# TB100, TB110, TB120, TB120 MUDDER REPAIR MANUAL COMPLETE CONTENTS


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**The following pages are the collation of the contents pages from each section and chapter of the TB100, TB110, TB120, and TB120 Mudder Tractor Repair manual. Complete Repair part # 87046217.**

**The sections used through out all New Holland product Repair manuals may not be used for each product. Each Repair manual will be made up of one or several books. Each book will be labeled as to which sections are in the overall Repair manual and which sections are in each book.**

**The sections listed above are the sections utilized for the TB100, TB110, TB120, and TB120 Mudder Tractors.**



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# HEALTH AND SAFETY

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## HEALTH AND SAFETY PRECAUTIONS

Many of the procedures associated with vehicle maintenance and repair involve physical hazards or other risks to health. This section lists, alphabetically, some of these hazardous operations and the materials and equipment associated with them. The precautions necessary to avoid these hazards are identified.

The list is not exhaustive and all operations and procedures and the handling of materials, should be carried out with health and safety in mind.

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## ENGINE SPECIFICATIONS

| Model | Unit | TB100 | TB110 | TB120 |
|---|---|---|---|---|
| Turbocharged Engine | | Yes | Yes | Yes |
| Cylinders | | 4 | 4 | 6 |
| Bore | mm | 111.8 | 111.8 | 111.8 |
| | in | 4.4 | 4.4 | 4.4 |
| Stroke | mm | 127.0 | 127.0 | 127.0 |
| | in | 5.0 | 5.0 | 5.0 |
| Displacement | cu cm | 4987 | 4987 | 7472 |
| | cu in | 304 | 304 | 456 |
| Compression Ratio | | 17:5–1 | 17:5–1 | 17:5–1 |
| Cylinder Bore Compression (at cranking speed of 200 rpm) | bar | 25.85 | 25.85 | 25.85 |
| | psi | 375 | 375 | 375 |
| Firing Order (clockwise) | | 1–3–4–2 | 1–3–4–2 | 153624 |
| Idle Speed | rev/min +/– 50 | 750 | 750 | 750 |
| Maximum No-Load Speed | rev/min | 2320 ± 50 | 2220 | 2320 |
| Rated Engine Speed | rev/min | 2170 | 2070 | 2070 |

### CYLINDER BLOCK

| | | | |
|---|---|---|---|
| Cylinder Bore Taper | maximum wear limit | 0.127 mm | 0.005 in. |
| | maximum repair limit | 0.025 mm | 0.001 in. |
| Cylinder Bore Out-of-Round | maximum wear limit | 0.127 mm | 0.005 in. |
| | maximum repair limit | 0.030 mm | 0.001 in. |
| Cylinder Bore Diameter | | 111.778-111.841 mm | 4.4007-4.4032 in. |
| Rear Oil Seal Diameter | | 140.77-140.87 mm | 5.542-5.546 in. |
| Head-to-Block Surface Flatness Limit | any 152 mm (6 in.) area | 0.080 mm | 0.003 in. |
| | any 25.40 mm (1 in.) area | 0.030 mm | 0.001 in. |
| | overall | 0.127 mm | 0.005 in. |

### CYLINDER HEAD

| | | |
|---|---|---|
| Valve Guide Bore Diameter | 9.469-9.495 mm | 0.3728-0.3738 in. |

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***NOTE:*** *Refer to the Torque Value table as a guide when reassembling components and assemblies. For calculating torque values not listed, or when installing hardware different from that specified, use the Standard Torque chart titled "Minimum Hardware Tightening Torque" provided in this section.*

**TORQUE VALUES**

| Description | N·m | Ft.-Lb. |
|---|---|---|
| Main Bearing Bolts | 197 | 145 |
| Connecting Rod Bolts | 149 | 110 |
| Cylinder Head Bolts (engine cold) Final Torque | 217 | 160 |
| Intake Manifold-to-Cylinder Head | 35 | 26 (312 in.-lb.) |
| Exhaust Manifold-to-Cylinder Head | 38 | 28 (336 in.-lb.) |
| Exhaust Pipe-to-Flange | 31 | 23 (276 in.-lb.) |
| Flywheel-to-Crankshaft | 197 | 145 |
| Oil Pan Drain Plug | 41 | 30 |
| Valve Rocker Cover Bolts | 24 | 18 (216 in.-lb.) |
| Crankshaft Pulley-to-Crankshaft | 284 | 210 |
| Valve Rocker Arm Self Locking Screw | 24 | 18 (216 in.-lb.) |
| Injector Attachment Bolts | 23 | 17 (204 in.-lb.) |
| Cover Bolts | 31 | 23 (276 in.-lb.) |
| Oil Pump-to-Block | 23 | 17 (204 in.-lb.) |
| Water Pump-to-Cylinder Block | 35 | 26 (312 in.-lb.) |
| Water pump Cover-to-Pump | 27 | 20 (239 in.-lb.) |
| Oil Pan-to-Cylinder Block (cast) | 38 | 28 (336 in.-lb.) |
| Injector Line Banjo Bolts | 24 | 18 (216 in.-lb.) |
| Leak-Off Tube Banjo Fitting Bolts | 11 | 8 (96 in.-lb.) |
| Injection Pump-to-Front Cover | 24 | 18 (216 in.-lb.) |
| Camshaft Idler Drive Gear-to-Block | 237 | 175 |
| Front Cover-to-Cylinder Block | 24 | 18 (216 in.-lb.) |
| Thermostat Housing Bolts | 24 | 18 (216 in.-lb.) |
| Camshaft Gear Bolt | 69 | 51 |
| Camshaft Rear Gear Plate Bolts | 47 | 35 |
| Oil Filter Adapter Bolts | 42 | 31 |
| Oil Filter Mounting Bolt Insert | 34 | 25 (300 in.-lb.) |
| Starting Motor-to-Rear Adapter Plate | 31 | 23 (276 in.-lb.) |
| Injection Pump-to-Gear Nut (4-cylinder) | 79 | 58 |
| Oil Pressure Switch Assembly | 31 | 23 (276 in.-lb.) |
| Turbocharger-to-Exhaust Manifold Nut | 44 | 33 |
| Fan Blade-to-Support Body | 27 | 20 (239 in.-lb.) |
| Crankshaft Rear Oil Seal Retainer Initial Torque | 12 | 9 (108 in.-lb.) |
| Crankshaft Rear Oil Seal Retainer Final Torque | 23 | 17 (204 in.-lb.) |
| Belt Tension Pulley | 54 | 40 |
| Temperature Senders | 20 | 15 (180 in.-lb.) |
| Tensioner-to-Water Pump Bolt | 54 | 40 |
| Idler Pulley Bolt | 54 | 40 |
| Pump Connector-to-Block | 24 | 18 (216 in.-lb.) |
| Dynamic Balancer-to-Cylinder Bore | 117 | 86 |
| Cylinder Block Plugs (1/4 in-27 NPT) | 11 | 8 (96 in.-lb.) |
| Cylinder Block Plugs (1/4 in-18 NPT) | 30 | 22 (266 in.-lb.) |
| Cylinder Block Plugs (3/4 in-18 NPT) | 38 | 28 (336 in.-lb.) |
| Cylinder Block Plugs (3/4 in-14 NPT) | 27 | 20 (240 in.-lb.) |

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## FAULT FINDING

***IMPORTANT:*** *Investigate and correct the causes of malfunctions during the repair cycle. This will prevent repeat failures.*

***NOTE:*** *Quantify all complaints of excessive oil consumption before initiating repairs. Maximum (North American) engine oil consumption should be no more than three tenths of one percent (0.3%) of the fuel consumed by volume, or no more than 1 quart of oil for every 83 gallons (US) of fuel usage. Record fuel and engine oil usage for a minimum of 50 engine hours before calculating the rate of oil consumption. Oil consumption less than that specified is not considered excessive.*

The following table lists problems, probable causes, and recommended remedial action.

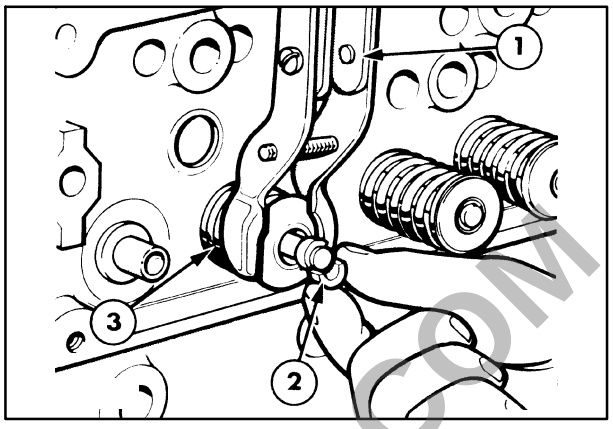
| PROBLEM | PROBABLE CAUSES | REMEDY |
|---|---|---|
| **Engine does not develop full power** | 1. Clogged air cleaner | 1. Clean or replace element |
| | 2. Fuel line obstructed | 2. Remove obstruction |
| | 3. Faulty injectors | 3. Clean and reset or replace |
| | 4. Incorrect valve lash adjustment | 4. Check and reset |
| | 5. Burnt, worn or sticking valves | 5. Replace valves or oversize, and/or machine the valve guide bores |
| | 6. Blown head gasket | 6. Check head flatness and replace gasket |
| | 7. Incorrect fuel delivery | 7. Check injectors and fuel pump |
| | 8. Low cylinder compression | 8. Replace piston rings or re-bore/re-sleeve as necessary |
| **Excessive exhaust smoke** | 1. Oil leak on compressor or turbine side of turbocharger, (where installed) | 1. Overhaul turbocharger |
| | 2. Exhaust leak on exhaust manifold side of turbocharger, (where installed) | 2. Install new gasket |
| | 3. Air cleaner dirty or restricted | 3. Clean |
| | 4. Excessive fuel delivery | 4. Check timing. Overhaul injection pump and injectors. |
| **Water temperature gauge fails to reach normal operating temperature** | 1. Faulty temperature sender | 1. Replace sender switch |
| | 2. Incorrect or faulty thermostat | 2. Replace thermostat |
| | 3. Faulty water temperature gauge | 3. Replace temperature gauge |

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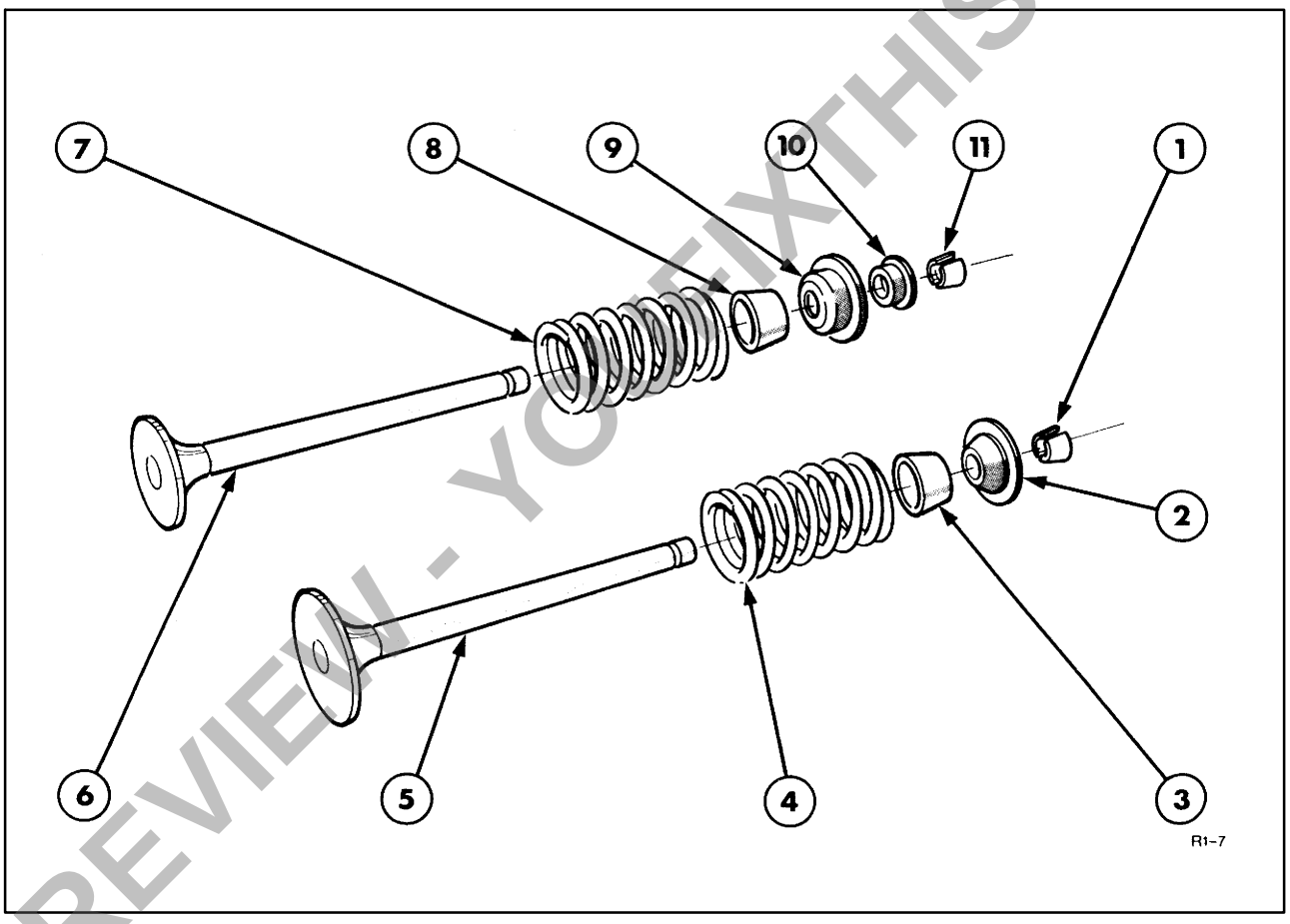
## VALVE AND SPRING ASSEMBLY




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### Removal and Disassembly

1. Remove cylinder head retaining bolts.
2. Remove retainer locks (2), valve springs (3) and rotators with a valve spring compressor (1). Place parts in a numbered rack to facilitate reinstallation.




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**Valve Assemblies**

**Intake Valve**

1. Valve Spring Lock
2. Spring Rotator
3. Seal
4. Spring
5. Valve

**Exhaust Valve**

6. Valve
7. Spring
8. Seal
9. Spring Rotator
10. Spring Rotator
11. Valve Spring Lock

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**SPECIAL TOOLS**

| Description | Old Part Number | Global Part Number |
|---|---|---|
| Kit, Fuel Injection Pump Timing | FNH08126 | 380000081 |
| Tool, Engine Separating | 290740 | 380000216 |
| Kit, Valve Stem Guide Reamer | FNH02136 | 380000319 |
| Installer, Water Pump Seal | FNH04672 | 380000321 |
| Installer, Engine Seal | FT6212 | 380000332 |
| Adapter, Timing Degree Wheel | | 380000409 |
| Wheel, Timing Degree | | 380000410 |
| Protector, Shaft (set of 6) | FNH09212 | 380000564 |
| Handle, Driver Camshaft | FNH01442 | |
| Tool, Connecting Rod Bushing | FNH00053 | |
| Tool, Crank Gear Alignment | FNH00881 | |
| Driver, Camshaft | FNH01255 | |
| Installer, Crankshaft Rear Main Seal | FNH01301 | |
| Adapter, Nozzle Reverse Flush | FNH08124 | |
| Socket, Nozzle Nut Torque | FNH08126 | |
| Puller, Grip-O-Matic | FNH09198 | |
| Adapter, Step Plate (set of 11) | FNH09210 | |
| Driver, Set | FNH09514 | |
| Puller, Crabnkshaft/Water Pump Pulley | FNH09539 | |
| Tool, Splitting | MS2700C | |
| Support, Engine | MS2700C-8 | |
| Replacer, Front Crank Seal | T87T-6019-A | |

**GREASE and SEALANTS**

| PART NUMBER | TYPE | NAME |
|---|---|---|
| Ambra GR9 | NH 1 710 A | Grease -General Purpose |
| Ambra GR75MD | NH 1 720 A | Grease-Molybdenum Disulphide |
| 82995768 | ESE-M4G194-B | Sealer-Anaerobic Low strength |
| 82995776 | ESE-M4G195-A | Sealer-Silicone |
| 82995774 | SP-M4G9112-A | Sealer-Polyester Urethane |
| 82995773 | SP-M4G9112-C | Sealer-Polyester Urethane |
| 82995772 | ESE-M4G217-A | Sealer-Anaerobic |
| 82995771 | SP-M2G9121-B | Sealer-RTV Silicone rubber |
| 82995782 | | Gasket Removal - Spray |

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**OIL FILTER SUPPORT**

| | | | |
|---|---|---|---|
| Relief Valve | Operating Pressure | 4.0 bar | 59 psi |
| | Flow rate | 68-75 liters/min | 18-20 gal/min |
| Relief Valve Spring | Free Length | 52.8 mm | 2.08 in. |
| | Compressed Length with 15.6 kgs (34.3 lbs.) | 37.0 mm | 1.46 in. |

**ENGINE OIL CAPACITIES (With Oil Filter)**

| Model | Liters | Imp Gals | U.S. Gals |
|---|---|---|---|
| 4 Cyl/6Cyl | 11.4/19 | 2.5/4.2 | 3.0/5.0 |

**MAIN FUEL TANK CAPACITY**

| Model | Liters | | U.S. Gals |
|---|---|---|---|
| 4 Cyl/6Cyl | 135 | | 35.6 |

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**⚠ WARNING ⚠**

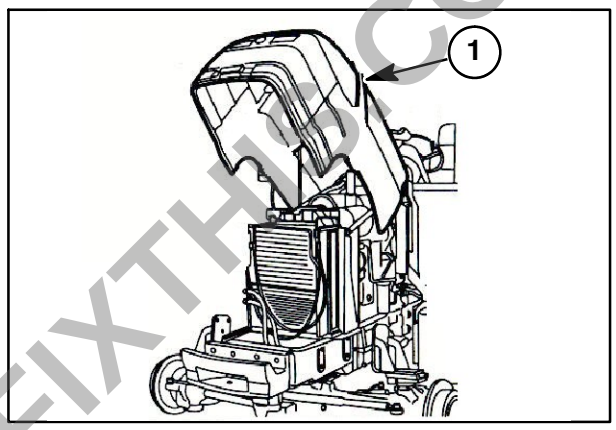
**Separating the tractor at any location is a dangerous operation. Always use the appropriate tools, lifting cranes, hoists, slings and support stands. Securely support the tractor where necessary when removing attaching hardware for the front axle, transmission and engine. Failure to adhere to safe maintenance practices may lead to serious personal injury or death, or cause irreparable damage to the tractor.**

## SEPARATING THE TRACTOR

The following procedures describe two methods of disconnecting the engine from the tractor. The method required depends on the component, the location of the component, and the extent of the maintenance action.

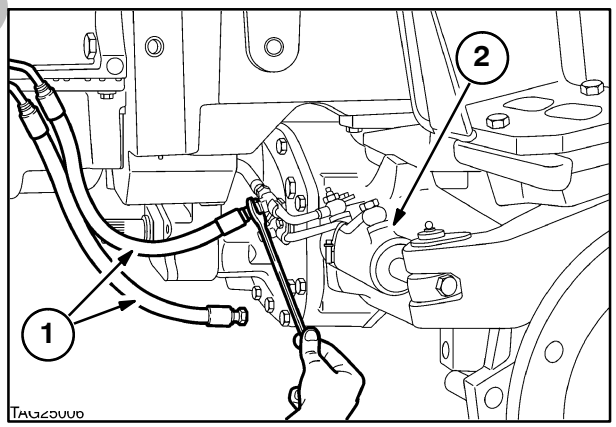
### Engine-to-Front Axle

1. Raise the engine hood assembly (1).
2. Disconnect the battery negative (ground) cable.




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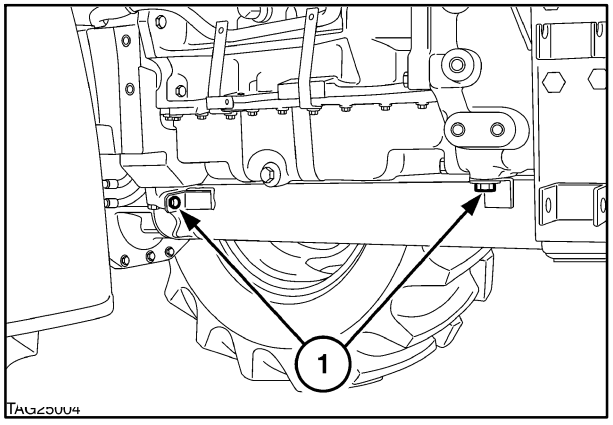
3. Disconnect power steering hoses (1) from the steering cylinder (2). Cap and plug openings to prevent contamination. Drain excess hydraulic fluid into a suitable container.




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4. On four-wheel drive models:

- Disconnect the front differential lock hydraulic tube. Cap and plug openings to prevent contamination.
- Disconnect and remove the axle-shaft guard bolts (1) and axle-shaft guard.
- Remove the driveshaft from the tractor.

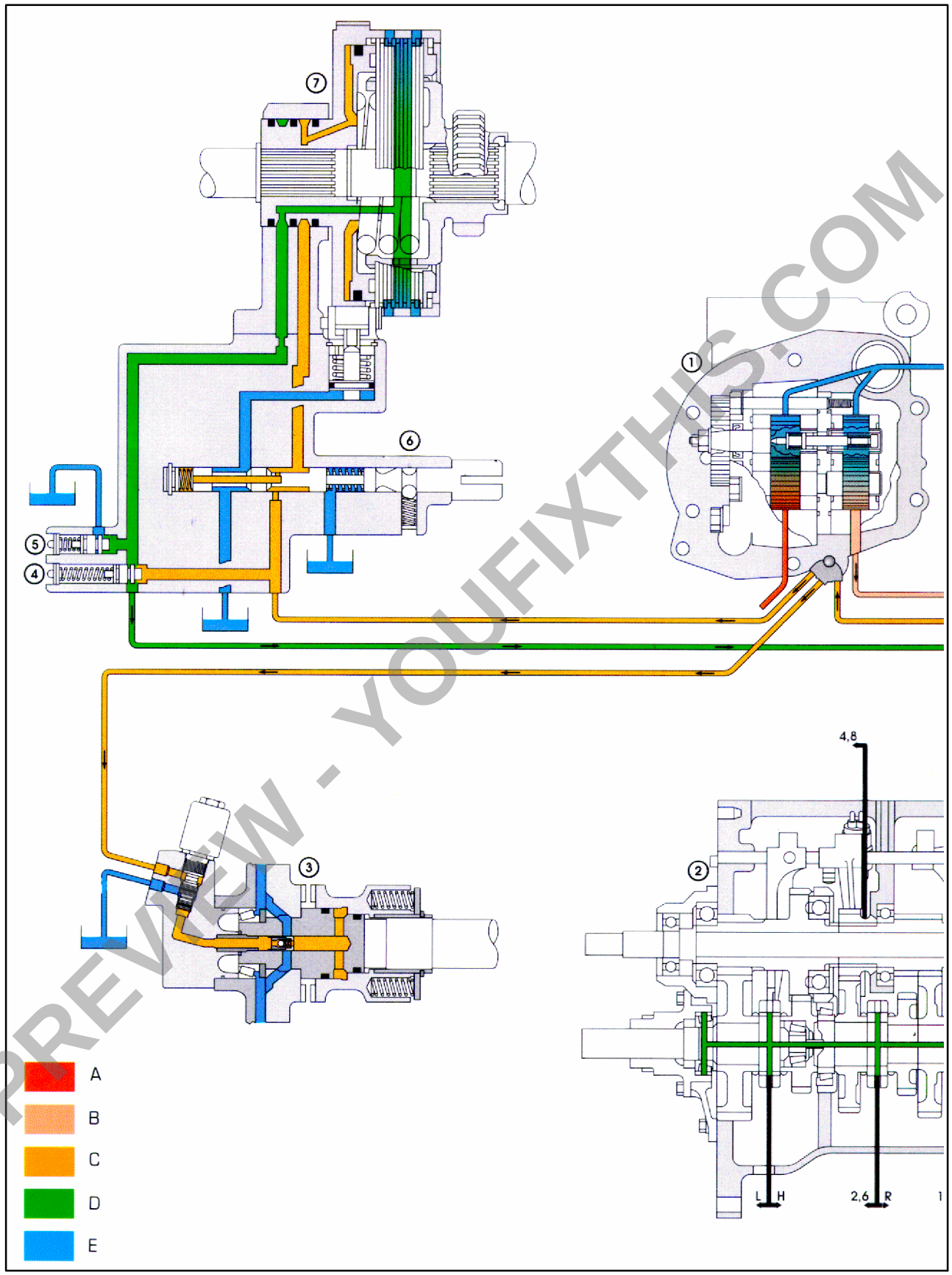



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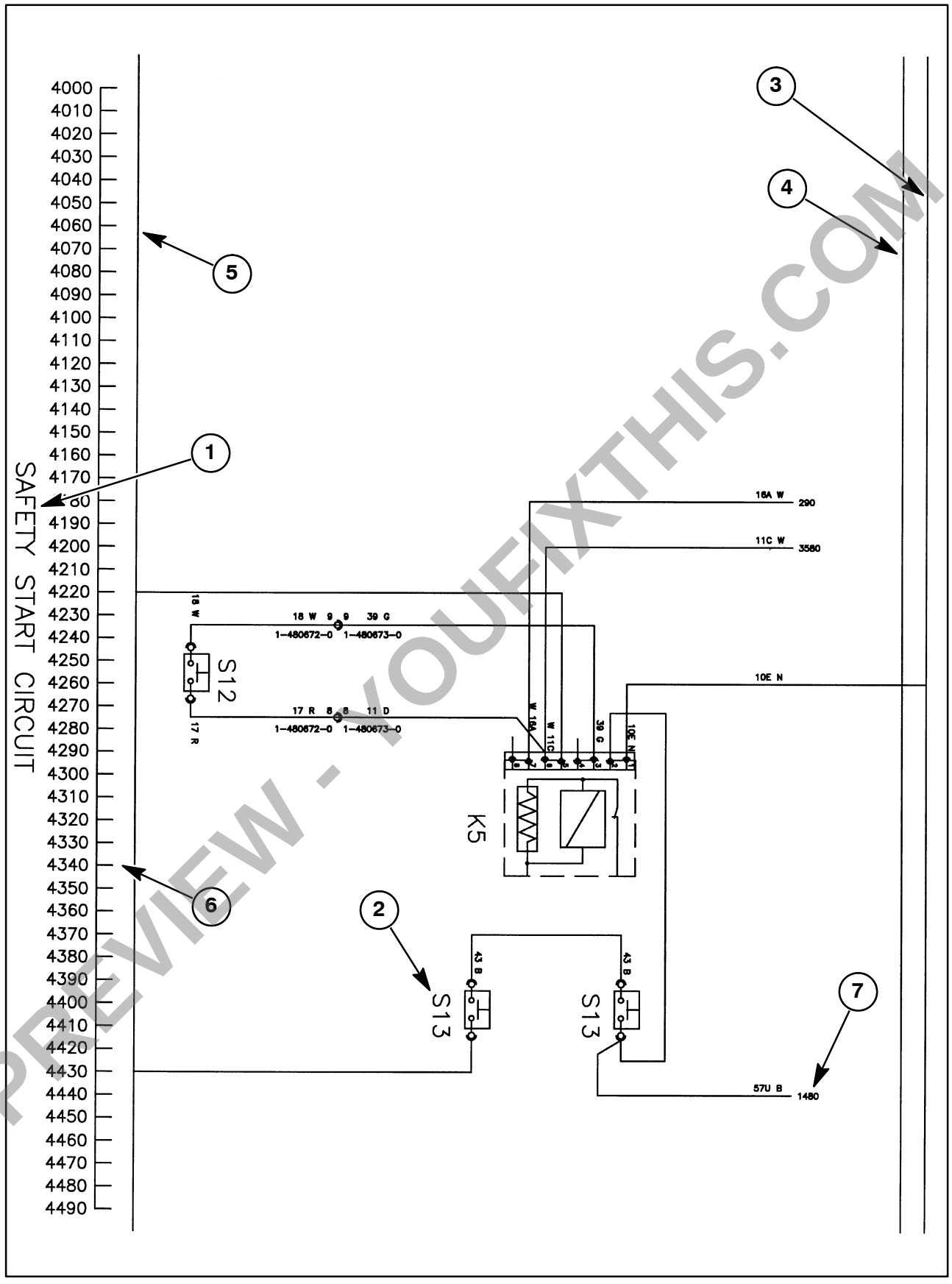

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**Low-Pressure, Steering, and Lubrication Circuit with (tandem gear) Transmission Mounted Pump (Sheet 1 of 2)**

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# SECTION 10 - ENGINE

**BOOK 1 - 87046218**

## Chapter 1 - Diesel Engines (Continued)

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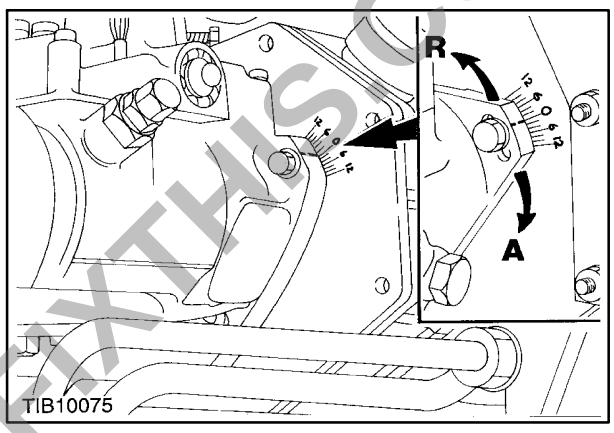


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Depending on configuration, proceed as follows:

**DPS Non-Emissionized Engine**

6. Position piston No. one at Top Dead Center.
7. Install the fuel injection pump with new seal, aligning mark on pump flange, to timing mark on front cover at 0°.
8. Tighten the injection pump retaining bolts to a torque of 24 N·m (18 ft-lb.).
9. Install the pump gear over the pump shaft.
10. Align timing marks to the camshaft idler gear and torque pump shaft retaining nut to 79 N·m (58 ft-lb.) Recheck the backlash between the fuel injection pump and camshaft idler gear.




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**DPS Pump Gear to Camshaft Drive Gear**

1. Pump Drive Gear
2. Camshaft Idler
3. Timing Mark

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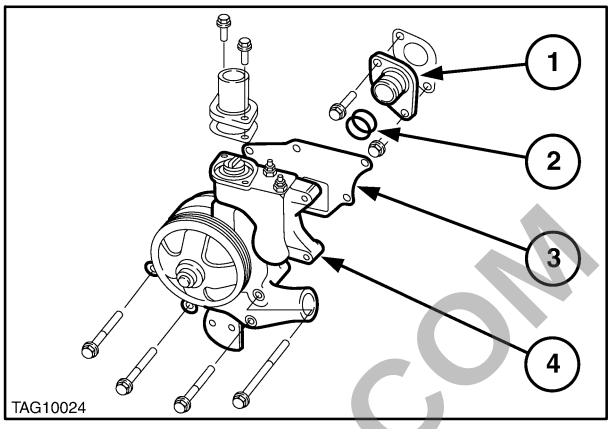


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## WATER PUMP

### Removal

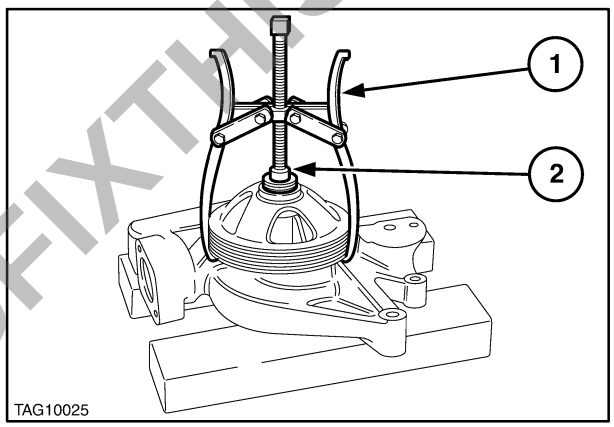
1. Drain the cooling system - refer to Section 10, Chapter 2 “Engine Cooling System Overhaul”.
2. Remove the radiator - refer to Section 10, Chapter 2 “Radiator”.
3. Remove the fan drive belt.
4. Remove the water hose.
5. Remove the four bolts that pass through the water pump into the block. Slide the pump away from the rear connector (1). Discard the O-rings (2).
6. Remove the pump as a complete assembly. Discard the gaskets (3).




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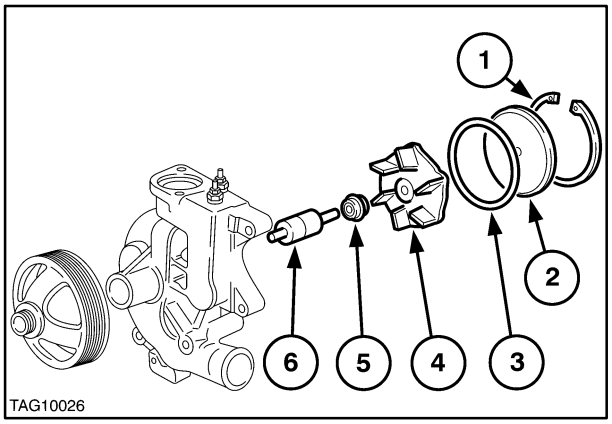
### Disassembly

1. Remove the attaching bolts and remove the fan from the pump pulley.
2. Hold the pump pulley in a fixed position and place an open ended spanner on the nut to the rear of the clutch assembly spacer. Loosen the nut in a clockwise direction.
3. Remove the pulley from the shaft with Puller Tool No. FNH09198 (1), and a sleeve (2) slightly smaller than the shaft.




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4. Using a pair of heavy snap ring pliers, remove the snap ring (1) from the rear of the pump body. Carefully ease out the backplate (2). Remove and discard the O-ring (3), Figure 12.




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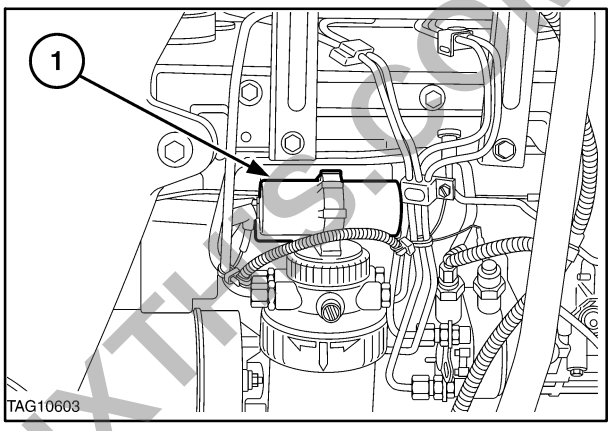
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## ELECTRIC LIFT PUMP

### Removal

***NOTE:*** *Tractors with fuel systems incorporating the DP203 series fuel injection pump include the electric lift pump.*

1. Disconnect the battery negative (ground) cable.
2. Disconnect the wiring from the lift pump (1), Figure 61.
3. Unscrew the filter head assembly connection and remove lift pump.

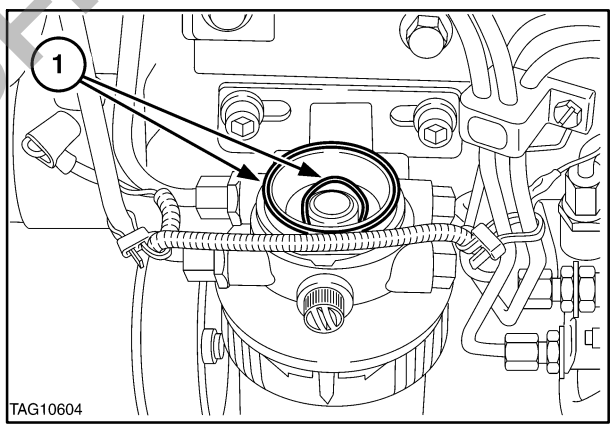



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### Installation

Installation of the electric lift pump assembly follows the removal procedures in reverse with the following requirement:

1. Replace the O-rings (1), at the lift pump-to-filter assembly connection point, Figure 62.



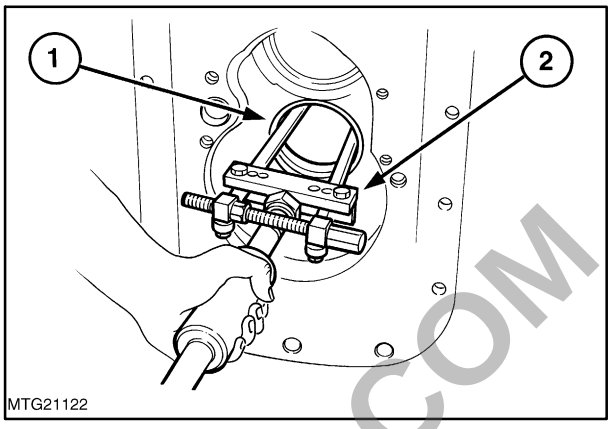

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5. Inspect all gears which mount on the main countershaft for damage and wear. With the gears on the countershaft, check the bushings for free play. Inspect the reverse idler gear and bushing assembly and replace if necessary.
6. Inspect the main countershaft rear bearing cup (1) situated in the transmission case and if damaged or worn, use Slide Hammer, Tool No. FNH09567 (2), to remove, Figure 27. Install a new cup using a suitable drift.
7. Inspect the countershaft front bearing for wear and damage. If necessary, install a new bearing.
8. Inspect all components with internal splines, external splines, or gear teeth, and if worn, broken or damaged, replace on reassembly.
9. Inspect the lubrication drillings for obstruction.



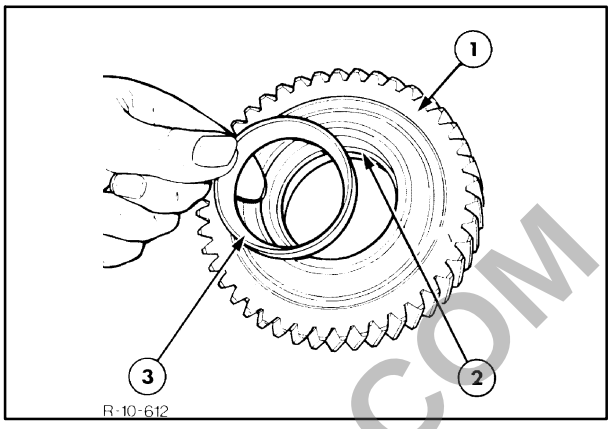

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6. Inspect the idler gear bearings for wear or damage. If necessary, replace bearings as a matched set. Slide the inner tracks from the gear, Figure 20.
7. Inspect the idler gear and lower gear teeth for wear or damage, and if discovered, inspect the drive gear on the rear axle pinion.

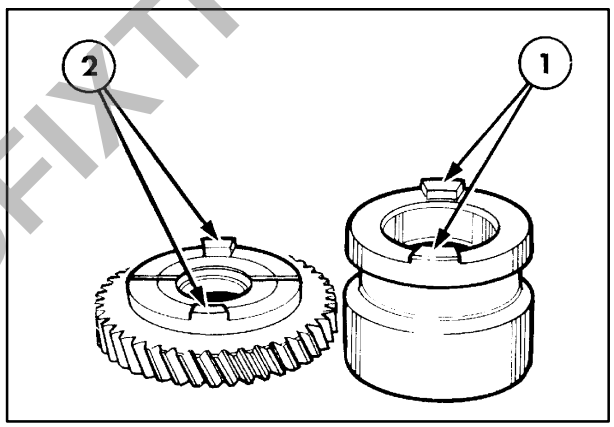



20

**Idler Gear Bearing Inner Tracks**

1. Idler Gear
2. Separating Shoulder
3. Inner Track (2 off)

8. Inspect the clutch "dog teeth" on both the sliding clutch component and the driven gear for wear or damage. If discovered, replace as a matched set, Figure 21.
9. Inspect the clutch springs for deformity and cracks. Check that spring free-length measures 48.0 mm (1.89 in.).
10. Inspect the spline of the clutch and shaft for wear or damage.
11. Inspect the lower shaft bearing assemblies for wear or damage.
12. Inspect the output shaft to drive shaft spline for wear or damage.



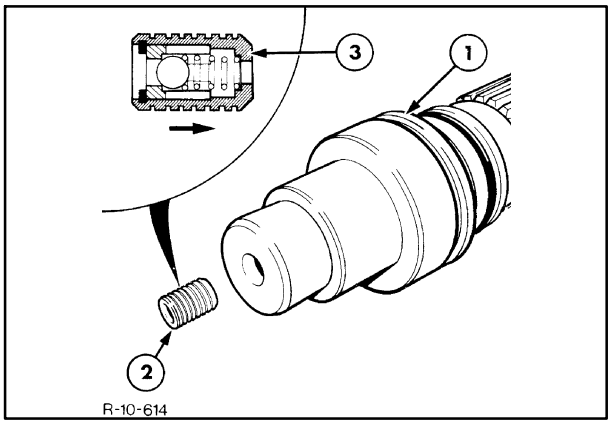

21

**Clutch Dog Teeth**

1. Clutch Dog Teeth
2. Driven Gear Dog Teeth

**Assembly**

1. Install new O-ring seals on the two end plates and a new clutch sealing ring on the shaft at the small diameter. Do not install the larger sealing ring until positioning the shaft inside the casing.
2. Coat the check valve with grease, and install the valve in the shaft with the spring facing forward and the ball to the rear, Figure 22. The grease will hold the valve in place during assembly.




22

**Check Valve Installation in Output Shaft**

1. Output Shaft
2. Check Valve
3. Identification Section

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- Place the circular bar from Tool No. FNH04775 across the two bearing bores in the support casing, Figure 72 and use a depth gauge to measure and record as dimension 'B'.
- Use the recorded measurements and the formula below to determine the required thickness of shim needed:

C = B – 25.0 mm (0.98 in.) [Diameter of bar] + 1/2 A

The difference between calculation 'C' and the dimension etched on the head of the pinion results in the actual shim thickness.

*Example:*

C = 104.1 mm – 25 mm +1/2 (90 mm) = 124.1 mm

Etched on the pinion is 121.0 mm

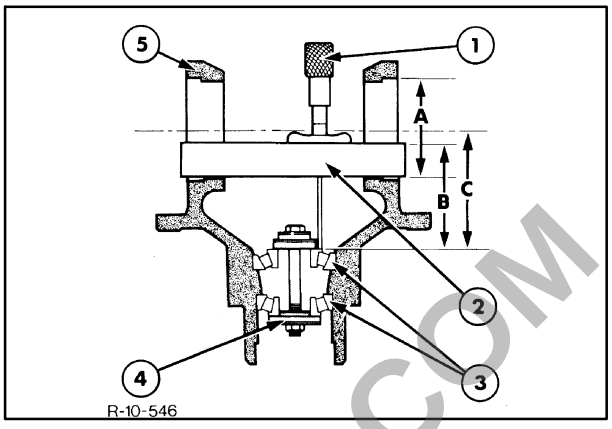
124.1 mm – 121.0 mm = 3.1 mm (shim thickness)

Select the calculated shim thickness from the range available, (See Specifications). Install on the pinion shaft with the chamfer adjacent to the pinion gear.

3. Press the inner bearing onto the pinion shaft until completely seated, Figure 73.

***IMPORTANT:*** *Use a new collapsible spacer on the pinion shaft. DO NOT use the old part.*

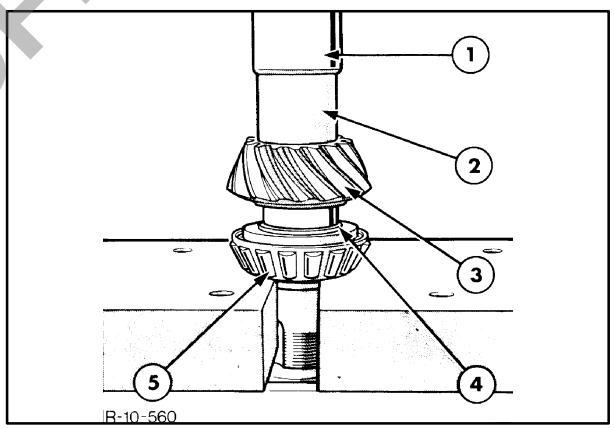
4. Assemble the pinion bearing and spacer assembly into the differential support casing and install the outer bearing and retaining nut. Eliminate bearing free-play by tightening the nut, using Wrench, Tool No. FTC 307978.




72

**Measuring Dimension 'B'**

1. Depth Gauge
2. Bar Gauge
3. Pinion Shaft Bearings
4. Pinion Setting Gauge
5. Differential Support Casing




73

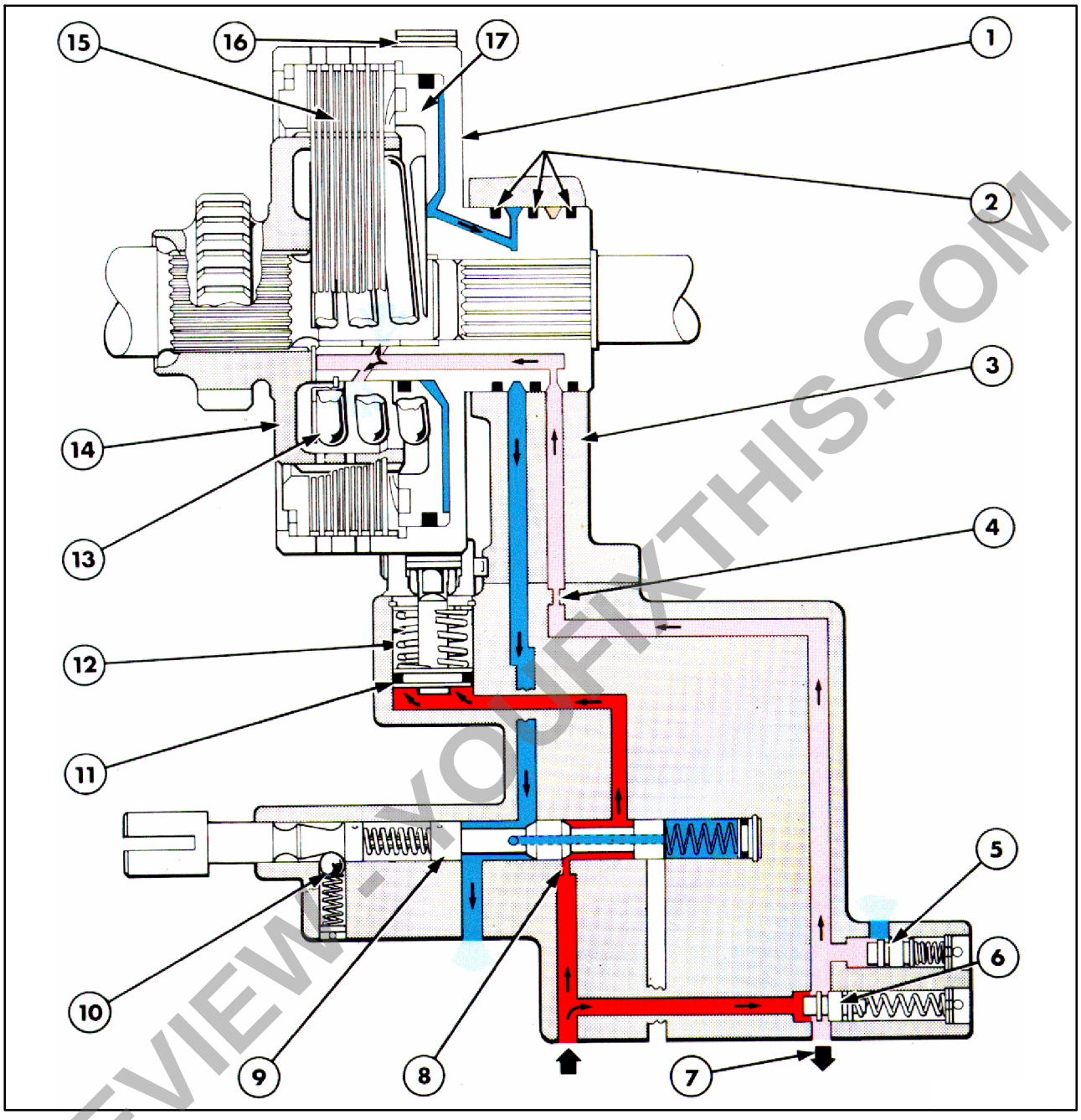
**Pressing Inner Bearing onto Pinion**

1. Press
2. Protector
3. Pinion
4. Shim
5. Inner Bearing Race

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4

Low Pressure Circuit Oil  Lubrication Oil  Return to Reservoir Oil

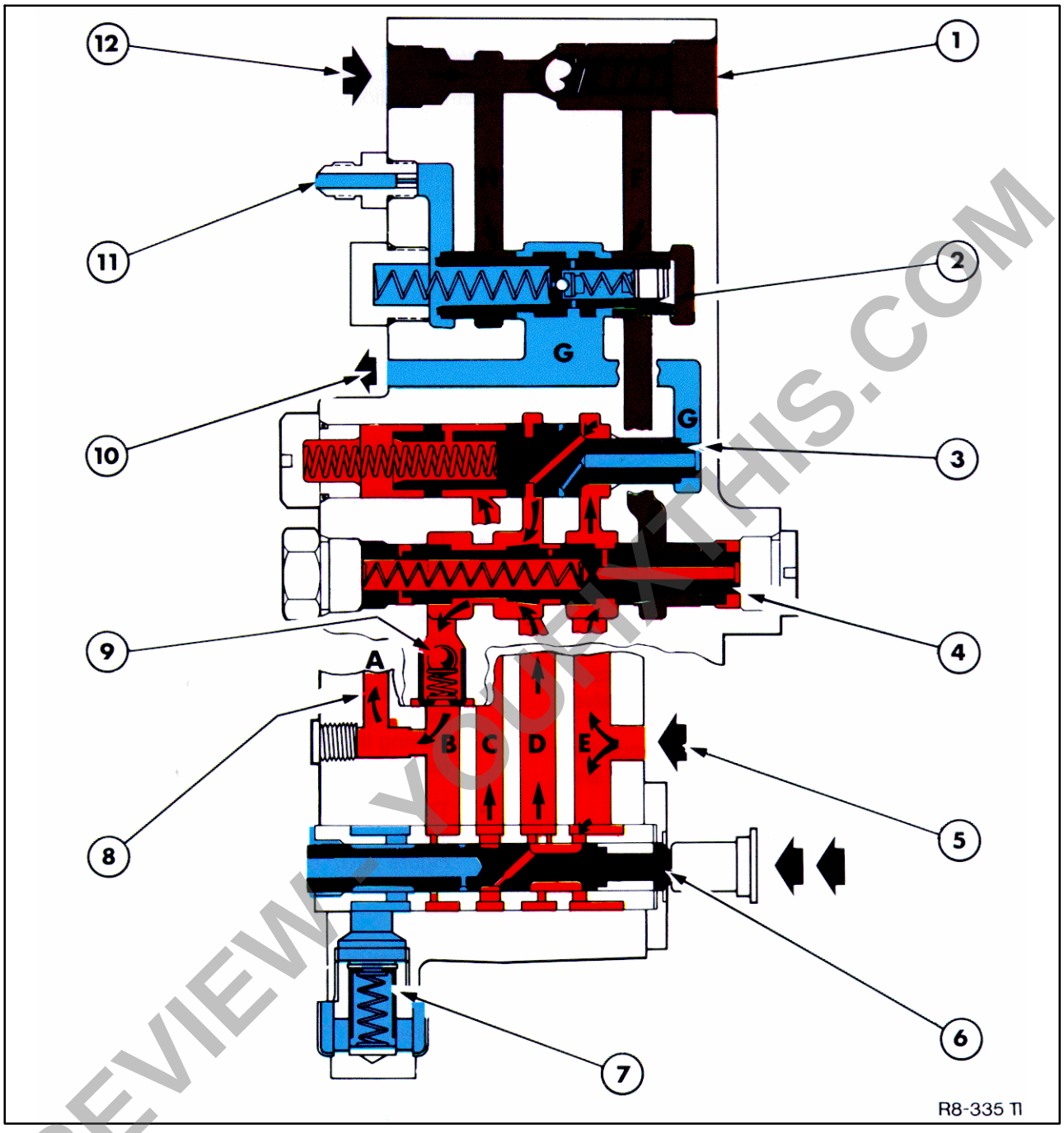
**PTO Oil Flow – Clutch Disengaged (Mechanically Operated PTO Control Valve)**

1. Clutch Housing
2. Sealing Rings
3. Clutch Support
4. Orifice
5. Cooler/Lubrication circuit Relief Valve
6. Pressure Regulating Valve
7. Transfer Port to Oil Cooler
8. Orifice
9. Control Valve Spool
10. Detent Ball and Spring
11. Brake Piston
12. Brake Piston Return Spring
13. Clutch Piston Return Spring
14. Clutch Hub
15. Clutch Plates
16. Brake Band
17. Clutch Piston

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11

**Control Valve Oil Flow in Fast Raising Position**
**(Tractors with Fixed Displacement Engine Mounted Hydraulic Pump)**

Main Pump Pressure Oil

Auxiliary Pump Oil

Exhaust Oil

1. To Remote Valves
2. Combining Valve (Sequencing) Valve
3. Unload Valve
4. Flow Control Valve
5. From Main Pump
6. Control Valve
7. Exhaust Valve
8. To Lift Cylinder
9. Check Valve
10. To Reservoir
11. Remote Valve Pilot Line (Load Sense Line)
12. From Auxiliary Pump

GALLERY A, To Lift Cylinder and Auxiliary Services Valve (where fitted)

GALLERY E, Main Pump Supply

GALLERY H, Auxiliary Pump Supply

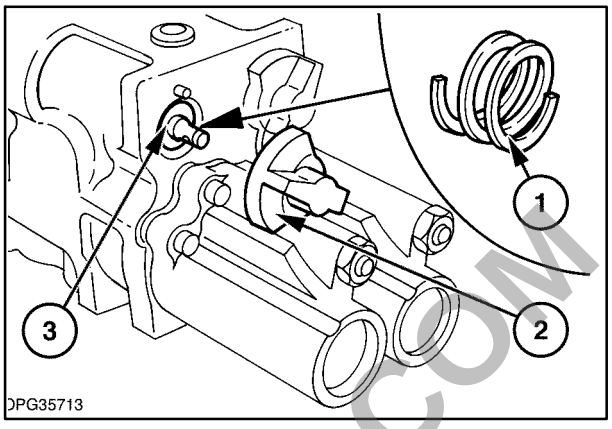
GALLERY G, Return to Sump



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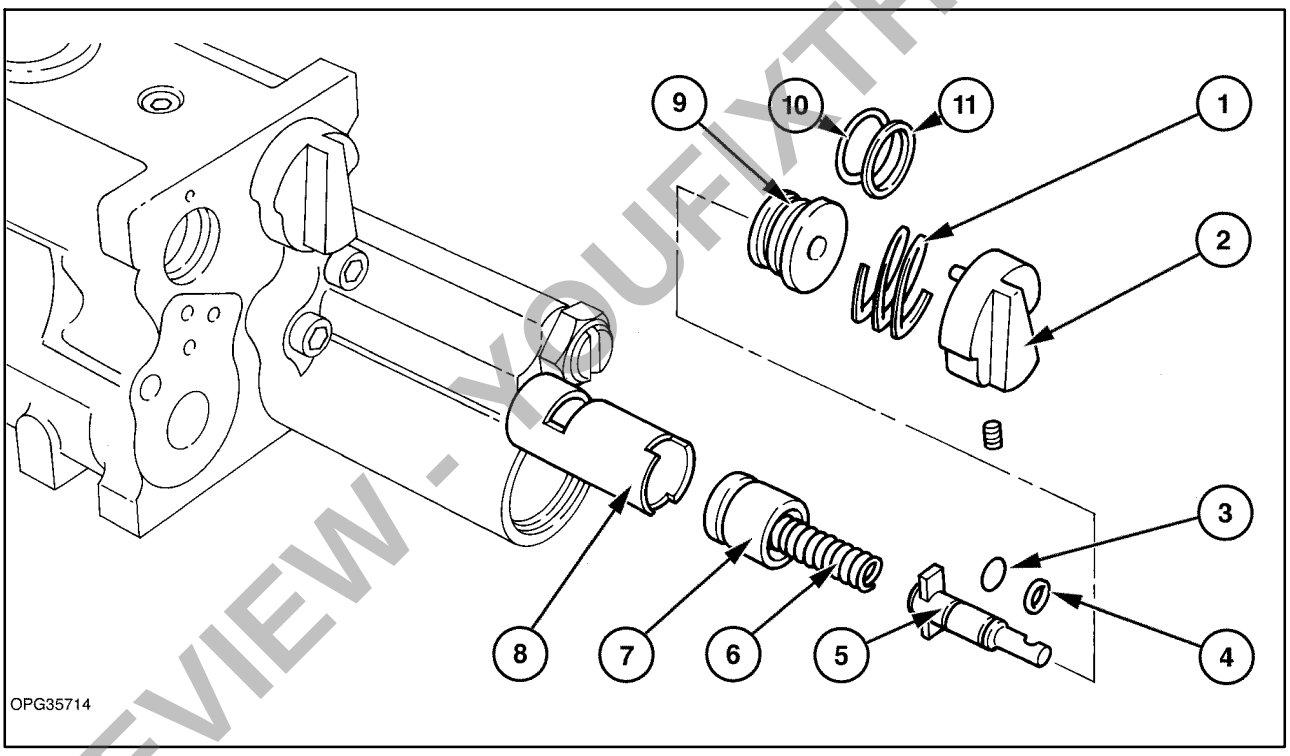
4. Remove the flow control knob (2). Push the restrictor end-plug (3) as far as possible into housing and remove retaining clip (1).

***NOTE:*** *The plug only pushes into the housing by approximately 1 mm (0.040 in), which is sufficient to allow removal of the retaining clip.*




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5. Remove the flow control restrictor and components as shown in Figure 19. Discard O-rings and seals.




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**Flow Control Restrictor**

1. Spiral Circlip
2. Knob
3. O-ring
4. Back-up Ring
5. Shaft
6. Spring
7. Load Check Valve
8. Flow Restrictor
9. Restrictor End Plug
10. O-ring
11. Back-up Ring

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2. Connect Flow Meter FNH02755. Refer to Figure 37.

***NOTE:*** *The flow meter must be capable of withstanding back-pressure of 21 bar (300 psi).*

***NOTE:*** *If using hoses of a different size with the flow meter, use an adapter with a female thread size of 13/16″ – 16 ORFS for installation into the pump inlet and outlet ports*

3. Open flow meter load valve completely.

***IMPORTANT:*** *Damage to the steering pump will occur if the flow meter load valve remains closed.*

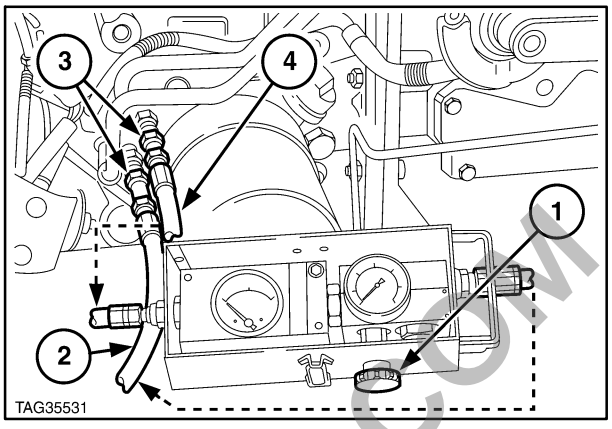
4. Start engine and set engine speed to 2100 rev/min.
5. Gradually close the load valve until obtaining a pressure of 138 bar (2000 psi) on the flow meter pressure gauge. DO NOT increase the pump pressure beyond this value.
6. Observe the pump flow. Overhaul the steering pump for values less then 31 liters/min (8.2 gal/min) for a used pump, or 35 liters/min (9.3 gal/min) for a new pump.

**Low-Pressure and Lubrication Circuit Pressure Tests**

It is important that the flow of oil returning from the steering motor to the tandem pump for redistribution to the low pressure and lubrication circuits, is regulated to the correct specification by the pressure regulating valve and lubrication circuit relief valve in the PTO assembly. It is, therefore, recommended that when pressure testing the pump the following low-pressure and lubrication circuit tests be performed.

**Low Pressure Circuit Test**

1. Connect 0 – 41 bar (0 – 600 psi) Pressure Gauge Tool No. FNH06653 at the pump low-pressure circuit fitting.
2. Start the tractor and set engine speed to 2100. rev/min
3. Observe pressure reading on gauge and compare to 15.2 – 17.9 bar (220 – 260 psi).




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**Installation of Flowmeter for Steering Pump Flow Test**

1. Flowmeter Load Valve
2. Return Hose from Flowmeter
3. Adaptors 4FT.859
4. Inlet Hose to Flowmeter

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# SECTION 44 - FRONT AXLE–TWO WHEEL DRIVE

## Chapter 1 - Two Wheel Drive

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| Symbol | Drawing Location | Description |
|---|---|---|
| H14 | 1370 | Parking Lamp Warning Light |
| H15 | 1170 | Cluster Light |
| H16 | 1170 | Rear Lamp Warning Light |
| H17 | 2030 | Head Lamp RH |
| H18 | 2030 | Head Lamp LH |
| HTD | 2800 | Assy Rear Indicator Lamp RH |
| H19 | 2800 | Right Turn & Flasher |
| H20 | 2800 | Right Turn & Flasher Additional |
| H21 | 2800 | Position Rear Lamp RH |
| H22 | 2800 | Stop Lamp RH |
| HTI | 2800 | Assy Rear Indicator Lamp LH |
| H23 | 2800 | Stop Lamp LH |
| H24 | 2800 | Position Rear Lamp LH |
| H25 | 2800 | Left Turn & Flasher Additional |
| H26 | 2800 | Left Turn & Flasher |
| H27 | 2800 | Work Lamp |
| (G) Charging | | |
| G1 | 00 | Battery |
| G2 | 150 | Alternator |
| (K) Relays | | |
| K1 | 260 | Ignition Relay |
| K2 | 800 | Fuel Engine Shut Down Relay |
| K3 | 3180 | Dual Power Relay |
| K4 | 3270 | Flasher Unit Relay |
| K5 | 3810 | Buzzer |
| (M) Motors | | |
| M1 | 40 | Starter Motor |
| M2 | 530 | Wax Motor |
| (R) Resistors | | |
| R1 | 870 | Cigar Lighter |
| R2 | 1620 | Thermostart Oil |

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