PREVIEW - YOUFIXTHIS.COM

Water Quality

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

IMPORTANT:

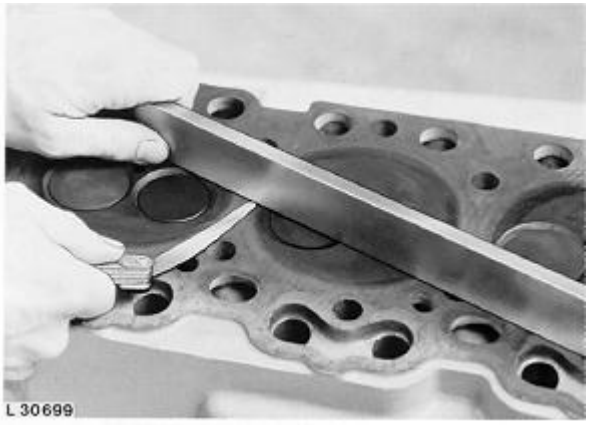
Do not use cooling system sealing additives or antifreeze that contains sealing additives.

Do not mix ethylene glycol and propylene glycol base coolants.

Do not use coolants that contain nitrites.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



.

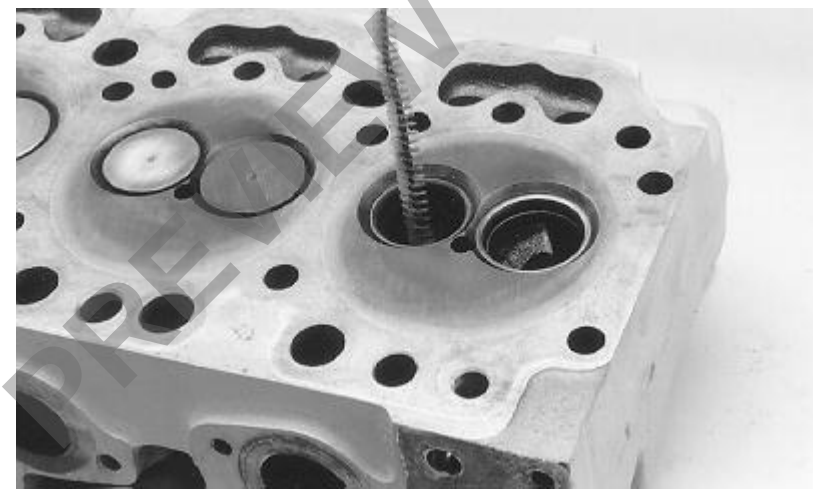
Maximum permissible flatness is 0.08 mm (0.003 in.).

Machined surface of cylinder head must be refaced if flatness is more than specified maximum.

→NOTE:

Maximum permissible amount to be machined from cylinder head is 0.76 mm (0.03 in.). After any head remachining, always recheck valve recesses.

Clean Valve Guides



.

Using a plastic brush, clean valve guides.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

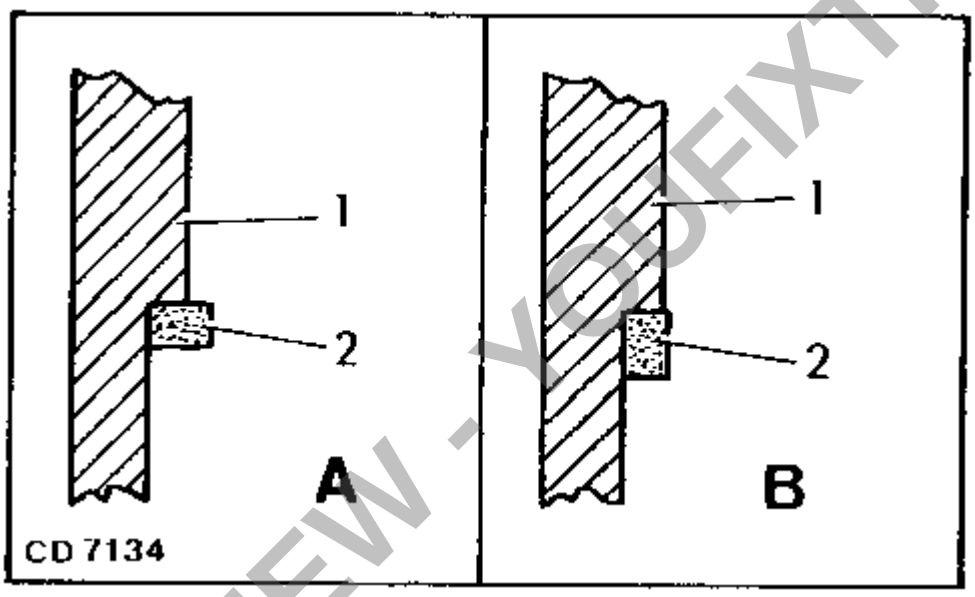
[5] - If protrusion is below specifications, install one liner shim (A) under liner flange. Two sizes of shims are available as specified.

Item	Measurement	Specification
Liner shim	Thickness	0.05 mm (0.002 in.)
Liner shim	Thickness	0.10 mm (0.004 in.)

IMPORTANT:

ONLY ONE SHIM IS ALLOWED PER CYLINDER. If liner requires more than one shim, install either a new liner or cylinder block.

Liner Packing Installation



Liner Packing Installation

LEGEND:

1	Cylinder liner
2	Packing
A	Improper installation
B	Proper installation

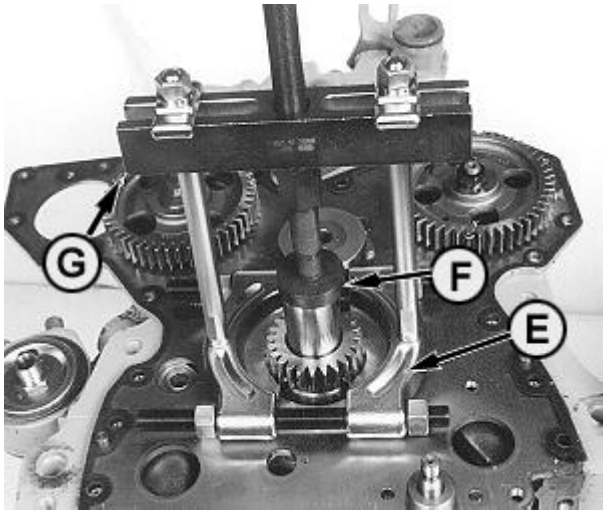
Apply lubricating soap to new packing and install over liner until it contacts liner shoulder. Liner packing must be compressed to the minimum specified.

Item	Measurement	Specification
Liner packing	Minimum dimension for proper compression	0.13 mm (0.005 in.)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Replace Crankshaft Gear



Pull Crankshaft Gear

LEGEND:

E	Pulling Attachment
F	Disc
G	Push Puller

→NOTE:

Gear can be replaced with crankshaft not removed from engine.

[1] - Pull gear using Push Puller and Pulling Attachment or any other suitable puller.

[2] - Remove Woodruff key from crankshaft and remove any burrs from gear journal.

[3] - Install a new Woodruff key in crankshaft keyway.

[4] -

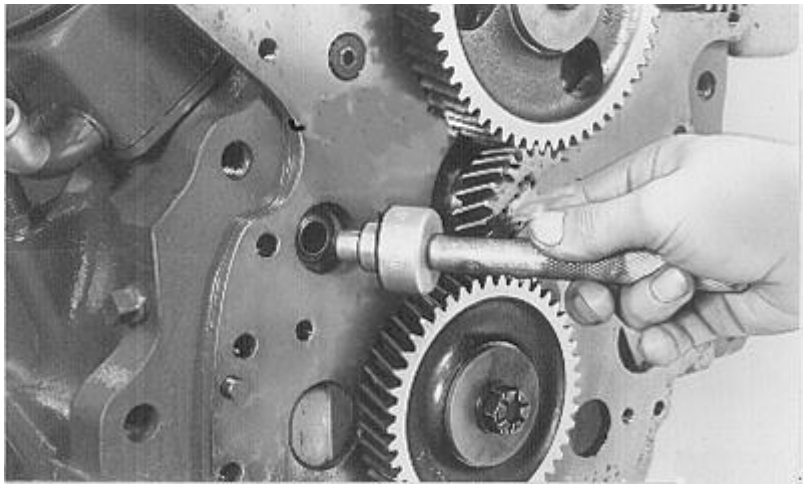
⚠ ***CAUTION:***

Oil fumes or oil can ignite above 190°C (380°F). Use a thermometer to ensure that a temperature of 180°C (360°F) is not exceeded. Do not allow a flame or heating element to come into direct contact with the oil. Heat the oil in a well-ventilated area. Plan a safe handling procedure to avoid burns.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Replace Oil Pressure Regulating Valve Seat



Replace Oil Pressure Regulating Valve Seat

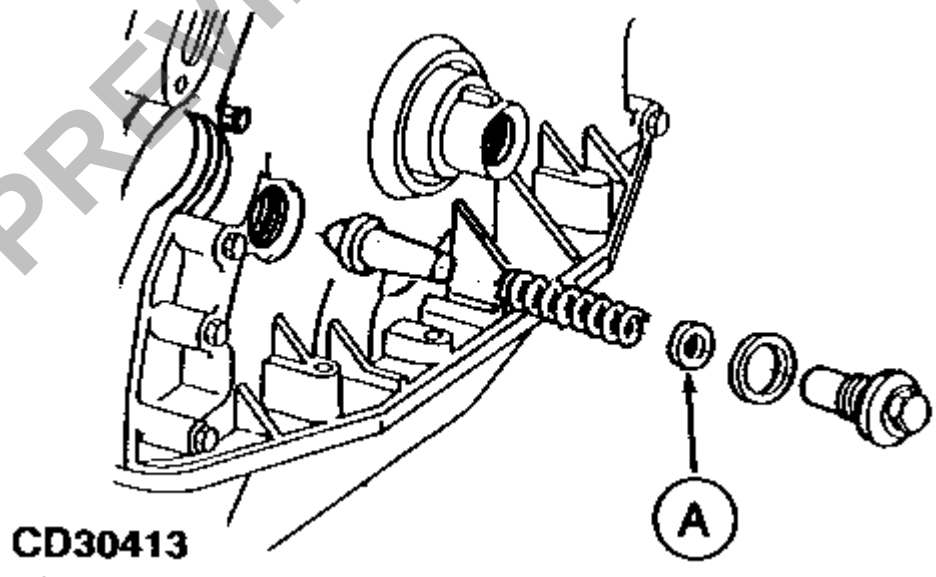
[1] - Remove valve seat bushing, using a suitable puller.

[2] - Drive in new bushing, using special tools JDG537 until driver contacts cylinder block.

IMPORTANT:

Do not damage the slightly protruding edge of the bushing as it is a sealing face.

Install Oil Pressure Regulating Valve



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

IMPORTANT:

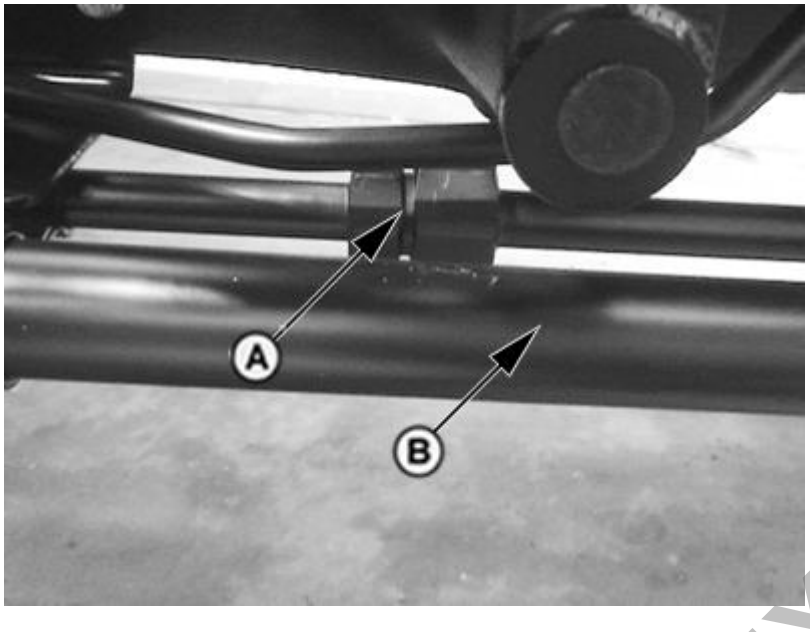
Do not change both filter inserts simultenously.Change primary and secondary filter inserts alternatively. (eg. If primary insert is changed at 250 hours, change secondary inserts at 500 hours, again primary at 750 hours likewise)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[8] - Disconnect throttle linkage (C) from foot pedal.

[9] -



Suction and supply Line

LEGEND:

A	Suction Line
B	Supply Line to Inlet Housing

Remove suction line (A) and disconnect supply line to inlet housing (B).

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[3] - Inspect and replace traction clutch disk if friction surfaces are contaminated with grease or oil, or if thickness of disk is not within specifications.



Traction clutch disk (single clutch)

Item	Measurement	Specification
Traction Clutch Disk	Thickness	10—6 mm (0.395—0.235 in.)

[4] - Inspect pilot bearing (A) for wear or damage. Replace if necessary (See procedure CTM 8)

PREVIEW - YOUFIXTHIS.COM

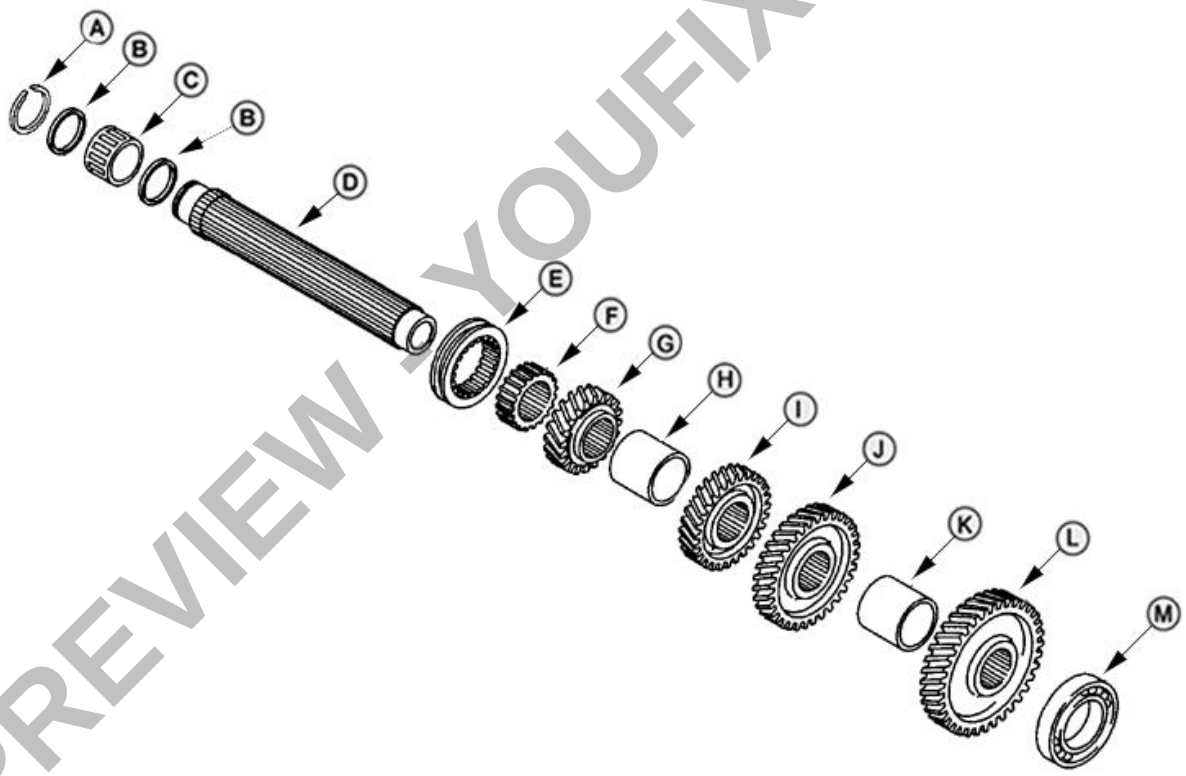
Download full manual at youfixthis.com

Disassemble, Inspect, and Assemble Transmission Main Shaft

[1] -



Transmission Main Shaft



Exploded View of Trans Main Shaft

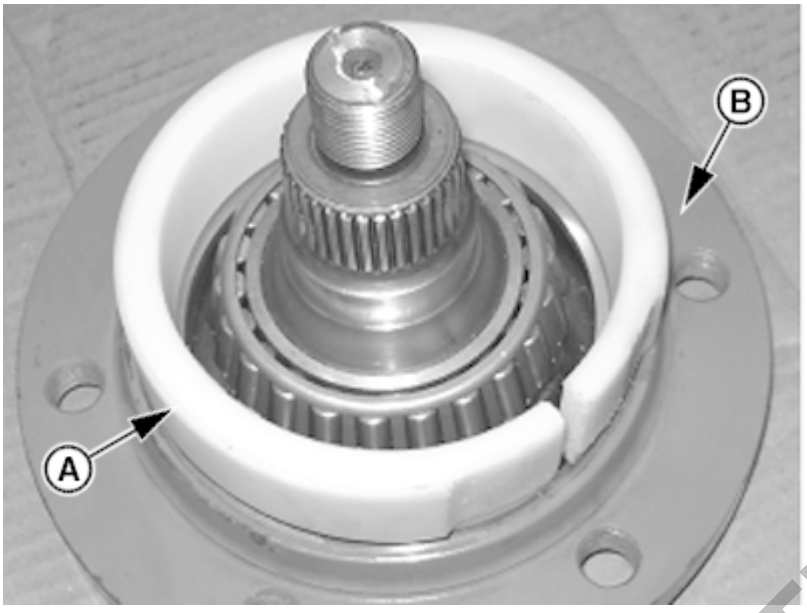
LEGEND:

A	Snap Ring
B	Washer
C	Needle Bearing
D	Transmission Main Shaft
E	B Range Shift Collar
F	Shift Collar Gear

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[2] - Install face seal (K) on the final drive cover (H).

a. 

final Drive Cover

LEGEND:

A	Metal Face Seal Fitment Tool
B	Final Drive Cover

Clean conical o-ring seal with alcohol spray prior to installation to remove any debris.

→NOTE:

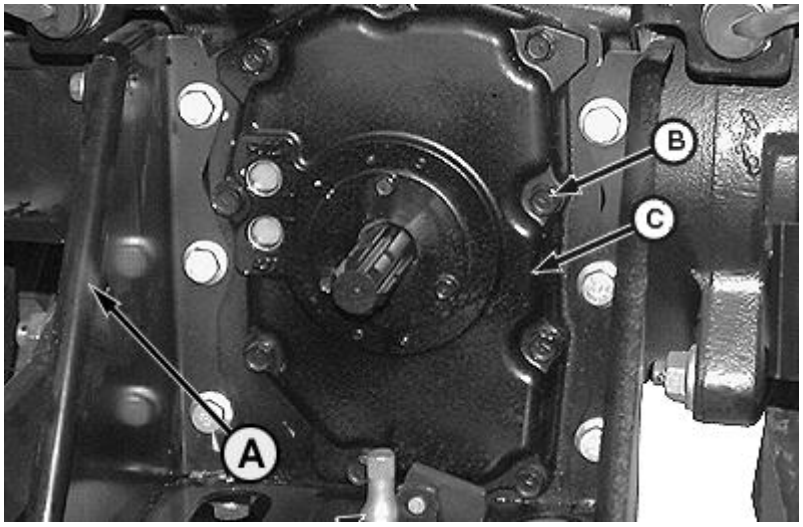
Sealing rings must be handled with care. Lapped sealing faces must not be damaged, scratched, or contaminated with dirt or grease.

b. When installing the rubber toric on the seal ring, ensure that it is uniformly seated on the retaining lip and is not twisted.
c. Place the seal in the installation tool and locate this assembly squarely against the top of the conical seal.
d. Spray the o-ring and seat with alcohol to act as a lubricant to the o-ring.
e. Use sudden and even pressure against the Face Seal Tool to push in the seal and ensure the retaining lip is not twisted or pinched.
f. The sealing ring face should be parallel to the conical seal face within 0.50 mm.
g. After installing the seal halves, wipe both metal sealing faces clean with a lint-free cloth.
h. Then apply a coat of clean MS8 oil to the metal seat faces with a lint-free applicator. The oil must not wet surfaces other than the sealing faces.
i. Clean the metal surfaces with lint-free cloth.
j. Clean o-ring seal with alcohol spray.

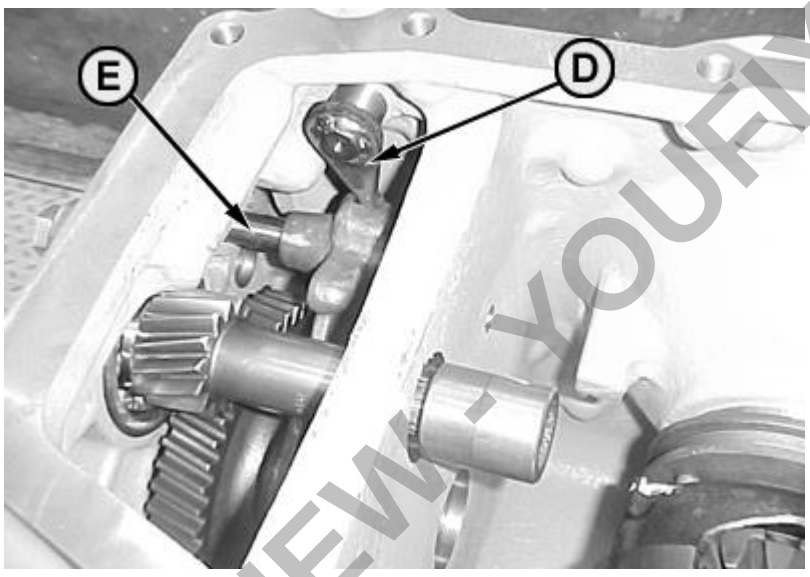
[3] - Install hub bearing cone (J) to output shaft (L)..

Download full manual at youfixthis.com
PREVIEW - YOUFIXTHIS.COM

Remove and Install Rear PTO Drive Shaft Assembly



Remove Rear PTO Drive Shaft



Intermediate Shaft and Coupler

LEGEND:

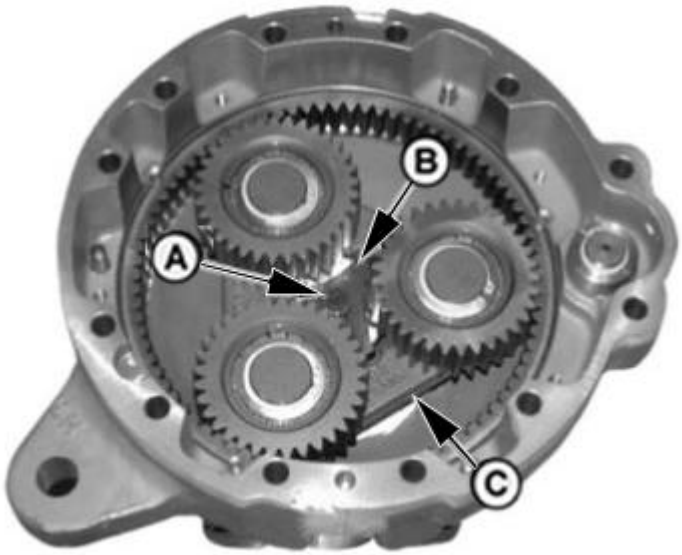
A	Drawbar Support
B	Cap Screw (9 used)
C	PTO Cover
D	Shifter
E	Shaft with Fork

→NOTE:

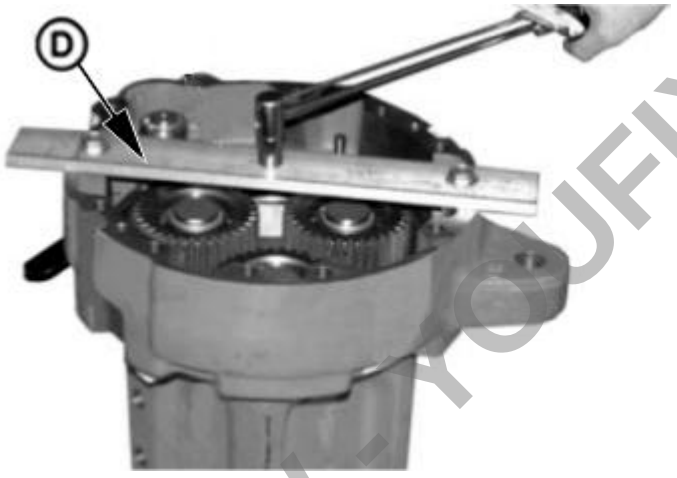
The approximate capacity of transmission/differential oil is 33 L for manual steering and 35 L for power steering tractors.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



Planetary Carrier Assembly



Rolling Drag Torque

LEGEND:

A	Cap Screw
B	Lock Plate
C	Planetary Carrier Assembly
D	Final Drive Turning Tool

Install planetary carrier assembly (C) onto the axle shaft. install cap screw (A) finger tight at this time.

[6] - Rotate final drive housing three complete revolutions in each direction using Final Drive Turning Tool (D) to ensure proper seating of bearing rollers.

[7] - Rotate final drive housing a minimum of ten revolutions using a torque wrench and turning tool to determine rolling drag torque. This is the base line rolling drag torque.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[3] - Remove parts (B—I) as necessary for replacement.

[4] - Apply a small amount of Moly High Temperature EP Grease

Number	Name	Use
• TY6333 or TY6347 (us)	Moly High Temperature Ep Grease.	Apply to axle tie rod sleeve.

to outer surface of rod (I) and sleeve (D).

[5] - Install parts (B—I).

[6] - Adjust length of tie rod assembly by positioning sleeve (D) and right tie rod end (I) so front wheels are approximately straight forward when steering cylinder is centered and tie rod end fits into arm of spindle. Tighten cap screw (E) and nut (H) to specification.

Item	Measurement	Specification
Tie Rod Clamp Cap Screw and Nut.	Torque	90 N˙m (66 lb-ft)

[7] - Install and tighten lock nut (A) to specification.

Item	Measurement	Specification
Tie Rod-to-Spindle Arm Lock Nuts.	Torque	165 N˙m (122 lb-ft)

[8] - Adjust front axle toe-in. (See procedure in Section 260, Group 15.)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[2] - Remove right side floor plate, if necessary.

[3] - Disengage lock plate (K).

[4] -

→NOTE:

Disassemble parts (H, I and J) only if replacement is necessary.

Remove front spring locking pins (G) from brake pedal (C) and shaft (N).

[5] -

→NOTE:

Bushings (F) are press fit in right brake pedal (C). Remove bushings only if replacement is necessary using a bushing, bearing and seal driver set.

Remove and inspect parts (A—P) for wear or damage. Replace as necessary.

[6] - Install bushings (F) until edge of bushing is flush with edge of inner bore in right brake pedal (C) using a bushing, bearing and seal driver set.

[7] -

→NOTE:

Install seals (D) with lips facing inward.

Install seals (D) with lips of seal facing inward, until seated against shoulder of seal bore.

[8] - Apply multipurpose grease to inside surface of bushings (F).

[9] - Install remaining parts.

[10] - Install right side floor plate, if removed.

PREVIEW - YOUFIXTHIS.COM

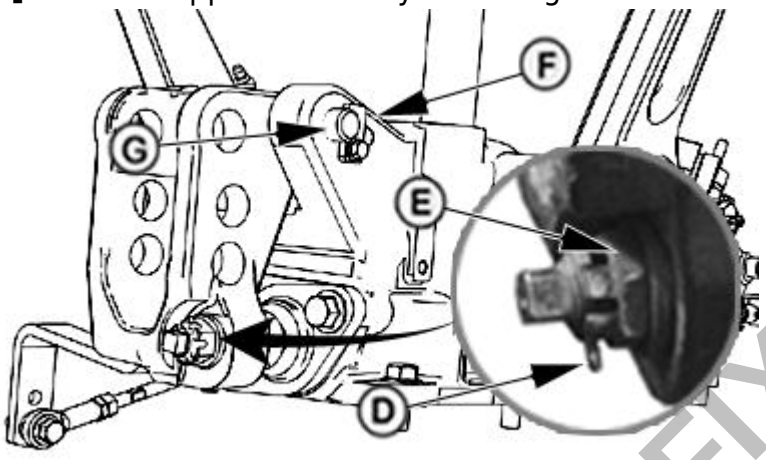
Download full manual at youfixthis.com

[10] - Inspect support assembly for wear or damage. Replace if necessary.

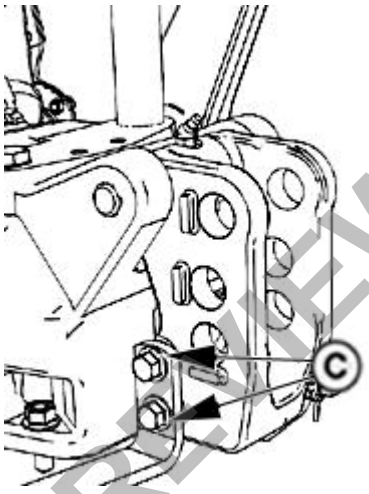
[11] - Install Support Assembly

Item	Measurement	Specification
Draft Sensing Support Mounting Socket Head Cap Screw	Torque	375 N˙m (277 lb-ft)

[12] - Install Support Assembly mounting shaft and Lock plate (F)



.



.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

[2] - Lift and support front of tractor. Remove wheel.

[3] -

IMPORTANT:

Do not use a ball-joint fork to remove tie rod end from spindle arm. Damage to rubber grease seal will result.

→NOTE:

Tie rod end is a tapered bore fit. Use a puller to ease removal.

Remove lock nut (C). Remove tie rod end from spindle arm (D).

[4] - Remove lock nut (A) and cap screw (B).

[5] - Remove spindle assembly (E) and spindle arm (D).

[6] - Inspect spindle shaft for wear or damage. Replace if necessary.

[7] - Inspect spindle shaft bushings for wear or damage. (See procedure in this group.)

[8] - Install spindle, arm, cap screw, and nut. Tighten nut to specification.

Item	Measurement	Specification
Spindle Nut and Cap Screw	Torque	55 N˙m (40 lb-ft)

[9] - Connect tie rod end. Install and tighten nut to specification.

Item	Measurement	Specification
Tie Rod End Nut	Torque	165 N˙m (122 lb-ft)

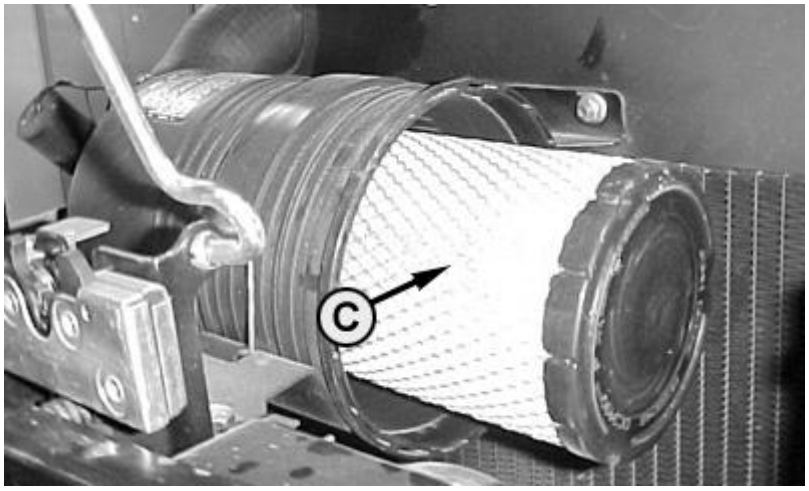
[10] - Install wheel and tighten wheel cap screws to specification.

Item	Measurement	Specification
Wheel Cap Screws	Torque	175 N˙m (130 lb-ft)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Air Intake System Check



Air Filter and Intake Tube

LEGEND:

C	Primary Element

CONDITIONS:

- Key switch OFF.
- Range shift lever in neutral.
- Park brake engaged.

PROCEDURE:

- Observe condition of air filter elements.
- Check condition of air intake hose.
- Observe air cleaner restriction indicator on dash. (Engine running and cover installed on air cleaner.)

NORMAL:

- Air intake and elements free of debris.
- Air intake hose in good condition. Hose clamps tight.
- Air cleaner unloader valve not plugged.
- Air cleaner housing sealed.
- Air cleaner restriction indicator light off.

IF NOT NORMAL:

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Engine Coolant Operating Temperature Incorrect

CONDITIONS:

- Range shift lever in neutral.
- Park brake engaged.
- PTO disengaged.
- Key switch OFF.
- Engine fuel/air system repair in CTM8.
- Engine and fuel/air tests and adjustments found in this group.
- Electrical tests in Section 240, Group 15.

Test Location	Normal	If Not Normal
1. Coolant.	Coolant level up to bottom of fill neck.	Fill to correct level.
2. Fan/alternator drive belt.	Belt deflection within specifications. See this group. Correct fan installed properly.	Adjust fan belt. Replace damaged or incorrect fan. Install fan correctly.
3. Radiator.	Free of dirt/trash in radiator fins. No leaks. No bubbles in coolant.	Clean and pressure test radiator. Check cylinder head, cylinders and head gasket for cracks.
4. Shroud.	Correct undamaged shroud.	Replace shroud.
5. Radiator cap.	Operating within range. Not leaking.	Replace cap.
6. Temperature gauge.	Reads in green band.	Test circuit.
7. Thermostat.	Starts to open at 71°C (160°F) full open 95°C (202°F).	Replace.
8. Cooling system.	Passages clear.	Flush radiator and engine block.
9. Hoses.	Hoses flexible with no cracks, swelling or spongy feel. Clamps tight.	Replace hoses. Tighten loose clamps.
10. Water pump.	Clearance within specifications. No “play” in bearing.	Repair or replace pump.
11. Load applied (not shown).	Within horsepower available.	Reduce load/shift to lower gear.
12. Crankcase.	Correct capacity and viscosity of oil.	Add or replace oil.
13. Fuel tank (not shown).	Correct grade of fuel.	Replace with correct fuel.
14. Injection pump (not shown).	Properly timed pump.	Time pump.
15. Pistons.	No scoring.	Replace.

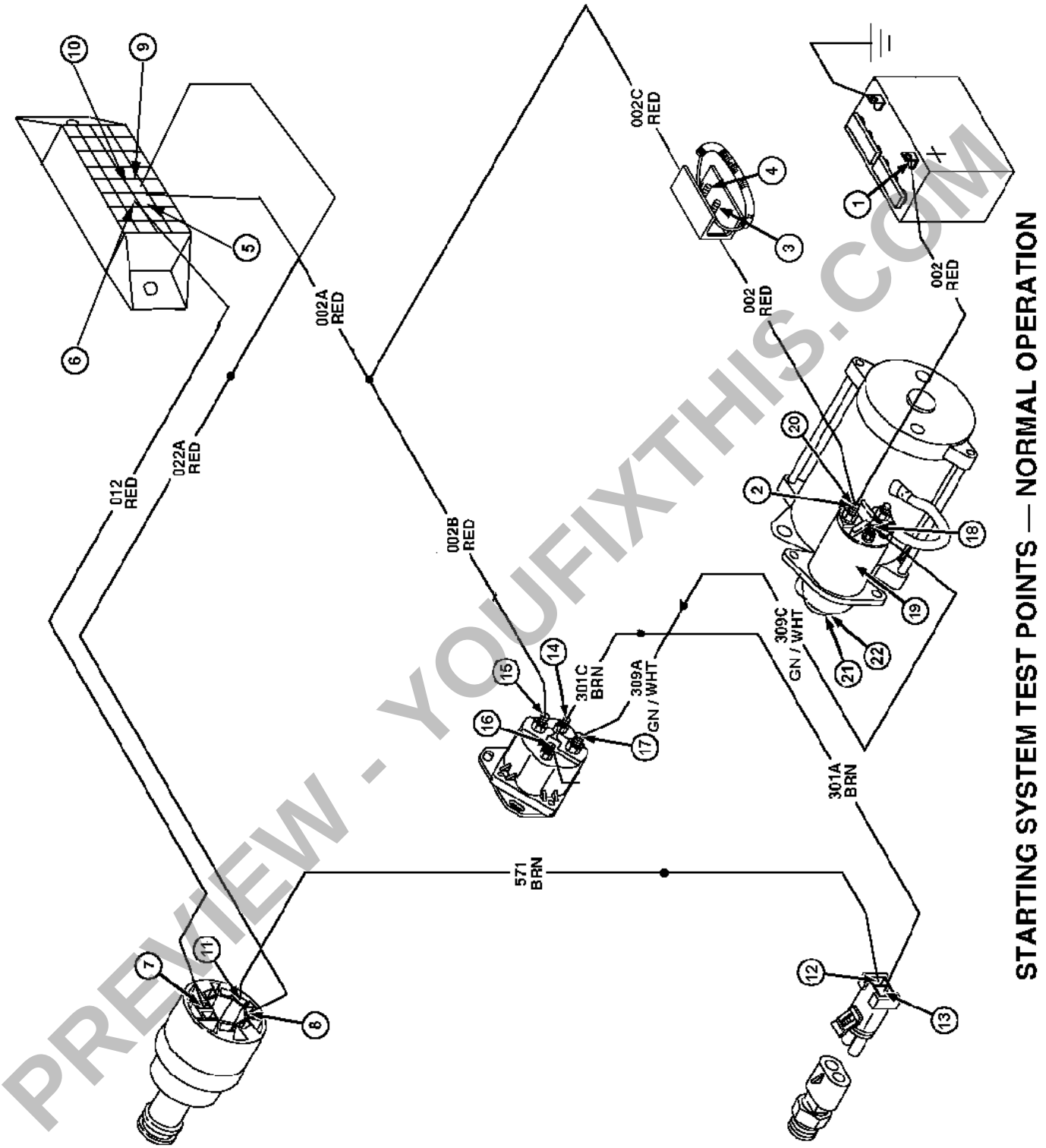
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Starter No-Load AMP Draw/RPM Test 116
Alternator/Regulator Test 118
Starter Solenoid Test 119
Starter Relay Test 121
Plug-In Relay Test 123
Diode Pack Test 125
Fuse Test 126
Neutral Start Switch Test 128
Turn Signal Controller (Flasher) Test 129

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



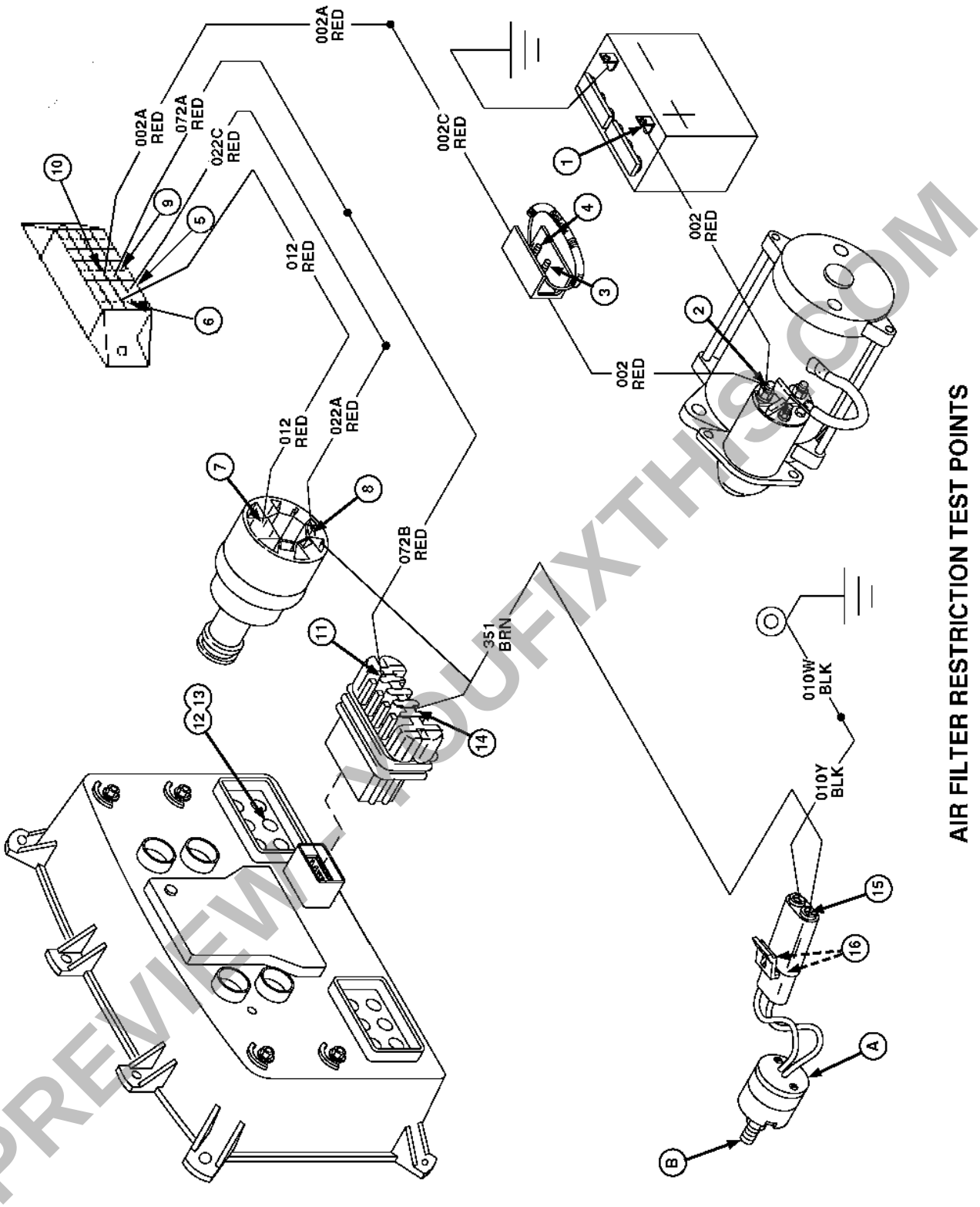
Starting operation

CONDITIONS:

- Connect greeen-white wire to starter solenoid terminal S.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

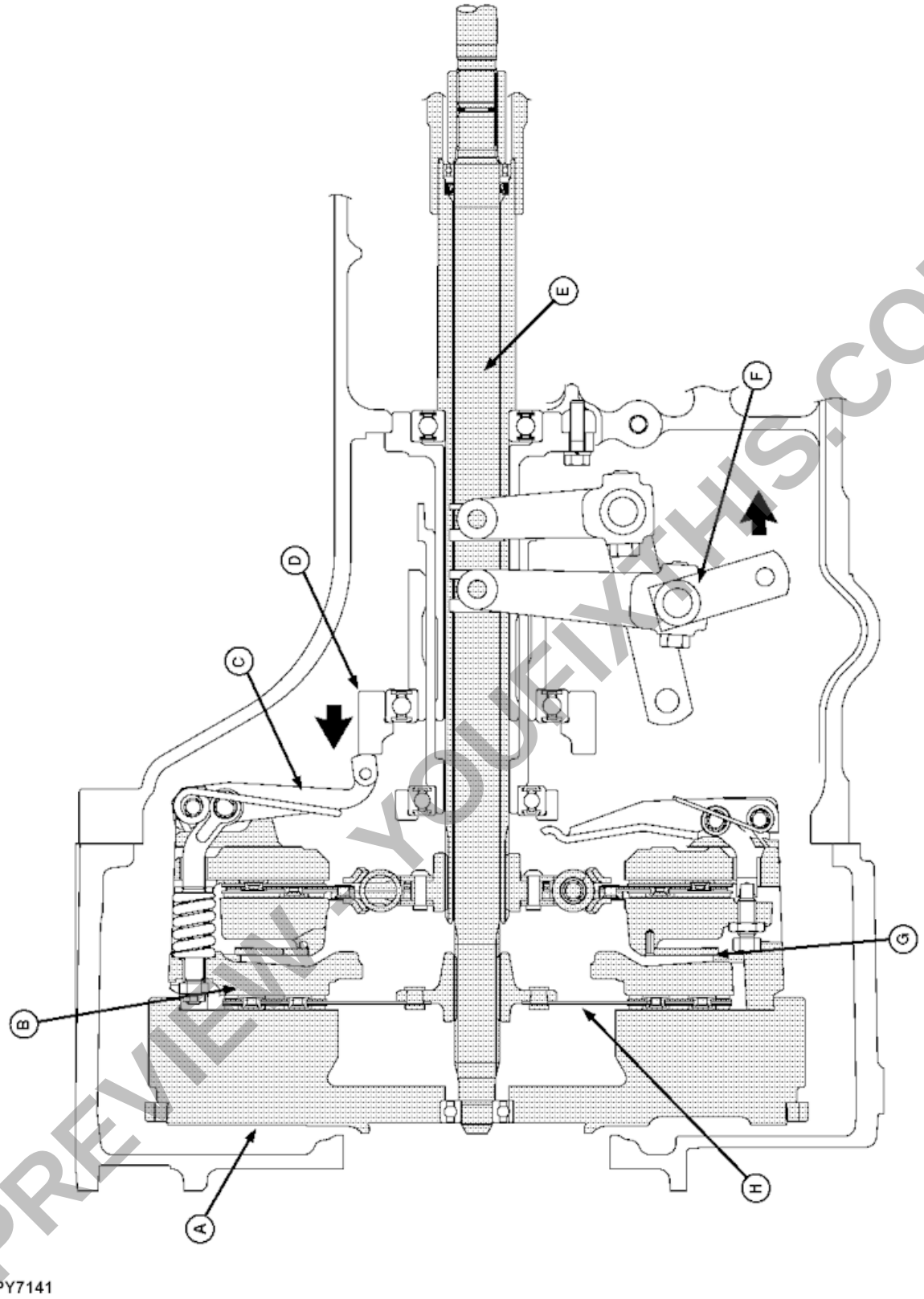


PY2214

CONDITIONS:

- Remove connector from air restriction switch (A).

Download full manual at youfixthis.com
PREVIEW - YOUFIXTHIS.COM



Slide LV4602

LEGEND:

A	Flywheel
B	PTO Clutch Pressure Plate
C	PTO Clutch Release Finger
D	PTO Clutch Release Bearing

Download full manual at youfixthis.com
PREVIEW - YOUFIXTHIS.COM

Excessive Differential Noise

CONDITIONS:

- Adjustments and repair in Section 50, Group 25.

Test Location	Normal	If Not Normal
1. Differential lock assembly.	Lock disengages fully when pedal is replaced.	Repair lock assembly.
2. Differential gears.	Cone point adjustment and backlash adjustment are correct.	Adjust.
	No wear or damage to gears or pinion teeth and splines.	Replace worn or damaged components.
3. Differential bearings.	All bearings spin freely. No evidence of wear or damage.	Replace worn or damaged components.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 10 - Theory of Operation

Theory of Operation Information

This group divides the hydraulic system into individual components by function. The story contains information on function, component or system identification and theory of operation.

The following systems or components are covered in this group:

- Hydraulic System
- Hydraulic Filters
- Hydraulic Pump
- Control Valve
- Surge (Safety) Relief Valve
- Main Relief Valve
- Rate-of-Drop Valve
- Draft Sensing Operation

The slide number reference under the art is used for service training purposes to match a specific piece of technical manual art to the same slide.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 25 of 1261 pages

The full manual includes:

- All 1261 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

John Deere 5038D, 5042D, 5045D, 5047D, 5050D Repair

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual