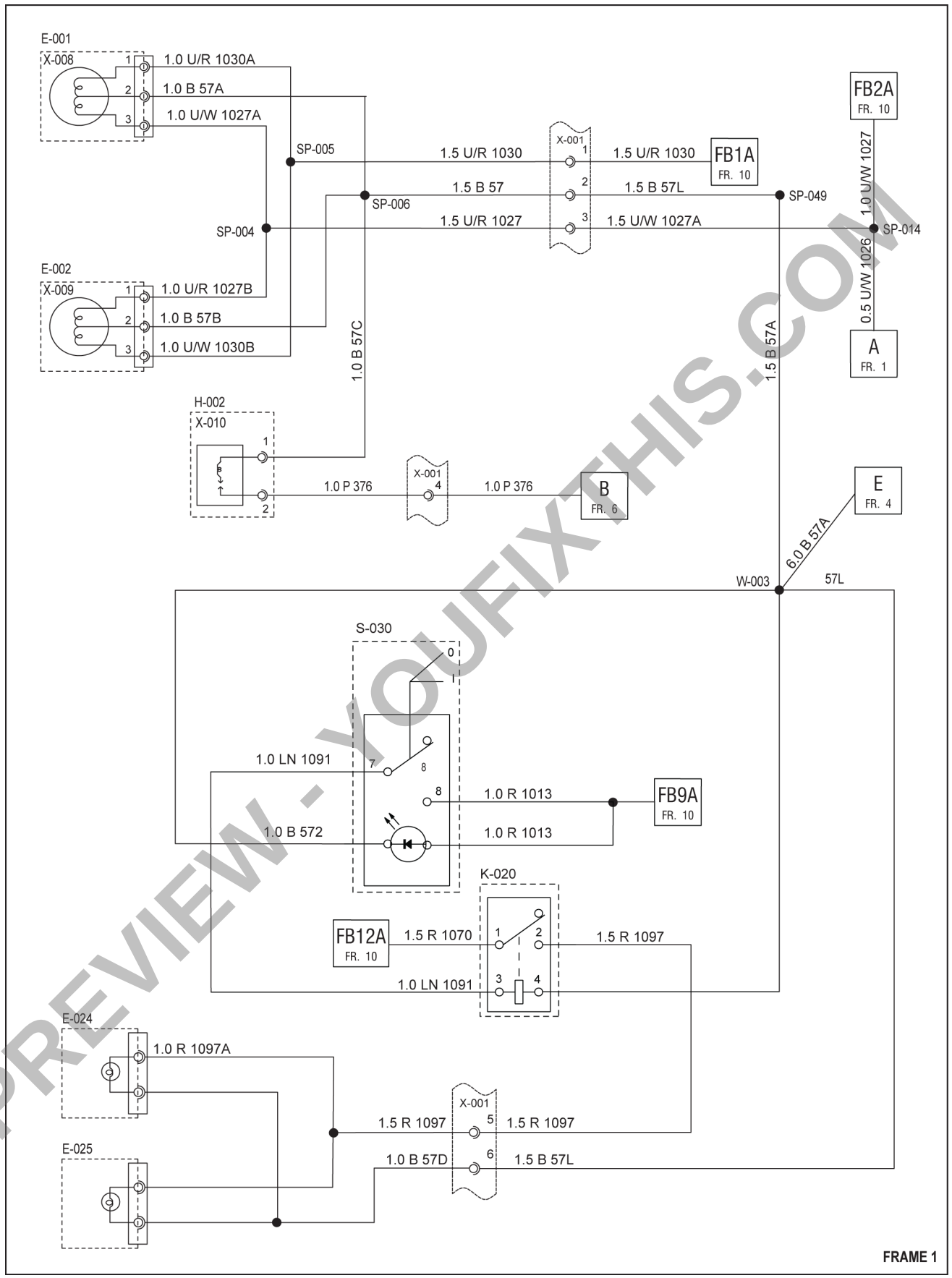
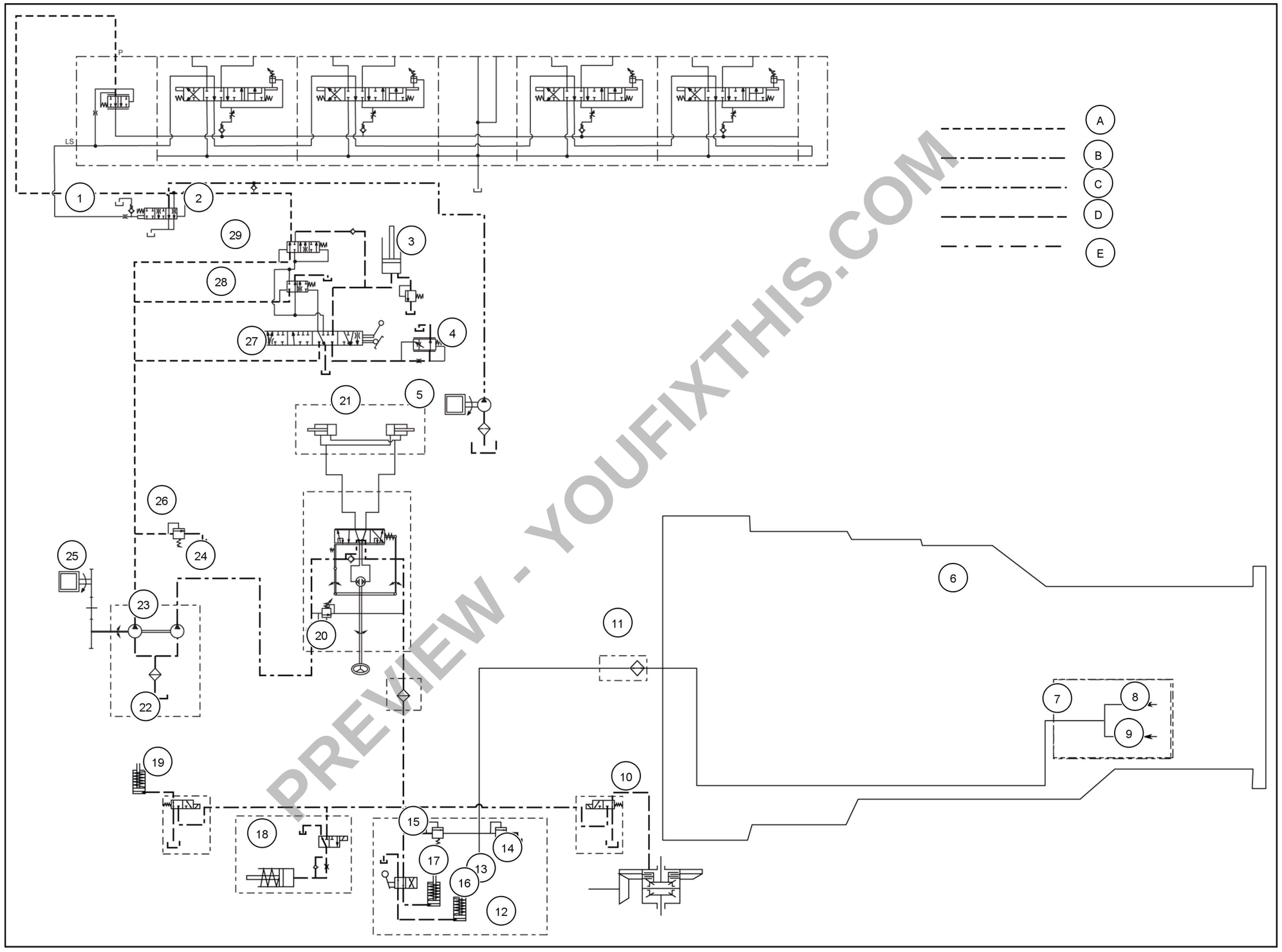


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NHIL12CT0375HA 1

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Powered rear axle - General specification

Model	Farmall 110A, Farmall 120A	Farmall 125A, Farmall 140A
Rear axle	CNH	CNH
Type	Standard duty	Heavy duty
Planetary gears	3	4
Gear ratio	5.286	5.286
Planetary	6.0	6.0
Overall ratio	31.714	31.714
Ring gear diameter	**333.5 mm** (**13.1 in**)	**342.0 mm** (**13.5 in**)
Shaft diameter	**68.58 mm** (**2.7 in**)	**76.5 mm** (**3.0 in**)
Differential lock	Electrohydraulic	Electrohydraulic
Drawbar	**4309.0 kg** (**9499.7 lb**)	**5300.0 kg** (**11684.5 lb**)
Maximum load	**5440.0 kg** (**11993.1 lb**)	**6260.0 kg** (**13800.9 lb**)
Oil specification	**CASE IH AKCELA NEXPLORE™ FLUID**	**CASE IH AKCELA NEXPLORE™ FLUID**
Oil capacity	**60.0 l** (**15.9 US gal**)	**60.0 l** (**15.9 US gal**)

Powered rear axle - Torque

Hardware	Torque value
Rear disc to hub nuts (manual adjust wheels)	**244 - 298 N·m** (**180 - 220 lb ft**)
Rear disc to rim nuts (manual adjust wheels)	**280 - 340 N·m** (**207 - 251 lb ft**)
Differential case retaining bolts	**92 - 125 N·m** (**68 - 92 lb ft**)
Drive pinion bearing retainer bolts	**136 - 170 N·m** (**100 - 125 lb ft**)
Axle shaft housing retaining bolts	**176 - 258 N·m** (**130 - 190 lb ft**)
Axle shaft retaining bolts	**339 - 542 N·m** (**250 - 400 lb ft**)
Differential ring gear retaining bolts	**115 N·m** (**85 lb ft**)
Inner brake housing retaining bolts	**88 - 121 N·m** (**65 - 89 lb ft**)
Ring gear thrust block	**37 - 50 N·m** (**27 - 37 lb ft**)

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Clutch - General specification

Component	Specification
Disc type	dry disc, **330 mm** (**13 in**)
Material	Organic, asbestos free
Pressure plate type	Belleville spring (self-adjustment, maintenance free)
Thrust bearing type	Mechanical drive
Clutch pedal free play adjustment	**28 - 41 mm** (**1.102 - 1.614 in**)
Transmission input shaft lubricant	GR75MD molybdenum lithium grease, amber color

Clutch - Torque

Component	Specification
Screws from clutch cover to flywheel	**35 N·m** (**26 lb ft**)
Locknut on clutch pedal	**34 N·m** (**25 lb ft**)
Drive disc screws of PTO	**129 N·m** (**95 lb ft**)
Bearing fork setscrew on crosswise shaft	**47 N·m** (**35 lb ft**)

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Rear three-point hitch - Troubleshooting

Problem	Possible Cause	Correction
Hitch will not raise.	Pressure relief valve opening too soon.	Check relief valve setting.
	Flow control valve malfunction.	Check flow setting. Overhaul or replace valve if defective.
	Control valve malfunction.	Check for sticking valve or bent spool.
	Mechanical malfunction.	Check for seized cross-shaft, bent levers, and all linkage for smooth operation and proper lubrication. Replace defective parts.
	Lift cylinder malfunction.	Check for seized piston, worn cylinder, incorrect safety valve setting or leakage. Overhaul or replace defective parts.
	Hydraulic pump.	Perform pressure test of pump. Check for filter clogging. Overhaul or replace defective pump.
	Rear axle oil level is incorrect.	Check level and replenish as necessary.
	Priority valve pack.	Check valve pack for leakage. Overhaul or replace defective valve pack.
Hitch raises slowly or does not lift under load.	Pressure relief valve opening too soon.	Check relief valve setting.
	Implement too heavy.	Lighten load.
	Blocked oil galleries.	Remove obstruction.
	Control valve malfunction.	Check for sticking valve or bent spool.
	Hydraulic pump.	Perform pump pressure test. Check filter for clogging. Overhaul or replace pump.
Hitch will not lower.	Draft control malfunction.	Check main spring adjustment.
	Control valve stuck in lift position.	Overhaul or replace control valve.
Hitch drops with control lever in lower or neutral when engine stopped.	Unload valve sticks.	Overhaul or replace valve.
	Combining valve sticks.	Overhaul or replace valve.
	Control valve sticks.	Overhaul or replace valve.
Hitch raises but drops with control lever in neutral or raise position.	Lift cylinder malfunction.	Check piston seals.
		Check cylinder for wear or cracking.
		Overhaul or replace cylinder.
	Safety valve malfunction.	Check setting of valve.

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Electrical system - General specification

Electrical components		Farmall 110A, Farmall 120A	Farmall 125A, Farmall 140A
Alternator		**14 V 65 A 910 W**	**14 V 120 A 1680 W**
Regulator		Integral to the alternator	
Battery		Maintenance free **12 V 90 A·h @ 20 h**	Maintenance free **12 V 108 A·h @ 20 h**
		Maintenance free **12 V 108 A·h @ 20 h** (optional)	
Starter motor		Positive engagement, solenoid operated	
Cold start aid		Grid heater	
		Engine block heater (optional)	
Power and lamp type	Headlights	Headlights	
	Marker lamps	**10 W** R5W	
	Work lamps	**55 W** H3	
	Turn signal lamps	**21 W** P21W	
	Brake lights / flood lamp	**21/5 W** P21/5W	

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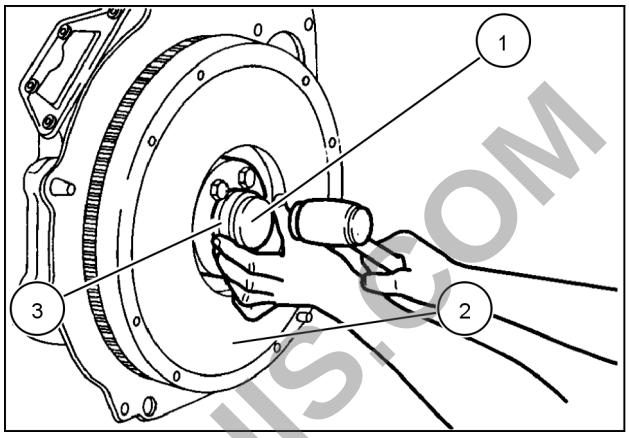
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Clutch - Install - PTO drive disc bearing

Prior operation:
Clutch - Remove - PTO drive disc bearing (18.110)

Place a stake plate **(1)** so that the flat side faces outwards and use a suitable driver to install the ball bearing **(3)** in the flywheel adapter **(2)** for the PTO drive disc.

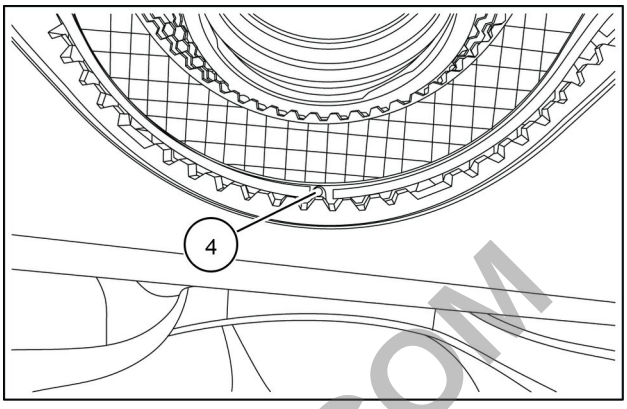


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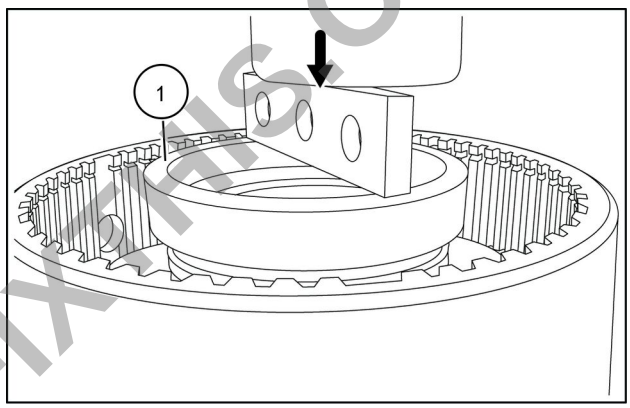
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NOTICE: *Make note of alignment pins* ***(4)*** *for reassembly steps.*

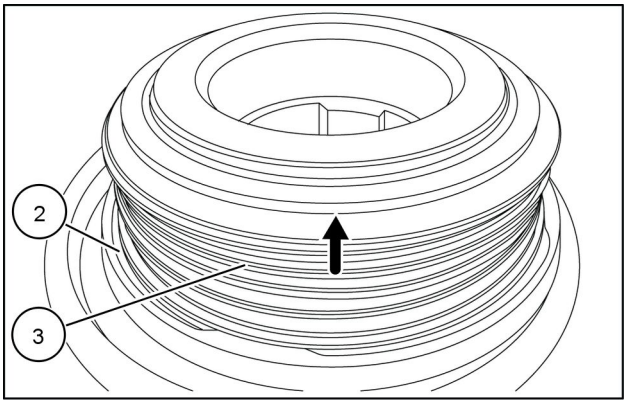


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5. Use clutch hub **(1)**, to push down and remove external retainer ring **(2)**, and the belleville springs **(3)**.



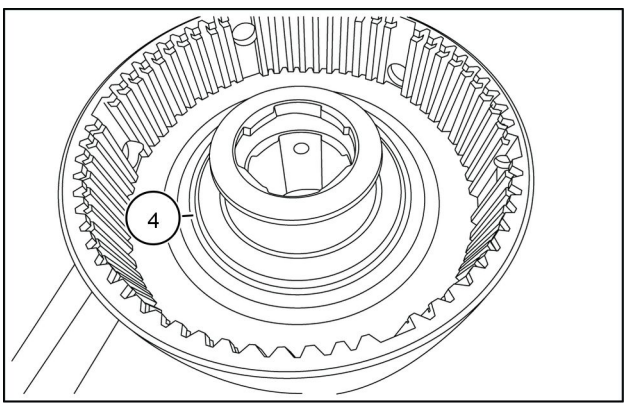
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NOTE: *Retain the Belleville springs in the same order and note number of washers and springs. Same number of washers and springs must be reinstalled at reassembly. washers or shims.*

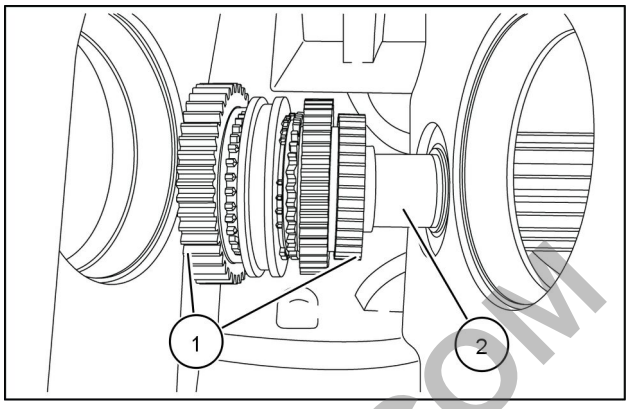
6. Remove spacer ring **(4)**, for the clutch apply piston.



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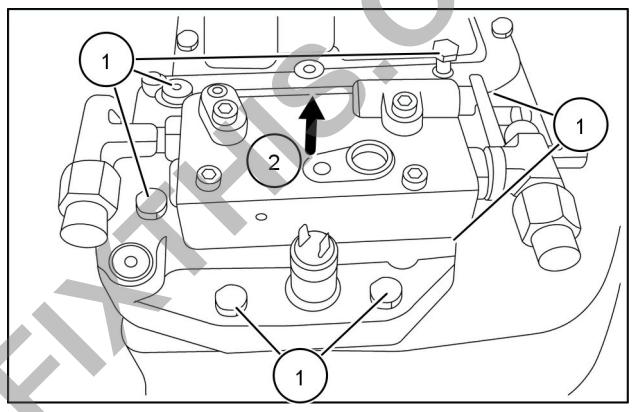
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33. Remove gears and synchronizers **(1)**, from shaft and remove lower speed shaft **(2)**.



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34. Remove seven bolts **(1)**, retaining the control valve **(2)**.
35. Remove valve **(2)**.

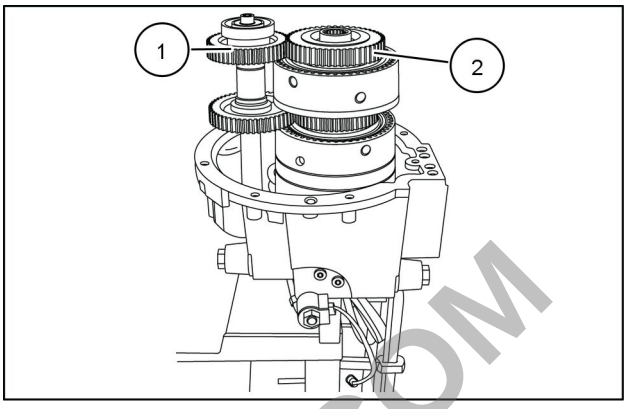


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18. Install the counter shaft gear **(1)**, and the main gear **(2)**.



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Farmall 110A
Farmall 120A
Farmall 125A
Farmall 140A

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Front axle system - 25

Final drive hub, steering knuckles, and shafts - 108

Farmall 125A
Farmall 140A

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Steering knuckle and king pin - Remove

Farmall 110A, Farmall 120A

⚠ WARNING

Avoid injury!
The component is heavy. Removal/installation requires two persons or a lifting device.
Failure to comply could result in death or serious injury.

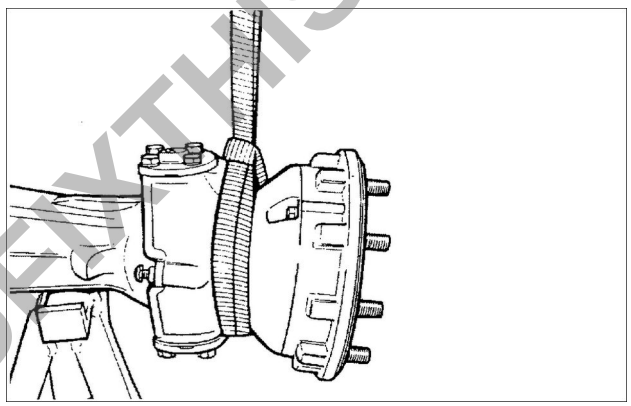
W1141A

⚠ WARNING

Avoid injury!
Handle all parts carefully. Do not place your hands or fingers between parts. Use Personal Protective Equipment (PPE) as indicated in this manual, including protective goggles, gloves, and safety footwear.
Failure to comply could result in death or serious injury.

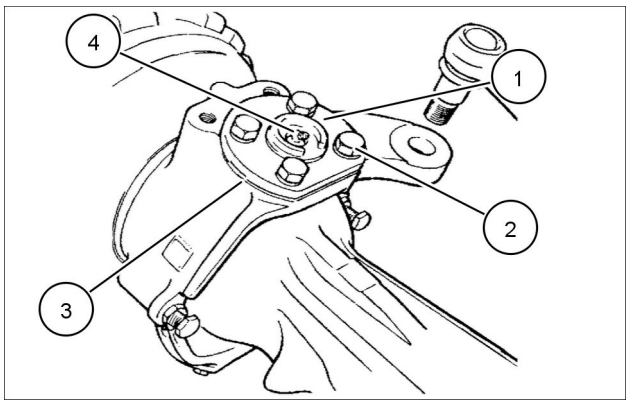
W0208A

1. Hold the hub and the planetary support up with an appropriate lifting device as shown..



RCPH09TTS301AAD 1

2. Remove the upper and the lower reciprocating bolt setscrews and remove these parts with care.



RCPH09TTS302AAD 2

(1) Reciprocating bolt
(2) Setscrews
(3) Groove to lever
(4) Nipple

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Planetary final drive - Visual inspection

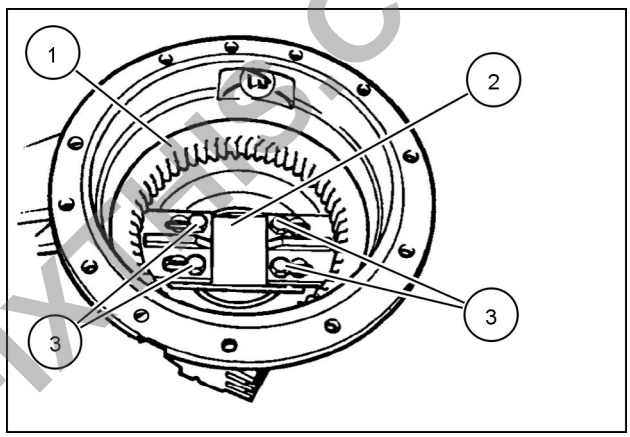
⚠ CAUTION

Pinch hazard!
Always use suitable tools to align mating parts. DO NOT use your hand or fingers.
Failure to comply could result in minor or moderate injury.

C0044A

Prior operation:
Planetary final drive - Disassemble (27.120)

1. Clean and inspect all components for damage or excessive wear. Replace as needed.
2. If the planetary ring gear requires replacement:
   A. Insert the planetary crown puller/inserter **(2)** behind the ring gear **(1)** and adjust the moveable plates to desired location. Tighten the locknuts **(3)**.
   B. If needed, manufacture a special plate for use with the planetary crown puller/inserter as shown.
   C. Position the axle housing under a hydraulic press with the ball end of the housing downward. Insert a bar between the planetary crown puller/inserter and the press ram. Press the ring gear out.
   D. Install a new ring gear with the bell end of the axle housing up. Press the ring gear in, until completely seated and no gap exists between bottom of the gear and the housing shoulder.



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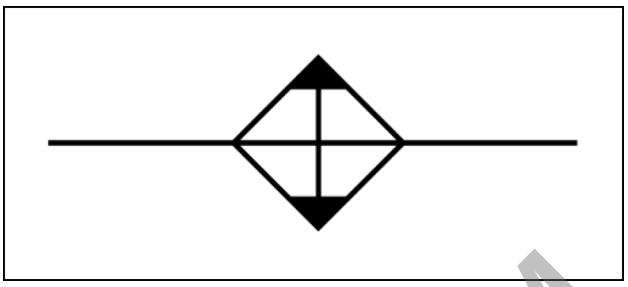
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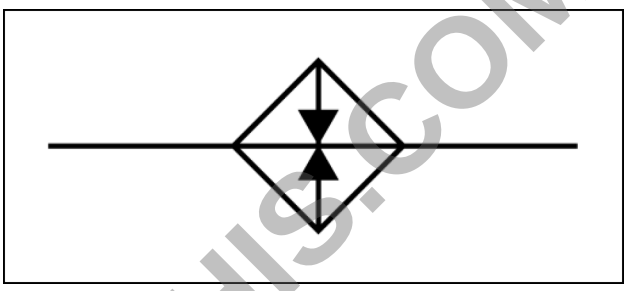
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A solid line perpendicular to the flow with solid arrows pointing outward represents a cooler.



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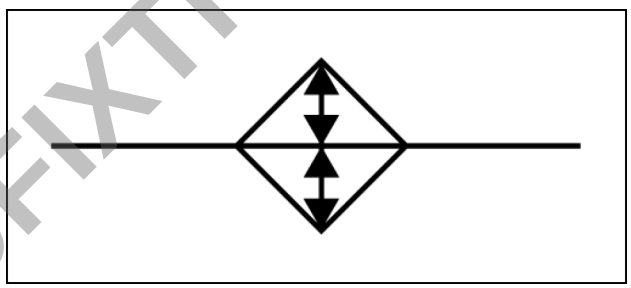
The symbol for a heater is like the symbol for a cooler, except the solid arrows point inward.



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Two sets of arrows pointing inward and outward represents a temperature control unit

The solid arrows point in the direction that heat is dissipated. Or in the case of the control unit, they show that heat can be regulated.

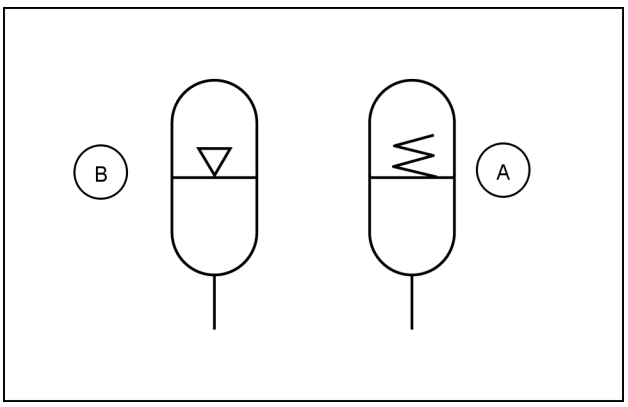


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An oval with details inside represents an accumulator. The details explain what type of accumulator it is: spring loaded **(A)**, gas charged **(B)**, or other features.

The divider line indicates there is a separator between the charge and the fluid. A hollow arrow indicates gas.

A spring indicates that the accumulator is spring-loaded.



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Remote control valve - Prepare

⚠ WARNING

Improper operation or service of this machine can result in an accident.
Read and understand the SAFETY INFORMATION Section before you operate or service the machine.
Failure to comply could result in death or serious injury.

W0266A

⚠ WARNING

Chemical hazard!
When handling fuel, lubricants, and other service chemicals, follow the manufacturer's instructions. Wear Personal Protective Equipment (PPE) as instructed. Do not smoke or use open flame. Collect fluids in proper containers. Obey all local and environmental regulations when disposing of chemicals.
Failure to comply could result in death or serious injury.

W0371A

⚠ WARNING

Uncontrolled equipment movement!
Before disconnecting the hydraulic hoses from the tractor:
-Lower the implement to the ground; OR,
-Install the transport stops and place the hydraulic remote lever in the float position.
Failure to comply could result in death or serious injury.

W0907A

NOTICE: *Contamination in the hydraulic system is a major cause of hydraulic component malfunction. Contamination is any foreign material in the hydraulic oil. Contamination can enter the hydraulic system in several ways:*

(A) Draining or filling the hydraulic reservoir.
(B) Disconnecting hydraulic hoses or connectors.
(C) Disassembling hydraulic components.
(D) Damaged or worn seals.

It is critical to work in a clean environment and thoroughly clean the area around any component that will be serviced.

1. Park the tractor on level ground. Turn the engine off. Chock the front and rear wheels.
2. Move the hydraulic controls back and forth a few times to release the pressure in the hydraulic lines.
3. Clean the area around the remote control valves.
4. If applicable, disconnect the external hydraulic equipment from the remote valves and remove it from the tractor.
5. Be prepared to cap or plug disconnected hoses to prevent excess fluid loss and/or oil contamination.

Next operation:
Remote control valve - Remove (35.204)

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Draft control – transport position

Pulling the draft control lever **(10)** to the top of the quadrant selects the transport position. The top of the actuating lever **(12)** pivots rearwards about the control rod connector, which allows the control valve spring **(7)** to move the control valve spool forward, into the raise position.

To limit the height of the implement, the piston skirt contacts a stop pin attached to the actuating lever, when reaching the full raised position. The control valve spool moves rearward into the neutral position, stopping further movement of the lift piston. The stop pin functions in both draft and position control.

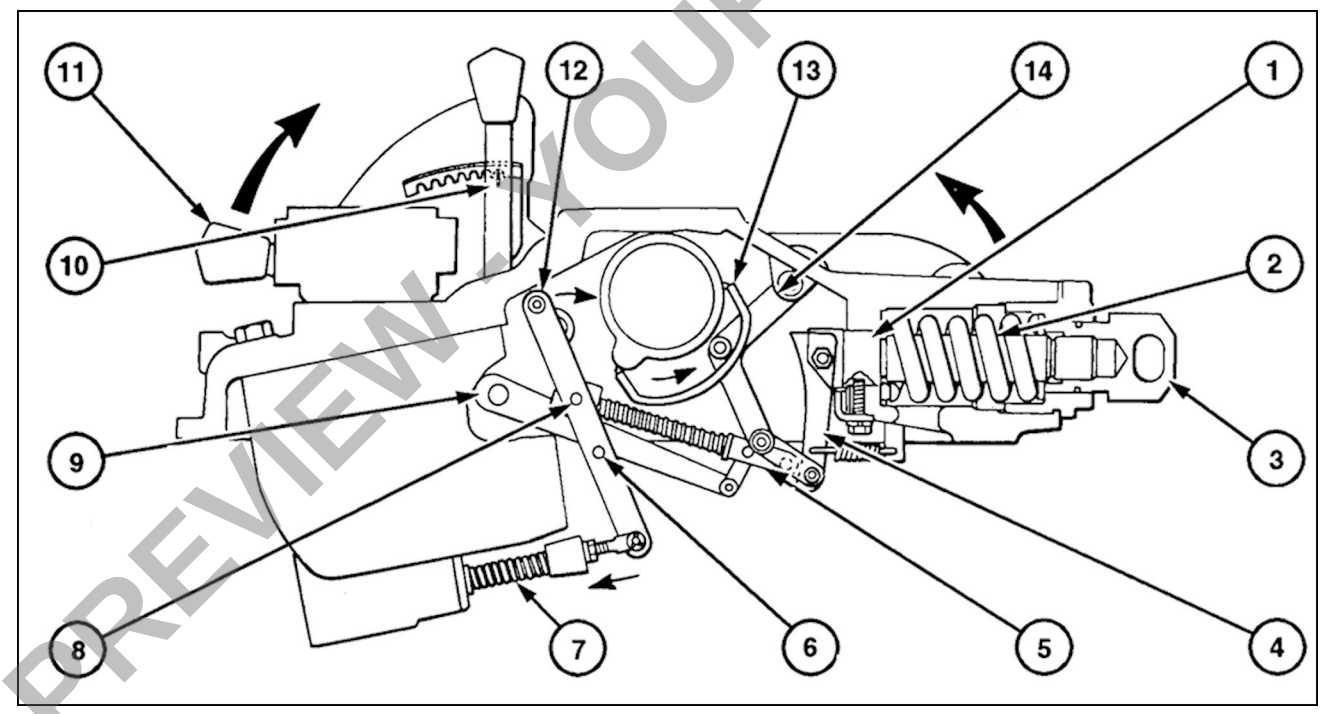
Principles of position control

The system of position control enables the working depth or height of an implement, relative to the tractor, to be preset and maintained.

During position control, the control rod and roller assembly **(5)** aligns with the lower end of the control link **(4)**. With the control rod and roller in this position, any variations in draft loading applied to the yoke **(3)** through the top link and three-point linkage system will not alter the control rod and roller. Consequently, the actuating lever **(12)** and control valve **(7)** remain unchanged unless movement of the draft control lever **(10)** occurs.

Moving of the lift control lever **(11)** pivots the control rod and repositions the control valve spool, to raise and lower the implement as required.

As the lift arms move, the position control link **(14)** rides the position control cam **(13)**, moving the control rod and actuating lever. With the lift arms in the desired position, the actuating lever returns the control valve to neutral, which stops further movement of the lift arms. Therefore, a direct relationship exists between the height of the lift arms and the position of the draft control lever.



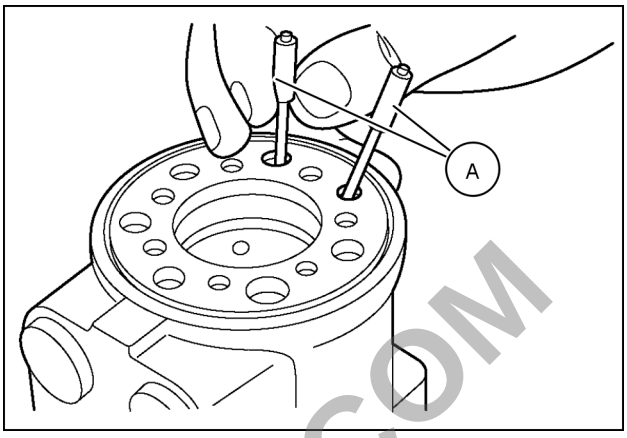
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Position control linkage operation

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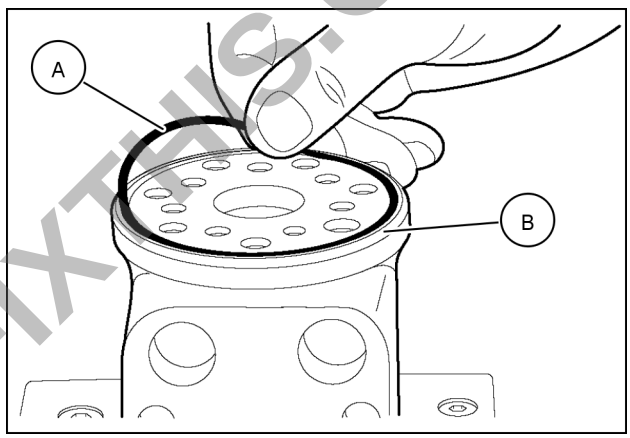
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21. Install both counterbalance valve assemblies **(A)** with balls into the corresponding housings.



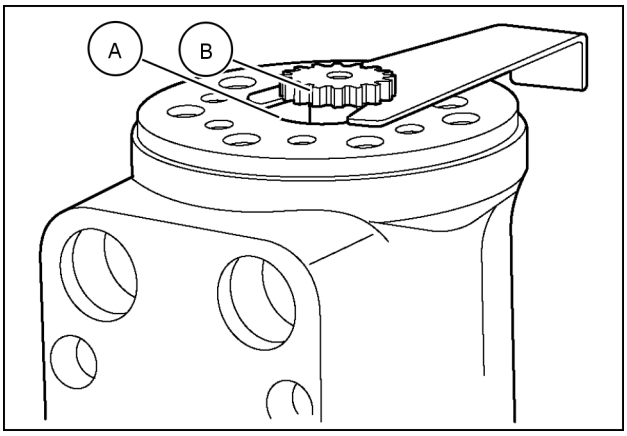
83087221 13

22. Insert o-ring **(A)** in the housing **(B)**.



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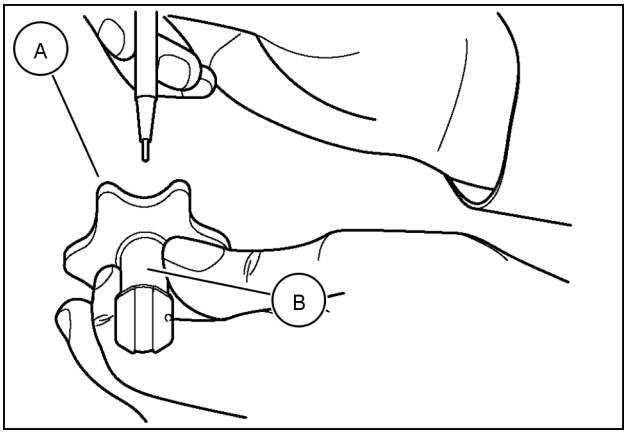
23. Mount distributor ring **(A)** so that the disc holes match the holes of the box. Place drive shaft **(B)** on box side, with the groove in vertical position. Hold drive shaft **(B)** with an suitable tool.



83087223 15

24. Install rotor **(A)** on drive shaft **(B)** so that rotor hole is placed on drive shaft groove as illustrated.

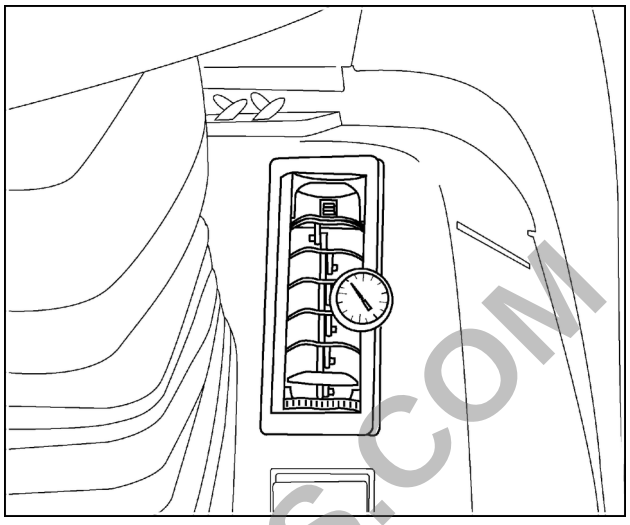
NOTE: *Figure shows mounting position of rotor and shaft. It must be mounted this way even if drive shaft groove and cross pin are not visible.*



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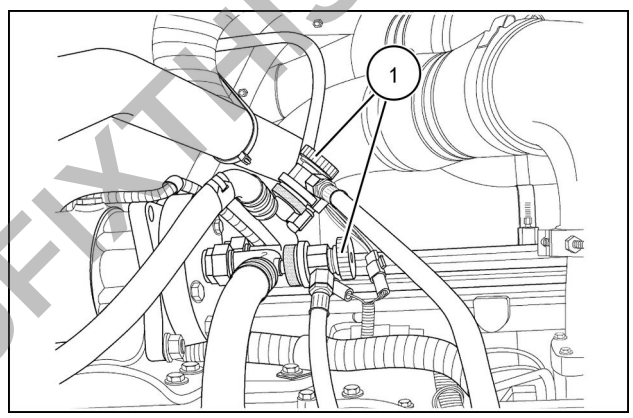
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8. Check louver temperature (as shown) for proper cooling at the mid-cab vents.



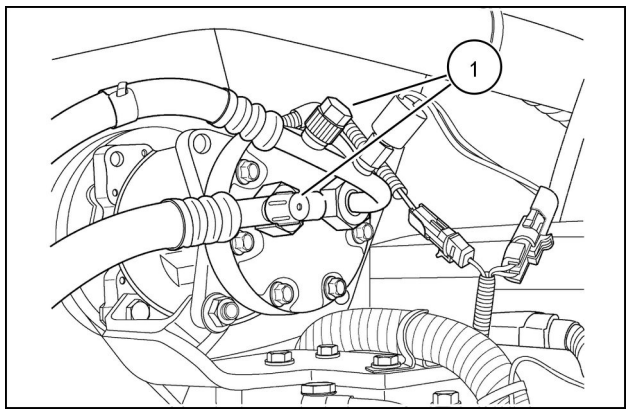
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9. Close any open valves **(1)** on the couplers and carefully remove the gauge hoses from the ports on the suction and discharge lines.



RD06D038N 7

10. Install the caps **(1)** on the service ports on the suction and discharge lines.

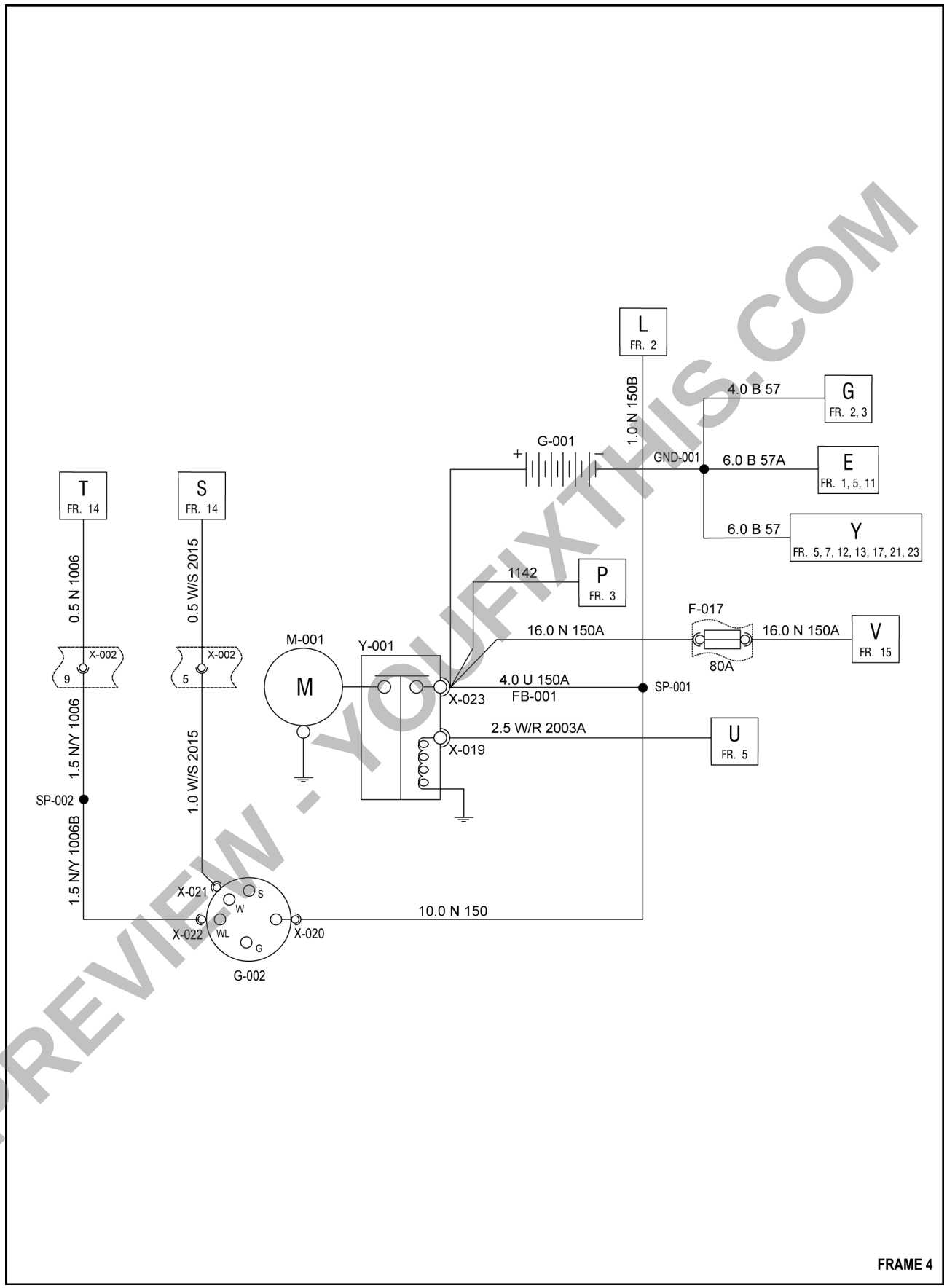


RD06D005N 8

Next operation:
Air conditioning - Replace Air conditioning and heating pipes (50.200)

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NHIL12TR00380AA 1

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Wire harnesses - Electrical schematic frame 17

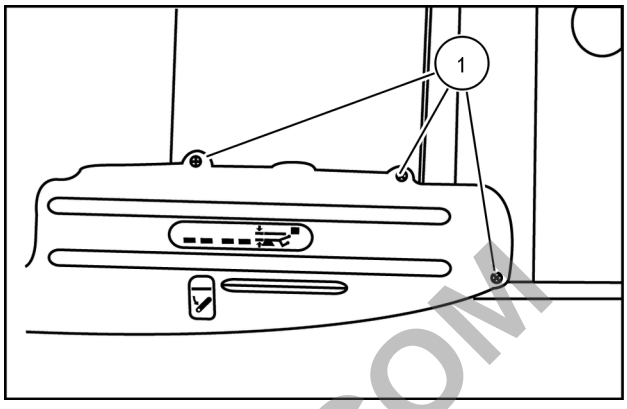
Farmall 110A NA Cab, Farmall 120A NA Cab, Farmall 125A NA Cab, Farmall 140A NA Cab

Component Identifier	Description
E-5	Front work lamp
E-6	Front work lamp
E-7	RH rear turn signal
E-8	Rear work lamps
E-9	Rear work lamps
E-10	Rear work lamps
E-11	Rear work lamps
E-12	LH rear turn signal

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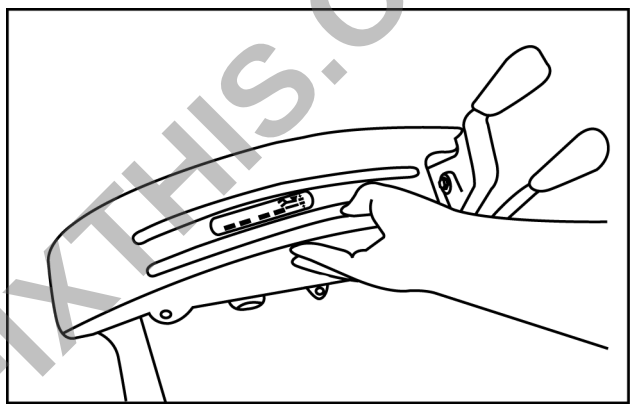
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17. Unscrew the four screws **(1)** securing the lever panel (only three screws shown).



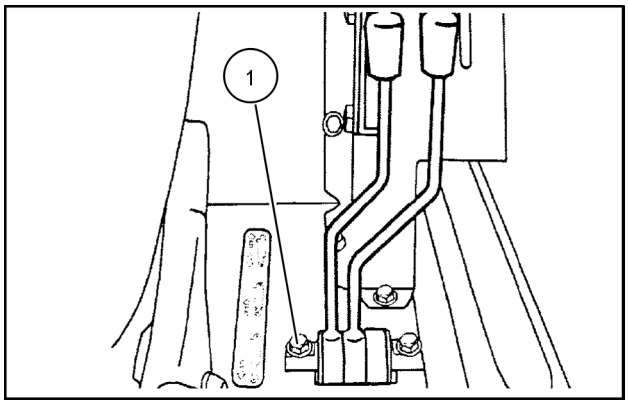
20113022 16

18. Remove the protective cover and the screws that secure the hydraulic control lever support to the platform as shown.



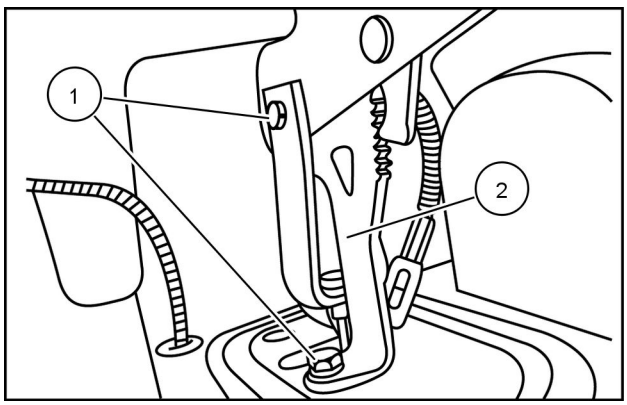
20113023 17

19. Remove the screws **(1)** that secure the auxiliary control valves in place.



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20. Remove the screws **(1)** that secure the parking brake support **(2)** to the platform. Disconnect the parking brake relay and the control lever from vertical rod.



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