

MacDon®

C Series Corn Header

Operator's Manual

262277 Revision A

Translation of Original Instruction

The Harvesting Specialists.

INTRODUCTION

INTRODUCTION

Dear Customer,

The following is some useful information provided to help ensure efficient and safe operation of this corn head.

This manual gives some information regarding the C-series corn heads.

Read this manual carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage.

This manual should be considered a permanent part of your machine and should remain with the machine when you sell it.

Since the corn head can be mounted to many models of combines, carefully read your combine specifications and follow the combine manufacturer's recommendations for usage, set-up and operation of the combine.

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1. **SAFETY**



This is the safety-alert symbol. When you see this symbol on your machine or in this manual carefully read the message that follows, and be alert to the possibility of personal injury or death.

Follow recommended precautions and safe operating procedures.

UNDERSTAND SIGNAL WORDS

A signal word – DANGER, WARNING, or CAUTION – is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety decals are located near specific hazards. General precautions are listed on CAUTION safety decals. CAUTION also calls attention to safety messages in this manual.

FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and on your machine safety decals. Keep safety decals in good condition. Replace missing or damaged safety decals. Be sure new components and repair parts include current safety decals.

GENERAL SAFETY GUIDELINES

1. **ALLOW ONLY TRAINED AND EXPERIENCED OPERATORS TO OPERATE THIS MACHINE.** Operating this equipment safely requires the full attention of the operator. Do not wear entertainment headphones while operating this machine.
2. **ALWAYS DISENGAGE** header drive, shut off the engine and remove key before service, adjustment, maintenance and lubrication of the corn head.
3. **STAY CLEAR** of the header when it is in operation.
4. **DO NOT OPEN** safety shields or covers while the corn head is running.
5. **ENGAGE** the lock on the feeder lift cylinder before doing any work under or around the corn head.
6. **WORN OR DAMAGED CHOPPER KNIVES** must be replaced before operation of the corn head. Radial clearance between knife and bushing must be properly maintained. See details in this manual.
7. **NEVER** remove the warning labels from the machine. If they become damaged or illegible order replacement parts as shown in the Figures.
8. **NEVER** remove the safety hydraulic valve of the folding corn heads, located on the back of the corn head.
9. **NEVER** close or open the folding corn head when it is in operation.

1. SAFETY DECALS

1.1 Recognize safety information

Carefully read Operator’s Manual before operating the machine. When operating, always observe safety instructions.

WARNING!

This is the safety – alert symbol.



When you see this symbol on your machine or in this manual, be alert to the potential for personal injury. Carefully read all safety messages in this manual and on your machine safety signs, and respect them fully to avoid accidents leading to serious injury or death!

WARNING!

Keep safety signs in good condition. Replace missing or damaged safety signs. Replacement safety signs are available from the manufacturer. It is **PROHIBITED** to remove safety signs from your machine!



WARNING!

Before installing the machine read the operator’s manual carefully, learn how to operate, control and keep your machine in good condition. Do not let anyone operate it without instruction.



1.326.700

Keep your machine in proper working condition. Unauthorized and non-professional modifications to the machine may impair the function and safety and affect the machine life.

1.2 Safety label meanings

The function of the labels is to give, easy to understand safety instructions for those who are staying close to the machine, in order to minimize the risk of accidents. It is therefore important that these labels always be easy to read, and in complete condition.

- a. Before beginning any maintenance or lubricating, stop the engine of the combine and remove the key!



1.326.703

- b. If you stop the combine while the header is lifted, secure the loose working cylinder with the help of the device - dive inhibitor - fixed to the hydraulic working cylinder of the combine to avoid the accidental crash of the header.



1.326.701

- c. Always stay clear of moving elements during operation! Always disengage header drive, shut off the engine and remove key before servicing or unclogging header.



1.315.438

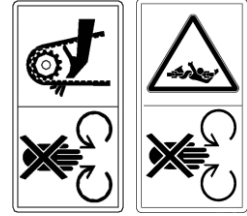
- d. Always keep your distance from the rotating parts of the machine. The header's snapping rolls and other moving parts can't be covered completely due to their functions. Do not feed crop material into machine by hand or attempt to manually unplug machine while it is running. The stalk rolls can feed the crop material in faster than you can release your grip on it. To avoid personal injury or mortal accident always stop engine before unclogging.



1.326.702

SAFETY

e. Never attempt to open or remove shield while the engine is running. Keep every shield in its place. Avoid direct contact of your hand, leg, any part of your body or cloth with rotating, moving machine parts, elements! Before approaching any moving parts wait for them to completely stop!



1.326.705 1.379.142

f. Avoid bruise!
The loose and non-fixed header can unexpectedly crash down, so stay away from loose and non-fixed machine!



1.315.439

g. If the engine is still operating, the combine can accidentally start. Never step between the header and the combine if the engine is not shut off!



1.379.143

h. Machines equipped with chopper are more dangerous because of objects thrown out unexpectedly. Do not stay close to operating machine. Follow the instructions on use and maintenance of chopper knives!



1.315.440

i. When we are talking about foldable machines there's a possibility that the wing frames can suddenly fold. Do not stay under and around the wing frames!



1.326.707

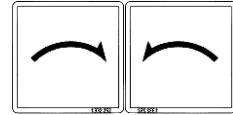
SAFETY

j. On some types of corn heads you can find high-pressure hydraulic system. In case of a pressurized system, the piping system must not be disturbed or exposed to any external effects of the damage.



1.332.254

k. The drive shaft rotation.



1.332.252-3

l. To prevent injury from sharp cutting blades: Do NOT operate without shields in place. Disengage power take-off, stop engine and remove key before opening covers. Stop engine and remove key before opening shield. Blades may continue to rotate after power is shut off. Listen and look for evidence of rotation before opening shield.



1.372.836

m. To prevent injury from entanglement with rotating auger: Stand clear of auger while machine is running.



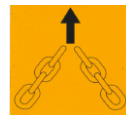
1.372.837

n. Before putting the machine into operation, please remove the screws which fasten the main frame and side frames on both sides at delivery.



1.372.916

o. Lifting points on the lifting bar.



514.038.0

SAFETY

p. Tie-down point locations.



1.372.890

q. Chopper knife covers are marked with safety decals. Do NOT operate without covers in place.



1.373.044

r. Operating the machine with feeder lateral tilt feature enabled may result in damage!

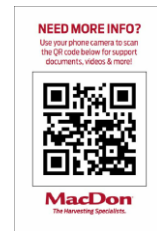
 **WARNING**

Do not operate feeder lateral tilt feature with this Cornhead
Damage may result!

1.379.138

1.379.138

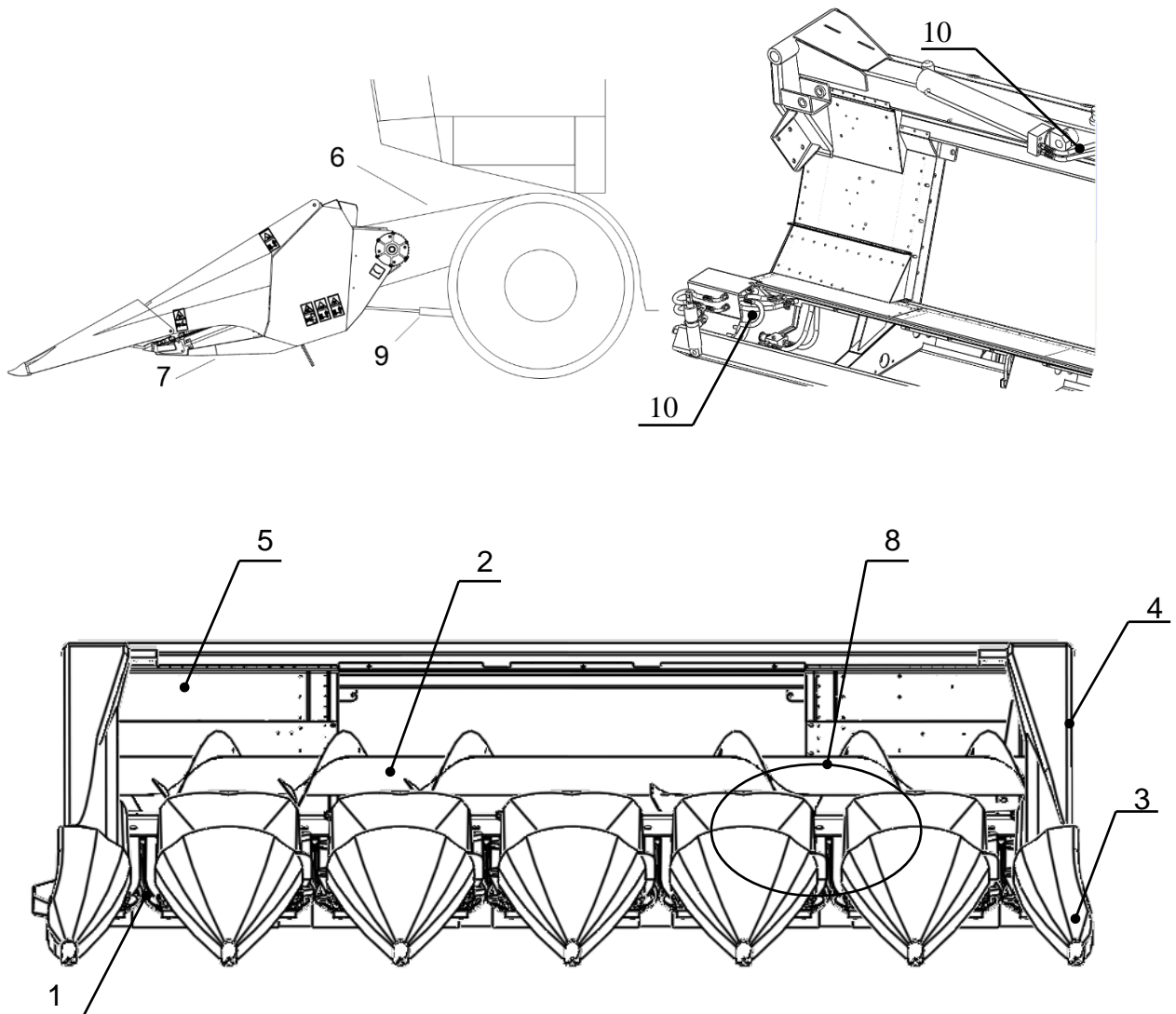
s. QR code label leading to the C-series page.



1.372.822

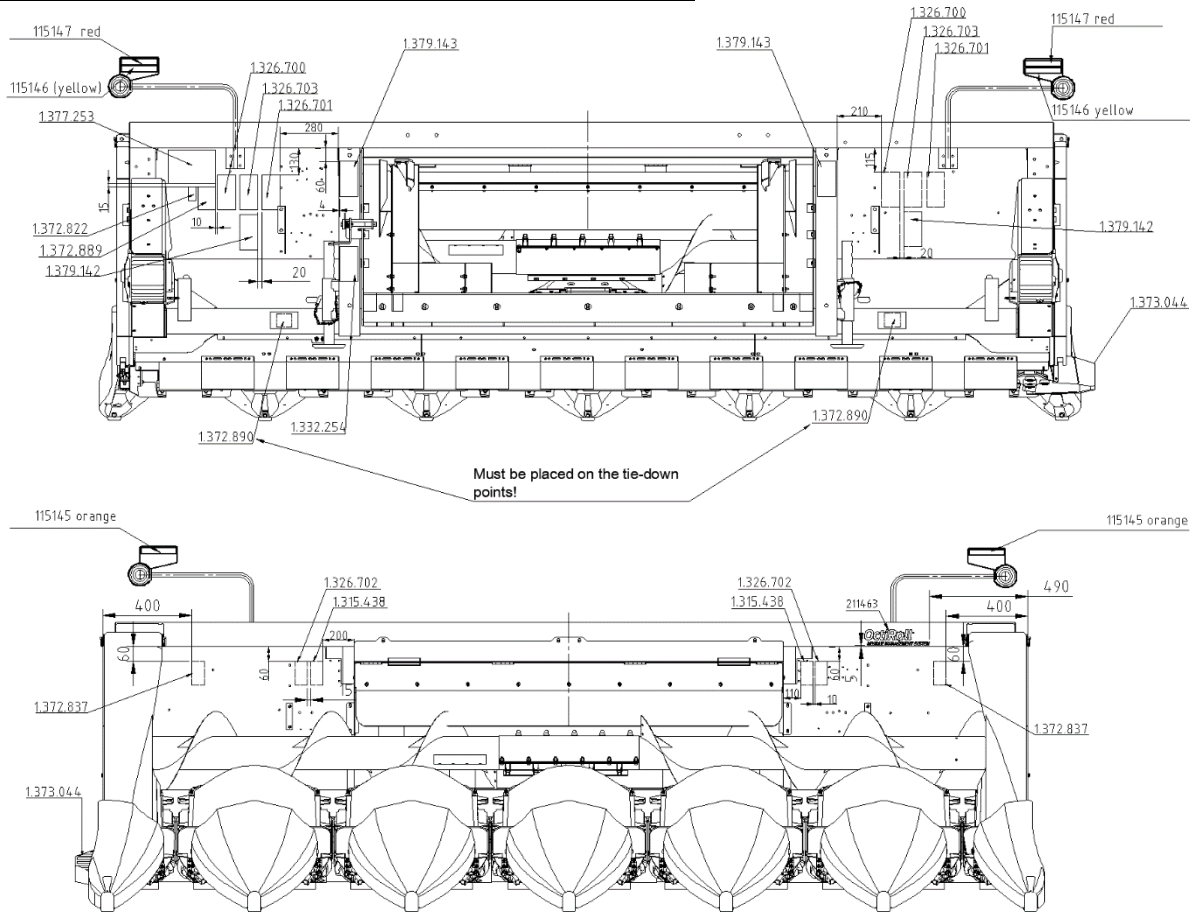
LIST OF ACTIVE MACHINE PARTS

No.	Active machine part	Danger
1.	Snapping units, gathering chains	Snatch, entanglement
2.	Gathering auger	Cutting, entanglement
3.	Outside shields	Nip, bruise
4.	Side chain drive	Snatch, entanglement
5.	Drive shafts	Entanglement
6.	Inner space between combine and corn head	Crushing
7.	Stalk chopper	Cutting, impact from unexpected flying objects
8.	Shields, snouts	Slipping , stumbling
9.	Lifted machine	Crushing
10.	Hydraulics	High-pressure fluid injection



SAFETY

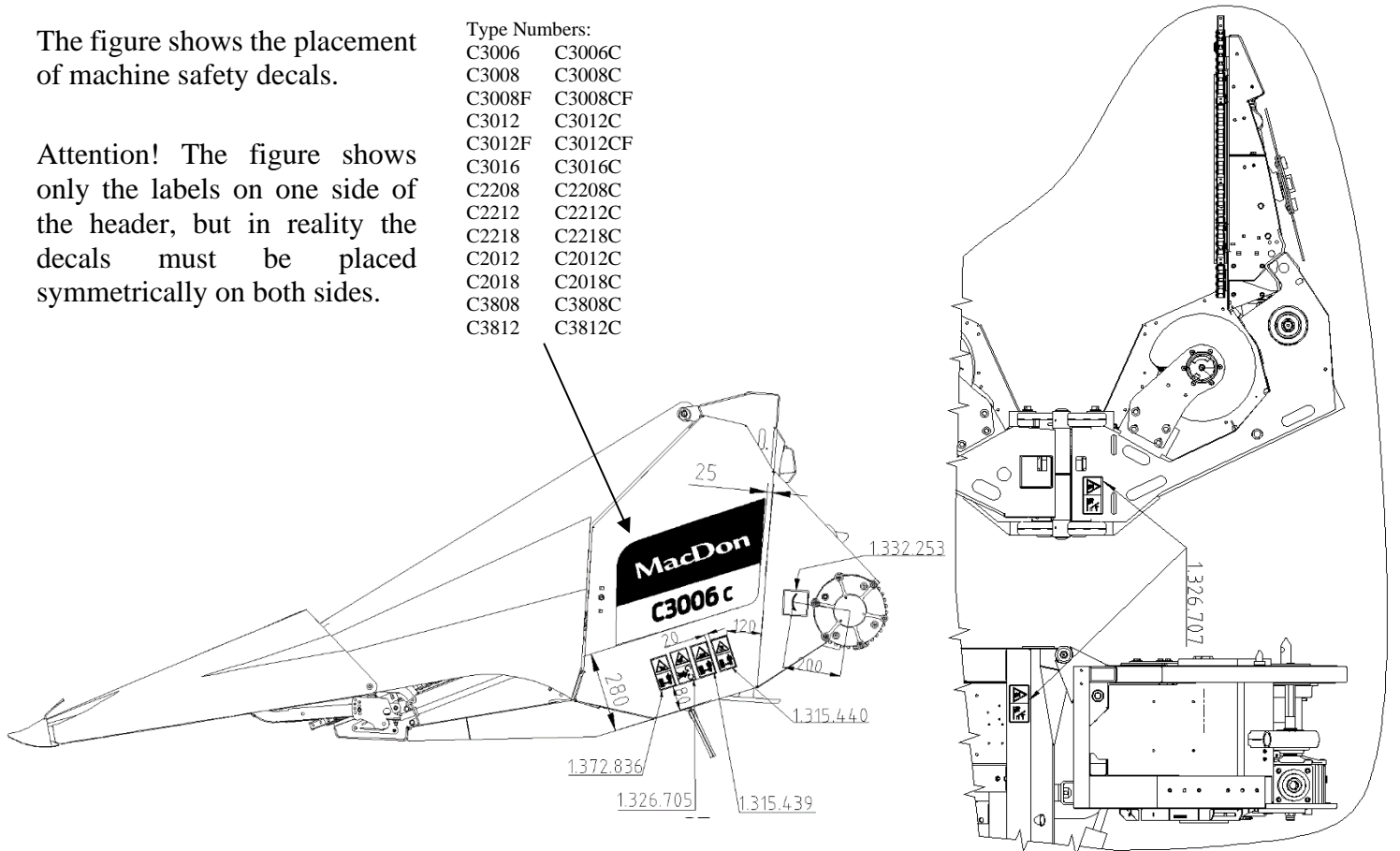
Illustration below shows placement of safety decals



The figure shows the placement of machine safety decals.

Attention! The figure shows only the labels on one side of the header, but in reality the decals must be placed symmetrically on both sides.

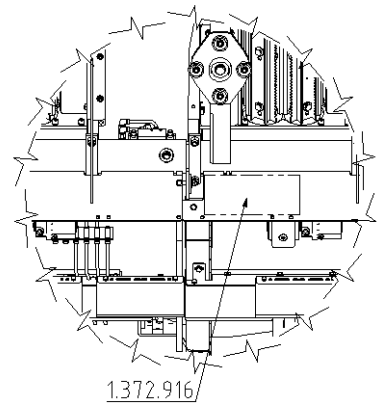
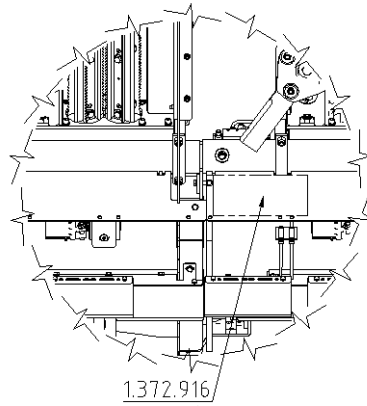
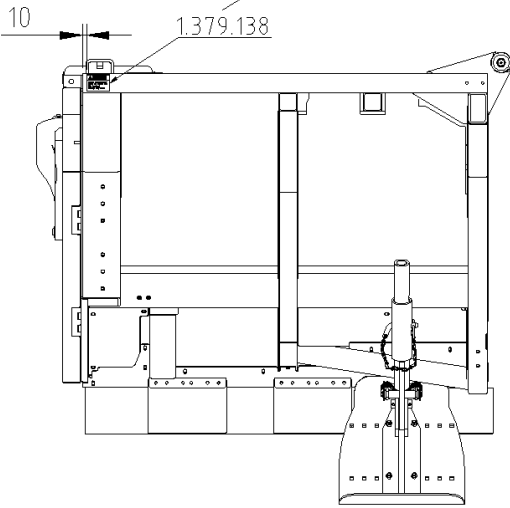
- Type Numbers:
- | | |
|--------|---------|
| C3006 | C3006C |
| C3008 | C3008C |
| C3008F | C3008CF |
| C3012 | C3012C |
| C3012F | C3012CF |
| C3016 | C3016C |
| C2208 | C2208C |
| C2212 | C2212C |
| C2218 | C2218C |
| C2012 | C2012C |
| C2018 | C2018C |
| C3808 | C3808C |
| C3812 | C3812C |



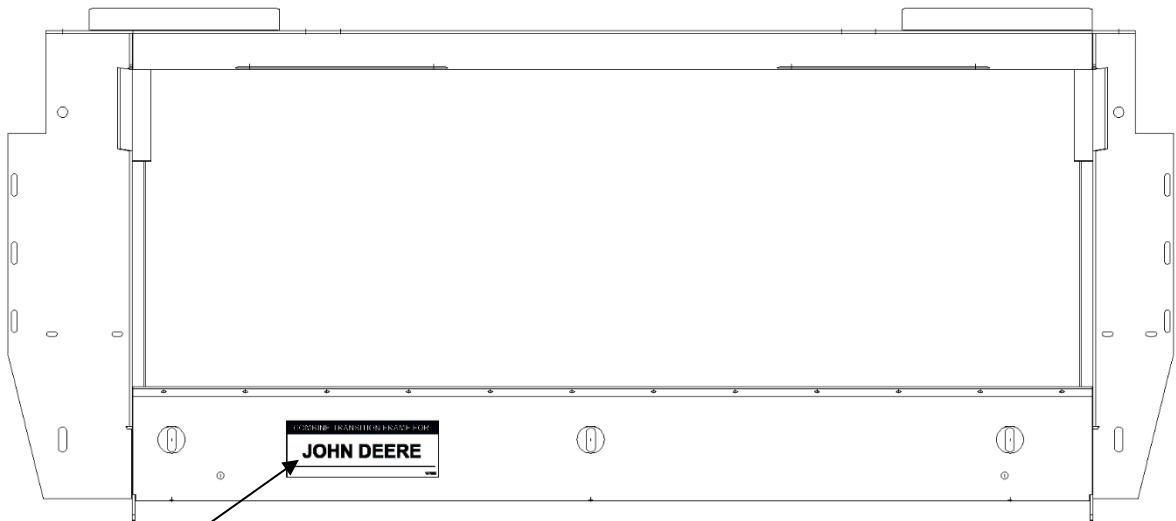
SAFETY

C3006F, C3006CF, C3008F, C3008CF

Additional decals for the Foldable header!



The big arrow should point to the screw fixing the wing.



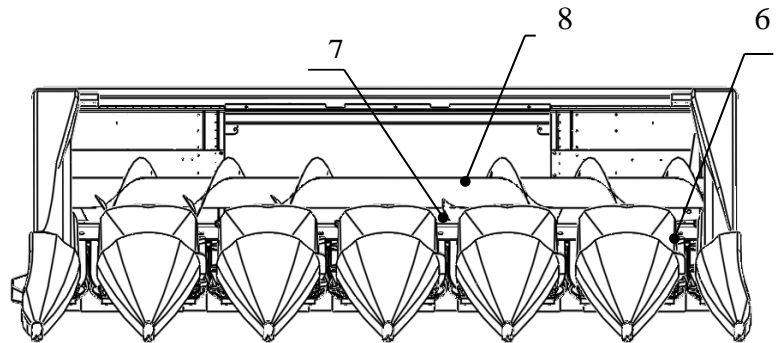
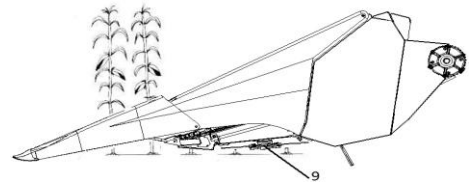
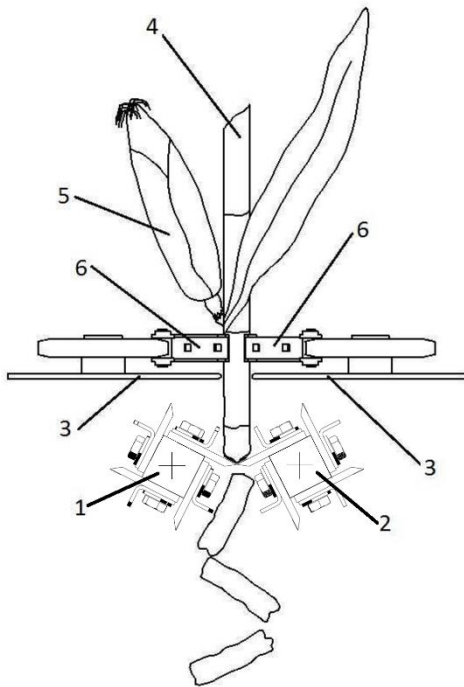
Window frame decals:
AGCO
CLAAS/LEXION
JOHN DEERE
CASE IH
CNH
GLENER RS
AGCO, IDEAL



2. OPERATION AND FUNCTION

The MacDon corn head can be mounted on most combines. Corn ears are detached from the corn stalks as is shown on the illustration below. The corn stalk enters the area between the snapping rolls (1,2) which counter-rotate relative to each other, and are pulled downwards between the snapping plates (3) by the rolls (1,2). This downward directing action causes the corn ears (5) to impact the snapping plates (3), detaching the ear from the stalk in the process. The detached ears are moved rearward by the gathering chains (6) into the auger trough (7) and are conveyed to the combine feeder house by the cross auger (8). Corn stalks are discharged downward by the snapping rolls (1,2).

If the corn head is equipped with optional stalk chopper, the stalks are chopped into small fragments by this chopper, located under the snapping rolls.



Attention!

For safe corn head operation, it is essential to respect the instructions on the use of the corn head when mounted to the combine. Only qualified operators should operate the machine.

OPERATION AND FUNCTION

Operation

The corn head is driven from the combine feeder shaft through a universal drive shaft. Power is transmitted from the drive shaft by gears encased in an oil bath to a shaft which passes through the snapping unit.

Torque limiting clutches transmit power from the shaft to each snapping unit.

The auger is chain driven through a torque limiting clutch from the left side snapping unit drive (or from both sides of large corn heads).

Consider and follow each of the following sequence guidelines before starting operation of the corn head:

- after a sounding horn start the engine of the combine
- after ensuring that no one is close to the corn head and combine, lower the corn head into operation position using the combine “lower” function switch



1. Operate the corn head only in the specified harvesting position
2. Engage the combine feeder drive and begin harvesting.
3. Operate at a ground speed that does not exceed that suitable for the combine and corn head capacity and ground conditions.
4. Perform an emergency stop

During harvesting be aware of unexpected events that may take place requiring immediate shutdown of the forward movement or combine feeder drive.

Such events could be:

- accident
- foreign materials in the crop (irrigation pipe, gas tube, rocks etc.) which could enter the corn head
- excessive crop loading (action of torque limiting clutches)
- clogging or blockage
- other breakdown or fault

The corn head has no specific emergency stop system. The emergency stop is actuated using the combine systems located in the combine cab. Understand and respect the relevant instructions of the combine emergency stop procedures as related to the corn head.

Never leave the combine cab while corn head is in operation.

Non-conforming use:

The corn head is designed only for harvesting in the direction of planting (row dependent) and for the specified row widths. Harvesting performance can greatly deteriorate if the corn head is used in other conditions for which it is not intended. Deterioration in performance can result if:

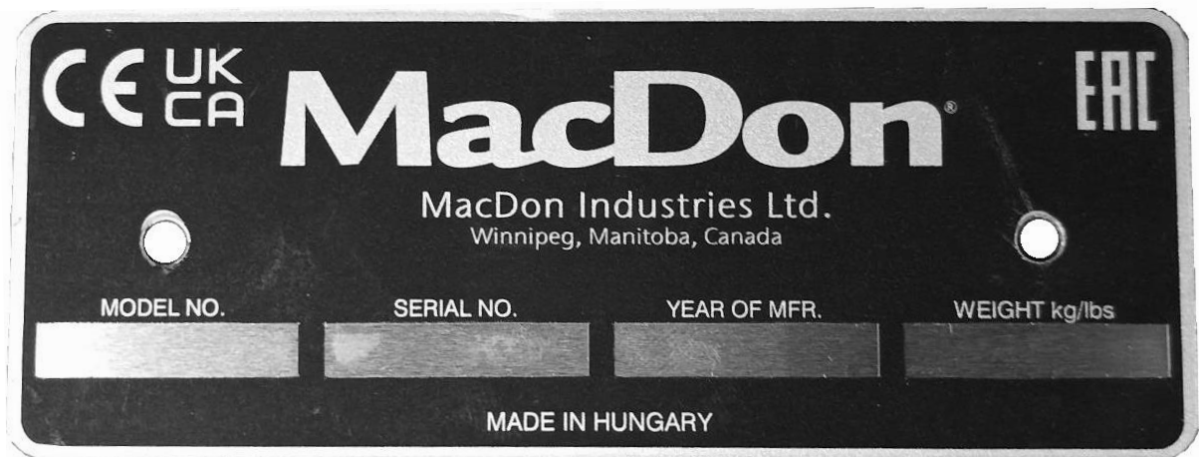
- The corn head is positioned too high or too low during harvesting
- The corn head is used to harvest crops other than corn or sunflowers when properly equipped with a sunflower kit.

3. IDENTIFICATION AND SPECIFICATIONS

3.1. Identification

The universal mounting of the corn head permits it to be attached to specific combine types with the appropriate mounting kit. A mounting kit is assembled to the corn head at the factory as ordered.

A data plate is located on the left side of the corn head upper beam.



The model number refers to the following: for example:

- C3012 12-row fixed frame with 30" row spacing
- C3012C 12-row fixed frame with 30" row spacing and stalk chopper
- C3012CF 12-row folding frame with 30" row spacing and stalk chopper

IDENTIFICATION AND SPECIFICATIONS

3.2. Specifications

3.2.1. Dimensions

Row Spec	Model	Chopper	Weight		Width		Length (mm)	Length in shipping condition (mm)	Height (mm)	Height in shipping condition (mm)
			Kg	Lbs	mm	ft.				
6R30	C3006	No	2073	4570	4609	15,10	2970	1100	1410	2430
	C3006C	Yes	2180	4800	4609	15,10	2970	1100	1410	2430
8R22	C2208	No	2140	4720	4744	15,56	2970	1100	1449	2430
	C2208C	Yes	2260	4982	4810	15,78	2970	1100	1449	2430
8R30	C3008	No	2968	6543	6135	20,10	2970	1100	1449	2430
	C3008C	Yes	3110	6856	6201	20,34	2970	1100	1449	2430
8R38	C3808	No	2900	6390	7553	24,78	2970	1100	1449	2430
	C3808C	Yes	3080	6790	7619	25,00	2970	1100	1449	2430
12R20	C2012	No	2890	6370	6324	20,75	2970	1100	1449	2430
	C2012C	Yes	3050	6724	6390	20,96	2970	1100	1449	2430
12R22	C2212	No	3325	7330	6984	22,91	2970	1100	1449	2430
	C2212C	Yes	3630	8000	7050	23,13	2970	1100	1449	2430
12R30	C3012	No	3906	8611	9180	30,10	2970	1100	1449	2430
	C3012C	Yes	4120	9083	9246	30,33	2970	1100	1449	2430
12R38	C3812	No	4080	8995	11441	37,54	2970	1100	1449	2430
	C3812C	Yes	4290	9458	11507	37,75	2970	1100	1449	2430
16R30	C3016	No	5060	11155	12254	40,20	2970	1100	1449	2430
	C3016C	Yes	5330	11751	12320	40,42	2970	1100	1449	2430
18R20	C2018	No	4175	9204	9460	31,04	2970	1100	1449	2430
	C2018C	Yes	4480	9877	9526	31,25	2970	1100	1449	2430
18R22	C2218	No	4919	10845	10323	33,87	2970	1100	1449	2430
	C2218C	Yes	5225	11519	10389	34,08	2970	1100	1449	2430

Row Spec	Model	Chopper	Weight		Transport width		Width		Length (mm)	Length in shipping condition (mm)	Height (mm)	Height in shipping condition (mm)
			Kg	Lbs	mm	ft.	mm	ft.				
12R30	C3012F	No	4156	9162	4750	15,6	9180	30,1	2970	1100	1584	2430
	C3012CF	Yes	4370	9634	4750	15,6	9246	30,33	2970	1100	1584	2430
8R30	C3008F	No	3218	7094	3226	10,6	6135	20,1	2970	1100	1584	2430
	C3008CF	Yes	3360	7408	3226	10,6	6201	20,34	2970	1100	1584	2430

3.2.2. Gearbox Lubricant: EP-00 (liquid) grease, and SAE 80W-140 standard lubricating oil, SAE 85W-140 can be used as an alternative.

3.2.3. Pitch of the gathering auger: 560 mm (22”).

3.2.4. Input shaft speed of the snapping unit drive: 550 rpm

IDENTIFICATION AND SPECIFICATIONS

Combine	Backshaft speed		Header Speed			
	Range	Rated	11 tooth	12 tooth	15 tooth	18 tooth
NH fixed drive	575	-	-	575	-	-
NH variable drive	402-575	550	-	402-575	-	-
AGCO fixed drive	617	-	-	-	494	-
AGCO variable drive	608-975	825	-	-	-	405-650
JD fixed drive	520	-	567	-	-	-
JD variable drive	520-785	688	-	-	416-628	-
Case-1000-2000 series	500	-	545	-	-	-
Case AFX fixed drive	602	-	-	602	-	-
Case AFX variable drive	460-690	596	-	460-690	-	-
Lexion fixed drive	761	-	-	-	609	-
Lexion variable drive	508-737	688	-	-	406-590	-

3.2.5. Length of chopped stalk: average 50 mm, depending on crop conditions.

3.2.6. Adjustment of the snapping plate: central in-cab control switch.

3.2.7. Available row spacing: 20” – 22” – 30” – 38” (50.8 cm – 56 cm – 76.2 cm – 96,5 cm).

4. **MOUNTING THE CORN HEAD ON THE COMBINE**

While the corn head is mounted on shipping stand

- Remove the parking stands and snouts from the shipping position and install parking stands in their retracted position.
- Carefully lower the corn head to horizontal position with a cable attached to lifting hooks.
- Remove the shipping skid after the machine is resting securely in horizontal position.

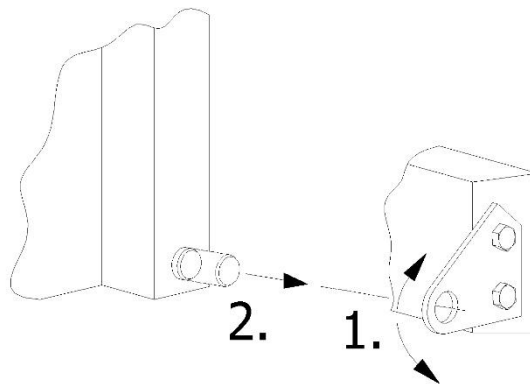
The corn head is shipped from the factory with mounting kit installed as ordered. If the corn head will be mounted to a different combine than ordered, remove the factory installed mounting kit and install the required mounting kit as recommended for your combine with all the specified drive line shielding.



After the above operation and with the specified mounting kit securely attached to the Corn Head, engage and securely attach the Corn Head to the combine according to Combine Manufacturer's instructions. Engage the feeder lift cylinder safety stop and secure the lower latches.

4.1. Mounting the corn head on the combine

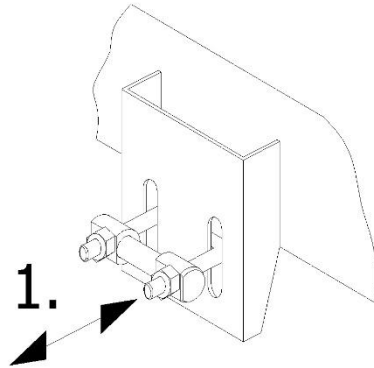
4.1.1 John Deere 60, 70 and S series



Insert the spring pivot pin (2) of the feeder house into the hole of the retainer plate (1) which is assembled on the lower support. If required, adjust the pin alignment.

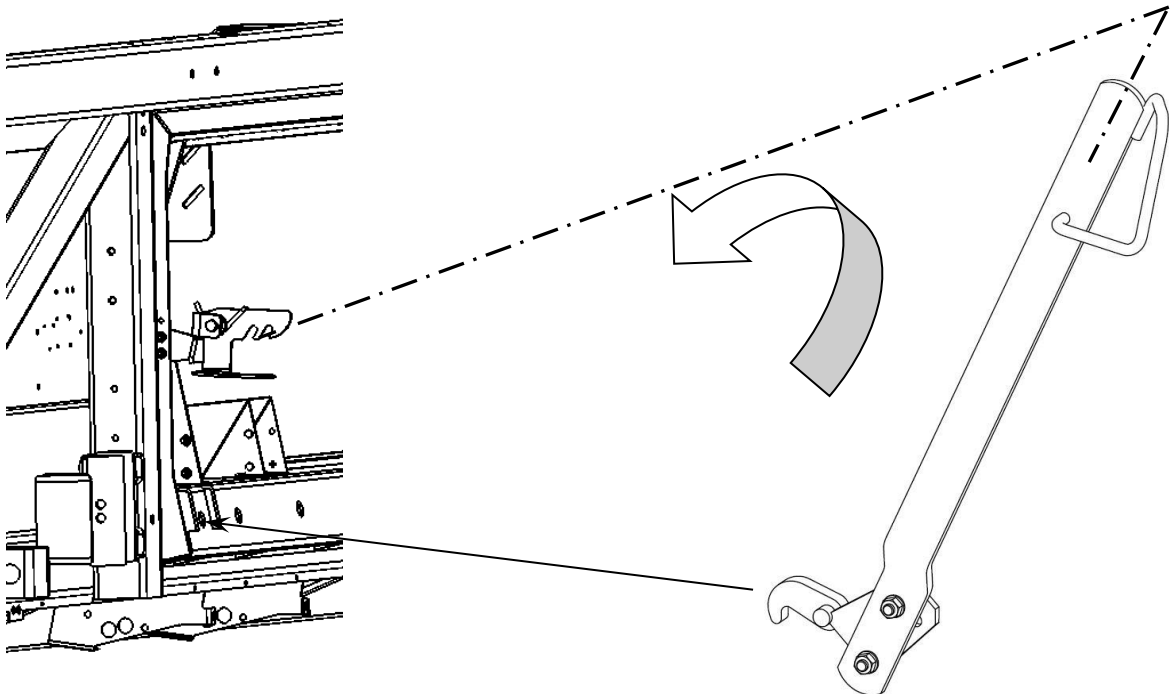
MOUNTING TO THE COMBINE

4.1.2. CASE IH 1000-2000



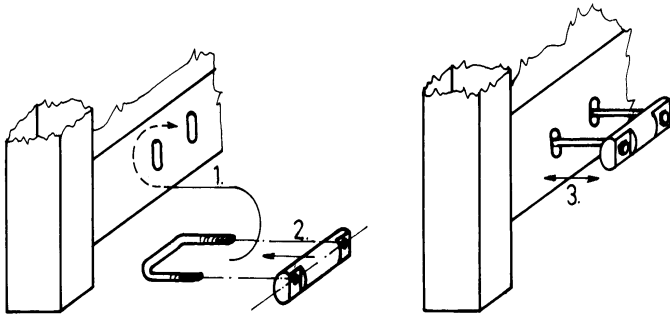
Adjust the nuts on the U-bolts (1) as required to provide adequate clamping force. Refer to the combine operator's manual for the correct adjustments and latching methods.

4.1.3. CIH Flagship & Legacy; NH CR & CX; similarly Challenger MF 9000 Series; Gleaner N, A, R, & S Series



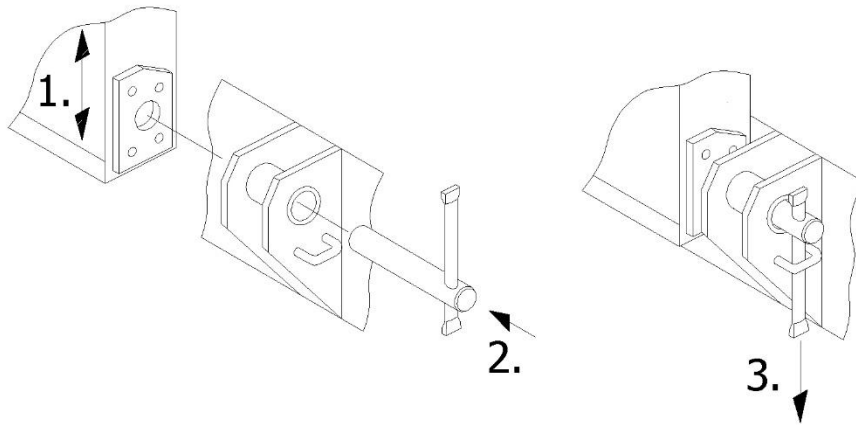
First, adjust the hooks on the combine until they are fully seated in the holes of the header. Next put the combine locking arm in the header latch and tighten the lower bolts.

4.1.4. MF 8500 Series



Adjust the nuts on the U-bolts (1&2) as required to provide adequate clamping force (3). Refer to the combine Operator's Manual for the correct adjustments and latching methods.

4.1.5. Claas Lexion 500, 600, 700, 7000, & 8000 series; similarly IDEAL 7, 8, & 9



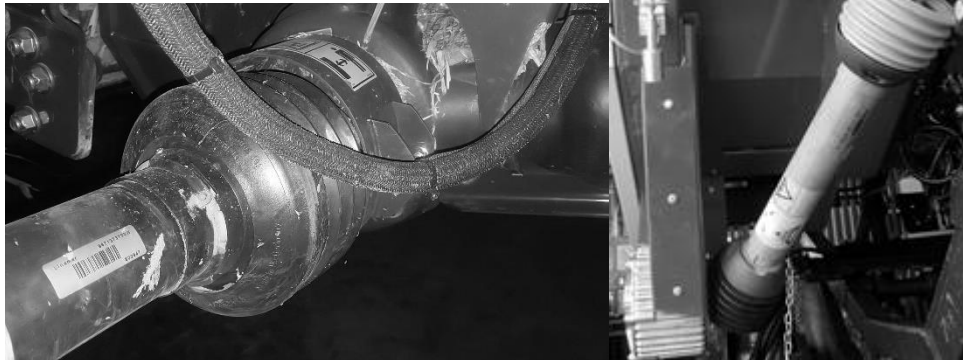
4.2. Other steps following the securing of the adapter on the combine

Connect Header Drive Shafts

Connect the drive shafts and ensure that the protective shields are properly in place and that all rotating parts are adequately shielded. The shafts are installed at the factory with protective shielding as supplied by the shaft manufacturer.



Position the protective shield of the drive shaft, according to the combine operator's manual, after connecting to the feeder drive shaft.

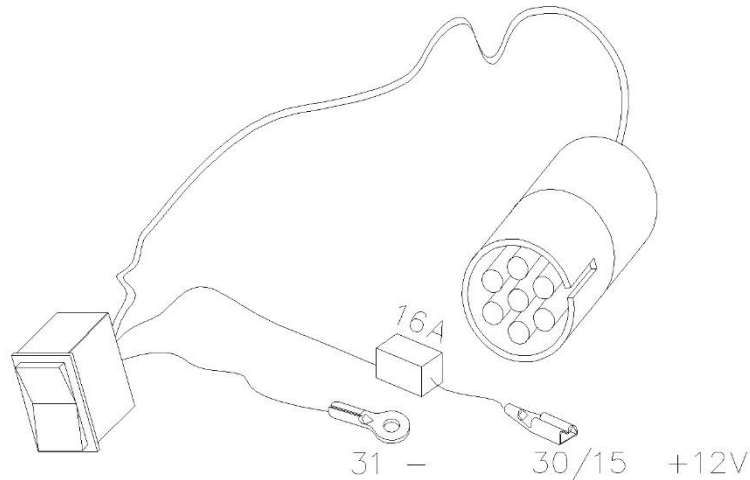




To prevent the rotation of the header drive shaft shield, attach both original chain restraints to the corn head.

Connect the electric snapping plate adjuster according to the following figure.

For AGCO machines with electric snapping plate adjustments only.

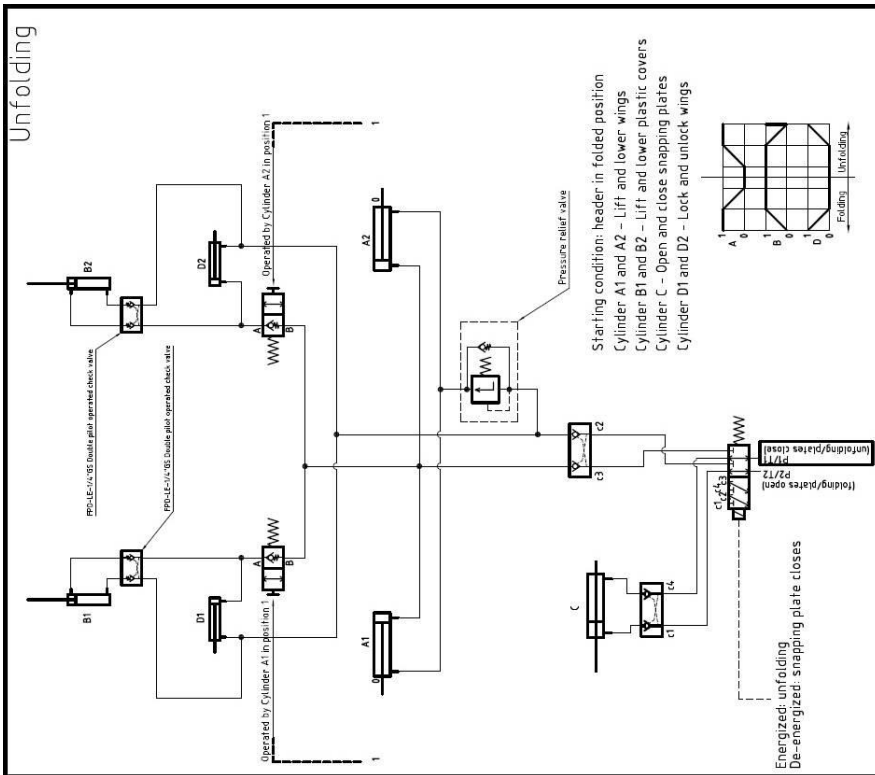
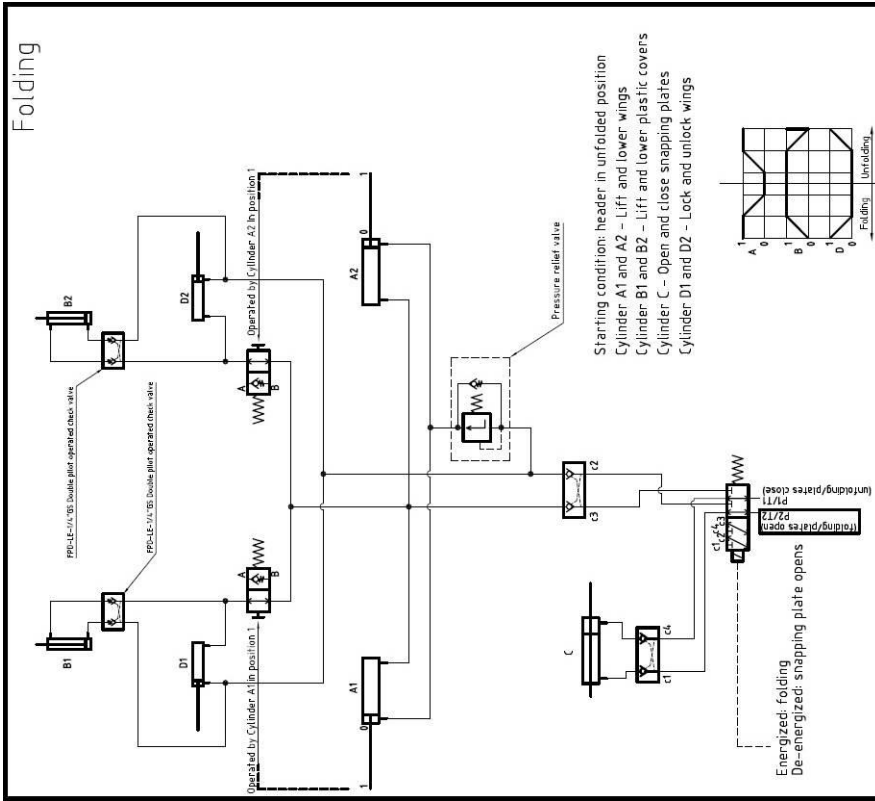


The plug is connected to pin numbers 1 and 7.

Connect the hydraulic system (for folding corn heads)

The hydraulic source is typically the combine reel fore function.

The schematic below illustrates the hydraulic system of the folding corn head.



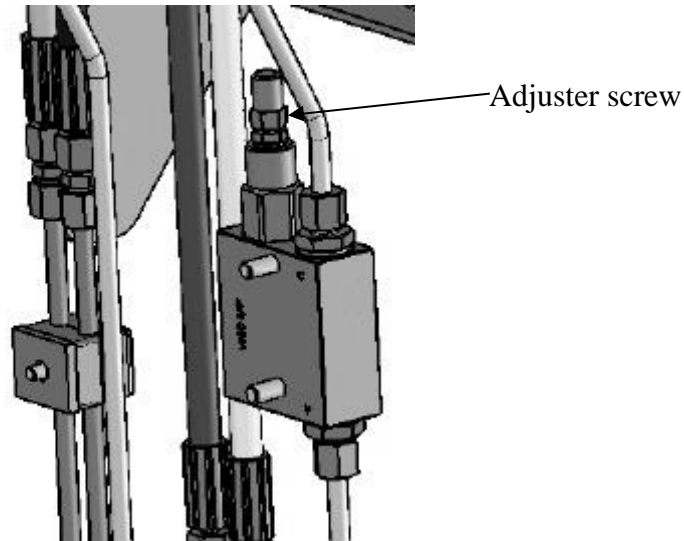
The folding corn head hydraulic cylinders should operate in the following sequence:

1. The locking cylinders (D1, D2) must retract fully.
2. The rear divider cylinders (B1, B2) must extend fully.
3. The wing cylinders then fold the wings.

If the wing cylinders start before the other cylinders (D1, D2, B1, B2) reach the end positions, then the pressure relief valve adjuster screw should be turned a half turn clockwise.

After this, re-attempt folding the header to check for proper operation.

Repeat these steps as necessary until the headers folds correctly.



5. HEADER START-UP PROCEDURE

A 30 minute “trial run” is suggested after the initial mounting.

Start the combine and momentarily engage the drive with the engine speed at low idle, If all sounds well, run the corn head slowly. Avoid starting the drive at high engine speed as the inertia load from acceleration can be 8-10 times more than the load from steady speed operation. High-speed start-up may cause damage to the drive system and safety clutches.

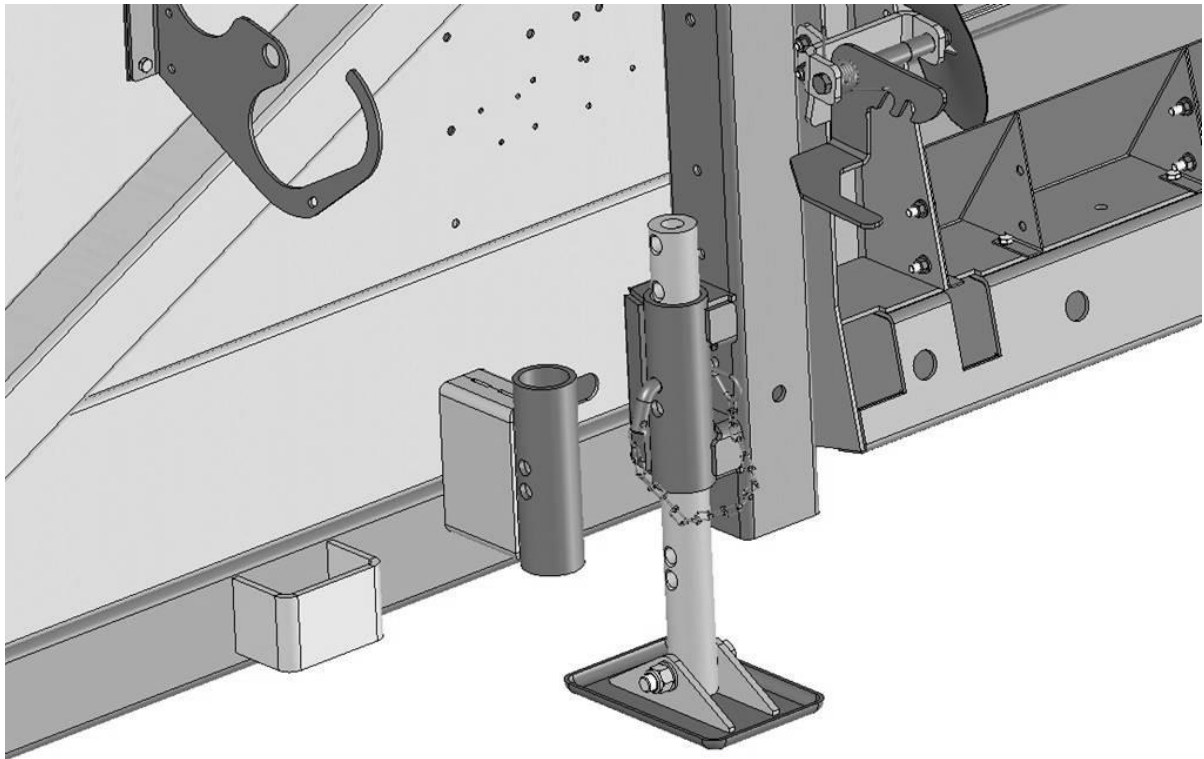
After the slow speed start, increase the engine speed to a medium level and listen for abnormal sounds. If no irregularity is observed, the engine speed can be increased to maximum level.

6. SETUP PROCEDURE AND ADJUSTMENT OF THE CORN HEAD

6.1. Parking stands

The corn head is provided with parking stands which must always be used when it is to be disconnected from the combine. Before detaching the corn head from the combine, adjust the parking stand position such that the distance between the ground and the lower support of the corn head is about 30 cm (12 inches).

Adjust the stand position by removing and replacing the retaining pin, and re-installing the hairpin.



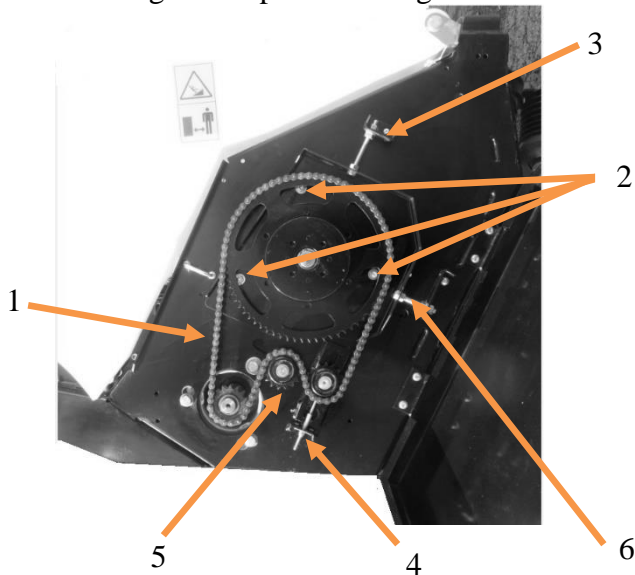
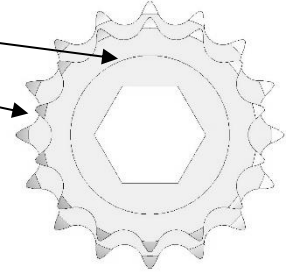
6.2. Auger

The auger is driven through a torque-limiting clutch that can disengage excessive loads on the drive. This clutch is located on the left-hand side, but an additional clutch is located on the right hand side on larger corn heads.

In some conditions it may be necessary to change the speed of the auger. The driver sprocket can be reversed to provide an alternate speed to suit field conditions.

14T/16T for 8 row and smaller headers
16T/18T for 12, 16, and 18 row headers

Use the faster speed for normal conditions and the slower for slower ground speeds or lodged conditions.



1. Chain drive connecting link
2. Adjusting plate nuts
3. Auger raising / lowering with M12 nuts
4. Chain tensioner setting
5. Chain guidance
6. Auger fore/aft adjusting bolt.

To adjust auger position, loosen bolt 2 (3x, each side) and use bolt 3 and bolt 6 to move auger. Once positioned, retighten bolt 2.

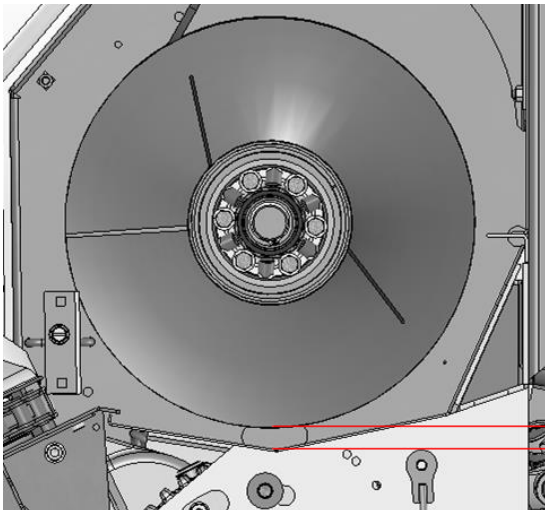
For rigid frame headers only. Folding frame headers are not adjustable.

If auger is moved, be sure to check and adjust chain tension.

Gap between flighting and auger pan at minimum clearance.

Check factory setting 32-38 mm (1.25" - 1.5")

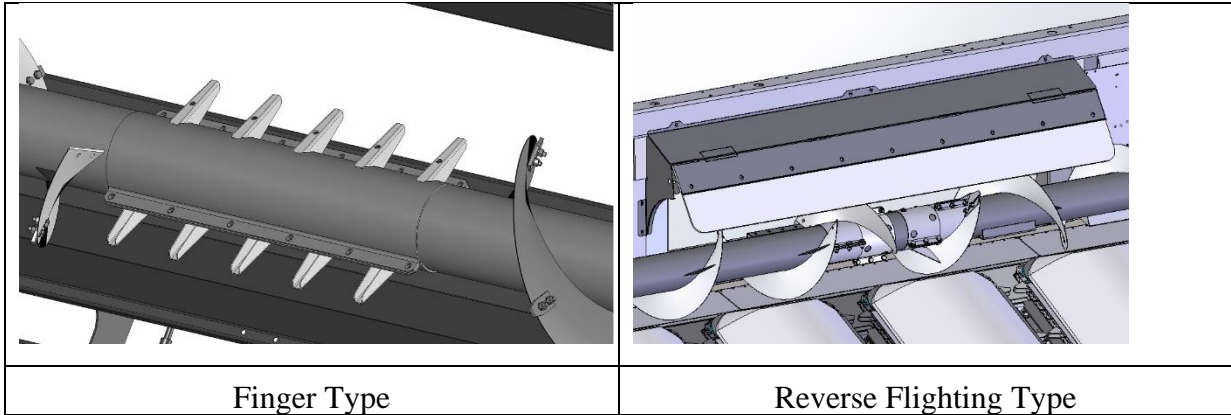
Check clearance at both ends of auger and adjust if necessary.



32-38 mm (1.25" - 1.5")

SETUP PROCEDURE AND ADJUSTMENT OF THE CORN HEAD

- Augers will come standard from factory with reverse flighting installed.
- Options include fingers/paddles in place of reverse flighting.
- Fingers are recommended in very dry, fluffy corn where positive conveyance to the feederhouse is needed.
- Paddles can be installed over the fingers if wrapping becomes problematic.

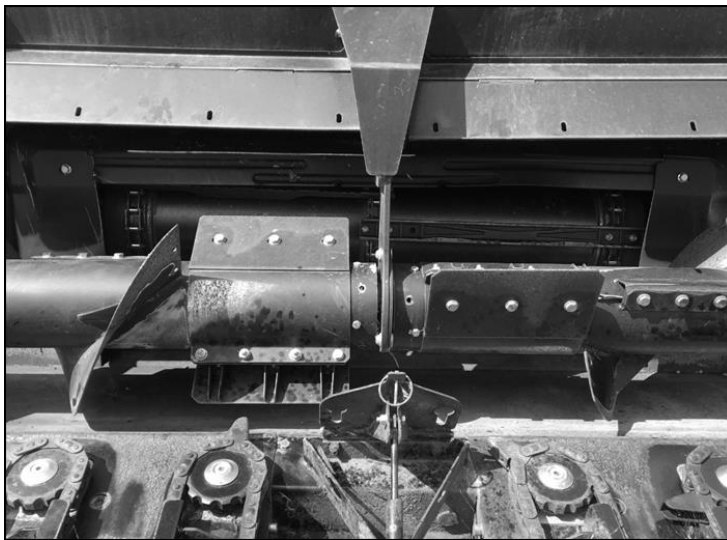


6.3. Auger Timing:

6.3.1. Dual Auger Drive Time (Double Auger)

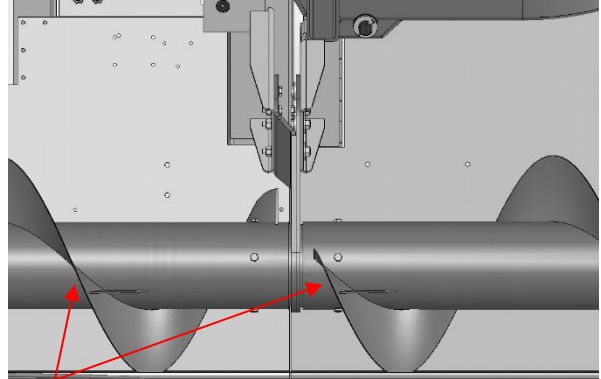
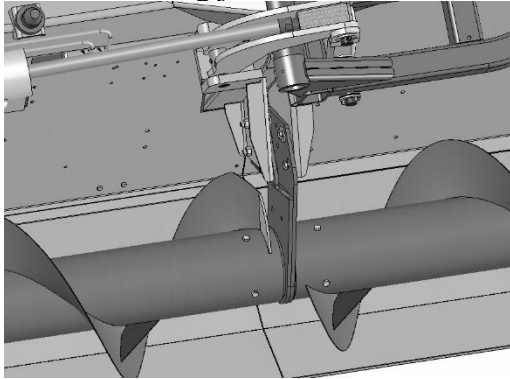
- Flighting should be offset by 180°.
- To adjust:

Remove, rotate, and reinstall the RH drive shaft from the combine backshaft to the desired position. Alternatively, remove auger drive chain and rotate auger to desired position and reinstall chain.

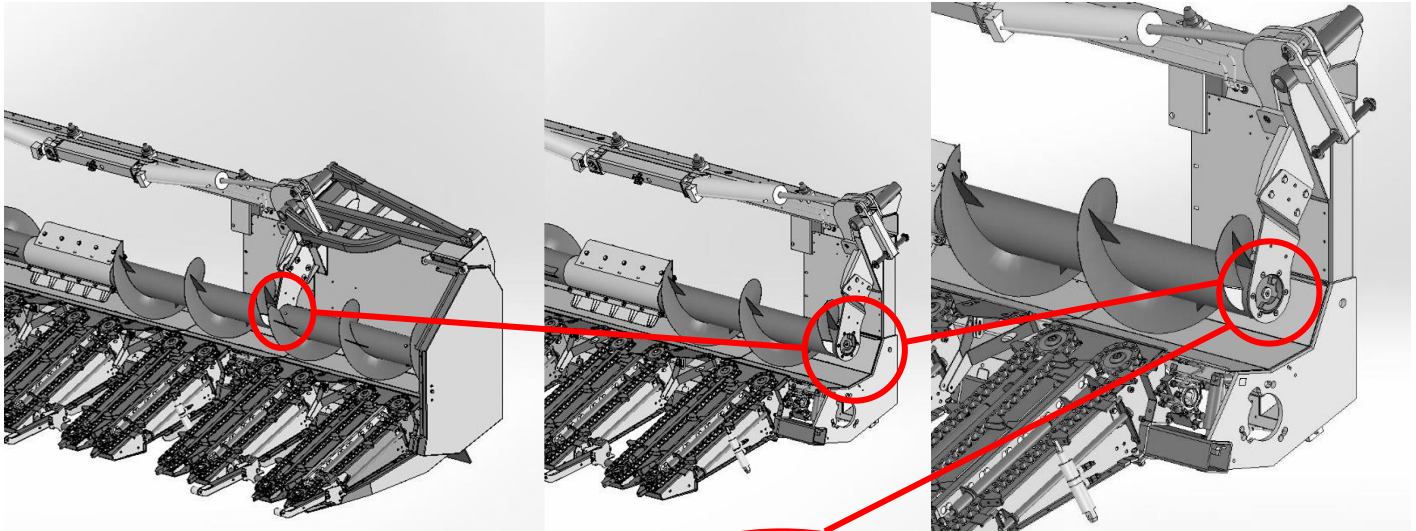


6.3.2. Folding Corn Head Wing Auger Timing

- Distance between flighting should be properly maintained to optimize feeding across the wing joint



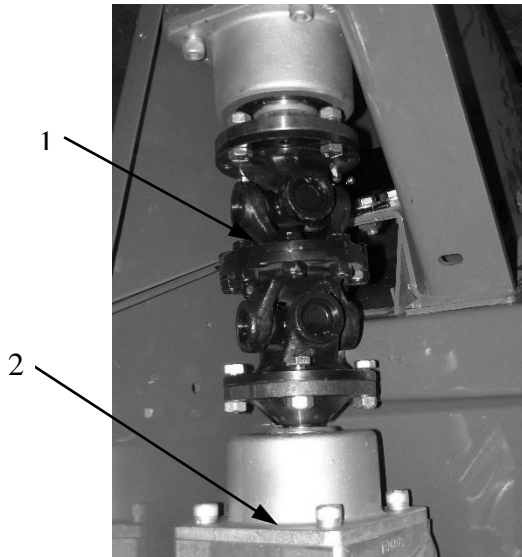
- The distance between the flighting should be 18"-20"
- Ensure the wing is engaging the center section when checking timing
- To adjust timing, remove the jaw coupler on wing and rotate it in the appropriate direction in the hex bore and reinstall



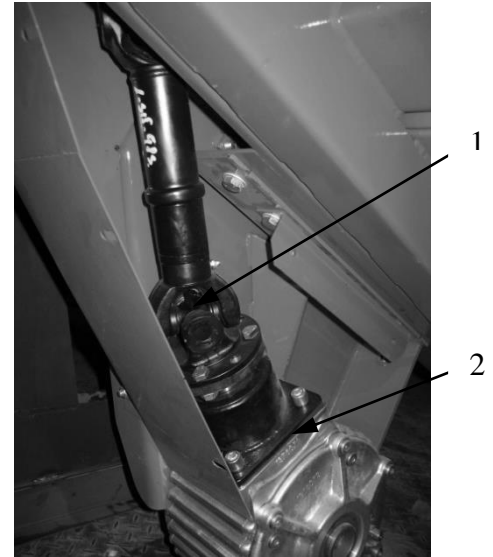
6.4. Input Gearbox Drive

The input gearboxes are connected by a double joint coupling drive or shaft (1) depending on the combine. The gearbox assemblies (2) are selected to provide a nominal snapping unit input speed of 550 rpm for each combine. Gearboxes can be exchanged as necessary.

See appropriate combine conversion document for complete instructions



Double joint coupling
(all except Claas)



Shaft-drive
(Claas)

The input gearbox drive does not require any additional adjustment

6.5. Snapping units

6.5.1. Snapping rolls adjustment

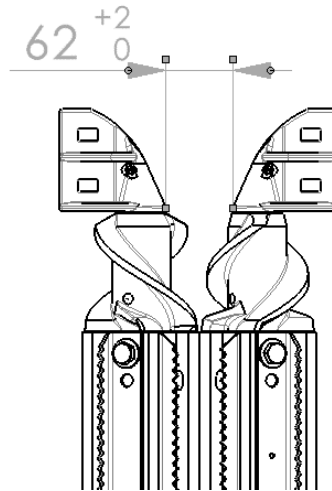
Three important settings must be observed when installing or adjusting the snapping rolls.

6.5.1.1. Distance between snapping roll shafts

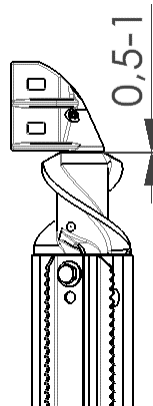
Adjust front of stalk rolls so there is a 1 mm gap between opposing knives. The rear portion of the roll is not adjustable.

After any adjustment, be sure to rotate the rolls to ensure the knives are clear of each other and clear of the vine knives.

To make the adjustment, adjust one snapping roll at a time. Remove the cover over the snapping roll tip, slightly loosen the bolts holding the snapping roll front support, adjust the roll and retighten. Adjust each roll an equal amount.



6.5.1.2. Labyrinth



Two sealed double ball bearings are used to support the spiral end of the snapping roll. The bearings are protected by a labyrinth filled with grease. The labyrinth can be flushed by adding grease through the grease nipple. The distance (0.5-1mm) is for reference only, because design dimensions of the parts ensure the correct gap.

6.5.2. Snapping plate adjustment

6.5.2.1 Setting fixed snapping plate

For proper operation, the snapping plate gap should be 5 mm (3/16") tighter at the front than at the rear. Set the mechanism as follows:

Set the in-cab snapping plate adjusting mechanism to the minimum snapping plate gap with the hydraulic or electrical controls.

The fixed snapping plate can be adjusted in two ways:

Use snapping plate tool (PN 1.369.047) and adjust fixed plate over until it lightly contacts the stopping tabs.

Adjust the fixed snapping plate until the gap at the front measures 3/4" (19 mm) and the gap at the rear measures 15/16" (24 mm)

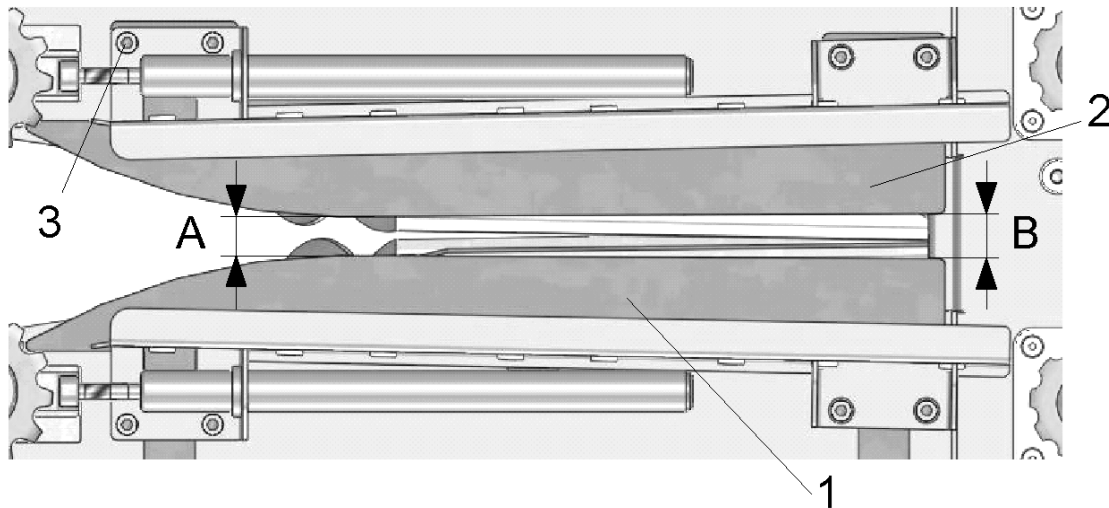
To make adjustment, loosen bolt 3 (4x) shift snapping plate into correct position, and retighten.

6.5.2.2 In cab snapping plate adjustment

Adjust snapping plate gap from the cab to approximately 1/8" larger than corn stalk size.

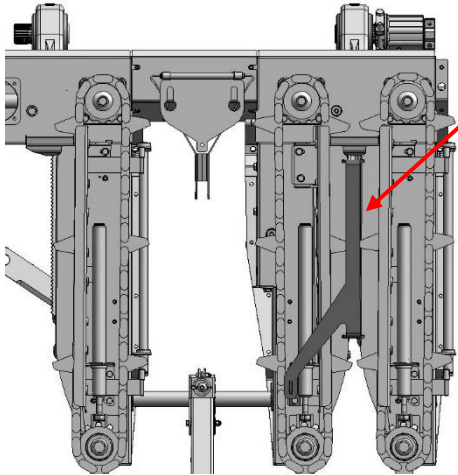
Fine tune based on field and crop conditions.

Too much excess stalk material - adjust snapping plates further apart.

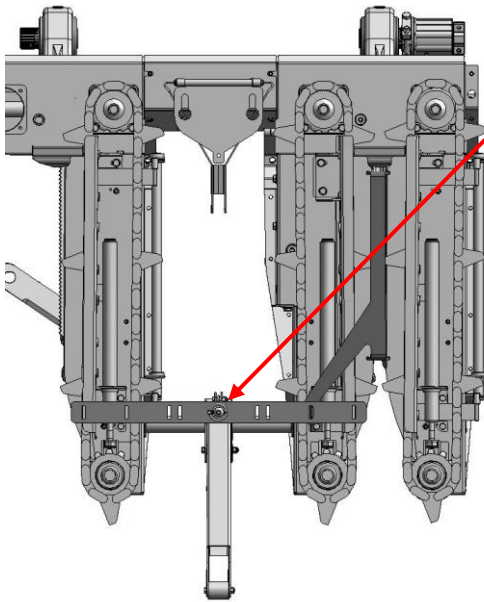


Crop lost between snapping plates- adjust snapping plates closer together

SETUP PROCEDURE AND ADJUSTMENT OF THE CORN HEAD



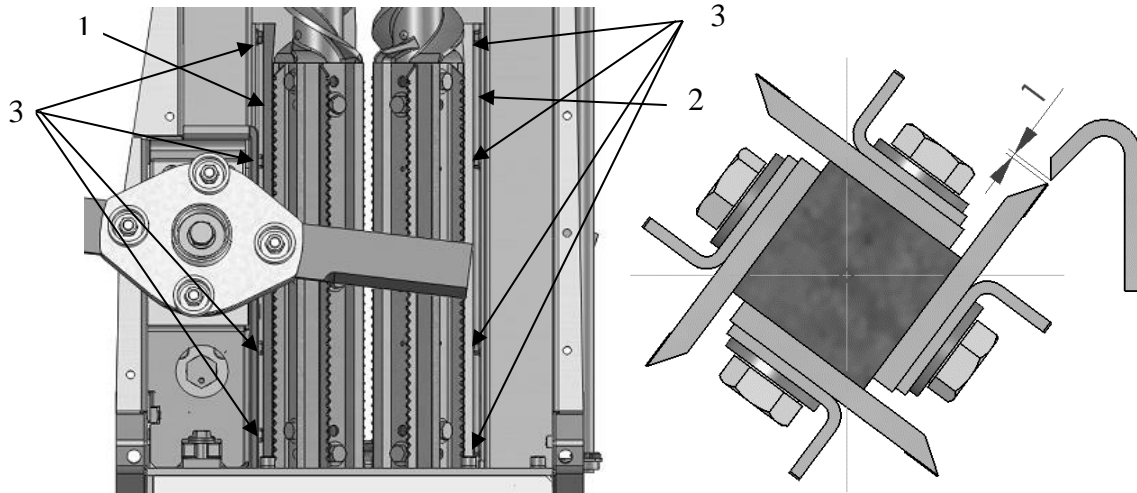
The snapping plate tool (PN 1.369.047) is used to help set the snapping plate clearance. This tool can be ordered from your dealer. The Snapping Plate Tool's application is shown on the picture.



There is a tool (Snout Seating Tool – PN 1.369.048) that can be placed between the two brackets while setting the snapping plate clearance, so the snouts align with the brackets after they are tightened down. This tool can be ordered from your dealer.

6.5.3. Vine knife adjustment

The gap between the vine knives (1 and 2) and the stalk rolls should not exceed 1 mm (.04"). This gap should be set on one rib and all rib clearances should be checked by rotating the rolls to ensure there is no interference. Adjustment is made by loosening the (4x) M-8 screws (3).

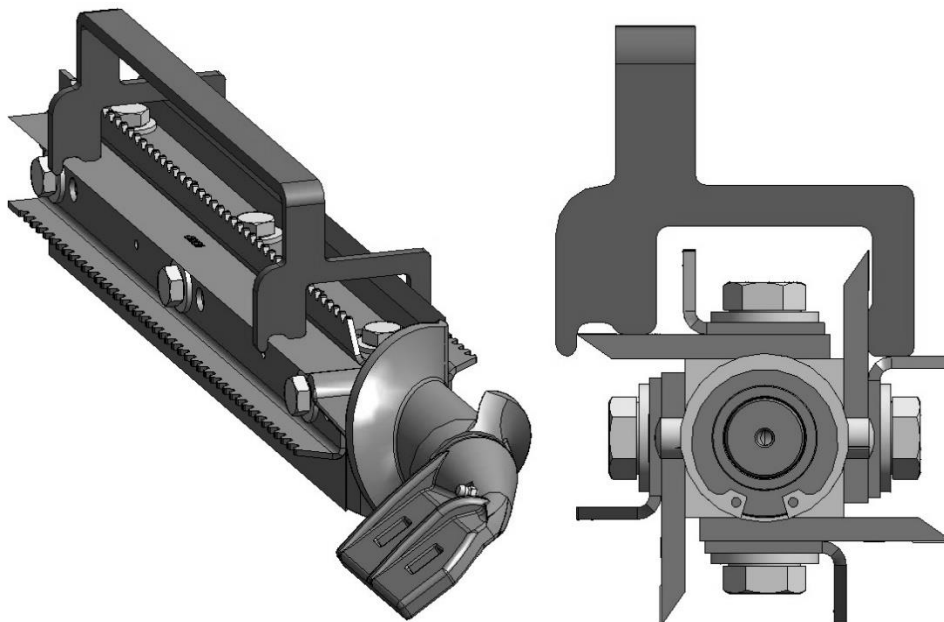


The snapping gauge tool (PN 1.369.049) helps set the position when replacing knives. To use the tool, stalk rolls should be removed from the header for replacement.

To adjust the knife to the proper position, leave the bolts slightly loose and slide the knife until it gently contacts the tool. Next, fully tighten the bolts. Repeat for all four knives.

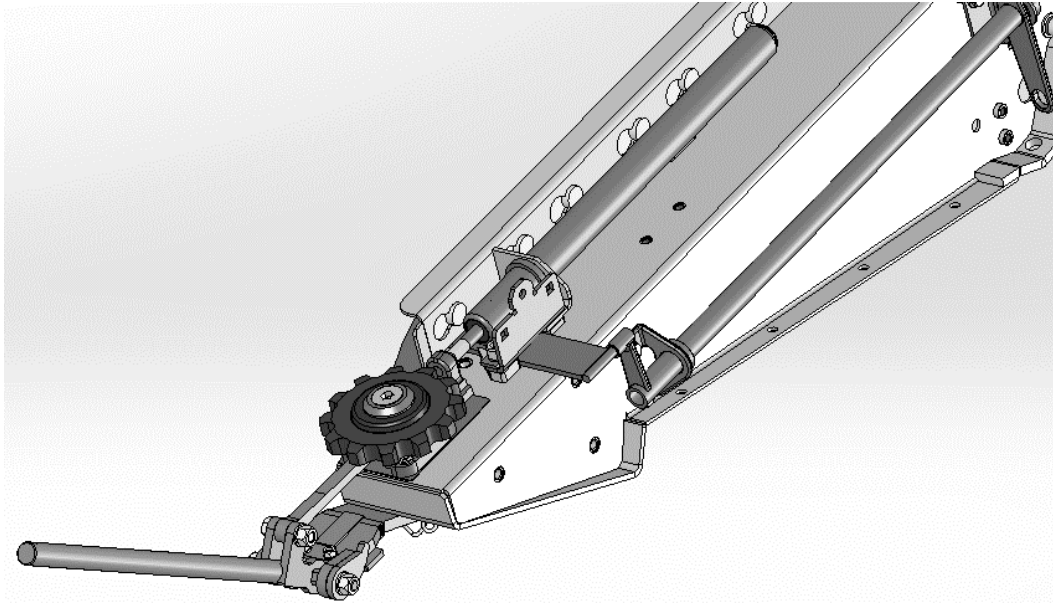
If damaged, knives should be replaced in groups of 4 to maintain balance and clearance between the rolls.

Upon reinstallation be sure to rotate the snapping rolls to check clearance between each roll and between the roll and the vine knives. (Section 6.5.3)



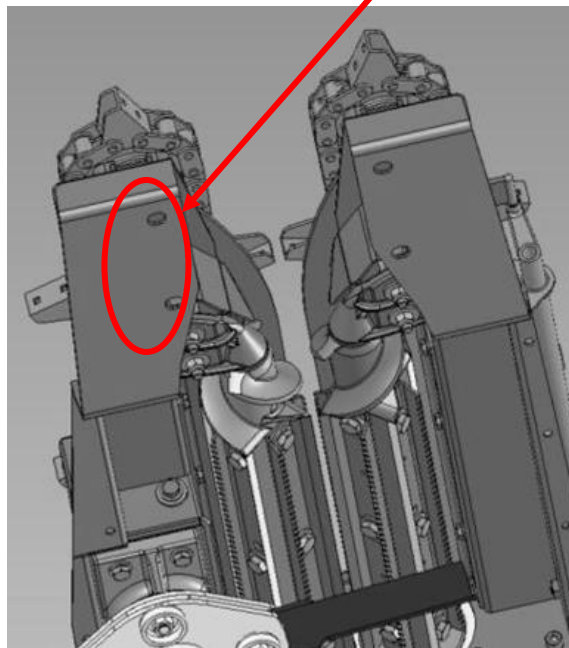
6.5.4. Gathering chain adjustment

The gathering chain tension is maintained automatically by an enclosed spring on the front idler. A tool is provided to compress the spring for service.



How to use the gathering chain removal tool:

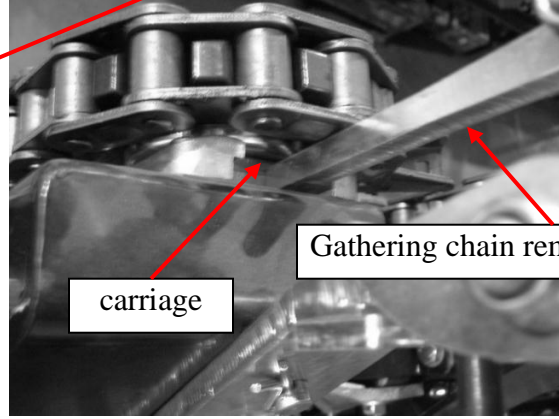
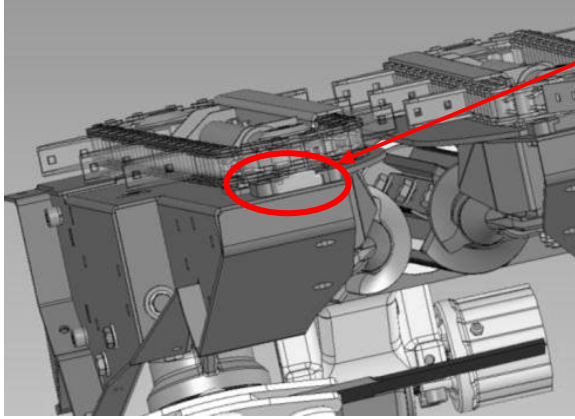
1. Install the gathering chain removal tool and attach it in the holes on the bottom of the snapping unit frame.



SETUP PROCEDURE AND ADJUSTMENT OF THE CORN HEAD

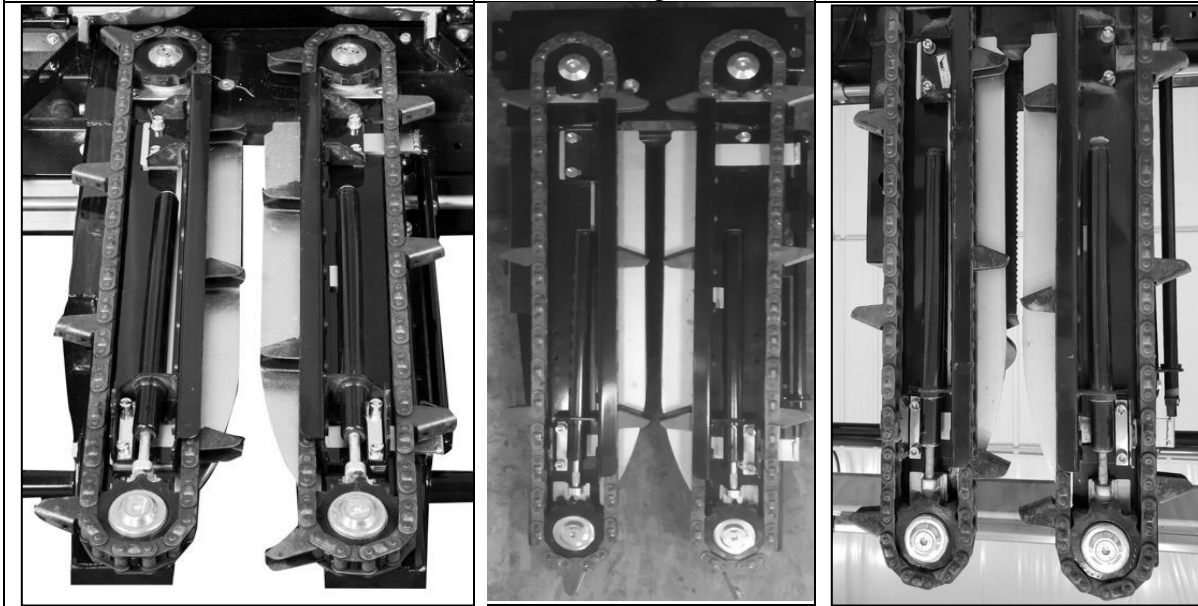
2. Position the arm of the gathering chain removal tool into the carriage. (marked surface)

Rotate the handle of the removal tool and lock it in place once tension on the gathering chain is relieved.
Remove the gathering chain.



Gathering Chain Lug Timing:

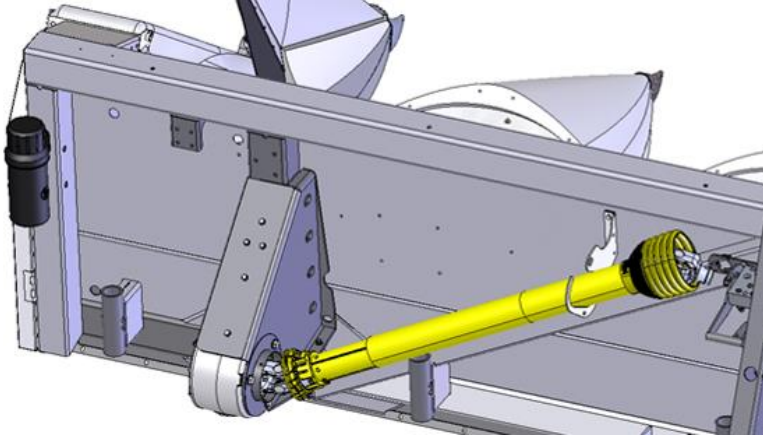
Fully Staggered	Fully In-Phase (lugs lined up)	One lug staggered
Least aggressive Good conveyance	Most aggressive Brings in most trash/debris Good for lodged corn	Good compromise Factory setting



The gathering chain driver sprockets have reduced height to protect the gearbox internals if a foreign object is encountered in the field. As a result, it is normal for gathering chain timing to shift while harvesting.

6.6. Header Drive Shafts

The Walterscheid brand drive shafts require lubrication every 250 operating hours. Remove the shaft annually and grease it according to the label instructions provided by the shaft manufacturer on the shaft cover.

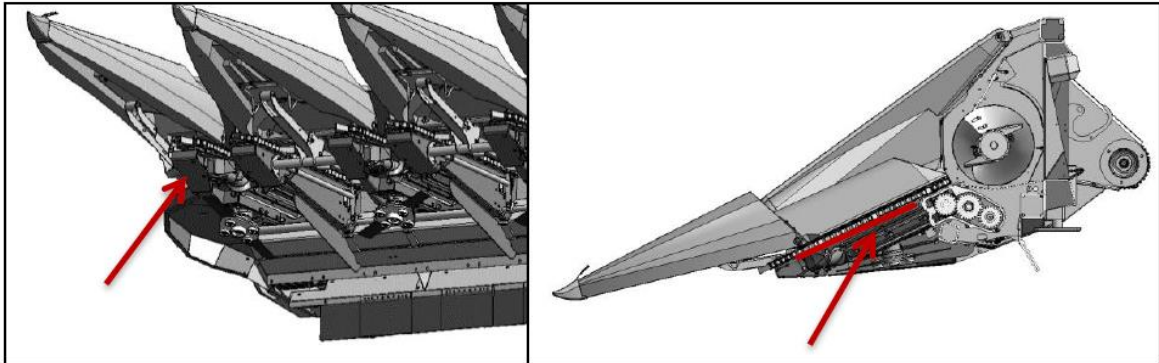


6.7 Adjustment of the corn head

6.7.1 Header angle adjustment

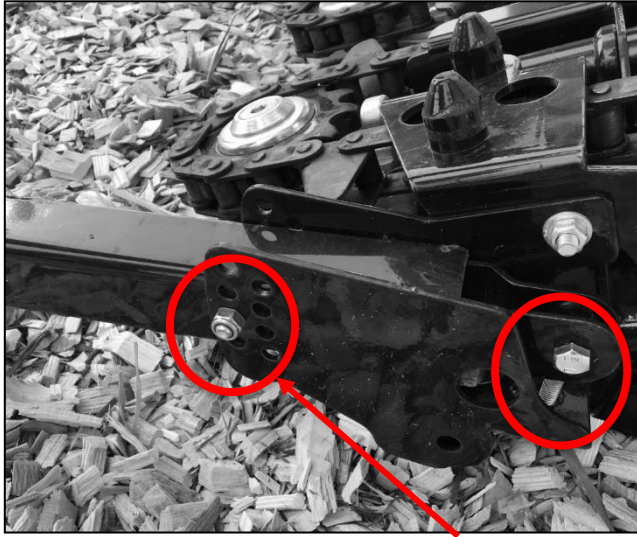
Lower front of row unit on a 10 cm x cm (4X4") block with combine feederhouse. (arrow left)

The distance between the front of row unit and ground will be 10 cm or 4". Measure deck plate angle and adjust feedhouse angle until 23 degrees is achieved. (arrow right)



6.7.2. Plastic snout adjustment

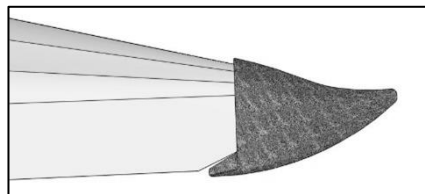
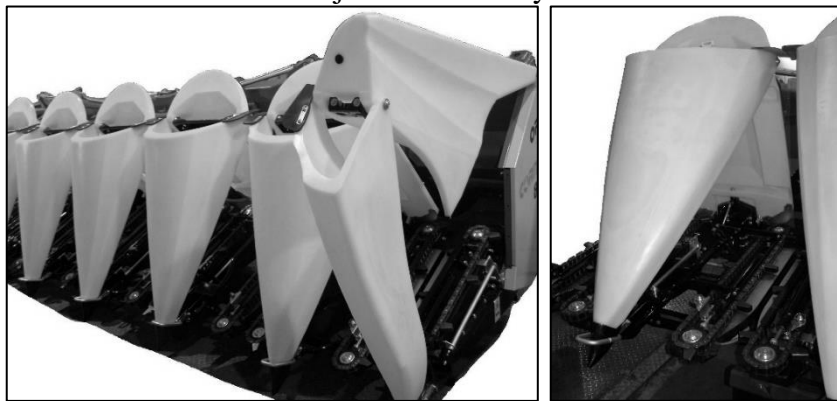
- Lower front of row unit until the skid shoe is 4" (10cm) away from the ground Adjust the snouts following the below instructions until the tip of the snout touches the ground.



Coarse adjustment: Move the front cross bolt to move snout a large amount. when tightening, make sure snout support arm is still able to move freely.

Fine adjustment: fine tune snout tip position by adjusting the rear eye bolt to raise or lower the snout so all snouts are just touching the ground.

- Ensure the support adjustment bolt head always faces the gathering chain on the end snouts to avoid contact.
- Fine tune snout adjustment with eye bolt until front of snout just touches the ground.



Manufacturer and Distributor are not responsible for incorrect snout adjustment.

7. **HARVESTING**

The corn head is ready for harvesting after completing the preceding instructions in this manual, which refer to Mounting, Run-in, and Set-up and Adjustment Procedure.

- Always be aware of the presence of the stalk chopper, if fitted, when harvesting.
- The corn head should be operated only when in harvesting position and in proper working condition.



Specified daily maintenance, correct settings and safe operation are required to ensure that the stalk choppers operate properly and safely. Always consider possible circumstances where the knife can impact stones or other foreign objects laying on the ground. Any such impact can result in pieces separating from the hardened knife blade.

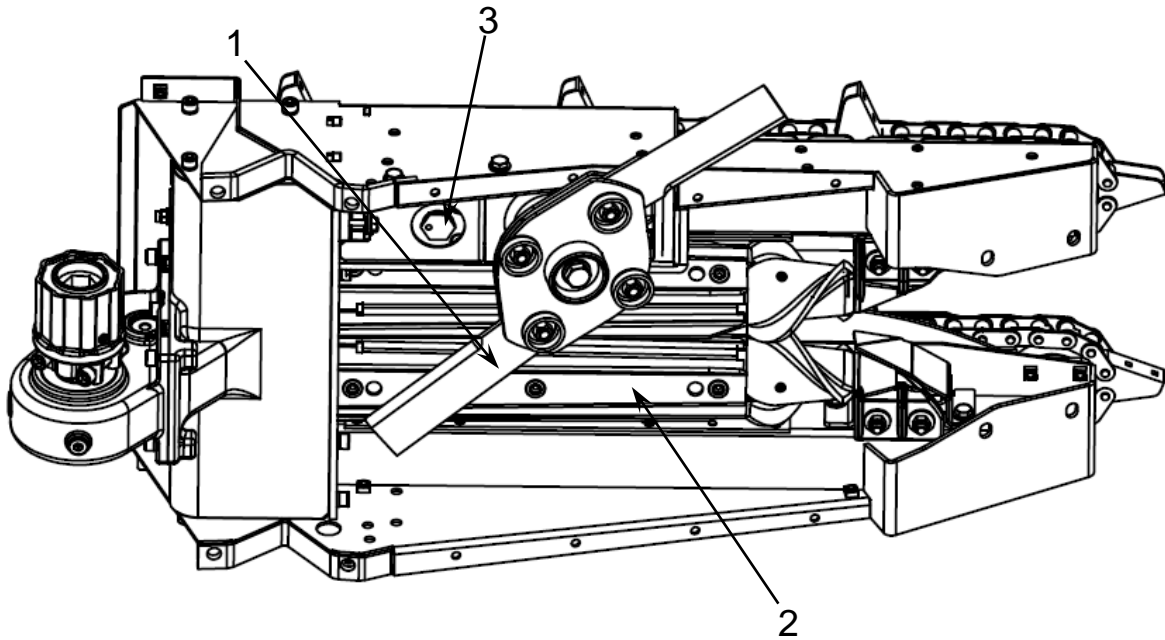
ALWAYS STAY CLEAR of the corn head while in operation. Bystanders should always be at least 30 m (100 ft.) from the corn head while in operation.

1. After 1 hour of initial operation, stop the machine, remove the combine key, and check the following:
 - a. Temperature of all gearboxes (maximum 110 degrees C or 230 F)
 - b. Loose parts or hardware
 - c. Tension of all chains
 - d. General visual inspection

If this inspection reveals any abnormality, determine the cause of the abnormality or contact your dealer for assistance.

7.1. Stalk chopper

The stalk chopper (1) cuts the stalks directly under the snapping rolls (2) with special knives. The stalk chopper drive can be disengaged by turning the hex knob (3) 180 degrees.



Then chopper knives can be reversed to extend life. When knife replacement is necessary replace the bushings, bolts and nuts. See maintenance section 10.5.2 for more information.

8. **ROW SPACING ADJUSTMENT**

The row unit spacing must match the corn row spacing for optimum performance. This is of greater importance with wider corn heads. Improper matching can result in premature wear of the snapping roll front supports and the leading edge of the snapping plates. The row unit spacing is set from the factory and is not designed to be adjusted afterwards.

9. **MOUNTING TO ANOTHER TYPE OF COMBINE**

The mounting kits for various combines are shown in the parts manual. Order the relevant mounting kit from your dealer.



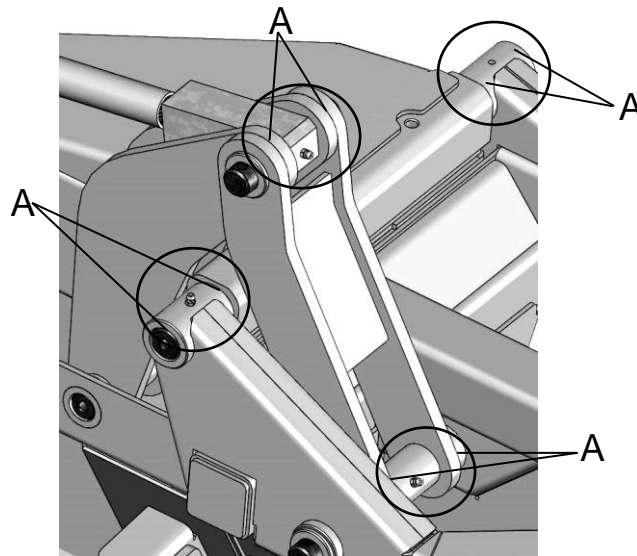
When mounting the corn head to another type of combine always use all of the protective shields. Ensure that the lower latch attachment and drive connections are secure.

10. MAINTENANCE AND LUBRICATION

10.1. Frame

The frame of rigid corn headers does not require any special maintenance.

The folding mechanism of the folding corn head should be lubricated with EP NLGI Grade 2 or equivalent quality grease once a season or every 250 hours. Grease the fitting until grease extrudes from the sides of the parts shown on the picture (marked with “A”).

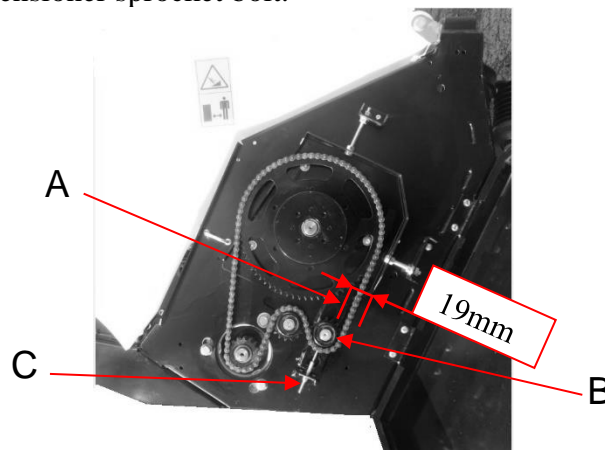


10.2. Auger

Lubricate and check chain tension every 50 hours. Chain tension should be set so the deflection is 19mm (0.75") at position A

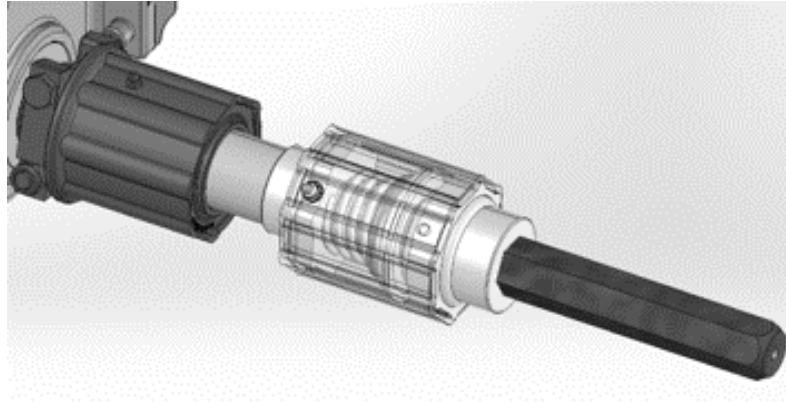
Clean debris under shielding every 50 hours!

Loosen torx bolt holding tensioner pulley (B) then adjust draw bolt (C) to achieve correct chain tension then retighten tensioner sprocket bolt.



10.2.1. Folding corn head - snapping unit connecting clutches

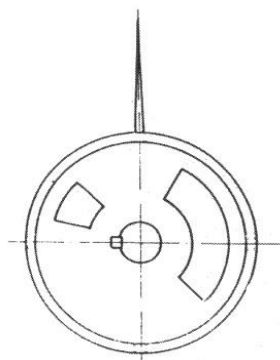
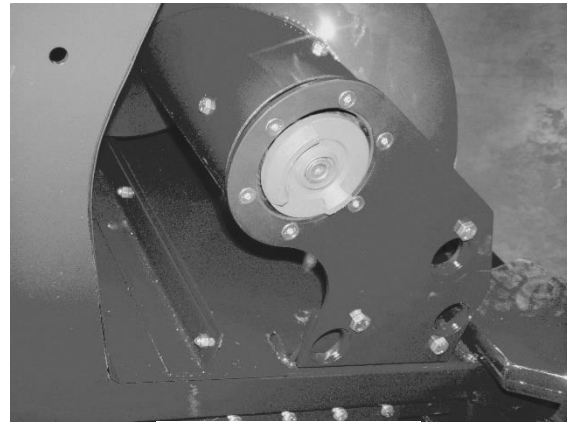
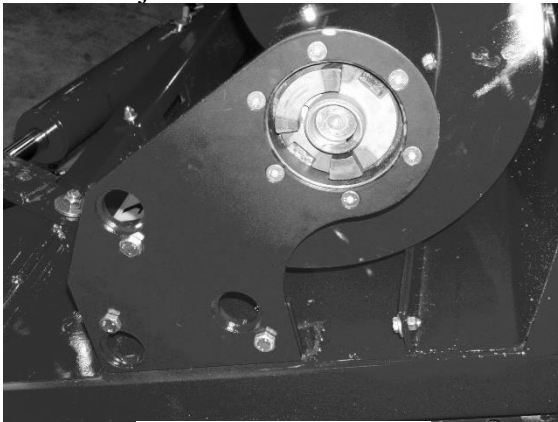
The clutch jaws should be greased every 50 hours with EP NLGI Grade 2.



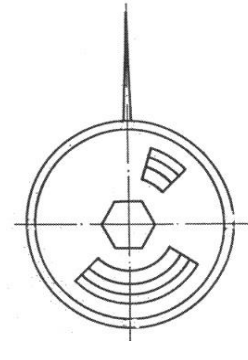
10.2.2. Folding corn head - auger connecting clutches

Grease the surfaces of the clutch jaws every 50 hours with EP NLGI Grade 2.

Before unfolding the corn head into the harvesting position ensure that the auger connecting clutch drive jaws are as shown below.



the central frame jaw



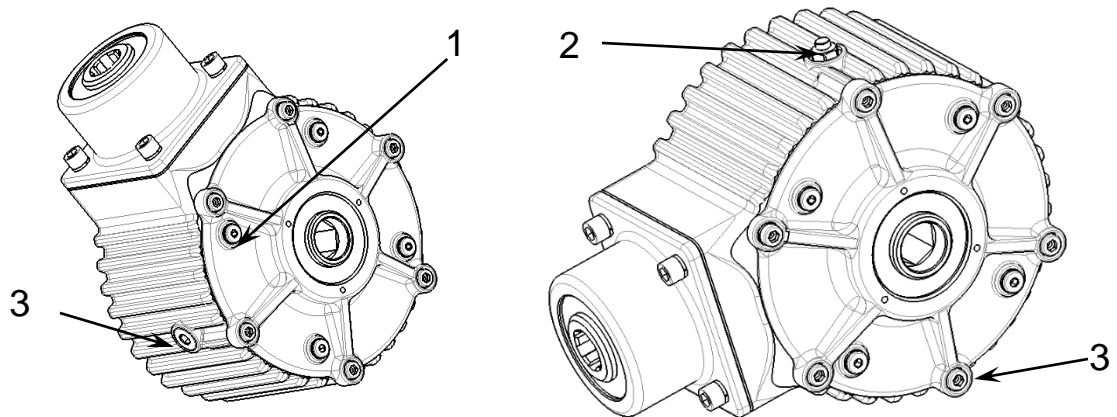
the outer frame jaw

10.3. INPUT GEARBOXES

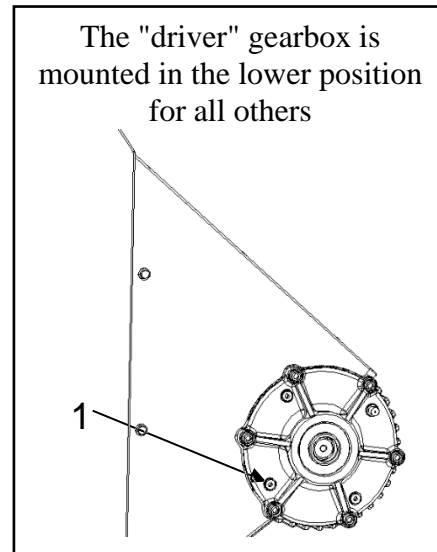
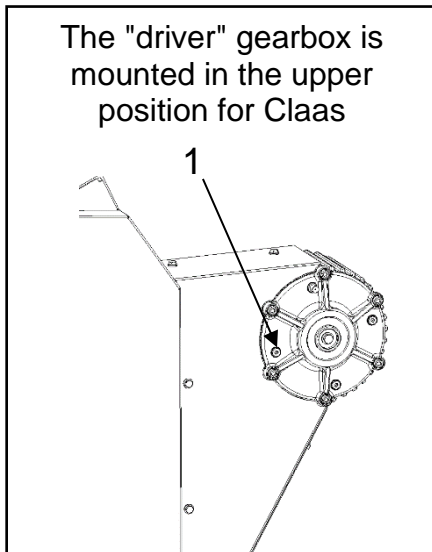
SAE 80W-140 oil (0.9l) is used for lubrication; SAE 85W-140 can be used as alternative. To check the oil level, remove the level plug (1) with the corn head in harvesting position. Input gearboxes should receive a break in oil change at 50 hours. Oil should be changed every 250 hours thereafter. Oil level should be checked at least annually.

Oil level should be checked with the header in harvesting position. Correct oil level is achieved when oil just drips out when the level plug (1) is removed.

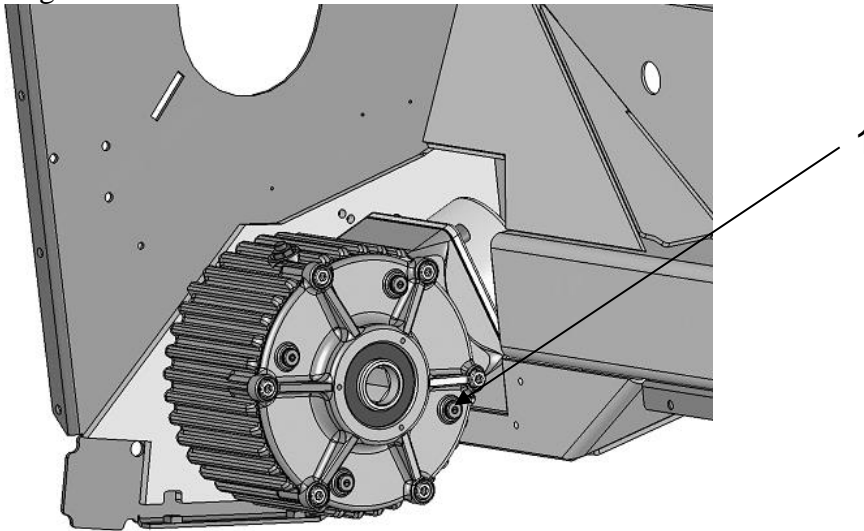
The drain plug (3) and breather (2) are on the main casting of the gearbox. Filling the oil through either a level plug or the breather port.



Location of the oil checking bolts on the gearbox.



Driven gearbox:



The location of the breather depends on the final position of the gearbox. Breather should always be mounted on the top of the gearbox as shown.

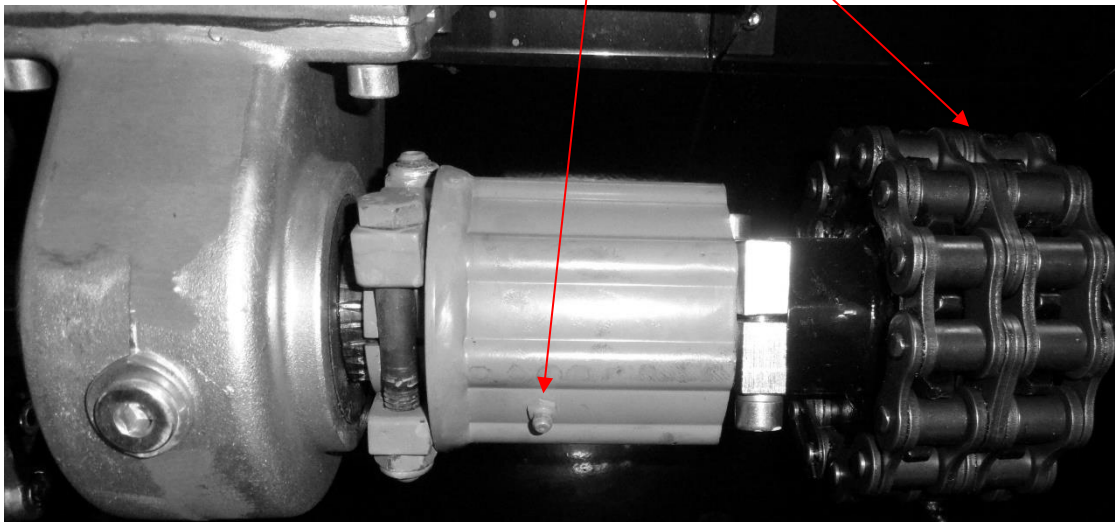
10.4. DRIVE COMPONENTS

10.4.1. U-joint shafts:

- The U-joints should be greased every 250 hours.
- Grease the sliding surfaces of the U-joint shafts and cross shafts annually.

10.4.2. Chain couplings, Slip clutches

- Grease the Chain couplings every 250 hours
- Grease the Slip clutches every 250 hours
-



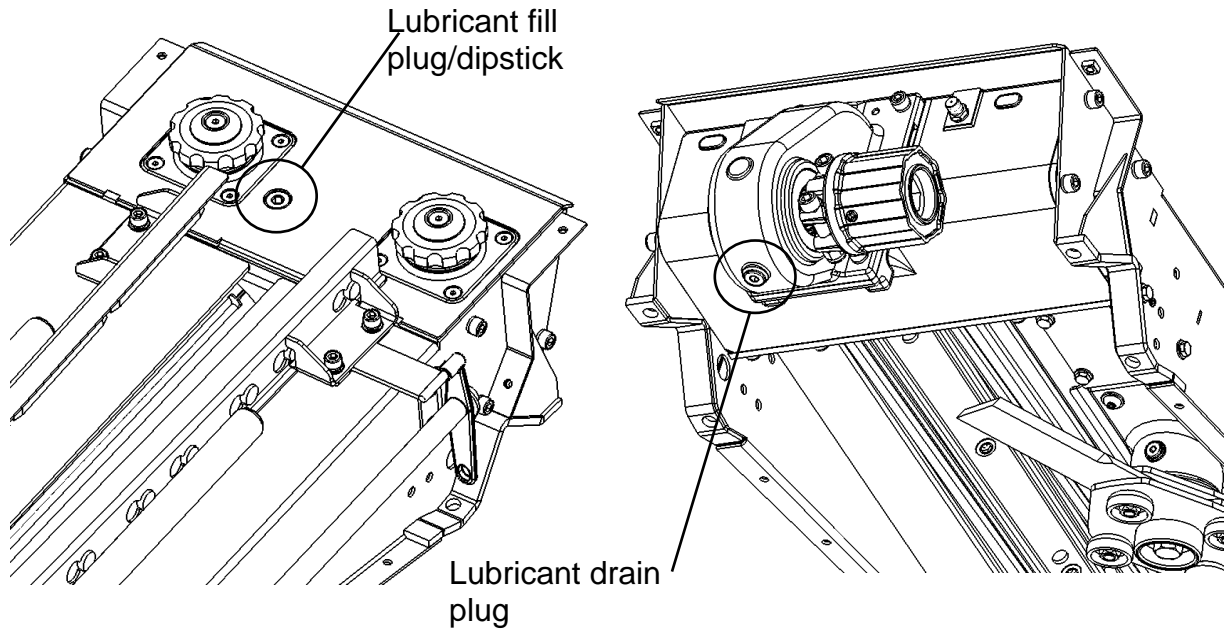
10.5. SNAPPING UNIT

10.5.1. Gearboxes

	Snapping unit gearbox	Chopper gearbox (if equipped)
SAE 80W-140 oil SAE 85W-140 can be used as alternative	-	0.26 kg (0.3 l)
EP-00 liquid grease	2.5 kg (2.5 l)	-
Check frequency	Annually or every 250 hours whichever comes first	50 hours
Break-in period	Not Required	50 hours after first usage
Change interval	-	250 hours

Inspect gearboxes daily to detect any leakage which may cause failure.

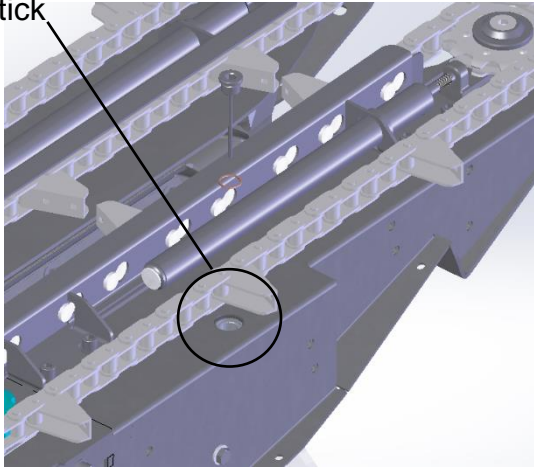
Snapping unit main gearbox:



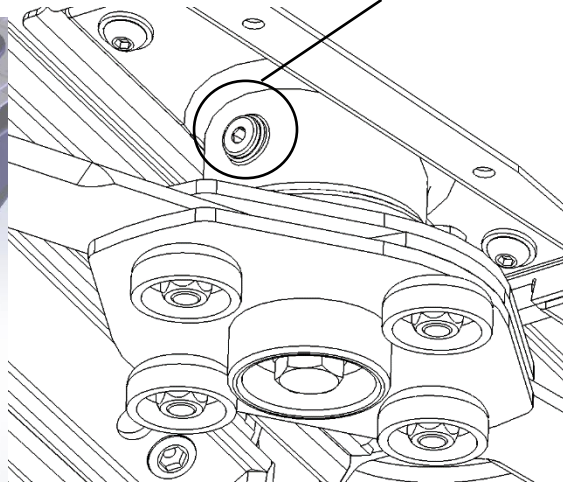
MAINTENANCE AND LUBRICATION

Stalk chopper gearbox:

Lubricant fill
plug/dipstick



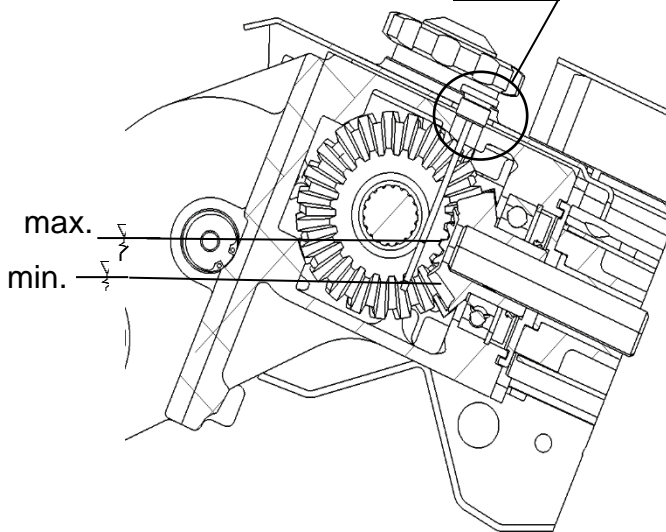
Lubricant drain



To check lubricant levels:

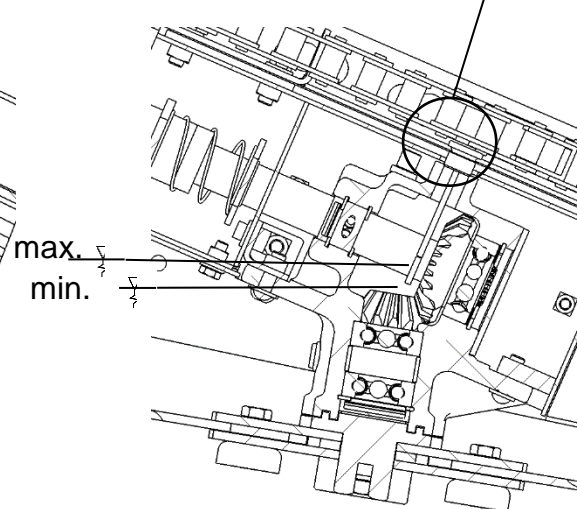
- Lower corn head to the ground
- Unscrew the dipstick
- Wipe the dipstick, then replace it but do not screw it back in
- Wait, then remove the dipstick
- The lubricant level should be midway between the minimum and maximum warning lines.

Lubricant fill plug/
dipstick



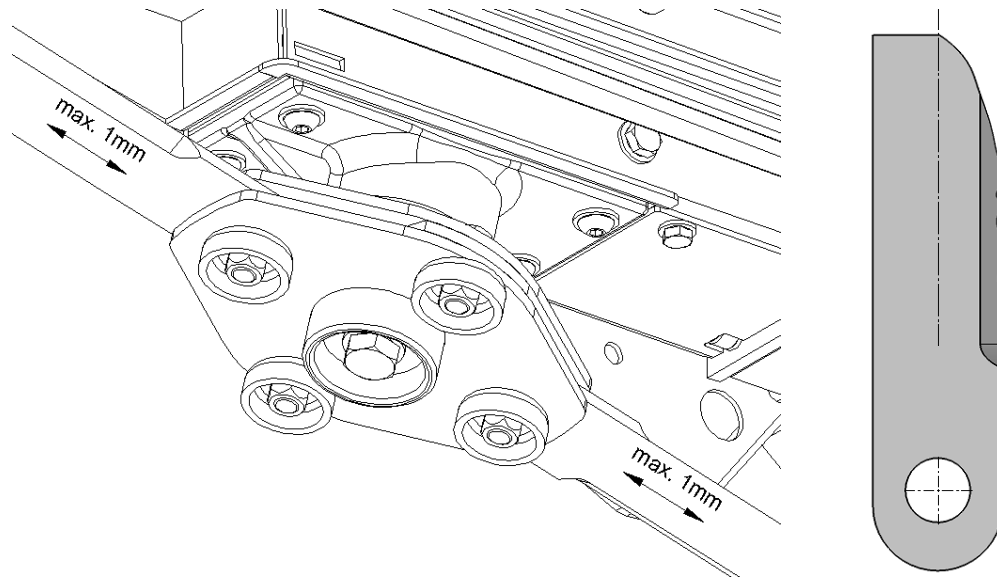
Snapping unit main gearbox

Lubricant fill plug/
dipstick



Chopper gearbox

10.5.2 Chopper knives



The chopper knives can be reversed when worn. When knife replacement is necessary replace the bushings, bolts, and nuts. Blade should be replaced before wear reaches the centerline of the blade, or when chopping performance is degraded.

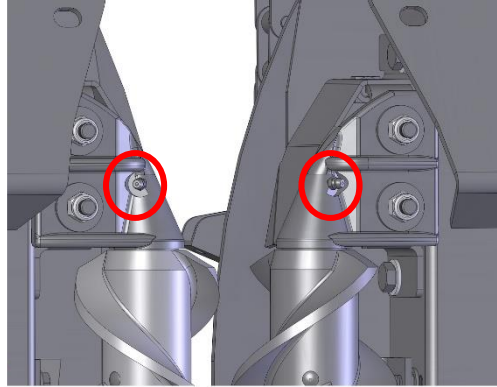


- Check knife condition daily.
- Never operate with damaged knives.
- The radial clearance between the knife and bushing should not exceed 1 mm (.04"). If clearance exceeds 1 mm (.04"), change both the knife, bushing, bolt, and nut.
- Knives must be changed only in pairs because of the high rotational speed and balance requirements.
- The knife support bolts should be checked daily and kept tight.

Neither the Manufacturer nor Distributor assumes any responsibility for wear or failure resulting from improper maintenance or lubrication.

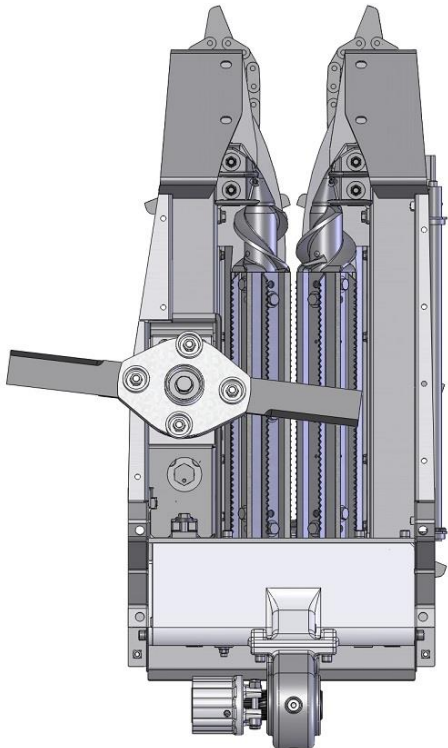
10.5.3. Snapping roll

The front bearings are lubricated with EP NLGI Grade 2 and sealed on both sides by the bearing manufacturer. A greased labyrinth is provided to protect the bearings. Grease the front fitting every 250 operating hours, or once a season until grease extrudes from the labyrinth. This will ensure flushing of the old grease and fully replacing it with new grease.

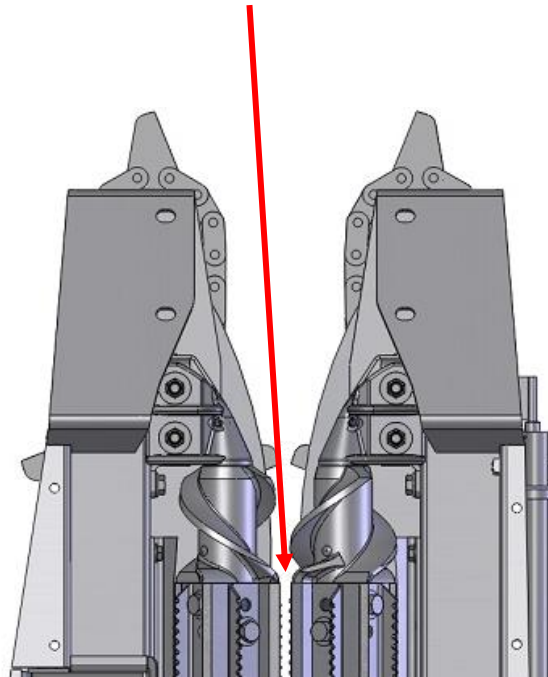


The locations of the front grease fitting of the snapping roll

Ensure that the snapping roll knife retaining bolts are kept tight at all times.

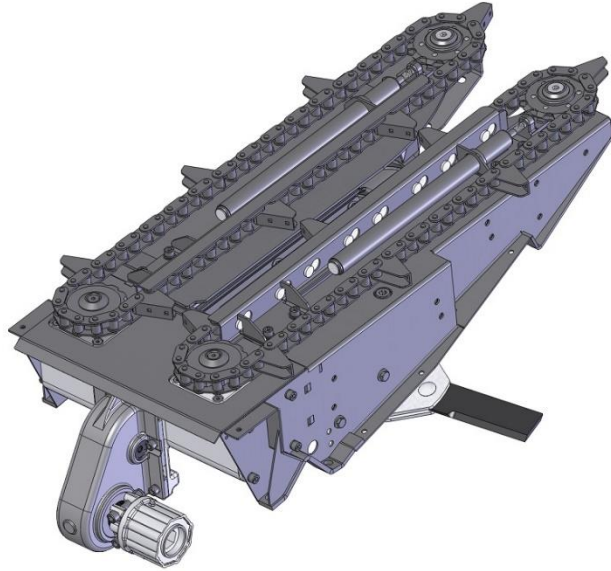


- Check the clearance between snapping rolls knife edges
- Factory setting 1 mm (0.04")



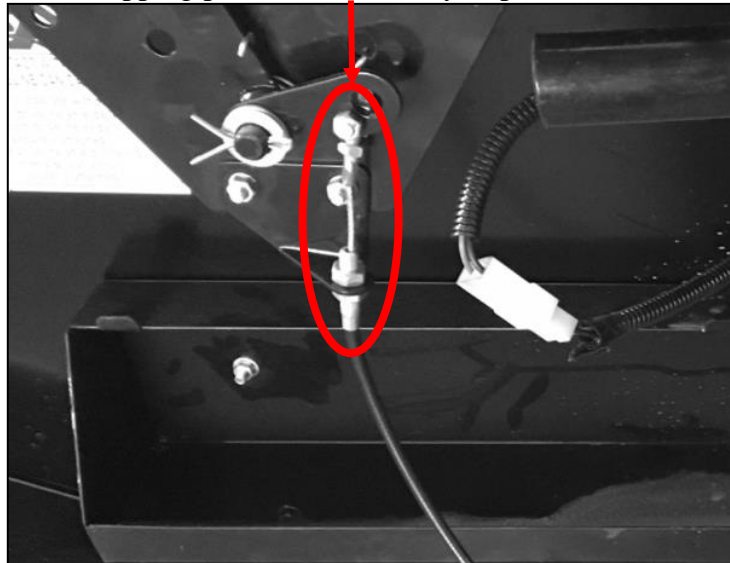
10.5.4. Gathering chain

- Lubricate chains at the end of the season to prevent corrosion.
- Check every 10 hours for abnormal wear.



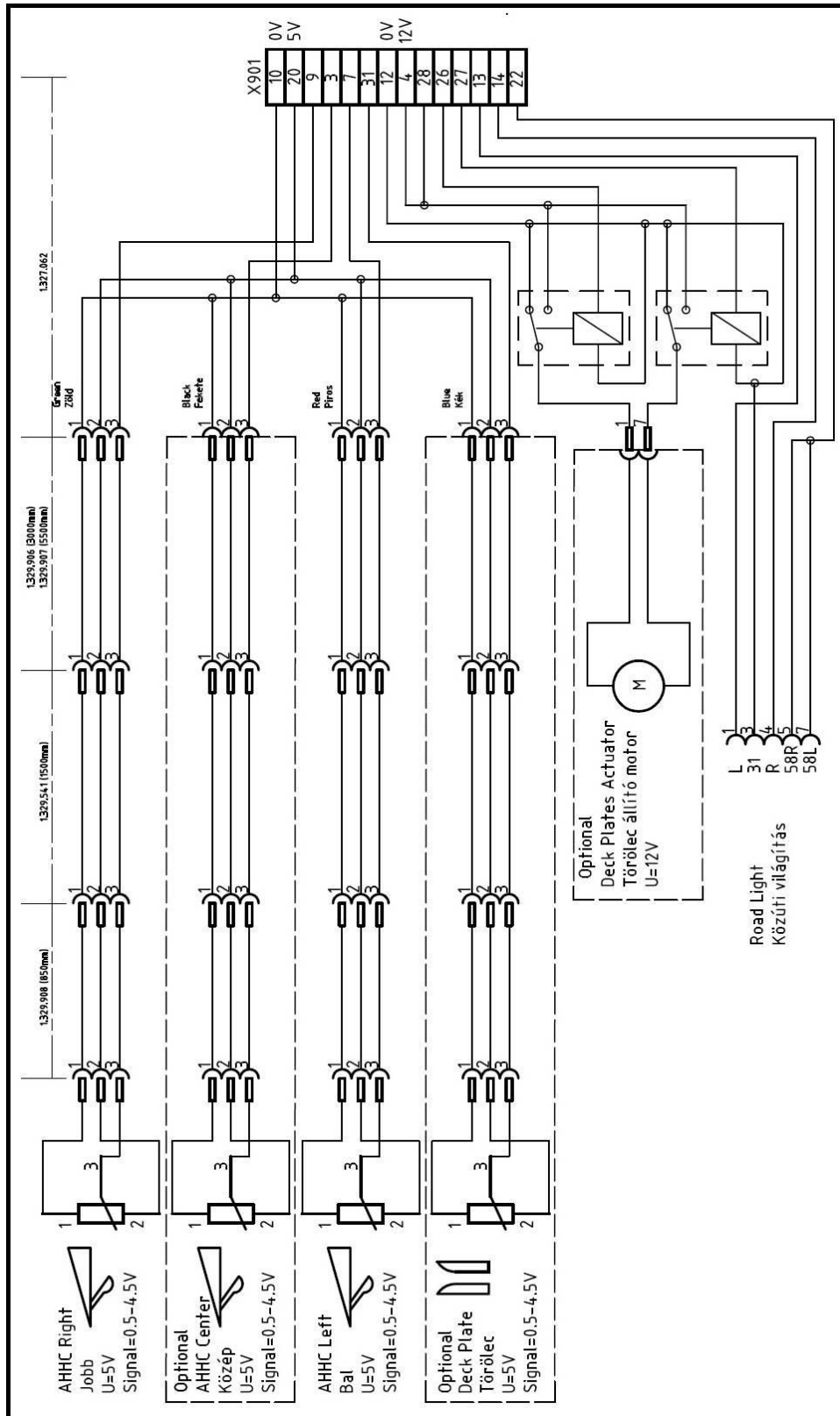
10.5.5. Snapping plate cable

Lubricate the top of the snapping plate cable annually to prevent the cable from freezing.

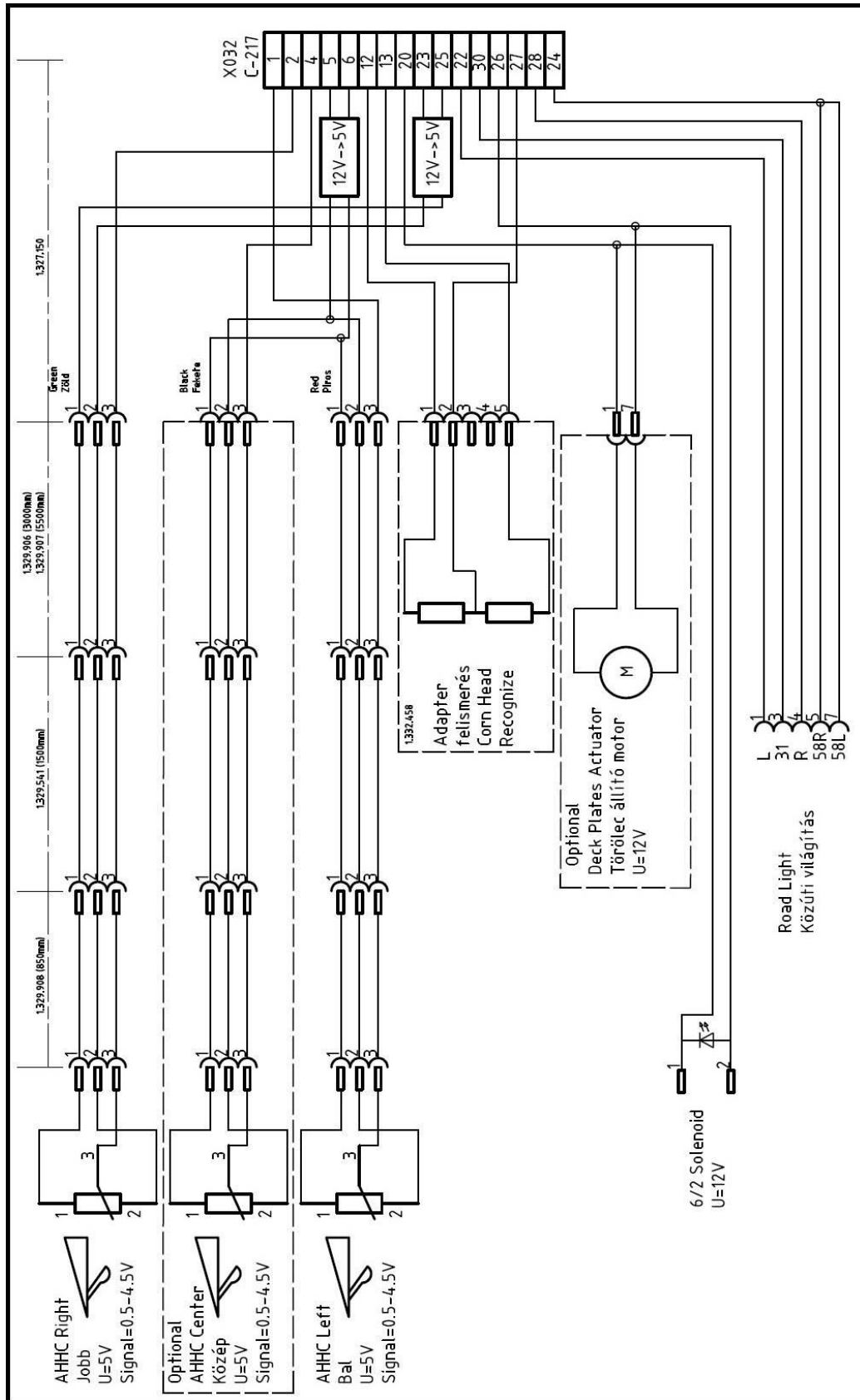


11. ELECTRICAL SCHEMATICS

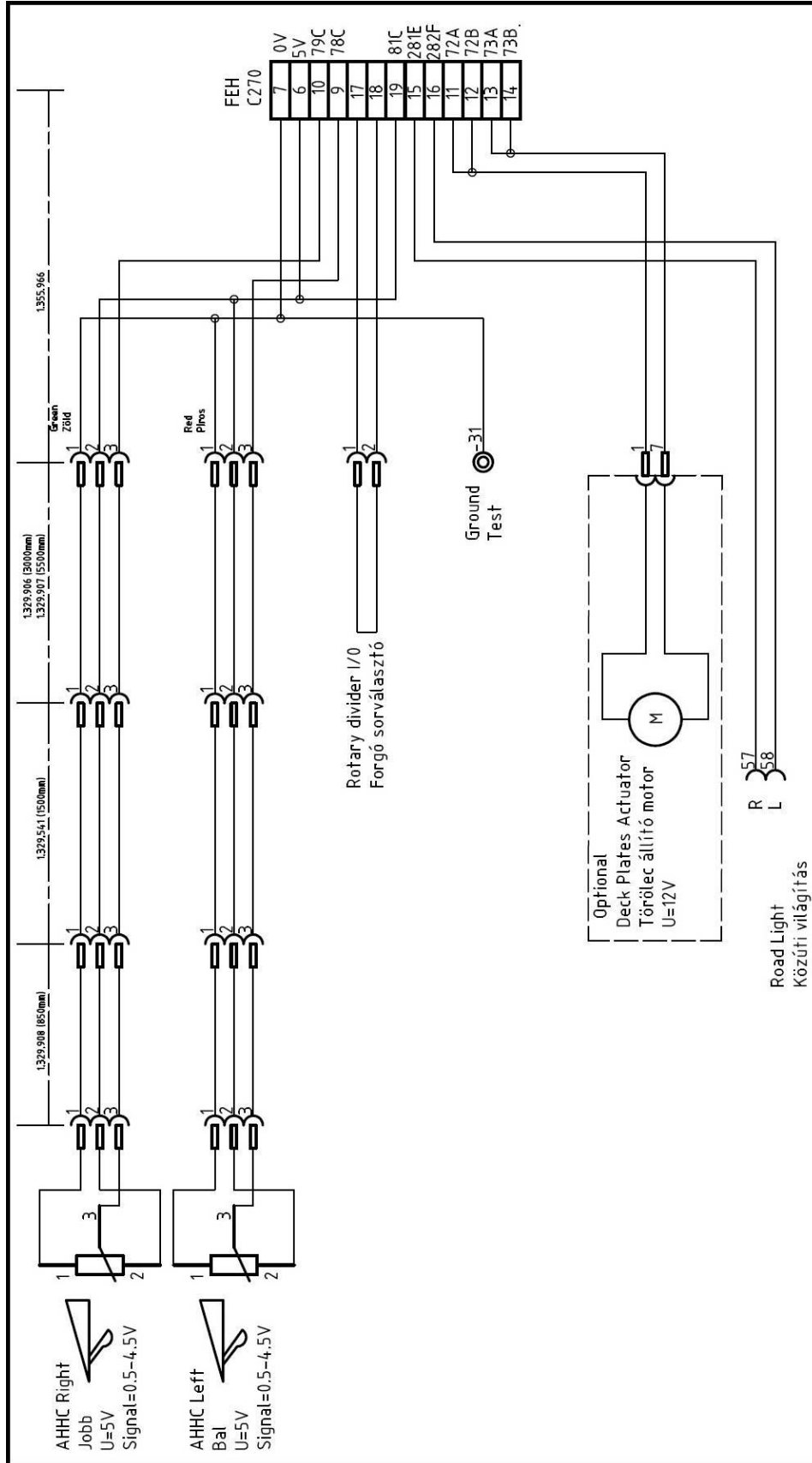
11.1. JD electrical schematic



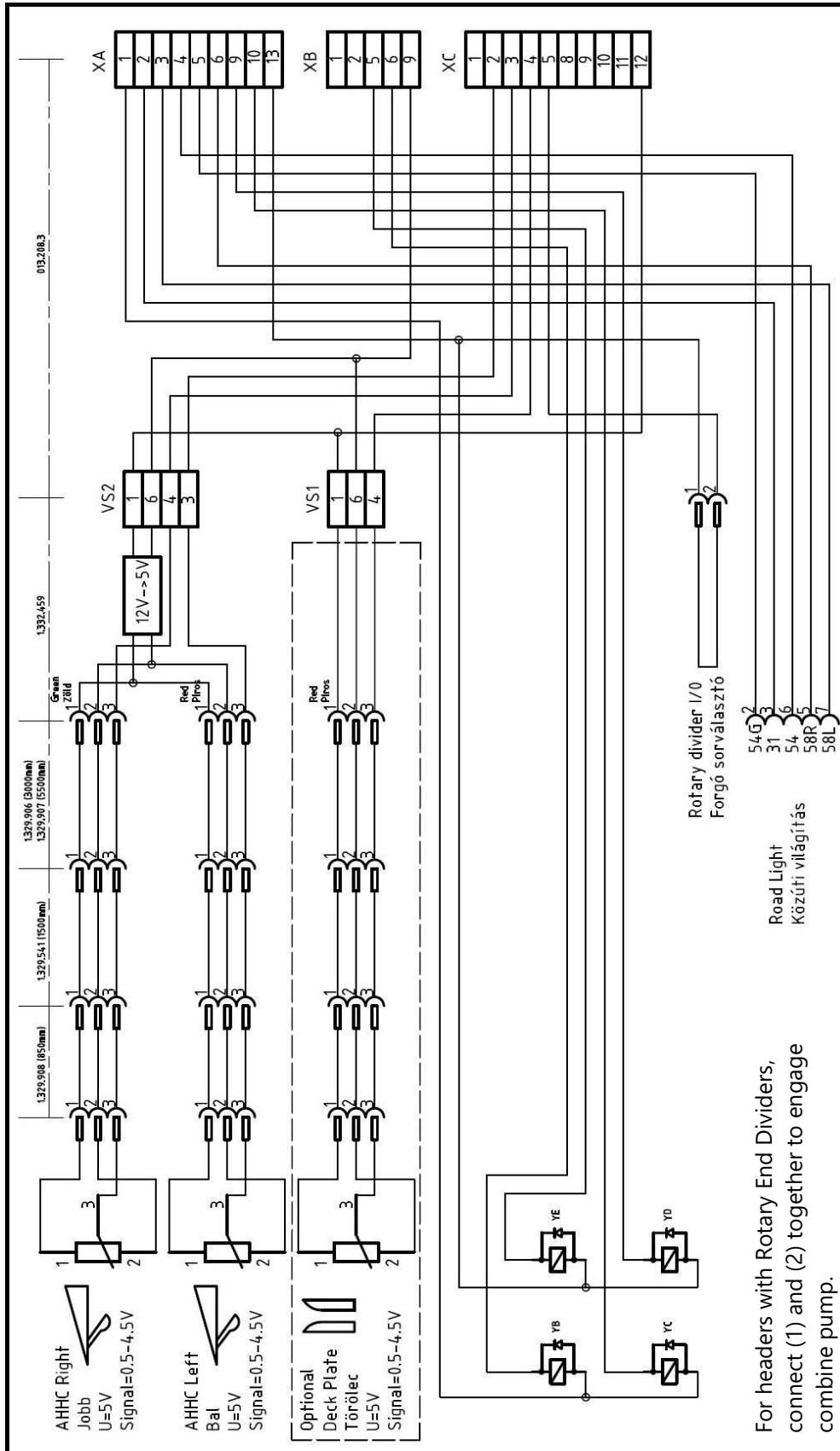
11.2. CNH electrical schematic



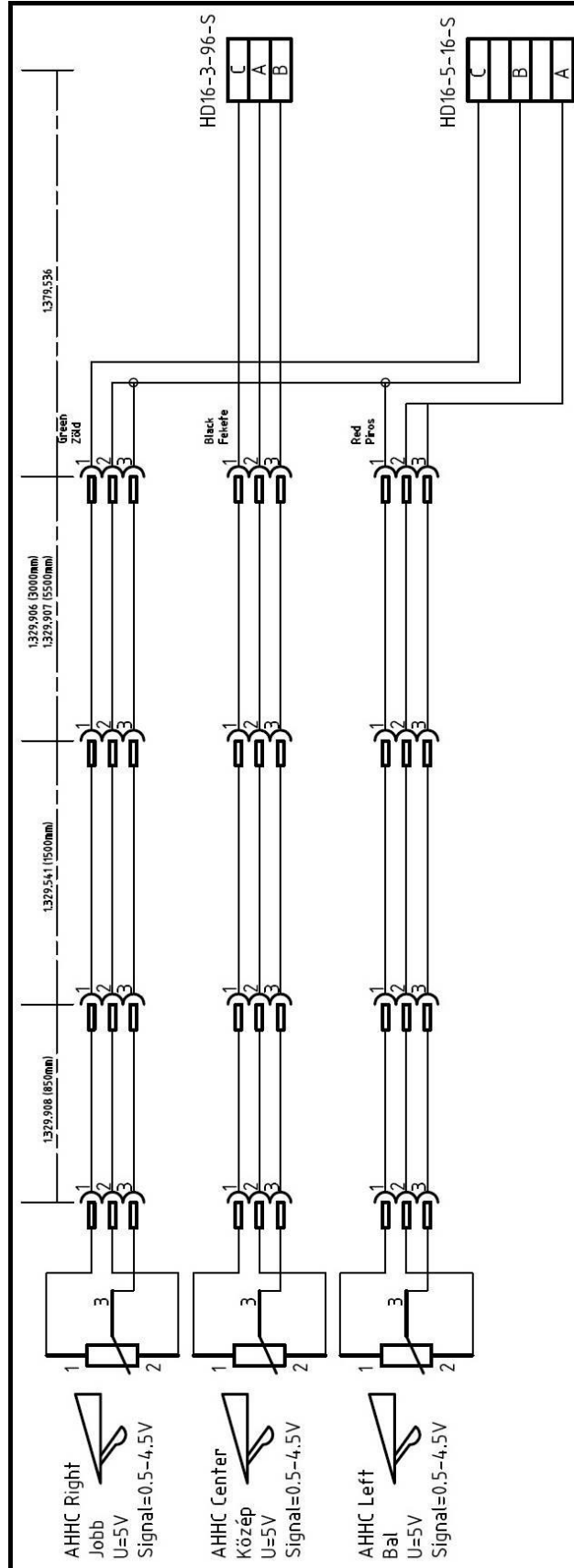
11.3. AGCO electrical schematic



11.4. CLAAS Lexion electrical schematic



11.5. CIH 1000 and 2000 series



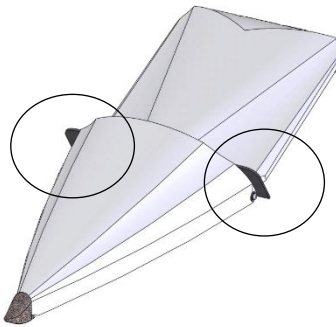
12. TROUBLE SHOOTING

12.1. A large quantity of ears builds up between the auger and feeder.

This can result from improper adjustment of the combine for corn harvesting operation, including front feeder drum (rock retarder drum) position too low, threshing component speed, concave clearance or angle of the feeder front face. Ensure that the combine is adjusted for corn harvesting in accordance with the instructions and settings as recommended in the combine operator's manual.

12.2. In laid or lodged corn stalks, the stalks do not feed properly into the snapping rolls.

Remove only 1 ear saver per row initially, then second ear saver only if necessary. If the crop is severely laid or lodged it may be necessary to remove one or both of the rubber ear savers from the rear of the snouts to improve feeding to the row units.



12.3. Row unit becomes plugged while harvesting laid or lodged cornstalks.

Ensure gathering chain tensioner is moving freely. Confirm the snapping plates are set to specification.

See "Gathering chain tensioner" section 6.5.4 and "Setting fixed snapping plate" section 6.5.2.1.

12.4. Stalks, grass or weeds wrap on the snapping roll.

Reduce gap of vine knives.

See "Vine Knife Adjustment" section 6.5.3.

12.5. Auger does not rotate.

Check that auger is free of blockages then Check auger drive chain tension.

See "Auger setup" section 6.2.

12.6. Ears are broken or split in the auger.

Reduce the rotational speed of the auger using the optional sprocket. Or raise the auger higher from the floor.

See “Auger setup”, section 6.2.

12.8. Checks to resolve feeding issues in dry crop

Check correct settings:
Are the snapping plates set correctly? 3/4" at the front and 15/16" at the rear when fully closed. Use tool to confirm if possible
Are all of the deck plates moving together? Be sure the clamps to the moving rod are tight
Make sure there is nothing impeding the crop flow into the row unit path
Operation
Speeding the header up tends to reduce MOG (Material Other than Grain).
Slow down to allow header more time to process the plants
Increasing snapping plate opening will reduce trash intake
Reduce header angle. Be sure angle is not more than 23 degrees
Cut slightly higher to reduce trash
Setting changes/configurations
Increase auger speed by using 18t or 20t auger drive sprocket
Increase auger height above floor - Set to 1.5 inches for rigid frame headers. Folding frame augers are not adjustable.
Start with reverse flighting center configuration, combined with rubber auger flaps
Use updated filler plates installed for JD or CNH (behind auger to keep flow smoother) 1.371.034 and 1.371.035 for JD or 1.372.940 and 1.372.941 for CNH
Folding headers: Ensure wing joints are timed correctly - center auger should lag behind wing - measured pitch across joint should be 18-20"
Increase gap at front of snapping rolls - can change from setting of <1mm to 2-3 mm. After adjustment, confirm the vine knives are not touching the rolls. Do not exceed 5 mm of clearance. Operators manual section 7.5.1.1
Flip center 2 row unit gathering chains and run them backwards. (4 chains total) In some conditions, this can improve flow at the center.
If crop is breaking off at the front of the row, or in lodged crop, earsavers can be removed. Start by removing one, then the second if needed.

13. OFF-SEASON STORAGE OF YOUR CORN HEAD

When harvesting is completed, thoroughly clean the corn head and remove all remaining debris. Carefully inspect the corn head to ensure it will be in proper operating condition for the next season. Repaint any paint-damaged area to prevent rusting. If this is not possible, coat the unpainted area with rust protector. Repair or replace any damaged or missing parts, including safety labels.

If possible, store the corn head in a covered place. Before storage, lubricate the slides on the gathering chain front idlers, gathering chains, and auger drive chains.

14. WARRANTY, SERVICE, SPARE PARTS ORDERING

Contact your dealer or distributor about issues concerning warranty or service.

The Manufacturer and Distributor assume no responsibility for failures, wear, or poor performance resulting from improper maintenance, setting, storage or incorrect usage of the corn head.












The warranty does not apply to wear items.

When ordering spare parts, always identify the corn head by:

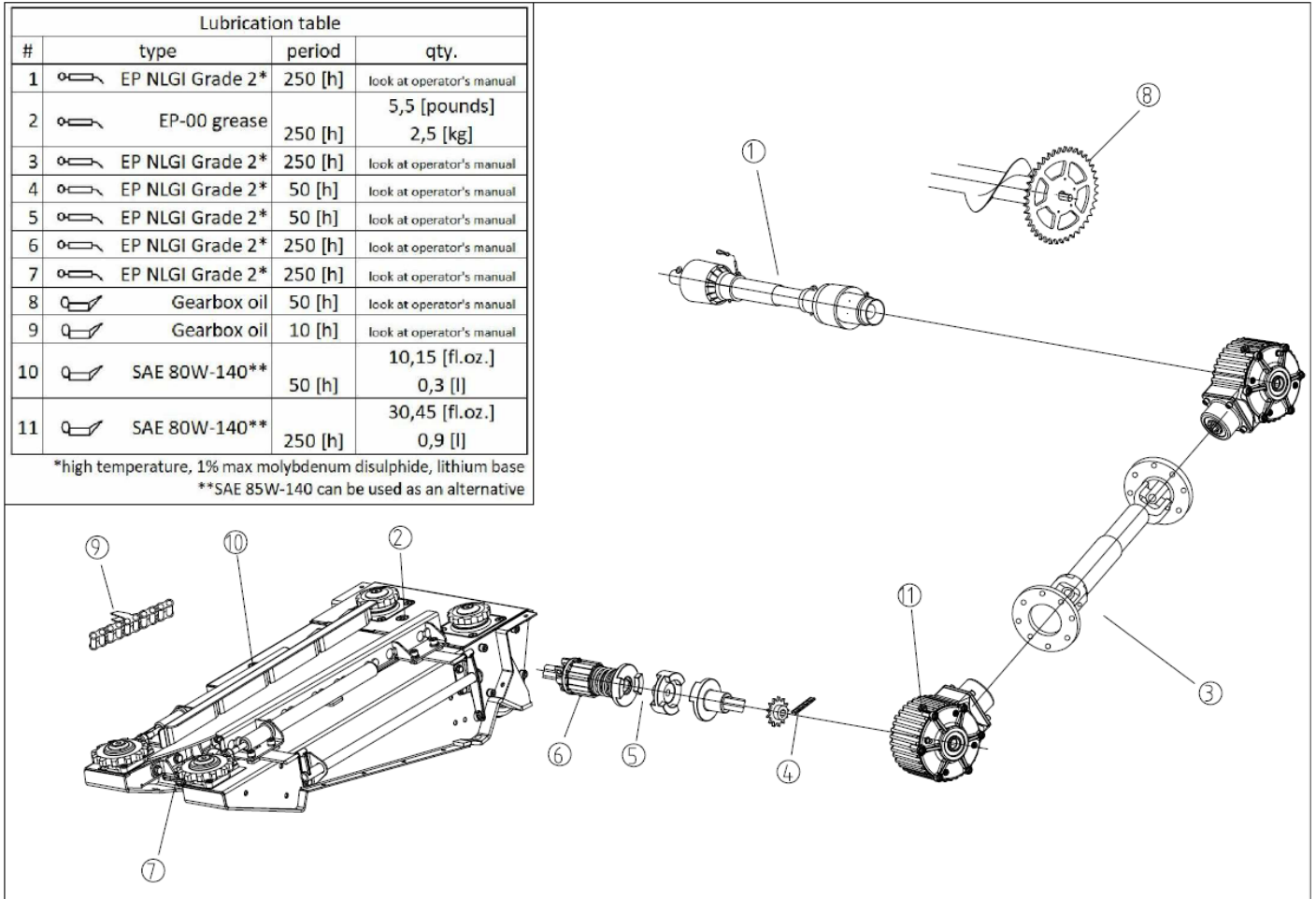
- model
- serial number
- part number as shown in the parts manual.

15. LUBRICATION CHART

15.1 For rigid models.

Lubrication table			
#	type	period	qty.
1	 EP NLGI Grade 2*	250 [h]	look at operator's manual
2	 EP-00 grease	250 [h]	5,5 [pounds] 2,5 [kg]
3	 EP NLGI Grade 2*	250 [h]	look at operator's manual
4	 EP NLGI Grade 2*	50 [h]	look at operator's manual
5	 EP NLGI Grade 2*	50 [h]	look at operator's manual
6	 EP NLGI Grade 2*	250 [h]	look at operator's manual
7	 EP NLGI Grade 2*	250 [h]	look at operator's manual
8	 Gearbox oil	50 [h]	look at operator's manual
9	 Gearbox oil	10 [h]	look at operator's manual
10	 SAE 80W-140**	50 [h]	10,15 [fl.oz.] 0,3 [l]
11	 SAE 80W-140**	250 [h]	30,45 [fl.oz.] 0,9 [l]

*high temperature, 1% max molybdenum disulphide, lithium base
**SAE 85W-140 can be used as an alternative



LUBRICATION CHART

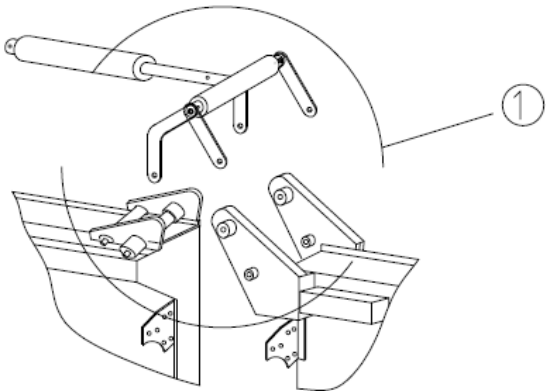
✓	#	Description	Interval	Specification	Reference
		Check Chopper knife blade and hardware condition (If equipped)	daily		6.5.1.1
		Check snapping roll knife condition	daily		10.5.2
		Check gathering chains for abnormal wear	daily		10.5.3
	8	Check auger drive chain(s) tension (1 or 2 per header)	50 [h]	13-19mm of deflection at slack side	6.2 / 10.2
	8	Lubricate auger drive chains (1 or 2 per header)	50 [h]	Chain lubricant or SAE 30W	6.2 / 10.2
		Clean area around auger drive chains	50 [h]		10,2
	10	Check stalk chopper gearbox oil level, if equipped (1 per row)	50 [h]	0.3L of SAE 80W-140 or SAE 85W-140	10.5.1
	2	Check row unit grease level (1 per row)	After first 50 [h] then 250 [h] or annually	2.5L of EP-00	10.5.1
	11	Check input gearbox(s) (header drive) oil level (2 or 4 per header)	50 [h]	0.9L of SAE 80W-140 or SAE 85W-140	10,3
	11	Change input gearbox(s) (header drive) oil (2 or 4 per header)	After first 50 [h] then 250 [h] or annually	0.9L of SAE 80W-140 or SAE 85W-140	10,3
	1	Grease header drive shaft (1 or 2 per header, 5 places each)	250 [h] or annually	EP2 - 10% max molybdenum	6,6
	3	Grease input gearbox coupling shaft (1 or 2 per header, 2 places each)	250 [h] or annually	EP2 - 10% max molybdenum	6,6
	4	Grease hex shaft chain couplings	250 [h] or annually	Chain lubricant or SAE 30W	10.4.2
	6	Grease slip clutches (2 places per row)	250 [h] or annually	EP NLGI Grade 2	10.4.2
	7	Grease front grease fitting of snapping rolls (2 places per row)	250 [h] or annually	EP NLGI Grade 2	10.5.2
		Lubricate Snapping plate indicator cable	250 [h] or annually	Chain lubricant or SAE 30W	6.5.2

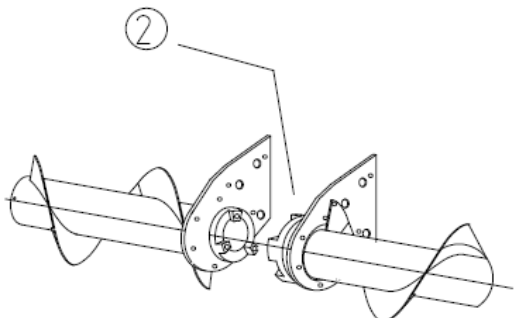
LUBRICATION CHART

15.2 Only for folding models.

Lubrication table			
#	type	period	qty.
1	EP NLGI Grade 2*	250 [h]	look at operator's manual
2	EP NLGI Grade 2*	50 [h]	look at operator's manual

*high temperature, 1% max molybdenum disulphide, lithium base





✓	#	Description	Interval	Specification	Reference
	2	Grease surface of auger clutch jaws (2 faces per side)	50 [h]	EP NLGI Grade 2	10.2.2
	5	Grease snapping unit connecting clutches (2 faces per side)	50 [h]	EP NLGI Grade 2	10.2.1
		Grease input drive connecting clutches, if equipped (2 faces per side)	50 [h]	EP NLGI Grade 2	10.2.2
	1	Grease folding mechanism (3 locations per side)	250 [h] or annually	EP NLGI Grade 2	10,1

PRE-HARVESTING INSTRUCTIONS

16. PRE-HARVESTING INSTRUCTIONS

Please verify using the checkboxes below that the corn head is properly set up for harvesting. Check the following and adjust if necessary.

✓	Item	Reference
	GATHERING CHAIN MOVING FREELY	6.5.4. Gathering chain adjustment
	AUGER DRIVE CHAINS PROPERLY TENSIONED	10.2. Auger
	SAFETY SHIELDS SECURED	-
	SNAPPING ROLL CLEARANCES	6.5.1. Snapping rolls adjustment 7.5.3 Vine Knife Adjustment
	FREE ROTATION OF CHOPPER KNIVES (IF APPLICABLE)	10.5.2 Chopper Knives
	LOWER LATCHES PROPERLY CONNECTED TO COMBINE FEEDER	4.1. Mounting the corn heads on the combine
	HEADER ANGLE SET TO 23 DEGREES SNOUTS ARE LEVEL	6.7.1. Header Angle Adjustment 6.7.2. Plastic snout adjustment
	DRIVE SHAFTS PROPERLY CONNECTED TO COMBINE FEEDER	4.2. Other steps following the securing of the adapter on the combine
	ELECTRIC AND HYDRAULICS PROPERLY CONNECTED	4.2. Other steps following the securing of the adapter on the combine 14. Electrical schematics
	SNAPPING PLATES ADJUSTED AND MOVING FREELY.	6.5.2. Snapping plate adjustment
	SNOUTS AND DIVIDERS ADJUSTED AND SECURED	6.7. Plastic snout adjustment
	FOLDING/UNFOLDING OPERATION (IF APPLICABLE)	4.2. Other steps following the securing of the adapter on the combine
	ALL LUBRICANTS HAVE BEEN CHECKED	10. MAINTENANCE AND LUBRICATION 15. LUBRICATION CHART
	TEST RUN (30 MINS)	-

TORQUE VALUES FOR FASTENERS

17. TORQUE VALUES FOR FASTENERS

TORQUE VALUES FOR FASTENERS (Nm)			
SIZE	QUALITY		
BOLTS / SCREWS	8.8	10.9	12.9
NUTS	8.	10.	12.
M6	10	14	16
M8	23	33	40
M10	45	63	75
M12	78	110	130
M14	122	175	210
M16	195	270	325
M18	260	370	440
M20	370	525	630
M24	640	900	1080
M30	1260	1800	2160

TORQUE VALUES FOR FASTENERS (ft*lbs)			
SIZE	QUALITY		
BOLTS / SCREWS	8.8	10.9	12.9
NUTS	8.	10.	12.
M6	7	10	12
M8	17	24	30
M10	33	46	55
M12	58	81	96
M14	90	129	155
M16	144	199	240
M18	192	273	325
M20	273	387	465
M24	472	664	797
M30	929	1328	1593

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