5300N, 5400N and 5500N Tractors

PREVIEW - YOUFIXTHIS.COM

For complete service information also see:

Engines CTM3274

John Deere Werke Mannheim
TM4598 (10JAN00)
European Version
Printed in Germany
ENGLISCH

Download full manual at youfixthis.com

Contents

SECTION 05—SAFETY
Group 05—Safety

SECTION 10—GENERAL SPECIFICATIONS
Group 05—Machine Specifications
Group 10—Fuel, Lubricants and Coolant
Group 15—Serial Number Locations

SECTION 20—ENGINE — REPAIR
Group 00—Removal and Installation of Engine Components

SECTION 30—FUEL AND AIR INTAKE SYSTEMS — REPAIR
Group 05—Fuel System
Group 10—Speed Control Linkage
Group 15—Air Intake System

SECTION 40—ELECTRICAL SYSTEM — REPAIR
Group 05—Battery, Starting Motor and Alternator
Group 10—Switches and Sending Units
Group 15—Wiring Harnesses

SECTION 50—POWER TRAIN — REPAIR
Group 00—Removal and Installation of Power Train Components
Group 05—Clutch
Group 10—Hi-Lo System (24/24-Speed Transmission)
Group 15—Power Take-Off
Group 20—Differential
Group 25—Final Drives
Group 30—Mechanical Front Wheel Drive
Group 35—MFWD Clutch - 12/12-Speed Transmission
Group 40—MFWD Clutch - 24/24-Speed Transmission
Group 45—Transmission

SECTION 60—STEERING AND BRAKE SYSTEMS — REPAIR
Group 05—Steering System
Group 10—Brake System

SECTION 70—HYDRAULIC SYSTEM — REPAIR
Group 05—Hydraulic Pump and Filter
Group 10—Rockshaft
Group 15—Selective Control Valves

SECTION 80—MISCELLANEOUS — REPAIR
Group 05—Front Axle (without MFWD)
Group 10—Front Wheel Bearings
Group 15—Three-Point Hitch

SECTION 90—OPERATOR'S STATION — REPAIR
Group 05—Operator's Seat and Support
Group 10—Roll-Gard
Group 15—Fenders
Group 20—Cab Components
Group 25—Air Conditioning System

SECTION 240—ELECTRICAL SYSTEM — OPERATION AND TESTS
Group 05—Component Location
Group 10—Theory of Operation
Group 15—Diagnosis, Tests and Adjustments
Group 20—Wiring Diagrams

SECTION 250—POWER TRAIN — OPERATION AND TESTS
Group 05—Component Location
Group 10—Theory of Operation
Group 15—Diagnosis, Tests and Adjustments

SECTION 260—STEERING AND BRAKE SYSTEMS — OPERATION AND TESTS
Group 05—Component Location
Group 10—Theory of Operation
Group 15—Diagnosis, Tests and Adjustments

SECTION 270—HYDRAULIC SYSTEM — OPERATION AND TESTS
Group 05—Component Location
Group 10—Theory of Operation
Group 15—Diagnosis
Group 20—Tests

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.

TM4598-19-10JAN00

COPYRIGHT© 2000
DEERE & COMPANY
European Office Mannheim
All rights reserved
A John Deere ILLUSTRUCTION— Manual

PREVIEW - YOUFIXTHIS.COM
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 -19-29SEP98

UNDERSTAND SIGNAL WORDS

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.



TS187 -19-30SEP88

DX,SIGNAL -19-03MAR93

"IMPORTANT" - INFORMATION

Information marked as IMPORTANT points out problems that may lead to machine damage. By following the directions given, these problems can be avoided.

LX,CRA05 002885-19-09APR92

"NOTE" - INFORMATION

When marked with NOTE the information given is more detailled or contains restrictions to directions given previously. On the other hand useful information may be given belonging to certain instructions without being directly connected to them.

LX,CRA05 002886-19-09APR92

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

MACHINE SPECIFICATIONS

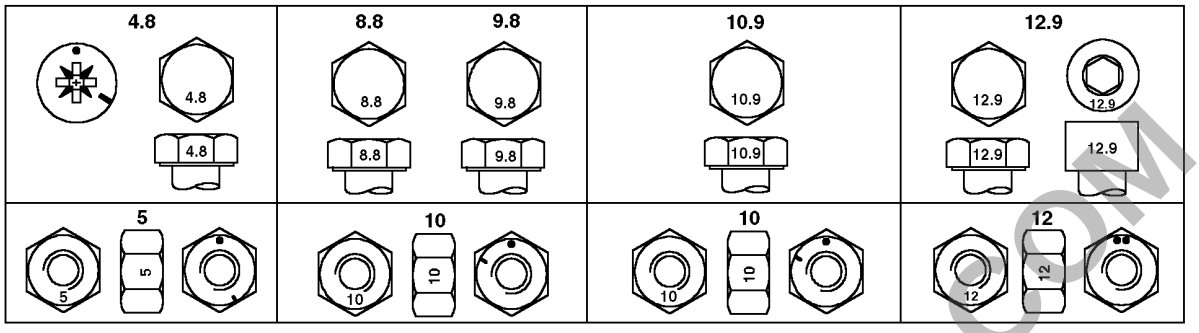
	5300N	5400N	5500N
ENGINE			
Make	John Deere	John Deere	John Deere
Type	Diesel	Diesel	Diesel
Model	3029DAT01	3029TAT02	4039TAT01
Aspiration	Natural	Turbocharged	Turbocharged
Power acc. to ECE-R-24 at rated engine speed	40 kW (55 hp)	52 kW (70 hp)	59 kW (80 hp)
Rated Engine Speed	2400 rpm	2400 rpm	2400 rpm
Operating Range	1400-2400 rpm	1600-2400 rpm	1500-2400 rpm
Number of Cylinders	3	3	4
Displacement	2.9 Liters (176.9 cu.in.)	2.9 Liters (176.9 cu.in.)	3.9 Liters (239 cu.in.)
Bore and Stroke	106.5 x 110 mm (4.19 x 4.33 in.)	106.5 x 110 mm (4.19 x 4.33 in.)	106.5 x 110 mm (4.19 x 4.33 in.)
Compression Ratio	17.8:1	17.8:1	17.8:1
Fast Idle	2590-2620 rpm	2590-2620 rpm	2590-2620 rpm
Slow Idle	750 - 800 rpm	750 - 800 rpm	800 - 850 rpm
Start Aid	Air Heater	Air Heater	Air Heater
Firing Order	1-2-3	1-2-3	1-3-4-2
Intake valve clearance	0.35 mm (0.014 in.)	0.35 mm (0.014 in.)	0.35 mm (0.014 in.)
Exhaust valve clearance	0.45 mm (0.018 in.)	0.45 mm (0.018 in.)	0.45 mm (0.018 in.)
Cooling	Liquid Cooled	Liquid Cooled	Liquid Cooled
Air Cleaner	Dry Type w/Safety Element	Dry Type w/Safety Element	Dry Type w/Safety Element
Engine Shut-off	Key Switch	Key Switch	Key Switch
FUEL SYSTEM			
Type	Direct Injection	Direct Injection	Direct Injection
Injection Pump Type	Distributor	Distributor	Distributor
Fuel Filter	Fuel Gard	Fuel Gard	Fuel Gard
POWER TRAIN			
Transmission Type			
Standard	BSS With Creeper	BSS With Creeper	BSS With Creeper
Number of Speeds	12 Forward, 12 Reverse	12 Forward, 12 Reverse	12 Forward, 12 Reverse
Optional	Synchr. Splitter	Synchr. Splitter	Synchr. Splitter
Number of Speeds	24 Forward, 24 Reverse	24 Forward, 24 Reverse	24 Forward, 24 Reverse
Final Drive	Planetary	Planetary	Planetary
Clutch	Dual, dry	Dual, dry	Dual, dry
STEERING/BRAKES			
Steering	Hydrostatic Power	Hydrostatic Power	Hydrostatic Power
Brakes	4 discs/side in oil bath	4 discs/side in oil bath	4 discs/side in oil bath

Continued on next page

AT,5NTM,ESPD031-19-15AUG99

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

METRIC BOLT AND CAP SCREW TORQUE VALUES



Property Class Head and Nut Markings

TORQ2 -UN-07SEP99

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	4.7	3.5	6	4.4	9	6.6	11.5	8.5	13	9.5	16.5	12.2	15.5	11.5	19.5	14.5
M8	11.5	8.5	14.5	10.7	22	16	28	20.5	32	23.5	40	29.5	37	27.5	47	35
M10	23	17	29	21	43	32	55	40	63	46	80	59	75	55	95	70
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	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.

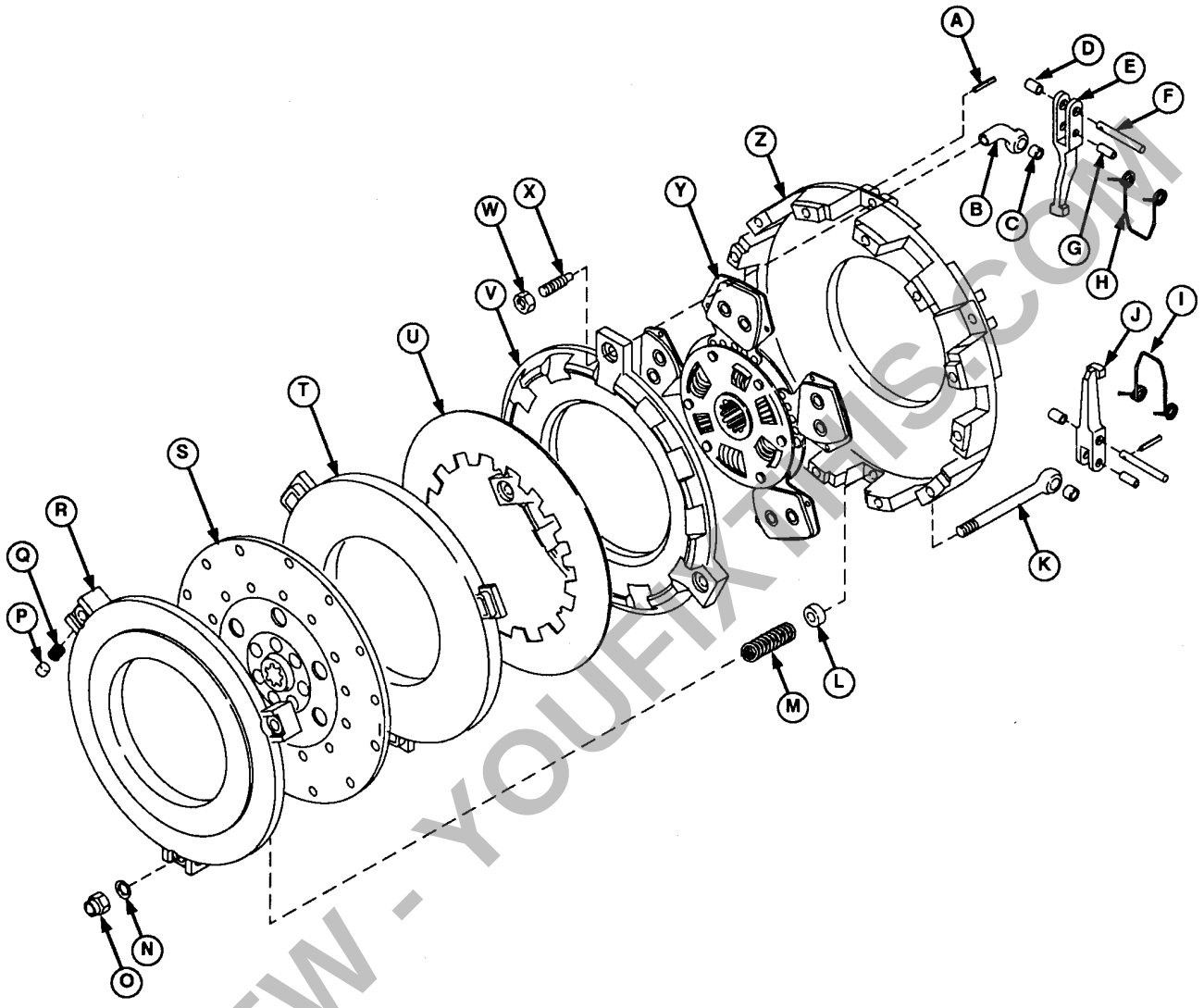
Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

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.

[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.*

DX,TORQ2 -19-01OCT99

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



Clutch Assembly

LV,5010HA,A3A -19-23JUN94

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

STARTING MOTOR REPAIR

For complete starting motor repair information refer to relevant Component Technical Manual (CTM) in conjunction with this manual.



AT,5STM,HJH0263-19-01MAR98

REMOVE AND INSTALL BATTERY

CAUTION: Keep all sparks and flames away from batteries, as gas given off by electrolyte is explosive. To avoid sparks, connect ground cable last and disconnect it first.

To avoid shocks and burns, disconnect battery ground cable before servicing any part of electrical system.



1. Remove side grille panels.

2. Disconnect negative cable (B) first, then the positive one (A).

3. Loosen nuts (C) and rotate hold-down bracket (D) away from battery.

4. Remove battery. Clean and service as necessary.

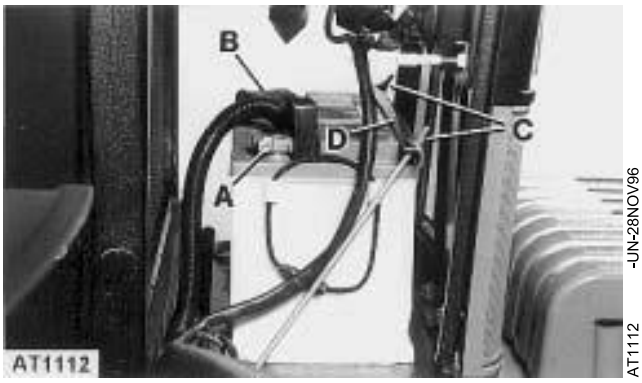
5. Install battery.

6. Install hold-down bracket and tighten nuts.

7. Connect positive cable (B), then negative one (A).

8. Apply petroleum jelly on battery terminals.

9. Install grille panels.



AT,5NTM,ESPD026-19-01JUN99

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

ISOLATE THE PROBLEM AREA

CONDITIONS:
- Before starting inspect the entire tractor for oil leakage. Locate the source of leakage, determine the cause and make the necessary repairs.
- During the tests you will be listening for abnormal noises.
- Begin the test procedure with the gear shift lever and range shift lever in neutral, and the MFWD and rear PTO disengaged.

Test Location	Normal	If Not Normal
1. Check transmission oil.	Level not too low.	Check for leakage and refill.
	Level not too high.	Drain oil to proper level.
	Oil not contaminated with metal fragments or debris.	Drain oil and replace filter. Clean screen and determine cause of contamination.
	Oil not foamy or discolored.	Make sure type of oil is correct. Check for hydraulic cause of overheating.
2. Check all linkage operation and return it to the neutral or disengaged position.	No damage or binding.	Repair linkage.
3. Run engine with transmission clutch pedal disengaged.	No unusual noise or vibration.	Inspect engine.
4. Partially engage clutch pedal and vary engine rpm.	No noise or vibration.	Inspect clutch. Inspect PTO drive shaft and bearings.
5. Fully engage clutch pedal and vary engine rpm.	No noise or vibration.	Inspect clutch. Inspect traction drive shaft.

AT,5STM,HJH0204-19-01FEB98

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

STARTING SYSTEM TEST POINTS

CONDITIONS:

- Key switch in run position.
- Gear shift lever in neutral position.
- PTO disengaged.
- Meter positive lead on numbered test points.
- Meter negative lead on numbered test points.
- Meter on DC volts
- Electrical tests & adjustements in this Section and Group.

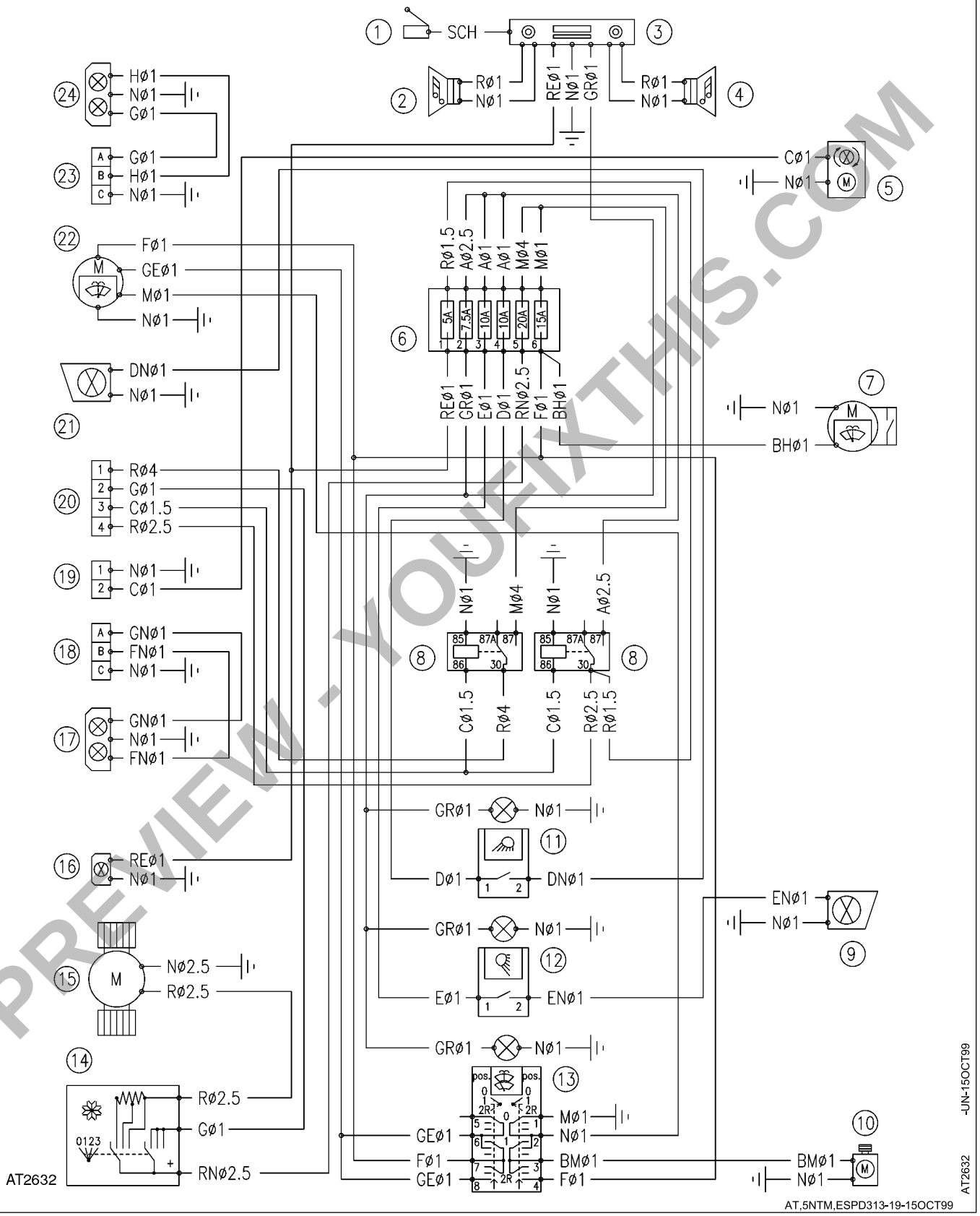
Test Location	Normal	If Not Normal
1. Battery positive post.	Minimum 11.8 VDC	Test battery and charge if good. Replace bad battery.
2. Starter battery terminal.	Battery voltage	Check for corroded connections or break in wire between battery and starter.
3. BAT terminal of key switch.	Battery voltage	Check for corroded connections or break in wire between starter and key switch.
4. IGN terminal of key switch.	Battery voltage	Check that key switch is in run position. If switch is in run, switch is bad. Replace.
5. 7.5 Amp fuse input (F11 fuse) of fuse box.	Battery voltage	Check for corroded connections or break in purple wire between horn switch and fuse box.
6. 7.5 Amp fuse output (F11 fuse) of fuse box.	Battery voltage	Check for failed fuse F11. Replace fuse if it is failed. If fuse is good, check for corroded or loose terminals.
7. Orange wire terminal of fuel shut-off solenoid.	Battery voltage	Check for corroded connections or break in orange wire between fuse box (F11 fuse terminal) and fuel shut-off solenoid. If connections are good, replace solenoid.

PREVIEW - YOUFIXTHIS.COM

AT,5STM,407 -19-01JUL97

Download full manual at youfixthis.com

WIRING DIAGRAM FOR OPERATOR'S CAB



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

HYDRAULIC SYSTEM SCHEMATIC

ART NOT FOUND
AT2630

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Index

Page

A

Adjustments
- Bleeding brakes 260-15-18
- Brake pedal 260-15-16
- Clutch pedal free play 250-15-23
- Distributor control valve 70-10-27
- Handbrake 260-15-17
- PTO clutch lever 250-15-24
- Rockshaft control lever friction 270-25-1
- Rockshaft draft control 70-10-26, 270-25-4
- Rockshaft position control . . . 70-10-25, 270-25-3
- Rockshaft safety and relief valve 270-25-5
- Rockshaft sensitivity 70-10-24, 270-25-2
- SCV relief valve 270-25-6
- Steering stop (MFWD) 260-15-15
- Toe-in (MFWD) 260-15-13
- Toe-in (2WD) 260-15-12

Adjustments ^
- Steering stop (2WD) 260-15-14

Air cleaner elements
- Remove, inspect and install 30-15-1

Air cleaner primary element
- Cleaning 30-15-2
- Inspecting 30-15-3
- Washing 30-15-2

Air conditioning
- Charge 90-25-9
- Recover/recycle refrigerant 90-25-4
- Specifications 90-25-3

Air conditioning system
- Component location 290-05-1

Air conditioning system operation 290-05-1

Air filter restr. indicator test points 240-15-70

Air intake system
- Turbocharger 30-15-1

Alternator/regulator
- Repair 40-05-3
- Replace 40-05-3
- Test 240-15-87

Axle shaft, MFWD
- Remove, inspect and install 50-30-15

Axle, MFWD
- Pivot bushing, remove and install 50-30-7
- Pivot pin, remove and install 50-30-7
- Remove and install 50-30-4

Axle, theory of operation 250-15-21

Page

B

Battery
- Charge 240-15-82
- Load test 240-15-83
- Removal and installation 40-05-1
- Specific gravity test 240-15-81
- Voltage test 240-15-81

Bleeding brakes 260-15-18

Blower, theory of operation 240-10-50

Brake pedal adjustment 260-15-16

Brake pedal switch
- Replace 40-10-9

Brake system
- Removal and inspection 60-10-5
- Bleeding 260-15-18
- Brake installation 60-10-11
- Brake linkage 60-10-18
- Brake pedal adjustment 260-15-16
- Brake removal 60-10-9
- Brake valve and pedals 60-10-1
- Components 260-05-4, 270-05-4, 270-15-8
- Diagnostics, tests and adjustments 260-15-3
- Handbrake adjustment 260-15-17
- Pedals 60-10-1
- Theory of operation 260-10-8
- Trailer brake components . . 260-05-6, 260-10-15
- Trailer brake valve 60-10-24
- Valve 60-10-1

Brake valve
- Cross Section 60-10-6
- Theory of operation 260-10-10

C

Cab door
- Removal and installation 90-20-13

Cab installation 90-20-3

Cab recirculating/fresh air filter
- Removal and installation 90-20-16

Cab removal and installation 90-20-1

Center link 80-15-3

Charging system, electrical test points . . 240-15-10

Charging system, theory of operation . . . 240-10-8

Clutch
- Assembly 50-05-7
- Disassembly and inspection 50-05-4
- Finger adjustment 50-05-10, 50-05-11

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 25—Adjustments
Group 30—Hydraulic System Schematic

SECTION 290—OPERATOR'S STATION
Group 05—Air Conditioning System Components
Group 05—Air Conditioning System - Theory of Operation

SECTION 299—SPECIAL TOOLS — SELF-MANUFACTURED
Group 05—Manufacturing the Tools

Index

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

TURBOCHARGER REPAIR

For complete turbocharger repair information refer to CTM Engines (Component Technical Manual) in conjunction with this manual.



AT,5STM,HJH0013-19-01JUL97

REMOVE, INSPECT AND INSTALL AIR CLEANER ELEMENTS

NOTE: Tractor without cab shown.

1. Open hood.

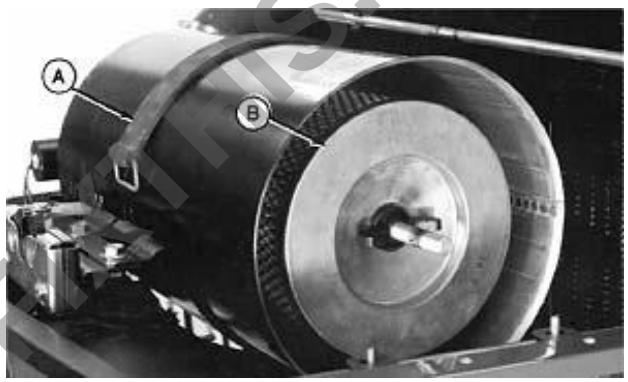
2. Disconnect strap (A).

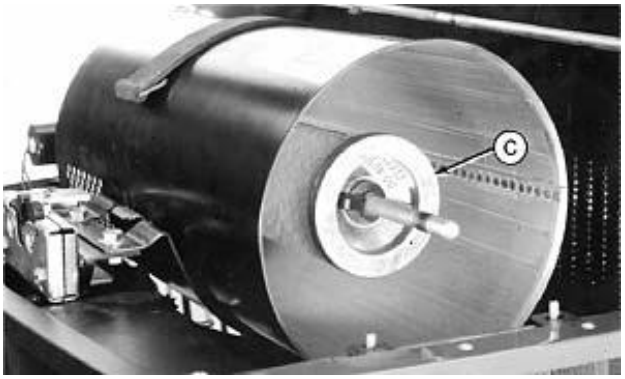
3. Remove wing nut, washer and cover.

4. Remove wing nut, washer and primary element (B).

IMPORTANT: Remove secondary safety element ONLY if it is to be replaced. Do not attempt to clean secondary element. Install new element immediately to prevent dust from entering air intake system. Dust can damage internal engine components and turbocharger, if equipped.

5. Replace secondary safety element (C), if dirty or damaged.





LV,3010HA,A2 -19-09DEC96

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

12. Check axle end play between points (A and B) to specification using feeler gauges.

13. End play should not exceed 0.8 mm (0.030 in.) forward and aft.

14. Axle should oscillate freely. Remove or install shims to maintain end play.

15. Tighten cap screws to specifications.

IMPORTANT: Use new O-rings. Used or damaged O-rings will leak.

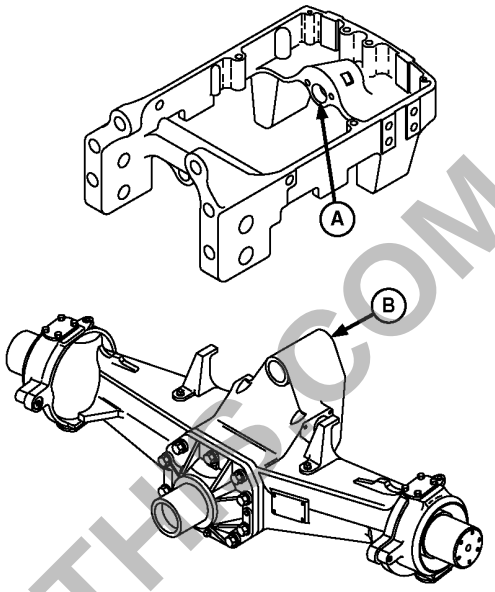
16. Install new O-rings and connect hydraulic hoses.

17. Install front wheels. Tighten wheel nuts to specifications.

18. Remove jackstand and lower tractor to ground.

19. Install drive shaft (see procedure in this Group).

20. Apply multipurpose grease to lubrication fittings located on left side of axle housing pivot.



LV1640 -UN-21AUG96

SPECIFICATIONS

Pivot pin retainer	
Cap screws	135 N·m (100 lb-ft)
Front wheel nuts	300 N·m (220 lb-ft)
Axle end play	0.8 mm (0.030 in)

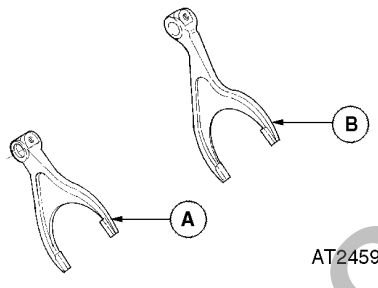
AT,5NTM,ESPD111-19-15AUG99

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

REMOVE, INSPECT AND INSTALL SECONDARY SHAFT

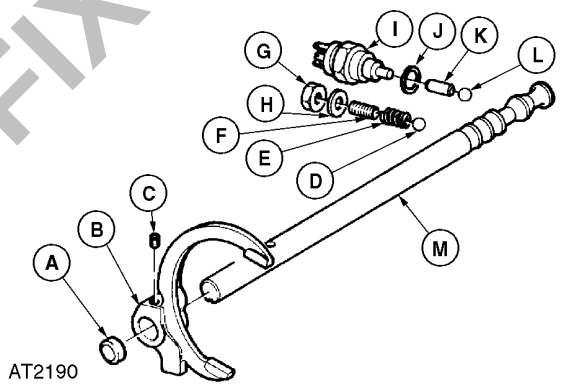
1. Remove transmission as described in this Group.
2. Remove range shaft as described in this Group.
3. Remove primary shaft as described in this Group.
4. Remove pinion shaft as described in this Group.
5. Remove shift forks (A) and (B).



AT,5NTM,ESPD134-19-15AUG99

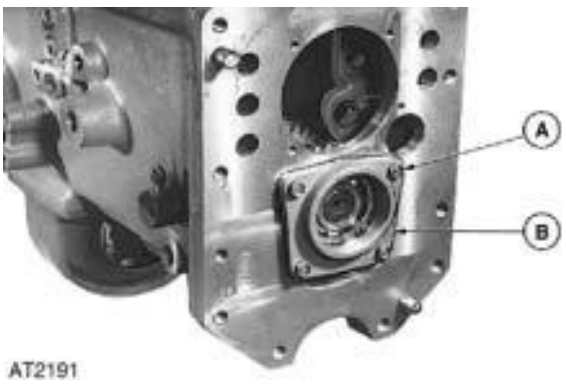
6. Remove parts (D) to (L) on r.h. side of transmission case.
7. Remove Allen screw (C) to remove shaft (M), plug (A) and shift fork (B).

A—Plug
B—Shift Fork
C—Allen Screw
D—Ball
E—Spring
F—Detent Adjuster
G—Lock Nut
H—Sealing Washer
I—Neutral Start Switch
J—Sealing Washer
K—Pin
L—Ball
M—Shaft



AT,5STM,296 -19-01JUL97

8. Remove four cap screws (A) to remove cover (B).



AT,5STM,297 -19-01JUL97

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

NOTE: For Italy only: the trailer brake valve includes a solenoid valve. After installation it is necessary to connect electric cable (A) to pressure switch (B) and wiring to solenoid valve (D).

7.Re-install platform, fuel tank and strainer on suction line with hoses and clamps.

8. Re-fill transmission with specified oil (see “Fuel, Lubricants and Coolant” in Section 10).

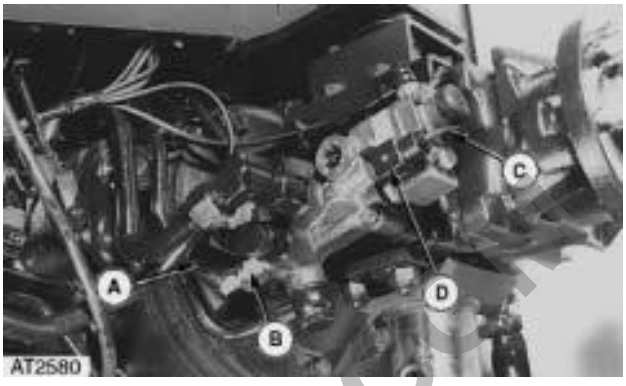
9. Connect cables of left-hand tail light and work light.

10. Re-install left-hand fender, the two lever guides and the seat.

11. Re-install rear wheel.

12. Remove the support of the left-hand final drive.

13. Run the engine for a few minutes and check trailer brake valve for correct operation and for leaks.

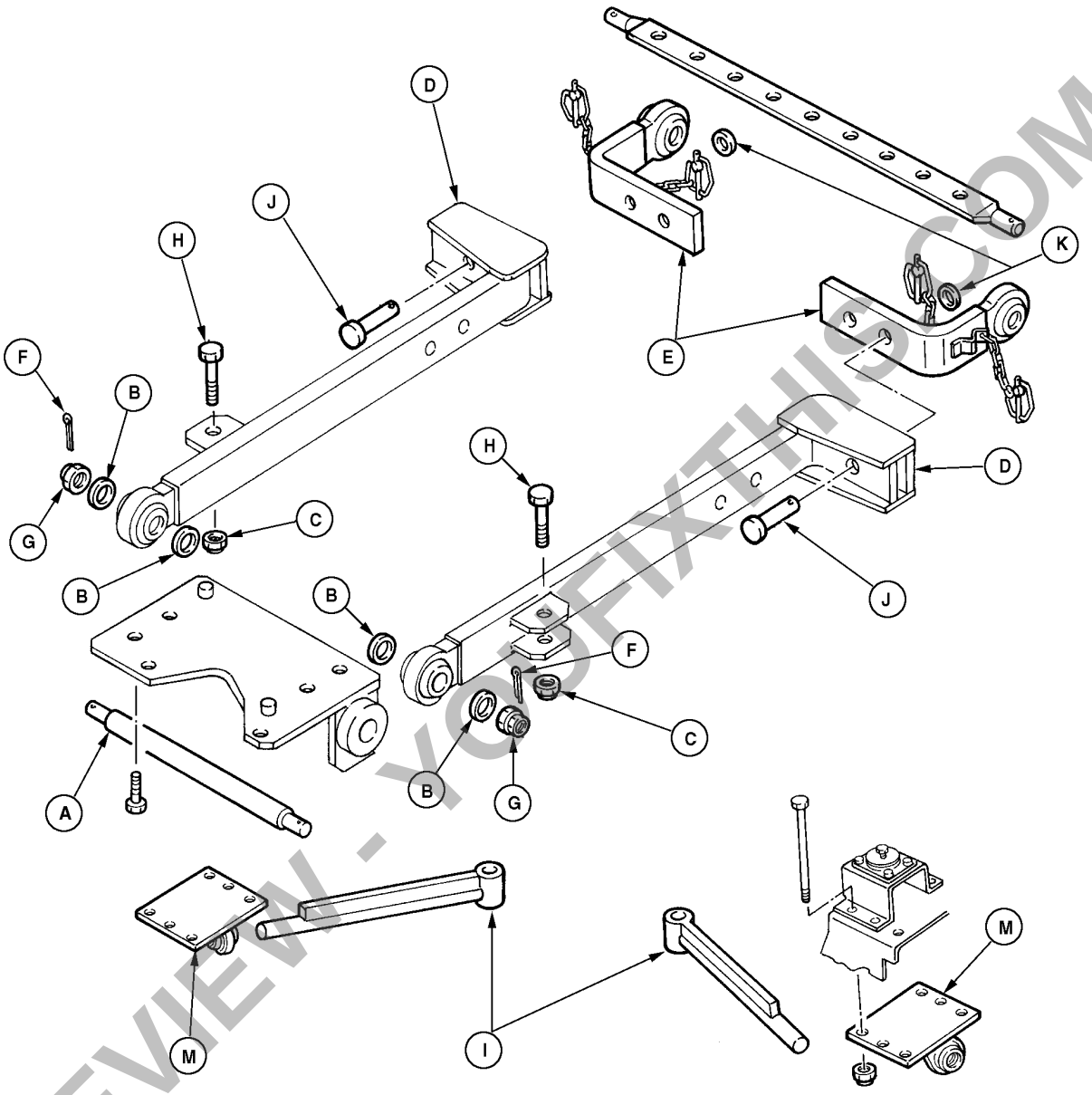


AT,5NTM,ESPD165-19-15AUG99

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

INSPECT AND REPAIR DRAFT LINKS

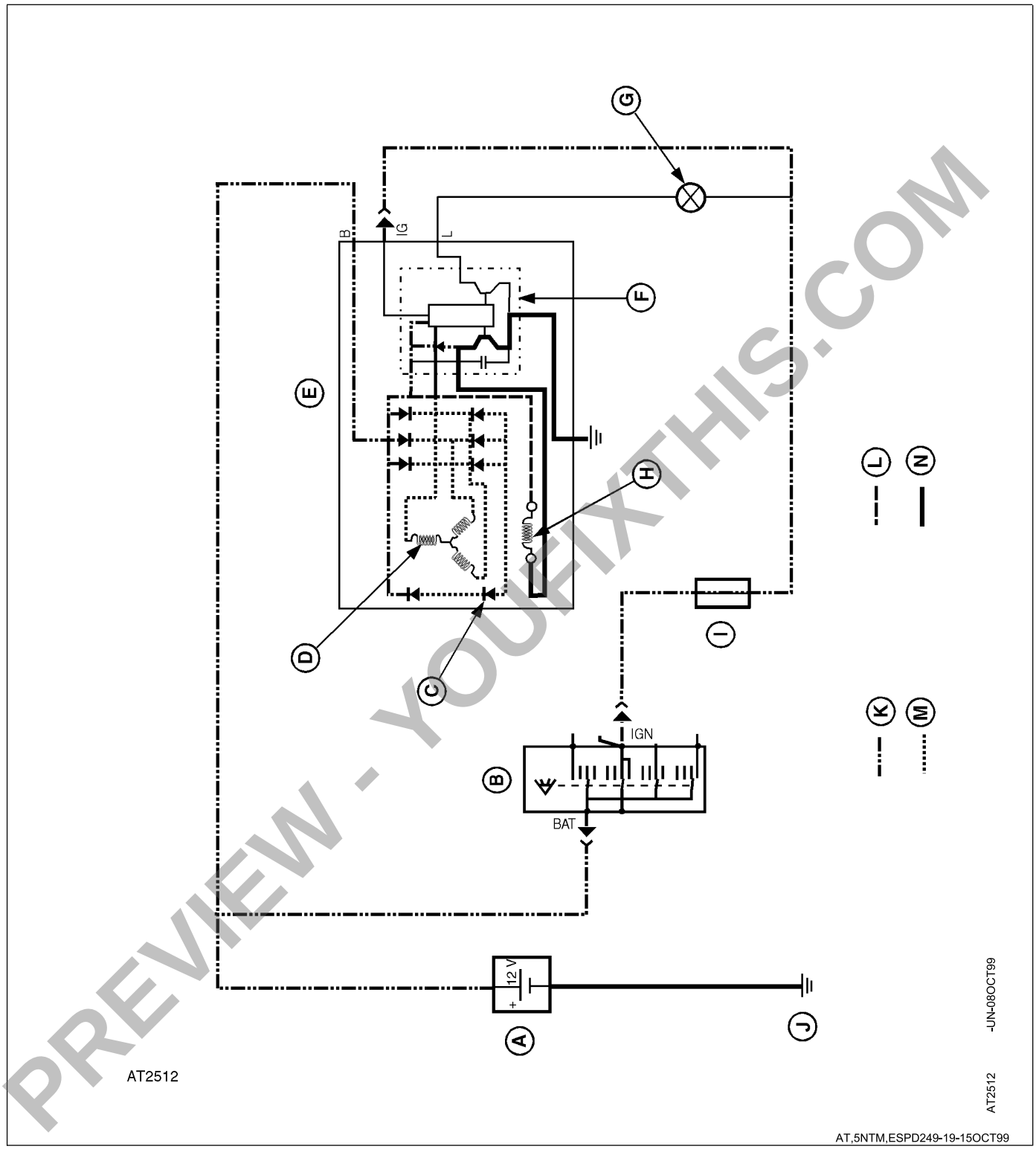


A—Cross shaft	D—Draft link	G—Nut	J—Pin (2 used)
B—Washer (4 used)	E—Arm	H—Screw	K—Washer (2 used)
C—Nut	F—Cotter pin	I—Rod	M—Support

Inspect draft assembly for wear or damage. Replace as necessary.

AT,5NTM,ESPD238-19-15OCT99

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



AT,5NTM,ESPD249-19-15OCT99

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

LIGHTING SYSTEM TEST POINTS - TURN SIGNALS - CONTINUED

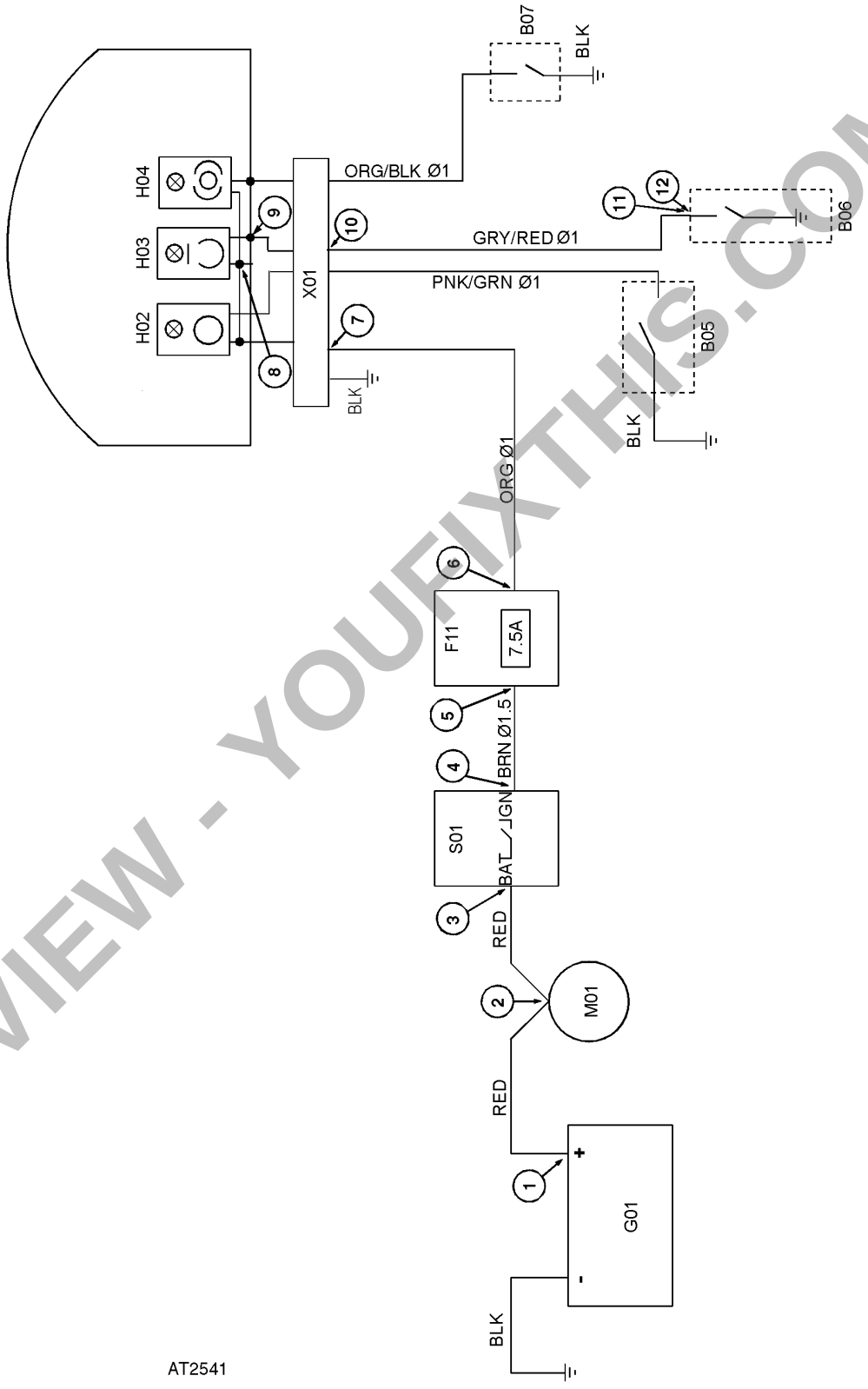
Test Location	Normal	If Not Normal
17. Black wire terminal of instrument panel.	Less than 0.2 volt.	Check continuity to ground of black wire. If wire is good to ground, replace left turn indicator by replacing instrument panel.
18. White/light blue wire terminal of tractor turn indicator.	Battery voltage (pulsing).	Check for corroded connections or break in white/light blue wire between turn/warn signal relay and tractor turn indicator connector.
19. Black wire terminal of tractor turn indicator.	Less than 0.2 volt.	Check for failed tractor turn indicator. Check continuity to ground of black wire to tractor frame. If wire is good to ground, replace tractor turn indicator.
20. Yellow/green wire terminal of first trailer turn indicator.	Battery voltage (pulsing).	Check for corroded connections or break in yellow/green wire between turn/warn signal relay and first trailer turn indicator connector.
21. Black wire terminal of first trailer turn indicator.	Less than 0.2 volt.	Check for failed first trailer turn indicator. Check continuity to ground of black wire to tractor frame. If wire is good to ground, replace first trailer turn indicator.
22. White/orange wire terminal of second trailer turn indicator.	Battery voltage (pulsing).	Check for corroded connections or break in white/orange wire between turn/warn signal relay and second trailer turn indicator connector.
23. Black wire terminal of second trailer turn indicator.	Less than 0.2 volt.	Check for failed second trailer turn indicator. Check continuity to ground of black wire to tractor frame. If wire is good to ground, replace second trailer turn indicator.

AT,5NTM,ESPD289-19-15OCT99

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

INSTRUMENT PANEL TEST POINTS - OIL PRESSURE INDICATOR



PREVIEW - YOUFIXTHIS.COM

AT,5NTM,ESPD307-19-15OCT99

Download full manual at youfixthis.com

TRANSMISSION SYNCHRONIZER OPERATION - REVERSE, FORWARD, 1ST, 2ND, 3RD AND 4TH GEAR

A — Reverse Drive Gear
B — Synchronizer Ring
C — Hub
D — Shift Collar
E — Drive Shaft
F — Insert
G — 1st Speed Driven Gear
H — 1st and 2nd Speed Synchronizer Assembly
I — 2nd Speed Driven Gear
J — 3rd Speed Driven Gear
K — 3rd and 4th Speed Synchronizer Assembly
L — 4th Speed Driven Gear

FUNCTION:
Synchronizer equalizes speeds of mating gears to allow a clash-free shift while the tractor is in motion.

MAJOR COMPONENTS:
- Reverse Drive Gear
- Synchronizer Ring
- Hub
- Shift Collar
- Drive Shaft
- Insert
- 1st Speed Driven Gear
- 1st and 2nd Speed Synchronizer Assembly
- 2nd Speed Driven Gear
- 3rd Speed Driven Gear
- 3rd and 4th Speed Synchronizer Assembly
- 4th Speed Driven Gear

THEORY OF OPERATION:
Hub (C) is splined to the clutch shaft and rotates only when clutch is engaged. To obtain a clash-free shift, drive gear (A), hub (C) and shift collar (D) must be turning at the same rate of speed.

Reverse Gear Operation:
To engage the Reverse Gear, the shift collar (D) is moved forward by the shift fork. When moving forward the shift collar, inserts (F) push synchronizer ring (B) against drive gear (A) conical seat and bring hub (C) and drive gear (A) to the same speed. Synchronizer ring also aligns hub teeth with gear teeth thus facilitating shift collar (D) engaging.

Power flow for reverse gear selection is described and illustrated in Transmission Power Flow - Reverse Gear, in this group.

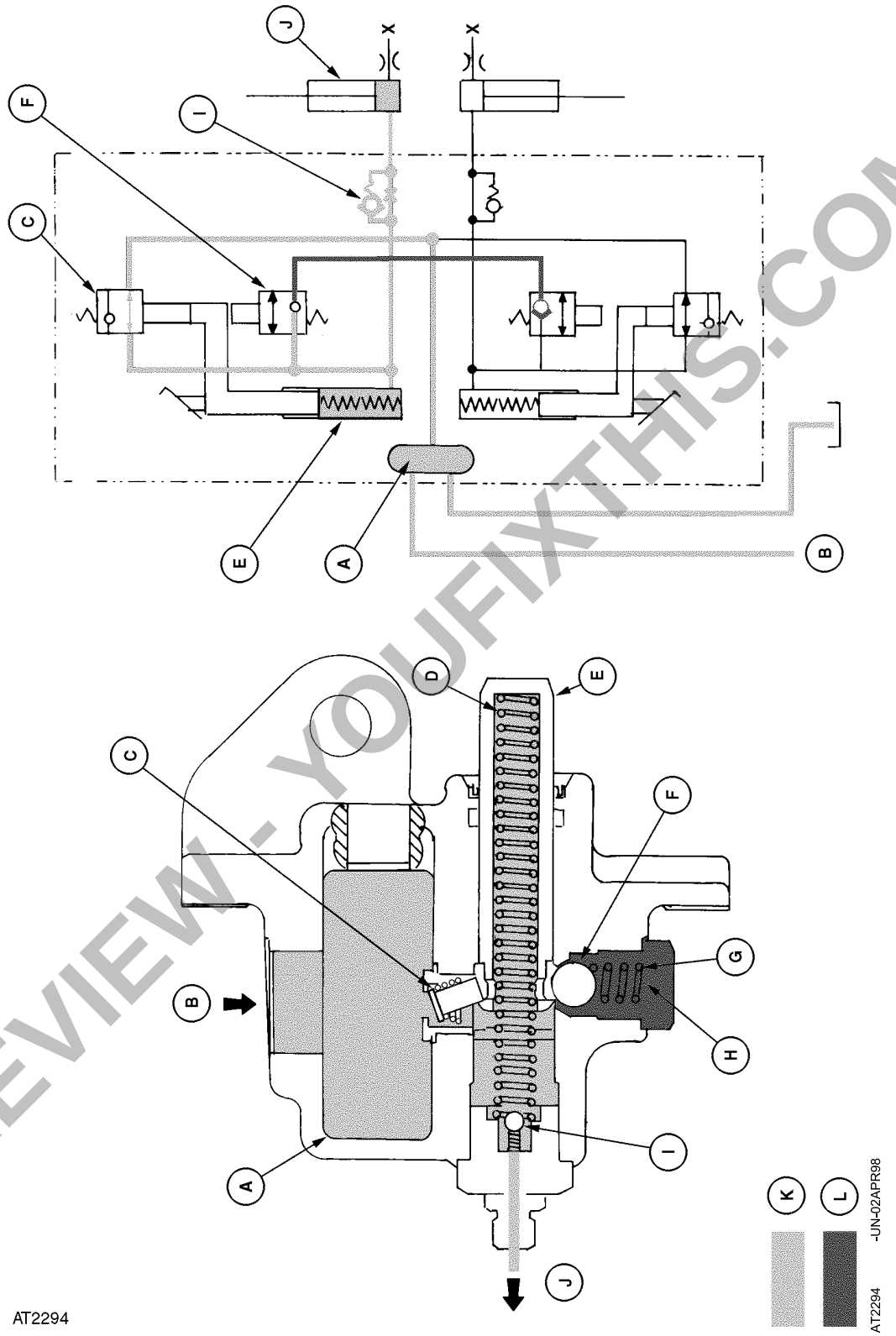
Forward Gear Operation:
The operation of the synchronizer in forward gear is the same as reverse, except the shift collar is moved to the rear.
Power flow for forward gear selection is described and illustrated in Transmission Power Flow - Forward Gear in this group.

1st, 2nd, 3rd and 4th Gear Operation
The operation of the synchronizer in 1st, 2nd, 3rd and 4th gear is the same as reverse and forward gear. Power flow for 1st, 2nd, 3rd and 4th gear selection is described and illustred in Transmission Power Flow - Reverse and Forward in this group.

PREVIEW - YOUFIXTHIS.COM

AT,5STM,472 -19-01OCT97

Download full manual at youfixthis.com



AT,5STM,499 -19-01OCT97

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

SELECTIVE CONTROL VALVE OPERATION - SINGLE-ACTING/RETURN POSITION

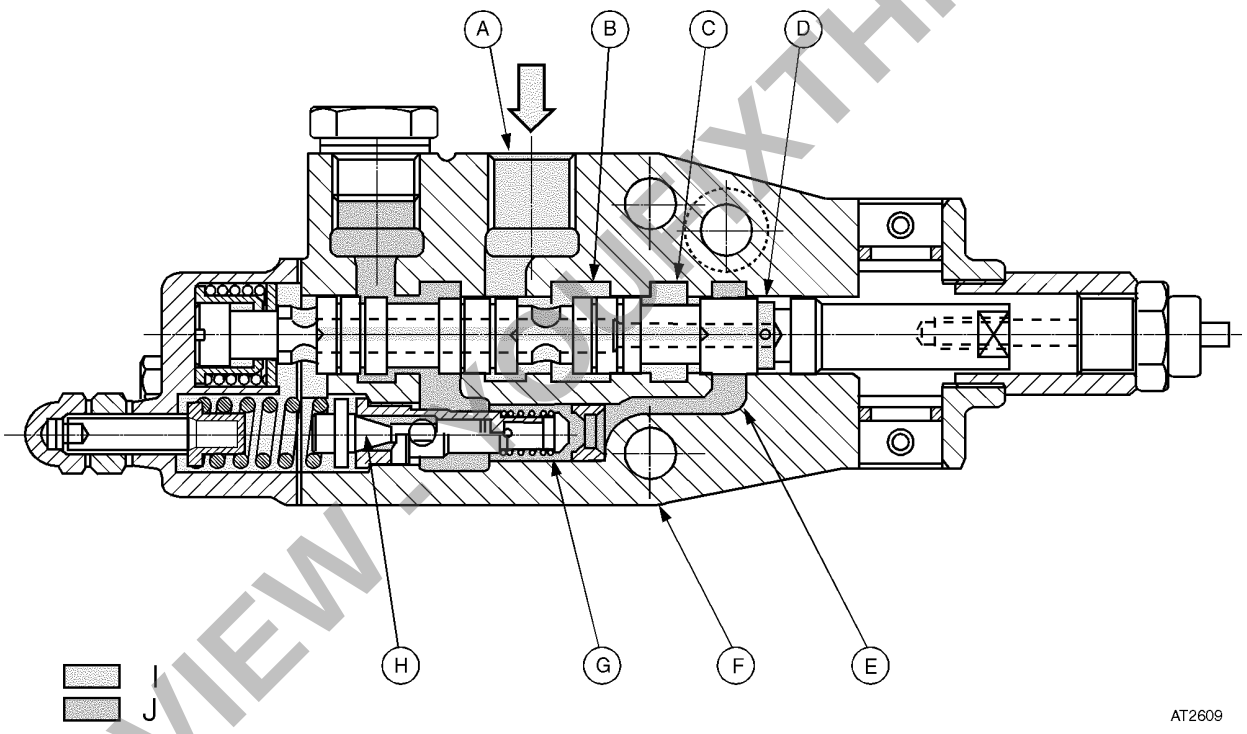
FUNCTION:
Controls oil supply to cylinder of attached implements.

MAJOR COMPONENTS:
- Selective Control Valves
- Lever

THEORY OF OPERATION:
Moving the control lever downward, the oil held in the external equipment is permitted to flow into the port (A) and out of the return passage (B).

Pump flow is through inlet passage (E) and outlet passage (C) to the second selective control valve or the internal hydraulic system.

The return spring will return the valve spool to the neutral position when the control lever is released.



-UN-05OCT99
AT2609
AT2609

A—External port
B—Return passage
C—Outlet passage
D—Spool
E—Inlet passage
F—Valve housing
G—Check valve
H—Relief valve
I—Return oil
J—System flow

AT,5NTM,ESPD361-19-03JAN00

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

PREVIEW ONLY

You're viewing 24 of 782 pages

The full manual includes:

- All 782 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

John Deere 5300N, 5400N, 5500N Technical Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual