Contents

Page

Safety—Safety Features
Safety Features 1-1-1

Safety—General Precautions
Recognize Safety Information 1-2-1
Follow Safety Instructions 1-2-1
Operate Only If Qualified 1-2-2
Wear Protective Equipment 1-2-2
Avoid Unauthorized Machine Modifications 1-2-2
Inspect Machine 1-2-3
Stay Clear Of Moving Parts 1-2-3
Avoid High-Pressure Fluids 1-2-3
Beware Of Exhaust Fumes 1-2-4
Prevent Fires 1-2-4
Prevent Battery Explosions 1-2-4
Handle Chemical Products Safely 1-2-5
Dispose Of Waste Properly 1-2-5
Prepare For Emergencies 1-2-5
Add Cab Guarding For Special Uses 1-2-6

Safety—Operating Precautions
Start Only From Operator's Seat 1-3-1
Prevent Unintended Machine Movement 1-3-1
Avoid Work Site Hazards 1-3-2
Keep Riders Off Machine 1-3-2
Avoid Backover Accidents 1-3-3
Avoid Machine Tip Over 1-3-3

Safety—Maintenance Precautions
Park And Prepare For Service Safely 1-4-1
Service Cooling System Safely 1-4-1
Remove Paint Before Welding or Heating 1-4-2
Make Welding Repairs Safely 1-4-3
Drive Metal Pins Safely 1-4-3

Safety—Safety Signs
Safety Signs 1-5-1

Operation—Operator's Station
Instrument Panel with Gauge Package—If Equipped (Earlier Machines) 2-1-1
Instrument Panel Functions (Earlier Machines) 2-1-2
Instrument Panel (Later Machines) 2-1-4
Instrument Panel Functions (Later Machines) . . 2-1-5
Transmission Controller Display Window 2-1-6
Air Conditioning and Cab Heater—If Equipped 2-1-9
Windshield Wiper and Washer Controls 2-1-9
Windshield Washer Reservoir 2-1-9
Horn Switch 2-1-10
Auxiliary Power Outlet—If Equipped 2-1-10
Side Windows—Secondary Exits 2-1-11
Adjust Non-Suspension Seat 2-1-12
Adjust Suspension Seat—If Equipped 2-1-13
Adjust Armrest 2-1-13
Seat Belt 2-1-14

Operation—Operating The Machine
Inspect Machine Daily Before Starting 2-2-1
Check Instruments Before Starting (Earlier Machines) 2-2-2
Check Instruments Before Starting (Later Machines) 2-2-3
Starting the Engine (Earlier Machines) 2-2-4
Starting the Engine (Later Machines) 2-2-6
Starting Fluid (Cold Weather Start Aid)—If Equipped 2-2-7
Using Coolant Heater—If Equipped 2-2-9
Operating Fuel-Fired Coolant Heater—If Equipped 2-2-10
Using Booster Batteries—12 Volt System 2-2-20
Engine Warm-Up 2-2-21
Cold Weather Warm-Up 2-2-21
Driving the Machine with Standard FNR Lever (Earlier Machines) 2-2-22
Transmission Speed Reverse Ratio Knob—If Equipped 2-2-23
FNR with Transmission Speed In Grip—If Equipped 2-2-24
Driving the Machine using FNR with Transmission Speed In Grip—If Equipped (Earlier Machines) 2-2-25

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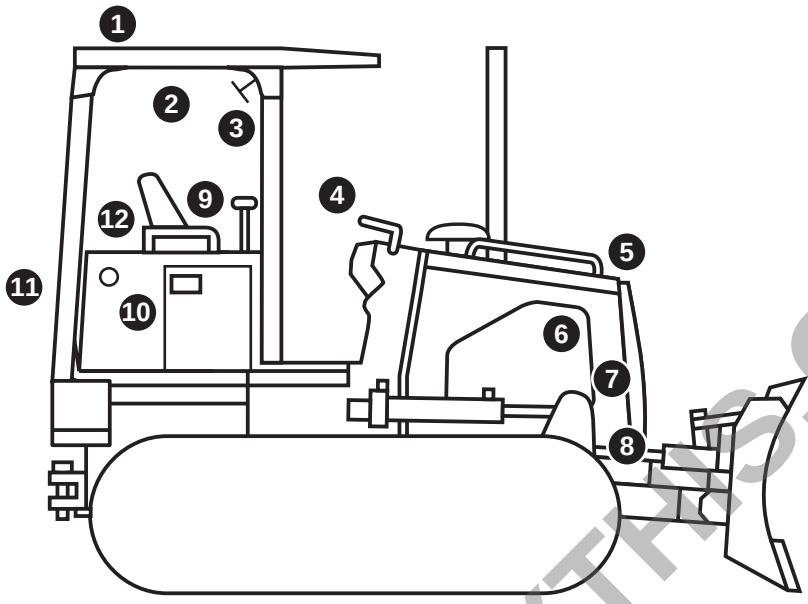
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Safety Features



T155521 –UN–19JUN02

T155521

Please remember, the operator is the key to preventing accidents.

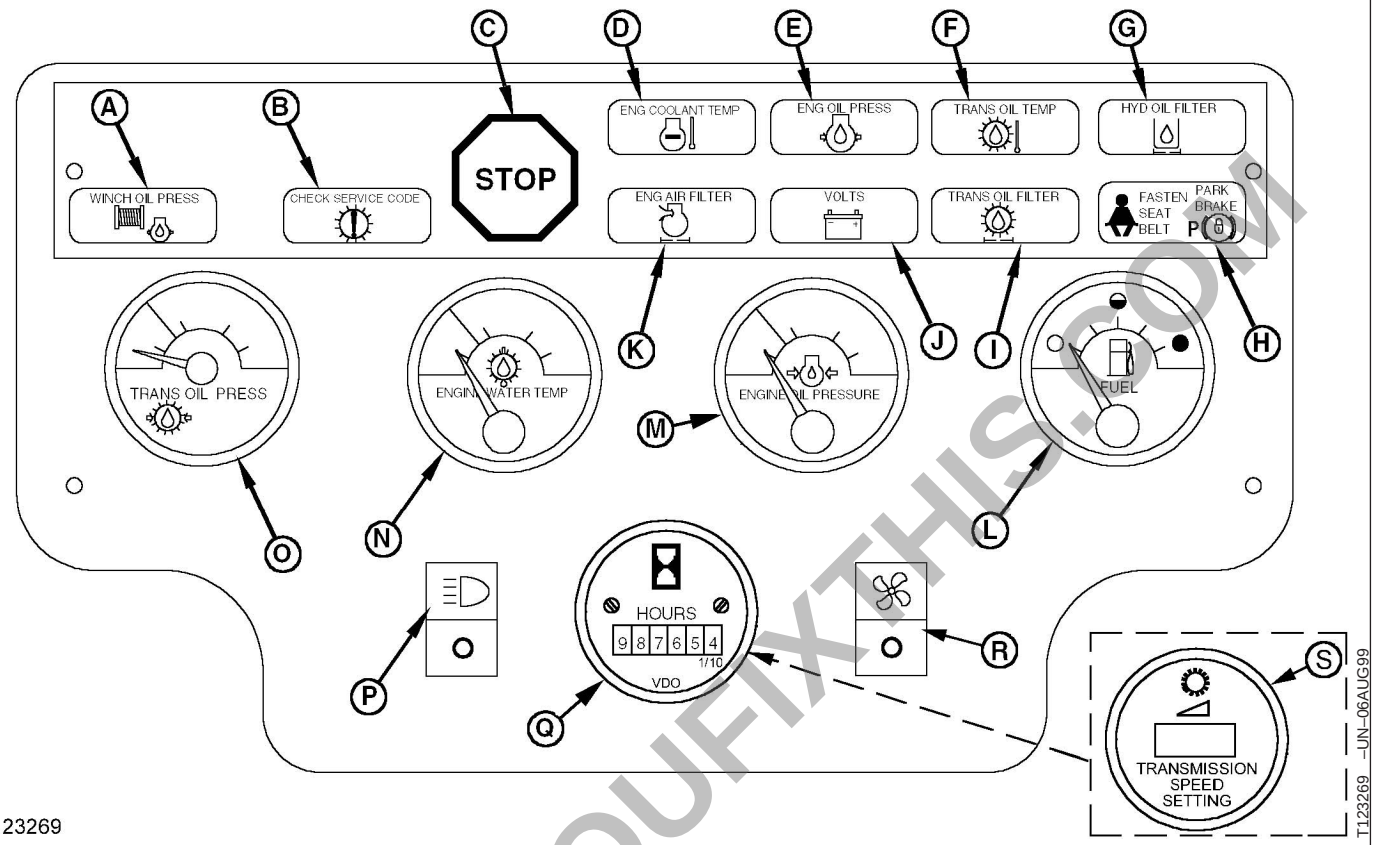
1. **ROPS, FOPS, and OPS.** Structures designed to help protect the operator are certified to ISO, SAE, and OSHA. Enclosures also deflect sun and rain.
2. **Pressurized Cab.** Positive pressure ventilation system circulates both outside and inside air through filters for a clean working environment. Built-in defroster vents directs air flow for effective window defogging/deicing.
3. **Interior Rear View Mirror.** Offers the operator a view of activity behind him.
4. **Park Lock Lever.** When park lock lever is placed in “lock” position, the transmission shifts in neutral, the hydraulics are deactivated, and the park brake is engaged.
5. **Handholds.** Large conveniently placed handholds make it easy to enter or exit the operator’s station.
6. **Bypass Start Protection.** Shielding over the starter solenoid helps prevent dangerous bypass starting.
7. **Engine Fan Guard.** A secondary fan guard inside engine compartment helps prevent contact with engine fan blades.
8. **Steps.** Wide skid-resistant steps help prevent slipping while getting in or out of the operator’s station.
9. **Neutral Start.** Neutral start feature prevents the engine from being started unless transmission control is in neutral.
10. **Automatic Seatbelt Retractors.**Seat belt retractors help keep belts clean and convenient to use.
11. **Backup Alarm.** Alerts bystanders when reverse travel direction is selected by operator.
12. **Operator Manual Holder.** A sealed manual holder keeps manual on machine clean and dry.

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Instrument Panel with Gauge Package—If Equipped (Earlier Machines)



T123269

A—Winch Oil Pressure Indicator—If Equipped (Red)
B—Check Service Code Indicator (Clear)
C—STOP Indicator (Red)
D—Engine Coolant Temperature Indicator (Red)
E—Engine Oil Pressure Indicator (Red)
F—Transmission Oil Temperature Indicator (Red)
G—Hydraulic Oil Filter Restriction Indicator (Yellow)
H—Fasten Seat Belt/Park Lock On Indicator (Clear)
I—Transmission Oil Filter Indicator (Yellow)
J—Voltage Indicator (Yellow)
K—Engine Air Filter Restriction Indicator (Yellow)
L—Fuel Gauge
M—Engine Oil Pressure Gauge
N—Engine Coolant Temperature Gauge
O—Transmission Oil Pressure Gauge
P—Front and Rear Work Lights Switch
Q—Hour Meter (When equipped with optional Transmission Speed Setting Gauge, the hourmeter is located on right side of front cowl)
R—Under-Seat Heater ON/OFF Switch
S—Transmission Speed Setting Gauge Display (Optional)

IMPORTANT: When the STOP-engine indicator is activated, stop engine immediately and investigate cause of problem. DO NOT start engine until problem has been corrected.

Each display indicator light is color-coded to indicate the severity of the situation. Red is a high-level warning, yellow is a low-level warning and clear indicates a condition.

When a red indicator lights, an audible alarm will sound. Stop the engine immediately and investigate the cause of the problem.

CED,OUO1032,744 –19–06JAN00–1/1

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Diesel Fuel

Consult your local fuel distributor for properties of the diesel fuel available in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to EN 590 or ASTM D975 are recommended.

In all cases, the fuel shall meet the following properties:

Cetane number of 40 minimum. Cetane number greater than 50 is preferred, especially for temperatures below -20°C (-4°F) or elevations above 1500 m (5000 ft).

Cold Filter Plugging Point (CFPP) below the expected low temperature OR **Cloud Point** at least 5°C (9°F) below the expected low temperature.

Fuel lubricity should pass a minimum of 3100 gram load level as measured by the BOCLE scuffing test.

Sulfur content:

- Sulfur content should not exceed 0.5%. Sulfur content less than 0.05% is preferred.
- If diesel fuel with sulfur content greater than 0.5% sulfur content is used, reduce the service interval for engine oil and filter by 50%.
- DO NOT use diesel fuel with sulfur content greater than 1.0%.

Bio-diesel fuels may be used ONLY if the fuel properties meet DIN 51606 or equivalent specification.

DO NOT mix used engine oil or any other type of lubricant with diesel fuel.

DX,FUEL1 –19–24JAN00–1/1

Low Sulfur Diesel Fuel Conditioner

When possible, use existing fuel formulations for engines used off-highway. This fuel will not require any additives to provide good performance and engine reliability. However, many local fuel distributors will not carry both low and regular sulfur diesel fuels.

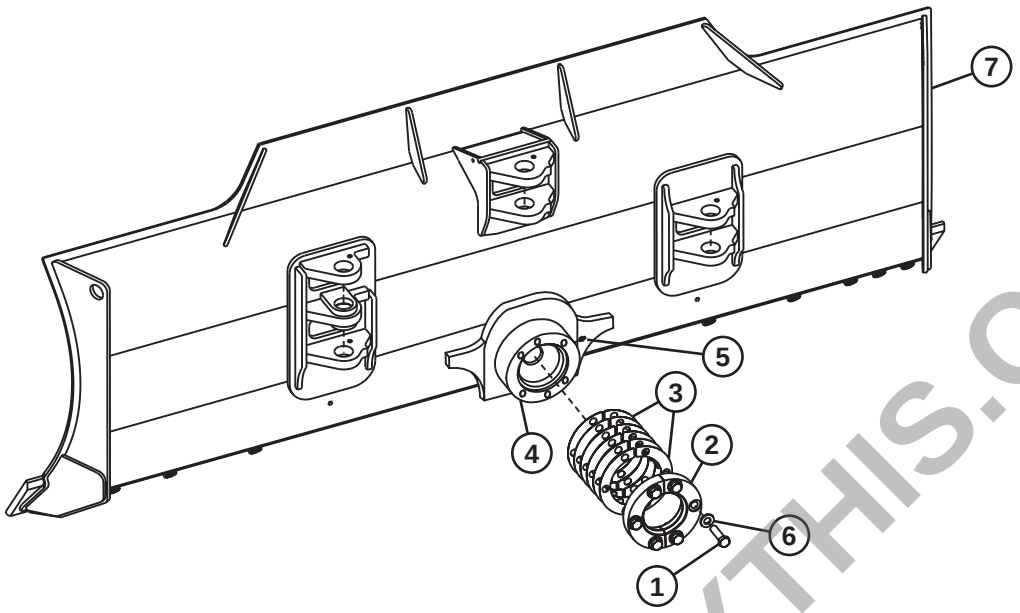
If the local fuel distributor will supply only low sulfur fuel, order and use John Deere PREMIUM DIESEL FUEL CONDITIONER. It provides lubricating properties along with other useful benefits, such as cetane improver, anti-oxidant, fuel stabilizer, corrosion inhibitor and others. John Deere PREMIUM DIESEL FUEL CONDITIONER is specifically for use with low sulfur fuels. Nearly all other diesel fuel conditioners only improve cold weather flow and stabilize long-term fuel storage. They do not contain the lubrication additives needed by rotary fuel injection pumps.

TX,45,JC2126 –19–15AUG97–1/1

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C-Frame Ball / Blade Socket Joint Adjustment



T158731

T158731 –UN–23AUG02

1—Cap Screw (6 used)
2—Socket Retainers (2 used)
3—Shims (12 included)
4—Socket
5—Lubrication Fitting
6—Washer (6 used)
7—Blade

1. Park machine on level surface. Lower blade to ground.
2. Remove cap screws (1) from socket retainers (2). Remove shims (3).
3. Install ball socket retainers without shims. Measure gap, remove ball socket retainers.
4. Install enough shims to fill gap, plus one extra shim.
5. Install ball socket retainers. Tighten cap screws to specification.

Specification

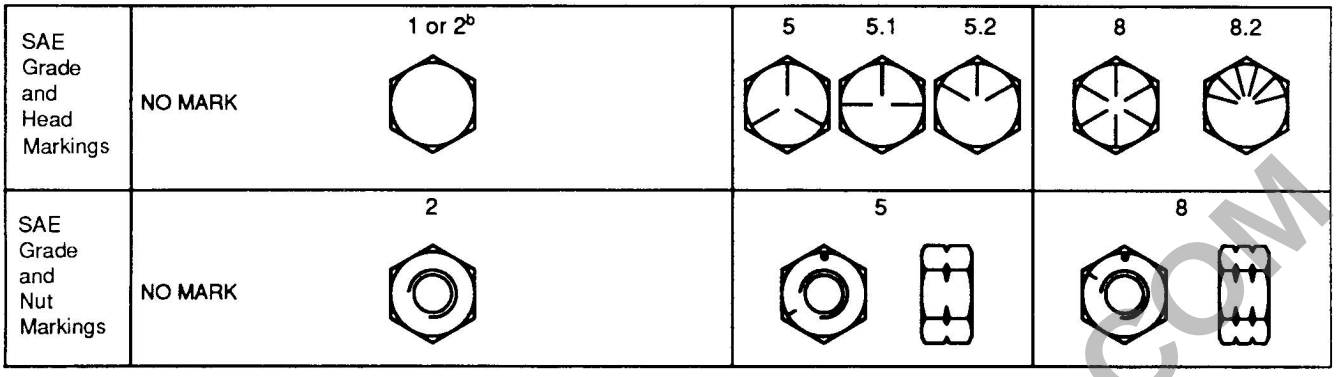
Socket Retainer Cap Screws—
Torque..... 350 N•m (255 lb-ft)

OUT3019,000035F –19–22AUG02–1/1

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Unified Inch Bolt and Cap Screw Torque Values



Size	Grade 1				Grade 2[b]				Grade 5, 5.1, or 5.2				Grade 8 or 8.2			
	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
1/4	3.7	2.8	4.7	3.5	6	4.5	7.5	5.5	9.5	7	12	9	13.5	10	17	12.5
5/16	7.7	5.5	10	7	12	9	15	11	20	15	25	18	28	21	35	26
3/8	14	10	17	13	22	16	27	20	35	26	44	33	50	36	63	46
7/16	22	16	28	20	35	26	44	32	55	41	70	52	80	58	100	75
1/2	33	25	42	31	53	39	67	50	85	63	110	80	120	90	150	115
9/16	48	36	60	45	75	56	95	70	125	90	155	115	175	130	225	160
5/8	67	50	85	62	105	78	135	100	170	125	215	160	240	175	300	225
3/4	120	87	150	110	190	140	240	175	300	225	375	280	425	310	550	400
7/8	190	140	240	175	190	140	240	175	490	360	625	450	700	500	875	650
1	290	210	360	270	290	210	360	270	725	540	925	675	1050	750	1300	975
1-1/8	400	300	510	375	400	300	510	375	900	675	1150	850	1450	1075	1850	1350
1-1/4	570	425	725	530	570	425	725	530	1300	950	1650	1200	2050	1500	2600	1950
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2150	1550	2700	2000	3400	2550
1-1/2	1000	725	1250	925	990	725	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

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 grade.

Fasteners should be replaced with the same or higher grade. If higher grade 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.

[b] Grade 2 applies for hex cap screws (not hex bolts) up to 152 mm (6-in.) long. Grade 1 applies for hex cap screws over 152 mm (6-in.) long, and for all other types of bolts and screws of any length.

TS1656 –19–02APR97

DX,TORQ1 –19–20JUL94–1/1

012304

PN=158

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Troubleshooting Procedure

NOTE: Troubleshooting charts are arranged from the simplest to verify, to least likely, more difficult to verify. When diagnosing a problem, use all possible means to isolate the problem to a single component or system. Use the following steps to diagnose problems:

Step 1. Operational Checkout Procedure

Step 2. Troubleshooting Charts

Step 3. Adjustments

Step 4. See your authorized dealer.

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Transmission Controller Service Codes

If the Check Service Code indicator lights and stays lit, there is an electrical problem in the transmission control system. The transmission controller will automatically put the machine in an operational mode that will not harm the machine. The service code will be displayed on the transmission controller display window located to the left of the operator's seat. The service code number pinpoints the problem and is a very important aid for your dealer to quickly diagnose the problem. Always relay this code number to your dealer when reporting a problem.



T117818

T117818 –UN–25NOV98

TRANSMISSION SERVICE CODES	
1. The Check Service Code indicator on instrument panel will light.	
2. Service code is displayed in the transmission controller display window on left side of cab along the seat.	
3. See your authorized dealer.	
SERVICE CODE	DEFINITION
F311	No forward or reverse
F314	No forward or reverse
F321	No forward or reverse
F324	No forward or reverse
F330	No forward or reverse
F331	No forward or reverse
F334	No forward or reverse
F335	No forward or reverse
F340	No forward or reverse
F341	No steering
F344	No steering
F345	No steering
F3A0	No forward
F3A5	No forward or reverse
F3C0	No forward
F3C5	No forward or reverse
F3D0	No reverse
F3D5	No forward or reverse
F3E0	No reverse
F3E5	No forward or reverse
F3H1	No forward or reverse
F3H4	No forward or reverse

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Miscellaneous—Machine Numbers

General

Record Product Identification Number (PIN).

On machines (S.N. —813816), the PIN plate is located on the left side of machine under the ROPS or cab.

On machines (S.N. 813817—), the PIN plate is located on the left side of machine below engine side shield.

Purchase Date:

NOTE: Record all 13 characters of the Product Identification Number.



T118005B –UN–11NOV98

450H (S.N. —813816) Shown



T121298B –UN–27APR99

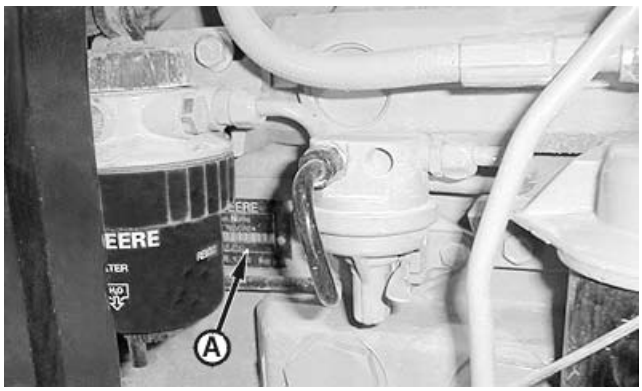
450H (S.N. 813817—) Shown

TX,120,RB51 –19–03DEC97–1/1

Record Engine Serial Number

The engine serial number is located on right side of engine.

Engine Serial Number (A):



T118006B –UN–11NOV98

CED,OUO1032,1042 –19–21OCT98–1/1

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450H, 450H-LT and 450H-LGP Crawler Dozer Drain and Refill Capacities

Item	Measurement	Specification
Drain and Refill Capacities		
Cooling System	Capacity	14 L (15 qt)
Fuel Tank	Capacity	136 L (36 gal)
Engine Oil (Including Filter)	Capacity	14 L (15 qt)
Final Drive (Each Side)	Capacity	8.5 L (9 qt)
Hydraulic Reservoir (Including Filter)	Capacity	32 L (8.5 gal)
Transmission Reservoir (Including Filter)	Capacity	43 L (11.3 gal)
Winch-If Equipped	Capacity	37 L (10 gal)

CED,TX03768,2504 –19–07APR99–1/1

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Service Intervals

Model:	❒	Customer450H,550H,650H	
PIN/Serial Number:		Delivery Date:	Hour Meter Reading:

SERVICE INTERVALS	
Service your machine at intervals shown on this chart. Also, perform service on items at multiples of the original requirement. For example, at 500 hours also service those items (if applicable) listed under 250 hours, 100 hours, 50 hours and 10 hours or daily.	
AS REQUIRED	
• Inspect belts	• Check ball and socket joint
• Check air cleaner restriction indicator and replace element if necessary	• Clean undercarriage of debris around cylinders and tracks
• Check and adjust track sag	
EVERY 10 HOURS OR DAILY	
• Check coolant level at recovery tank	• Check transmission oil level
• Check engine oil level	• Check and clean dust unloader valve
• Drain sediment from water separator bowl on primary fuel filter	• Grease dozer linkage and blade socket
• Check hydraulic system oil level	• Check winch oil (if equipped)
REQUIRED PARTS	
Insure machine performance and availability; use only genuine John Deere parts. Verify part numbers are current and that any associated parts are also on-hand, i.e., filter O-rings.	

Description	Part Number	ASI	250 Hours	500 Hours	1000 Hours	1500 Hours	2000 Hours
Engine Oil Filter (Earlier Machines)	RE59754	1	1	1	1	1	1
Engine Oil Filter (Later Machines)	RE504836	1		1	1	1	1
NOTE: See Periodic Maintenance Chart on machine for correct service interval.							
Primary Fuel Filter (Earlier Machines)	RE509208			1	1	1	1
Primary Fuel Filter (Later Machines)	RE517181			1	1	1	1
Final Fuel Filter (Earlier Machines)	RE60021			1	1	1	1
Final Fuel Filter (Later Machines)	RE509031			1	1	1	1
Cold Weather Fuel Filter (Optional)	RE51677			1	1	1	1
Hydraulic System Oil Filter	T175002						1
Transmission Oil Filter:	T175002						1
Engine Rocker Arm Cover Gasket	R123542						1
Primary Air Cleaner Element—450H	AT171853				1		1
Primary Air Cleaner Element—550H & 650H	AT175344				1		1
Secondary Air Cleaner Element—550H & 650H	AT175345				1		1
Secondary Air Cleaner Element—450H	AT171854				1		1
Dust Unloader Valve	R48568				1		1
Winch Hydraulic Reservoir Breather Filter (if equipped)	AT101565				1		1
Winch Oil Filter (if equipped)	AT219961			1	1	1	1

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Change Engine Break-In Oil and Filter



A—Oil Filter

1. Run engine to warm oil. Stop engine.
2. Remove cap screws and remove oil pan access cover (located below engine).
3. Remove drain plug or open drain valve, if equipped, and allow oil to drain into a container. Dispose of waste oil properly.
4. Install drain plug.
5. Remove oil filter (A).
6. Apply thin film of oil to gasket of new filter.
7. Install new filter. Turn filter clockwise by hand until gasket touches mounting surface.
8. Tighten 1/2 turn more.
9. Fill engine with oil. See Diesel Engine Oil. (Section 3-1.).

Specification

Engine Oil (Including Filter)—
Capacity..... 14 L (15 qt) Approximate

10. Run engine for 2 minutes and then stop engine. Check for leaks around filter and drain plug. Tighten enough only to stop leaks.
11. Check oil level.

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