PREVIEW - YOUFIXTHIS.C

Chassis
3388, 3588, 3788, 6388, 6588 & 6788 Tractors

Service Manual

GSS-1490-2

Reprinted

CASE

Download full manual at youfixthis.com

General Contents

Safe Work Rules IV
Standard Torque Data for Nuts and Bolts VI
Metric Converstion Tables VIII
Standard Torque Data for Hydraulic Tubes and Fittings X
Flangette Bearing Installation XII
Special Service Tools Required XIII
Service Information System (S.I.S.) XVIII

1 A/C AND TRACTOR SPLITS
2 FRONT AXLE ASSEMBLY
3 STEERING
4 ENGINE
5 FUEL SYSTEM AND HOODS
6 ELECTRICAL SYSTEM
7 COOLING SYSTEM
8 CLUTCH AND FLYWHEEL
9 TRANSMISSION AND TRANSFER CASE
10 REAR DIFFERENTIAL
11 REAR AXLE, HOUSING AND WHEELS
12 BRAKES
13 INDEPENDENT POWER TAKE OFF
14 HYDRAULIC SYSTEM
15 TESTING HYDRAULIC SYSTEM

PREVIEW ONLY YOUFIXTHIS.COM

Download full manual at youfixthis.com

STANDARD TORQUE DATA
FOR HYDRAULIC TUBES AND FITTINGS

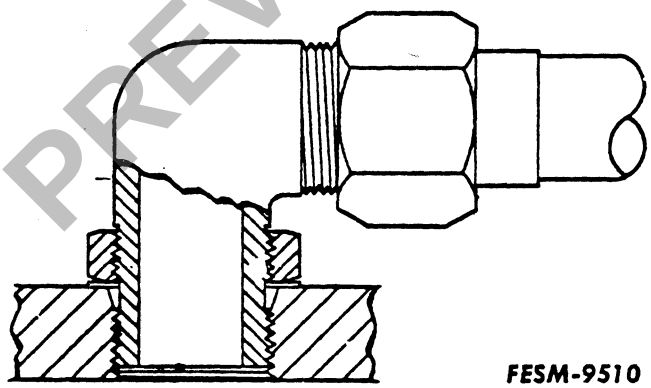
TUBE NUTS FOR 37° FLARED FITTINGS								O-RING BOSS PLUGS, ADJUSTABLE FITTING LOCK NUTS, SWIVEL JIC – 37° SEATS			
				TORQUE				TORQUE			
SIZE	TUBING O.D.		THREAD SIZE	FOOT POUNDS		NEWTON METERS		FOOT POUNDS		NEWTON METERS	
	Inches	mm		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
4	1/4	6.4	7/16-20	9	12	12	16	6	10	8	14
5	5/16	7.9	1/2-20	12	15	16	20	10	15	14	20
6	3/8	9.5	9/16-18	21	24	29	33	15	20	20	27
8	1/2	12.7	3/4-16	35	40	47	54	25	30	34	41
10	5/8	15.9	7/8-14	53	58	72	79	35	40	47	54
12	3/4	19.1	1-1/16-12	77	82	104	111	60	70	81	95
14	7/8	22.2	1-3/16-12	90	100	122	136	70	80	95	109
16	1	25.4	1-5/16-12	110	120	149	163	80	90	108	122
20	1-1/4	31.8	1-5/8-12	140	150	190	204	95	115	129	156
24	1-1/2	38.1	1-7/8-12	160	175	217	237	120	140	163	190
32	2	50.8	2-1/2-12	225	240	305	325	250	300	339	407

Above torque figures are recommended for plain, cadmium or zinc plated fittings, dry or wet installations.

Swivel nuts either swaged or brazed.

These torques are not recommended for tubes of 1/2" (12.7 mm) O.D. and larger with wall thickness of .035" (.889 mm) or less. The torque is specified for .035" (.889 mm) wall tubes on each application individually.

INSTRUCTIONS FOR THE ADJUSTABLE STANDARD THREAD TUBE FITTINGS



FESM-9510

The following general instructions will apply to the adjustable straight threaded hydraulic O-ring boss tube fitting of the 37° style shown.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Air Conditioning Specifications

*Capacity . . . . . 6,448 W (22,000 BTU/h)

Electrical system
- Volts - D.C. . . . . 12 nominal
- Amperes (circuit breaker). 30

Current draw at nominal 12 volts

Blower fan circuit - amps . . . . . .

	Fan only	Fan w/compressor clutch
High	16.7 - 21.7	21.0 - 26.0
Medium	10.0 - 13.2	14.0 - 17.0
Low	5.8 - 7.0	10.10 - 11.0

**Air blower capacity
- Air fresh filtered . . . . . 14.4 m^3/h (500 CFM)
- Cab air recirculated 80%

Refrigerant charge (R-12) - ounces . . . . . 2.154 to 2.267 kg (4-3/4 to 5 lbs.)

Minimum compressor rpm at 1350 min. engine rpm 1300

Rated compressor rpm at 2600 rated engine speed 2390

Expansion valve superheat setting - degrees . . . . . -13 to -15°C (7 to 9°F)

High pressure switch cut-out psi . . . . . 2578 ± 69 kPa (375 ± 10 psi)

Low pressure switch cut-out psi . . . . . 41 ± 14 kPa (6 ± 2 psi)

Thermostat range
- Cold cut-out temperatures . . . . . 0.6 to 1.7°C (33 to 35°F)
- Warm cut-in temperatures . . . . . 6 to 7°C (43 to 45°F)

*Based on 50°C (90°F) dry bulb, 42°C (75°F) wet bulb temperatures at the evaporator.

**Based on 12.70 mm (0.50 in.) H_20 static pressure.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Efficiency Test Procedure

To test the air conditioner for proper operation and cooling, follow this procedure before connecting any gauges into the system.

1. Start the engine and increase the engine speed to 1500 rpm.

2. Open both doors and close the two end louver air discharge ventilators in the air duct assembly inside the cab.

3. With the center air discharge ventilator open, install the thermometer into the opening of the ventilator.

4. Set the controls on maximum cooling and the fan on "high". Operate the air conditioner for a minimum time of 5 minutes.

5. Check the relative humidity and ambient (outside) temperature.

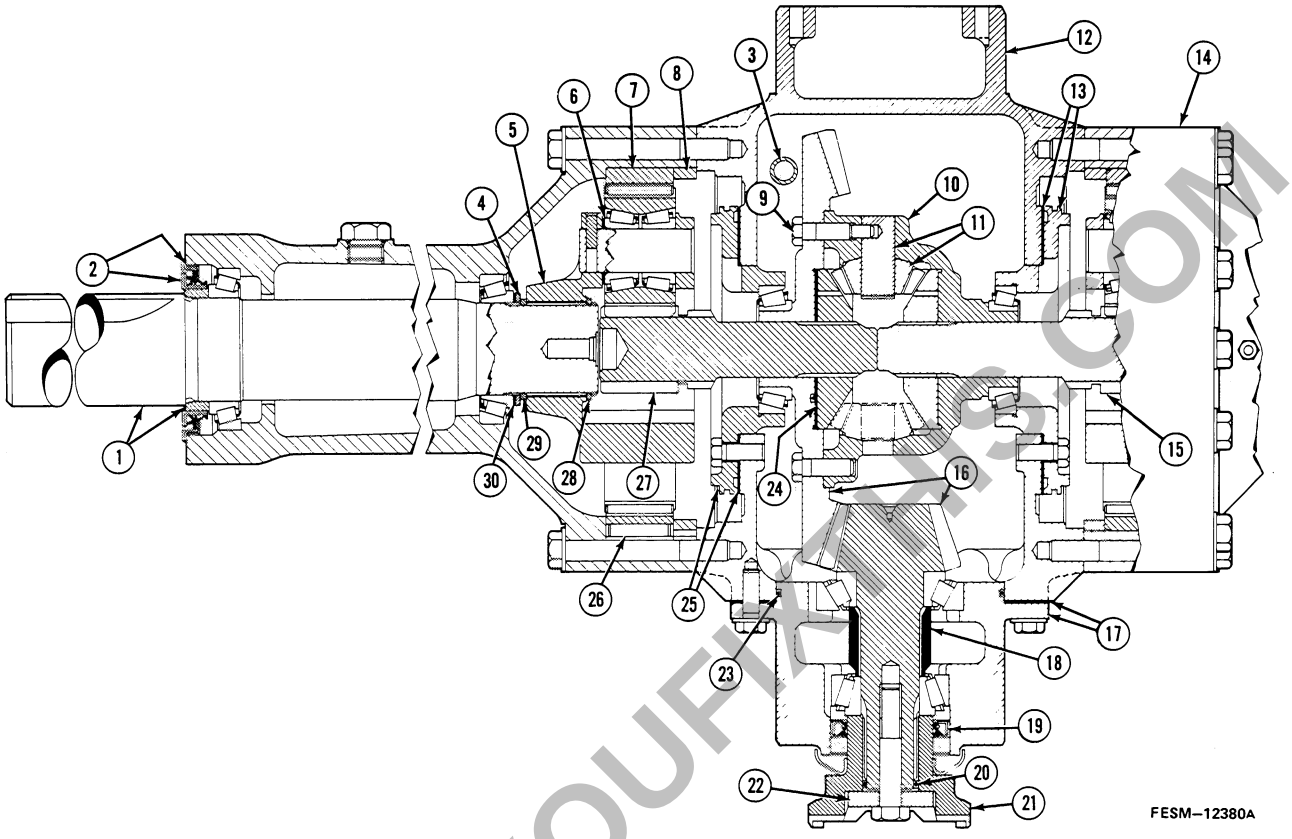
6. Using the chart, cross reference the relative humidity with the ambient (outside) temperature. This will give the proper louver outlet temperature.

EXAMPLE: If the relative humidity is 10% and the ambient (outside) temperature is 10°C (50°F) the louver outlet temperature should be 4.4°C (40°F).

7. If the louver outlet temperature is above 4.4°C (40°F) trouble shoot the system as outlined in the GSS-1455-1 Basic Air Conditioning and Heating for Operator's Cab.

PREVIEW - YOUFIXTHIS.COM

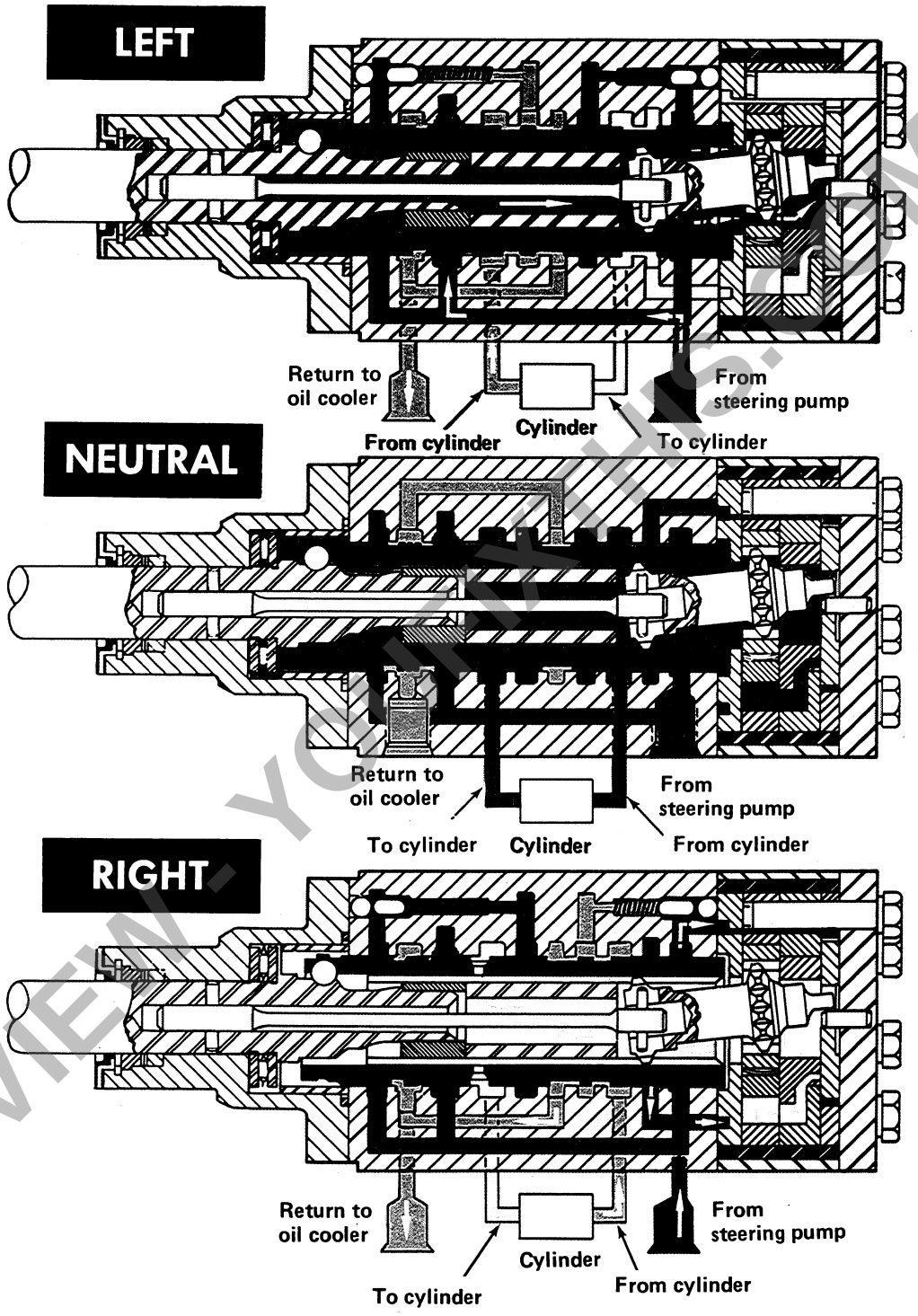
Download full manual at youfixthis.com



1. Front axle shaft and spacer
2. Oil seal and wear sleeve
3. Oil fill tube and dipstick
4. Thrust washer
5. Planetary carrier
6. Planetary shims
7. Planetary ring gear
8. Axle carrier spacer ring
9. Pinion shaft bolt
10. Differential carrier housing
11. Pinion pin and gear
12. Axle housing
13. RH bearing carrier and shims
14. RH axle carrier
15. RH planetary shaft (long)
16. Pinion and ring gear set
17. Pinion carrier and shims
18. Pinion bearing spacer
19. Pinion oil seal
20. Pinion shaft O-ring
21. Pinion yoke
22. Washer
23. Pinion carrier O-ring
24. Bevel gear thrust plate
25. LH bearing carrier and shims
26. Dowel pins (3 per side)
27. LH planetary shaft (short)
28. Outer snap ring
29. Inner snap ring
30. Axle shims

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

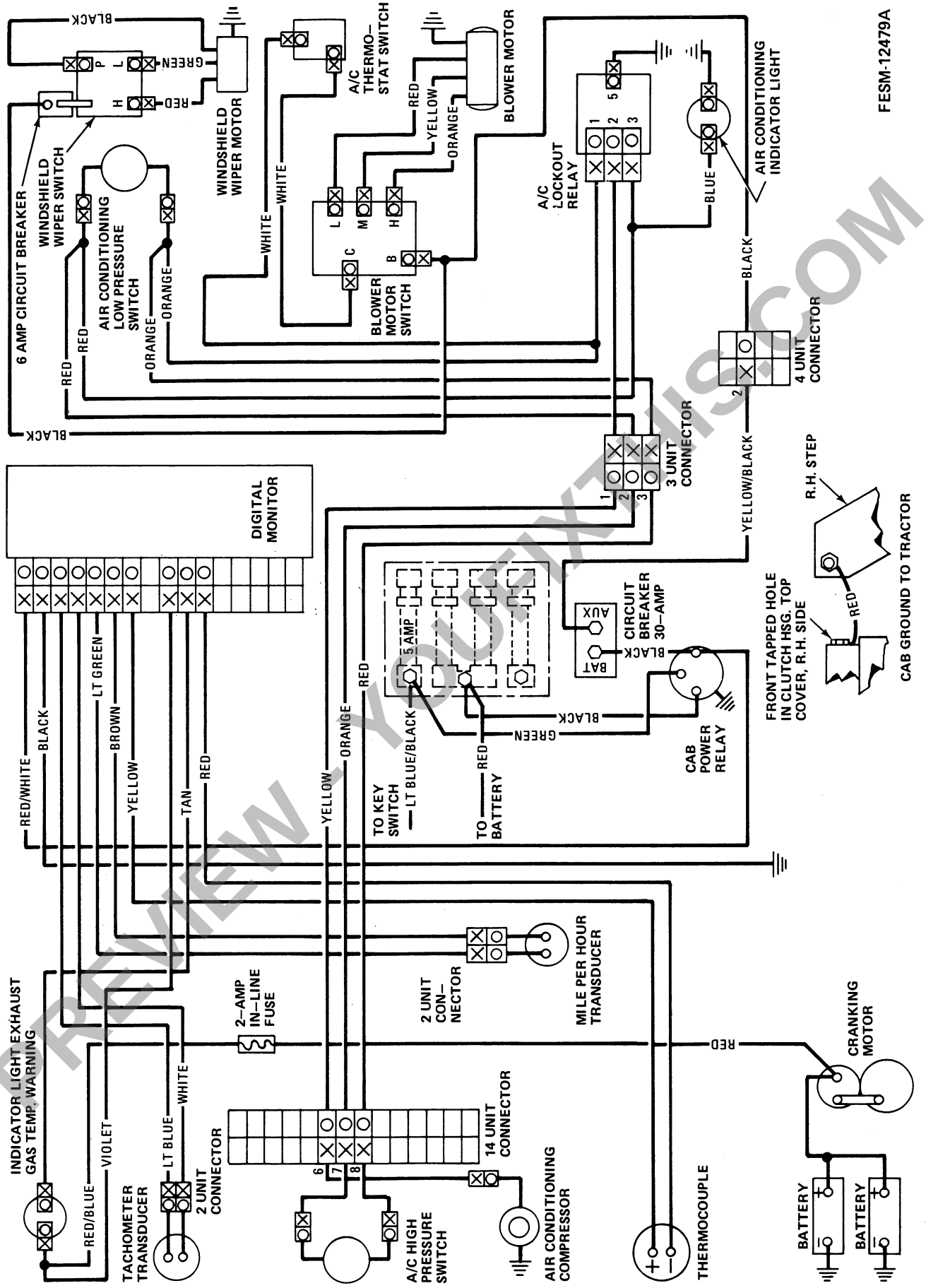


FESM–13834

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Digital Monitor and Air Conditioning (3388, 3588 and 3788 Tractors)



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Troubleshooting

The Data Center will self test when the key switch is turned on. If any of the first eight (8) problems in the chart occur during the self test, correct problem(s) as indicated under "Cause and Remedy".

NOTE: Problems that appear to be internal within the Data Center may be caused by high frequency interference. Turn off all radios, move from under power lines and/or away from other sources of interference.

Problem	Cause and Remedy
1. Does not self test.	Blown fuse(s) - replace. Bad connections from key switch to Data Center - repair or replace wires. Key switch failed - replace. Data Center failed - replace.
2. One or more lights do not light during self test.	Data Center failed - replace.
3. Low coolant light stays on.	Low coolant - repair leak and fill radiator. Probe failed - replace. Broken wire from the probe to pin 10 - repair or replace wire.
4. EGT alarm light stays on and a number appears in the display when the EGT function pad is depressed.	EGT set too low - adjust. EGT thermo coupling failed - replace.
5. EGT alarm light stays on and an "E" appears in the display when the EGT function pad is depressed.	EGT thermo coupling failed - replace. Broken EGT wire - repair or replace.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

T A B L E I

(MONITOR TO TRACTOR IDENTIFICATION TABLE)

ITEM	TRACTOR		PLUG-IN MODULE PART NUMBER	DATA CENTER (MONITOR) PART NUMBER		DECAL PART NUMBER	
	MODEL	RATIO GROUP NO.		ENGLISH	METRIC	ENGLISH	METRIC
COL =	1	2	3	4	5	6	7
1	886	#1	131 111 C1	131 121 C1	131 131 C1	131 141 C1	131 151 C1
2	986						
3	1086						
4	H186						
5	986	#2 HIGH CLEAR	131 112 C1				
6	1086						
7	H186						
8	1486	#3	131 113 C1			131 142 C1	131 152 C1
9	1586	#4	131 114 C1				
10	4386	#5	131 115 C1			131 143 C1	131 153 C1
11	4586	#6	131 116 C1				
12	4786	#7	131 117 C1				
13	3388	#1	131 111 C1			131 141 C1	131 151 C1
14	3588						
15	3788	#8	131 118 C1			131 142 C1	131 152 C1

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

Specifications

Pump Flow Rate at the Control Valve Coupler

Rated rpm @ *13,100 kPa / 1900 psi . . . . . 62.4 Litres (16.5 gpm)

Combination System Relief and Cutoff Pressures . . . . . 16,892 to 18,651 kPa / 2450 to 2700 psi

Unlatching Pressure . . . . . 13,789 to 16,892 kPa / 2000 to 2450 psi

Hitch Raise Time:

Slow Speed Control . . . . . 15 seconds or greater

Fast Speed Control . . . . . 3 seconds or less

Pump Flow Rate at the Pump Flange Assembly:

Rated rpm @ 15,160 kPa / 2200 psi . . . . . 62.4 Litres (16.5 gpm)

Cut-Off Pressure . . . . . 16,892 to 18,651 kPa / 2450 to 2700 psi

Pump Standby Pressure . . . . . 2070 to 3440 kPa / 300 to 500 psi

Pump Differential Pressure at Rated Speed . . . . . 1240 to 1516 kPa / 180 to 220 psi

Main System Cushion Relief Valve . . . . . 16,892 to 18,615 kPa / 2450 to 2700 psi

Motor and Auxiliary Flow Control Sector:

Fast (Down) Position . . . . . 62.4 Litres (16.5 gpm)

Slow (Up) Position . . . . . 11.3 Litres (Less than 3 gpm)

Auxiliary Unlatching Pressure . . . . . 13,789 to 16,892 kPa / 2000 to 2450 psi

Steering Relief Valve Pressure . . . . . 14,823 to 16,892 kPa / 2150 to 2450 psi

Oil Cooler By-Pass Valve Pressure . . . . . 517 to 827 kPa / 75 to 120 psi

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

HYDRAULIC SCHEMATIC WITH T.A. FOR 30 SERIES TRACTORS

Alternating Check Valve
Steering Circuit
Brake Drum
Brake Drum
Brake Circuit
Direct Drive Clutch
Diff-Lock Circuit
Drive Selector Spool
TA Position
Direct Drive Position
3388 & 3588 brake flow check valve. 3788 brake flow check and pressure reducing valve.
Seat Circuit
Pressure Regulating Valve
Clutch Booster
Dump Valve
Flow Divider
Oil Cooler
Heat Exchanger By-Pass Valve
Pressure Lube Regulating Valve
Filter
Pump
Orifice
Filter
By-Pass Valve
Steering Relief Valve
Oil Cooler By-Pass Valve
Sump Check Valve
Heat Exchanger in Transfer Case
Lube Circuit
TA Lockup
FESM—13927 B

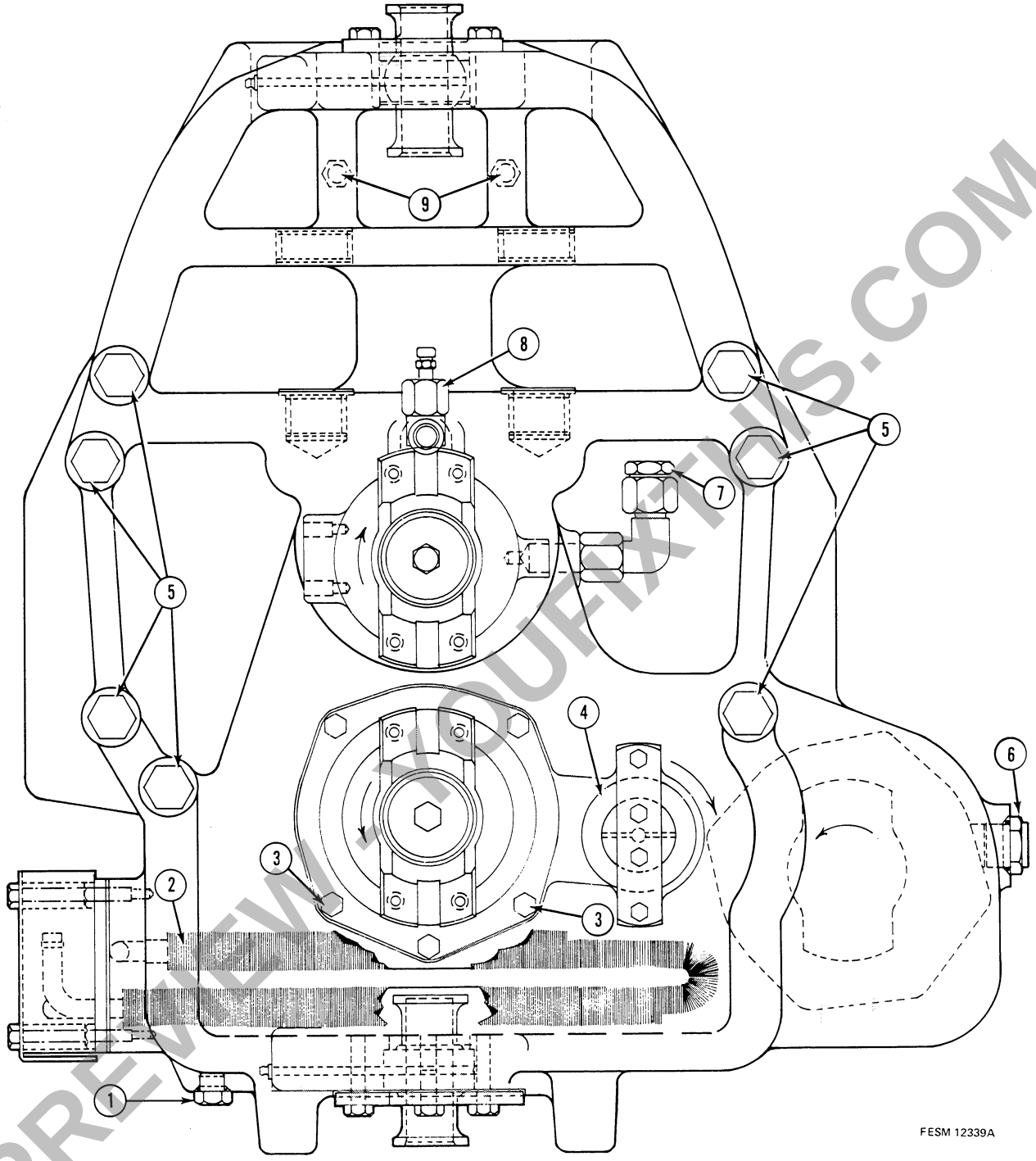
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW - YOUFIXTHIS.COM

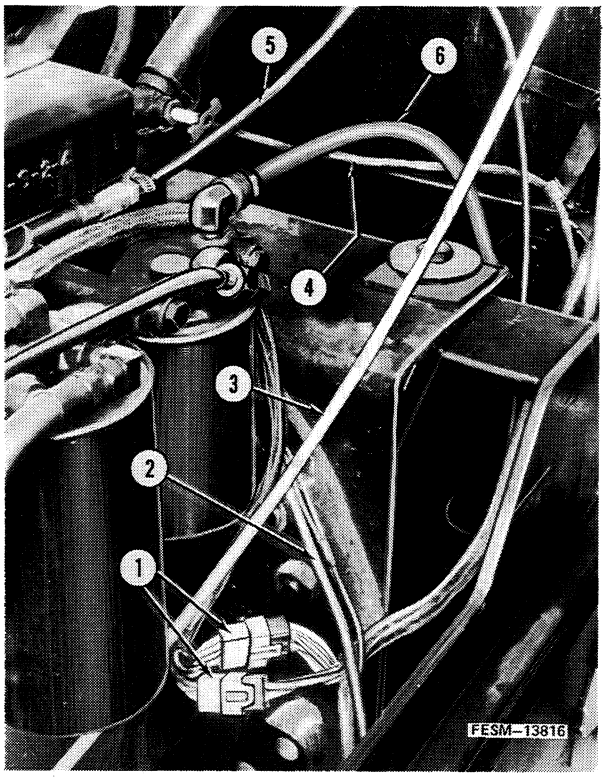
Download full manual at youfixthis.com

Transfer Case



1. Drain plug
2. Transfer case heat exchanger
3. (3/8 x 6 inch) Bolts
4. Idler shaft
5. Main mounting bolts
6. Sight glass
7. Oil fill adapter
8. Air vent
9. (1/2 x 1-3/8 inch) Bolts

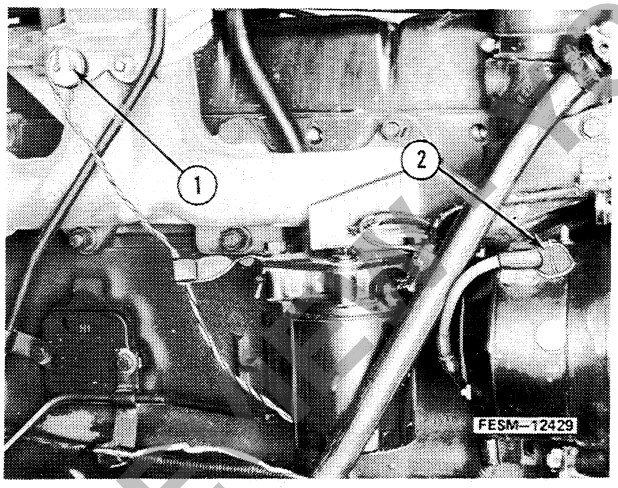
Download full manual at youfixthis.com



32. If your tractor is equipped with the new style main electrical harness connectors at the front of the main fuel tank then disconnect the following electrical connections.

1. Main electrical harness connector (new style)
2. Ground wire
3. Throttle cable (should be disconnected, if not do so)
4. Wiring harness to mid-section lights
5. Fuel supply
6. Fuel return

a. Disconnect all the electrical connectors at the front of the control center and route them out of their positions.



1. Exhaust temperature wire
2. Alternator wire

b. Disconnect the exhaust gas temperature wire coolant temperature sending unit and alternator wire. Route the exhaust gas temperature wire and the alternator wire towards the rear of the tractor.

c. Disconnect the electrical connectors at the A/C low pressure switch and route the harness out of the radiator shroud. Unclip this cable from the LH side of the front frame and at the front of the main fuel tank to gain sufficient slack at the articulation area.

PREVIEW YOUFIXTHIS.COM

Download full manual at youfixthis.com

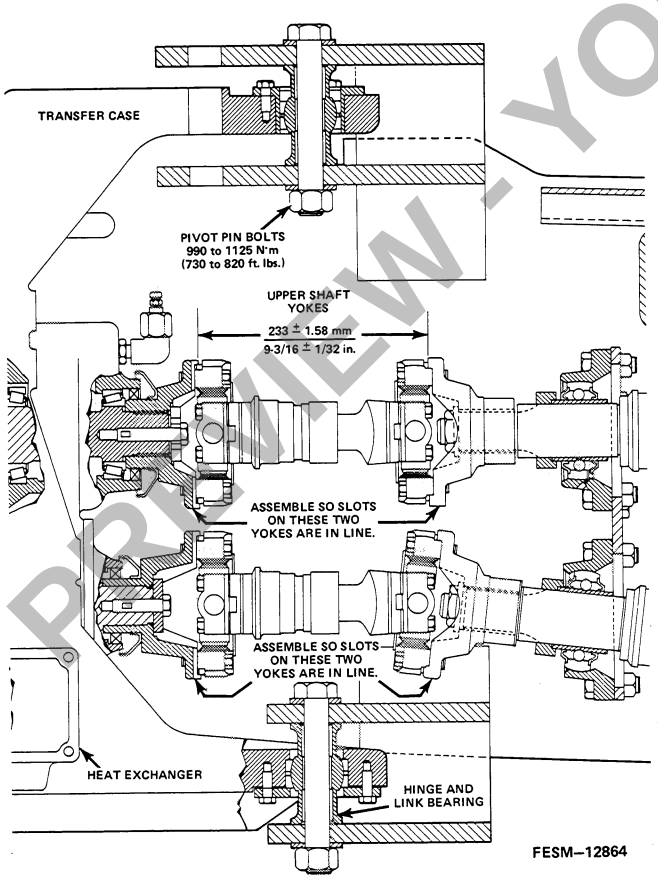
7. Position the two bolster halves on the front axle and secure with the four bolster bolts. Torque the bolts to 393 to 420 N·m (290 to 320 ft. lbs.).

NOTE: Before installing the thrust plate, pack the differential front bolster trunnion with 251 HEP grease.

8. Install the thrust plate assembly and the thrust cap with the number of shims removed. Torque the bolts 156 to 176 N·m (115 to 130 ft. lbs.). The grease fitting should be positioned to the bottom of the housing assembly.

9. Fill the axle with IH Hy-Tran fluid thru the dipstick opening to full mark on dipstick.

10. Lube the bolster caps with 251 HEP grease.



11. Before installing the front axle, loosen the axle drive shaft support bearing locking ring (collar) which is mounted at the rear of the front frame. Push the drive shaft rearward to give the needed clearance when reconnecting the axle drive shaft after the axle assembly has been installed.

12. Install the front axle and torque the mounting bolts from 393 to 434 N·m (290 to 320 ft. lbs.).

13. If the axle drive shaft yokes were serviced then align the shaft splines so that the slots in the drive yokes are in line with each other for proper shaft balance.

14. Connect the axle drive shaft to the pinion shaft yoke assembly on the axle. Torque the U-joint bolts from 50 to 66 Nm (37 to 49 ft lbs).

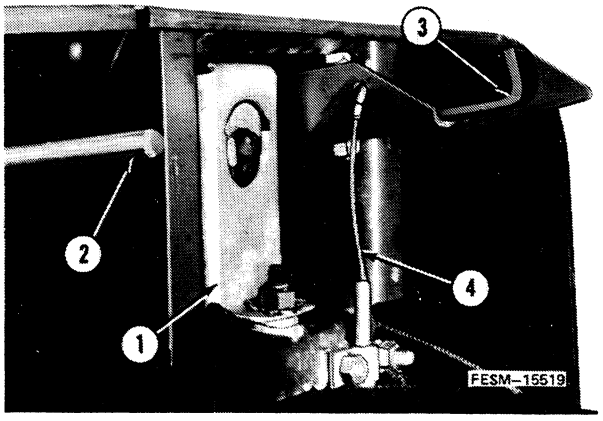
15. Secure the other end of the axle drive shaft by rotating the support bear ing locking ring (collar) in the direction of the axle drive shaft rotation when in a foward gear.

NOTE: From a seated position in the control center the axle drive shaft rotates in a clockwise direction when in foward gear.

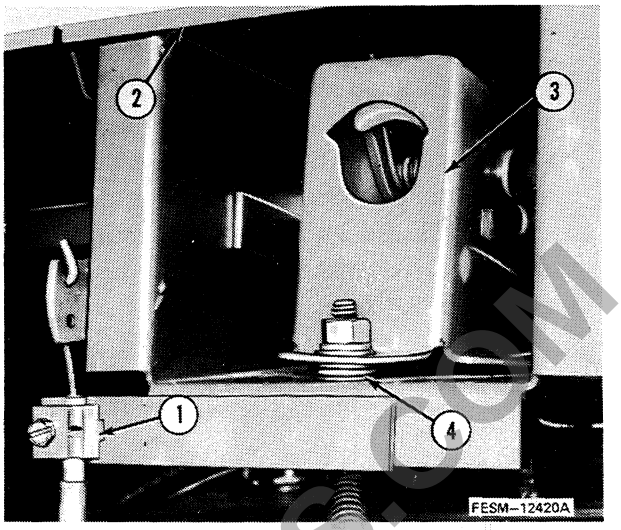
16. Drive the collar to a lock position and secure the set screw.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



1. Hood latch
2. Hood release lever
3. Secondary latch hook
4. Hood cable



1. Hood release clamp
2. Rear hood
3. Hood latch
4. Washers

NOTE: The photo on the left side of the page is the new hood latch assembly which applies to 3388 S/N U010080 & above, 3588 S/N U011888 & above, 3788 S/N U008808 & above and all 6388 & 6588 tractors. The photo on the right shows the early production hood latch.

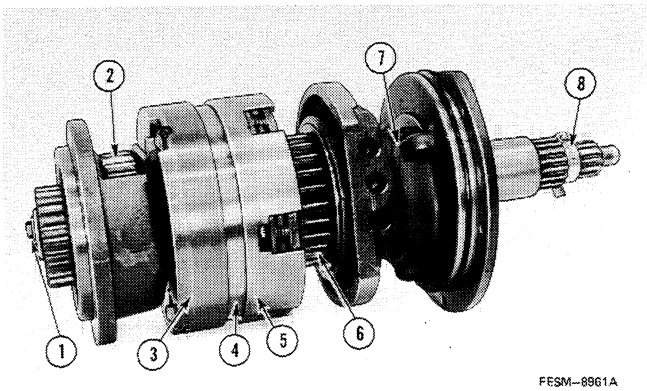
4. Position the latch assembly with the three mounting bolts just snugged, install the latch bolt in the fully extended position and partially close the hood. Align the center line of the hood latch assembly opening 2 to 3 mm (3/32 to 1/8 in.) above the hood latch bolt center line, using flat washers (5/16 in.) as required. The washer stacks on all three bolt positions for the latch must be identical in height. Then tighten the three mounting bolts.

PREVIEW BY YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW - YOUFIXTHIS.COM

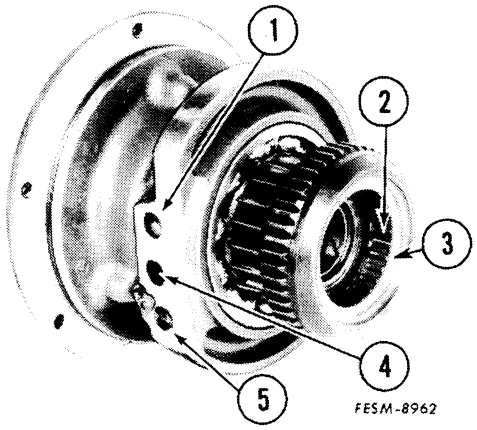
Download full manual at youfixthis.com



1. Capscrew and retainer
2. Constant mesh direct drive output gear
3. Direct drive clutches
4. Hydraulic clutch carrier
5. TA lockup clutch carrier
6. Constant mesh TA drive output gear
7. TA and IPTO carrier
8. Hose clamp

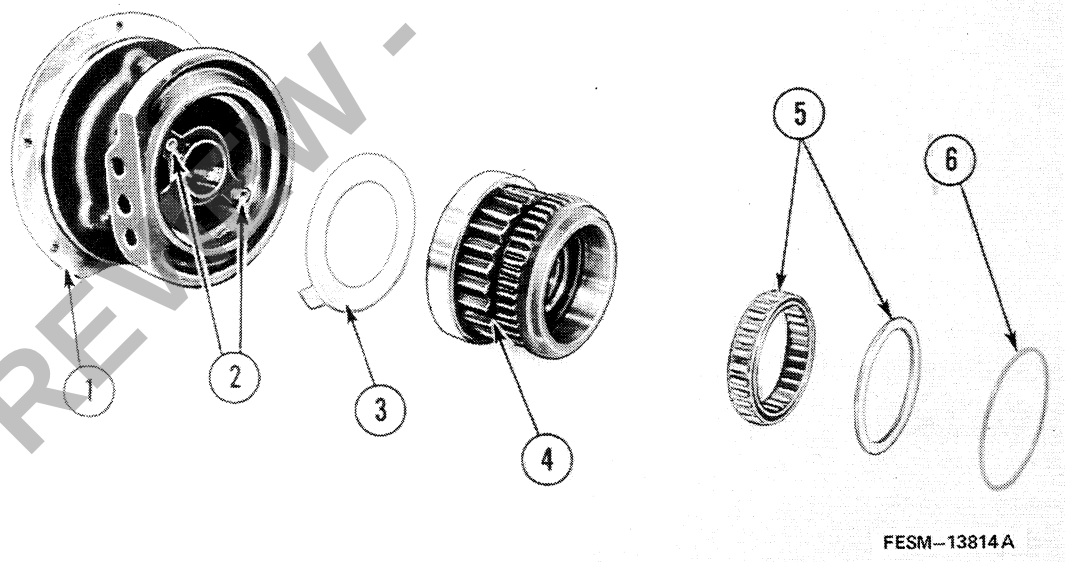
4. Remove the hose clamp, IPTO carrier, capscrews, and remove the IPTO shaft and carrier.

5. The TA carrier and TA drive gear with bearing can be lifted off the assembly.



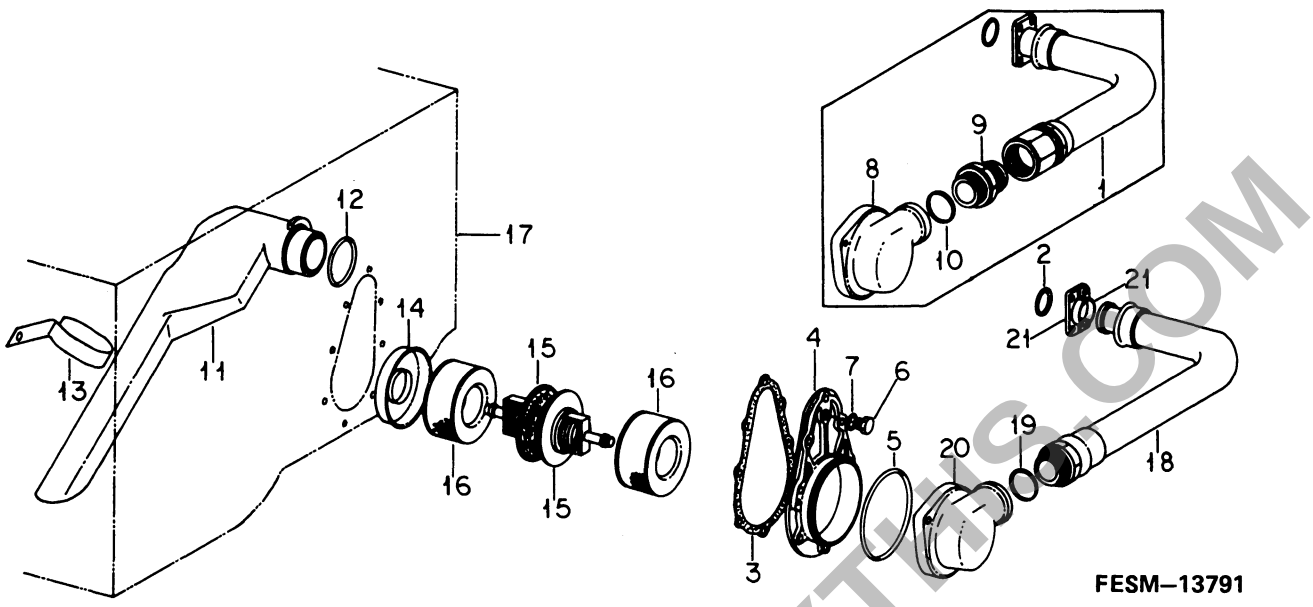
1. Lubrication port
2. One-way clutch
3. Seal ring
4. Direct drive clutch pressure port
5. TA lock up pressure port

6. The one-way clutch can then be removed from the constant mesh TA drive output gear by removing the seal ring. The TA drive output with ball bearing and spring loaded lubrication baffle can also be removed from the TA carrier.



1. Torque amplifier and IPTO drive carrier assembly
2. Baffle springs
3. Lubrication baffle
4. Constant mesh TA drive output gear
5. Sprag clutch assembly
6. Seal ring

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



FESM–13791

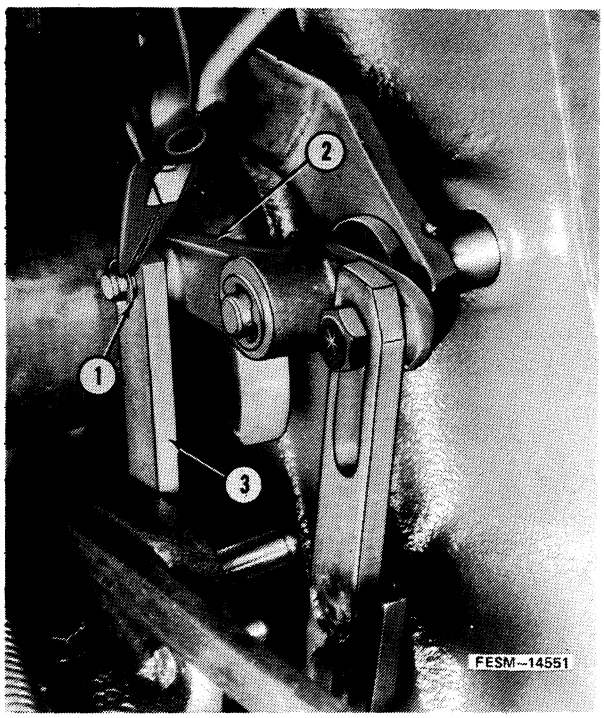
1. Suction hose
2. O-ring
3. Oil filter cover gasket
4. Filter frame assembly
5. O-ring
6. 9/16-18 Plug O-ring boss
7. O-ring
8. Filter frame cover
9. Connector
10. O-ring
11. Suction line manifold
12. O-ring
13. Suction line manifold support
14. Filter cartridge retainer
15. By-pass valve
16. Hydraulic oil filter element package
17. Rear frame assembly
18. Suction hose
19. O-ring
20. Filter frame cover
21. Split flange

23. At each filter change, replace the O-ring (5) around the filter housing. This O-ring could become damaged upon repeated removal and installation and will be part of a filter service kit (16) which also includes one spin on filter and two filter elements.

24. When replacing the suction hose or the pump first replace the O-ring (5) then bolt the flange to the pump, loosely mount the filter cover to the other end of the suction hose, install the filter cover on the frame and tighten the nuts. Torque large nut on suction hose to 135 to 169 N·m (100 to 125 ft. lbs.) using two wrenches, one wrench being used to hold back nut at cover to avoid shearing threads in aluminum filter cover.

PREVIEW - YOUFIXTHIS.COM

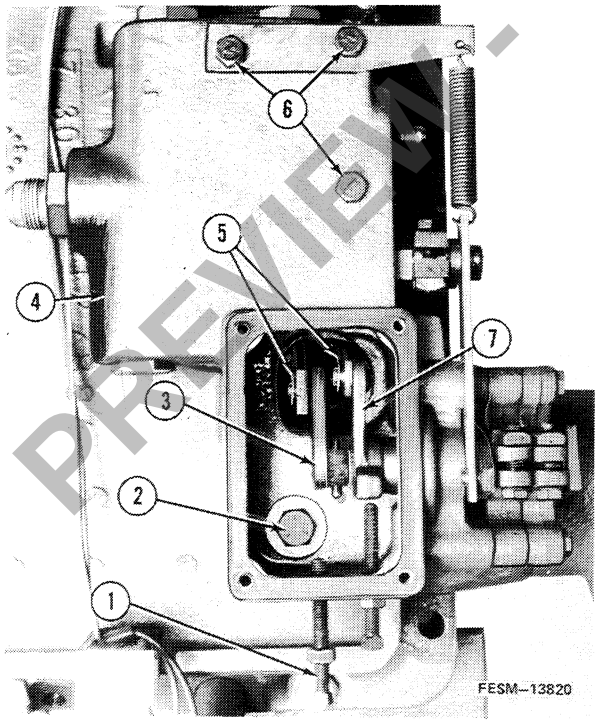
Download full manual at youfixthis.com



1. "E" ring
2. Follow up walking beam
3. Walking beam link to bellcrank

5. Remove the "E" ring securing the walking beam to the bellcrank lever. Do not attempt to remove the walking beam link. It will slide off when the draft control cylinder is ready for removal.

6. Turn the rear frame assembly over and remove the motor priority linkage access cover.



7. Remove both "C" rings from the draft and position control links and disconnect.

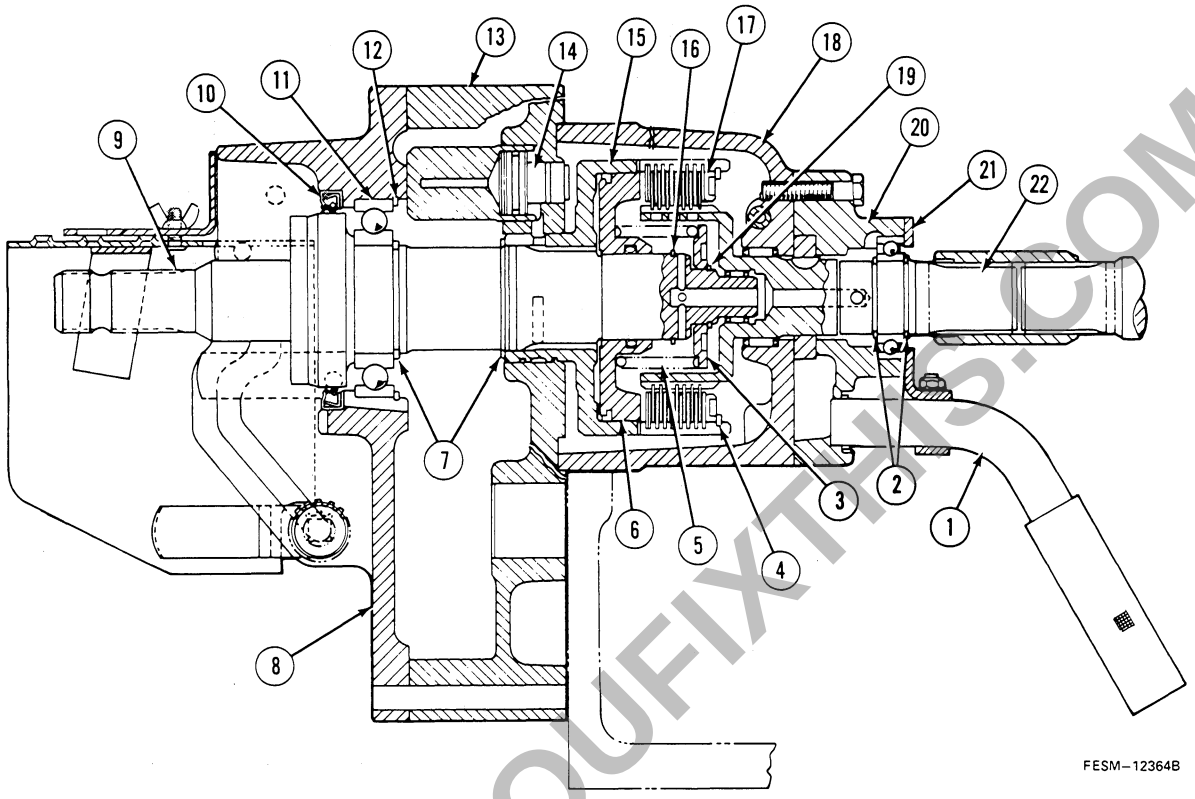
8. Back off the sensitivity control lever set screw enough to allow removal of the motor priority valve mounting bolt. Remove the remaining three mounting bolts securing the motor priority valve to the rear frame.

NOTE: Do not disturb the jam nut setting on the sensitivity control lever setscrew. Apply Loctite thread sealant to the set screw when reinstalling.

1. Sensitivity control lever set screw
2. Mounting bolt (under cover)
3. Position control link
4. Motor priority valve
5. "C" rings
6. Mounting bolts
7. Draft control link

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

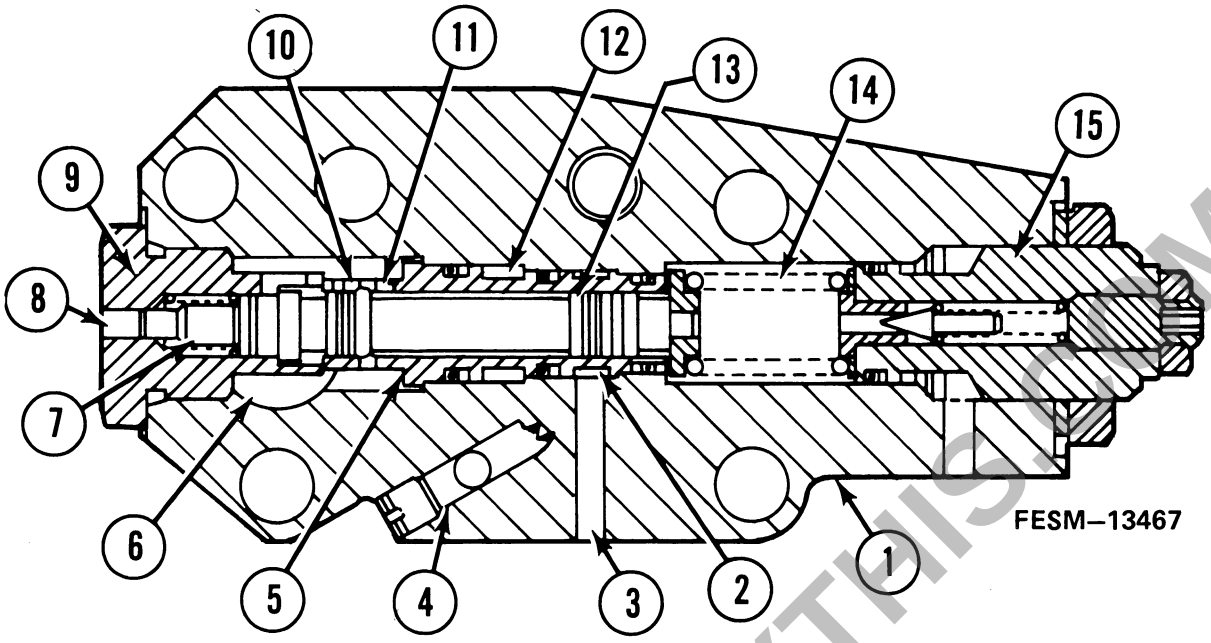
Single Speed IPTO W/Hydraulic Anti-Creep Brake Piston (Models 3588, 3788, 6588 and 6788 Only)



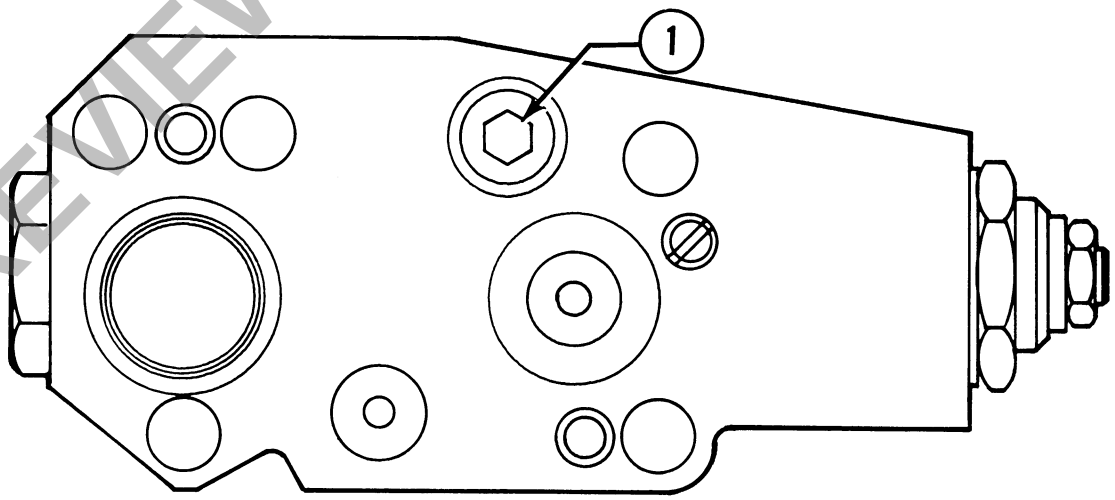
1. Suction tube
2. Drive shaft front bearing snap rings
3. Clutch release spring retainer
4. Clutch driven disc retaining snap ring
5. Clutch release spring
6. Clutch piston
7. Locating snap rings
8. IPTO housing cover
9. Output shaft
10. Oil seal
11. Output shaft
12. Shaft retaining ring
13. IPTO valve housing
14. Anti-creep brake piston
15. Clutch cup
16. Clutch piston stop retaining snap ring
17. Clutch driven disc retainer
18. IPTO clutch carrier
19. Clutch release spring retaining snap ring
20. Pump housing
21. Drive shaft front bearing retainer
22. Input shaft

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

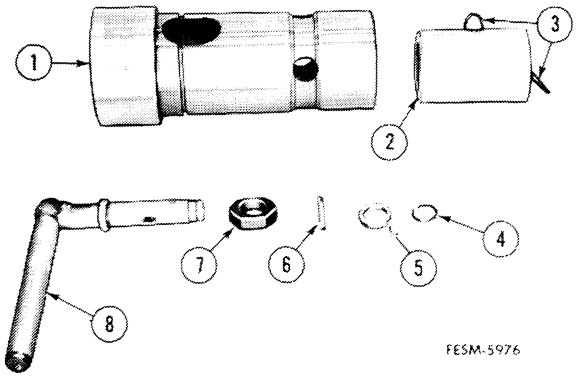


1. Compensator
2. Port 3
3. To reservoir
4. Signal line to RH side of spool
5. Compensator spool
6. Pump pressure
7. Air bleed spool
8. Dump to reservoir
9. Air bleed valve body
10. Port 1
11. Orifice "E"
12. Port 2 - to pump control piston
13. Land "X"
14. Bias spring
15. High pressure assembly



1. Torque to 25 to 32 ft. lbs.

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

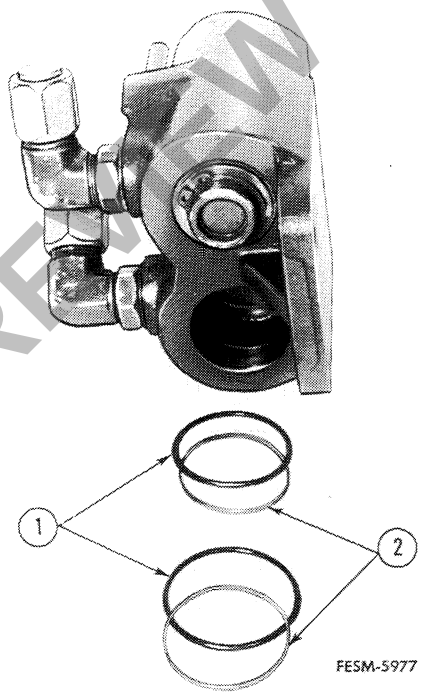


1. Large sleeve
2. Small sleeve
3. O-rings
4. Retaining ring
5. Washer
6. Pin
7. Cam
8. Valve lever

5. If the lever, cam or small sleeve O-rings are to be replaced, drive the pin out of the cam on the lever shaft. Remove the retaining ring and washer from the end of the lever shaft and remove the lever and cam assembly and the small sleeve from the large sleeve.

6. Remove the O-rings and back-up washers from the small sleeve.

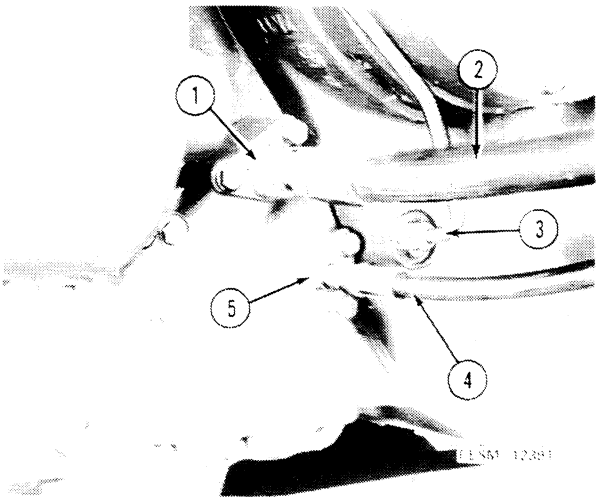
PREVIEW - YOUFIXTHIS.COM



7. Remove the sleeve seals and O-rings from the body.

1. O-rings
2. Sleeve seals

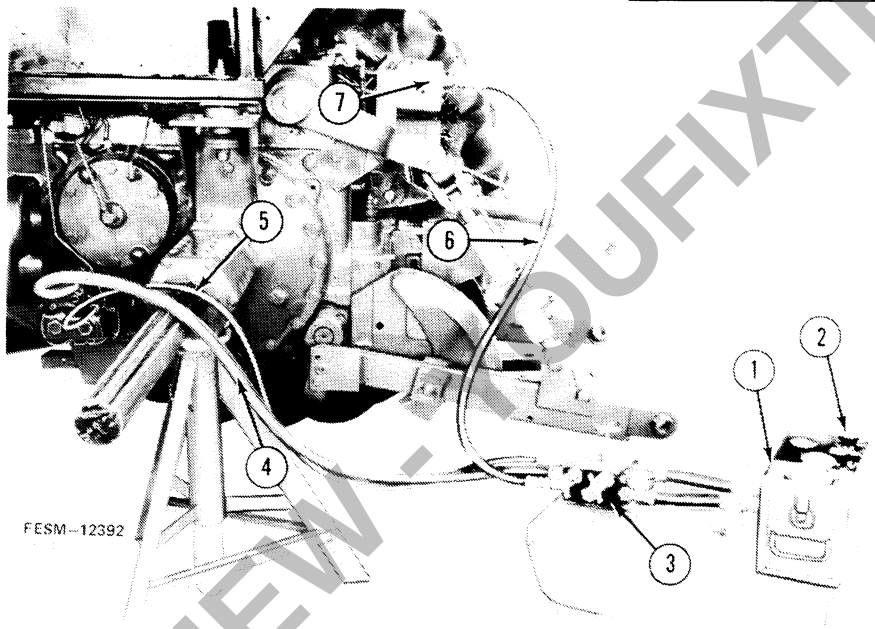
Download full manual at youfixthis.com



7. Connect the "P" pump pressure hose to the service port adapter fitting.

8. Connect the "S" signal pressure hose from the analyzer to the signal port at the pump flange.

1. 14-74-22 1-1/16"-12 O-ring boss x 5/8" tube JIC
2. "P" pump pressure
3. Signal line plugged
4. "S" signal line from analyzer
5. Signal line fitting



1. 14-51D Flo-Rater
2. Load valve
3. 14-557 Hydraulic System Analyzer
4. "P" pump pressure
5. "S" signal pressure
6. Return hose to motor coupler top port
7. Motor coupler top port

NOTE: The photo is shown with the wheel removed to show the complete Flo-Rater set-up.

9. Move the motor valve control handle down in the motor run position and lock into this mode with the lock tabs in the control console. The handle must be locked in the run position to prevent unlatching during Test Nos. 3, 4 & 5 to allow fluid to return to the reservoir.

This completes the analyzer set-up.

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

PREVIEW ONLY

You're viewing 25 of 580 pages

The full manual includes:

- All 580 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Case 3388, 3588, 3788, 6388, 6588, 6788, 6788 Tractors Service Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual