NOTE: *Engine repair information is not contained within this tractor Repair Manual. For engine repair, refer to publication number 87515682 for the 8.3 & 9.0L 6 Cylinder, 24 Valve CNH Engine with High Pressure Common Rail Fuel System.*

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TORQUE SPECIFICATIONS - DECIMAL HARDWARE

Use the torques in this chart when special torques are not given. These torques apply to fasteners with both UNC and UNF threads as received from suppliers dry, or when lubricated with engine oil. Not applicable if special graphites, Molydisulfide greases, or other extreme pressure lubricants are used.

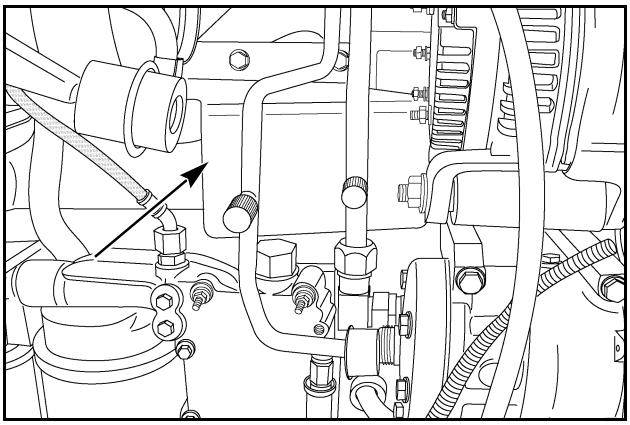
Grade 5 Bolts, Nuts, and Studs		
		
Size	Pound-Inches	Newton metres
1/4 inch	108 to 132	12 to 15
5/16 inch	204 to 252	23 to 28
3/8 inch	420 to 504	48 to 57
Size	Pound-Feet	Newton metres
7/16 inch	54 to 64	73 to 87
1/2 inch	80 to 96	109 to 130
9/16 inch	110 to 132	149 to 179
5/8 inch	150 to 180	203 to 244
3/4 inch	270 to 324	366 to 439
7/8 inch	400 to 480	542 to 651
1.0 inch	580 to 696	787 to 944
1-1/8 inch	800 to 880	1085 to 1193
1-1/4 inch	1120 to 1240	1519 to 1681
1-3/8 inch	1460 to 1680	1980 to 2278
1-1/2 inch	1940 to 2200	2631 to 2983

Grade 8 Bolts, Nuts, and Studs		
		
Size	Pound-Inches	Newton metres
1/4 inch	144 to 180	16 to 20
5/16 inch	288 to 348	33 to 39
3/8 inch	540 to 648	61 to 73
Size	Pound-Feet	Newton metres
7/16 inch	70 to 84	95 to 114
1/2 inch	110 to 132	149 to 179
9/16 inch	160 to 192	217 to 260
5/8 inch	220 to 264	298 to 358
3/4 inch	380 to 456	515 to 618
7/8 inch	600 to 720	814 to 976
1.0 inch	900 to 1080	1220 to 1465
1-1/8 inch	1280 to 1440	1736 to 1953
1-1/4 inch	1820 to 2000	2468 to 2712
1-3/8 inch	2380 to 2720	3227 to 3688
1-1/2 inch	3160 to 3560	4285 to 4827
NOTE: *Use thick nuts with Grade 8 bolts.*		

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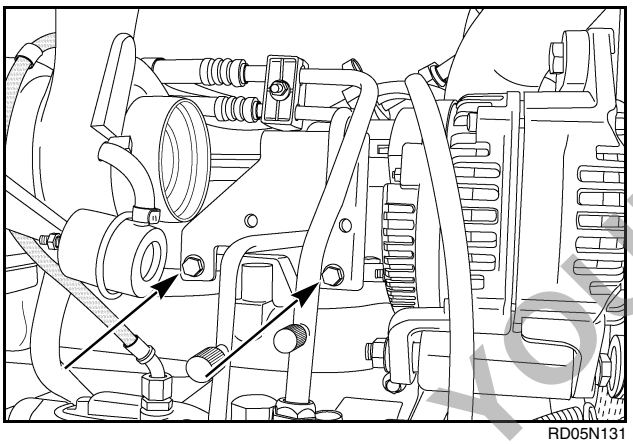
STEP 36



RD05N130

Remove the A / C tube exhaust shield.

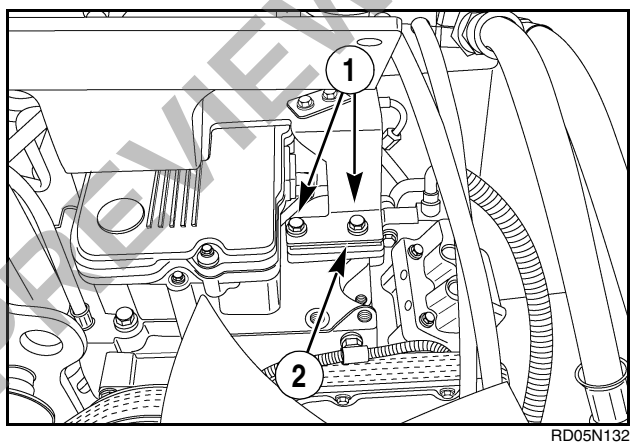
STEP 37



RD05N131

Remove the right front mounting bolts.

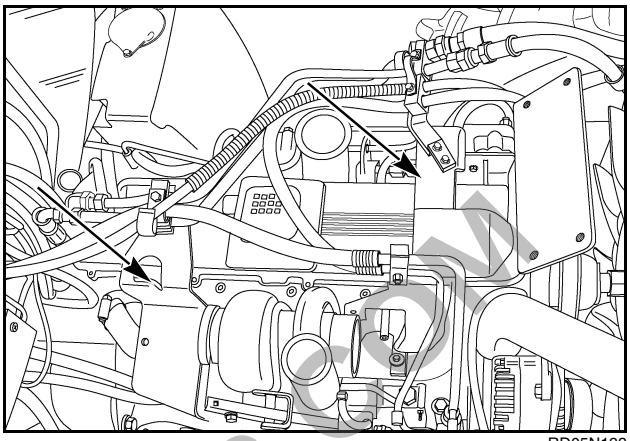
STEP 38



RD05N132

Remove the left front mounting bolts (1) and spacer (2).

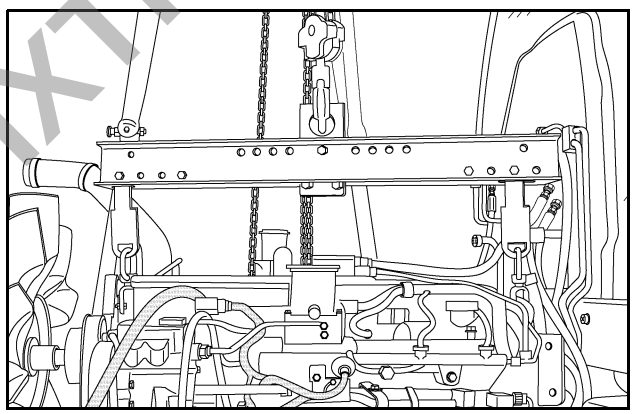
STEP 39



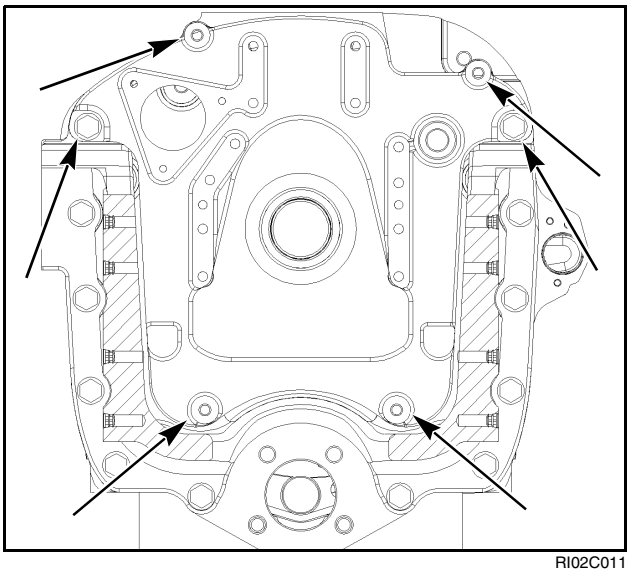
RD05N133

Properly support the hose / tube / air cleaner support bracket assembly and remove from the engine.

STEP 40



RD05N135



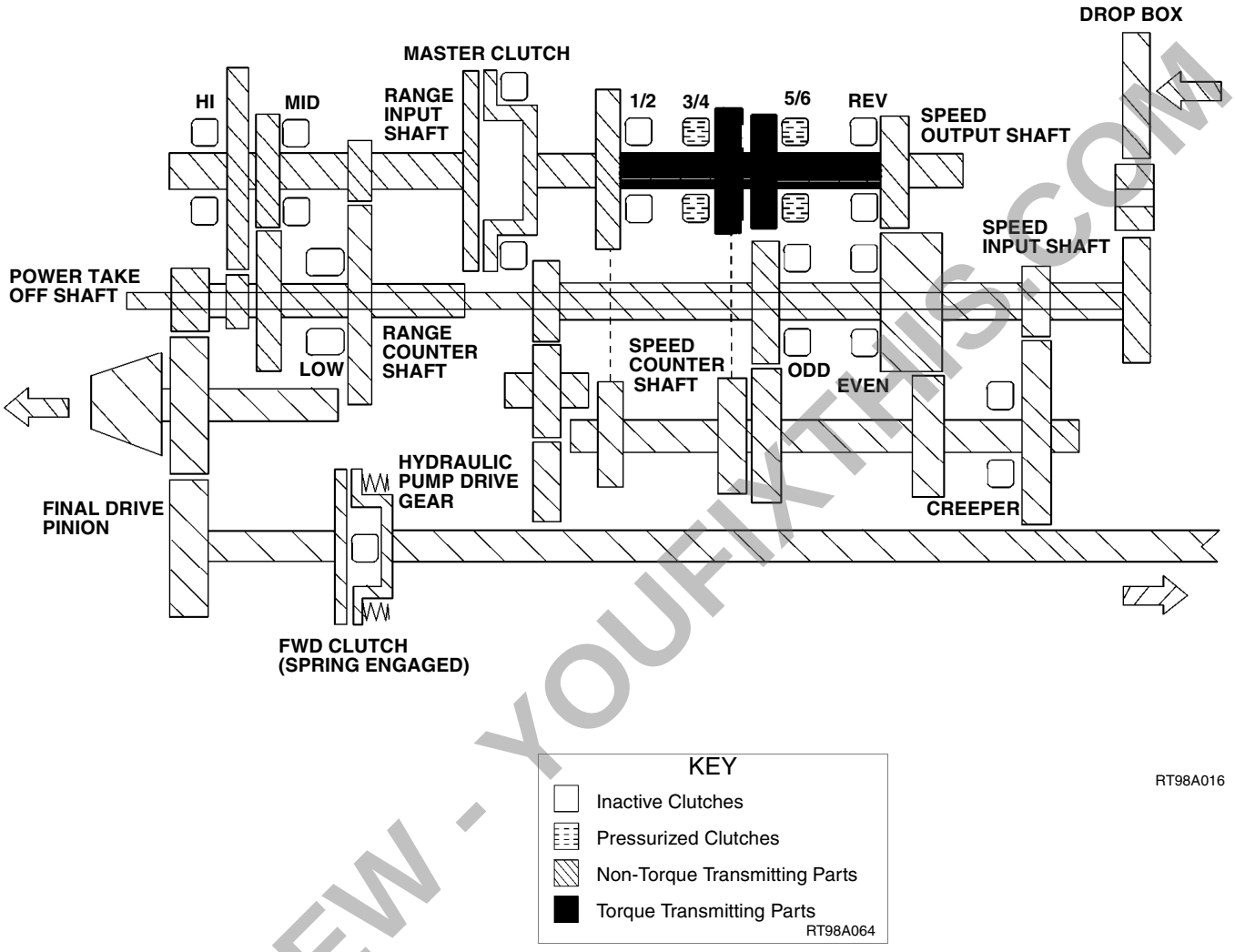
RI02C011

Properly support the engine. Place a small amount of tension on the hoist. Remove the six engine mounting bolts. Move the engine forward to disengage from the transmission. Remove the engine from the front frame.

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POWERSHIFT TRANSMISSION CLUTCH LAYOUT

Neutral

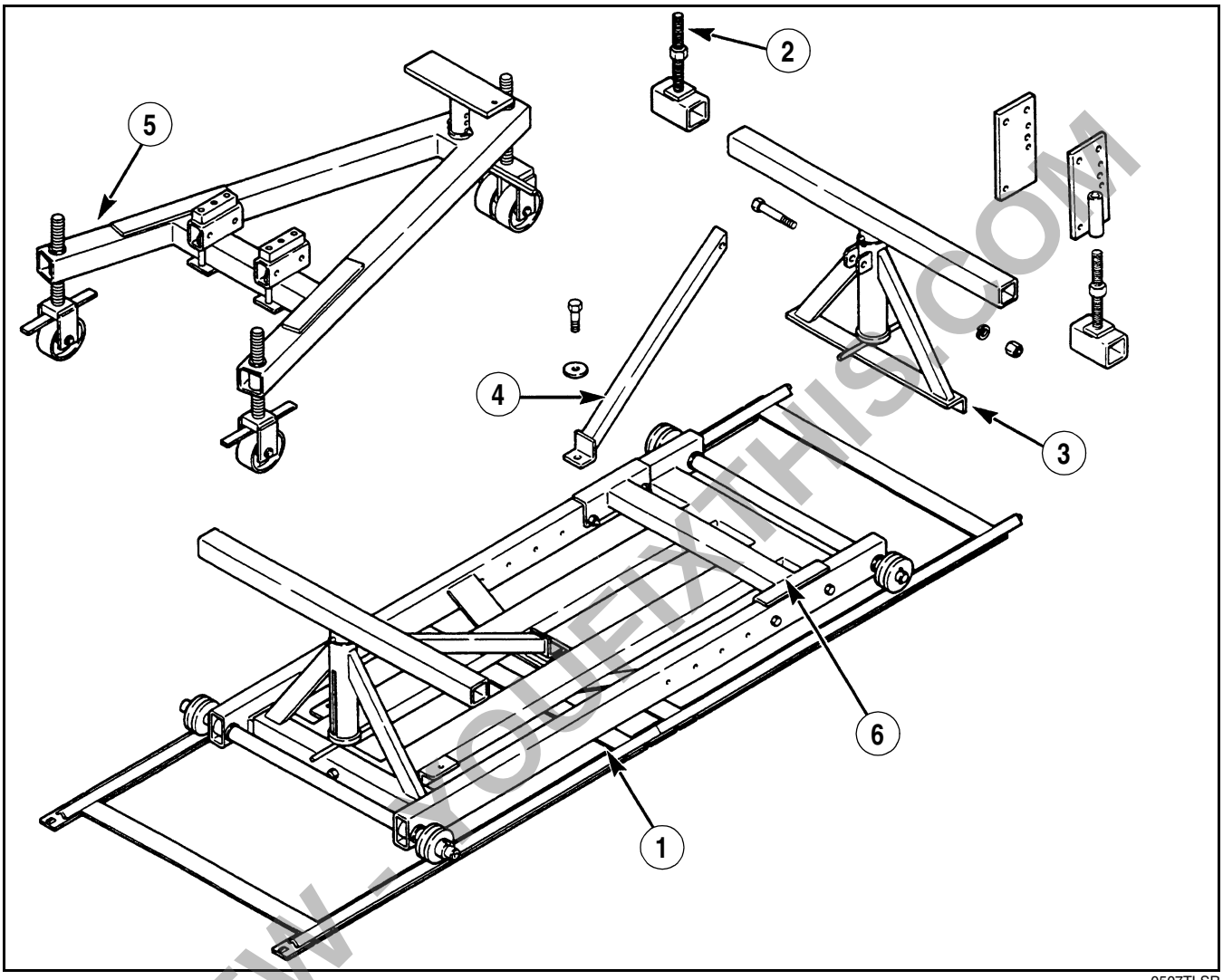


NEUTRAL - In Neutral only C3 and C5 clutches are pressurized.

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SPECIAL TOOLS



0507TLSR

1. SPLITTING STAND 17-526A
2. ADAPTER PLATES CAS-2604
3. SUPPORT BRACE 17-526-14
4. SUPPORT ASSEMBLY 17-526-4A
5. REAR HOUSING HANDLER 17-527
6. ADAPTER BRIGE 17-526-7

SPECIAL TORQUES

Front Frame To Speed Transmission Front End Housing
M16 Bolts..... 251 to 280 Nm (185 to 205 lb. ft.)
M20 Bolts..... 430 to 485 Nm (315 to 355 lb. ft.)

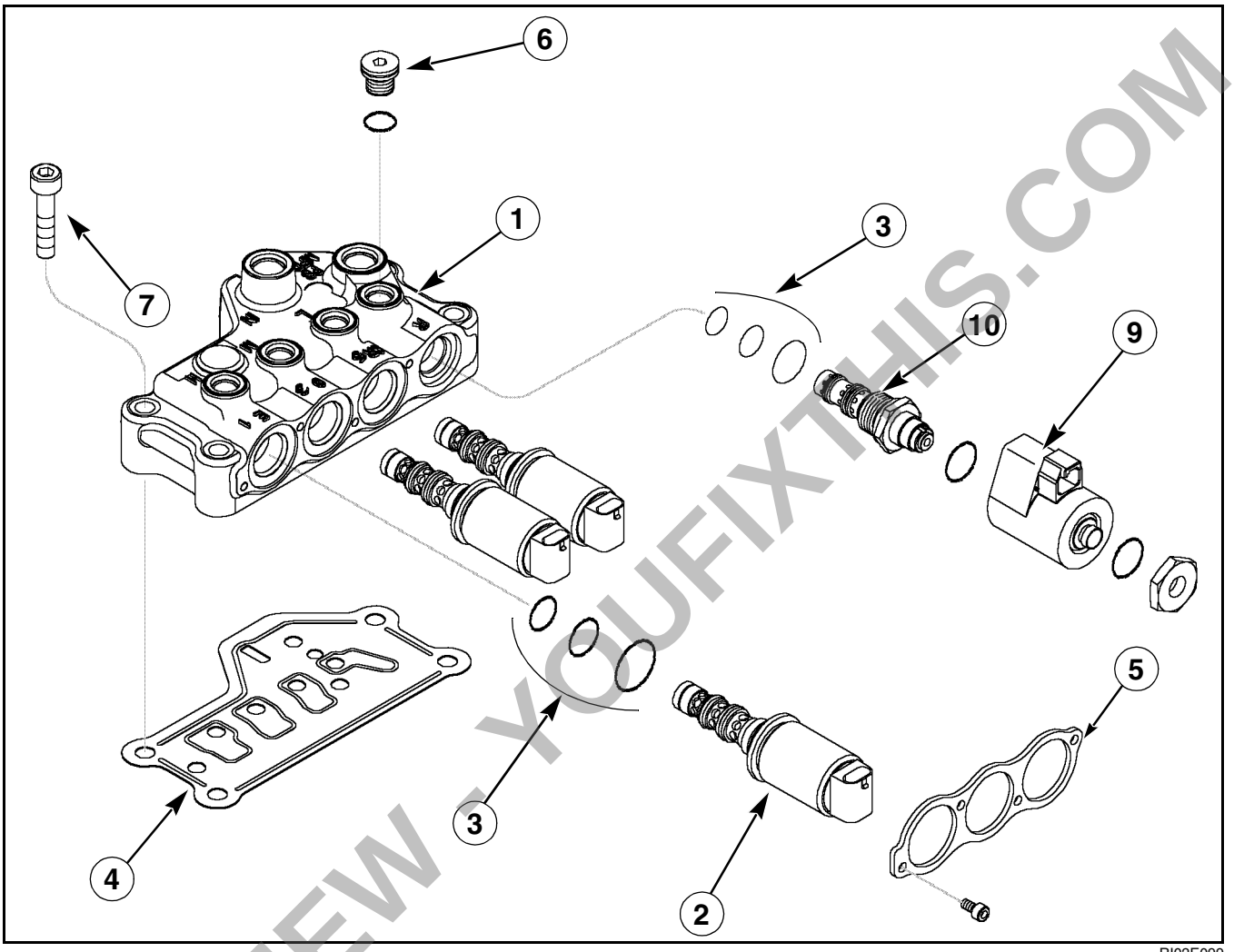
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Figure 2 - Transmission Control Valve with Four Solenoids

This type of control valve is used with these transmission configurations:

- Range control valve with FWD.
- Odd - Even control valve with NA park and creep.

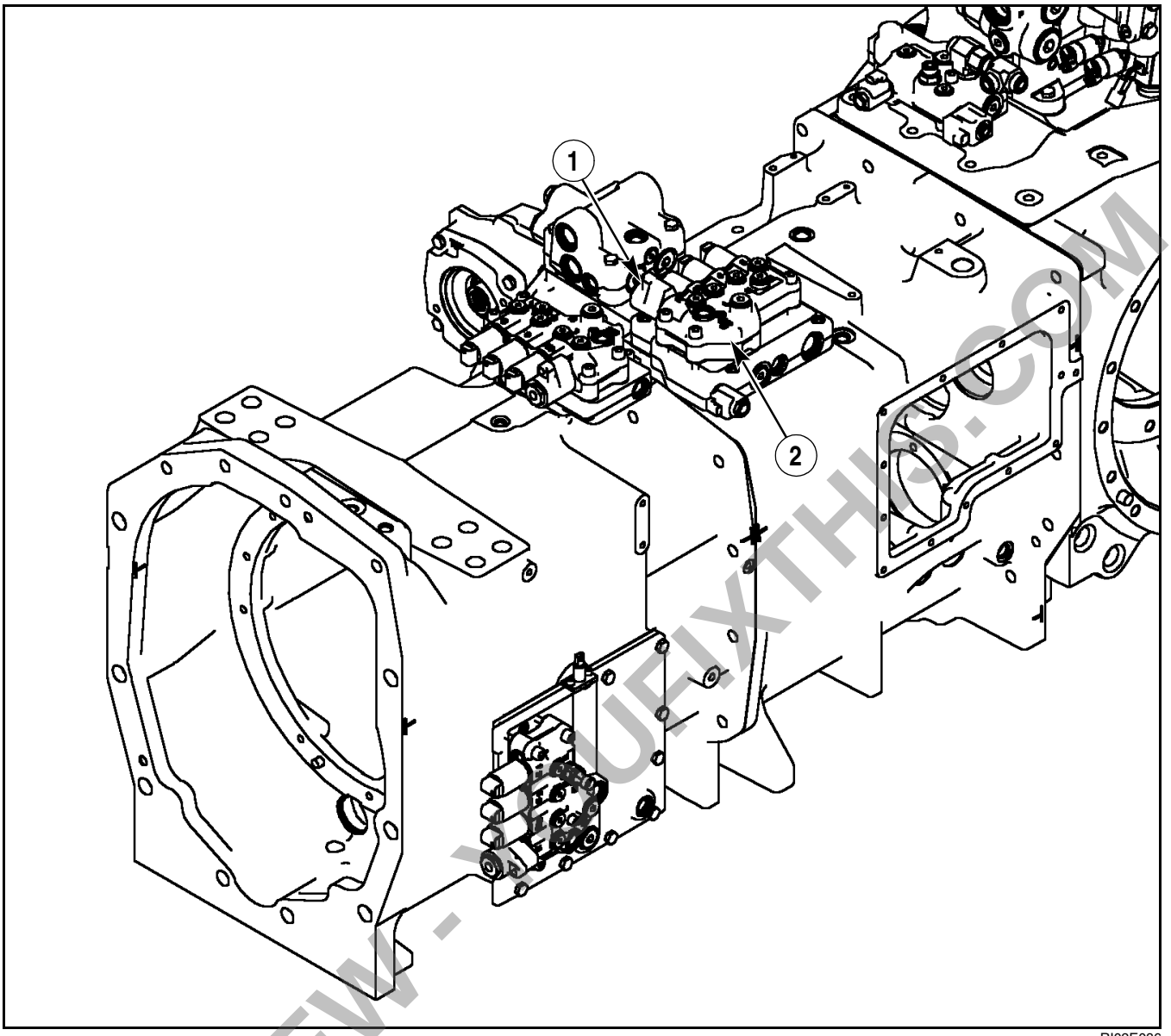


RI02E099

1. VALVE BODY
2. PWM SOLENOID
3. O-RINGS
4. GASKET
5. COVER PLATE
6. PLUG
7. MOUNTING BOLT
8. SOLENOID
9. SOLENOID CARTRIDGE

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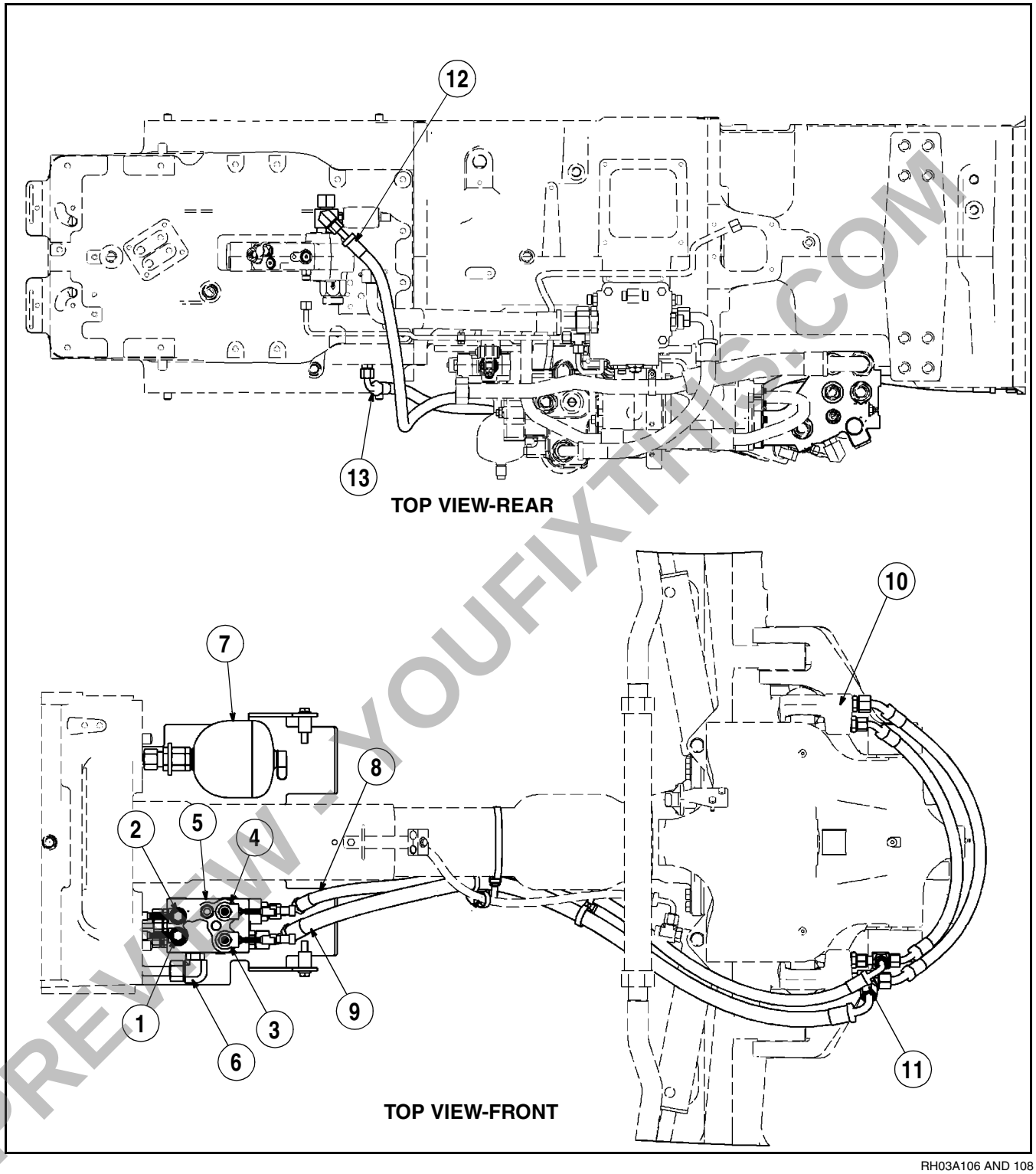


RI02E086

1. FWD SOLENOID 2. POWERSHIFT VALVE RANGE

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RH03A106 AND 108

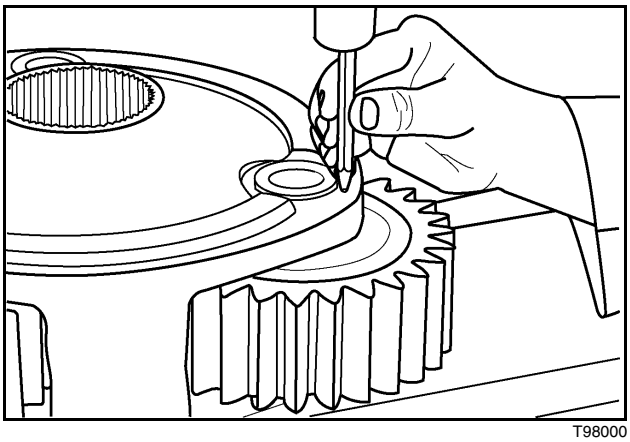
1. RAISE SOLENOID - COLOR CODE RED
2. LOWER SOLENOID - COLOR CODE GREEN
3. PISTON SIDE LOCKOUT SOLENOID - COLOR CODE YELLOW
4. ROD SIDE LOCKOUT SOLENOID - COLOR CODE BLUE
5. UNLOAD VALVE
6. TO ACCUMMULATOR
7. ACCUMMULATOR
8. ROD END SUPPLY TO SUSPENSION CYLINDER
9. PISTON END SUPPLY TO SUSPENSION CYLINDER
10. LEFT SUSPENSION CYLINDER
11. RIGHT SUSPENSION CYLINDER
12. SUPPLY HOSE
13. RETURN TO TANK HOSE
14. SIGNAL LINE HOSE

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PLANETARY DISASSEMBLY

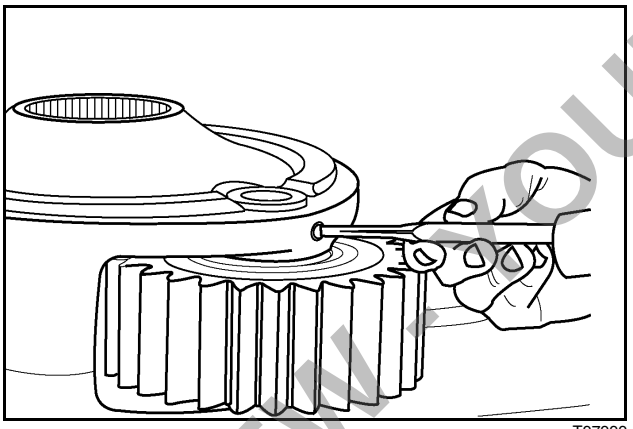
STEP 25



T98000

If the planetary gears are to be used again, make marks so that the gears are assembled in their original location in the gear carrier.

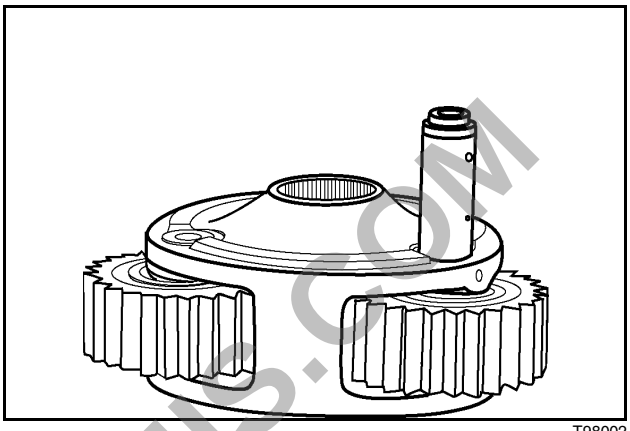
STEP 26



T97999

Drive the roll pin into the planet gear shaft.

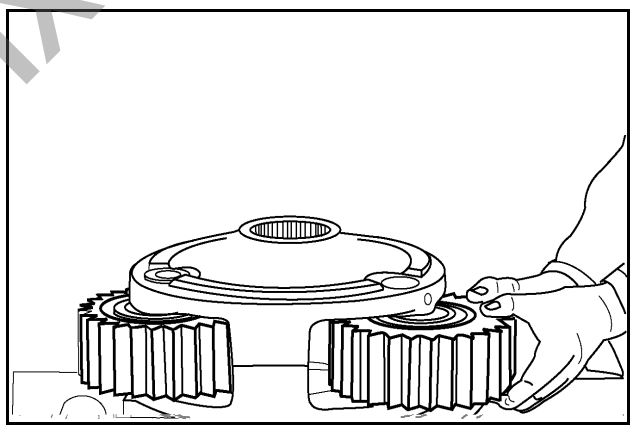
STEP 27



T98002

Remove the planet gear shaft from the planetary gear carrier.

STEP 28



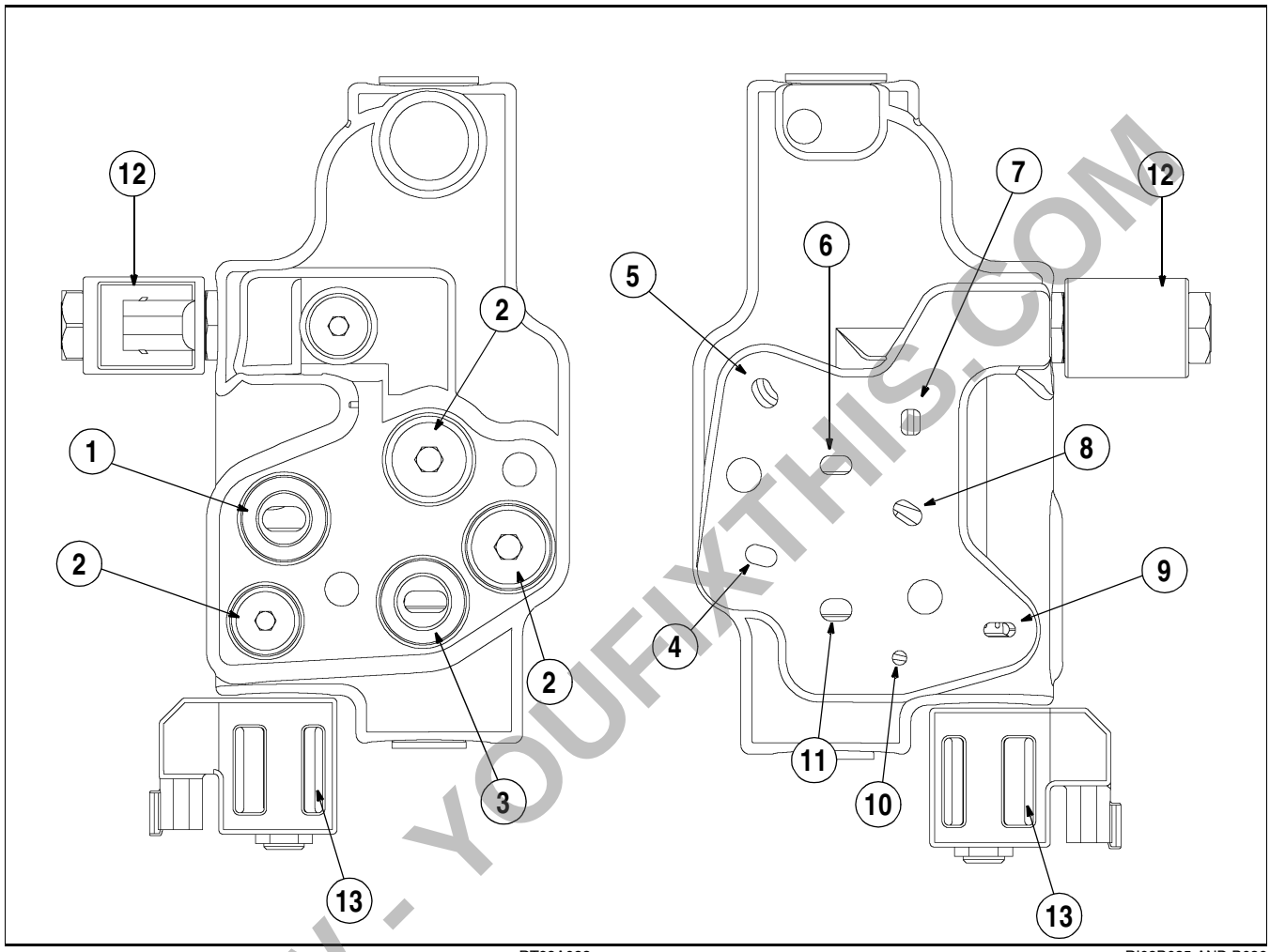
T98003

Remove the planetary gear and bearing assembly from the gear carrier.

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PTO DIFFERENTIAL LOCK VALVE



RT98A023 RI02B035 AND B036

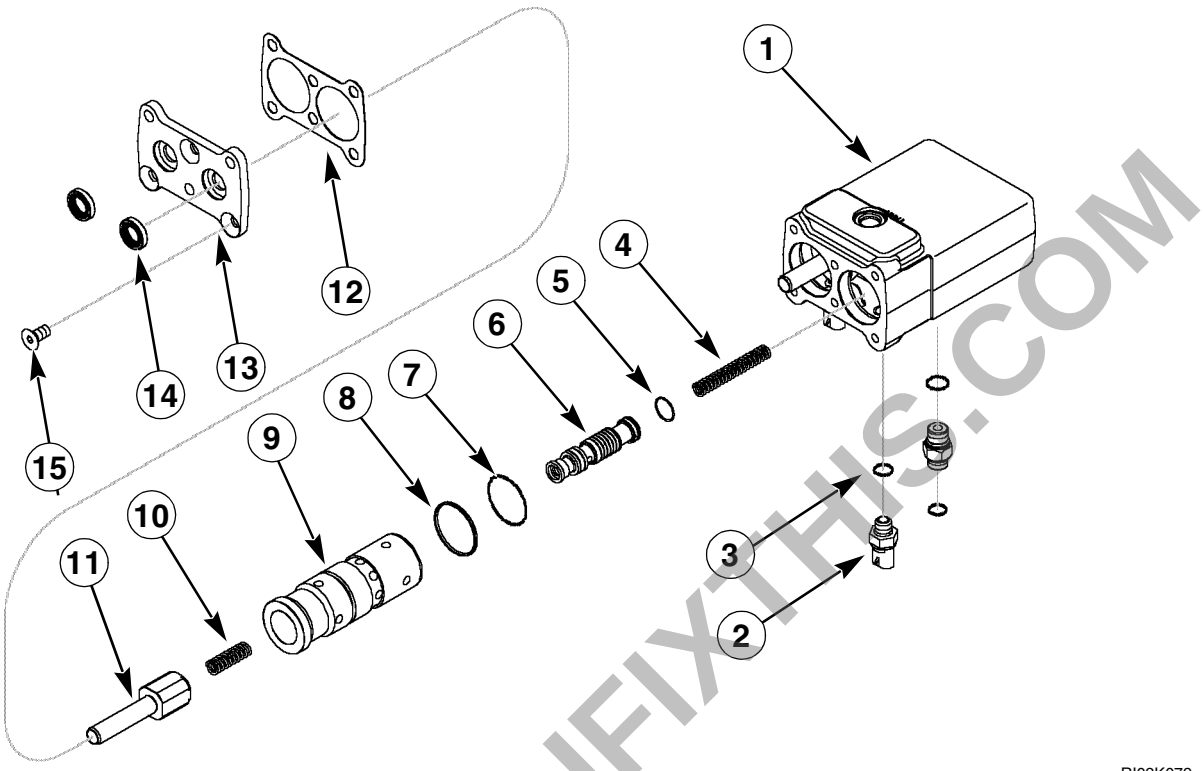
PORT IDENTIFICATION

1. VALVE INLET PORT
2. PLUGGED PORT
3. LUBE INLET PORT
4. PTO LUBE
5. TANK
6. PTO CLUTCH SUPPLY
7. BLOCKED PASSAGE
8. REMOTE VALVE PILOT SUPPLY
9. DIF LOCK SUPPLY
10. TANK
11. MESH LUBE
12. PTO PROPORTIONAL CURRENT CONTROL SOLENOID
13. DIFF LOCK SOLENOID

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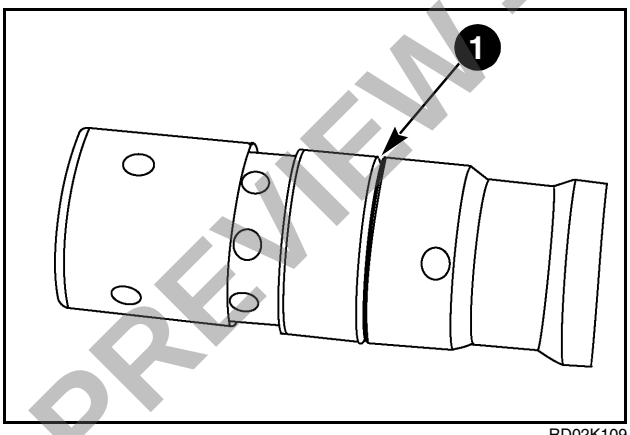
Assembly



RI02K072

1. BODY
2. SWITCH
3. O RING
4. SPRING
5. RETAINING RING
6. SPOOL
7. O-RING
8. SEALRING
9. SLEEVE
10. SPRING
11. POPPET
12. GASKET
13. PLATE
14. SEAL
15. SCREW

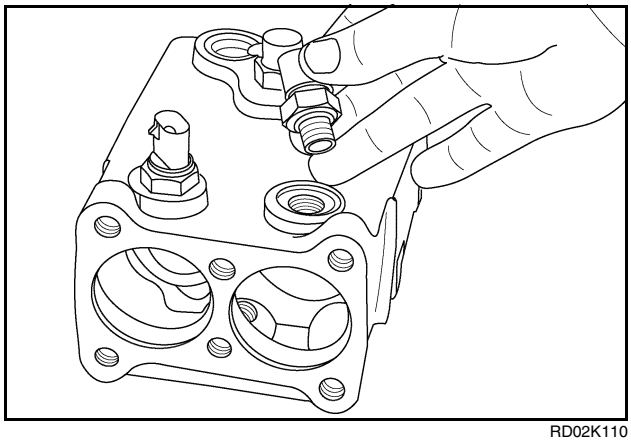
STEP 14



RD02K109

Install a new backing O-ring, then a new seal.

STEP 15



RD02K110

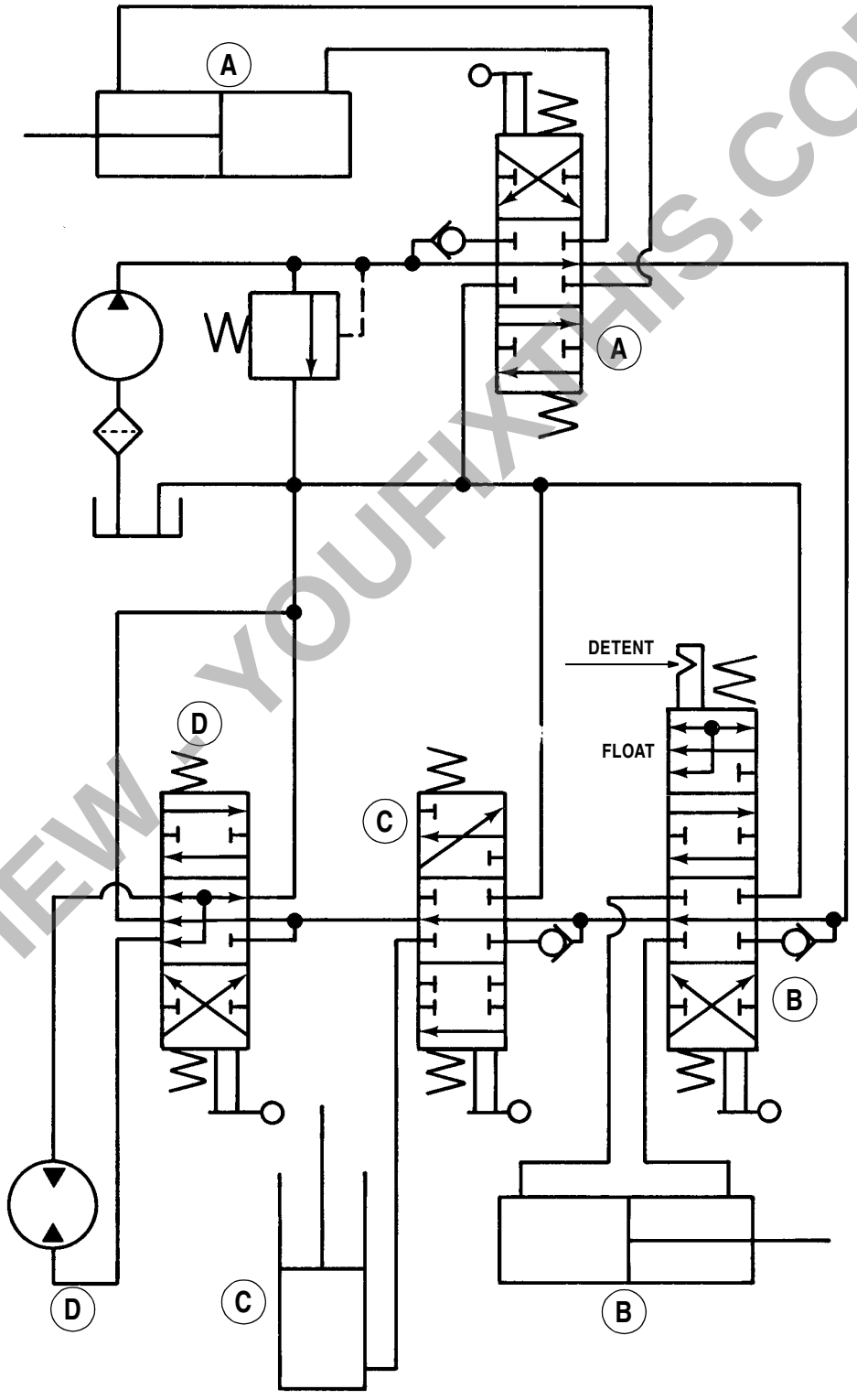
Install new O-rings and install the brake switches.

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SIMPLE SCHEMATIC

Now that you have completed hydraulic symbols, we have put some of the symbols together to form a simple hydraulic schematic. See if you can find your way around the schematic without reading the text for each valve. The text explains the function of each valve in the hydraulic system.

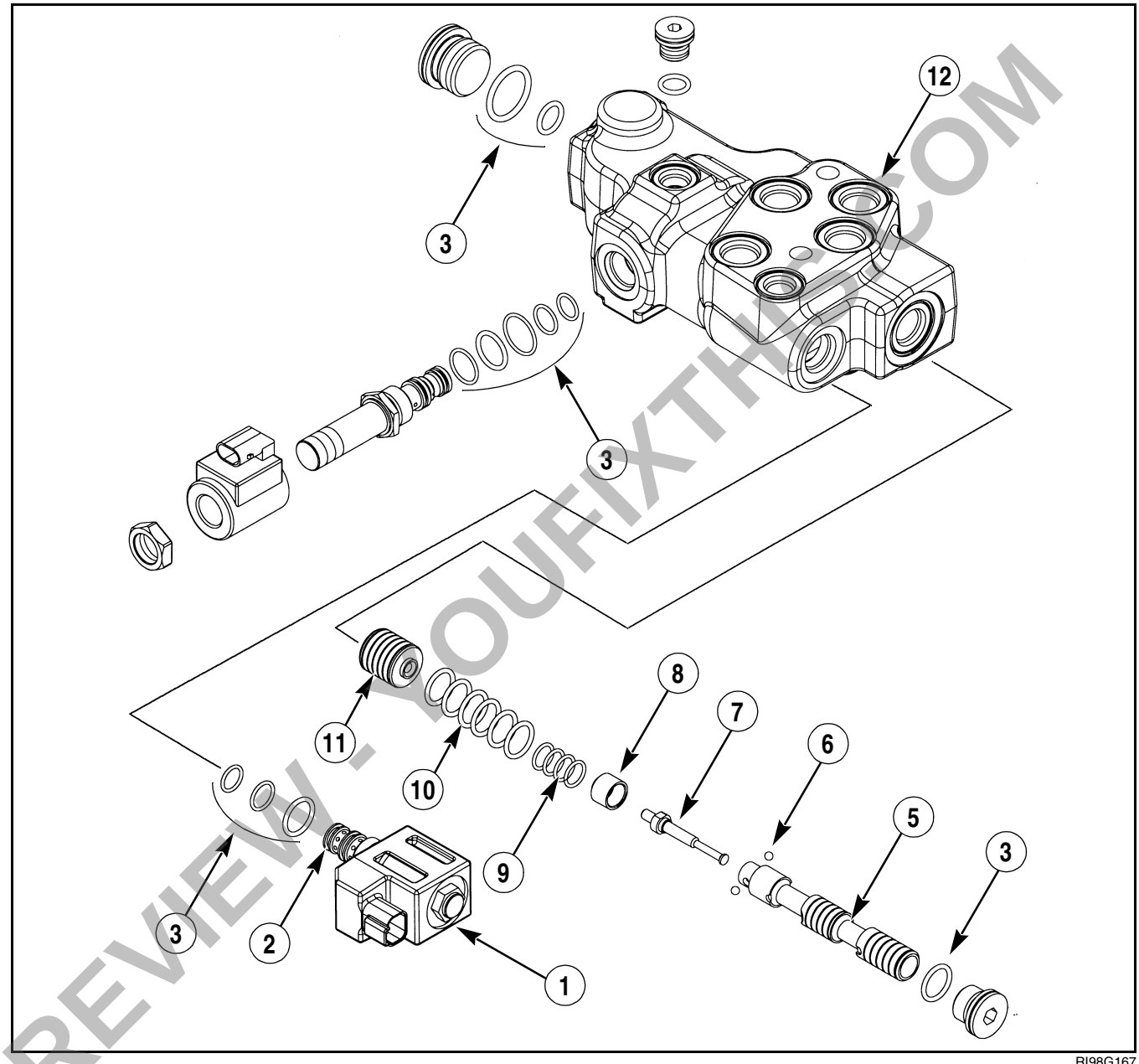


715L8

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Assembly

NOTE: *Lubricate spools and cartridges with clean hydraulic fluid during assembly.*



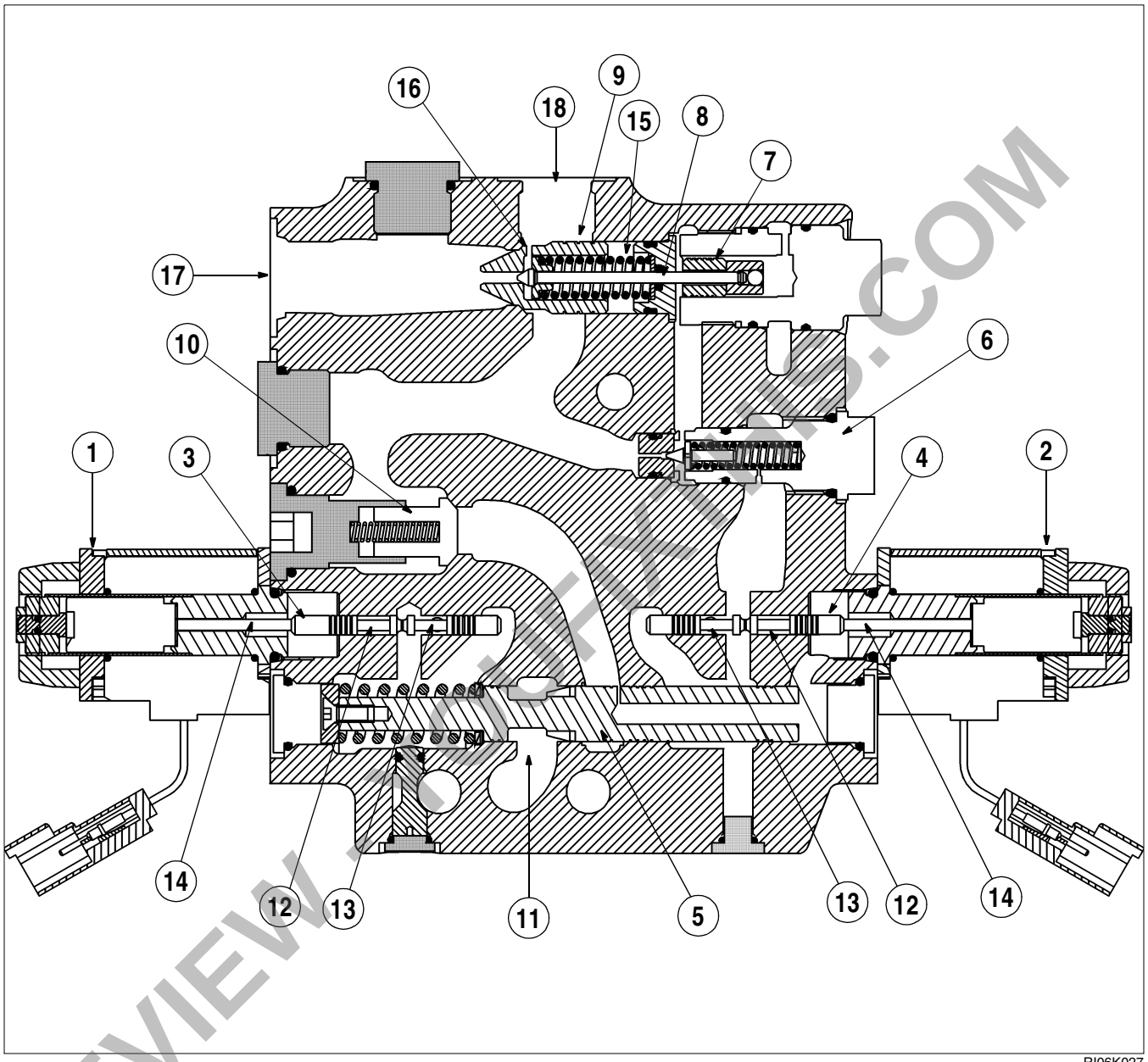
RI98G167

1. DIFF LOCK SOLENOID
2. CARTRIDGE
3. O-RING
4. PTO SOLENOID
5. MODULATOR SPOOL
6. STEEL BALL
7. MODULATOR PISTON PIN
8. RETAINER SLEEVE
9. MODULATION SPRING
10. PRELOAD SPRING
11. MODULATION PISTON
12. BODY

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HITCH CONTROL VALVE



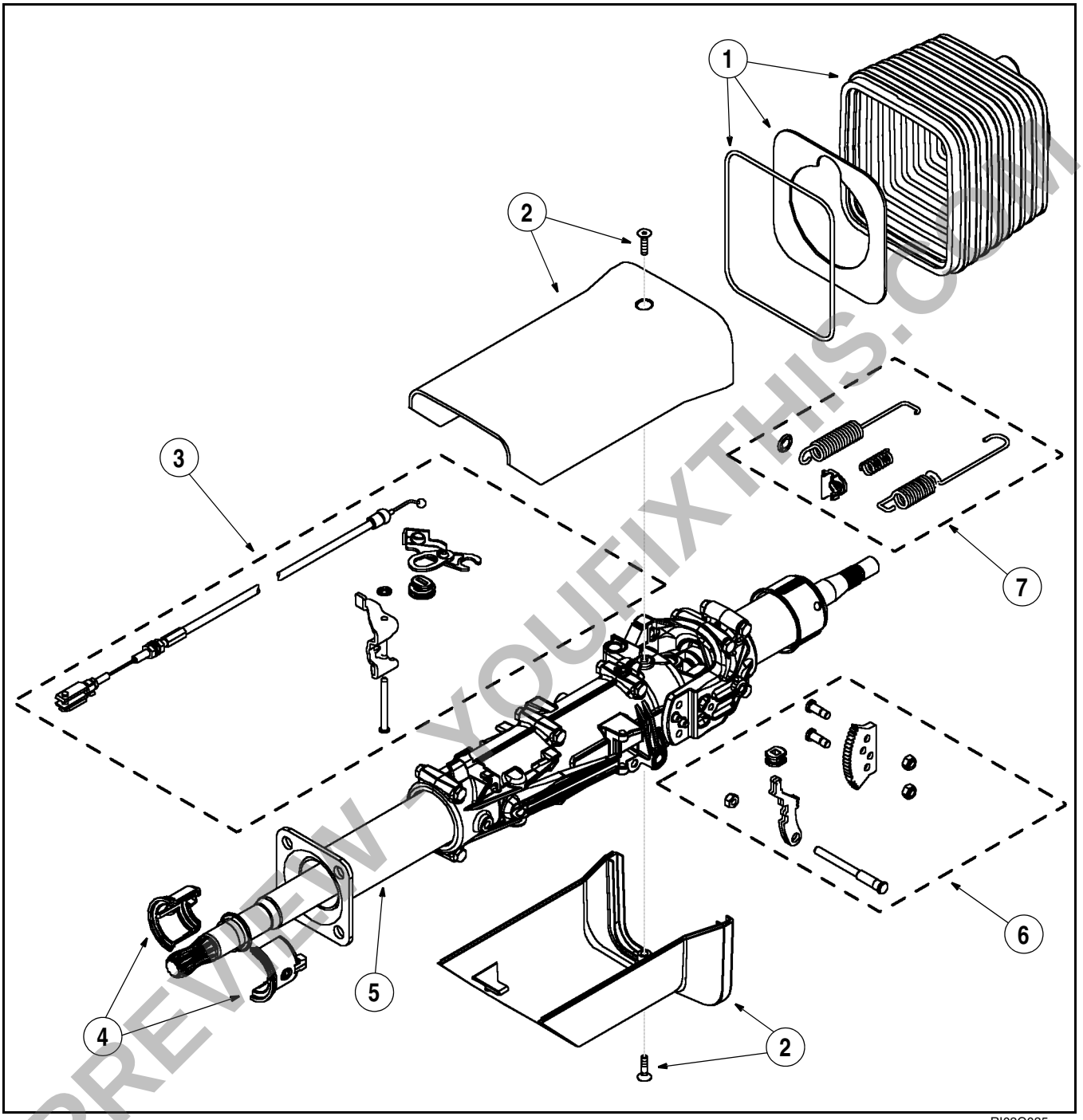
RI06K027

1. RAISE SOLENOID
2. LOWER SOLENOID
3. RAISE PILOT SPOOL
4. LOWER PILOT SPOOL
5. RAISE SPOOL
6. OVERLOAD RELIEF
7. LOWER CONTROL PISTON
8. LOWER PILOT POPPET
9. LOWER POPPET
10. LOAD CHECK POPPET
11. PFC PUMP SUPPLY
12. REGULATED PRESSURE SUPPLY
13. RETURN PORT
14. CONTROL PIN
15. SPRING
16. ORIFICE
17. TANK PORT
18. RAISE/LOWER PORT

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STEERING COLUMN ASSEMBLY



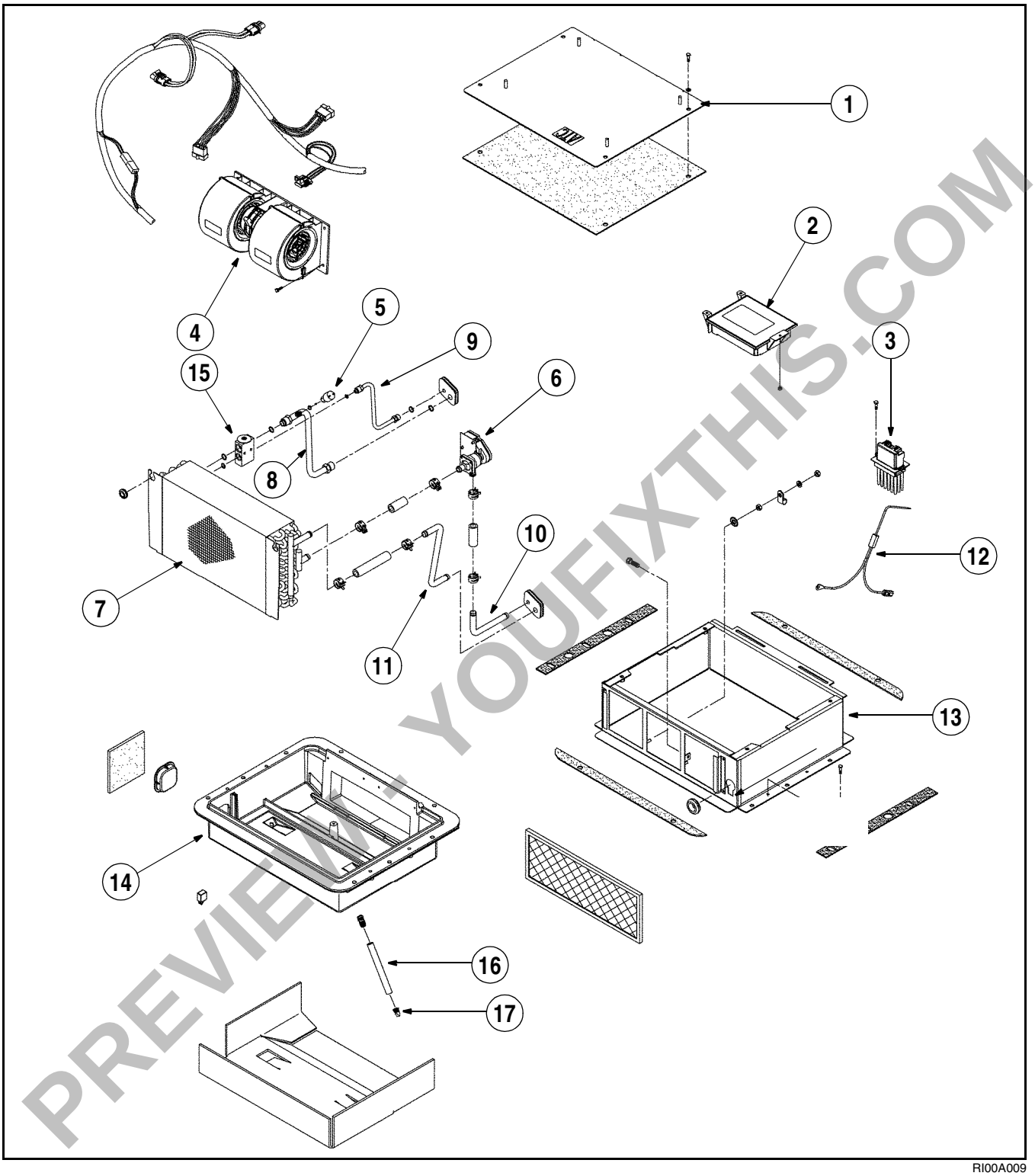
RI02G035

1. BELLOW SET
2. COVER SET
3. RELEASE DEVICE SET
4. BEARING SET
5. STEERING COLUMN
6. SEGMENT SET
7. SPRING SET

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Cab HVAC Box Components - Automatic Temperature Control



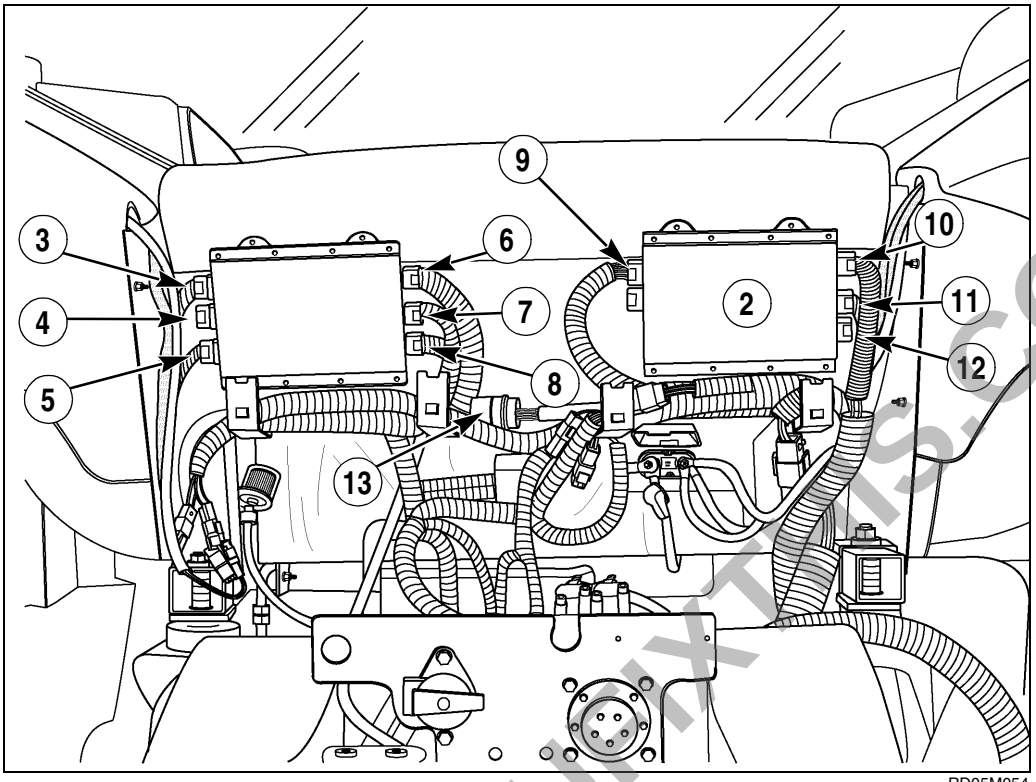
RI00A009

1. LID ASSEMBLY
2. ATC CONTROLLER
3. BLOWER SPEED DRIVER
4. BLOWER ASSEMBLY
5. A/C LOW PRESSURE SWITCH
6. HEATER CONTROL VALVE ASSY
7. HEATER/EVAPORATOR ASSEMBLY
8. A/C SUCTION LINE TUBE
9. A/C LIQUID LINE TUBE
10. HEATER SUPPLY HOSE
11. HEATER RETURN HOSE
12. EVAPORATOR TEMPERATURE SENSOR
13. BASE WELDMENT
14. EVAPORATOR BOX ASSEMBLY
15. THERMAL EXPANSION VALVE
16. DRAIN HOSE
17. CHECK VALVE

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CONNECTOR AND COMPONENT LOCATIONS

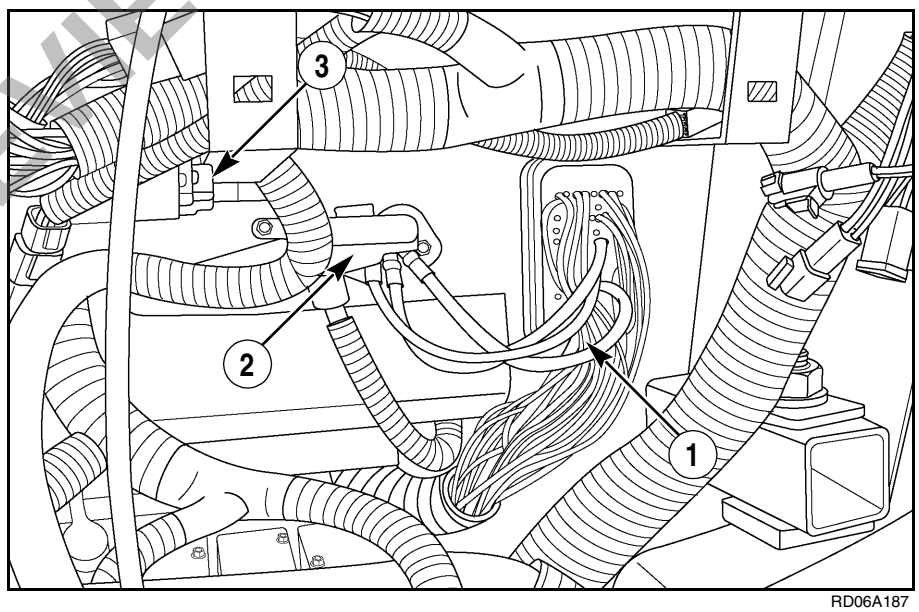


RD05M054

REAR OF CAB

1. *AUX/HITCH/PTO CONTROLLER (TMF CONTROLLER)
2. TRANSMISSION AND FRONT AXLE CONTROLLER
3. CONNECTOR NO. 54
4. CONNECTOR NO. 55
5. CONNECTOR NO. 56
6. CONNECTOR NO. 58
7. CONNECTOR NO. 53
8. CONNECTOR NO. 57
9. CONNECTOR NO. 355
10. CONNECTOR NO. 353
11. CONNECTOR NO. 350
12. CONNECTOR NO. 351
13. CONNECTOR NO. 335

*The functions of the AUX, HITCH and PTO controllers have been integrated into one controller also known as the Tractor Multi Function (TMF) controller.



RD06A187

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Operation Setup

NOTE: *Configuration can only be entered within the first 10 seconds of turning the key switch to the ON position.*

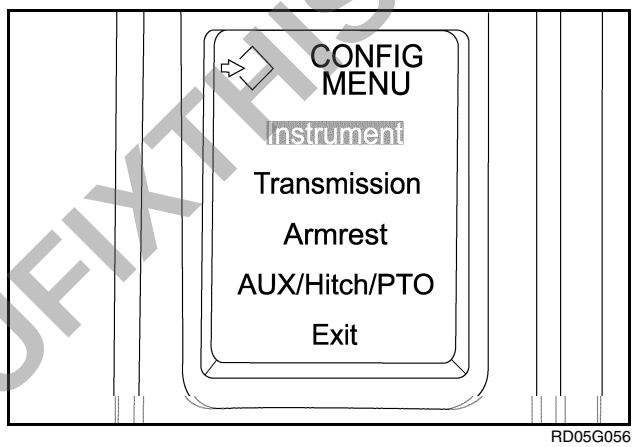
STEP 1

Press and holding the PROG key for 3 seconds within the first 10 seconds of turning the key switch to the ON position to enter operation setup.

NOTE: *If any fault codes are recorded, they must be cleared before configuration is possible. See Fault Code Retrieval in this section.*

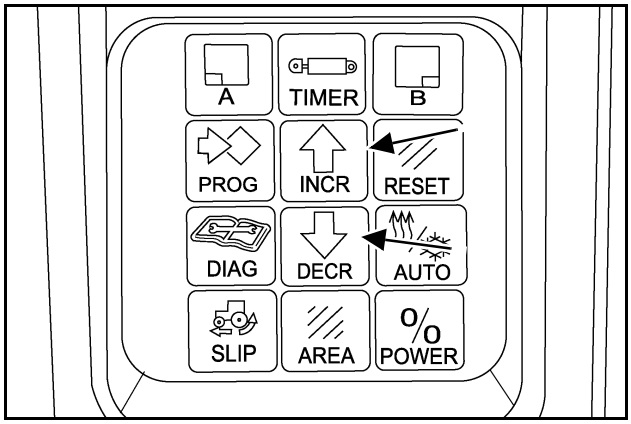
STEP 2

The screen displays **CONFIG MENU** with all menu items listed. **Instrument** is highlighted by default. Press the **PROG** key.



RD05G056

NOTE: *If another option is highlighed use the **INCR** or **DECR** keys to highlight **Instrument**.*

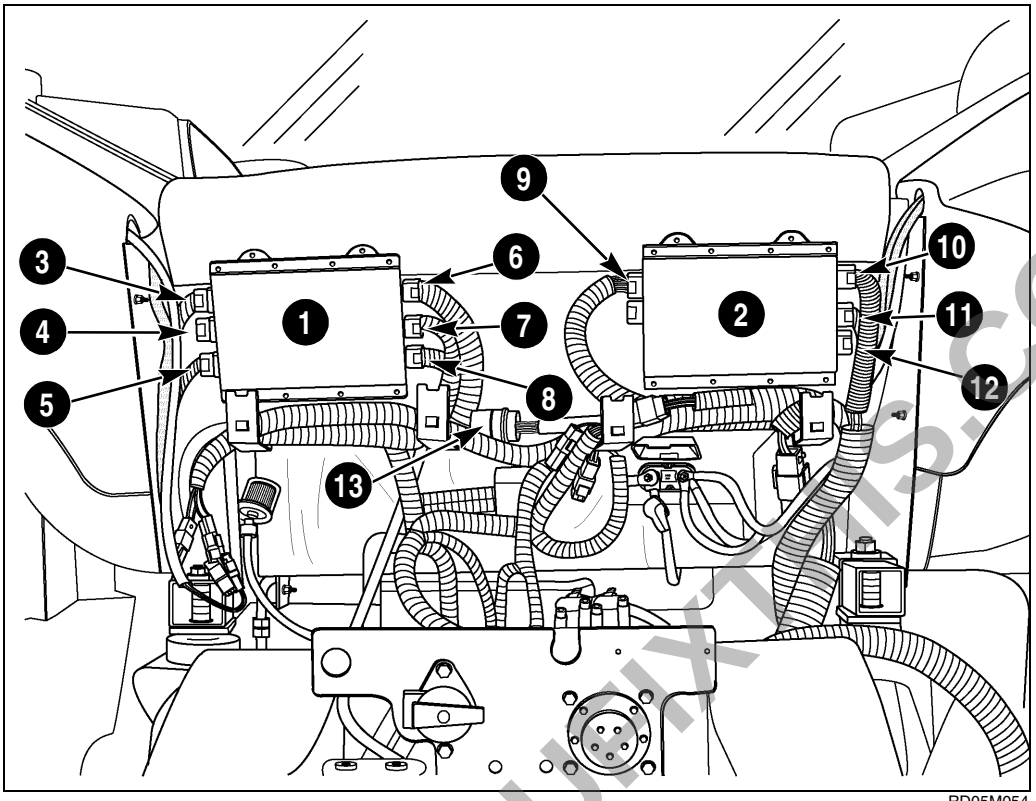


MD05F003

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CONNECTOR AND COMPONENT LOCATIONS



RD05M054

REAR OF CAB

1. *AUX/HITCH/PTO CONTROLLER (TMF CONTROLLER)
2. TRANSMISSION AND FRONT AXLE CONTROLLER
3. CONNECTOR NO. 54
4. CONNECTOR NO. 55
5. CONNECTOR NO. 56
6. CONNECTOR NO. 58
7. CONNECTOR NO. 53
8. CONNECTOR NO. 57
9. CONNECTOR NO. 355
10. CONNECTOR NO. 353
11. CONNECTOR NO. 350
12. CONNECTOR NO. 351
13. CONNECTOR NO. 335

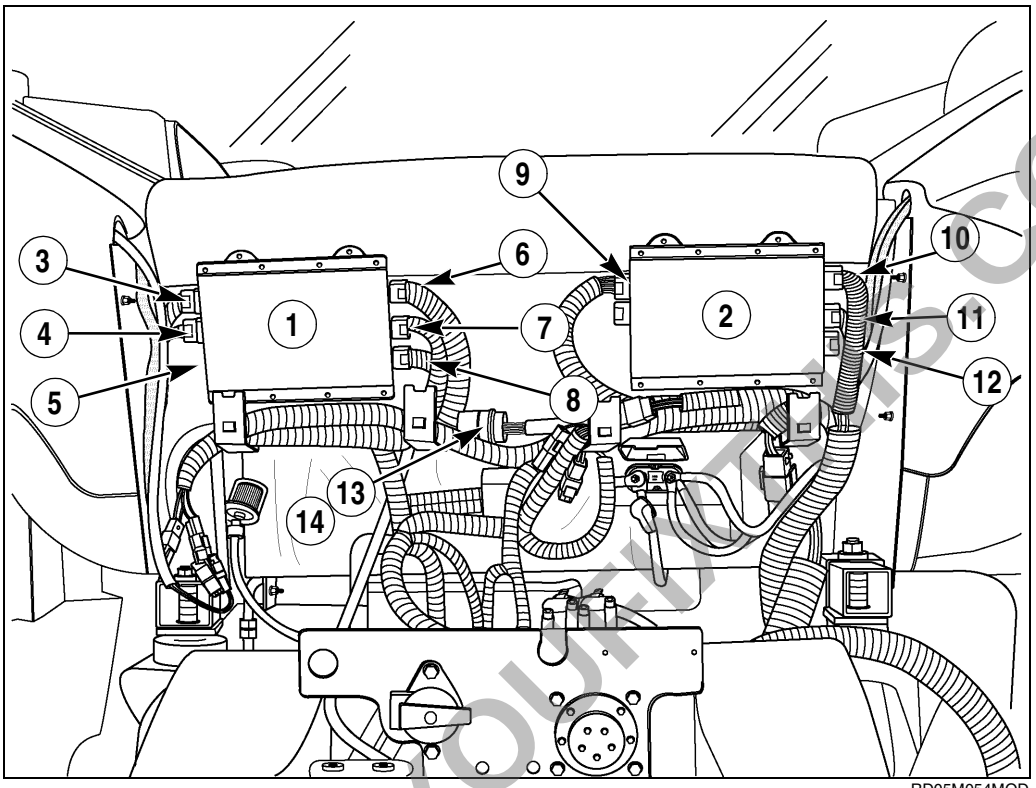
*The functions of the AUX, HITCH and PTO controllers have been integrated into one controller also known as the Tractor Multi Function (TMF) controller.

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CONNECTOR AND COMPONENT LOCATIONS

Cab Exterior



RD05M054MOD

REAR OF CAB

1. *AUX/HITCH/PTO CONTROLLER (TMF CONTROLLER)
2. TRANSMISSION AND FRONT AXLE CONTROLLER
3. CONNECTOR NO. 54
4. CONNECTOR NO. 55
5. NOT USED
6. CONNECTOR NO. 58
7. CONNECTOR NO. 53
8. CONNECTOR NO. 57
9. CONNECTOR NO. 355
10. CONNECTOR NO. 353
11. CONNECTOR NO. 350
12. CONNECTOR NO. 351
13. CONNECTOR NO. 335
14. CONNECTOR NO. 434

*The functions of the AUX, HITCH and PTO controllers have been integrated into one controller also known as the Tractor Multi Function (TMF) controller.

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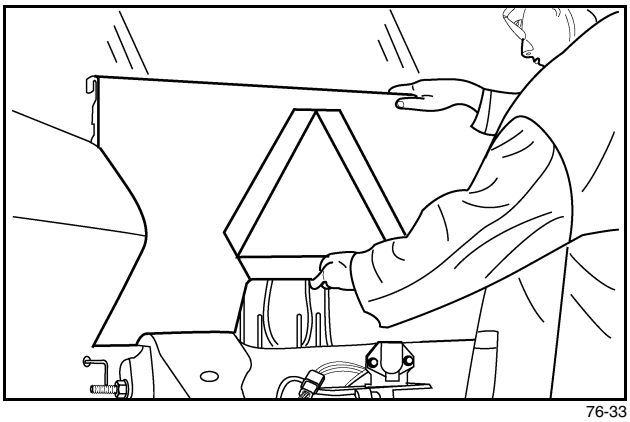
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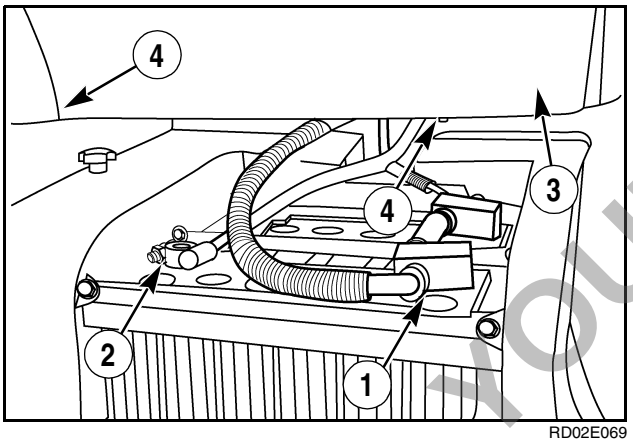
STEP 23



76-33

Open the rear window. Install the two bolts securing the rear cab panel to the cab.

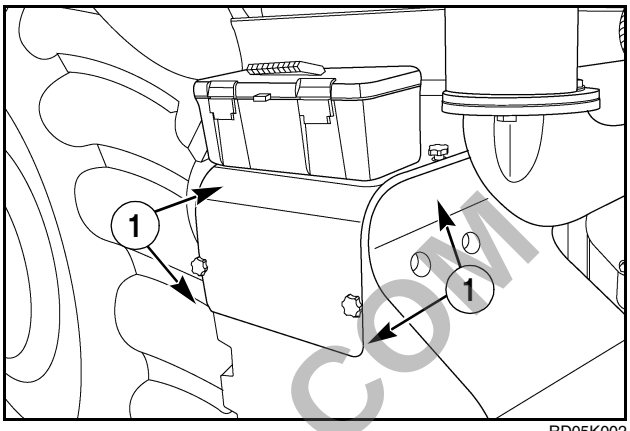
STEP 24



RD02E069

Install the right panel (3). Install the three mounting screws (4) and tighten. Install the left panel and tighten the mounting screws.Install the positive (+) battery cable (1), first. Install the negative (-) battery cable (2).

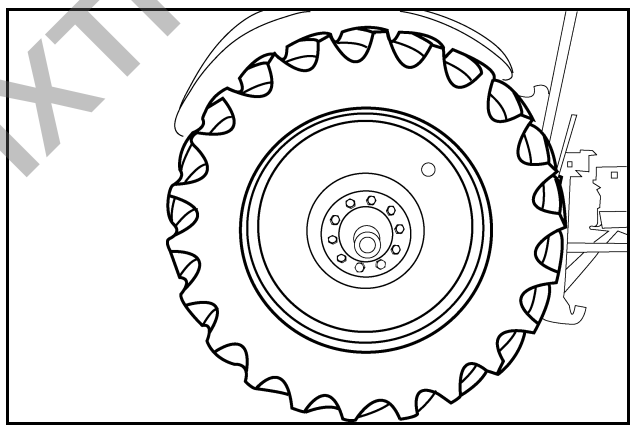
STEP 25



RD05K002

Install the battery cover and tool box. Tighten the thumbscrews.

STEP 26

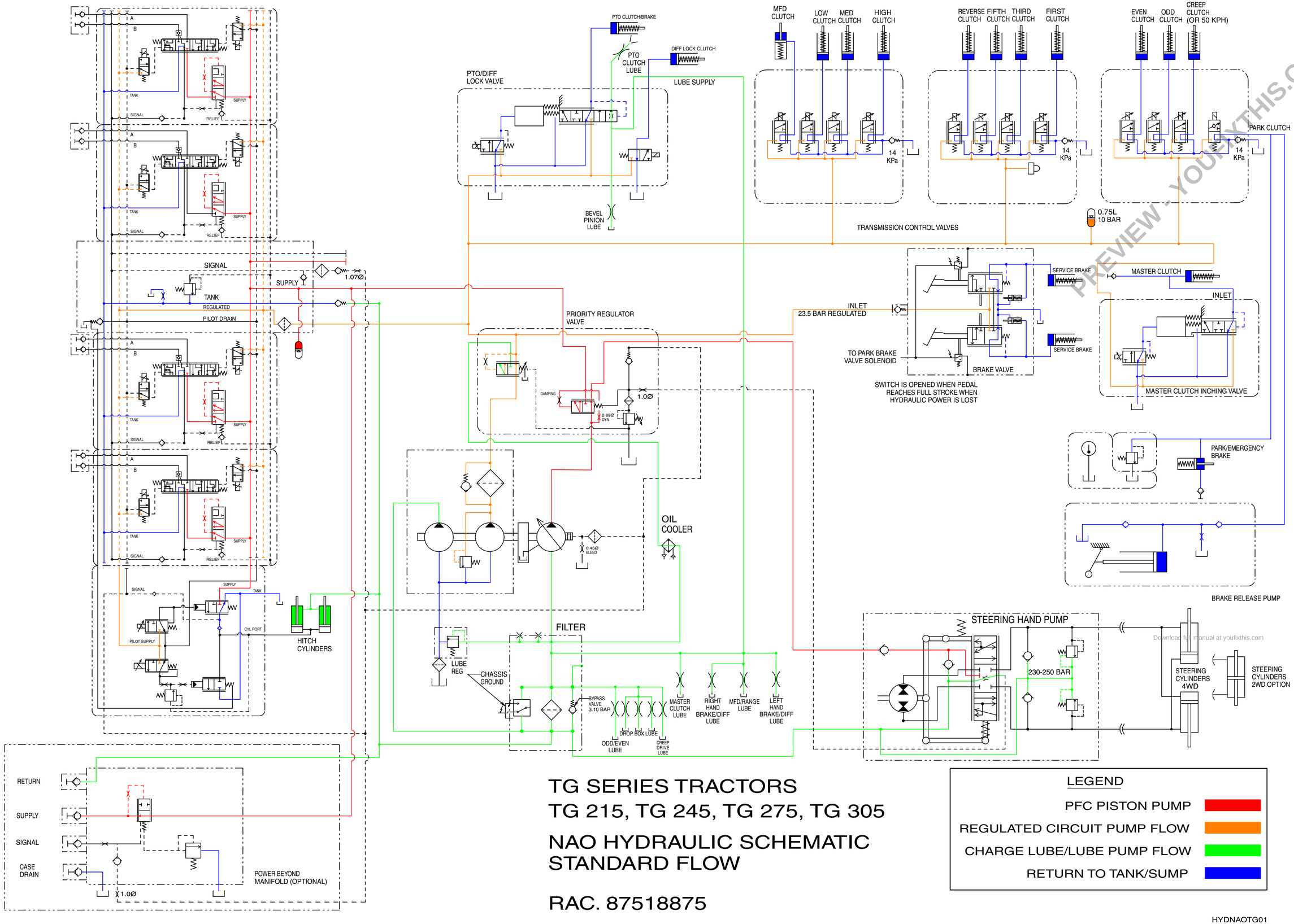


RD02C070

Make sure the transmission shift lever is in PARK. Start the engine and lower the rear hitch. Turn the engine off and remove the key. Remove the wheel blocks.

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TG SERIES TRACTORS
TG 215, TG 245, TG 275, TG 305

NAO HYDRAULIC SCHEMATIC STANDARD FLOW

RAC. 87518875

LEGEND

- PFC PISTON PUMP
- REGULATED CIRCUIT PUMP FLOW
- CHARGE LUBE/LUBE PUMP FLOW
- RETURN TO TANK/SUMP

HYDNAOTG01

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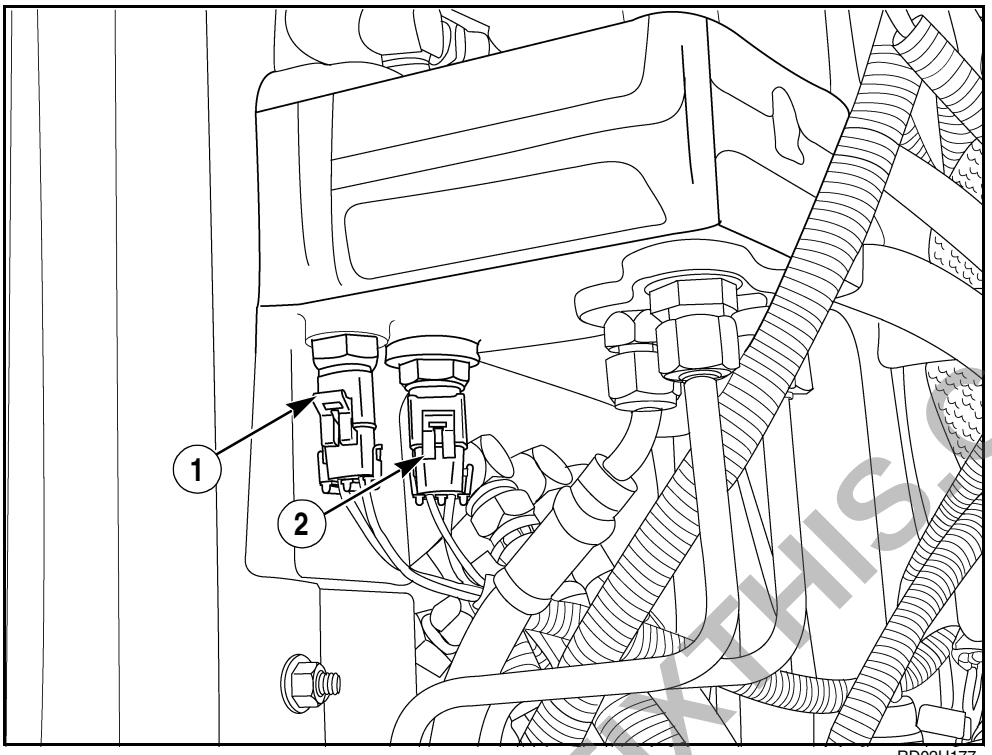
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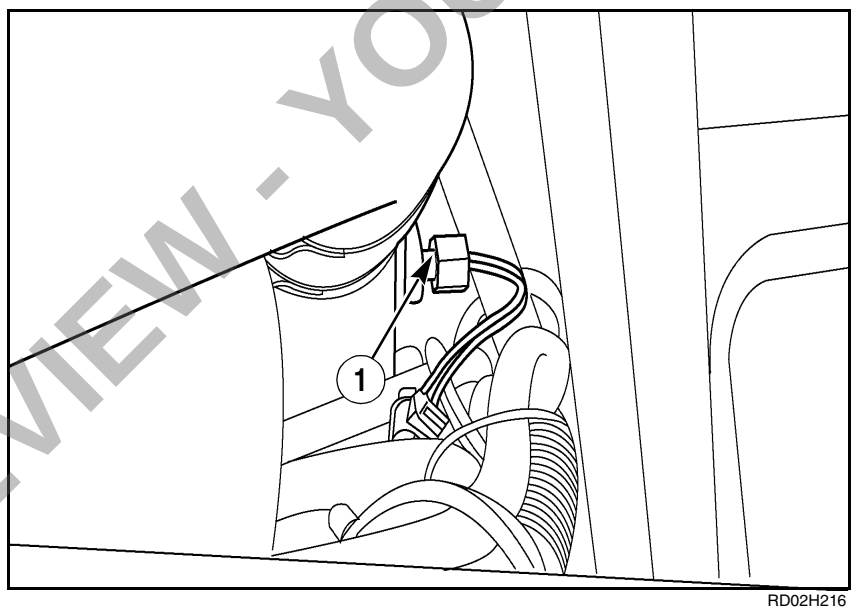
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BRAKE VALVE SWITCH CONNECTIONS

1. RIGHT BRAKE SWITCH #1, CONNECTOR 47
2. LEFT BRAKE SWITCH #2, CONNECTOR 48



LEFT HAND SIDE OF ENGINE

1. AIR TO AIR TEMP SENSOR-CONNECTOR NO.75 (EMERGING MARKET ONLY)

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