444J, 544J, 624J Loader Repair

TECHNICAL MANUAL

444J, 544J, 624J Loader Repair

TM2136 08JAN04 (ENGLISH)

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For complete service information also see:

444J, 544J, 624J Loader Operation and Test	TM2135
Alternators and Starting Motors	CTM77
POWERTECH® 4.5L & 6.8L Diesel Engines Base Engine	CTM104
TEAMMATE™ III 1000, 1200, and 1400 Series Inboard Planetary Axles	CTM150
POWERTECH® 4.5L and 6.8L Diesel Engines Level 11 Electronic Fuel System with Denso HPCR	CTM220
POWERTECH® 4.5L and 6.8L Diesel Engines Level 12 Electronic Fuel System with DE10 Pump	CTM331
120 Series Hydraulic Cylinders	TM-H120A
125 Series Hydraulic Cylinders	TM-H125A
SERVICE ADVISOR™ System Computer Connection	T133991

Worldwide Construction And Forestry Division

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A John Deere ILLUSTRUCTION® Manual

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0001
1

Recognize Safety Information

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

Follow the precautions and safe operating practices highlighted by this symbol.

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

On your machine, DANGER signs are red in color, WARNING signs are orange, and CAUTION signs are yellow. DANGER and WARNING signs are located near specific hazards. General precautions are on CAUTION labels.



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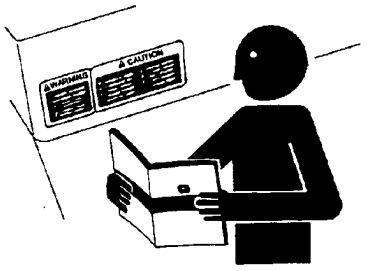
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Follow Safety Instructions

Read the safety messages in this manual and on the machine. Follow these warnings and instructions carefully. Review them frequently. Keep safety signs in good condition. Replace missing or damaged safety signs. Replacement safety signs are available from your John Deere dealer.

Be sure all operators of this machine understand every safety message. Replace operator's manual and safety labels immediately if missing or damaged.

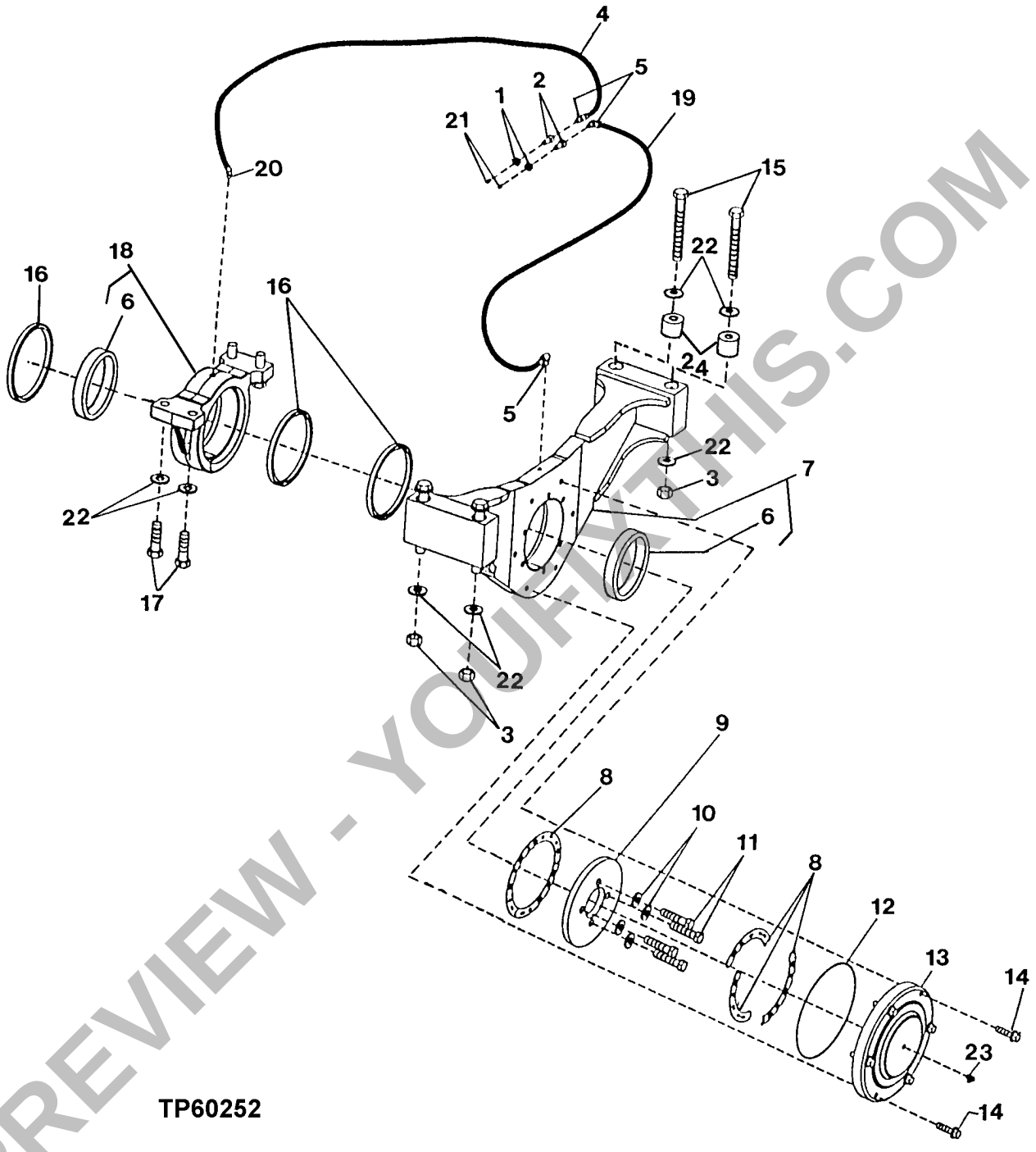


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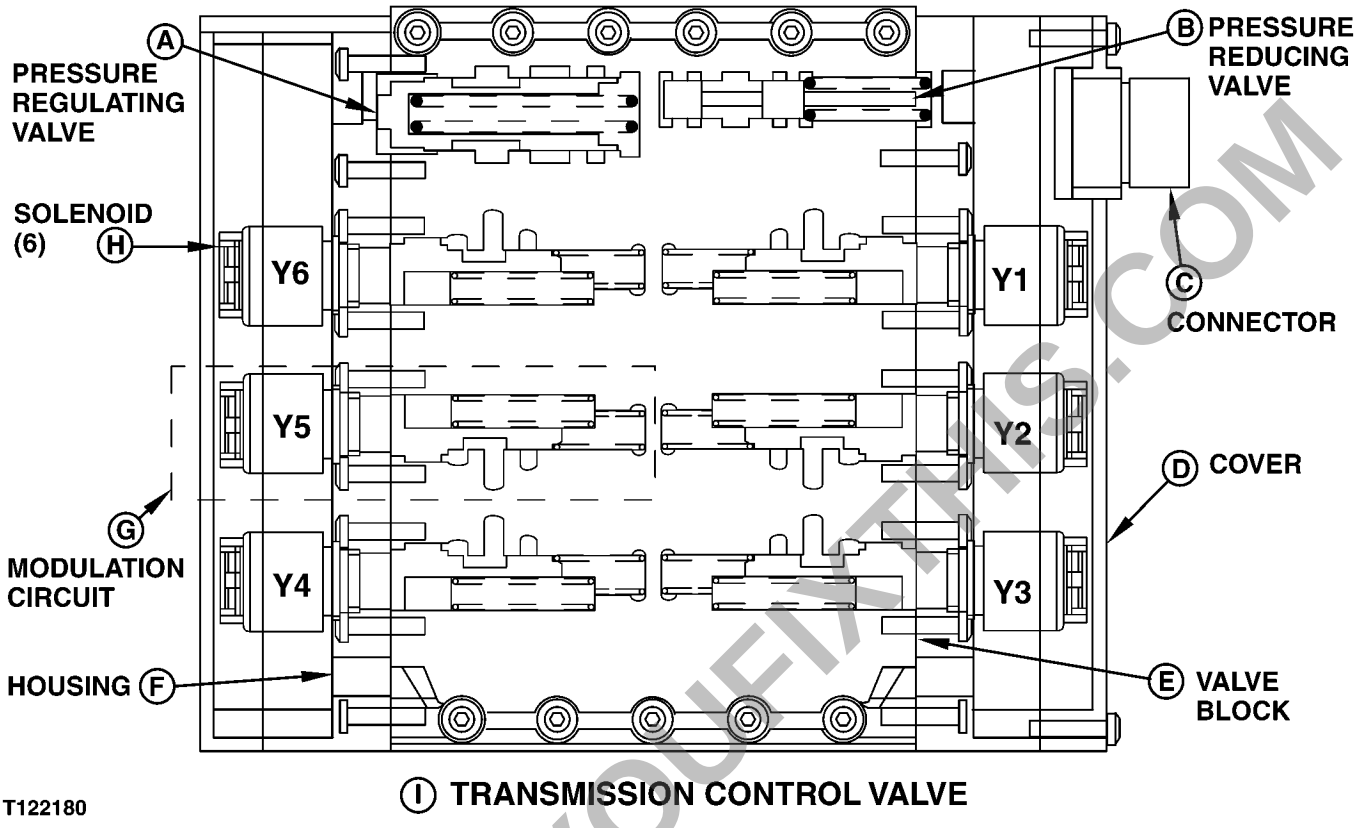
1—Special Jam Nut (2 used)
2—Fitting (2 used)
3—Nut (4 used)
4—Hydraulic Hose
5—Elbow Fitting (3 used)
6—Bushing (2 used)
7—Rear Oscillating Support
8—Thrust Bearing (6 used)
9—Thrust Plate
10—Washer (4 used)
11—Cap Screw (4 used)
12—O-Ring
13—Cover
14—Cap Screw (6 used)
15—Cap Screw (4 used)
16—Seal (3 used)
17—Cap Screw (4 used)
18—Rear Axle Support
19—Hydraulic Hose
20—Elbow Fitting
21—Lubrication Fitting (2 used)
22—Washer (8 used)
23—Lubrication Fitting
24—Bushing 544J only (4 used)

Continued on next page

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Transmission Hydraulic Control Valve Cross Section View



A—Pressure Regulating Valve—Piston
B—Pressure Reducing Valve—Piston
C—Connector—Wiring Harness
D—Cover (2 used)
E—Valve Block—Control Valve
F—Housing (2 used)
G—Modulation Circuit
H—Solenoid Valve—Proportional (6 used)
I—Transmission Control Valve

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1—Elbow Fitting
2—Adapter
3—Elbow Fitting
4—Hydraulic Hose
5—Hydraulic Hose
6—Oil Filter
7—Hydraulic Hose
8—Hydraulic Hose
9—O-Ring
10—O-Ring
11—O-Ring
12—O-Ring
13—O-Ring

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Remove and Install Wheel

1. Raise machine and place 10-ton shop stand under axle.

CAUTION: Prevent crushing injury from heavy component. Use appropriate lifting device.

2. Place wheel lift under wheel. Fasten safety chain around upper part of tire.

TX,01,111685 –19–01NOV02–1/2

3. Remove cap screws (A). Remove wheel.

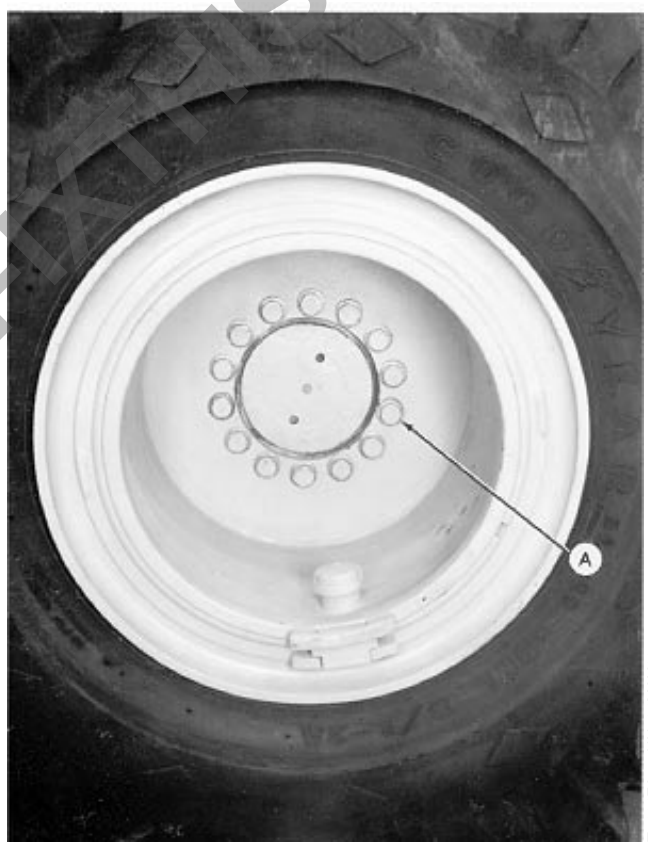
4. Clean mounting surface on wheel and axle flange.

5. Install wheel. Tighten cap screws.

Tighten Wheel Retainer Cap Screws—Specification

Wheel Retainer Cap Screws—Dry Torque	620 N•m (460 lb-ft)
Valve Stem Retaining Nut— Torque	6 N•m (50 lb-in.)

A—Wheel Cap Screw (14 used)



T7134FA –UN–24MAY90

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CAUTION: Prevent possible injury from unexpected boom or bucket movement when equipped with ride control. Ride control accumulator energy must be discharged when working on hydraulic components. With boom raised slightly, turn ignition switch to ON position. Cycle the ride control switch from OFF to ON (center position). Boom will jump up if ride control accumulator is energized. Press boom enable switch and move the control lever into the float position and hold for 5 seconds.

6. If equipped with ride control. With boom raised slightly, turn ignition switch to ON position. Cycle the ride control switch from OFF to ON (center position). Boom will jump up unexpectedly if ride control accumulator is energized. Press boom enable switch and move the control lever into the float position and hold for 5 seconds

7. Drain differential.

Specification	
444J Front Axle Differential—Capacity	17.5 L 18 Qt
544J Front Axle Differential—Capacity	20 L 21 Qt
624J Front Axle Differential—Capacity	25 L 26 Qt

CAUTION: Prevent possible crushing injury from heavy component. Use appropriate lifting device.

Weight may increase significantly due to buildup of mud or debris.

8. Remove bottom guard, if equipped.

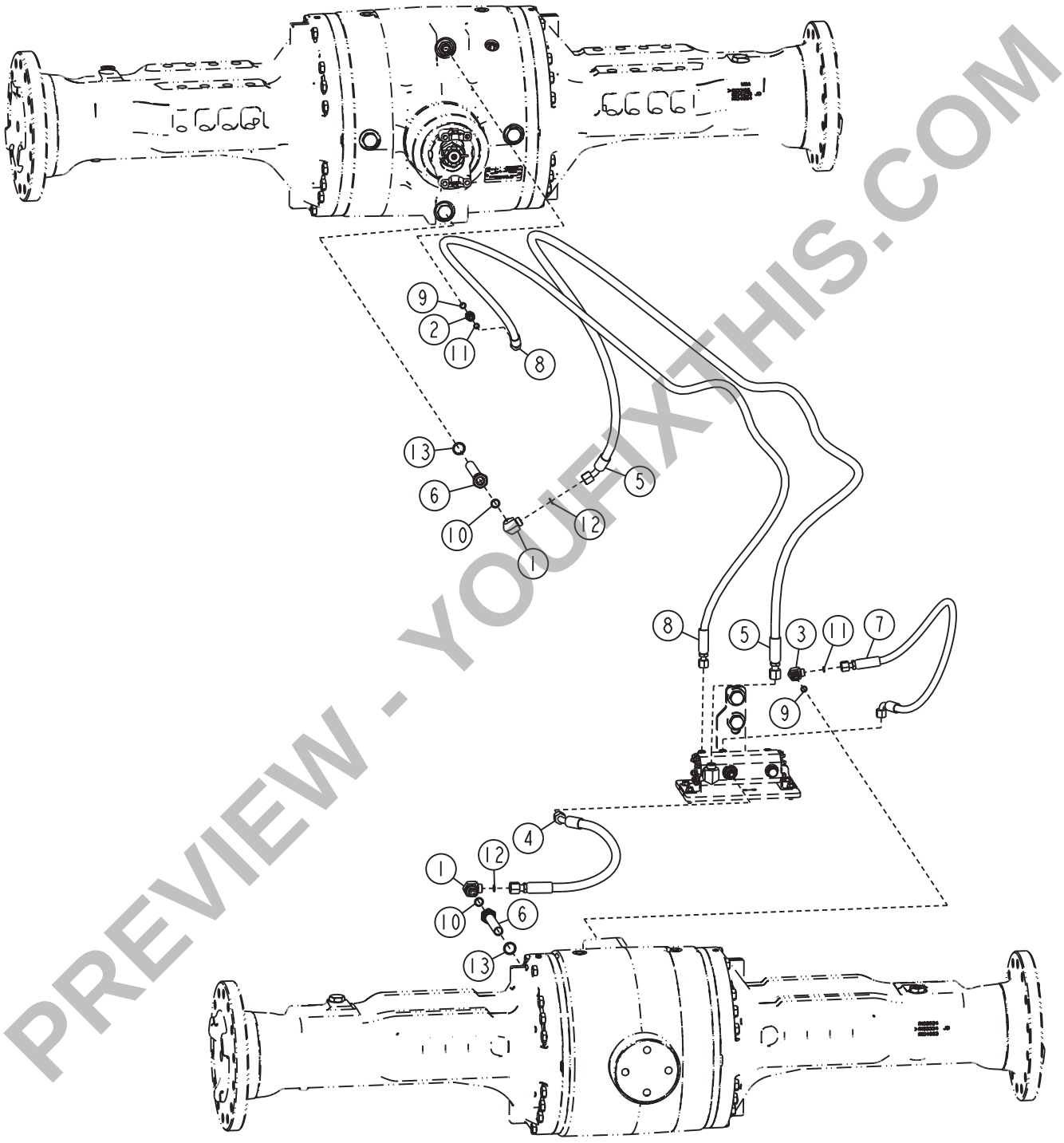
Specification	
444J Loader Frame Bottom Guard—Weight—Approximate	54 kg 119 lb
544J Loader Frame Bottom Guard—Weight—Approximate	54 kg 119 lb

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Axle Circulation System



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T196768

Axle Circulation System

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8. Fasten input flange with hex head screws and tighten.

Specification

Input and Output Flange-to-Drive Plate Hex Head Screw—Torque	34 N•m 25 lb-ft

Install locking plate using hammer and two deep well sockets (A) taped together with a hex nut between them for proper spread.

A—Deep Well Socket (2 used)



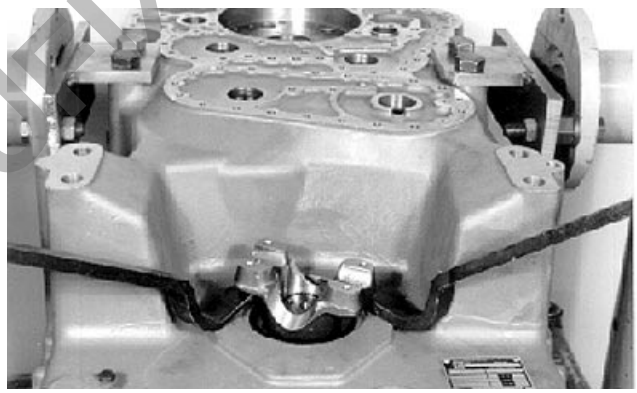
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Output Flange Shown

TX,0350,RB228 –19–09JUL02–8/8

Clutches, Input and Output Shafts Remove

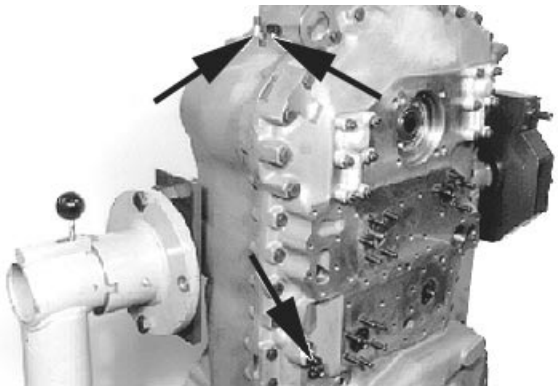
1. Remove lock plate, loosen hex head screws, and pry the rear output flange from the shaft.
2. Pry shaft seal out of the housing bore.
3. Turn gearbox 180° and remove front output flange in same manner.



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4. Remove three sensors.



T196799A –UN–08DEC03

Remove Three Sensors

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CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



X9811 –UN–23AUG88

1. Park machine and lower bucket to ground and allow engine to cool.

CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

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0510
10

2. Open rear hood and release pressure from radiator overflow reservoir.
3. Open cooling package rear door to access radiator drain valve and drain engine coolant. See Drain and Refill Capacities. (Operator's Manual.)

   444J Drain and Refill Capacities

   544J Drain and Refill Capacities

   644J Drain and Refill Capacities

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MX10672,000001C –19–06NOV03–3/8

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Windowpanes Remove and Install

The adhesive used to hold the windowpanes in place is a urethane adhesive that is used on most automobile windshields. Urethane adhesive manufactured by Loctite Corporation or equivalent is recommended. Do not use any other type of adhesive. It is also recommended that an auto glass dealer install the windowpanes.

IMPORTANT: Windowpanes must have an ultra-violet barrier around the edge of the glass since ultra-violet rays will deteriorate the adhesive. Windowpanes ordered through John Deere Parts have the ultra-violet barrier. If the windowpane is purchased through a glass dealer, the dealer must put an ultra-violet barrier on the glass. Do not apply paint to the border of the glass.

If an auto glass dealer is not installing the windowpanes, use the following procedure:

1. Purchase urethane adhesive from your local auto glass dealer.
2. If window frame is removable, remove frame from cab.
3. Scrape broken glass off existing adhesive. Do not remove adhesive from window frame or cab.

IMPORTANT: Adhesive will not stick to bare metal.

4. If existing adhesive is removed from frame and paint is scraped off window frame, paint window frame. Paint must be fully cured before installing windowpane.
5. Trim existing adhesive so it has a smooth surface.
6. Follow the manufacturer's instructions for using the adhesive.
7. Apply a 6 mm (1/4 in.) bead of adhesive on top of the existing adhesive.
8. Put a new windowpane into position. Use hand pressure to force windowpane down around the edges until even with metal frame.
9. If windowpane is installed directly on cab, use duct tape to hold it in place while adhesive cures.
10. Allow adhesive to cure for 24 hours before operating machine.

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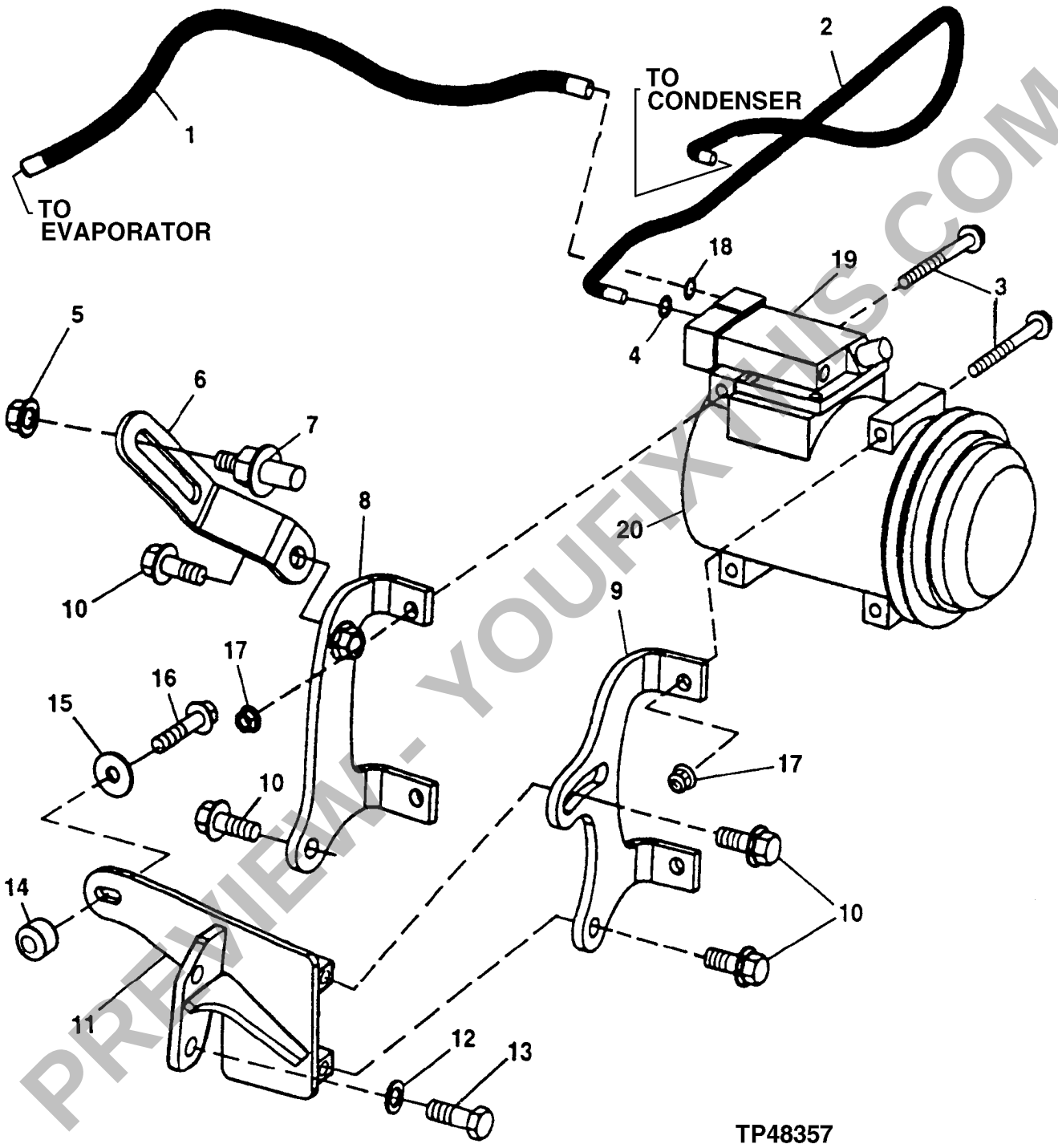
Cab Door Hold-Open Release Adjust

1. Remove door striker cover from left rear side of ROPS.
2. Adjust cable length so door release latch releases door when lever is moved 1/3 of full travel distance.
3. Apply thread lock and sealer (medium strength) to cable eye retaining nut. Cable eye must remain loose.

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Compressor Remove and Install



TP48357 –UN–17AUG96

1—Hose (to evaporator)
2—Hose (to condenser)
3—Screw (4 used)
4—Ring (2 used)
5—Flange Nut
6—Bracket
7—Screw
8—Bracket
9—Bracket
10—Screw (4 used)
11—Bracket
12—Washer (2 used)
13—Cap Screw (2 used)
14—Spacer
15—Washer
16—Screw
17—Flange Nut (4 used)
18—O-Ring
19—Manifold
20—Compressor

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TX,1830,MM3171 –19–28SEP98–1/2

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A—"B" Workport
B—Circuit Relief
C—Auxiliary Pilot
D—Bucket Rollback Pilot
E—Boom Raise Pilot
F—Bucket Rollback
G—Boom Raise
H—Load Sense Relief Valve—Maximum System Pressure
I—Load Sense to Pump
J—Shuttle Check Valves
K—Return
L—Return from Ride Control
M—Boom Lower
N—Bucket Dump
O—Anti-Cavitation
P—Boom Lower Pilot
Q—Pressure Switch (ride control)
R—Bucket Dump Pilot
S—Auxiliary Pilot
T—Circuit Relief
U—"A" Workport
V—Relief Valve (clipper)
W—Inlet from Pump
X—Load Sense from Steering
Y—Stroke Adjuster
Z—Loader Control Valve

NOTE: There is an orifice installed in the return port of the boom control valve section. The orifice is a double ORFS plate that is placed between the return fitting and hydraulic hose.

9. Remove all hoses and lines from control valve. Cap and plug all openings.
10. Remove cap screws.
11. Remove loader control valve.
12. Replace parts as necessary.
13. Install loader control valve. Connect all lines and hoses.

Specification

Loader Control Valve—Weight—Approximate	41 kg (90 lb)

DW09104,00000B9 –19–01DEC03–4/4

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