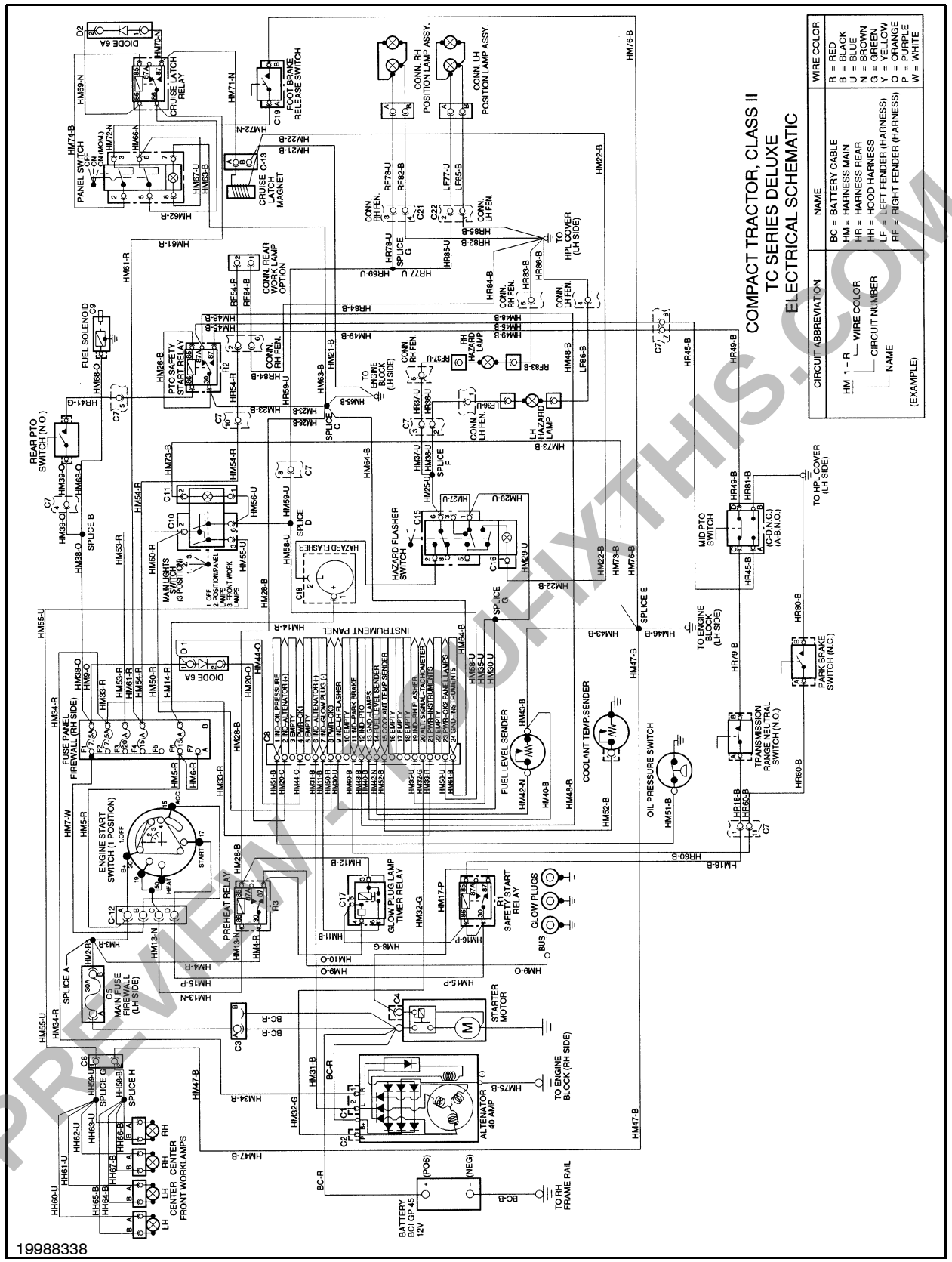


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SECTION 4
SPECIFICATIONS

	Model TC25D—Hydrostatic	Model TC29D—Hydrostatic	Model TC33D—Hydrostatic
ENGINE			
Type	Diesel	Diesel	Diesel
Engine Gross Horsepower	18.7 kw (25)	21.6 kw (29)	24.6 kw (33)
Cylinders	3	3	3
Bore	84 mm (3.31″)	84 mm (3.31″)	84 mm (3.31″)
Stroke	80 mm (3.15″)	80 mm (3.15″)	90 mm (3.54″)
Displacement	1.33 L (81.2 cu. in.)	1.33 L (81.2 cu. in.)	1.50 L (91.3 cu. in.)
Compression Ratio	22.7:1	22.7:1	22.2:1
Firing Order	1-2-3	1-2-3	1-2-3
Low Idle Speed	1000 RPM	1000 RPM	1000 RPM
Maximum Speed:			
High Idle	2840 RPM	3040 RPM	3040 RPM
Rated	2600 RPM	2800 RPM	2800 RPM
Valve Clearance (Cold):			
Intake	0.20 mm (0.008″)	0.20 mm (0.008″)	0.20 mm (0.008″)
Exhaust	0.20 mm (0.008″)	0.20 mm (0.008″)	0.20 mm (0.008″)
CAPACITIES			
Fuel Tank	27.6 liters/ 7.3 U.S. gals.	27.6 liters/ 7.3 U.S. gals.	27.6 liters/ 7.3 U.S. gals.
Cooling System	4.0 liters/ 4.2 U.S. qts.	4.0 liters/ 4.2 U.S. qts.	4.0 liters/ 4.2 U.S. qts.
Engine Crankcase:			
With Filter	4.0 liters/ 4.2 U.S. qts.	4.0 liters/ 4.2 U.S. qts.	4.0 liters/ 4.2 U.S. qts.
Rear Axle & Transmission (Includes Hydraulics)	33.3 liters/ 8.8 U.S. gals.	33.3 liters/ 8.8 U.S. gals.	33.3 liters/ 8.8 U.S. gals.
Power Steering	1.6 liters/ 1.7 U.S. qts.	1.6 liters/ 1.7 U.S. qts.	1.6 liters/ 1.7 U.S. qts.
Front Axle Final Reduction	0.8 liters/ 0.85 U.S. qts.	0.8 liters/ 0.85 U.S. qts.	0.8 liters/ 0.85 U.S. qts.
Differential Gear Case	1.4 liters/ 1.5 U.S. qts.	1.4 liters/ 1.5 U.S. qts.	1.4 liters/ 1.5 U.S. qts.

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LUBRICATION AND MAINTENANCE CHART
NEW HOLLAND TC25D, TD29D, TC33D — FRONT-WHEEL DRIVE

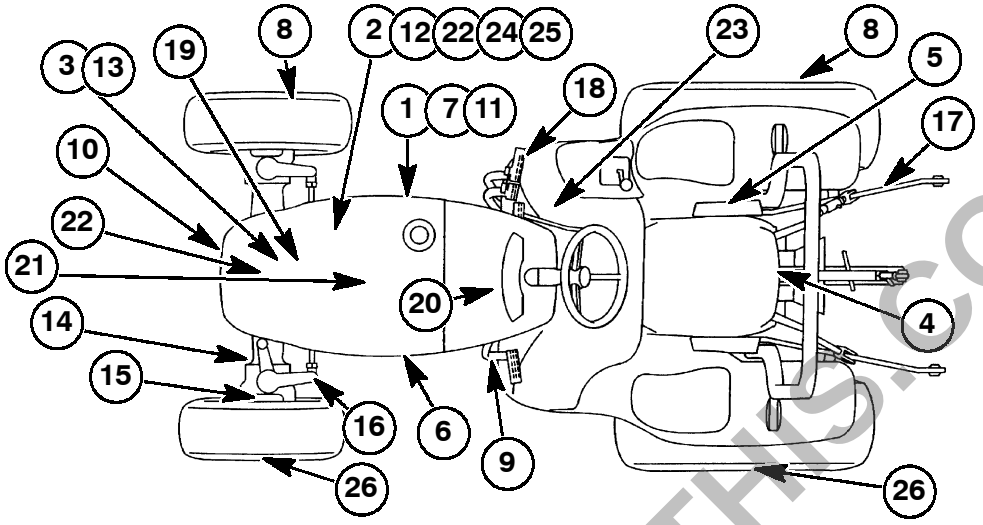


Figure 3-1

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					
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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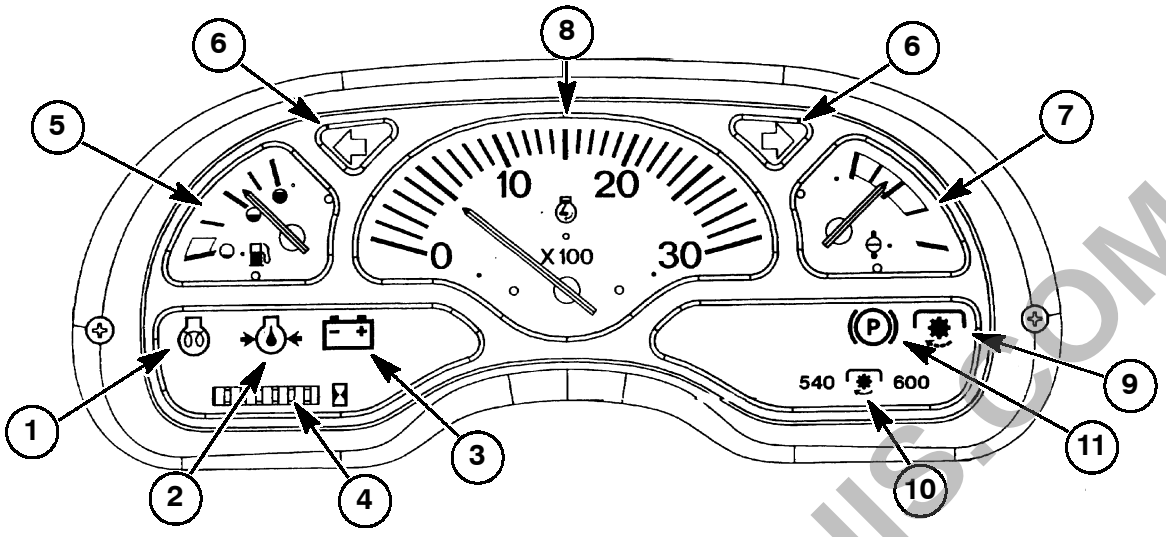


Figure 2-7

INSTRUMENT PANEL

1. **Cold Starting Indicator Light**— Illuminates when the key switch is turned to the "HEAT" position. It remains lit for approximately four seconds when the key is held in position, during which time the glow plugs are heating the precombustion chambers.
2. **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 becomes lit during operation, stop the tractor engine immediately and investigate the cause.
3. **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 lit during operation, it indicates that the charging system is not operating normally. As the battery can become fully discharged under these conditions, the problem should be investigated as soon as possible.
4. **Proof Meter**—Records the hours and portions of hours that your tractor has been operated regardless of engine RPM. Use the proof meter as a guide to determine hourly service and maintenance intervals.
5. **Fuel Gauge**—Indicates the amount of diesel fuel remaining in the 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 "STOP" position.
6. **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.
7. **Temperature Gauge**—Indicates coolant temperature. It is activated when the key switch is turned to the "ON" or "HEAT" positions. The gauge will register cold with the key switch in the "STOP" position. If the needle registers in the green 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.
8. **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.
9. **PTO On Indicator**—When either the rear or mid PTO is engaged, the indicator will be illuminated amber with key in the "HEAT," "START" or "ON" positions.
10. **Rear/Mid PTO Speed**—Indicated by illumination of an green or red light. When the rear PTO is turning at 540 RPM or the mid PTO is turning at 2000 RPM, the green PTO indicator will light. When the rear PTO is turning at 600 RPM or above or the mid PTO is turning above 2000 RPM, the red PTO indicator will illuminate, indicating an over speed and warning the operator of danger.
11. **Parking Brake Light**—Illuminates if the parking brake is engaged when the key switch is turned from the "OFF" 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.

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

To adjust the flotation of the seat, turn the knob, 2, to the right for a firmer ride or to the left for a softer ride.

To swivel the seat, raise the handle, 3, and swivel in the desired direction. The seat will swivel and lock at 10° or 20° to the right or the left.

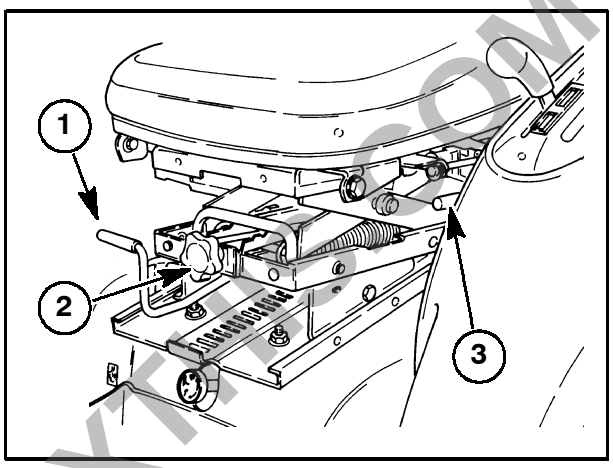


Figure 2-1

Adjusting the Seat Belt

To lengthen the seat belt, 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.

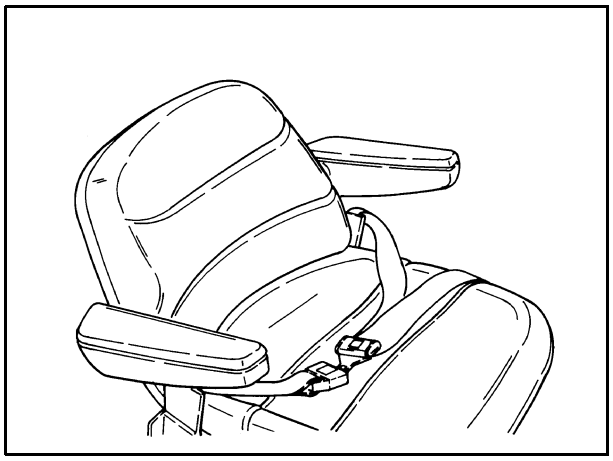


Figure 2-2

NOTE: Optional armrests shown.

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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



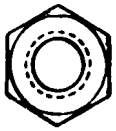
SAE GRADE 2



SAE GRADE 5



SAE GRADE 8



REGULAR NUTS

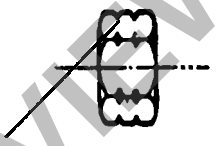


SAE GRADE 5 HEX NUTS



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.

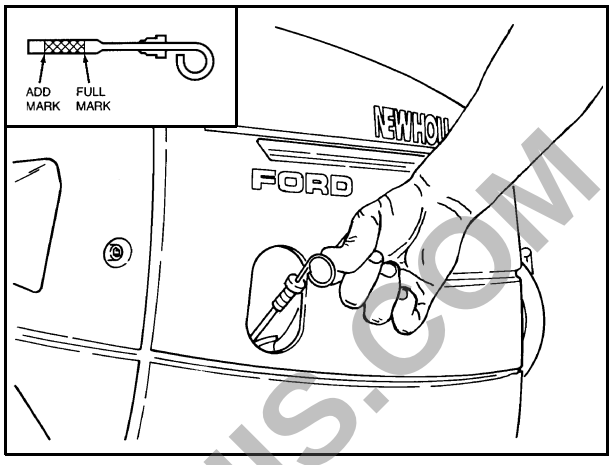


Figure 3-5

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.

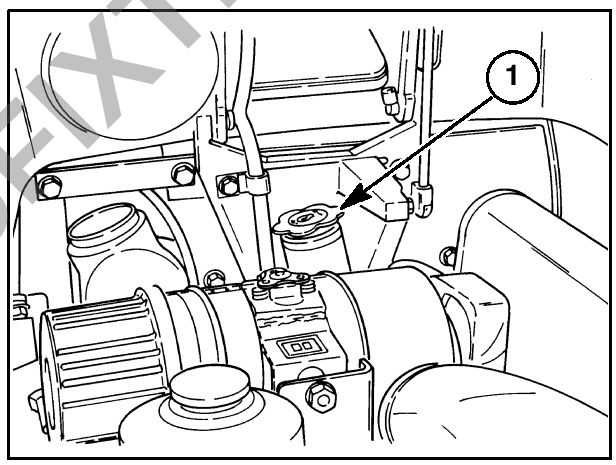


Figure 3-6

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.

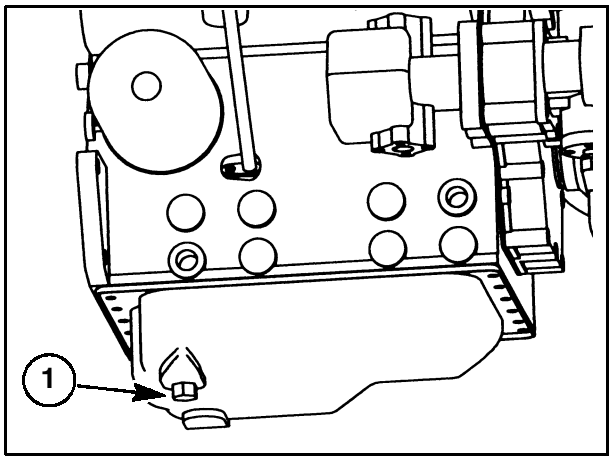


Figure 3-7

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	Model TC25D—Hydrostatic	Model TC29D—Hydrostatic	Model TC33D—Hydrostatic
COOLING SYSTEM			
Type	Pressurized Liquid with Recirculating Bypass	Pressurized Liquid with Recirculating Bypass	Pressurized Liquid with Recirculating Bypass
Water Pump:			
Type	Centrifugal	Centrifugal	Centrifugal
Drive	V-Belt	V-Belt	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	10 mm-15 mm (7/16″-9/16″) when 9-11 kg (20-25 lbs.) thumb pressure is applied midway between belt pulleys	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″)	340 mm (13.4″)	340 mm (13.4″)
Thermostat:			
Start to Open	71°C (160°F)	71°C (160°F)	71°C (160°F)
Fully Open	85°C (185°F)	85°C (185°F)	85°C (185°F)
Radiator Cap	0.9 bar (13 PSI)	0.9 bar (13 PSI)	0.9 bar (13 PSI)
ELECTRICAL SYSTEM			
Alternator	12-volt, Heavy Duty, 40 amps	12-volt, Heavy Duty, 40 amps	12-volt, Heavy Duty, 40 amps
Battery	12-volt, w/ negative ground, 420 cca	12-volt, w/ negative ground, 420 cca	12-volt, w/ negative ground, 420 cca
Starting Motor	Solenoid Pre-Engaged Reduction	Solenoid Pre-Engaged Reduction	Solenoid Pre-Engaged Reduction
FUEL SYSTEM			
Fuel Type	Diesel	Diesel	Diesel
Type of Fuel to Use if Above 40°F	No. 2-Diesel, Cetane Rating: Minimum 40	No. 2-Diesel, Cetane Rating: Minimum 40	No. 2-Diesel, Cetane Rating: Minimum 40
Type of Fuel to Use if Below 40°F	No. 1-Diesel, Cetane Rating: Minimum 40	No. 1-Diesel, Cetane Rating: Minimum 40	No. 1-Diesel, Cetane Rating: Minimum 40
Injection Pump:			
Type	In-Line	In-Line	In-Line
Timing	21° BTDC	21° BTDC	21° BTDC

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LUBRICATION AND MAINTENANCE CHART
NEW HOLLAND TC25D, TC29D, TC33D — FRONT-WHEEL DRIVE — SUPER STEER™

EVERY 50 HOURS

1 Right Tie Rod Outer Ball Joint

2 Right Tie Rod Inner Ball Joint

3 Left Tie Rod Inner Ball Joint

4 Left Tie Rod Outer Ball Joint

5 Right Steering Cylinder Outer Bushing

6 Right Steering Cylinder Inner Bushing

7 Left Steering Cylinder Inner Bushing

8 Left Steering Cylinder Outer Bushing

9 Stabilizer Rear Ball Joint

10 Stabilizer Front Ball Joint

11 Pivot Bearing

12 Rear Drive Shaft

13 Front Drive Shaft

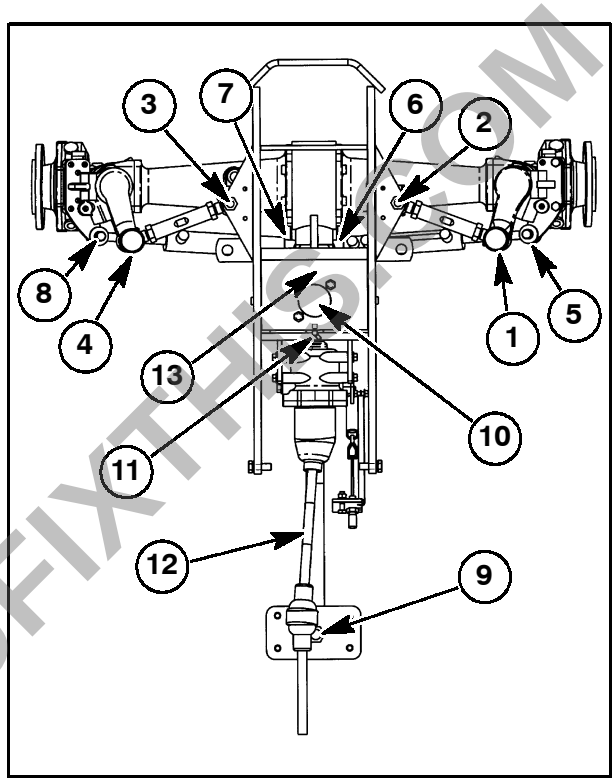


Figure 3-2

CLUTCH HOUSING

Check oil level – every 50 hours

Change oil – every 600 hours

To check oil level, remove check plug, 1. Oil is at correct level when fluid is even with check plug opening. Add NH 134 hydraulic oil through check plug opening until fluid is at correct level.

To change the oil of the clutch housing, remove clutch assembly from tractor and drain using check plug opening.

Fluid capacity of clutch housing: 10.0 oz. (0.3 liters).

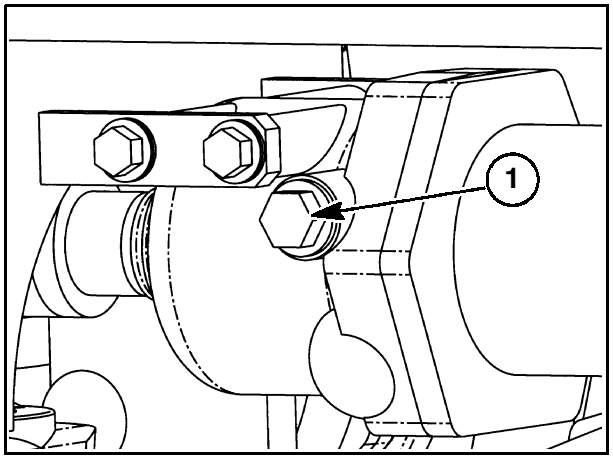


Figure 3-3

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KEY SWITCH

The key switch is located on the right-hand side of the console just below the hand throttle. Turning the key right to the “ON” position activates the warning lights and instruments. The pre-heat system is activated when the key is turned further to the right to the “HEAT” position, and the engine starts when the key is **PUSHED** in, 1, and turned to the extreme right. The key spring returns to the “ON” position when released.

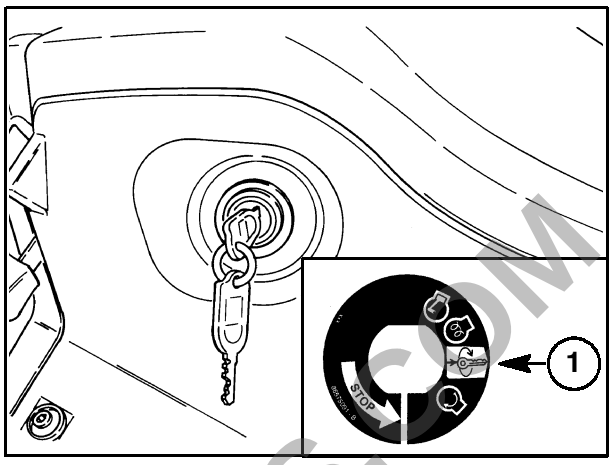


Figure 2-8

PRE-HEATING THE SYSTEM

Your tractor has a diesel engine. Before starting a cold engine, the precombustion chambers must be heated.

To pre-heat the engine, turn the key switch to the “HEAT” position and hold the key in this position until the cold start indicator light goes out (approximately four seconds). The glow plugs heat the precombustion chambers during this time, and the engine will start.

NOTE: When ambient temperatures are colder, a longer pre-heat time is necessary. Even after the cold start indicator light has gone out, the glow plugs will continue to heat if the key is held in the “HEAT” position.

WARNING: DO NOT USE ETHER WITH THE GLOW PLUG STARTING AID.

NOTE: A coolant immersion heater is available as a dealer installed option. This heater allows for easier starting in temperatures below 0°F (-17.7°C) by warming the engine coolant.

STARTING THE ENGINE

The safety key switch allows activation of the starter motor only when the PTO and Mid PTO (if equipped) are in the “OFF” position and the HST range lever is in the “NEUTRAL” position.

Always use safe practices when starting your tractor. Push the key in and turn it to the extreme right. Depress the clutch pedal fully and position the hand throttle forward so that it is one-fourth to one-third open when starting the tractor.

WARNING: ALWAYS SIT IN THE OPERATOR’S SEAT WHEN STARTING THE TRACTOR. NEVER ATTEMPT TO START THE ENGINE WHILE STANDING BESIDE THE TRACTOR.

IMPORTANT: Do not engage the starting motor continuously for more than 30 seconds. Doing so may cause starting motor failure.

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THROTTLE CONTROLS

The hand throttle, 1, is located on the right-hand side of the console. Push the throttle forward to increase engine RPM. Pull the throttle rearward to decrease engine RPM.

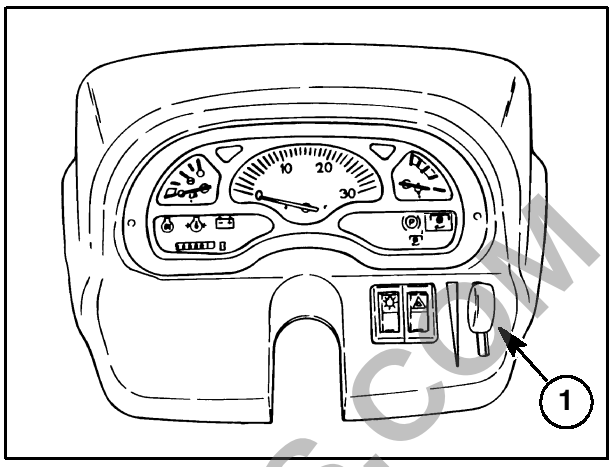


Figure 2-12

FUEL SHUTOFF VALVE

The fuel shutoff valve, 1, is found in the fuel line on top of the fuel filter. The fuel filter is located on the right-hand side of the engine.

To open the fuel shutoff valve, move the handle until it points straight up and down. To close the valve, move the handle to the horizontal position. Always close the fuel shutoff valve when servicing any part of the fuel system.

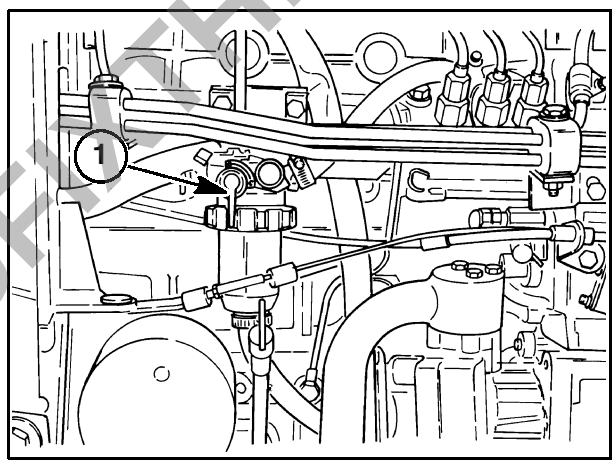


Figure 2-13

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MINIMUM HARDWARE TIGHTENING TORQUES

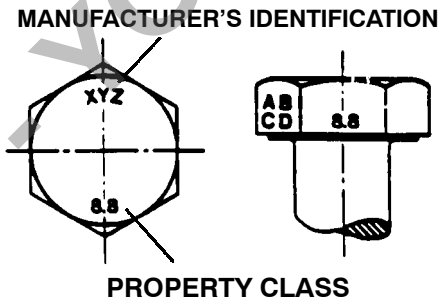
IN FOOT POUNDS (NEWTON-METERS) FOR NORMAL ASSEMBLY APPLICATIONS

METRIC HARDWARE AND LOCKNUTS

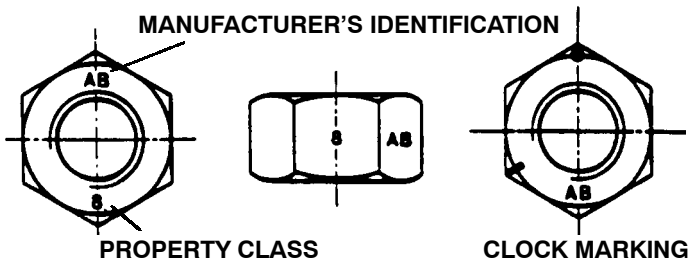
NOMINAL SIZE	CLASS 5.8		CLASS 8.8		CLASS 10.9		LOCKNUT CL.8 W/CL8.8 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	
M4	15* (1.7)	19* (2.2)	23* (2.6)	30* (3.4)	33* (3.7)	42* (4.8)	16* (1.8)
M6	51* (5.8)	67* (7.6)	79* (8.9)	102* (12)	115* (13)	150* (17)	56* (6.3)
M8	124* (14)	159* (18)	195* (22)	248* (28)	274* (31)	354* (40)	133* (15)
M10	21 (28)	27 (36)	32 (43)	41 (56)	45 (61)	58 (79)	22 (30)
M12	36 (49)	46 (63)	55 (75)	72 (97)	79 (107)	102 (138)	39 (53)
M16	89 (121)	117 (158)	137 (186)	177 (240)	196 (266)	254 (344)	97 (131)
M20	175 (237)	226 (307)	277 (375)	358 (485)	383 (519)	495 (671)	195 (265)
M24	303 (411)	392 (531)	478 (648)	619 (839)	662 (897)	855 (1160)	338 (458)

NOTE: Torque values shown with * are inch pounds.

IDENTIFICATION
HEX CAP SCREW AND CARRIAGE BOLTS
CLASSES 5.6 AND UP



HEX NUTS AND LOCKNUTS
CLASSES 05 AND UP



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