4555, 4755, 4955 and 4560, 4760, 4960 Tractors Repair

For complete service information also see:

4555-4955 and 4560-4960 Tractors
Operation and Tests TM1461
6076 Engines. CTM6
Radial Piston Pumps CTM7
Engine Accessories CTM11
MFWD Axles 1100 Series CTM17

John Deere Waterloo Works
TM1460 (15MAY01)
LITHO IN U.S.A.
ENGLISH

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Contents

SECTION 05—SAFETY
Group 05—Safety Information

SECTION 10—GENERAL INFORMATION
Group 05—Machine Specifications
Group 10—Predelivery Service
Group 15—Tune-up
Group 20—Lubrication

SECTION 15—SEPARATION
Group 05—Front Axle
Group 10—Front End
Group 15—Front End and Engine
Group 20—Engine
Group 25—SOUND-GARD Body
Group 30—Power Shift Clutch Housing
Group 31—QUAD-RANGE Clutch Housing
Group 35—Transmission
Group 40—Final Drive

SECTION 20—ENGINE
Group 05—Service
Group 10—Cooling System

SECTION 30—FUEL AND AIR
Group 05—Air Intake System
Group 10—Diesel Fuel System

SECTION 40—ELECTRICAL REPAIR
Group 05—Connector Repair
Group 10—Harness Replacement
Group 15—Alternator
Group 20—Starting Circuit
Group 25—Lighting Circuit Repair
Group 30—INTELLITRAK Monitoring System
Group 35—Accessory Components
Group 40—Hitch Electronic Control Components
Group 45—Electronic Governor Control Components
Group 50—Auxiliary Lighting and Electrical Components (European)

SECTION 50—POWER TRAIN--QUAD-RANGE TRANSMISSION
Group 05—Clutch Oil Pressure Regulating Valve Housing
Group 10—Clutch Operating Piston Housing
Group 15—Perma-Clutch
Group 20—Quad-Range Planetary
Group 25—Quad-Range Transmission and Charge Pump
Group 30—Shift Lever Assembly
Group 35—PTO Gear Train
Group 40—Adjust PTO Clutch Rod

SECTION 55—POWER TRAIN--POWER SHIFT TRANSMISSION
Group 05—Remove and Install Traction Clutch Valve Housing
Group 10—Traction Clutch Valve Housing
Group 15—Remove and Install Transmission Control Valve Housing
Group 20—Transmission Control Valves and Accumulators
Group 25—Remove and Install Traction Clutch
Group 30—Traction Clutch and Drive Shafts
Group 35—Input Planetary
Group 40—Reduction Gear Train
Group 45—Output Planetary
Group 50—Speed Selector Assembly
Group 55—Charge Pump Assembly
Group 60—PTO Gear Train WITH MFWD
Group 65—PTO Gear Train WITHOUT MFWD
Group 70—PTO Clutch Rod
Group 75—MFWD Gear Train
Group 80—MFWD Clutch

SECTION 56—DIFFERENTIAL AND FINAL DRIVE
Group 05—Differential
Group 10—Differential Lock Valve
Group 15—Final Drive

Continued on next page

All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

TM1460-19-15MAY01

COPYRIGHT© 1991
DEERE & COMPANY
Moline, Illinois
All rights reserved
A John Deere ILLUSTRUCTION® Manual
Previous Editions
Copyright 1990, 1989 Deere & Company

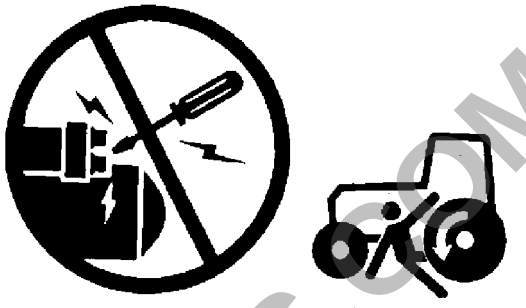
PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

PREVENT MACHINE RUNAWAY

Avoid possible injury or death from machinery runaway.

Do not start engine by shorting across starter terminals. Machine will start in gear if normal circuitry is bypassed.

NEVER start engine while standing on ground. Start engine only from operator's seat, with transmission in neutral or park.



TS177 -UN-11JAN89

DX,BYPAS1 -19-04JUN90

HANDLE FLUIDS SAFELY—AVOID FIRES

When you work around fuel, do not smoke or work near heaters or other fire hazards.

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

Make sure machine is clean of trash, grease, and debris.

Do not store oily rags; they can ignite and burn spontaneously.



TS227 -UN-23AUG88

DX,FLAME -19-04JUN90

PREVENT BATTERY EXPLOSIONS

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a volt-meter or hydrometer.

Do not charge a frozen battery; it may explode. Warm battery to 16˚C (60˚F).



TS204 -UN-23AUG88

DX,SPARKS -19-04JUN90

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

GENERAL SPECIFICATIONS

POWER:

PTO (Factory observed at 2200 rpm)	
4555 and 4560	155 hp (115.6 kW)
4755 and 4760	175 hp (130.5 kW)
4955 and 4960	200 hp (149.2 kW)

ENGINE:

Type	diesel
Aspiration:	
4555 and 4560	turbocharged
4755, 4760, 4955, and 4960	turbocharged and liquid-to-air after cooled
Cylinders	in-line 6
Slow idle speed	850 rpm
Governed speed range	800—2400 rpm
Operating speed range	1500—2200 rpm
Bore and stroke	4.56 x 4.75 in. (115.8 x 120.7 mm)
Compression ratio	16.0:1
Displacement	466 cu. in. (7.6 L)
Firing order	1-5-3-6-2-4
Valve clearance	
Intake	0.38 mm (0.015 in.)
Exhaust	0.51 mm (0.020 in.)
Lubrication system	full pressure-flow filtration

HYDRAULICS:

Type	closed-center, pressure compensating
Pump	8-piston, variable displacement
Pump displacement	4 cu. in. (65 cm^3)
Standby pressure	2530 psi (17 500 kPa) (175 bar)
Steering system	Hydrostatic power
Hitch lift capacity	
4555, 4560, 4755 and 4760	8870 lb (4027 kg)
4555, 4560, 4755 and 4760 *	9710 lb (4408 kg)
4955 and 4960	9710 lb (4408 kg)
4955 and 4960 *	10560 lb (4794 kg)

CAPACITIES:

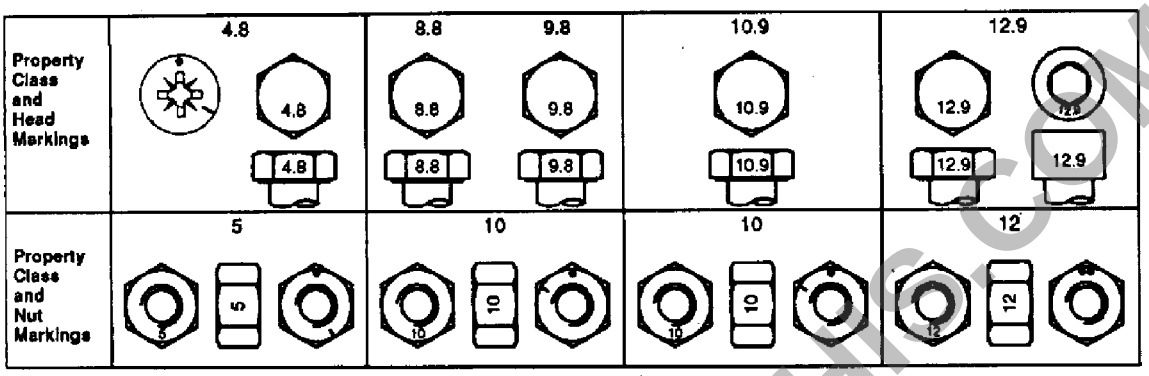
Fuel tank	102 gal (386 L)
Cooling system	32 qt. (30.3 L)
Crankcase with filter	22 qt. (21.0 L)
Transmission-hydraulic system	
Power Shift	18.5 gal (70.5 L)
Power Shift with MFWD	20 gal (75 L)
QUAD-RANGE	26.9 gal. (102 L)
Mechanical-Front-Wheel-Drive	
Wheel Hubs	4.75 qt. (4.5 L)
Axle Housing	9.5 qt. (9 L)

** Optional lift-assist cylinder*

RX14601010,1 -19-05APR91

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

METRIC BOLT AND CAP SCREW TORQUE VALUES



TS1163 -19-04MAR91

10 05 3

Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]	
	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft
M6	4.8	3.5	6	4.5	9	6.5	11	8.5	13	9.5	17	12	15	11.5	19	14.5
M8	12	8.5	15	11	22	16	28	20	32	24	40	30	37	28	47	35
M10	23	17	29	21	43	32	55	40	63	47	80	60	75	55	95	70
M12	40	29	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	47	80	60	120	88	150	110	175	130	225	165	205	150	260	190
M16	100	73	125	92	190	140	240	175	275	200	350	225	320	240	400	300
M18	135	100	175	125	260	195	330	250	375	275	475	350	440	325	560	410
M20	190	140	240	180	375	275	475	350	530	400	675	500	625	460	800	580
M22	260	190	330	250	510	375	650	475	725	540	925	675	850	625	1075	800
M24	330	250	425	310	650	475	825	600	925	675	1150	850	1075	800	1350	1000
M27	490	360	625	450	950	700	1200	875	1350	1000	1700	1250	1600	1150	2000	1500
M30	675	490	850	625	1300	950	1650	1200	1850	1350	2300	1700	2150	1600	2700	2000
M33	900	675	1150	850	1750	1300	220	1650	2500	1850	3150	2350	2900	2150	3700	2750
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2750	4750	3500

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class.

Fasteners should be replaced with the same or higher property class. If higher property class fasteners are used, these should only be tightened to the strength of the original.

[a] "Lubricated means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry means plain or zinc plated without any lubrication.

Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

DX,TORQ2 -19-05JUN91

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

LUBRICATION SPECIFICATIONS

CAPACITIES:

Engine Crankcase	21.0 L (22 qt)
Transmission-Hydraulic System:	
Power Shift	70.5 L (18.5 gal)
Power Shift with MFWD	75 L (20.0 gal)
QUAD-RANGE® .. 102 L (26.9 gal)	

10 20 6

SERVICE INTERVALS:

Engine:	
Check Oil Level	10 Hours
Check Coolant Level	10 Hours
Change Oil and Filter*	250 Hours
Clean Water Pump Drain Hole	250 Hours
Adjust Engine Valve Clearance*	750 Hours
Check Air Intake System	750 Hours
Check Fuel Injection Nozzles	1500 Hours
Replace Air Filter Elements	Annually
Change Coolant	Two Years/1500 hours
Replace Thermostats	Two Years/1500 hours
Replace Fuel Filter	As required
Inspect or Replace Crankshaft Damper	As required
Check Side Frame Bolts	First 100 Hours or Before Installation of Loader
Transmission-Hydraulic System:	
Check Oil Level	10 Hours
Check Oil Level of MFWD Axle Housing and Wheel Hub	250 Hours
Wash Breather Filter	250 Hours
Clean Filter Screens	1500 Hours
Change Oil	1500 Hours
Change Transmission and Hydraulic Filters*	Annually or as required
Check Accumulators: Brake, Shift, Seat	As required
Lubrication of Grease Fittings:	
Front Draft-Link Pins	10 Hours
Rear Axle Bearings (wet conditions)	10 Hours
Rear Axle Bearings (normal conditions)	750 Hours
Front Wheel Bearings (wet conditions)	10 Hours
Front Wheel Bearings (normal conditions)	1500 Hours
Front Axle Pivots, Steering Spindles, and Tie Rods (wet conditions)	10 Hours
Front Axle Pivots, Steering Spindles, and Tie Rods (normal conditions)	250 Hours
MFWD Kingpins, Steering Knuckles and U-Joints (wet conditions)	10 Hours
MFWD Kingpins, Steering Knuckles and U-Joints (normal conditions)	250 Hours
Wide Swing Drawbar	10 Hours
3-Point Hitch	250 Hours
MFWD Hub and Axle Housings	1500 Hours
Secondary Brake Linkage Pivot	250 Hours

** Change or check at 100 Hours during "break-in" period*

RX14601025,3 -19-05APR91

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

REMOVE FRONT AXLE

1. Disconnect battery ground cable.

For VERSION A* tractors, perform Step 2a and 3a.

2a. Disconnect and remove batteries.

3a. Remove right-hand battery box and left-hand battery box step assembly (A).

For VERSION B* tractors, perform Steps 2b, 3b, and 3c.

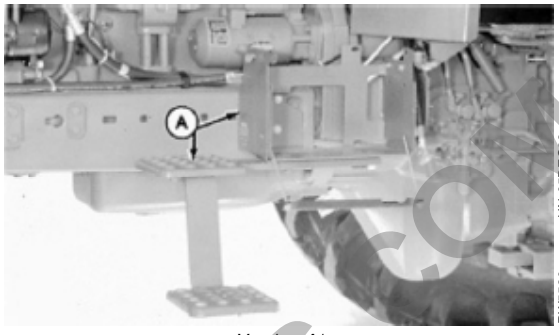
2b. Remove step (B) and panel (C).

3b. Disconnect and remove batteries.

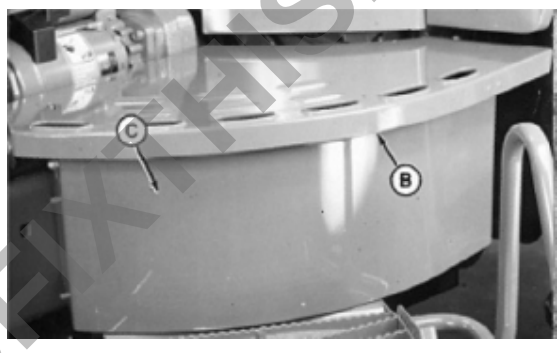
CAUTION: Battery box and step assembly is heavy. Properly support assembly when removing it. Failure to do so may result in injury.

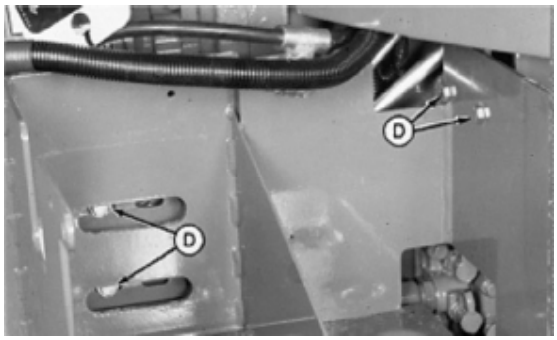
3c. Remove four cap screws (D) and remove battery box and step assembly.

4. Remove front weights, if equipped.



*Version A**





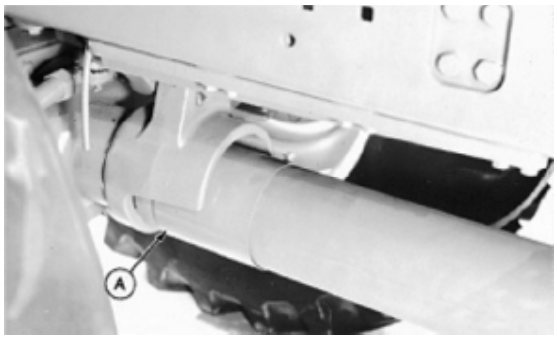
*Version B**

** See NOTICE TO THE DEALER in the front of this technical manual*

RX14601505,2A -19-07JUN91

For tractors WITH MFWD, perform Step 4a.

4a. Disconnect shield (A) and MFWD drive shaft from axle.



RX14601505,3A -19-12JUN91

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

THIS PROCEDURE SHOWS VERSION A* TRACTORS UNLESS OTHERWISE NOTED

** See NOTICE TO THE DEALER in the front of this technical manual*

RX14601505,1AA -19-25JUN91

BULB SPECIFICATION CHART

Lighting Circuits	John Deere Part No.	Bulb Trade No.
Front Lamps	RE37450	H4360
Lower Side Lamps	RE37450	H4360
Front Head Lamps	RE35168	H7607
Fender Flood Lamps	RE35168	H7607
Rear Roof Flood Lamps	RE35168	H7607
Tail Lamp	AR48041	1157
Warning Lamp	AD2062R	1156
Dome Lamp	AR86969	105
PST Console Lamp	AR48015	168
Indicator Lamps	AL33162	74
IntelliTrak Tachometer Lamp	R97738	FWG-203
IntelliTrak Performance Lamp	R97738	FWG-203
Side Console Lamp	AR48015	168

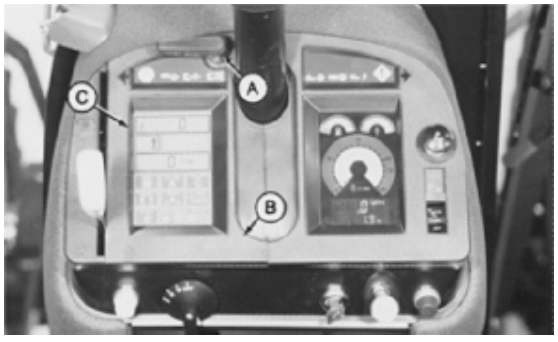
40
25
1

RX14584025,1 -19-24SEP90

REMOVE AND INSTALL TURN SIGNAL

1. Remove turn signal control lever (A), instrument panel cover (B), and performance module (C).

2. Disconnect three way Weather Pack connector leads, 149 (White), 110 (Black) and 151 (Brown) by lifting tab and gently pulling out.



RW16246 -UN-13MAR89

RX14584025,2 -19-16MAY90

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PERFORM PRELIMINARY ENGINE TEST

Before tuning up a tractor, determine if a tune-up will restore operating efficiency. Performing the following preliminary test will help determine if engine should be tuned up.

- Loosen crankcase drain plug and check for water seepage after engine has been stopped for several hours. A few drops could be due to condensation, but any more would indicate the need for major engine repair.
- Inspect coolant for oil film with engine stopped. Inspect coolant for air bubbles with engine running. Either condition would indicate the need for engine repair.
- Perform dynamometer test. Record horsepower. (See Dynamometer Test—TM1461, Section 220, Group 05.)
- Perform compression test.(See CTM-6, 6076 Engines.)

RX14601020,5 -19-04SEP91

TUNE-UP AND ADJUSTMENTS

Inspect the following for tractor tune-up:

Engine

- Perform engine tune-up (See CTM6—*Tune-up*)

Air Intake System

- Service air cleaners (Sec 30—Grp 05)
- Tighten air intake connections

Cooling System

- Clean grille screens, radiator, and oil cooler
- Flush cooling system (Sec 20—Grp 10)
- Test radiator and cap (Sec 20—Grp 10)
- Inspect and adjust belts (Sec 20—Grp 10)
- Inspect hoses

Fuel System

- Check fuel tank for water
- Adjust slow and fast idle (Sec 30—Grp 10)

Electrical System

- Service batteries (Sec 40—Grp 01)
- Inspect battery cables
- Inspect and adjust alternator belt (Sec 40—Grp 15)

Hydraulic System

- Clean hydraulic oil cooler (Sec 70—Grp 20)
- Change oil and filter (Sec 10—Grp 25)

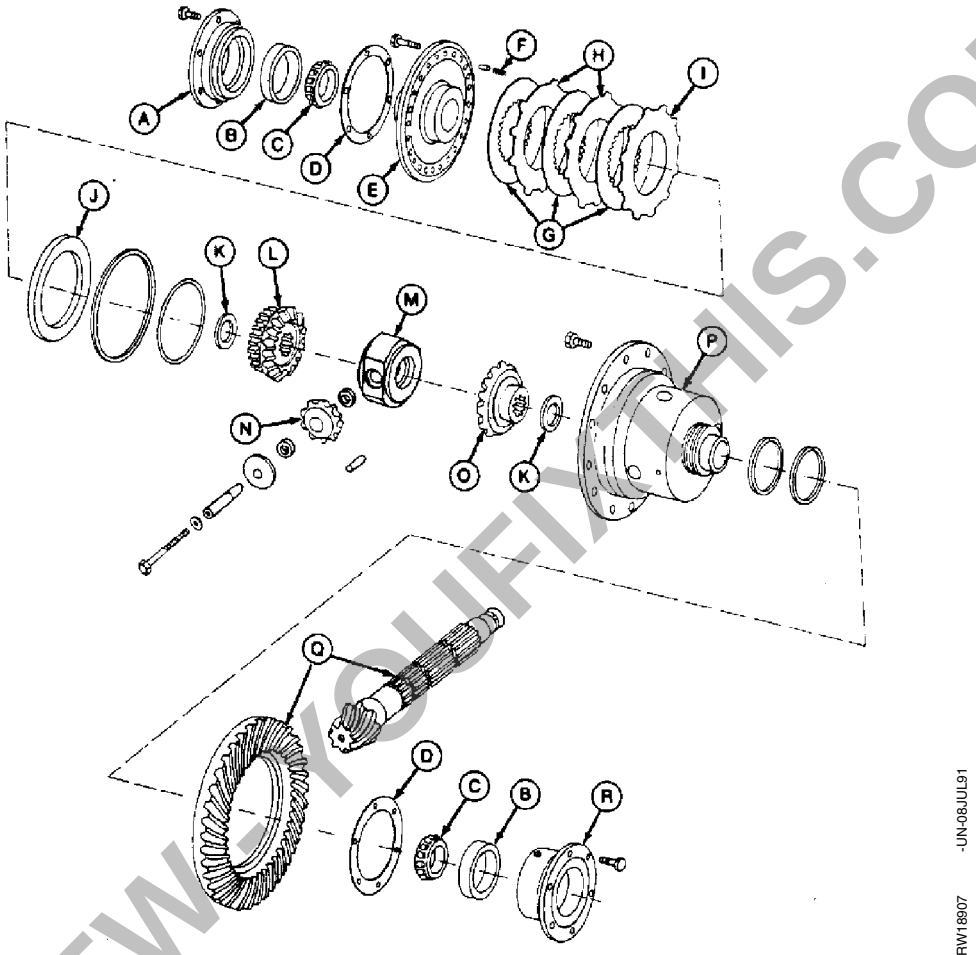
Lubrication

- See Lubrication (Sec 10—Grp 25)

RX14601015,1A -19-04SEP91

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

DIFFERENTIAL—EXPLODED VIEWS



A—Quill
B—Bearing Cup (2 used)
C—Bearing Cone (2 used)
D—Shims
E—Cover
F—Spring (3 used)
G—Clutch Disks (3 used)
H—Clutch Plates (2 used)
I—Clutch Plate
J—Piston
K—Thrust Washer (2 used)
L—Bevel Gear
M—Hub
N—Pinion (3 used)
O—Bevel Gear
P—Differential Housing
Q—Gear Set
R—Quill

QUAD-RANGE Transmission

56
05
6

RX14605605,5A -19-08JUL91

PREVIEW-YOUFIXTHIS.COM

Download full manual at youfixthis.com

TECHNICAL MANUAL CHANGES

- SECTION 05—

  Added Safety as a Separate Section

- SECTION 20—

  Access to Injection Nozzles and Valve Cover on Version B Tractors

- SECTION 30—

  Revised Air Intake Procedure

- SECTION 40—

  Added Version B Harness Routings

- SECTION 50—

  Revised Transmission Repair Procedures

- SECTION 55—

  Revised Transmission Repair Procedures

- SECTION 70—

  Pump Installation Timing

- SECTION 80—

  Revised Rear Wheel Adjustment Procedure

- SECTION 90—

  Added SOUND-GARD Door Adjustment

- SECTION 99—

  Revised Dealer Fabricated Tools

Major revisions to this TM are listed above. Some Sections and Groups will have specification, procedure, or formatting changes not listed on this notification.

RX,TM1460,DLR1 -19-04SEP91

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SPECIAL OR ESSENTIAL TOOLS

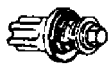
NOTE: Order tools according to information given in the U.S. SERVICE-GARD™ Catalog or in the European Microfiche Tool Catalog (MTC).

DX,TOOLS -19-05JUN91

RG4950 -UN-23AUG88

Flywheel Turning Tool JDE81-1

Turn engine flywheel



JDE81,1A -19-21MAY91

RW18130 -UN-09OCT90

Socket Extension JDG16A

Remove and install clutch housing



JDG16A -19-18SEP90

RW18148 -UN-20APR90

Filter Relief Valve Removal Tool JDG268

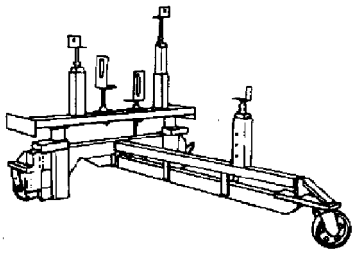
Remove and install clutch oil manifold tubes



JDG268,A -19-19SEP90

Medium Duty Front Tractor Splitting Stand . . JT05724*

Support front end during splitting



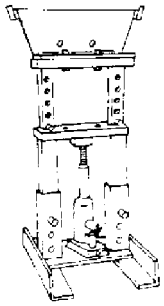
RW18156 -UN-20APR90

** Sub for JT27702*

JT05724 -19-12JUN91

Universal Support Stand JT05725*

Support tractor during splitting



RW15663 -UN-30MAR89

** Sub for JT27705*

JT05725 -19-12JUN91

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

SPECIAL OR ESSENTIAL TOOLS

NOTE: Order tools according to information given in the U.S. SERVICE-GARD™ Catalog or in the European Microfiche Tool Catalog (MTC).

DX,TOOLS -19-05JUN91

RW18152 -UN-09APR90

Lifting Bracket JDG15

Remove and install SOUND-GARD body



JDG15 -19-12OCT90

Wheel and Axle Lift JT05726*

Remove and install wheels

** Sub for JT27707*

JT05726 -19-09JUL91

OTHER MATERIAL

Number	Name	Use
PT106	Paint and Decal Remover	Remove gasket deposits
TY6305	Clean and Cure Primer	Prepare surfaces for plastic gasket
T43514 (TY9373*)	Plastic Gasket	Seal joints

** Smaller Size*

RX14581530,2 -19-19SEP90

SPECIFICATIONS

Item	Measurement	Specification
Axle Housing-to-Transmission Case	Torque	230 N·m (170 lb-ft)
SOUND-GARD Body Mounting	Torque	204 N·m (150 lb-ft)

RX14581545,1 -19-25JUN91

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

2. Remove starter solenoid cover.

3. Disconnect red battery wires (A), red wire (B) and white wire (C).

4. Remove two cap screws using JDE80 Starter Wrench.

5. Remove nut and starter.

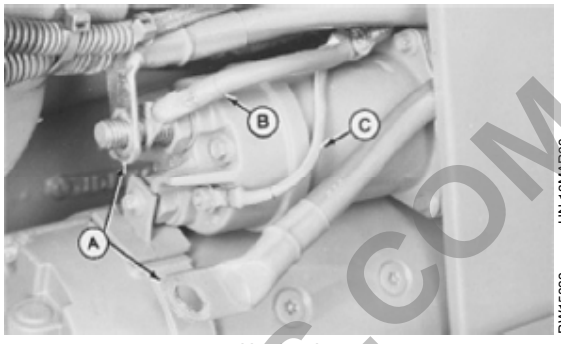
6. Replace starter gasket.

7. Install starter cap screws and nut. Tighten cap screws to 48 N·m (35 lb-ft).

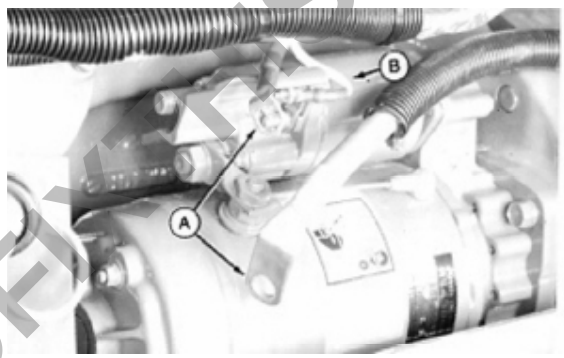
8. Reconnect starter wires.

9. Install starter solenoid cover.

10. Reconnect battery ground cable.



Version A



Version B

RX14604020,2A -19-30AUG91

REMOVE AND INSTALL STARTER CIRCUIT RELAY

1. Disconnect battery ground cable from engine oil filter housing base.

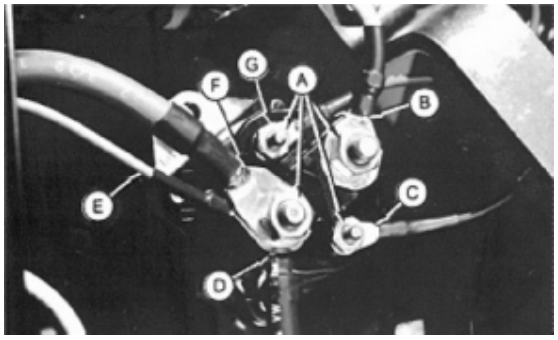
2. Disconnect wires from the four terminals (A) on starter circuit relay and mark them for installation purposes.

3. Remove two screws and remove relay from left control support.

4. Install starter circuit relay to left control support.

5. Connect wires as marked.

6. Connect battery ground cable.



A—Nut
B—White Wire (309)
C—Black Wire (010)
D—Red Wire (062)
E—Orange Wire (363)
F—Red Wire (302)
G—Black Wire (301)

RX14584020,6 -19-01OCT90

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

SPECIFICATIONS

Item	Measurement	Specification
Arm Shaft	Small OD	14.71—14.74 mm (0.5795—0.5805 in.)
	Large OD	19.03—19.06 mm (0.7495—0.7505 in.)
Powershaft Lever Lock Piston	OD	18.9—19.0 mm (0.747—0.748 in.)
Powershaft Clutch Valve Springs		
Inner	Free Length Test Length	28 mm (1.1 in.)(approx.) 15 mm at 48—60 N (0.6 in. at 11—13 lb force)
Outer	Free Length Test Length	59 mm (2.3 in.)(approx.) 48 mm at 227—276 N (1.9 in. at 51—62 lb force)
Traction Clutch Valve Spring		
Inner (Red)	Free Length Test Length	29 mm (1.1 in.)(approx.) 15 mm at 64—78 N (0.6 in. at 14—18 lb force)
Outer (Red)	Free Length Test Length	53 mm (2.1 in.)(approx.) 52 mm at 24—61 N (2.0 in. at 6—14 lb force)
Neutral Start Valve Spring	Free Length Test Length	29 mm (1.2 in.)(approx.) 21 mm at 26—32 N (0.8 in. at 6—7 lb force)
Pressure Regulating Valve Spring	Free Length Test Length	138 mm (5.4 in.)(approx.) 114 mm at 243—297 N (4.5 in. at 55—67 lb force)
Switch Bleed-Off Check Ball Spring	Free Length Test Length	27 mm (1.1 in.)(approx.) 19 mm at 6—7 N (0.75 in. at 22—25 oz force)
Clutch Pressure Valve Housing-to-Transmission Case	Torque	48 N·m (35 lb-ft)
Regulating Valve Housing-to-Clutch Valve Housing	Torque	28 N·m (20 lb-ft)

RX14605005,1A -19-23AUG91

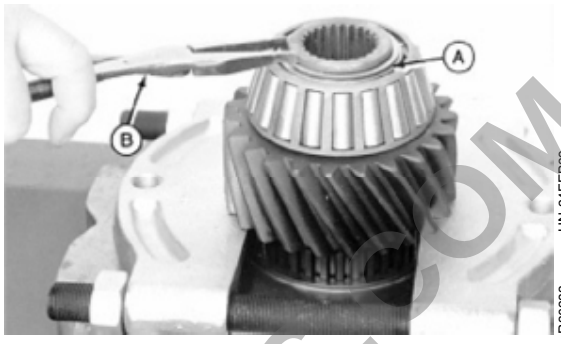
PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

DISASSEMBLE, INSPECT, AND ASSEMBLE TRANSMISSION DRIVE SHAFT

1. Remove front bearing cone retaining snap ring (A) using a JDT1 Snap Ring Expander (B).

IMPORTANT: Support the transmission drive shaft when pressing bearing and gear from shaft. Shaft will fall when gear is pressed from shaft.

2. Remove high-speed pinion and front bearing cone using a press, a 27517 (2-1/8 in.) disk and D01243AA knife-edge bearing puller.



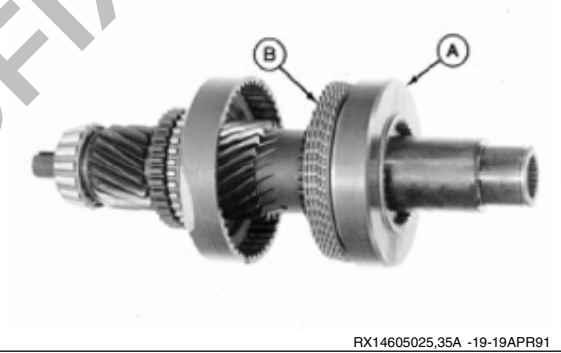
RX14605025,34A -19-19APR91

3. Remove reverse shift collar from shaft.

4. Remove high-speed drum (A).

NOTE: Six spring-loaded detent balls will be released from block when blocker assembly is removed from shaft. Make sure balls and springs do not get lost.

5. Remove synchronizer blocker assembly (B).



RX14605025,35A -19-19APR91

6. Pry retainers from each end of blocker with a small screwdriver to remove synchronizer disks and plates.



RX14605025,36A -19-19APR91

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

REMOVE, INSPECT, AND INSTALL PTO MODULATING VALVES

1. Remove plug.

2. Remove modulating valves (A), springs (B) and (C), pin (D) and washer (E) from housing.

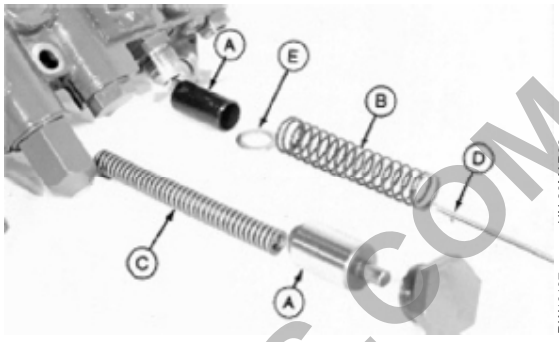
3. Inspect parts for excessive wear or damage. Replace as required.

NEW SPRING SPECIFICATION

Outer Spring (B)
Free Length . . . . . 86 mm (3.4 in.) (approximate)
Test Length . . . . . 37 mm at 34.6—42.7 N
(1.5 in. at 7.8—9.6 lb force)

Inner Spring (C)
Free Length . . . . . 119 mm (4.7 in.) (approximate)
Test Length . . . . . 97 mm at 92—112 N
(3.8 in. at 21—25 lb force)

4. Install valves and springs.



RW16197 -UN-20MAR89

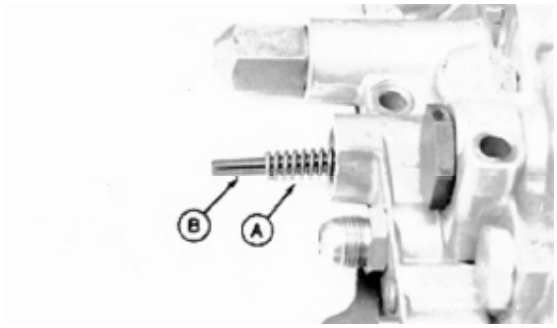
A—Valves
B—Spring
C—Spring
D—Pin
E—Washer

RX14605510,23 -19-20JUN91

REMOVE, INSPECT, AND INSTALL FILTER RELIEF VALVE

1. Remove plug.

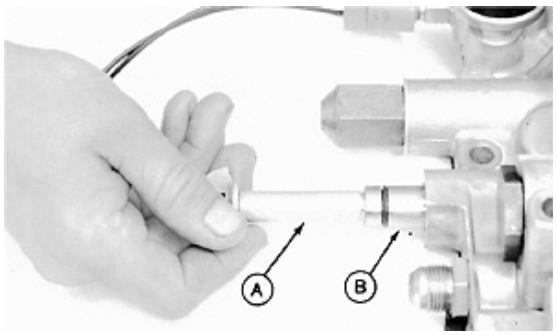
2. Remove spring (A) and spring pin (B) from housing.



R37424 -UN-23FEB89

RX14605510,24 -19-10JUN91

3. Remove valve (B) using a JDG268 Filter Relief Valve Removal Tool (A).



R37425 -UN-23FEB89

RX14605510,25 -19-15JUN91

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

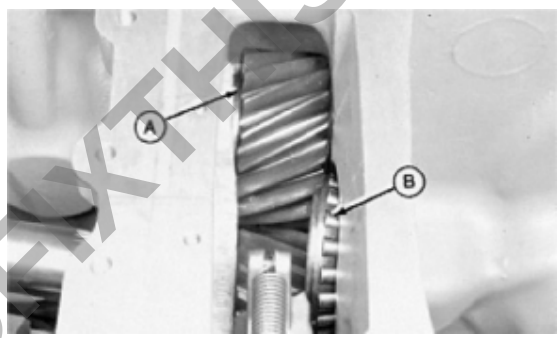
3. Install front bearing cup into case driving cup forward with a 4-1/16 in. disk and handle. Be sure cup is seated against snap ring in case bore.



RX14605540,18 -19-10JUN91

4. Install the reduction gear (A) into case and roll to left side of case.

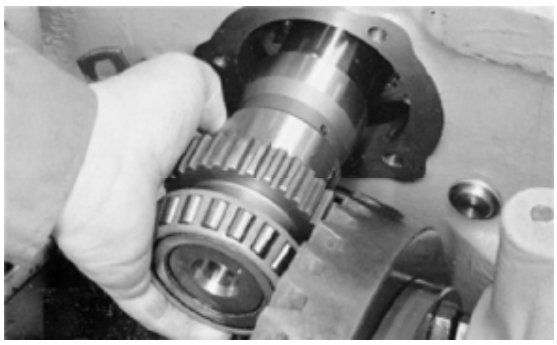
5. Install front bearing cone (B) and then roll the gear back to the center and engage the tow disconnect collar.



RX14605540,19 -19-10JUN91

NOTE: This is preliminary assembly procedure used to establish shaft end play.

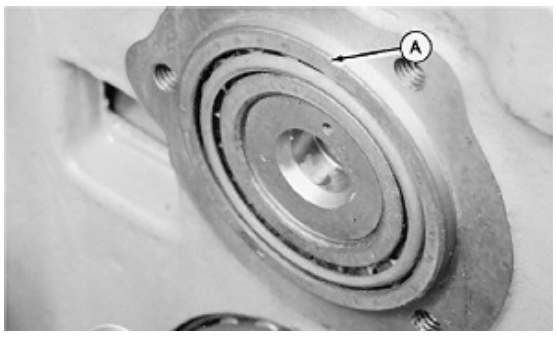
6. Install reduction gear shaft with reduction gear, shift collar, and bearing cones in the case.



RX14605540,20 -19-10JUN91

NOTE: Rear bearing retainer will locate final position of rear bearing cup.

7. Install rear bearing cup (A) part way into case.



RX14605540,21 -19-10JUN91

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

31. After all adjustments, make the following operational checks:

- The park lock shaft MUST be free from binding and able to slide in and out freely.
- The transmission control lever MUST be able to rotate into NEUTRAL—PARK when a maximum force of 9 N (2 lb) is applied to the knob of the lever.
- MUST be able to engage tractor in park.
- MUST be able to engage full detent in all gears without gears.
- MUST be able to engage FULL NEUTRAL DETENT when shifting from “1” Forward to “1” Reverse.
- MUST NOT be able to shift past “4” Reverse.

32. Adjust linkage as needed.

RX14605550,55 -19-20JUN91

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

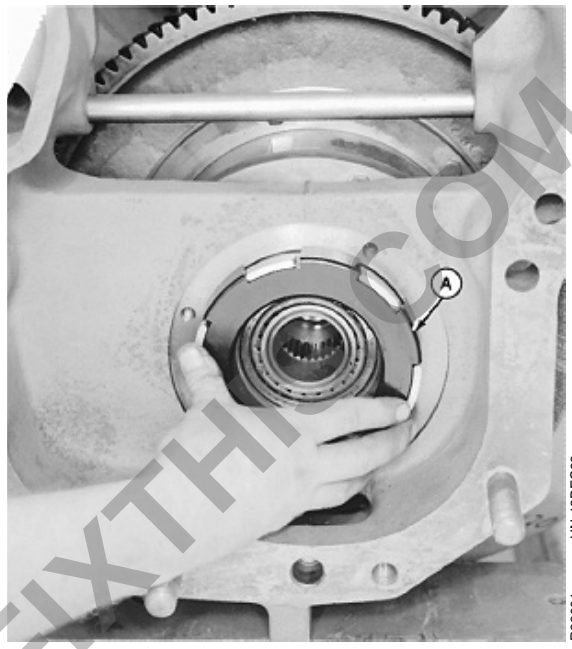
INSTALL PTO BRAKE ASSEMBLY

NOTE: 1. PTO brake assembly may be installed through front of clutch housing. Transmission case is removed for piston installation purposes only.

2. It is very difficult to reinstall the brake piston without separating the clutch housing from the transmission case. Do not remove the brake piston unless necessary.

1. If brake piston was removed, lightly coat brake piston packings and install in piston.

2. Install lightly oiled piston into clutch housing bore using JDG307 PTO Brake Piston Installer (A).



RX14605565,61 -19-15JUN91

3. Install brake assembly into clutch housing bore.



RX14605565,62 -19-15JUN91

NOTE: Use care during tightening to be sure brake assembly does not bind in clutch housing bore. The tightening of the brake assembly into place also locates the PTO clutch assembly rear bearing cup.

4. Install three brake assembly-to-clutch housing cap screws and evenly tighten to 48 N·m (35 lb-ft).



RX14605565,63 -19-15JUN91

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

ADJUST DIFFERENTIAL BACKLASH

IMPORTANT: Adjust backlash only after preload adjustment has been made.

1. Install dial indicator on case with extension resting against ring gear tooth.

2. Rotate the ring gear noting backlash while holding the pinion shaft stationary. Check backlash in at least two places 180˚ apart.

IMPORTANT: In order to maintain proper ring gear bearing preload, shims must not be removed or added. Shims may be moved from one side to the other to adjust backlash.

3. Adjust backlash to specification.

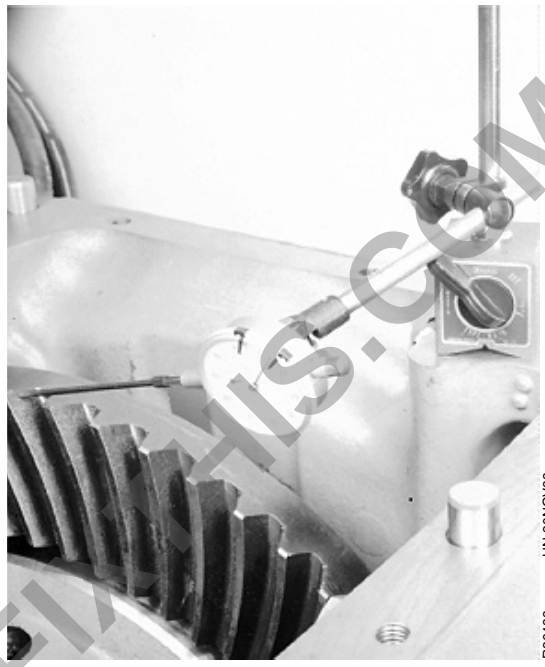
- If backlash is high, transfer shims from the right to the left quill.
- If backlash is low, transfer shims from the left to the right quill.

BACKLASH SPECIFICATION

Acceptable	0.19—0.40 mm (0.008—0.016 in.)

4. Tighten bearing quill cap screws to 116 N·m (85 lb-ft).

5. Remove dial indicator.

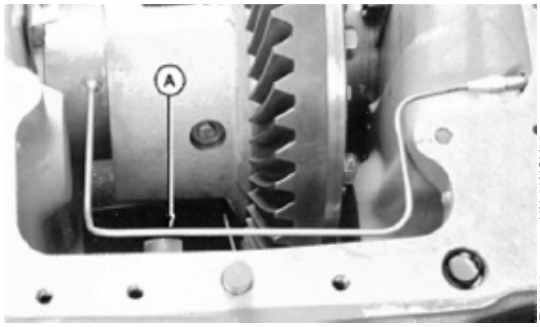


RX14585605,28 -19-08JUL91

FINAL ASSEMBLY OF DIFFERENTIAL

1. Install line-to-quill connector and differential lock oil line (A).

NOTE: Oil line must be installed before oil collector trough.



RX14605605,43 -19-23MAY90

56 05 15

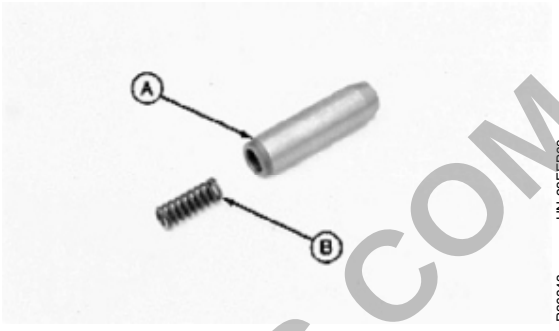
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

2. Inspect feedback piston pin (A) and spring (B) for wear or damage.

NEW SPRING SPECIFICATION

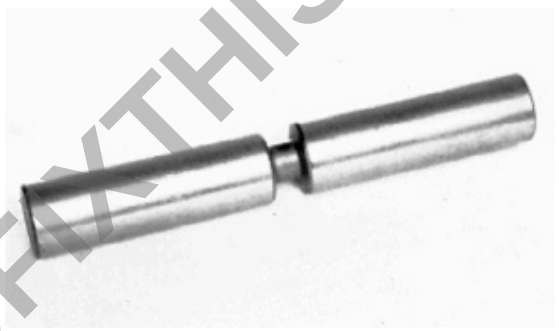
Free Length	29.5 mm (1.2 in.)(approximate)
Test Length	18.8 mm at 200—245 N (0.74 in. at 45—55 lb force)



RX14586025,13 -19-21AUG90

3. Inspect feedback piston, piston bushings, and O-ring grooves in bushing for scoring, damage or burrs.

4. Inspect steering motor piston bore and O-ring groove in piston bore for scoring, damage or burrs.



RX14586025,14 -19-21AUG90

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SPECIFICATIONS

Item	Measurement	Specification
Return Filter Relief Valve (QRT)		
Return Oil Filter Valve Spring	Free Length Test Length	90 mm (3.5 in.) (approx.) 63.7 mm at 84—103 N (2.5 in. at 18.9—23 lb force)
Filter Relief Valve Spring	Free Length Test Length	77 mm (3.0 in.) (approx.) 56 mm at 173—212 N (2.2 in. at 39—47.6 lb force)
Lube Relief Valve Spring	Free Length Test Length	37 mm (1.5 in.) (approx.) 23 mm at 56—68.5 N (0.9 in. at 12.6—15.4 lb force)
Temperature Sensor	Torque	16 N·m (12 lb-ft)
Return Filter Relief Valve (PST)		
Return Oil Filter Valve Spring	Free Length Test Length	70 mm (2.8 in.) (approx.) 46 mm at 120—147 N (1.8 in. at 27—33 lb force)
Return Oil Manifold		
Manifold Check Valve Springs	Free Length Test Length	47 mm (1.85 in.) (approx.) 28.5 mm at 17.6—21.6 N (1.1 in. at 4—4.9 lb force)
Steering Metering Check Valve Spring	Free Length Test Length	12.7 mm (0.5 in.) (approx.) 9.3 mm at 16.7—23.7 N (0.4 in. at 3.75—5.3 lb force)

RX14607015,1A -19-27AUG91

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

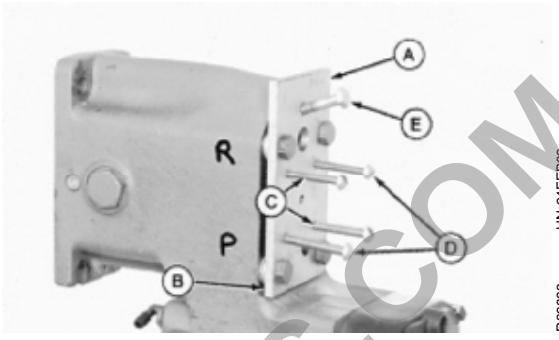
ADJUST SELECTIVE CONTROL VALVE

1. Remove valve cover, guides and springs with SCV removed from tractor.

2. Install JDH15C Valve Adjusting Cover (A). Grind material from bottom of JDH15C Cover (B) as required to prevent interference between the SCV housing and JDH15C Cover. Use washers as required between plate and housing to prevent bottoming of cap screws in housing.

NOTE: Pressure and return poppet valves are adjusted by setting a specified distance between the operating cams and the valve rollers, with the selective control valves in neutral. Specified distance insures the return valves open before the pressure valves, and that maximum oil flow through the selective control valves can be maintained.

3. Identify pressure and return valves with a marker or masking tape on outside of housing. Return valves are top left and bottom right. Pressure valves are top right and bottom left.



R39883 -UN-24FEB89

A—JDH15C Valve Adjusting Cover
B—Grind Area for Clearance
C—Seating Screws for Return Valves
D—Seating Screws for Pressure Valves
E—Detent Holding Screw

RX14337030,46 -19-12APR90

70
40
17

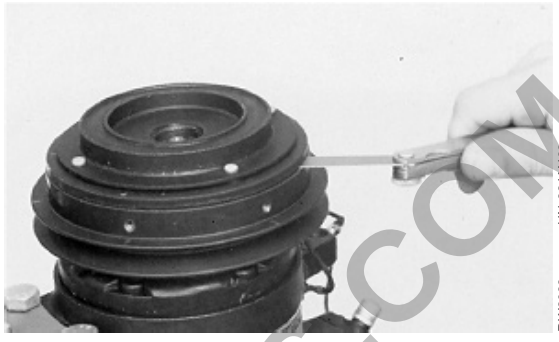
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

16. Check pulley-to-hub clearance using a feeler gauge. Check clearance in three equally spaced locations around the hub. Correct clearance is 0.53—0.91 mm (0.021—0.036 in.). Add or remove shims as necessary to obtain proper clearance.

17. Rotate the pulley one-half turn (180˚) and again check the clearance in three equally spaced locations.

18. Tighten clutch hub nut to 16 N·m (12 lb-ft) after correct pulley-to-hub clearance is obtained.



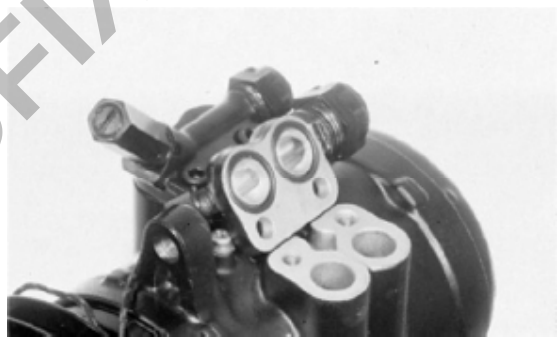
RW3682 -UN-23JAN89

RX14339005,44 -19-13APR90

INSPECT MANIFOLDS

1. Remove retaining screws using JDG226 Special Hex Drive.

2. Inspect porting surfaces and O-rings. Replace O-rings as necessary.



RW4984 -UN-23JAN89

RX14339005,45 -19-13APR90

REMOVE COMPRESSOR RELIEF VALVE

CAUTION: High pressure may still exist at the discharge fitting. If this pressure is released too rapidly, there may be considerable discharge of refrigerant and oil.

1. Discharge system. (See Discharge Air Conditioning System, this group.)

2. Slowly remove relief valve (A) from compressor. Be aware that high pressure may exist.

3. The relief valve is not repairable. Replace valve.

4. Charge system. (See Charge Air Conditioning System, Group 10.)



RW16248 -UN-21MAR89

RX14589005,10 -19-16OCT90

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 25 of 906 pages

The full manual includes:

- All 906 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

John Deere 4555, 4755, 4955, 4560, 4760, 4960 Repair Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual