voltage is not within the low and high limits shown in [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#), or if the range between the low and high limits is insufficient, then you will need to make adjustments to the height sensors. For instructions, refer to [4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side, page 110](#) and [4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side, page 110](#).

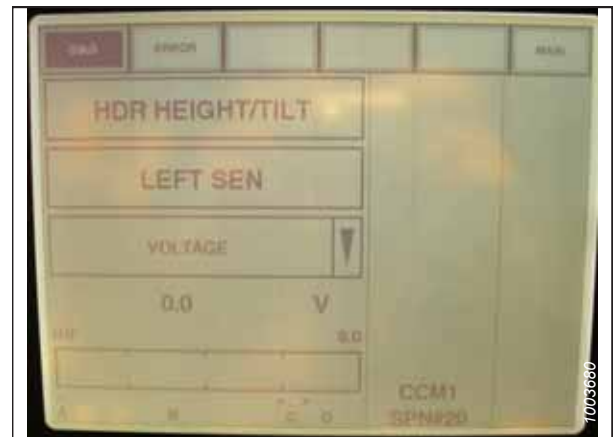


Figure 4.45: Case 8010 Combine Display

4.6.2 Checking Voltage Range from Combine Cab – Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230; 7240/8240/9240

To ensure that the auto header height control (AHHC) system on your header works correctly with your Case IH 7, 8, or 9 series combine, the output voltage from the header height control sensors must be verified.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.

⚠ DANGER

Check to be sure all bystanders have cleared the area.

1. Raise the header until the header wheels are 150 mm (6 in.) above the ground.
2. Select DIAGNOSTICS (A) on the MAIN page. The DIAGNOSTICS page appears.
3. Select SETTINGS. The SETTINGS page appears.

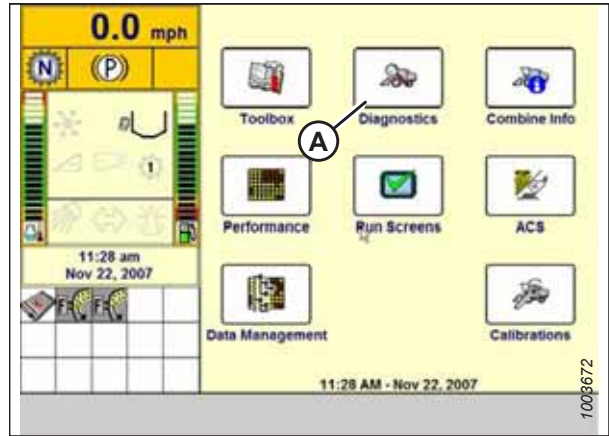


Figure 4.46: Case IH Combine Display

4. Select GROUP drop-down arrow (A). The GROUP dialog box appears.

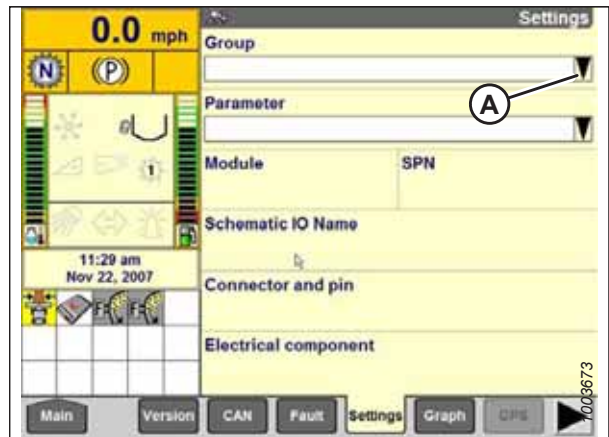


Figure 4.47: Case IH Combine Display

AUTO HEADER HEIGHT CONTROL

5. Select HEADER HEIGHT/TILT (A). The PARAMETER page appears.

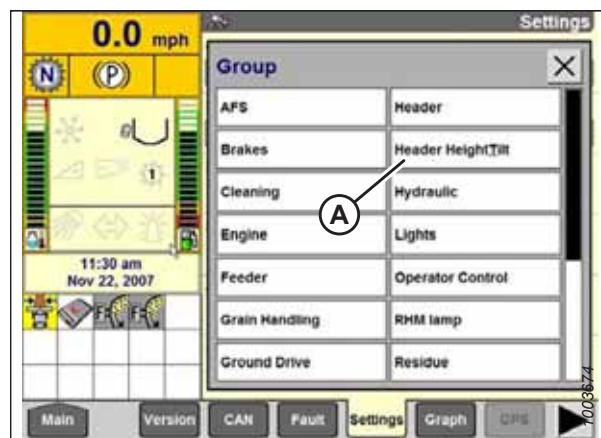


Figure 4.48: Case IH Combine Display

6. Select LEFT HEADER HEIGHT SEN (A) and then select GRAPH button (B). The exact voltage is displayed at the top of the page. Raise and lower the header to see the full range of voltage readings.
7. If the sensor voltage is not within the low and high limits shown in [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#), or if the range between the low and high limits is insufficient, the height sensors must be adjusted. For instructions, refer to [4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side, page 110](#) and [4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side, page 110](#).

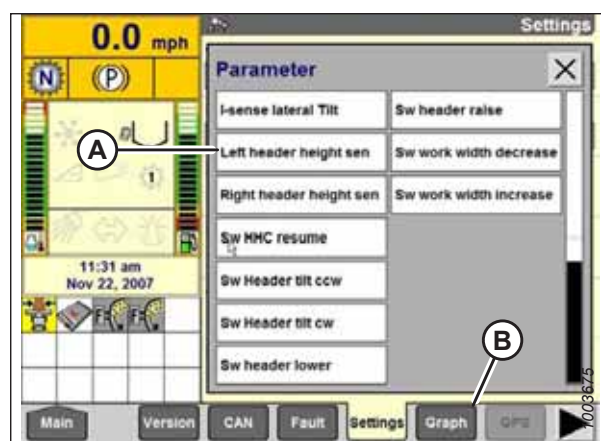


Figure 4.49: Case IH Combine Display

4.6.3 Calibrating Auto Header Height Control – Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230; 7240/8240/9240 – Software Versions Below 28.00

The auto header height control (AHC) sensor output must be calibrated for Case IH 7, 8, or 9 series combines with software versions below 28.00, or the AHC feature will not work properly.

NOTE:

This procedure applies to combines with a software version below 28.00. For instructions on calibrating the AHC for combines with software version 28.00 or above, refer to [4.6.4 Calibrating Auto Header Height Control – Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230; 7240/8240/9240 – Software Versions Above 28.00, page 125](#).

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

1. Ensure that all header electrical and hydraulic connections are complete.
2. Select TOOLBOX on the MAIN page, and then select HEADER.

AUTO HEADER HEIGHT CONTROL

3. Set the appropriate HEADER STYLE.



Figure 4.50: Case IH Combine Display

4. Set the AUTO REEL SPEED SLOPE setting.
5. Set the HEADER PRESSURE FLOAT setting to NO (A) if equipped, and ensure that the REEL DRIVE setting is set to HYDRAULIC (B).

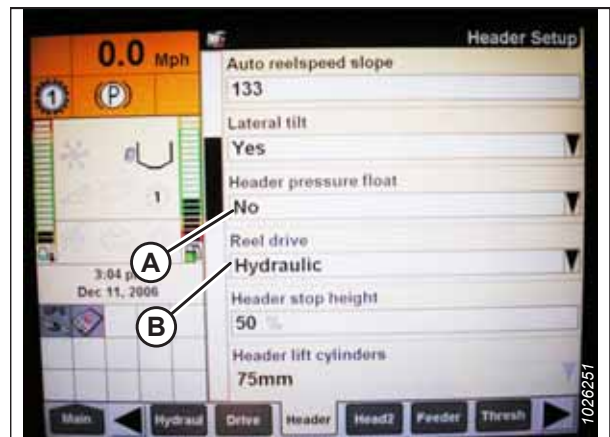


Figure 4.51: Case IH Combine Display

6. Select YES (A) from the REEL FORE-BACK list (if applicable).
7. Set HEIGHT SENSITIVITY (B) to the desired value. The recommended starting value is 180.

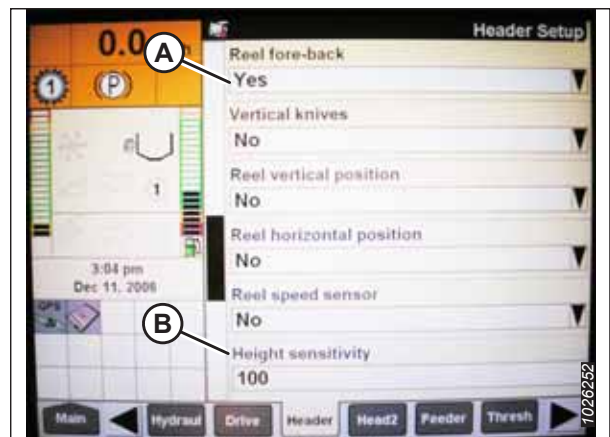


Figure 4.52: Case IH Combine Display

AUTO HEADER HEIGHT CONTROL

8. Select YES for FORE-AFT CONTROL (A) and HDR FORE-AFT TILT (B) (if applicable).

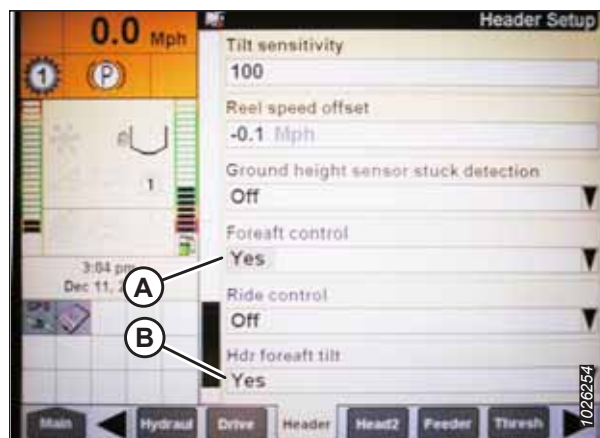


Figure 4.53: Case IH Combine Display

9. Select the HEAD2 tab at the bottom of the page.
10. Ensure that PICKUP (A) is selected from the HEADER TYPE list.

NOTE:

If the recognition resistor is plugged into the header harness, you will not be able to change the header type.

11. Set the cutting type to PLATFORM (B).
12. Set the appropriate HEADER WIDTH (C) and HEADER USAGE (D) values.

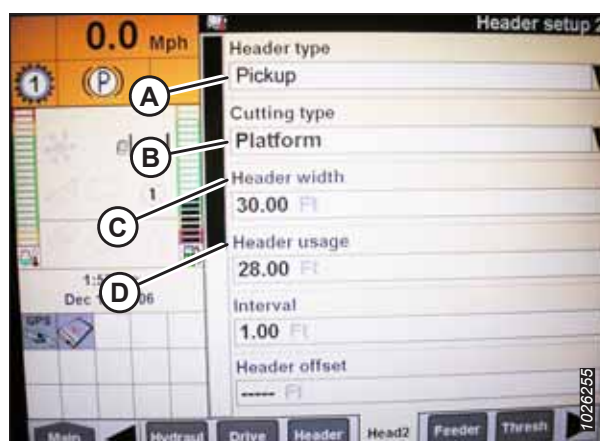


Figure 4.54: Case IH Combine Display

4.6.4 Calibrating Auto Header Height Control – Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230; 7240/8240/9240 – Software Versions Above 28.00

The auto header height control (AHC) sensor output must be calibrated for Case IH 7, 8, or 9 series combines with software versions above 28.00, or the AHC feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

AUTO HEADER HEIGHT CONTROL

1. Select TOOLBOX on the MAIN page and then select HEADER SETUP.
2. Locate the HEADER SUB TYPE field. It will be located on either the HEAD 1 or HEAD 2 tab found at the bottom of the display.
3. Select 2000 (A).



Figure 4.55: Case IH Combine Display

4. Locate the HEADER SENSORS and HEADER PRESSURE FLOAT fields. They will be located on either the HEAD 1 or the HEAD 2 tab found at the bottom of the display.
5. Select ENABLE (A) in the HEADER SENSORS field.
6. Select NO (B) in the HEADER PRESSURE FLOAT field.



Figure 4.56: Case IH Combine Display

7. Engage the separator and the header and press preset 1 or preset 2.
8. Ensure that AUTO HEIGHT icon (A) appears on the display and can be seen at location (B) as shown. When the header is set for cutting on the ground, this step verifies that the combine is using the potentiometers on the header correctly to sense the ground pressure.

NOTE:

AUTO HEIGHT field (B) may appear on any of the RUN tabs and not necessarily on the RUN 1 tab.



Figure 4.57: Case IH Combine Display

AUTO HEADER HEIGHT CONTROL

9. Select CALIBRATION on the combine display and press the right arrow navigation key to enter the information box.
10. Select HEADER (A) and press ENTER. The CALIBRATION dialog box opens.

NOTE:

You can use the up and down navigation keys to move between the options.



Figure 4.58: Case IH Combine Display

11. Follow the calibration steps in the order in which they appear in the dialog box. As you proceed through the calibration process, the display will automatically update to show the next step in the procedure.

NOTE:

The calibration procedure will stop if the system sits idle for more than 3 minutes or if the ESC key is pressed during any step.

NOTE:

Refer to your combine operator's manual for an explanation of any error codes encountered.



Figure 4.59: Case IH Combine Display

12. When all the calibration steps have been completed, the message CALIBRATION SUCCESSFUL is displayed on the page. Exit the CALIBRATION menu by pressing the ENTER or ESC key.

NOTE:

If the float was changed to a heavier setting to complete the ground calibration procedure, readjust the float after the calibration procedure is completed.

13. If the AHHC system still does not function properly, perform the combine's maximum stubble height calibration procedure.

4.6.5 Setting Preset Cutting Height – Case 7010/8010, 7120/8120/9120, 7230/8230/9230, 7240/8240/9240

Your Case IH 7, 8, or 9 series combine can have up to two auto header height control (AHHC) header height presets configured at one time.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for updates.

DANGER

Check to be sure all bystanders have cleared the area.

AUTO HEADER HEIGHT CONTROL

1. Engage the separator and the header.
2. Manually raise or lower the header to the desired cutting height.
3. Press SET #1 switch (A). HEADER HEIGHT MODE light (C) (next to SET #1 switch) turns on.
4. Manually raise or lower the header to a second desired cutting height.
5. Press SET #2 switch (B). HEADER HEIGHT MODE light (D) (next to SET #2 switch) turns on.

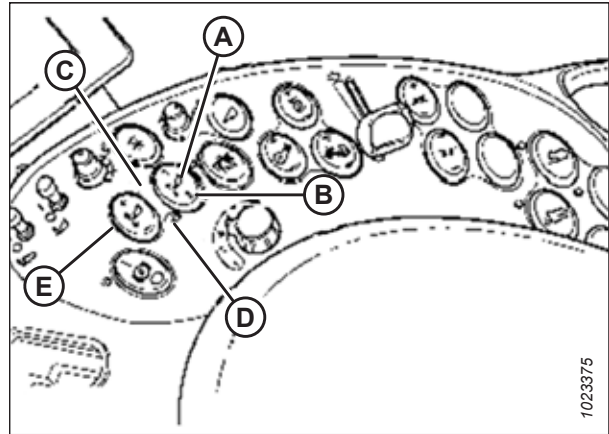


Figure 4.60: Case Combine Controls

A - Set #1 Switch B - Set #2 Switch
C - Header Height Mode Light D - Header Height Mode Light
E - Fine Adjust Switch

6. To swap between these header height presets, press HEADER RESUME (A).
7. To raise the header, press HEADER RESUME (A) twice. To lower the header, press HEADER RESUME (A).

NOTE:

You can adjust these set points by using FINE ADJUST switch (E) in Figure 4.60, page 128.

NOTE:

Pressing the HEADER RAISE/LOWER switch will disengage AUTO HEIGHT mode. Press HEADER RESUME to re-engage that mode.

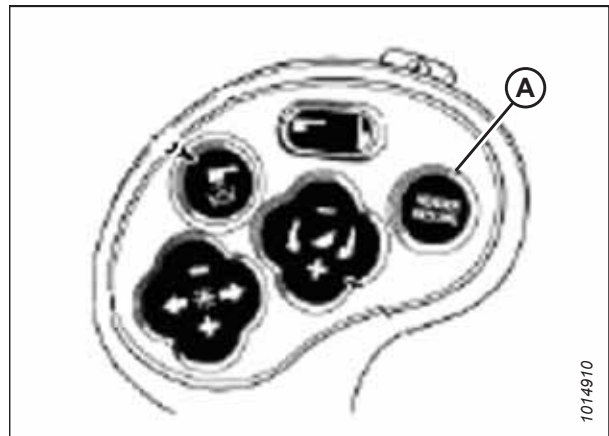


Figure 4.61: Case Combine Controls

4.7 Challenger® Combines

To make your header's auto header height control (AHHC) system compatible with Challenger® 6 Series combines, you must set your combine's header configuration options for the particular model of header, check the height sensor voltage range, and calibrate the AHHC system to ensure that it is working correctly.

4.7.1 Checking Voltage Range from Combine Cab – Challenger® 6 and 7 Series

To ensure that the auto header height control (AHHC) system on your header works correctly with your Challenger® 6 or 7 Series combine, the output voltage from the header height control sensors must be verified.

The header's height sensor output must be within a specific range for the AHHC system to work properly.

Check the range of the output voltage from the height sensors:

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

1. Raise the header until its wheels are 150 mm (6 in.) above the ground.
2. Go to the FIELD page on the combine monitor and select the diagnostics icon. The MISCELLANEOUS page appears.
3. Select VMM DIAGNOSTIC button (A). The VMM DIAGNOSTIC page appears.



Figure 4.62: Challenger® Combine Display

4. Go to the ANALOG IN tab and select VMM MODULE 3 by pressing the text box below the four tabs. The voltage from the AHHC sensors is now displayed on the page as HEADER HEIGHT RIGHT POT and HEADER HEIGHT LEFT POT. Both readings should be identical.

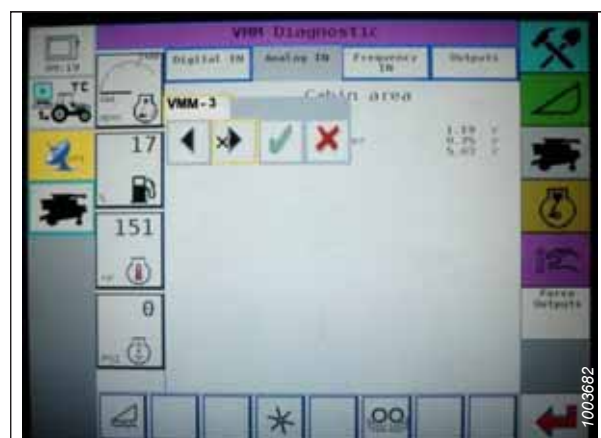


Figure 4.63: Challenger® Combine Display

AUTO HEADER HEIGHT CONTROL

5. Fully lower the combine feeder house.

NOTE:

You may need to hold the HEADER DOWN switch for a few seconds to ensure that the feeder house is fully lowered.

6. Record the height sensor voltage.
7. Raise the header so that the cutterbar is 150 mm (6 in.) off of the ground.
8. Record the height sensor voltage.



Figure 4.64: Challenger® Combine Display

9. If the sensor voltage is not within the low and high limits shown in [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#), or if the range between the low and high limits is insufficient, the voltage range of the height sensors may require adjustment. For instructions, refer to [4.7.4 Adjusting Header Height – Challenger® 6 Series, page 132](#).

4.7.2 Engaging Auto Header Height Control – Challenger® 6 Series

Set these initial configuration options on your Challenger® 6 Series combine when setting up the auto header height control (AHC) system.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.

The following system components are required for the auto header height control (AHC) to work:

- The main module (PCB board) and header driver module (PCB board) mounted in the card box in the fuse panel module (FP)
- The multifunction control handle operator inputs
- The operator inputs mounted in the control console module (CC) panel

NOTE:

The electro-hydraulic header lift control valve is also an integral part of the system.

1. Using the header control switch, scroll through the header control options on the combine display until the AHC icon is displayed in the first message box. The AHC will adjust the header height in relation to the ground according to the height setting and the sensitivity setting.

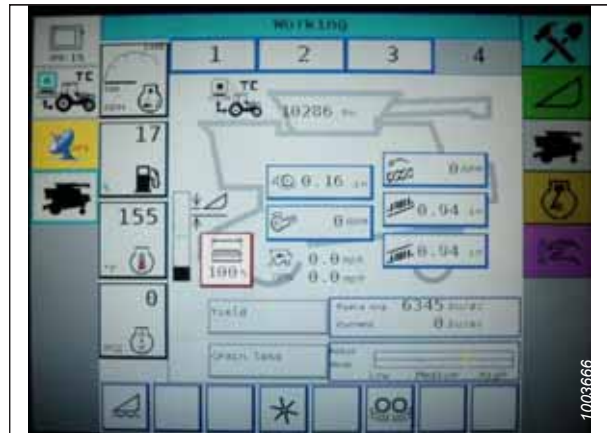


Figure 4.65: Challenger® Combine Display

4.7.3 Calibrating Auto Header Height Control – Challenger® 6 Series

The auto header height control (AHHC) sensor output must be calibrated for Challenger® 6 Series combines, or the AHHC feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for the most up-to-date information.

1. On the FIELD page, select the DIAGNOSTICS icon. The MISCELLANEOUS page appears.



Figure 4.66: Challenger® Combine Display

2. Select CALIBRATIONS button (A). The CALIBRATIONS page appears.

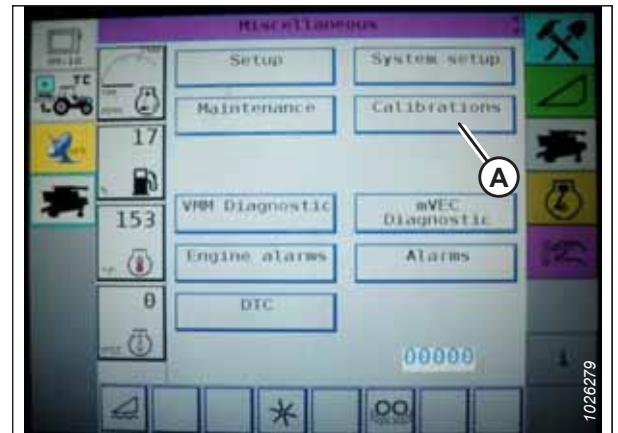


Figure 4.67: Challenger® Combine Display

3. Select HEADER button (A). The HEADER CALIBRATION page displays a warning.



Figure 4.68: Challenger® Combine Display

AUTO HEADER HEIGHT CONTROL

4. Read the warning message, and then press green check mark button (A).

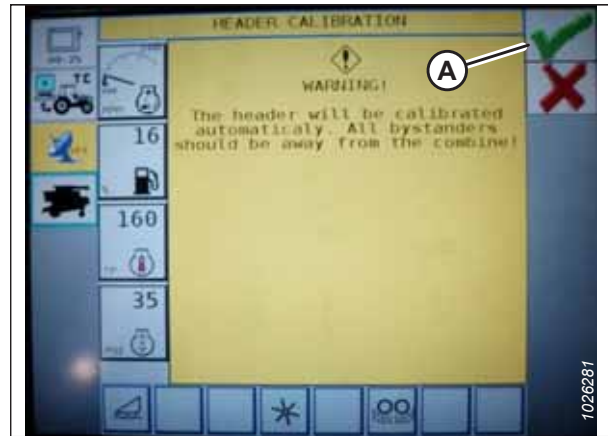


Figure 4.69: Challenger® Combine Display

5. Follow the on-screen prompts to complete the calibration procedure.

NOTE:

The calibration procedure can be canceled at any time by pressing the cancel button in bottom right corner of page. While the header calibration procedure is running, it can also be canceled by using the up, down, tilt right, or tilt left buttons on the control handle.

NOTE:

If the combine does not have the header tilt function installed or if it is inoperable, you may receive warnings during calibration. Press the green check mark if these warnings appear. This will not affect AHHC calibration.

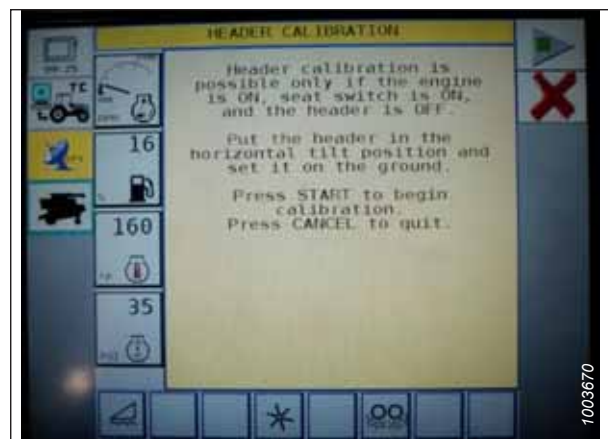


Figure 4.70: Challenger® Combine Display

4.7.4 Adjusting Header Height – Challenger® 6 Series

Once the auto header height control (AHHC) system is activated, press and release the HEADER LOWER button on the control handle. The AHHC will automatically lower the header to the preset height.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

AUTO HEADER HEIGHT CONTROL

The selected AHHC height is adjusted using HEIGHT ADJUSTMENT knob (A) on the control console. Turning the knob clockwise increases the selected height. Turning the knob counterclockwise decreases the selected height.



Figure 4.71: Height Adjustment Knob on Combine Control Console

4.7.5 Adjusting Header Raise/Lower Rate – Challenger® 6 Series

The speed at which the header rises or falls can be adjusted on a Challenger® 6 Series combine.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

1. Press the header icon on the FIELD page. The HEADER page appears.

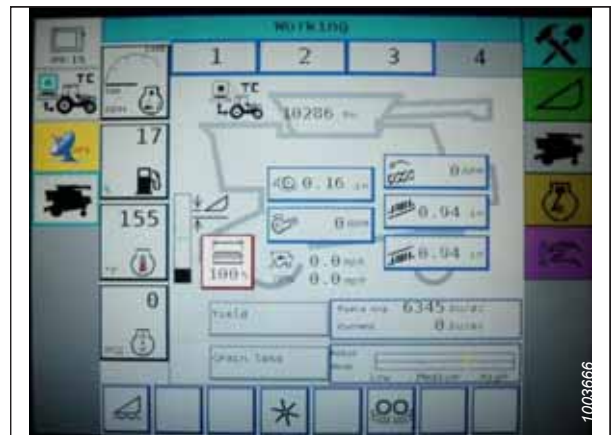


Figure 4.72: Challenger® Combine Display

AUTO HEADER HEIGHT CONTROL

2. Press HEADER CONTROL (A). The HEADER CONTROL page appears.

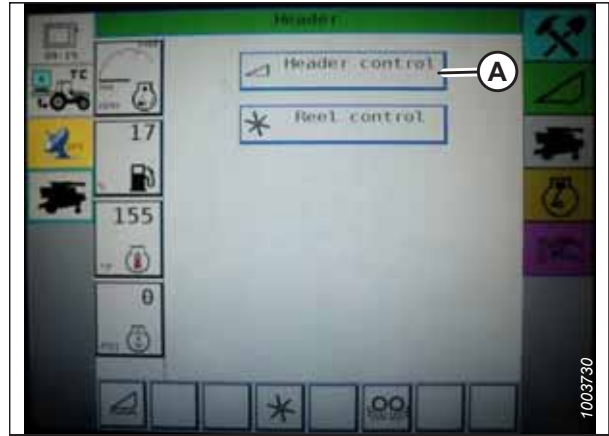


Figure 4.73: Challenger® Combine Display

3. Go to the TABLE SETTINGS tab.
4. Press up arrow (A) on MAX UP PWM to increase the percentage number and thereby increase the speed at which the header rises; press down arrow (B) on MAX UP PWM to decrease percentage number and thereby decrease the speed at which the header rises.

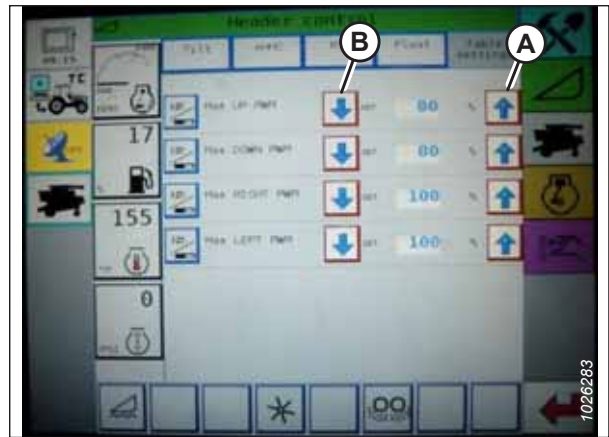


Figure 4.74: Challenger® Combine Display

5. Press the up arrow (A) on the MAX DOWN PWM setting to increase the percentage number and thereby increase the speed at which the header falls; press the down arrow (B) on MAX DOWN PWM to decrease the percentage number and thereby decrease the speed at which the header falls.

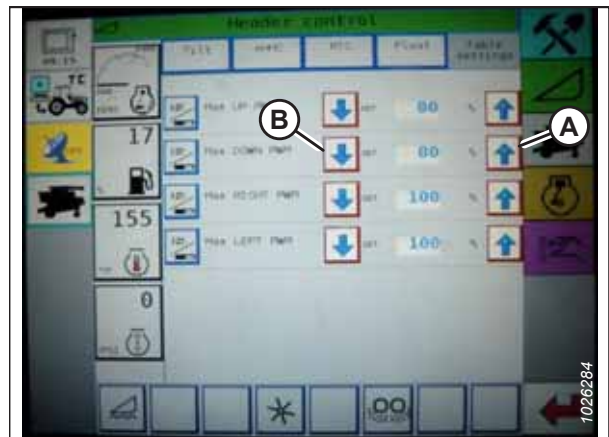


Figure 4.75: Challenger® Combine Display

4.7.6 Setting Sensitivity of Auto Header Height Control – Challenger® 6 Series

The sensitivity adjustment controls the distance the header must travel up or down before the auto header height control (AHHC) reacts and raises or lowers the feeder house.

When the sensitivity is set to maximum, only small changes in ground height are needed to cause the feeder house to rise or fall. When the sensitivity is set to minimum, large changes in the ground height are needed to cause the feeder house to rise or fall.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.

1. Press the HEADER icon on the FIELD page. The HEADER page appears.
2. Press HEADER CONTROL button (A). The HEADER CONTROL page appears.

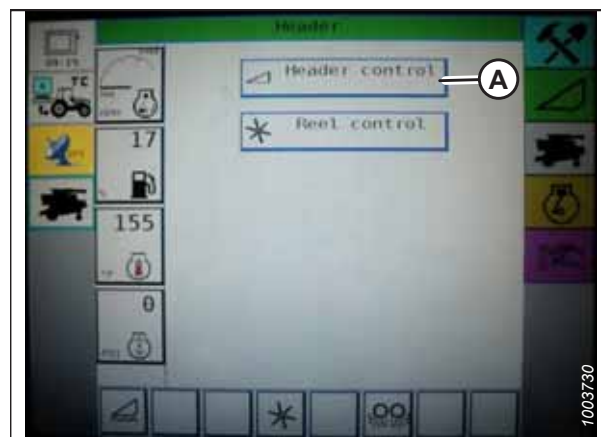


Figure 4.76: Challenger® Combine Display

3. Adjust the sensitivity to the MAXIMUM setting using on-screen up and down arrows (A).
4. Activate the AHHC and press the HEADER LOWER button on the control handle.
5. Decrease the sensitivity until the feeder house remains steady and does not bounce up and down.

NOTE:

This is the maximum sensitivity and is only an initial setting. The final setting must be made in the field; the system’s reaction will vary according to changing field surfaces and operating conditions.

NOTE:

A setting lower than the maximum will reduce the frequency of header height corrections and, thereby, component wear. Partially opening the accumulator valve will cushion the action of the header lift cylinders and reduce the occurrence of “header hunting” events, during which the combine continually tries to find a height setting without success.

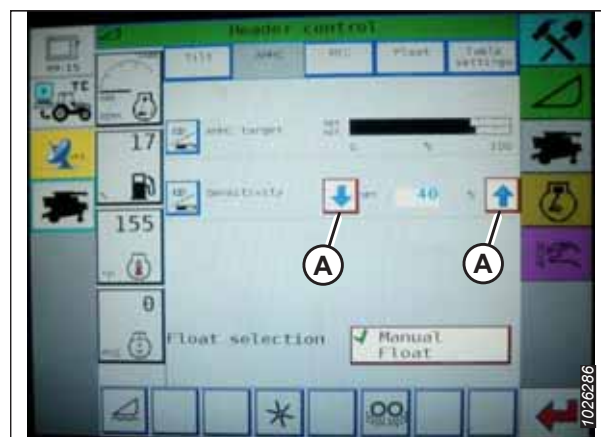


Figure 4.77: Challenger® Combine Display

4.8 Gleaner® R65/R66/R75/R76 and S Series Combines – Except S9 Series

To make your header's auto header height control (AHHC) system compatible with Gleaner® R65/R66/R75/R76 and non-S9 S series combines, you must set your combine's header configuration options for the particular model of header, check the height sensor voltage range, adjust the header height response rate and ground pressure settings, and calibrate the AHHC system to ensure that it is working correctly.

4.8.1 Checking Voltage Range from Combine Cab – Gleaner® R65/R66/R75/R76 and S Series

To ensure that the auto header height control (AHHC) system on your header works correctly with your Gleaner® R65/R66/R75/R76 or non-S9 S series combine, the output voltage from the header height control sensors must be verified.

The auto header height sensor output must be within a specific range for the feature to work properly.

NOTE:

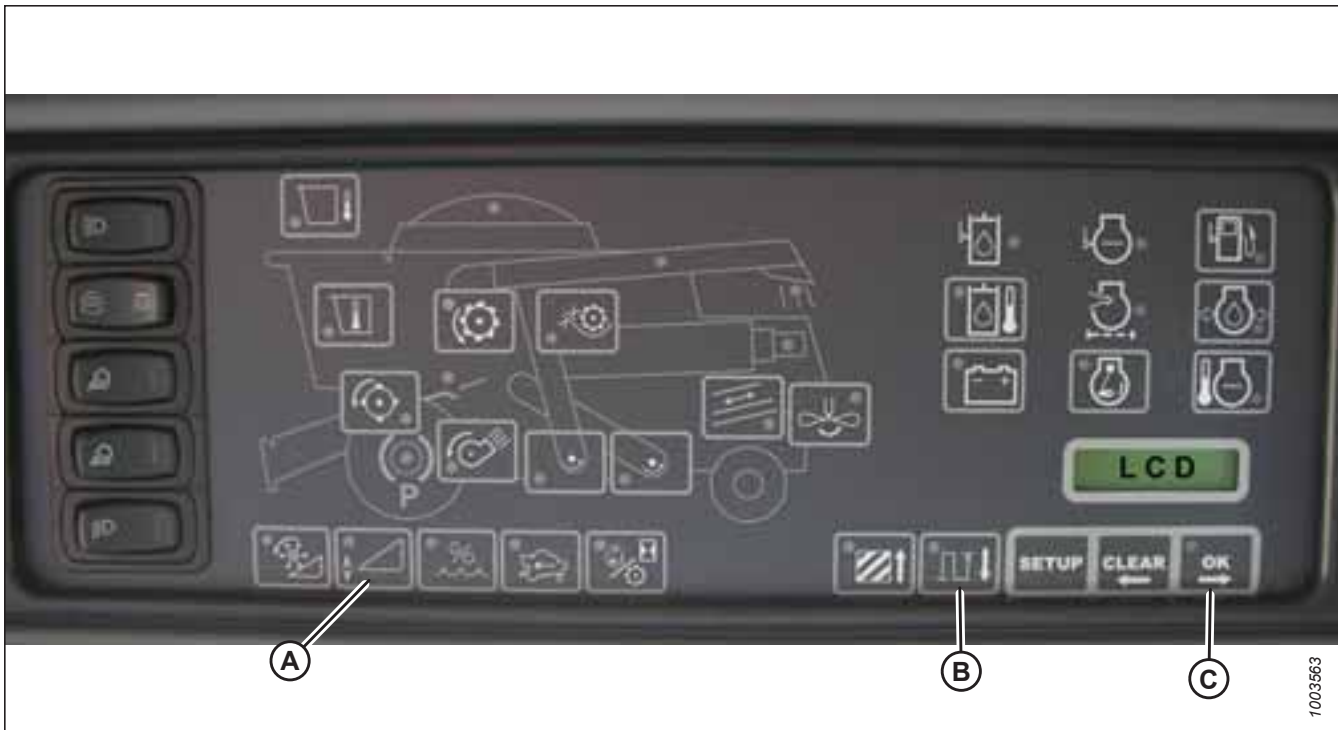
Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for updated information.

NOTE:

Refer to [4.9 Gleaner® S9 Series Combines, page 146](#) for information specific to Gleaner® S9 Series combines.

1. Raise the header until its wheels are 150 mm (6 in.) above the ground.

Figure 4.78: Combine Heads-Up Display



2. Press and hold button (A) on the heads-up display for 3 seconds to enter diagnostic mode.
3. Scroll down using button (B) until LEFT is displayed on the LCD screen.
4. Press OK button (C). The number indicated on the LCD screen is the voltage reading from the AHHC sensor. Fully raise and then fully lower the header to see the full range of voltage readings.

AUTO HEADER HEIGHT CONTROL

5. If the sensor voltage is not within the low and high limits shown in [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#), or if the range between the low and high limits is insufficient, adjustments to the height sensors may be required. For instructions, refer to [4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side, page 110](#) or [4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side, page 110](#).

4.8.2 Engaging Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series

Set these initial configuration options on your Gleaner® R65/R66/R75/R76 or non-S9 S Series combine when setting up the auto header height control (AHHC) system.

NOTE:

Refer to [4.9 Gleaner® S9 Series Combines, page 146](#) for information specific to Gleaner® S9 Series combines.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

1. The following system components are required for the auto header height control (AHHC) to work:
 - The main module (PCB board) and header driver module (PCB board) mounted in the card box in the fuse panel module (FP)
 - The multifunction control handle operator inputs
 - The operator inputs mounted in the control console module (CC) panel

NOTE:

The electro-hydraulic header lift control valve is also an integral part of the system.



Figure 4.79: Combine Auto Header Height Controls

2. Press AUTO MODE button (A) until AHHC LED light (B) begins flashing. If the RTC light is flashing, press AUTO MODE button (A) again until the AHHC system is activated.

AUTO HEADER HEIGHT CONTROL

- Briefly press button (A) on the control handle. The AHHC light should change from flashing to solid and the header should drop toward the ground. The AHHC is now engaged and the height and sensitivity settings can be adjusted.

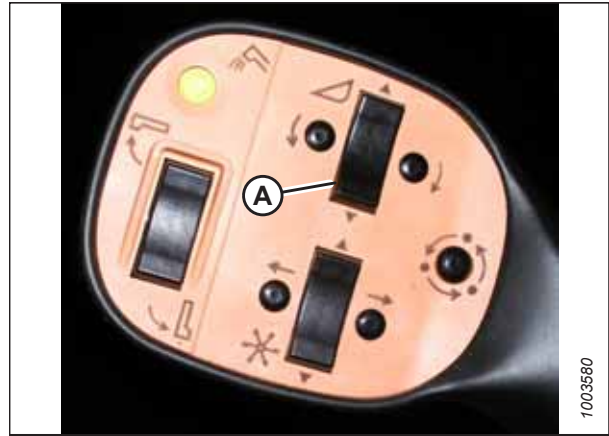


Figure 4.80: Control Handle

4.8.3 Calibrating Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series

The auto header height control (AHHC) sensor output must be calibrated for Gleaner® R65/R66/R75/R76 and non-S9 S series combines, or the AHHC feature will not work properly.

NOTE:

The calibration procedure should be performed on flat, level ground without the header clutches engaged. The header height and header tilt settings must **NOT** be in auto or standby mode. The engine rpm must be above 2000 rpm. The header tilt option on 2004 and earlier model combines does **NOT** work with MacDon headers. This system will have to be removed and disabled in order to calibrate the AHHC system. Refer to the combine operator's manual for instructions.

To set up the AHHC system on Gleaner® S9 Series combines, refer to [4.9 Gleaner® S9 Series Combines, page 146](#).

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

AUTO HEADER HEIGHT CONTROL



Figure 4.81: Combine Auto Header Height Controls

A - AUTO MODE Button
D - Raise Header
G - CAL2 Button

B - AHHC Light
E - Lower Header

C - CAL1 Button
F - Auto Mode

1. Press AUTO MODE button (A) until AHHC light (B) is activated.
2. Press and hold CAL1 button (C) until the following lights flash: raise header (D), lower header (E), tilt auto mode (F), and AHHC (B).
3. Fully lower the header.
4. Press CAL2 button (G) until lower header light (E) stops flashing. Release the button when raise header light (D) begins flashing.
5. Raise the header to its maximum height.
6. Press CAL2 button (G) until raise header light (D) turns off.

NOTE:

The following steps are applicable only to model year 2005 and newer combines with Smartrac feeder houses.

7. Wait for the HEADER TILT LEFT light (not shown) to start flashing and then tilt the header to its maximum left position.
8. Press CAL2 button (G) until the HEADER TILT LEFT light (not shown) stops flashing and release the button when the HEADER TILT RIGHT light (not shown) begins flashing.
9. Tilt the header to its maximum right position.
10. Press CAL2 button (G) until all of following lights flash: raise header (D), lower header (E), height auto mode (A), right header and left header (not shown), and tilt auto mode (F).
11. Center the header.

AUTO HEADER HEIGHT CONTROL

12. Press CAL1 button (C) to exit the calibration procedure. Exiting will save all values to memory. All the lights on the console should stop flashing.

4.8.4 Turning Accumulator Off – Gleaner® R65/R66/R75/R76 and S Series

Activating the accumulator on a Gleaner® R65/R66/R75/R76 and non-S9 S series combine will negatively affect the speed at which the AHHC system adjusts the height of the header. Turning the accumulator off will ensure good AHHC performance.

Refer to the combine operator's manual for the proper procedure for turning the accumulator off and on. For best performance of the AHHC system, turn the feeder house accumulator off.



Figure 4.82: Combine Accumulator ON/OFF Switch

A - Accumulator Lever (Off Position)

4.8.5 Adjusting Header Raise/Lower Rate – Gleaner® R65/R66/R75/R76 and S Series

The speed at which the header rises or falls on a Gleaner® R65/R66/R75/R76 and non-S9 S series combine can be adjusted by opening or closing the height restrictor valves.

NOTE:

Refer to [4.9 Gleaner® S9 Series Combines, page 146](#) for information specific to Gleaner® S9 Series combines.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for updated information.

AUTO HEADER HEIGHT CONTROL

The auto header height control (AHHC) system's stability is affected by the rate at which the hydraulic fluid flows through the hydraulic system. Ensure that header raise (A) and header lower (B) adjustable restrictors in the hydraulic valve block are adjusted so that it takes approximately 6 seconds to raise the header from ground level to its maximum height (with the hydraulic cylinders fully extended), and approximately 6 seconds to lower the header from its maximum height to ground level.

If there is too much header movement when the header is on ground (for example, if the AHHC system seems to be continually "hunting" for a height setting), then adjust the lowering rate so that the header takes 7 or 8 seconds to fall.

NOTE:

Make this adjustment with the hydraulic system at its normal operating temperature (54.4°C [130°F]) and the engine running at full throttle.

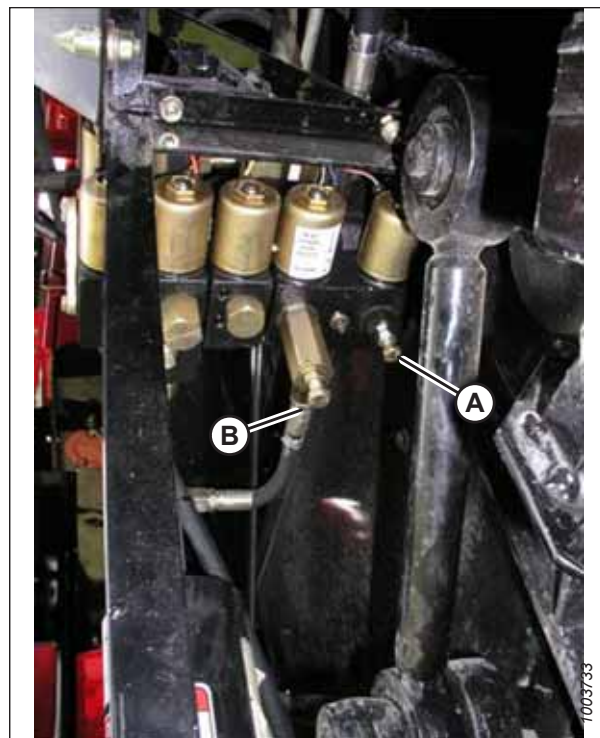


Figure 4.83: Header Raise and Lower Adjustable Restrictors

4.8.6 Adjusting Ground Pressure – Gleaner® R65/R66/R75/R76 and S Series

The ground pressure settings determine the height of the header when used with the auto header height control system (AHHC) on Gleaner® R65/R66/R75/R76 and non-S9 S Series combines.

NOTE:

Refer to [4.9 Gleaner® S9 Series Combines, page 146](#) for information specific to Gleaner® S9 Series combines.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

To adjust the header height, ensure that the header is in AHHC mode, as indicated by AUTO MODE LED light (A) displaying a continuous, solid light. The header will lower to the height (i.e. the ground pressure) corresponding to the position selected with height control knob (B).

Turn knob (B) counterclockwise to decrease the ground pressure setting and clockwise to increase the ground pressure setting.

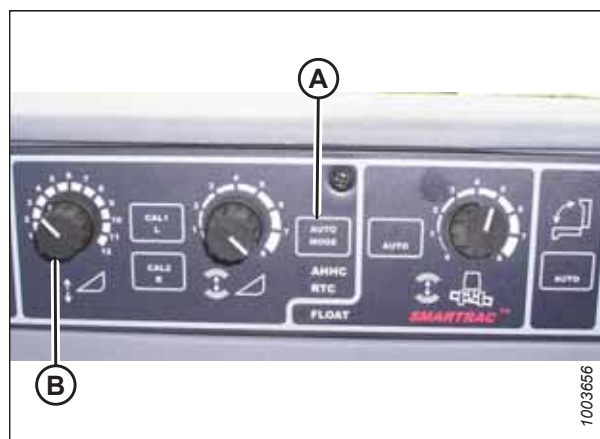


Figure 4.84: Auto Header Height Control Console

4.8.7 Adjusting Sensitivity of Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series

Setting the sensitivity of the auto header height control (AHHC) system on a Gleaner® R65/R66/R75/R76 and non-S9 S Series combine affects how quickly the AHHC system changes the height of the header.

NOTE:

Refer to *4.9 Gleaner® S9 Series Combines, page 146* for information specific to Gleaner® S9 Series combines.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.



Figure 4.85: Auto Header Height Control Console

SENSITIVITY ADJUSTMENT dial (A) controls the distance the header must travel up or down before the AHHC reacts and raises or lowers the feeder house.

When SENSITIVITY ADJUSTMENT dial (A) is set to the maximum value (i.e. is turned completely clockwise), only small changes in ground height are needed to cause the feeder house to raise or lower. In this position, the cutterbar moves up and down approximately 19 mm (3/4 in.) before the control module signals the hydraulic control valve to raise or lower the header frame.

When SENSITIVITY ADJUSTMENT dial (A) is set to the minimum value (i.e. is turned completely counterclockwise), large changes in ground height are needed to cause the feeder house to raise or lower. In this position, the cutterbar moves up and down approximately 51 mm (2 in.) before the control module signals the hydraulic control valve to raise or lower the header frame.

The HEADER SENSE LINE input changes the range of sensitivity. When connected to a draper header, the counterclockwise (i.e. the least sensitive) position allows for approximately 102 mm (4 in.) of vertical travel before the AHHC intervenes.

4.8.8 Troubleshooting Alarms and Diagnostic Faults – Gleaner® R65/R66/R75/R76 and S Series

Errors in the auto header height control (AHHC) system on Gleaner® R65/R66/R75/R76 and non-S9 S Series combines appear on a display on the combine's Electronic Instrument Panel (EIP).

NOTE:

Refer to [4.9 Gleaner® S9 Series Combines, page 146](#) for information specific to Gleaner® S9 Series combines.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for updated information.

Display type

Errors will appear on tachometer (A) as XX or XXX.



Figure 4.86: Tachometer

AUTO HEADER HEIGHT CONTROL

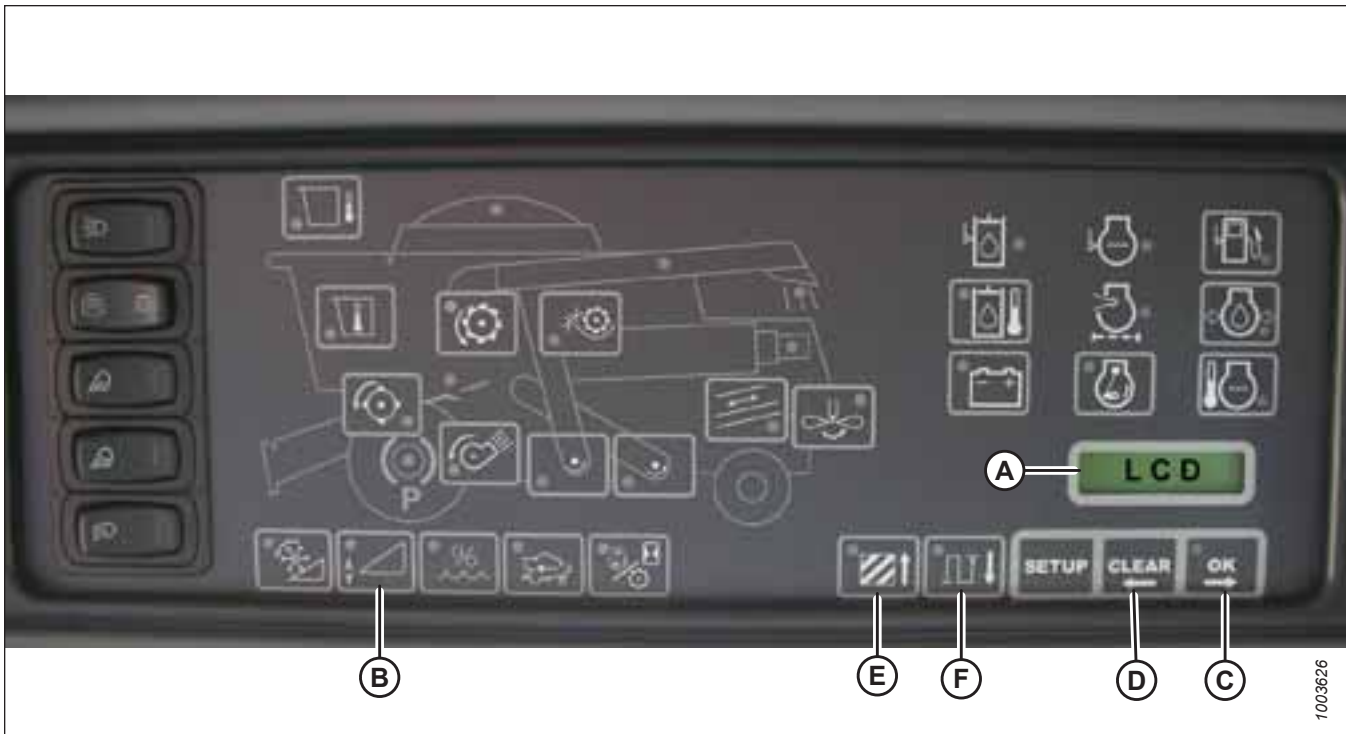


Figure 4.87: Combine Heads-Up Display

Errors will appear on LCD (A) as XXX cm or XX in.

Alarm conditions

If an error message is received from the fuse panel, an alarm will sound. The LCD on the electronic instrument panel (EIP) indicates a header system error as HDR CTRL followed by HGT ERR for height, and HDR CTRL followed by TILT ERR for tilt. The header height LED will flash yellow twice per second.

When this alarm occurs, a buzzer will also sound 5 times every 10 seconds.

When an alarm condition occurs, a green LED begins flashing; the LED will be green, yellow, or red. A message will also appear on the LCD which explains the nature of the alarm (for example: HYD TEMP, OPEN, SHRT).

Diagnostic fault failures

Pressing header height switch (B) for a minimum of 5 seconds will put the EIP in header diagnostic mode. LCD (A) will display the message HDR DIAG when the EIP has entered header diagnostic mode.

In this mode, after 3 seconds, the header fault parameter labels will appear on the EIP's LCD.

NOTE:

The information which appears on the LCD is read-only.

Press OK (C) and CLEAR (D) buttons to scroll through the list of parameters. If there are no active fault codes, the EIP's LCD will display the message NO CODE.

When a parameter appears, its label is displayed for 3 seconds, after which its value is automatically displayed.

Pressing OK button (C) while the value is displayed will cause the EIP to advance to display the the next parameter's label.

When a parameter label appears and OK button (C) is pressed before 3 seconds have elapsed, the parameter's value will be displayed.

Press AREA (E) to cycle through the options. When the message LEFT appears on the LCD, press OK button (C), and the auto header height control (AHHC) voltage will appear on the display.

AUTO HEADER HEIGHT CONTROL

Press DIST button (F) to cycle back through the table.

Press CLEAR button (D) to exit the header diagnostics menu.

For more information, refer to [4.2 Auto Header Height Control Sensor Operation, page 100](#).

4.9 Gleaner® S9 Series Combines

To make your header's auto header height control (AHHC) system compatible with Gleaner® S9 Series combines, you must set your combine's header configuration options for the particular model of header, configure the controls and reel speed settings, and calibrate the AHHC system to ensure that it is working correctly.

4.9.1 Setting up Header – Gleaner® S9 Series

The initial configuration options on a Gleaner® S9 series combine will need to be configured when the auto header height control (AHHC) system is being set up.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

The AGCO Tyton terminal is used to set up and manage a MacDon header on a Gleaner® S9 combine. The terminal has a touch screen. Touch the terminal screen to select an item.



Figure 4.88: Gleaner® S9 Terminal Screen

A - Tyton Terminal B - Hydro Handle/Ground Speed Lever
C - Throttle Lever D - Header Control Cluster

1. On the top right of the home page, touch COMBINE icon (A). The COMBINE MAIN MENU appears.



Figure 4.89: Combine Icon on Home Page

AUTO HEADER HEIGHT CONTROL

2. On the COMBINE MAIN MENU, touch HEADER SETTINGS (A). The HEADER SETTINGS page appears.

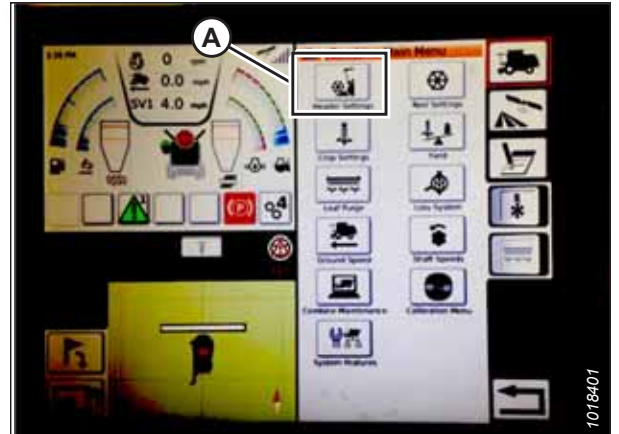


Figure 4.90: Header Settings in Combine Main Menu

AUTO HEADER HEIGHT CONTROL

3. Touch **HEADER CONFIGURATION** field (A). A page showing the predefined header profiles appears.
 - If the MacDon header is already set up, it will appear on the list of headers. Touch MacDon header title (B) to highlight the selection in blue. Touch green check mark (E).
 - If only default header (D) is shown, touch **ADD/KEYBOARD** button (C). Use the on-screen keyboard to enter the relevant MacDon header information. Touch one of the areas at the bottom of the page to return to the **HEADER SETTINGS** page.
 - Touching the green check mark causes the current settings to be saved.
 - Touching the garbage can icon removes the highlighted header profile from the list.
 - Touching the red X cancels any changes.

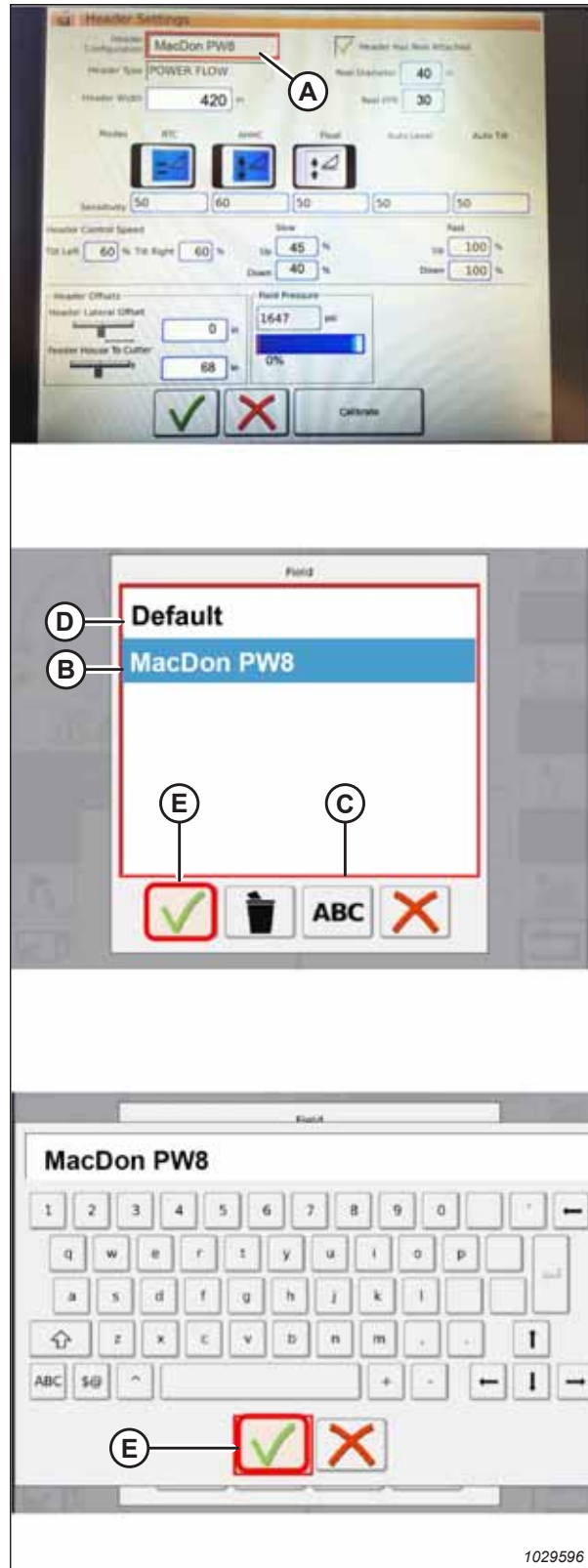


Figure 4.91: Header Configuration Menu on Header Settings Page

AUTO HEADER HEIGHT CONTROL

- To specify the type of header installed on the combine, touch HEADER TYPE field (A).

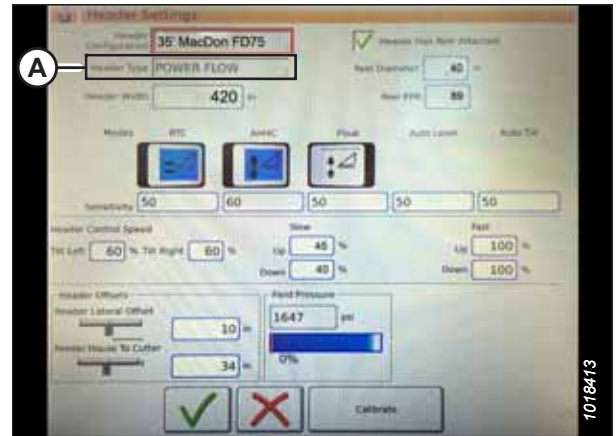


Figure 4.92: Header Settings

- A list of predefined header types appears.
 - For a pick-up header, select PICK UP (A).
 - Touch green check mark (B).

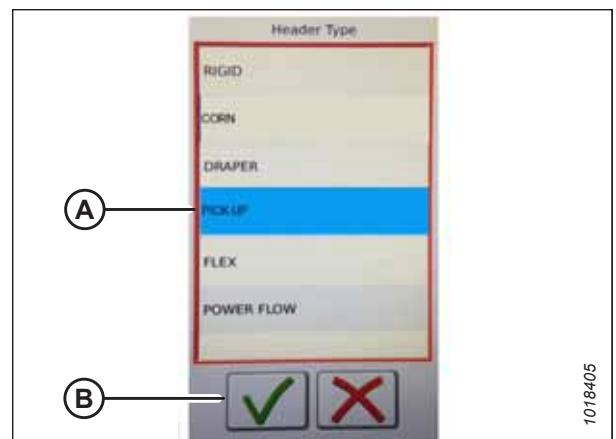


Figure 4.93: Header Type

- Ensure that HEADER HAS REEL ATTACHED green check box (A) is checked.

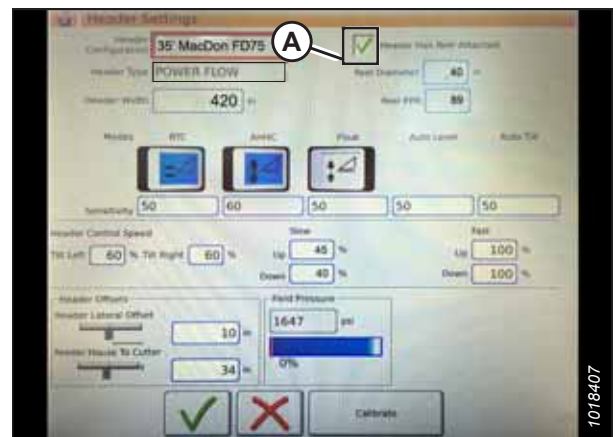


Figure 4.94: Header Settings

AUTO HEADER HEIGHT CONTROL

7. Touch REEL DIAMETER field (A). A numeric keypad will appear. Enter **40** for the MacDon reel diameter.
8. Touch REEL PPR (speed pulses per revolution) field (B) and enter **30**.

NOTE:

PPR is the number of teeth on the reel speed sprocket. AGCO-configured MacDon headers have 30 teeth on the sensor pick-up reel.

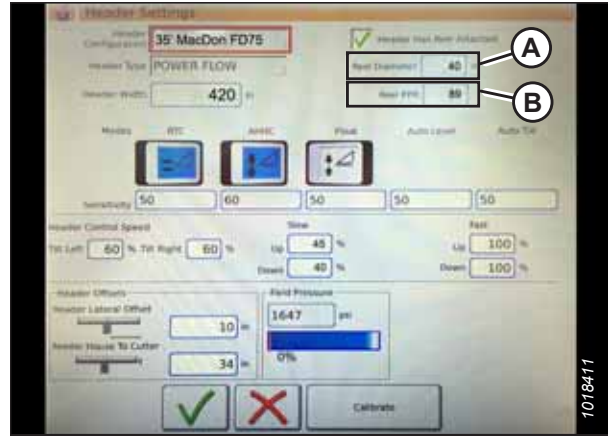


Figure 4.95: Header Settings

9. Touch green check mark (B) at the bottom of numeric keypad (A).

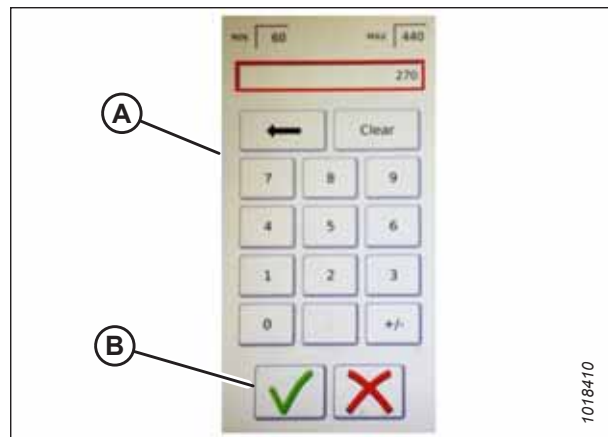


Figure 4.96: Numeric Keypad

10. Touch green check mark (A) at the bottom of the HEADER SETTINGS page.

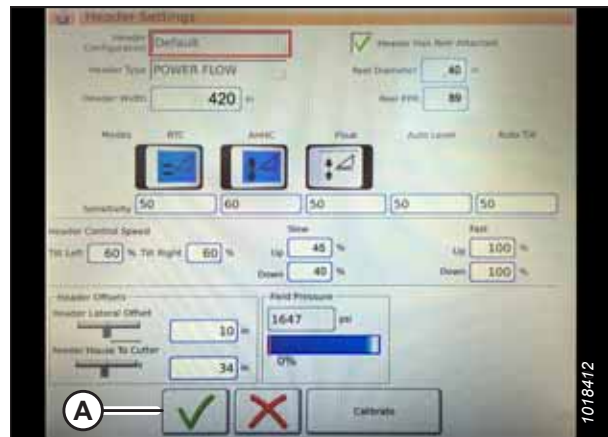


Figure 4.97: Header Settings Page

4.9.2 Setting up Automatic Header Controls – Gleaner® S9 Series

The auto header height control (AHC) functions are configured on the Gleaner® S9 series' HEADER SETTINGS page.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

AUTO HEADER HEIGHT CONTROL

1. **Automatic control functions:** there are toggle (OFF/ON) switches on the HEADER SETTINGS page for automatic height control functions. For MacDon headers, ensure that the following functions are enabled:
 - RTC (return to cut) (A)
 - AHHC (B)

All other switches should be disabled (that is, not highlighted).

2. Sensitivity setting (C) controls how responsive a control (RTC or AHHC) is to a given change in sensor feedback. The setting fields are located directly below the toggle switches. To enter a new sensitivity setting, touch the setting field below the specific toggle switch, and enter a new value using the on-screen keyboard.

- If the combine does not change feeder house position quickly enough when in Auto Mode, increase the sensitivity.
- If the combine hunts for a position in Auto Mode, decrease the sensitivity.

NOTE:

The recommended sensitivity settings for MacDon headers are:

- 50 for RTC (A)
- 60 for AHHC (B)

3. **Header speed:** the header tilt and raise/lower speed can be adjusted in HEADER CONTROL SPEED area (A) of the HEADER SETTINGS page.

- The tilt left and right function is a lateral tilt of the combine faceplate.
- The header up and down function is a two-stage button with slow speed on the first detent and fast on the second.

NOTE:

The recommended header control speed settings for MacDon headers are:

- Slow: 45 up and 40 down
- Fast: 100 up and 100 down

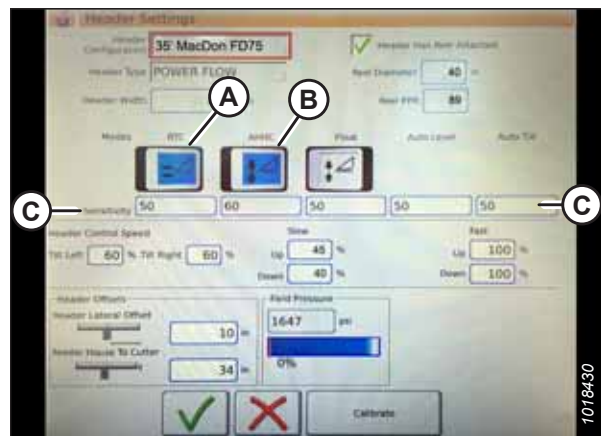


Figure 4.98: Automatic Controls and Sensitivity Settings

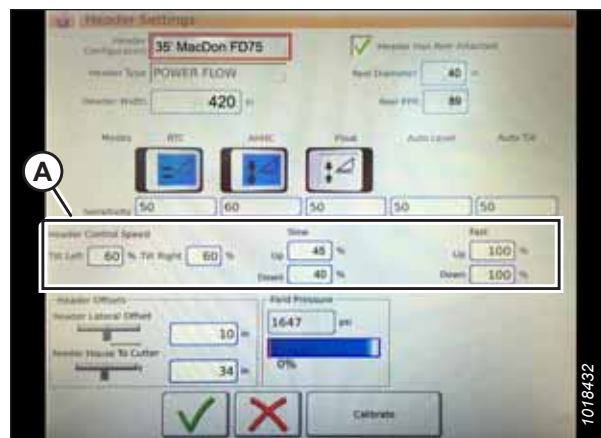


Figure 4.99: Header Speed Control Settings

AUTO HEADER HEIGHT CONTROL

4. Header offsets (A): Offset distances are important for yield mapping. There are two dimensions that can be adjusted on the HEADER SETTINGS page:

- **Header lateral offset:** this is the distance between the centerline of the header and the centerline of the machine. This should be set at 0 for a MacDon header.
- **Feeder house to cutter:** this is the distance from the machine interface to the cutterbar. This should be set to 68 for a MacDon header.

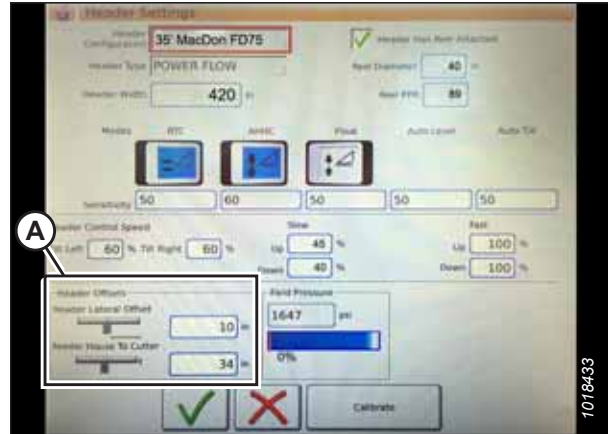


Figure 4.100: Header Offset Settings

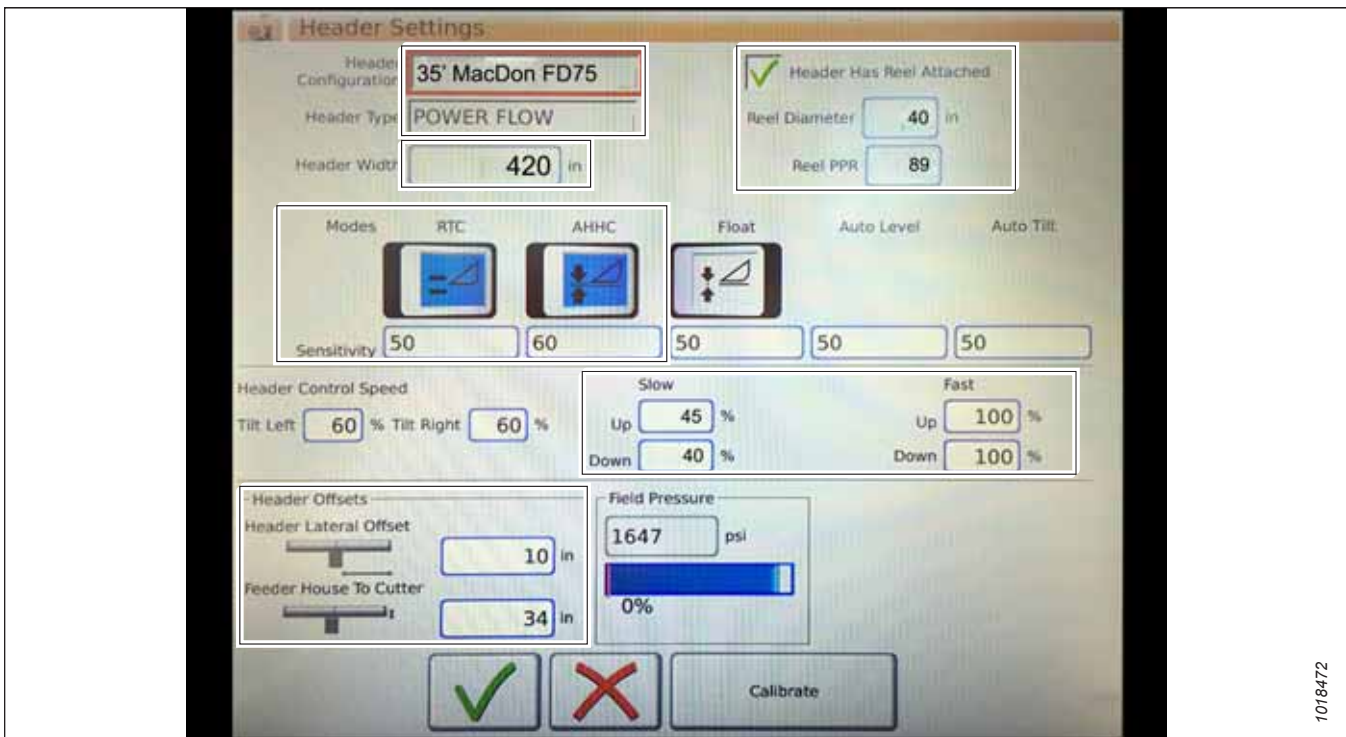


Figure 4.101: Header Settings Inputs for MacDon Headers

4.9.3 Calibrating Header – Gleaner® S9 Series

The auto header height control (AHHC) sensor output must be calibrated for Gleaner® S9 series combines, or the AHHC feature will not work properly.

CAUTION

Ensure that there are no bystanders in the area.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for updated information.

AUTO HEADER HEIGHT CONTROL

1. On the COMBINE MAIN MENU, touch HEADER SETTINGS (A).



Figure 4.102: Combine Main Menu

2. Touch CALIBRATE (A) at the bottom right of the page. The HEADER CALIBRATION page appears.

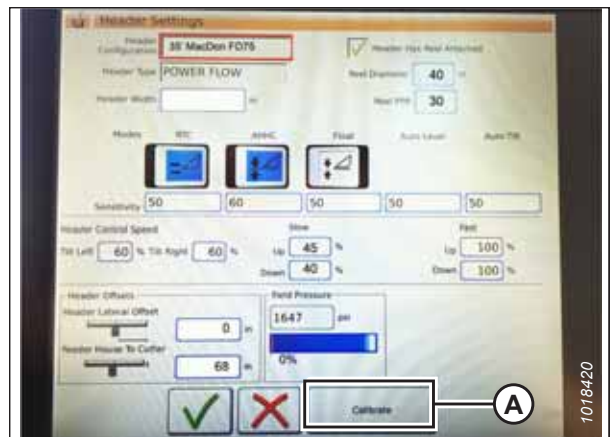


Figure 4.103: Calibration

The right of the page shows calibration information (A). Results are shown for sensors (B) at the top of the list:

- Left and right header sensor outputs (V)
- Header height sensor (mA)
- Tilt position sensor (mA)

The modes applicable to MacDon headers are shown with check marks below line (C):

- Return to cut
- Automatic header height control



CAUTION

Ensure that there are no bystanders in the area.



Figure 4.104: Header Calibration Page

AUTO HEADER HEIGHT CONTROL

- On the ground speed lever (GSL), press HEADER DOWN button (A). The sensor values on the HEADER CALIBRATION page will change as the header falls.

NOTE:

The header needs to be fully lowered and then fully raised. The sensor voltage range should be between 0.7 and 4.3 V. If the values do not fall within that range, the height sensors will need to be adjusted. For instructions, refer to [4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side, page 110](#) or [4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side, page 110](#).



Figure 4.105: Header Down Switch

- Touch CALIBRATE icon (A).



Figure 4.106: Header Calibration

- The hazard message for the HEADER CALIBRATION procedure will appear. Do **NOT** touch the green check mark until all of the conditions listed on the page have been met.
- Touch the green check mark to start the CALIBRATION WIZARD.



Figure 4.107: Header Calibration Warning

AUTO HEADER HEIGHT CONTROL

A progress bar will appear. The calibration wizard can be stopped at any time by touching the red X. The header moves automatically during this process.

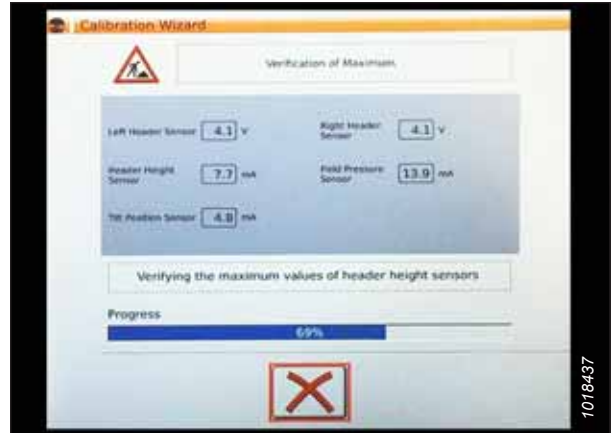


Figure 4.108: Calibration In Progress

7. When the calibration procedure is complete, a message summary information (A) page will appear. A green check mark on row (B) confirms that a particular function has been calibrated. Touch bottom green check mark (C) to save these settings.



Figure 4.109: Completed Calibration Page

NOTE:

On the COMBINE MAIN MENU page, touching CALIBRATION icon (A) opens a general CALIBRATION menu where settings such as header and reel calibration can be selected.



Figure 4.110: Direct Calibration Menu

4.9.4 Operating Header – Gleaner® S9 Series

Once the auto header height control (AHHC) system has been configured on your Gleaner® S9 series combine, the AHHC system can be controlled from the combine cab.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for updated information.

These are the controls used to engage and adjust the auto header height control (AHHC) system.



Figure 4.111: Gleaner® S9

A - Tyton Terminal B - Hydro Handle/Ground Speed Lever (GSL)
C - Throttle Lever D - Header Control Cluster

1. Engage the header.
2. Set the lateral tilt to MANUAL by moving switch (A) upward to the MAN position.
3. Engage the AHHC by moving switch (B) upward to the I position.



Figure 4.112: Header Control Cluster

AUTO HEADER HEIGHT CONTROL

4. Press AHHC control switch (A) on the ground speed lever (GSL) to engage the AHHC. The header will move to the last-saved setpoint.



Figure 4.113: AHHC on GSL

5. Use HEADER HEIGHT SETPOINT control dial (A) as needed to fine-tune the setpoint position.



Figure 4.114: Header Control Cluster

4.9.5 Header In-Field Settings – Gleaner® S9 Series

Once the auto header height control (AHHC) system is working correctly with your Gleaner® S9 series combine, you can fine-tune these AHHC settings to your liking.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for updated information.

AUTO HEADER HEIGHT CONTROL

1. To view the header group settings, touch HEADER icon (A).
2. The display area shows:
 - Left header height indicator (B), which shows the current position of the header.
 - Red line (C) on current header height position indicator (B), which shows the setpoint cut-off position.
 - Header symbol (D). Touch and then use the scroll wheel on the right of the Tyton terminal to adjust the setpoint cut-off position. As the scroll wheel is moved, the cut-off position will move.
 - Right indicator (E), which shows the set cutting height when AHHC is enabled. You can fine-tune the cutting height by using the header height setpoint control dial on the header control cluster. As this control is adjusted, the cut height indicator will change position.
 - Header working width (F).
 - Header pitch (G).
3. Touching a field on the display opens the on-screen keyboard so that the values can be adjusted. Enter a new value and touch the green check mark when you are finished.

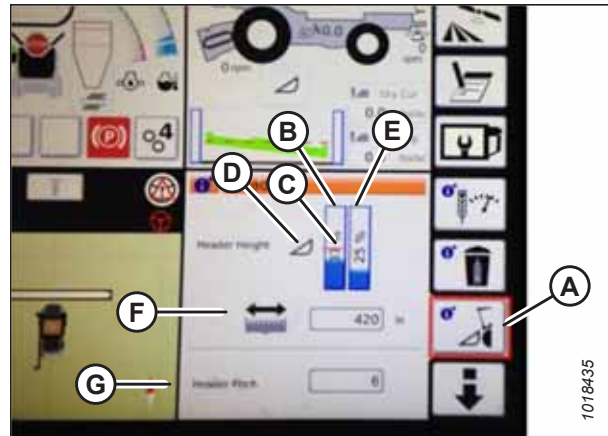


Figure 4.115: Header Groups

NOTE:

Scroll wheel (A) is on the right of the Tyton terminal.



Figure 4.116: Scroll Wheel for Adjustments

AUTO HEADER HEIGHT CONTROL

NOTE:

Header height setpoint control dial (A) is on the header control cluster.



Figure 4.117: Header Control Cluster

4.10 IDEAL™ Series Combines

To make your header's auto header height control (AHHC) system compatible with IDEAL™ Series combines, you must set your combine's header configuration options for the particular model of header, configure the reel speed settings, set up the AHHC controls, and calibrate the AHHC system to ensure that it is working correctly.

4.10.1 Setting up Header – IDEAL™ Series

Set these initial configuration options on your IDEAL™ Series combine when setting up the auto header height control (AHHC) system.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

Tyton terminal (A) is used to set up and manage a MacDon pick-up header on an IDEAL™ Series combine. Use the touch screen display to select the desired item on the page.



Figure 4.118: IDEAL™ Series Operator Station

A - Tyton Terminal B - Control Handle
C - Throttle D - Header Control Cluster

1. On the top right of the home page, touch COMBINE icon (A). The COMBINE MAIN MENU opens.

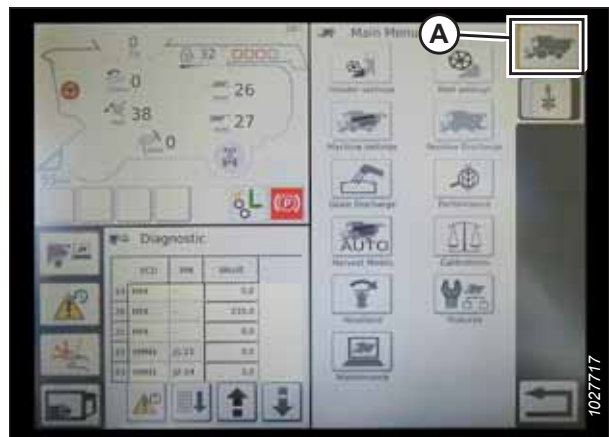


Figure 4.119: Combine Icon on Home Page

AUTO HEADER HEIGHT CONTROL

2. On the COMBINE MAIN MENU, touch HEADER SETTINGS (A). The HEADER SETTINGS page opens.

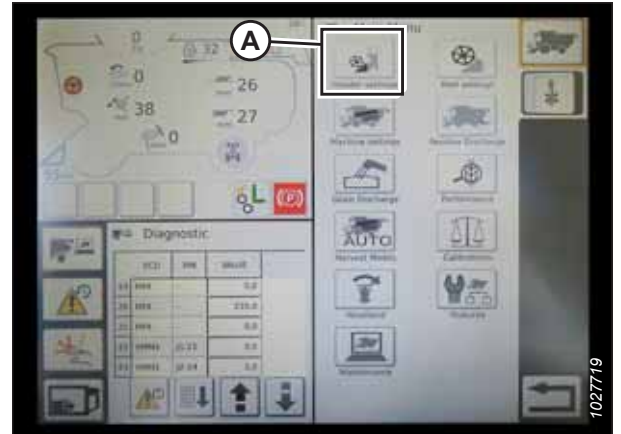


Figure 4.120: Header Settings in Combine Main Menu

AUTO HEADER HEIGHT CONTROL

3. Touch **HEADER CONFIGURATION** field (A). A dialog box showing a list of predefined header configuration profiles opens.
 - If your MacDon header is already set up, it appears on the header list. Touch MacDon header title (B) to highlight the selection in blue, and then touch green check mark (E) to continue.
 - If only default header (D) is shown, touch ABC button (C) and use the on-screen keyboard to enter the MacDon header information. When complete, select one of the following options to return to the **HEADER SETTINGS** page:
 - Green check mark (E) saves the settings
 - Garbage can icon (F) deletes the highlighted header from the list
 - Red X (G) cancels the change(s)

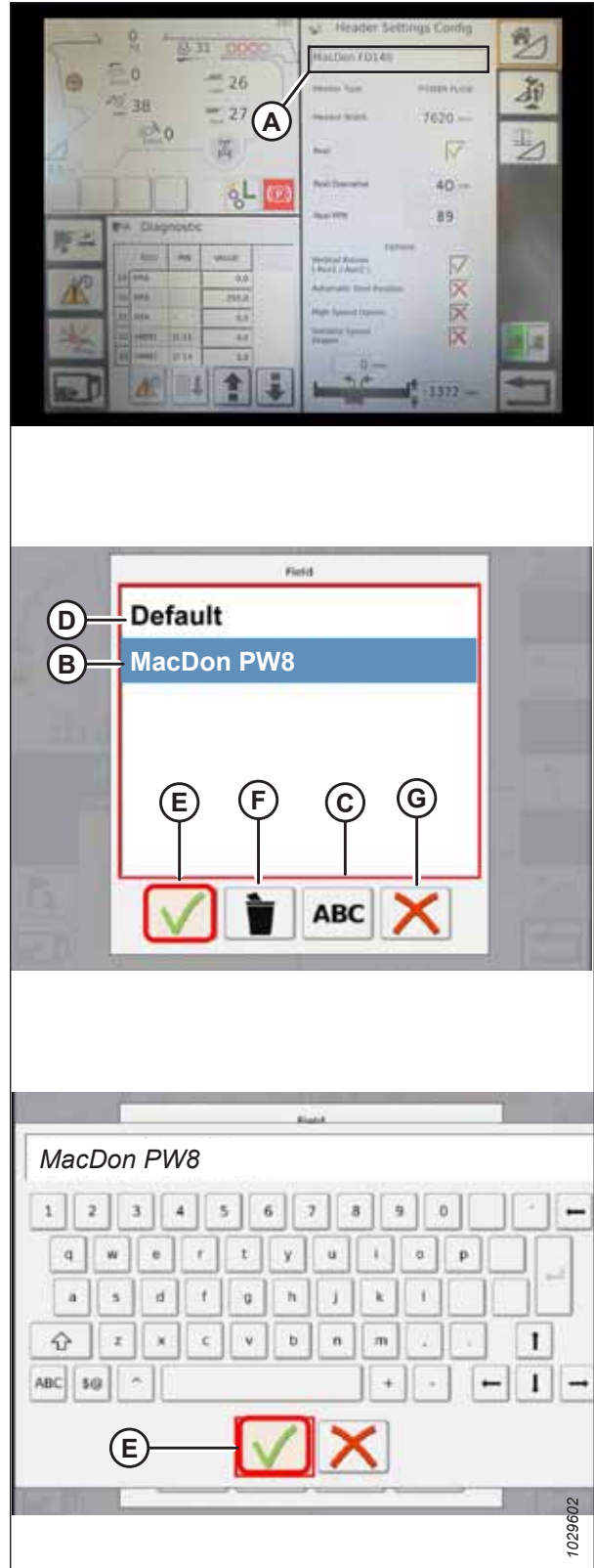


Figure 4.121: Header Configuration Menu on Header Settings Page

AUTO HEADER HEIGHT CONTROL

- To specify the type of header installed on the machine, touch HEADER TYPE field (A).

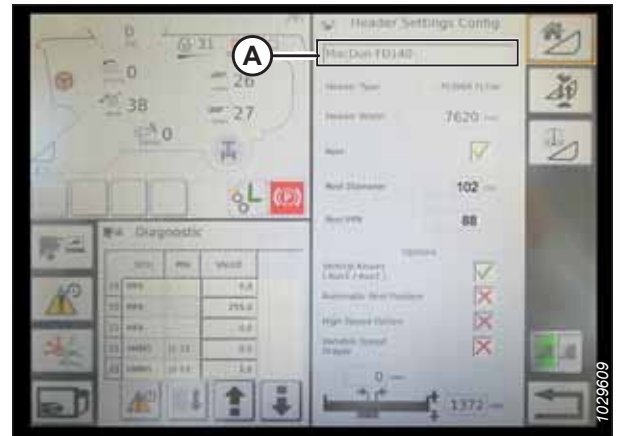


Figure 4.122: Header Settings

- From the list of predefined header types, touch PICK UP (A).
- Touch green check mark (B) to save the selection and continue.

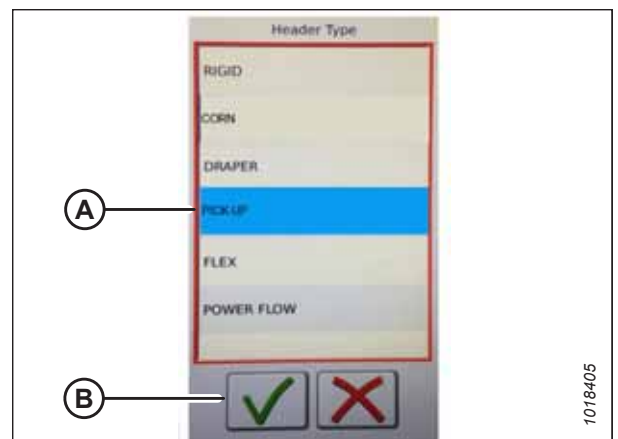


Figure 4.123: Header Type

- Make sure that REEL check box (A) is checked.

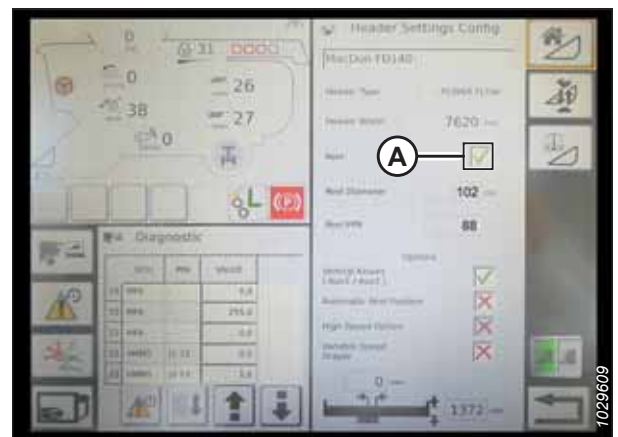


Figure 4.124: Header Settings

AUTO HEADER HEIGHT CONTROL

8. Touch REEL DIAMETER field (A) and a numeric keypad appears. Enter the following value for a MacDon reel:
 - 11 cm (4.3 in.)
9. Touch REEL PPR (Pulses Per Revolution) field (B) and enter the following as the value for your MacDon header:
 - 18

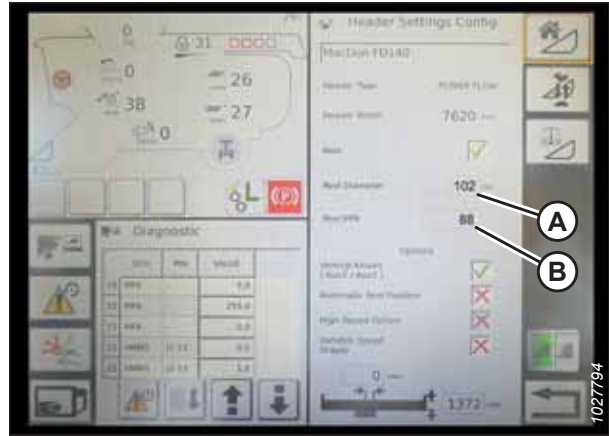


Figure 4.125: Header Settings

10. Touch green check mark (B) at the bottom of numeric keypad (A) when complete, or the red X to cancel.

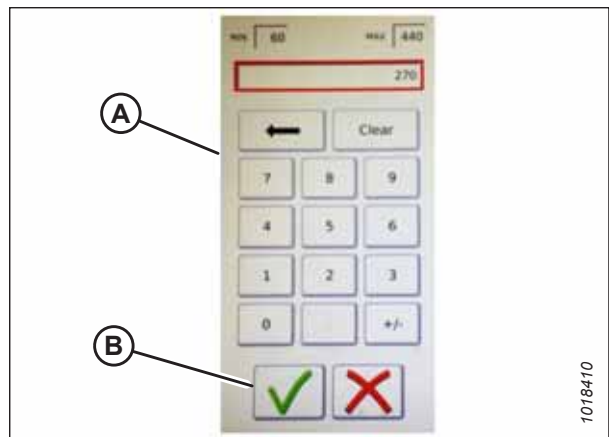


Figure 4.126: Numeric Keypad

11. When complete, touch green check mark (A) at the bottom of the HEADER SETTINGS page.

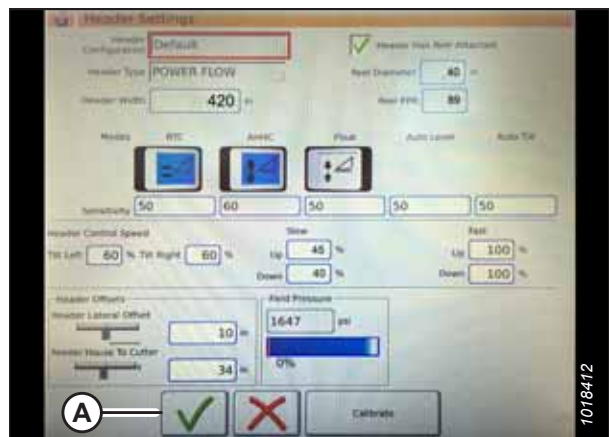


Figure 4.127: Header Settings Page

4.10.2 Setting up Automatic Header Controls – IDEAL™ Series

To configure the automatic header height control (AHHC) functions on an IDEAL™ Series combine to work with your header, navigate to the HEADER SETTINGS page on the combine's computer.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

1. **Automatic Control Functions:** There are toggle (OFF/ON) switches on the HEADER SETTINGS page for the automatic control functions. For MacDon headers, ensure that the following two functions are enabled as shown:

- RTC (return to cut) (A)
- AHHC (automatic header height control) (B)

All other switches should be disabled (not highlighted).

2. **Sensitivity** setting (C) controls how responsive a control (RTC or AHHC) is to a given change in sensor feedback. The setting fields are located directly below the toggle switches. To enter a new sensitivity setting, touch the setting field below the specific toggle switch, and enter the new value in the on-screen keyboard.

- Increase the sensitivity if the combine does not change the feeder position quickly enough when in Auto Mode.
- Decrease the sensitivity if the combine continually hunts for a position in Auto Mode.

NOTE:

The following sensitivity settings are recommended for MacDon headers:

- 50 for RTC (A)
- 60 for AHHC (B)

3. **Header Speed:** HEADER CONTROL SPEED area (A) on the HEADER SETTINGS page is used to adjust the following speeds:

- Tilt left and right is the lateral tilt of the combine faceplate
- Header up and down (slow and fast speeds) is a two-stage button with slow speed on the first detent and fast on the second

NOTE:

The recommended header control speed settings are:

- Slow: Up 45/Down 40
- Fast: Up 100/Down 100

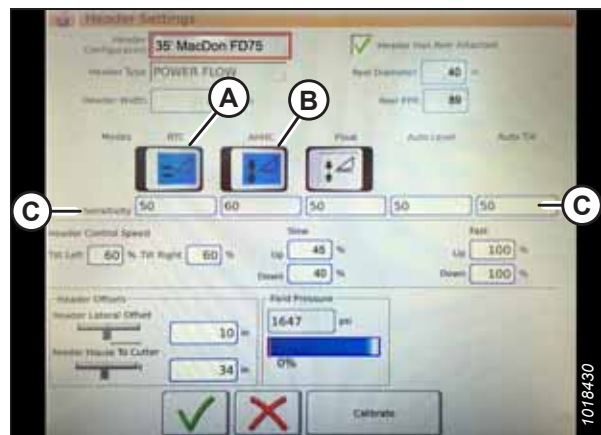


Figure 4.128: Automatic Controls and Sensitivity Settings

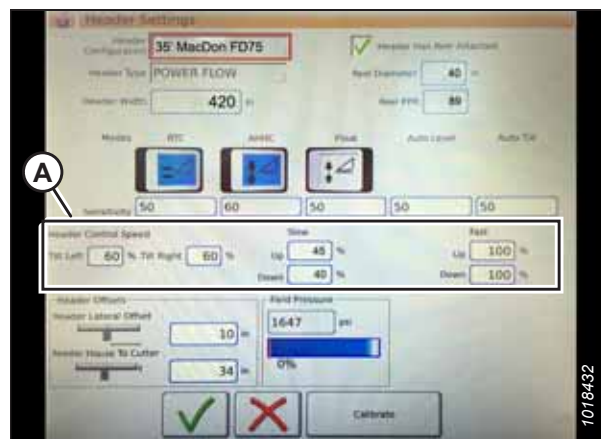


Figure 4.129: Header Speed Control Settings

AUTO HEADER HEIGHT CONTROL

4. **Header Offsets (A):** Offset distances are important for yield mapping. There are two adjustable dimensions on the HEADER SETTINGS page:

- Header Lateral Offset: the distance between the centerline of the header and the centerline of the machine. This should be set at **0** for a MacDon header.
- Feeder House to Cutter: the distance from the machine interface to the cutterbar. This should be set at **68** for a MacDon header.

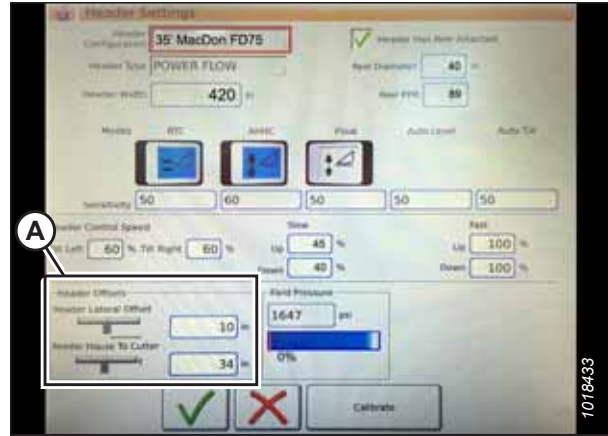


Figure 4.130: Header Offset Settings

4.10.3 Calibrating Header – IDEAL™ Series

The auto header height control (AHHC) sensor output must be calibrated for IDEAL™ Series combines, or the AHHC feature will not work properly.

DANGER

Clear the area of bystanders. Keep children away from the machinery. Walk around the machine to be sure that no one is under, on, or close to it.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

1. On the COMBINE MAIN MENU, touch HEADER SETTINGS (A).

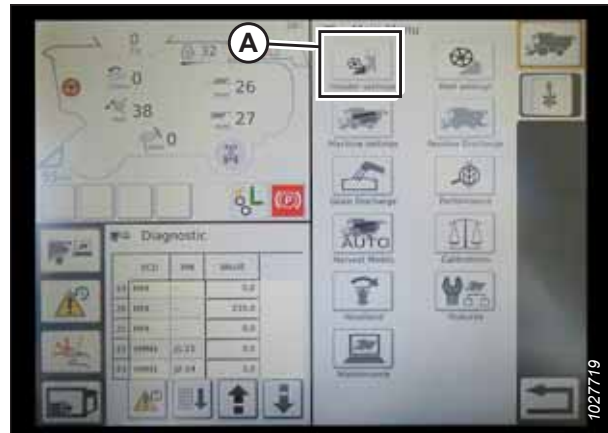


Figure 4.131: Combine Main Menu

AUTO HEADER HEIGHT CONTROL

2. Touch HEADER CALIBRATE (A) at the right side of the HEADER SETTINGS CONFIG page.

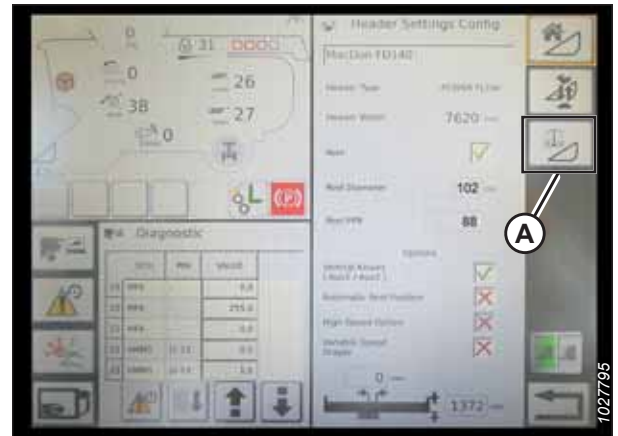


Figure 4.132: Header Settings Page

3. The hazard warning for HEADER CALIBRATION appears. Ensure that all conditions are met.
4. Touch the green check mark at the bottom of the page to start the calibration procedure and follow the on-screen commands.



Figure 4.133: Header Calibration Warning

A progress bar is provided and the calibration can be stopped by touching the red X. The header moves automatically and erratically during this process.

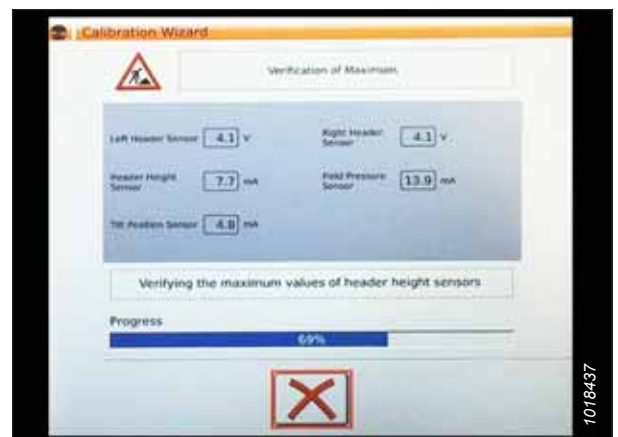


Figure 4.134: Calibration in Progress

AUTO HEADER HEIGHT CONTROL

5. When the calibration procedure is complete:
- Review summary information (A)
 - Review green check marks confirming calibrated functions (B)
 - Touch check mark (C) to save



Figure 4.135: Completed Calibration Page

NOTE:

Touch CALIBRATIONS icon (A) on the MAIN MENU page to display the CALIBRATION MENU where you can choose from a variety of calibrations including header and reel calibration.

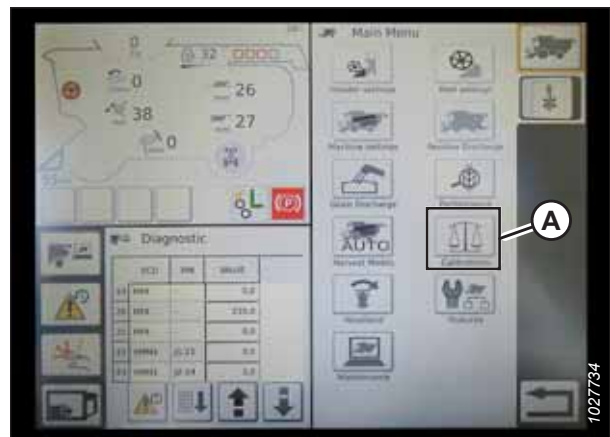


Figure 4.136: Direct Calibration Menu

4.10.4 Operating Header – IDEAL™ Series

Once the auto header height control (AHHC) system has been configured on your IDEAL™ Series combine, the AHHC system can be controlled from the combine cab.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

AUTO HEADER HEIGHT CONTROL

The following are used to operate the auto header height control (AHHC) functions:

- Tyton terminal (A)
- Control handle (B)
- Throttle (C)
- Header control cluster (D)

Refer to the combine operator's manual to familiarize yourself with the combine's controls.



Figure 4.137: Operator Station

1. With the header running, set the lateral tilt to MANUAL by pressing switch (A). The light above the switch should be off.
2. Engage the AHHC by pressing switch (B). The light above the switch should be on.



Figure 4.138: Header Control Cluster

3. Press AHHC control switch (A) on the control handle to engage the AHHC. The header moves to the configured set point position.



Figure 4.139: AHHC on Control Handle

AUTO HEADER HEIGHT CONTROL

4. Use HEADER HEIGHT SETPOINT control dial (A) as necessary to fine-tune the header position.



Figure 4.140: Header Control Cluster

4.10.5 Reviewing Header In-Field Settings – IDEAL™ Series

Once the auto header height control (AHHC) system is working correctly with your IDEAL™ Series combine, you can fine-tune these AHHC settings to your liking.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

1. Touch HEADER icon (A) on the right side of the home page to view the following header group settings:
 - CURRENT POSITION of header (B).
 - SETPOINT cut-off position (C) (indicated by the red line)
 - HEADER symbol (D) – touch this to adjust the set point cut-off position using the adjustment wheel on the right side of the Tyton terminal.
 - CUT HEIGHT for AHHC (E) – fine-tune this setting with the header height set point control dial on the header control cluster.
 - HEADER WORKING WIDTH (F)
 - HEADER PITCH (G)

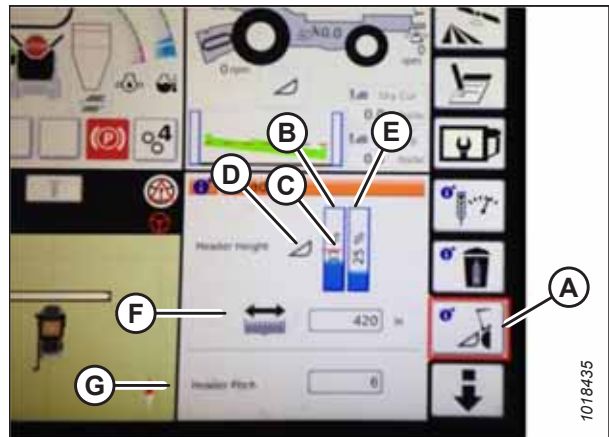


Figure 4.141: Header Groups

AUTO HEADER HEIGHT CONTROL

2. Touching a field opens the on-screen keyboard so that the values can be adjusted. Enter the new value and touch the green check mark.

NOTE:

Adjustment wheel (A) is located on the right of the Tyton terminal.



Figure 4.142: Adjustment Wheel on Right of Tyton Terminal

NOTE:

HEADER HEIGHT SETPOINT control dial (A) is on the header control cluster.



Figure 4.143: Header Control Cluster

4.11 John Deere 60 Series Combines

To make your header's auto header height control (AHHC) system compatible with John Deere 60 series combines, you must check the height sensor voltage range, adjust the header height response rate and drop settings, and calibrate the AHHC system to ensure that it is working correctly.

4.11.1 Checking Voltage Range from Combine Cab – John Deere 60 Series

To ensure that the auto header height control (AHHC) system on your header works correctly with your John Deere 60 series combine, the output voltage from the header height control sensors must be verified.

The auto header height sensor output must fall within a specific range, or this feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

⚠ DANGER

Check to be sure all bystanders have cleared the area.

1. Raise the header until its wheels are 150 mm (6 in.) above the ground.

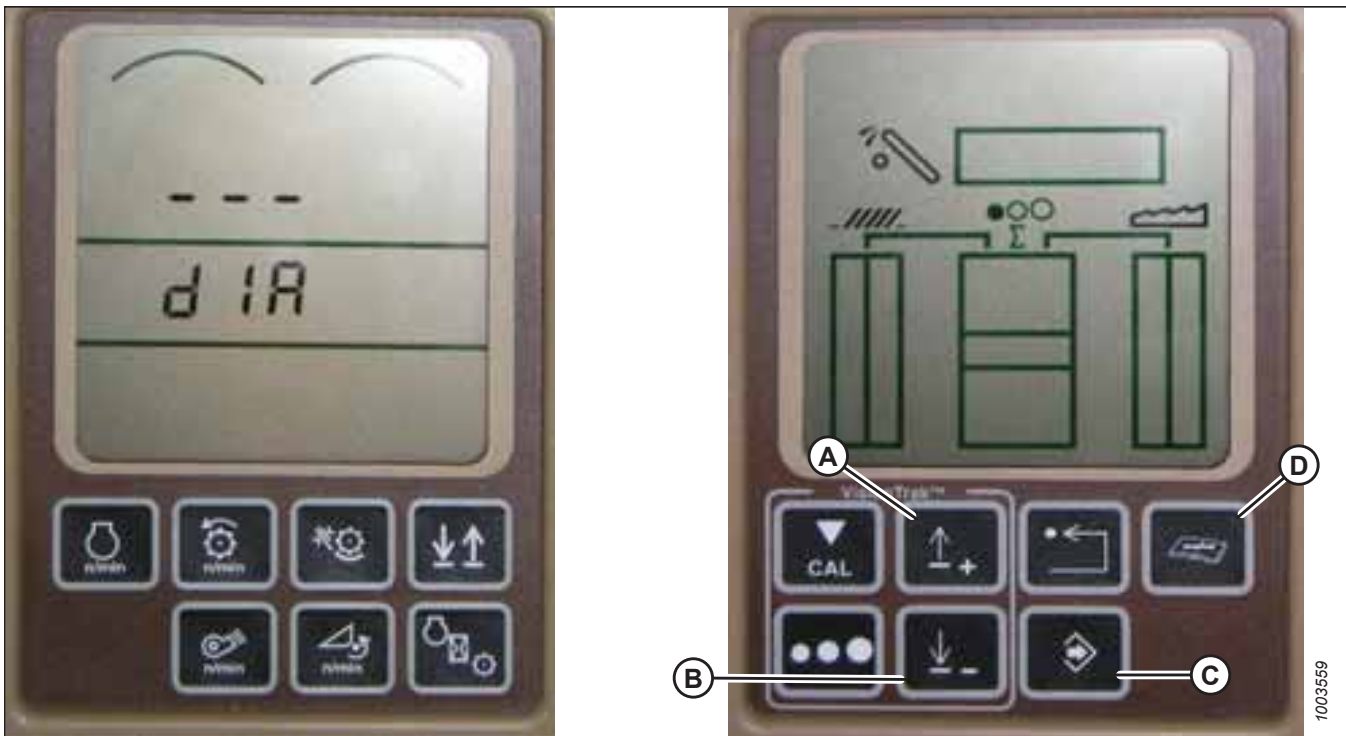


Figure 4.144: John Deere Combine Display

2. Press diagnostic button (D) (the button with open book with wrench on top of it) on the HHS monitor. d1A appears on the monitor.
3. Press up button (A) until EO1 appears on the monitor. This is the header adjustment setting.
4. Press ENTER button (C).
5. Press up (A) or down (B) until 22 is displayed on the top portion of monitor. This is the voltage reading from the height sensor.

AUTO HEADER HEIGHT CONTROL

6. Start the combine. Lower the feeder house to the ground. Keep doing this until the feeder house stops moving.

NOTE:

It may be necessary to hold the HEADER DOWN switch for a few seconds to ensure that the feeder house is fully lowered.

7. Check the sensor reading on the monitor.
8. Raise the header so that it is just off the ground and check the sensor reading again.
9. If the sensor voltage is not within the low and high limits shown in [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#), or if the range between low and high limits is insufficient, you will need to adjust the height sensors. For instructions, refer to [4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side, page 110](#) and [4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side, page 110](#).

4.11.2 Calibrating Auto Header Height Control – John Deere 60 Series

The auto header height control (AHHC) sensor output must be calibrated for John Deere 60 series combines, or the AHHC feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for updated information.

DANGER

Check to be sure all bystanders have cleared the area.

1. Start the combine.
2. Press DIAGNOSTIC button (A) on the monitor. DIA appears on the monitor.
3. Press CAL button (B). DIA-CAL appears on the monitor.



Figure 4.145: John Deere Combine Display

AUTO HEADER HEIGHT CONTROL

4. Press the UP or DOWN buttons until HDR appears on the monitor.
5. Press the ENTER button. HDR H-DN appears on the monitor.
6. Fully lower the feeder house to the ground.

NOTE:

You may need to hold the HEADER DOWN switch for a few seconds to ensure that the feeder house is fully lowered.

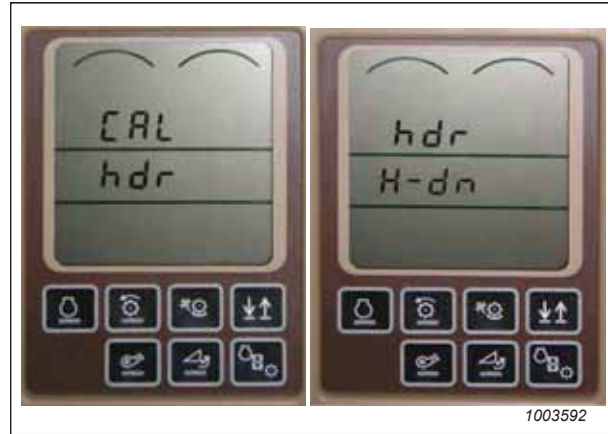


Figure 4.146: John Deere Combine Display

7. Press CAL button (A) to save the calibration of the header. HDR H-UP appears on the monitor.
8. Raise the header 1 m (3 ft.) off of the ground, and press CAL (A) button. EOC appears on the monitor.
9. Press ENTER button (B) to save the calibration of the header. The AHHC system is now calibrated.

NOTE:

If an error code appears during calibration, the height sensor output is out of the specified voltage range, and so the height sensors must be adjusted. For instructions, refer to [4.11.2 Calibrating Auto Header Height Control – John Deere 60 Series, page 173](#).

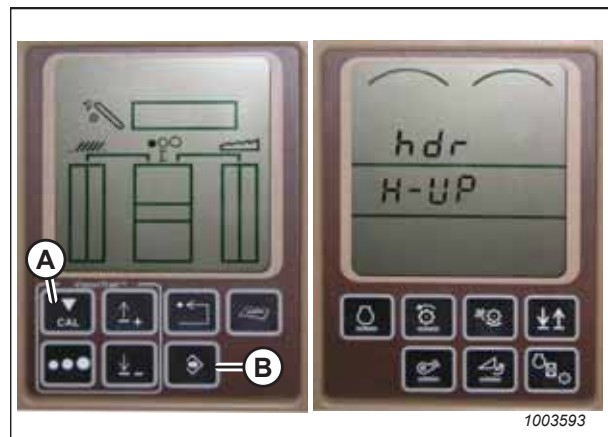


Figure 4.147: John Deere Combine Display

4.11.3 Turning Off Accumulator – John Deere 60 Series

Activating the accumulator on a John Deere 60 series combine will negatively affect the speed at which the AHHC system adjusts the height of the header. Turning the accumulator off will ensure good AHHC performance.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for updated information.

AUTO HEADER HEIGHT CONTROL

1. Press DIAGNOSTIC button (A) on monitor. DIA appears on the monitor.
2. Press UP button (B) until EO1 appears on the monitor, and press ENTER (D). This is the header adjustment setting.
3. Press UP (B) or DOWN (C) button until 132 is displayed on the top portion of the monitor. This is the reading from the accumulator.
4. Press ENTER (D) to select 132 as the accumulator reading. Doing this will allow you to change the display to a three-digit number so that it has a 0 in it: x0x).
5. Press UP (B) or DOWN (C) button until the desired value is displayed, and press CAL button (E)
6. Press ENTER (D) to save these settings. The accumulator is now deactivated.

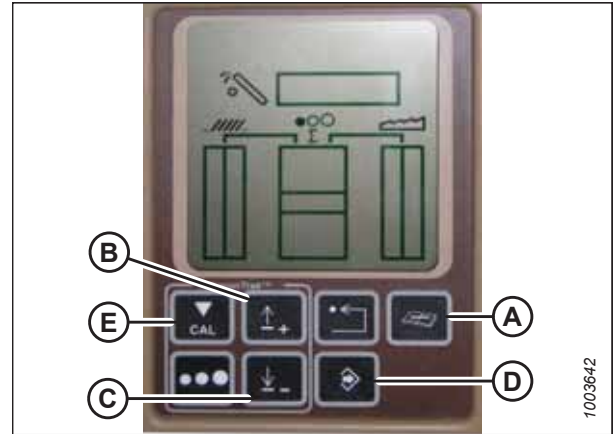


Figure 4.148: John Deere Combine Display

4.11.4 Setting Sensing Grain Header Height – John Deere 60 Series

Change the preset header height in the auto header height control (AHHC) system on your John Deere 60 series combine after calibration is complete. 50 is the recommended header height value.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

1. Press DIAGNOSTIC button (A) on the monitor. DIA appears on the monitor.
2. Press UP button (B) until EO1 appears on the monitor, and press ENTER (D). This is the header adjustment setting.
3. Press UP (B) or DOWN (C) button until 128 is displayed on top portion of monitor. This is the reading from the height sensor.
4. Press ENTER (D) to select 128 as the sensor reading. Doing this will allow you to change the display to a three-digit number so that it has a 50 in it.
5. Press UP (B) or DOWN (C) button until the desired value is displayed, and press CAL button (E).
6. Press ENTER (D) to save the changes. The header height is now set.

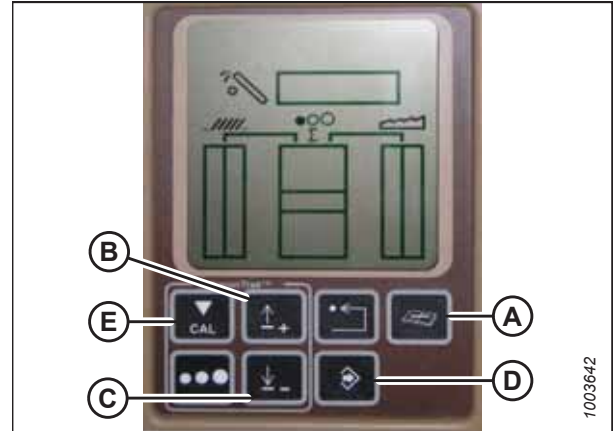


Figure 4.149: John Deere Combine Display

AUTO HEADER HEIGHT CONTROL

NOTE:

Do **NOT** use active header float function (A) in combination with the AHHC system; the two systems will counteract each other. Header symbol (B) on the display should **NOT** have a wavy line under it and should appear exactly as shown on the Active Header Control Display in Figure 4.150, page 176.

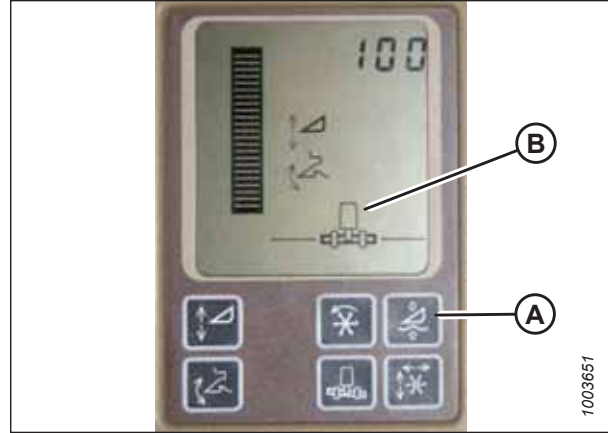


Figure 4.150: John Deere Combine Display

4.11.5 Setting Sensitivity of Auto Header Height Control – John Deere 60 Series

Setting the sensitivity (sometimes called “dead-band adjustment”) of the auto header height control (AHHC) system on a John Deere 60 series combine affects how quickly the AHHC system changes the height of the header.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.

1. Press DIAGNOSTIC button (A) on the monitor. DIA appears on the monitor.
2. Press UP button (B) until EO1 appears on the monitor, and press ENTER (D). This is the header adjustment setting.
3. Press UP (B) or DOWN (C) button until 112 is displayed on monitor. This is the combine’s sensitivity setting.

NOTE:

The lower the reading, the higher the sensitivity. The sensitivity should be set between 50 and 80.

4. Press ENTER (D) to select 112 as the sensitivity setting. Doing this will allow you to change first digit of the number string.
5. Press UP (B) or DOWN (C) until the desired value is displayed, then press CAL button (E). This will bring you to the second digit. Repeat this procedure until the desired setting is achieved.
6. Press ENTER (D) to save these settings.

NOTE:

The numbers depicted on the displays in these illustrations are for reference purposes only; they are not intended to represent specific settings for your equipment.

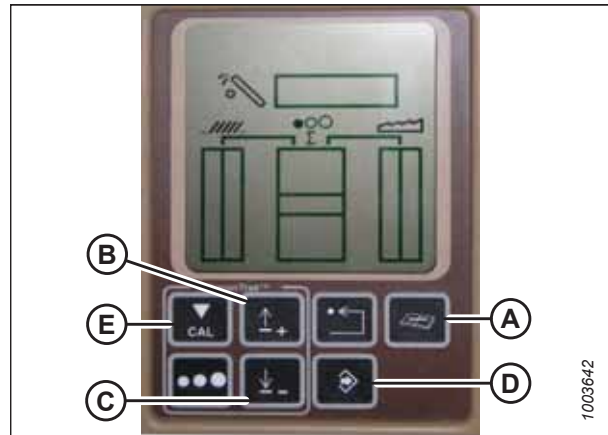


Figure 4.151: John Deere Combine Display

4.11.6 Adjusting Threshold for Drop Rate Valve – John Deere 60 Series

The speed at which the header rises or falls on a John Deere 60 series combine can be adjusted from the combine cab.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.

1. Press DIAGNOSTIC button (A) on the monitor. DIA appears on the monitor.
2. Press UP button (B) until EO1 appears on the monitor. Press ENTER (C). This is the header adjustment setting.
3. Press UP (B) or DOWN button (D) until 114 is displayed on the top portion of the monitor. This is the setting that adjusts when the fast drop rate starts with respect to the sensitivity setting.

NOTE:

The default setting is 100. This value should be set between 60 and 85.

4. Press ENTER (C) to select 114 for the fast drop rate. This will allow you to change the first digit of the entry.
5. Press UP (A) or DOWN (B) until the desired value is displayed, then press CAL button (C). You can now edit the second digit. Repeat this procedure until the desired setting is achieved.
6. Press ENTER (D) to save these settings.

NOTE:

The numbers depicted on the displays in these illustrations are for reference purposes only; they are not intended to represent specific settings for your equipment.

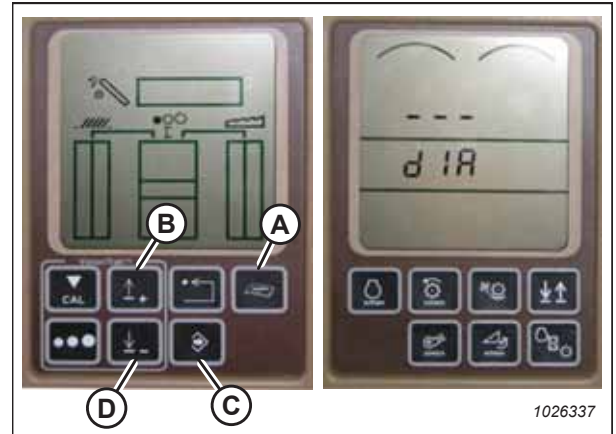


Figure 4.152: John Deere Combine Display

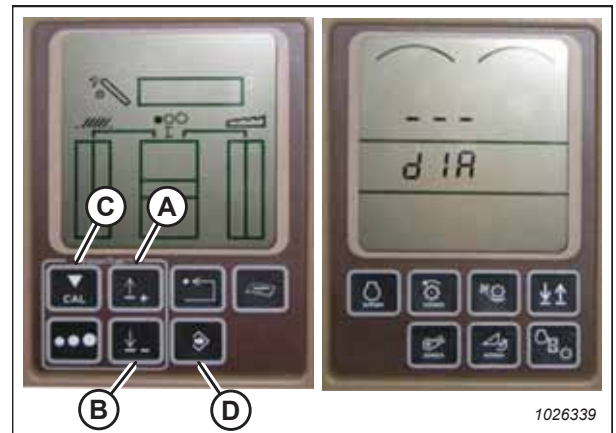


Figure 4.153: John Deere Combine Display

4.12 John Deere 70 Series Combines

To make your header's auto header height control (AHHC) system compatible with John Deere 70 series combines, you must check the height sensor voltage range, calibrate the feeder house speed, calibrate the AHHC system to ensure that it is working correctly, and adjust the header sensitivity.

4.12.1 Checking Voltage Range from Combine Cab – John Deere 70 Series

To ensure that the auto header height control (AHHC) system on your header works correctly with your John Deere 70 series combine, the output voltage from the header height control sensors must be verified.

The auto header height sensor output must fall within a specific range, or the feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

⚠ DANGER

Check to be sure all bystanders have cleared the area.

1. Raise the header until its wheels are 150 mm (6 in.) above the ground.
2. Press HOME PAGE button (A) on the main page of the combine display.



Figure 4.154: John Deere Combine Display

3. Ensure that three icons (A) depicted in the illustration at right appear on the combine display.



Figure 4.155: John Deere Combine Display

AUTO HEADER HEIGHT CONTROL

4. Use scroll knob (A) to highlight the middle icon (the green i) and press check mark button (B) to select it. The Message Center will appear.

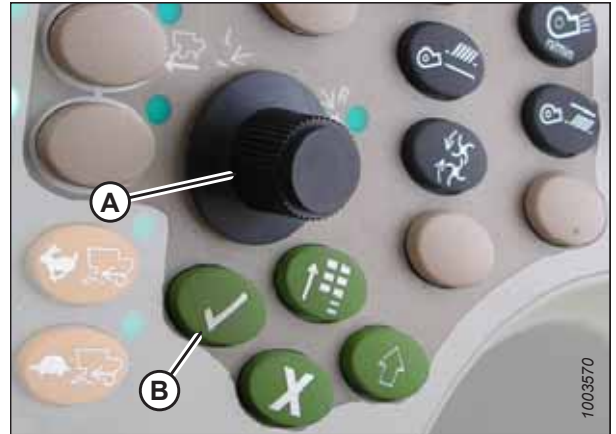


Figure 4.156: John Deere Combine Control Console

5. Use the scroll knob to highlight DIAGNOSTIC ADDRESSES (A) from the right column. Select it by pressing the check mark button.
6. Use the scroll knob to highlight drop down box (B). Press the check mark button to select it.

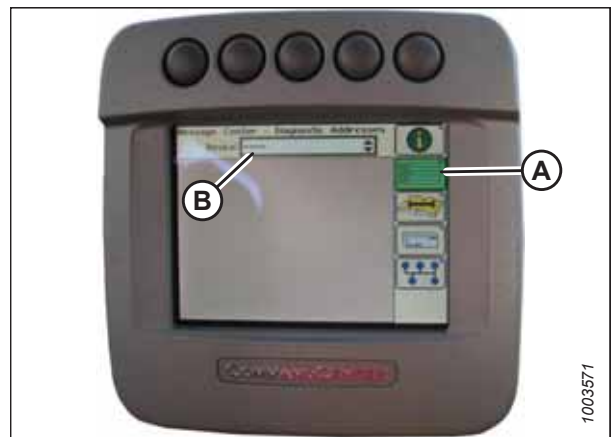


Figure 4.157: John Deere Combine Display

7. Use the scroll knob to highlight LC 1.001 VEHICLE (A). Press the check mark button to select it.



Figure 4.158: John Deere Combine Display

AUTO HEADER HEIGHT CONTROL

- Use scroll knob to highlight down arrow (A) and press the check mark button to scroll through the list until 029 DATA (B) is displayed and voltage reading (C) appears on the combine display.
- Start the combine and fully lower the feeder house to the ground.

NOTE:

You may need to hold the HEADER DOWN switch for a few seconds to ensure that the feeder house is fully lowered.

- Check the sensor reading on the monitor.
- Raise the header so that it is just off ground and recheck the sensor reading.

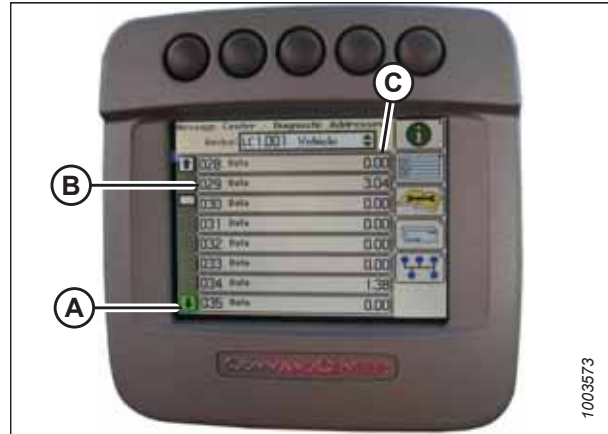


Figure 4.159: John Deere Combine Display

- If the sensor voltage is not within the low and high limits shown in [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#), or if the range between the low and high limits is insufficient, the height sensors will need to be adjusted. For instructions, refer to [4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side, page 110](#) and [4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side, page 110](#).

4.12.2 Calibrating Feeder House Speed – John Deere 70 Series

The feeder house speed must be calibrated on your John Deere 70 series combine before the auto header height control (AHHC) system can be calibrated.

Refer to the combine operator's manual for instructions on how to calibrate the feeder house speed.

4.12.3 Calibrating Auto Header Height Control – John Deere 70 Series

The auto header height control (AHHC) sensor output must be calibrated for John Deere 70 series combines, or the AHHC feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

⚠ DANGER

Check to be sure all bystanders have cleared the area.

- Start the combine.

AUTO HEADER HEIGHT CONTROL

2. Press the button located fourth from the left along the top of monitor (A) to select the icon (B) resembling an open book with a wrench on it.
3. Press button (A) a second time to enter the diagnostics and calibration mode.

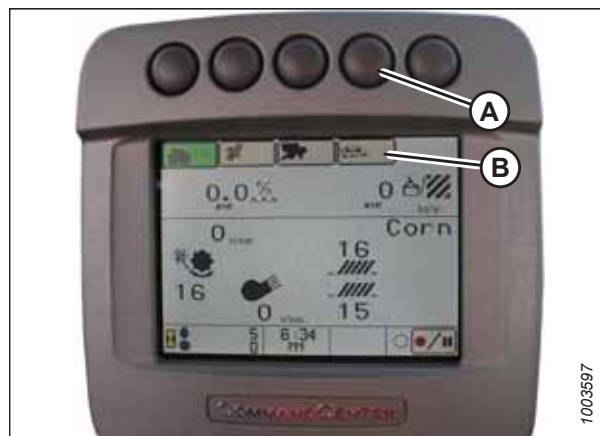


Figure 4.160: John Deere Combine Display

4. Use the scroll knob to scroll down to box (A) and select HEADER. Press the check mark button.

NOTE:

The knob and the button are shown in Figure 4.162, page 181.

5. Scroll down to lower right icon (B). Press the check mark button to select it.
6. Follow the steps listed on the combine display to perform the calibration procedure.

NOTE:

If an error code appears on the display, then the height sensors' output voltage is not in the correct working range. Refer to [4.12.1 Checking Voltage Range from Combine Cab – John Deere 70 Series, page 178](#) to check and adjust the range.

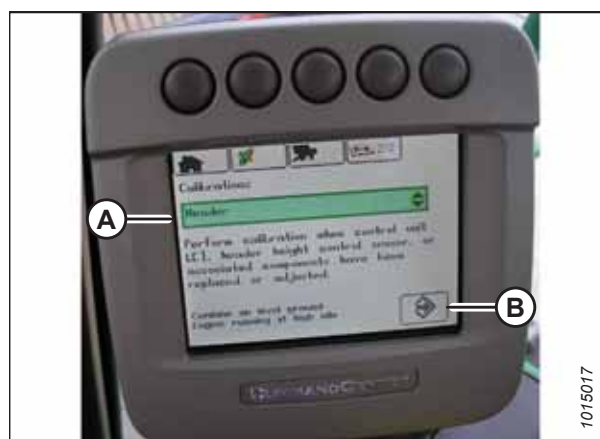


Figure 4.161: John Deere Combine Display

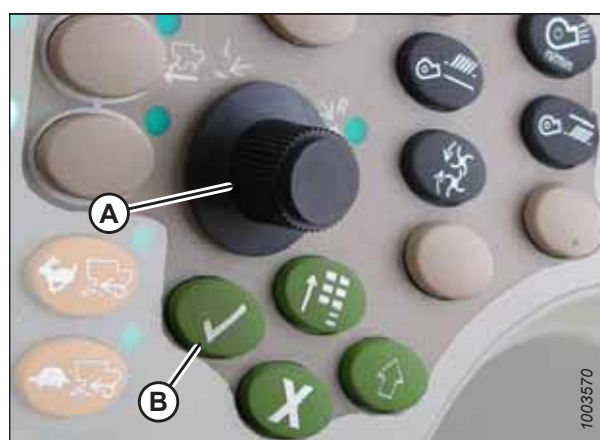


Figure 4.162: John Deere Combine Control Console

A - Scroll Knob

B - Check Mark Button

4.12.4 Setting Sensitivity of Auto Header Height Control – John Deere 70 Series

Setting the sensitivity (sometimes called “dead-band adjustment”) of the auto header height control (AHHC) system on a John Deere 70 series combine affects how quickly the AHHC system changes the height of the header.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.

1. Press button (A) twice. The current sensitivity setting will appear on the combine display.

NOTE:

The lower the sensitivity value displayed, the lower the sensitivity setting is. Higher sensitivity settings will change how quickly the AHHC system changes the height of the header.

2. Use scroll knob (B) to adjust the sensitivity setting. The adjustment will be saved automatically.

NOTE:

If the page remains idle for a short period of time, it will automatically return to the previous page. Pressing check mark button (C) will also display the previous page.

NOTE:

The numbers depicted on the displays in these illustrations are for reference purposes only; they are not intended to represent specific settings for your equipment.

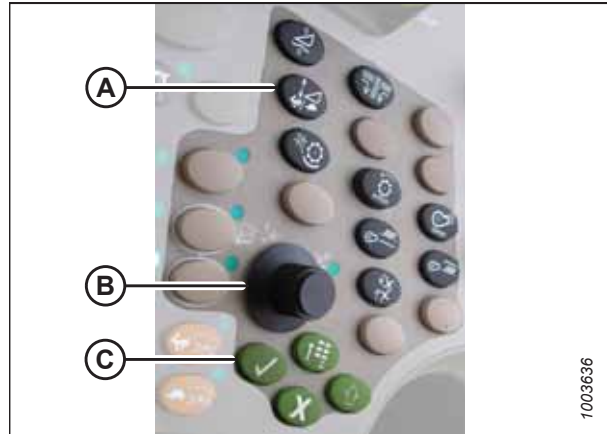


Figure 4.163: John Deere Combine Control Console



Figure 4.164: John Deere Combine Display

4.12.5 Adjusting Manual Header Raise/Lower Rate – John Deere 70 Series

The speed at which the header rises or falls on a John Deere 70 series combine can be adjusted from the combine cab.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.

AUTO HEADER HEIGHT CONTROL

1. Press button (A). The current raise/lower rate setting will appear on the monitor.

NOTE:

Lower readings indicate a lower rate of header rise and fall; higher readings indicate a higher rate.

2. Use scroll knob (B) to adjust the rate. The adjustment will be saved automatically.

NOTE:

If the page remains idle for a short period of time, you will be returned to the previous page. Pressing check mark button (C) will also return the monitor to the previous page.

NOTE:

The numbers depicted on the displays in these illustrations are for reference purposes only; they are not intended to represent specific settings for your equipment.

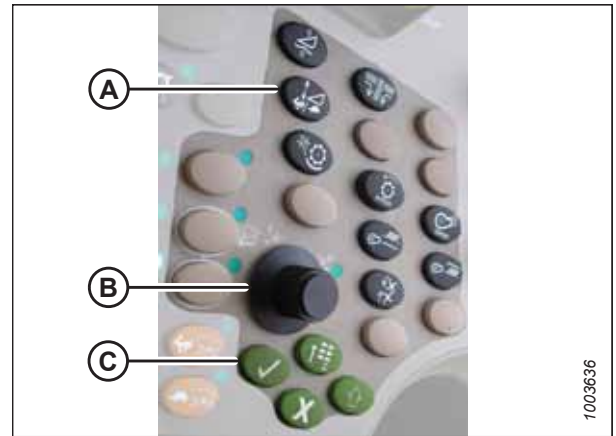


Figure 4.165: John Deere Combine Control Console



Figure 4.166: John Deere Combine Display

4.13 John Deere S and T Series Combines

To make your header's auto header height control (AHHC) system compatible with John Deere S and T series combines, you must check the height sensor voltage range, calibrate the feeder house speed, calibrate the AHHC system to ensure that it is working correctly, and adjust the sensitivity and cutting height presets.

4.13.1 Checking Voltage Range from Combine Cab – John Deere S and T Series

To ensure that the auto header height control (AHHC) system on your header works correctly with your John Deere S or T series combine, the output voltage from the header height control sensors must be verified.

The auto header height sensor output must be within a specific range, or feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

⚠ DANGER

Check to be sure all bystanders have cleared the area.

1. Raise the header until its wheels are 150 mm (6 in.) above the ground.
2. Press CALIBRATION icon (A) on the main page of the combine display. The CALIBRATION page appears.



Figure 4.167: John Deere Combine Display

3. Press DIAGNOSTIC READINGS icon (A) on the CALIBRATION page. The DIAGNOSTIC READINGS page appears. This page provides access to calibration procedures, header options, and diagnostic information.

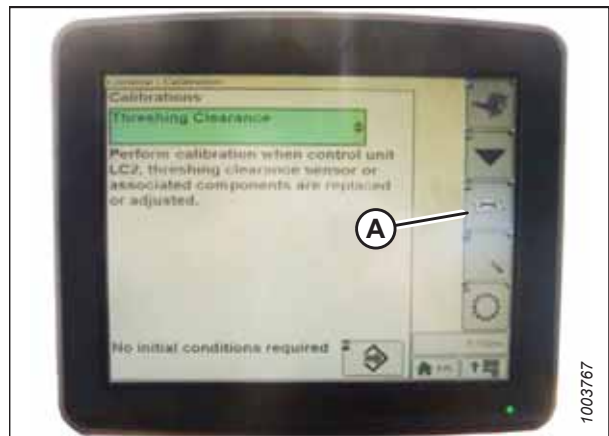


Figure 4.168: John Deere Combine Display

AUTO HEADER HEIGHT CONTROL

4. Select AHHC RESUME (A). A list of calibration options appears.



Figure 4.169: John Deere Combine Display

5. Select the AHHC SENSING option.
6. Press icon (A) resembling an arrow in a box. The AHHC SENSING menu appears and five pages of information are displayed.



Figure 4.170: John Deere Combine Display

7. Press icon (A) until it reads Page 5 near the top of the page. The following sensor readings appear:
 - LEFT HEADER HEIGHT
 - CENTER HEADER HEIGHT
 - RIGHT HEADER HEIGHT



Figure 4.171: John Deere Combine Display

8. Start the combine and fully lower the feeder house to the ground.

NOTE:

You may need to hold the HEADER DOWN switch for a few seconds to ensure that the feeder house is fully lowered.

9. Check the height sensor reading on the monitor.

AUTO HEADER HEIGHT CONTROL

10. If the sensor voltage is not within the low and high limits shown in [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#), or if the range between the low and high limits is insufficient, the height sensors will need to be adjusted. For instructions, refer to [4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side, page 110](#) and [4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side, page 110](#).

4.13.2 Calibrating Feeder House Fore-Aft Tilt Range – John Deere S and T Series

This procedure applies only to model year 2015 and later John Deere S and T Series combines.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

The feeder house fore-aft tilt feature is controlled by buttons C (C) and D (D) on the back of the hydro handle.



Figure 4.172: John Deere Hydro Handle

NOTE:

The feeder house fore-aft tilt controls can be configured to work with buttons E and F by pressing hydro handle icon (A) and then selecting FEEDER HOUSE FORE/AFT TILT from the drop-down menu (B) on the combine display.

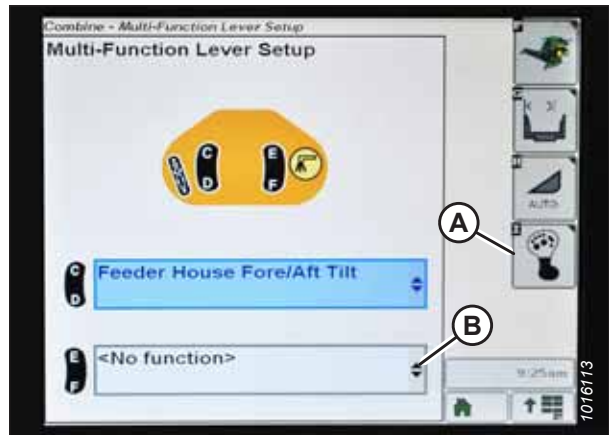


Figure 4.173: John Deere Combine Display

AUTO HEADER HEIGHT CONTROL

1. Press DIAGNOSTIC icon (A) on the main page of the combine display. The CALIBRATION page appears.



Figure 4.174: John Deere Combine Display

2. Select CALIBRATIONS drop-down menu (A) to view the list of calibration options.



Figure 4.175: John Deere Combine Display

3. Press arrow (A) to cycle up through the calibration options and select FEEDER HOUSE FORE/AFT TILT RANGE.

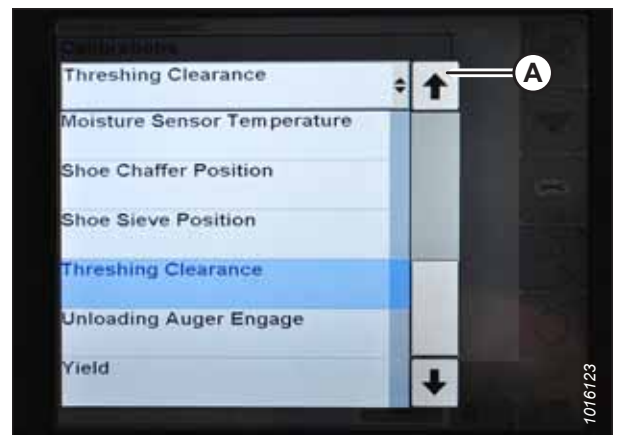


Figure 4.176: John Deere Combine Display

AUTO HEADER HEIGHT CONTROL

4. Press ENTER icon (A).

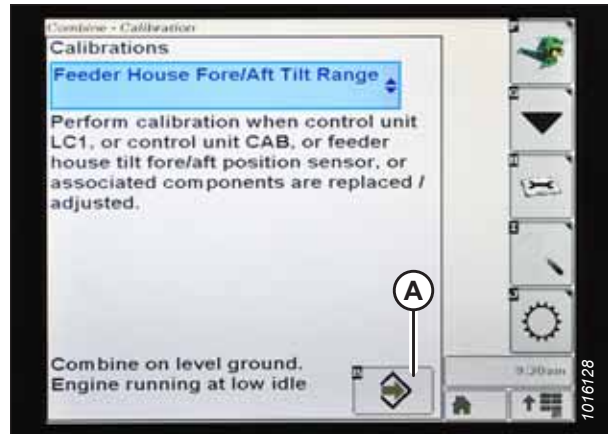


Figure 4.177: John Deere Combine Display

5. Follow the instructions that appear on the combine display.

NOTE:

If an error code appears during calibration, the output from the height sensors is out of the specified voltage range and will require adjustment. For instructions, refer to [4.13.1 Checking Voltage Range from Combine Cab – John Deere S and T Series, page 184](#).

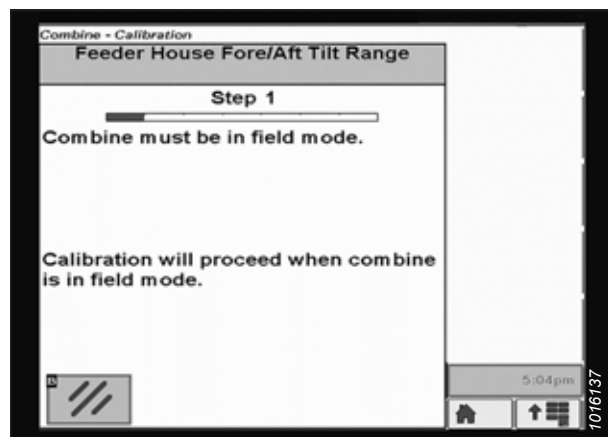


Figure 4.178: John Deere Combine Display

4.13.3 Calibrating Auto Header Height Control – John Deere S and T Series

The auto header height control (AHHC) sensor output must be calibrated for John Deere S and T series combines, or the AHHC feature will not work properly.

NOTE:

Changes may have been made to combine controls or display since this document was published. Refer to combine operator's manual for updates.

AUTO HEADER HEIGHT CONTROL

1. Press DIAGNOSTIC icon (A) on the main page of monitor. The CALIBRATION page appears.



Figure 4.179: John Deere Combine Display

2. Select THRESHING CLEARANCE (A). A list of calibration options appears.

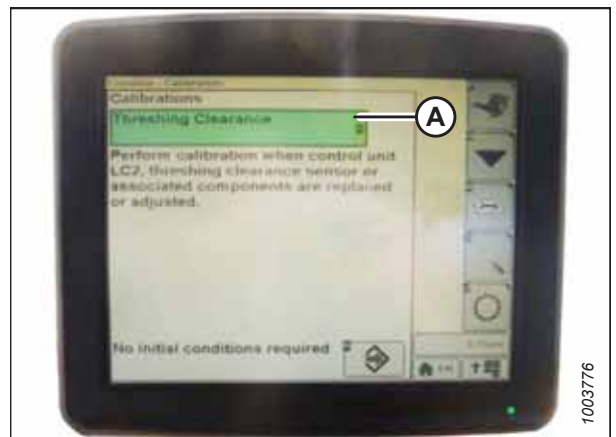


Figure 4.180: John Deere Combine Display

3. Select FEEDER HOUSE SPEED (A) and calibrate this setting.
4. Select HEADER (B) and calibrate this setting.

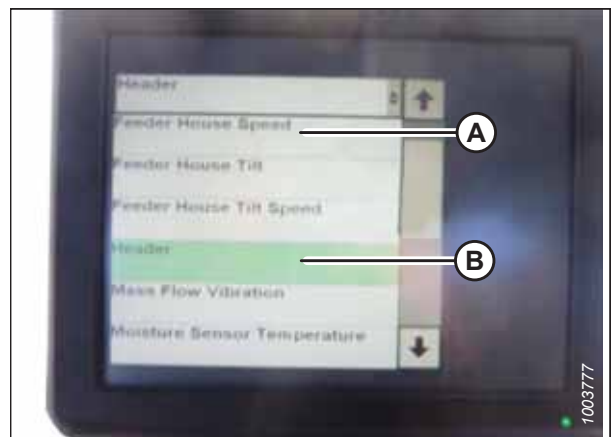


Figure 4.181: John Deere Combine Display

AUTO HEADER HEIGHT CONTROL

5. Press icon (A) with either FEEDER HOUSE SPEED or HEADER selected. The icon will turn green.

NOTE:

The feeder house speed calibration procedure must be done before the header calibration procedure.

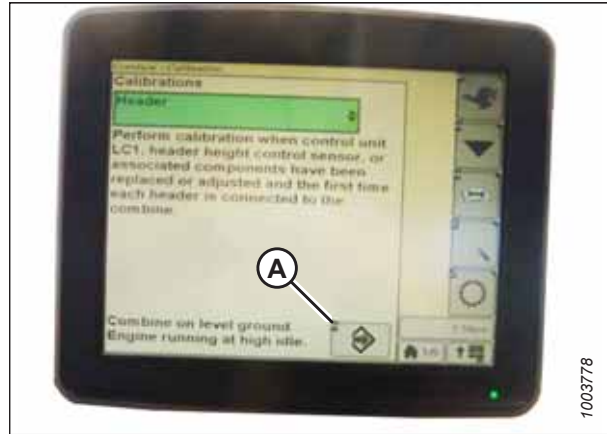


Figure 4.182: John Deere Combine Display

6. Click button (A) and instructions will appear on the screen to guide you through the remaining calibration steps.

NOTE:

If an error code appears during calibration, the voltage output of one or both height sensors are out of the proper range. It will be necessary to adjust the height sensors. For instructions, refer to [4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side, page 110](#) and [4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side, page 110](#).



Figure 4.183: John Deere Combine Display

4.13.4 Setting Sensitivity of Auto Header Height Control – John Deere S and T Series

Setting the sensitivity (sometimes called “dead-band adjustment”) of the auto header height control (AHC) system on a John Deere S or T series combine affects how quickly the AHC system changes the height of the header.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.

AUTO HEADER HEIGHT CONTROL

1. Press button (A) twice. The current sensitivity setting will appear on the combine display.



Figure 4.184: John Deere Combine Command Center

2. Press – or + icon (A) to adjust the sensitivity.

NOTE:

The numbers depicted on the displays in these illustrations are for reference purposes only; they are not intended to represent specific settings for your equipment.



Figure 4.185: John Deere Combine Display

4.13.5 Adjusting Manual Header Raise/Lower Rate – John Deere S and T Series

The speed at which the header rises or falls on a John Deere S or T series combine can be adjusted from the combine cab.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for updated information.

AUTO HEADER HEIGHT CONTROL

1. Press button (A). The current manual raise/lower speed setting will appear on the monitor.



Figure 4.186: John Deere Combine Command Center

2. Press – or + icon (A) to adjust the manual raise/lower speed.

NOTE:

The numbers depicted on the displays in these illustrations are for reference purposes only; they are not intended to represent specific settings for your equipment.

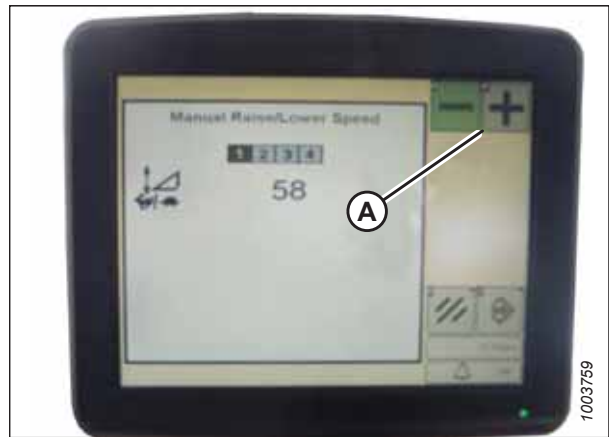


Figure 4.187: John Deere Combine Display

4.13.6 Setting Preset Cutting Height – John Deere S and T Series

You will need to configure both preset header heights on your John Deere S or T series combine to use the auto header height control (AHHC) system with your header.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for updated information.

AUTO HEADER HEIGHT CONTROL

1. Press COMBINE – HEADER SETUP icon (A) on the main page. The COMBINE – HEADER SETUP page appears. This page is used to set various header settings such as the reel speed, header width, and the height of the feeder house for acre counter engagement.



Figure 4.188: Combine Display

2. Select COMBINE – HEADER SETUP AHC icon (A). The COMBINE – HEADER SETUP AHC screen appears.



Figure 4.189: Combine Display

3. Select HEADER HEIGHT SENSING ENABLE (A), HEADER HEIGHT RESUME ENABLE (B), and REEL POSITION RESUME ENABLE (C) icons.

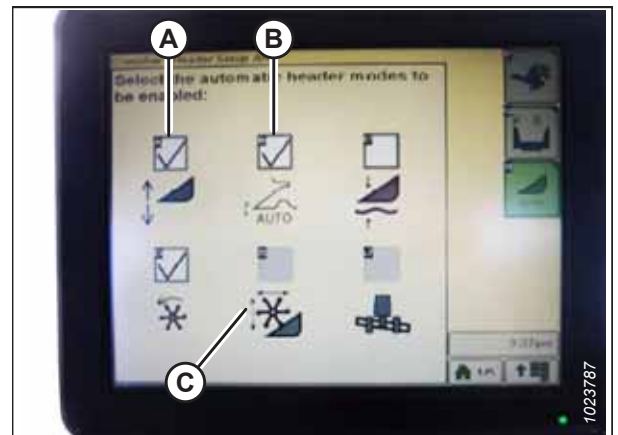


Figure 4.190: Combine Display

AUTO HEADER HEIGHT CONTROL

4. Turn on header engagement switch (A) and move the header to the desired preset position.
5. The header position can be fine-tuned with HEADER HEIGHT PRESSURE CONTROL DIAL (B).



Figure 4.191: Combine Control Console

6. Hold joystick button 2 (B) until the AHHC icon flashes on the monitor.
7. To store another preset, repeat Step 4, page 194 and Step 6, page 194 for button 3 (C).
8. Select an appropriate ground pressure setting:
 - Preset button 2 (B) on the joystick for a light ground pressure setting. Lighter settings are suitable for muddy or soft soil conditions.
 - Preset button 3 (C) for a heavy ground pressure setting. Heavier ground pressure settings are suitable for harder soil conditions, and allow for a faster ground speed.



Figure 4.192: Joystick Buttons

NOTE:

Preset button 1 (A) is reserved for the header lift function on headlands; it is not used for ground cutting.

NOTE:

When the AHHC is engaged, AHHC icon (A) appears on the monitor. Number (B) indicates which button was most recently pressed.

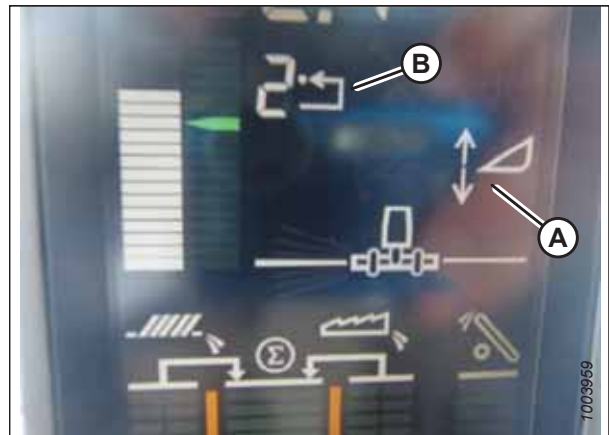


Figure 4.193: Combine Display

4.14 New Holland Combines CR/CX Series – CR Series, Model Year 2014 and Earlier

To make your header's auto header height control (AHHC) system compatible with New Holland CX and CR series combines (CR models of model year 2014 and earlier), you must check the height sensor voltage range, engage and calibrate the AHHC system, and adjust the sensitivity, header rise and fall rates, and the cutting height presets.

NOTE:

For New Holland CR models 6.80, 6.90, 7.90, 8.90, 9.90, and 10.90, refer to [4.15 New Holland Combines – CR Series, Model Year 2015 and Later, page 203](#).

4.14.1 Checking Voltage Range from Combine Cab – New Holland CX/CR Series

To ensure that the auto header height control (AHHC) system on your header works correctly with your New Holland CX or CR series combine, the output voltage from the header height control sensors must be verified.

NOTE:

Changes may have been made to combine controls or display since this document was published. Refer to combine operator's manual for updates.

 DANGER

Check to be sure all bystanders have cleared the area.

1. Raise the header until the header wheels are 150 mm (6 in.) above the ground.
2. Select DIAGNOSTICS (A) on the main page. The DIAGNOSTICS page appears.
3. Select SETTINGS. The SETTINGS page appears.

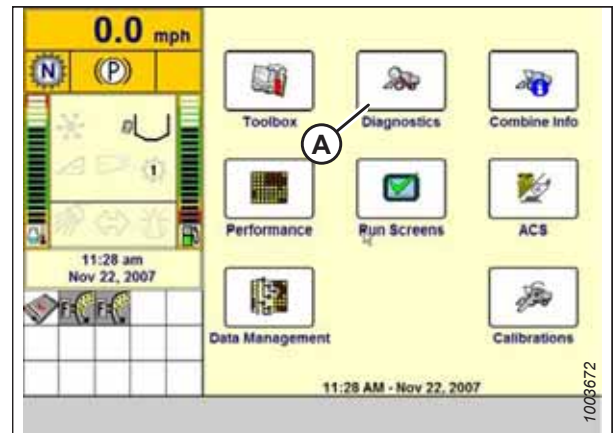


Figure 4.194: New Holland Combine Display

AUTO HEADER HEIGHT CONTROL

4. Select GROUP drop-down arrow (A). The GROUP dialog box appears.

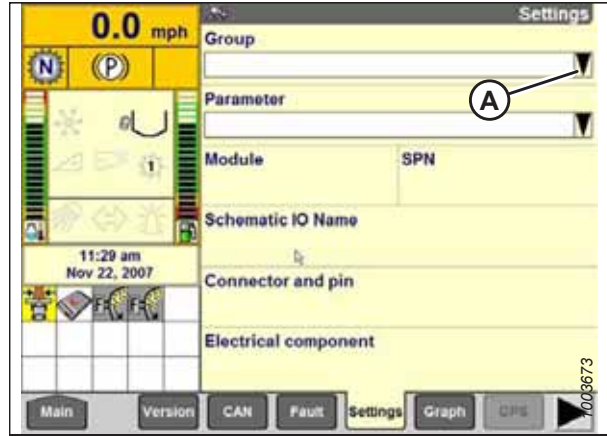


Figure 4.195: New Holland Combine Display

5. Select HEADER HEIGHT/TILT (A). The PARAMETER page appears.

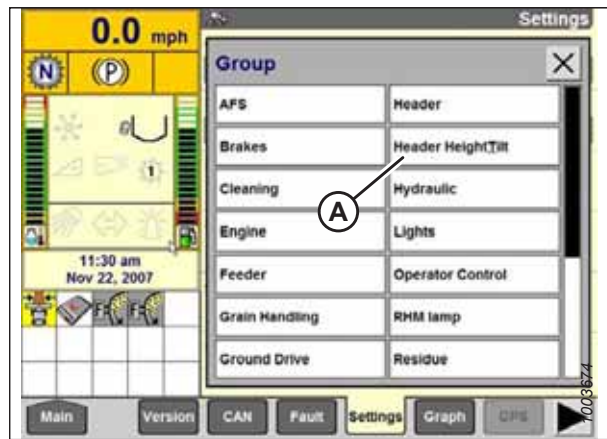


Figure 4.196: New Holland Combine Display

6. Select LEFT HEADER HEIGHT SEN (A), and then select GRAPH button (B). The exact height sensor output voltage is displayed at the top of page.
7. Raise and lower the header to see the full range of height sensor output voltage readings.
8. If the sensor voltage is not within the low and high limits shown in [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#), or if the range between the low and high limits is insufficient, the height sensors will need to be adjusted. For instructions, refer to [4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side, page 110](#) and [4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side, page 110](#).

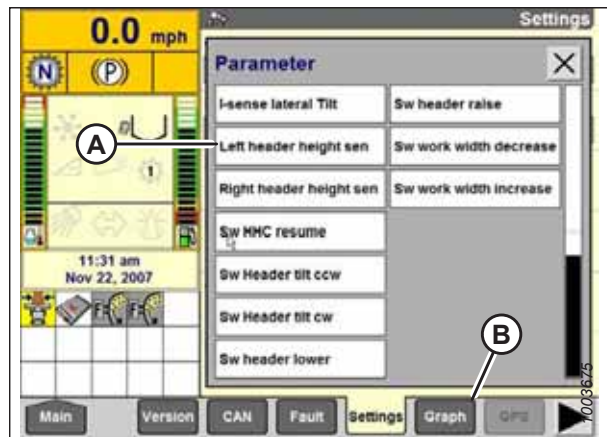


Figure 4.197: New Holland Combine Display

4.14.2 Engaging Auto Header Height Control – New Holland CR/CX Series

Set these initial configuration options on your New Holland CR or CX Series combine when setting up the auto header height control (AHHC) system.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for the most up-to-date information.

1. Select HEADER LATERAL FLOAT on the combine display and press ENTER.
2. Use the up and down navigation keys to move between the options and select INSTALLED.



Figure 4.198: New Holland Combine Display

3. Select HEADER AUTOFLOAT and press ENTER.
4. Select INSTALLED.



Figure 4.199: New Holland Combine Display

4.14.3 Calibrating Auto Header Height Control – New Holland CR/CX Series

The auto header height control (AHHC) sensor output must be calibrated for New Holland CR and CX series combines, or the AHHC feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for the most up-to-date information.

 DANGER

Check to be sure all bystanders have cleared the area.

Ensure that the following conditions are met:

- The header is attached to the combine.

AUTO HEADER HEIGHT CONTROL

- The combine is on level ground and the header angle is set so that the header is parallel to the ground.
- The engine is running.
- The combine is not moving.
- No faults have been received from the Header Height Controller (HHC) module.
- The header is disengaged.
- The lateral float buttons are **NOT** pressed.
- The ESC key is **NOT** pressed.

To calibrate the AHHC, follow these steps:

1. Select CALIBRATION on the combine display and press the right arrow navigation key to enter the information box.
2. Select HEADER (A) and press ENTER. The CALIBRATION dialog box appears.

NOTE:

The up and down navigation keys can be used to move between the options.

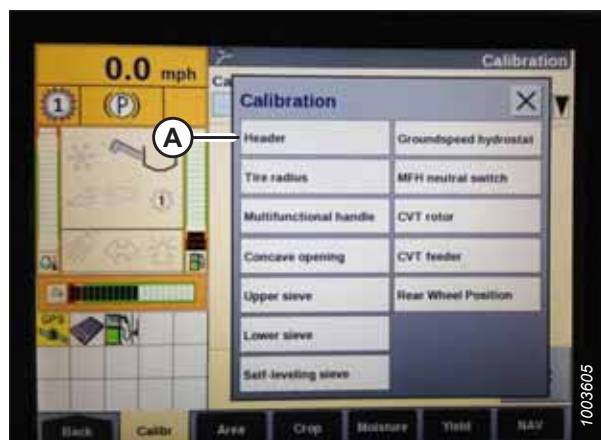


Figure 4.200: New Holland Combine Display

3. Follow the calibration steps in the order in which they appear in the dialog box. The display will be updated automatically to show the next step.

NOTE:

Pressing the ESC key during any of the steps or letting the system sit idle for more than 3 minutes will stop the calibration process.

NOTE:

Refer to the combine operator's manual for an explanation of any error codes encountered.



Figure 4.201: New Holland Combine Display

4. The message CALIBRATION SUCCESSFUL will appear on the page. Exit the CALIBRATION menu by pressing either the ENTER or the ESC key.
5. If the float was adjusted to a heavier setting to complete the calibration procedure, adjust it back to the recommended operating setting.
6. If the AHHC system still does not function properly, proceed to the maximum stubble height calibration: [Calibrating Maximum Stubble Height, page 199](#).

AUTO HEADER HEIGHT CONTROL

Calibrating Maximum Stubble Height

The height at which the combine's harvested area counter stops or starts counting may need to be calibrated for the auto header height control (AHHC) system to work correctly.

Set the maximum stubble height to a value that will never be reached while cutting. The area counter will stop counting harvested area when the header is above the programmed height, and will begin counting when the header is below the programmed height.

IMPORTANT:

- If value is set too low, the harvested area may **NOT** be counted, since the header can be raised above this threshold even while the combine is still harvesting.
- If value is set too high, the area counter will keep counting even when the header is raised and the combine is no longer harvesting, if the header height is still below the height threshold.



DANGER

Check to be sure all bystanders have cleared the area.

1. Select the MAXIMUM STUBBLE HEIGHT calibration dialog box. As you proceed through the calibration process, the display will automatically update to show the next step.

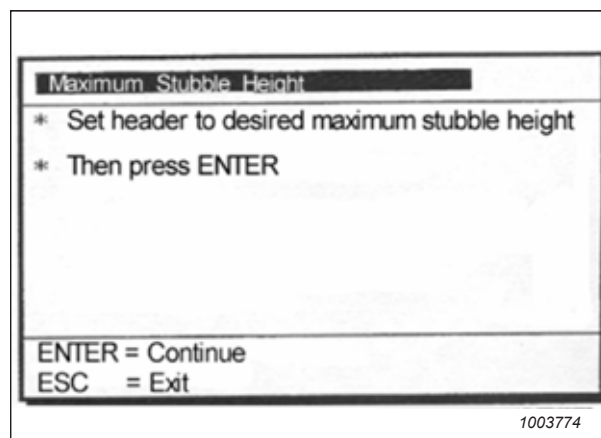


Figure 4.202: New Holland Calibration Dialog Box

2. Move the header to the correct position using the header up or down control switch on the multifunction handle.
3. Press ENTER to continue.
4. Press ENTER or ESC to close the calibration page.

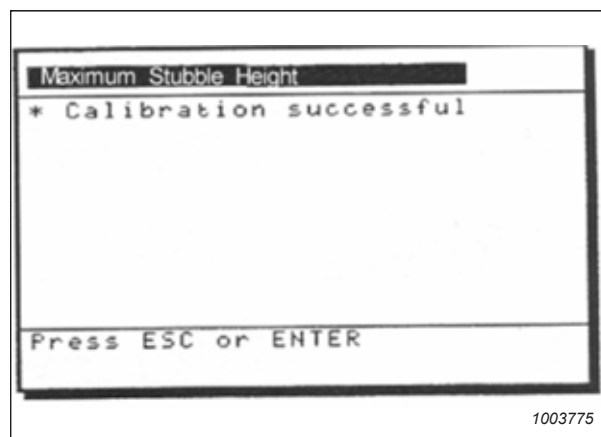


Figure 4.203: New Holland Calibration Dialog Box

4.14.4 Adjusting Header Raise Rate – New Holland CR/CX Series

The speed at which the header rises on a New Holland CR or CX series combine can be adjusted from the combine cab.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.

1. Select HEADER RAISE RATE on the combine display.
2. Use the + or – buttons to change the value.
3. Press ENTER to save the new setting.

NOTE:

The raise rate can be changed from 32 to 236 in increments of 34. The factory setting is 100.

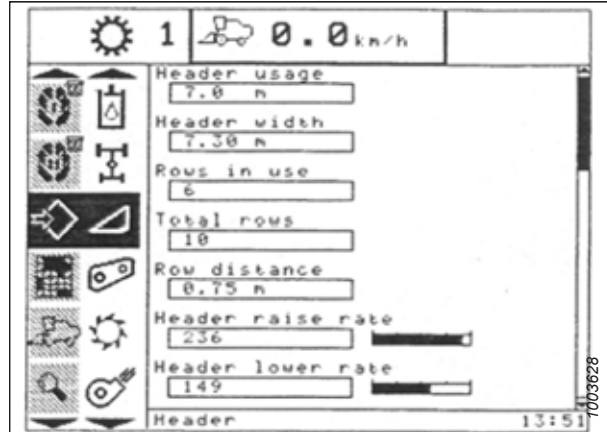


Figure 4.204: New Holland Combine Display

4.14.5 Setting Header Lower Rate – New Holland CR/CX Series

The speed at which the header falls on a New Holland CR or CX series combine can be adjusted from the combine cab. The recommended header lower rate for these combines is 50.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.

1. Select HEADER LOWER RATE on the combine display.
2. Use + or – buttons to change setting to 50.
3. Press ENTER to save the new setting.

NOTE:

The header lower rate can be changed from 2 to 247 in increments of 7. It is factory-set to 100.

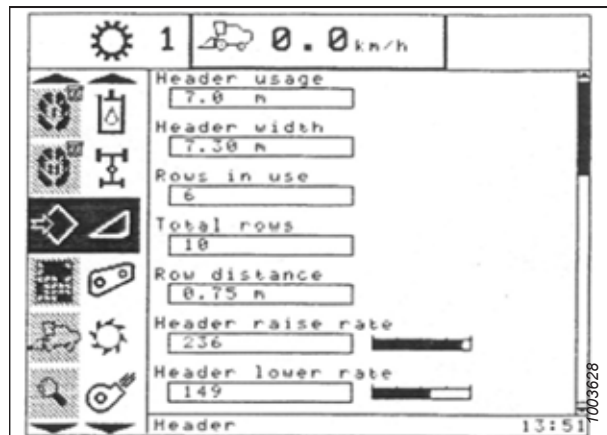


Figure 4.205: New Holland Combine Display

4.14.6 Setting Auto Header Height Control Sensitivity – New Holland CR/CX Series

Setting the sensitivity of the auto header height control (AHHC) system on a New Holland CR or CX series combine affects how quickly the AHHC system changes the height of the header. The recommended value for these combines is 200.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.

⚠ DANGER

Check to be sure all bystanders have cleared the area.

1. Engage the threshing function and the feeder house.
2. Select HEIGHT SENSITIVITY on the combine display screen.
3. Use the + or – buttons to change the setting to 200.
4. Press ENTER to save the new setting.

NOTE:

The sensitivity can be changed from 10 to 250 in increments of 10. It is factory-set to 100.



Figure 4.206: New Holland Combine Display

4.14.7 Setting Preset Cutting Height – New Holland CR/CX Series

You will need to configure both preset cutting heights on your New Holland CR or CX series combine to use the auto header height control (AHHC) system with your header.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for updated information.

1. Engage the threshing mechanism and the feeder with switches (A) and (B).
2. Set HEADER MEMORY rocker switch (D) to STUBBLE HEIGHT/AUTO FLOAT MODE.
3. Lower the header to the desired cutting height using HEADER HEIGHT AND HEADER LATERAL FLOAT rocker switch (C).
4. Press AUTOMATIC HEADER HEIGHT CONTROL button (E) for a minimum of 2 seconds to store the desired height position. A beep will confirm that the setting has been saved.

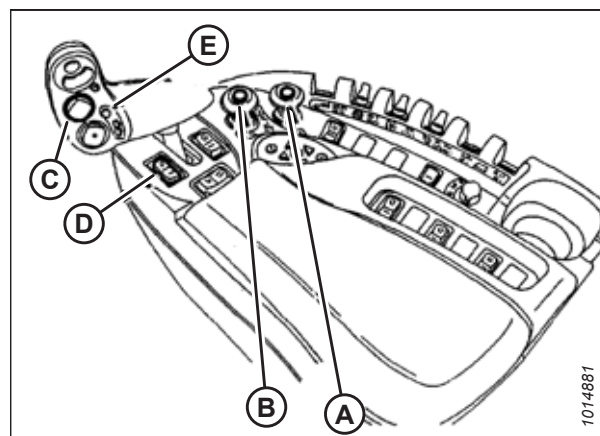


Figure 4.207: New Holland Combine Controls

NOTE:

It is possible to store two different header height values by using HEADER MEMORY rocker switch (D) in STUBBLE HEIGHT/AUTO FLOAT MODE.

AUTO HEADER HEIGHT CONTROL

- To change one of the saved header height set points while the combine is in use, use HEADER HEIGHT AND HEADER LATERAL FLOAT rocker switch (A) (slow up/down) to raise or lower the header to the desired height. Press AUTOMATIC HEADER HEIGHT CONTROL button (B) for a minimum of 2 seconds to store the new height position. A beep will confirm the setting.

NOTE:

Do **NOT** press too hard on AUTOMATIC HEADER HEIGHT CONTROL button (B), or the float mode will be disengaged.

NOTE:

It is not necessary to press rocker switch (C) again after adjusting the header height.

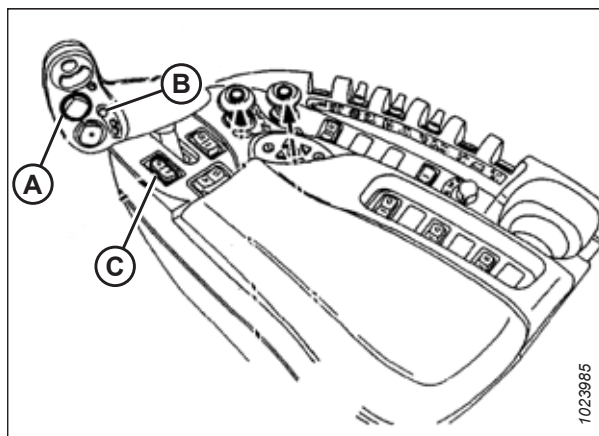


Figure 4.208: New Holland Combine Controls

4.15 New Holland Combines – CR Series, Model Year 2015 and Later

To make your header's auto header height control (AHHC) system compatible with New Holland CR Series combines of model year 2015 and later (6.80, 6.90, 7.90, 8.90, 9.90, and 10.90), you must check the height sensor voltage range, engage and calibrate the AHHC system, and adjust the sensitivity, cutting height presets and tilt functions.

4.15.1 Engaging Auto Header Height Control – New Holland CR Series

Set these initial configuration options on your New Holland CR series combine (model year 2015 or later) when setting up the auto header height control (AHHC) system.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for the most up-to-date information.

1. Select TOOLBOX (A) on the main page. The TOOLBOX page appears.



Figure 4.209: New Holland Combine Display

NOTE:

On some older combine models, you may have to simultaneously press both UNLOAD (A) and RESUME (B) buttons on the hydro handle to access the TOOLBOX page.



Figure 4.210: New Holland Combine Controls

AUTO HEADER HEIGHT CONTROL

2. Select HEAD 1 (A). The HEADER SETUP 1 page appears. The HEADER TYPE field will automatically register as PICKUP (B).

NOTE:

HEADER SUB TYPE menu (C) is not applicable to MacDon pick-up headers. The menu's two selectable options – NO HYDR CONTROL and SPARE – have no effect on header performance.

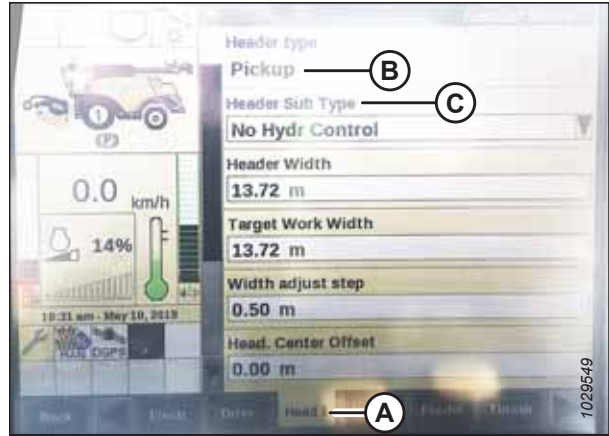


Figure 4.211: New Holland Combine Display

3. Select HEAD 2 (A). The HEADER SETUP 2 page appears.



Figure 4.212: New Holland Combine Display

4. Select the AUTOFLOAT drop-down arrow and set AUTOFLOAT to INSTALLED (A).
5. Select the AUTO HEADER LIFT drop-down arrow and set AUTO HEADER LIFT to INSTALLED (B).

NOTE:

With the AUTO HEADER LIFT feature installed and the AHHC system engaged, the header will lift up automatically whenever you pull back on the hydro handle.

6. Set the values for MANUAL HHC RAISE RATE (C) and MANUAL HHC LOWER RATE (D) according to harvest conditions.



Figure 4.213: New Holland Combine Display

AUTO HEADER HEIGHT CONTROL

- Set the values for HHC HEIGHT SENSITIVITY (A) and HHC TILT SENSITIVITY (B) according to harvest conditions.



Figure 4.214: New Holland Combine Display

4.15.2 Checking Voltage Range from Combine Cab – New Holland CR Series

To ensure that the auto header height control (AHHC) system on your header works correctly with your New Holland CR series combine (model year 2015 or later), the output voltage from the header height control sensors must be verified.

NOTE:

Changes may have been made to combine controls or display since this document was published. Refer to combine operator's manual for updates.

DANGER

Check to be sure all bystanders have cleared the area.

- Position the header 150 mm (6 in.) above the ground.
- Select DIAGNOSTICS (A) on the main page. The DIAGNOSTICS page appears.



Figure 4.215: New Holland Combine Display

AUTO HEADER HEIGHT CONTROL

3. Select SETTINGS (A). The SETTINGS page appears.



Figure 4.216: New Holland Combine Display

4. Select HEADER HEIGHT/TILT (A) from the GROUP drop-down menu.
5. Select HEADER HEIGHT SENS. L (B) from the PARAMETER drop-down menu.

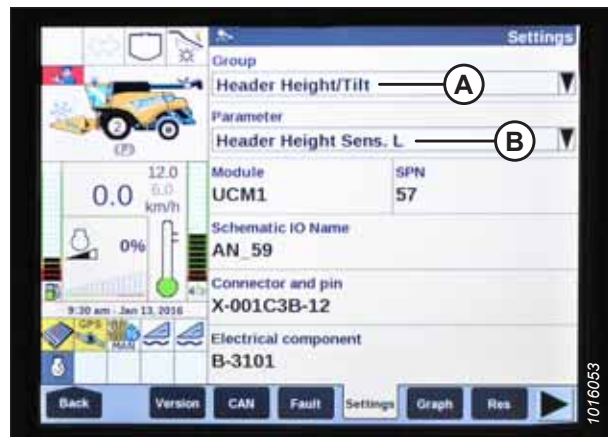


Figure 4.217: New Holland Combine Display

6. Select GRAPH (A). Height sensor out voltage (B) is displayed at the top of the page.
7. Raise and lower the header to see the full range of voltage readings.
8. If the sensor voltage is not within the low and high limits shown in [4.4 Height Sensor Output Voltage Range – Combine Requirements, page 107](#), or if the range between the low and high limits is insufficient, the height sensors will need to be adjusted. For instructions, refer to [4.4.2 Adjusting Header Height Sensor Voltage Range – Left Side, page 110](#) and [4.4.3 Adjusting Header Height Sensor Voltage Range – Right Side, page 110](#).

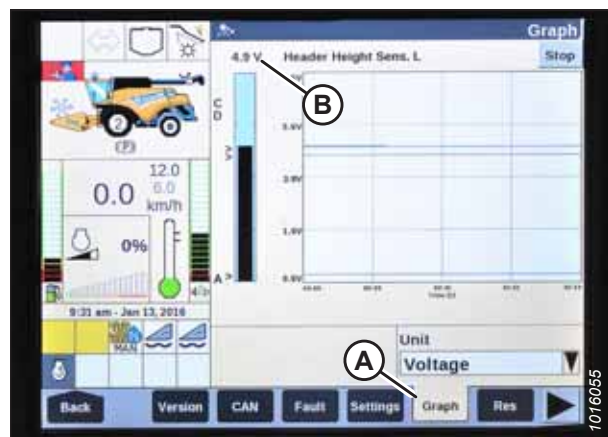


Figure 4.218: New Holland Combine Display

4.15.3 Calibrating Auto Header Height Control – New Holland CR Series

The auto header height control (AHHC) sensor output must be calibrated for New Holland CR series combines (model year 2015 and later), or the AHHC feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator’s manual for the most up-to-date information.



DANGER

Check to be sure all bystanders have cleared the area.

Check the following conditions before starting the header calibration procedure:

- The header is attached to the combine.
- The combine is on level ground, with the header level to the ground.
- The engine is running.
- The combine is **NOT** moving.
- No faults have been received from Header Height Controller (HHC) module.
- The header/feeder is disengaged.
- The lateral float buttons are **NOT** pressed.
- The ESC key is **NOT** pressed.

1. Select CALIBRATIONS (A) on the main page. The CALIBRATION page appears.

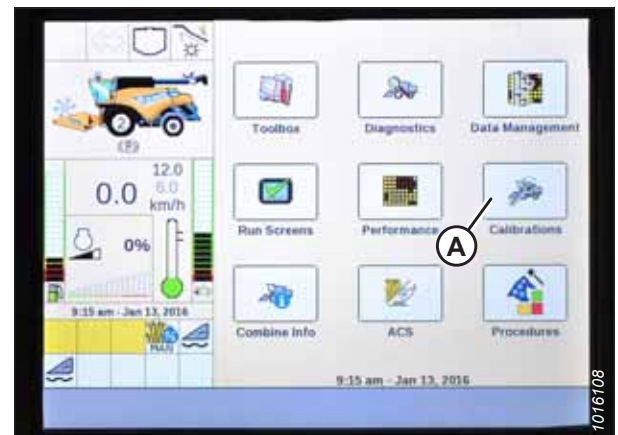


Figure 4.219: New Holland Combine Display

AUTO HEADER HEIGHT CONTROL

2. Select CALIBRATION drop-down arrow (A).



Figure 4.220: New Holland Combine Display

3. Select HEADER (A) from the list of calibration options.



Figure 4.221: New Holland Combine Display

4. Follow the calibration steps in the order in which they appear on screen. As you proceed through the calibration process, the display will automatically update to show the next step.

NOTE:

Pressing the ESC key during programming or letting the system sit idle for more than 3 minutes will stop the calibration procedure.

NOTE:

Refer to the combine operator's manual for an explanation of error codes (should any occur).



Figure 4.222: New Holland Combine Display

AUTO HEADER HEIGHT CONTROL

- When all calibration steps have been completed, the CALIBRATION COMPLETED message will be displayed on the screen.

NOTE:

If the float was adjusted to a heavier setting to complete ground the calibration procedure, remember to adjust it back to the recommended operating setting after the calibration procedure is completed.



Figure 4.223: New Holland Combine Display

4.15.4 Setting Auto Height – New Holland CR Series

You will need to configure both preset cutting heights on your New Holland CR series combine (of model year 2015 or later [6.80, 6.90, 7.90, 8.90, 9.90, and 10.90]) to use the auto header height control (AHC) system with your header.

The console has two buttons used for auto height presets. The toggle switch used on previous models for auto height presets is now configured as shown at right. MacDon headers require only buttons (A) and (B). Button (C) does not need to be configured.



Figure 4.224: New Holland Combine Controls

- Engage the separator and the header.
- Select RUN SCREENS (A) on the main page.

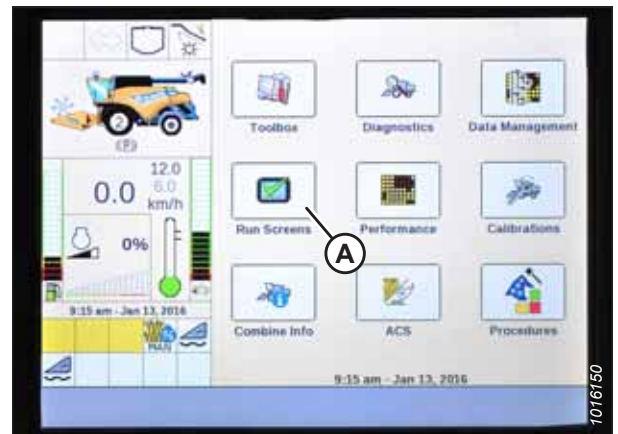


Figure 4.225: New Holland Combine Display

AUTO HEADER HEIGHT CONTROL

3. Select the RUN tab that shows MANUAL HEIGHT.

NOTE:

The MANUAL HEIGHT field may appear on any of the RUN tabs. When an auto height set point button is pressed, the display will change to AUTO HEIGHT (A) as shown.

4. Lower the header to the ground.
5. Select one of auto height set point buttons shown in Figure 4.224, page 209.
 - Press SET 1 button for the lower position
 - Press SET 2 button for the higher position



Figure 4.226: New Holland Combine Display

4.15.5 Setting Maximum Work Height – New Holland CR Series

This procedure applies only to 2015 and later CR models (6.80, 6.90, 7.90, 8.90, 9.90, and 10.90).

1. Select TOOLBOX (A) on main page. The TOOLBOX page appears.



Figure 4.227: New Holland Combine Display

2. Select FEEDER (A). The FEEDER SETUP page appears.
3. Select MAXIMUM WORK HEIGHT field (B).

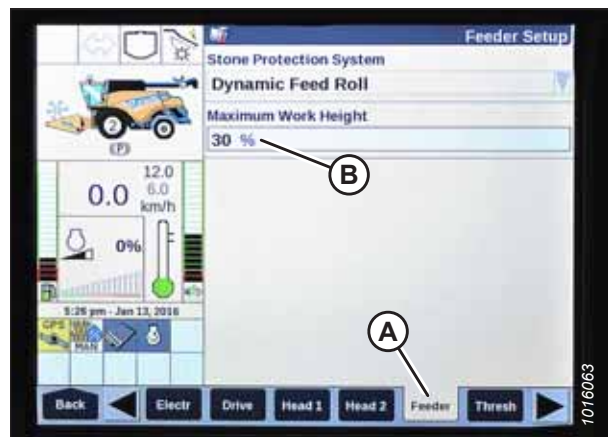


Figure 4.228: New Holland Combine Display

AUTO HEADER HEIGHT CONTROL

4. Set MAXIMUM WORK HEIGHT to the desired value.
5. Press SET and then press ENTER.



Figure 4.229: New Holland Combine Display

Chapter 5: Maintenance and Servicing

The following instructions provide information about routine maintenance and servicing of your pick-up header. For detailed maintenance and service information, contact your Dealer. A parts catalog is provided with your header for ordering replacement parts.

Log the hours of operation and use the Maintenance Schedule/Record provided to keep a record of scheduled maintenance. For more information, refer to [5.2.1 Maintenance Schedule/Record, page 214](#).

5.1 Preparing Header for Servicing

Observe all safety precautions before beginning service on the pick-up header.

DANGER

To prevent injury, perform the following procedures before the header is serviced:

- Lower the header fully. If you intend to work on the header in the raised position, always engage the header lift cylinder safety props on the combine.
- Stop the engine, and remove the key from the ignition.
- Engage the parking brake.
- Wait for all moving parts to stop moving.

5.2 Maintenance Requirements

The maintenance program is organized according to the pick-up header’s operating hours. This system depends on keeping accurate operating logs.

Periodic maintenance requirements are organized according to service intervals.

Regular maintenance is the best insurance against early wear and untimely breakdowns. Following the maintenance schedule will increase the service life of your machine.

When servicing the machine, refer to the specific headings in this section and use only the fluids and lubricants specified on the inside back cover of this book.

If a service interval specifies more than one time frame, e.g., 100 hours or annually, service the machine at whichever interval is reached first.

IMPORTANT:

The recommended intervals are based on typical operating conditions. Service the machine more often if it is being operated under adverse conditions (e.g.: severe dust, extra-heavy loads, etc.).






 **CAUTION**

Carefully follow all safety messages. Refer to for safety information.

5.2.1 Maintenance Schedule/Record

Use this schedule to record maintenance procedures performed on your pick-up header. Accurate records help ensure long machine service life.

Table 5.1 Maintenance Schedule/Record

ACTION:		✓ - Check			⬇ - Lubricate			▲ - Change		
	Hour meter reading									
	Service date									
	Serviced by									
10 Hours										
	Lubricate auger drive chain – refer to 5.3.3 Lubricating Auger Drive Chain, page 220 .									
✓	Check auger drive chain tension – refer to Adjusting Auger Drive Chain Tension, page 240 .									
✓	Check hydraulic hoses for leaks – refer to 5.9.5 Hydraulic Hoses and Lines, page 300 .									
25 Hours										
	Lubricate draper deck and auger bearings – refer to 5.3.2 Greasing Points, page 217 .									
50 Hours										
✓	Check auger drive chain tension – refer to Adjusting Auger Drive Chain Tension, page 240 .									
✓	Check hydraulic hoses for leaks – refer to 5.9.5 Hydraulic Hoses and Lines, page 300 .									
✓	Check draper belt condition – refer to 5.7.1 Draper Belts, page 256 .									
✓	Check plastic draper guides for wear – refer to 5.7.2 Draper Fingers and Guides, page 263 .									

MAINTENANCE AND SERVICING

Table 5.1 Maintenance Schedule/Record (continued)

ACTION:	✓ - Check	● - Lubricate	▲ - Change											
100 Hours														
●	Clean and grease driveshaft splines – refer to <i>Cleaning Driveline Splined Shaft, page 230.</i>													
●	Lubricate driveline slip-joint and clutch – refer to <i>5.3 Lubrication, page 216.</i>													
●	Lubricate auger drive chain and bearing – refer to <i>5.3 Lubrication, page 216.</i>													
✓	Check tire pressure – refer to <i>5.11.3 Inflating Tires, page 312.</i>													
✓	Check wheel bolt torque – refer to <i>5.11.2 Installing Wheel, page 311.</i>													
✓	Check loose fasteners – refer to <i>8.1 Torque Specifications, page 329.</i>													
✓	Check bearings and seals – refer to <i>5.7.3 Draper Deck Roller Bearings, page 265.</i>													
✓	Check pick-up fingers for wear – refer to <i>5.7.2 Draper Fingers and Guides, page 263.</i>													
✓	Check height control sensor pivot points – refer to <i>4.3 Header Height Sensors, page 101.</i>													
End of Season														
	Clean and touch-up worn paint spots													
	Clean header													
✓	Check header for wear													

5.2.2 Preseason/Annual Service

Perform these procedures after taking the pick-up header out of storage.

CAUTION

- Review the operator's manual to refresh your memory on safety and operating procedures.
- Review all safety signs and other decals on the header and note any hazard areas.
- Ensure that all shields and guards are properly installed and secured. Never alter or remove safety equipment.
- Make certain that you understand and practice safe use of all controls. Know the capacities and operating characteristics of the machine.

Perform the following procedures at the beginning of each operating season:

1. Lubricate the machine completely. For more information, refer to *5.3 Lubrication, page 216.*
2. Perform all annual maintenance. For more information, refer to *5.2.1 Maintenance Schedule/Record, page 214.*

5.2.3 End-of-Season Service

Perform these procedures when storing the pick-up header at the end of the harvest season.

Refer to *3.14 Storing Header, page 98* for end of season servicing information.

5.3 Lubrication

Proper lubrication is essential to maximizing the service life of the pick-up header.

DANGER

To prevent injury, perform the following procedures before the header is serviced:

- Lower the header fully. If you intend to work on the header in the raised position, always engage the header lift cylinder safety props on the combine.
- Stop the engine, and remove the key from the ignition.
- Engage the parking brake.
- Wait for all moving parts to stop moving.

Log the hours of operation and use the maintenance schedule provided to keep a record of scheduled maintenance. For more information, refer to [5.2.1 Maintenance Schedule/Record, page 214](#).

5.3.1 Greasing Procedure

Perform this procedure as needed according to the maintenance schedule. Use the maintenance record in this manual to record procedure performance.

WARNING

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key before making adjustments to machine.

1. Use the recommended lubricants specified on the inside back cover of this manual.
2. Wipe grease fittings with a clean cloth before greasing to avoid injecting dirt and grit.
3. Inject grease through the fitting with a grease gun until grease overflows fitting, **EXCEPT** where noted.
4. Leave excess grease on the fitting to keep dirt out of the greased part.
5. Replace any loose or broken grease fittings immediately.
6. If the fitting will not take grease, remove the fitting and clean it thoroughly. Also clean the lubricant passageway. Replace the fitting if necessary.

5.3.2 Greasing Points

Several parts of the header require regular lubrication.

Every 25 Hours

- (A) Front draper deck idler bearing (underneath wheel support plate)
- (B) Rear draper deck idler bearing
- (C) Front draper deck drive bearing

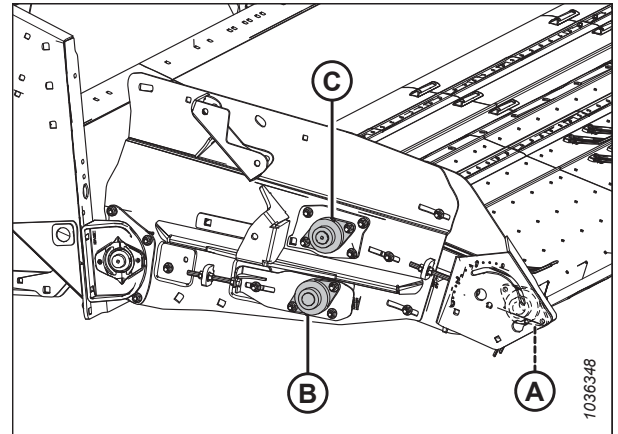


Figure 5.1: Bearings with Grease Fittings – Right Side of Header

- (A) Front draper deck idler bearing (underneath the wheel support plate)
- (B) Rear draper deck idler bearing
- (C) Front draper deck drive bearing (behind the hydraulic motor)

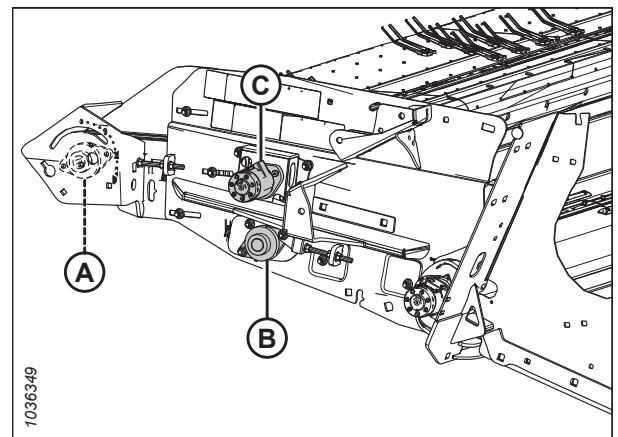


Figure 5.2: Bearings with Grease Fittings – Left Side of Header

NOTE:

The grease points for bearings (A) and (B) can be reached by removing the access covers on the auger drum. See [5.6 Auger Maintenance, page 247](#) for instructions on how to remove the access covers. Bearing (C) can be accessed from outside the auger.

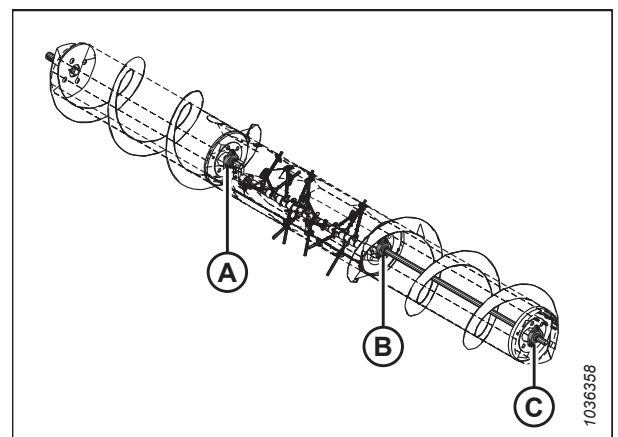


Figure 5.3: Bearings with Grease Fittings on Auger – View from Right Side

MAINTENANCE AND SERVICING

Every 50 Hours

Caster wheels are available as an optional kit. If equipped, apply grease every 50 hours at location (A) on each caster wheel.

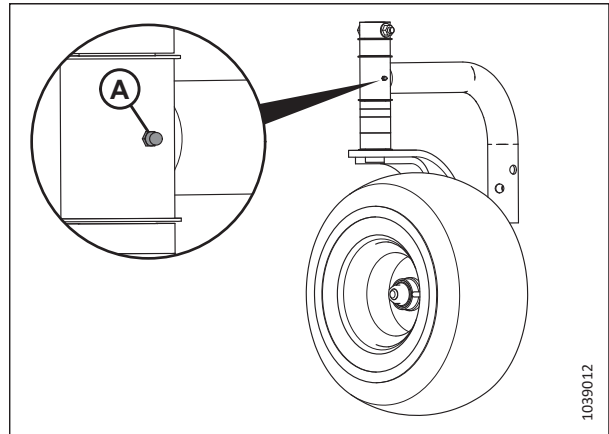


Figure 5.4: Optional Caster Wheels

Every 100 Hours

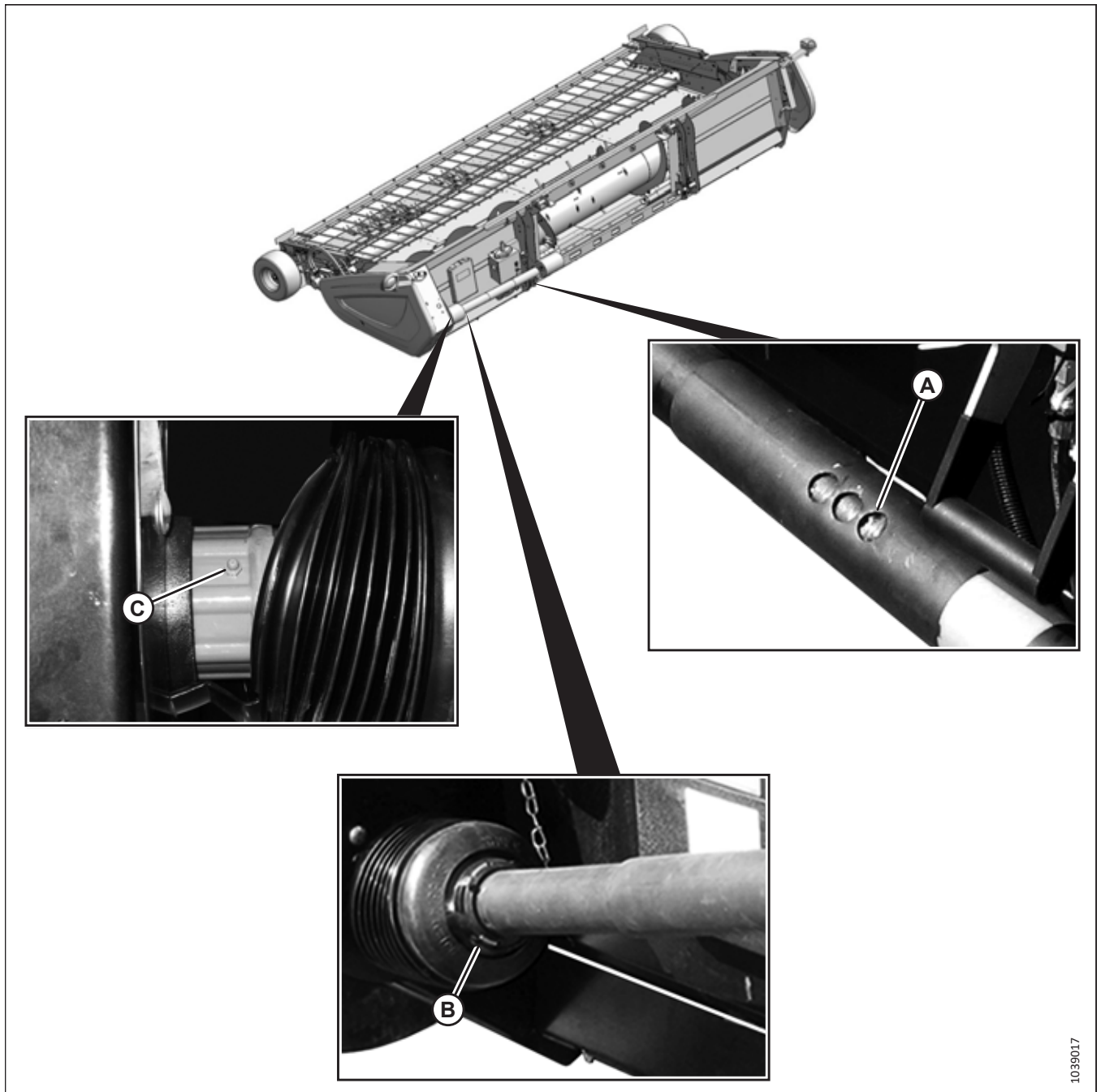


Figure 5.5: Greasing Points

A - Driveline Slip-Joint
C - Driveline Clutch

B - Driveline Guard (Both Ends)

1039017

5.3.3 Lubricating Auger Drive Chain

The auger drive chain should be lubricated frequently with SAE 30 engine oil to maximize its service life.

DANGER

To prevent injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

1. Lower the header fully.
2. Shut down the engine, and remove the key from the ignition.
3. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).
4. Apply a liberal amount of SAE 30 engine oil to chain (A) after every 10 hours of pick-up header operation.
5. Close the left endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).

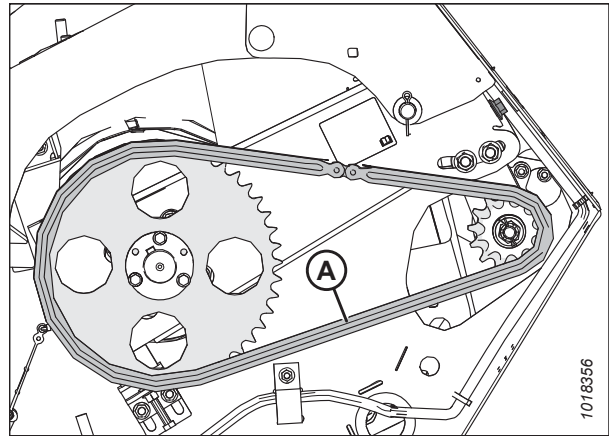


Figure 5.6: Auger Drive Chain

5.4 Installing Sealed Bearing

This is a general procedure for installing non-serviceable bearings on the pick-up header.

1. Clean the shaft and apply a rust preventive coating.
2. Install flange (A), bearing (B), second flange (C), and lock collar (D).

NOTE:

The locking cam is on only one side of the bearing.

3. Install and tighten flange bolts (E).
4. Tighten lock collar (D) with a punch and ball-peen hammer once the shaft is correctly positioned.

NOTE:

Lock the collar in the same direction the shaft rotates.

5. Tighten the set screw on the lock collar.
6. Loosen flange bolts (E) on the mating bearing one turn, and then retighten the bolts.

NOTE:

This step lines the bearing up with the shaft.

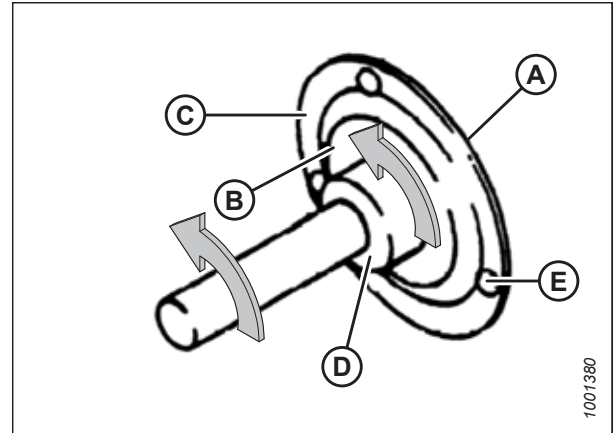


Figure 5.7: Sealed Bearing

5.5 Drives

This section covers maintenance procedures for the header, draper, and auger drives. Consult the maintenance schedule for specific maintenance intervals.

5.5.1 Header Driveshaft

The header driveshaft is connected to the combine power take-off via the driveline. It should be cleaned and greased regularly.

Clean and grease header driveshaft splines (A) regularly to reduce corrosion and wear.

NOTE:

Remove the header end of the driveline to access the splines. For instructions, refer to [Removing Header Driveline, page 222](#).

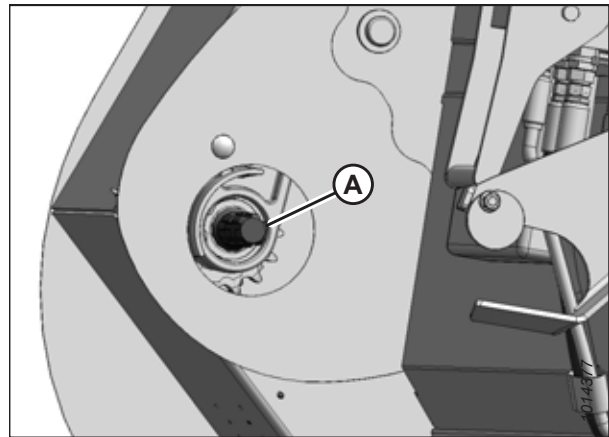


Figure 5.8: Header Driveshaft Splines

5.5.2 Header Driveline

The driveline connects the header's driveshaft to the combine's power take-off (PTO). It can be removed for replacement or servicing.

Removing Header Driveline

The driveline can be removed by disconnecting it from the combine and the header.

⚠ DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the combine and remove the key from the ignition.

MAINTENANCE AND SERVICING

3. Disconnect tethers (A) securing the driveline guard to the header.
4. Open the guard on the combine end of the driveline, if present.
5. Pull back guard (B) to expose collar (C) at the combine end of the driveline.

CAUTION

To prevent injury, or damage to the driveline, hold the driveline so that it doesn't fall to the ground.

6. Pull back collar (C) and pull driveline (D) off the feeder house shaft while supporting the end of the driveline.

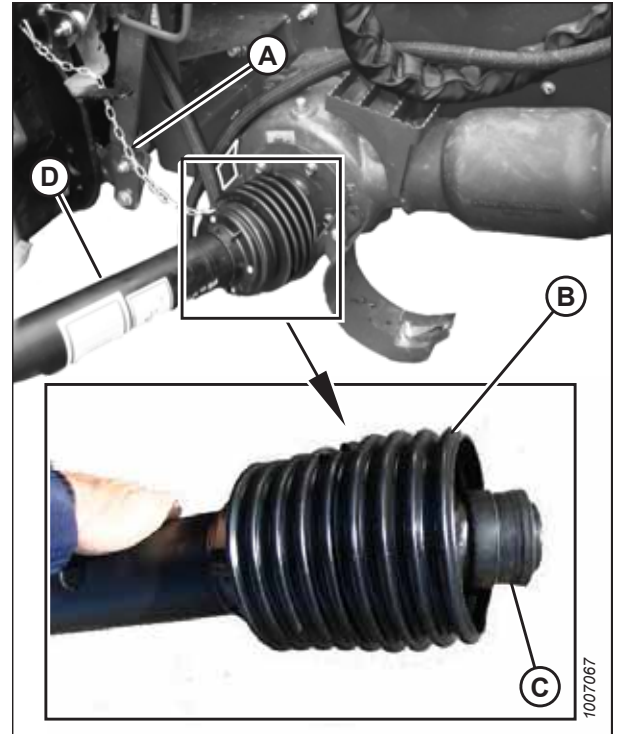


Figure 5.9: Combine End of Driveline

7. Pull back guard (A) to expose collar (B) at the header end of the driveline. If necessary, loosen bolt (C) and move plate (D) to release the guard.
8. Pull back collar (B), and pull the driveline off of the header driveshaft.

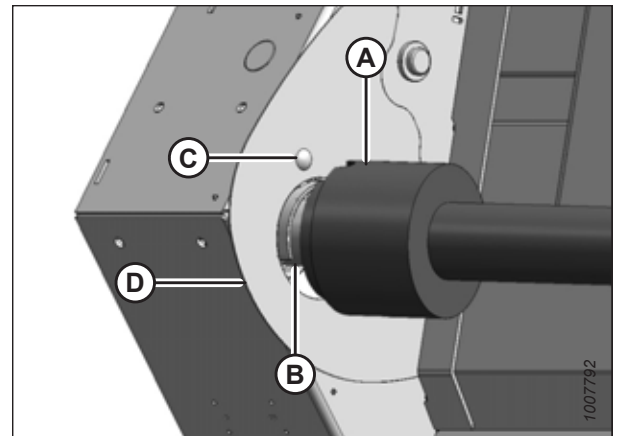


Figure 5.10: Header End of Driveline

Installing Header Driveline

The header driveline connects the combine's power take-off (PTO) to the header's drive system. It will need to be connected to the header's drive system.

DANGER

To prevent injury or death from the unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

CAUTION

To prevent injury or damage to the equipment, do not allow the driveline to drop to the ground.

MAINTENANCE AND SERVICING

1. Lower the header to the ground, shut down the combine, and remove the key from the ignition.
2. Open the guard on the combine PTO, if it is present.
3. Pull back guard (A) to expose collar (B) at the header (notched) end of the driveline.

NOTE:

The driveline may separate if it is not supported at both ends.

4. Pull back collar (B). Slide the coupler onto splined input shaft (C) until it locks. Release collar (B).
5. Loosen bolt (D) and, if necessary, move plate (E) to provide sufficient clearance for the driveline guard.

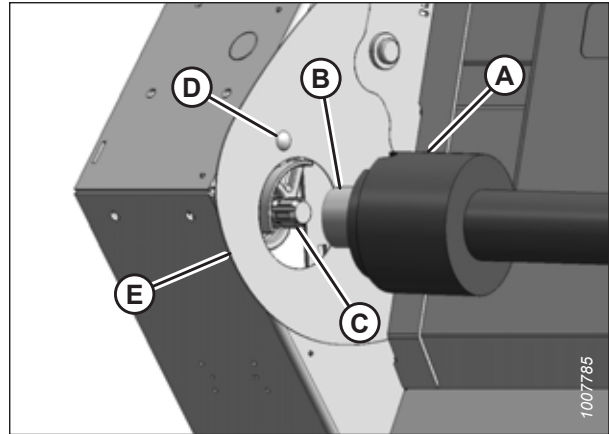


Figure 5.11: Header End of Driveline

6. Line up notch (A) in the driveline's rubber bellows with bolt (B) so that the notch fits around casting (C) inside the auger drive compartment.

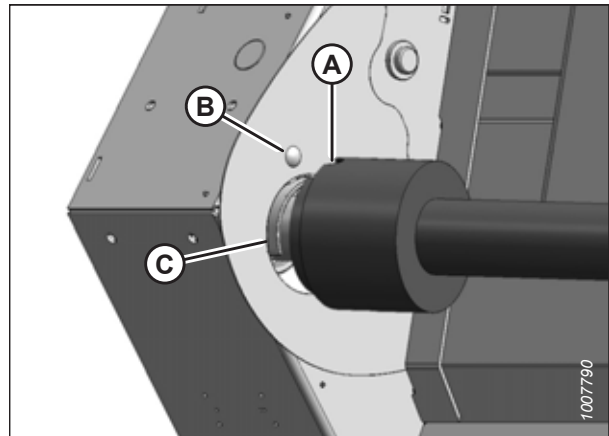


Figure 5.12: Header End of Driveline

7. Position lip (A) on the driveline bellows between the hole in the endsheet and casting (B).
8. Tighten bolt (C).

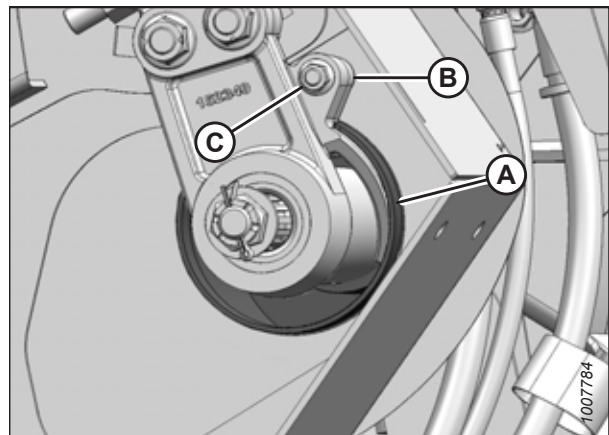


Figure 5.13: Driveline Shield

MAINTENANCE AND SERVICING

9. Pull back guard (B) to expose collar (C) at the combine end of driveline (D).
10. Pull back collar (C) and push driveline (D) onto the feeder house shaft until the collar locks.
11. Attach tethers (A) to secure the driveline guard to the header.

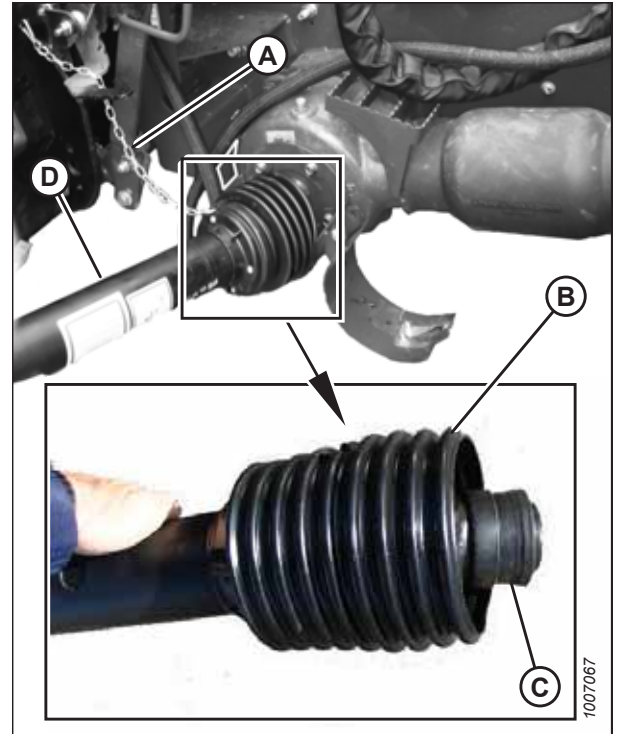


Figure 5.14: Driveline

Replacing Driveline Clutch

Repair or replace the driveline clutch if it can no longer generate the necessary torque to drive the header.

1. Remove the driveline from the header. For instructions, refer to [Removing Header Driveline, page 222](#).
2. Remove the driveline guard. For instructions, refer to [Removing Driveline Guard, page 226](#).
3. Remove cross and bearings (A) connecting clutch (B) to driveline yoke (C).
4. Install new cross and bearings (A) and new clutch (B) onto existing driveline yoke (C).
5. Reinstall the driveline guard. For instructions, refer to [Installing Driveline Guard, page 228](#).
6. Reinstall the driveline. For instructions, refer to [Installing Header Driveline, page 223](#).

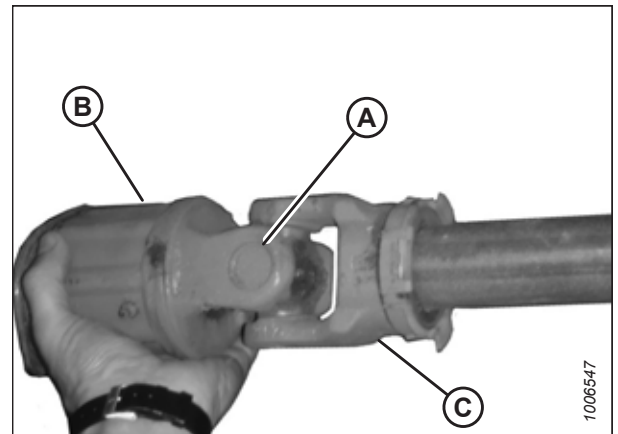


Figure 5.15: Driveline Clutch

Removing Driveline Guard

The driveline guard must remain attached to the driveline during pick-up header operation, but it can be removed for maintenance purposes.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

NOTE:

The driveline does **NOT** need to be removed from the header in order to remove the driveline guard.

1. Shut down the engine, and remove the key from the ignition.
2. Disconnect the tethers (not shown) at each end of the driveline.
3. If the driveline is in the storage position, rotate disc (B) on driveline storage hook (A), and remove the driveline from the hook.

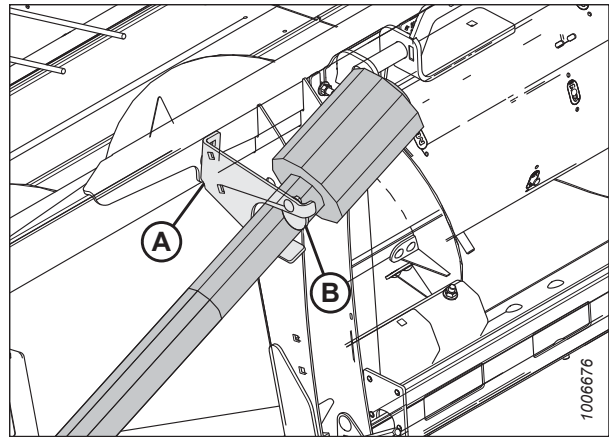


Figure 5.16: Combine End of Driveline in Storage Position

4. If the driveline is attached to the combine, remove the driveline from the combine by pulling quick disconnect collar (A) to release the driveline yoke from the combine shaft. For detailed instructions, refer to [Removing Header Driveline, page 222](#).

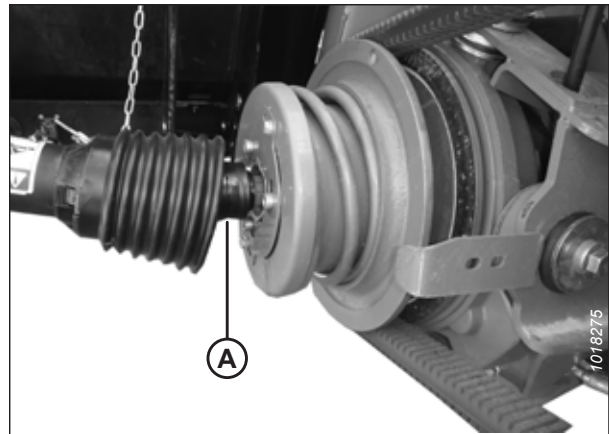


Figure 5.17: Combine End of Driveline Attached to Combine

MAINTENANCE AND SERVICING

5. Lift the combine end of driveline (A) from the hook, and extend the driveline until it separates. Hold the header end of driveline (B) to prevent it from striking the ground.



Figure 5.18: Separated Driveline

6. Use a slotted screwdriver to release grease fitting/lock (A).



Figure 5.19: Driveline Guard

MAINTENANCE AND SERVICING

7. Rotate driveline guard locking ring (A) counterclockwise using a slotted screwdriver until lugs (B) line up with the slots in the guard.
8. Pull the driveline guard off the driveline.



Figure 5.20: Driveline Guard

Installing Driveline Guard

The driveline guard protects the pick-up header's driveline ends from dust and dirt. It is also a safety feature which should not be removed except for maintenance purposes.

1. Slide the driveline guard onto the driveline, and line up the slotted lug on locking ring (A) with arrow (B) on the guard.



Figure 5.21: Driveline Guard

MAINTENANCE AND SERVICING

2. Push the driveline guard onto the ring until the locking ring is visible in slots (A).



Figure 5.22: Driveline Guard

3. Use a slotted screwdriver to rotate ring (A) clockwise to lock the ring in the guard.



Figure 5.23: Driveline Guard

4. Push grease fitting (A) back into the guard.



Figure 5.24: Driveline Guard

MAINTENANCE AND SERVICING

5. Reassemble the driveline.

NOTE:

The splines are keyed to ensure the proper alignment of the universal joints. Align weld (A) with missing spline (B) when reassembling the driveline.

NOTE:

If a spline weld is missing, the driveshaft should be replaced. Excessive vibration may occur if the universal joints are not in phase.

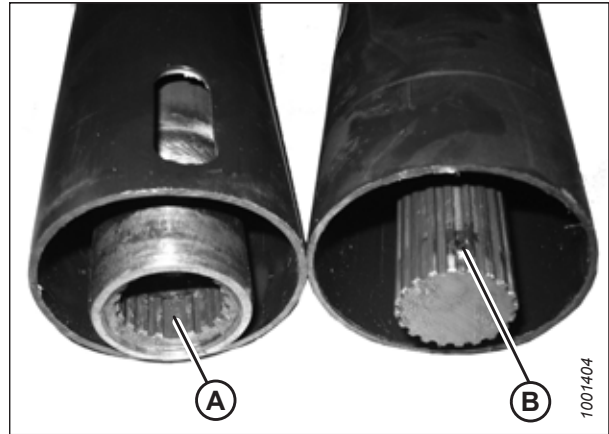


Figure 5.25: Driveline Splines

6. Slide the driveline into hook (A) on the header and rotate disc (B) to secure the driveline **OR** connect the driveline to the combine.
7. Attach the tethers (not shown) to the header.

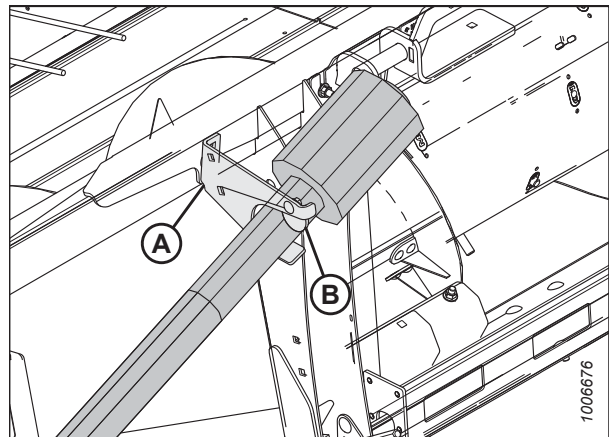


Figure 5.26: Combine End of Driveline in Storage Position

Cleaning Driveline Splined Shaft

Keeping the driveline's splined shaft clean will extend its service life.

1. Remove the driveline guard. For instructions, refer to [Removing Driveline Guard, page 226](#).
2. Clean the internal and external splines.
3. Install the driveline guard. For instructions, refer to [Installing Driveline Guard, page 228](#).

5.5.3 Draper Drive Motors and Hydraulic Hoses

The two hydraulic drive motors on the draper assembly do not require any maintenance; however, the motors may need to be replaced if they fail or are damaged. If repairs are required (other than replacing the motor seal kits), the motors should be removed and serviced by your Dealer.

Removing Front Hydraulic Motor

The front draper drive motor can be removed from the pick-up header for service or replacement.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the combine and remove the key from the ignition.
3. Disconnect hydraulic hoses (A) from the front motor on the left side of the header. Install caps onto the hose ends and motor fitting, or wrap the hose ends and motor fittings with plastic and move the hoses away from the work area. Mark the hydraulic hose ends to ensure that they are connected to the correct ports when the motor is installed.

IMPORTANT:

Keep hydraulic coupler tips and connectors clean. Allowing dirt, dust, water, or foreign material to enter the system is a major cause of hydraulic system damage. Do **NOT** attempt to service hydraulic systems in the field. Overhauls must be performed in an environment completely free of dust and dirt, or damage to the hydraulic system may result.

4. Remove two M8 hex flange nuts (B).
5. Pull hydraulic motor (A) from the roller shaft.

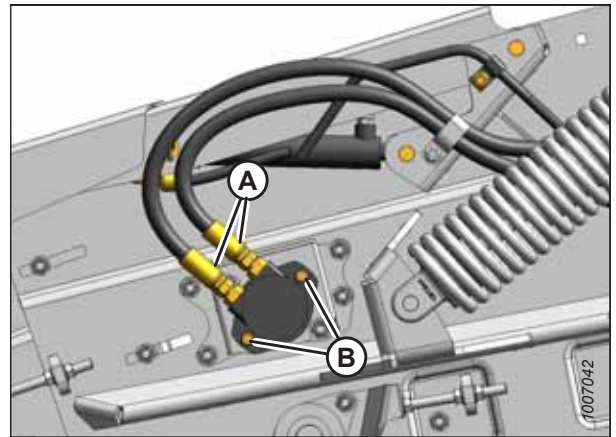


Figure 5.27: Front Hydraulic Motor – Left Side

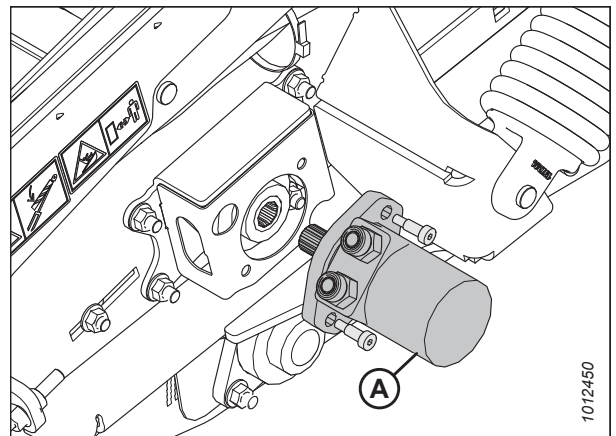


Figure 5.28: Front Hydraulic Motor – Left Side

Installing Front Hydraulic Motor

Once the front draper drive motor has been repaired or replaced, it can be installed on the pick-up header.

1. Apply grease to the splines of the shaft of front hydraulic motor (A).
2. Install hydraulic motor (A) onto roller shaft (B) and install shoulder bolts (C).

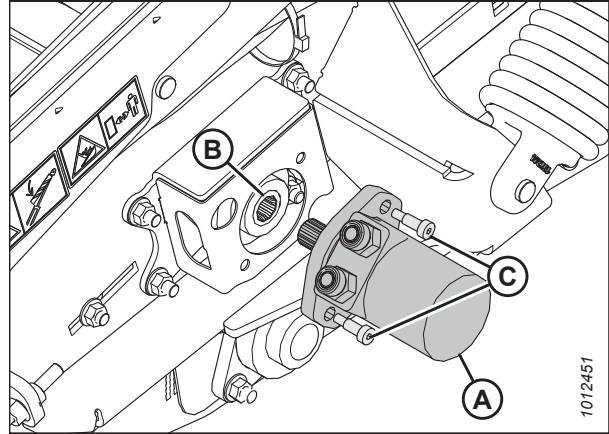


Figure 5.29: Front Hydraulic Motor – Left Side

3. Secure the hydraulic motor with two M8 hex flange nuts (A). Torque the nuts to 50 Nm (37 lbf-ft).

IMPORTANT:

The hydraulic motor must be able to move slightly during operation. Tighten nuts (A) to the required torque value only; do **NOT** use any washers or shims between the nut and the motor mount. It is normal for the motor to feel somewhat loose after torquing.

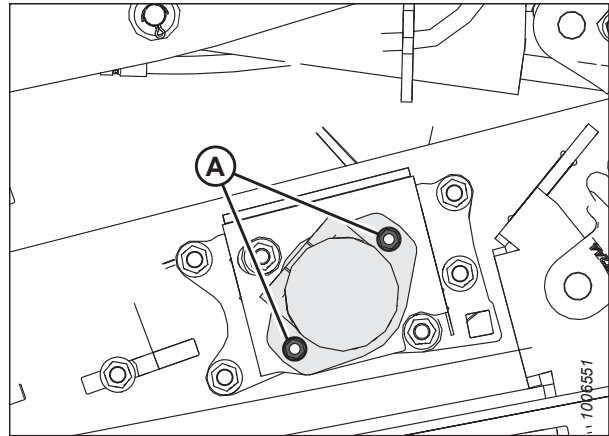


Figure 5.30: Front Hydraulic Motor – Left Side

4. If you are installing a new motor, reuse hydraulic fittings (A) from the original motor. Ensure that the fittings are clean before attaching the hoses.

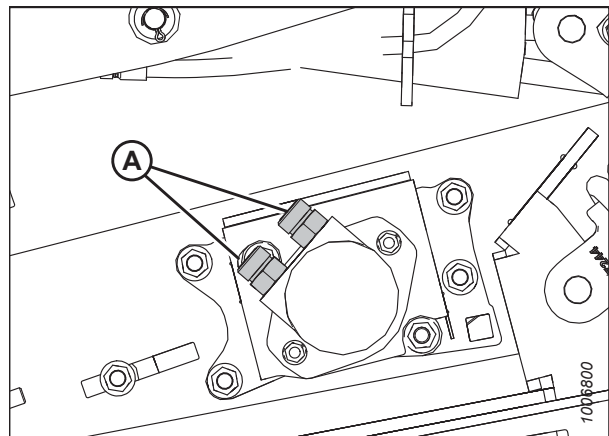


Figure 5.31: Hydraulic Fittings

5. Reconnect hydraulic hoses (A) to the motor.

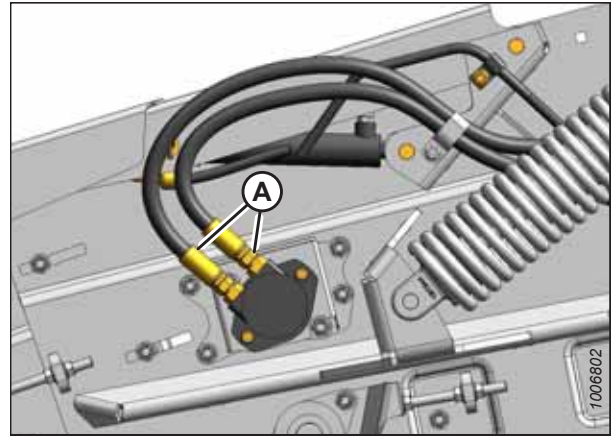


Figure 5.32: Hydraulic Hoses

Removing Rear Hydraulic Motor

The rear draper drive motor can be removed from the pick-up header for service or replacement.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the combine and remove the key from the ignition.
3. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).
4. Disconnect hydraulic hoses (A) from the rear hydraulic motor on the left side of the header. Install caps onto the hose ends and motor fittings, or wrap the hose ends and motor fittings with plastic and move the hoses away from the work area. Mark the hydraulic hose ends to ensure that they are connected to the correct ports when the motor is installed.

IMPORTANT:

Keep hydraulic coupler tips and connectors clean. Allowing dirt, dust, water, or foreign material to enter the system is a major cause of hydraulic system damage. Do **NOT** attempt to service hydraulic systems in the field. Overhauls must be performed in an environment completely free of dust and dirt, or damage to the hydraulic system may result.

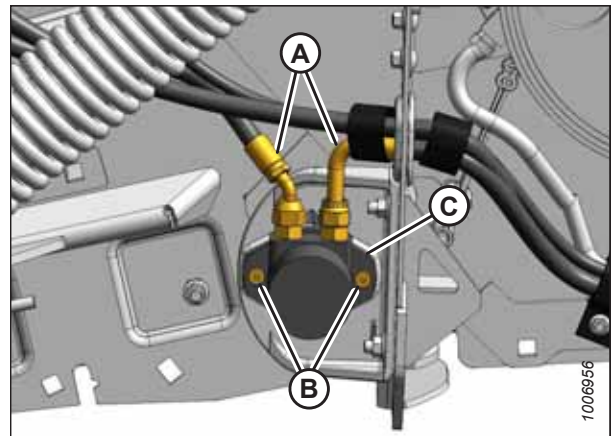


Figure 5.33: Rear Hydraulic Motor – Left Side

5. Remove two 10 mm shoulder bolts (B).
6. Pull hydraulic motor (C) from the roller shaft.

Installing Rear Hydraulic Motor

The rear hydraulic motor is meant to move slightly during operation. Be sure not to overtighten the nuts securing the motor to the header.

1. Apply grease to the splines of hydraulic motor shaft (A).
2. Install hydraulic motor (B) onto the roller shaft, and secure it with two 10 mm shoulder bolts (C).
3. Torque the bolts to 50 Nm (37 lbf-ft).

IMPORTANT:

The hydraulic motor must be able to move slightly during operation. Tighten nuts (A) to the required torque only; do **NOT** use any washers or shims between the nut and the motor mount. It is normal for the motor and the hardware to feel somewhat loose after torquing.

4. If you are installing a new motor, reuse hydraulic fittings (D) from the original motor. Ensure that the fittings are clean before attaching the hoses.
5. Reconnect hydraulic hoses (A) to the motor, and secure hoses with the existing straps (if previously removed).
6. Close the endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).

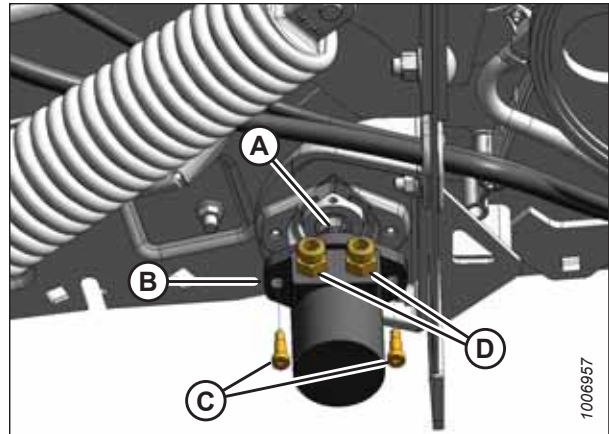


Figure 5.34: Rear Hydraulic Motor – Left Side

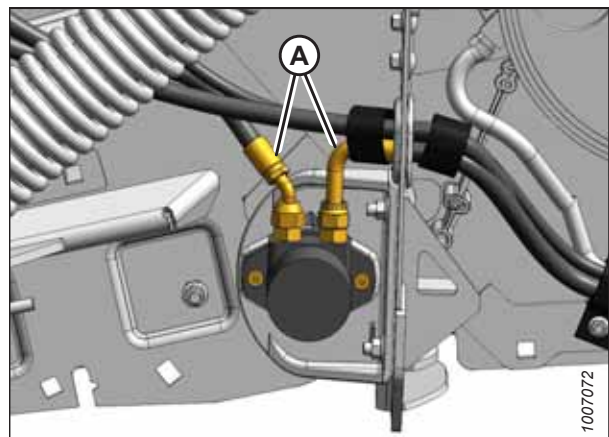


Figure 5.35: Rear Hydraulic Motor – Left Side

Removing Hydraulic Motor Hoses

The hydraulic hoses attached to the front and rear draper drive motors on the pick-up header can be removed for service or replacement.

⚠ DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground, and lower the hold-down completely.
2. Shut down the combine and remove the key from the ignition.
3. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).

MAINTENANCE AND SERVICING

4. Remove hose clips (A) and cinch straps (B).

NOTE:

Parts have been removed from the illustration so that the hydraulic hoses can be seen.

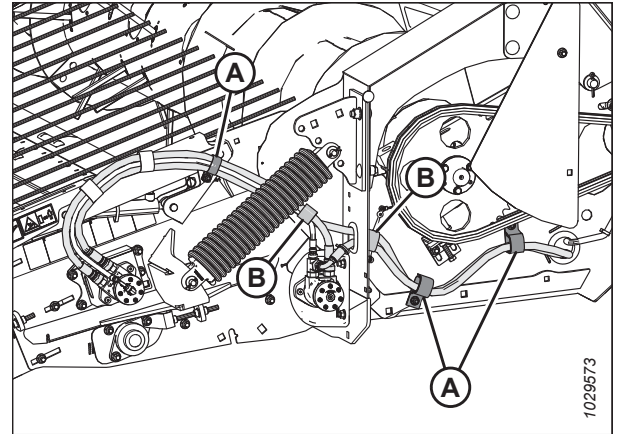


Figure 5.36: Left Side of Header

5. Disconnect and remove hydraulic hoses (A), (B), and (C) from drive motors (D) and (E). Install caps onto the hose ends or wrap the ends with plastic to prevent contamination from dirt and debris. Mark the hydraulic hose ends to ensure that they are reconnected to the correct ports.

IMPORTANT:

Keep hydraulic coupler tips and connectors clean. Allowing dirt, dust, water, or foreign material to enter the system is a major cause of hydraulic system damage. Do **NOT** attempt to service hydraulic systems in the field. Overhauls must be performed in an environment completely free of dust and dirt, or damage to the hydraulic system may result.

NOTE:

Parts have been removed from the illustration so that the hydraulic hoses can be seen.

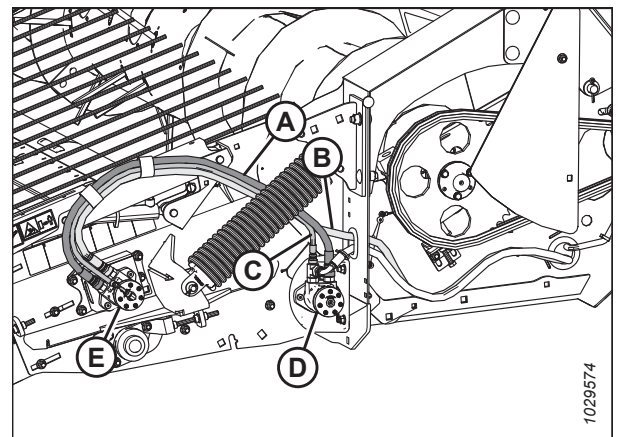


Figure 5.37: Left Side of Header

6. Remove cinch straps (A) from the disconnected and capped hoses.

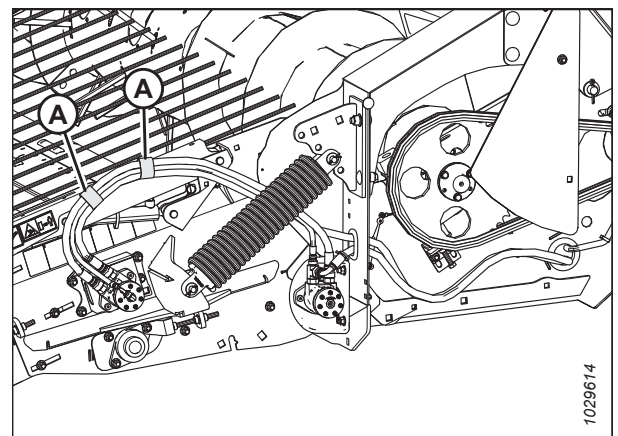


Figure 5.38: Left Side of Header

MAINTENANCE AND SERVICING

7. Remove cinch strap (A).
8. Disconnect hose (B) and hose (C) from multicoupler (D).

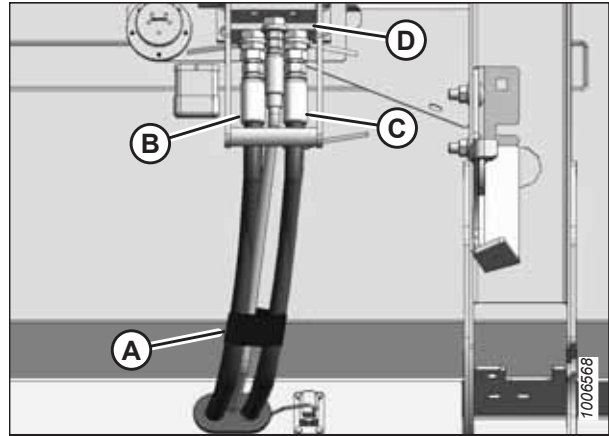


Figure 5.39: Multicoupler on Rear of Header

9. Loosen three M12 hex flange nuts (A) and remove bottom beam cover (B).
10. Pull the hoses out of bottom beam cover (B).

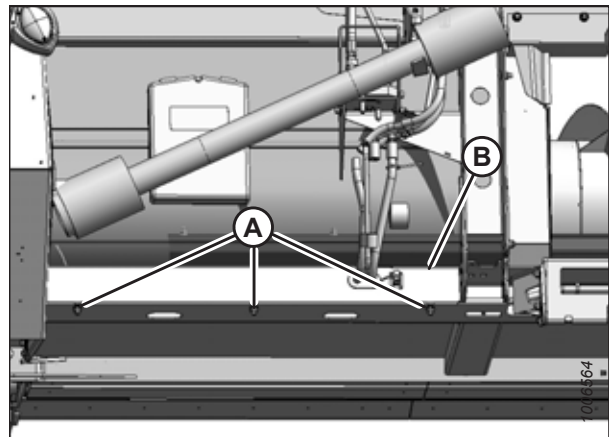


Figure 5.40: Bottom Beam Cover

11. Pull hose (A) through hole (B) in the endsheet and through hole (C) in the frame.

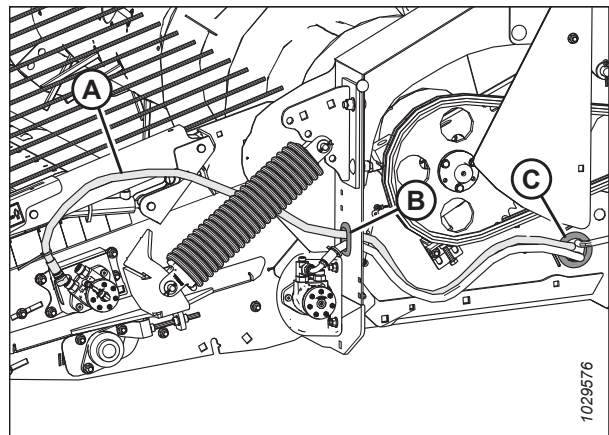


Figure 5.41: Left Side of Header

Installing Hydraulic Motor Hoses

Once the hydraulic hoses which attach to the front and rear draper drive motors have been serviced or replaced, they can be installed on the pick-up header.

1. Route two longer hoses (A) and (B) through hole (C) and (D) in the header frame.

NOTE:

The angled fitting on hose (B) attaches to pick-up rear drive motor (E). Hose (A) (marked with yellow cable ties) has identical fittings at both ends and attaches to the forward drive motor fitting equipped with a matching yellow cable tie.

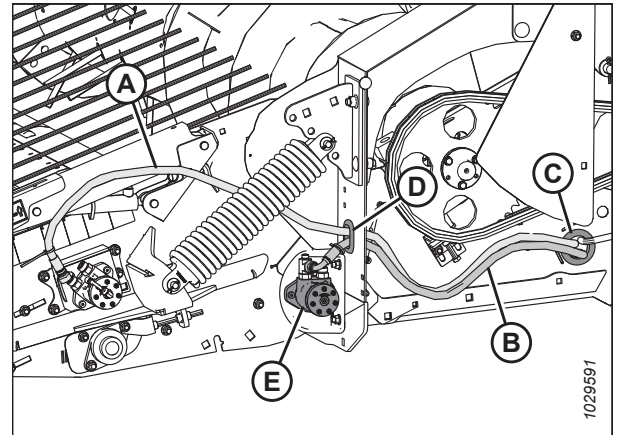


Figure 5.42: Left Side of Header

2. Route hose (A) and hose (B) through grommet (C) in the bottom beam cover. Match the colored cable ties and attach hose (A) and hose (B) to the multicoupler. If the colored cable ties are missing, attach the hoses as follows:

- a. Attach longer hose (A) to the forward port on the forward drive motor and to connector (E) on the multicoupler.
- b. Attach shorter hose (B) to the aft port on the rear drive motor and to connector (F) on the multicoupler.
- c. Secure the hoses with cinch strap (D).

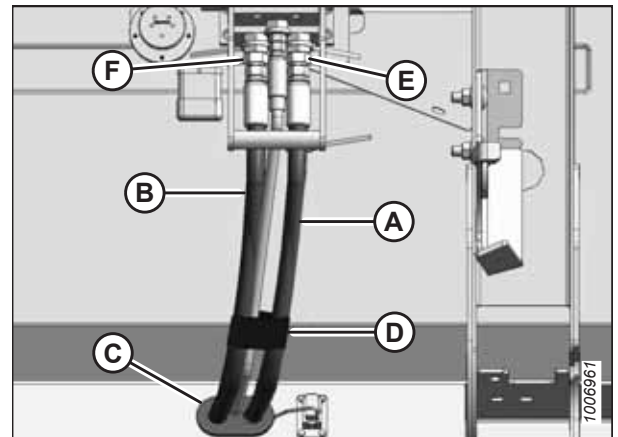


Figure 5.43: Multicoupler on Rear of Header

3. Connect hose (A) to front hydraulic motor (B). Connect shorter hose (C) to front hydraulic motor (B) and rear hydraulic motor (D).

NOTE:

The end of hose (C) (which has an angled fitting) attaches to rear motor (B).

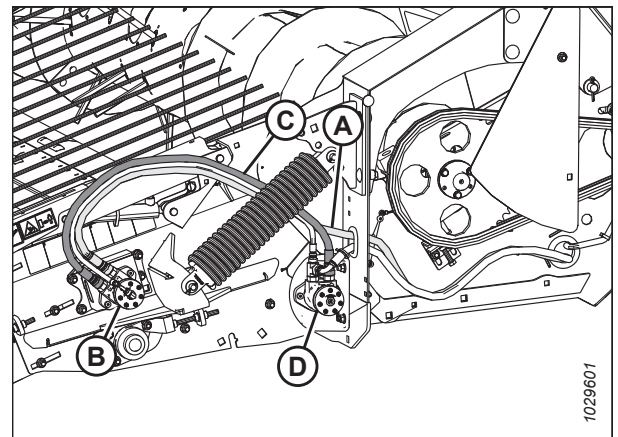


Figure 5.44: Left Side of Header

MAINTENANCE AND SERVICING

4. Connect hose (A) to front hydraulic motor (B) and rear hydraulic motor (C).
5. Secure the hoses with cinch straps (D).

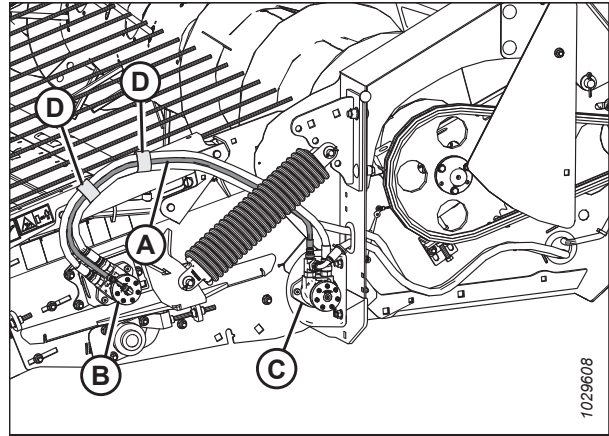


Figure 5.45: Left Side of Header

6. Secure the hoses with clips (A) and cinch straps (B).

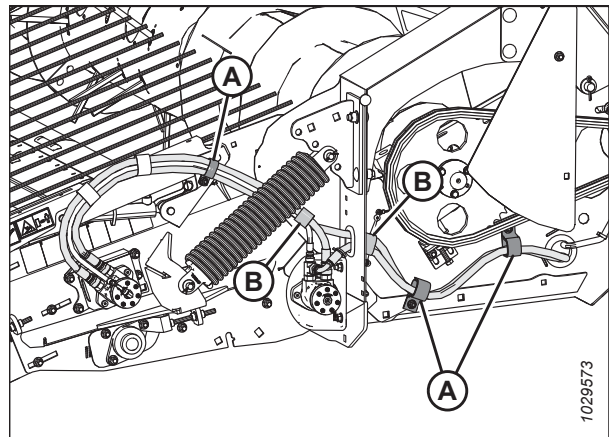


Figure 5.46: Left Side of Header

7. Install bottom beam cover (B) and tighten three M12 hex flange nuts (A) along the lower edge of the cover.
8. Close the left endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).

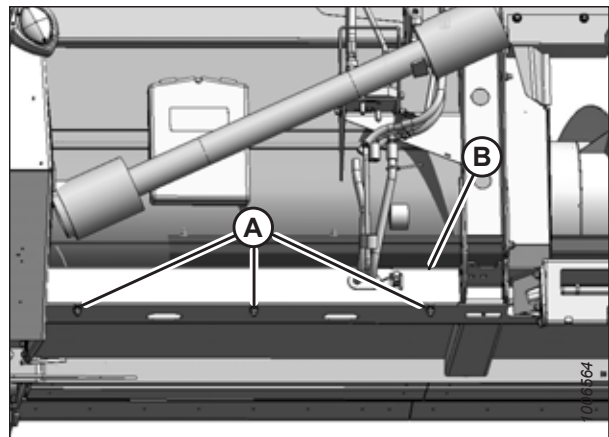


Figure 5.47: Bottom Beam Cover

5.5.4 Auger Drive

The auger is powered by a driveshaft connected directly to the combine's feeder house. Auger speed therefore varies directly with the speed of the combine's feeder house.

Contact your Dealer for available auger drive sprocket options. Refer to [Auger Drive Sprockets, page 241](#) for sprocket removal and installation procedures.

Auger Drive Chain

The endless auger drive chain is driven by a shaft directly connected to the combine's feeder house.

Removing Auger Drive Chain

The auger drive chain can be removed from the drive sprockets by releasing the tension on the chain.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground, shut down the combine, and remove the key from the ignition.
2. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).
3. Turn tensioner bolt (A) to release the tension on chain (B) until the chain can be removed from drive sprocket (D). For instructions, refer to [Adjusting Auger Drive Chain Tension, page 240](#).
4. Remove the chain from driven sprocket (C).

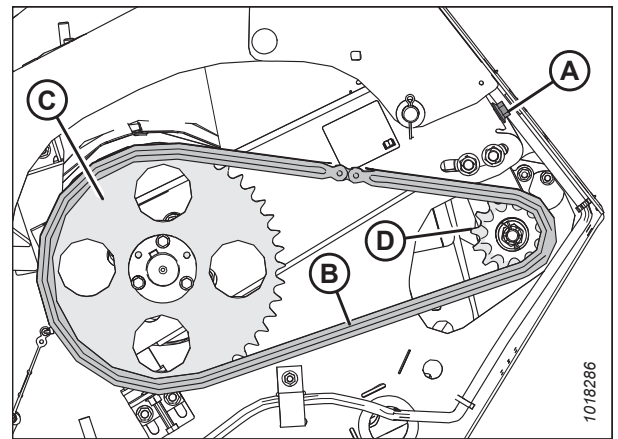


Figure 5.48: Auger Drive Chain

Installing Auger Drive Chain

Be sure to lubricate the chain when it is reinstalled.

1. Install chain (A) onto driven sprocket (B) and then onto drive sprocket (C).
2. Tighten the chain. For instructions, refer to [Adjusting Auger Drive Chain Tension, page 240](#).
3. Apply a liberal amount of SAE 30 engine oil to chain (A).
4. Close the left endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).

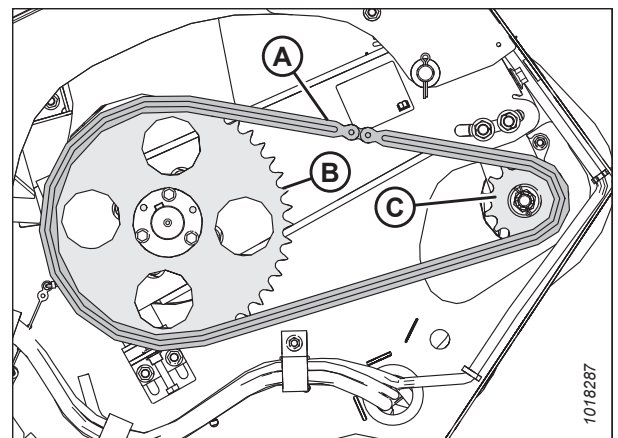


Figure 5.49: Auger Drive Chain

MAINTENANCE AND SERVICING

Adjusting Auger Drive Chain Tension

Adjust the auger drive chain tension until the midspan deflection matches the specified value.

1. Loosen the two M16 hex flange nuts (A).
2. To access tensioner bolt (B), remove the plug from the access hole in the endsheet.
3. Turn tensioner bolt (B) to adjust the chain tension.

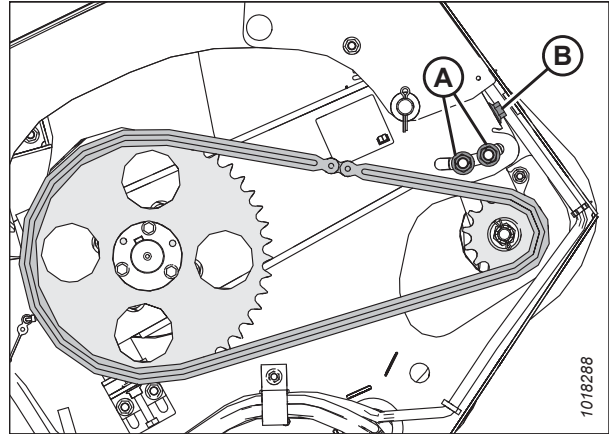


Figure 5.50: Auger Drive Chain

4. Rotate the chain until the tightest point is at the midspan, and ensure that there is 11–15 mm (7/16–9/16 in.) of deflection (indicated by distance [A]) when a force of 44.5 N (10 lbf) is applied at the midspan.

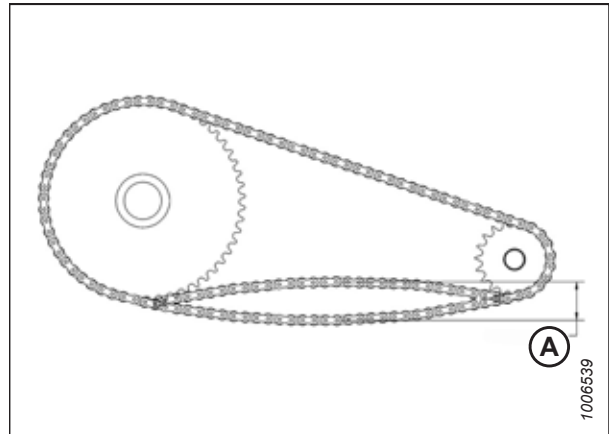


Figure 5.51: Chain Deflection

5. Torque nuts (A) to 217 Nm (160 lbf-ft).

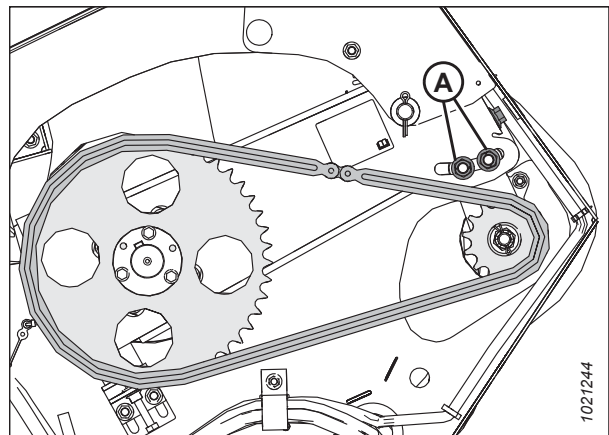


Figure 5.52: Auger Drive Chain

Auger Drive Sprockets

The ratio between the number of teeth in the auger drive sprocket and those in the driven sprocket determines the base speed of the auger. The sprockets can be replaced to make the pick-up header compatible with a different make and model of combine.

Removing Driven Sprocket

The driven sprocket turns the pick-up header's auger when it is connected by a chain to the drive sprocket.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the combine, and remove the key from the ignition.
3. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).

NOTE:

If more access is required, remove the endshield. For instructions, refer to [3.3.3 Removing Left Endshield, page 25](#).

4. Remove the drive chain. For instructions, refer to [Removing Auger Drive Chain, page 239](#).
5. Remove three M10 hex bolts (A) from tapered bushing (D) in sprocket (C).
6. Reinstall two M10 hex bolts (A) into threaded holes (B) in tapered bushing (D).
7. Alternately tighten each of the bolts one half-turn at a time. Do this until tapered bushing (D) is loosened.
8. Remove tapered bushing (D) and sprocket (C) from the shaft.
9. Retain the keys from the driveshaft and the tapered bushing.
10. Clean and inspect the components. Replace any worn or damaged parts.

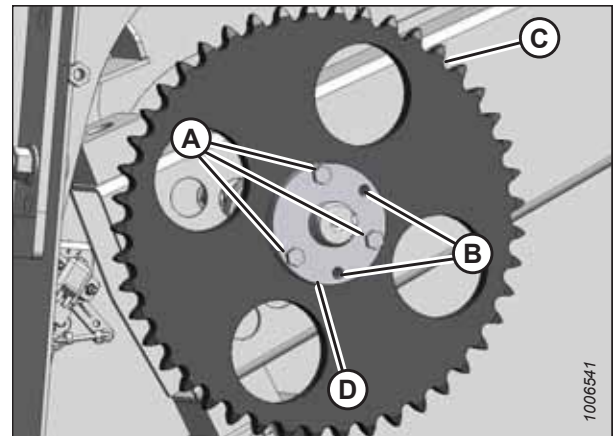


Figure 5.53: Driven Sprocket

Installing Driven Sprocket

The driven sprocket and its bushing will need to be reinstalled on the auger's driveshaft.

1. Apply anti-seize compound to the mating surfaces of driveshaft (A), tapered bushing (B), and sprocket (C).
2. Install the keys into driveshaft (A) and tapered bushing (B).
3. Insert tapered bushing (B) into sprocket (C) while aligning the key with the keyway in the sprocket.
4. Align the key in driveshaft (A) with keyway in tapered bushing (B), and slide bushing and sprocket (C) onto the driveshaft.

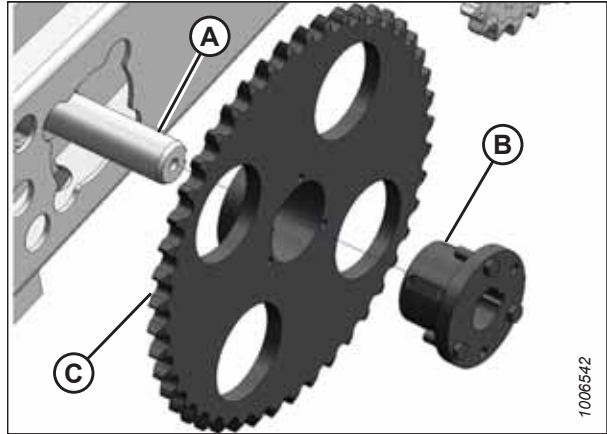


Figure 5.54: Driven Sprocket

5. Remove two M10 hex bolts from threaded holes (B) in tapered bushing (D).
6. Reinstall three M10 hex bolts (A) through tapered bushing (D) and into sprocket (C). Do **NOT** tighten the bolts at this time.

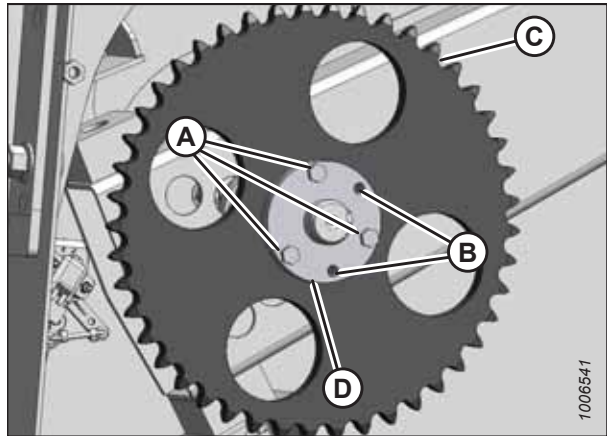


Figure 5.55: Driven Sprocket

7. Align driven sprocket (A) with drive sprocket (B) using a straight edge. The sprockets are aligned when the two faces are within 1 mm (3/64 in.) of each other.

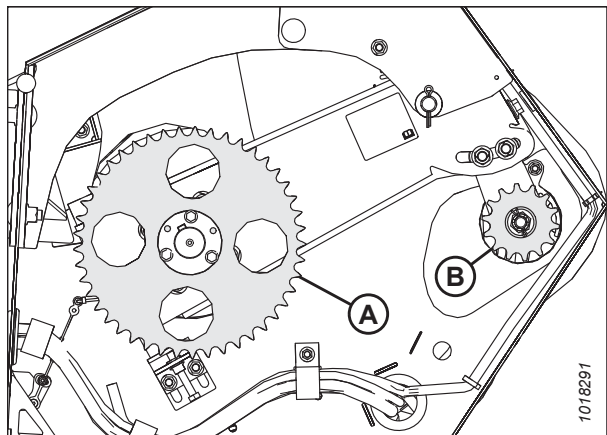


Figure 5.56: Sprockets

MAINTENANCE AND SERVICING

8. Torque three M10 hex bolts (A) in equal increments to 44 Nm (32 lbf-ft) while maintaining the alignment between the sprockets.
9. Tap bushing (B) with a hammer and torque the bolts again. Repeat this step three times or until the bolts no longer turn at 44 Nm (32 lbf-ft).

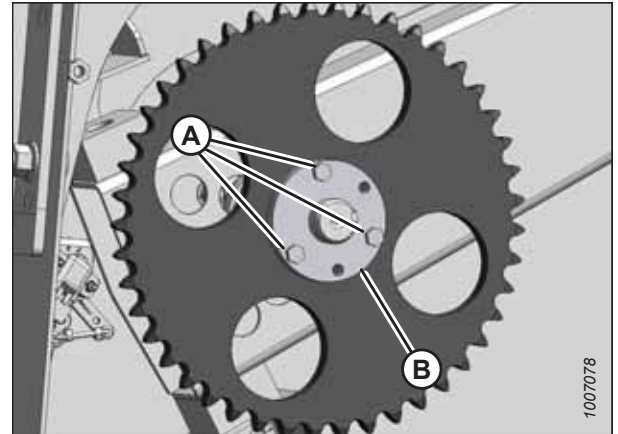


Figure 5.57: Driven Sprocket

10. Check the alignment of the sprockets again. If the alignment is off by more than 1 mm (3/64 in.), follow these steps:
 - a. Measure and record the position of tapered bushing (D) relative to the driveshaft.
 - b. Remove three M10 hex bolts (A) from tapered bushing (D).
 - c. Reinstall two M10 hex bolts (A) into threaded holes (B) in tapered bushing (D).
 - d. Alternately turn M10 hex bolts (A) into tapered bushing (D) in half-turn increments until the tapered bushing and sprocket (C) can be moved.
 - e. Reposition tapered bushing (D) to account for the misalignment.
 - f. Repeat Step 5, page 242 to Step 10, page 243.
 - g. Check the sprocket's alignment.
 - h. Repeat Step 10, page 243 until the sprockets are in alignment.

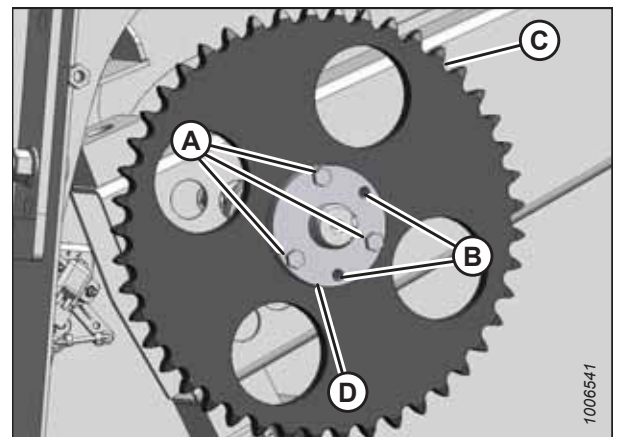


Figure 5.58: Driven Sprocket

11. Install and tension the chain. For instructions, refer to [Installing Auger Drive Chain, page 239](#).
12. Close the left endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).

Removing Drive Sprocket

The drive sprocket is driven by the attached combine's power take-off via the driveshaft. The drive chain will need to be removed before the drive sprocket can be removed.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the combine and remove the key from the ignition.

MAINTENANCE AND SERVICING

3. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).
4. If the header is not attached to the combine, place a pry bar or equivalent through a hole in driven sprocket (A) and against the frame to stop the driveshaft from rotating.

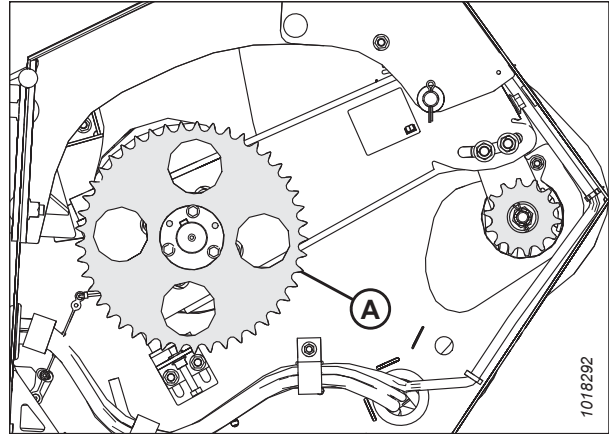


Figure 5.59: Driven Sprocket

5. Remove cotter pin (B).
6. Remove M20 castle nut (C) and washer (D) from the driveshaft.
7. Remove chain (A). For instructions, refer to [Removing Auger Drive Chain, page 239](#).

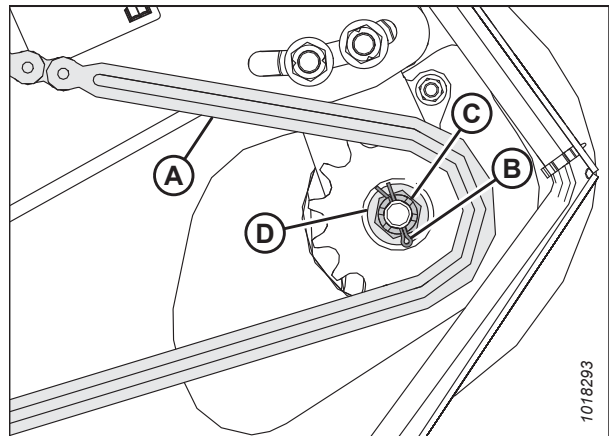


Figure 5.60: Drive Sprocket

8. Remove drive sprocket (A), using a puller if necessary.
9. Clean and inspect the components. Replace any worn or damaged parts.

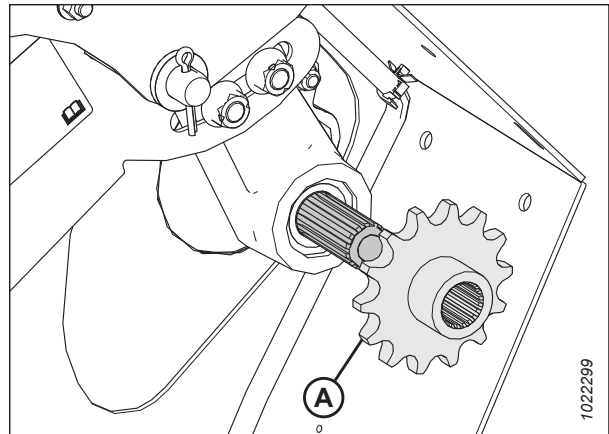


Figure 5.61: Drive Sprocket

Installing Drive Sprocket

The drive sprocket will need to be reinstalled onto the header's driveshaft.

1. Apply anti-seize compound to driveshaft (B) and the splines of drive sprocket (A).

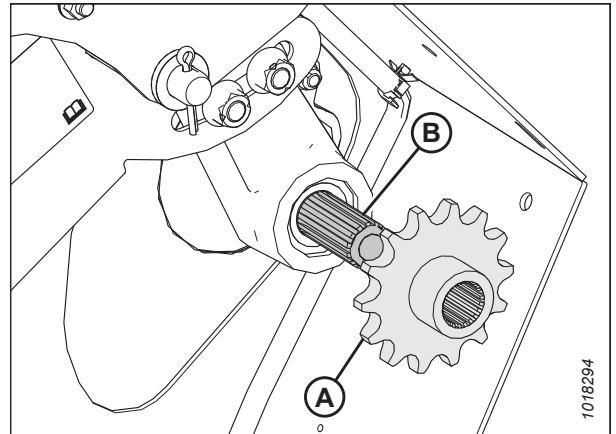


Figure 5.62: Drive Sprocket

2. Install drive sprocket (A), washer (B), and castle nut (C) onto the driveshaft.
3. Reinstall the drive chain, but do **NOT** fully tension at this time. For instructions, refer to *Installing Auger Drive Chain*, page 239.

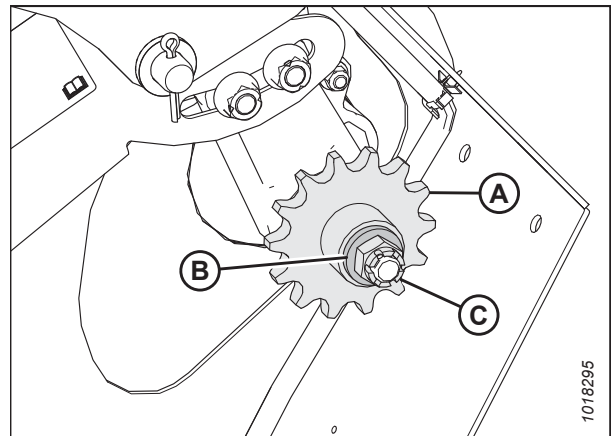


Figure 5.63: Drive Sprocket

4. If the header is not attached to the combine, place a pry bar or equivalent through a hole in the driven sprocket (A) and against the frame to stop the driveshaft from rotating.

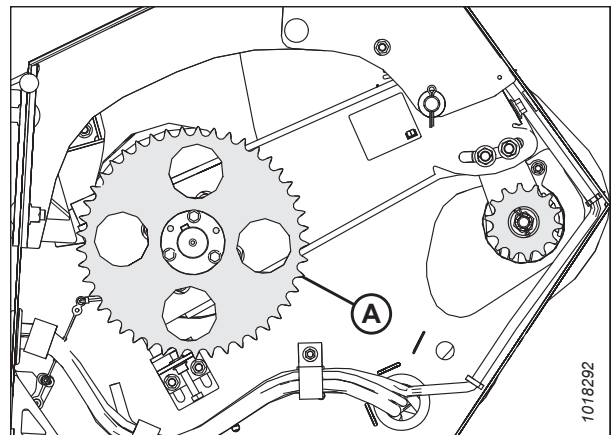


Figure 5.64: Driven Sprocket

MAINTENANCE AND SERVICING

5. Torque castle nut (A) to 34 Nm (25 lbf·ft). If the slot in the castle nut and the hole in the driveshaft are not aligned, continue to tighten the castle nut, up to a maximum of 136 Nm (100 lbf·ft). If the castle nut's hole and the hole in the driveshaft are still not aligned, back off the castle nut until it is possible to install cotter pin (B).
6. Install cotter pin (B) into the driveshaft hole. Bend the ends of the cotter pin around castle nut (A).
7. Tension drive chain (C). For instructions, refer to [Adjusting Auger Drive Chain Tension](#), page 240.
8. Close the left endshield. For instructions, refer to [3.3.2 Closing Left Endshield](#), page 24.

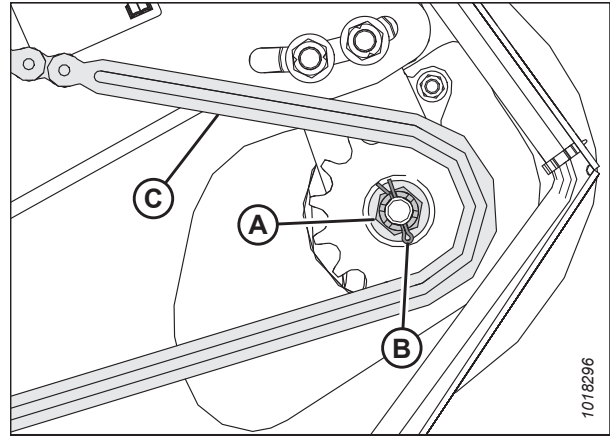


Figure 5.65: Drive Sprocket

5.6 Auger Maintenance

The auger's fingers, finger guides, finger holders, stripper plates, and flighting extensions may need to be replaced from time to time.

5.6.1 Replacing Auger Fingers

Periodically check the auger for missing, bent, or severely worn fingers. Replace broken parts as soon as possible.

DANGER

To prevent bodily injury or death from the unexpected start-up or fall of a raised machine, always stop the engine and remove the key before leaving the operator's seat, and always engage the safety props before going under the machine.

1. Raise the hold-down fully and engage the lift cylinder safety props.
2. Shut down the combine, and remove the key from the ignition.
3. Remove two screws (A) from access cover (B) closest to the auger finger being serviced [for example, auger finger (C)]. Remove the access cover.

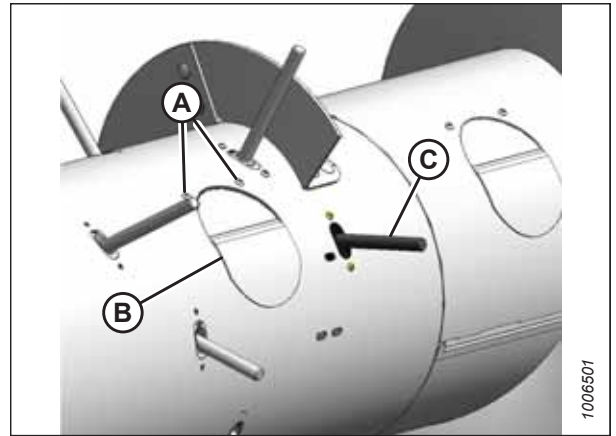


Figure 5.66: Access Cover

4. Reach inside the auger and remove hairpin (A). Swivel auger finger (B) away from holder (C), pull the finger from plastic guide (D), and remove the finger from the auger through the access hole.
5. From inside the auger, insert new auger finger (B) through plastic guide (D).
6. Insert auger finger (B) into holder (C), and secure the auger finger in the holder with hairpin (A). Install the hairpin with the closed end facing the direction of the auger's forward rotation.

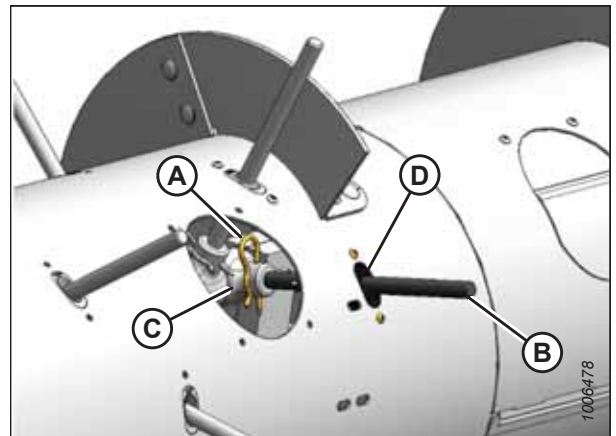


Figure 5.67: Auger Fingers

- Install access cover (B) using two screws (A) coated with medium-strength threadlocker (Loctite® 243 or equivalent). Torque the screws to 9 Nm (80 lbf-in).

NOTE:

If reusing any hardware, apply medium-strength threadlocker (Loctite® 243 or equivalent) to the threads of the bolts or screws.

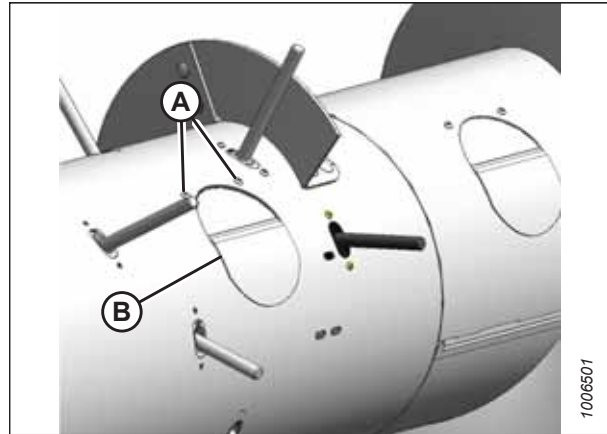


Figure 5.68: Access Cover

5.6.2 Replacing Auger Finger Guides

If the hole in the finger guide has elongated to the maximum length of 24 mm (15/16 in.), replace the finger guide.

⚠ DANGER

To prevent bodily injury or death from the unexpected start-up or fall of a raised machine, always stop the engine and remove the key before leaving the operator's seat, and always engage the safety props before going under the machine.

- Raise the hold-down fully, and engage the lift cylinder safety props.
- Shut down the combine, and remove the key from the ignition.
- Remove two screws (A) from the access cover (B) closest to the finger guide being replaced, and remove the access cover.
- Remove auger finger (C). For instructions, refer to [5.6.1 Replacing Auger Fingers, page 247](#).

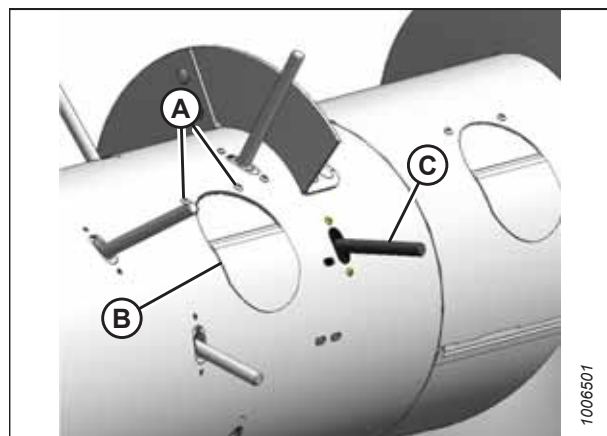


Figure 5.69: Access Cover

- Remove two screws (A) from finger guide (B), and remove the finger guide through the access hole.

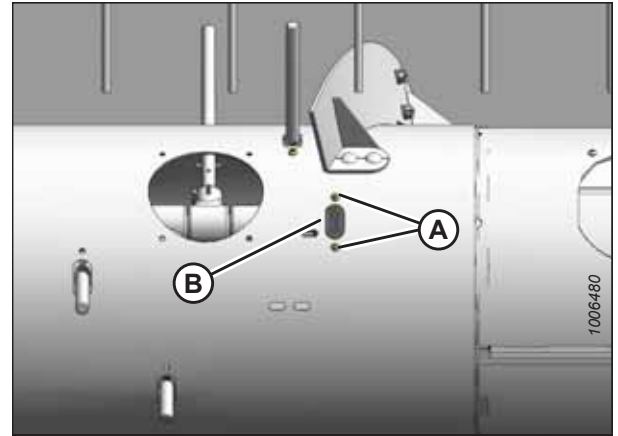


Figure 5.70: Auger Finger Guide

- Reach inside the auger and install new finger guide (A) using existing screws (B) and tee nuts (C) as shown. Torque the screws to 9 Nm (80 lbf-in).
- Reinstall the auger finger. For instructions, refer to [5.6.1 Replacing Auger Fingers](#), page 247.

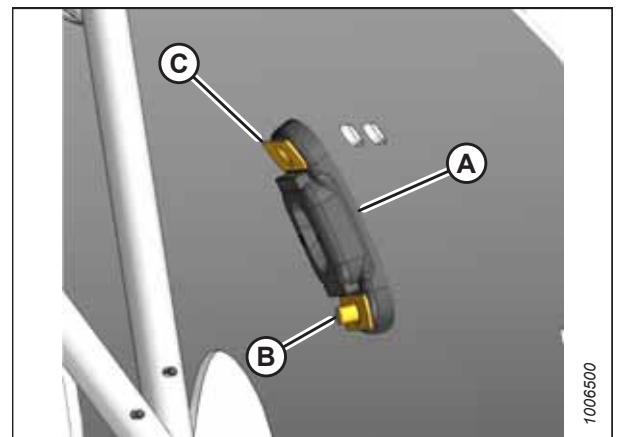


Figure 5.71: Auger Finger Guide

- Install access cover (B) using two screws (A) coated with medium-strength threadlocker (Loctite® 243 or equivalent). Torque the screws to 9 Nm (80 lbf-in).

NOTE:

If reusing any hardware, apply medium-strength threadlocker (Loctite® 243 or equivalent) to the threads of the bolts or screws.

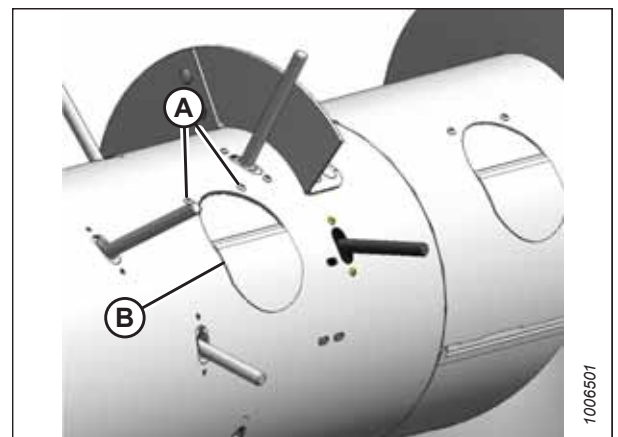


Figure 5.72: Access Cover

5.6.3 Replacing Auger Finger Holders

Periodically check the auger for damaged or severely worn finger holders. Replace broken parts as soon as possible.

NOTE:

Replace broken auger finger holders with split finger holders from the Split Finger Holder kit (MD #276839). Instructions are included with the kit.

⚠ DANGER

To prevent bodily injury or death from the unexpected start-up or fall of a raised machine, always stop the engine and remove the key before leaving the operator's seat, and always engage the safety props before going under the machine.

1. Raise the hold-down fully, and engage the lift cylinder safety props.
2. Shut down the combine, and remove the key from the ignition.
3. Remove two screws (A) and remove center access cover (B).

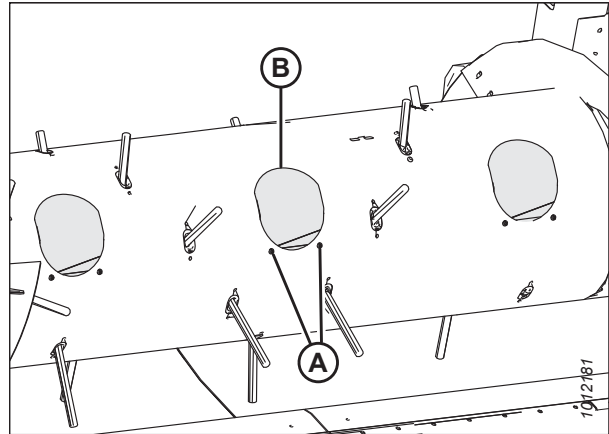


Figure 5.73: Center Access Cover

4. If the finger holder requiring replacement is located on the right side of the auger: remove two screws (A) and remove right access cover (B).
5. If the finger holder requiring replacement is located on the left side of the auger: remove two screws (C) and remove left access cover (D).

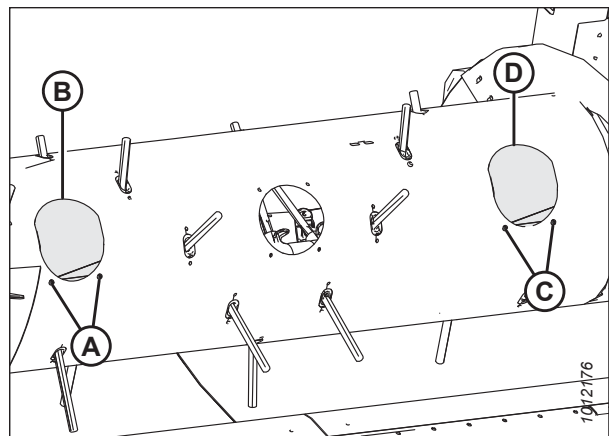


Figure 5.74: Left and Right Access Covers

MAINTENANCE AND SERVICING

6. Reach inside the auger and remove hairpin (A). Swivel auger finger (B) away from finger holder (C) and pull the finger from plastic guide (D). Remove the finger from the auger.

NOTE:

Depending on the number of auger fingers (B) installed in the auger, there may be spare holders (C) on the shaft. Look inside the drum to see if there are any spare holders. If there are spare holders already installed, completely remove the damaged holder. To access the spare holder, remove the auger fingers.

IMPORTANT:

There must always be 24 finger holders (C) on the shaft; otherwise, the holders may slide over and cause auger fingers (B) to fall into the drum during operation.

7. If the auger finger removed in Step 6, page 251 is on the right side of the auger, reach inside, and remove all of the fingers between damaged finger holder (A) and right finger support clamp (B) as described in the following steps.
8. If the auger finger removed in Step 6, page 251 is on the left side of the auger, remove all the fingers between damaged finger holder (C) and left finger support clamp (D) as described in the following steps.

NOTE:

The middle auger sheet has been removed from the illustration for the sake of clarity.

9. Reach inside the auger, remove two M10 hex head bolts, nuts, and washers (A), and remove finger support clamp (B) from the shaft.

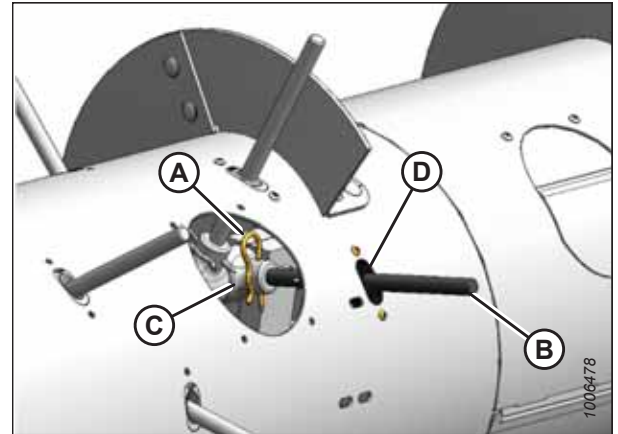


Figure 5.75: Auger Fingers

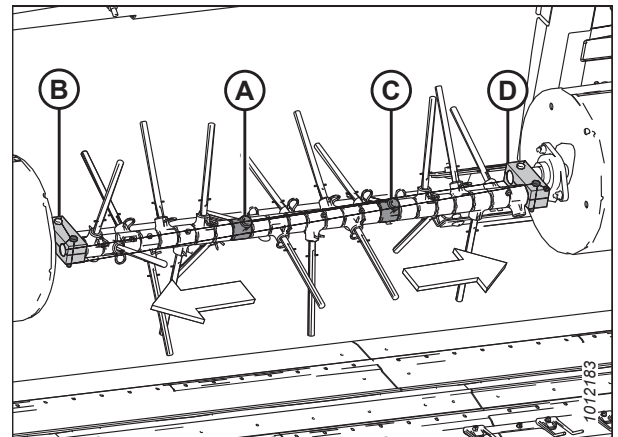


Figure 5.76: Auger Fingers

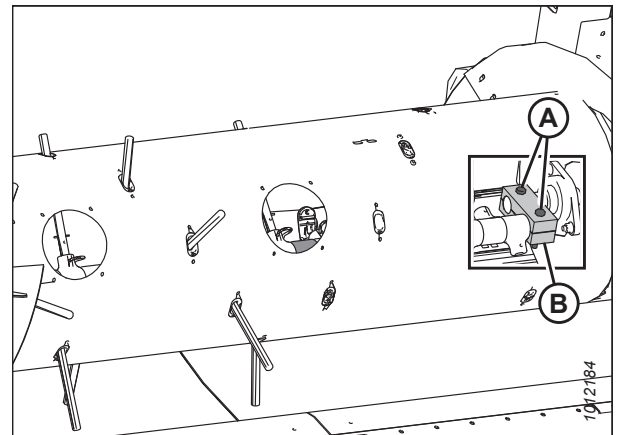


Figure 5.77: Left Auger Finger Support Clamp — Cutaway View Shown

MAINTENANCE AND SERVICING

10. Reach inside the auger and slide auger finger holders (A) off the end of shaft (B).

NOTE:

The middle auger sheet has been removed from the illustration for the sake of clarity.

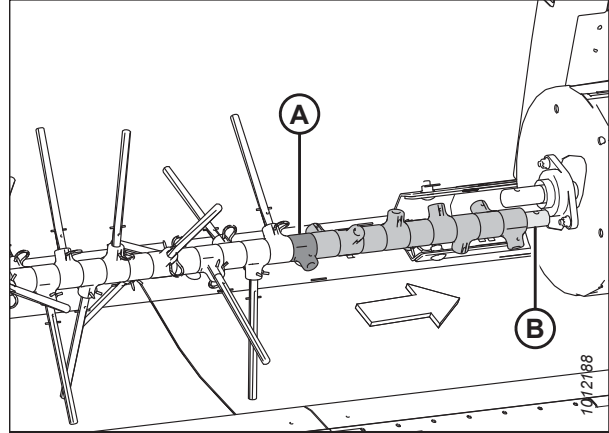


Figure 5.78: Left Auger Finger Holders

11. Reach inside the auger, and slide new auger finger holders (A) onto shaft (B).

NOTE:

The middle auger sheet has been removed from the illustration for the sake of clarity.

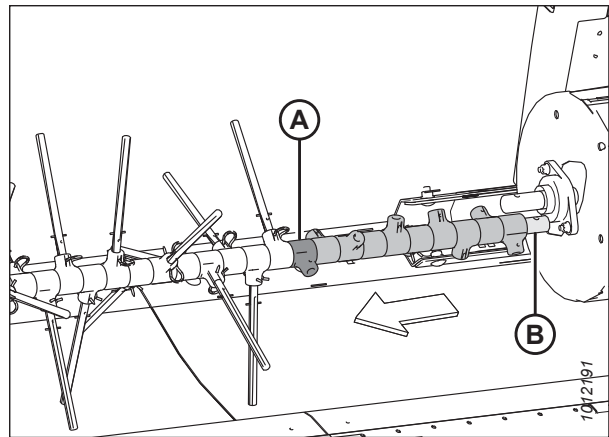


Figure 5.79: Left Auger Finger Holders

12. Reach inside the auger, place finger support clamp (B) onto the shafts, and secure the clamp with two M10 hex head bolts, nuts, and washers (A). Torque the bolts to 54–61 Nm (40–45 lbf·ft).

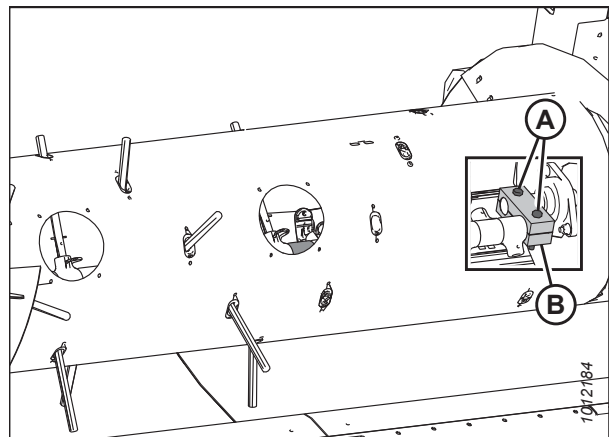


Figure 5.80: Side Auger Finger Support Clamp — Cutaway View Shown

- Reach inside the auger and reinstall auger fingers (B) through plastic guides (D) from the inside.

NOTE:

Replace any worn or damaged auger fingers.

- Insert auger fingers (B) into finger holders (C). Secure the auger fingers in their finger holders with hairpins (A). Install the hairpins with the closed end leading with respect to auger forward rotation.

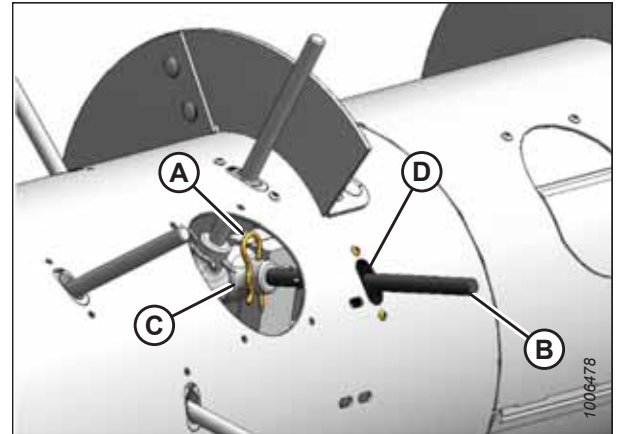


Figure 5.81: Auger Fingers

- Install access covers (A) using two screws (B) coated with medium-strength threadlocker (Loctite® 243 or equivalent). Torque the screws to 9 Nm (80 lbf-in).

NOTE:

If reusing any hardware, apply medium-strength threadlocker (Loctite® 243 or equivalent) to the threads of the bolts or screws.

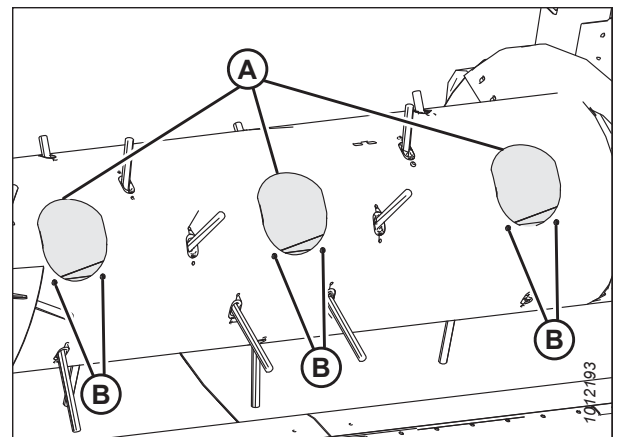


Figure 5.82: Access Covers

5.6.4 Replacing Stripper Plates

Replace any stripper plates and missing or damaged fasteners if the specified clearance between the stripper plate and the auger flighting cannot be maintained.

⚠ DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

- Lower the header to the ground.
- Shut down the engine and remove the key from the ignition.

MAINTENANCE AND SERVICING

3. Remove four bolts and nuts (A) from stripper plate (B).

NOTE:

Access the auger/stripper plate area from the top of the header.

4. Replace stripper plate (B) and secure it with four bolts and nuts (A); do **NOT** fully tighten the hardware at this time.
5. Adjust stripper plate (B) to achieve 3–8 mm (1/8–5/16 in.) clearance (C) from the auger flighting.
6. Tighten nuts (A).
7. Check the clearance between the stripper plate and the auger flighting. For instructions, refer to [Checking Stripper Plate Clearance](#), page 82.

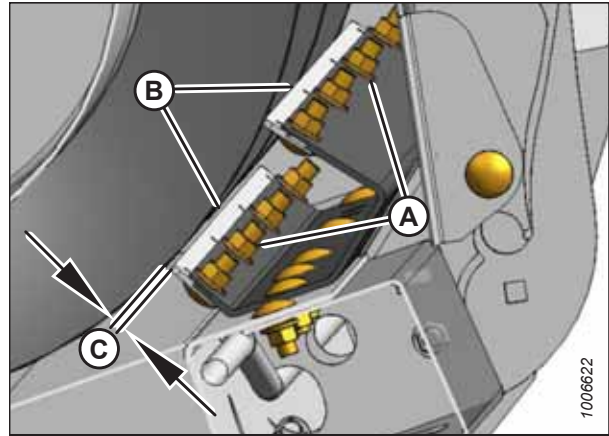


Figure 5.83: Stripper Plate Clearance

5.6.5 Replacing Flighting Extensions

Be sure that the auger flighting extensions do not interfere with the rotation of the auger drum.

1. Remove the header from the combine. Refer to [3.9 Header Attachment and Detachment](#), page 35 for instructions.
2. Remove two access covers (A) from both sides of the center of the auger.

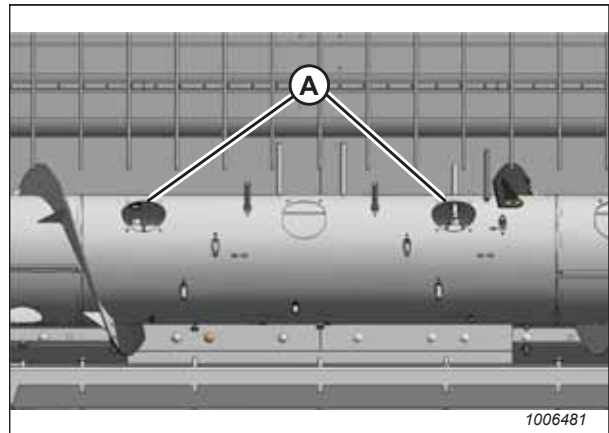


Figure 5.84: Auger Access Covers

3. Remove hardware (A) securing existing auger flighting extensions (B) and remove the extensions. Retain the hardware.

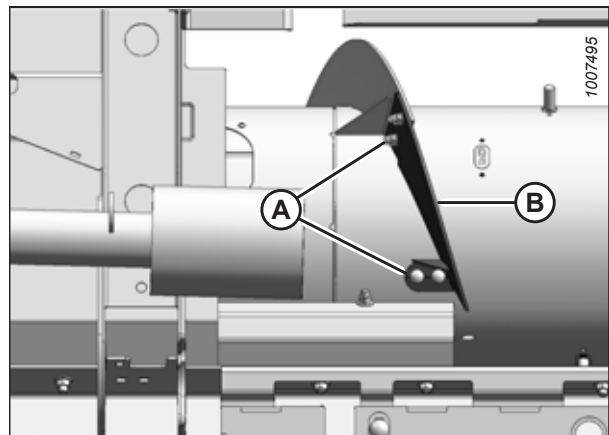


Figure 5.85: Flighting Extension

MAINTENANCE AND SERVICING

4. Place new flighting extension (A) on the auger and ensure that the new flighting is positioned on the outboard side of existing flighting (B).
5. Secure flighting extension (A) to the auger using existing hardware (C).
6. Repeat Step 3, [page 254](#) to Step 5, [page 255](#) on the opposite side of the auger.

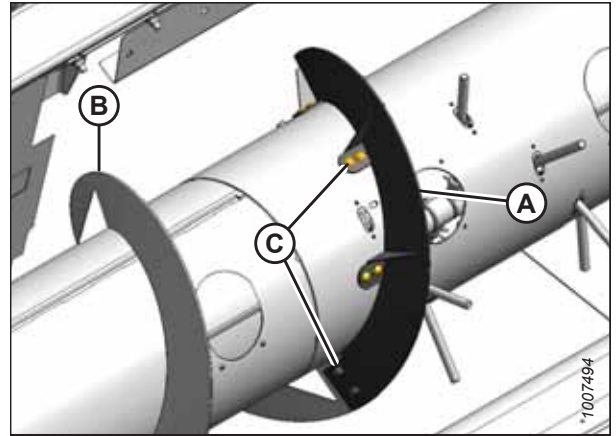


Figure 5.86: Flighting Extension

IMPORTANT:

To avoid damaging the auger, remove all loose hardware and tools from inside the auger.

7. Install access covers (A) using two screws (B) coated with medium-strength threadlocker (Loctite® 243 or equivalent). Torque the screws to 9 Nm (80 lbf-in).

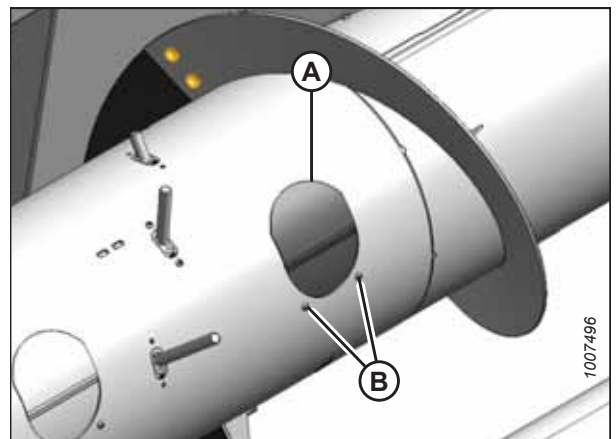


Figure 5.87: Access Cover

8. Rotate the auger manually to check for interference and to check the clearance between the auger flighting and stripper plates (B). Ensure that clearance (C) is 3–8 mm (1/8–5/16 in.) and adjust nuts (A) if necessary. For instructions, refer to [Adjusting Stripper Plate Clearance](#), [page 82](#).

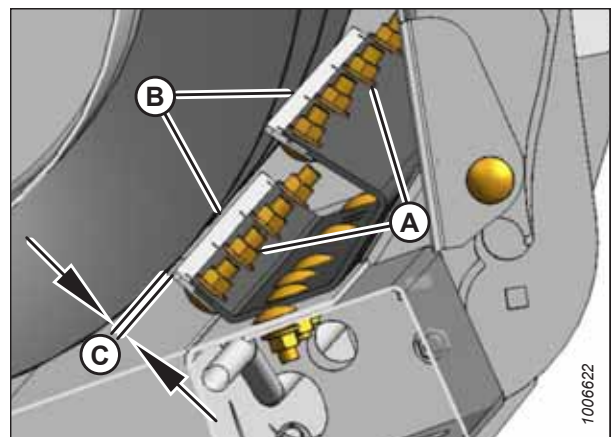


Figure 5.88: Stripper Plate Clearance

5.7 Decks

The draper belts, their attached fingers and guides, and their roller bearings may require replacement or maintenance from time to time.

5.7.1 Draper Belts

Periodically check the draper belts for signs of wear and damage. Replace draper belts that have stretched, have cuts or tears, or have worn slats. Replace missing or damaged fasteners, damaged connector bars, and damaged straps.

Removing Front Draper Belt

The front draper is secured to the draper deck with elevator bolts and a belt edge protector.

! DANGER

To prevent bodily injury or death from the unexpected start-up or fall of a raised machine, always stop the engine and remove the key before leaving the operator's seat, and always engage the safety props before going under the machine.

1. Raise the hold-down fully and engage the lift cylinder safety props. For instructions, refer to [3.5 Engaging Hold-Down Lift Cylinder Safety Props, page 31](#).
2. Raise the header fully, and engage the combine lift cylinder safety props.
3. Stop the engine, and remove the key from the ignition.
4. Fully release the tension on the front draper belt.
5. Rotate draper belt (A) until connecting belt edge protector (B) is situated on top of the draper deck. Remove and retain the following hardware:
 - M6 flange nut (C)
 - belt edge protector (B)
 - retainer (D) (from between the draper overlap)
 - guide (E)
 - pronged elevator bolt (F)

NOTE:

Remove the elevator bolts only if you are replacing the draper.

NOTE:

Parts have been removed from the illustration to show clearly the removal order of the hardware and the draper belt interior.

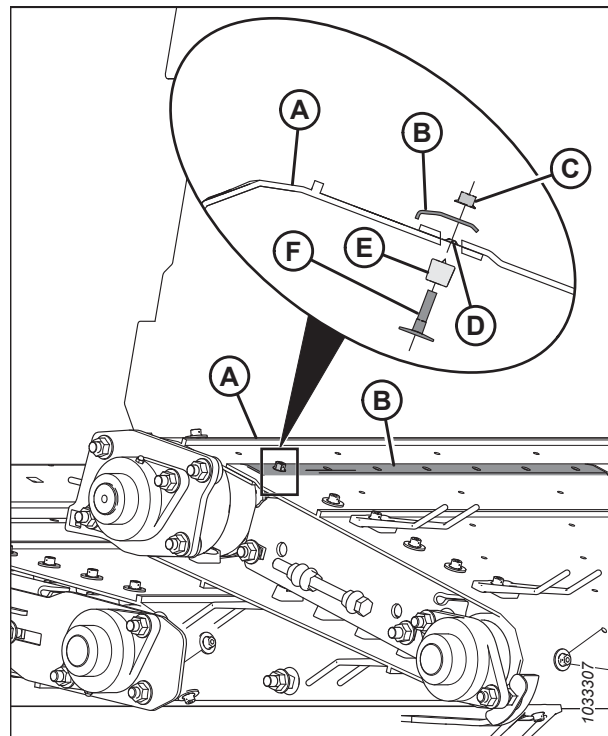


Figure 5.89: Front Draper Belt End

MAINTENANCE AND SERVICING

- Remove remaining M6 flange nuts (A), connector bar (B), and pronged elevator bolts (C) from draper belt (D).

NOTE:

Remove the elevator bolts only if you are replacing the draper.

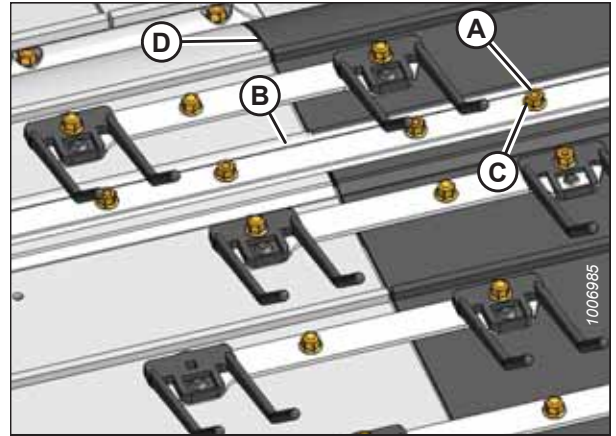


Figure 5.90: Front Draper Belt

- Remove M6 flange nuts (A), fingers (B), and straps (C) connecting adjacent belts.
- Remove draper belt (D).

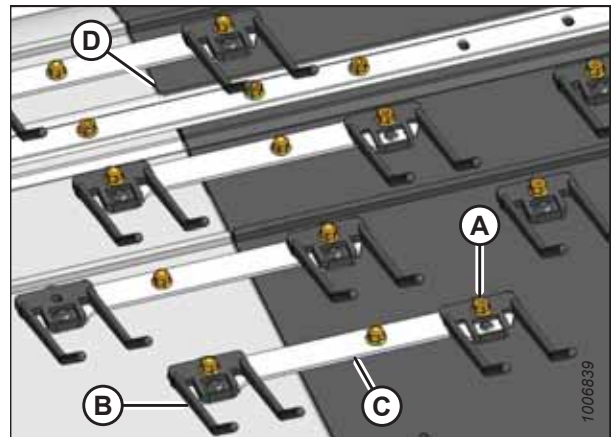


Figure 5.91: Front Draper Belt Straps

Installing Front Draper Belt

If you are replacing more than one draper belt, it may be easier to remove all the belts and assemble them on the ground before installing them on the draper.

- Wrap new draper belt (A) around the rollers with the slats facing outwards.

IMPORTANT:

The arrow on the belt must point in the direction of rotation.

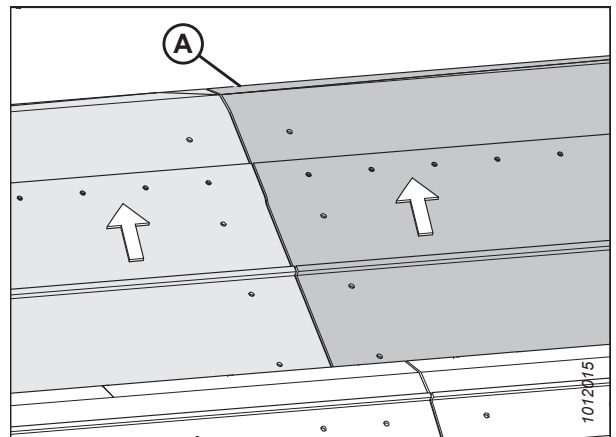


Figure 5.92: Front Draper Belt

MAINTENANCE AND SERVICING

- Overlap and connect the ends of draper belt (A) using M6 x 15 1/2 pronged elevator bolt (F) and guide (E). Place retainer (D) on bolt (F) between the layers of the draper belt where they overlap.

NOTE:

Parts have been removed from the illustration to show clearly the removal order of the hardware and the draper belt interior.

- Align edge protector (B) over bolts (F) at the belt overlap and secure it with M6 flange nuts (C).
- Torque M6 flange nuts (C) to 4–5.6 Nm (37–50 lbf·in).

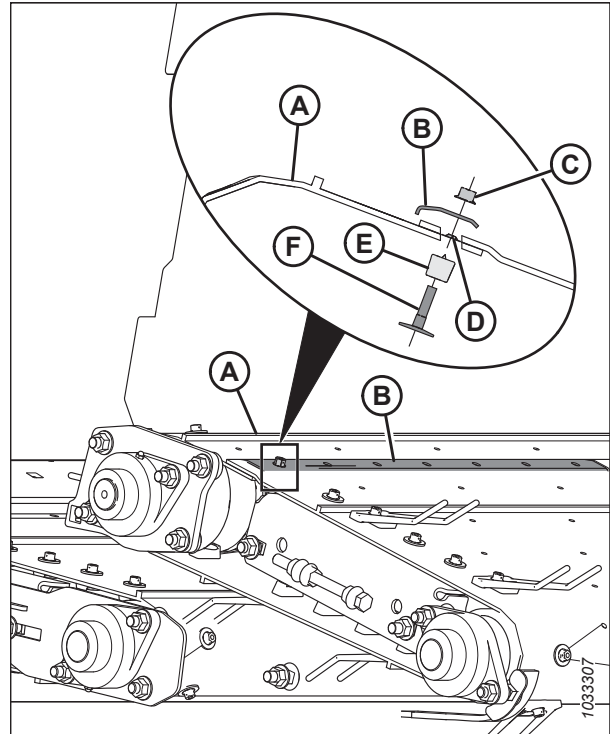


Figure 5.93: Rear Draper Belt End

- Install connector bars (A) onto the draper belt using pronged elevator bolts, and secure it with M6 flange nuts (B).
- Torque M6 flange nuts (B) to 4–5.6 Nm (37–50 lbf·in).

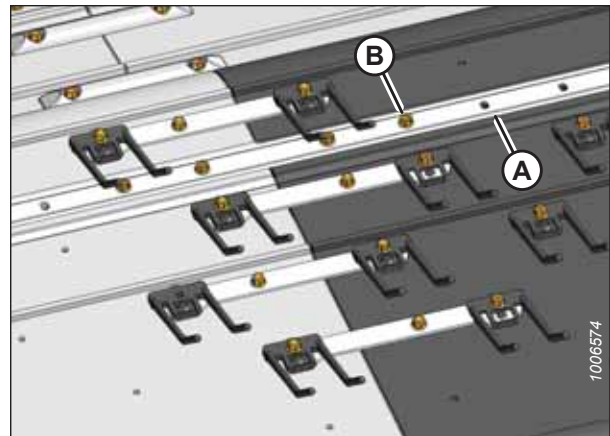


Figure 5.94: Front Draper Belt

MAINTENANCE AND SERVICING

7. Connect the draper belt by installing M6 x 16 square neck elevator bolts (A) at the center locations, and M6 x 23 square neck elevator bolts (B) at finger locations (D).
8. Install straps (C) and fingers (D) onto the bolts, and secure them with M6 flange nuts (E).
9. Torque M6 flange nuts (E) to 4–5.6 Nm (37–50 lbf·in).

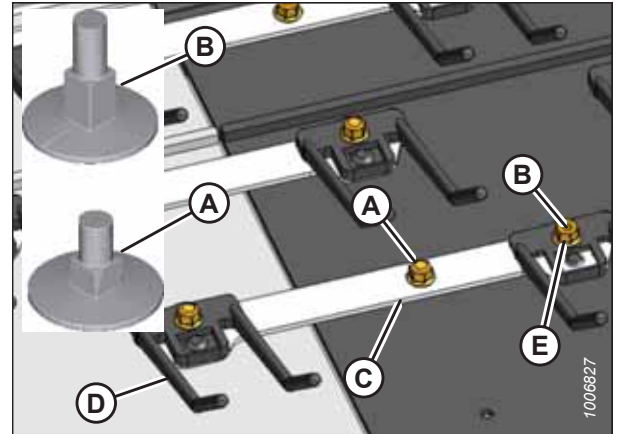


Figure 5.95: Front Draper Belt Straps

Removing Rear Draper Belt

The rear draper is secured to the draper deck with elevator bolts and a belt edge protector.

DANGER

To prevent bodily injury or death from the unexpected start-up or fall of a raised machine, always stop the engine and remove the key before leaving the operator's seat, and always engage the safety props before going under the machine.

1. Fully raise the hold-down and engage the lift cylinder safety props. For instructions, refer to [3.5 Engaging Hold-Down Lift Cylinder Safety Props, page 31](#).
2. Fully raise the header, and engage the combine lift cylinder safety props.
3. Stop the engine and remove the key from the ignition.
4. Fully release the tension on the rear draper belt.

MAINTENANCE AND SERVICING

5. Rotate draper belt (A) until connecting belt edge protector (E) is situated on top of the draper deck, and remove and retain the following hardware:

- M6 flange nut (F)
- belt edge protector (E)
- retainer (D) (from between the draper overlap)
- guide (C)
- pronged elevator bolt (B)

NOTE:

Remove the elevator bolts only if you are replacing the draper.

NOTE:

Parts have been removed from the illustration to show clearly the removal order of the hardware and the draper belt interior.

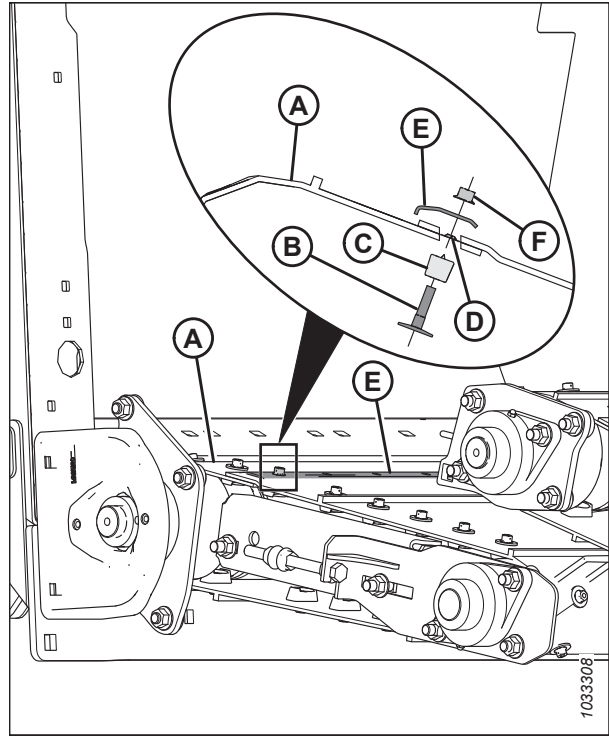


Figure 5.96: Rear Draper Belt End

6. Remove remaining M6 flange nuts (A), connector bars (B), and pronged elevator bolts (C) from draper belt (D).

NOTE:

Remove the elevator bolts only if you are replacing the draper.

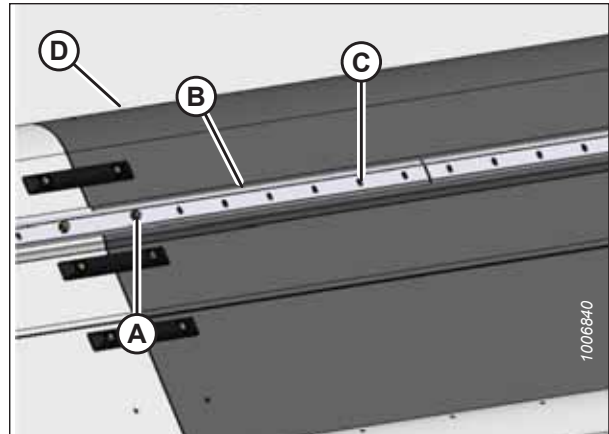


Figure 5.97: Rear Draper Belt

MAINTENANCE AND SERVICING

7. Remove M6 flange nuts (A) and straps (B) connecting the adjacent belts.
8. Remove elevator bolts (C).
9. Remove draper belt (D).

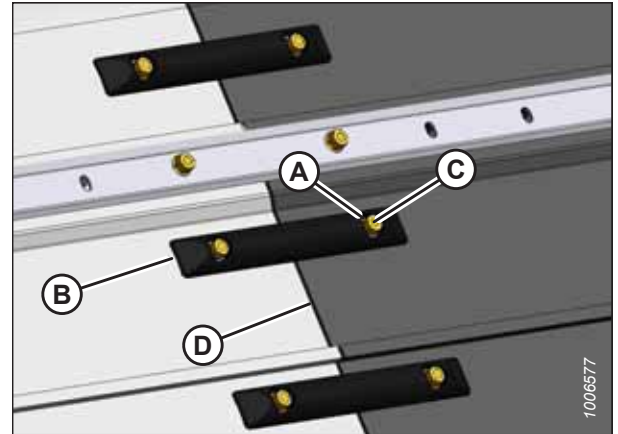


Figure 5.98: Rear Draper Belt Straps

Installing Rear Draper Belt

If you are replacing more than one draper belt, it may be easier to remove all the belts and assemble them on the ground before installing them on the draper.

1. Wrap draper belt (A) around the rollers with the slats facing outwards.

IMPORTANT:

The arrow on belt (A) must point in the direction of rotation.

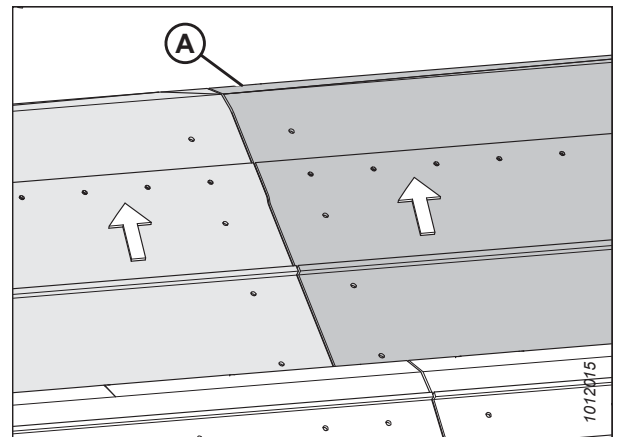


Figure 5.99: End Draper Belt

MAINTENANCE AND SERVICING

- Overlap and connect the ends of draper belt (A) using M6 x 15 1/2 pronged elevator bolt (B) and guide (C). Place retainer (D) on bolt (B) between the layers of draper belt where they overlap.

NOTE:

Parts have been removed from the illustration to show clearly the removal order of the hardware and the draper belt interior.

- Align edge protector (E) over bolts (B) where the belt overlaps and secure it with M6 flange nuts (F).
- Torque M6 flange nuts (F) to 4–5.6 Nm (37–50 lbf-in).

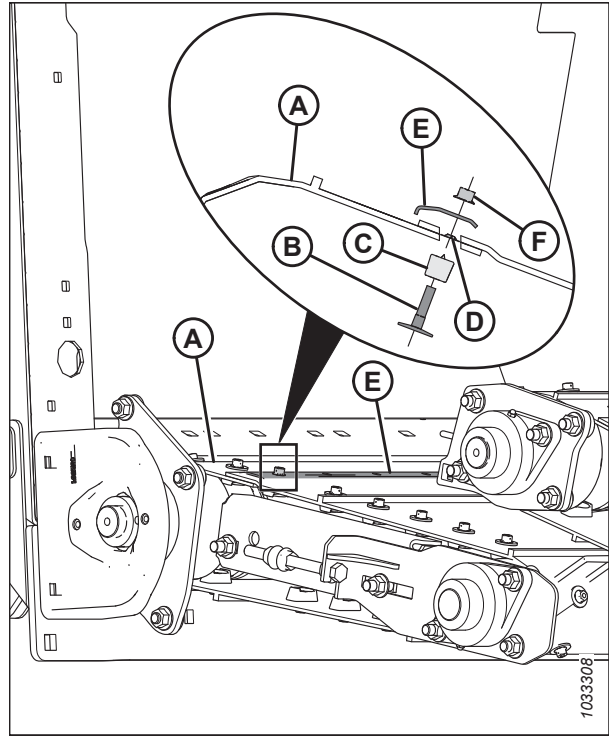


Figure 5.100: Rear Draper Belt End

- Install pronged elevator bolts (C) along the edge of the draper belt, and secure it with edge protector (A) and M6 flange nuts (B).
- Torque M6 flange nuts (B) to 4–5.6 Nm (37–50 lbf-in).

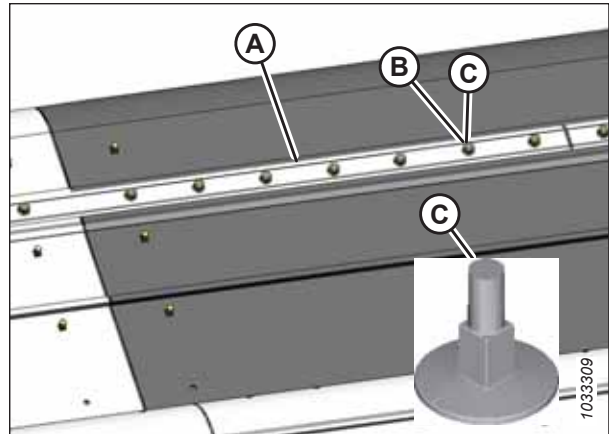


Figure 5.101: Rear Draper Belt

MAINTENANCE AND SERVICING

7. Install straps (B) onto the bolts, and secure them with M6 flange nuts (A).
8. Torque M6 flange nuts (A) to 4–5.6 Nm (37–50 lbf·in).

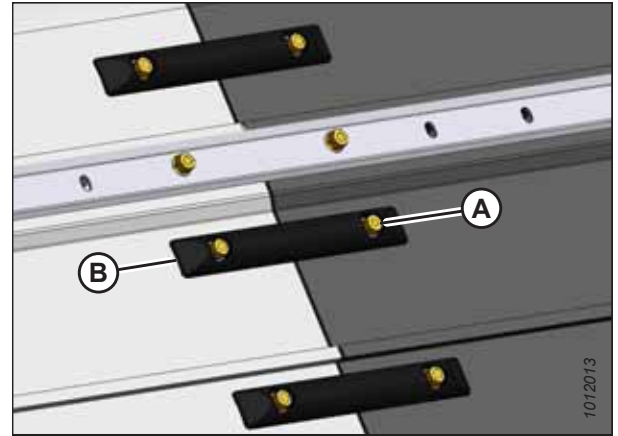


Figure 5.102: Draper Belt Straps

5.7.2 Draper Fingers and Guides

Replace any broken or worn fingers. Excessively worn fingers will reduce picking efficiency, resulting in losses that far exceed the cost of new fingers.

The guides, which maintain draper tracking, are located along the outboard edge on the inside of the right draper belt on both decks. If any guide is worn enough to cause large amounts of draper tracking/shifting, replace the guide. Check to make sure that the guides are aligned so that they sit perpendicular to the direction of draper travel. Excessively worn or misaligned guides can cause the drapers to shift and ride up on the frame, causing premature draper edge wear and draper tearing.

NOTE:

It may be necessary to remove the draper belt when replacing the fingers/guides. For instructions, refer to [Removing Front Draper Belt, page 256](#) or [Removing Rear Draper Belt, page 259](#).

Replacing Draper Fingers

Replace any broken draper fingers as soon as possible. Ensure that the new finger is properly aligned with the existing fingers.

DANGER

To prevent bodily injury or death from the unexpected start-up or fall of a raised machine, always stop the engine and remove the key before leaving the operator's seat, and always engage the safety props before going under the machine.

1. Raise the hold-down fully, and engage the lift cylinder safety props.
2. Raise the header fully, and engage the combine lift cylinder safety props.
3. Stop the engine, and remove the key from the ignition.

MAINTENANCE AND SERVICING

4. Remove M6 flange nut (A) securing finger (B) to the draper belt.
5. Remove finger (B) and replace it with a new finger.
6. Secure the finger with M6 flange nut (A).
7. Torque flange nut (A) to 4–5.6 Nm (37–50 lbf·in).

NOTE:

Hold the finger to prevent it from turning while tightening the nut.

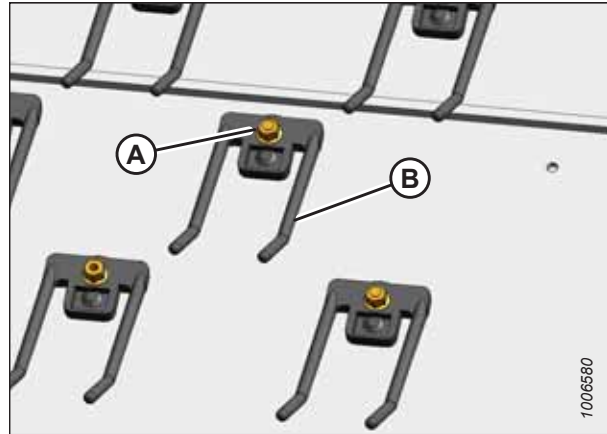


Figure 5.103: Draper Fingers

Replacing Draper Guides

Draper guides ensure that the draper tracks properly as it rotates. The draper guides can be accessed from underneath the draper belt.

DANGER

To prevent bodily injury or death from the unexpected start-up or fall of a raised machine, always stop the engine and remove the key before leaving the operator's seat, and always engage the safety props before going under the machine.

NOTE:

The illustrations in this procedure show the view from the lower left side of the pick-up header.

1. Raise the hold-down fully, and engage lift cylinder safety props.
2. Raise the header fully, and engage the combine lift cylinder safety props.
3. Stop the engine, and remove the key from the ignition.
4. Fully release the tension on draper belt (D).
5. Pull draper belt (D) away from the frame from under the deck to expose guide (C).
6. Remove M6 flange nut (A) and washer (B) securing guide (C) to draper belt (D). If the guide is under a finger (for example, finger [E]), remove the finger.
7. Remove guide (C) and elevator bolt (F). Discard the old guide.
8. Place new guide (C) onto M6 x 26 elevator bolt (F) and install the guide onto draper belt (D).
9. Install M6 washer (B) and flange nut (A).

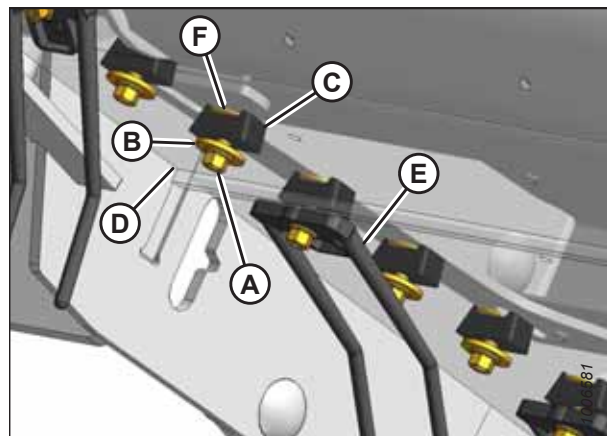


Figure 5.104: Draper Guide

MAINTENANCE AND SERVICING

10. Use M6 x 30 elevator bolt (A) if guide (D) is in a finger location, and install finger (B) **BEFORE** installing flange nut (C).
11. Torque flange nut (C) to 4–5.6 Nm (37–50 lbf·in). Hold finger (B) or guide (D) to prevent them from turning while tightening the flange nut.

IMPORTANT:

Ensure that guides (D) are perpendicular to the direction of draper travel.

12. Rotate the draper belt manually to access all guides (D).

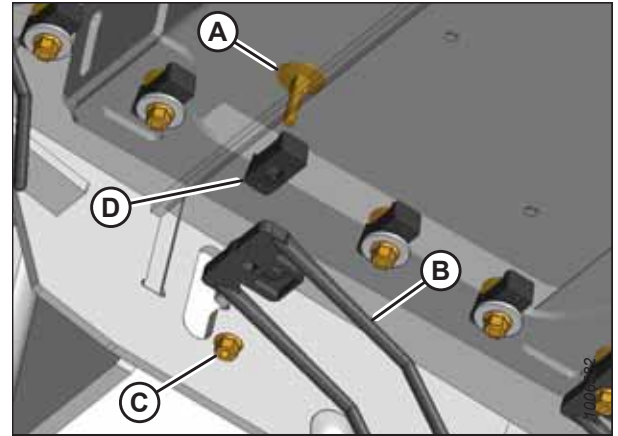


Figure 5.105: Draper Guide

5.7.3 Draper Deck Roller Bearings

Each draper deck is supported by two bearings, for a total of eight draper deck bearings. Six of these are equipped with grease fittings.

Each draper deck roller is supported by two self-aligning roller bearings. Replace the roller bearings if they are worn or damaged.

NOTE:

Bearings (A), (B), and (C) are equipped with grease fittings. Bearing (D) does not have a grease fitting. Bearing (A) is accessible from under the right support plate.

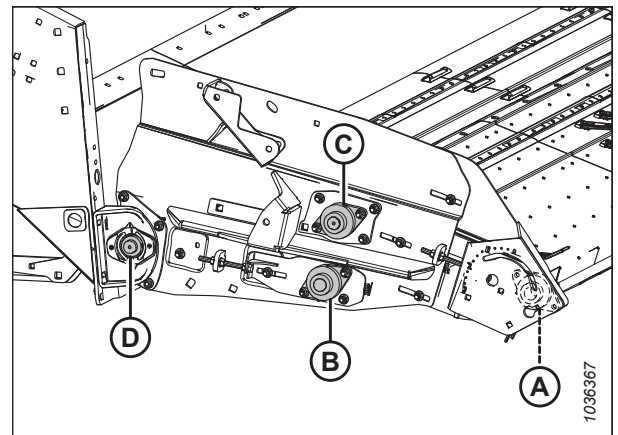


Figure 5.106: Draper Roller Bearings – Right Side

NOTE:

Bearings (A), (B), and (C) are equipped with grease fittings. Bearing (D) (behind the drive motor) does not have a grease fitting. Bearing (A) is accessible from under the left support plate.

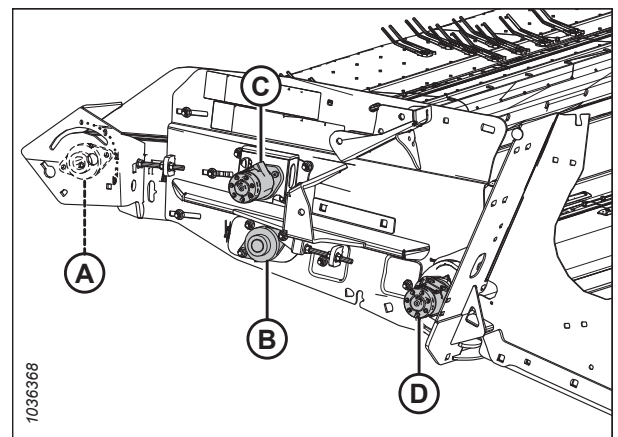


Figure 5.107: Draper Roller Bearings – Left Side

Replacing Drive Roller Bearing on Left Side of Rear Deck

The drive roller bearing on the left side of the rear deck is a non-greaseable type and can be found behind the rear deck hydraulic motor. You may wish to replace the bearing support bushing at the same time.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the hold-down fully.
2. Lower the header to the ground until the two float springs are loose.
3. Stop the engine, and remove the key from the ignition.
4. Fully release the tension on the draper belt.
5. Support the deck at both ends by placing a wooden block (e.g. block [A]) under the frame close to the bearing.
6. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).

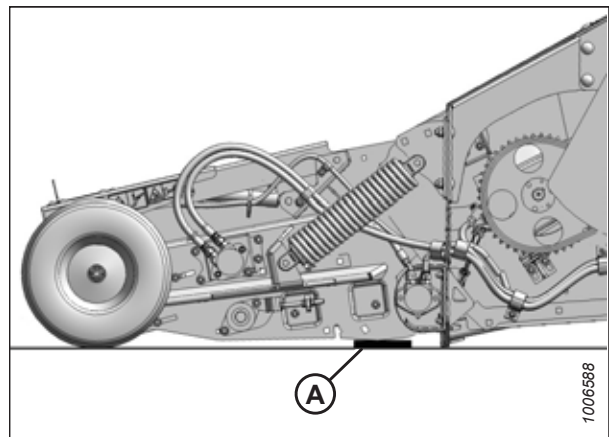


Figure 5.108: Header Supported by Blocks

7. Remove rear hydraulic motor (A). Refer to [Removing Rear Hydraulic Motor, page 233](#) for instructions.

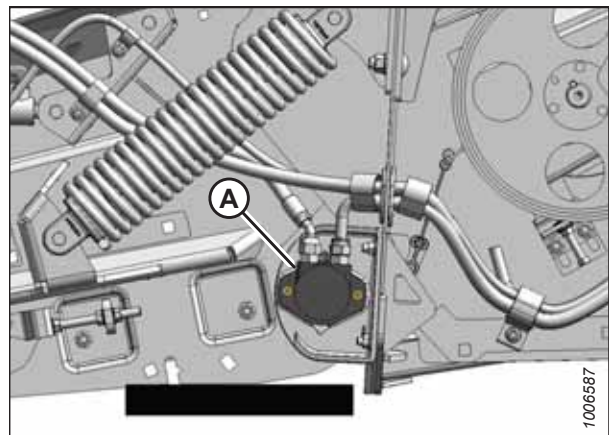


Figure 5.109: Rear Hydraulic Motor

MAINTENANCE AND SERVICING

- Turn the roller manually until set screw (A) in lock collar (B) lines up with the recess in bearing support (C).
- Loosen set screw (A) in lock collar (B). Rotate the collar counterclockwise to loosen it. Remove the collar.

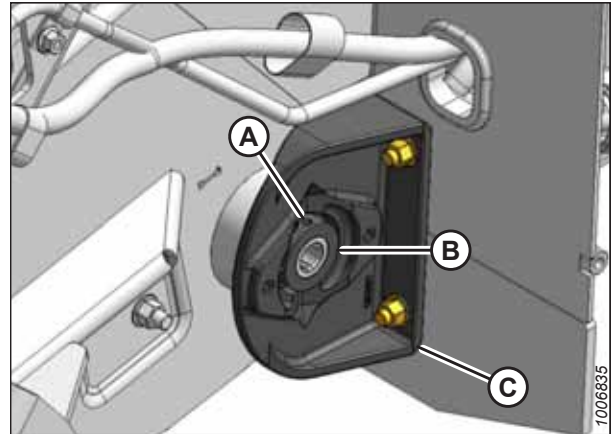


Figure 5.110: Left Rear Deck

- Ensure that the deck is fully supported, and that the float spring assembly is loose. You may need to raise the deck slightly to loosen the assembly.
- Remove four nuts (A) securing bearing support (B) to the frame.

NOTE:

Ensure that the height controller is not damaged when removing the bolts.

- Pull bearing support (B) off of the roller shaft.

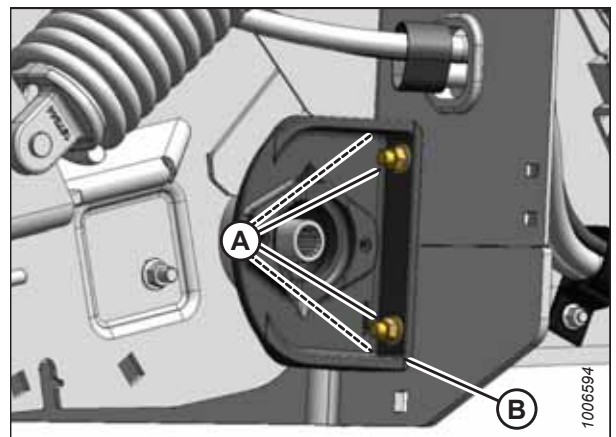


Figure 5.111: Left Rear Deck

- Swivel bearing (A) 90 degrees in the support until the outer race lines up with the slots in the bearing support.
- Push bearing (A) out of the support.

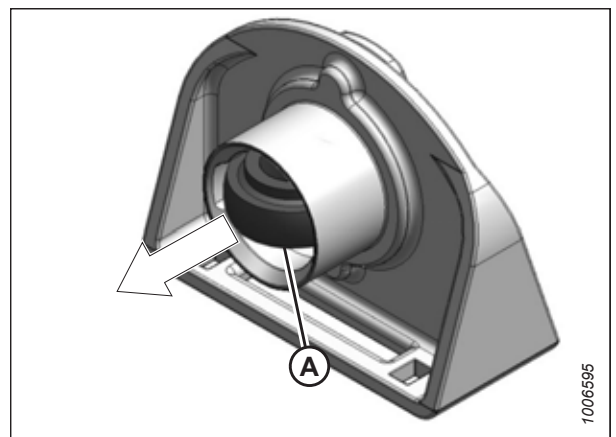


Figure 5.112: Bearing Support

MAINTENANCE AND SERVICING

15. Line up new bearing (A) with the slots in the bearing support, and push the bearing into the bearing support.
16. Swivel the bearing 90 degrees and slide it into the groove inside the bearing support.

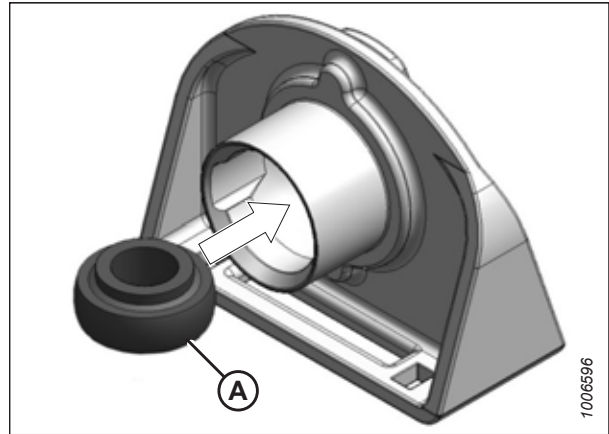


Figure 5.113: Bearing Support

17. Replace bushing (A), if necessary.

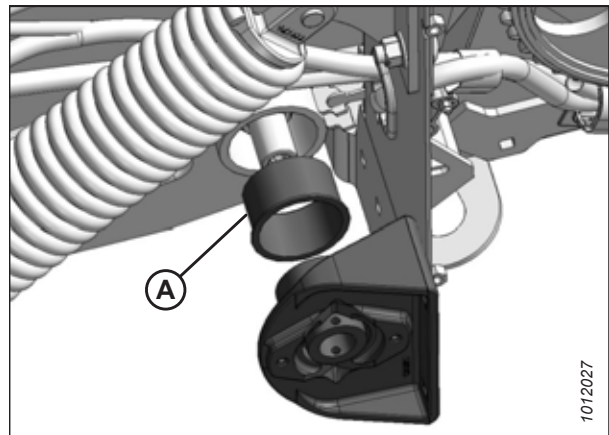


Figure 5.114: Left Rear Deck

18. Place bearing support (B) on roller shaft (A).
19. Position the bearing assembly's base against the frame, and align the mounting holes.

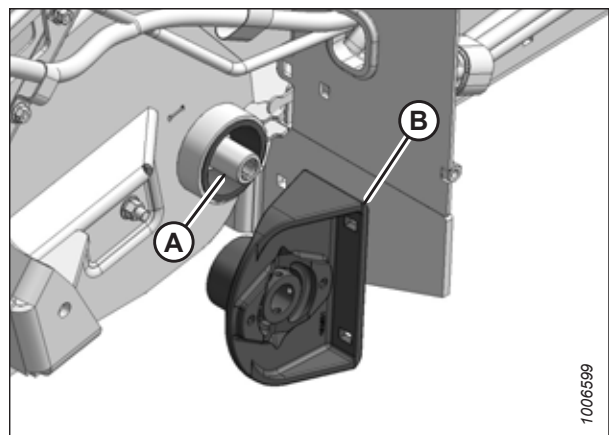


Figure 5.115: Left Rear Deck

MAINTENANCE AND SERVICING

20. Install two M12 x 30 carriage bolts (A) in the upper holes and two M12 x 40 carriage bolts (B) in the lower holes. The bolt heads must face aft. Secure the bolts with M12 lock nuts.

NOTE:

Ensure that the height controller is not damaged when installing the bolts.

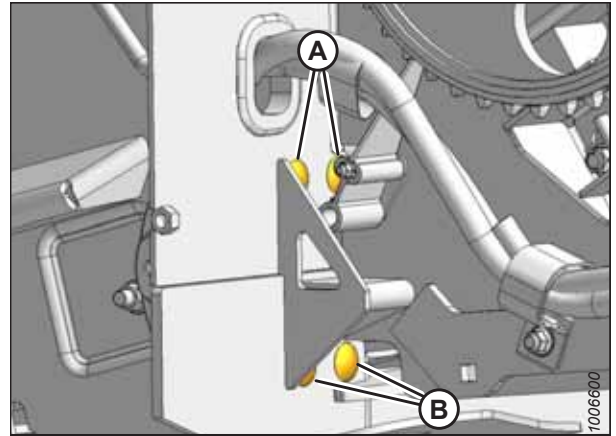


Figure 5.116: Left Rear Deck

21. Install lock collar (B) onto the bearing, and secure it by rotating it clockwise.
22. Turn the roller manually until set screw (A) in lock collar (B) lines up with the recess in bearing support (C).
23. Tighten set screw (A).
24. Align the draper deck rollers. Refer to [Aligning Rear Draper Deck Rollers, page 275](#) for instructions.
25. Install the hydraulic motor. Refer to [Installing Rear Hydraulic Motor, page 234](#) for instructions.
26. Tighten the draper belt.
27. Close the left endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).

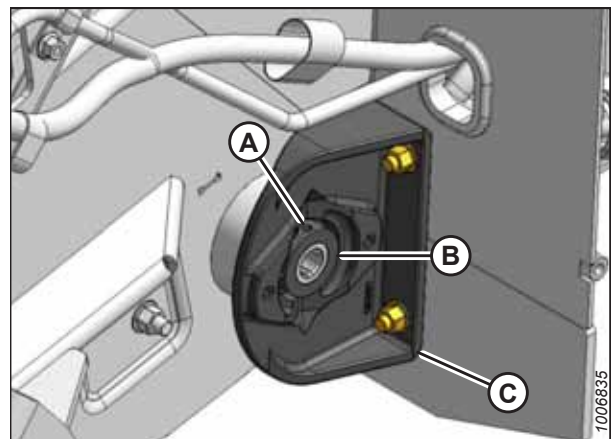


Figure 5.117: Left Rear Deck

Replacing Drive Roller Bearing on Right Side of Rear Deck

The drive roller bearing on the right side of the rear deck is a non-greaseable type. You may wish to replace the bushing at the same time.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the hold-down fully.
2. Lower the header to the ground until the two float springs are loose.
3. Stop the engine, and remove the key from the ignition.
4. Fully release the tension on the draper belt.

MAINTENANCE AND SERVICING

- Support the deck at both ends by placing a wooden block (e.g. wooden block [A]) under the frame close to the bearing.
- Check that the float springs are loose.
- Remove the right endshield. For instructions, refer to [3.3.5 Removing Right Endshield, page 28](#).

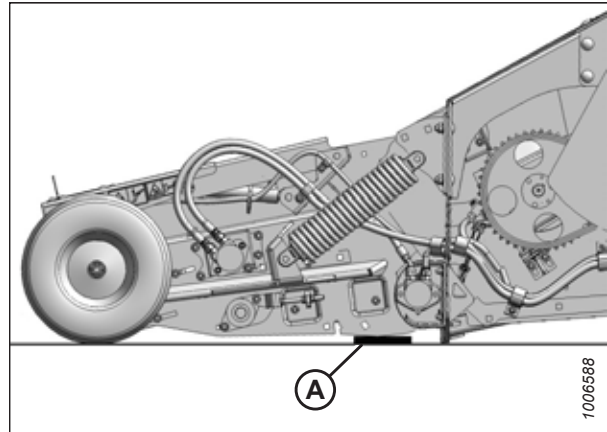


Figure 5.118: Wooden Block

- Loosen nuts (A) on bearing support (B) on the right side of the header. Remove the draper speed sensor assembly, and move it clear of the work area.

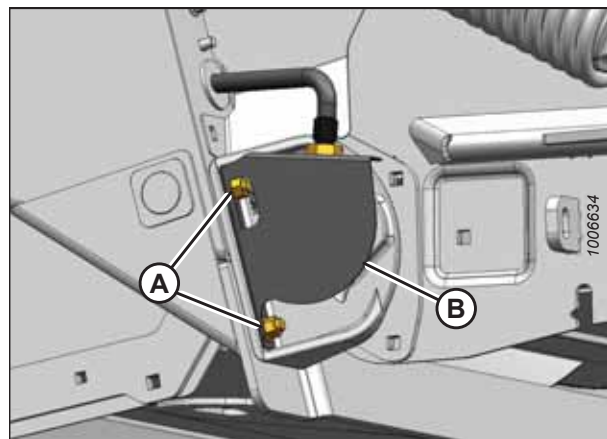


Figure 5.119: Right Rear Deck

- Remove screws (A), and remove cover (B) from the inboard side of the right endsheet in order to access the bearing mounting bolts.

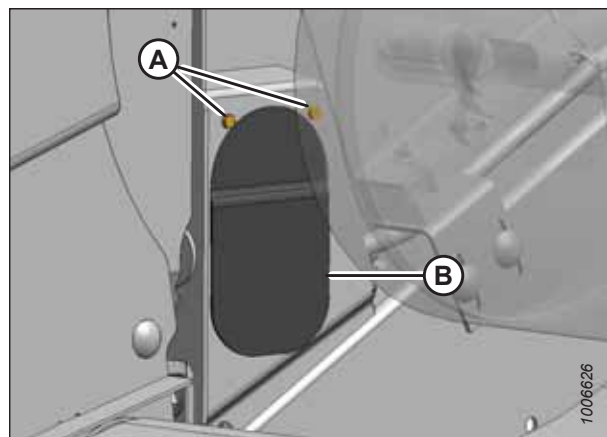


Figure 5.120: Right Rear Deck

MAINTENANCE AND SERVICING

10. Remove bolt (A) and remove speed sensor disc (B).

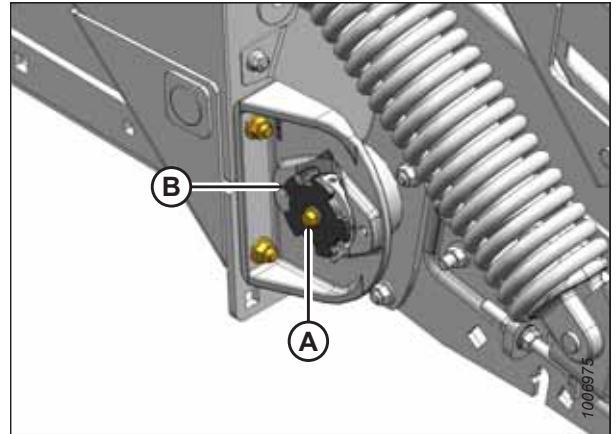


Figure 5.121: Right Rear Deck

11. Turn the roller manually until set screw (A) in lock collar (B) lines up with the recess in bearing support (C).
12. Loosen set screw (A) in lock collar (B). Rotate the collar clockwise to loosen it. Remove the collar.

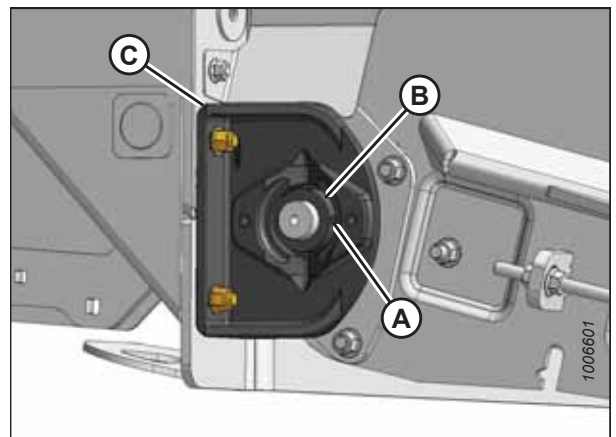


Figure 5.122: Right Rear Deck

13. Ensure that the deck is fully supported and check that the float spring assembly is loose. You may need to raise the deck slightly to loosen the assembly.
14. Remove four nuts (A) attaching bearing support (B) to the frame.

NOTE:

Ensure that the height controller is not damaged when removing the bolts.

15. Pull bearing support (B) off of the roller shaft.

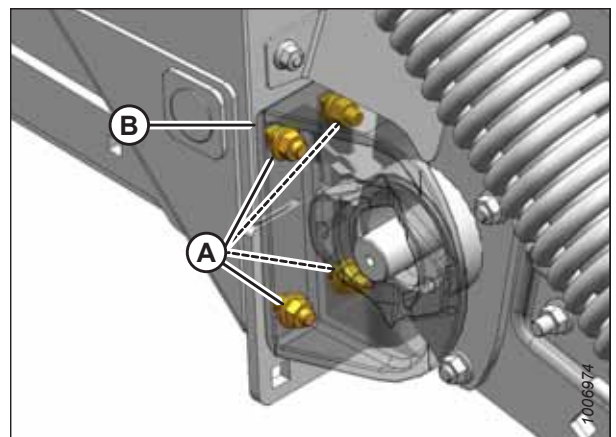


Figure 5.123: Right Rear Deck

MAINTENANCE AND SERVICING

16. Swivel bearing (A) 90 degrees in the support until the outer race lines up with the slots in the bearing support.
17. Push out bearing (A).

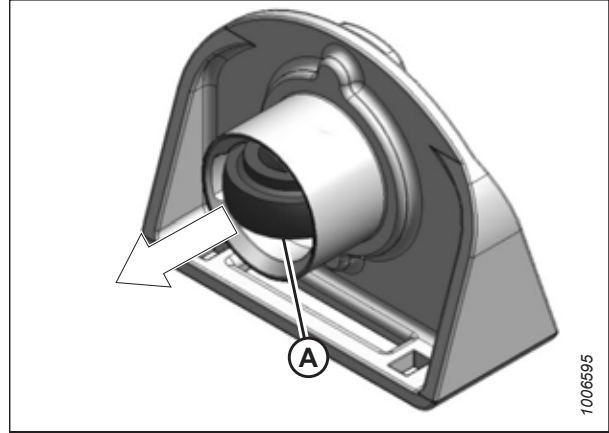


Figure 5.124: Bearing Support

18. Line up new bearing (A) with the slots in the bearing support and push the bearing into the bearing support.
19. Swivel the bearing 90 degrees and slide it into the groove inside the bearing support.

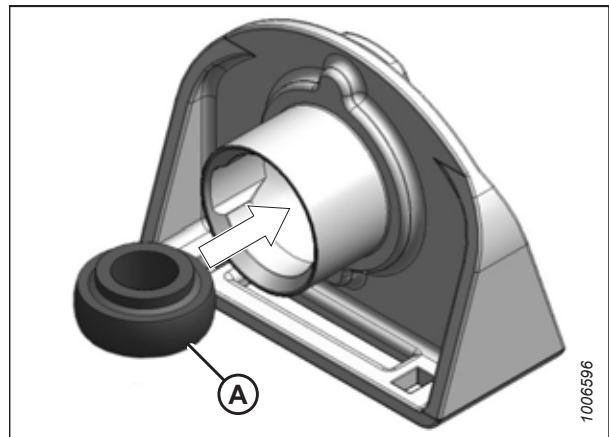


Figure 5.125: Bearing Support

20. Replace bushing (A) if necessary.

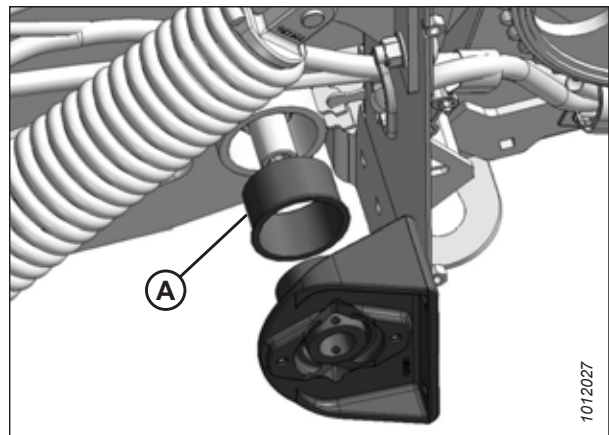


Figure 5.126: Left Side Shown – Right Side Opposite

MAINTENANCE AND SERVICING

21. Place bearing support (B) on roller shaft (A).
22. Position the bearing support's base against the frame and align the mounting holes.
23. Install two M12 x 30 carriage bolts (C) in the upper holes and two M12 x 40 carriage bolts (D) in the lower holes. Secure the bolts with lock nuts.

NOTE:

Ensure that the height controller is not damaged when installing the bolts.

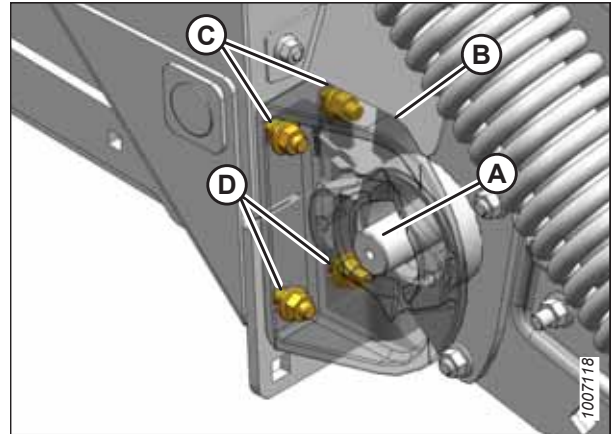


Figure 5.127: Right Rear Deck

24. Install lock collar (A) onto the bearing. Lock the collar in the direction of shaft rotation with a punch and hammer, then tighten set screw (B).

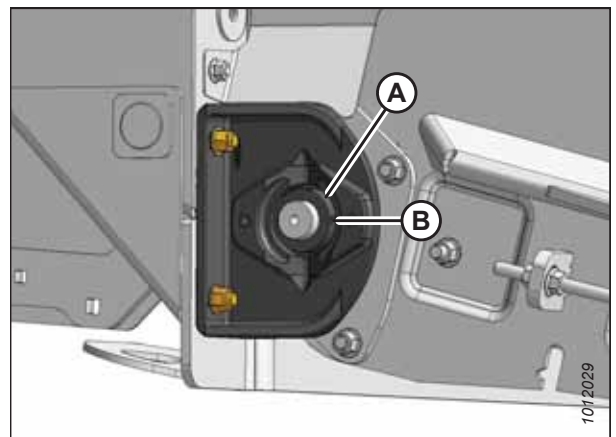


Figure 5.128: Right Rear Deck

⚠ DANGER

Check to be sure all bystanders have cleared the area.

25. Start the combine, and raise the header fully.
26. Shut down the combine, and remove the key from the ignition.

⚠ DANGER

To prevent bodily injury or death from the unexpected start-up or fall of a raised machine, always stop the engine and remove the key before leaving the operator's seat, and always engage the safety props before going under the machine for any reason.

27. Remove the wooden block.
28. Engage the combine header lift cylinder safety props.
29. Align the draper deck rollers.
30. Tension the drapers.
31. Install the right endshield. For instructions, refer to [3.3.6 Installing Right Endshield, page 28](#).

Replacing Idler Roller Bearing on Left Side of Rear Deck

The left idler roller bearing on the rear deck is a greaseable type.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the hold-down fully.
2. Lower the header to the ground until the two float springs are loose.
3. Stop the engine, and remove the key from the ignition.
4. Open left endshield (A). For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).
5. Fully release the tension on the draper belt.
6. Loosen the set screw in lock collar (A).
7. Loosen lock collar (A) by rotating the collar counterclockwise.
8. Support the roller with a wooden block, and loosen bolts (B) and (C) securing the bearing to the frame.
9. Remove the nuts on bolts (B) and (C).
10. Pull the bearing off the roller shaft.
11. Place the new bearing on the roller shaft and align the mounting holes.
12. Install M12 x 45 carriage bolt (B) in the forward hole and M12 x 40 carriage bolt (C) in the aft hole. Ensure that the bolt heads face inboard. Secure the bolts with lock nuts, but do **NOT** fully tighten the nuts at this time.
13. Install lock collar (A) onto the bearing. Lock the collar in the direction of shaft rotation using a punch and hammer.
14. Tighten the set screw.
15. Tension the drapers.
16. Close the endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).
17. Align the draper deck rollers. For instructions, refer to [Aligning Rear Draper Deck Rollers, page 275](#).

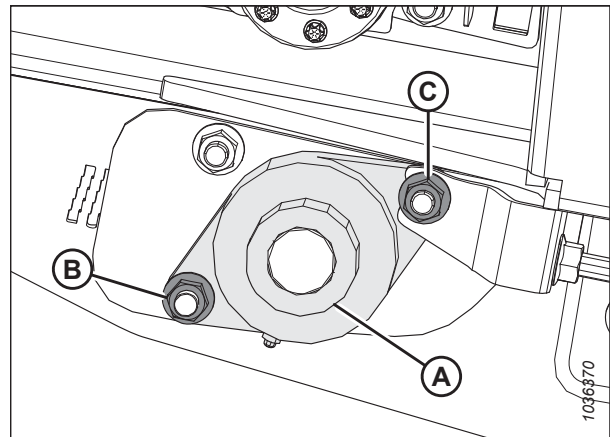


Figure 5.129: Left Idler Bearing

Replacing Idler Roller Bearing on Right Side of Rear Deck

The right idler roller bearing on the rear deck is a greaseable type.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

MAINTENANCE AND SERVICING

1. Lower the hold-down fully.
2. Lower the header to the ground until the two float springs are loose.
3. Shut down the engine, and remove the key from the ignition.
4. Remove the right endshield if necessary. For instructions, refer to [3.3.5 Removing Right Endshield, page 28](#).
5. Fully release the tension on the draper belt.

6. Loosen the set screw in lock collar (A).
7. Rotate lock collar (A) clockwise to loosen and remove the collar.
8. Support the roller with a wooden block, and loosen bolts (B) and (C) securing the bearing to the frame.
9. Remove nuts and bolts (B) and (C).
10. Pull the bearing off of the roller shaft.

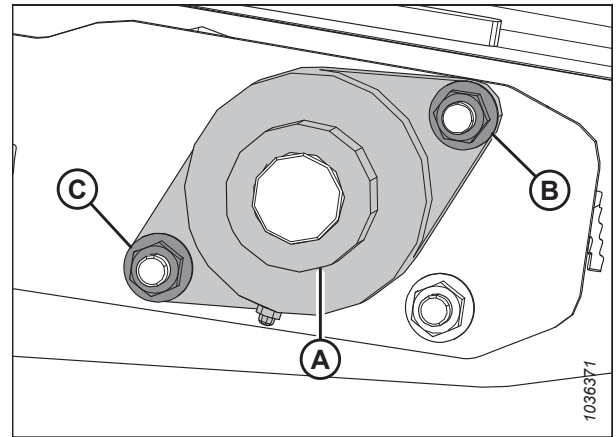


Figure 5.130: Right Idler Bearing

11. Place the new bearing on the roller shaft and align the mounting holes.
12. Install M12 x 45 carriage bolt (B) in the forward hole and M12 x 40 carriage bolt (C) in the aft hole. Ensure that the bolt heads face inboard. Secure the bolts with the lock nuts, but do **NOT** fully tighten at this time.
13. Install lock collar (A) onto the bearing. Using a hammer and punch, rotate the lock collar counterclockwise until it is tight.
14. Tighten the set screw on the lock collar.
15. Align the draper deck rollers. For instructions, refer to [Aligning Rear Draper Deck Rollers, page 275](#).
16. Tension the drapers.
17. Replace the right endshield if it was previously removed. For instructions, refer to [3.3.6 Installing Right Endshield, page 28](#).

Aligning Rear Draper Deck Rollers

Draper roller alignment is necessary for proper draper tracking. Perform this procedure after replacing a roller bearing on the rear draper deck.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the combine and remove the key from the ignition.
3. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).

MAINTENANCE AND SERVICING

4. Remove front hydraulic motor (A). For instructions, refer to [Removing Front Hydraulic Motor, page 231](#).
5. Release the tension on the draper belt.

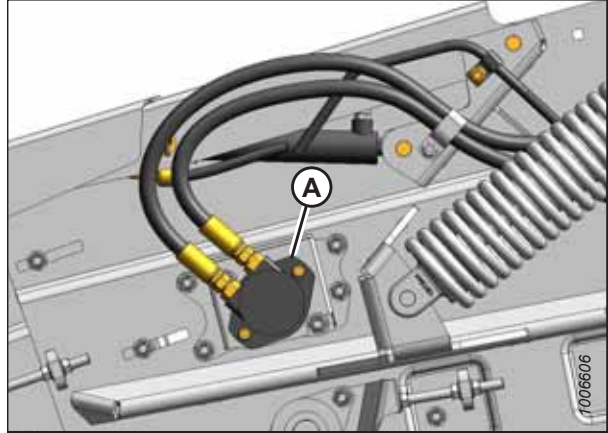


Figure 5.131: Front Hydraulic Motor

6. Loosen locking collar (A) and three nuts (B) securing the bearing flange to the frame on the left side of the header.

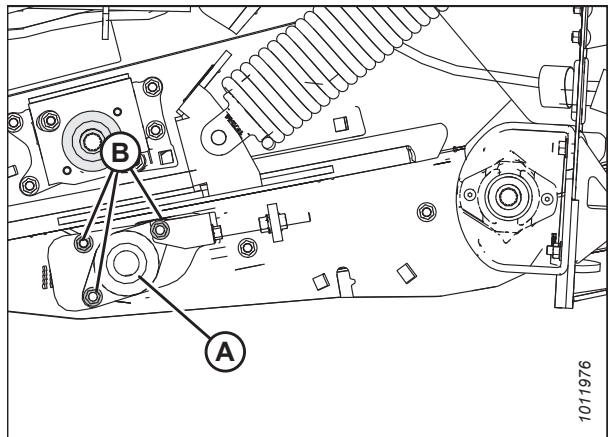


Figure 5.132: Left Rear Deck Idler Roller

7. Loosen locking collar (A) and three nuts (B) securing the bearing flange to the frame on the right side of the header.
8. Loosen locking bolt (C).

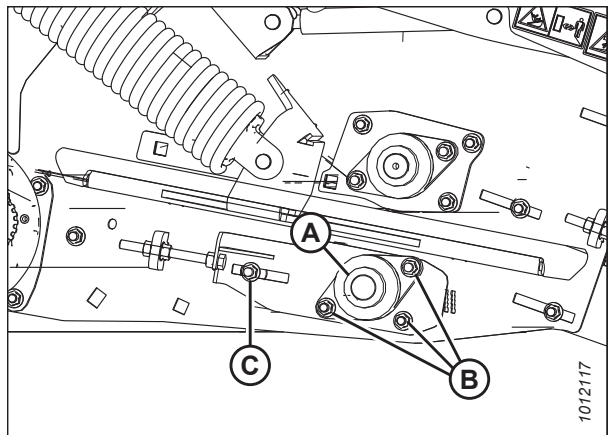


Figure 5.133: Right Rear Deck Idler Roller

MAINTENANCE AND SERVICING

- Turn adjuster nut (A) and draw the rear draper deck roller assembly into the header until the leading edge of bearing support plate (B) lines up with the middle of single cutout (C) on each side of the header.

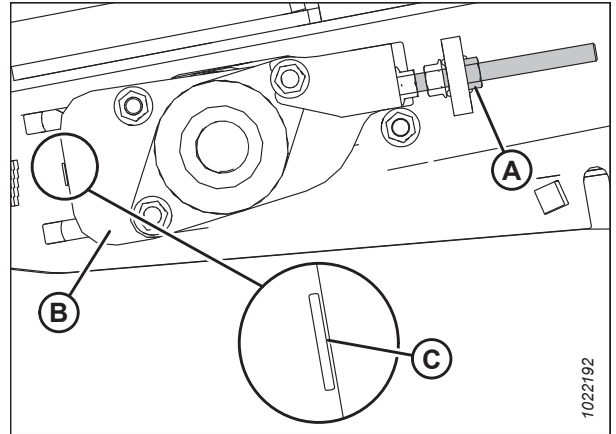


Figure 5.134: Left Rear Deck Alignment Indicator

- Measure from the center of the rear drive roller to the center of the front driven roller (distance [A]). Ensure that distance (A) is 490 mm (19 5/16 in.) on each side of the header before tightening the hardware on the bearing flanges.

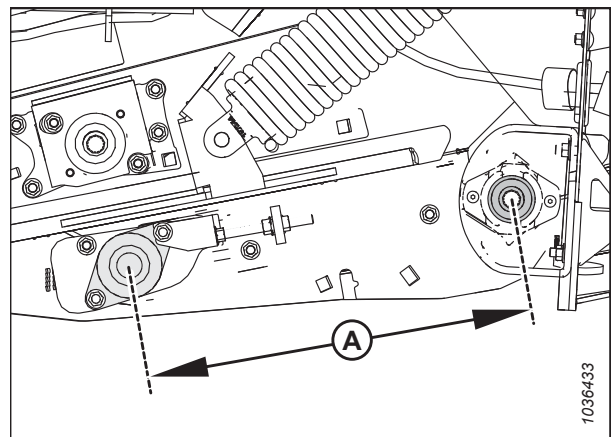


Figure 5.135: Left Rear Deck Shown – Right Side Opposite

- Tighten locking collar (A) and three nuts (B) securing the bearing flange to the frame on the left side of the header.

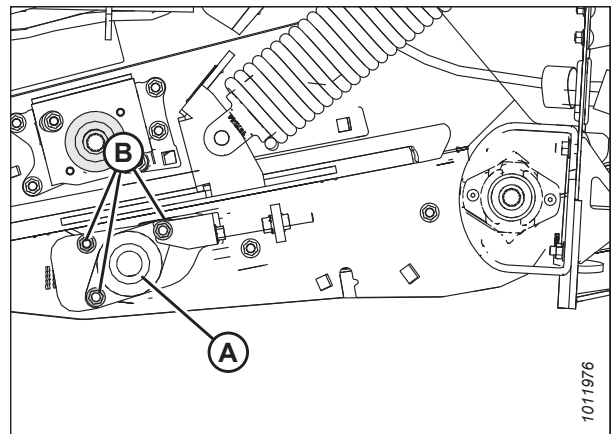


Figure 5.136: Left Rear Deck Idler Roller

MAINTENANCE AND SERVICING

12. Tighten locking collar (A) and three nuts (B) securing the bearing flange to the frame on the right side of the header.
13. Tighten locking bolt (C).
14. Recheck the measurement made in Step 10, page 277 to ensure that nothing has moved while tightening the nuts on each side of the header.
15. Tension the draper belt.
16. Reinstall the front hydraulic motor. For instructions, refer to *Installing Front Hydraulic Motor, page 232*.
17. Close the left endshield. For instructions, refer to 3.3.2 *Closing Left Endshield, page 24*.

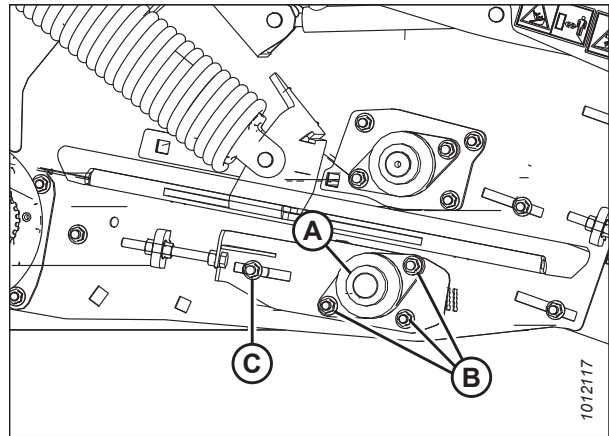


Figure 5.137: Right Rear Deck Idler Roller

Replacing Drive Roller Bearing on Left Side of Front Deck

Replacing the left drive front deck roller bearing requires removing the front deck hydraulic motor and pulling off the motor support bracket.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the hold-down fully.
2. Lower the header to the ground until the two float springs are loose.
3. Shut down the engine, and remove the key from the ignition.
4. Open the left endshield. Refer to 3.3.1 *Opening Left Endshield, page 23* for instructions.
5. Fully release the tension on the draper belt.
6. Remove front hydraulic motor (A). Refer to *Removing Front Hydraulic Motor, page 231* for instructions.

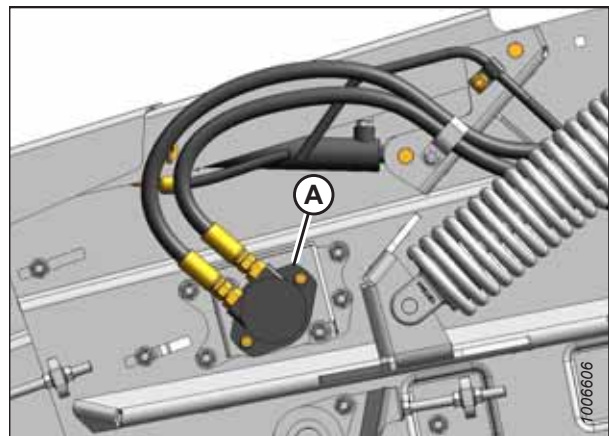


Figure 5.138: Front Deck Hydraulic Motor

MAINTENANCE AND SERVICING

7. Turn the draper roller manually until the set screw on lock collar (A) is accessible.
8. Loosen the set screw and loosen lock collar (A) by turning it counterclockwise using a hammer and punch. Remove the collar.
9. Support the roller with a wooden block, and remove four M12 nuts from bolts (B) securing motor support (C) to the frame.

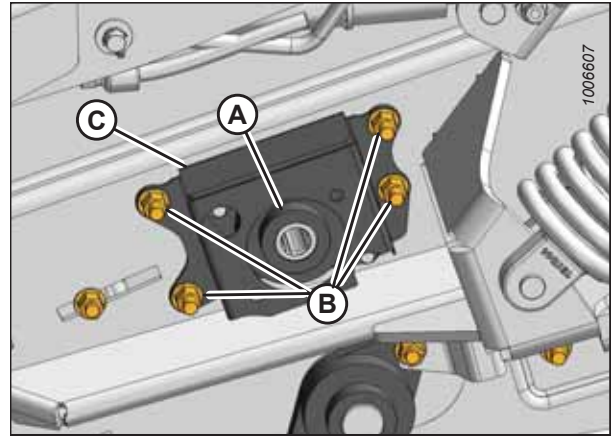


Figure 5.139: Motor Support Secured to Header

10. Remove motor support (A) along with bearing (B) from shaft (C) in the direction indicated by the arrow.

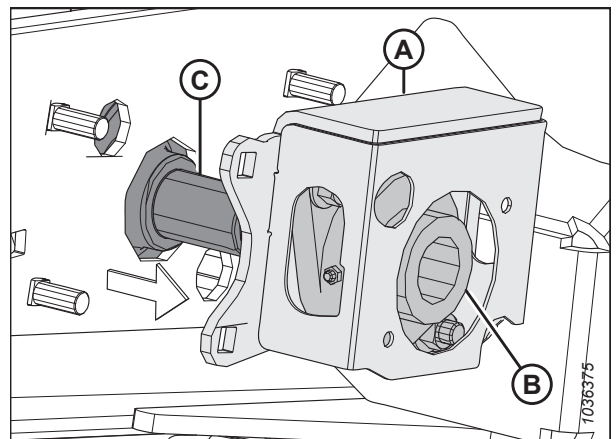


Figure 5.140: Motor Support Removed from Header

11. Remove two M12 bolts (B) securing bearing (A) to motor support (C). Remove bearing (A).
12. Using two M12 x 40 carriage bolts and lock nuts (B), install new bearing (A) into motor support (C).

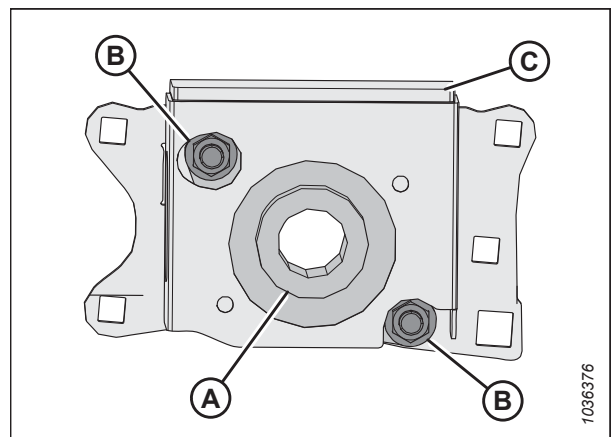


Figure 5.141: Bearing in Motor Support

MAINTENANCE AND SERVICING

13. Place motor support (A) onto roller shaft (B).
14. Secure housing (A) with four M12 x 35 bolts (C) (the bolt heads must face inboard) and lock nuts (D). Tighten the lock nuts.

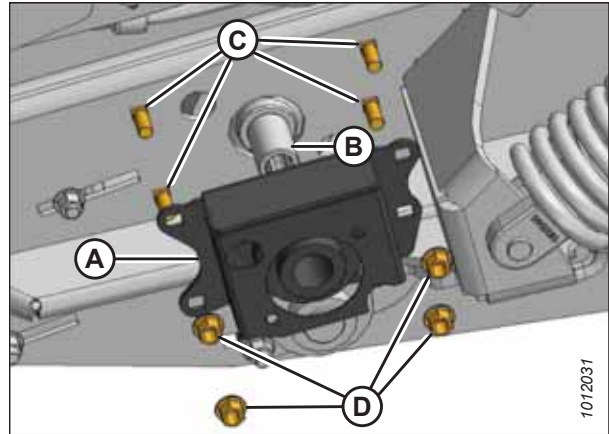


Figure 5.142: Motor Support With New Bearing Installed

15. Install lock collar (A) onto the roller shaft, and turn it clockwise until tight.
16. Remove the support from under the drive roller.
17. Turn the roller manually until the set screw in lock collar (A) is accessible.
18. Tighten the set screw.
19. Remove the wooden block.

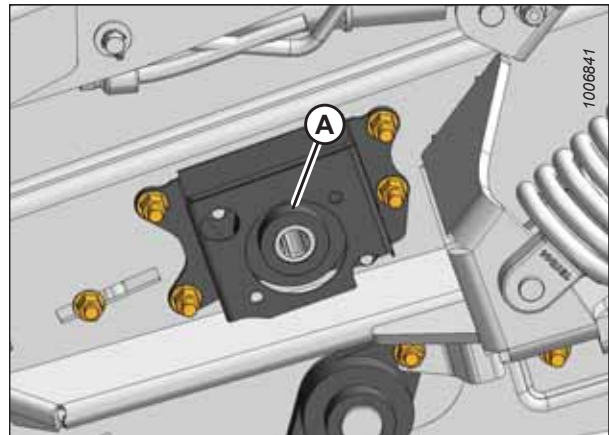


Figure 5.143: Left Front Deck

20. Reinstall the front hydraulic motor. Refer to *Installing Front Hydraulic Motor, page 232* for instructions.
21. Align the draper deck rollers. Refer to *Aligning Front Draper Deck Rollers, page 283* for instructions.
22. Tension the drapers.
23. Close the left endshield. Refer to *3.3.2 Closing Left Endshield, page 24* for instructions.

Replacing Drive Roller Bearing on Right Side of Front Deck

The right front deck drive bearing is a greaseable type.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the hold-down fully.
2. Lower the header to the ground until the two float springs are loose.
3. Shut down the engine, and remove the key from the ignition.
4. Fully release the tension on the draper belt.

MAINTENANCE AND SERVICING

5. Support the draper roller with wooden blocks.
6. Loosen the set screw in lock collar (A).
7. Loosen lock collar (A) using a hammer and punch to rotate it clockwise. Remove the collar.
8. Loosen two bolts (B) securing the bearing to the frame.
9. Remove the bearing from the roller shaft and discard it.
10. Place the new bearing on the roller shaft and align the mounting holes with the holes on the header frame.
11. Install two M12 x 40 mounting bolts (B) with the heads facing inboard and secure them with two M12 lock nuts. Tighten the lock nuts.
12. Install lock collar (A) onto the bearing. Tighten the collar by rotating it counterclockwise with a hammer and punch.
13. Tighten the set screw on the lock collar.
14. Remove the wooden block.
15. Align the draper deck rollers. For instructions, refer to [Aligning Front Draper Deck Rollers, page 283](#).
16. Tension the drapers.

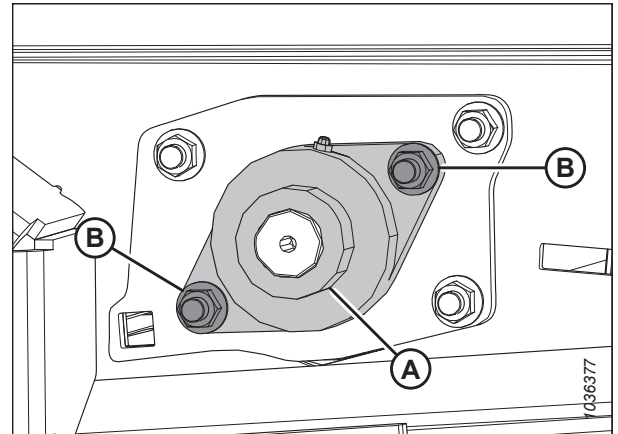


Figure 5.144: Right Front Drive Bearing

Replacing Front Deck Idler Roller Bearings

The idler roller bearings for the front deck can be found under the wheel supports on each side of the header. They are greaseable types.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

NOTE:

The following describes the bearing replacement procedure for the left front deck idler bearing; the procedure for the right side is similar.

1. Shut down the engine, and remove the key from the ignition.
2. Fully release the tension on the draper belts.
3. Support the front deck roller with a wooden block.

MAINTENANCE AND SERVICING

4. Locate the left front draper deck idler bearing under left wheel support (A).

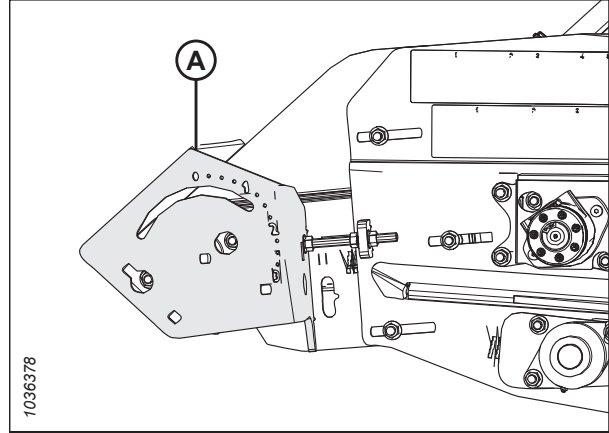


Figure 5.145: Left Wheel Support

5. Loosen the set screw in lock collar (A). Rotate lock collar (A) counterclockwise using a hammer and punch to loosen it. Remove the collar.

NOTE:

Rotate the lock collar clockwise when removing the right front deck idler bearing.

6. Remove two nuts from bolts (B). Leave bolts (B) in place between the bearing and the frame.

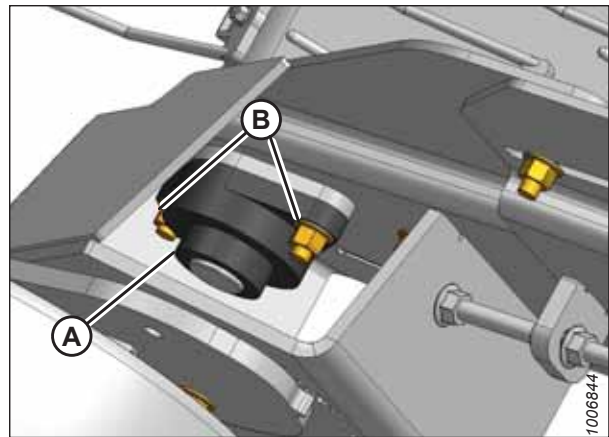


Figure 5.146: Left Front Deck Idler Bearing

7. Pull bearing assembly (A) off of the roller shaft and remove it from the frame.
8. Place new bearing assembly (A) onto the roller shaft and over bolts (B).
9. Position the bearing against the frame.

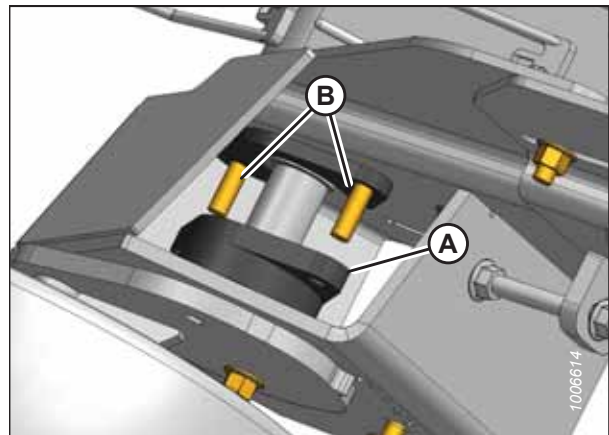


Figure 5.147: Left Front Deck – Right Side Opposite

MAINTENANCE AND SERVICING

10. Install bolt (A) (if previously removed), ensuring that shield (B) is in place.

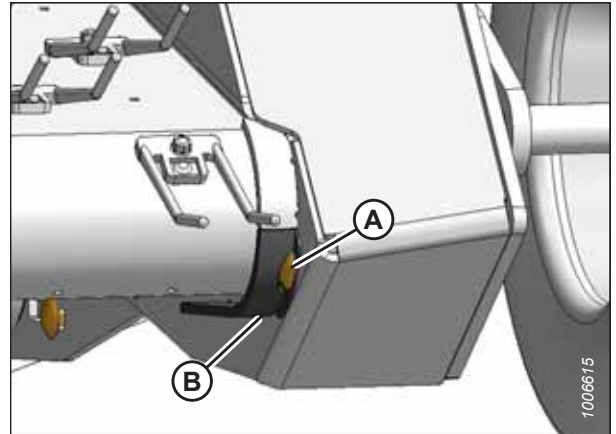


Figure 5.148: Left Front Deck – Right Side Opposite

11. Secure bearing (A) with lock nuts (B).
12. Install lock collar (C) onto the bearing and rotate the lock collar clockwise using a hammer and punch until tight.

NOTE:

Rotate the lock collar counterclockwise when installing the right front deck idler bearing.

13. Tighten the set screw on the lock collar.
14. Remove the wooden blocks supporting the roller.
15. Align the draper deck rollers. Refer to *Aligning Front Draper Deck Rollers*, page 283 for instructions.

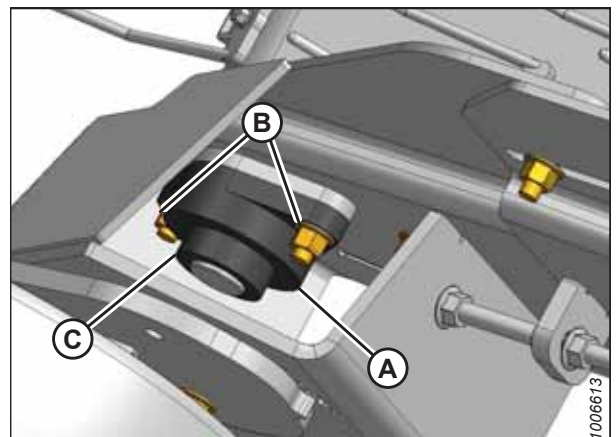


Figure 5.149: Left Front Deck – Right Side Opposite

Aligning Front Draper Deck Rollers

Align the draper rollers on the front deck to ensure that the draper belt tracks properly. Perform this procedure after replacing a roller bearing.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Shut down the engine, and remove the key from the ignition.
3. Open the left endshield. For instructions, refer to *3.3.1 Opening Left Endshield*, page 23.

MAINTENANCE AND SERVICING

4. Remove front hydraulic motor (A). For instructions, refer to [Removing Front Hydraulic Motor, page 231](#).
5. Fully release the tension on the draper belts.

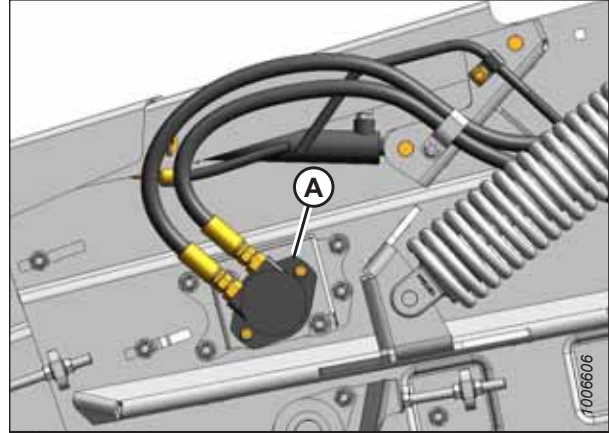


Figure 5.150: Front Hydraulic Motor

6. On each front deck idler bearing, loosen locking collar (A) and two nuts (B) securing the bearing flange to the frame.

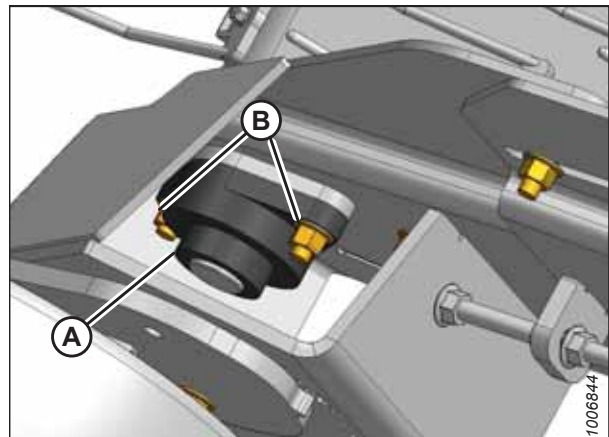


Figure 5.151: Front Deck Idler Roller

7. On the left front deck drive bearing, loosen locking collar (A) and two nuts (B) securing the bearing flange to the motor support.

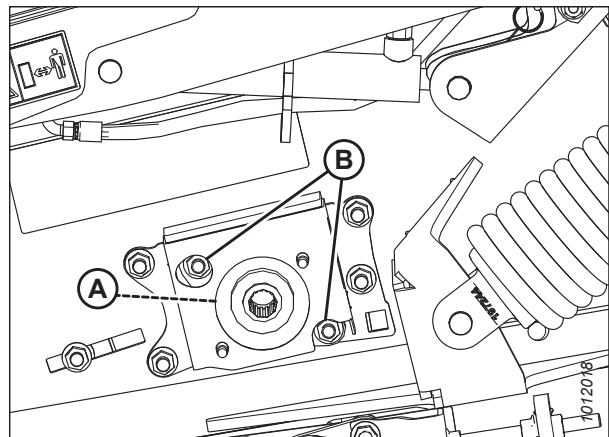


Figure 5.152: Left Front Deck Drive Roller

MAINTENANCE AND SERVICING

- On the right front deck drive bearing, Loosen locking collar (A) and two nuts (B) securing the bearing flange to the frame.

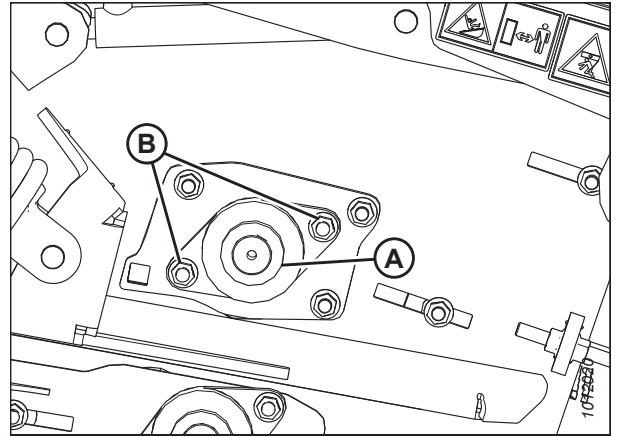


Figure 5.153: Right Front Deck Drive Roller

- Turn adjuster nut (A) and draw the front draper deck roller assembly into the header until the edge of the header frame lines up with the middle of second slot (C) above the draper tension indicator cutout.
- Tighten three clamp bolts (B) on each side of the header.

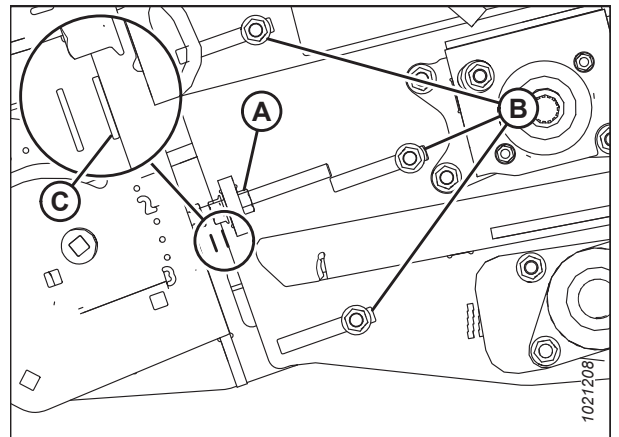


Figure 5.154: Draper Adjuster Nut – Left Side

- Measure from the center of the rear drive roller to the center of the front driven roller (distance [A]). Ensure that distance (A) is 490 mm (19 5/16 in.) on each side of the header before tightening the hardware on the bearing flanges.
- If you are unable set distance (A) to 490 mm (19 5/16 in.) while the frame is in the middle of the second slot, adjust the frame as necessary to achieve the correct measurement.

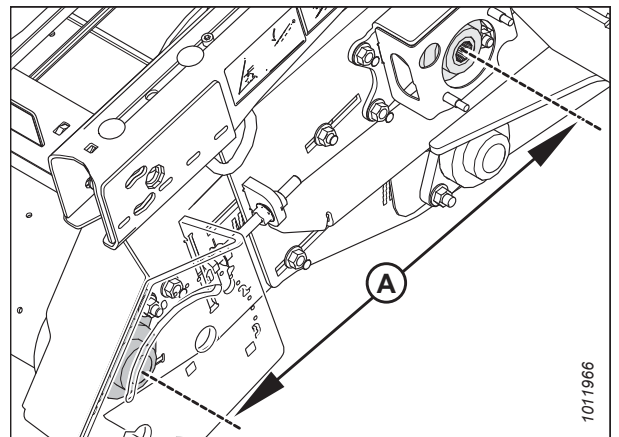


Figure 5.155: Bearing Alignment Distance – Left Side of Header

MAINTENANCE AND SERVICING

13. Measure distance (A) between the frame and nearest slot. Repeat this step on the right side.

NOTE:

These measurements will be used later in this procedure to verify the draper belt alignment.

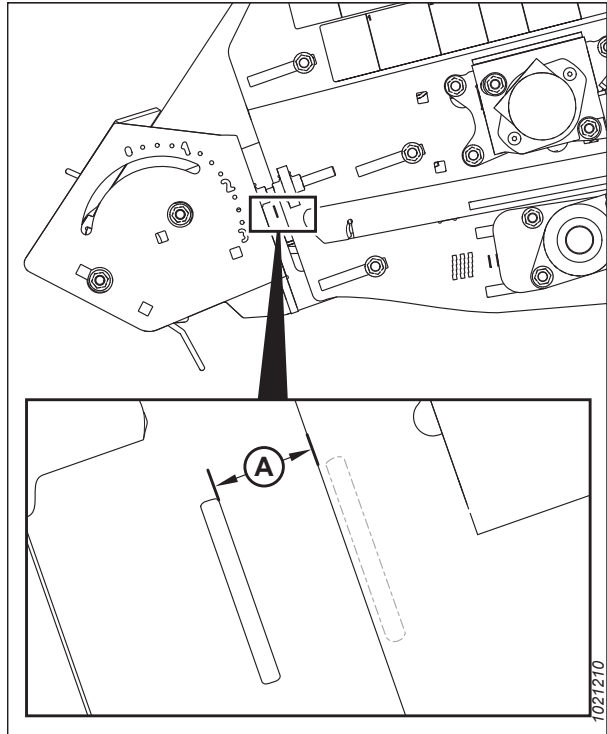


Figure 5.156: Left Front Deck Slot Distance

14. On the left front deck idler roller, tighten locking collar (A) and two nuts (B). Repeat this procedure on the right front deck idler roller.

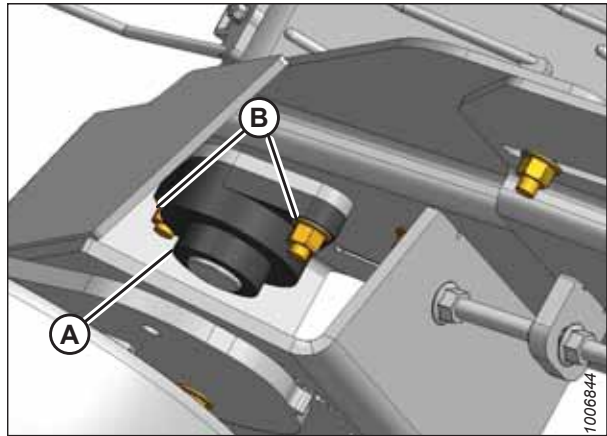


Figure 5.157: Left Front Deck Idler Roller

MAINTENANCE AND SERVICING

15. On the right front deck drive roller, tighten locking collar (A) and two nuts (B).

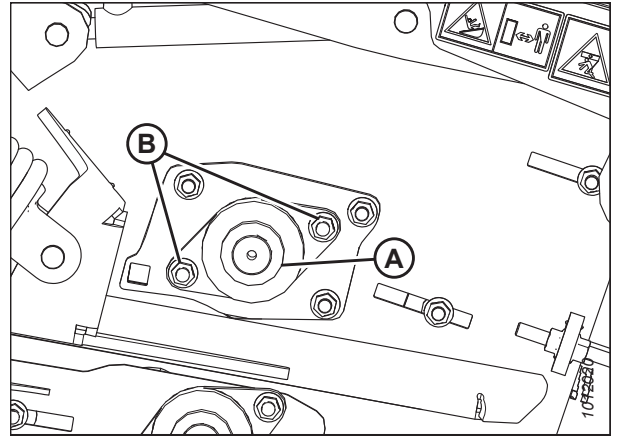


Figure 5.158: Right Front Deck Drive Roller

16. On the left front deck drive roller, tighten locking collar (A) and two nuts (B).
17. Recheck the measurements made in Step 13, page 286 to ensure that the draper belt is still in alignment after securing the front deck bearings.
18. Tension the draper belt.
19. Reinstall the front hydraulic motor. For instructions, refer to [Installing Front Hydraulic Motor, page 232](#).
20. Close the left endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).

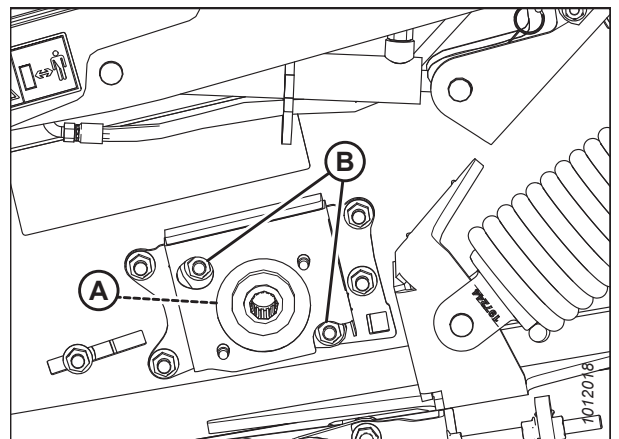


Figure 5.159: Left Front Deck Drive Roller

5.8 Header Spring Float Assembly

The header spring float assembly allows the header to move vertically to respond to the contours of the field being harvested. Take note of the tension position of the header spring float assembly when removing or installing these assemblies.

5.8.1 Removing Header Spring Float Assembly

Ensure that all spring tension has been released before working on the float assembly.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Attach the header to the combine feeder house and ensure that it is latched securely. It is not necessary to hook up the driveline or the hydraulics. For instructions, refer to [3.9 Header Attachment and Detachment, page 35](#).
2. Lower the combine feeder house so that the front draper deck is rotated upward to the full floated-up position. The header frame will be close to the ground and the coil spring will be fully collapsed.

NOTE:

The spring tension is factory-set to the second hole from the bottom on the float anchor.

3. Shut down the engine, and remove the key from the ignition.
4. Open left endshield (A). For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).

NOTE:

The right spring float assembly can be removed or adjusted without removing the right endshield. For improved accessibility, however, remove the right endshield. Refer to [3.3.5 Removing Right Endshield, page 28](#) for instructions.

5. Ensure that all spring tension is released from left spring float assembly (A). Remove cotter pin (B), clevis pin (C), and three flat washers (D).

NOTE:

When the spring tension is fully released, the spring coils should be fully collapsed and the spring float assembly should rock from side to side when moved by hand. If pressure on the clevis pin persists, slightly raise or lower the header.

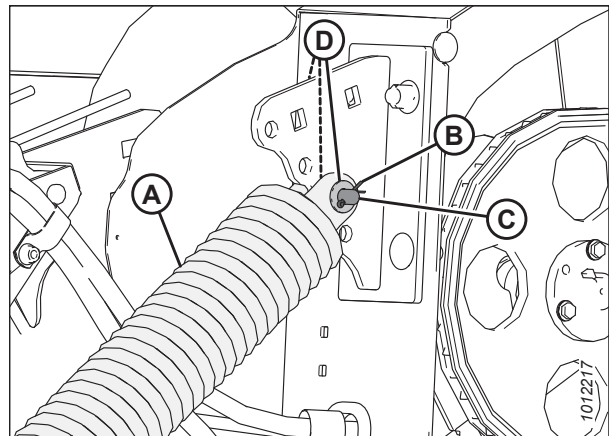


Figure 5.160: Left Spring Float Assembly

IMPORTANT:

Note the spring float assembly position on the anchor. To prevent damage to the draper deck, ensure that the left and right assemblies are set to the same anchor hole position during installation.

6. Remove cotter pin (B), clevis pin (C), and three flat washers (D) from spring float assembly (A) on the front anchor.
7. Remove spring float assembly (A).
8. Repeat Steps 4, page 288 to 7, page 289 to remove the right spring float assembly.

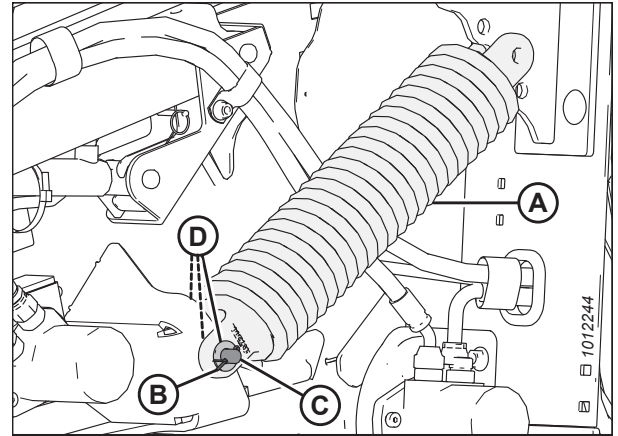


Figure 5.161: Left Front Anchor

5.8.2 Installing Header Spring Float Assembly

Ensure that the spring float assembly is installed at the same height settings on both sides of the header. Ensure that the end with the shock absorber is installed in the correct orientation.

NOTE:

The spring tension is factory-set to the second hole from the bottom on the anchor.

1. Position rod end (D) of spring float assembly (A) onto anchor (B) while positioning the opposite end of the assembly onto front anchor (C).

IMPORTANT:

The word **ROD** is stamped onto the casting of the assembly to indicate which side of spring float assembly (A) contains rod end (D) of the shock absorber. Ensure that rod end (D) of the shock absorber is installed onto anchor (B) as shown.

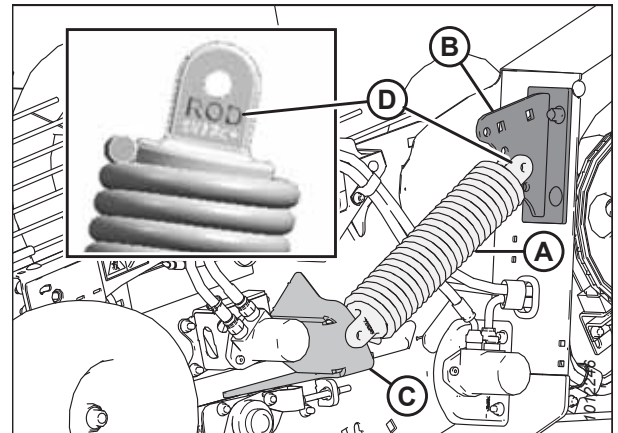


Figure 5.162: Left Anchors Shown – Right Side Opposite

MAINTENANCE AND SERVICING

2. Insert clevis pin (A) from the inboard side through spring float assembly (B), along with three flat washers (C), and front anchor (D) as shown. Secure the clevis pin with cotter pin (E).

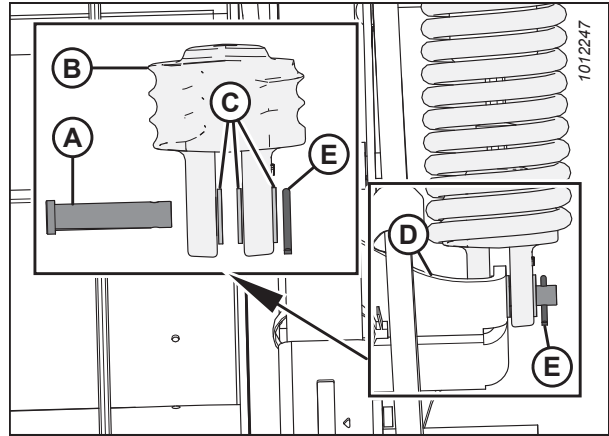


Figure 5.163: Left Spring Float Assembly Shown – Right Side Opposite

3. Align spring float assembly (A) with float anchor hole (B). Refer to [3.11.4 Adjusting Header Float, page 89](#) for instructions on how to change the header float setting.

IMPORTANT:

The left and right spring float assemblies must be set to the same anchor hole position or draper deck damage could result.

NOTE:

If the spring float assembly hole (A) does not align with anchor hole (B), raise or lower the header as needed.

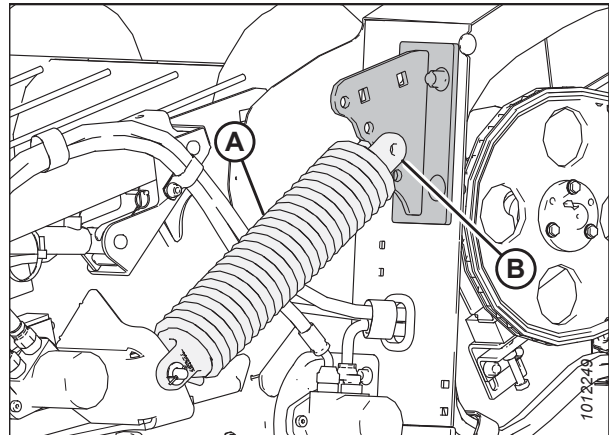


Figure 5.164: Left Anchor Shown – Right Side Opposite

4. Insert clevis pin (A) from the inboard side through the rod end of spring float assembly (B), along with three flat washers (C), and anchor (D) as shown. Secure the clevis pin with cotter pin (E).
5. Repeat Steps [1, page 289](#) to [4, page 290](#) to install the remaining spring float assembly, ensuring that both spring float assemblies are set to the same anchor hole position.

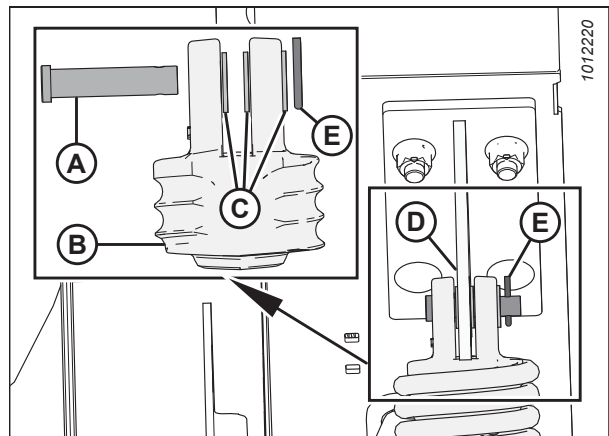


Figure 5.165: Left Spring Float Assembly

MAINTENANCE AND SERVICING

6. Close left endshield (A). For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).
7. Install the right endshield. For instructions, refer to [3.3.6 Installing Right Endshield, page 28](#).

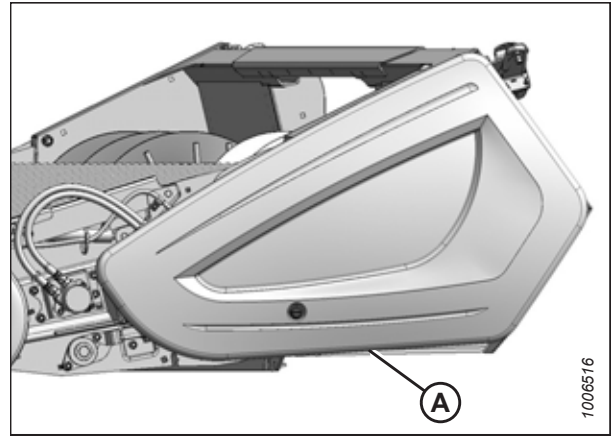


Figure 5.166: Left Endshield

5.9 Hold-Downs

Hold-downs help the crop transition smoothly from the drapers to the auger. They can be adjusted to suit various harvest conditions.

5.9.1 Replacing Fiberglass Rods

The fiberglass rods may become frayed over time, necessitating their replacement.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the hold-down, and lower the header to the ground.
2. Shut down the engine, and remove the key from the ignition.
3. Loosen flange nuts (B) securing the hold-down bar to the hold-down arms on outer rod (A). Loosen nut (C) next to the rod.

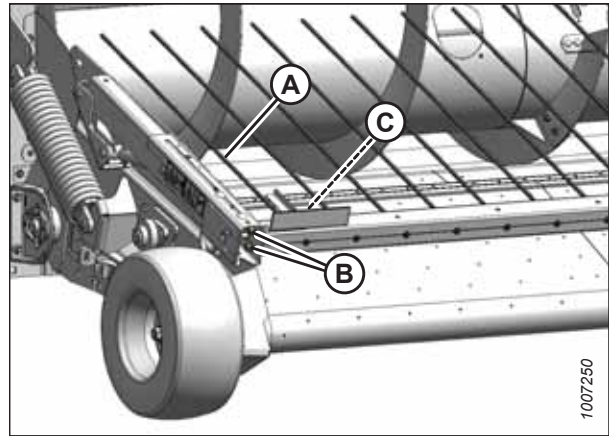


Figure 5.167: Hold-Down Assembly

4. Slide the rod out from the hold-down assembly, and replace it with a new rod. Ensure that new rod (A) extends 10 mm (3/8 in.) (distance indicated by [B]) beyond plastic sleeve (C).

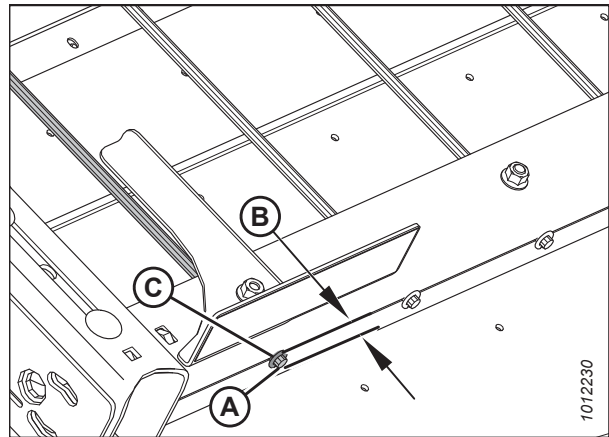


Figure 5.168: Hold-Down Rod and Plastic Sleeve

5. Torque nuts (B) to 18 Nm (13 lbf-ft).
6. Tighten nuts (A).

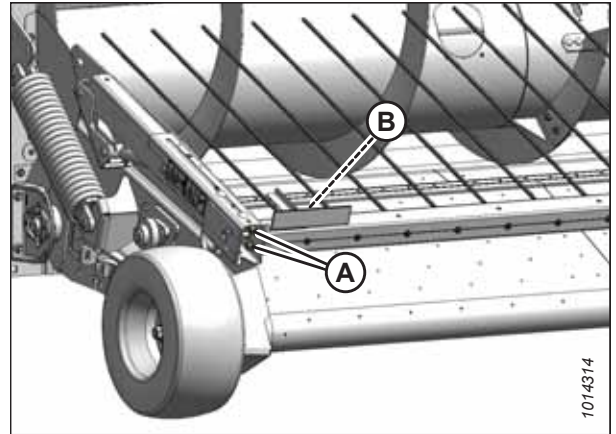


Figure 5.169: Outer Fiberglass Rod

7. Loosen adjacent nuts (B) on remaining rods (A), and repeat Step 4, [page 292](#) for each rod requiring replacement.
8. Torque nuts (B) to 18 Nm (13 lbf-ft).

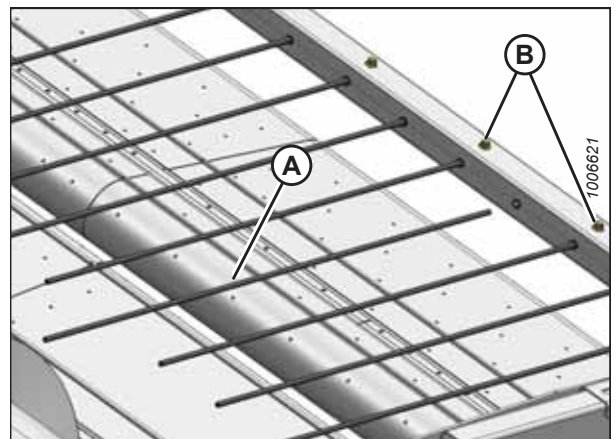


Figure 5.170: Rod Removed from Hold-Down

5.9.2 Replacing Master Hold-Down Cylinder

The hold-down is raised and lowered by master and slave single-acting hydraulic cylinders. The master cylinder is located at the left end of the hold-down.

Cylinder operation is adversely affected by air in the system and by cylinder seal failure. If there is air in the system, refer to [5.9.4 Bleeding Cylinders and Lines, page 299](#) for instructions on how to bleed the circuit. If the cylinders seals have failed, replace the cylinders.

Removing Master Cylinder

The master cylinder can be removed from the hold-down assembly for replacement or repair.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header and the hold-down completely. Continue pressing the hold-down lower switch in the combine cab for 5–10 seconds to remove any pressure in the hydraulic system.
2. Shut down the engine, and remove the key from the ignition.
3. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 23](#).

MAINTENANCE AND SERVICING

4. Remove the cotter pins and washers from clevis pins (B) and (D).
5. Raise hold-down (C) by hand and use a prop device to support the hold-down. This will take the weight off of master cylinder (A).
6. Remove clevis pin (D) at barrel end of the master cylinder. The master cylinder will drop from the hold-down arm.

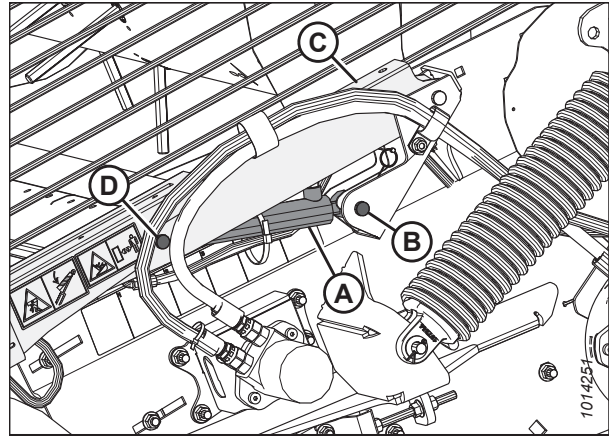


Figure 5.171: Master Cylinder — Left Side of Header

7. Insert block of wood (A) between hold-down arm (B) and header (C) to keep the hold-down elevated and clear of the work area.

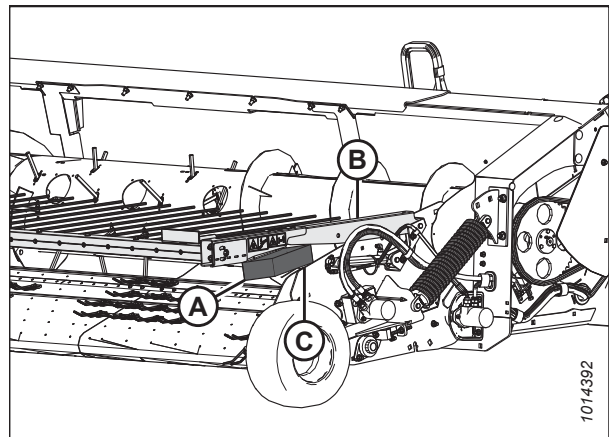


Figure 5.172: Block Location

8. Remove clevis pin (A) at the rod end of the master cylinder and remove cylinder and safety prop (B).

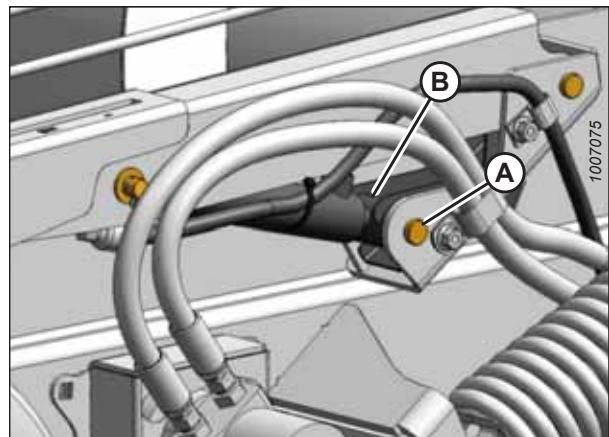


Figure 5.173: Master Cylinder — Left Side of Header

MAINTENANCE AND SERVICING

9. Cut the cable ties on hoses (A) and (B) and disconnect the hoses from the master cylinder. Install caps onto the hose ends and the cylinder fittings, or wrap the ends and fittings with plastic to prevent contamination. Mark the ends of the hydraulic hoses to simplify reinstallation.

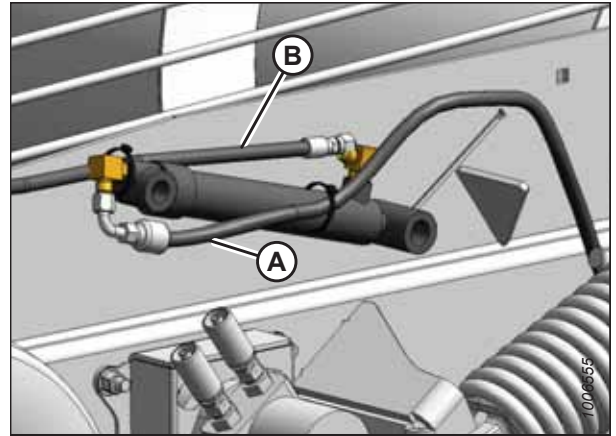


Figure 5.174: Master Cylinder — Left Side of Header

Installing Master Cylinder

Once the cylinder has been repaired or replaced, it can be installed on the pick-up header. The fittings from the old hydraulic cylinder will be needed, if the cylinder is to be replaced.

1. Remove two 90° elbow fittings (A) and (B) from the previously removed master cylinder.

NOTE:

If the master cylinder was not removed, refer to [Removing Master Cylinder, page 293](#) for removal instructions.

2. Remove the plugs from the new master cylinder ports.
3. Install elbows (A) and (B) onto the new master cylinder as shown. Align elbow (B) at angle (C) as shown. Tighten the jam nuts on the elbows.

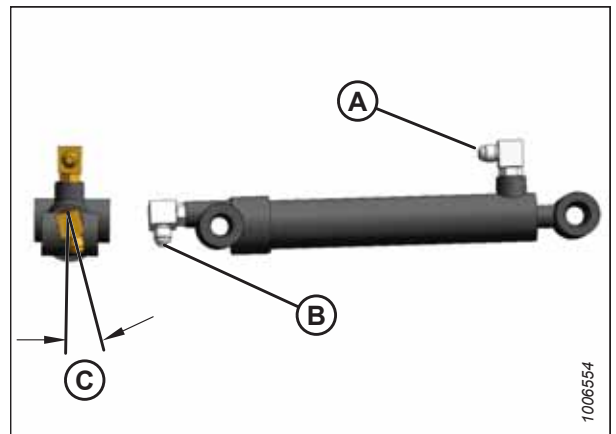


Figure 5.175: Master Cylinder

4. Connect hose (A) from the slave cylinder to elbow (C) at the rod (aft) end of the master cylinder.
5. Connect hose (B) from header to elbow (D) at the barrel (forward) end of the master cylinder.
6. Tighten the fittings, ensuring that hose (B) is routed so that it remains parallel to the master cylinder.

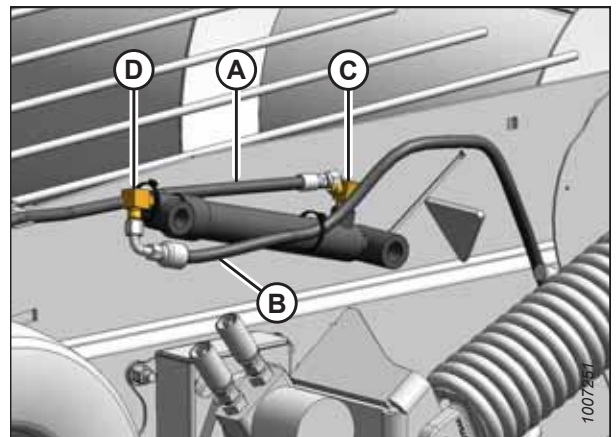


Figure 5.176: Master Cylinder — Left Side of Header

MAINTENANCE AND SERVICING

7. Position the rod end of master cylinder (A) and the safety prop into the master cylinder support bracket.
8. Secure the rod-end of the master cylinder with shorter clevis pin (B). Ensure that the clevis pin head faces outboard.
9. Secure clevis pin (B) with a washer and cotter pin (not shown).
10. Lift hold-down arm (C) until clevis pin (D) can be installed through the lift arm and the barrel end of the master cylinder. Ensure that the clevis pin head faces outboard.
11. Secure clevis pin (D) with a washer and cotter pin (not shown).
12. Secure the hydraulic hoses with cable ties (not shown).
13. Remove the previously inserted block of wood.
14. Bleed the hydraulic cylinders and lines. For instructions, refer to [5.9.4 Bleeding Cylinders and Lines, page 299](#).
15. Close the left endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).

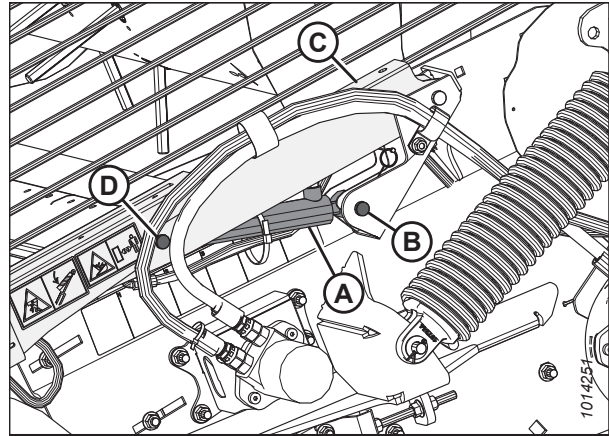


Figure 5.177: Master Cylinder — Left Side of Header

5.9.3 Replacing Slave Hold-Down Cylinder

The hold-down is raised and lowered by master and slave single-acting hydraulic cylinders. The slave cylinder is located at the right end of the hold-down and is connected to the master cylinder by a hose that passes through the hold-down beam.

Removing Slave Cylinder

The slave cylinder can be removed from the hold-down assembly for replacement or repair.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header.
2. Lower the hold-down completely.
3. Continue pressing the hold-down lower switch for 5–10 seconds to remove any pressure in the system.

MAINTENANCE AND SERVICING

4. Stop the engine and remove the key from the ignition.
5. Remove the cotter pins and washers from clevis pins (B) and (D).
6. Raise hold-down (C) by hand and use a prop device to support the hold-down and take the weight off of slave cylinder (A).
7. Remove clevis pin (D) at the barrel end of the slave cylinder. The slave cylinder will swing down from the hold-down arm.

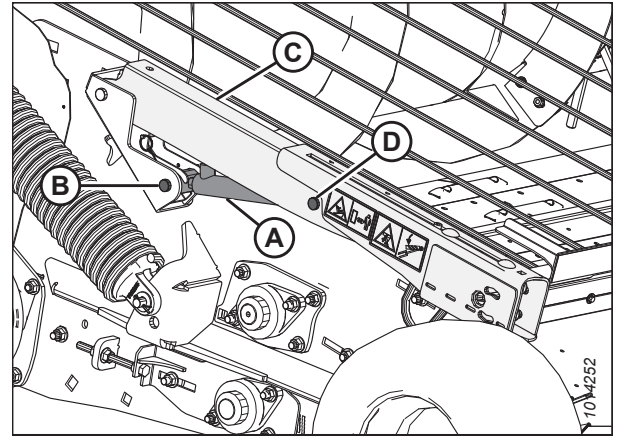


Figure 5.178: Slave Cylinder — Right Side of Header

8. Use a lifting device to lift and support hold-down arm (A).

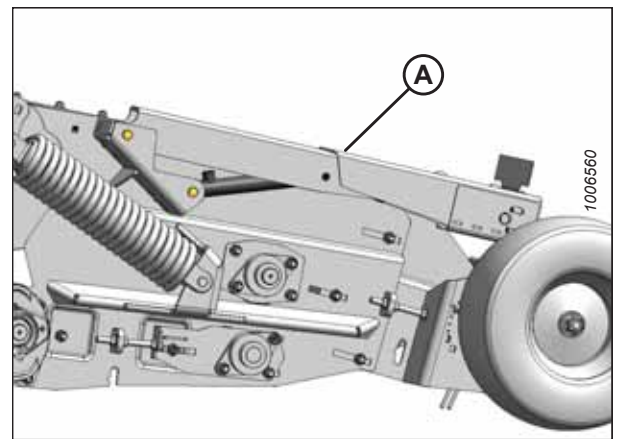


Figure 5.179: Hold-Down Arm — Right Side of Header

9. Remove clevis pin (A) from the safety prop at the rod end of the slave cylinder. Remove the slave cylinder from safety prop (B).

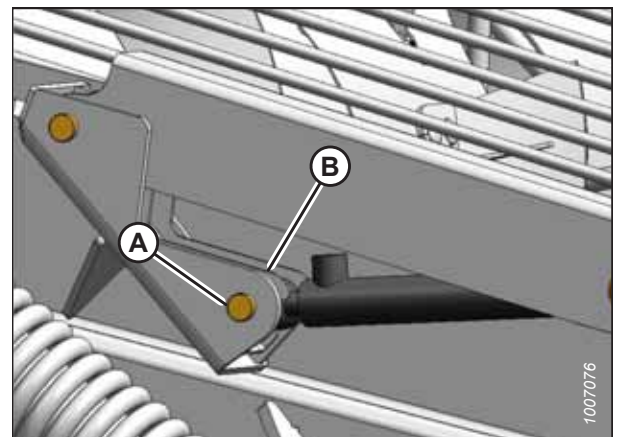


Figure 5.180: Slave Cylinder Safety Prop Connection — Right Side of Header

MAINTENANCE AND SERVICING

10. Disconnect hydraulic hose (A) from the slave cylinder. Install a cap onto the hose end and the cylinder fitting, or wrap the end and fitting with plastic to prevent contamination.

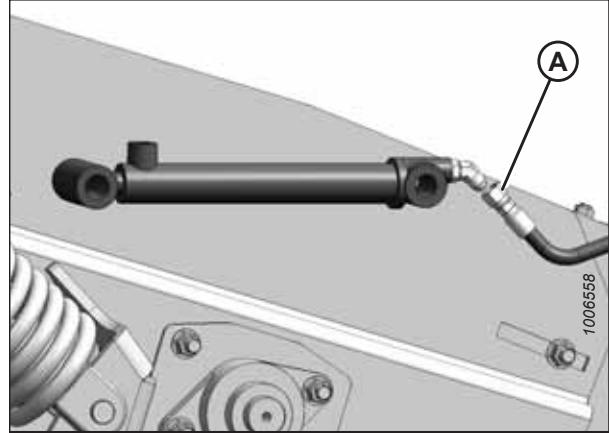


Figure 5.181: Slave Cylinder Connected to Hose — Right Side of Header

Installing Slave Cylinder

You will need the 45° hydraulic fitting from the previously removed hold-down slave cylinder to complete this procedure.

1. Remove 45° fitting (A) from the previously removed slave cylinder.

NOTE:

If the slave cylinder has not been removed, refer to [Removing Slave Cylinder, page 296](#) for removal instructions.

2. Remove the plug from the new slave cylinder's hydraulic port.
3. Install fitting (A) onto the new slave cylinder as shown. Ensure that the fitting is in line with cylinder and tighten the jam nut on the fitting.
4. Connect hose (A) from the master cylinder to fitting (B) and tighten the fitting.



Figure 5.182: Slave Cylinder — Right Side of Header

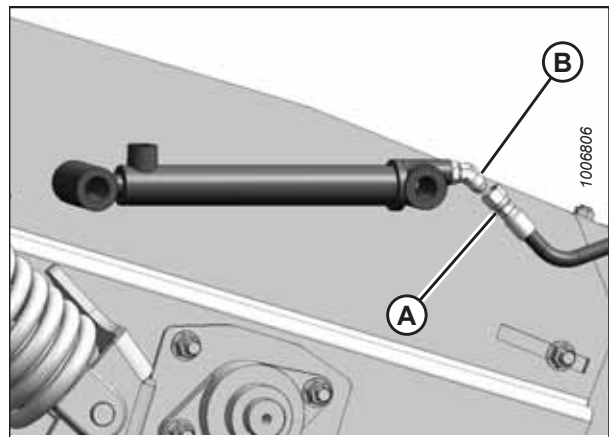


Figure 5.183: Slave Cylinder — Right Side of Header

5. Position the rod end of cylinder (A) and the safety prop onto the cylinder support bracket. Secure the rod with shorter clevis pin (B). Ensure that the clevis pin head faces outboard.
6. Secure clevis pin (B) with a washer and cotter pin (not shown).
7. Lift hold-down arm (C) until clevis pin (D) can be installed through the lift arm and the barrel end of the cylinder. Ensure that the head of the clevis pin faces outboard.
8. Secure clevis pin (D) with a washer and cotter pin (not shown).
9. Remove the block of wood inserted in [Removing Slave Cylinder, page 296](#).
10. Bleed the hydraulic cylinders and lines. For instructions, refer to [5.9.4 Bleeding Cylinders and Lines, page 299](#).

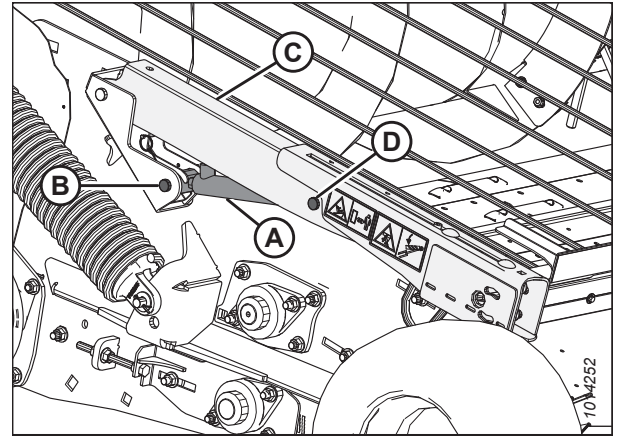


Figure 5.184: Slave Cylinder — Right Side of Header

5.9.4 Bleeding Cylinders and Lines

Air must be absent from the hydraulic system for it to perform properly. Bleed the hydraulic system after installing a new attachment, if the pick-up header has been idle for a significant period of time, or if the hydraulic system requires maintenance.

CAUTION

High-pressure hydraulic oil can cause serious injuries such as burns, cuts, and tissue damage. Always take precautions when working with hydraulic oil. Wear safety goggles, gloves, and thick clothing. Seek immediate medical attention if cut or burned.

1. Raise the hold-down fully using the combine reel lift control.
2. Engage hold-down safety props (A) on both sides of the header. Ensure that the safety props are fully rotated over the center so that they remain engaged.
3. Lower the hold-down onto safety props (A) to relieve the hydraulic pressure in the lines.

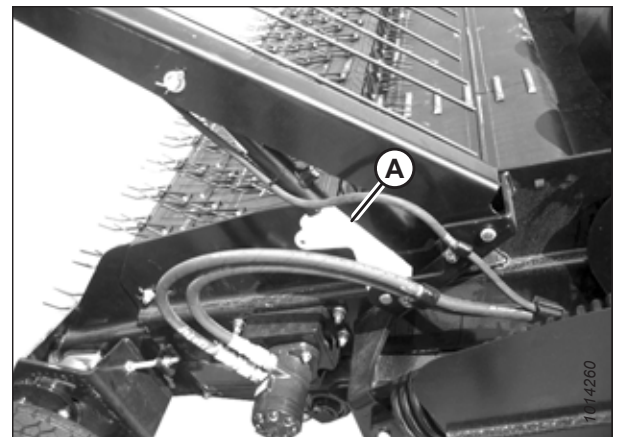


Figure 5.185: Hold-Down Safety Prop

4. Completely remove the bleed port plug (not shown).

IMPORTANT:

Completely remove the bleed port plug before applying hydraulic pressure. If the bleed port plug is only partially removed, the hydraulic oil pressure will damage the plug's O-ring.

5. Hold a plastic container up to the bleed port to collect hydraulic oil.
6. Activate the combine's reel lift control to apply hydraulic pressure to the system. Hydraulic fluid will begin to flow from the bleed port. Any air trapped in the lines will appear as bubbles in the hydraulic fluid. Continue doing this until the air bubbles disappear and a steady stream of oil flows from the bleed port. Release the lift control to relieve the hydraulic pressure.
7. Replace the bleed port plug and torque it to 0.8 Nm (7 lbf-in).
8. Raise the hold-down fully and disengage the hold-down safety props.
9. Cycle the cylinder 5–10 times by fully extending and fully retracting the cylinder. Ensure that the hold-down is level while raising and lowering it, and that the slave and master cylinders are both working. Repeat the bleeding process if necessary.
10. Lower the hold-down.



Figure 5.186: Bleeding Cylinder

5.9.5 Hydraulic Hoses and Lines

Check hydraulic hoses and lines daily for signs of leaks. Replace any leaking or damaged hoses.

For the hold-down hydraulic systems, refer to the following:

- [Removing Master Cylinder Hose, page 301](#)
- [Installing Master Cylinder Hose, page 304](#)

For the draper drive hydraulic system, refer to the following:

- [Removing Hydraulic Motor Hoses, page 234](#)
- [Installing Hydraulic Motor Hoses, page 237](#)

⚠ WARNING

- Relieve the pressure in the hydraulic system before disconnecting hydraulic lines.
- Tighten all connections before applying pressure to the hydraulic system. Keep away from pin holes and nozzles which can eject fluids under high pressure.
- If any fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury, or gangrene may result.



Figure 5.187: Hydraulic Pressure Hazard

⚠ WARNING

Use a piece of cardboard or paper to search for leaks.

IMPORTANT:

Keep hydraulic coupler tips and connectors clean. Allowing dirt, dust, water, or foreign material to enter the hydraulic system is the major cause of hydraulic system damage. Do **NOT** attempt to service hydraulic systems in the field. Overhauls must be performed in an environment free of dust and debris.

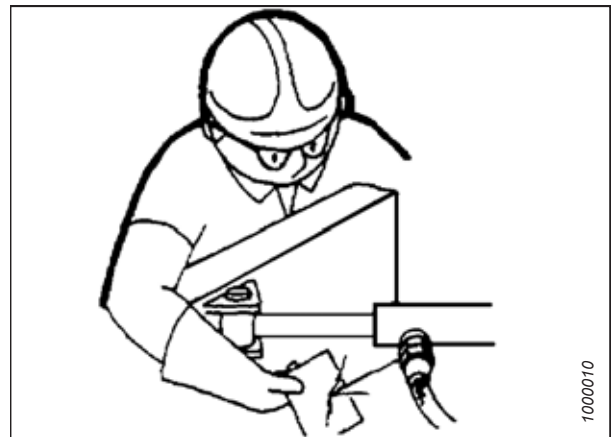


Figure 5.188: Testing for Hydraulic Leaks

Removing Master Cylinder Hose

The hydraulic hose connected to the pick-up header's hold-down master lift cylinder can be removed for service or replacement.

⚠ DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Lower the hold-down completely to release all of the hydraulic pressure in the system.
3. Stop the engine and remove the key from the ignition.

MAINTENANCE AND SERVICING

4. Open left endshield (A). For instructions, refer to [3.3.1 Opening Left Endshield](#), page 23.

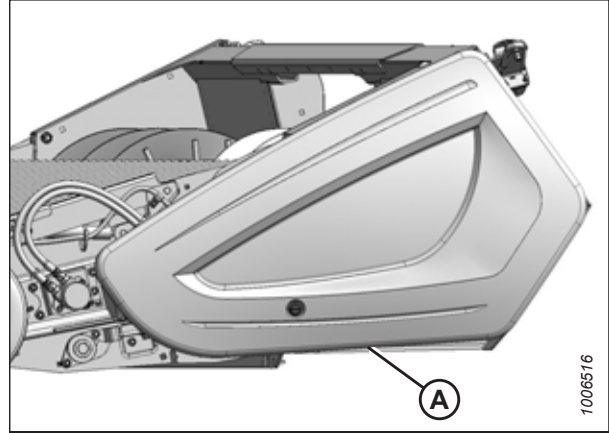


Figure 5.189: Left Endshield

5. Disconnect hydraulic hose (A) from master lift cylinder (B). Install caps onto the hose ends and the cylinder fittings, or wrap the ends and fittings with plastic to prevent contamination.

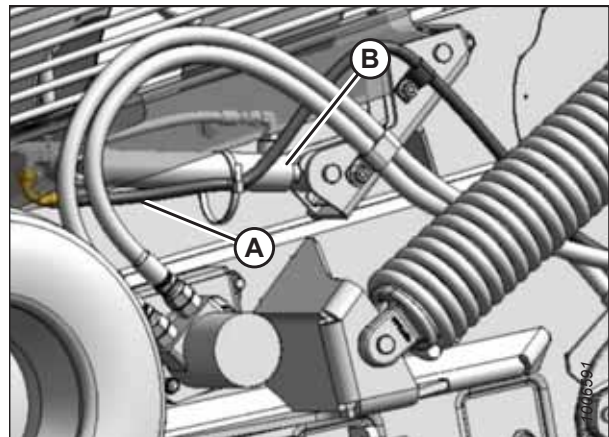


Figure 5.190: Left Master Cylinder

6. Loosen or remove hose clips (A) and undo cinch straps (B).
7. Pull the hydraulic hose through grommet (C).

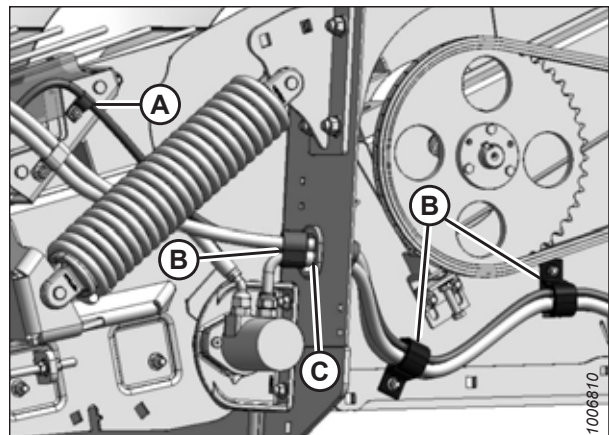


Figure 5.191: Master Cylinder — Left Side of Header

MAINTENANCE AND SERVICING

8. Disconnect hydraulic hose (A) from the multicoupler.

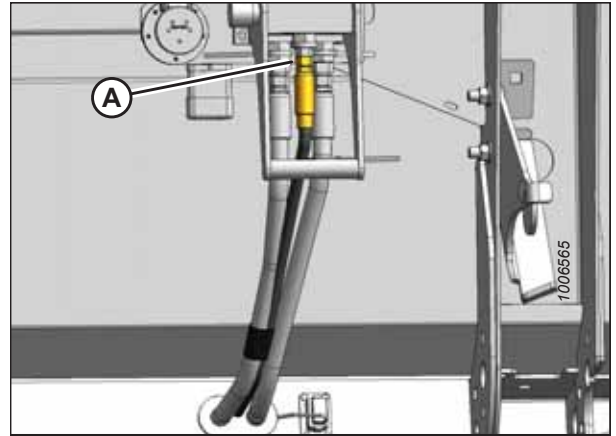


Figure 5.192: Left Backsheet

9. Loosen three bolts (A). Remove cover (B).
10. Pull the hydraulic hose out of cover (B).

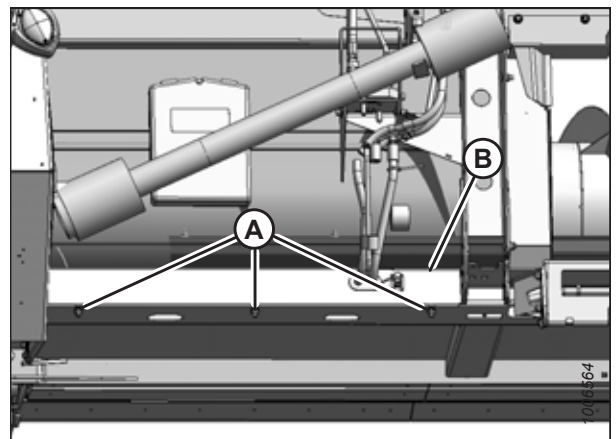


Figure 5.193: Bottom Beam Cover

11. Remove grommet (A) to remove the hydraulic hose (if necessary).

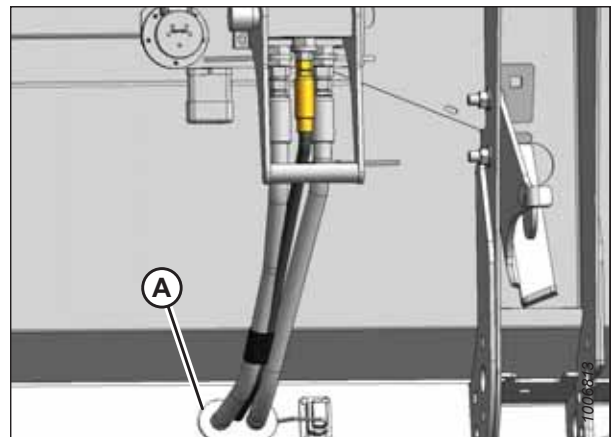


Figure 5.194: Left Backsheet

MAINTENANCE AND SERVICING

12. Pull the hydraulic hose through grommet (A) in the endsheet.

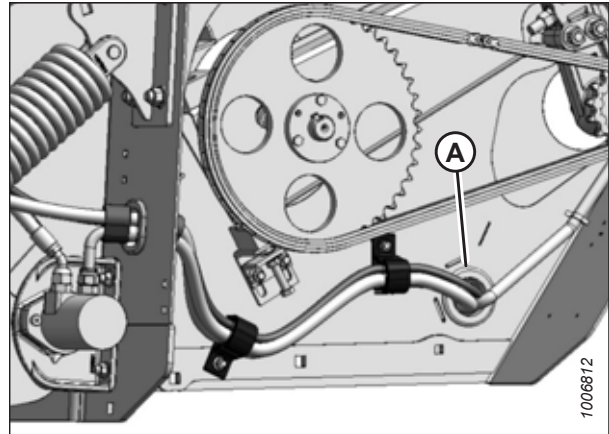


Figure 5.195: Left Endsheets

Installing Master Cylinder Hose

Once the hold-down assembly's master cylinder has been repaired or replaced, it can be installed onto the pick-up header.

1. Feed hose (A) through grommet (B) in the endsheet.
2. Feed the hose through clips (C) and grommet (D).

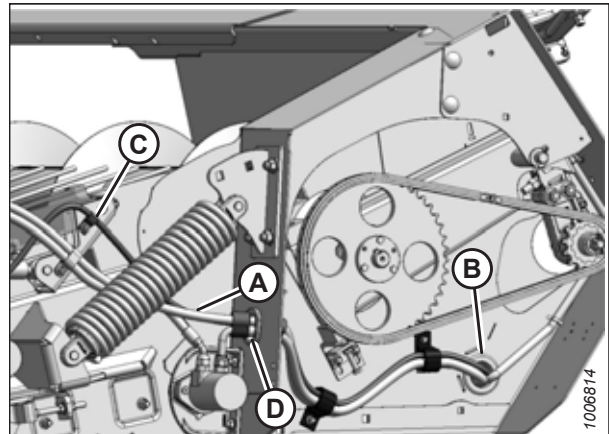


Figure 5.196: Left Endsheets

3. Feed hose (A) through grommet (B).
4. Connect hose (A) to the multicoupler.

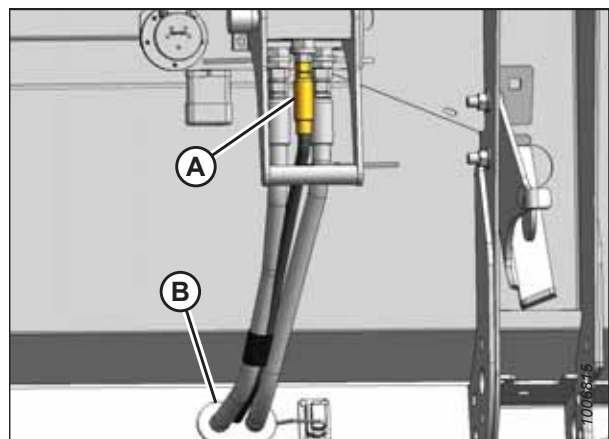


Figure 5.197: Left Backsheet

MAINTENANCE AND SERVICING

5. Connect hose (A) to master cylinder (B). Secure the hose to the master cylinder with cable tie (C).

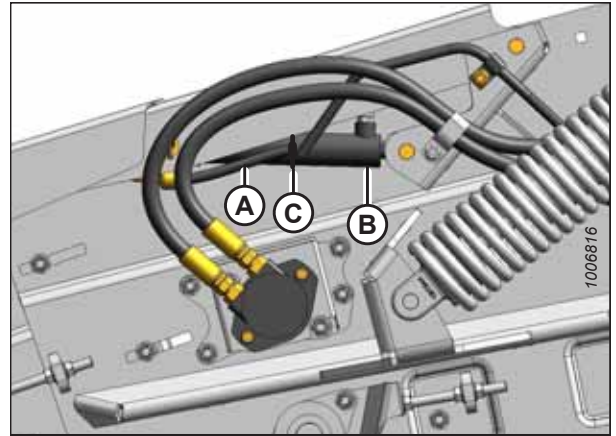


Figure 5.198: Left Side of Header

6. Secure the hose with clips (A) and cinch straps (B).

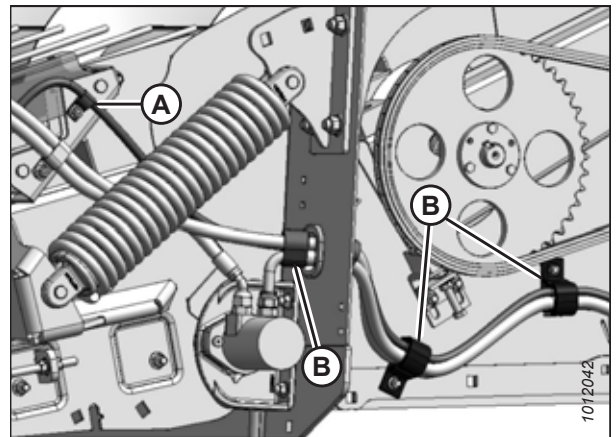


Figure 5.199: Left Side of Header

7. Install bottom beam cover (B) and tighten bolts (A).
8. Close the endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 24](#).
9. Bleed the hydraulic cylinders and lines. For instructions, refer to [5.9.4 Bleeding Cylinders and Lines, page 299](#).

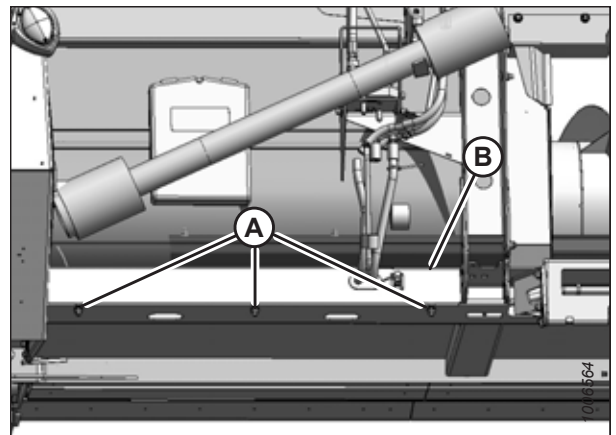


Figure 5.200: Bottom Beam Cover

5.10 Draper Speed Sensor

The draper speed sensor is mounted to a support on the right side of the header. It reads the speed of the driven roller on the rear deck.

This section does **NOT** apply to Case IH and New Holland combines. For Case IH and New Holland combines, refer to your combine operator's manual for further information.

5.10.1 Checking Draper Speed Sensor Position

The draper speed sensor position is factory-set, but it may require adjustment if problems occur with the draper speed system or when replacing sensor components. Check the draper speed sensor position prior to making any adjustments.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Shut down the engine, and remove the key from the ignition.
2. Remove the right endshield. For instructions, refer to [3.3.5 Removing Right Endshield, page 28](#).
3. Check clearance (A) between the central lug of the speed sensor and the major diameter of the disc. If you are attaching the pick-up header to a non-AGCO combine, the recommended clearance is 3 mm (1/8 in.). If you are attaching the pick-up header to an AGCO combine, the recommended clearance is 0.5–1.5 mm (1/64–3/64 in.). If the clearance requires adjustment, refer to [5.10.2 Adjusting Draper Speed Sensor, page 307](#).

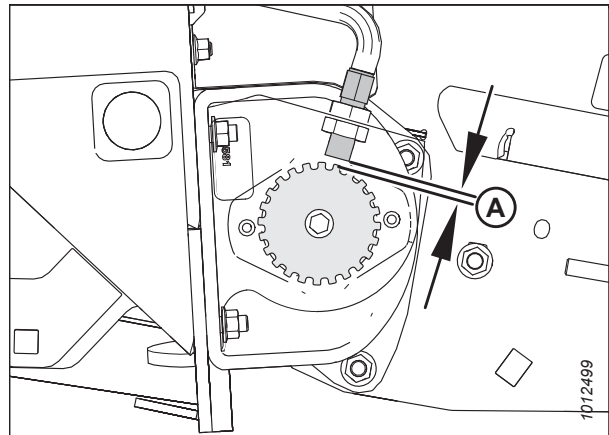


Figure 5.201: Disc Clearance

4. Check vertical alignment (A) of sensor (B) and sensor disc (C). If necessary, adjust support (D) inboard or outboard to adjust the vertical alignment.

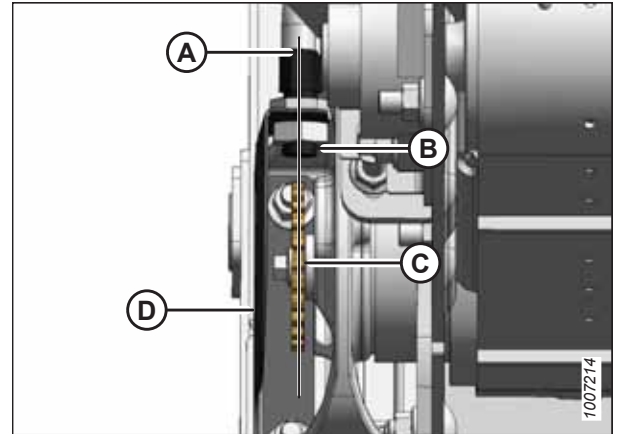


Figure 5.202: Sensor and Disc Alignment – Non-AGCO Combines

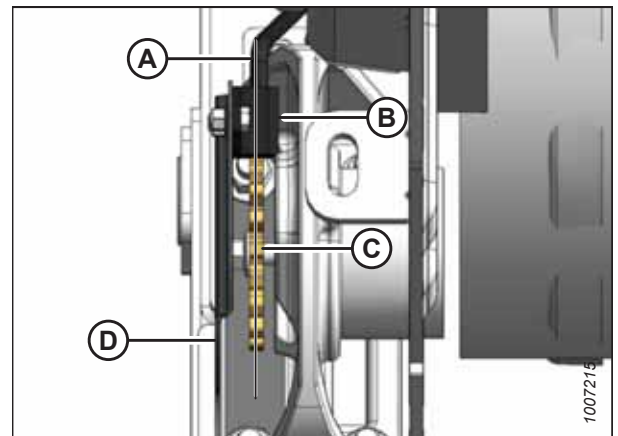


Figure 5.203: Sensor and Disc Alignment – AGCO Combines

5. Reinstall the right endshield. For instructions, refer to [3.3.6 Installing Right Endshield, page 28](#).

5.10.2 Adjusting Draper Speed Sensor

The draper speed sensor position is factory-set, but it may require adjustment if problems occur with the draper speed system or when replacing sensor components.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

Check the draper speed sensor position prior to making any adjustments. Refer to [5.10.1 Checking Draper Speed Sensor Position, page 306](#) for instructions.

1. Lower the header to the ground and lower the hold-down completely.
2. Shut down the engine, and remove the key from the ignition.
3. Remove the right endshield. For instructions, refer to [3.3.5 Removing Right Endshield, page 28](#).

4. **If the pick-up header is configured for an AGCO combine:**
Loosen nuts (A) and adjust sensor (B) to reach the required clearance.
5. Tighten nuts (A).

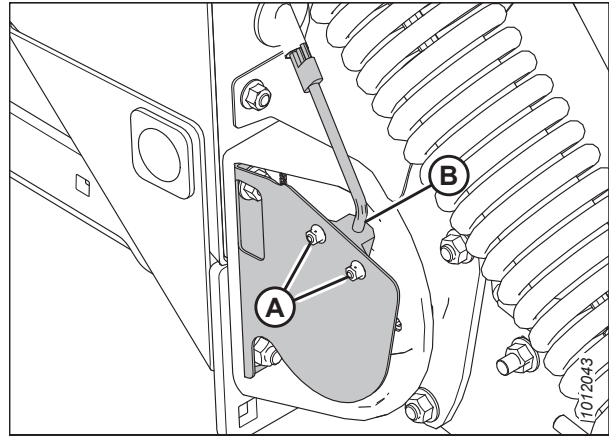


Figure 5.204: Draper Speed Sensor – AGCO Combines

6. **If the pick-up header is configured for a non-AGCO combine:** Hold sensor (B) with a wrench and loosen jam nut (C).
7. Turn jam nuts (C) and (A) to reach the required sensor-to-disc clearance.
8. Tighten jam nuts (C) and (A).

IMPORTANT:

Ensure that the sensor does **NOT** rotate when tightening the jam nuts.

9. Install the right endshield. For instructions, refer to [3.3.6 Installing Right Endshield, page 28](#).

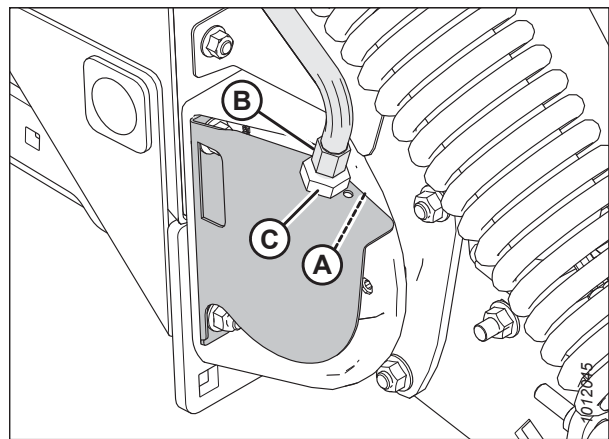


Figure 5.205: Draper Speed Sensor – Non-AGCO Combines

5.10.3 Replacing Draper Speed Sensor

The speed sensor may require replacement if it is malfunctioning or if service is being performed on adjacent components.

⚠ DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header to the ground.
2. Lower the hold-down completely.
3. Shut down the engine, and remove the key from the ignition.
4. Remove the right endshield. For instructions, refer to [3.3.5 Removing Right Endshield, page 28](#).

MAINTENANCE AND SERVICING

5. **If your pick-up header is configured for an AGCO combine:** Remove bolts and nuts (A), and remove sensor (B) from support (C).
6. Disconnect the sensor wire from the harness at connector (D).
7. Attach connector (D) on new sensor (B) to the harness.
8. Position sensor (B) in support (C). Secure the sensor with bolts and nuts (A).
9. Adjust the clearance between the sensor and the sensor disc. For instructions, refer to [5.10.2 Adjusting Draper Speed Sensor](#), page 307.

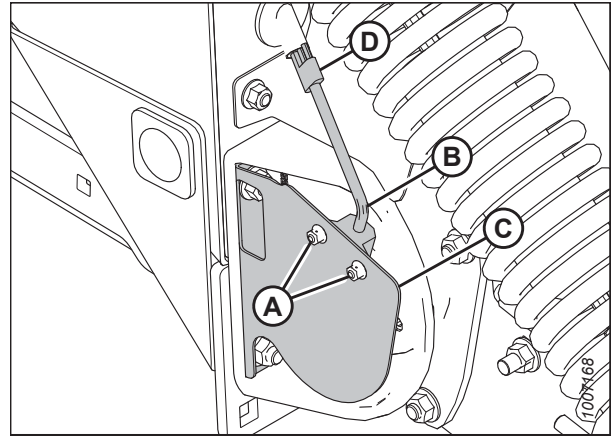


Figure 5.206: Draper Speed Sensor

10. **If your pick-up header is configured for a non-AGCO combine:** Remove lower jam nut (A), and pull sensor (B) from support (C).
11. Disconnect sensor (B) from the harness and remove top jam nut (D).
12. Attach new sensor (B) to the harness and install top jam nut (D) onto the sensor.
13. Position sensor (B) in support (C) and secure it with lower jam nut (A).
14. Adjust the clearance between the sensor and the sensor disc. For instructions, refer to [5.10.2 Adjusting Draper Speed Sensor](#), page 307.
15. Install the right endshield. For instructions, refer to [3.3.6 Installing Right Endshield](#), page 28.

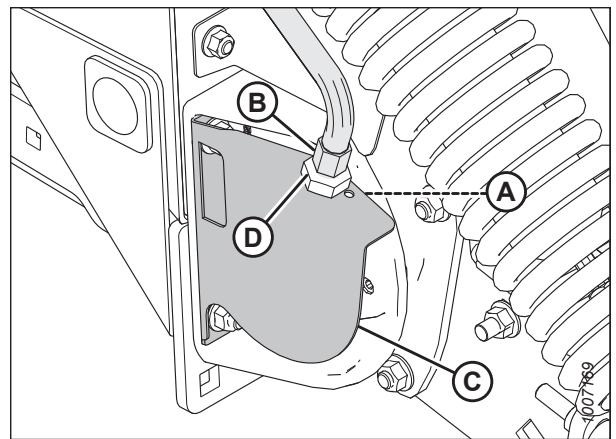


Figure 5.207: Draper Speed Sensor

5.11 Wheels and Tires

There are two wheels and tires on the pick-up header, one on each side.

DANGER

- Never install a tube in a cracked wheel rim.
- Never weld a wheel rim.
- Make sure all the air is removed from the tire before removing the tire from the rim.
- Never use force on an inflated or partially inflated tire. Make sure the tire is correctly seated before inflating it to operating pressure.
- Do NOT remove, install, or repair a tire on a rim unless you have the proper equipment and experience to perform the job. Take the tire and rim to a qualified tire repair shop.
- If the tire is overinflated or is incorrectly positioned on the rim, the tire bead can loosen on one side, causing air to escape at high speed and with great force. An air leak of this nature can propel the tire in any direction and endanger anyone in the area.
- Do NOT exceed the maximum inflation pressure indicated on the tire label/sidewall.
- Replace the tire if it is worn or damaged beyond repair.

5.11.1 Removing Wheel

The wheel is attached to the spindle with a single large nut.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header onto blocks with the wheels raised slightly above the ground.
2. Shut down the engine, and remove the key from the ignition.
3. Remove wheel nut (B).
4. Pull wheel (A) off its spindle.

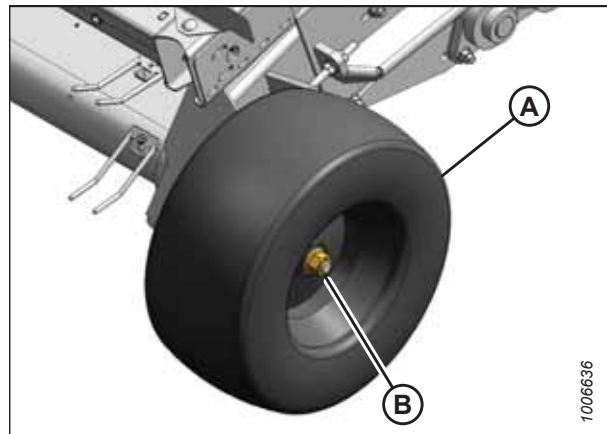


Figure 5.208: Wheel – Left Side of Header

5. If required, remove spacer (A) from the spindle.

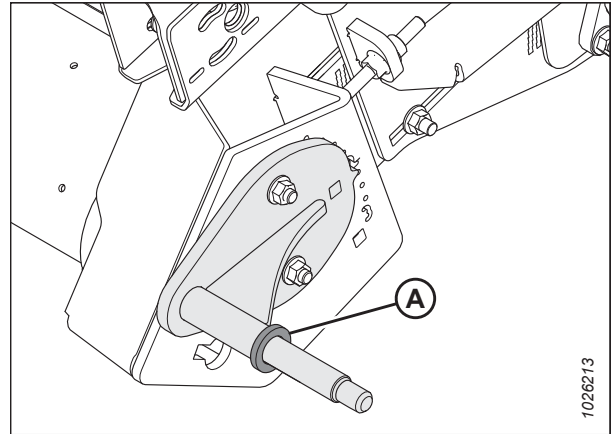


Figure 5.209: Wheel Spindle – Left Side of Header

5.11.2 Installing Wheel

Be sure to correctly torque the wheel nut after installation.

NOTE:

The procedure below applies to the left side of the header. The right side is similar.

1. Ensure that spacer (A) is installed on the spindle.

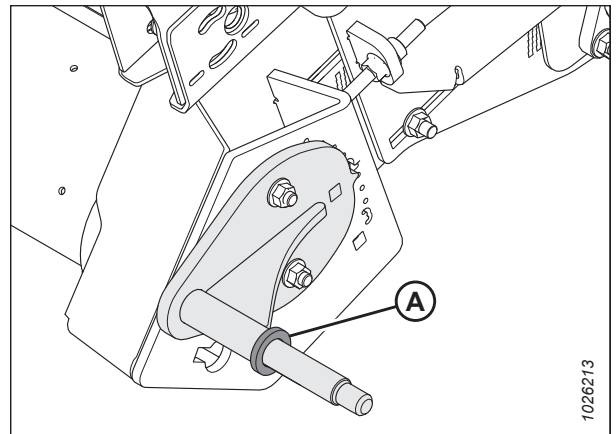


Figure 5.210: Wheel Spindle – Left Side of Header

2. Install wheel (A) onto spindle and secure it with wheel nut (B). Torque the nut to 136 Nm (100 lbf-ft).

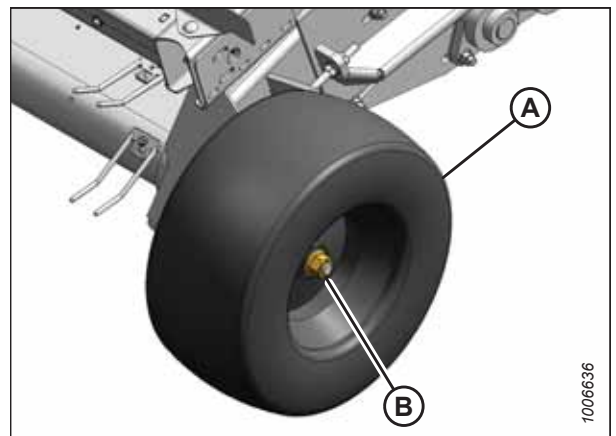


Figure 5.211: Wheel – Left Side of Header

5.11.3 Inflating Tires

If the tires on the header are low, they will need to be inflated to the correct pressure.

Table 5.2 Pick-Up Header Tire Pressure

Tire	Pressure
18.50 x 8.50-8	240–310 kPa (35–45 psi) ²

-
2. Use the lower end of this range if the header will be operated on rough terrain.

5.12 Lights

The transport lights, located at each end of the header, are used when driving the combine on the road with the header attached.

- Use electrical tape and wire clips to prevent wires from dragging or rubbing.
- Keep the lights clean. Replace any defective bulbs.
- Replace the light housing if it is cracked or broken.

5.12.1 Adjusting Transport Lights

The position of the transport lights may need to be changed so that they are visible to other motorists.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header fully.
2. Shut down the engine, and remove the key from the ignition.
3. If necessary, swivel the lights by hand to the transport position.
4. If it is difficult to swivel the lights, adjust jam nut (A) and turn nut (B) so that the light maintains its position but can still be moved by hand.
5. Tighten jam nut (A). Do **NOT** overtighten the jam nut.

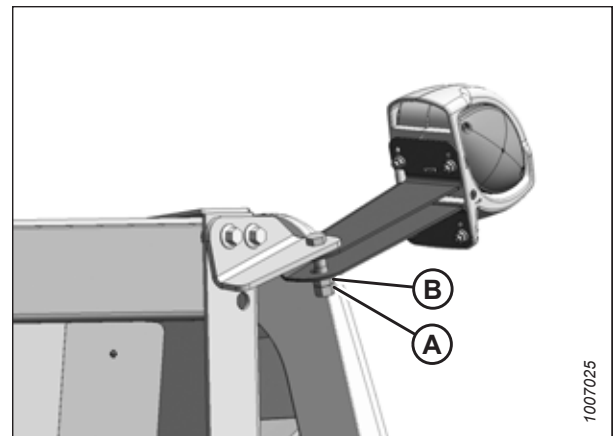


Figure 5.212: Transport Light

5.12.2 Replacing Transport Light Bulb

Transport lights are an important safety feature. Keep the lights clean. Replace any defective bulbs.

Replace the light bulb with a 21W 12V bayonet base part (for example, #7506).

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header fully.
2. Shut down the engine, and remove the key from the ignition.

MAINTENANCE AND SERVICING

3. Remove two screws (A) using a Phillips-head screwdriver.
4. Pry off lens (B).
5. Push the bulb in and turn it counterclockwise. Remove the bulb.
6. Place the new bulb in the socket, push it in, and turn it clockwise until the bulb can't be turned any further.
7. Replace lens (B) and secure it with two screws (A).

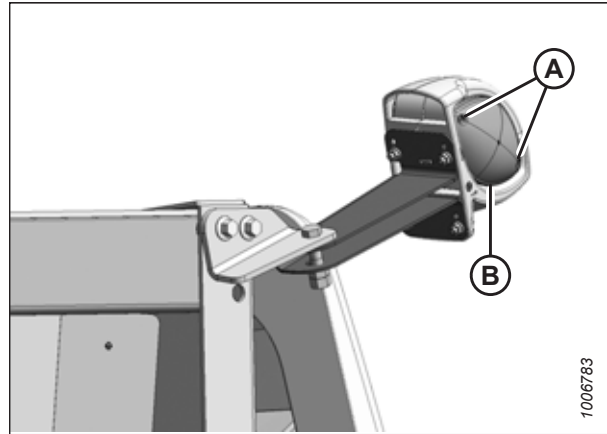


Figure 5.213: Transport Light

5.12.3 Replacing Lens

To ensure the life of the light bulb, replace the lens if it is cracked or broken.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

1. Lower the header fully.
2. Shut down the engine, and remove the key from the ignition.
3. Remove two screws (A) using a Phillips-head screwdriver.
4. Pry off lens (B).
5. Install new lens (B) and secure it with two screws (A).

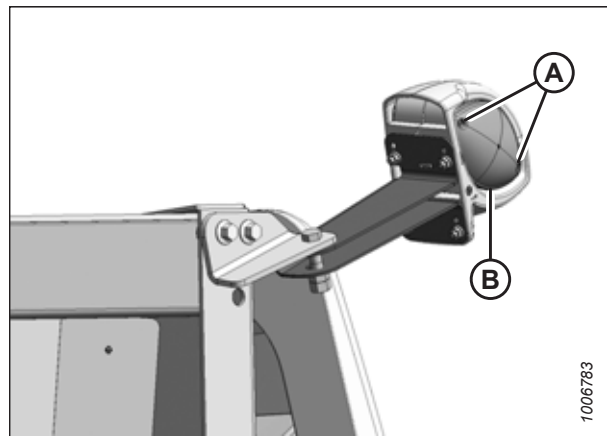


Figure 5.214: Transport Light

5.12.4 Replacing Lamp Housing

Transport lights are an important safety feature. Replace the lamp housing if it is cracked or broken.

DANGER

To prevent bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat.

MAINTENANCE AND SERVICING

1. Lower the header fully.
2. Shut down the engine, and remove the key from the ignition.
3. Pull wiring harness (A) out of the lamp bracket and locate the connectors inside the wiring harness.
4. Disconnect the light wiring from the harness.
5. Remove four nuts (B) and remove lamp (C) from the bracket.
6. Install new lamp (C) on the bracket and secure it with four nuts (B).
7. Connect the lamp wiring to harness (A) and route the wires inside the plastic covering. Seal the wiring with electrical tape.
8. Ensure that the wiring harness is not damaged and secure the harness inside the lamp bracket.
9. Check the operation of the new lamp.

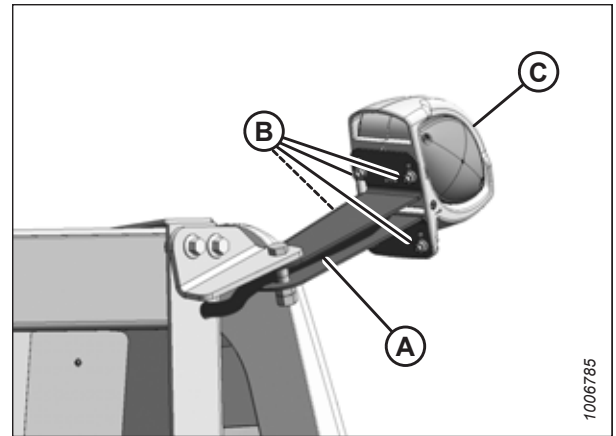


Figure 5.215: Transport Light

Chapter 6: Options and Attachments

Several optional kits are available for your pick-up header, depending on your specific performance needs.

6.1 Hold-Down Performance Kit

The Hold-Down Performance kit assists with the delivery of light crop onto the pick-up header. This kit is useful when the fingers have difficulty picking up the crop and have a tendency to throw the crop forward.

This kit attaches to the hold-down bar. It consists of a series of spring wires that rotate or lock by moving the center nut. The wires project forward and downward into the crop.

Attachment hardware and installation instructions are included in the kit.

MD #B5475

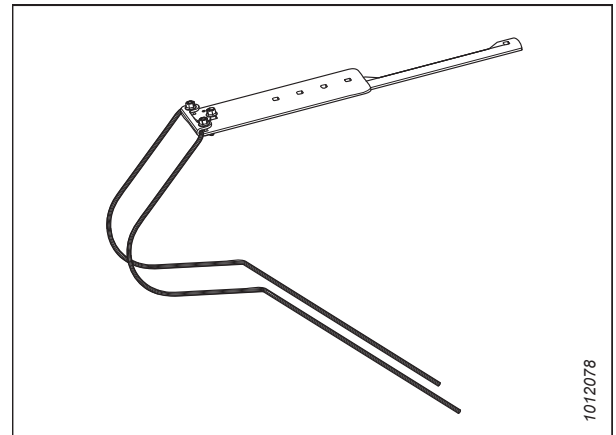


Figure 6.1: Hold-Down Performance Kit

6.2 Seed Saver Performance Kit

The Seed Saver Performance Kit is recommended for use with lighter grain crops such as canola.

The attachment hardware and installation instructions are included in the kit.

MD #B6429

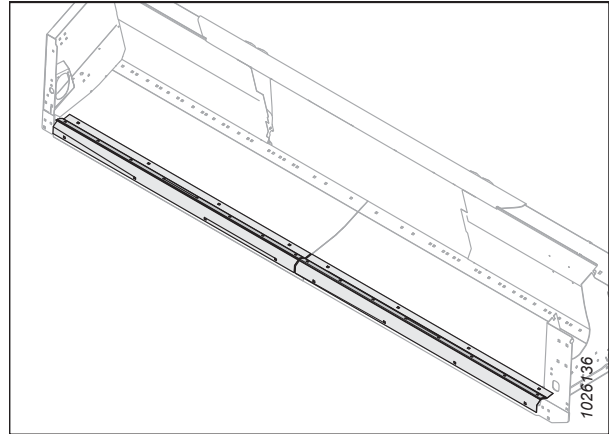


Figure 6.2: Seed Saver Performance Kit

6.3 Auger Dent Repair Kit

This kit allows Operators to repair dents close to the finger/guide area that the feed auger may have sustained during regular use.

Attachment hardware and installation instructions are included in the kit.

MD #237563

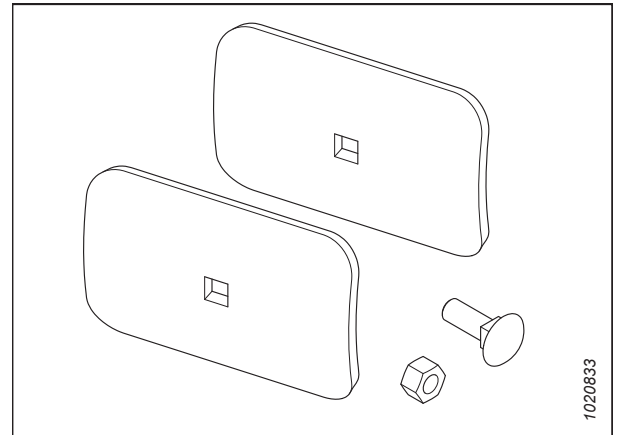


Figure 6.3: Auger Dent Repair Kit

6.4 Combine Completion Package Kits

Pick-up headers are factory-configured for particular combine makes, models, and feeder house sizes. If the header is being configured for a different make of combine or is not factory-configured for any combine, a Combine Completion Package kit is required.

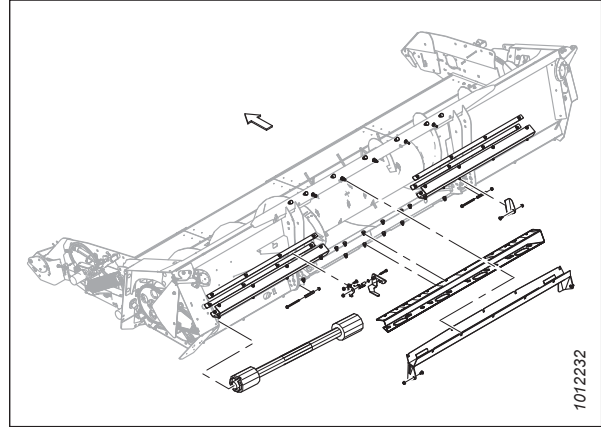


Figure 6.4: Combine Completion Package Kit – Case IH and New Holland

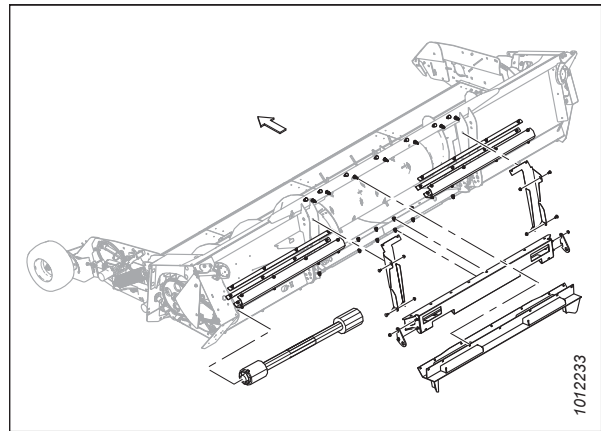


Figure 6.5: Combine Completion Package Kit – John Deere

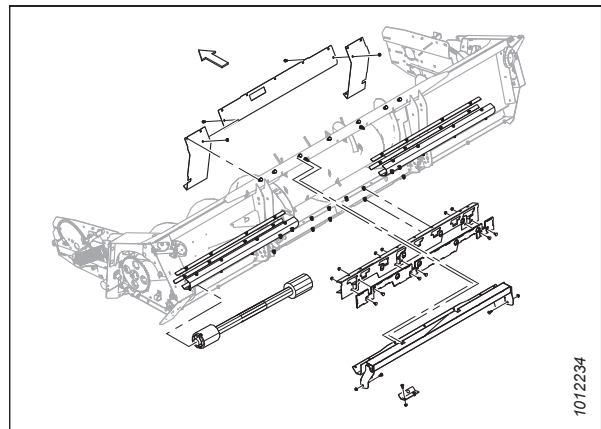


Figure 6.6: Combine Completion Package Kit – Massey Ferguson® and Challenger®

OPTIONS AND ATTACHMENTS

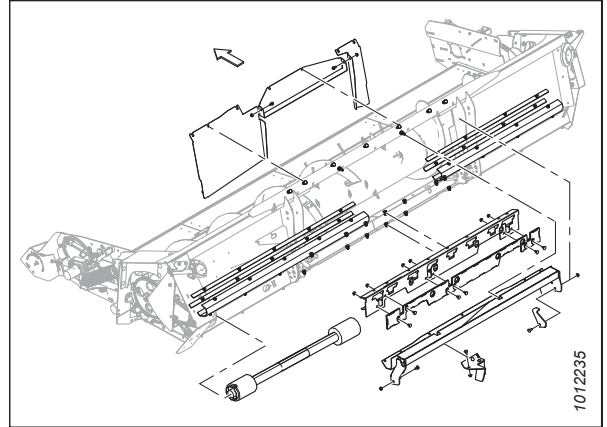


Figure 6.7: Combine Completion Package Kit – Gleaner®

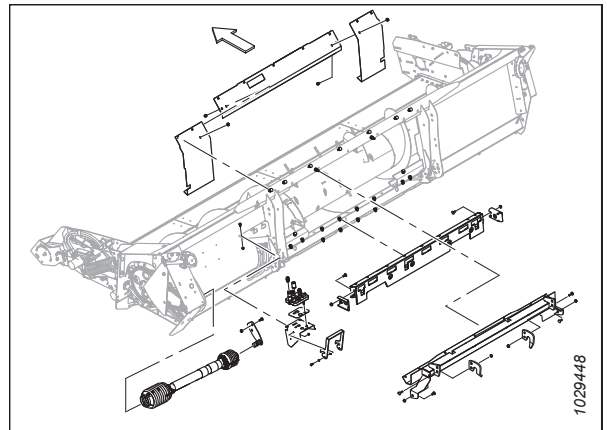


Figure 6.8: Combine Completion Package Kit – IDEAL™

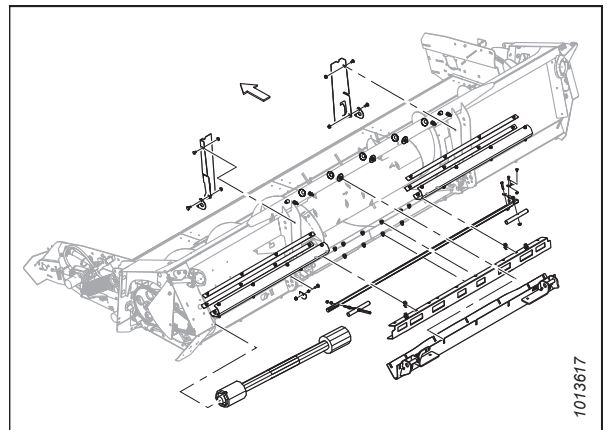


Figure 6.9: Combine Completion Package Kit – Versatile

Combine Completion Package kits provide the necessary parts and hardware to modify headers to accommodate different combine models with various feeder house sizes. Refer to for a detailed list of supported combine models and feeder house sizes.

Attachment hardware and installation instructions are included in the kits.

OPTIONS AND ATTACHMENTS

Combine Make	Bundle #
Case IH 10/20/30/40 Series, Case IH 5/6/7088 Series, and New Holland CR/CX ³	MD #B6971
Massey Ferguson [®] and Challenger ^{®4}	MD #B6796
Gleaner [®] R/S only ⁵	MD #B9038
IDEAL [™]	MD #B9039
John Deere 60/70/S Series ⁶	MD #B6805
Versatile	MD #B6806

-
3. You will need to purchase either MD #B6361 (6-tooth spline driveline) or MD #B6362 (21-tooth spline driveline).
 4. To convert a header setup for an AGCO Axial combine so that it can be used with an IDEAL[™] combine, order part MD #B6597.
 5. Gleaner[®] combines manufactured prior to model year 2016 require reel speed sensor MD #184440. The part must be ordered separately.
 6. This header can't be used with JD 50 Series, Maximizer 9600/9610/CTS/II.

6.5 Pivoting Caster Wheels Kit

The Pivoting Caster Wheels kit provides better tracking when towing the header.

Attachment hardware and installation instructions are included in the kit.

MD #B6315

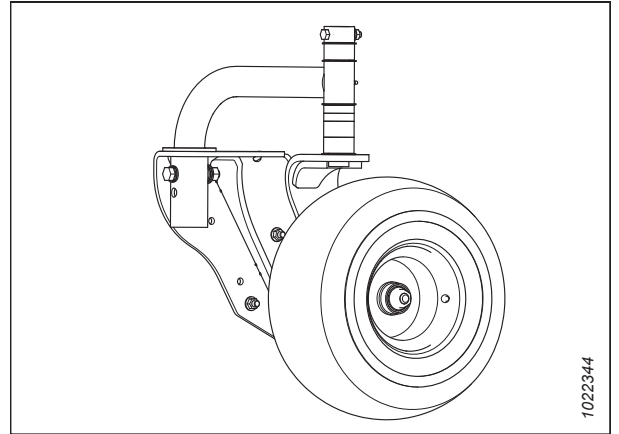


Figure 6.10: Pivoting Caster Wheels Kit

Chapter 7: Troubleshooting

Refer to this table if you encounter problems when operating your pick-up header.

Problem	Solution	Refer to
Symptom: Crop material overshoots the table auger		
Draper speed is too high	Reduce the draper speed until the pick-up header is pushing the swath slightly forward.	<i>Adjusting Draper Speed, page 77</i>
Header height is incorrect	Adjust the header height to 305 mm (12 in.). Header height is measured from the center of the rear draper roller to the ground.	<i>Header Height, page 86</i>
Hold-down rods are improperly adjusted	Adjust the rod tube so that the tips of the rods are close enough to the draper belts to prevent overshoot.	<i>Adjusting Hold-Down Rod Angle, page 92</i>
Symptom: The swath forms a ball and rolls to the right or left where it is eventually lost off the end of the pick-up header		
Draper speed is too high	Reduce the draper speed until the pick-up header is pushing the swath slightly forward.	<i>Adjusting Draper Speed, page 77</i>
Light crop flows forward and the fingers are unable to move the swath rearward	Install the Hold-Down Performance kit MD #B5475.	<ul style="list-style-type: none"> • See your Dealer • <i>6.1 Hold-Down Performance Kit, page 317</i>
Symptom: Shelling in delicate crops		
Draper speed is too high	Reduce the draper speed until the pick-up header is pushing the swath slightly forward.	<i>Adjusting Draper Speed, page 77</i>
Hold-down rods are improperly adjusted	Raise the hold-down assembly high enough to clear the swath.	<i>Hold-Down Position, page 91</i>
Symptom: Header leaves material in the field		
Pick-up header fingers are set too high	Raise the wheels to lower the pick-up height.	<i>Pick-Up Height, page 87</i>
Draper speed is too low	Increase the draper speed.	<i>Adjusting Draper Speed, page 77</i>
The pick-up header is running too fast (pulling swath apart)	Reduce the draper speed until the pick-up header is pushing the swath slightly forward.	<i>Adjusting Draper Speed, page 77</i>
Symptom: Header is picking a large amount of dirt and stones		
Draper speed is too high	Reduce the draper speed until the pick-up header is pushing the swath slightly forward.	<i>Adjusting Draper Speed, page 77</i>
Pick-up height is too low	Lower the wheels to raise the pick-up height.	<i>Pick-Up Height, page 87</i>

TROUBLESHOOTING

Problem	Solution	Refer to
Symptom: Material stalls on the header before the auger can pull it into the feeder house		
The header's pan surface is too rough.	Polish the header pan with emery cloth or a buffing wheel.	—
Incorrect header height	Adjust header height.	<i>Header Height, page 86</i>
Incorrect face plate angle	<p>The header face plate can be adjusted on some combine headers. Adjust the combine header tilt so that when the header is at operating height, the header floor pan and the ground are parallel to each other.</p> <p>NOTE: Adjust header tilt to Corn Setting from Grain Setting.</p>	Refer to your combine operator's manual.
Symptom: Draper belts tracking incorrectly		
Draper belt tension is incorrect	Tension the draper belts.	See your Dealer.
Dirt/crop buildup on the rollers	Remove the draper belts and remove any dirt or crop buildup from surface of the rollers and the roller grooves.	<i>5.7.1 Draper Belts, page 256</i>
Belts are sometimes tacky when new	Apply talcum or baby powder onto the draper belts to reduce tackiness. Belts may also need to be run loose for the first few hours of break them in.	—
Symptom: Belts stalling when loaded with crop material		
Draper belts are too loose	Increase the draper belt tension.	See your Dealer.
Symptom: Hold-down slave cylinder lags behind master on lift		
Air in the hydraulic system	Bleed the hydraulic cylinders.	<i>5.9.4 Bleeding Cylinders and Lines, page 299</i>
Symptom: Hold-down master cylinder lags behind slave on descent and ahead of slave on lift		
An obstruction is preventing cylinder movement	Check the lift cylinder and lift arm attachments.	—
Air in the hydraulic system	Bleed the hydraulic cylinders.	<i>5.9.4 Bleeding Cylinders and Lines, page 299</i>
Hydraulic fluid flow is restricted	Check the hydraulic hoses and lines.	<i>5.9.5 Hydraulic Hoses and Lines, page 300</i>

TROUBLESHOOTING

Problem	Solution	Refer to
Symptom: Slave cylinder remains extended more than 13 mm (1/2 in.) when hold-down is fully lowered		
Air in the hydraulic system	Bleed the hydraulic cylinders.	<i>5.9.4 Bleeding Cylinders and Lines, page 299</i>
Symptom: Hold-down remains raised and will not lower		
The safety prop is engaged	Disengage the safety prop.	<i>3.5 Engaging Hold-Down Lift Cylinder Safety Props, page 31</i>
Hydraulics are not connected properly	Ensure that the hydraulic lines are connected properly and are not damaged.	<i>5.9.5 Hydraulic Hoses and Lines, page 300</i>
Symptom: Driveline clutch is slipping		
The clutch is worn	Replace the clutch.	<i>Replacing Driveline Clutch, page 225</i>
An obstruction is in auger	Shut off the combine, remove the key, and remove the obstruction.	—
Symptom: Pick-up header wheels bounce over bumps		
The header is positioned too high	Lower the header until the rear pick-up roller is 305 mm (12 in.) above the ground.	<ul style="list-style-type: none"> • <i>Header Height, page 86</i> • <i>3.11.4 Adjusting Header Float, page 89</i>

Chapter 8: Reference

Refer to the topics in this chapter as needed.

8.1 Torque Specifications

The following tables provide torque values for various bolts, cap screws, and hydraulic fittings. Use these values only when no other torque value has been specified in a given procedure.

- Tighten all bolts to the torque values specified in the charts below, unless you are directed otherwise in this manual.
- Replace removed hardware with hardware of the same strength and grade.
- Use the torque value tables as a guide when periodically checking the tightness of bolts.
- Understand the torque categories for bolts and cap screws by reading the markings on their heads.

Jam nuts

Jam nuts require less torque than nuts used for other purposes. When applying torque to finished jam nuts, multiply the torque applied to regular nuts by 0.65 to obtain the modified torque value.

Self-tapping screws

Use the standard torque values when installing self-tapping screws. Do **NOT** install self-tapping screws on structural or otherwise critical joints.

8.1.1 Metric Bolt Specifications

The torque values provided in the following metric bolt torque tables apply to hardware installed dry; that is, hardware with no grease, oil, or threadlocker on the threads or heads. Do **NOT** grease or oil bolts or cap screws unless directed to do so in this manual.

Table 8.1 Metric Class 8.8 Bolts and Class 9 Free Spinning Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	Min.	Max.	Min.	Max.
3-0.5	1.4	1.6	*13	*14
3.5-0.6	2.2	2.5	*20	*22
4-0.7	3.3	3.7	*29	*32
5-0.8	6.7	7.4	*59	*66
6-1.0	11.4	12.6	*101	*112
8-1.25	28	30	20	23
10-1.5	55	60	40	45
12-1.75	95	105	70	78
14-2.0	152	168	113	124
16-2.0	236	261	175	193
20-2.5	460	509	341	377
24-3.0	796	879	589	651

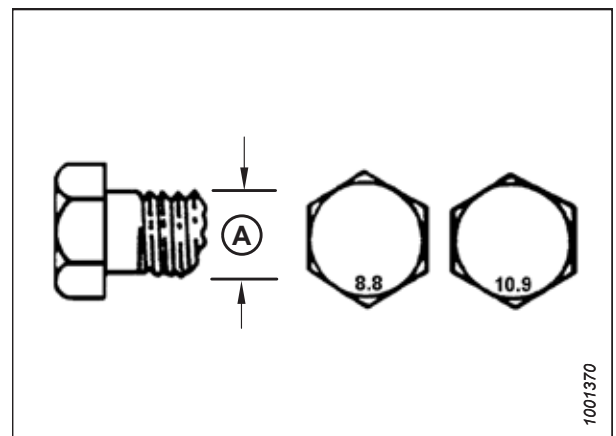


Figure 8.1: Bolt Grades

REFERENCE

Table 8.2 Metric Class 8.8 Bolts and Class 9 Distorted Thread Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf-ft) (*lbf-in)	
	Min.	Max.	Min.	Max.
3-0.5	1	1.1	*9	*10
3.5-0.6	1.5	1.7	*14	*15
4-0.7	2.3	2.5	*20	*22
5-0.8	4.5	5	*40	*45
6-1.0	7.7	8.6	*69	*76
8-1.25	18.8	20.8	*167	*185
10-1.5	37	41	28	30
12-1.75	65	72	48	53
14-2.0	104	115	77	85
16-2.0	161	178	119	132
20-2.5	314	347	233	257
24-3.0	543	600	402	444

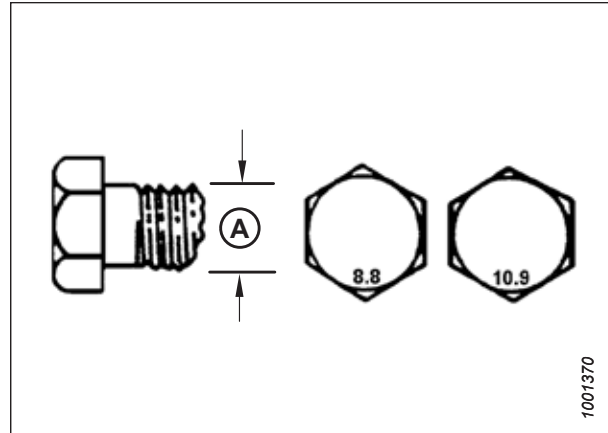


Figure 8.2: Bolt Grades

Table 8.3 Metric Class 10.9 Bolts and Class 10 Free Spinning Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf-ft) (*lbf-in)	
	Min.	Max.	Min.	Max.
3-0.5	1.8	2	*18	*19
3.5-0.6	2.8	3.1	*27	*30
4-0.7	4.2	4.6	*41	*45
5-0.8	8.4	9.3	*82	*91
6-1.0	14.3	15.8	*140	*154
8-1.25	38	42	28	31
10-1.5	75	83	56	62
12-1.75	132	145	97	108
14-2.0	210	232	156	172
16-2.0	326	360	242	267
20-2.5	637	704	472	521
24-3.0	1101	1217	815	901

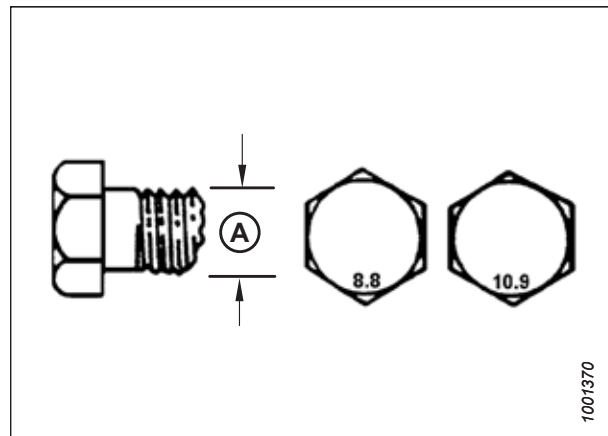


Figure 8.3: Bolt Grades

REFERENCE

Table 8.4 Metric Class 10.9 Bolts and Class 10 Distorted Thread Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf-ft) (*lbf-in)	
	Min.	Max.	Min.	Max.
3-0.5	1.3	1.5	*12	*13
3.5-0.6	2.1	2.3	*19	*21
4-0.7	3.1	3.4	*28	*31
5-0.8	6.3	7	*56	*62
6-1.0	10.7	11.8	*95	*105
8-1.25	26	29	19	21
10-1.5	51	57	38	42
12-1.75	90	99	66	73
14-2.0	143	158	106	117
16-2.0	222	246	165	182
20-2.5	434	480	322	356
24-3.0	750	829	556	614

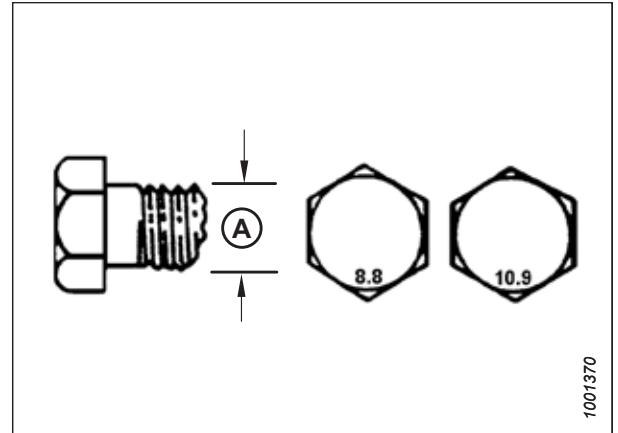


Figure 8.4: Bolt Grades

8.1.2 Metric Bolt Specifications Bolting into Cast Aluminum

The torque values provided in the following metric bolt torque tables apply to hardware installed dry; that is, hardware with no grease, oil, or threadlocker on the threads or heads. Do **NOT** grease or oil bolts or cap screws unless directed to do so in this manual.

Table 8.5 Metric Bolt Bolting into Cast Aluminum

Nominal Size (A)	Bolt Torque			
	8.8 (Cast Aluminum)		10.9 (Cast Aluminum)	
	Nm	lbf-ft	Nm	lbf-ft
M3	–	–	–	1
M4	–	–	4	2.6
M5	–	–	8	5.5
M6	9	6	12	9
M8	20	14	28	20
M10	40	28	55	40
M12	70	52	100	73
M14	–	–	–	–
M16	–	–	–	–

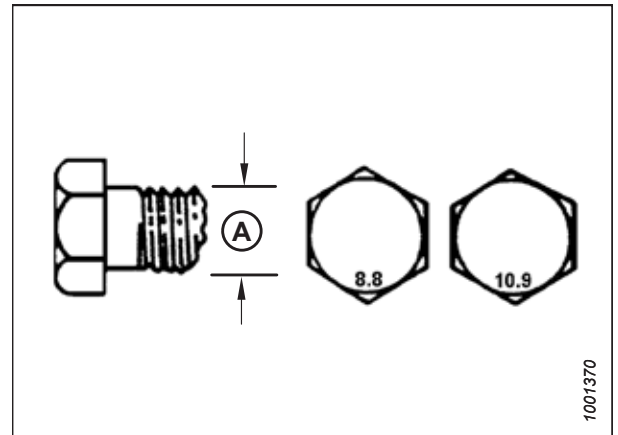


Figure 8.5: Bolt Grades

8.1.3 Flare-Type Hydraulic Fittings

The standard torque values are provided for flare-type hydraulic fittings. If a procedure specifies a different torque value for the same type and size of fitting found in this topic, use the value specified in the procedure instead.

1. Check flare (A) and flare seat (B) for defects that might cause leakage.
2. Align tube (C) with fitting (D) and thread nut (E) onto the fitting without lubrication until contact is made between the flared surfaces.
3. Torque fitting nut (E) to the specified number of flats from finger tight (FFFT) or to a given torque value in Table 8.6, page 332.
4. Use two wrenches to prevent fitting (D) from rotating. Place one wrench on fitting body (D), and tighten nut (E) with the other wrench to the torque value shown.
5. Assess the final condition of connection.

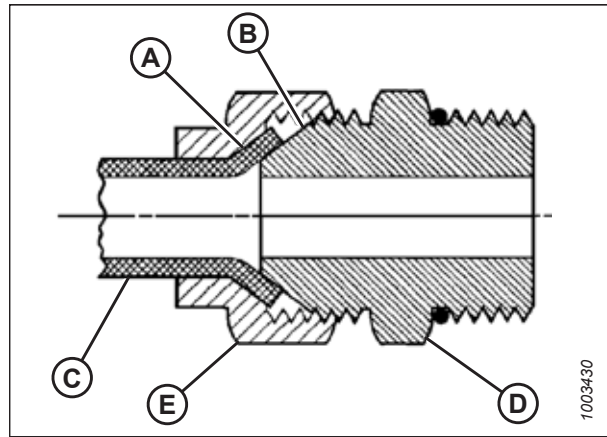


Figure 8.6: Hydraulic Fitting

Table 8.6 Flare-Type Hydraulic Tube Fittings

SAE Dash Size	Thread Size (in.)	Torque Value ⁷		Flats from Finger Tight (FFFT)	
		Nm	lbf-ft	Tube	Swivel Nut or Hose
-2	5/16-24	4-5	3-4	—	—
-3	3/8-24	7-8	5-6	—	—
-4	7/16-20	18-19	13-14	2 1/2	2
-5	1/2-20	19-21	14-15	2	2
-6	9/16-18	30-33	22-24	2	1 1/2
-8	3/4-16	57-63	42-46	2	1 1/2
-10	7/8-14	81-89	60-66	1 1/2	1 1/2
-12	1 1/16-12	113-124	83-91	1 1/2	1 1/4
-14	1 3/16-12	136-149	100-110	1 1/2	1 1/4
-16	1 5/16-12	160-176	118-130	1 1/2	1
-20	1 5/8-12	228-250	168-184	1	1
-24	1 7/8-12	264-291	195-215	1	1
-32	2 1/2-12	359-395	265-291	1	1
-40	3-12	—	—	1	1

7. Torque values shown are based on lubricated connections as in reassembly.

8.1.4 O-Ring Boss Hydraulic Fittings – Adjustable

The standard torque values are provided for adjustable hydraulic fittings. If a procedure specifies a different torque value for the same type and size of fitting found in this topic, use the value specified in the procedure instead.

1. Inspect O-ring (A) and seat (B) for dirt or obvious defects.
2. Back off lock nut (C) as far as possible. Ensure that washer (D) is loose and is pushed toward lock nut (C) as far as possible.
3. Check that O-ring (A) is **NOT** on the threads. Adjust O-ring (A) if necessary.
4. Apply hydraulic system oil to O-ring (A).

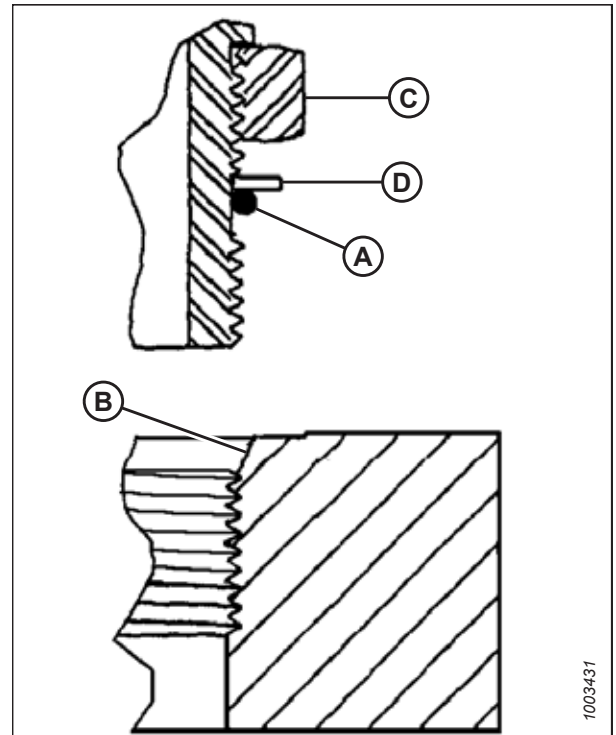


Figure 8.7: Hydraulic Fitting

5. Install fitting (B) into the port until backup washer (D) and O-ring (A) contact part face (E).
6. Position the angle fittings by unscrewing no more than one turn.
7. Turn lock nut (C) down to washer (D) and tighten it to the torque value indicated in the table. Use two wrenches, one on fitting (B) and the other on lock nut (C).
8. Check the final condition of the fitting.

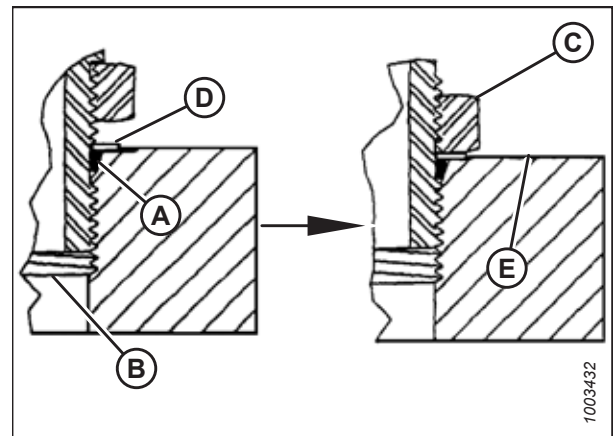


Figure 8.8: Hydraulic Fitting

Table 8.7 O-Ring Boss (ORB) Hydraulic Fittings – Adjustable

SAE Dash Size	Thread Size (in.)	Torque Value ⁸	
		Nm	lbf·ft (*lbf·in)
-2	5/16–24	6–7	*53–62
-3	3/8–24	12–13	*106–115

8. Torque values shown are based on lubricated connections as in reassembly.

REFERENCE

Table 8.7 O-Ring Boss (ORB) Hydraulic Fittings – Adjustable (continued)

SAE Dash Size	Thread Size (in.)	Torque Value ⁹	
		Nm	lbf·ft (*lbf·in)
-4	7/16–20	19–21	14–15
-5	1/2–20	21–33	15–24
-6	9/16–18	26–29	19–21
-8	3/4–16	46–50	34–37
-10	7/8–14	75–82	55–60
-12	1 1/16–12	120–132	88–97
-14	1 3/8–12	153–168	113–124
-16	1 5/16–12	176–193	130–142
-20	1 5/8–12	221–243	163–179
-24	1 7/8–12	270–298	199–220
-32	2 1/2–12	332–365	245–269

8.1.5 O-Ring Boss Hydraulic Fittings – Non-Adjustable

The standard torque values are provided for non-adjustable hydraulic fittings. If a procedure specifies a different torque value for the same type and size of fitting found in this topic, use the value specified in the procedure instead.

Torque values are shown in the table below.

1. Inspect O-ring (A) and seat (B) for dirt or obvious defects.
2. Ensure that O-ring (A) is **NOT** on the threads. Adjust O-ring (A) if necessary.
3. Apply hydraulic system oil to the O-ring.
4. Install fitting (C) into the port until the fitting is hand-tight.
5. Torque fitting (C) according to values in Table 8.8, page 334.
6. Check the final condition of the fitting.

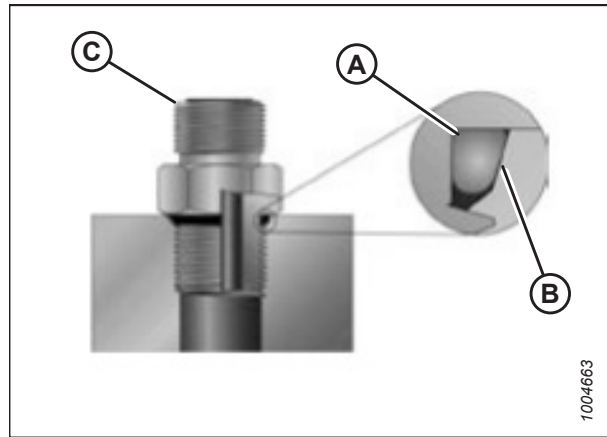


Figure 8.9: Hydraulic Fitting

Table 8.8 O-Ring Boss (ORB) Hydraulic Fittings – Non-Adjustable

SAE Dash Size	Thread Size (in.)	Torque Value ⁹	
		Nm	lbf·ft (*lbf·in)
-2	5/16–24	6–7	*53–62
-3	3/8–24	12–13	*106–115
-4	7/16–20	19–21	14–15
-5	1/2–20	21–33	15–24
-6	9/16–18	26–29	19–21

9. Torque values shown are based on lubricated connections as in reassembly.

REFERENCE

Table 8.8 O-Ring Boss (ORB) Hydraulic Fittings – Non-Adjustable (continued)

SAE Dash Size	Thread Size (in.)	Torque Value ¹⁰	
		Nm	lbf-ft (*lbf-in)
-8	3/4-16	46-50	34-37
-10	7/8-14	75-82	55-60
-12	1 1/16-12	120-132	88-97
-14	1 3/8-12	153-168	113-124
-16	1 5/16-12	176-193	130-142
-20	1 5/8-12	221-243	163-179
-24	1 7/8-12	270-298	199-220
-32	2 1/2-12	332-365	245-269

8.1.6 O-Ring Face Seal Hydraulic Fittings

The standard torque values are provided for O-ring face seal hydraulic fittings. If a procedure specifies a different torque value for the same type and size of fitting found in this topic, use the value specified in the procedure instead.

Torque values are shown in the table below.

1. Check the components to ensure that the sealing surfaces and the fitting threads are free of burrs, nicks, scratches, and any foreign material.



Figure 8.10: Hydraulic Fitting

2. Apply hydraulic system oil to O-ring (B).
3. Align the tube or hose assembly so that the flat face of sleeve (A) or (C) comes into full contact with O-ring (B).
4. Thread tube or hose nut (D) until it is hand-tight. The nut should turn freely until it bottoms out.
5. Torque the fittings according to values in Table 8.9, page 336.

NOTE:

If applicable, hold the hex flange on fitting body (E) to prevent the rotation of the fitting body and the hose when tightening fitting nut (D).

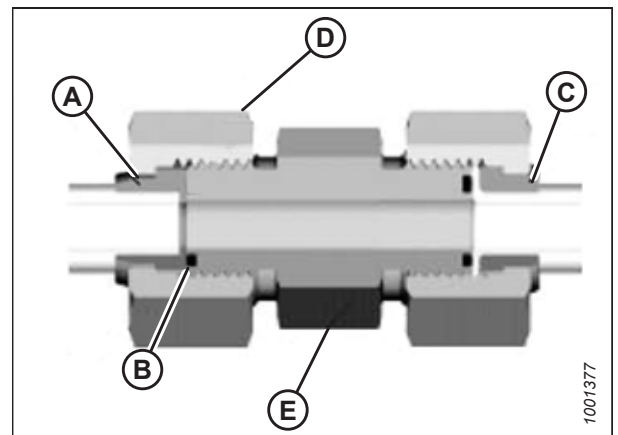


Figure 8.11: Hydraulic Fitting

10. Torque values shown are based on lubricated connections as in reassembly.

REFERENCE

6. Use three wrenches when assembling unions or joining two hoses together.
7. Check the final condition of the fitting.

Table 8.9 O-Ring Face Seal (ORFS) Hydraulic Fittings

SAE Dash Size	Thread Size (in.)	Tube O.D. (in.)	Torque Value ¹¹	
			Nm	lbf-ft
-3	Note ¹²	3/16	–	–
-4	9/16	1/4	25–28	18–21
-5	Note ¹²	5/16	–	–
-6	11/16	3/8	40–44	29–32
-8	13/16	1/2	55–61	41–45
-10	1	5/8	80–88	59–65
-12	1 3/16	3/4	115–127	85–94
-14	Note ¹²	7/8	–	–
-16	1 7/16	1	150–165	111–122
-20	1 11/16	1 1/4	205–226	151–167
-24	1–2	1 1/2	315–347	232–256
-32	2 1/2	2	510–561	376–414

8.1.7 Tapered Pipe Thread Fittings

The standard torque values are provided for tapered pipe thread fittings. If a procedure specifies a different torque value for the same type and size of fitting found in this topic, use the value specified in the procedure instead.

Assemble pipe fittings as follows:

1. Check the components to ensure that the fitting and the port threads are free of burrs, nicks, scratches, and any other form of contamination.
2. Apply paste-type pipe thread sealant to the external pipe threads.
3. Thread the fitting into the port until it is hand-tight.
4. Torque the connector to the appropriate torque angle. The turns from finger tight (TFFT) and flats from finger tight (FFFT) values are shown in Table 8.10, page 337. Make sure that the tube end of a shaped connector (typically a 45° or 90° elbow) is aligned to receive the incoming tube or hose assembly. Always finish the alignment of the fitting in the direction of tightening. Never back off (i.e., loosen) the threaded connectors to achieve alignment.
5. Clean all residue and any excess thread conditioner with an appropriate cleaner.
6. Assess the final condition of the fitting. Pay special attention to the possibility of cracks in the port opening.
7. Mark the final position of the fitting. If a fitting leaks, disassemble the fitting and check it for damage.

NOTE:

The failure of fittings due to overtightening may not be evident until the fittings are disassembled and inspected.

11. Torque values and angles shown are based on lubricated connection as in reassembly.
 12. O-ring face seal type end not defined for this tube size.

REFERENCE

Table 8.10 Hydraulic Fitting Pipe Thread

Tapered Pipe Thread Size	Recommended TFFT	Recommended FFFT
1/8-27	2-3	12-18
1/4-18	2-3	12-18
3/8-18	2-3	12-18
1/2-14	2-3	12-18
3/4-14	1.5-2.5	12-18
1-11 1/2	1.5-2.5	9-15
1 1/4-11 1/2	1.5-2.5	9-15
1 1/2-11 1/2	1.5-2.5	9-15
2-11 1/2	1.5-2.5	9-15

8.2 Conversion Chart

Both SI units (including metric) and US customary units (sometimes referred to as standard units) of measurement are used in this manual. A list of those units along with their abbreviations and conversion factors is provided here for your reference.

Table 8.11 Conversion Chart

Quantity	SI Units (Metric)		Factor	US Customary Units (Standard)	
	Unit Name	Abbreviation		Unit Name	Abbreviation
Area	hectare	ha	x 2.4710 =	acre	acres
Flow	liters per minute	L/min	x 0.2642 =	US gallons per minute	gpm
Force	Newton	N	x 0.2248 =	pound force	lbf
Length	millimeter	mm	x 0.0394 =	inch	in.
Length	meter	m	x 3.2808 =	foot	ft.
Power	kilowatt	kW	x 1.341 =	horsepower	hp
Pressure	kilopascal	kPa	x 0.145 =	pounds per square inch	psi
Pressure	megapascal	MPa	x 145.038 =	pounds per square inch	psi
Pressure	bar (Non-SI)	bar	x 14.5038 =	pounds per square inch	psi
Torque	Newton meter	Nm	x 0.7376 =	pound feet or foot pounds	lbf-ft
Torque	Newton meter	Nm	x 8.8507 =	pound inches or inch pounds	lbf-in
Temperature	degrees Celsius	°C	(°C x 1.8) + 32 =	degrees Fahrenheit	°F
Velocity	meters per minute	m/min	x 3.2808 =	feet per minute	ft/min
Velocity	meters per second	m/s	x 3.2808 =	feet per second	ft/s
Velocity	kilometers per hour	km/h	x 0.6214 =	miles per hour	mph
Volume	liter	L	x 0.2642 =	US gallon	US gal
Volume	milliliter	mL	x 0.0338 =	ounce	oz.
Volume	cubic centimeter	cm ³ or cc	x 0.061 =	cubic inch	in. ³
Weight	kilogram	kg	x 2.2046 =	pound	lb.

Index

A

AHHC, *See* auto header height control (AHHC)

attaching to combines

- Case IH..... 41
- John Deere 60/70, S, T series..... 55
- New Holland 61
- Versatile 67

auger drive chains 239

- installing 239
- lubricating 220
- removing 239

auger fingers

- replacing 247
- replacing auger finger guides 248
- replacing auger finger holders 249

auger flighting extensions

- replacing 254

auger float 78

- locking 78
- unlocking..... 79

augers

- auger dent repair kit..... 319
- auger drive sprockets..... 241
- auger drives 238
- auger fingers 247–249
- auger position

 - adjusting 80
 - checking..... 78

- auger speed 77
- maintenance 247
- operation..... 77

auto header height control (AHHC)

- adjusting left sensor voltage range 110
- adjusting right sensor voltage range 110

Case IH 2300 combines

- calibrating

 - maximum stubble height 199

- height sensor output voltage range – combine requirements 107
- how auto header height control works 99
- sensor operation 100
- sensor output voltage

 - checking voltage range manually..... 107

Case IH 2500 combines

- calibrating

 - maximum stubble height 199

- height sensor output voltage range – combine requirements 107
- how auto header height control works 99
- sensor operation 100
- sensor output voltage

 - checking voltage range manually..... 107

Case IH 5088/6088/7088 combines

- calibrating

 - maximum stubble height 199

- height sensor output voltage range – combine requirements 107
- how auto header height control works 99
- sensor operation 100
- sensor output voltage

 - checking voltage range manually..... 107

Case IH 5130/6130/7130 combines 113

- adjusting

 - preset cutting height 117

- calibrating

 - AHHC 116
 - maximum stubble height 199

- checking voltage range manually 107
- height sensor output voltage range – combine requirements 107
- how auto header height control works 99
- sensor operation 100
- sensor output voltage..... 107

 - checking voltage range from the cab..... 114

- setting up header on combine display 113

Case IH 5140/6140/7140 combines 113

- adjusting

 - preset cutting height 117

- sensor output voltage

 - checking voltage range from the cab..... 114

- setting up header on combine display 113

Case IH 7010 combines 120

- adjusting

 - preset cutting height 127

- calibrating

 - AHHC 123
 - maximum stubble height 199

- height sensor output voltage range – combine requirements 107
- how auto header height control works 99
- sensor operation 100
- sensor output voltage

 - checking voltage range from the cab..... 122
 - checking voltage range manually..... 107

Case IH 7120/8120/9120 combines 120

- adjusting

 - preset cutting height 127

- calibrating

 - AHHC 123
 - maximum stubble height 199

- height sensor output voltage range – combine requirements 107
- how auto header height control works 99
- sensor operation 100

INDEX

<ul style="list-style-type: none"> sensor output voltage <ul style="list-style-type: none"> checking voltage range from cab 122 checking voltage range manually..... 107 Case IH 7230/8230/9230 combines 120 <ul style="list-style-type: none"> adjusting <ul style="list-style-type: none"> preset cutting height..... 127 calibrating <ul style="list-style-type: none"> AHHC 123 maximum stubble height 199 height sensor output voltage range – combine requirements 107 how auto header height control works 99 sensor operation 100 sensor output voltage <ul style="list-style-type: none"> checking voltage range from cab 122 checking voltage range manually..... 107 Case IH 7240/8240/9240 combines 120 <ul style="list-style-type: none"> adjusting <ul style="list-style-type: none"> preset cutting height..... 127 calibrating <ul style="list-style-type: none"> AHHC 123 sensor output voltage <ul style="list-style-type: none"> checking voltage range from cab 122 Case IH 8010 combines 120 <ul style="list-style-type: none"> adjusting <ul style="list-style-type: none"> preset cutting height..... 127 calibrating <ul style="list-style-type: none"> AHHC 123 maximum stubble height 199 height sensor output voltage range – combine requirements 107 how auto header height control works 99 sensor operation 100 sensor output voltage <ul style="list-style-type: none"> checking voltage range from cab 122 checking voltage range manually.....107, 120 Case IH combines with version 28.00 software <ul style="list-style-type: none"> calibrating the AHHC 125 Challenger® 6 series combines <ul style="list-style-type: none"> adjusting <ul style="list-style-type: none"> header height 132 raise/lower rate 133 sensitivity..... 135 calibrating <ul style="list-style-type: none"> AHHC 131 engaging AHHC..... 130 how auto header height control works 99 sensor operation 100 sensor output voltage <ul style="list-style-type: none"> checking voltage range from cab 129 checking voltage range manually..... 107 Challenger® 6 Series combines 129 Challenger® 7 series combines <ul style="list-style-type: none"> how auto header height control works 99 sensor operation 100 	<ul style="list-style-type: none"> sensor output voltage <ul style="list-style-type: none"> checking voltage range from cab 129 checking voltage range manually..... 107 Gleaner® R65/R75 series combines 136 <ul style="list-style-type: none"> adjusting <ul style="list-style-type: none"> ground pressure..... 141 raise/lower rate 140 sensitivity..... 142 calibrating 138 engaging AHHC..... 137 how auto header height control works 99 sensor operation 100 sensor output voltage <ul style="list-style-type: none"> checking voltage range from cab 136 checking voltage range manually..... 107 troubleshooting alarms and faults..... 143 turning the accumulator off..... 140 Gleaner® S series combines (except S9) 136 Gleaner® S9 series combines <ul style="list-style-type: none"> calibrating the header 152 operating 156 refining header group settings 157 setting automatic header controls 150 setting up the header 146 Gleaner® S9 Series combines 146 IDEAL™ Series combines..... 160 <ul style="list-style-type: none"> calibrating the header 166 operating 168 reviewing header in-field settings 170 setting automatic header controls 165 setting up the header 160 John Deere 60 series combines..... 172 <ul style="list-style-type: none"> adjusting <ul style="list-style-type: none"> drop rate valve threshold..... 177 sensing grain header height..... 175 sensitivity..... 176 calibrating <ul style="list-style-type: none"> AHHC 173 maximum stubble height 199 height sensor output voltage range – combine requirements 107 how auto header height control works 99 sensor operation 100 sensor output voltage <ul style="list-style-type: none"> checking voltage range from the cab..... 172 checking voltage range manually..... 107 turning the accumulator off..... 174 John Deere 70 series combines..... 178 <ul style="list-style-type: none"> adjusting <ul style="list-style-type: none"> raise/lower rate manually 182 sensitivity..... 182 calibrating <ul style="list-style-type: none"> AHHC 180 feeder house speed 180 maximum stubble height 199
---	--

INDEX

- height sensor output voltage range – combine
 - requirements 107
 - how auto header height control works 99
 - sensor operation 100
 - sensor output voltage
 - checking voltage range from the cab..... 178
 - checking voltage range manually..... 107
 - John Deere S and T series combines 184
 - adjusting
 - preset cutting height..... 192
 - raise/lower rate manually 191
 - sensitivity..... 190
 - calibrating
 - AHHC 188
 - maximum stubble height 199
 - height sensor output voltage range – combine
 - requirements 107
 - how auto header height control works 99
 - sensor operation 100
 - sensor output voltage
 - checking voltage range from cab 184
 - checking voltage range manually..... 107
 - New Holland 2015 CR series..... 203
 - calibrating AHHC..... 207
 - engaging AHHC..... 203
 - sensor output voltage
 - checking voltage range from the cab..... 205
 - setting auto height..... 209
 - New Holland CR series
 - setting maximum work height..... 210
 - New Holland CR/CX series combines..... 195
 - adjusting
 - header lower rate..... 200
 - header raise rate 200
 - preset cutting height..... 201
 - sensitivity..... 201
 - calibrating
 - AHHC 197
 - maximum stubble height 199
 - engaging AHHC..... 197
 - height sensor output voltage range – combine
 - requirements 107
 - how auto header height control works 99
 - sensor operation 100
 - sensor output voltage
 - checking voltage range from the cab..... 195
 - checking voltage range manually..... 107
- ## B
- bleeding cylinders and lines..... 299
 - break-in periods 34
- ## C
- Case IH combines 41
 - attaching 41
 - detaching 44
 - Challenger® combines, *See* AGCO combines
 - Challenger IDEAL™ combines, *See* IDEAL™ combines
 - Challenger® combines, *See* AGCO combines
 - clutch 94
 - combine completion packages..... 320
 - component identification..... 19
 - conversion chart 338
 - crop deflectors..... 92
 - installing..... 93
 - removing..... 92
 - cylinders
 - bleeding cylinders and lines 299
 - cylinder hoses, *See* hydraulic hoses and lines
 - replacing hold-down hydraulic cylinders..... 293, 296
 - slave cylinders
 - installing 298
 - removing 296
- ## D
- decks
 - maintenance 256
 - declaration of conformity i
 - definitions..... 20
 - detaching from combines
 - Case IH combines..... 44
 - John Deere 60/70, S, and T series 59
 - New Holland 65
 - Versatile 72
 - draper belts..... 256
 - front draper belts
 - installing 257
 - removing..... 256
 - rear draper belts
 - installing 261
 - removing..... 259
 - draper fingers and guides 263
 - replacing draper fingers 263
 - replacing draper guides..... 264
 - draper roller bearings..... 265
 - drive roller bearings
 - replacing front deck left bearing..... 278
 - replacing front deck right bearing 280
 - replacing rear deck left bearing 266
 - replacing rear deck right bearing 269
 - idler roller bearings
 - replacing front deck idler roller bearings..... 281
 - replacing rear deck left idler roll bearing..... 274
 - replacing rear deck right idler roll bearing..... 274
 - draper speed sensors 306

INDEX

adjusting sensor.....	307
checking sensor position	306
replacing sensor.....	308
drapers.....	256
<i>See also</i> draper belts	
<i>See also</i> draper speed sensors	
adjusting draper speed.....	77
drivelines	94
cleaning driveline splined shaft.....	230
driveline clutch	
replacing	225
driveline guard	94
installing	228
removing.....	226
header driveline.....	222
installing	223
removing.....	222
header driveshaft.....	222
drives	
auger drives	238
draper drive motors.....	231
header driveline.....	222
installing	223
removing.....	222
maintenance	222

E

electrical system.....	313
<i>See also</i> lights	
components	
header height sensor (MD #158069)	
adjusting left side	110
adjusting right side	110
installing left side	102
installing right side.....	105
removing left side.....	101
removing right side.....	103
electrical components	
header height sensors	101
endshields.....	23
left endshield	
closing	24
installing	26
opening	23
removing.....	25
right endshield	
installing	28
removing.....	28

F

fingers, <i>See</i> auger fingers
flighting extensions

replacing	254
front draper roller bearings	
aligning rollers.....	283

G

Gleaner® combines, <i>See</i> AGCO combines	
Gleaner® combines, <i>See</i> AGCO combines	
greasing	
maintenance schedule/record	214

H

headers	
attaching/detaching header	35
header dimensions	18
header float	
adjusting	89
header specifications	17
header spring float assemblies	288
installing	289
removing.....	288
maintenance and servicing	213
operating the header	76
<i>See also</i> operating heights	
<i>See also</i> operating speeds	
<i>See also</i> transporting the header	
storing the header.....	98
transporting the header	75
hold-downs	91, 292
hold-down performance kits (optional)	317
hold-down position	91
lift cylinder safety props	
engaging	31
replacing fiberglass rods.....	292
replacing hold-down hydraulic cylinders.....	293, 296
rod angle	92
hydraulic cylinders	
replacing hold-down hydraulic cylinders.....	293, 296
hydraulics	
fittings	
flare-type	332
O-ring boss (ORB) adjustable	333
O-ring boss (ORB) non-adjustable	334
O-ring face seal (ORFS)	335
tapered pipe thread fittings.....	336
hydraulic cylinders	
master cylinders	
installing	295
removing	293
replacing hold-down hydraulic cylinders	
bleeding cylinders and lines.....	299
slave cylinders	
installing	298

INDEX

- removing 296
 - hydraulic hoses and lines 300
 - replacing cylinder hoses
 - installing master cylinder hose 304
 - removing master cylinder hose 301
 - hydraulic motors
 - draper drives 231
 - front hydraulic motors
 - installing 232
 - removing 231
 - hydraulic motor hoses
 - installing 237
 - removing 234
 - rear hydraulic motors
 - installing 234
 - removing 233
 - hydraulic safety 6
- I**
- IDEAL™ combines 35
 - attaching 35
 - detaching 38
- J**
- John Deere combines 55
 - attaching to 60/70, S, T series 55
 - detaching from 60/70, S, T series 59
- L**
- lift cylinder safety props
 - header 30
 - lights 75, 313
 - transport lights
 - adjusting lights 313
 - replacing lamp housing 314
 - replacing lens 314
 - replacing light bulbs 313
 - lubricating headers 216
 - greasing points 217
 - greasing procedure 216
 - installing sealed bearing 221
- M**
- maintenance and servicing 213
 - end of season service 215
 - lubricating the header 216
 - maintenance record 214
 - maintenance requirements 214
 - maintenance schedule 214
 - preparing header for servicing 213
 - preseason/annual service 215
 - safety 5
 - Massey Fendt IDEAL™ combines, *See* IDEAL™ combines
 - Massey Ferguson® combines, *See* AGCO combines
 - Massey Ferguson IDEAL™ combines, *See* IDEAL™ combines
 - Massey Ferguson® combines, *See* AGCO combines
 - master cylinders
 - bleeding cylinders and lines 299
 - installing 295
 - installing hose 304
 - master cylinder
 - removing master cylinder 296
 - removing 293
 - removing hose 301
 - replacing master cylinder 293
 - metric bolts
 - torque specifications 329
- N**
- New Holland combines 61
 - attaching to 61
 - detaching from 65
- O**
- operating heights 86
 - header height 86
 - pick-up height 87
 - adjusting pick-up height 87
 - operating speeds 76
 - auger speed 77
 - draper speed 77
 - operator responsibilities 21
 - options
 - augers
 - auger dent repair kit 319
 - combine completion package kits 320
 - hold-down performance kits 317
 - owner responsibilities 21
- P**
- pan seal assembly
 - adjusting rubber seal 97
 - product overview 17
 - component identification 19
 - header dimensions 18
 - header specifications 17

INDEX

R

rear draper roller bearings	
aligning rollers	275
rods (fiberglass)	292

S

safety	1
break-in period	34
daily start-up checks	32
general safety	3
hydraulic safety	6
maintenance safety	5
safety alert symbols	1
safety sign decals	7
installing decals	7
interpreting decals	10
location	8
shutdown procedures	33
signal words	2
sensors, <i>See</i> draper speed sensors	
adjusting left header height sensor	110
adjusting right header height sensor	110
serial numbers	
locating	vii
shutdown procedures	33
slave cylinders	
bleeding cylinders and lines	299
installing	298
removing	296
specifications	
header dimensions	18
header specifications	18
torque specifications	329
sprockets	241
drive sprocket	
installing	245
removing	243
driven sprocket	
installing	242
removing	241
start-up procedures	
daily start-up check	32
storing headers	98
stripper plates	
replacing	253
stripper plate clearance	81
adjusting	82
checking	82

T

torque specifications	329
flare-type hydraulic fittings	332

metric bolt specifications	329
bolting into cast aluminum	331
O-ring boss (ORB) hydraulic fittings – adjustable	333
O-ring boss (ORB) hydraulic fittings – non- adjustable	334
O-ring face seal (ORFS) fittings	335
tapered pipe thread fittings	336
transporting the header	75
transport lights	75
troubleshooting	325

U

unplugging headers	96
--------------------------	----

V

Versatile combines	67
attaching to	67
detaching from	72

W

wheels and tires	310
inflating tires	312
installing wheels	311
removing wheels	310

Recommended Fluids and Lubricants

Lubricate header with the specified grease and lubricant for maximum service life.

Keep your machine operating at top efficiency by using only clean lubricants and by ensuring the following:

- Use clean containers to handle all lubricants.
- Store lubricants in an area protected from dust, moisture, and other contaminants.

Table .12 Recommend Fluids and Lubricants

Lubricant	Specification	Description	Use
Grease	SAE multi-purpose	High temperature extreme pressure (EP2) performance with 1% max molybdenum disulphide (NLGI Grade 2) lithium base	As required, unless otherwise specified
		Extreme pressure (EP) performance with 1.5–5% molybdenum disulphide (NLGI Grade 2) lithium base	Drive motor shaft
Oil	SAE 30	—	Auger drive chain

MacDon®

CUSTOMERS
MacDon.com

DEALERS
Portal.MacDon.com

Trademarks of products are the marks of their
respective manufacturers and/or distributors.

Printed in Canada