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3152
3162
Draper Header

SERVICE MANUAL

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CASE IH AGRICULTURE

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Safety rules

Personal safety



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: *Notice indicates a situation that, if not avoided, could result in machine or property damage.*

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: *Note indicates additional information that clarifies steps, procedures, or other information in this manual.*

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

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Torque - Minimum tightening torques for normal assembly

METRIC NON-FLANGED HARDWARE

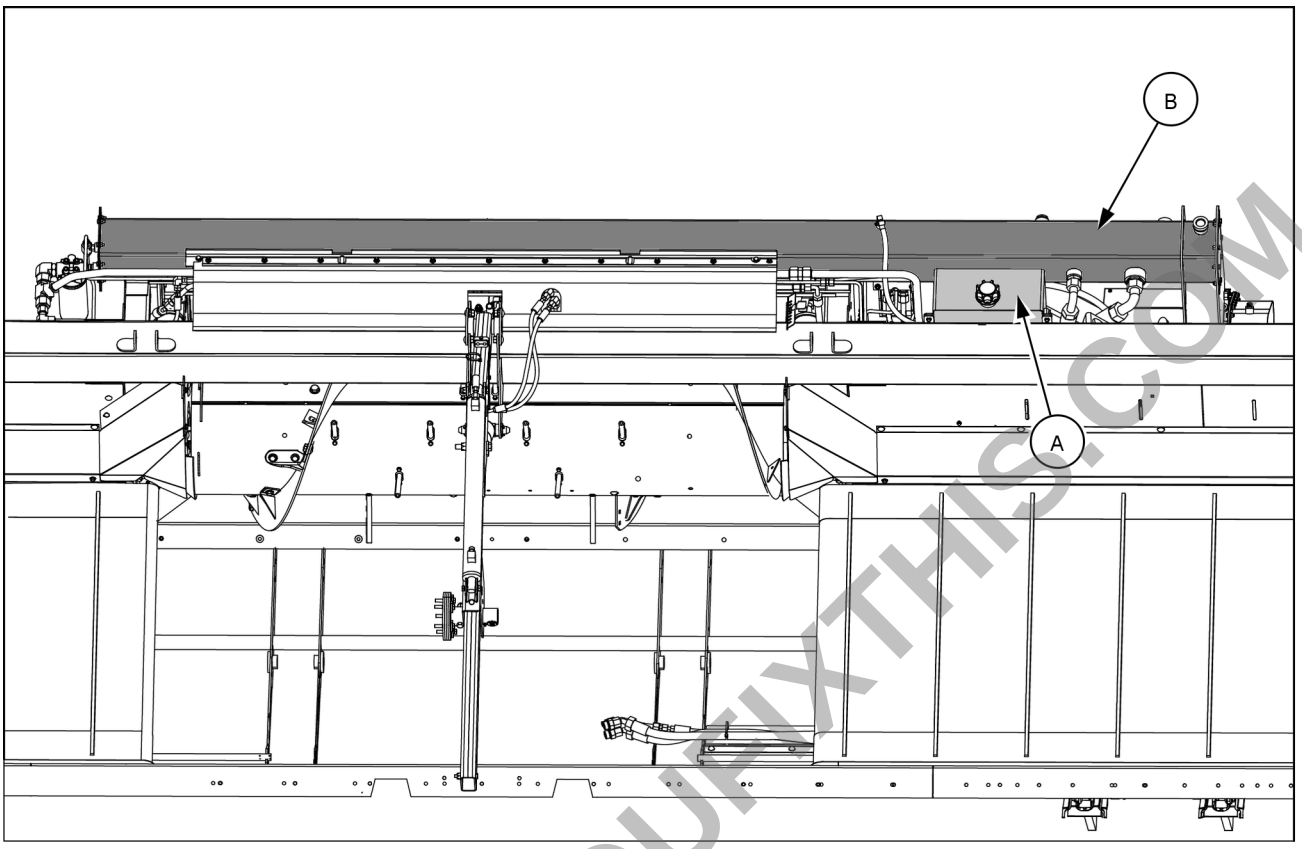
NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.2 N·m (19 lb in)	2.9 N·m (26 lb in)	3.2 N·m (28 lb in)	4.2 N·m (37 lb in)	2 N·m (18 lb in)	2.9 N·m (26 lb in)
M5	4.5 N·m (40 lb in)	5.9 N·m (52 lb in)	6.4 N·m (57 lb in)	8.5 N·m (75 lb in)	4 N·m (36 lb in)	5.8 N·m (51 lb in)
M6	7.5 N·m (66 lb in)	10 N·m (89 lb in)	11 N·m (96 lb in)	15 N·m (128 lb in)	6.8 N·m (60 lb in)	10 N·m (89 lb in)
M8	18 N·m (163 lb in)	25 N·m (217 lb in)	26 N·m (234 lb in)	35 N·m (311 lb in)	17 N·m (151 lb in)	24 N·m (212 lb in)
M10	37 N·m (27 lb ft)	49 N·m (36 lb ft)	52 N·m (38 lb ft)	70 N·m (51 lb ft)	33 N·m (25 lb ft)	48 N·m (35 lb ft)
M12	64 N·m (47 lb ft)	85 N·m (63 lb ft)	91 N·m (67 lb ft)	121 N·m (90 lb ft)	58 N·m (43 lb ft)	83 N·m (61 lb ft)
M16	158 N·m (116 lb ft)	210 N·m (155 lb ft)	225 N·m (166 lb ft)	301 N·m (222 lb ft)	143 N·m (106 lb ft)	205 N·m (151 lb ft)
M20	319 N·m (235 lb ft)	425 N·m (313 lb ft)	440 N·m (325 lb ft)	587 N·m (433 lb ft)	290 N·m (214 lb ft)	400 N·m (295 lb ft)
M24	551 N·m (410 lb ft)	735 N·m (500 lb ft)	762 N·m (560 lb ft)	1016 N·m (750 lb ft)	501 N·m (370 lb ft)	693 N·m (510 lb ft)

NOTE: *M4 through M8 hardware torque specifications are shown in pound-inches. M10 through M24 hardware torque specifications are shown in pound-feet.*

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Capacities



NH12AF01077AA 1

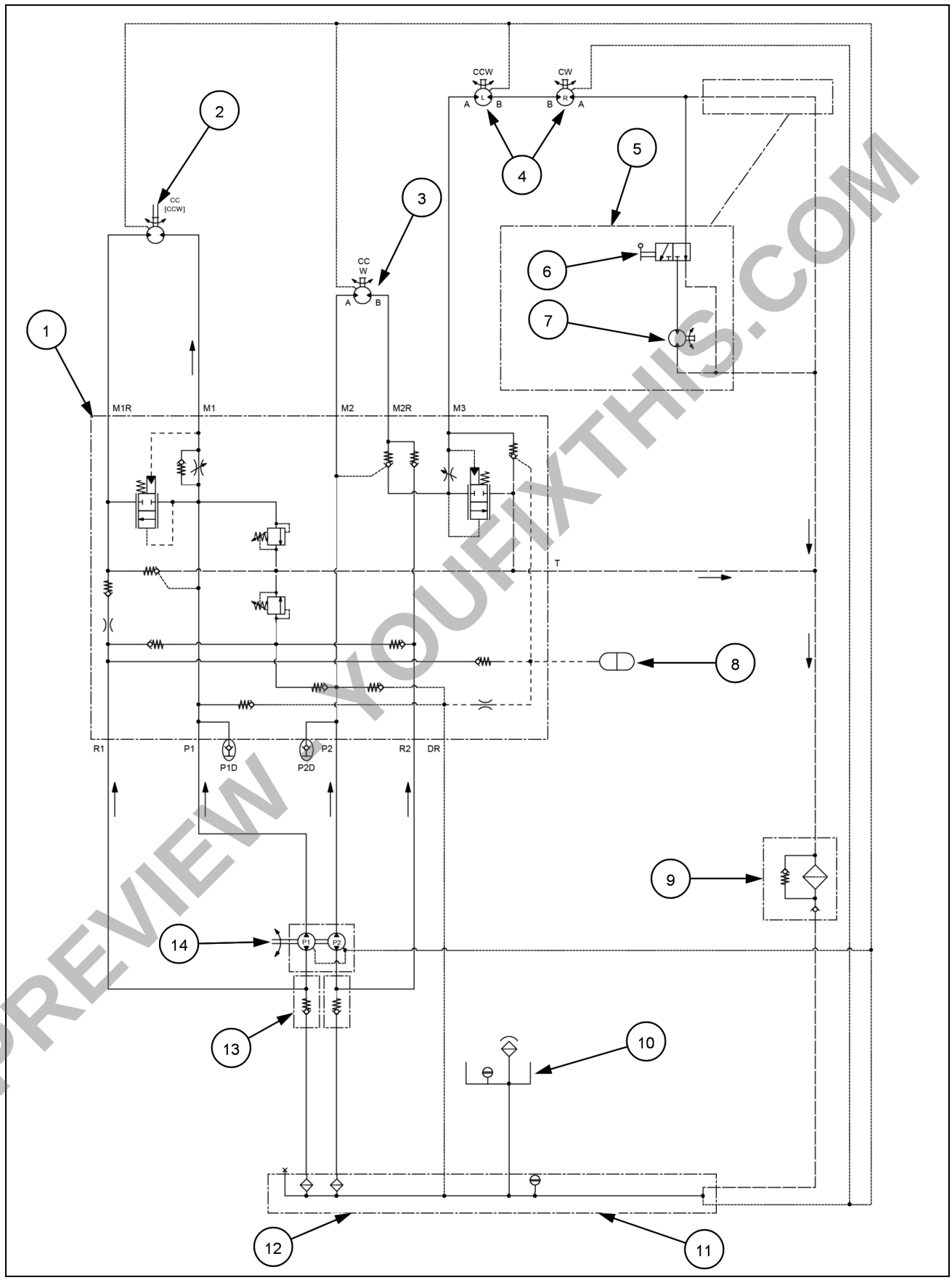
Expansion tank (A)	
Tank capacity	**13 l** (**3.4 US gal**)
Tank capacity at low level	**2.2 l** (**0.6 US gal**)
Consumable	**CASE IH AKCELA HY-TRAN® ULTRA™ HYDRAULIC TRANSMISSION OIL**

Hydraulic reservoir integrated with draper header frame (B)	
Reservoir capacity	**90 l** (**23.8 US gal**)
Consumable	**CASE IH AKCELA HY-TRAN® ULTRA™ HYDRAULIC TRANSMISSION OIL**

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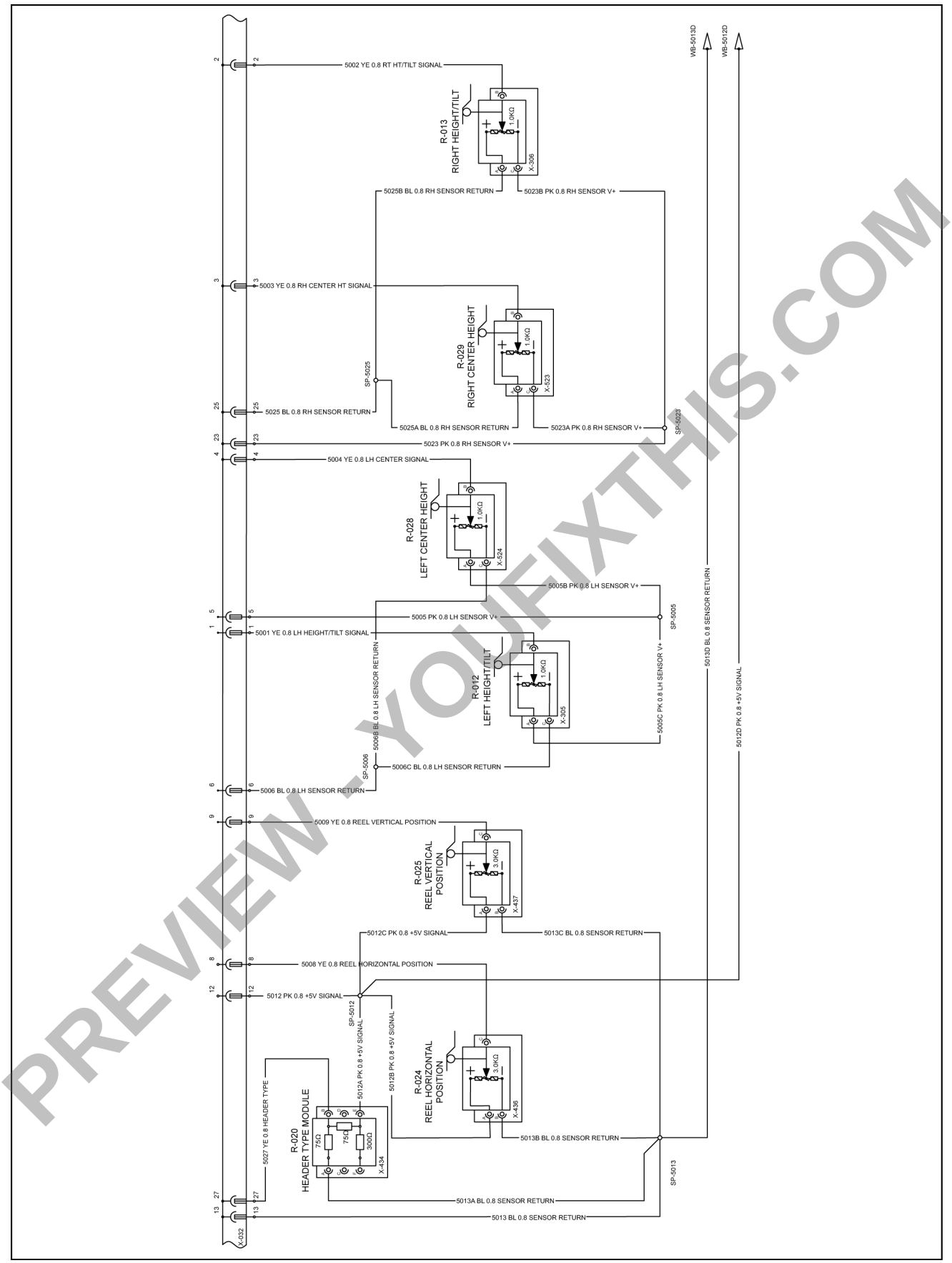
Hydraulic systems - Hydraulic schematic frame 01



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NHIL12GH00455HA 1

Draper Header Type / Reel Position/Height

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Hydraulic systems - Problem solving

OPERATION

Problems associated with the function of this header are often caused by improper adjustments. The following suggested corrections are shown to familiarize you with the adjustments that can be made to correct common difficulties. Adjustments are dependent on field conditions and, as harvest conditions may vary, several corrections are shown for each problem. Often the problem can be corrected by following only one of the suggestions.

TROUBLESHOOTING

Before troubleshooting the system, make sure that the following conditions are met:

1. Area is clear of bystanders.
2. Header is properly attached to the combine.
3. Header PTO shaft is properly attached to the combine.

Problem	Possible Cause	Correction
Insufficient Draper Speed	Speed control set too low on header valve.	Increase control setting on header valve.
	Relief pressure too low at relief valve on header valve.	Increase relief pressure on header to **2500 psi**.
	Combine Header drive too slow.	Adjust to correct speed for your Combine.
	Worn gear pump.	Replace pump.
Header Lift Insufficient	Low relief pressure.	Check relief pressure setting. Increase relief pressure. Refer to your Combine Operator's Manual.
	Insufficient raise rate.	Increase raise rate. Install correct lift cylinders.

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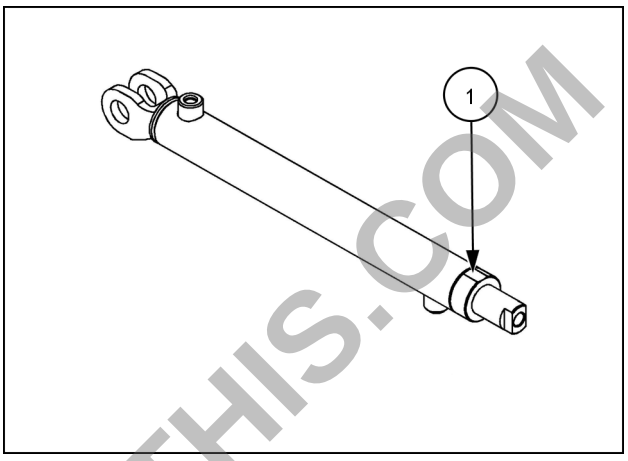
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Cylinders - Service instruction

All seals can be replaced and are made available in a seal kit.
Make sure to order the correct seal kit.

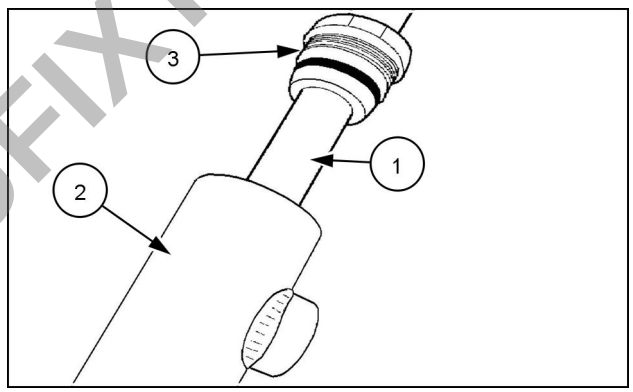
Cylinder with a detachable cylinder head:

1. Drain Cylinder.
2. Place the cylinder in a vise and secure. Loosen the cylinder head **(1)** by turning the head clock wise, using a wrench on the flats.



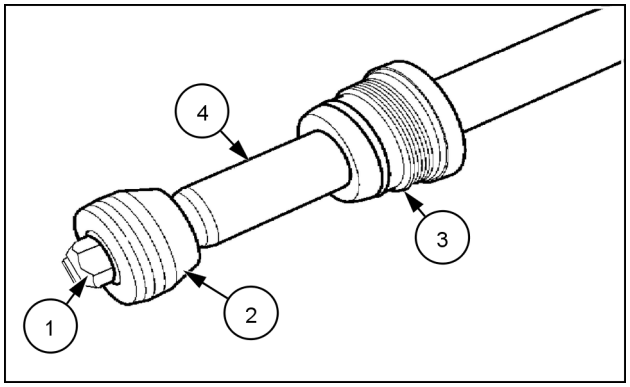
20090616 1

3. Pull out the pre-assembled piston rod **(1)** from the cylinder housing **(2)**.



20090641 2

4. Remove the hex nut **(1)** and the piston **(2)**.
   Now is it possible to remove the cylinder head **(3)** from the piston rod **(4)**.
   Remove all the seals.

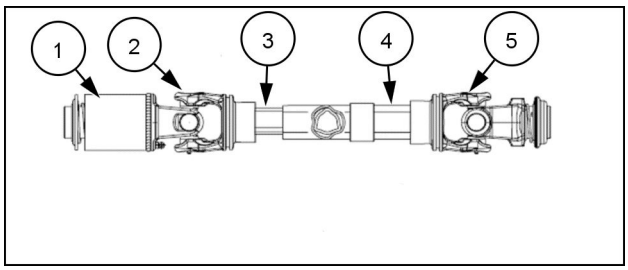


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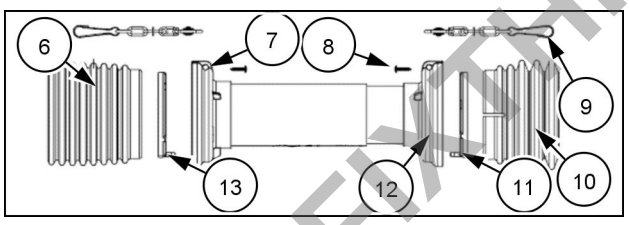
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Power Take-Off (PTO) shaft - Exploded view



NHIL12GH02308AA 1

Reference	Description	Quantity
(1)	Clutch	1
(2)	Yoke	1
(3)	Tube, Inner	1
(4)	Tube, Outer	1
(5)	Yoke	1



NHIL12GH02309AA 2

Reference	Description	Quantity
(6)	Shield	1
(7)	Shield, Outer	1
(8)	Screw, Tapping	6
(9)	Chain	2
(10)	Shield	1
(11)	Bearing	1
(12)	Shield, Inner	1
(13)	Shield	1

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Technical data

Power Take-Off (PTO) Drive	Free Motion PTO.
Knife	
Type	Over serrated knife
Speed	630 cycles/min (1260 cuts/min)
Drive	Hydraulic powered gearbox with counter stroking dual knife
Reel	
Drive	Hydraulically
Speed Adjustment	Electrically controlled from the combine
Speed Range	Variable from **0 - 60 RPM**
Diameter	**1070 mm** (**42.1 in**)
Horizontal stroke	**578 mm** (**23 in**)
Vertical stroke	**201 mm** (**8 in**)
Header recognition sensor	standard
Maximum lift height (header bottom to the center of the reel)	**1845 mm** (**72.6 in**)
Bars	6
Tines/bars	**1 ft** cutting width
Auger	
Tube diameter	**406 mm** (**16.0 in**)
Flighting height	**127 mm** (**5 in**)
Speed range	
With 43-tooth sprocket	**147 RPM**
Protection	Slip clutch on PTO. shaft
Slip clutch set at:	**1000 Nm** (**1000 lb ft**)
Drive	Chain drive from main shaft
Fingers (number fitted)	21
Weight	
30 ft	**2837 kg** (**6255 lb**)
35 ft	**3352 kg** (**7390 lb**)
40 ft	**3783 kg** (**8340 lb**)
45 ft	**4256 kg** (**9383 lb**)

NOTE: *(*): without dividers or crop lifters.*

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INTRODUCTION

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	Color	Operation
(1)	Red	Pressure
(2)	Blue	Return

NOTE: *Refer to* ***Hydraulic systems - Hydraulic schematic frame 01 (35.000)*** *for component identification.*

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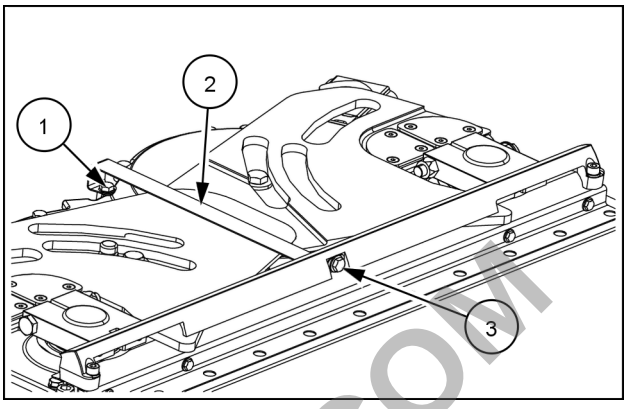
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N°	Test Point	Expected Result	Other Result (Possible Cause)
9	**Condition** With the header to machine connector reconnected and the Right Height/Tilt potentiometer connector disconnected, place the machine key switch in the ON position. **Check** Use a DVOM to measure the **5.0 V** sensor reference voltage from the header harness side of the Right Height/Tilt potentiometer connector pin C to chassis ground.	**Result** **4.5 - 5.5 V** is measured between pin C and chassis ground and the Right Height/Tilt potentiometer circuit wiring has all been tested for open and grounded conditions. The failure is either in the machine side circuit, control module or is intermittent. **Action** Refer to the appropriate machine service manual to locate and repair the fault condition.	**Result** Greater than **5.5 V** is measured between pin C and chassis ground. There is a short to high source condition in the **5.0 V** sensor reference voltage circuit. **Action** Place the machine key switch in the OFF position and disconnect the header from the machine at the machine to header connector. Go to test **10**
10	**Condition** With both the header to machine and Right Height/Tilt potentiometer connectors disconnected, **Check** use a DVOM to measure the resistance from the header harness side of the header to machine connector pin 2 to all other populated pins in the machine to header connector, on the header harness side.	**Result** Infinite resistance is measured from pin 2 to all other populated pins in the machine to header connector, on the header harness side. The short to high source condition in the Right Height/Tilt potentiometer signal circuit is on the machine circuit side. **Action** Refer to the appropriate machine service manual to locate and repair the fault condition.	**Result** Less than infinite resistance is measured from pin 2 to all other populated pins in the machine to header connector, on the header harness side. The short to high source condition in the Right Height/Tilt potentiometer signal circuit is on the header circuit side. **Action** Locate and repair the damage to the affected circuits then retest the system for proper operation.

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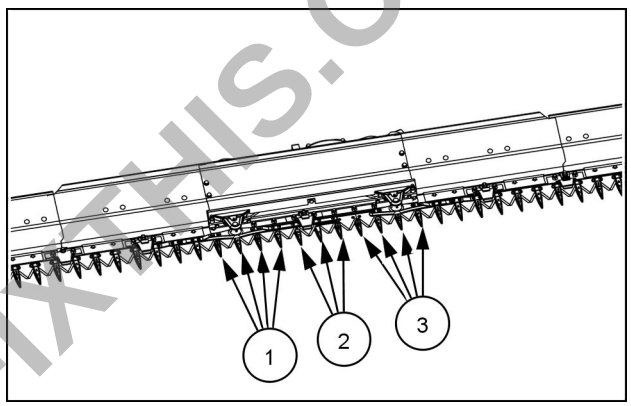
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5. Install the flap bracket **(2)** with a **M8 x 30 mm** bolt **(1)**, **M8 x 16 mm** bolt, and **M8** Belleville lock washer **(3)**.



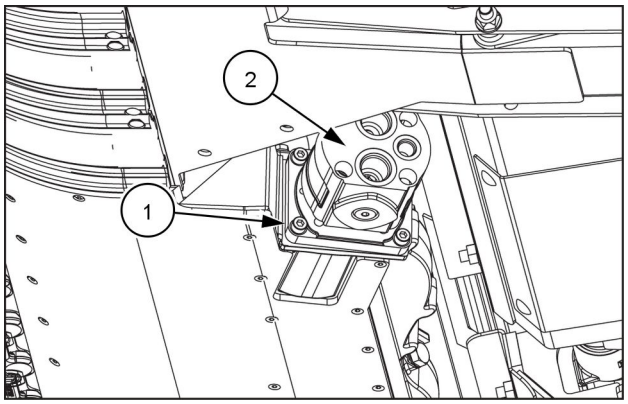
NHIL14GH00295AA 3

6. Install two center cutback guards **(1)**, center triple guard with shim **(2)**, and two center cutback guards with shims **(3)**.



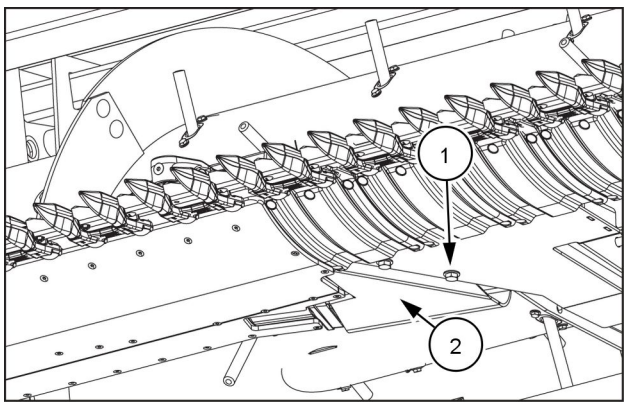
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7. Install hydraulic motor **(2)** to drive.



NHPE11GH00024AA 5

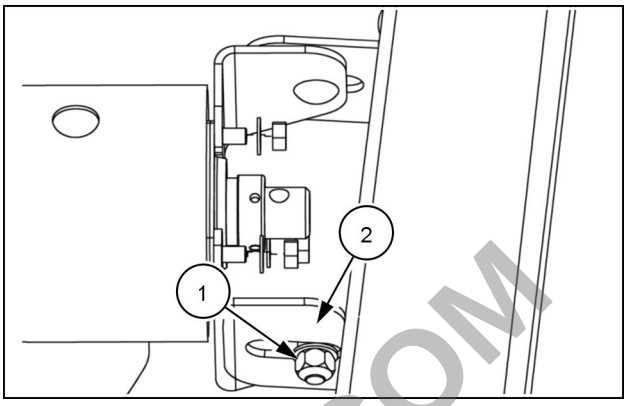
8. Make sure the large O-ring is properly seated behind the spacer in the gearbox, and the small O-ring is installed over the motor pilot.
9. Secure motor to drive frame using **M8 x 25 mm** screw **(1)**.
10. Connect hydraulic hoses to the drive motor.



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4. Remove the **M10** nut **(1)** on the bracket **(2)**.
5. Slide the auger away from the bracket assembly.
6. Remove the auger away from the header.



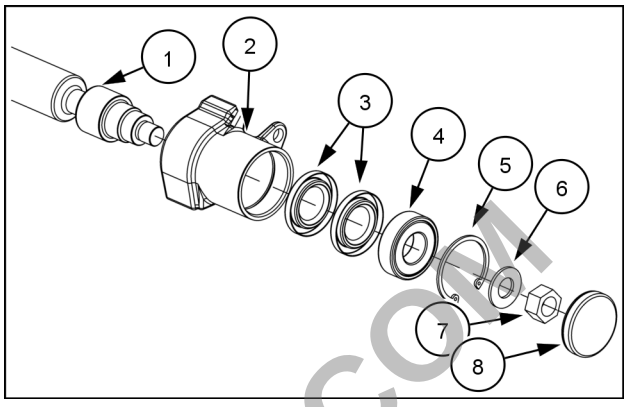
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Install idler roller bearings

5. Slide the housing **(2)** and seals **(3)** over the drive roller **(1)**.
1. Slide new bearing **(4)** over the roller **(1)**.
2. Install the **52 mm** circlip **(5)**.
3. Install the **M16** nut **(7)**, and washer **(6)**.
4. Tighten nut **(7)** to **112 N·m** (**83 lb ft**).
5. Apply approximately **1 ml** (**0.1 US fl oz**) of **LOCTITE® 454** to the dust cap **(8)** and press into the housing **(2)**.



NHIL12GH00397AA 4

Next operation:
Belt feeding - Install Roller shaft – Side draper (58.900)

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