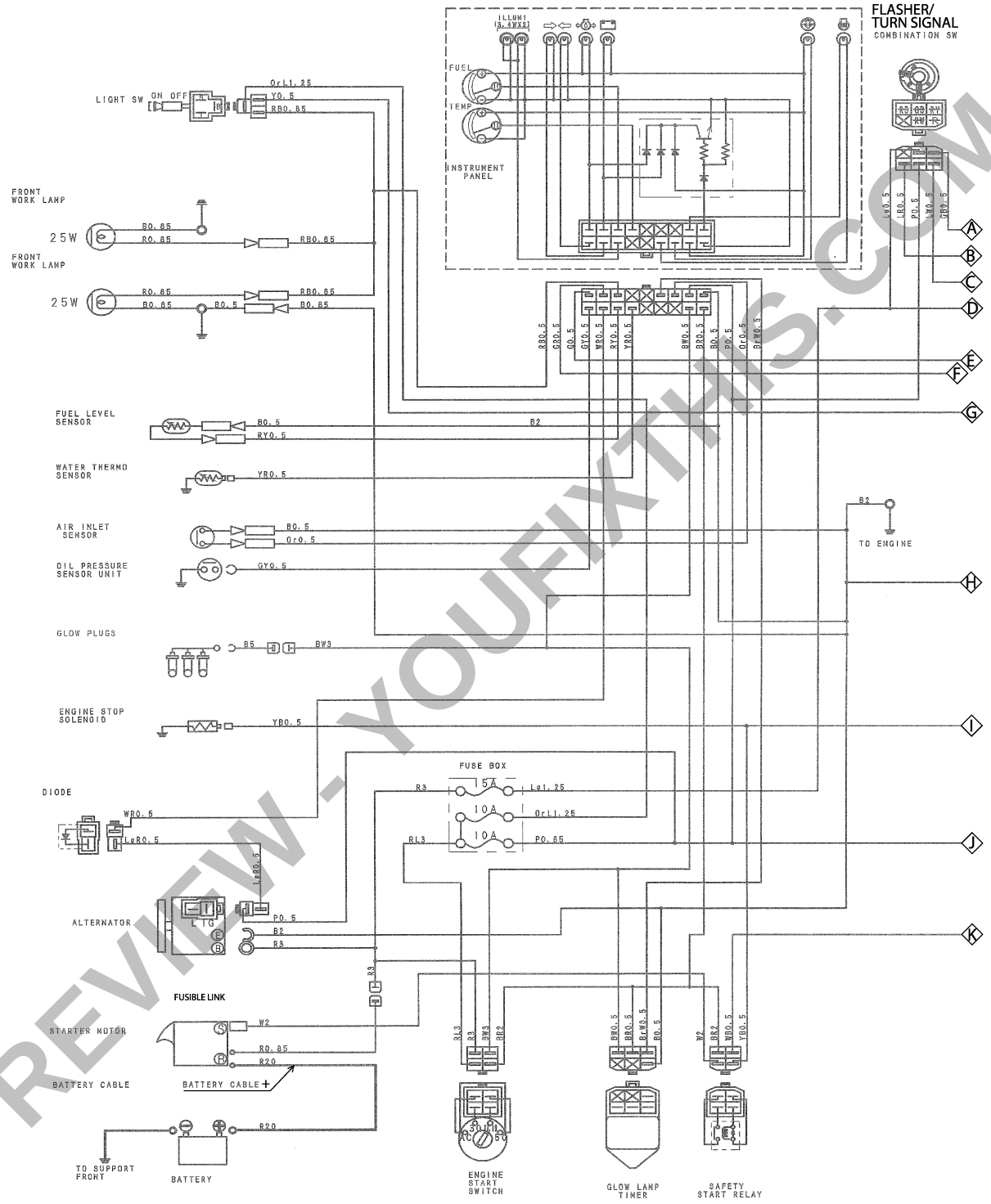


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MINIMUM HARDWARE TIGHTENING TORQUES

IN FOOT POUNDS (NEWTON-METERS) FOR NORMAL ASSEMBLY APPLICATIONS

INCH HARDWARE AND LOCKNUTS

NOMINAL SIZE	SAE GRADE 2		SAE GRADE 5		SAE GRADE 8		LOCKNUTS		NOMINAL SIZE
	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	GR.B w/GR5 BOLT	GR.C w/GR8 BOLT	
1/4	55* (6.2)	72* (8.1)	86* (9.7)	112* (13)	121* (14)	157* (18)	61* (6.9)	86* (9.8)	1/4
5/16	115* (13)	149* (17)	178* (20)	229* (26)	250* (28)	324* (37)	125* (14)	176* (20)	5/16
3/8	17 (23)	22 (30)	26 (35)	34 (46)	37 (50)	48 (65)	19 (26)	26 (35)	3/8
7/16	27 (37)	35 (47)	42 (57)	54 (73)	59 (80)	77 (104)	30 (41)	42 (57)	7/16
1/2	42 (57)	54 (73)	64 (87)	83 (113)	91 (123)	117 (159)	45 (61)	64 (88)	1/2
9/16	60 (81)	77 (104)	92 (125)	120 (163)	130 (176)	169 (229)	65 (88)	92 (125)	9/16
5/8	83 (112)	107 (145)	128 (174)	165 (224)	180 (244)	233 (316)	90 (122)	127 (172)	5/8
3/4	146 (198)	189 (256)	226 (306)	293 (397)	319 (432)	413 (560)	160 (217)	226 (306)	3/4
7/8	142 (193)	183 (248)	365 (495)	473 (641)	515 (698)	667 (904)	258 (350)	364 (494)	7/8
1	213 (289)	275 (373)	547 (742)	708 (960)	773 (1048)	1000 (1356)	386 (523)	545 (739)	1

NOTE: Torque values shown with * are inch pounds.

IDENTIFICATION
CAP SCREWS AND CARRIAGE BOLTS



SAE GRADE 2 | SAE GRADE 5 | SAE GRADE 8

REGULAR NUTS | SAE GRADE 5 HEX NUTS | SAE GRADE 8 HEX NUTS

LOCKNUTS



GRADE IDENTIFICATION
GRADE A NO NOTCHES
GRADE B ONE CIRCUMFERENTIAL NOTCH
GRADE C TWO CIRCUMFERENTIAL NOTCHES



GRADE IDENTIFICATION
GRADE A NO MARKS
GRADE B THREE MARKS
GRADE C SIX MARKS
MARKS NEED NOT BE LOCATED AT CORNERS



GRADE A NO MARK
GRADE B LETTER B
GRADE C LETTER C

GRADE IDENTIFICATION

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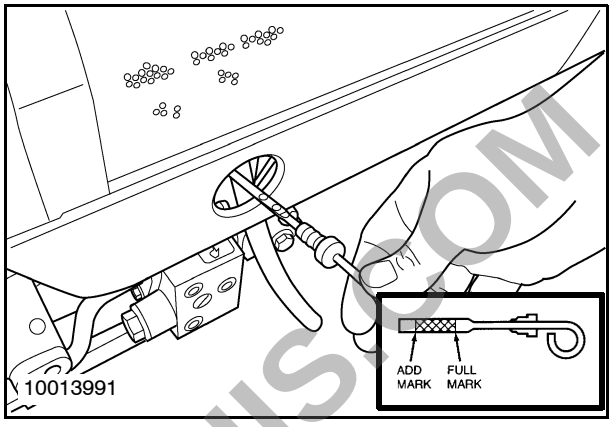
FUEL AND LUBRICANT SERVICE PROCEDURES

ENGINE

Checking the Engine Oil Level

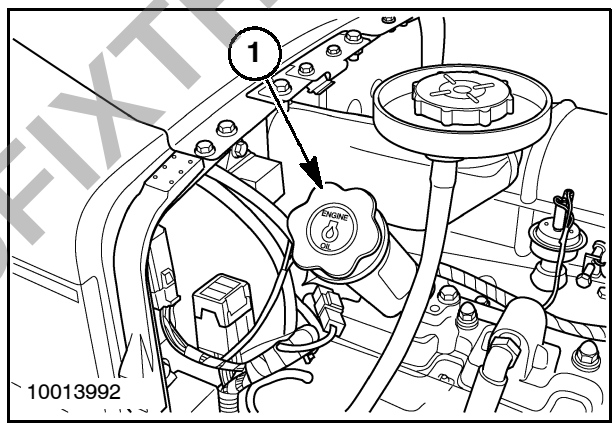
NOTE: *Check the engine oil level daily or after every 10 hours of operation.*

1. After the engine has been stopped for a period of time and with the tractor standing level, check the oil level using the dipstick.



4

2. If the oil level is low, remove the filler cap, 1, and add oil through the filler hole. Add enough oil so that the level registers between the two marks on the dipstick. Do not overfill.



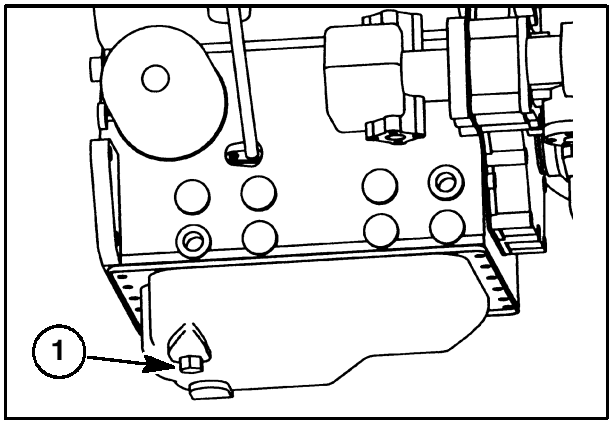
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Changing the Engine Oil

NOTE: *Change the engine oil and filter after the first 50 hours of operation, then every 100 hours thereafter. If the tractor is operated for extended periods of time at maximum rated power and speed, or under other types of continuous, severe operating conditions, the engine oil and filter should be changed at 70 hour intervals following the initial oil change.*

To change the engine oil:

1. Place a suitable container beneath the drain opening to catch the used oil. With the tractor engine off but at normal operating temperature, remove the drain plug, 1. Reinstall the plug after all of the oil has been drained.



6

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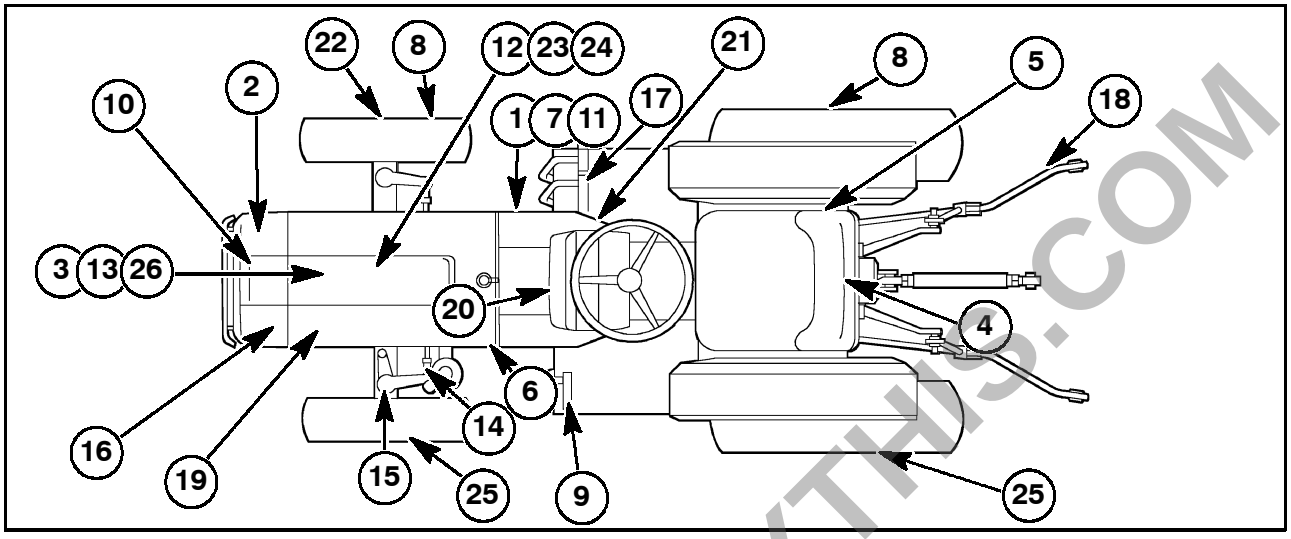
SECTION 4
SPECIFICATIONS

	Model TC30
ENGINE	
Type	Diesel
Engine Gross Horsepower	22.4 kw (30.0)
Cylinders	3
Bore	84 mm (3.31″)
Stroke	90 mm (3.54″)
Displacement	1.496 L (91.3 cu. in.)
Compression Ratio	22.2:1
Firing Order	1-2-3
Low Idle Speed	950/1050 RPM
Maximum Speed:	
High Idle	2800 RPM
Rated	2600 RPM
Valve Clearance (Cold):	
Intake	0.20 mm (0.008″)
Exhaust	0.20 mm (0.008″)
CAPACITIES	
Fuel Tank	27.0 liters/ 7.1 U.S. gals.
Cooling System	4.0 liters/ 4.2 U.S. qts
Engine Crankcase:	
With Filter	4.0 liters/ 4.2 U.S. qts
Rear Axle & Transmission (Includes Hydraulics)	
9x3 (Gear)	32.5 liters/ 8.6 gals.
HST	33.3 liters/ 8.8 gals.
Power Steering	1.6 liters/ 1.7 U.S. qts.
Front Axle Final Reduction	0.8 liters/ 0.85 U.S. qts.
Differential Gear Case	1.4 liters/ 1.5 U.S. qts.

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LUBRICATION AND MAINTENANCE CHART
TWO-WHEEL DRIVE



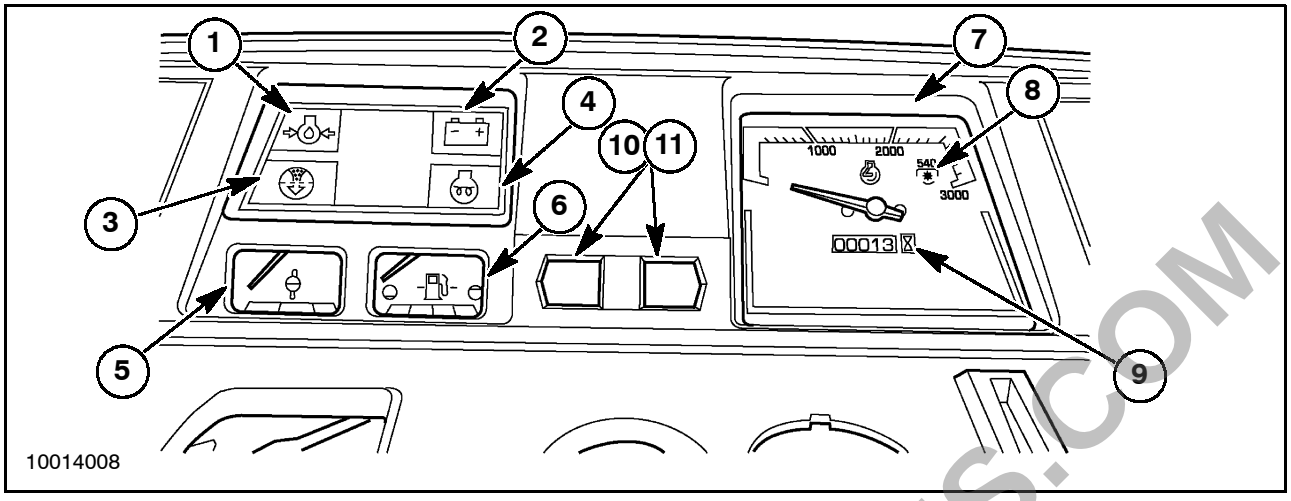
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NO.	LUBRICATION & MAINTENANCE ITEMS	CHECK	CLEAN	LUBE	CHANGE	ADJUST	SERVICE INTER-VALS
1	Engine Oil Level	X					Every 10 Hours or Daily
2	Air Cleaner	X					
3	Radiator Coolant	X					
4	Transmission Oil Level	X					
26	Radiator Prescreen		X				
5	Hydraulic Filter				X		First 50 Hours
6	H.S.T. Filter				X		
1, 7	Engine Oil & Filter				X		
8	Tire Pressure	X					
11	Fuel Filter				X		
25	Wheel Bolt Torque	X					
—	All Fluid Levels	X					
8	Tires	X					Every 50 Hours
9	Clutch Pedal	X		X		X	
10	Battery	X					
12	Power Steering Oil Level	X					
13	Fan Belt	X					
	Lubrication Fittings:						
14	Steering Linkage			X			
15	Front Wheel Spindles (2)			X			
16	Pivot Shaft			X			
17	Brake Pedal			X			
18	3-Point Linkage			X			
19	Power Steering Cylinder			X			
20	Pedal Shaft			X			
21	H.S.T. Pedal Pivot			X			

NO.	LUBRICATION & MAINTENANCE ITEMS	CHECK	CLEAN	LUBE	CHANGE	ADJUST	SERVICE INTER-VALS
1, 7	Engine Oil & Filter				X		Every 100 Hours
2	Air Cleaner Element		X				
11	Fuel Filter		X				
8	Brake					X	Every 200 Hours
11	Fuel Filter Element				X		
13	Fan Belt					X	
25	Wheel Bolt Torque	X					
4	Transmission Oil				X		Every 300 Hours
5	Hydraulic Filter				X		
6	H.S. T. Filter				X		
11	Power Steering Oil				X		Every 600 Hours *Refer to Repair Manual
22	Front Wheel Bearings			X			
23*	Fuel Injectors	X					
24*	Valve Clearance	X					
2	Air Cleaner Element				X		Seasonal
3	Radiator Coolant				X		
2	Safety Air Filter Element				X		Every Third Primary Element Change or Every **1000** Hours, Whichever Comes First

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4

INSTRUMENT PANEL

1. **Engine Oil Pressure Warning Light** – Illuminates with the key switch in the “ON or “HEAT” positions and remains lit for a short period of time after the engine is started. The light indicates oil pressure only and goes out when sufficient oil pressure is present at the oil sender. If the bulb illuminates during operation of tractor, stop the tractor engine immediately and investigate the cause.
2. **Battery Charge Warning Light** – Illuminates when the key switch is in the “ON” or “HEAT” positions and goes out when the engine is started. If this bulb becomes illuminated during tractor operation, it indicates that the charging system is not working properly. As the battery can become fully discharged under these conditions, the problem should be investigated immediately.
3. **Air Cleaner Restriction Warning Light** – Illuminates when the engine air filter needs to be cleaned or replaced. The engine has to be running and the key switch is in the “ON” position for the light to illuminate. The warning light monitors the engine intake air flow and when approximately 20 inches of vacuum is obtained, the indicator light will illuminate.
4. **Cold Starting Indicator Light** – Illuminates when the key switch is turned to the “HEAT” position. It remains lit for approximately six seconds, when the key is held in the “HEAT” position , during which time the glow plugs are heating the precombustion chambers of the engine cylinder head.
5. **Temperature Gauge** – Indicates engine coolant temperature. It is activated when the key switch to the “ON” or “HEAT” positions. The gauge will register cold with the key switch in the “OFF” position. If the need registers in the white range of the gauge, this indicates a normal operating temperature. If the needle moves to the red portion of the gauge, this indicates an overheated condition. Stop the tractor engine immediately and investigate the cause.
6. **Fuel Gauge** – Indicates the amount of diesel fuel remaining in the tractor fuel tank. The gauge is activated when the key switch is in the “ON” or “HEAT” positions. It will register empty with the key switch in the “OFF” position.
7. **Tachometer** – Registers engine RPM (Revolutions Per Minute). The gauge is marked in increments of 100 and will return to zero when the engine is not running
8. **PTO Speed Indicator** – Determined by the position of the needle on the tachometer. The tachometer is marked to indicate 540 PTO RPM. If the needle registers above the 540 RPM mark, this indicates a dangerous over speed condition, and the engine RPM should be reduced immediately.
9. **Proof Meter** – Records the hours and portions of hours that your tractor has been operated. Use the proof meter as a guide to determine hourly service and maintenance intervals. NOTE: Registration of hours and portions of hours your tractor has operated, will be based on an average engine speed of 1867 RPM. Engine speeds below 1867 RPM, accumulate hours at a slower rate than clock hours. Engine speeds above 1867 RPM, accumulate hours at a faster rate than clock hours.
10. **Hazard Flasher Warning Lights** – Operate when the flasher switch is turned on, regardless of the key switch position. Use the flasher warning lights and the SMV emblem when traveling on public roads, day or night.
11. **Flasher Turn Lights** – Operate when the turn signal switch is activated. Rotate the switch counterclockwise for right turns, the right arrow will flash. Rotate the switch clockwise for left turns, the left arrow will flash. The key switch has to be in the “RUN” position.

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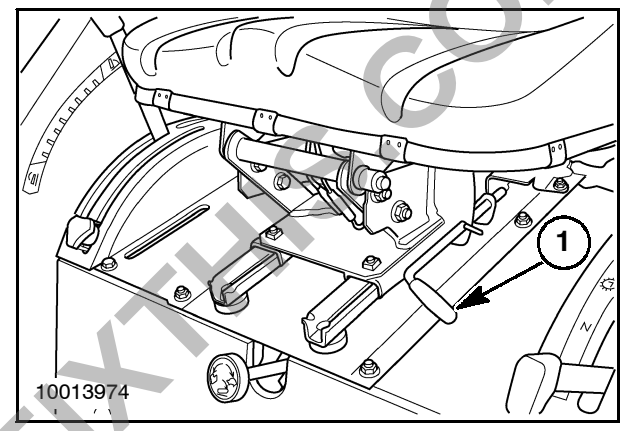
SECTION 2
OPERATION

CONTROLS AND INSTRUMENTS

SEAT, SEAT BELT, AND ROLLOVER PROTECTIVE STRUCTURE (ROPS)

Adjusting the Tractor Seat
Your New Holland tractor is equipped with an adjustable suspension seat. The seat can be placed in one of several positions.

To move the seat fore and aft, raise the release lever, 1, while sitting in the seat. Because the seat is on an inclined base, more effort is required to move the seat rearward than forward.

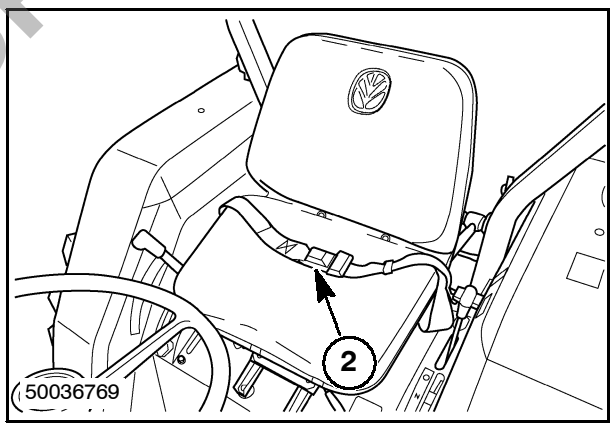


1

Adjusting the Seat Belt
To lengthen the seat belt, 2, tip the buckle end down and pull on the buckle until the ends can be joined. To shorten the belt, buckle it, then pull on the loose end until the belt is snug.

Use soap and water to clean the seat belt if necessary. Do not use carbon tetrachloride, naphtha, etc., as these substances will weaken the webbing. Additionally, do not bleach or redye the webbing, as these products will also weaken the webbing.

Replace the seat belt if it becomes damaged or worn.

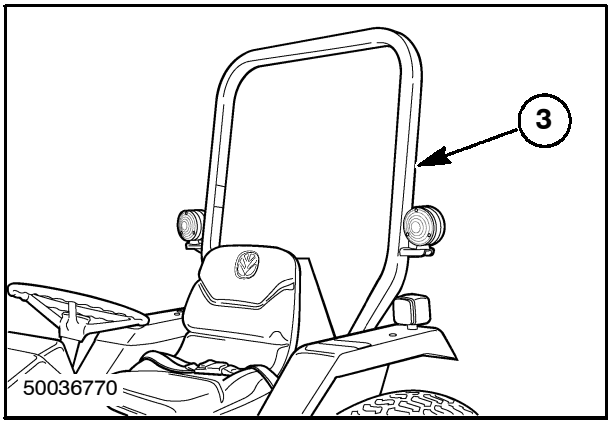


2

Rollover Protective Structure (ROPS)
A Rollover Protective Structure (ROPS), 3, and seat belts are standard equipment on this tractor at the time of factory assembly. If the ROPS was deleted by the original purchaser or has been removed, it is recommended that you equip your tractor with a ROPS and seat belts.

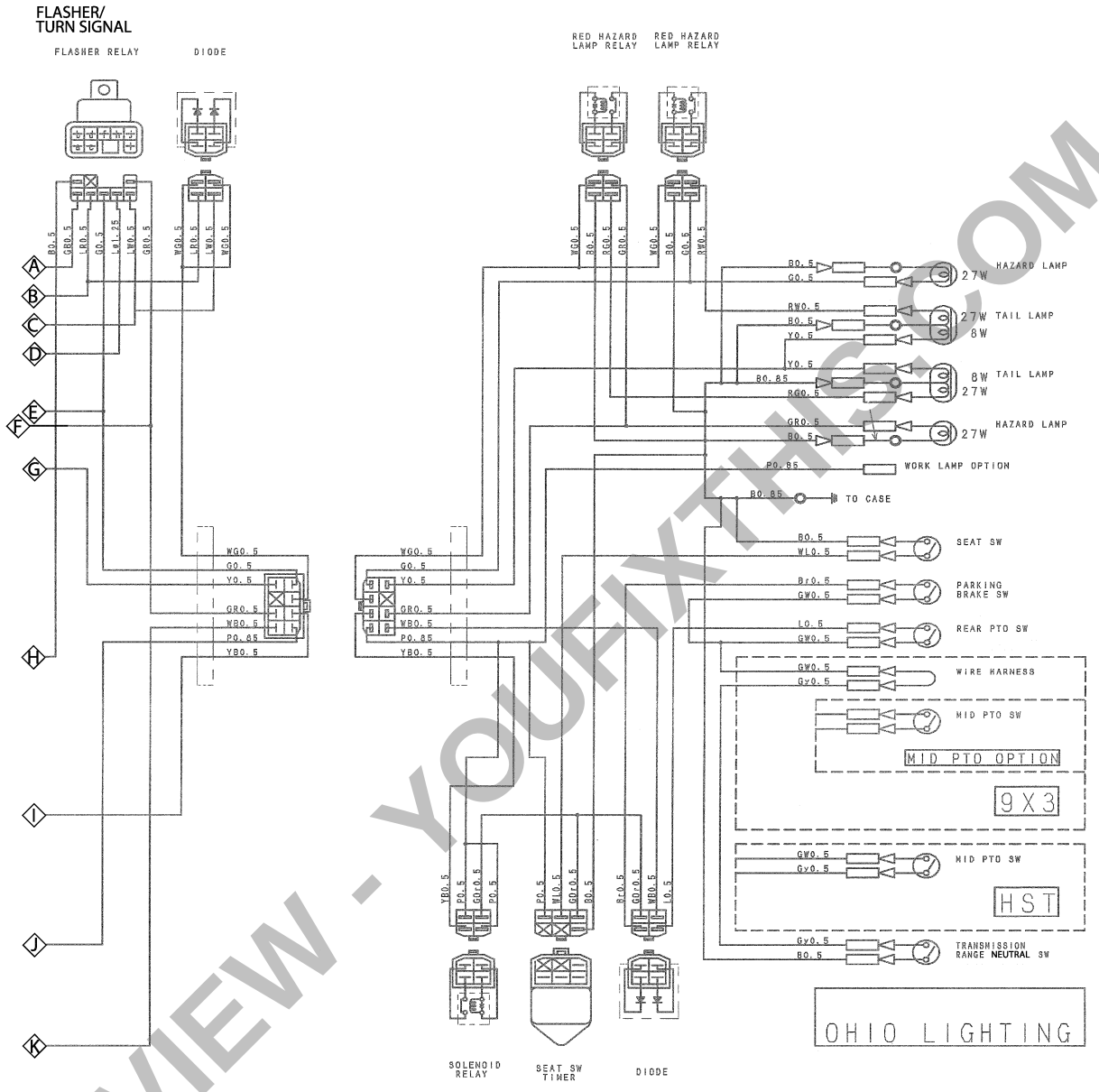
ROPS are effective in reducing injuries in the event of tractor overturn. Overturning a tractor without a ROPS installed can result in serious injury or death. The Rollover Protective Structure and seat belts are available from your New Holland Dealer.

Additionally, the safety offered by the ROPS and seat belt is minimized if your seat belt is not buckled. Always use your seat belt: it can save your life.



3

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WIRE COLOR CODES					
B	Black	YR	Yellow/Red	GY	Green/Yellow
BW	Black/White	YW	Yellow/White	P	Pink
BY	Black/Yellow	W	White	Pu	Purple
R	Red	WB	White/Black	L	Blue
RB	Red/Black	WG	White/Green	LR	Blue/Red
RG	Red/Green	WL	White/Blue	Br	Brown
RL	Red/Blue	WR	White/Red	Or	Orange
RW	Red/White	G	Green	OrL	Orange/Blue
RY	Red/Yellow	GB	Green/Black	Gy	Grey
Y	Yellow	GL	Green/Blue	GyL	Grey/Blue
YB	Yellow/Black	GOR	Green/Orange	GyR	Grey/Red
YG	Yellow/Green	GR	Green/Red	Lg	Light Green
YL	Yellow/Blue	GW	Green/White	LgR	Light Green/Red

TC30 Serial#
HK30001 and Above

50036224

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METRIC BOLT TORQUE SPECIFICATION

Bolt Size	Grade No.	Coarse Thread			Fine Thread		
		Pitch (mm)	Pounds-Feet	Newton-Meters	Pitch (mm)	Pounds-Feet	Newton-Meters
M6	4T ⬡ 4T 4.8	1.0	3.6– 5.1	4.9– 6.9	–	–	–
	7T 7T 8T 8.8		6.1– 8.3	8.3– 11.3			
	10T 10T 11T		8.7– 11.6	11.8– 15.7			
M8	4T	1.25	9.4– 12.3	12.7– 16.7	1.0	11.2– 14.8	15.2– 20.1
	7T		16.6– 21.0	22.6– 28.4		19.5– 25.3	26.5– 34.3
	10T		21.0– 26.8	28.4– 36.3		22.4– 29.7	30.4– 40.2
M10	4T	1.5	18.8– 24.6	25.5– 33.3	1.25	21.0– 26.8	28.4– 36.3
	7T		32.5– 41.2	44.1– 55.9		36.2– 46.3	49.0– 62.8
	10T		39.8– 51.4	53.9– 69.6		42.7– 54.2	57.9– 73.5
M12	4T	1.75	27.5– 34.7	37.3– 47.1	1.25	31.8– 40.5	43.1– 54.9
	7T		48.5– 61.5	65.7– 83.4		55.0– 69.4	74.5– 94.1
	10T		68.0– 85.4	92.2–116		73.1– 93.3	99.0–127
M14	4T	2.0	46.3– 59.3	62.8– 80.4	1.5	51.4– 64.4	69.6– 87.3
	7T		76.7– 96.9	104 –131		86.1–109	117 –148
	11T		102 –129	139 –175		108 –137	147 –186
M16	4T	2.0	63.6– 81.0	86.3–110	1.5	67.3– 84.6	91.2–115
	7T		110 –136	149 –184		116 –142	157 –192
	11T		152 –188	206 –255		163 –199	221 –270
M18	4T	2.0	83.9–104	114 –141	1.5	96.9–120	131 –163
	7T		145 –174	196 –235		170 –206	230 –279
	11T		203 –246	275 –333		221 –271	299 –368
M20	4T	2.5	106 –132	144 –179	1.5	127 –156	172 –211
	7T		177 –213	240 –289		203 –246	275 –333
	11T		268 –325	363 –441		293 –358	397 –485

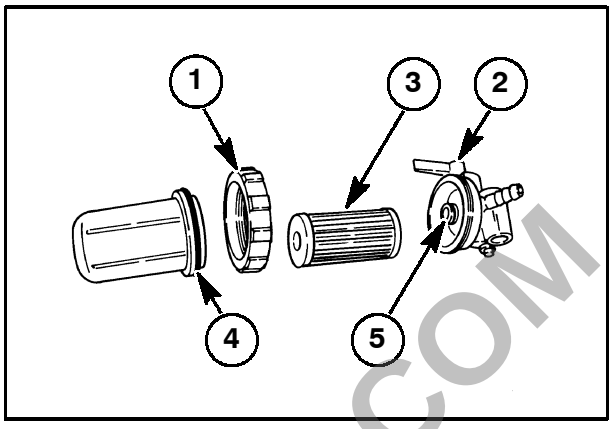
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Changing the Fuel Filter

NOTE: *Change the diesel fuel filter after the first 50 hours of operation, then following every 200 operating hours thereafter.*

1. Close the shutoff valve (the handle should be pointing to the “C” position).
2. Remove the sediment bowl by rotating the retaining nut, 1.
3. Open the fuel shutoff valve, 2, to drain any remaining water from the tank.
4. Discard the old element, 3, and install a new element.
5. Inspect the O rings, 4 and 5, and replace if necessary.
6. Install and securely tighten the sediment bowl.
7. Open the fuel shutoff valve (the handle should be pointing to the “O” position), 2, so fuel will flow to the filter.
8. Bleed the fuel filter and injection pump as described below in “Bleeding the Fuel System.”



9

Bleeding Air From the Fuel System

Bleed the fuel system if:

- it has been drained.
- a new filter element has been installed.
- the tractor has run out of fuel.
- the lines leading to or from the filter have been disconnected.
- the injection pump has been removed and reinstalled.

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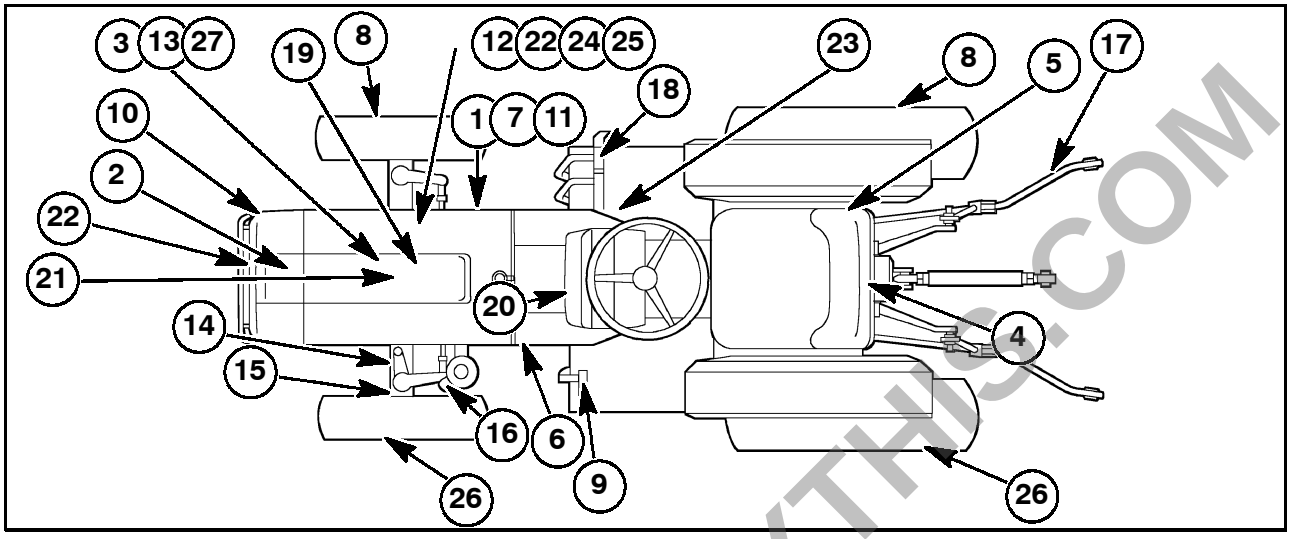
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	Model TC30
COOLING SYSTEM	
Type	Pressurized Liquid with Recirculating Bypass
Water Pump:	
Type	Centrifugal
Drive	V-Belt
Belt Deflection	10 mm-15 mm (7/16″-9/16″) when 9-11 kg (20-25 lbs.) thumb pressure is applied midway between belt pulleys
Fan Diameter	340 mm (13.4″)
Thermostat:	
Start to Open	71°C (160°F)
Fully Open	85°C (185°F)
Radiator Cap	0.9 bar (13 PSI)
ELECTRICAL SYSTEM	
Alternator	12-volt, Heavy Duty, 40 amps
Battery	12-volt, w/negative ground, 420 cca BCI Group 24
Starting Motor	Solenoid Pre-Engaged Reduction
FUEL SYSTEM	
Fuel Type	Diesel
Type of Fuel to Use if Above 40°F	No. 2-Diesel, Cetane Rating: Minimum 40
Type of Fuel to Use if Below 40°F	No. 1-Diesel, Cetane Rating: Minimum 40
Injection Pump:	
Type	In-Line
Timing	21° BTDC

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LUBRICATION AND MAINTENANCE CHART
FRONT-WHEEL DRIVE



2

NO.	LUBRICATION & MAINTENANCE ITEMS	CHECK	CLEAN	LUBE	CHANGE	ADJUST	SERVICE INTER-VALS
1	Engine Oil Level	X					Every 10 Hours or Daily
2	Air Cleaner	X					
3	Radiator Coolant	X					
4	Transmission Oil Level	X					
27	Radiator Prescreen		X				
5	Hydraulic Filter				X		First 50 Hours
6	H.S.T. Filter				X		
1, 7	Engine Oil & Filter				X		
8	Tire Pressure	X					
11	Fuel Filter				X		
26	Wheel Bolt Torque	X					
—	All Fluid Levels	X					
8	Tires	X					Every 50 Hours
9	Clutch Pedal	X		X		X	
10	Battery	X					
12	Power Steering Oil Level	X					
13	Fan Belt	X					
14	Front Axle Oil Level	X					
15	Final Reduction Gear Cases Oil Level	X					
	Lubrication Fittings:						
16	Steering Linkage			X			
17	3-Point Linkage			X			
18	Brake Pedal			X			
19	Power Steering Cylinder			X			
20	Pedal Shaft			X			
21	Drive Cover Shaft			X			
22	Pivot Shaft			X			
23	H.S.T. Pedal Pivot			X			

NO.	LUBRICATION & MAINTENANCE ITEMS	CHECK	CLEAN	LUBE	CHANGE	ADJUST	SERVICE INTER-VALS
1, 7	Engine Oil & Filter				X		Every 100 Hours
2	Air Cleaner Element		X				
11	Fuel Filter		X				
8	Brake					X	Every 200 Hours
11	Fuel Filter Element				X		
13	Fan Belt					X	
26	Wheel Bolt Torque	X					
4	Transmission Oil				X		Every 300 Hours
5	Hydraulic Filter				X		
6	H.S. T. Filter				X		
14	Front Axle Oil				X		
15	Final Reduction Gear Cases Oil				X		
12	Power Steering Oil				X		Every 600 Hours *Refer to Repair Manual
24*	Fuel Injector	X				X	
25*	Valve Clearance	X				X	
2	Air Cleaner Element				X		Seasonal
3	Radiator Coolant				X		
2	Safety Air Filter Element				X		Every 3rd Primary Element Change or Every **1000** Hours, Whichever Comes First

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