

FM100 and FD75 Float Module and FlexDraper® Header

FM100 on FD75 Conversion Kit (MD #295691) Installation
Instructions

214251 Revision A

Original Instruction

Featuring MacDon FLEX-FLOAT Technology™

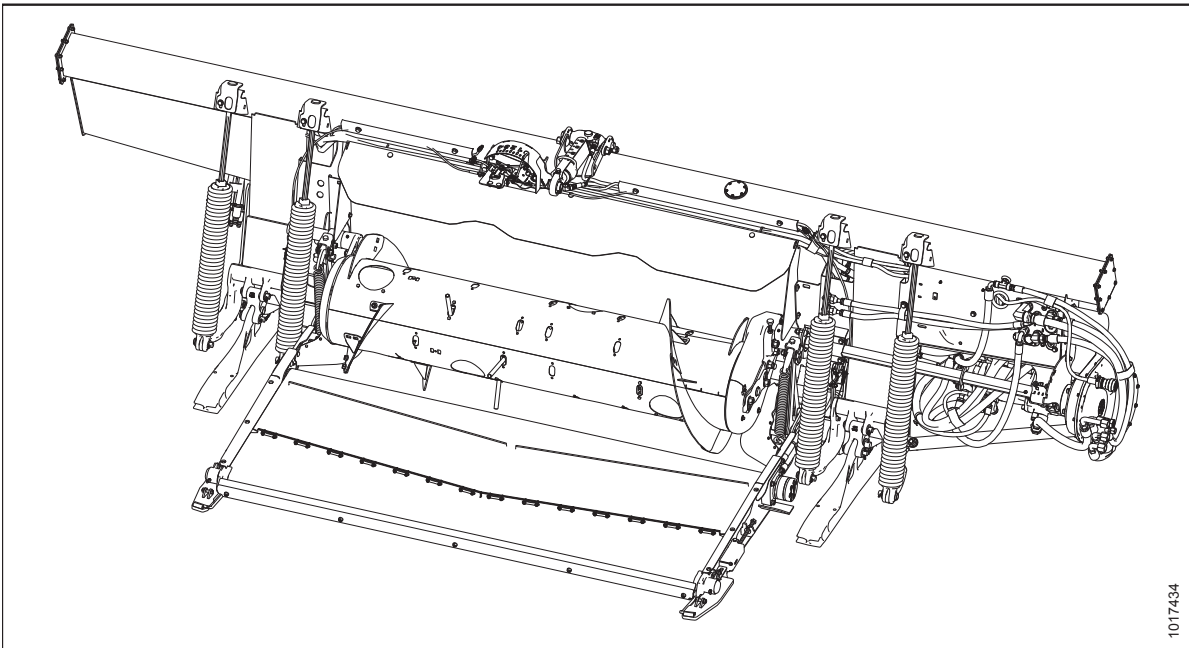
The Harvesting Specialists.

FD75 FlexDraper® Combine Header



1000310

FM100 Float Module



1017434

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Introduction

This conversion kit prepares an FD75 FlexDraper Header for use with an FM100 Float Module. This document explains how to install the kit. Once the kit is installed, the FD75 FlexDraper Header cannot be used on a CA25 Combine Float Module. A list of parts included in the kit is provided in Chapter 2 *Parts List, page 5*.

Installation Time

The approximate installation time for this kit is 4 hours.

Conventions

The following conventions are used in this document:

- 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 the draper operator's manual and technical manual.

NOTE:

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

NOTE:

This document is not currently available in any language except English.

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Chapter 1: Safety

Understanding and following safety procedures consistently will help to ensure the safety of machine operators and bystanders.

1.1 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.

1.2 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 or loss. Wear suitable hearing protection devices such as earmuffs or earplugs to help protect against loud noises.



Figure 1.1: Safety Equipment



Figure 1.2: Safety Equipment

- Provide a first aid kit in case of emergencies.
- Keep a properly maintained fire extinguisher on the machine. Be familiar with its proper use.
- Keep young children away from machinery at all times.
- Be aware that accidents often happen when the Operator is tired or in a hurry. Take time to consider the safest way. **NEVER** ignore warning signs of fatigue.

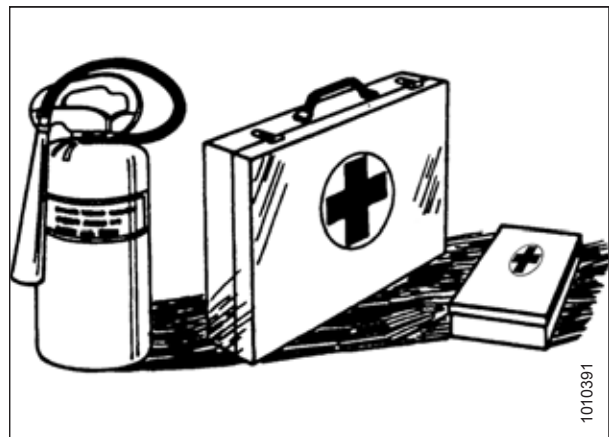


Figure 1.3: Safety Equipment

SAFETY

- Wear close-fitting clothing and cover long hair. **NEVER** wear dangling items such as scarves or bracelets.
- Keep all shields in place. **NEVER** alter or remove safety equipment. Make sure driveline guards can rotate independently of shaft and can telescope freely.
- Use only service and repair parts made or approved by equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.



Figure 1.4: 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 machine function and/or safety. It may also shorten the machine's life.
- To avoid injury or death from 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.

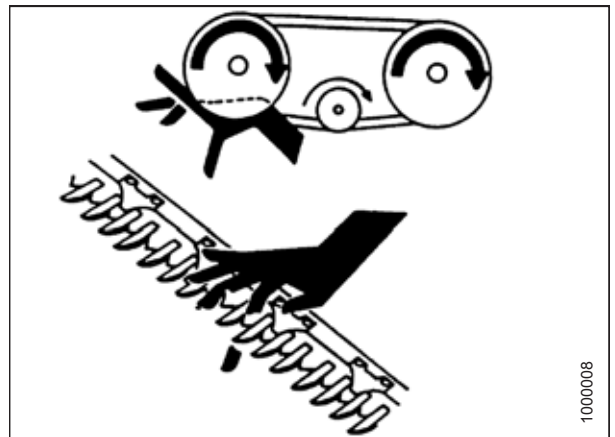


Figure 1.5: Safety around Equipment

- Keep service area clean and dry. Wet and/or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment. Be sure all electrical outlets and tools are properly grounded.
- Keep 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 storage.
- **NEVER** use gasoline, naphtha, or any volatile material for cleaning purposes. These materials may be toxic and/or flammable.
- When storing machinery, cover sharp or extending components to prevent injury from accidental contact.

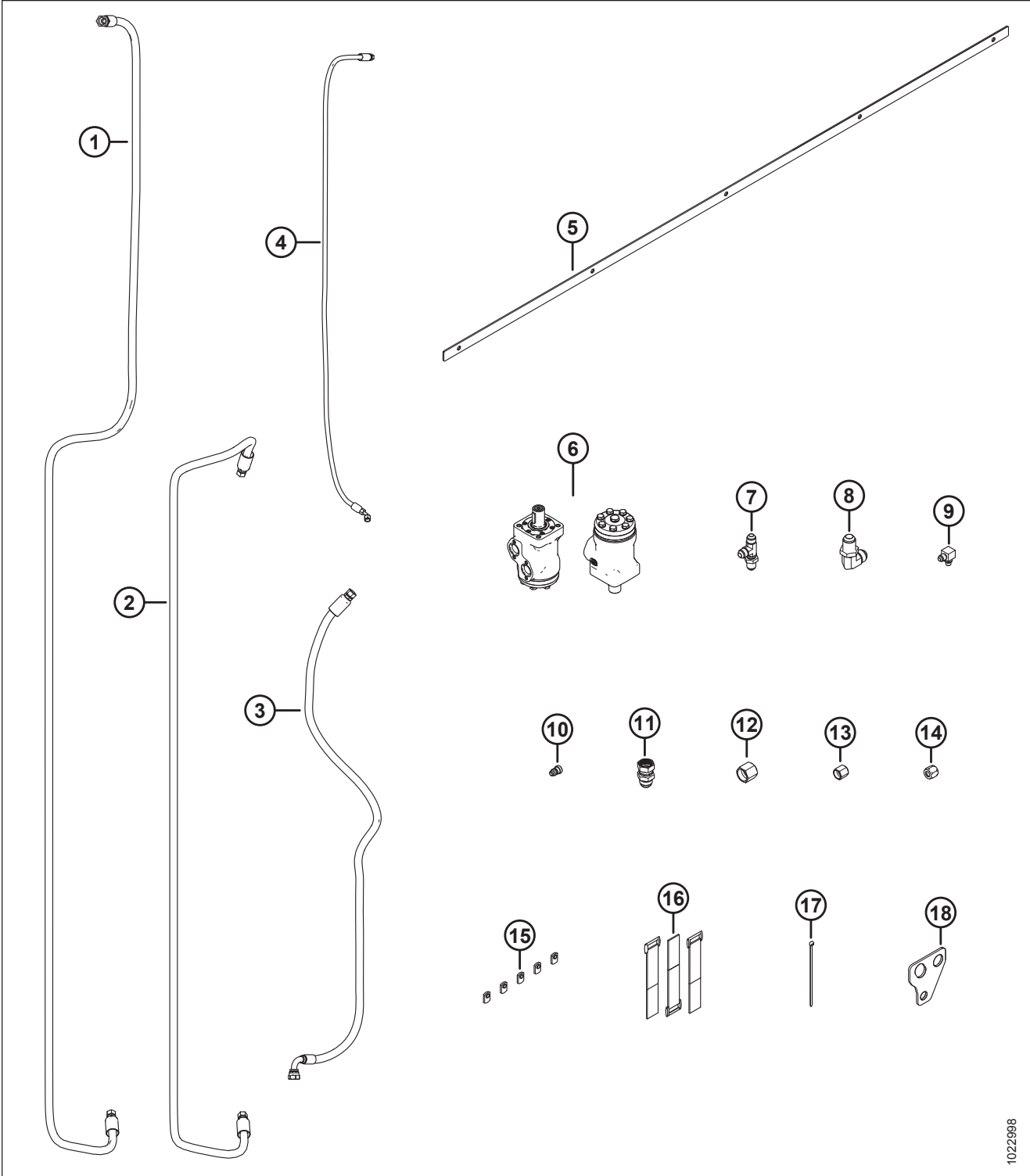


Figure 1.6: Safety around Equipment

Chapter 2: Parts List

The following parts are included in this kit.

PARTS LIST



1022998

Figure 2.1: Parts Included in Conversion Kit (MD #295691)

PARTS LIST

| Ref | Part Number | Description | Qty |
|------------|--------------------|---|------------|
| 1 | 279285 | HOSE – HYD (SIDE DRAPER RETURN) | 1 |
| 2 | 279286 | HOSE – HYD (SIDE DRAPER INTERCONNECT, PRESSURE) | 1 |
| 3 | 279284 | HOSE – HYD (SIDE DRAPER PRESSURE) | 1 |
| 4 | 245590 | HOSE – HYD (CASE DRAIN) | 1 |
| 5 | NSS ¹ | PLATE – TRANSITION PAN SEAL | 1 |
| 6 | 220936 | MOTOR – HYD DANFOSS 2.44 CI | 2 |
| 7 | 252211 | FITTING – TEE | 1 |
| 8 | 252210 | FITTING – 90 ° ELBOW | 1 |
| 9 | 50104 | FITTING – ELBOW 90° HYD | 1 |
| 10 | 30981 | FITTING – ADAPTER HYD REDUCER 1/2 X 3/8 | 1 |
| 11 | 252414 | FITTING – ADAPTER HYD SWIVEL | 1 |
| 12 | 30999 | CAP – 3/4 IN. TUBE 37° FLARE | 1 |
| 13 | 108233 | CAP – 1/2 IN. TUBE (SINGLE KNIFE ONLY) | 1 |
| 14 | 21069 | NUT – TUBE 37° JIC 1/2 IN. | 1 |
| 15 | NSS ¹ | NUT – WELD M8 X 1.25-6H | 5 |
| 16 | 135443 | CINCH STRAP – 4 IN. LG | 3 |
| 17 | 40702 | FASTENER – CABLE TIE, RED | 1 |
| 18 | NSS ¹ | PLATE – BLKD FITTING MOUNT | 1 |

1. Not Serviced Separately.

Chapter 3: Installation Instructions

Conversion kit (MD #295691) is required to equip an FD75 FlexDraper® Header with an FM100 Float Module. Complete the following installation procedures in order:

3.1 Installing Transition Pan Seal

Complete the following steps to install the kit's transition pan seal.

1. Cut the existing transition pan seal plate (A) off the transition pan support angle (B), and discard.

NOTE:

Be careful not to remove anything other than the transition pan seal plate (A).

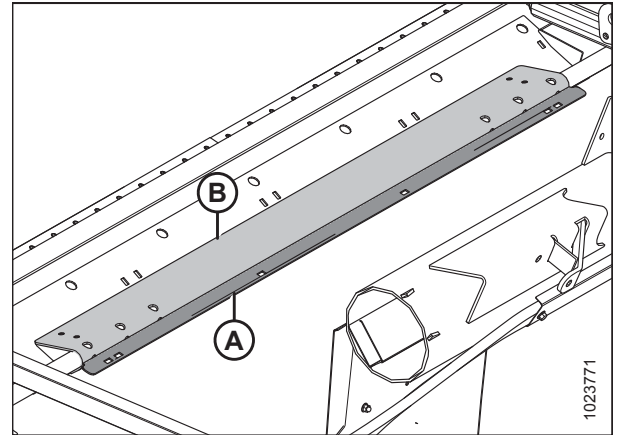


Figure 3.1: Transition Pan Seal Plate on Transition Pan Support Angle

2. Place five weld nuts (A) (NSS) onto transition pan seal plate (B) (NSS).

IMPORTANT:

Ensure boss (C) of weld nuts are inserted into pilot holes and that the nut is oriented lengthwise to match the transition pan seal plate.

3. Weld five nuts (A) (NSS) onto transition pan seal plate (B) (NSS).

IMPORTANT:

Be careful, excessive heat from welding will distort the transition pan seal plate.

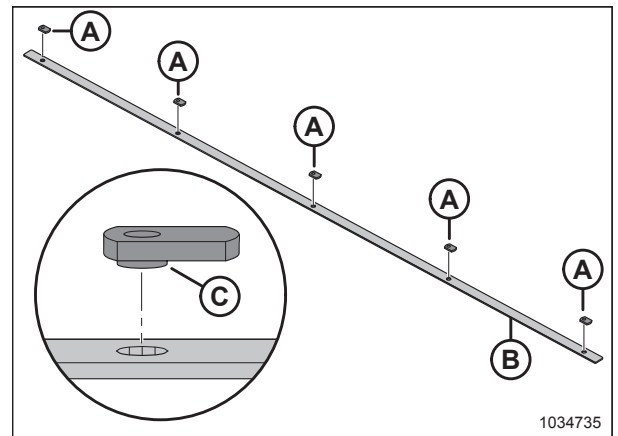


Figure 3.2: Transition Pan Seal Plate (NSS) and Weld Nuts (NSS)

INSTALLATION INSTRUCTIONS

- Position the new transition pan seal plate with weld nuts (A) along the rear of the transition pan support angle (B). Plate should be on the side away from the pan as shown in Figure 3.3, page 10.

NOTE:

Ensure correct transition pan seal plate height (C).

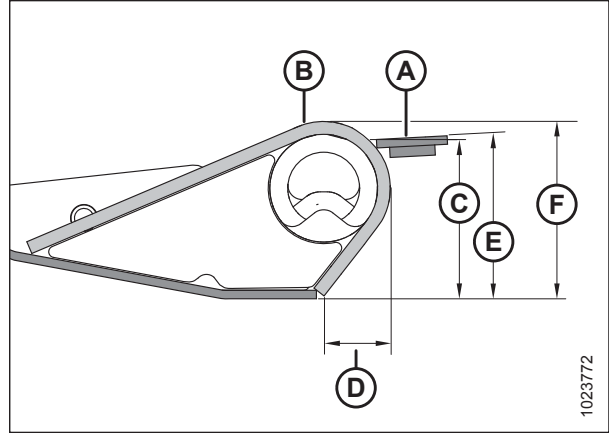


Figure 3.3: Side View of Transition Pan Support Angle with Transition Pan Seal Plate Attached

A - Transition Pan Seal Plate

B - Transition Pan Support Angle

C - 56 mm (2 3/16 in.)

D - 24 mm (15/16 in.)

E - 3° Angle

F - 63 mm (2 1/2 in.)

- Stitch weld top of transition pan seal plate (A) onto transition pan support angle (B).

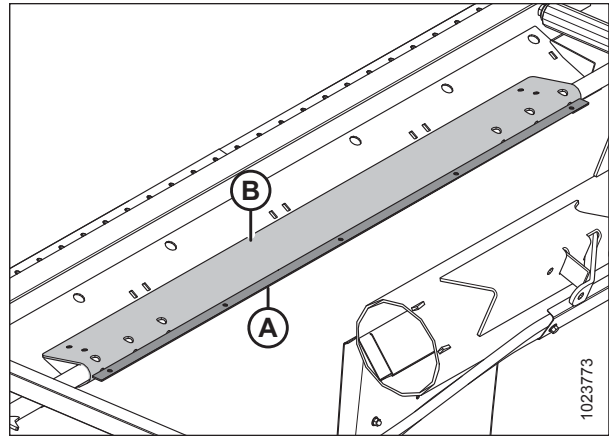


Figure 3.4: New Transition Pan Seal Plate Installed on Draper Header

3.2 Removing Draper Side Motors

Complete the following procedure to remove existing draper side motors on both the left and right side.

1. Disconnect hydraulic hoses (A) from the 45° fittings connected to the hydraulic draper drive motor that is being removed.

NOTE:

Depending on manufacturer of the motor and setup of the header, there may be a case drain line (not shown in illustration).

2. Disconnect two 45° fittings from the draper drive motor. Retain fittings for reuse.

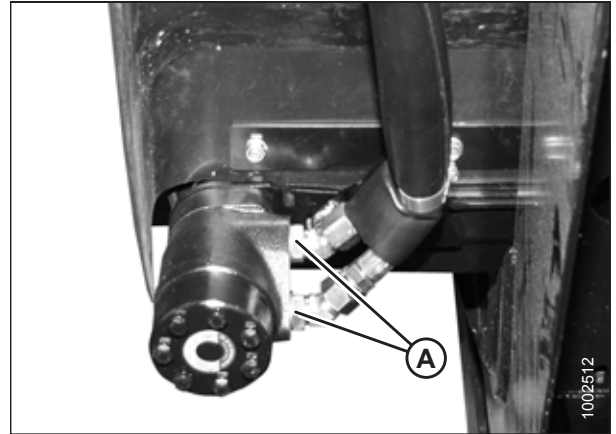


Figure 3.5: Draper Drive Motor

3. Align the set screws with hole (A) in the guard. Remove the two set screws holding the motor onto the drive roller. Retain set screws for reuse.

NOTE:

The set screws are 1/4 turn apart.

4. Remove the four bolts (B) securing the motor to the drive roller arm. Retain bolts for reuse.

NOTE:

It may be necessary to remove plastic shield (C) to gain access to the top bolt.

5. Remove motor from drive roller.
6. Repeat procedure for both sides of the header.

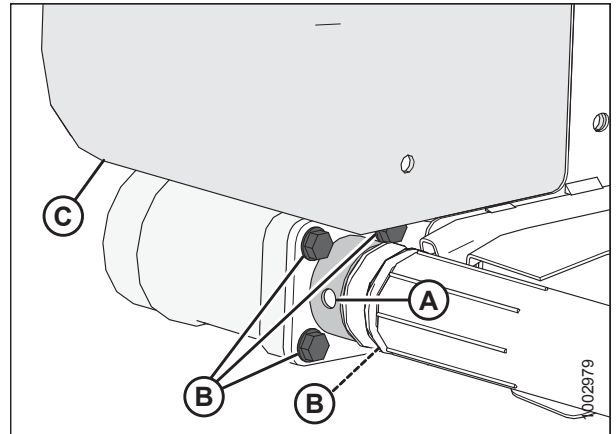


Figure 3.6: Drive Roller

3.3 Installing Draper Side Motors

Complete the following procedure to install new draper side motors (MD #220936) on both the left and right side.

1. Reconnect 45° fittings to new side draper motor (MD #220936).

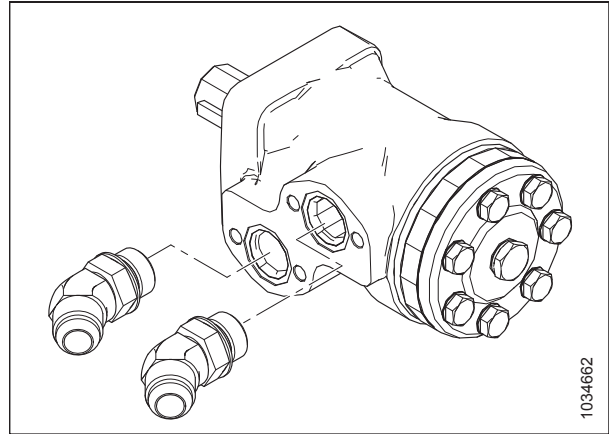


Figure 3.7: 45° Fittings

2. Grease new side draper motor (MD #220936) shaft, align key with keyway, and insert into the end of the drive roller.
3. Secure motor to the roller support with four bolts (B), retained from previous step. Torque to 27 Nm (20 lbf-ft).
4. Tighten any loosened bolts and (if previously removed) reinstall plastic shield (C).
5. Ensure the motor is all the way into the roller, and tighten the two set screws (not shown) through access hole (A).

NOTE:

The set screws are 1/4 turn apart.

6. Repeat procedure for both sides of the header.

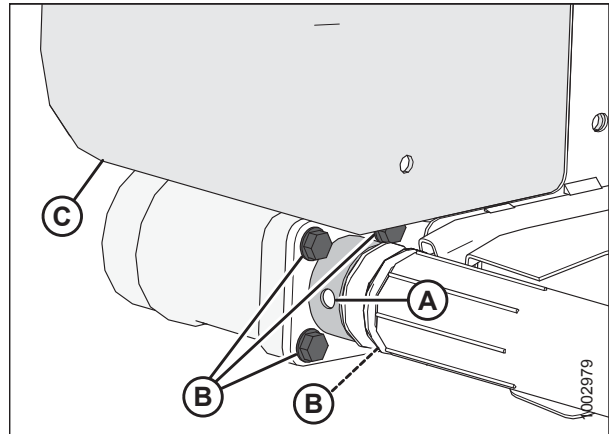
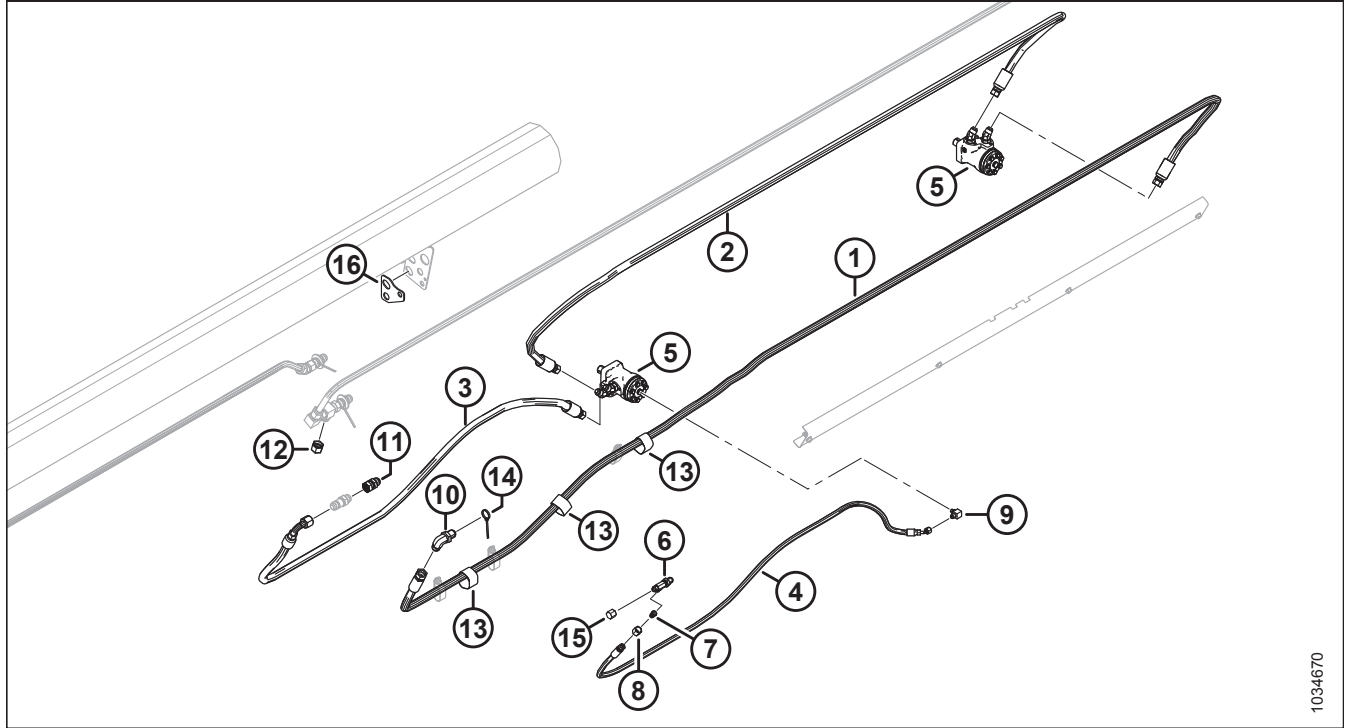


Figure 3.8: Drive Roller

3.4 Installing and Routing Hydraulic Hoses

Complete the following procedure to install and route the kit's hydraulic hoses.

Figure 3.9: Hydraulic Hose Routing Overview



- | | | | |
|---|---|--|--|
| 1 - Side Draper Return Hose (MD #279285) to Port A on right motor | 2 - Side Draper Interconnect Hose (MD #279286) to Port B on both motors | 3 - Side Draper Pressure Hose (MD #279284) to Port A on left motor | 4 - Case Drain Hose (MD #245590) to Port C on left motor |
| 5 - Motor (MD #220936) | 6 - Fitting – Tee (MD #252211) | 7 - Fitting – Reducer (MD #30981) | 8 - Nut –Tube (MD #21069) |
| 9 - Fitting – 90° (MD #50104) | 10 - Fitting – 90° (MD #252210) | 11 - Fitting – Adapter (MD #252414) | 12 - Cap (MD #30999) |
| 13 - Cinch Strap (MD #135443) | 14 - Fastener – Red (MD #40702) | 15 - Cap (MD #108233) Single Knife Only | 16 - Plate (NSS) |

1. Remove the three hose clamps (A) and hardware (B) securing hydraulic hoses to the header backsheet. Retain hose clamps (A) and hardware (B) for later reinstallation.

NOTE:

Header supports made transparent in illustration for clarity.

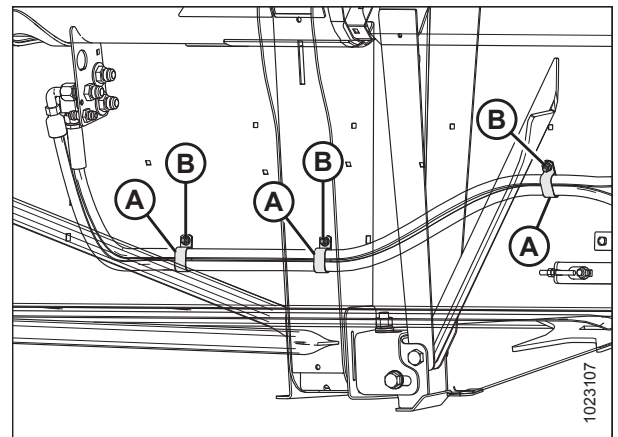


Figure 3.10: Hydraulic Hose Clamps

INSTALLATION INSTRUCTIONS

2. Remove four hex head bolts (A) from weld nuts and remove the draper drive hose holder (B) from header. Retain hardware (A) and hose holder (B) for later reinstallation.

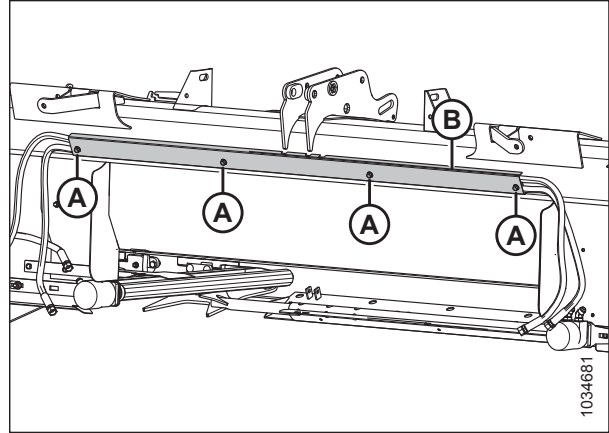


Figure 3.11: Draper Drive Hose Holder

3. Discard side draper interconnect hose (A) previously connected to the factory-installed left and right side draper motors.

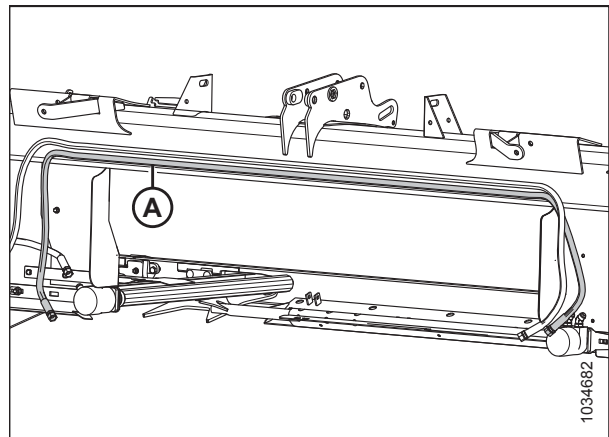


Figure 3.12: Side Draper Interconnect Hose

4. Disconnect side draper pressure hose (A) from the coupler holder (B) at header's left side. Discard side draper pressure hose.

NOTE:

Couplers removed from illustration for clarity.

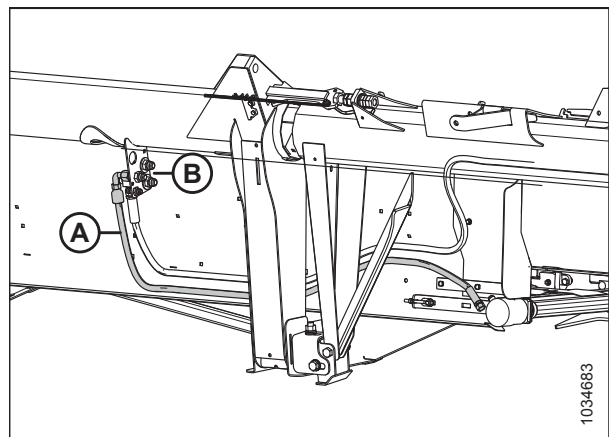


Figure 3.13: Side Draper Pressure Hose

INSTALLATION INSTRUCTIONS

5. Disconnect side draper return hose (A) from the coupler holder (B) at header's left side. Discard side draper return hose.

NOTE:

Couplers removed from illustration for clarity.

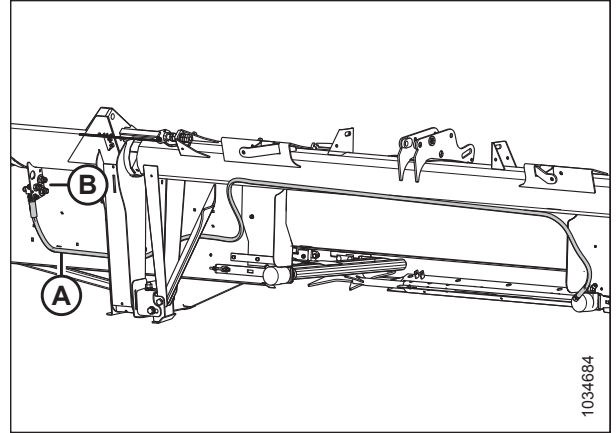


Figure 3.14: Side Draper Return Hose

6. Cap tee fitting (A) using 3/4 in. flare cap (B) (MD #30999) supplied in kit.

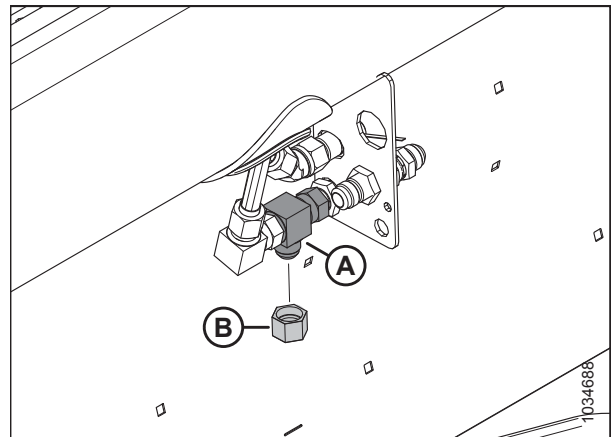


Figure 3.15: Cap (MD #30999)

7. Disconnect union fitting (A) and washer (B) from coupler holder.

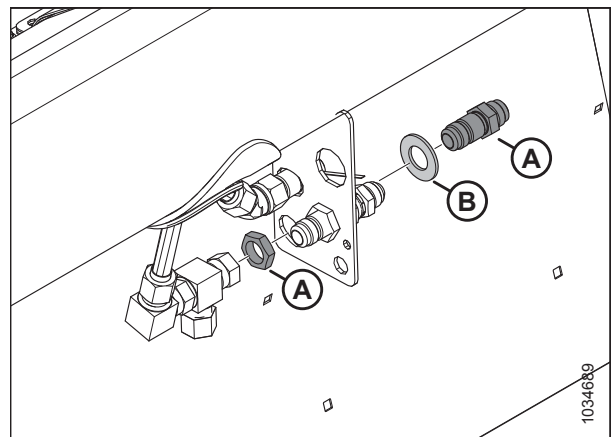


Figure 3.16: Union Fitting

INSTALLATION INSTRUCTIONS

8. Insert plate (A) (NSS) between union fitting (B) and tee fitting (C). Tighten union fitting.

NOTE:

Union fitting holds plate in place.

9. Reconnect union fitting (B) to tee fitting (C).

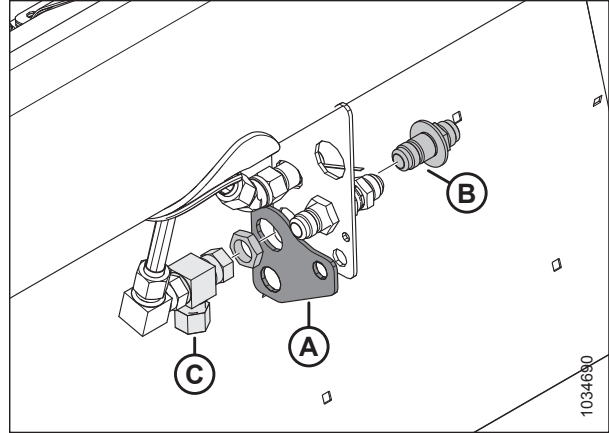


Figure 3.17: Plate (NSS)

10. Connect new side draper pressure hose (A) (MD #279284) at fitting (B) on coupler holder at draper's left side.
11. Route draper pressure hose (A) (MD #279284) behind supports and connect other end to 45° elbow fitting (C) set in left side draper motor port A.

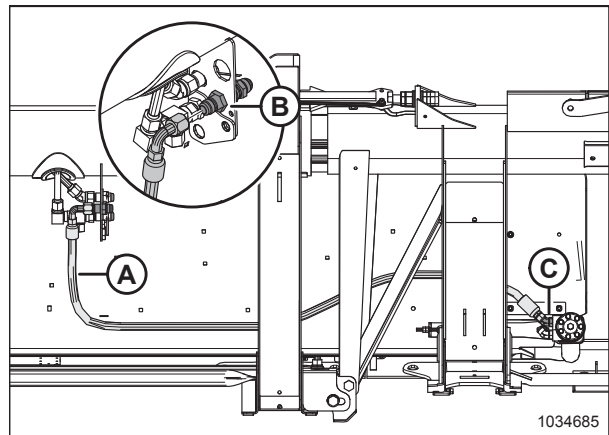


Figure 3.18: Side Draper Pressure Hose (MD #279284)

12. Install elbow fitting (A) (MD #252210) and red cable tie (B) (MD #40702) through new plate. Tighten elbow fitting.

NOTE:

Draper pressure hose removed from illustration for clarity.

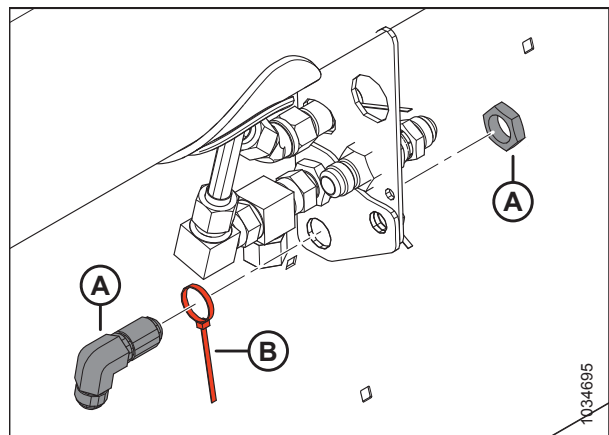


Figure 3.19: Elbow Fitting (MD #252210) and Cable Tie (MD #40702)

INSTALLATION INSTRUCTIONS

13. Connect side draper return hose (A) (MD #279285) to elbow fitting (B) on coupler holder.

NOTE:

Draper pressure hose removed from illustration for clarity.

14. Route side draper return hose (A) (MD #279285) behind supports and connect other end to 45° elbow fitting (C) set in right side draper motor port A.

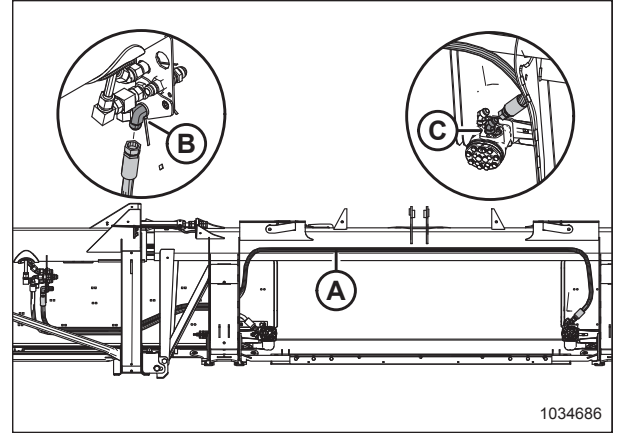


Figure 3.20: Side Draper Return Hose (MD #279285)

15. Connect side draper interconnect hose (A) (MD #279286) to 45° elbow fitting (B) in port B on the left side draper motor.
16. Route side draper interconnect hose across header opening and connect other end to 45° elbow fitting (C) in port B on right side draper motor.

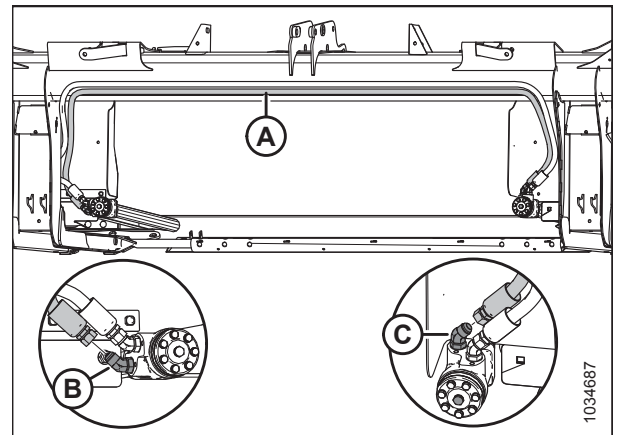


Figure 3.21: Side Draper Interconnect Hose (MD #279286)

17. Lift side draper return hose (A) and side draper interconnect hose (B) to the top of the header opening and set inside draper hose holder (C) retained from Step 3, page 14.
18. Install draper hose holder (C) at top of the header opening using four hex head bolts (D) retained from Step 3, page 14.

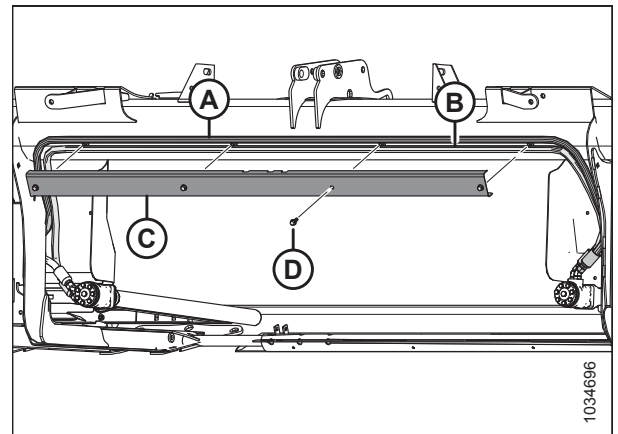


Figure 3.22: Hose Holder Installation

INSTALLATION INSTRUCTIONS

19. Install tee fitting (A) (MD #252211) on new plate at header's left side coupler holder. Tighten tee fitting.
20. Install reducer fitting (B) (MD #30981) with nut (C) (MD #21069) on tee fitting (A). Tighten nut with reducer fitting.
21. SINGLE KNIFE ONLY: Install 1/2 inch cap (D) (MD #108233) onto tee fitting (A). Tighten 1/2 inch cap.
DOUBLE KNIFE : Install case drain hose from header.
Tighten case drain hose.

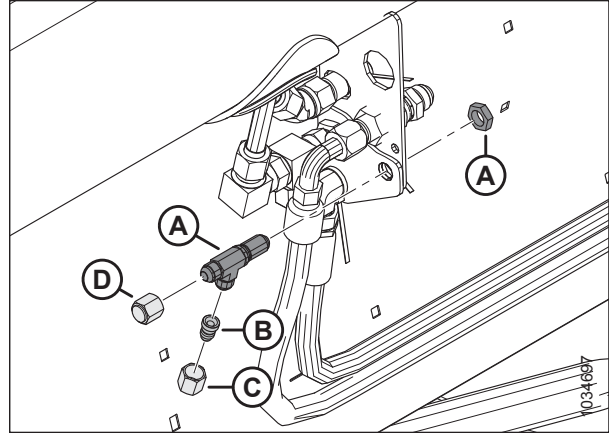


Figure 3.23: Tee Fitting

22. Connect 90° fitting (A) (MD #50104) in port C on left side draper motor. Tighten 90° fitting.

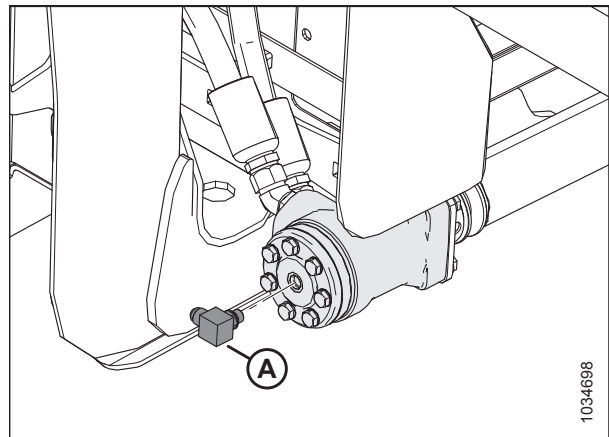


Figure 3.24: 90° Fitting (MD #50104)

23. Connect case drain hose (A) (MD #245590) to reducer fitting (B) on coupler holder.
24. Route case drain hose (A) (MD #245590) behind supports and connect other end to 90° fitting (C) in port C on left side draper motor.

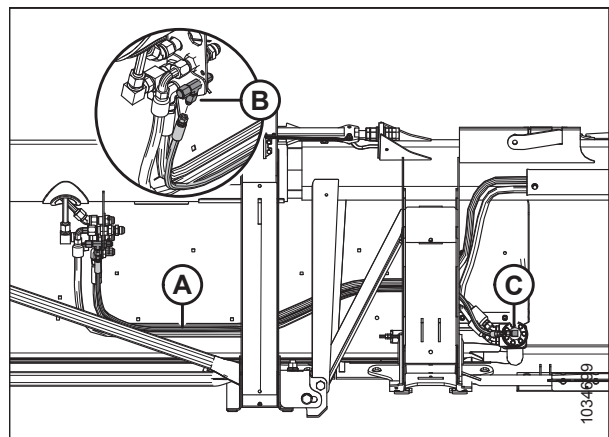


Figure 3.25: Case Drain Hose (MD #245590)

INSTALLATION INSTRUCTIONS

25. Secure side draper pressure hose and side draper return hose to the draper backsheet using three hose clamps (A) and hardware retained from Step 1, page 13.

NOTE:

Draper supports made transparent in illustration for clarity.

26. Bundle the side draper pressure hose, side draper return hose, and case drain hose on the left side of the header using three cinch straps (B) (MD #135443).
27. Installation of kit is complete. Install FM100 and check for leaks and proper rotation of side draper.

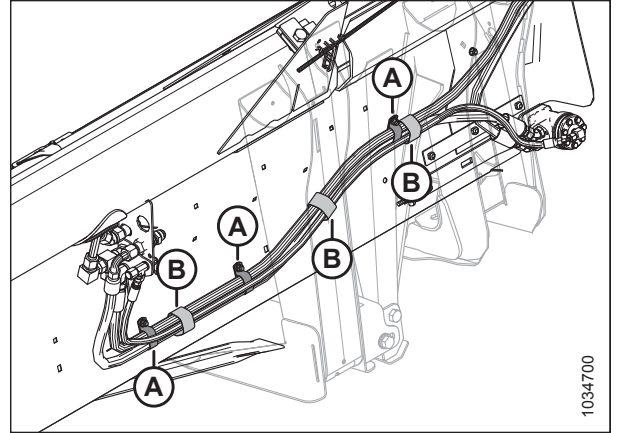


Figure 3.26: Hydraulic Hose Clamps and Cinch Straps

MacDon Industries Ltd.

680 Moray Street
Winnipeg, Manitoba
Canada R3J 3S3
t. (204) 885 5590 f. (204) 832 7749

MacDon, Inc.

10708 N. Pomona Avenue
Kansas City, Missouri
United States 64153-1924
t. (816) 891 7313 f. (816) 891 7323

MacDon Australia Pty. Ltd.

A.C.N. 079 393 721
54 National Boulevard, Campbellfield, Victoria,
Australia 3061
t. +61 3 8301 1911 f. +61 3 8301 1912

MacDon Brasil Agribusiness Ltda.

Rua Grã Nicco, 113, Sala 404, B. 04
Mossunguê, Curitiba, Paraná
CEP 81200-200 Brasil
t. +55 41 2101 1713 f. +55 41 2101 1699

LLC MacDon Russia Ltd.

123317 Moscow, Russia
10 Presnenskaya nab, Block C
Floor 5, Office No. 534, Regus Business Centre
t. +7 495 775 6971 f. +7 495 967 7600

MacDon Europe GmbH

Edisonstrasse 63
Haus A, 12459 Berlin
Germany
t. +49 30 408 172 839

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MacDon.com

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Portal.MacDon.com

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