Basic instructions - Shop and Assembly

AXIAL-FLOW® 5140	ANZ --- APAC --- MEA
AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA

SHIMMING

For each adjustment operation, select adjusting shims and measure individually using a micrometer, then add up the recorded values. Do not rely on measuring the entire shimming set, which may be incorrect, or the rated value indicated on each shim.

ROTATING SHAFT SEALS

For correct rotating shaft seal installation, proceed as follows:

- before assembly, allow the seal to soak in the oil it will be sealing for at least thirty minutes.
- thoroughly clean the shaft and check that the working surface on the shaft is not damaged.
- position the sealing lip facing the fluid; with hydrodynamic lips, take into consideration the shaft rotation direction and position the grooves so that they will deviate the fluid towards the inner side of the seal.
- coat the sealing lip with a thin layer of lubricant (use oil rather than grease) and fill the gap between the sealing lip and the dust lip on double lip seals with grease.
- insert the seal in its seat and press down using a flat punch or seal installation tool. Do not tap the seal with a hammer or mallet.
- whilst inserting the seal, check that it is perpendicular to the seat; once settled, make sure that it makes contact with the thrust element, if required.
- to prevent damaging the seal lip on the shaft, position a protective guard during installation operations.

O-RING SEALS

Lubricate the O-RING seals before inserting them in the seats, this will prevent them from overturning and twisting, which would jeopardise sealing efficiency.

SEALING COMPOUNDS

Apply one of the following sealing compounds on the mating surfaces when specified: SILMATE® RTV1473, or **LOCTITE® RTV 598™** or **LOCTITE® INSTANT GASKET 587 BLUE**. Before applying the sealing compound, prepare the surfaces as directed on product container or as follows:

- remove any incrustations using a metal brush.
- thoroughly de-grease the surfaces using a locally approved cleaning agent such as safety solvent or brake parts cleaner.

SPARE PARTS

Only use "CNH Original Parts" or " CASE IH Parts".

Only genuine spare parts guarantee the same quality, duration and safety as original parts, as they are the same parts that are assembled during standard production. Only "CNH Original Parts" or " CASE IH Parts" can offer this guarantee.
When ordering spare parts, always provide the following information:

- machine model (commercial name) and serial number
- part number of the ordered part, which can be found in the "Microfiches" or the "Service Parts Catalogue", used for order processing

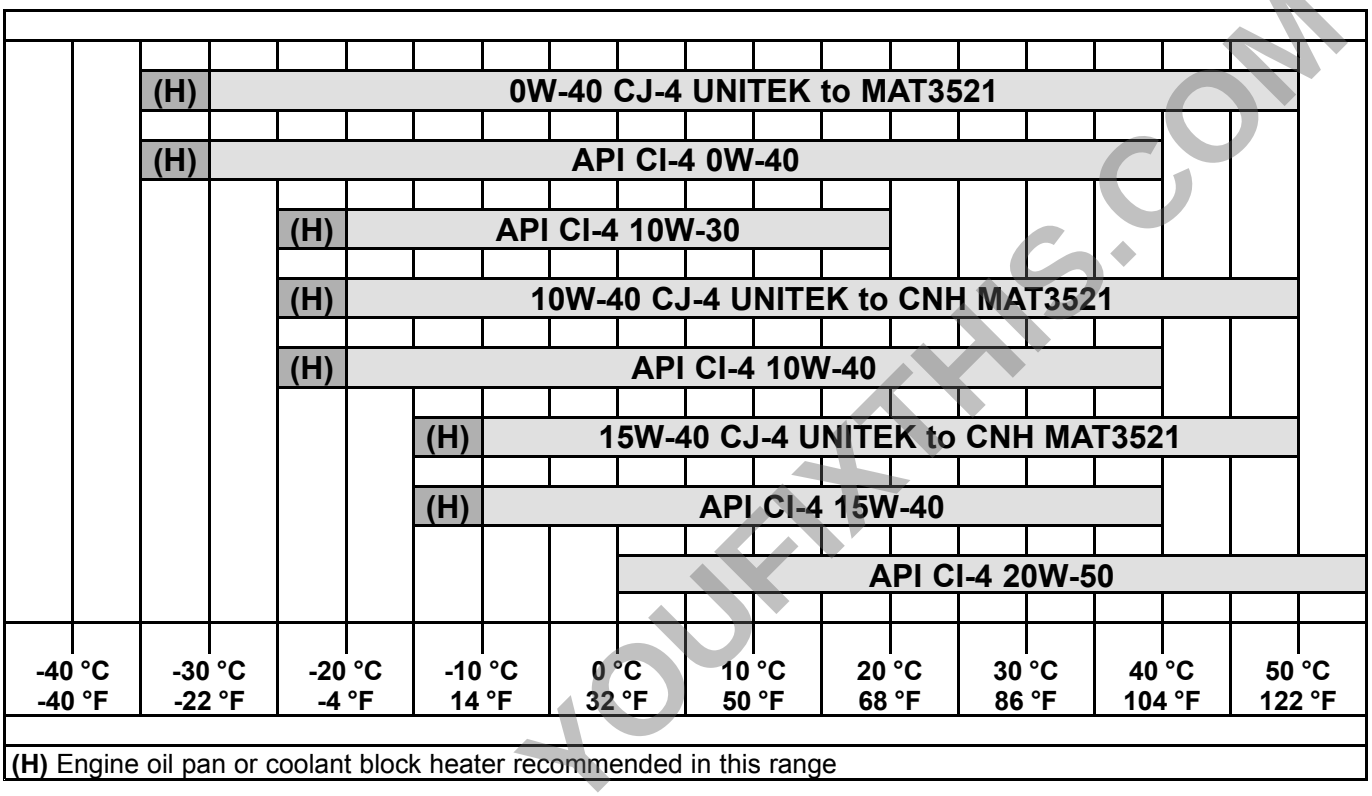
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Engine - Change fluid – Maintenance Chart – Recommended operating temperature range

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AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA

CJ-4 and CI-4 oils



(H) Engine oil pan or coolant block heater recommended in this range

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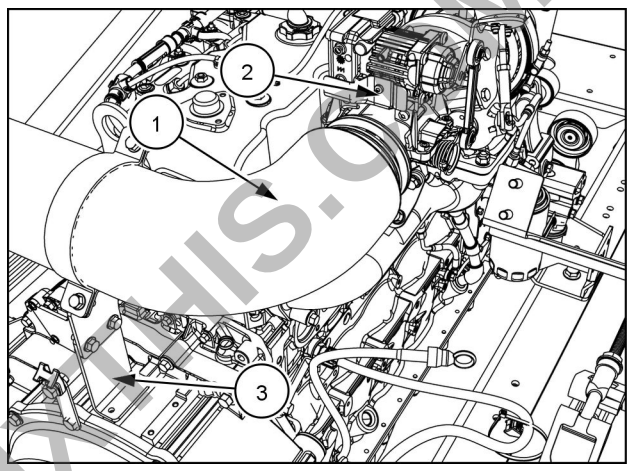
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Exhaust pipes - Install exhaust tube from turbo charger to Diesel Oxidation Catalyst (DOC)

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AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA

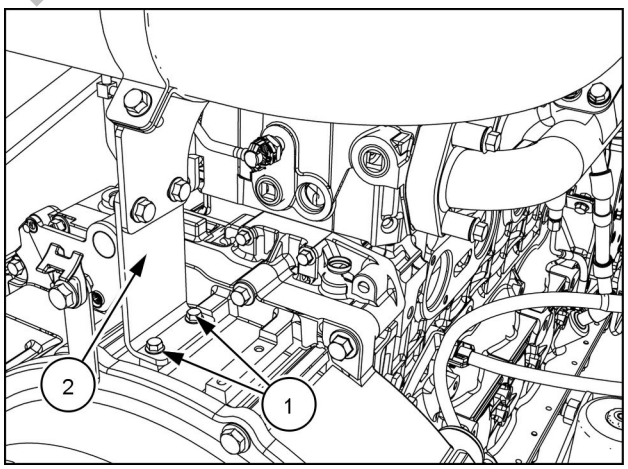
NOTICE: *Do not use impact tools around the sensors or damage may occur to the sensors. If removing or installing a Selective Catalyst Reduction (SCR) Catalyst, it is best to remove the temperature sensors first then work to remove the catalyst.*

1. Position the exhaust tube **(1)** to the turbo charger **(2)**. Align the holes up to the exhaust tube support **(3)**.



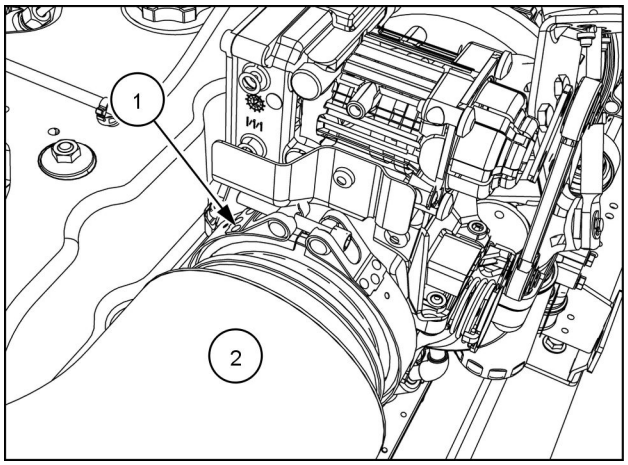
NHIL14AF00261AA 1

2. Install the two flange bolts **(1)** to the exhaust tube support **(2)**. Hand tighten snug.



NHIL14AF00259AA 2

3. Install the tube clamp **(1)** to the tube **(2)** at the turbo. Tighten the clamp to **6 N·m** (**53 lb in**) ± **1 N·m** (**9 lb in**).
4. Tighten the two flange bolts at the exhaust tube support to standard torque.

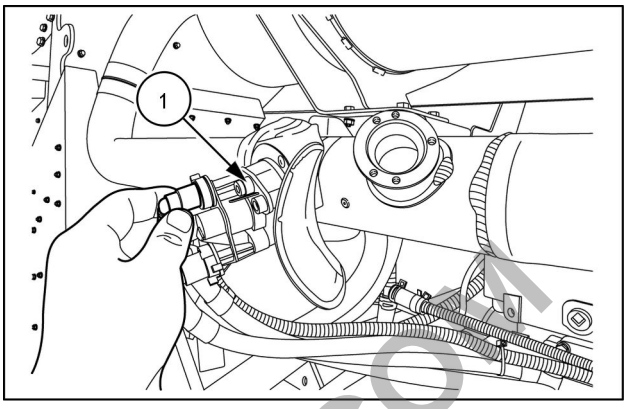


NHIL14AF00260AA 3

NOTE: *It is recommended to replace the gasket and clamp.*

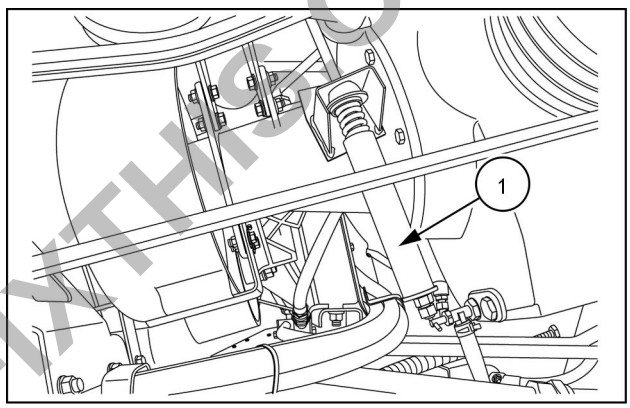
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3. Remove Diesel Exhaust Fluid (DEF) injector assembly **(1)** .



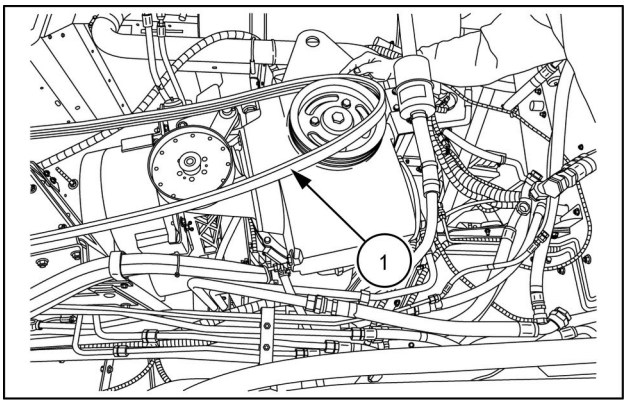
NH12AF00527A 3

4. Remove the unload belt tensioner **(1)** .



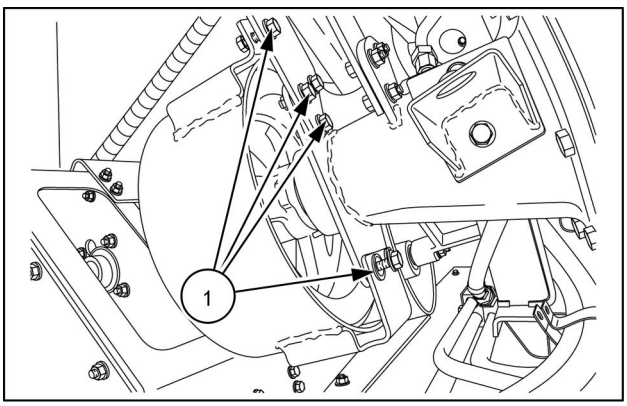
NH12AF00528A 4

5. Remove unload belt **(1)**



NH12AF00529A 5

6. Remove separator belt guide hardware **(1)** .

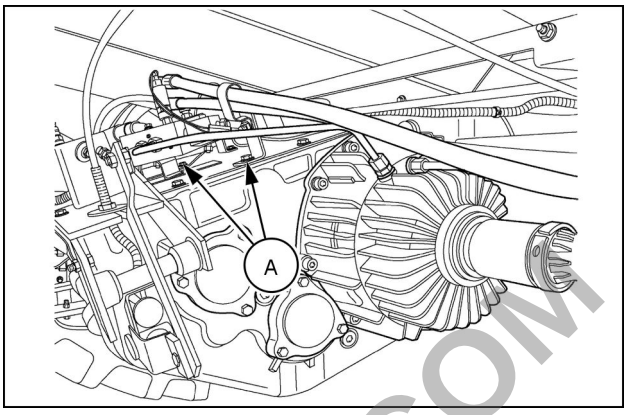


NH12AF00533A 6

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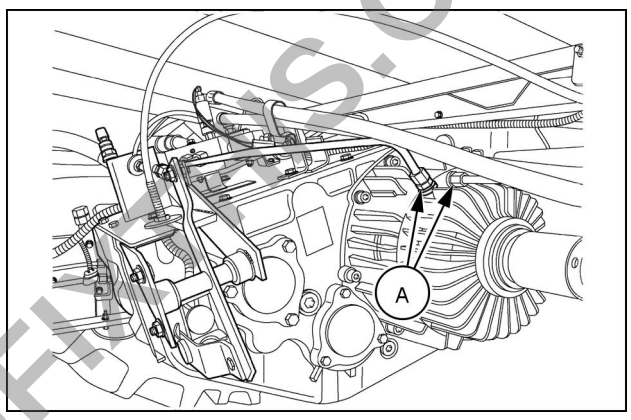
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5. Install the park brake and feeder clutch valve bracket with the valves and securing to the transmission with bracket mounting bolts **(A)**. Tighten to standard torque.



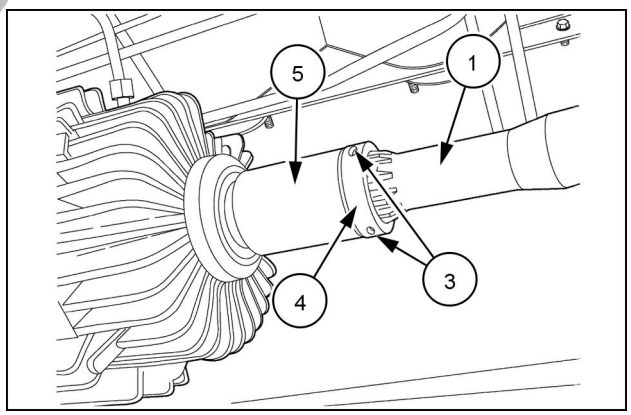
RH08C197N 4

6. Uncap and connect the brake lines **(A)** on both sides.



RH08C198N 5

7. Install the drive shafts **(1)** on both sides of transmission. The drive shaft couplers **(5)** are held in place with retaining collars **(4)** and socket head cap screws **(3)**. Torque socket head cap screws to **36 - 40 N·m** (**27 - 30 lb ft**).
8. Install the hydrostatic motor, refer **Motor - Install Hydrostatic Motor (29.218)** .



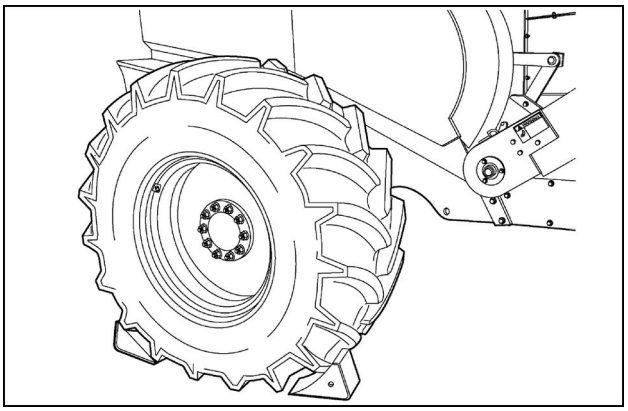
RH08C200N 6

9. **⚠ CAUTION**

   Flying object!
   The chock could shoot out from under the tire if improperly positioned. Never stand in front of a chock.
   Failure to comply could result in minor or moderate injury.

   C0009A

   Remove the blocks in front of and behind the wheels.



RH08C195N 7

10. Drive the combine to check transmission and brake function.

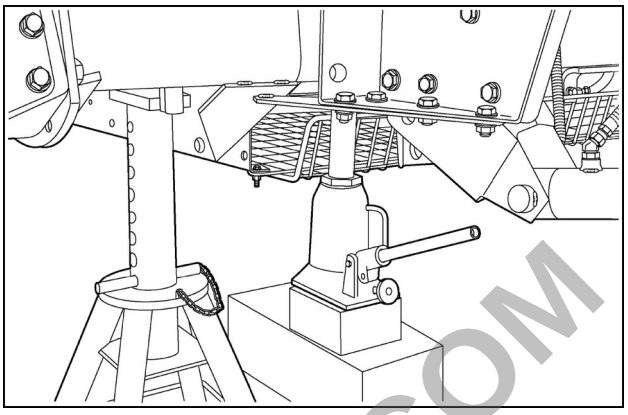
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3. **⚠ WARNING**

   Falling object hazard!
   This procedure requires the use of equipment that, if used improperly, could result in falling frame components. Follow all instructions. Make sure all personnel using forklifts, overhead chain hoists, jack stands, etc. read and understand all safety and instruction manuals and are properly trained.
   Failure to comply could result in death or serious injury.

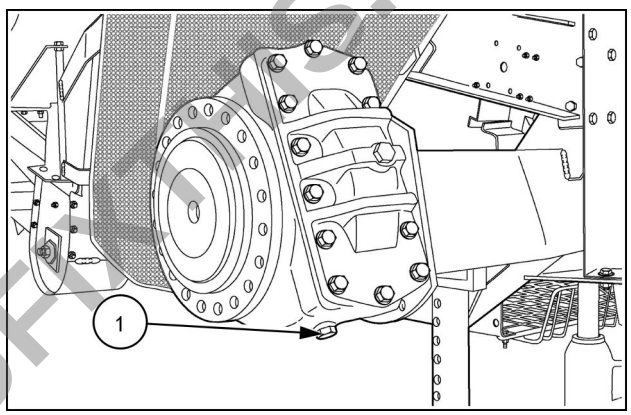
   W0079A

   Use a hydraulic jack to raise the combine. Put an axle stand under the drive axle and lower the combine onto the axle stand. Remove the wheel.



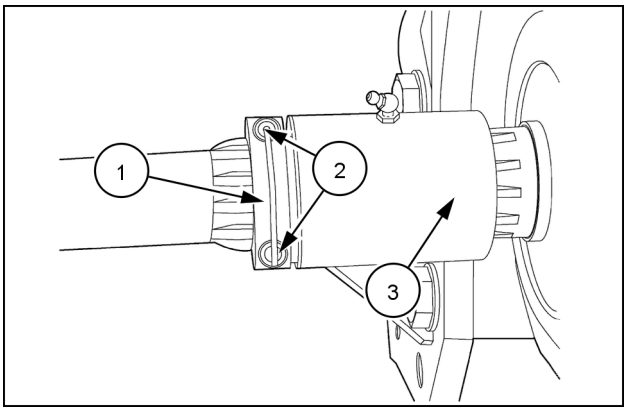
A25121N 3

4. Put a CLEAN container with a capacity of at least **15 l** (**4 US gal**) under the final drive. Remove the drain plug **(1)** and drain the oil. Reinstall and tighten the drain plug.



A25123N 4

5. To disconnect the drive axle from the final drive unit, Remove the clip **(1)**, and two socket head cap screws and the collar **(2)**. Slide the coupler **(3)** over and disconnect the drive shaft.



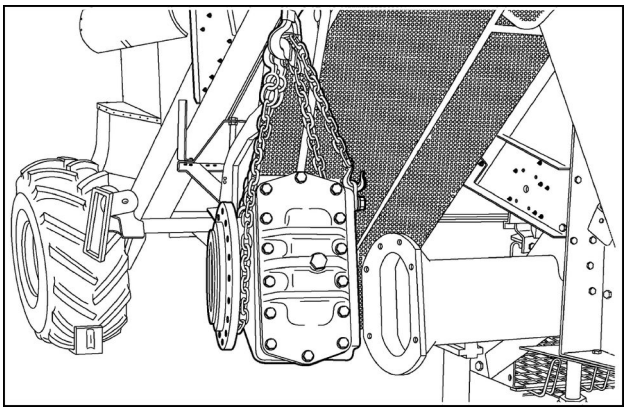
RD98D053N 5

6. **⚠ WARNING**

   Crushing hazard!
   Wheel drive assemblies are heavy. Use an adequate lifting device. Reposition one side at a time.
   Failure to comply could result in death or serious injury.

   W0019B

   Use suitable lifting equipment to support the final drive. Remove the mounting bolts and swing the final drive away from the machine. Place the drive in a safe place out of the way.

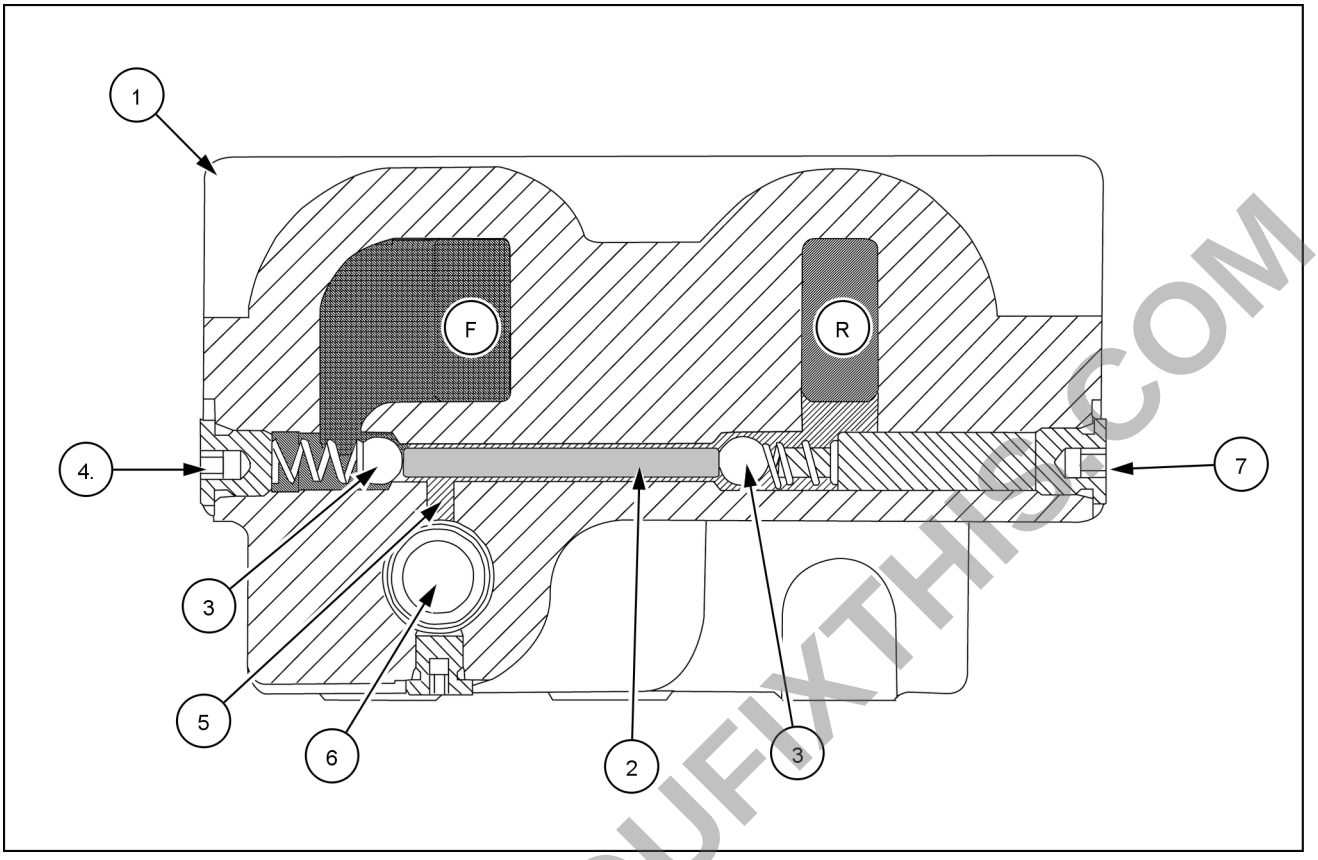


A25125N 6

Next operation:

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Low Pressure Shuttle



NHIL13AF01954BB 3

(1)	Shuttle Valve	**(5)**	Drilled Passage
(2)	Spacer (Rod)	**(6)**	Solenoid
(3)	Check Ball	**(7)**	Reverse drive Pressure Port
(4)	Forward Drive Pressure Port		

Low Pressure Shuttle (Pilot Oil)

The low pressure shuttle provides charge fluid to the solenoid valve to engage and disengage the rear wheel drive system. The charge fluid is directed to either end of the selector spool to accomplish this. Charge fluid is available from the "return" side of the closed loop hydrostatic circuit.

The spacer always holds one ball off its seat. This assures pilot oil for the system even if the main hydrostatic system is in neutral. When the combines is driven forward, the forward side becomes high-pressure (drive pressure) and the reverse side is low pressure (charge pressure). The higher pressure on the forward side will seat its ball, which will push the spacer to the right unseating the ball on the reverse side. The charge fluid on the reverse side is directed past the ball and spacer to the drilled passage leading to the solenoid valve.

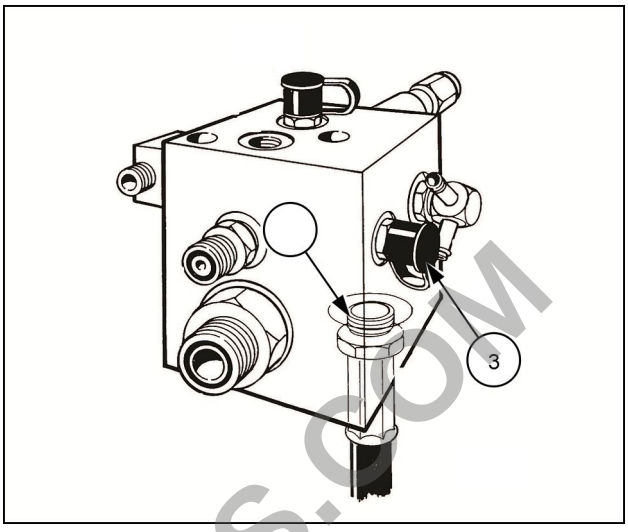
With the combine in reverse, the reverse side will be high-pressure and the forward side will be low pressure. The reverse ball will seat, the spacer will move to unseat the opposite ball. This will now direct charge fluid past the ball and spacer to the drilled passage leading to the solenoid valve.

The solenoid valve will now determine which end of the selector spool the oil is directed to.

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1. Install three **41.4 bar** (**600.0 psi**) gauges to the "LOW" **(2)** and "HIGH" **(1)** test port on the hydrostatic motor and combine regulated pressure test port **(3)** on the pressure regulating valve as illustrated. The "HIGH" test port may be covered up by the solenoid.
2. Place the combine in a location that will allow it to be moved.
3. Place the transmission in "NEUTRAL", Engage the Parking Brake and unplug the electrical connector at the Power Guide Axle solenoid.



NHIL13AF01951AA 2

4. With the selector switch in the "LOW" position, run the engine at **1800 RPM**.
5. The "LOW" servo pressure should be **0 psi**. The "HIGH" servo pressure should be approximately the same as the regulated pressure.

Results: Low pressures on the "HIGH" servo, check the response valve inlet orifice plate for plugging. Pressure on the "LOW" servo, check the control piston and/or spool or the solenoid valve could be stuck.

6. With the selector switch in the "HIGH" position, run the engine at **1800 RPM**.
7. The "HIGH" servo pressure should be **0 psi**. The "LOW" servo pressure should be approximately the same as the regulated pressure.

Results: Low pressures on the "LOW" servo check the response valve inlet orifice plate. Pressure on the "HIGH" servo check the control piston and/or spool or the solenoid valve could be stuck.

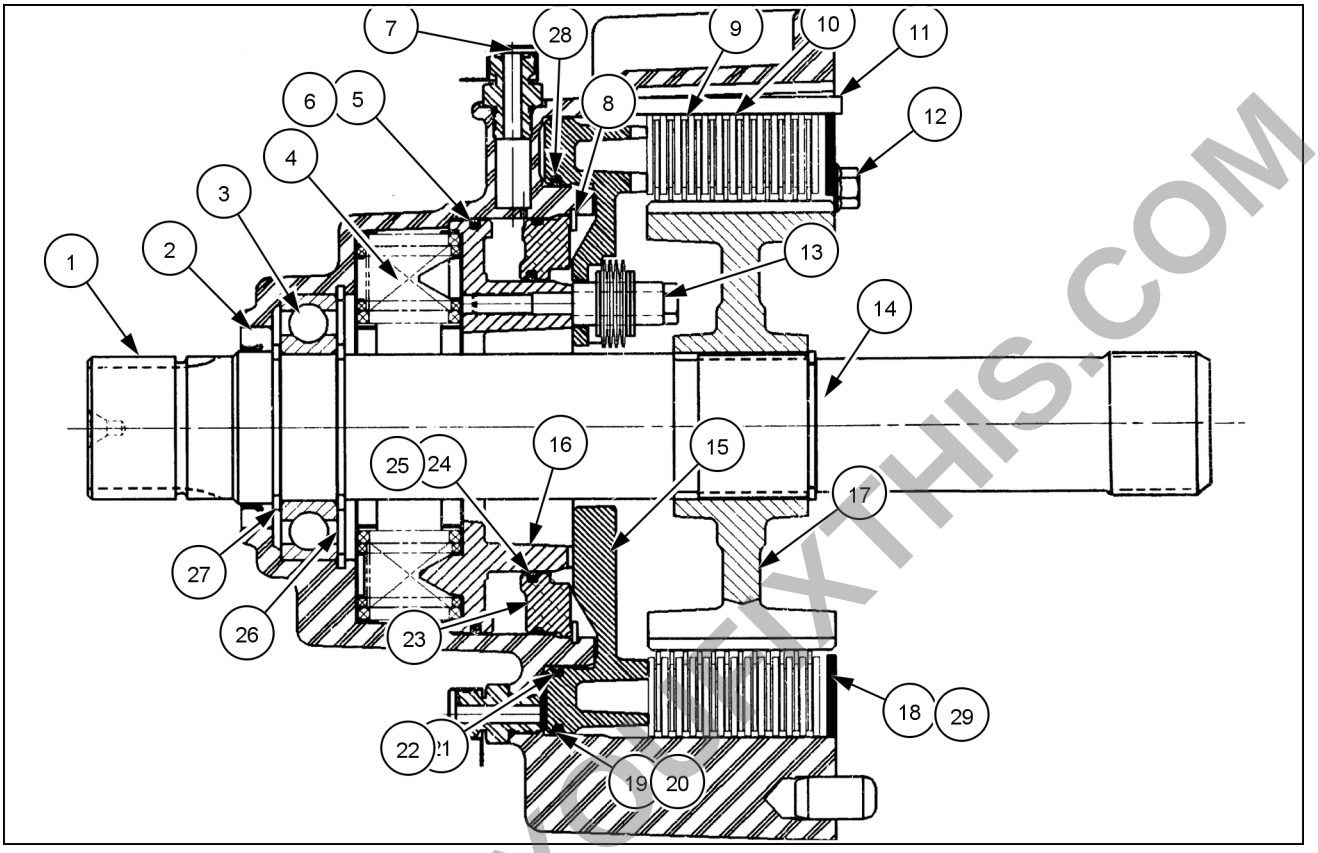
8. With the selector switch in the "HIGH" position place the transmission in third gear. The third gear lock-out switch should shift the two speed motor back to the "LOW" position. The "LOW" servo pressure should be **0 psi**.
9. Results: If the pressure does not change between servos check the electrical system.
10. Install a drive pressure gauge, (see the drive pressure test procedure) place the selector switch in the "HIGH" position, the transmission in second gear, engage the park brake. The "HIGH" servo pressure gauge should be reading **0 psi** and the "LOW" servo should be reading approximately regulated pressure. Move the propulsion lever into the "FORWARD" slot while observing the servo and drive pressure gauges. When the drive pressure exceeds **275 bar** (**4000 psi**) the servo pressure should drop off the "LOW" servo and come up on the "HIGH" servo. The two speed hydrostatic motor automatically shifts to low speed when drive pressure increases.

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Hydraulic service brakes - Sectional view

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AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA

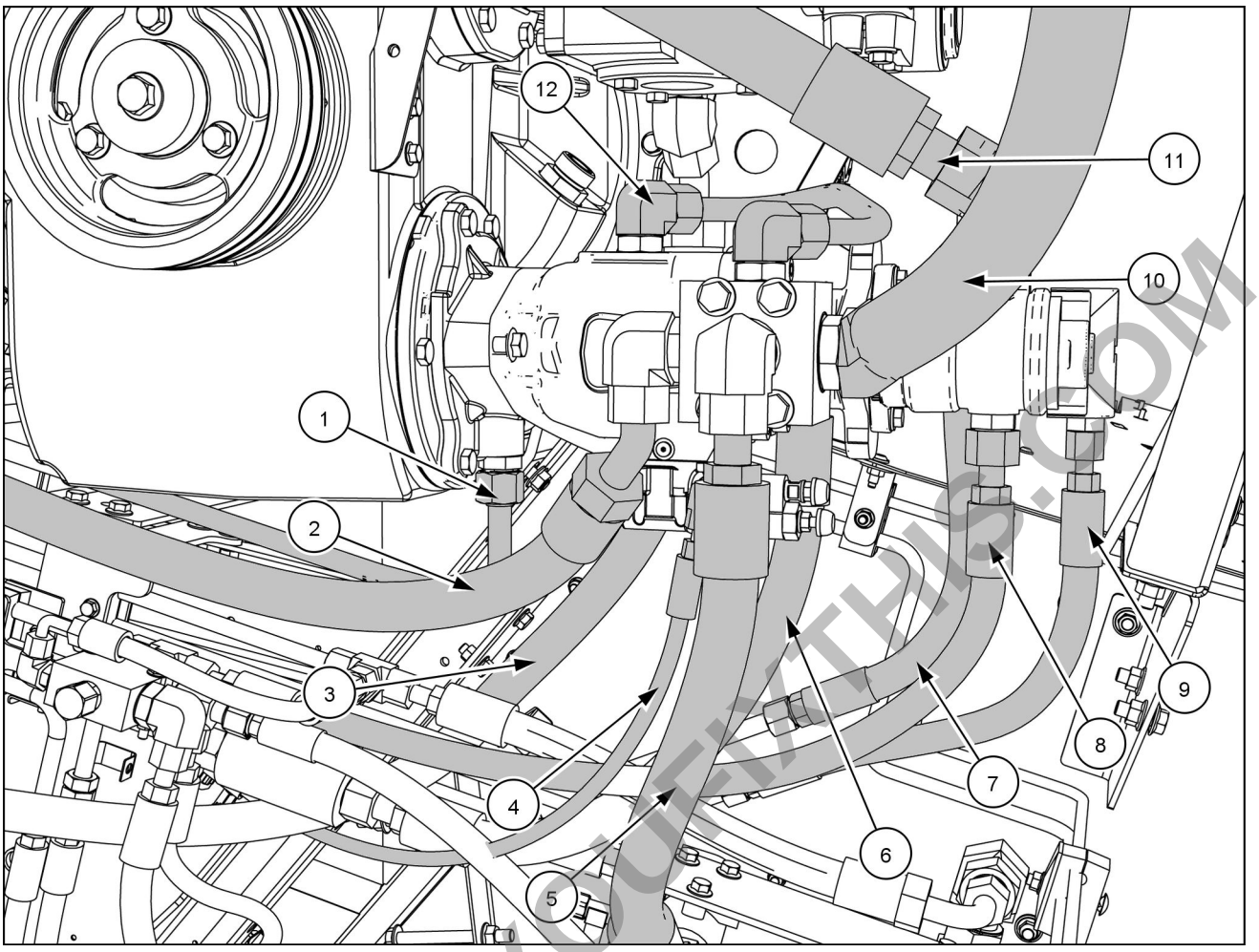


653L94N 1

(1) OUTPUT SHAFT
(2) LIP SEAL
(3) BALL BEARING
(4) PARK BRAKE SPRING ASSEMBLY
(5) BACKUP O-RING
(6) SEAL RING
(7) PARK BRAKE PORT
(8) RETAINING RING
(9) FRICTION DISC - QTY. 12
(10) SEPARATOR PLATE - QTY. 13
(11) SEPARATOR KEY - QTY. 8
(12) RETAINING BOLT - QTY. 4
(13) SPRING RETURN ASSEMBLY - QTY. 4
(14) RETAINING RING
(15) SERVICE PISTON
(16) PARK BRAKE PISTON
(17) BRAKE HUB
(18) SHIMS - QTY. AS REQUIRED
(19) BACKUP O-RING
(20) SEAL RING
(21) BACKUP O-RING
(22) SEAL RING
(23) REACTION PISTON
(24) BACKUP O-RING
(25) SEAL RING
(26) RETAINING RING
(27) RETAINING RING - QTY. 2, ONE ON EACH SIDE OF THE BALL BEARING
(28) BACKUP O-RING
(29) THICK SHIM

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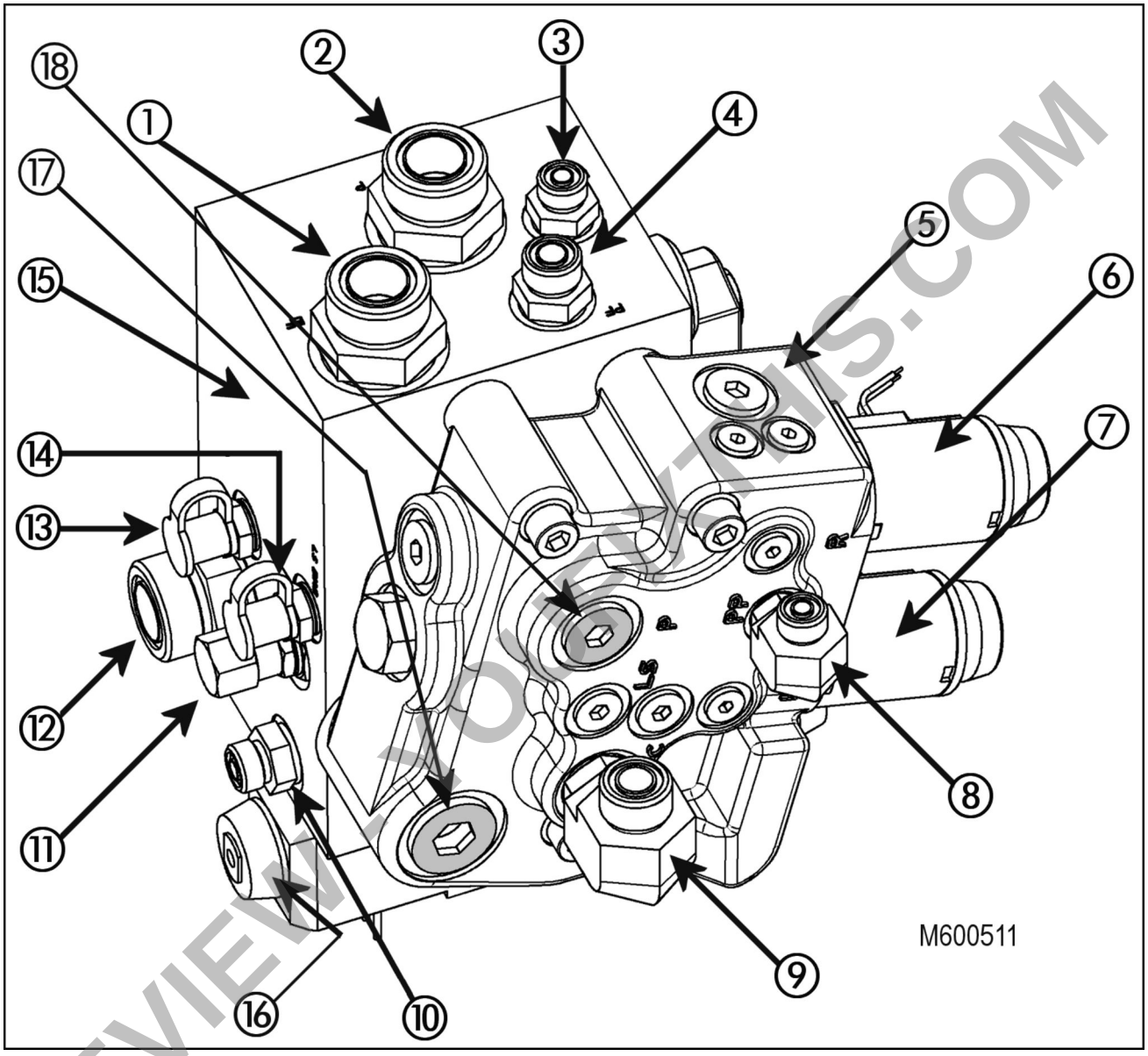
(1) PTO cooler supply
(2) Hydraulic cooler return
(3) Hydrostatic pump drain
(4) Signal line
(5) Return line from filter
(6) PFC auxiliary supply
(7) Low pressure return
(8) Pump regulated supply
(9) Air screen supply
(10) PFC return
(11) Suction at PFC auxiliary pump
(12) PFC pump case drain

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Main control valve - Overview

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AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA



M600511 1

(1) To feeder valve supply

(2) From PFC pump

(3) From steering hand pump signal

(4) To steering hand pump supply

(5) Header valve

(6) Header raise solenoid

(7) Header lower solenoid

(8) From regulated pressure supply

(10) “C2” unloading auger retract

(11) Thermal relief valve

(12) Tank port

(13) Pump pressure test port

(14) Signal line test port

(15) Main stack manifold

(16) Unloading auger extend solenoid

(17) Return from the feeder reverser

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Main priority valve - Dynamic description Steering

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AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA

The steering priority valve is integral with the main stack valve on the left side of the combine. The primary function of the steering priority valve is to maintain a priority flow of oil to the steering system. Oil from the PFC pump is directed to the inlet of the main valve block. Inside the valve is the priority spool which is spring biased. The spring will position the spool so incoming oil will to go to the steering hand pump first.

When steering is not being used, pressure will increase due to the closed-center steering hand pump. This build-up of pressure is directed to the non-spring end of the priority spool through a screened **0.64 mm** (**0.025 in**) damping orifice. At the same time, a screened **0.64 mm** (**0.025 in**) dynamic sensor orifice directs oil to the spring-end of the priority spool and to the signal line. The dynamic sensor orifice keeps the signal line filled with oil to keep the steering responsive. At the same time this oil is allowed to drain to the reservoir through the orifice in the steering hand pump spool. So the oil in the signal line cannot flow through the steering hand pump too freely, a **0.79 mm** (**0.031 in**) orifice is in place. The orifice will create a back pressure of **345 - 1034 kPa** (**50 - 150 psi**) in the signal line. This pressure in the signal line plus the **2758 kPa** (**400 psi**) springs in the compensator act together to put the system at low pressure standby. With the oil on the spring-side of the priority spool draining to the reservoir, and the increased pressure on the opposite end, the spool will shift against the spring. The priority spool will meter just enough oil to the steering circuit to make-up for the oil being bled-off through the **0.79 mm** (**0.031 in**) orifice in the steering hand pump during low pressure standby.

The steering hand pump circuit is opened when steering is required. This will cause a pressure drop on the non-spring end of the priority spool. The spring will shift the priority spool to direct oil out to the steering hand pump. The PFC pump will stroke to meet the steering demand. When steering demand is satisfied, pressure will start to build on the non-spring end of the priority spool. The pressure will overcome the spring, shifting the priority spool, thus allowing excess oil to be supplied to the main valve assembly if required.

The circuit incorporates a signal check which has two functions:

- Allows oil pressure from the dynamic orifice to get to the compensator when in low-pressure standby mode and when steering the combine.
- It blocks the signal line drain through the steering hand pump when a different function is creating a signal, forcing the signal to continue out port LS to the PFC pump.

The circuit also incorporates a signal line bleed orifice. Once a function is discontinued the signal (which would be trapped by the signal checks) must be bleed to the reservoir so that the PFC may return to low-pressure standby mode.

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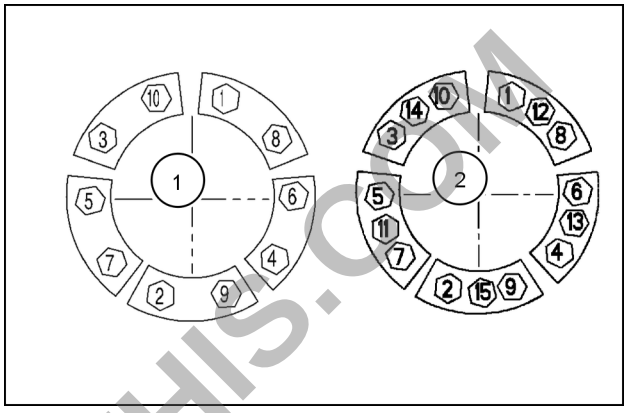
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Front wheels - Tighten Procedure

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AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA

Wheel Tightening Procedure Part 1

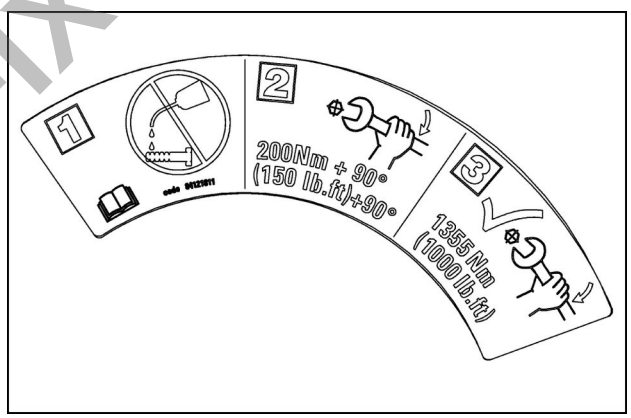
1. Install the wheels and tighten the bolts.
   DO NOT lubricate bolts or final drive hub threads. Wheel bolts should be turned in at least three full turns by hand before using power tools to prevent thread damage.
   Tighten the wheel bolts following the ten **(1)** or fifteen **(2)** bolt pattern, to a torque of **200 N·m** (**148 lb ft**). Make a mark for the bolt head relative to the wheel. Tighten each bolt an additional **90 °**.



RH08J003 RH08J0 1

Wheel Tightening Procedure Part 2

2. Drive the Combine to a large firm level surface and perform ten “Figure 8’s”. Re-torque all bolts to **1355 N·m** (**999 lb ft**). Re-torque again after ten hours of operation.
   .



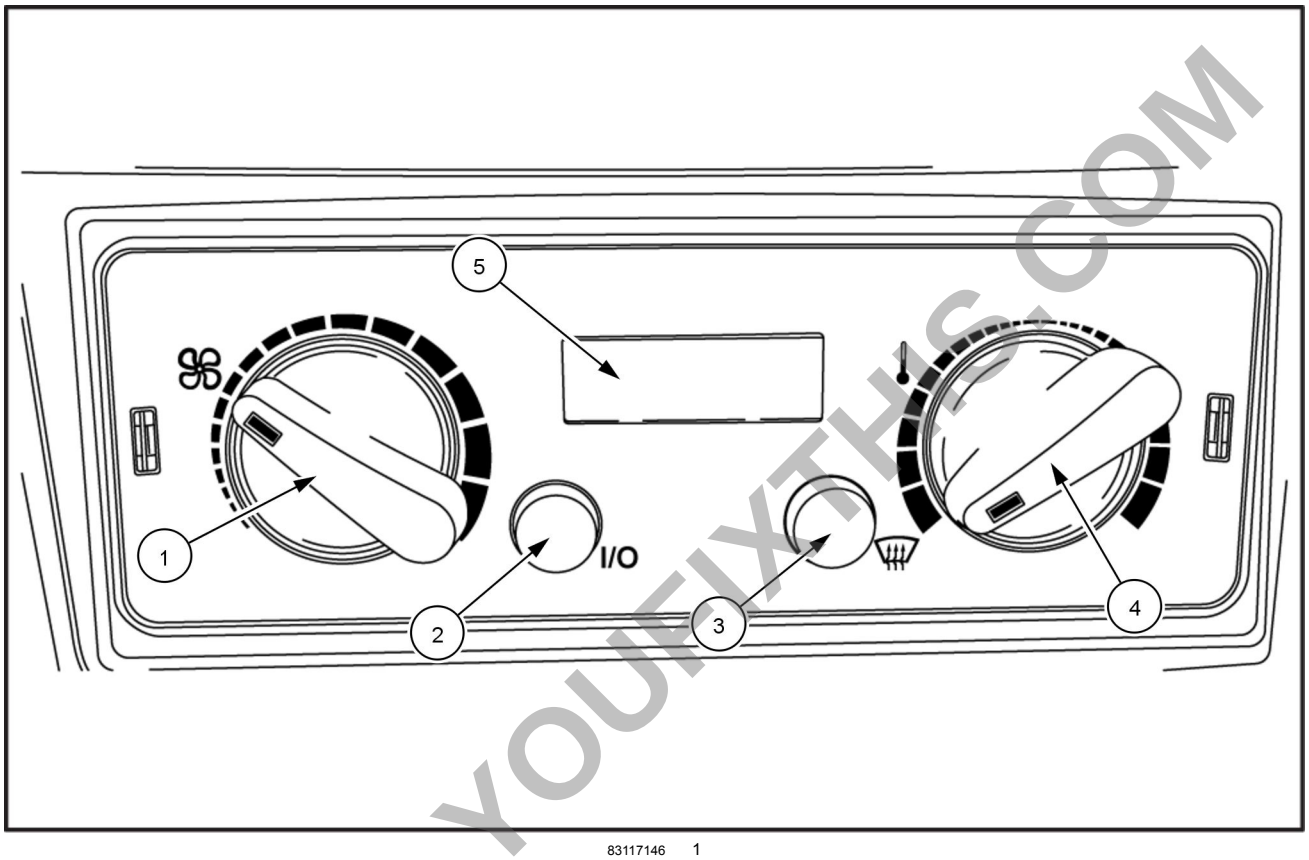
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Air conditioning - Dynamic description - Automatic temperature control

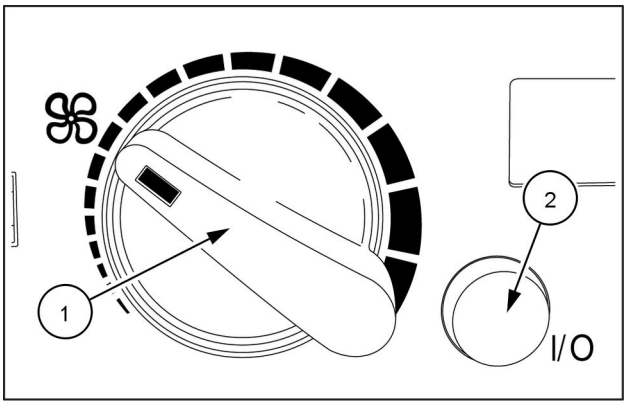
AXIAL-FLOW® 5140	ANZ --- APAC --- MEA
AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA



83117146 1

Blower control (1)

To select the blower speed, turn the control clockwise from low to high. The blower speed is infinitely adjustable throughout its control range. In the automatic mode, the system will determine and adjust blower speed. If the blower speed is adjusted while in automatic mode, the blower speed will no longer be automatically controlled. The HVAC system will still attempt to control temperature, but may not be able to do so if the blower speed is set too low. To reset automatic blower speed, cycle the climate control switch **(2)** from auto to off and back to auto again.



83117148 2

Climate control switch (2)

Press the switch to turn ON the automatic function of the climate control. Press the switch again to turn OFF the climate control.

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Fuse No.	Ampere rating	Function	Fuse No.	Ampere rating	Function
F-033	10A	Spare	F-073	10A	B+ Seat Heater
F-034	15A	HVAC Compressor	F-074	15A	Turn Table, Edge Scanner
F-035	10A	SW B+ Electronic control units	F-075	5A	Turn Signal/Stalk SW
F-036	15A	RH Road Lights	F-076	10A	Left Side Knife (optional)
F-037	15A	LH Road Lights	F-077	10A	Right Side Knife (optional)
F-038	7.5A	Header, Unload, and Right-hand marker Lights	F-078		Not used
F-039	7.5A	Left-Hand marker and license plate lights	F-079		Not used
F-040	10A	Radio and switch backlighting	F-080	5A	Backup Alarm

Engine deck fuses

Fuse No.	Ampere rating	Function	Fuse No.	Ampere rating	Function
F-201	30A	ECU Power	F-208		Not used
F-202	40A	Auxiliary power	F-209		Not used
F-203		Not used	F-210		Not used
F-204		Not used	F-211	5A	After run disconnect
F-205		Not used	F-212	20A	Exhaust flap
F-206		Not used	F-213	20A	Emissions sensors
F-207		Not used	F-214		Not used

Battery box

Fuse No.	Ampere rating	Function
F-333	40A	Rotor speed/Grain tank covers

System relays

Relay number	Function	Relay number	Function
K-001	Cab Power	K-020	Not used
K-002	CUCM Power	K-021	Concave Open
K-003	Side/Exit Lights	K-022	Cleaning Fan Speed Increase
K-004	Mid Outer Roof Lights	K-023	Not used
K-005	Inner Roof Lights	K-024	Concave Close
K-006	Light control	K-025	Cleaning Fan Speed Decrease
K-007	Road Lights	K-026	Not used
K-008	Outer Roof Lights	K-027	Not used
K-009	Unload Tube Light	K-028	Upper Sieve Open
K-010	Road Field Lights	K-029	Upper Sieve Close
K-011	High Beams (Europe Only)	K-030	Engine Run
K-012	Beacon Lights	K-031	Lower Sieve Open
K-013	Brake Lights	K-032	Lower Sieve Close
K-014	Rear Lights	K-033	Swap #1
K-015	HVAC Compressor	K-034	Swap #2
K-016	Edge scan Right (Europe only)	K-035	Service Lights, Sep On SW B+
K-017	Edge scan Left (Europe only)	K-036	Swap #3
K-018	Not used	K-037	Not used
K-019	Not used	K-038	Not used

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CONNECTOR X002 - TO CAB

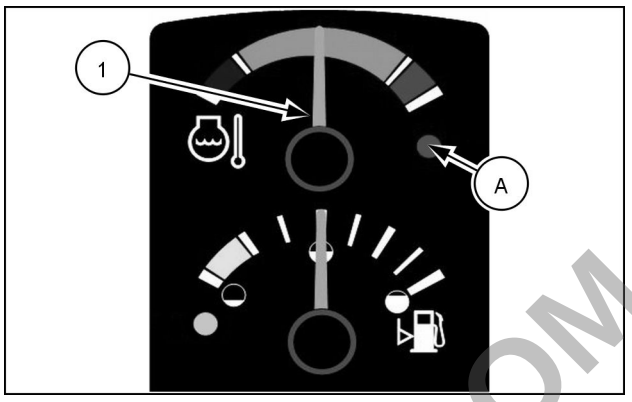
CONNECTOR X002 - TO CAB			
PIN NUMBER	**WIRE NUMBER**	**CIRCUIT REFERENCE**	**ELECTRICAL SCHEMATIC FRAME**
1	RD-001 (RD)		
2	RD-002 (BK)		
A1	CM-283 (GY) FE-283 (GY)	SWAP #1 / INCREASE SWAP #1 / INCREASE	**Wiring harnesses - Electrical schematic sheet 15 - Header reel control (55.100)**
A2	CM-133 (YE) FE-133 (YE)	HEADER TILT ANGLE HEADER TILT ANGLE	**Wiring harnesses - Electrical schematic sheet 17 - Header height control and ride control (55.100)**
A3	CM-262B (VT) FE-262B (VT)	RH HEADER WARN LTS RH HEADER WARN LTS	
A4	CM-394 (YE) FE-394 (YE)	VERTICAL REEL POSITION VERTICAL REEL POSITION	**Wiring harnesses - Electrical schematic sheet 13 - Header reel control (55.100)**
A5	CM-606E (OR) FE-606E (OR)	SW B+ TO HEADER SW B+ TO HEADER	**Wiring harnesses - Electrical schematic sheet 30 - Shaft speeds (55.100)**
A6	CM-126 (YE) FE-126 (YE)	LEFT CENTER HEIGHT LEFT CENTER HEIGHT	**Wiring harnesses - Electrical schematic sheet 18 - Header height, tilt and type control (55.100)**
A7	CM-615D (BL) FE-615D (BL)	SENSOR RETURN SENSOR RETURN	**Wiring harnesses - Electrical schematic sheet 11 - Distribution (Universal Control Module (UCM)) (55.100)**
A8	CM-776 (BK) FE-776 (BK)	FLIP UP RELAY GROUND FLIP UP RELAY GROUND	**Wiring harnesses - Electrical schematic sheet 37 - European headlights (55.100)**
B1	CM-351 (YE) FE-351 (YE)	1000 SER HDR DETECT HDR DETECT 1000	**Wiring harnesses - Electrical schematic sheet 30 - Shaft speeds (55.100)**
B2	CM-614B (PK) FE-614B (PK)	SENSOR +5V SUPPLY SENSOR +5V SUPPLY	**Wiring harnesses - Electrical schematic sheet 11 - Distribution (Universal Control Module (UCM)) (55.100)**
B3	CM-260B (VT) FE-260B (VT)	LH HEADER WARN LTS LH HDR/TRLR WARN LTS	**Wiring harnesses - Electrical schematic sheet 42 - Lighting - Header / trailer and park brake (55.100)**
B4	CM-393 (YE) FE-393 (YE)	FLEX PRESSURE FLEX PRESSURE	**Wiring harnesses - Electrical schematic sheet 13 - Header reel control (55.100)**
B5	CM-399 (YE) FE-399 (YE)	RIGHT ROW SENSOR RIGHT ROW SENSOR	**Wiring harnesses - Electrical schematic sheet 62 - Autoguidance (55.100)**
B6	CM-125 (YE) FE-125 (YE)	RIGHT CENTER HEIGHT RIGHT CENTER HEIGHT	**Wiring harnesses - Electrical schematic sheet 18 - Header height, tilt and type control (55.100)**
B7	CM-285 (WH) FE-285 (WH)	SWAP #3 SWAP #3	**Wiring harnesses - Electrical schematic sheet 15 - Header reel control (55.100)**
B8	-	-	
C1	CM-376 (PK) FE-376 (PK)	ROW SENSOR +5V SENSOR +5V SUPPLY	**Wiring harnesses - Electrical schematic sheet 62 - Autoguidance (55.100)**

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Coolant temperature gauge **(1)**

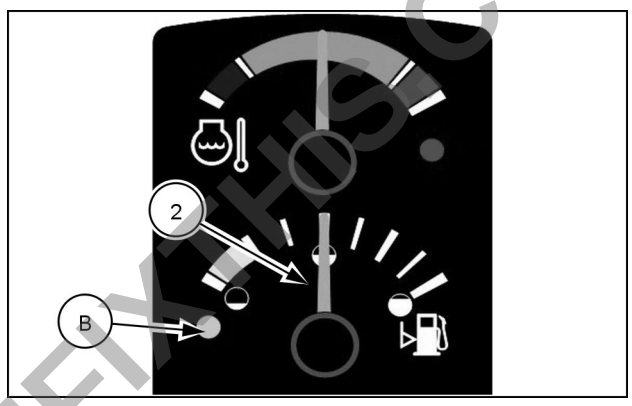
- This gauge shows the temperature of the coolant circulating through the engine. Under normal operation the pointer will be in the center of the gauge. If the pointer enters the red zone, engine temperature is **106 °C** (**223 °F**). The indicator **(A)** will illuminate and the Klaxon Alarm will sound twice. If the temperature exceeds **112 °C** (**234 °F**), the indicator **(A)** will flash and the Laser Alarm sounds continuously. If the temperature is not reduced, the engine will shut down in 2 seconds.



NHPH12AF02730AA 4

Fuel gauge **(2)**

- When the key switch is in the ON position the fuel gauge indicates the level of fuel in the fuel tank. The start of the yellow area indicates that the tank is approximately **25 %** full.
- Low fuel level warning:
  The operator sets the low fuel level alarm through the Selection Menu screen\ Set Up menu screen\Set Alarm screen. The operator can set the alarm from 1/16th to 6/16th of fuel remaining **Instrument cluster - Service instruction – A-Post set up screens (55.408)** (See Instrument Calibration in this manual).
- The indicator **(B)** will illuminate and the chime alarm sounds once when the fuel level is 1/16th above the alarm set point for one minute. When the level reaches the set point for one minute, the indicator **(B)** will flash and the Klaxon Alarm will sound twice.



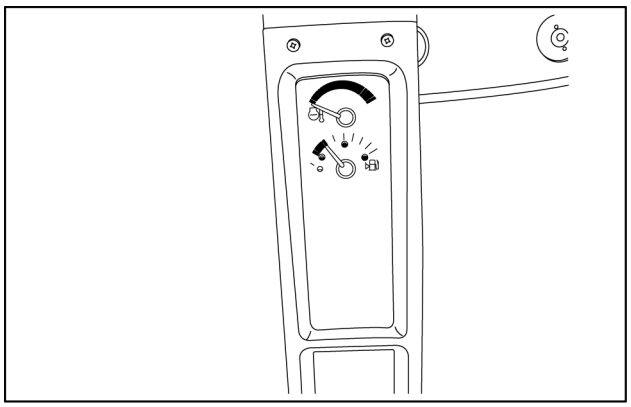
NHPH12AF02730AA 5

Indicator lamp and alarm test

The indicator lamps and alarm are used to alert the operator when attention is required at some unit of the combine.

Upon startup, the instrumentation will go through a self-test mode. This consists of lighting all warning indicators and all of the icons of the shaft speed monitor in the upper LCD display.

NOTE: *If the alarm sounds and/or an indicator lamp illuminates during operation, immediate corrective action must be taken. Stop the combine engine and check the malfunction area.*



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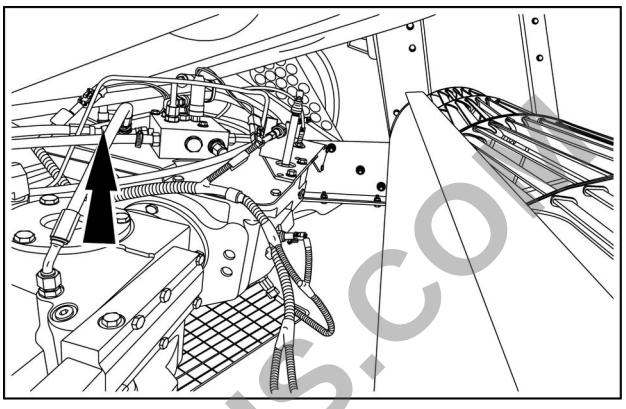
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Ground speed sensor - Overview

AXIAL-FLOW® 5140	ANZ --- APAC --- MEA
AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA

The wheel speed sensor B-209 **(1)** is located on top of the ground drive transmission cover. The sensor is displayed as ‘wheel’ speed on the display monitor, but this sensor actually monitors the transmission speed.

The sensor is a reluctance type sensor, and senses each time a gear tooth passes below it. It provides a pulsed electrical signal rate that varies according to the speed of the differential ring gear. The sensor signal line is connected to the Universal Control Module (UCM).



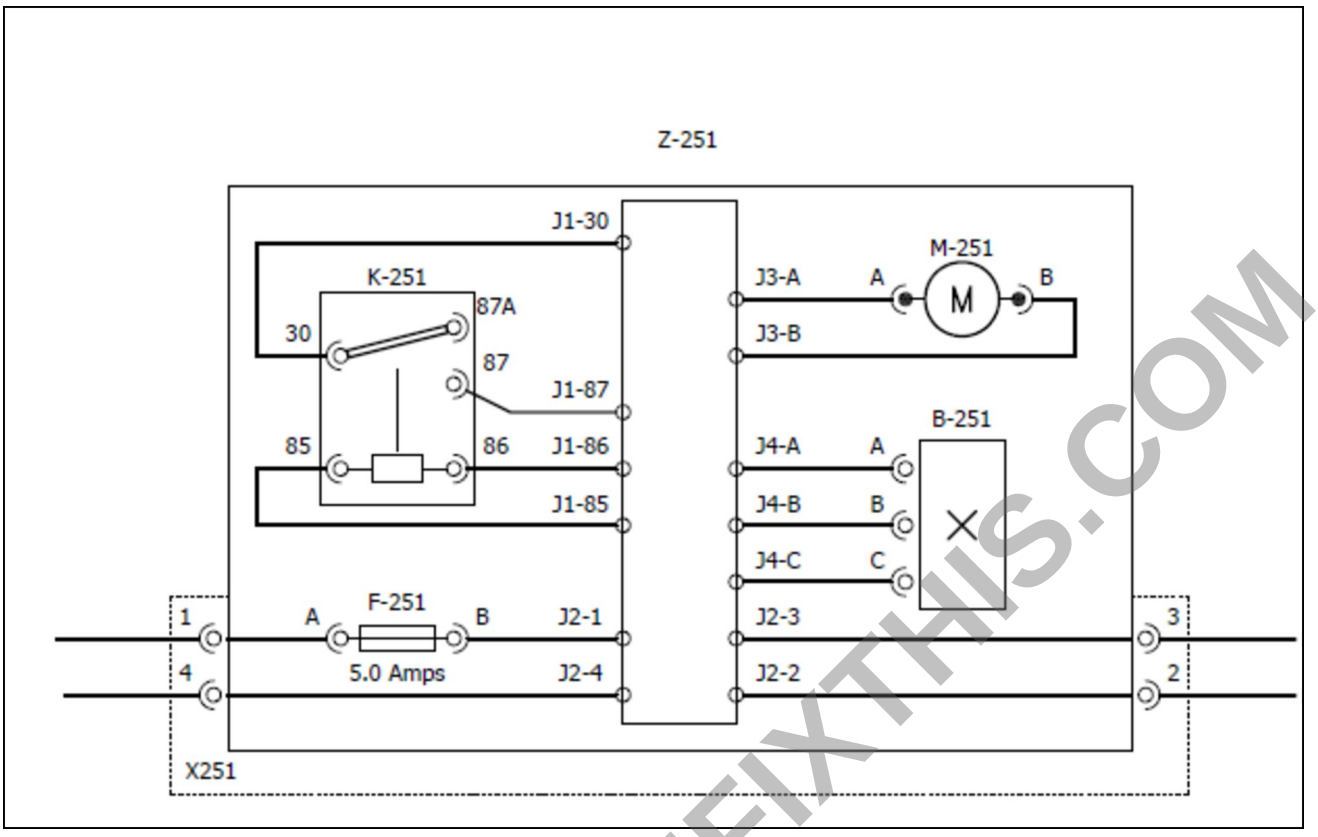
NHIL13AF00676AA 1

The wheel speed sensor coil resistance is **3130 - 3370 Ω**.

The wheel speed installation torque is **8.8 - 11.7 N·m** (**6.5 - 8.6 lb ft**).

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UNTITLED 5

Electrical schematic – bypass unit

Component ID	Description
B-251	Proximity sensor
F-251	Auger motor fuse **5.0 A**
K-251	Sample motor relay
M-251	Sample motor

Always check for proper adjustment of the yield monitoring system:

- Level sensor
  - For troubleshooting the level sensor, see **Precision farming system - Service instruction – Troubleshooting auger motor (55.785)**.
  - Level sensor adjustment, see **Precision farming system - Adjust – Level (proximity) sensor (55.785)**.

Yield / moisture calibrations

- Moisture sensor calibration, see **Precision farming system - Calibrate – Moisture sensor (55.785)**.
- Yield calibration, see **Precision farming system - Calibrate – Yield monitor (55.785)**.

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ATC-120- Blower speed select pot open/shorted to power

AXIAL-FLOW® 5140	ANZ --- APAC --- MEA
AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA

Control Module : ATC

Context:
The Blower speed control **A-397** provides a blower speed that proportional to the absolute value of the difference between the cab temperature and the set point.

Cause:
The Automatic Temperature Control **ATC** has detected a short to high condition in the blower speed circuit.

Possible failure modes:

1. Faulty blower control module.
2. Faulty electrical wiring.
3. Faulty ATC controller.

Solution:

1. Verify that the fault is present and active.
   A. If the fault is present and active, continue to Step **2**.
   B. If the fault is not present and active, the fault may intermittent and not currently active. Continue to Step **5**.
2. Check the signal circuit for a short to high condition. Disconnect the blower speed control from the Upper Roof (OR) harness at connector **X152**. Use a multimeter to check for voltage from the OR harness side of connector **X152 pin 3** and the chassis ground.
   A. If the voltage reading is high, continue to Step **3**.
   B. If there is voltage, continue to Step **5**.
3. Check the signal circuit for a short to high condition. Disconnect the OR harness from the Lower Roof (CR) harness at connector **X036**. Use a multimeter to check for voltage from the CR harness side of connector **X036 pin AB8** and the chassis ground.
   A. If the voltage reading is high, continue to Step **4**.
   B. If there is voltage, there is a short to high condition between connector **X036 pin AB8** and connector **X152 pin 3**, wire OR-953 yellow. Locate and repair the shorted conductor.
4. Check the signal circuit for a short to high condition. Disconnect the CR harness from the **ATC** at connector **X397**. Use a multimeter to check for voltage at connector **X397 pin 5** and the chassis ground.
   A. If the voltage reading is high, the **ATC** has failed internally. Load the appropriate module software. If the fault re-occurs, replace the controller.
   B. If there is voltage, there is a short to high condition between connector **X397 pin 5** and connector **X036 pin AB8**, wire CR-953 yellow. Locate and repair the shorted conductor.
5. Visually inspect the relevant harnesses and connectors for damage, bent or dislocated pins, corroded terminals, or broken wires. Verify that the connectors are fully installed. Flex the harnesses involved to reveal intermittent breaks or shorts in the wiring concerned. Operate the machine while you monitor the display.
   A. If you find damage or the display indicates other than normal display readings, then repair the damage discovered during the inspection or locate and repair the other than normal display condition and verify that the error has been resolved.

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Reel drive system - Remove Reel drive solenoid valve

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AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA

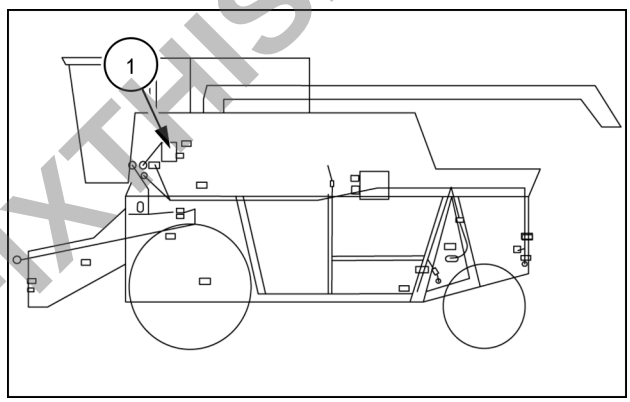
⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. **Disengage all drives.**
2. **Engage parking brake.**
3. **Lower all attachments to the ground, or raise and engage all safety locks.**
4. **Shut off engine.**
5. **Remove key from key switch.**
6. **Switch off battery key, if installed.**
7. **Wait for all machine movement to stop.**

Failure to comply could result in death or serious injury.

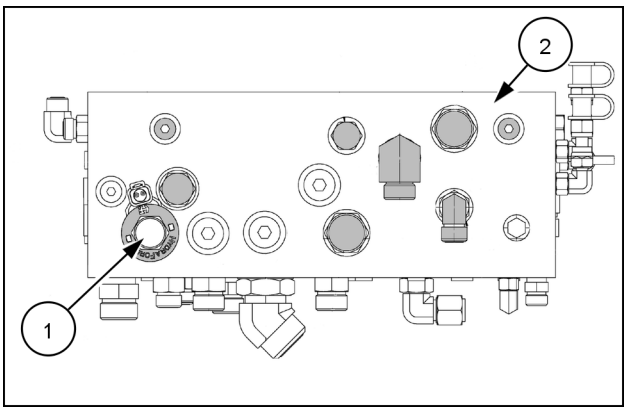
W0047A

1. Locate the main valve stack **(1)** on combine.



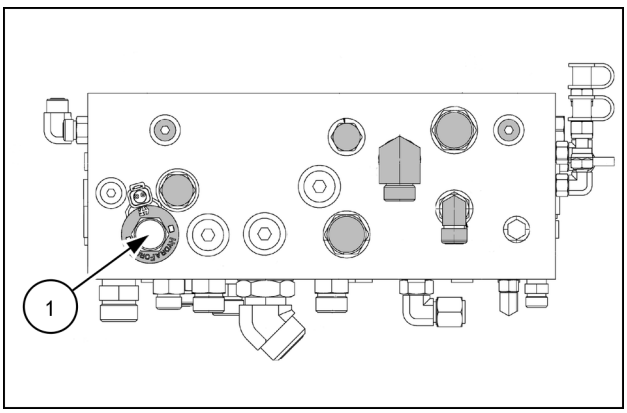
93103700 1

2. Locate reel drive solenoid valve **(1)** in lower left-hand region on rear of main valve stack **(2)** on combine.



RH08C134MIRRORN 2

3. Disconnect reel drive solenoid valve **(1)** from hydraulic valve harness at reel drive connector .



RH08C134MIRRORN 3

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Feeder drive system - Remove Header height lower solenoid valve Sol

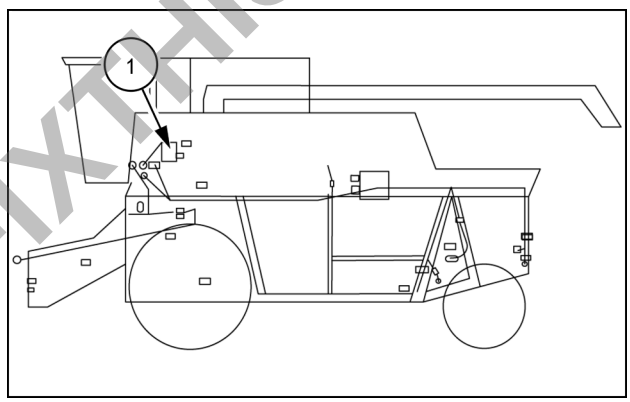
AXIAL-FLOW® 5140	ANZ --- APAC --- MEA
AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA

⚠ WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.
1. Disengage all drives.
2. Engage parking brake.
3. Lower all attachments to the ground, or raise and engage all safety locks.
4. Shut off engine.
5. Remove key from key switch.
6. Switch off battery key, if installed.
7. Wait for all machine movement to stop.
Failure to comply could result in death or serious injury.

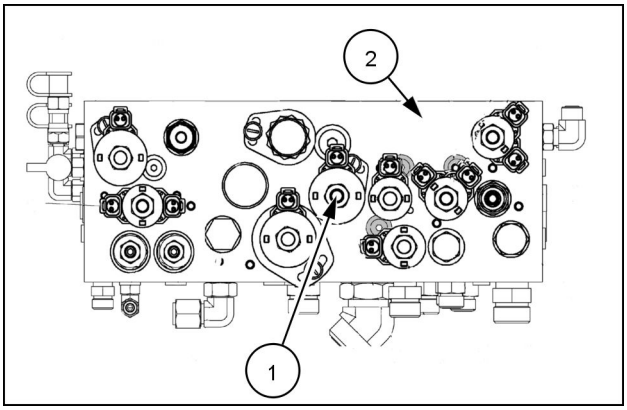
W0047A

1. Locate main valve stack **(1)** on combine.



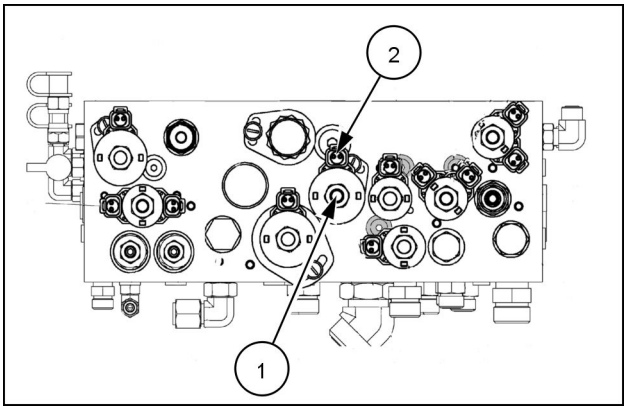
93103700 1

2. Locate header height lower solenoid valve **(1)** located in middle region on the front of main valve stack **(2)** on Combine.



RH08C132MODN 2

3. Disconnect header height lower solenoid valve **(1)** from hydraulic valve harness at header height lower connector **(2)**.



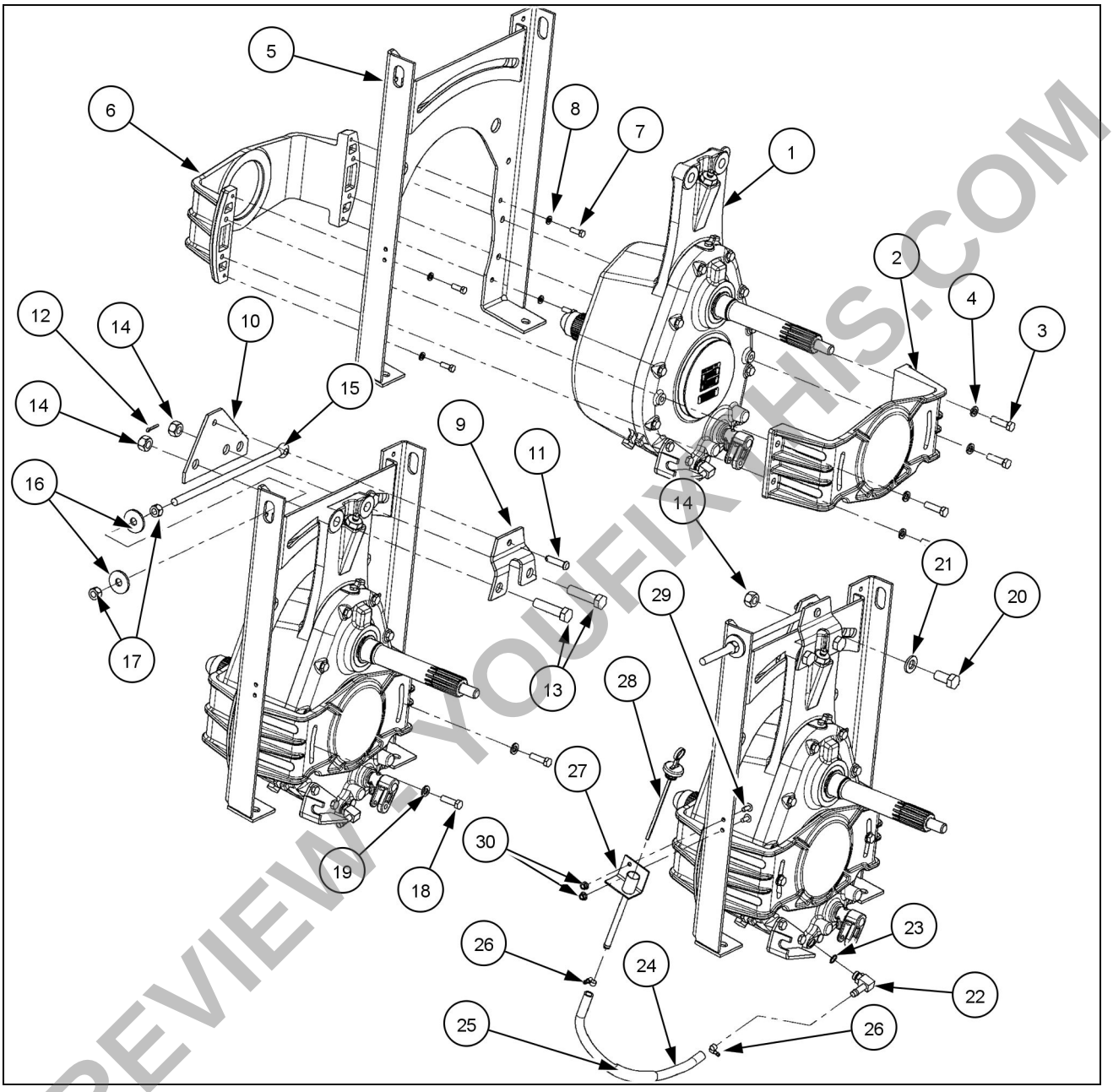
RH08C132MODN 3

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Threshing mechanism drive system - Exploded view

AXIAL-FLOW® 5140	ANZ --- APAC --- MEA
AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA



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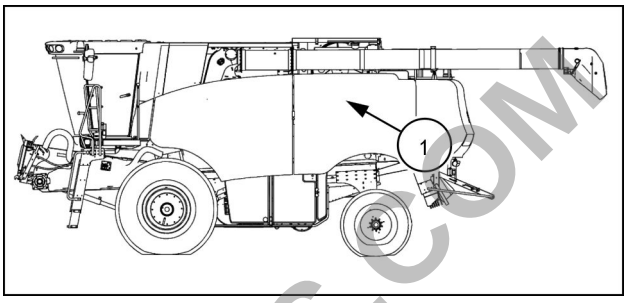
(1) ROTOR GEARBOX
(2) REAR SUPPORT
(3) BOLT - HEX, 1/2 X 1-3/4 INCH
(4) LOCK WASHER - 1/2 INCH
(5) GEARBOX “H” FRAME SUPPORT
(6) FRONT SUPPORT
(7) BOLT - HEX, 3/8 X 1 INCH
(8) LOCK WASHER - 3/8 INCH
(9) SUPPORT BRACKET
(11) PIN - 1/2 X 2 INCH
(12) COTTER PIN
(13) BOLT - HEX, 3/4 X 3 INCH
(14) NUT - HEX, 3/4 INCH
(15) EYEBOLT
(16) WASHER - 21/32 X 2 X 11/64 INCH
(17) NUT - HEX, 5/8 INCH
(18) BOLT - HEX, M12 X 40
(19) WASHER - 13.5 X 24 X 3 mm
(21) WASHER - 13/16 X 1-1/2 X 11/64 INCH
(22) 90° ELBOW
(23) O-RING
(24) HOSE
(25) HOSE
(26) RETAINING CLAMP
(27) TUBE
(28) DIPSTICK
(29) SCREW - SERRATED, 5/16 X 3/4 INCH

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Belt tensioner clutch lever - Remove Separator solenoid valve Sol-249A

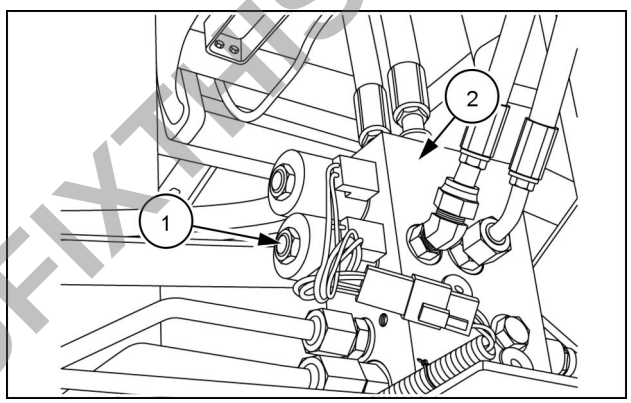
AXIAL-FLOW® 5140	ANZ --- APAC --- MEA
AXIAL-FLOW® 6140	ANZ --- APAC --- MEA
AXIAL-FLOW® 7140	ANZ --- APAC --- MEA

1. Locate separator solenoid valve stack **(1)** on Combine.



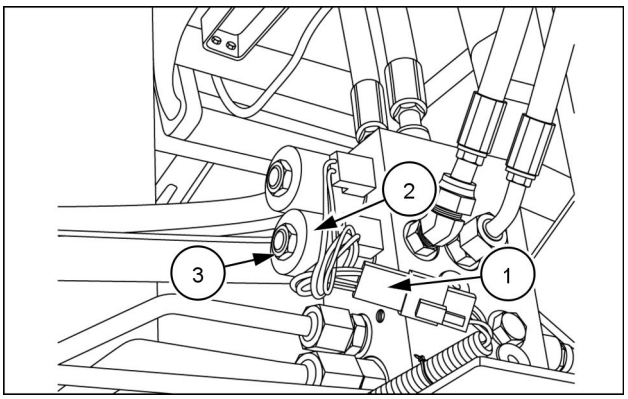
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2. Locate separator solenoid valve **SOL-249A (1)** in lower front region on separator valve stack **(2)** of Combine.



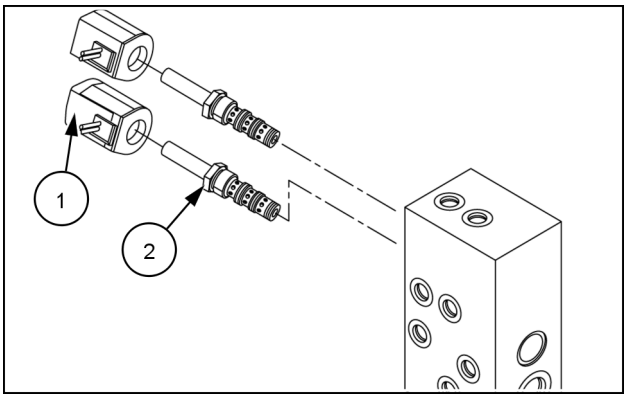
93103717 2

3. Disconnect the connector **C-249 (1)** from the solenoid valve coil **(2)**.
4. Remove nut **(3)** from separator solenoid valve coil.



93103717 3

5. Remove separator solenoid valve coil **(1)** from separator solenoid valve **SOL-249A (2)** .

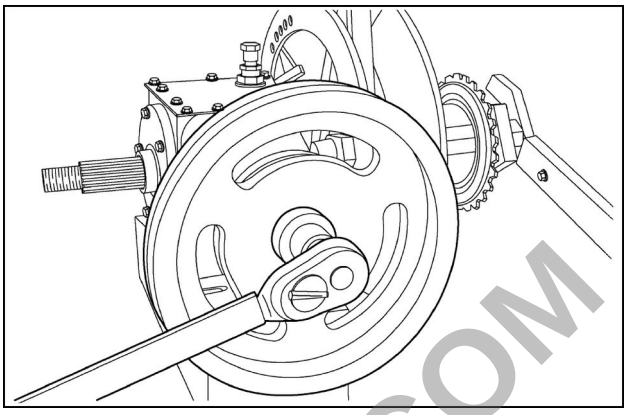


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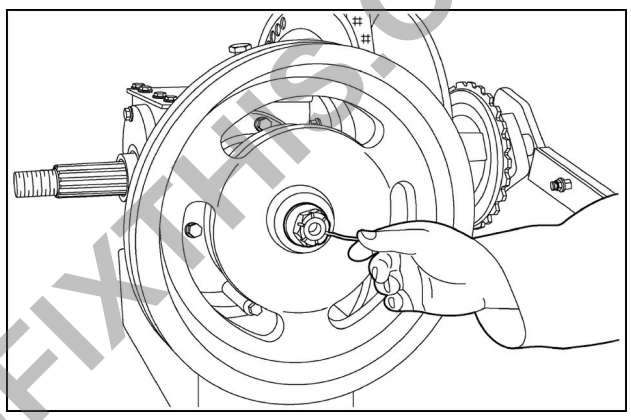
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8. Tighten the nut to a torque of **205 N·m** (**151 lb ft**). If necessary, continue tightening until a hole in the shaft aligns with a slot in the nut.



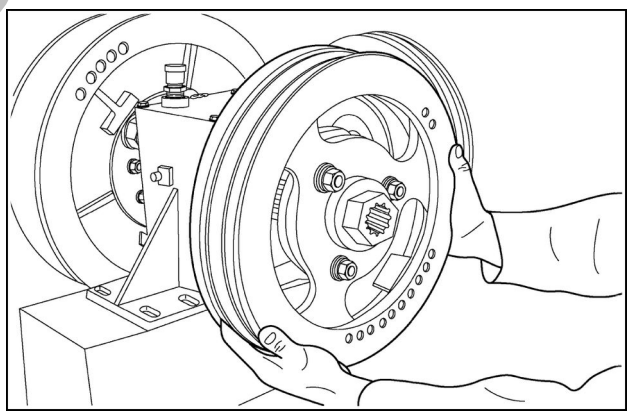
A27515N 8

9. Install the cotter pin through the castle nut and the shaft. Spread the cotter pin.



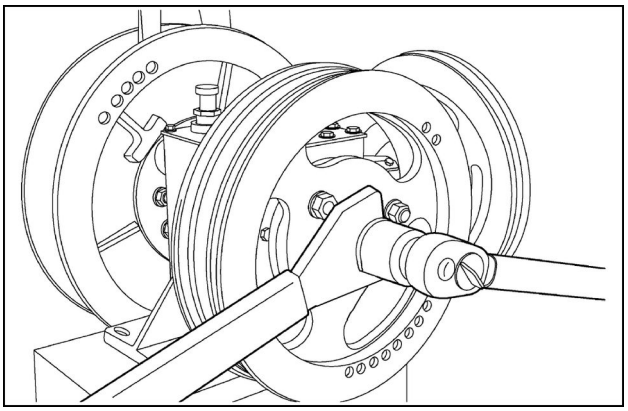
A27513N 9

10. Install the separator pulley.



A27512N 10

11. Install the washer and lock nut. Tighten the lock nut to a torque of **180 - 205 N·m** (**133 - 151 lb ft**).



A27510N 11

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