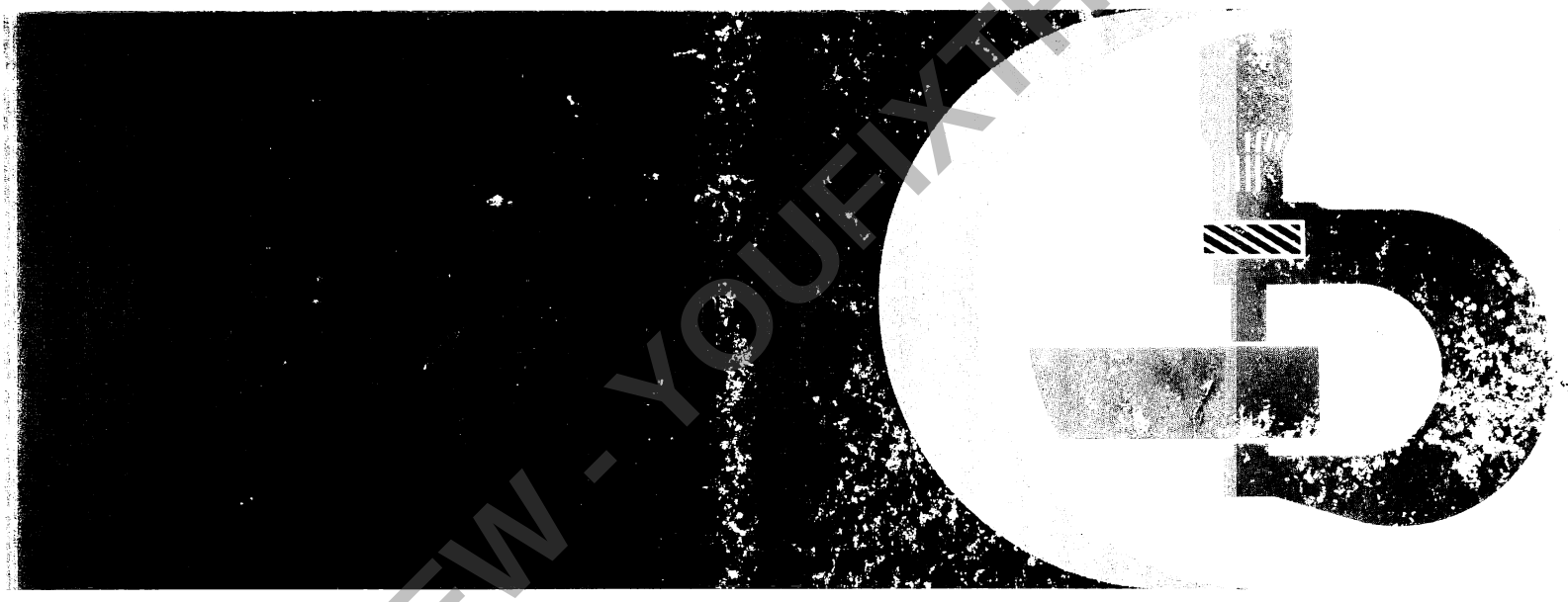
4400 and 4500 Telescopic Handlers



DCEO-Mannheim
TM4541 (10SEP97)
Printed in Germany
ENGLISH

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

Contents

SECTION 05—Safety
Group 05—Safety Information

SECTION 50—Transmission
Group 00—General Information
Group 05—Removal and Replacement
Group 10—Disassembly and Assembly of the Torque Converter Housing
Group 15—Disassembly and Assembly of the Gearbox
Group 20—Disassembly and Assembly of the Reverser Unit
Group 25—Disassembly and Assembly of the Hydraulic 2/4 Wheel Drive Unit

SECTION 60—REMOVAL AND REPAIR OF AXLES AND BRAKES
Group 05—Front Axle Removal
Group 10—Rear Axle Removal
Group 15—Hydraulic Steering
Group 20—Cab - Steering Column
Group 25—Axles and Brakes - Brake Circuit
Group 30—Brakes

SECTION 70—HYDRAULIC SYSTEM
Group 00—General Information
Group 10—Hydraulic Pump
Group 20—Hydraulics - Priority Valve
Group 30—Hydraulics - Fault Finding

SECTION 80—CHASSIS AND BOOM
Group 05—Removal and Repair

SECTION 90—OPERATOR'S CAB
Group 00—Cab - Disassembly and Reassembly
Group 05—Cab Heater/Cab Seat - Removal

SECTION 240—ELECTRICAL SYSTEM
Group 05—System Information
Group 10—System Diagrams

Index

PREVIEW - YOUFIXTHIS.COM

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.

TM4541-19-10SEP97

COPYRIGHT© 1997
DEERE & COMPANY
European Office Mannheim
All rights reserved
A John Deere ILLUSTRUCTION® Manual

Download full manual at youfixthis.com

RECOGNIZE SAFETY INFORMATION

This is the safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



T81389 -UN-07DEC88

DX,ALERT -19-03MAR93

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.



GS002 -UN-18AUG95

GS,BYPAS1 -19-15JUL95

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

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

TORQUE CONVERTER HOUSING

Park the machine on firm level ground.

CAUTION: A raised and badly supported machine can fall on you. Position the machine on a firm level surface. Before raising one end ensure the other end is securely chocked. Do not rely solely on the machine hydraulics or jacks to support the machine when working under it. Disconnect the battery, to prevent the engine being started while you are beneath the machine.

Removal

1. Stabilise the machine. Lift and secure boom to allow room for the torque converter housing to be pulled clear. Block/support the machine.

2. Disconnect hoses (A) from the valve/pump assembly (B). Plug ports to prevent ingress of dirt.

3. Remove transmission shaft drive bolts (C) and separate the yokes (D)

4. Swing transmission shaft (E) to one side and secure safely.

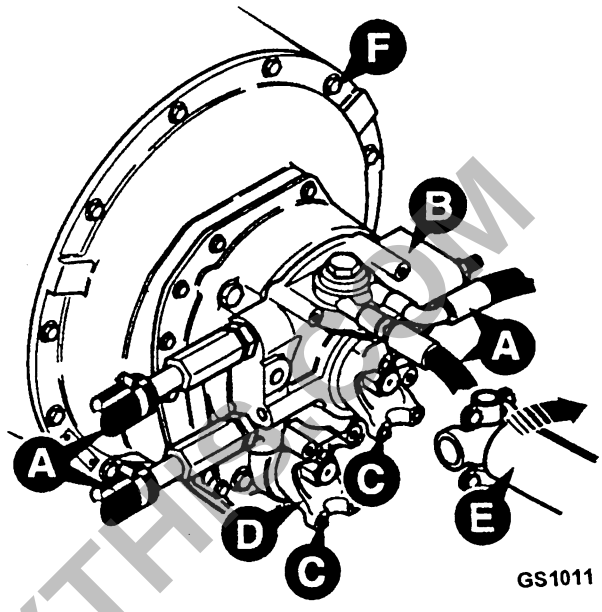
5. Support the weight of the housing/pump unit (B) and remove hexagon head mounting screws (F) from the housing/engine casing.

NOTE: The weight of the housing/pump unit is 35 kg (77 lb)

6. Withdraw and lower the housing/pump unit (B) and lift the unit off.

7. Remove the torque converter (see torque converter, removal and replacement).

Replacement is reverse of the Removal procedure.



A—Disconnect hoses
B—Valve/pump assembly
C—Drive bolts
D—Yokes
E—Transmission shaft
F—Screws

Torque Settings

Housing to engine mounting screws . . . . . 98 N·m; 72 lb-ft

GS4400,14 -19-01FEB97

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

ASSEMBLY

Assembly is the reverse of the disassembly procedure.

Note the following points:

1. Renew all O-rings and PTFE seals.

2. Oil the bearing races to avoid dry running at start up.

3. Check that all oil galleries are clear.

4. Check that the cross drilling (X) behind the pressure maintenance valve is clear.

5. Graese thrust rings (12) to avoid dry running at start up.

6. When fitting yokes (3) and (6), take care not to damage seals (16) and (7) respectively. Damage will cause the unit to suck in air instead of oil during priming.

7. Position yokes (3) and (6) on their splines so that access to the staking point is not impeded. Stake using a square ended staking tool.

SPECIFICATIONS

Item	Measurement	Specification
Torque Settings		
1, 4	Torque	300 N·m; 221 lb-ft
8, 15	Torque	56 N·m; 41.3 lb-ft
20	Torque	102 N·m; 75 lb-ft
31	Torque	28 N·m; 20.6 lb-ft

GS4400,21 -19-01FEB97

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

GEARBOX

Before carrying out the checks listed, the machine should, if possible, be operated to determine the fault area(s), and to bring the systems to their normal working temperatures. Ensure that the correct quantity and grade of oil is used and that there are no obvious leaks.

50
15
30

A If the transmission is noisy, start check 1.
B If the transmission is overheating , start at check 4.
C If the transmission will not pull, start at check 12.
D If there is no drive in one or both directions, start at check 17.
E If the transmission is jumping out of gear, start at check 29.
F If the transmission is sticking in gear, start at check 39.
G If ratios are crash changing, start at check 41.

CHECK		ACTION
1	Is there a noise when selecting direction ?	Yes: Check 3 No: Check 2
2	Is there noise when running with direction selector in neutral and ratio selector in 1st ?	Yes: Check 9 No: Check 19
3	Is there air in the hydraulic system ?	Yes: Continue running to expel air. No: Check 4
4	Is the fluid level correct ?	Yes: Check 5 No: Check level only when machine is cold and top-up as required.
5	Are the oil passages restricted ?	Yes: Clear the restriction. No: Check 6
6	Is the suction strainer restricted ?	Yes: Remove and clean the strainer. No: Check 7
7	Is pump pressure as specified ?	Yes: Check 9 No: Check if clutch pressure maintenance valve is free to operate.
8	When flow testing pump, is output low ?	Yes: Renew pump. No: Check converter sprag clutch for wear or slip
9	Does the noise continue when direction selector is in forward or reverse ?	Yes: Check 10 No: Check 11
10	Is transmission misaligned ?	Yes: Renew mountings and check position. No: Check converter out pressure and flow.
11	Are the pump bushings worn?	Yes: Renew No: Check converter for wear or cooler for restriction to flow.

GS4400,134 -19-01FEB97

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

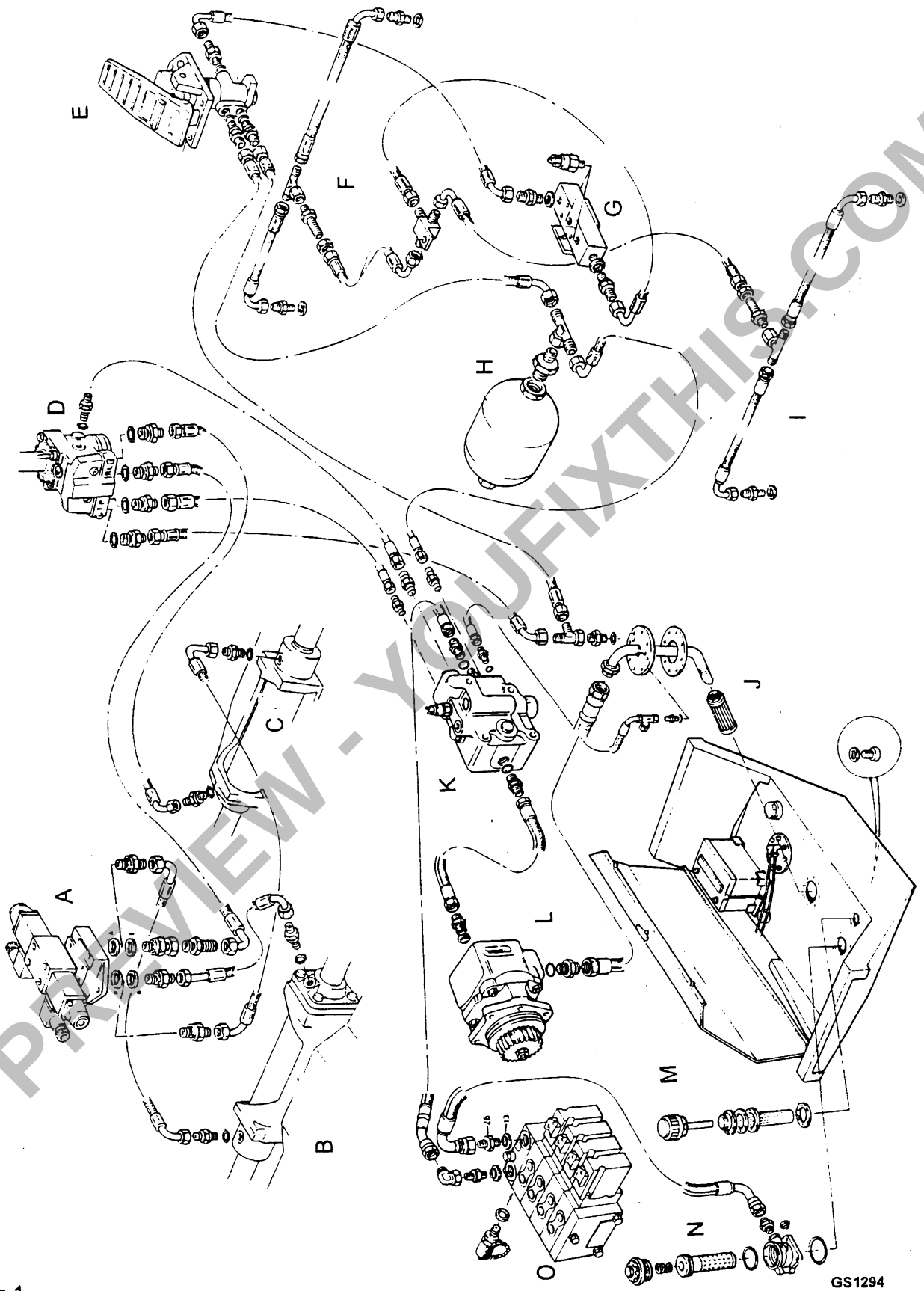


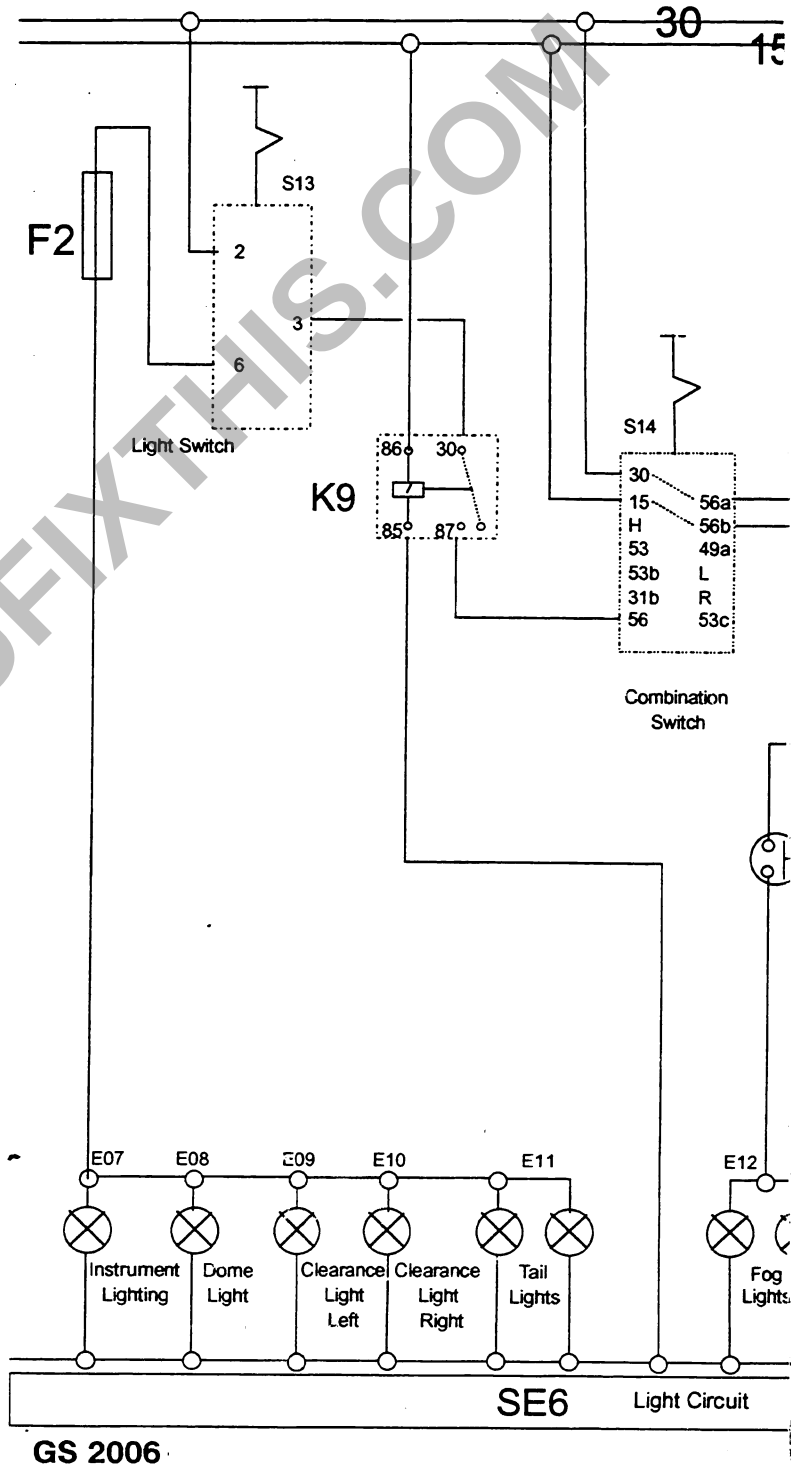
fig 1

GS1294 -UN-11APR97

GS4400,307 -19-01FEB97

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



GS 2006

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Index

Page

B

Battery specification 240-05-4
Battery test 240-05-3
Battery, operation 240-05-2
Battery, troubleshooting 240-05-3

E

Electrical system
  General information 240-05-4

F

Functional schematic
  Part designations 240-10-9
  Section designations 240-10-8
Functional schematics 240-10-10, 240-10-11, 240-10-12, 240-10-13
Fuses 240-10-1

P

Part designations in functional schematic . 240-10-9

R

Relays 240-10-2, 240-10-3

S

Section designations in funct. schematics . 240-10-8
Special tools 240-05-1

PREVIEW - YOUFIXTHIS.COM

INDX 1

Download full manual at youfixthis.com

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

ASSEMBLY

1. Grease the shaft (22) then fit the piston housing (21) by pressing the shaft squarely into the housing (make sure the housing is securely supported).

2. Fit new O-rings (19) and (20) to piston (17), locate the piston into housing (21). Fit spring steel ring (18) ensuring that it seats firmly in its groove.

3. Place the disk spring (16) into the housing (21).

4. Position the actuating sleeve (15) onto the disk spring (16).

5. Install the clutch drum (14) in the housing. Fit support washer (13) and drum securing snap ring (12).

6. Build up the clutch pack (11), installing friction plates and counter plates alternately, starting with a counterplate and finishing with a friction plate.

7. Install shim (s) (10) and pressure plate (9).

8. Use the output gear (5) to align the clutch plate splines. Ensure that all the plates are engaged with the gear shaft splines. Rotate the output gear back and forth to create maximum backlash then withdraw the gear taking care not to disturb the pack.

9. Place the first two disk springs (8B) with their convex sides uppermost, onto the clutch pack. (There are four disk springs, which are identical). Place the other two disk springs (8A), with their convex sides down, onto the first two - refer to inset (A).

10. Using a suitable press, compress the disk springs (8A) and (8B), fit snap ring (7).

11. Use levers to remove free play, as shown at (B). Measure the gap between pressure plate (9) and actuating sleeve (15). The gap should be 0.75 - 1.5 mm; 0.030 - 0.059 in. If necessary fit new shim (10) to achieve the correct gap. (Shim (10) can be a combination of a single counter plate, shim (thinner than the counter plate) or both counter plate and shim). Check that the clutch pack splines are still aligned - see step 8.

12. Install the 4 WD output gear (5) and its needle roller bearings (6).

13. Install thrust washer (4) and bearing (3).

14. Fit sealing ring (2) and bearing (1).

15. Fit the 2/4 WD unit to the transmission using a new gasket. Apply Loctite 242 to the mounting bolts, tighten the bolts to 56 N·m; 42 lb-ft.

16. Fit the output yoke (E), retaining nut (F) and washer (G). Tighten the nut to 400 N·m (295 lb-ft). Check shaft end play which should not exceed 0.03 mm; 0.001 in.

NOTE: Rotate shaft while measuring to fully seat bearings.

17. If the end play is incorrect, remove the output yoke (E) and bearing retaining snap ring (H).

NOTE: If the end play is correct, it will still be necessary to remove the yoke to fit the oil seal, see step 19.

18. Add or subtract shims (J) to obtain correct settings. Shims should be fitted between bearing outer race (K) and spacer (L). Replace the snap ring and yoke and re-check the shaft end play.

19. When the shaft end play is correct, remove the yoke and fit a new oil seal (M).

20. Refit the output yoke (E) and tighten the new retaining nut (F) to 400 N·m (295 lb-ft). Stake the nut to the shaft using a square ended staking tool, as shown at (N).

21. Refit the hydraulic pipework and electrical connections.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

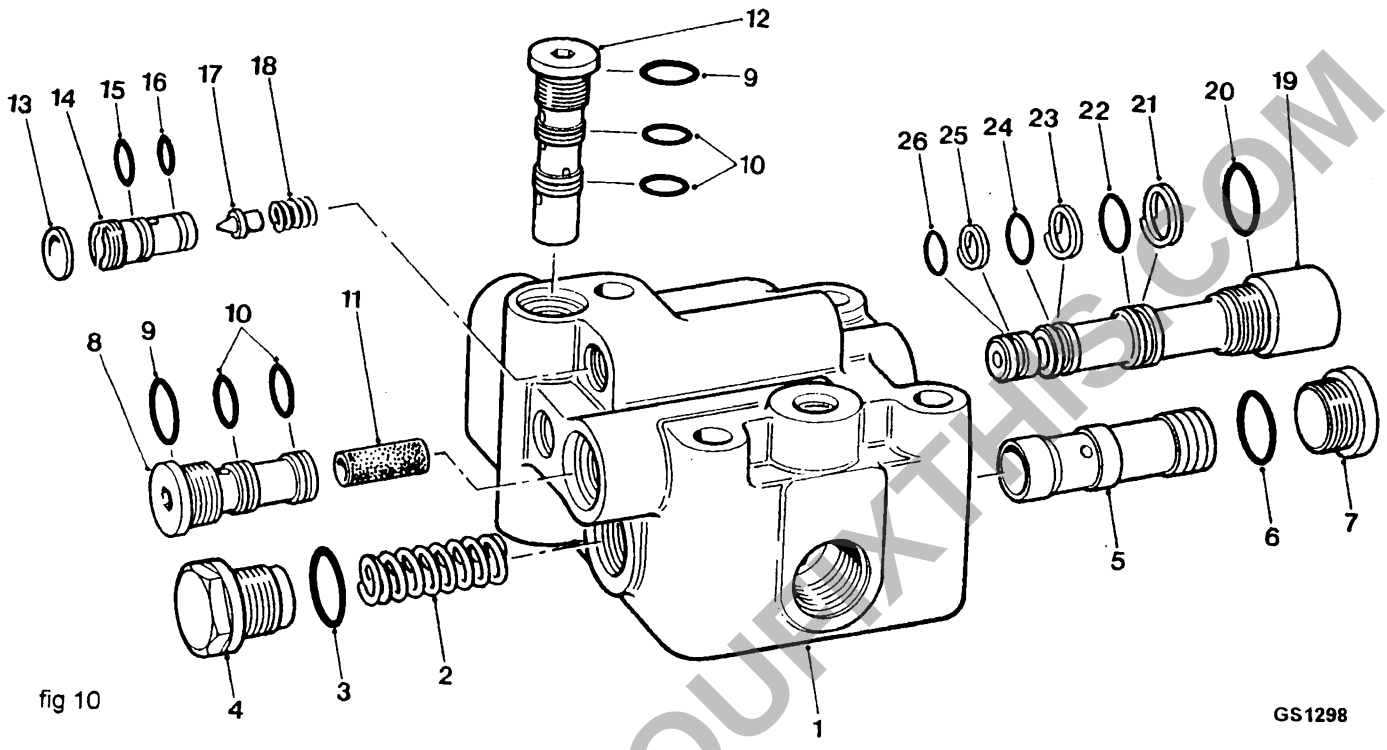


fig 10

GS4400,601 -19-01FEB97

NO STEERING AT ALL

If the steering is not operational, but the control valve hydraulics are working correctly, then the priority valve must be supplying all the oil from the hydraulic pump to the control valve hydraulics. In this case the main spool (item 5) must be jammed in the open position. Remove the valve, clean and inspect. Refit the spool. If the fault remains, change the priority valve. If there is no steering or main control valve hydraulics, then the pump drive and operation should be checked.

GS4400,316 -19-01FEB97

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

PREVIEW ONLY

You're viewing 12 of 256 pages

The full manual includes:

- All 256 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

John Deere 4400, 4500 Technical Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual