

# *Operator's Manual*





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***GERINGHOFF***

# Limited Warranty

Effective 11/01/2013

## LIMITED WARRANTY FOR GERINGHOFF AGRICULTURAL PRODUCTS (US & CANADA ONLY)

**A. GENERAL PROVISIONS** - With respect to purchasers in the United States and Canada, The warranties described below are provided by Geringhoff to the original purchasers of new Agricultural Equipment and parts thereof ("Equipment") purchased from Geringhoff or authorized Geringhoff dealers (the "selling Dealer"). These warranties apply only to Equipment intended for sale in Canada and the US. Under these warranties, Geringhoff will repair or replace, at its option, any part covered under these warranties which is found to be defective in material or workmanship during the applicable warranty term. Warranty service must be performed by a dealer or service center located in Canada or the US, and authorized by Geringhoff to sell and/or service the type of Equipment involved (the "authorized dealer"). The authorized dealer will use only new or remanufactured parts or components furnished or approved by Geringhoff. Warranty service will be performed without charge to the purchaser for parts and/or labor where applicable. However, the purchaser will be responsible for any service call and/or transportation of Equipment to and from the authorized dealer's place of business (except where prohibited by law), for any premium charged for overtime labor requested by the purchaser and for any service and/or maintenance not directly related to any defect covered under these warranties. These warranties are not transferable to subsequent owners of the equipment.

**B. WHAT IS WARRANTED AND REGISTRATION REQUIREMENTS** - Subject to paragraph C, all parts of any new Equipment are warranted for the number of months specified below. Each warranty term begins on the date of delivery of the Equipment to the purchaser. Harvesting products may have a delayed warranty start date, but only if established by Geringhoff and noted by the selling dealer on the Retail contract and identified on the Warranty Registration Certificate which must be submitted to Geringhoff or completed online at [www.crm.geringhoff.com](http://www.crm.geringhoff.com) no later than 30 days after the Equipment's occasion of first use. Absence of these requirements shall deem the warranty term to start immediately upon delivery to the purchaser.

**C. (I) ITEMS COVERED SEPARATELY** - (1) Any equipment that is not supplied directly by Geringhoff shall not be covered by this Warranty. This equipment might include (but not be limited to), HeadSight auto header height control.

**(II) WHAT IS NOT WARRANTED** - Pursuant to the terms of these warranties, Geringhoff IS NOT RESPONSIBLE FOR THE FOLLOWING: (1) Used Equipment; (2) Any Equipment that has been altered or modified in ways not approved by Geringhoff or with modifications not performed by an authorized Geringhoff dealer or authorized Geringhoff representative. (3) Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow operating instructions/recommendations; misuse, lack of proper protection during storage, vandalism, the elements or collision or accident; This exclusion applies specifically to gearboxes or any components which the Equipment operator has been deemed to have allowed to engage without sufficient lubrication or without sufficient refreshments and changes of lubrication as specified in the Equipment Operators manual. (4) Normal maintenance parts and/or service, including but not limited to cutting components, chains, standard wear items or potentially, poly components such as dividers and bonnets which have been deemed to have suffered damage by impact or excessive ground engagement.

**D. SECURING WARRANTY SERVICE** - To secure warranty service the purchaser must, (1) report the Equipment defect to an authorized dealer and request warranty service within the applicable warranty term; (2) present evidence of the warranty start date with valid proof of purchase; and, (3) make the Equipment available to the authorized dealer within a reasonable period of time at the dealers place of business unless that dealer offers to travel to the customers location to complete the warranty service in which case, travel expense shall be the sole responsibility of the dealer and not eligible for reimbursement by Geringhoff

**E. NO IMPLIED WARRANTY, REPRESENTATION OR CONDITION** - To the extent permitted by law, neither Geringhoff nor any company affiliated with it makes any warranties, representations, conditions or promises express or implied as to the quality, performance or freedom from defect of the Equipment covered by these warranties other than those set forth above.

IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE PERIOD OF WARRANTY SET FORTH ON THIS PAGE. THE PURCHASER'S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON GERINGHOFF EQUIPMENT ARE THOSE SET FORTH ON THIS PAGE. IN NO EVENT WILL THE DEALER, GERINGHOFF OR ANY COMPANY AFFILIATED WITH GERINGHOFF BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: Some jurisdictions do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages so the above limitations and exclusions may not apply to you.) In the event the above warranty fails to correct purchaser's performance problems caused by defects in workmanship and/or materials, purchaser's exclusive remedy shall be limited to payment by Geringhoff of actual damages in an amount not to exceed the amount paid for the product. This warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

**F. NO DEALER WARRANTY** - THE DEALER DOES NOT HAVE AUTHORITY TO MAKE ANY WARRANTY, REPRESENTATION, CONDITION OR PROMISE ON BEHALF OF GERINGHOFF, OR TO MODIFY THE TERMS OR LIMITATIONS OF THIS WARRANTY IN ANY WAY.

**G. DEALER RESPONSIBILITY** - The Dealer shall be required to seek and gain pre-approval on all warranty claims before starting work on the Equipment. Photographs should be taken, retained and submitted of defective components and any parts or components removed shall become the property of Geringhoff and must be retained by the Dealer for a minimum of 90 days.

### AGRICULTURAL EQUIPMENT WARRANTIES, AGRICULTURAL EQUIPMENT WARRANTY TERM

12 months on parts and 12 months on labor. An additional bonus 12 months on parts and labor (24 months total) shall be extended to those who complete and submit a Warranty Registration Certificate as per the requirements of clause B above

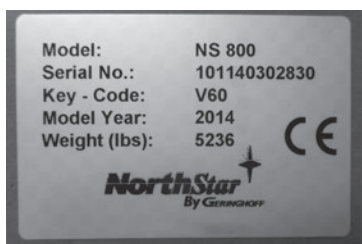
**Wear Items:** A replacement part will be furnished without charge if breakage occurs and the amount of wear is less than the wear limits established by Geringhoff from time to time. Labor reimbursement for removal and installation or subsequent adjustment of the wear item shall not be provided. Geringhoff may require defective components to be returned to the Dealer or Geringhoff directly.



## Section 1 - Getting Started

Introduction .....	1
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**Notes**



We thank you for the confidence placed in us when you made the decision to purchase this Geringhoff corn header.

On this page you'll find some important information for using these operating instructions:

- When using the operating instructions, we recommend also using the spare parts catalog. These documents will provide an in-depth understanding.
- Note the specific identification of your machine in the fields provided below. This information will make it easier for your dealer or Geringhoff to provide assistance.

Model: \_\_\_\_\_

Serial number: \_\_\_\_\_

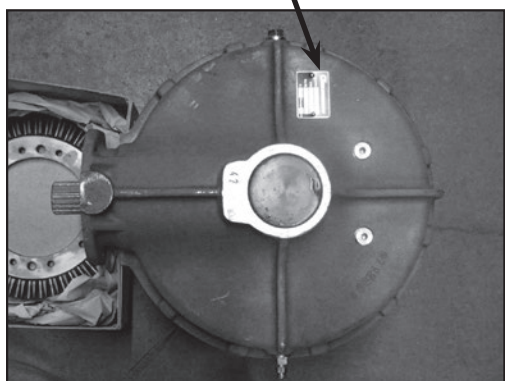
Key-code: \_\_\_\_\_

Year of construction: \_\_\_\_\_

Row distance: \_\_\_\_\_

Working width/number of row units: \_\_\_\_\_

Combine Brand/Model: \_\_\_\_\_

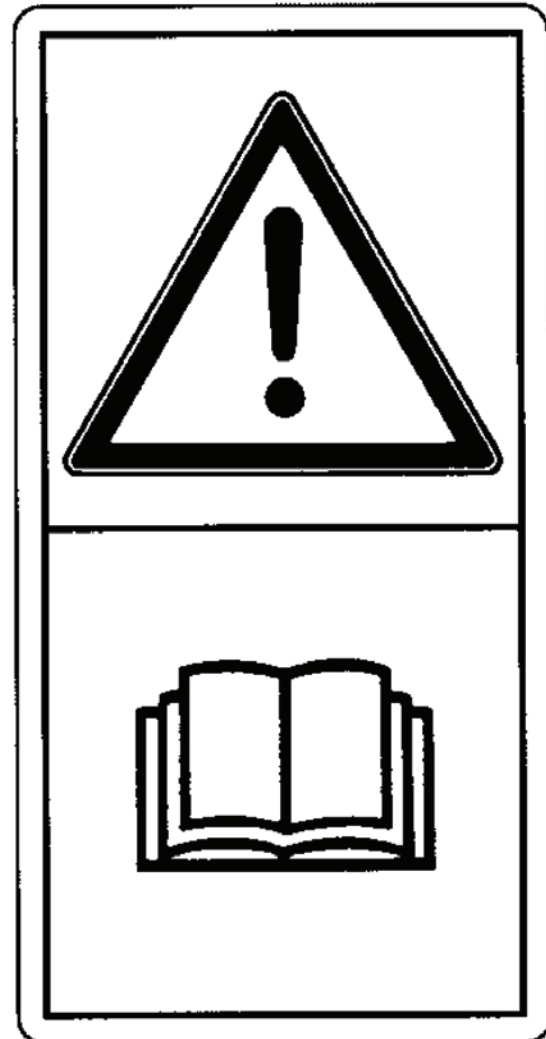


- The machine information plate is on the left side of the machine frame.
- Right and left always indicates towards travel and/or working direction.
- If you are in need of spare parts, keep the required data available and get in touch with your dealer.
- Use only original Geringhoff spare parts.
- Ensure that the completed Warranty Registration document is sent to the manufacturer. This information is very important for potential claims. Failure to register warranty documents may void warranty claims.
- **Do not make any modifications of important, load-bearing and safety-relevant elements.** The manufacturer does not assume any guarantee for damages or injury resulting from unauthorized modification.

Serial Numbers						
Type of Header	Build Year	Serial Number	Header Size	Type Number	Type Shortcut	Type Description
xxx	xx	xxxx	x..x	Corn Header		
101	14	0079	1230	101	MS/NS	Mais Star/North Star
				110	RD	RotaDisc
				301	SunStar	Sunflower Row Cut
				302	SunLite	Sunflower Table Cut

**To prevent accidents, strictly follow these operating instructions and WARNINGS on the machine.**

- Before starting the machine, CHECK for operational dependability and traffic safety!
- In addition to these operating instructions, also follow the current safety instructions.
- The warning signs and labels give important notes for the safe operation of the machine, thus serving the health and well-being of yourself as well as others.
- Prior to operating the machine make yourself familiar with all operating elements, safety procedures and functions. Ensure that all who will operate or come into close vicinity of the machine also have this knowledge.
- Check the driving characteristics, steering and braking behavior of any vehicle that will make use of or tow this machine.
- Load rating of the tires is to be checked and sufficient load capacity ensured.
- Sufficient hydraulic lifting power and stability of the lines are to be ensured.
- When working on the machine the provided supporting devices must be used.
- Admissible axle loads and total weight must consistently be observed.
- Before start-up all guards and maintenance holes must be in position and closed.
- While the machine is running be respectful of dangerous areas and adhere to warning labels at all times.
- Maintenance and repair work is to be performed only with engines shut down and drive lines disengaged.
- On public roads the legal provisions must be observed.
- If required, additional headlights for the road transport must be mounted (see local road transport licensing regulations).
- The instructions of the combine manufacturer must be observed as they pertain to operation of headers.
- The transport and operation of all machines including customized ones is made at your own risk.



**CAUTION**

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

- Protect yourself.



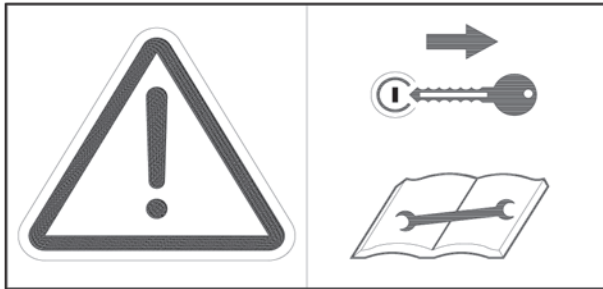
When assembling, operating and servicing machinery, wear all the protective clothing and personal safety devices that COULD be necessary for the job at hand. Don't take chances.

You may need:

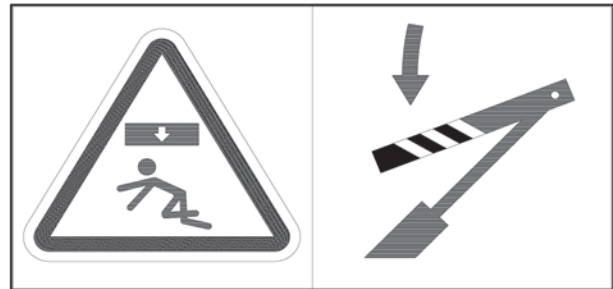
- A hard hat.
- Protective shoes with slip resistant soles.
- Protective glasses or goggles.
- Heavy gloves.
- Wet weather gear.
- Respirator or filter mask.
- Hearing protection. Be aware that prolonged exposure to loud noise can cause impairment or loss of hearing. Wearing a suitable hearing protective device such as ear muffs or ear plugs protects against objectionable or loud noises.
- Provide a first-aid kit for use in case of emergencies.
- Keep a fire extinguisher on the machine.
- Be sure the extinguisher is properly maintained and 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 to get finished. Take the time to consider the safest way. Never ignore warning signs of fatigue.
- Wear close-fitting clothing and cover long hair. Never wear dangling items such as scarves or bracelets.
- 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.
- Keep all shields in place. Never alter or remove safety equipment. Make sure driveline guards can rotate independently of the shaft and can telescope freely.
- Use only service and repair parts made or approved by the equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.
- Do not modify the machine. Unauthorized modifications may impair the function and/or safety and affect machine life.
- Stop engine and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.
- Keep the area used for servicing machinery clean and dry. Wet 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.
- Use adequate light for the job at hand.
- Keep machinery clean. Straw and chaff on a hot engine are a fire hazard. 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.



ISO 11684



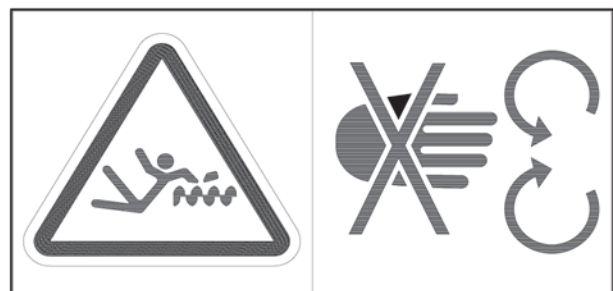
Prior to performing maintenance and repair work, turn off the motor and withdraw the key.



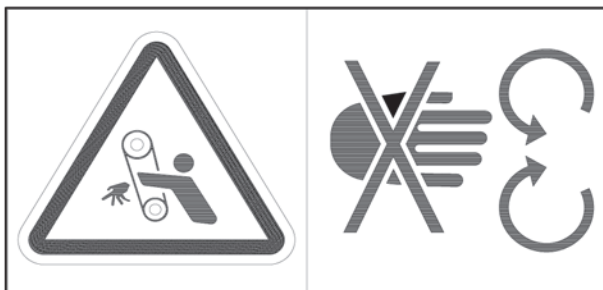
Insert lifting cylinder safety latches before entering dangerous areas.



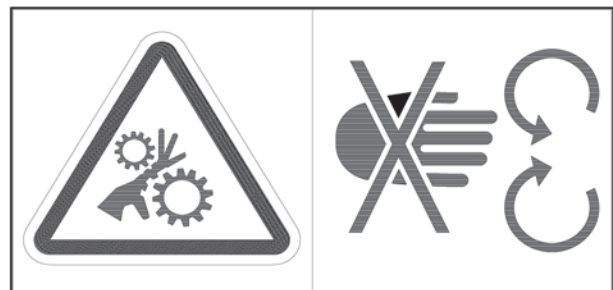
Keep away from danger zones between the header and machine!



Keep clear of operating machinery.



While the motor is running, never allow guards to be removed.



While the machine is in operation, keep away from moving components.



Keep a sufficient safety distance to the header. Prior to maintenance works or clearing of clogged header, switch off motor and remove key. Keep clear of machine during operation to avoid flying debris.



Never go into the operational range of the machine.

## Torque - Minimum Hardware Tightening Torques for Normal Assembly Applications

Metric Non-Flanged Hardware and Locknuts

NOMINAL SIZE	CLASS 5.8 UNPLANTED	CLASS 8.8 UNPLANTED	CLASS 10.9 UNPLANTED	LOCKNUT CL.8 W/CL8.8
<b>M4</b>	1.7 Nm (15 lb in)	2.6 Nm (23 lb in)	3.7 Nm (33 lb in)	2.3 Nm (20 lb in)
<b>M6</b>	5.8 Nm (51 lb in)	18.9 Nm (79 lb in)	13 Nm (115 lb in)	7.8 Nm (69 lb in)
<b>M8</b>	14 Nm (123 lb in)	22 Nm (194 lb in)	31 Nm (274 lb in)	19 Nm (168 lb in)
<b>M10</b>	28 Nm (20 lb ft)	43 Nm (31 lb ft)	61 Nm (44 lb ft)	38 Nm (28 lb ft)
<b>M12</b>	49 Nm (36 lb ft)	75 Nm (55 lb ft)	107 Nm (78 lb ft)	66 Nm (48 lb ft)
<b>M16</b>	121 Nm (89 lb ft)	186 Nm (137 lb ft)	266 Nm (196 lb ft)	344 Nm (253 lb ft)
<b>M20</b>	237 Nm (174 lb ft)	375 Nm (276 lb ft)	519 Nm (382 lb ft)	330 Nm (243 lb ft)
<b>M24</b>	411 Nm (303 lb ft)	648 Nm (477 lb ft)	897 Nm (661 lb ft)	572 Nm (421 lb ft)

Quick Reference Specifications	
Oil Levels - 80w90 Gear Lube in all gearboxes. Non synthetic	
NorthStar	Rota Disc
Row Unit Gearbox: 2 Litres (2.11 Quarts)	Row Unit Gearbox: 1.5 Litres (1.59 Quarts)
Crown Gearbox	Crown Gearbox
All gears except 32 tooth gear: 1.5 Litres (1.59 Quarts)	All gears except 32 tooth gear: 1.5 Litres (1.59 Quarts)
32 tooth gear: 2 Litres (2.11 Quarts)	32 tooth gear: 2 Litres (2.11 Quarts)
Gearbox Torque Specifications:	Gearbox Torque Specifications:
Fill Plug: 35 lbs/ft	Fill Plug: 35 lbs/ft
Drain Plug: 25 lbs/ft	Drain Plug: 25 lbs/ft
Change oil after first 50 hours, then annually.	
Adjust distance between Rota Disc stationary knife and roller to a thickness of a business card (.5mm).	
Rota Disc cutting knives measure 117mm in diameter when new. Life expectancy will vary with field conditions but consider replacing when diameter is reduced to 100mm (17mm or 5/16" of wear). Depending on harvest conditions, replacement is necessary between 400 and 1000 acres per row. Maintaining disc tolerance will improve cutting and shredding performance and reduce the combine's pto power draw.	



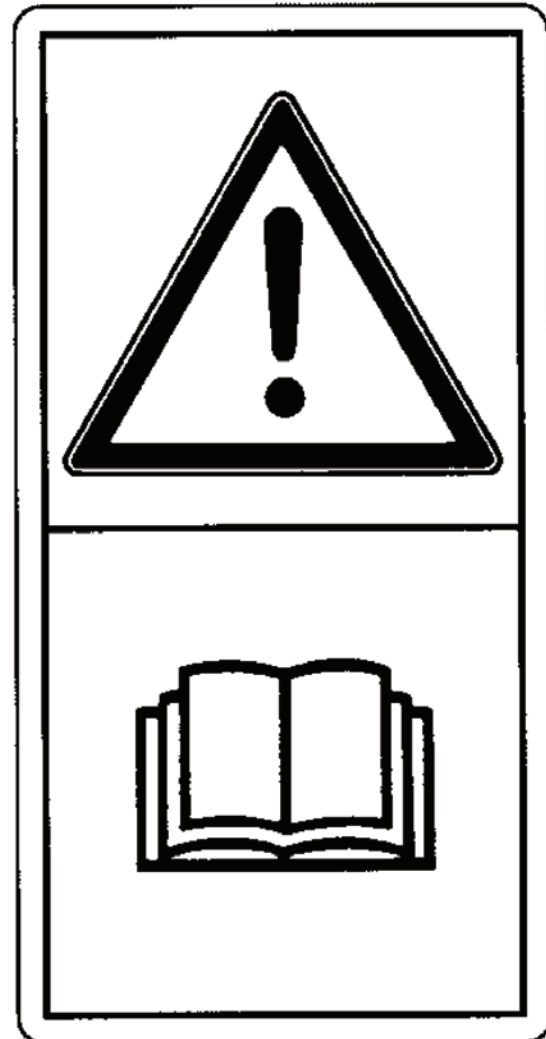
**Notes**

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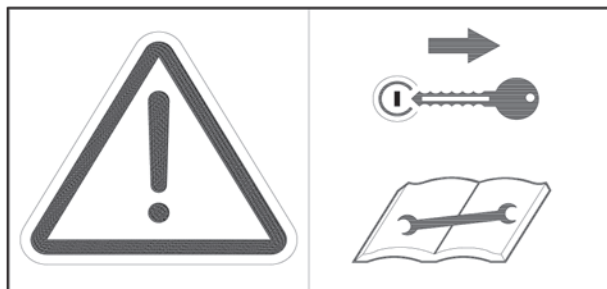
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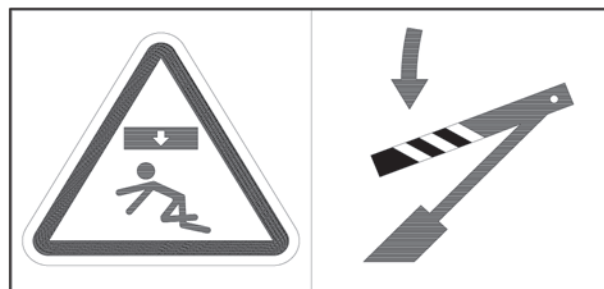
- A hard hat.
- Protective shoes with slip resistant soles.
- Protective glasses or goggles.
- Heavy gloves.
- Wet weather gear.
- Respirator or filter mask.
- Hearing protection. Be aware that prolonged exposure to loud noise can cause impairment or loss of hearing. Wearing a suitable hearing protective device such as ear muffs or ear plugs protects against objectionable or loud noises.
- Provide a first-aid kit for use in case of emergencies.
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ISO 11684



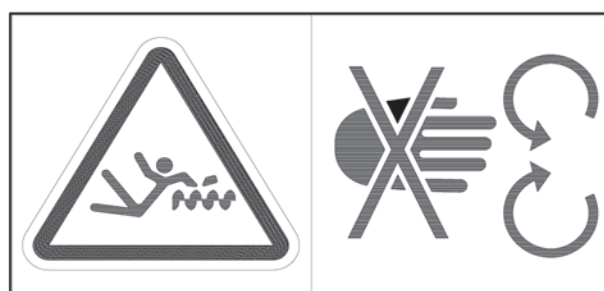
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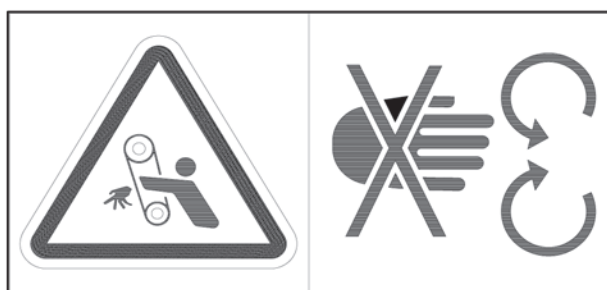
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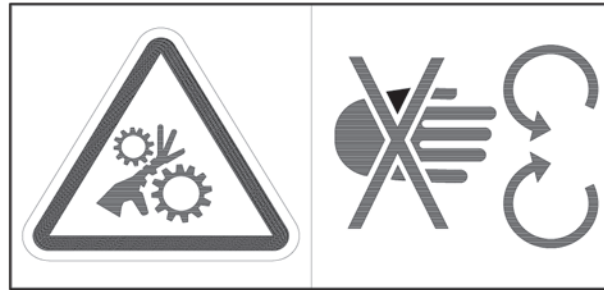
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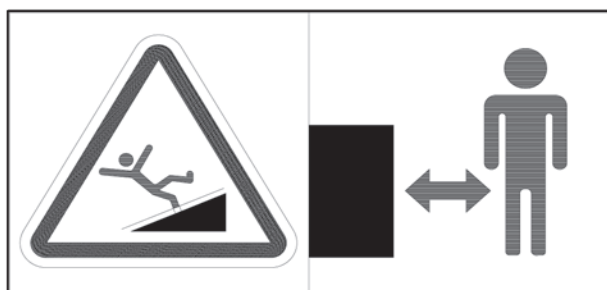
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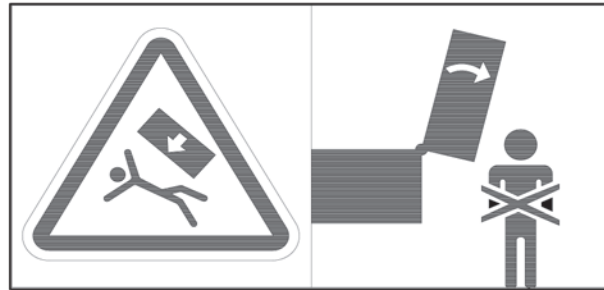
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Never go into the operational range of the machine.

Fill out the pre-delivery checklist for the head on completion of setup.

## RETAIL DELIVERY INSPECTION REPORT

- ☐ Check oil in crown gear box (PTO drive line) - field position - in bottom check plug
- ☐ Check oil in miter gear box - center check plug
- ☐ Row unit gear boxes - oil at proper level on dipstick
- ☐ Grease row units - 3 grease zerks/row on Rota Disc | 2 grease zerks/row on Northstar
- ☐ Grease PTO shafts and bearing connection
- ☐ Auger chain drive - check for proper tension and alignment on sprockets
- ☐ Install and ensure all working functions of shaft speed/deck plate monitor, and folding sensors
- ☐ Install and ensure functionality of Headsight system (if applicable)
- ☐ Check and adjust stationary knives if needed (**Rota Disc model only**)
- ☐ Ensure all safety shields and decals are in place
- ☐ Check and adjust knives - .5mm bottom, 1-2mm top (**Northstar model only**)
- ☐ Add lock tight to bolts that hold the poly snout to the poly bonnet
- ☐ Ensure hydraulic acting deckplates are timed correctly
- ☐ Run header for 10 minutes to ensure all functions are working properly
- ☐ Confirm receipt of Monitor, Operator's Manual, and Chain tool with head
- ☐ Grease hinges and couplers on folding models

## Unloading

### Unloading the Cornhead from a Flatbed

Using a forklift with large enough lifting capacity, spread the forks as wide as possible. Using the main shipping frame under the unit, lift, remove and set on flat stable ground.



### Unloading from the Top of Head

Use the two welded eyelets on the lifting bar that is connected to row units. Attach a short chain from the forks to the frame. Ensure that the chain will not slide off the forks. Lift head and remove then set on stable flat ground.

Note - If head is delivered during inclement weather, ensure that salt and road debris are washed off immediately.



When lifting or moving a Geringhoff corn head, only lift from opposite of poly side.





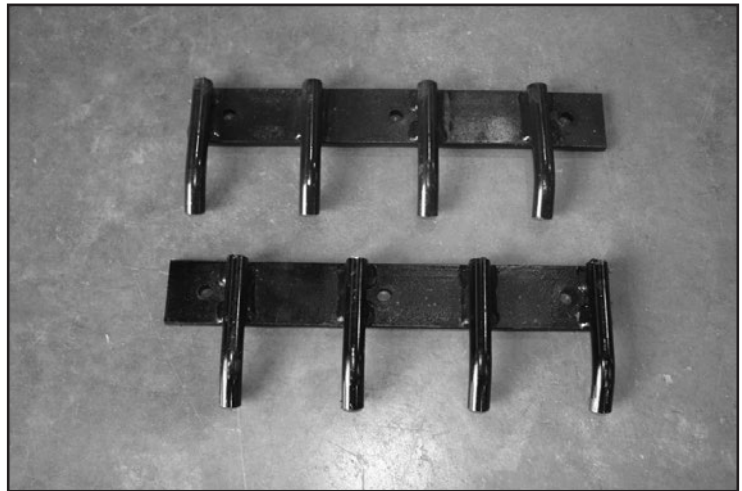
## Review Packing List to Ensure all Components Have Arrived

- General Parts Box (GP Box)
- Drivelines
- Manuals
- End shields
- Monitor
- Points
- Lighting
- Headsight
- ½ moons on 12 row and larger heads
- Accessories



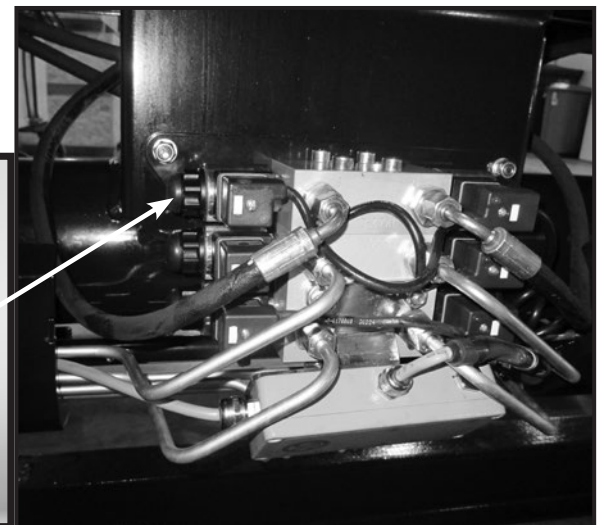
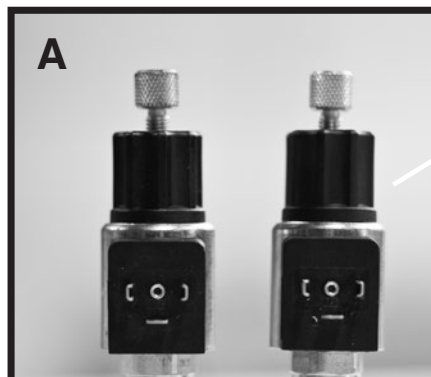
## GP Box Inventory

In your parts box, you will find a set of fingers that goes with the unit. They can be installed on the auger in certain crop conditions (such as down corn or fluff).



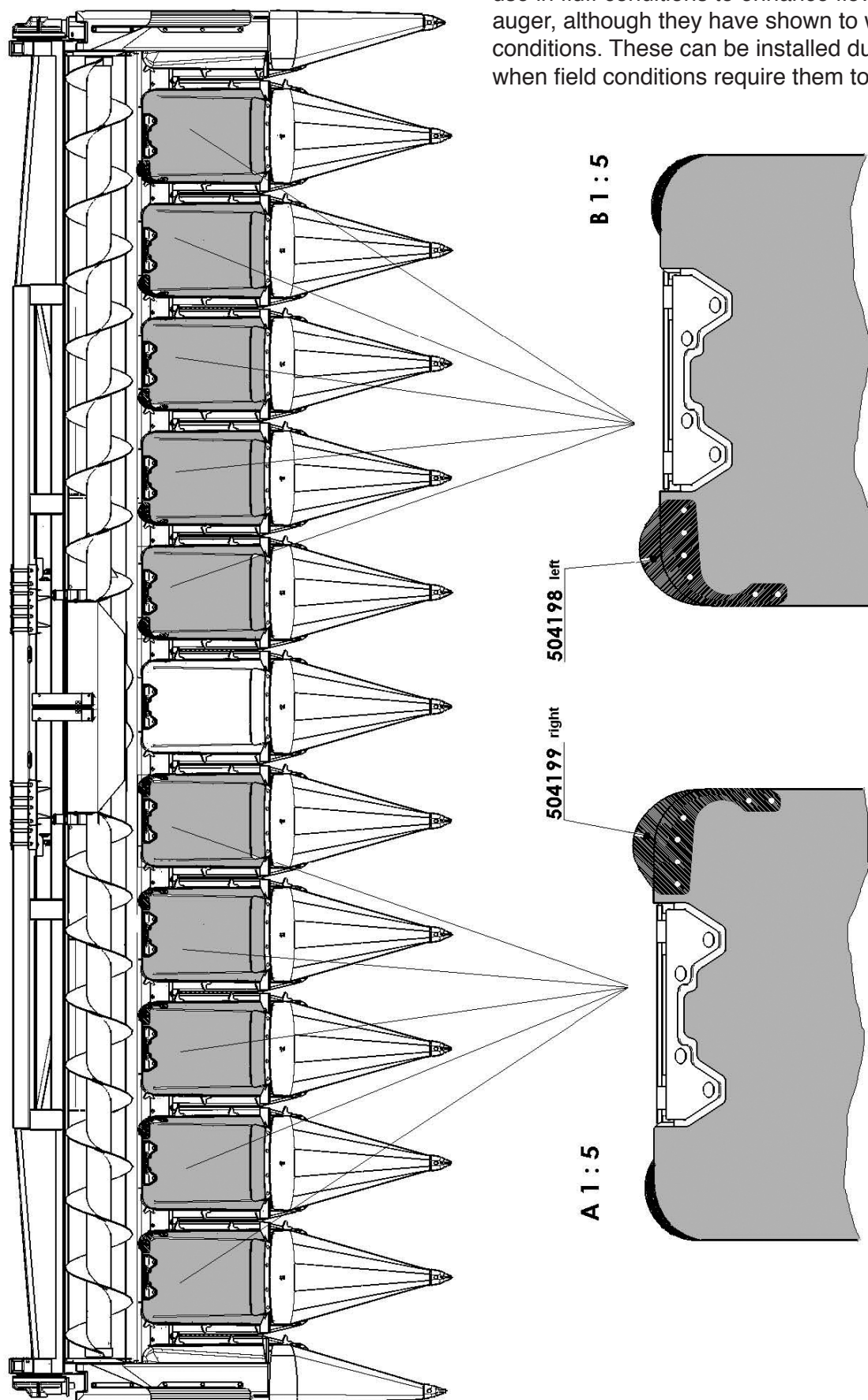
## In GP Box for heads with folding or sweeper options, you will find hydraulic override system

In the case of electronic malfunction, you can override the hydraulic system with these caps with threaded bolts on top (A) part # 041693. Remove the factory cap (without bolt) and replace with these, then manually turn threaded bolt down to bypass function of monitor. For more information, contact Geringhoff for service bulletin.



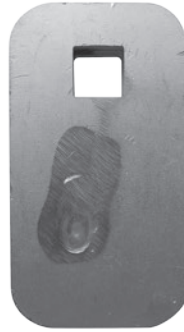
## Half Moons

On 12 row and larger heads, you will find the oversized half moons in the GP box. These are for use in fluff conditions to enhance flow through the auger, although they have shown to work well in all conditions. These can be installed during setup or when field conditions require them to be used.



## CIH Spacer Block in GP Box

You will find this block in the GP box for a Case AFX combine. This new Geringhoff spacer block for CIH combines gives you one more setting for raising and lowering the combine drum to assist material flow in different field conditions.



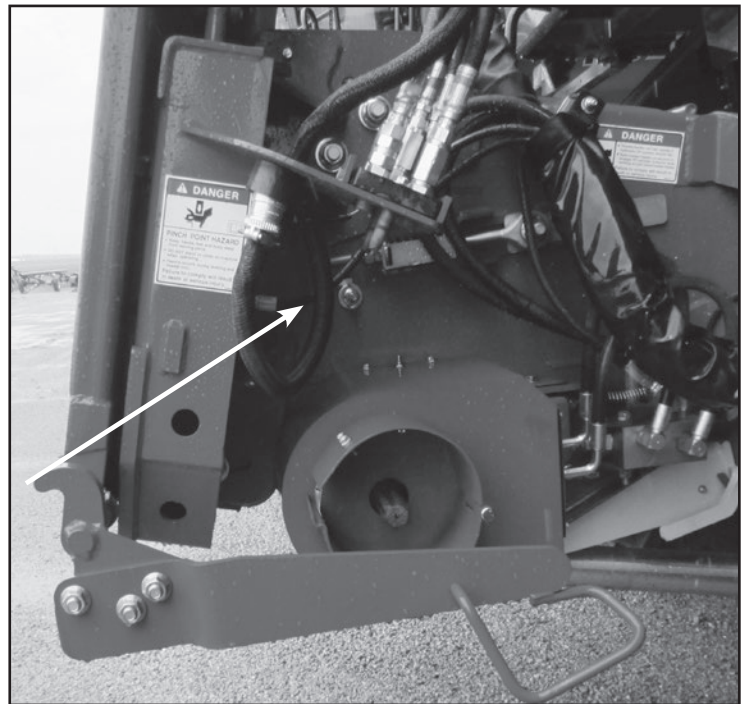
CIH original spacer block



Geringhoff spacer block

## CIH Feederhouse Block Location

The arrow indicates which bolt holds the spacer block in place.



## Assembly

With the head standing up, remove all parts from around the auger, cut straps, and remove row dividers.

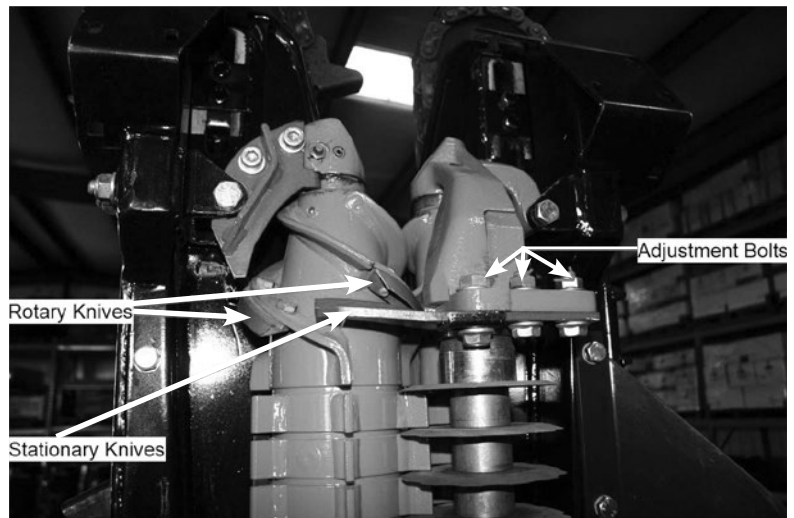
This is a good time to check stationary knives on the Rota Disc and the stalk roll knives on the NorthStar for proper clearance and grease the rollers as indicated on page 14 for the Rota Disc and page 15 for the NorthStar. If this is not done now it will have to be done when the head is mounted to the combine.





## Stationary and Rotating Knives

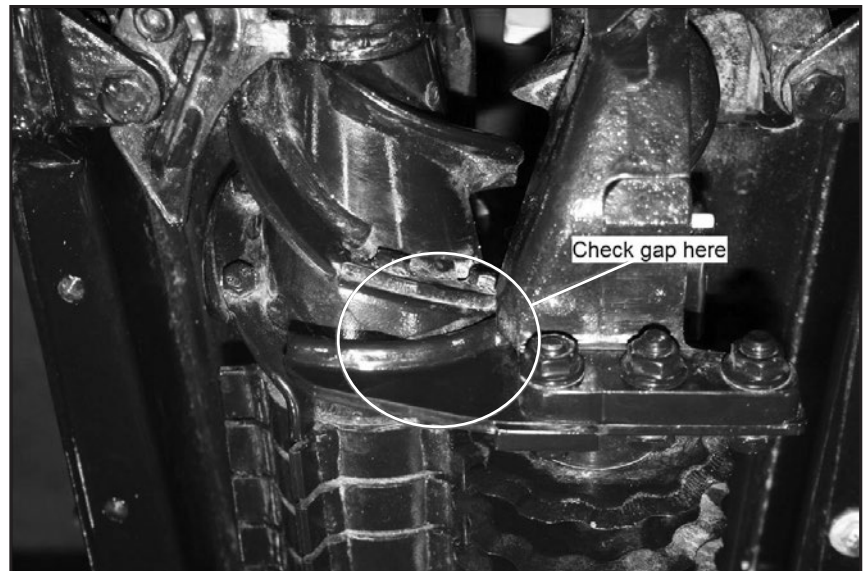
The stationary knives should be set to 1mm clearance from the rotating knives.



## Adjusting Stationary Knives on RD

By using a crescent wrench, spin the large roller to check the clearance between the knives.

Check clearance on all three knives before adjusting stationary knife. If adjustment is needed, loosen adjustment nuts and tap stationary knife in direction needed. Tighten and spin to check clearance again.

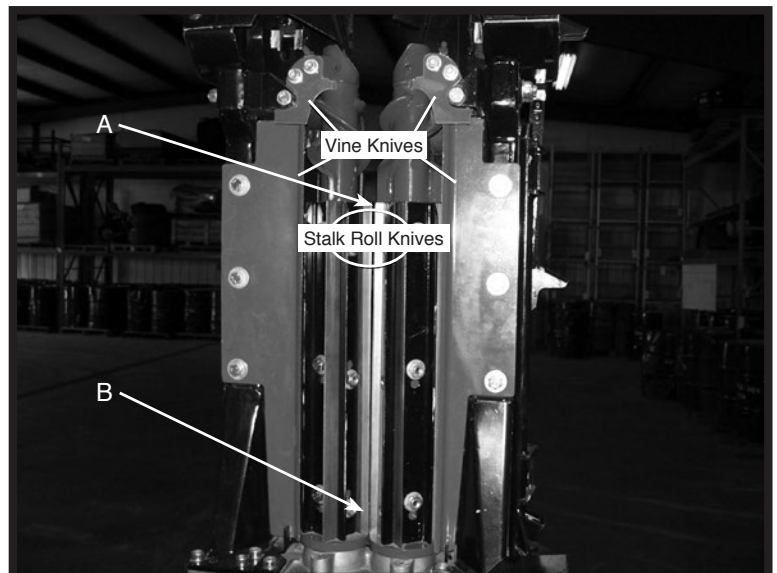


## Adjusting Stalk Rolls on NS

Adjustments of vine knives and stalk roll knives.

Adjust the stalk roll knives to 1-2mm at the top (A) and .5mm at the bottom (B). Rotate knife rolls to ensure proper measurements on all four knives

Adjust the vine knife to .5mm. Once you have it set at .5mm please make one complete rotation on knife roller to ensure there are no contact points between vine knife and knife roller.



## Section 2

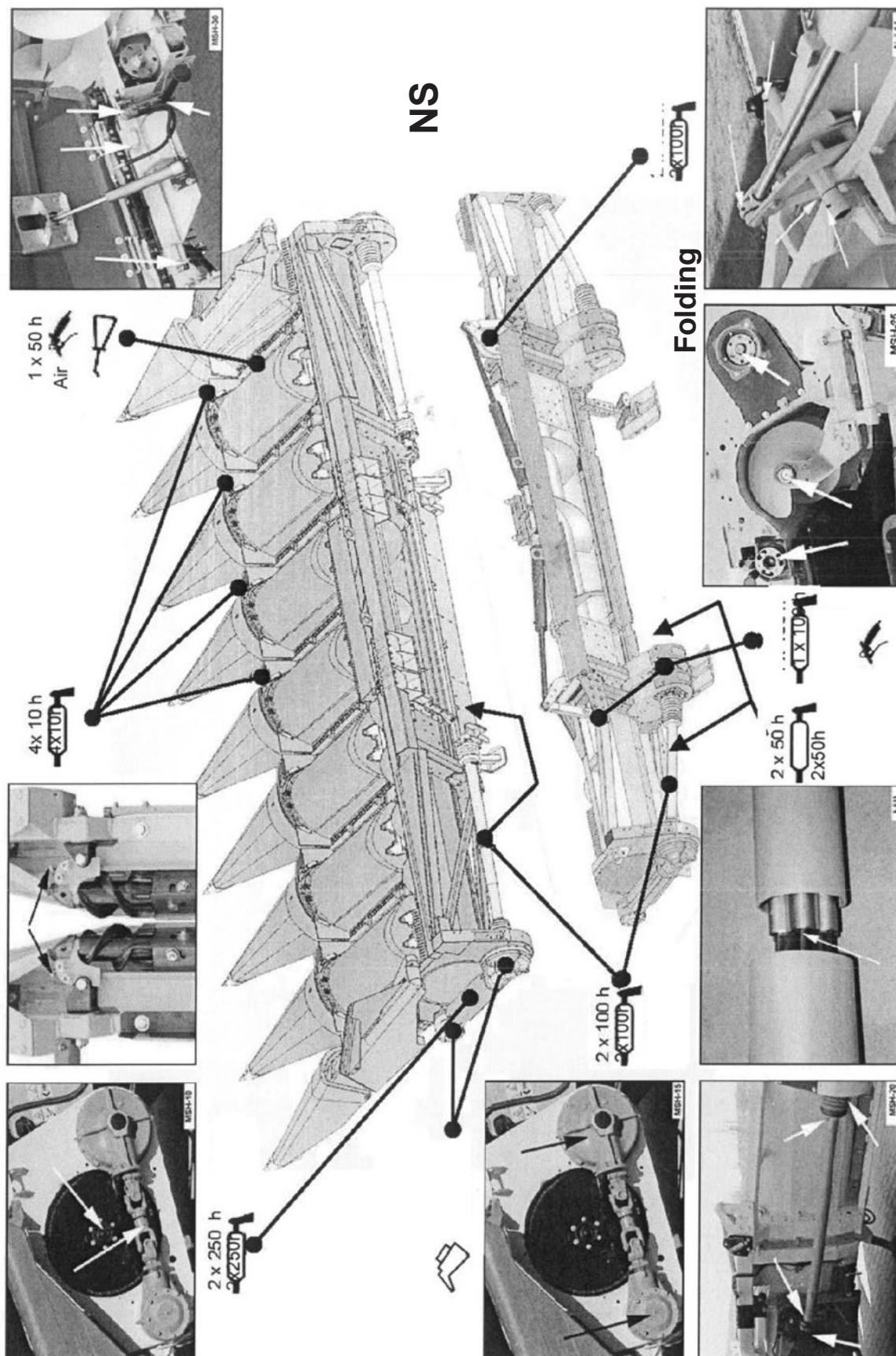
## Section 2





## Grease the Unit

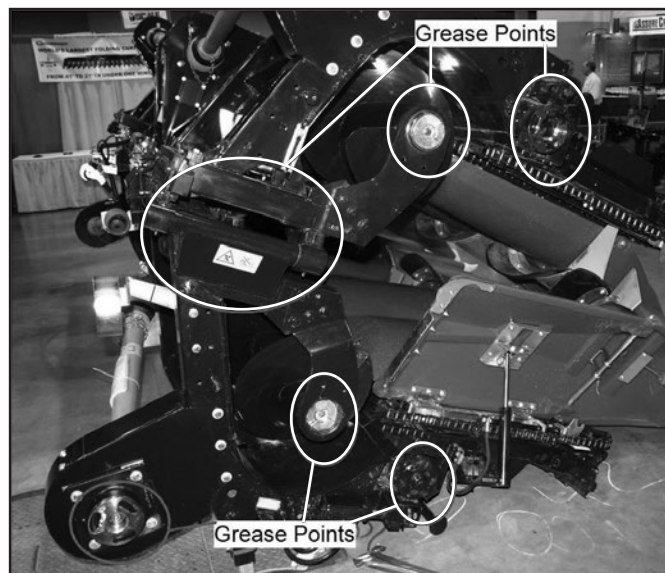
Grease points for the NS.



Grease both driveline shafts and the shafts between the crown gearbox and miter gearbox.

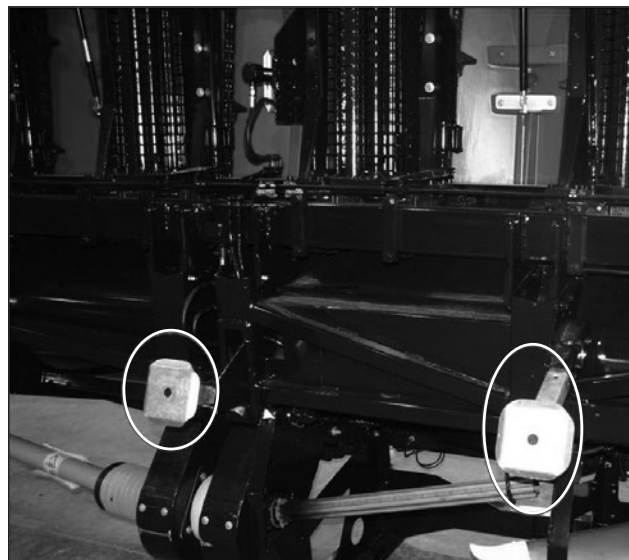


On folding heads grease the couplers for all the drives, as well as the hinges. Hinges should be greased in both folded and field positions once a week.



### Laying the Header Down

Insert the legs into the back of the corn head.



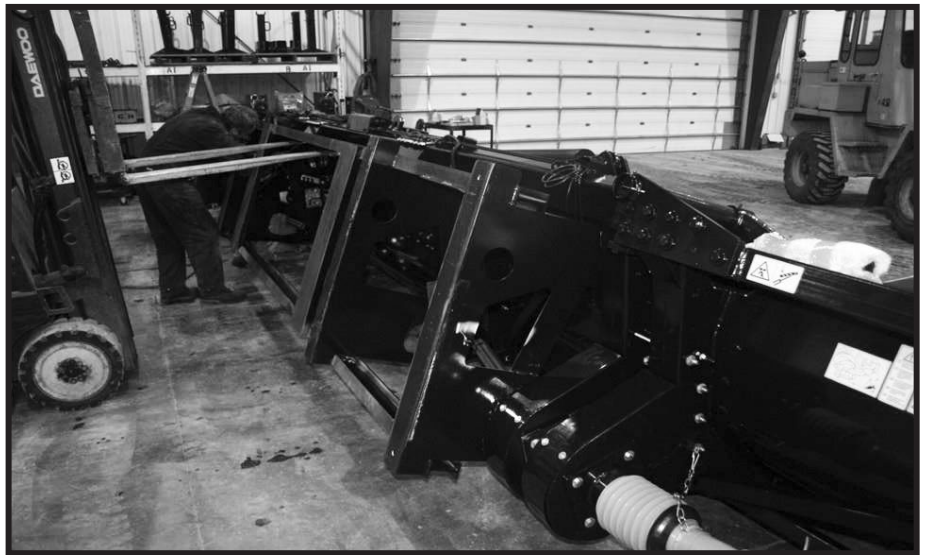


Secure two chains to the top lifting bar and to the forks of a forklift. Tighten the chains and back up slowly lowering the corn head to the ground. Two wooden blocks should be placed under the lifting bar to aid in the removal of your chain.



## Remove Shipping Stand

After head is laid down into field position, support the shipping stand with a forklift, then remove the bolts holding the stand (4 bolts on 6 and 8 row units, 8 bolts on 12 row and larger units). Remove stand and deliver stand and cornhead to farmer.



## Check The Gear boxes

Check for correct gears as per combine specs.

When filling or adding oil to any of the gear boxes on a Geringhoff Corn Head use only 80-90 weight gear oil. **Use of a synthetic oil will void gearbox warranty.** Check the torque of all drain plugs and fill plugs on the gearboxes. All fill plugs should be torqued to 35 ft lbs. All drain plugs should be torqued to 25 ft lbs.

Crown gear box capacity is 1.5 Liters.



### Crown Gear Box

With header in working position remove bottom check plug. Fill with gear lube (80w90) until visible at the bottom of the fill hole. Then reinstall plug and ensure it is tightened to proper specs.



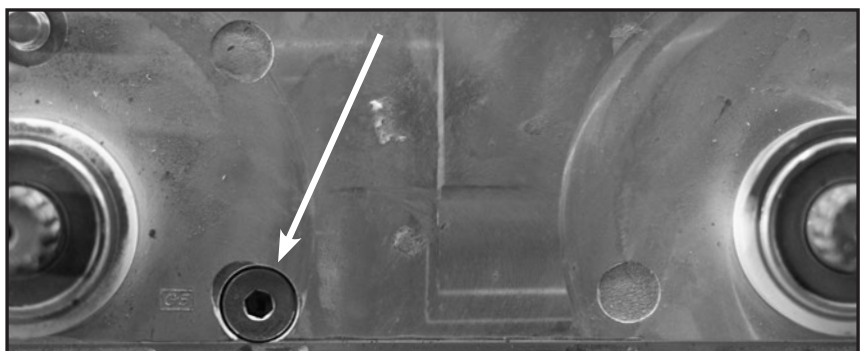
### Miter Gear Box

With header in working position remove plug in the center of gearbox. Fill with gear lube (80w90) until visible at the bottom of the fill hole, then replace plug and ensure it is tightened to proper specs.



### Row Unit Gear Box

On the row unit gearbox, there is a dip stick attached to fill plug on the top of the gear box. This should be removed and checked, with header unhooked from combine, on level ground. Ensure that the oil level is showing on the dipstick.

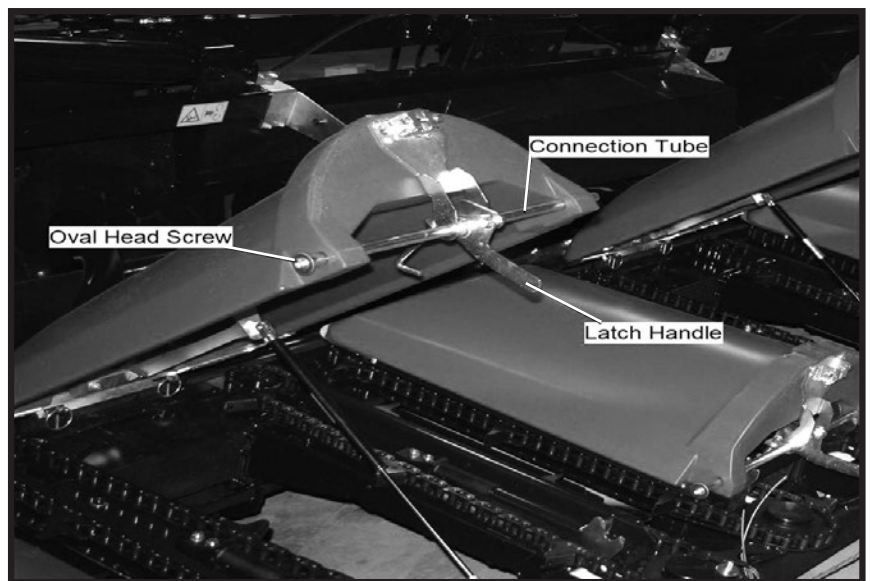


## Install the Headsight on Row Dividers

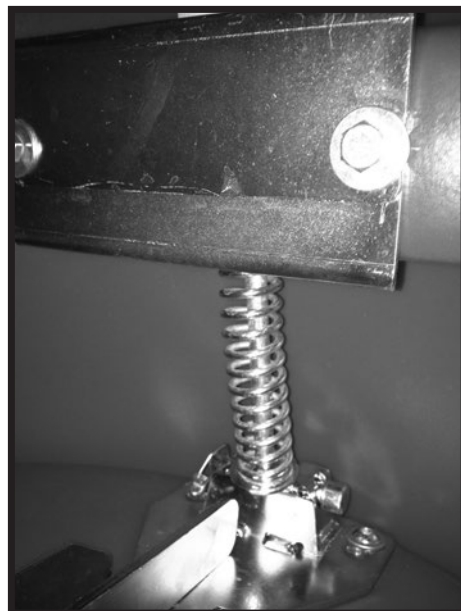
If you have a Headsight to install, now is the best time to install this. Run and mount the wire harness as per the Headsight manual. Leave enough wire to reach the end of the row dividers when they are installed. Installation of sensors on end row or on the second row is personal / customer preference. Both positions work well. Install sensors to the row dividers as per Headsight manual.

Unlatch bonnet and let it rise. Remove one of the oval head screws using an 8mm allen wrench. When removing the connection tube note the position of the latch handle, so that when reinstalling it will be in the correct position.

**Use Lock Tight on bolts when connecting.**



Lift point over bonnet and hook up the adjustment rod. This will help hold and line up the row divider.





Reinstall the connection tube and the latch handle. Use Blue Lock Tight on the threads of the oval head screw before reinstalling.



Install the rest of the row dividers. One easy way of installation is to lift every other bonnet.



## Auger Chain

Remove inspection cover and check the alignment and tension of the auger chain. The chain drive sprocket, auger sprocket and idler sprocket should be aligned with the chain. The chain should be exhibiting limited slack.

**Note:** On 6 row headers, auger drive is driven from the left hand row unit, not from the auger sprocket on crown gearbox.



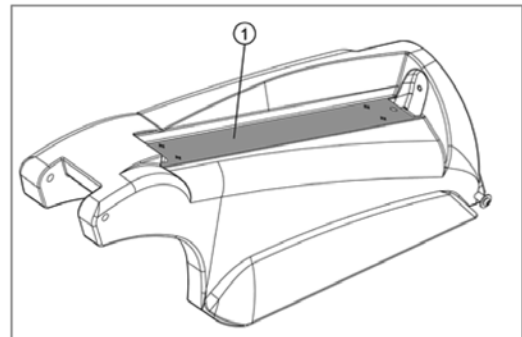
Install Deflector Shields on end row dividers.

If you have purchased the optional end row augers, these will already be installed.



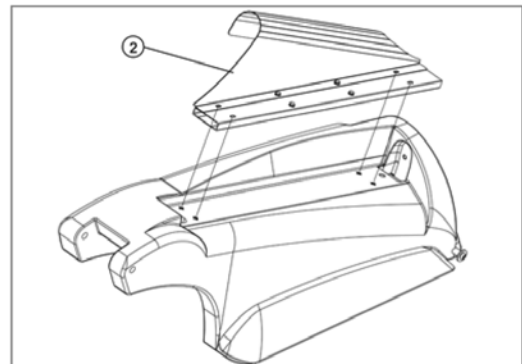
### Assembling the body raiser

1. Remove the screws of the rectangular pipe (1).



*Rectangular pipe on body*

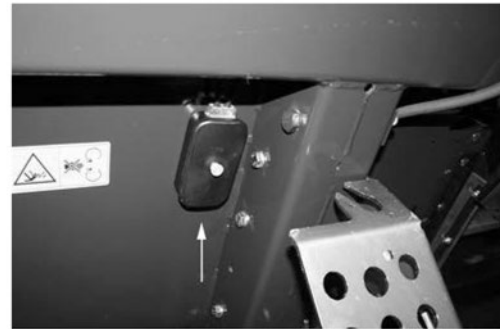
2. Fasten the body raiser (2) according to the figure using 4 screws on the inside (M8 x 16) and 4 screws on the outside (M8 x 40).



*Assembling the body raiser*

## Connecting the additional lighting with the terminal box

The lighting wires from the terminal box to the single point hookup are supplied by the dealership.



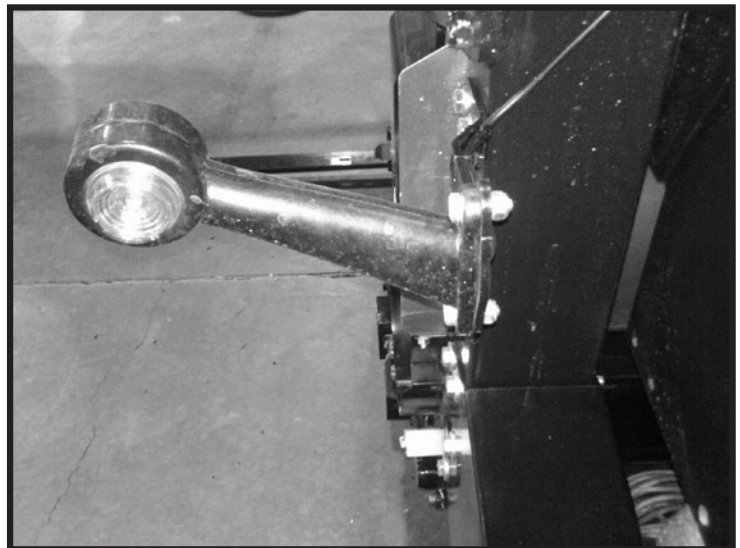
*Arrow: Input additional lighting*

## Install Clearance Lights

On a rigid corn head, mount the light assembly on the top ends of the head next to the hinge on the end bonnets.

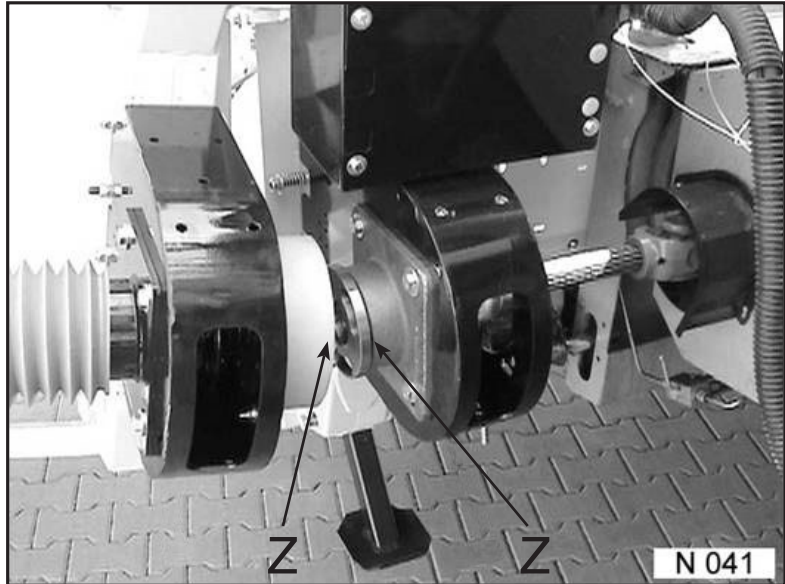


On a folding corn head, fold wings and install light assembly at the fold.

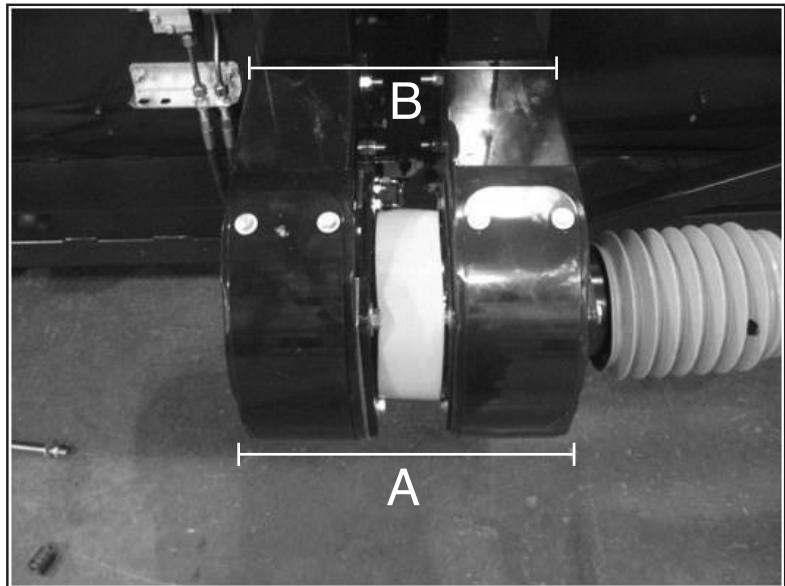


**If you have a folding header now is the time to check this.**

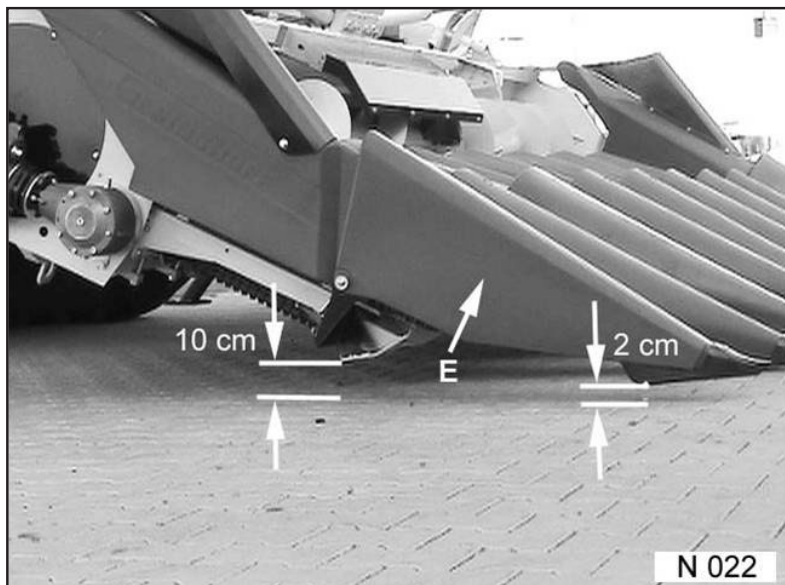
- When folded, check lock pins in the center of the head to ensure each wing retaining pin is fully seated and centered in wing rest.
- For models of all years, check the drive coupler (Z). There should be a minimum of a 2mm depression of the spring for the drive.



Measure drive line mounts (A) to make sure they are parallel to (B) within a tolerance of 2mm.



Lower the head so that the skid plate is 10cm (4 inches) from the ground. Adjust the row dividers to 2cm (3/4 inch) from the ground.





## Hook Up the Combine

Install the monitor in the cab. Then route the cable to the top right side of the feederhouse, with enough extra to plug into the head.

When hooking to the combine the first time, check the alignment of the top mounts, the shields around the feederhouse, and ensure that the locks latch properly.

---

Hook up drivelines and hydraulic lines to the combine. Then lift the head to full height and install the safety lock on the lifting cylinders. Remove the top lifting bar from the end of the row units.

---

## Engage the Head and Run to the Proper Speed at High Idle with No Load

- The Rota Disc should read 740 to 750 RPMs on the monitor
- The NorthStar should read 780 to 800 RPMs on the monitor.

## Installing the Monitor and Terminal Box

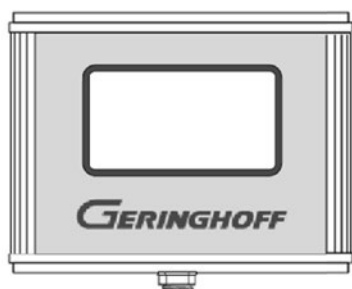
### DANGER



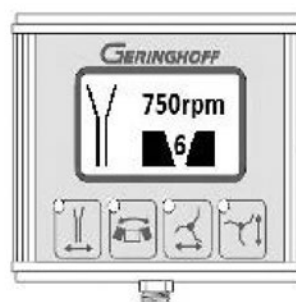
Ensure that the monitor does not limit the field of vision!

- Attach the monitor so that the field of vision is not limited and the display is easily readable.

1. Attach the monitor in the driver's cab on the RH side above the instrument board by means of the suction holder. Alternative attachment possible.



*Standard rigid monitor*



*Monitor with holding fixture*



Ensure that the windshield is free of dust and grease and that the monitor is not attached in the curved section.

2. Install the terminal box at a suitable and easily accessible position in the driver's cab.



*Terminal box*

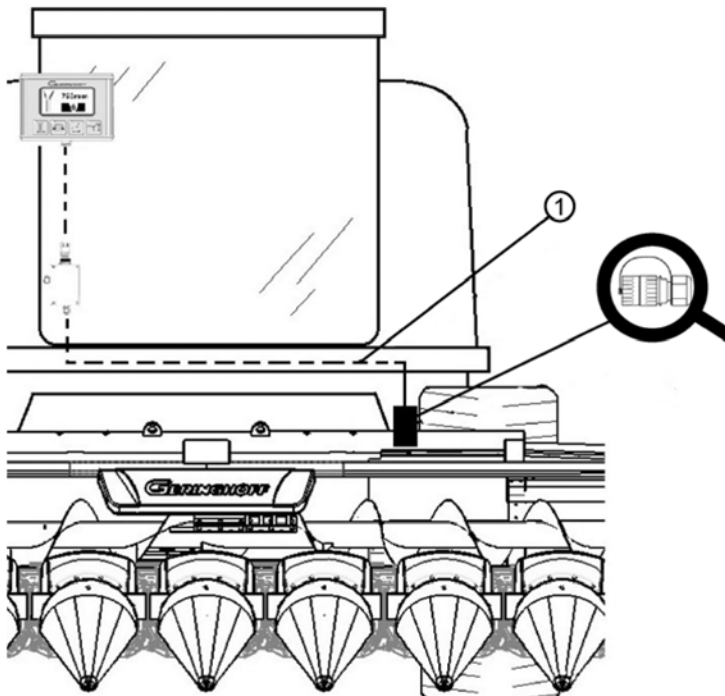
## Laying cables

1. Lay the monitor cables to the terminal box without damaging them
2. Lay the header/ terminal box connection cables starting from the LH outside through a suitable opening on the RH side in the cab floor. (If necessary, drill a hole of Ø 13 mm).



Seal the cable exit opening!

Ensure that the cable length is sufficient for the lifting and lowering movements of the intake channel.



1=cable path, magnifying glass=monitor connection to the header

## Connecting the cables 5

Connect according to the figure with the current switched off.

br=brown

gr=gray

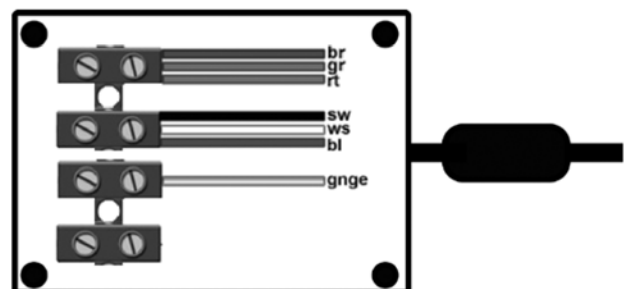
rt=red

sw=black

ws=white

bl=blue

gnge=green-yellow



Connection diagram

## Connecting the power supply and the monitor

### DANGER



Danger of short-circuit!

1. Connect the plug for the power supply incorporating the ignition lock (12 V, fuse max. 10 Amp.).
2. Securely connect the electrical connection (monitor) with the header.



If needed, fuse can be replaced.

## Operating the Monitor

### Switching on the monitor

The monitor automatically switches on as soon as contact is made via the ignition lock.

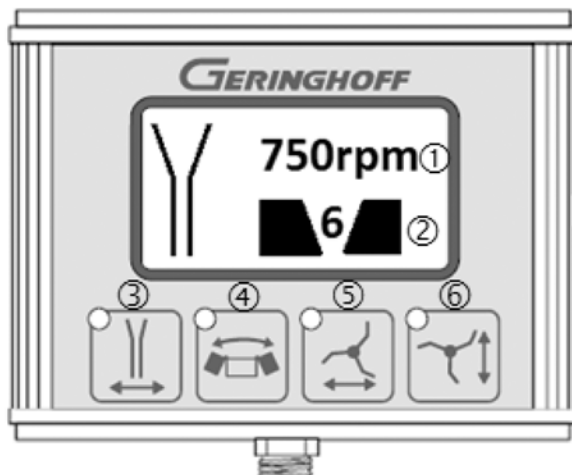
The system automatically recognizes the attached header type and activates the corresponding buttons. The button LEDs light up briefly, then the display changes to road or harvesting mode (rotational speed display and picking plate position).



If it is not used, the monitor automatically switches itself off after approx. 3 minutes (no input, combine harvester standstill or road transport.)

Press any key to restart the monitor.

### Monitor functions



1. Rotational speed
2. Deck plate spacing
3. Activate function "Adjust Deck Plates"
4. Activate "fold" function (optional)
5. Activate "sweeper forward/backward" function (optional)
6. Activate "raise/lower sweeper" function (optional)




During operation the monitor shows the rotational speed of the header in real time. In this way, possibly occurring slippage of the combine harvester drive as well as occurring overload moments can be monitored reliably.

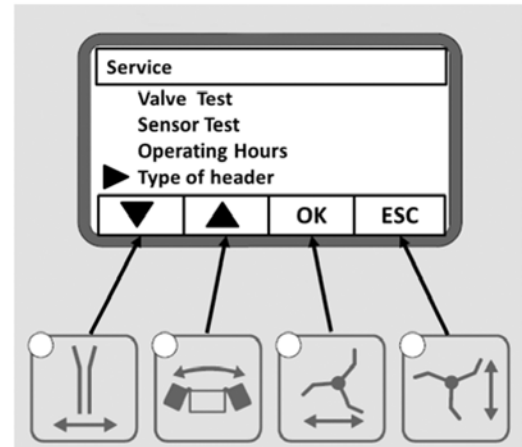
The monitor is used to access the following functions:

- Set deck plate spacing
- Fold up/fold out header
- Position sweeper



## Selecting the header type

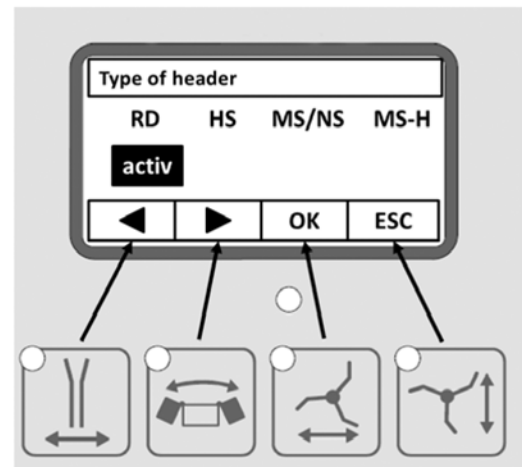
The ideal rotational speed range is different for the individual headers (corn or sun flower harvest). Select the connected header model prior to commissioning/start-up so that a warning signal can be given if the rotational speed deviates. If the rotational speed is outside of the determined range, the rotational speed display flashes.

1. Use the arrow buttons   in the service mode to pick the "type of header" function
2. Subsequently press the  button for approximately 3 seconds.



Select the type of header function

3. Use the arrow buttons   to select the respective header model and confirm by pressing the OK button.
- ➡ The selected header model is displayed as "active".
4. Use the ESC button to return to the main menu.





Header type selection (as an example)

## Rotational speed ranges for headers:

North Star: >650 and <850



Rota Disc: >650 and <800

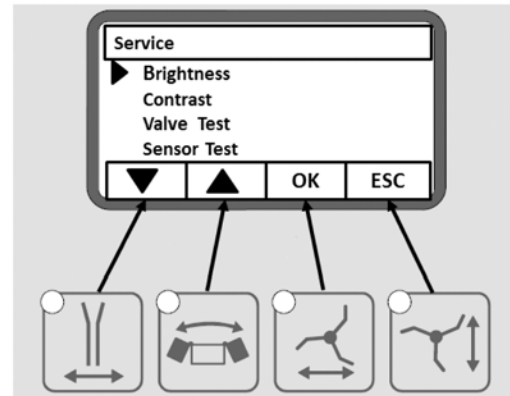
## Setting contrast and brightness

1. Simultaneously press the deck plate spacing  and the "raise/lower sweeper"  buttons for 3 seconds to change over to service mode.





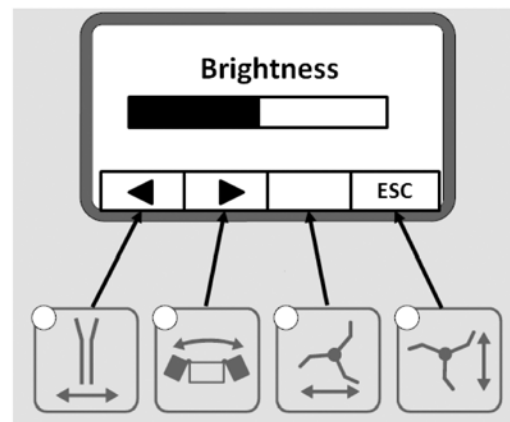
*Simultaneously press buttons for 3 seconds*

2. First use the arrow buttons   to select the function (brightness or contrast) and then press the OK button.



*Service mode*

3. Use the arrow buttons   to adjust the selected function. Use the ESC button to return to the main menu.



*Set the brightness*

## Moving the header to its harvesting position

# **DANGER**




Danger of injury!

- Never initiate the folding process while the header drive is switched on!
- Never initiate the folding process while driving!
- Ensure that no persons are in the swivel range!



Prior to initiating the folding process, ensure that the folding covers are completely open! If necessary, briefly actuate the hydraulic valve in the direction of the transport position.

Carry out the folding process without interruptions as the function is otherwise canceled and has to be accessed again via the monitor!

1. Press the "fold" button  to change over to the folding mode. The button LED lights up.
  - ➔ First the folding symbol appears on the display.
2. Move the header to its harvesting position by means of the function "reel forward or backward" on the control lever of the combine harvester.
  - ➔ The unlocking symbol appears on the display until the cover hoods are closed.
3. Do not stop actuating the valve until the harvesting position has been fully reached. For this reason, continue actuating the valve for 10 seconds after the cover hoods are closed (ensure that the center hoods are completely closed!).
  - ➔ As soon as the harvesting position has been fully reached, the monitor display will switch to the standard harvesting mode.



*Folding symbol on the display*



*Fig. schematic*



*Standard harvesting mode in standstill*



Do not stop actuating the valve until 10 seconds after the cover hoods are completely closed!



## Moving the header to its transport position

### DANGER




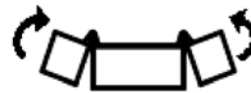
Danger of injury!

- Never initiate the folding process while the header drive is switched on!
- Never initiate the folding process while driving!
- Ensure that no persons are in the swivel range



Carry out the folding process without interruptions as the function is otherwise canceled and has to be accessed again via the monitor!

1. Press the "fold" button  to change over to the folding mode. The button LED lights up.
- ➔ First the folding symbol appears on the display.
2. Move the header to its transport position by means of the function "reel forward/backward" on the control lever of the combine harvester.



*Folding symbol on the display is continuously shown*

- ➔ The unlocking symbol appears on the display.
- ➔ The lock symbol extinguishes as soon as the unlocking process is finished and the folding process starts.




*Fig. schematic*

## Setting the deck plate spacing



The deck plate spacing can only be adjusted in the harvesting position!

1. Press the deck plate spacing button  to switch into the deck plate adjustment mode.
- ➔ The button LED lights up, the current indicator value for the deck plate spacing appears on the display.
2. Set the spacing of the deck plates by means of the "reel forward/backward" function on the control lever of the combine harvester.



*Deck plate adjustment mode*



The deck plate spacing is displayed with values between 0-10 (indicator values).


## Adjusting the sweeper, if equipped

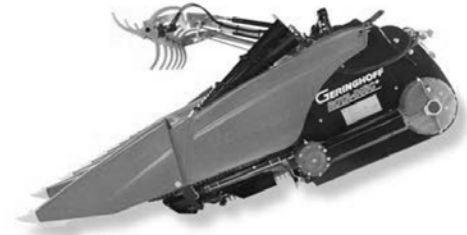
The infinitely variable conveyor segments are available as an option and will be referred to as "sweeper" hereinafter. For foldable headers the sweeper is only installed on the non-foldable header rows, for rigid headers it is installed on all rows. The sweeper is automatically moved into the correct position when the folding process is initiated.



The sweeper can only be adjusted in the harvesting position!


### Adjusting the sweeper horizontally

1. Press the sweeper forward/backward button  to change over to horizontal mode.
- ➡ The button LED lights up.
2. Horizontally adjust the sweeper by means of the function "reel forward/backward" on the control lever of the combine harvester.
- ➡ Finish actuating the valve when the desired position is reached.



*Adjust the reel horizontally*

### Adjusting the sweeper vertically

1. Push the "raise/lower sweeper" button  to change over to vertical mode.
- ➡ The button LED lights up.
2. Vertically adjust the sweeper by means of the function "reel forward/backward" on the control lever of the combine harvester.
- ➡ Finish actuating the valve when the desired position is reached.



*Adjust the reel vertically*

## Assembling the finger segments of the sweeper

### DANGER



Danger of crushing!

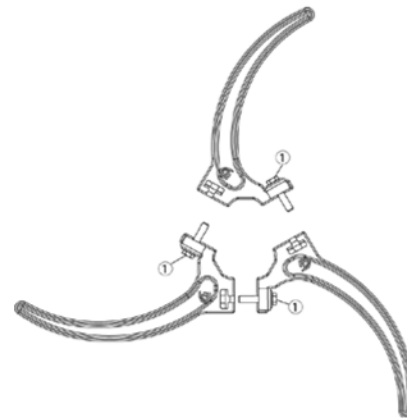
- Only install the finger segments of the sweeper when the header is lowered!
- Always move the sweeper to its bottom position for road transport!

Before assembly, ensure that the hydraulic group and the monitor are connected and that the header is lowered.

1. Remove transport securing devices.
2. Switch on monitor and press "raise/lower sweeper" button. Use the "reel forward" button to lift up the sweeper far enough so that the finger segments can easily be assembled.
3. Assemble the finger segments on the support pipe as depicted. Tighten the surrounding screws (1) evenly in alternation.



*Raise/lower sweeper button*

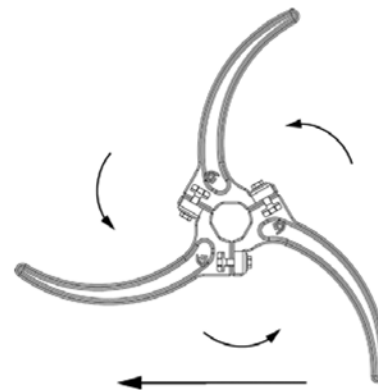


*Three component finger segment*



Keep a degressive work direction, see figure on the RH side.

Degressively install the finger segments on the support and drive. While doing so, center the finger segments precisely in relation to the header row.



*Degressively installed finger segment*



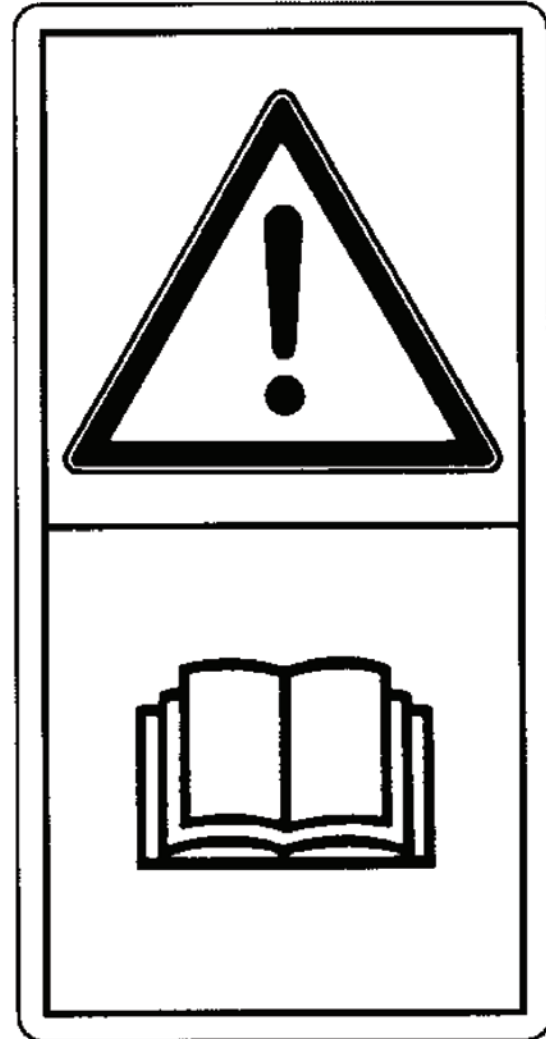
For rigid headers, the finger segments are installed on all header rows; for foldable headers they are only installed on the non-foldable header rows.  
For the harvesting process, set the sweeper (horizontally and vertically) so that the conveying capacity within the header rows is optimal.

## Section 3 - General Maintenance

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**To prevent accidents, strictly follow these operating instructions and WARNINGS on the machine.**

- Before starting the machine, CHECK for operational dependability and traffic safety!
- In addition to these operating instructions, also follow the current safety instructions.
- The warning signs and labels give important notes for the safe operation of the machine, thus serving the health and well-being of yourself as well as others.
- Prior to operating the machine make yourself familiar with all operating elements, safety procedures and functions. Ensure that all who will operate or come into close vicinity of the machine also have this knowledge.
- Check the driving characteristics, steering and braking behavior of any vehicle that will make use of or tow this machine.
- Load rating of the tires is to be checked and sufficient load capacity ensured.
- Sufficient hydraulic lifting power and stability of the lines are to be ensured.
- When working on the machine the provided supporting devices must be used.
- Admissible axle loads and total weight must consistently be observed.
- Before start-up all guards and maintenance holes must be in position and closed.
- While the machine is running be respectful of dangerous areas and adhere to warning labels at all times.
- Maintenance and repair work is to be performed only with engines shut down and drive lines disengaged.
- On public roads the legal provisions must be observed.
- If required, additional headlights for the road transport must be mounted (see local road transport licensing regulations).
- The instructions of the combine manufacturer must be observed as they pertain to operation of headers.
- The transport and operation of all machines including customized ones is made at your own risk.



**CAUTION**

- The following are general farm safety precautions that should be part of your operating procedure for all types of machinery.
- Protect yourself.



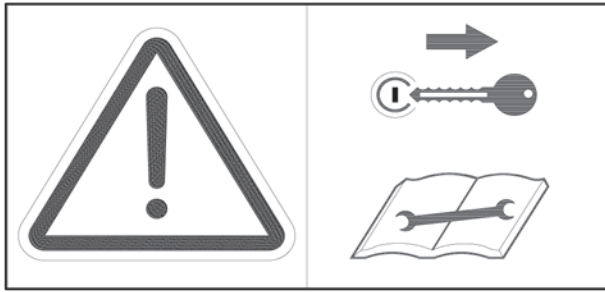
When assembling, operating and servicing machinery, wear all the protective clothing and personal safety devices that COULD be necessary for the job at hand. Don't take chances.

You may need:

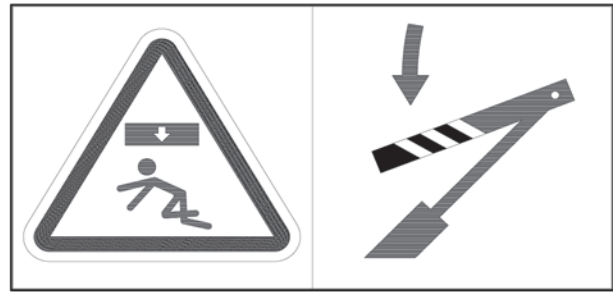
- A hard hat.
- Protective shoes with slip resistant soles.
- Protective glasses or goggles.
- Heavy gloves.
- Wet weather gear.
- Respirator or filter mask.
- Hearing protection. Be aware that prolonged exposure to loud noise can cause impairment or loss of hearing. Wearing a suitable hearing protective device such as ear muffs or ear plugs protects against objectionable or loud noises.
- Provide a first-aid kit for use in case of emergencies.
- Keep a fire extinguisher on the machine.
- Be sure the extinguisher is properly maintained and 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 to get finished. Take the time to consider the safest way. Never ignore warning signs of fatigue.
- Wear close-fitting clothing and cover long hair. Never wear dangling items such as scarves or bracelets.
- 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.
- Keep all shields in place. Never alter or remove safety equipment. Make sure driveline guards can rotate independently of the shaft and can telescope freely.
- Use only service and repair parts made or approved by the equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.
- Do not modify the machine. Unauthorized modifications may impair the function and/or safety and affect machine life.
- Stop engine and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.
- Keep the area used for servicing machinery clean and dry. Wet 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.
- Use adequate light for the job at hand.
- Keep machinery clean. Straw and chaff on a hot engine are a fire hazard. 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.



## ISO 11684



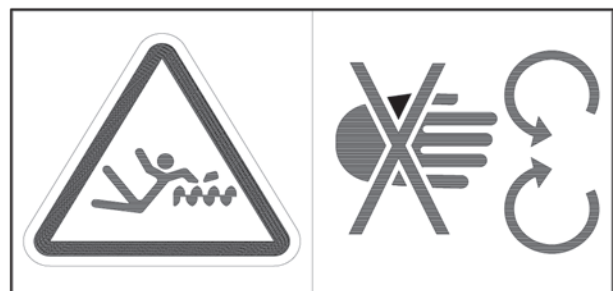
Prior to performing maintenance and repair work, turn off the motor and withdraw the key.



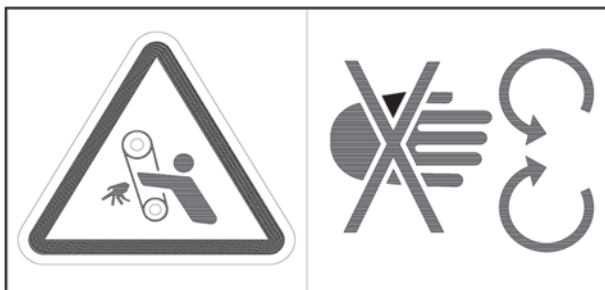
Insert lifting cylinder safety latches before entering dangerous areas.



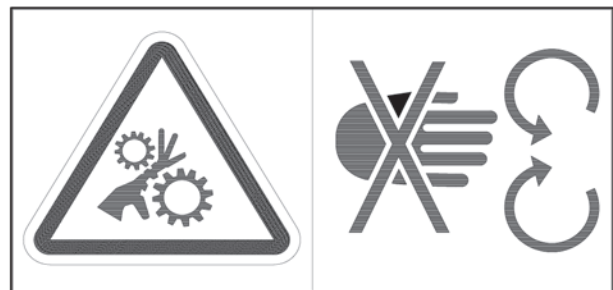
Keep away from danger zones between the header and machine!



Keep clear of operating machinery.



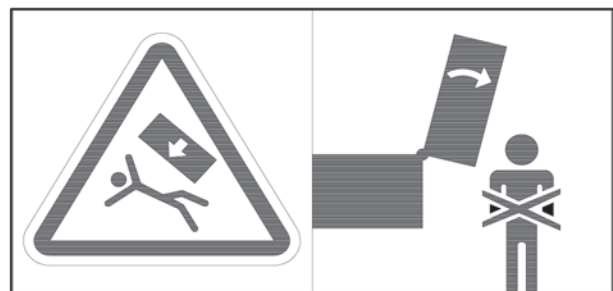
While the motor is running, never allow guards to be removed.



While the machine is in operation, keep away from moving components.



Keep a sufficient safety distance to the header. Prior to maintenance works or clearing of clogged header, switch off motor and remove key. Keep clear of machine during operation to avoid flying debris.



Never go into the operational range of the machine.



## Removal of the Gathering Chains

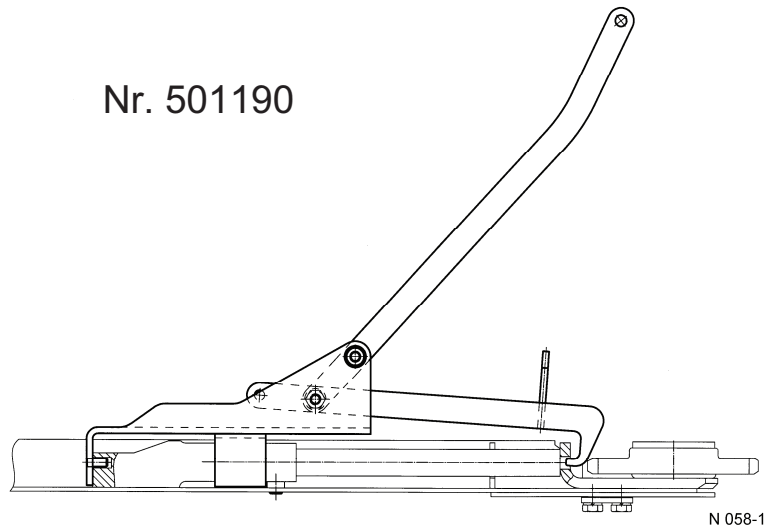
The chains can be removed with ease by using a special tool, (part no. 501190) which is supplied with the header.

**Prior to working on the machine, turn off the engine.**

**Special tool may release quickly when under pressure load.**

It is recommended to re-position gathering chains once a year to left and vice versa to ensure uniform wear.

Nr. 501190



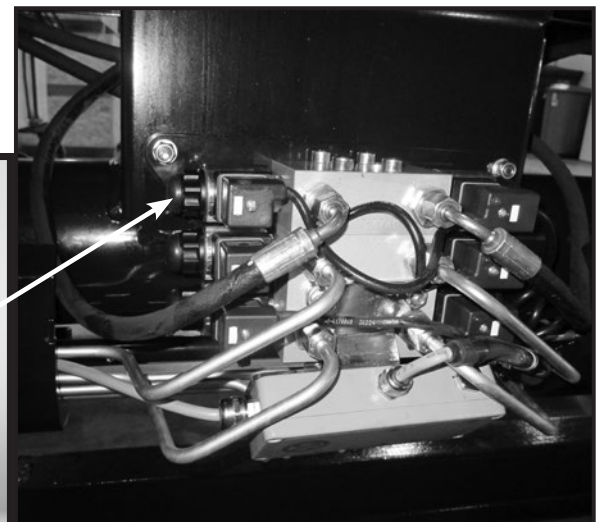
## Removal of Front Chain

Place the special tool for chain removal to position (A), as shown image right, and pull closed. Secure lever under hook (C) and carefully remove chain.



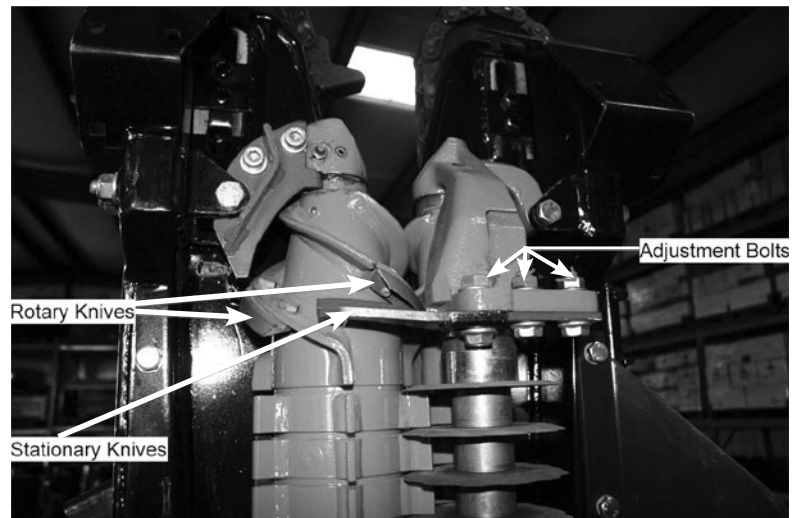
## Hydraulic Override System for Folding Models or with Sweeper Option

In the case of electronic malfunction, you can override the hydraulic system with these caps with threaded bolts on top (A) part # 041693. Remove the factory cap (without bolt) and replace with these, then manually turn threaded bolt down to bypass function of monitor. For more information, contact Geringhoff for service bulletin.



## Stationary and Rotating Knives

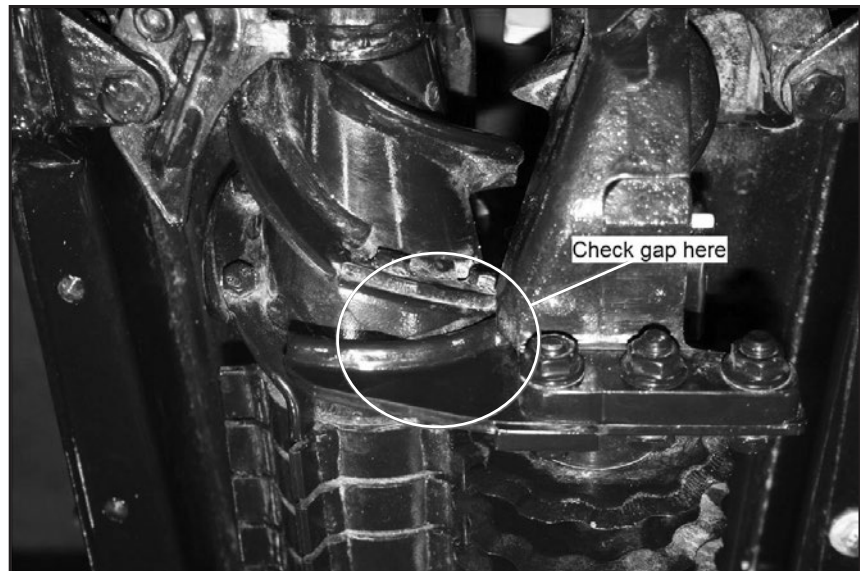
The stationary knives should be set to 1mm clearance from the rotating knives.



## Adjusting Stationary Knives on RD

By using a crescent wrench, spin the large roller to check the clearance between the knives.

Check clearance on all three knives before adjusting stationary knife. If adjustment is needed, loosen adjustment nuts and tap stationary knife in direction needed. Tighten and spin to check clearance again.

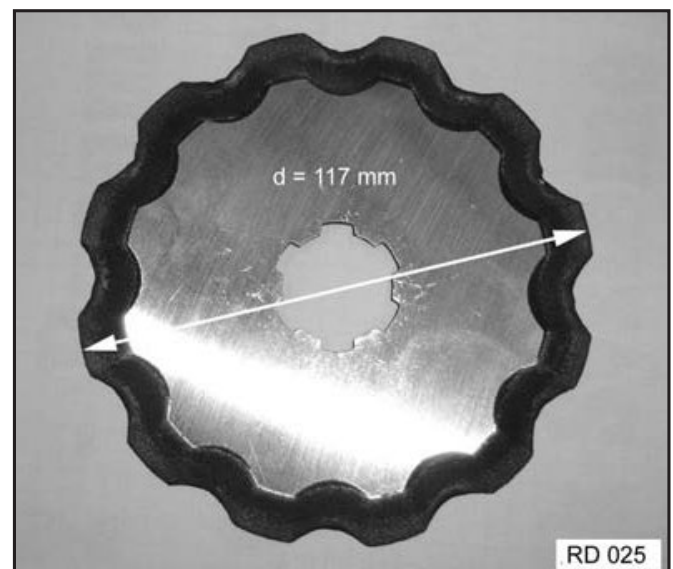


## Cutting Disks

The front 4 cutting disks endure the most wear. Replace the disks when there is too much wear to prevent the rotor working edges from further wearing.

Rota Disc cutting knives measure 117mm in diameter when new. Life expectancy will vary with field conditions but consider replacing when diameter is reduced to 100mm (17mm or 5/16" of wear). Depending on harvest conditions, replacement is necessary between 400 and 1000 acres per row. Maintaining disc tolerance will improve cutting and shredding performance and reduce the combine's pto power draw.

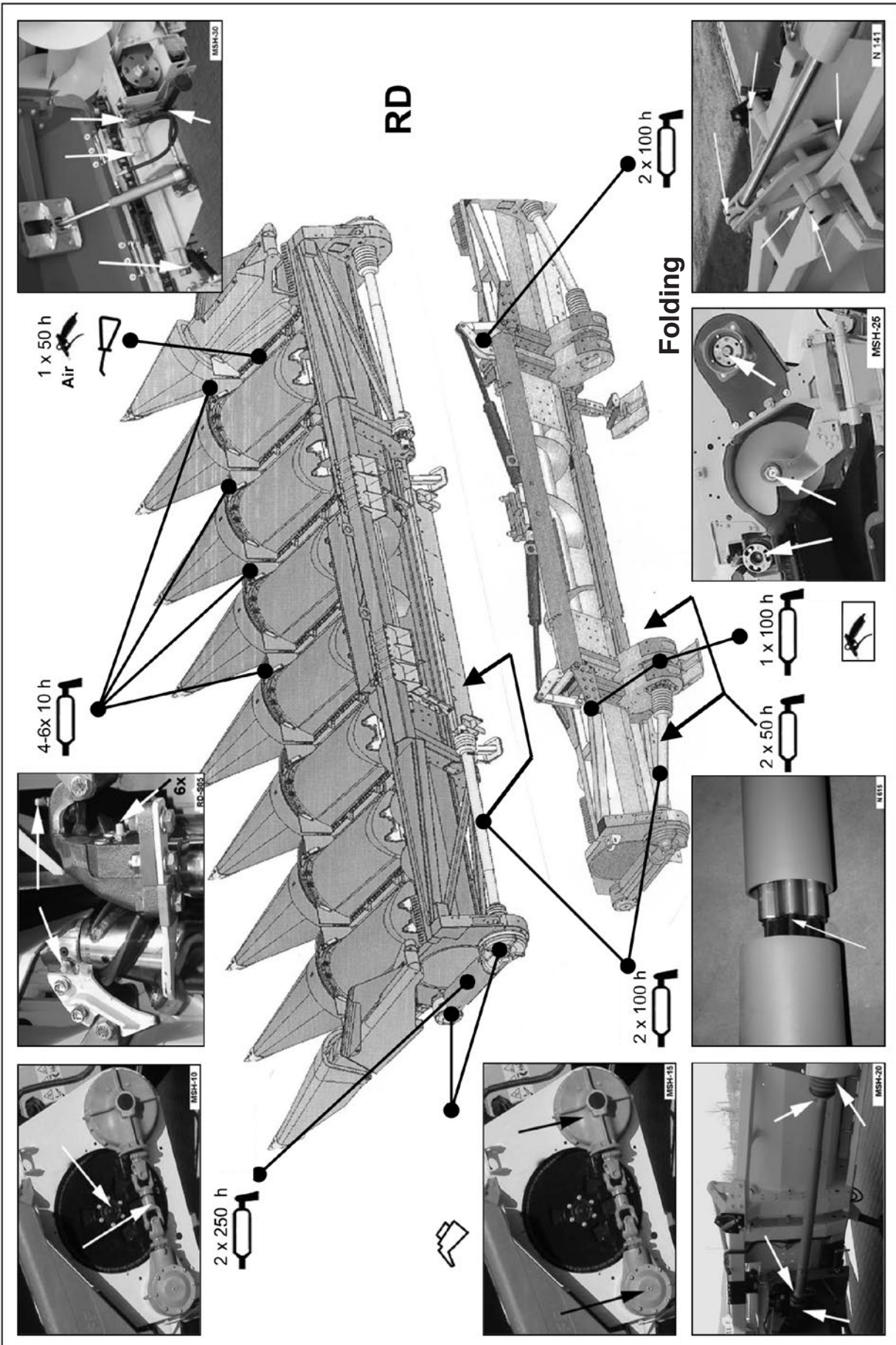
When working on the header on the combine, make sure engine is turned off, remove the key, and engage header stop lock.



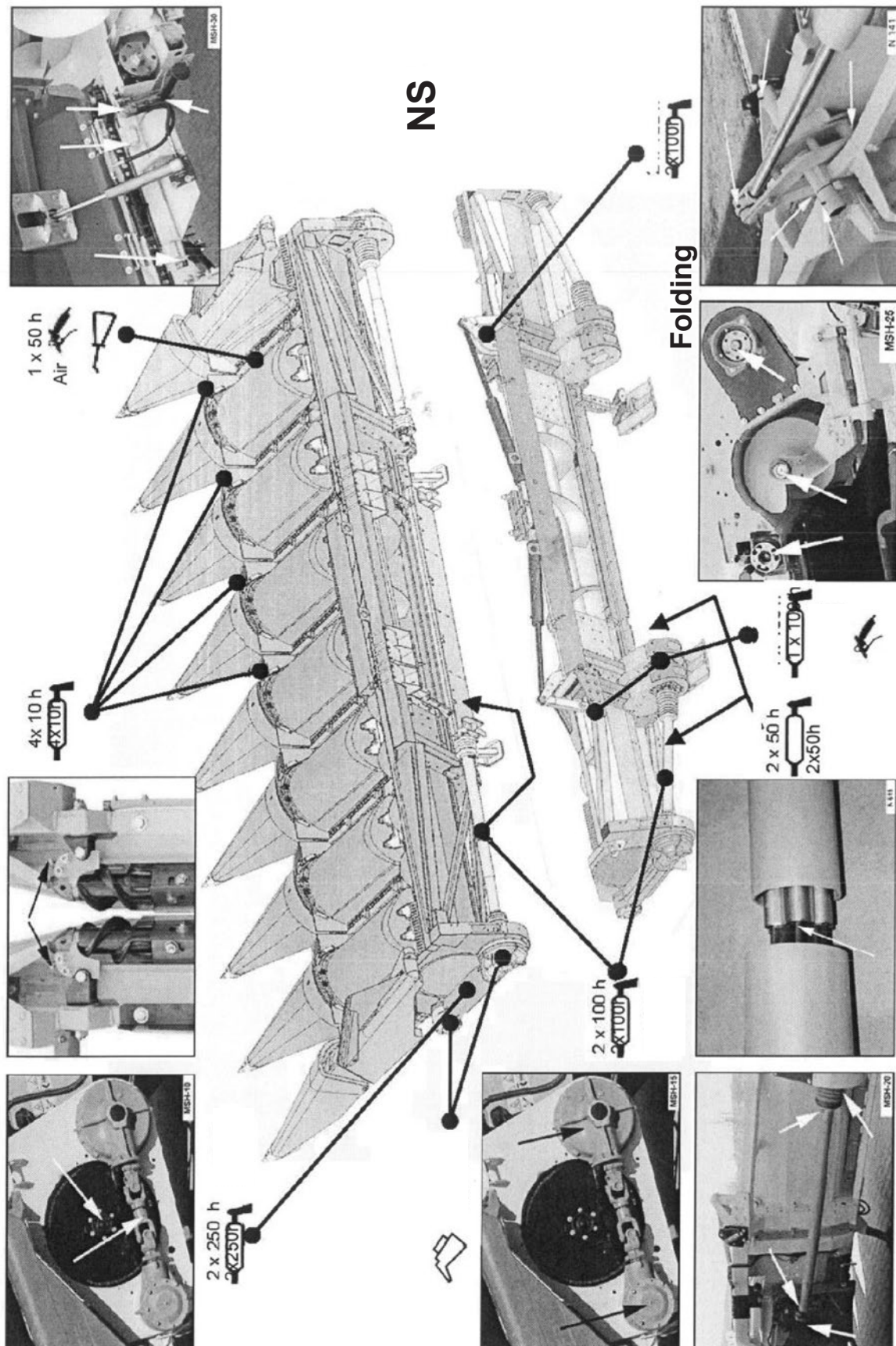


## Grease the Unit

Grease points for the RD.



Grease points for the NS.



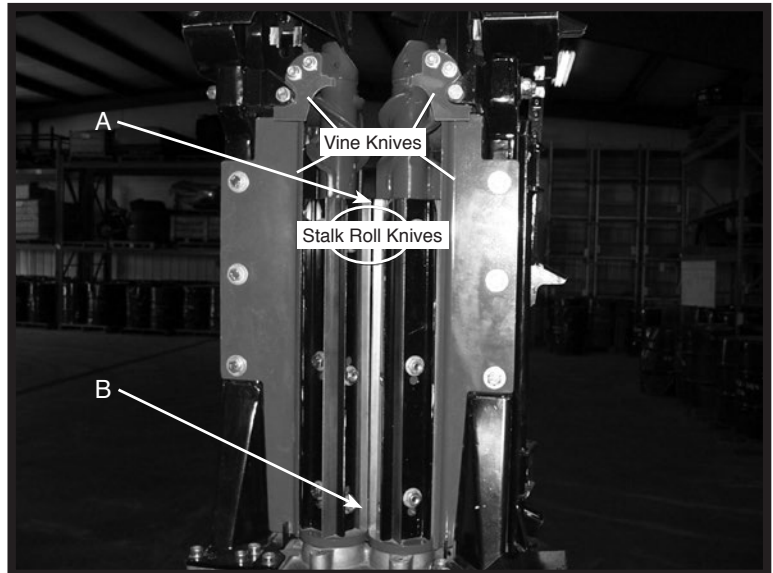


## Adjusting Stalk Rolls on NS

Adjustments of vine knives and stalk roll knives.

Adjust the stalk roll knives to 1-2mm at the top (A) and .5mm at the bottom (B). Rotate knife rolls to ensure proper measurements on all four knives

Adjust the vine knife to .5mm. Once you have it set at .5mm please make one complete rotation on knife roller to ensure there are no contact points between vine knife and knife roller.

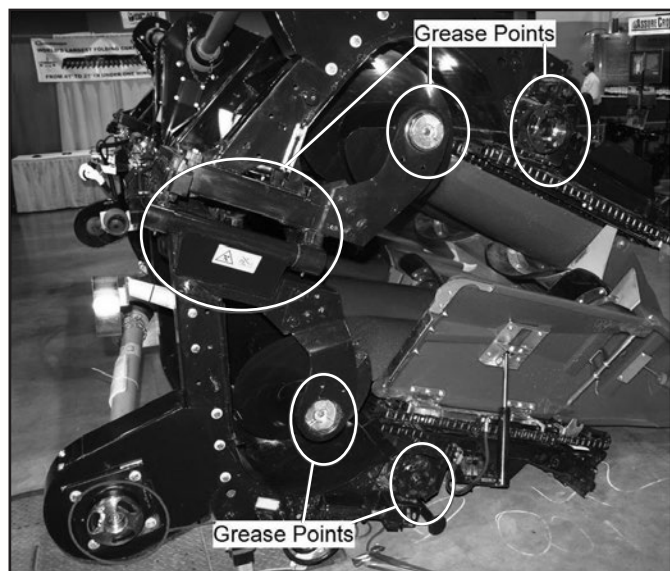


Grease both driveline shafts and the shafts between the crown gearbox and miter gearbox.

Grease folding heads in both folded and field positions, once a week.



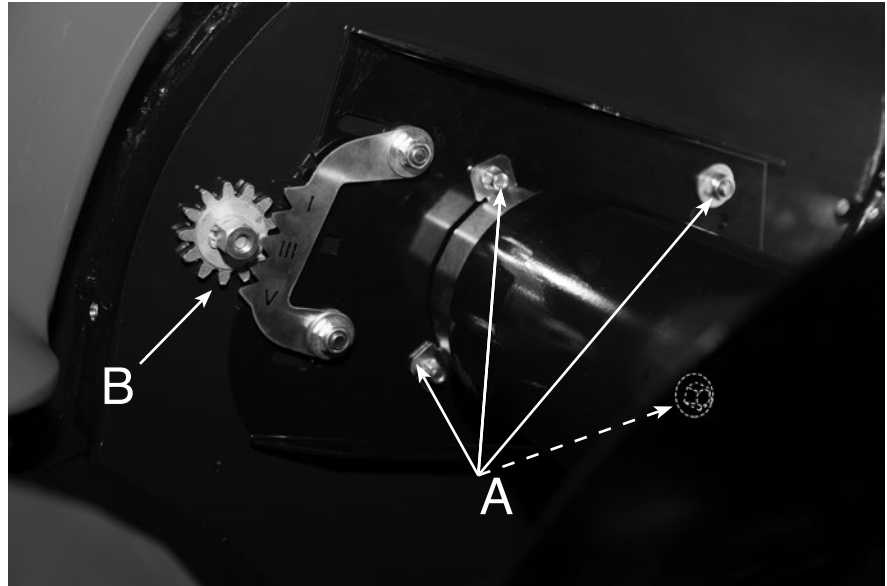
On folding heads grease the couplers for all the drives, as well as the hinges.



### Auger Adjustment

The auger is adjustable by first loosening the four lock nuts (A), then turning nut (B) to raise or lower the auger.

Normal starting position of the auger flighting is 1" - 1 1/4" off of trough floor.



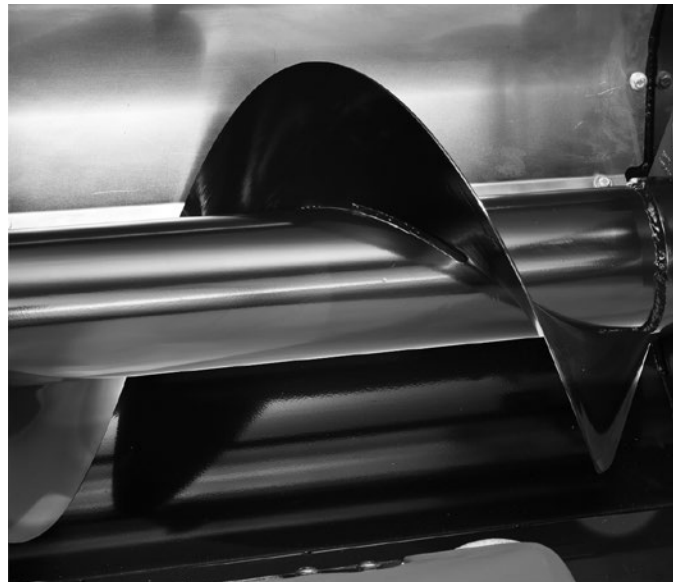
### Auger Stripper Adjustment

The recommended stripper bar clearance is 1/8" between the auger flighting and stripper bar.



### Auger Speed

The recommended auger speed is set at factory. If crown gear is changed or head is run at a lower speed, the auger speed may need to be changed to original RPMs.

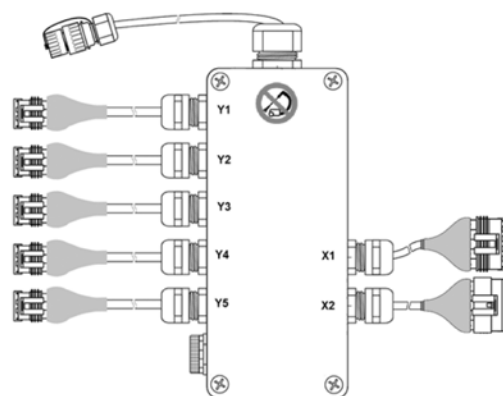


# Troubleshooting



## Carrying out a valve test on folding models or with sweeper option.

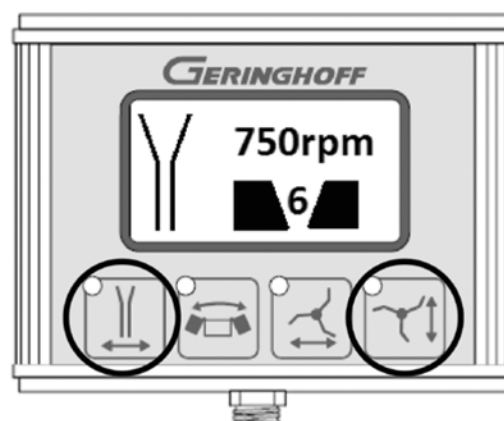
### Valve functions

- Y1 Deck plate adjustment
- Y2 Folding function (optional)
- Y3 Locking (optional)
- Y4 Sweeper forward/backward (optional)
- Y5 Raise/lower sweeper (optional)





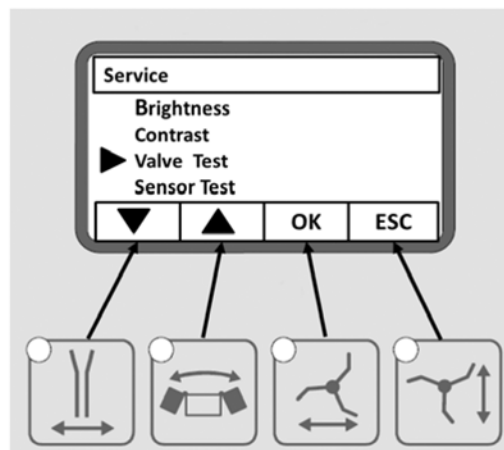
Wiring depends on model

1. Simultaneously press the deck plate spacing  and the "raise/lower sweeper"  buttons for 3 seconds to change over to the service mode.

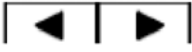


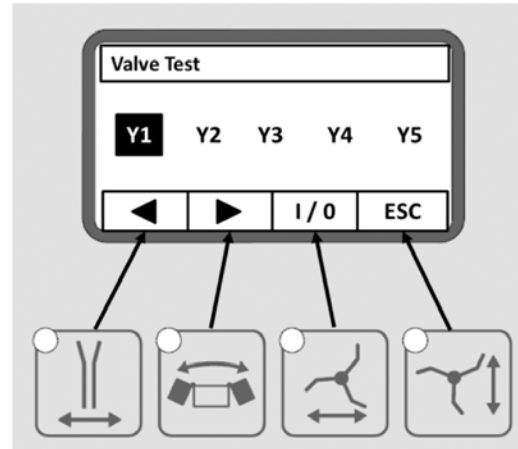
Simultaneously press buttons for 3 seconds

2. Use the arrow buttons   to select the valve test function and confirm by pressing the OK button. (Setting of brightness and contrast, valve test and sensor test).



Select valve test function

3. Use the arrow buttons  to select the valve to be activated and subsequently press the I/O button to activate the valve.



Select valve

- ➔ The selected valve is shown with a black background. If the electrical connection is correct, the LED on the valve will light up, otherwise carry out troubleshooting. Press the I/O button again to switch off the valve.
- 4. Press the ESC button to return to the service mode. Press the ESC button again to return to the main menu.



Valve with LED

### Carrying out a sensor test



2-3 mm spacing between the sensors and the signal transmitter!

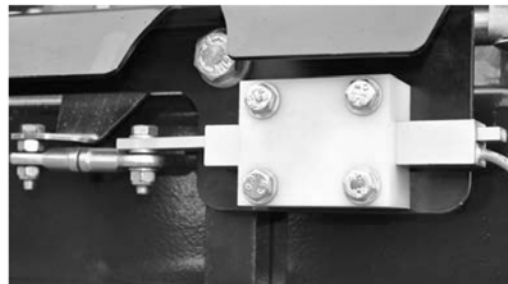
#### Sensor functions

E1 = rotational speed



Sensor (E1) for rotational speed monitoring below the machine

E2 = Deck plate spacing



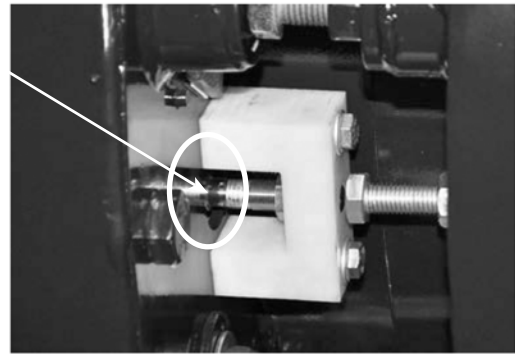
Sensor (E2) for picking plate spacing below the machine



E3 = folding function (optional)

LED on sensor lights up when powered on.

The two sensors for the folding function are serially connected. When testing first make contact on the LH side, then test the RH side.



*Sensors (E3) for folding function, RH and LH side in the back*

E4 = bottom sweeper position (optional)

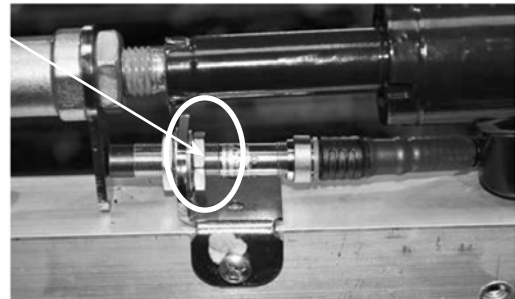
LED on sensor lights up when powered on



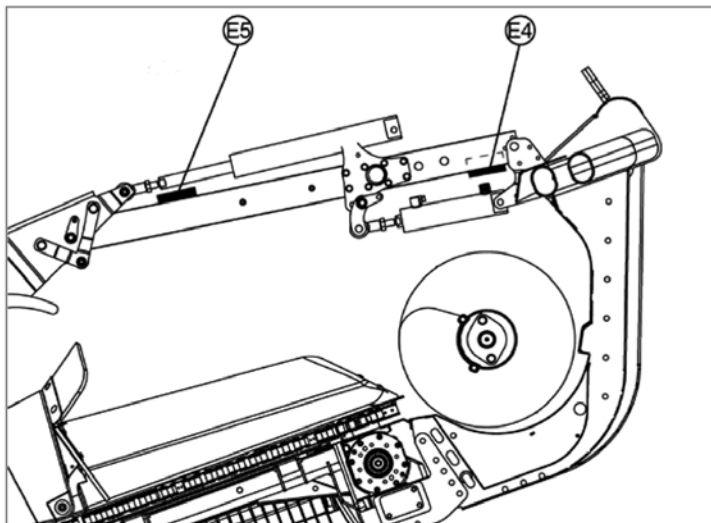
*Sensor (E4) for sweeper position, backward*

E5 = sweeper position backward (optional)

LED on sensor lights up when powered on





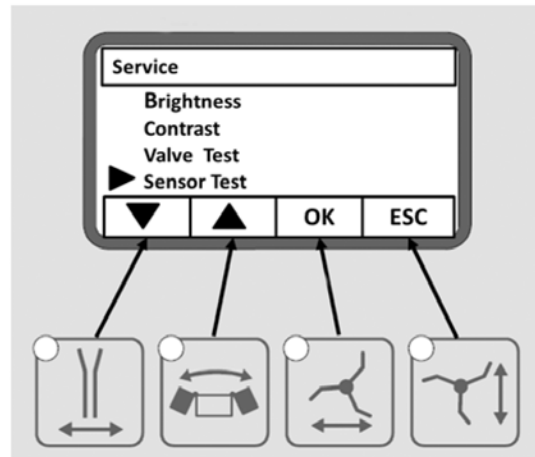
*Sensor (E5)*



*E4 = Sensor sweeper position, bottom, E 5 = sweeper position, backward*

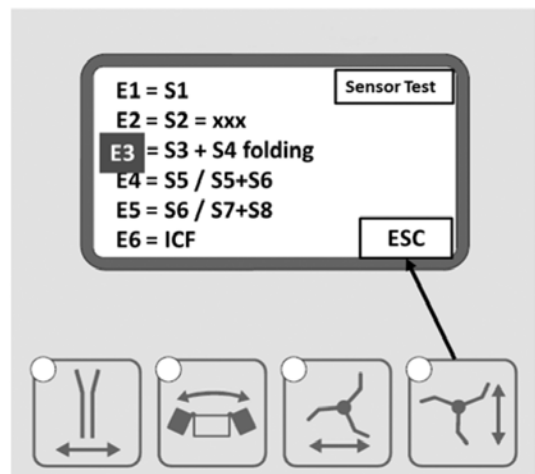
E6 = Sweeper detection (determined by wiring)

1. Use the arrow buttons   in service mode to select the sensor test function and then press the OK button.





Select sensor test function

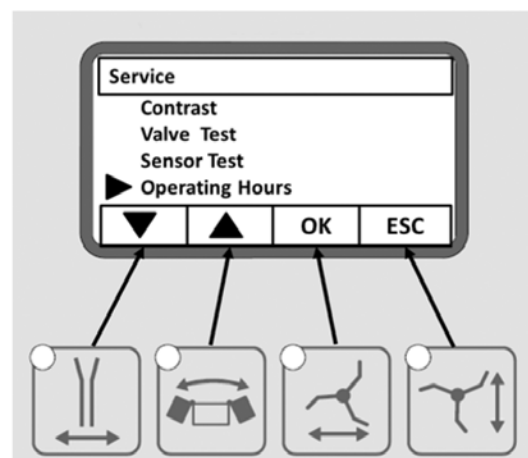
- The active input is displayed with a black background.
2. Test further sensors by making contact between the sensor and a suitable metal part. If the sensor is active, the LED will light up.
  3. Use the ESC button to return to the main menu.



Active sensor is displayed

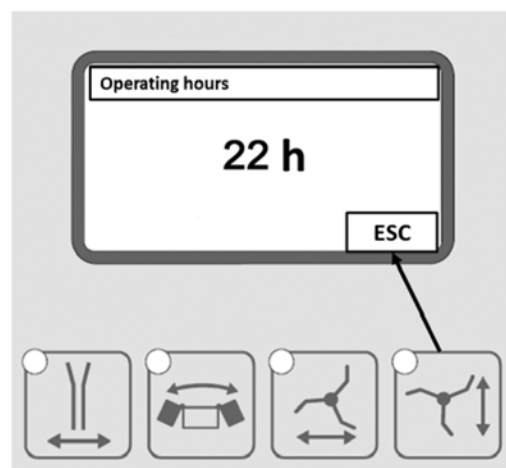
## Displaying the operating hours

1. Use the arrow buttons   to select the "operating hours" function in service mode and then press the OK button.



Select the operating hours function




- ➔ The operating hours are displayed
- 2. Use the ESC button to return to the main menu.

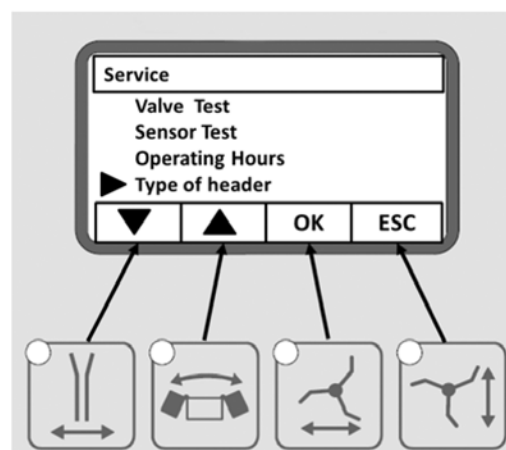


Operating hours display (as an example)



### Selecting the header type

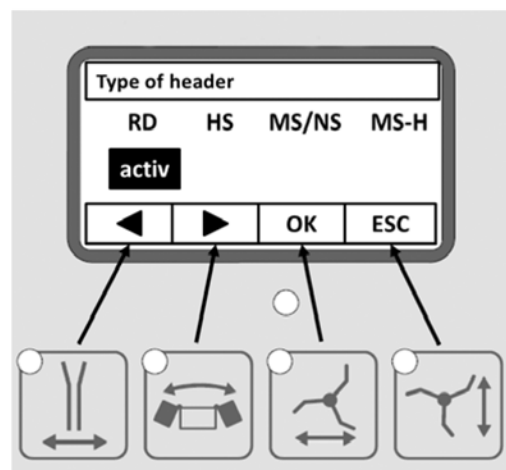
The ideal rotational speed range is different for the individual headers (corn or sun flower harvest). Select the connected header model prior to commissioning/start-up so that a warning signal can be given if the rotational speed deviates. If the rotational speed is outside of the determined range, the rotational speed display flashes.

- 1. Use the arrow buttons   in the service mode to pick the "type of header" function
- 2. Subsequently press the  button for approximately 3 seconds.



Select the type of header function

- 3. Use the arrow buttons   to select the respective header model and confirm by pressing the OK button.
- ➔ The selected header model is displayed as "active".
- 4. Use the ESC button to return to the main menu.



Header type selection (as an example)

**Notes**

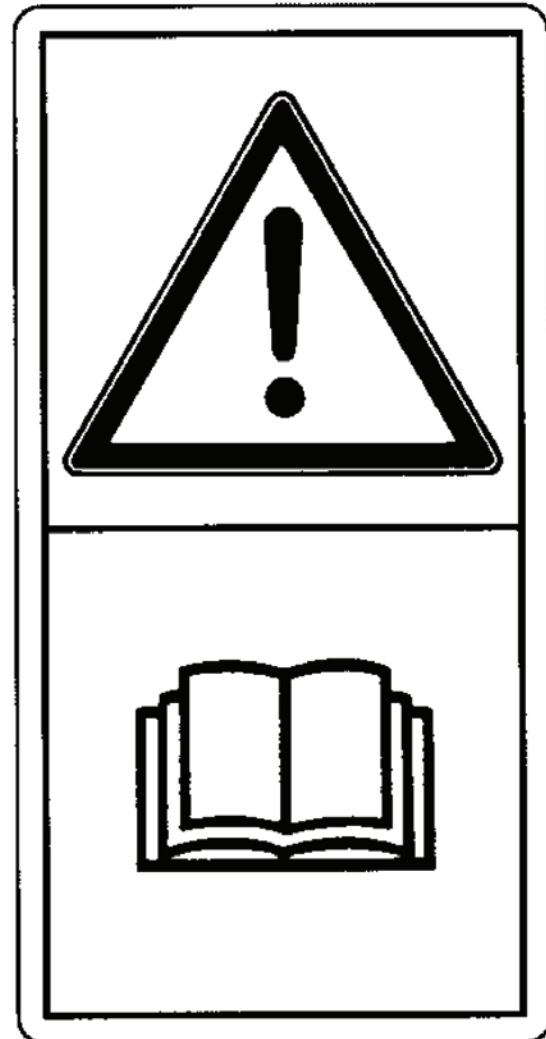
## Section 4 - Service Hints & Suggestions

Down corn.....	57
Fluff .....	57
Formula for crown gear on RD.....	58
Torque specifications & quick reference .....	58
Inspection checklist.....	59



**To prevent accidents, strictly follow these operating instructions and WARNINGS on the machine.**

- Before starting the machine, CHECK for operational dependability and traffic safety!
- In addition to these operating instructions, also follow the current safety instructions.
- The warning signs and labels give important notes for the safe operation of the machine, thus serving the health and well-being of yourself as well as others.
- Prior to operating the machine make yourself familiar with all operating elements, safety procedures and functions. Ensure that all who will operate or come into close vicinity of the machine also have this knowledge.
- Check the driving characteristics, steering and braking behavior of any vehicle that will make use of or tow this machine.
- Load rating of the tires is to be checked and sufficient load capacity ensured.
- Sufficient hydraulic lifting power and stability of the lines are to be ensured.
- When working on the machine the provided supporting devices must be used.
- Admissible axle loads and total weight must consistently be observed.
- Before start-up all guards and maintenance holes must be in position and closed.
- While the machine is running be respectful of dangerous areas and adhere to warning labels at all times.
- Maintenance and repair work is to be performed only with engines shut down and drive lines disengaged.
- On public roads the legal provisions must be observed.
- If required, additional headlights for the road transport must be mounted (see local road transport licensing regulations).
- The instructions of the combine manufacturer must be observed as they pertain to operation of headers.
- The transport and operation of all machines including customized ones is made at your own risk.



**CAUTION**

- The following are general farm safety precautions that should be part of your operating procedure for all types of machinery.
- Protect yourself.



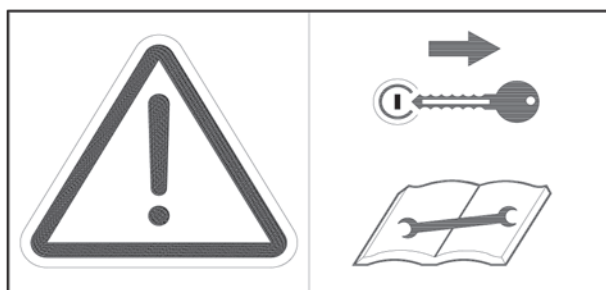
When assembling, operating and servicing machinery, wear all the protective clothing and personal safety devices that COULD be necessary for the job at hand. Don't take chances.

You may need:

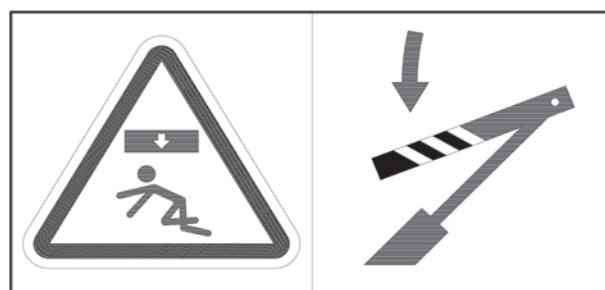
- A hard hat.
- Protective shoes with slip resistant soles.
- Protective glasses or goggles.
- Heavy gloves.
- Wet weather gear.
- Respirator or filter mask.
- Hearing protection. Be aware that prolonged exposure to loud noise can cause impairment or loss of hearing. Wearing a suitable hearing protective device such as ear muffs or ear plugs protects against objectionable or loud noises.
- Provide a first-aid kit for use in case of emergencies.
- Keep a fire extinguisher on the machine.
- Be sure the extinguisher is properly maintained and 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 to get finished. Take the time to consider the safest way. Never ignore warning signs of fatigue.
- Wear close-fitting clothing and cover long hair. Never wear dangling items such as scarves or bracelets.
- 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.
- Keep all shields in place. Never alter or remove safety equipment. Make sure driveline guards can rotate independently of the shaft and can telescope freely.
- Use only service and repair parts made or approved by the equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.
- Do not modify the machine. Unauthorized modifications may impair the function and/or safety and affect machine life.
- Stop engine and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.
- Keep the area used for servicing machinery clean and dry. Wet 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.
- Use adequate light for the job at hand.
- Keep machinery clean. Straw and chaff on a hot engine are a fire hazard. 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.



ISO 11684



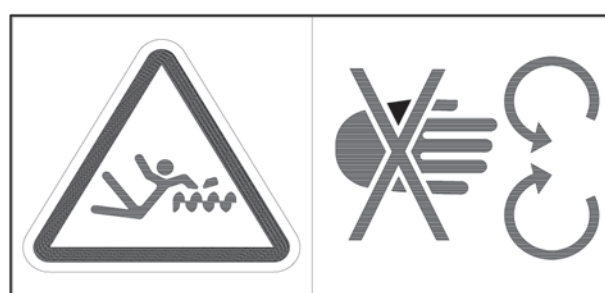
Prior to performing maintenance and repair work, turn off the motor and withdraw the key.



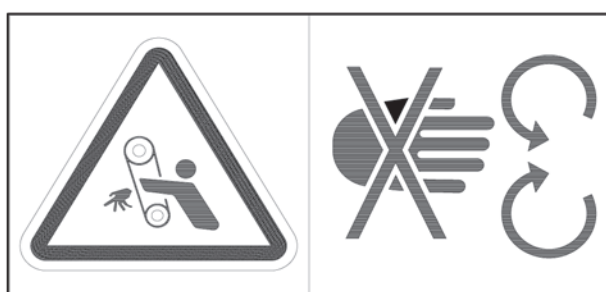
Insert lifting cylinder safety latches before entering dangerous areas.



Keep away from danger zones between the header and machine!



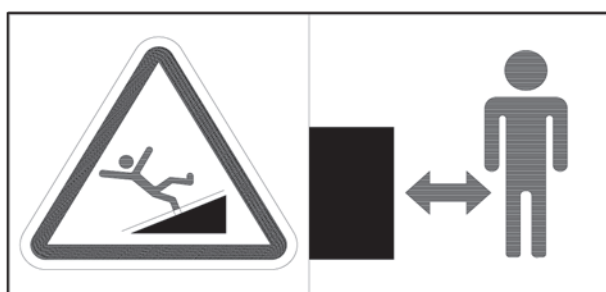
Keep clear of operating machinery.



While the motor is running, never allow guards to be removed.



While the machine is in operation, keep away from moving components.



Keep a sufficient safety distance to the header. Prior to maintenance works or clearing of clogged header, switch off motor and remove key. Keep clear of machine during operation to avoid flying debris.



Never go into the operational range of the machine.

***The following hints & suggestions have been developed by Geringhoff corn head dealers and owners. Please use them at your discretion and remember to always read and follow combine manufacturer specifications.***

Things to try if you are running in other than normal conditions.

### Down Corn

- Remove the black cob savers and brackets on the back end of the dividers.
- Remove the shields from outer bonnets.
- "Fingers" or "claws" work well when installed on the auger. Geringhoff part # 512253 – 512254 is an option through parts.
- Install down corn tips (Down corn poly tips became standard equipment in 2008).
- Install spring kits on dividers to help hold tips down. Spring kits became standard equipment in 2010 on all heads. 2008 and prior, the spring kits were only used on the wings on folding heads Part # 504037. Springs may be removed on newer heads to allow the divider to float in certain conditions.
- Run head close to the ground.
- Remove gathering chain and reverse direction. This will make the chains more aggressive and grabbing and pulling stalks.
- In severe down corn, you can flatten the head to help scoop up down corn that is laying flat on the ground. A NorthStar head can run at 20 degrees. With an RD head you can run at 22 or 23 degrees. With the RD head you will want to remove the stationary knives when running at this angle. This will leave a longer stalk, but will work. If the knife is left on it tends to push the stalk and not cut as well.
- Add aftermarket Crop Sweeper (2011 and earlier models), or Geringhoff ICF Sweeper (2012 and newer models).
- Add optional End Row Augers.

### Fluff

- Remove rubber paddles from auger.
- Remove cob savers and brackets from bonnets.
- Run gathering chains backwards.
- Help gathering chains pull more into auger by removing silver moons on the bottom of the back side of bonnets, and replace with an oversized one (part # 504198 and 504199). On the left side of the head install the 504198 over the left side gathering chain. On the right side of the head install the 504199 over the right side gathering chain.
- With really bad fluff, remove the ear savers.
- Check the gap between auger and feederhouse.
- Raise the auger up.
- Speed up the auger on 12 row and larger heads.
- Install the "fingers" or "claws" supplied with head when new. Geringhoff part # 512253 – 512254.
- Add aftermarket Crop Sweeper (2011 and earlier models), or Geringhoff ICF Sweeper (2012 and newer models).

### Shelling/Shatter

- If you are running in standing corn, try to go a little faster. This will allow more fodder in the head and cushion the cobs hitting the deck plates.
- Raise your head and cut at higher distance from the ground.
- Slow down the RPMs on your head. We recommend that you not go below 680 RPMs on a RD head, and 710 RPMs on a NorthStar. This can be done easily if your combine has a variable drive. If it is direct drive you will have to change the crown gears. For example on a Case 2300 series you will have to take out the 47 tooth crown gear and install a 44 tooth crown gear (see section 3 of service guide).
- When you have excessive butt shelling and you slow down the head, on 12 row and larger units, you may have to speed up the auger (from 16 tooth to 19 tooth).

### Ears Falling Before They Get Into Corn Head

- The variety of corn can affect this.
- Install rough terrain bonnet guide part # 505392
- Make sure that guides for the gathering chains are adjusted all the way out. On the NorthStar and some of the RD heads loosen the three bolts holding chain guide (2 by idler sprocket and one by auger end).
- If head is older than 2010 install closed style deck plates part # 501820 and 501823.
- Raise the corn head and lower the row dividers.

### Gearbox Maintenance

- DO NOT use synthetic oil in any of the gearboxes. Use of synthetic oil will void the warranty on gear boxes. We have tried synthetic oil and found it to cause the seals to leak. We use 80/90 wt gear oil and did not have a problem with seals. We recommend 80/90 gear oil.
- The fill plug will be tight. To ease its removal, disengage the plug by hitting it in the center with a punch and a hammer to break the seal.
- On the row unit gearbox, there is a dip stick attached to fill plug on the top of the gear box. This should be removed and checked, with header unhooked from combine, on level ground. Ensure that the oil level is showing on the dipstick.
- Check the torque of all drain plugs and fill plugs on the gearboxes.
  - All fill plugs should be Torque to 35 ft lbs.
  - All drain plugs should be Torque to 25 ft lbs.

## Formula for Crown Gear on an RD

Example:

- The formula for figuring the crown gears needed for running the head with any given combine is:

Case 2300 series combine  
510 RPM x 47 tooth divided by  
32 tooth = 749 RPM

- Combine shaft speed times the number of teeth on the crown gear, divided by 32 (the # of teeth in the miter gear box). This equals the rpm's on the Geringhoff monitor.

- With this formula you can figure backwards to find out what crown gear you have or need as long as you know both RPMs.
- This can come in handy if you run into a gearbox that was changed but not remarked with proper gear stamp.

## Torque - Minimum Hardware Tightening Torques for Normal Assembly Applications

Metric Non-Flanged Hardware and Locknuts

NOMINAL SIZE	CLASS 5.8 UNPLANTED	CLASS 8.8 UNPLANTED	CLASS 10.9 UNPLANTED	LOCKNUT CL.8 W/CL8.8
<b>M4</b>	1.7 Nm (15 lb in)	2.6 Nm (23 lb in)	3.7 Nm (33 lb in)	2.3 Nm (20 lb in)
<b>M6</b>	5.8 Nm (51 lb in)	18.9 Nm (79 lb in)	13 Nm (115 lb in)	7.8 Nm (69 lb in)
<b>M8</b>	14 Nm (123 lb in)	22 Nm (194 lb in)	31 Nm (274 lb in)	19 Nm (168 lb in)
<b>M10</b>	28 Nm (20 lb ft)	43 Nm (31 lb ft)	61 Nm (44 lb ft)	38 Nm (28 lb ft)
<b>M12</b>	49 Nm (36 lb ft)	75 Nm (55 lb ft)	107 Nm (78 lb ft)	66 Nm (48 lb ft)
<b>M16</b>	121 Nm (89 lb ft)	186 Nm (137 lb ft)	266 Nm (196 lb ft)	344 Nm (253 lb ft)
<b>M20</b>	237 Nm (174 lb ft)	375 Nm (276 lb ft)	519 Nm (382 lb ft)	330 Nm (243 lb ft)
<b>M24</b>	411 Nm (303 lb ft)	648 Nm (477 lb ft)	897 Nm (661 lb ft)	572 Nm (421 lb ft)

### Quick Reference Specifications

Oil Levels - 80w90 Gear Lube in all gearboxes. Non synthetic

NorthStar	Rota Disc
Row Unit Gearbox: 2 Litres (2.11 Quarts)	Row Unit Gearbox: 1.5 Litres (1.59 Quarts)
Crown Gearbox	Crown Gearbox
All gears except 32 tooth gear: 1.5 Litres (1.59 Quarts)	All gears except 32 tooth gear: 1.5 Litres (1.59 Quarts)
32 tooth gear: 2 Litres (2.11 Quarts)	32 tooth gear: 2 Litres (2.11 Quarts)
Gearbox Torque Specifications:	Gearbox Torque Specifications:
Fill Plug: 35 lbs/ft	Fill Plug: 35 lbs/ft
Drain Plug: 25 lbs/ft	Drain Plug: 25 lbs/ft

Change oil after first 50 hours, then annually.

Adjust distance between Rota Disc stationary knife and roller to a thickness of a business card (.5mm).

Rota Disc cutting knives measure 117mm in diameter when new. Life expectancy will vary with field conditions but consider replacing when diameter is reduced to 100mm (17mm or 5/16" of wear). Depending on harvest conditions, replacement is necessary between 400 and 1000 acres per row. Maintaining disc tolerance will improve cutting and shredding performance and reduce the combine's pto power draw.



## Inspection Check List for End of Season on Geringhoff Corn Head

- ☐ Oil leaks – all gearboxes
- ☐ Oil level in all gearboxes – Change once a year or every 500 hours
- ☐ Clean breathers on all gearboxes
- ☐ Poly flex couplers and drive couplers between row units
- ☐ Gathering chain wear
- ☐ Front idler sprocket on gathering chains
- ☐ Chain guide rails
- ☐ Deck plates adjustments
- ☐ Plastic slider guides
- ☐ Ear savers
- ☐ Auger sprocket and chain - lube chains
- ☐ PTO bearings and yokes between miter and crown gearboxes
- ☐ PTO bearings and yokes on combine drivelines
- ☐ Pull drivelines apart and grease shafts
- ☐ Bearings on front of rollers
- ☐ Grease row units
- ☐ Grease couplers on folding head
- ☐ Wiring
- ☐ Clean behind (under) deck plates

## Rota Disc Corn Heads

- ☐ Stationary and rotary knives for wear and gap setting
- ☐ Rota Disc for wear
- ☐ Large and small rollers for wear
- ☐ Clean behind (under) deck plates

## NorthStar Corn Heads

- ☐ Knife rolls - wear & adjust gap setting
- ☐ Vine knife – check clearance
- ☐ Clean behind (under) deck plates

## Geringhoff Folding Heads

- ☐ Couplers between drive line, row units and auger
- ☐ Clean behind (under) deck plates

**Notes**

## Section 5 - Brand Specific

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## Attaching the corn header to the harvester

### DANGER

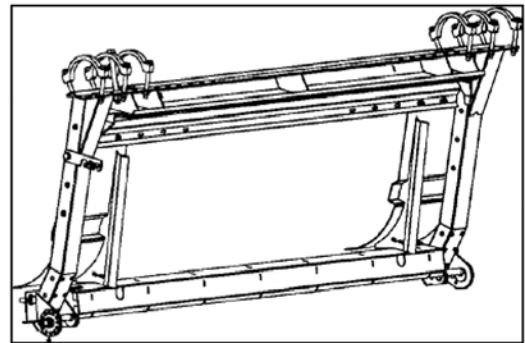


Danger of injury!

- Only carry out work on the machine when the diesel engine is switched off!
- When attaching the header, take safety precautions!
- Ensure that there are no persons between the combine harvester and the header!
- Observe the load bearing capacity of the combine harvester and the tires!
- Adhere to the combine harvester manufacturer's specifications!

The corn header is setup for a specific brand of combine, making an easy attachment possible.

By replacing adapter frames, hydraulics and drive components, a corn head may be configured for any combine model.

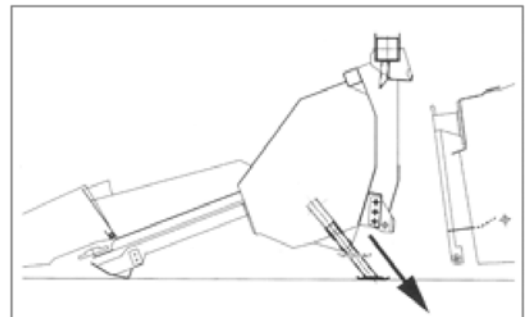


Adapter frame

1. Move the corn header to its harvesting position.
2. Fit the support legs in their support position (for initial assembly, if necessary turn the support legs by 180°).
3. Remove the transport frame.

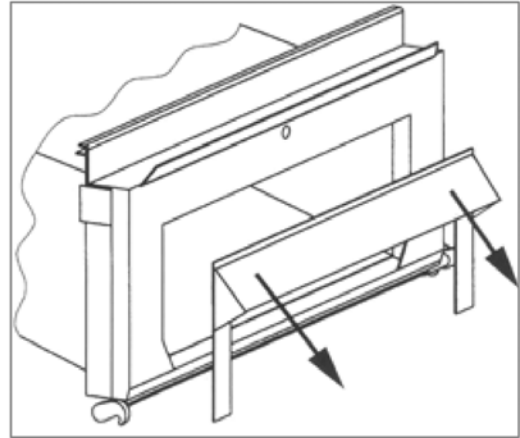


Support legs in transport position



Support legs in support position

4. Remove the channel splash guard on combine if it interferes with header face plates. On Case AFX combines, remove the black rubber bumpers as they will interfere with header faceplates.



*Remove the channel splash guard*

5. Move the combine harvester and header into the correct intake position.



## Connecting the adaption and the hydraulic multi-coupling (Case Combines only)

### Locking the adaption

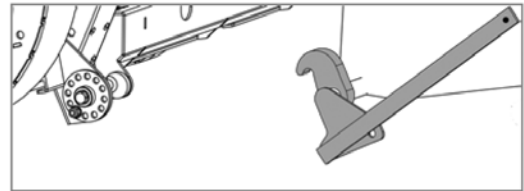
#### DANGER



Danger of injury!

- Always activate the lowering protection before working on the header!

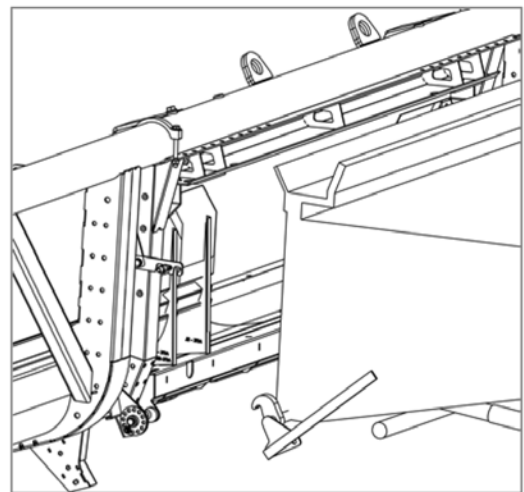
1. Ensure that the locking lever on the feederhouse is open.



*Lock in open position.*

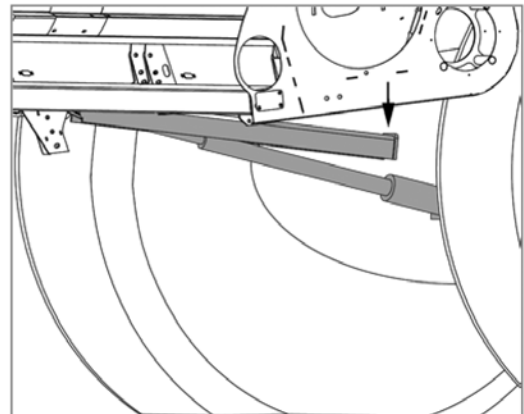
2. Drive the combine far enough into the corn header for the top mounts to engage with the top of the feederhouse.

CAUTION: Driving ahead too far may damage the side plates of the adapter frame.



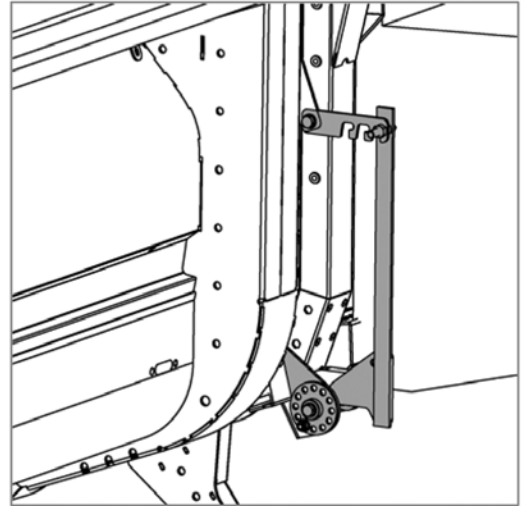
*Header prior to mounting*

3. Engage safety stop.



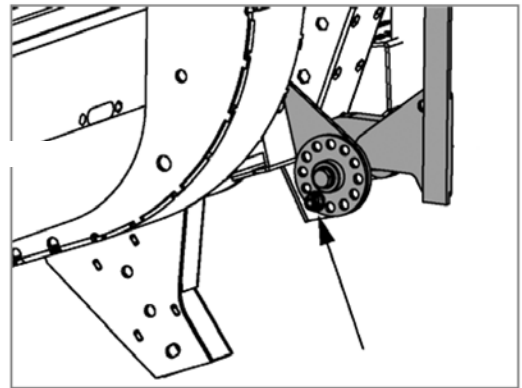
*Engage safety stop.*

4. Engage the locking lever to the latch pin of cornhead.



*Hook in locking lever*

5. If necessary, remove the bolt of the eccentric connection and set the eccentric shaft so the connection between the locking hook and the header is secure and free of clearance. Subsequently re-secure the eccentric connection by means of an appropriate bolt.



*Activated lock with eccentric bolt (arrow).*

## Connecting the hydraulic multi-coupling (Case)

### DANGER



- Only connect the hydraulic lines when the diesel engine is switched off!
- Avoid leakages and protect the environment!
- Ensure that the connection lines are not damaged!

On delivery the multi-coupling (plug) is secured on the mount bracket of the combine harvester.



*Multi-coupling on the combine harvester*

1. Remove the multi-coupling from the mount bracket
2. Ensure that the plug and the coupling are clean.

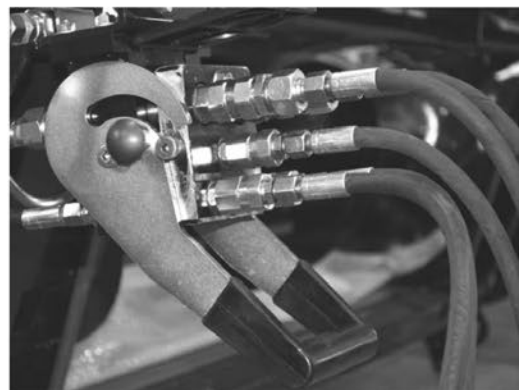


*Remove the multi-coupling*

3. Attach multi-coupling to header and throw the lever.



Adhere to the combine harvester manufacturer's specifications!



*Multi-coupling on the header*

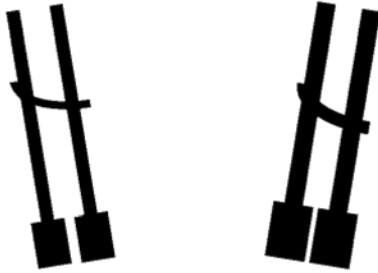
## Connecting the hydraulic without multi-coupling (Case)

### DANGER



- Only connect the hydraulic lines when the diesel engine is switched off!
- Avoid leakages and protect the environment!
- Ensure that the connection lines are not damaged!

Connect the hydraulic lines of the combine harvester with the header as shown in the following figures:



*Hydraulic hoses bundled in pairs  
LH side, picking plate adjustment, RH side reel drive, sweeper*

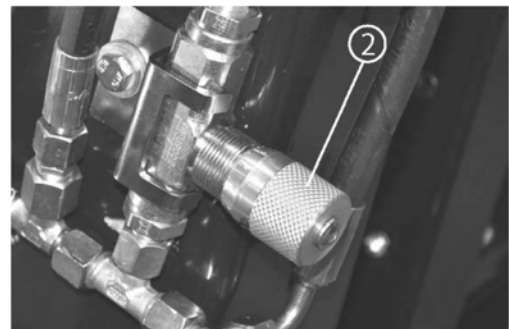


*Hydraulic lines of the harvester;  
LH side PPV, RH side reel drive, sweeper*

Mixing up is impossible due to the different arrangement of plugs and the coupling.

## Rotational speed reduction valve (Case)

Use the control valve (2) to set the rotational speed of the sweeper and the corn auger thus that sufficient adjustment is possible by using the combine harvester function "Reel fast/slow".



*Rotational speed reduction valve - Case.*

### CIH Spacer Block

This new Geringhoff spacer block for CIH combines gives you one more setting for raising and lowering the combine drum to assist material flow in different field conditions.



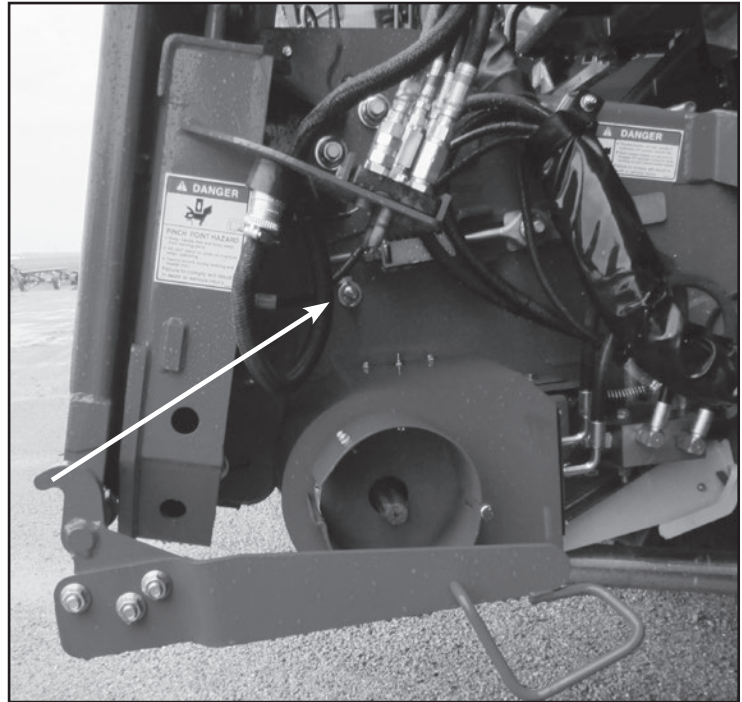
CIH original spacer block



Geringhoff spacer block

### CIH Feederhouse Block Location

The arrow indicates which bolt holds the spacer block in place.





## Connecting the adaption and the hydraulic multi-coupling (Lexion Combines)

### Locking the adaption

#### DANGER

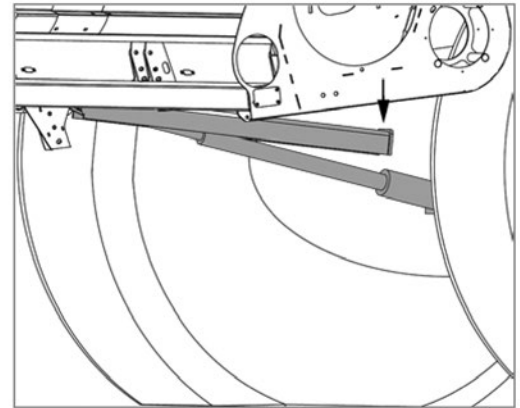


Danger of injury!

- Always activate the lowering protection before working on the header!

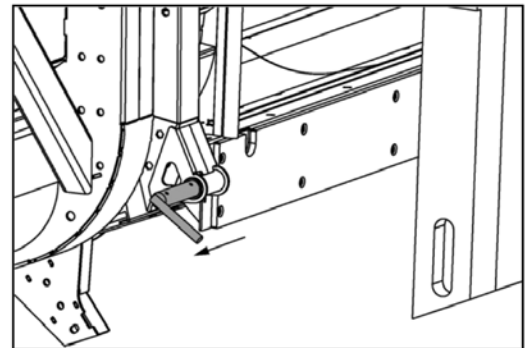
1. Drive the combine far enough into the corn header for the top mounts to engage with the top of the feederhouse.

CAUTION: Driving ahead too far may damage the side plates of the adapter frame.



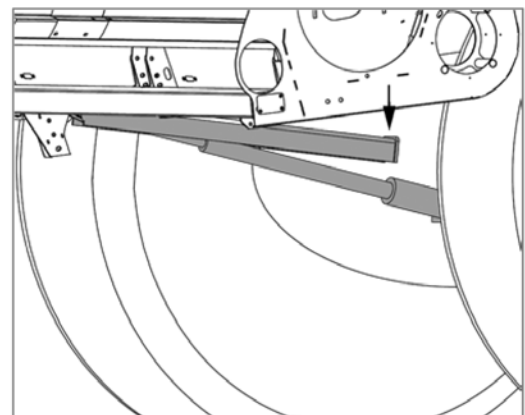
*Activated lowering protection*

2. Undo the spring cotter and pull back the locking bolt (gray).



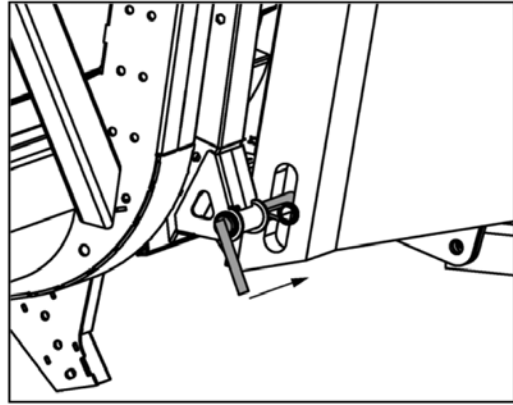
*Pull back locking bolt*

3. Insert the header into the combine harvester far enough that the lowering protection can be activated. Subsequently activate the lowering protection!



*Activated lowering protection*

4. While doing so, ensure that the channel holding fixture is securely hooked in. Push in the locking bolt and secure it with the spring cotter.



*Push in locking bolt*

## Connecting the hydraulic multi-coupling (Lexion)

### DANGER



- Only connect the hydraulic lines when the diesel engine is switched off!
- Avoid leakages and protect the environment!
- Ensure that the connection lines are not damaged!

When delivered the multi-coupling (plug) is secured on the carrying device of the combine harvester.



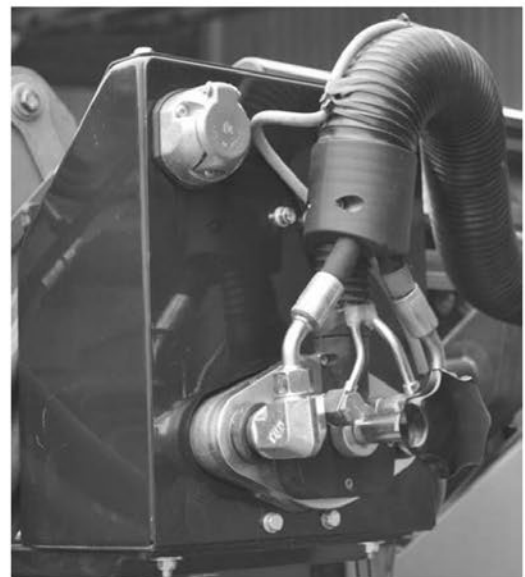
*Multi-coupling on the combine harvester*

1. Remove the multi-coupling (plug) from the carrying device.
2. Ensure that the plug and the coupling are clean.



*Remove the multi-coupling*

3. Attach the multi-coupling to the header and tighten the screws.
- ➡ Adhere to the combine harvester manufacturer's specifications.



*Attach and tighten screws*

## Connecting the adaption and the hydraulic multi-coupling (John Deere Combines)

### Locking the adaption

#### DANGER

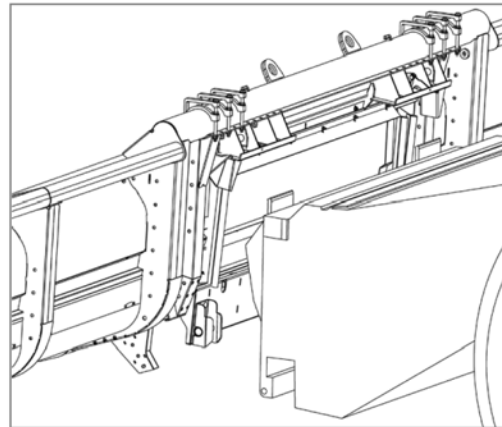


Danger of injury!

- Always activate the lowering protection before working on the header!

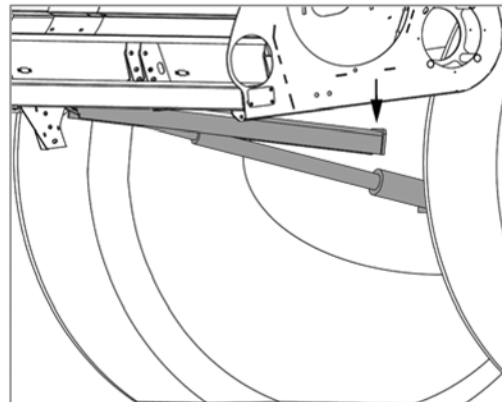
1. Drive the combine far enough into the corn header for the top mounts to engage with the top of the feederhouse.

CAUTION: Driving ahead too far may damage the side plates of the adapter frame.



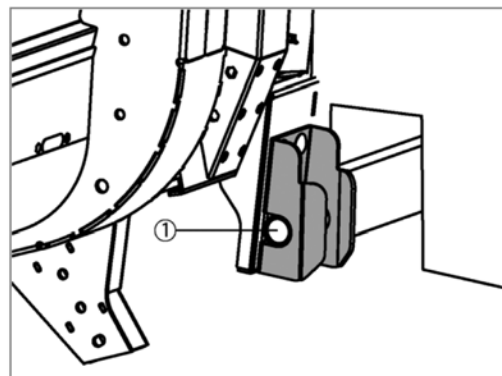
*Header prior to mounting*

2. Engage safety stop.



*Engage safety stop*

3. Ensure that the lock pins align correctly. If necessary, align pos. 1.



*Securely locked pins*

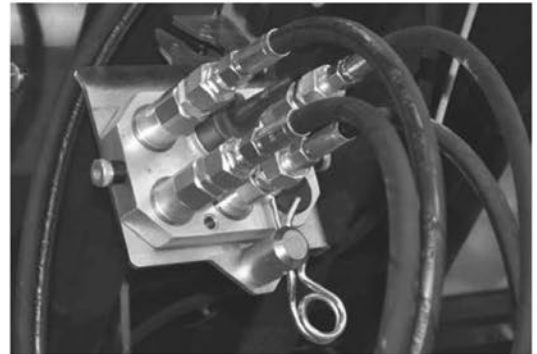
## Connecting the hydraulic multi-coupling (John Deere)

### DANGER



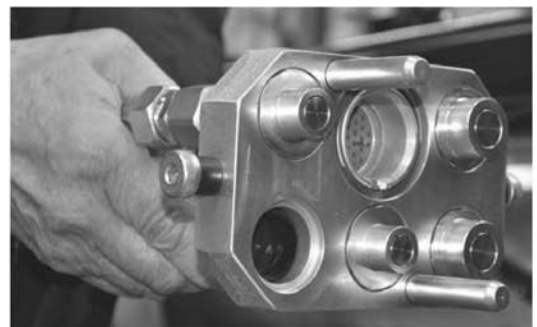
- Only connect the hydraulic lines when the diesel engine is switched off!
- Avoid leakages and protect the environment!
- Ensure that the connection lines are not damaged!

On delivery the multi-coupling (plug) is secured on the carrying device of the header by means of a spring cotter.



*Multi-coupling on the header*

1. Remove the multi-coupling (plug) from the carrying device.
2. Ensure that the plug and the coupling are clean.

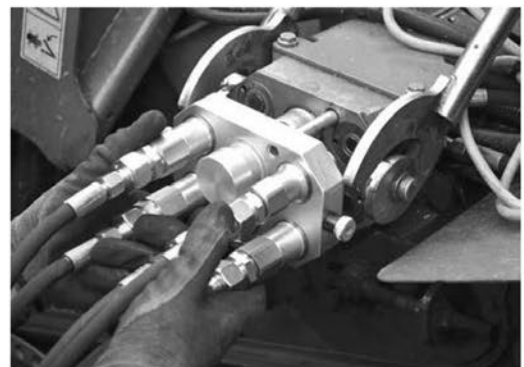


*Remove the multi-coupling*

3. Attach multi-coupling to combine harvester and completely throw the locking lever.



Adhere to the combine harvester manufacturer's specifications!



*Attach and throw the lever*



## Adapt hydraulic group to the header (John Deere)

To increase the folding speed for foldable headers and/or to increase the lifting speed when using the sweeper, carry out the changes described below.

### DANGER

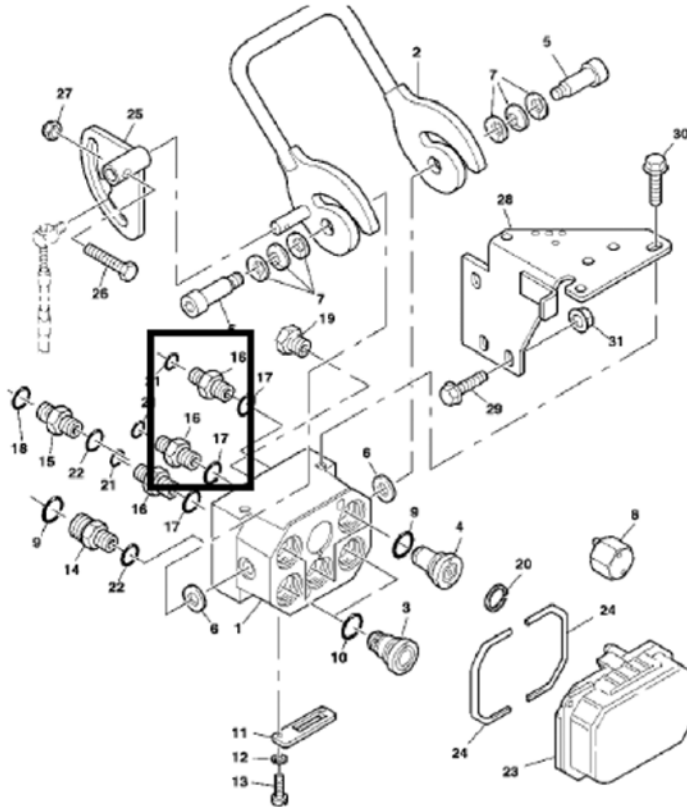
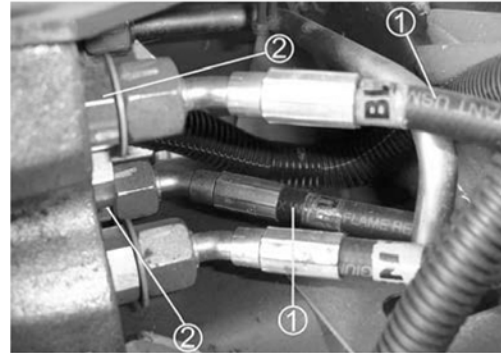


For later use of the combine harvester with John Deere attachments, always re-use the unchanged original screw connections!

- Check the hydraulic lines for leaks!

JD 660/670, 60/70 series

1. Disassemble the two hydraulic lines marked in blue (1) and unscrew the screw-in socket (2).
2. Drill open the orifice fitting to 4 mm, remove chips and dirt, then re-insert and tighten (Position 16 of the screw-in sockets in the John Deere replacement parts catalog).
3. Subsequently reconnect the hydraulic lines. Check for leaks!



*Position of the screw-in sockets in the John Deere replacement parts catalog*

## Connecting the adaption and the hydraulic multi-coupling (New Holland Combines)

### Adjusting the combine harvester intake channel (New Holland)

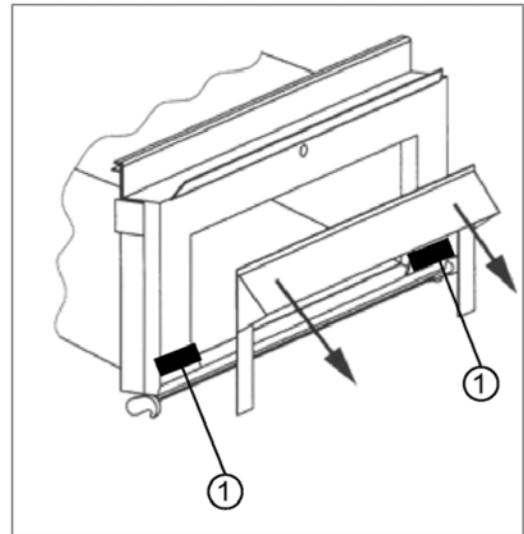
Prior to the initial installation of a header on a CNH combine harvester of the CX and CR series, always detach the brackets (2) on the upper link holding fixture.



Only remove the brackets, not the entire holding fixture!

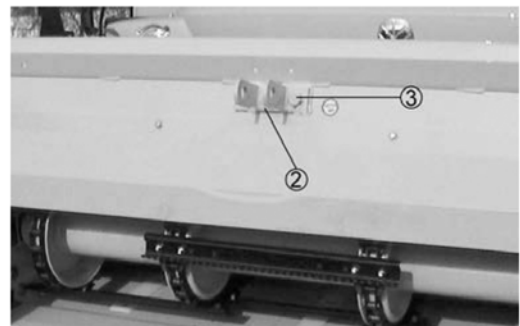
The rest of the fixture is required for the pivot point of the angling blade.

1. Remove the channel splash guard on combine if it interferes with header face plates.



*Remove the channel splash guard, if necessary, remove the scraper angle*

2. Remove the brackets (2) on the intake channel. Ensure that the flat steel including screws (3) remains attached to the machine!



*Remove bracket (2)*

The additional part (550900) is supplied so that the upper link holding fixture can be reused later.

Screw-fit the additional part onto the already installed bracket using longer screws (M16 x 50).



## Locking the adaption

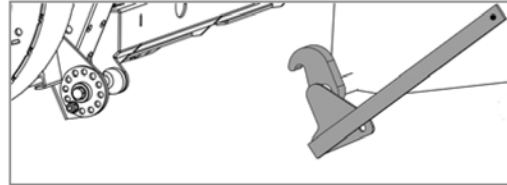
### DANGER



Danger of injury!

- Always activate the lowering protection before working on the header!

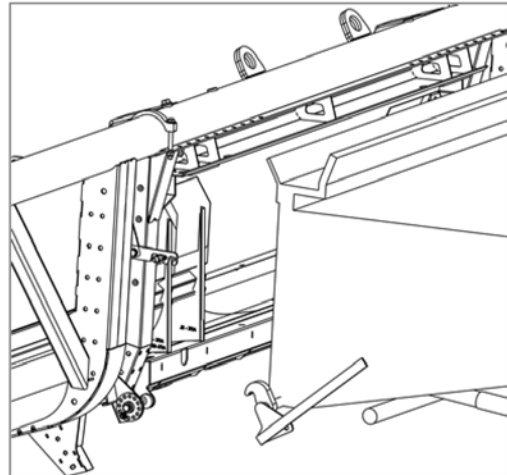
1. Ensure that the locking lever on the feederhouse is open.



*Lock in open position*

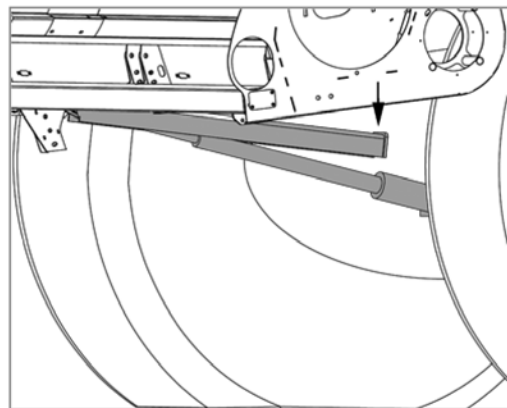
2. Drive the combine far enough into the corn header for the top mounts to engage with the top of the feederhouse.

CAUTION: Driving ahead too far may damage the side plates of the adapter frame.



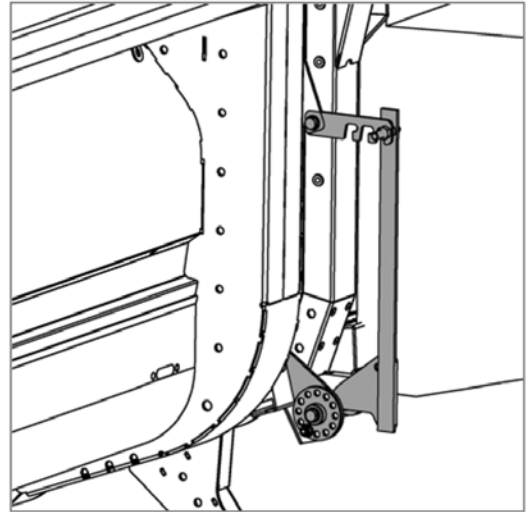
*Header prior to mounting*

3. Engage safety stop.



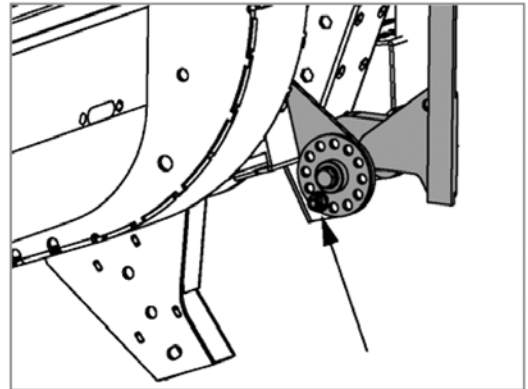
*Engage safety stop*

4. Engage the locking lever to the latch pin of cornhead.



*Hook in locking lever*

5. If necessary, remove the bolt of the eccentric connection and set the eccentric shaft so the connection between the locking hook and the header is secure and free of clearance. Subsequently re-secure the eccentric connection by means of a bolt.



*Active lock with eccentric bolt (arrow).*

## Connecting the hydraulic multi-coupling (New Holland)

### DANGER



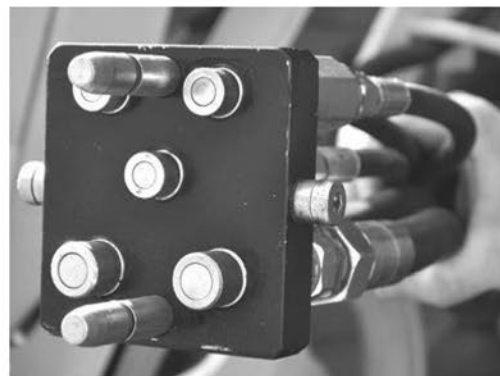
- Only connect the hydraulic lines when the diesel engine is switched off!
- Avoid leakages and protect the environment!
- Ensure that the connection lines are not damaged!

On delivery the multi-coupling (plug) is secured on the carrying device of the combine harvester.



*Multi-coupling on the combine harvester*

1. Remove the multi-coupling from the carrying device.
2. Ensure that the plug and the coupling are clean.

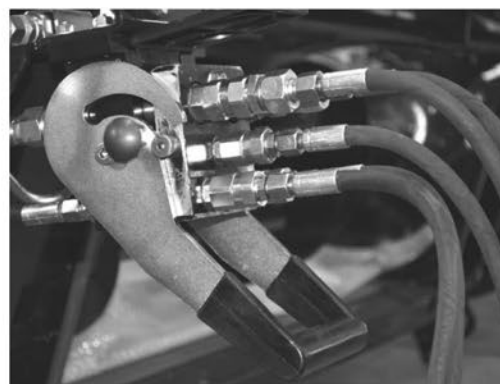


*Remove the multi-coupling*

3. Attach multi-coupling to header and throw the lever.



Adhere to the combine harvester manufacturer's specifications!

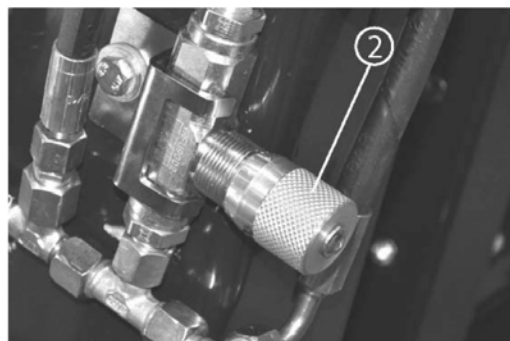


*Multi-coupling on the header*



## Rotational speed reduction valve (New Holland)

Use the control valve (2) to set the rotational speed of the sweeper and the corn auger thus that sufficient adjustment is possible by using the combine harvester function "Reel fast/slow".



*Rotational speed reduction valve New Holland*

## Connecting the adaption and the hydraulic multi-coupling (Massey Ferguson)

### Locking the adaption

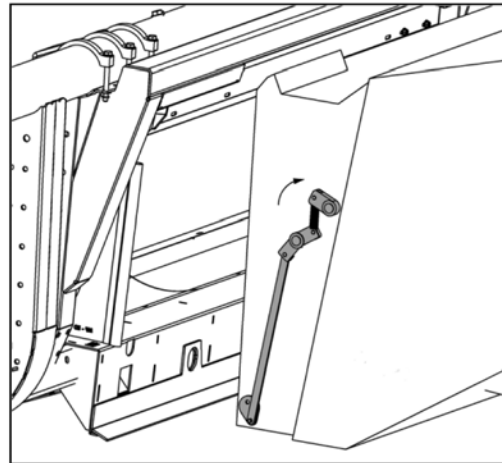
#### DANGER



Danger of injury!

- Always activate the lowering protection before working on the header!

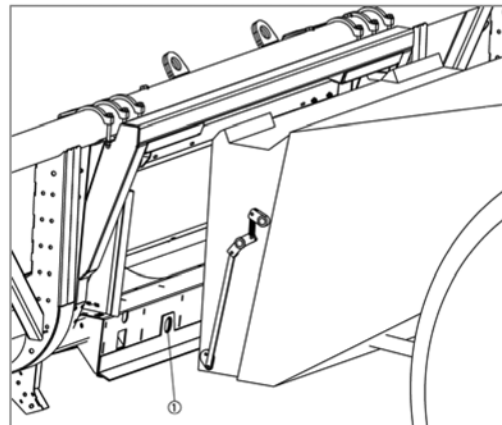
1. Ensure that the locking lever on the feederhouse is open.



*Locking lever in open position*

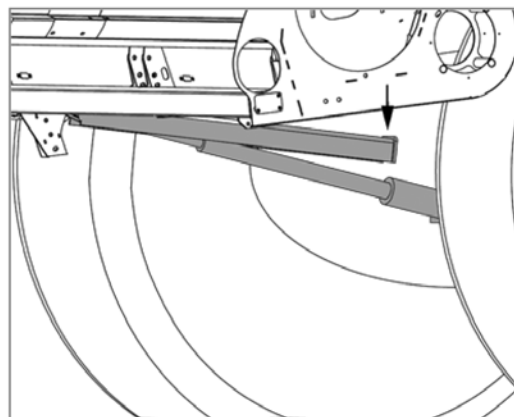
2. Drive the combine far enough into the corn header for the top mounts to engage with the top of the feederhouse.

CAUTION: Driving ahead too far may damage the side plates of the adapter frame.



*Header prior to mounting*

- Engage safety stop.

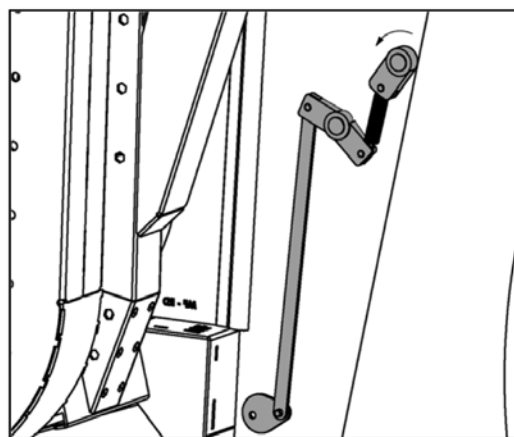


*Engage safety stop*

- Throw the locking lever of the feederhouse across the dead center using a suitable tool.



Adhere to the combine harvester manufacturer's regulations!



*Locking lever in open position*

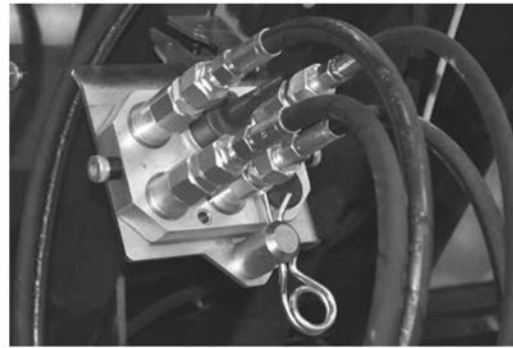
## Connecting the hydraulic multi-coupling (Massey Ferguson)

### DANGER



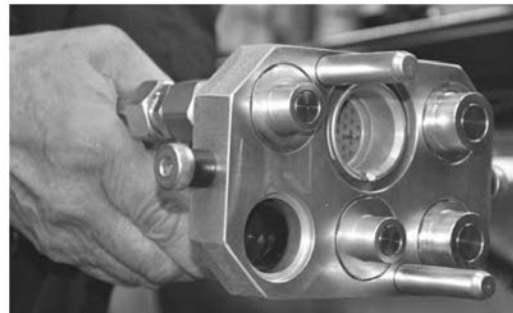
- Only connect the hydraulic lines when the diesel engine is switched off!
- Avoid leakages and protect the environment!
- Ensure that the connection lines are not damaged!

On delivery the multi-coupling (plug) is secured on the carrying device of the header by means of a spring cotter.



*Multi-coupling on the header*

1. Remove the multi-coupling (plug) from the carrying device.
2. Ensure that the plug and the coupling are clean.

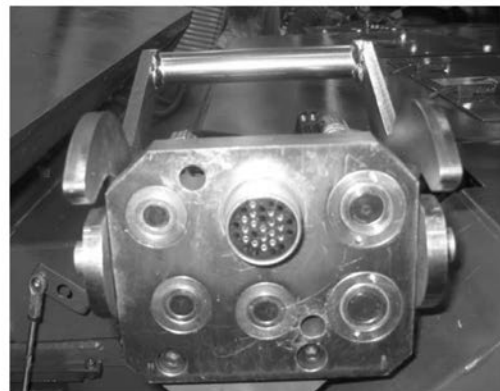


*Remove the multi-coupling*

3. Attach multi-coupling to combine harvester and completely throw the locking lever.



Adhere to the combine harvester manufacturer's specifications!



*Attach and throw the lever*

## Connecting the adaption and the hydraulic multi-coupling (Gleaner)

### Locking the adaption

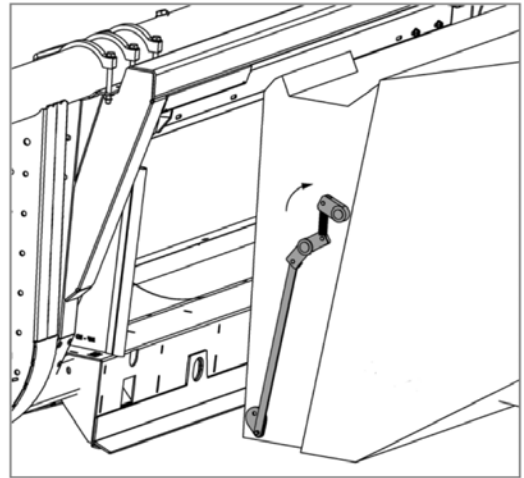
#### DANGER



Danger of injury!

- Always activate the lowering protection before working on the header!

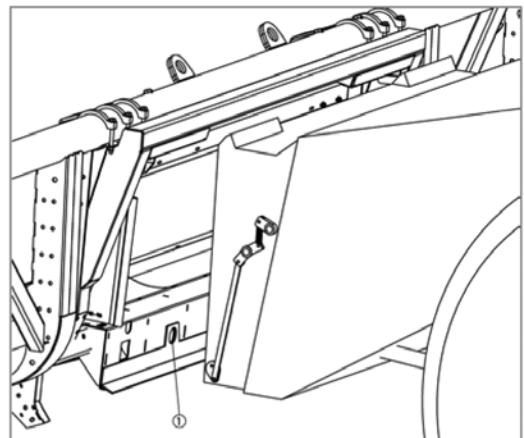
1. Ensure that the locking lever on the feederhouse is open.



*Locking lever in open position*

2. Drive the combine far enough into the corn header for the top mounts to engage with the top of the feederhouse.

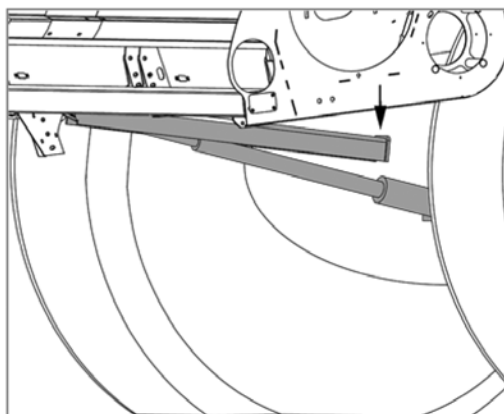
CAUTION: Driving ahead too far may damage the side plates of the adapter frame.



*Header prior to mounting*



- Engage safety stop.

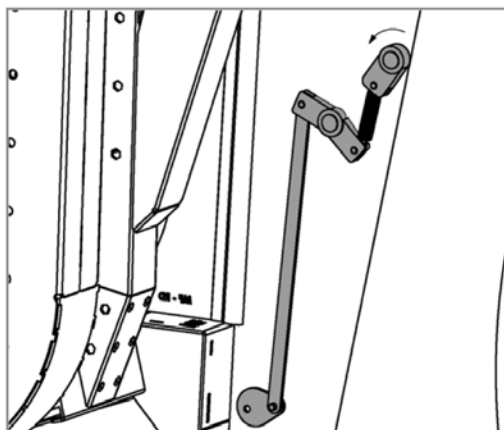


*Engage safety stop*

- Throw the locking lever of the feederhouse across the dead center using a suitable tool.



Adhere to the combine harvester manufacturer's regulations!



*Locking lever in open position*

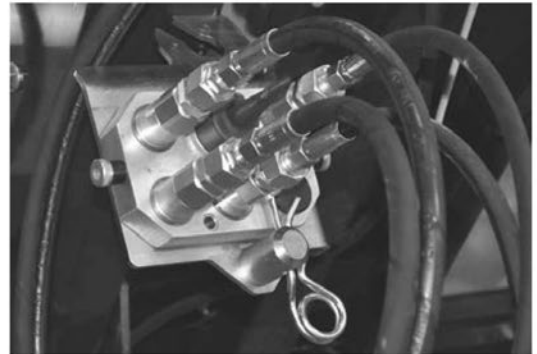
## Connecting the hydraulic multi-coupling (Gleaner)

### DANGER



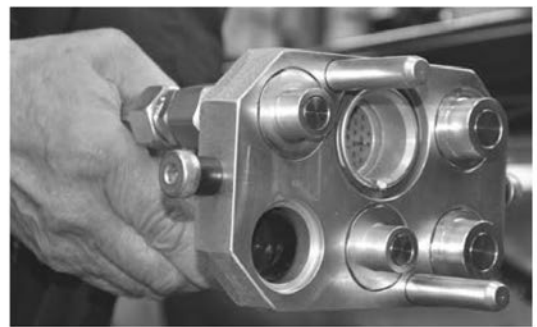
- Only connect the hydraulic lines when the diesel engine is switched off!
- Avoid leakages and protect the environment!
- Ensure that the connection lines are not damaged!

When delivered the multi-coupling (plug) is secured on the carrying device of the header by means of a spring cotter.



*Multi-coupling on the header*

1. Remove the multi-coupling (plug) from the carrying device.
2. Ensure that the plug and the coupling are clean.



*Remove the multi-coupling*

3. Attach multi-coupling to combine harvester and completely throw the locking lever.
- ➔ Adhere to the combine harvester manufacturer's specifications.



*Attach and throw the lever*

# GERINGHOFF