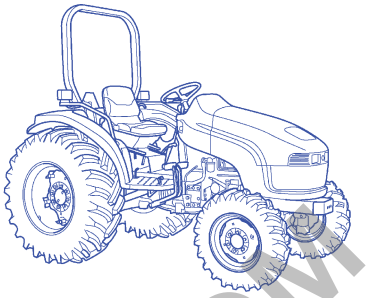
NEW HOLLAND

TC35
TC40
TC45

(Replaces All Previous Issues)

OPERATOR'S MANUAL



NEW HOLLAND

86620668 10/00

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PRECAUTIONARY STATEMENTS

PERSONAL SAFETY

Throughout this manual and on machine decals, you will find precautionary statements (“CAUTION”, “WARNING”, and “DANGER”) followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.



CAUTION: THE WORD “CAUTION” IS USED WHERE A SAFE BEHAVIORAL PRACTICE ACCORDING TO OPERATING AND MAINTENANCE INSTRUCTIONS AND COMMON SAFETY PRACTICES WILL PROTECT THE OPERATOR AND OTHERS FROM ACCIDENT INVOLVEMENT.



WARNING: THE WORD “WARNING” DENOTES A POTENTIAL OR HIDDEN HAZARD WHICH HAS A POTENTIAL FOR SERIOUS INJURY. IT IS USED TO WARN OPERATORS AND OTHERS TO EXERCISE EVERY APPROPRIATE MEANS TO AVOID A SURPRISE INVOLVEMENT WITH MACHINERY.



DANGER: THE WORD “DANGER” DENOTES A FORBIDDEN PRACTICE IN CONNECTION WITH A SERIOUS HAZARD.

FAILURE TO FOLLOW THE “CAUTION”, “WARNING”, AND “DANGER” INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.

MACHINE SAFETY

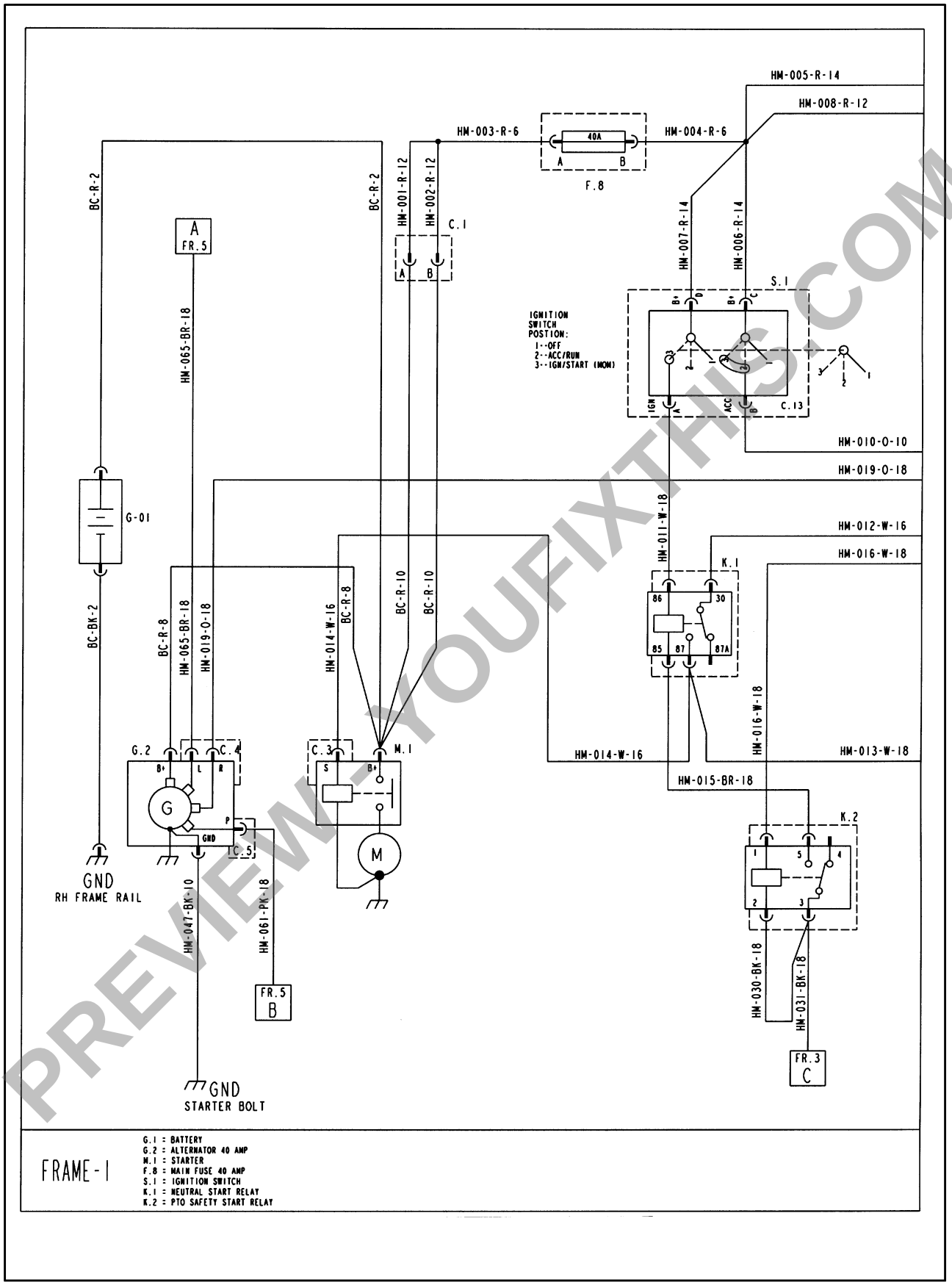
Additional precautionary statements (“ATTENTION” and “IMPORTANT”) are followed by specific instructions. These statements are intended for machine safety.

ATTENTION: The word “ATTENTION” is used to warn the operator of potential machine damage if a certain procedure is not followed.

IMPORTANT: The word “IMPORTANT” is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.

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FRONT WHEEL BEARINGS (TWO-WHEEL DRIVE)

NOTE: Front wheel bearings should be repacked after every 600 hours of operation.

The front wheels are carried on the wheel spindles by inner and outer tapered roller bearings. A grease retainer is provided at the inner end of the spindle, and a cover at the outer end, to retain lubricant and keep dirt and other foreign material out.

To repack the front wheel bearings:

1. Apply the parking brake to hold the tractor securely.
2. Jack up one of the front wheels and remove the wheel. Remove the cover, 1, gasket, 2, cotter pin, 3, nut, 4, thrust washer, 5, outer bearing, 6, and then the hub, 7.
3. Remove retainer clip, 8, spacer, 9, oil seal, 10, and bearing, 11, from the inner end of the hub.
4. Thoroughly clean all parts in a suitable solvent and allow to dry naturally. Do not use compressed air.
5. Inspect the bearing cone and roller assemblies for excessive discoloration or wear of the rollers. Check the bearing cups also.
6. Repack the cone and roller assembly with clean grease (see the Recommended Lubricants chart at the beginning of the Lubrication and Maintenance section). Pack approximately 1/4″ (6.35 mm) of grease in the space between the bearing cups in the hub. Do not pack the hub completely. Apply a film of grease to the surface of the spindle.
7. Reinstall the inner bearing, 11, and install the oil seal, 10, spacer, 9, and retainer clip, 8, in the rear of the hub.
8. Place the wheel assembly on the spindle and install the outer bearing, 6, thrust washer, 5, and castellated nut, 4.
9. Tighten the nut, 4, while at the same time turning the wheel, until a slight drag is felt. Back off the nut until the nearest slot in the nut lines up with the hole in the spindle. Install a new cotter pin, 3, then the cover, 1, with a new gasket, 2.

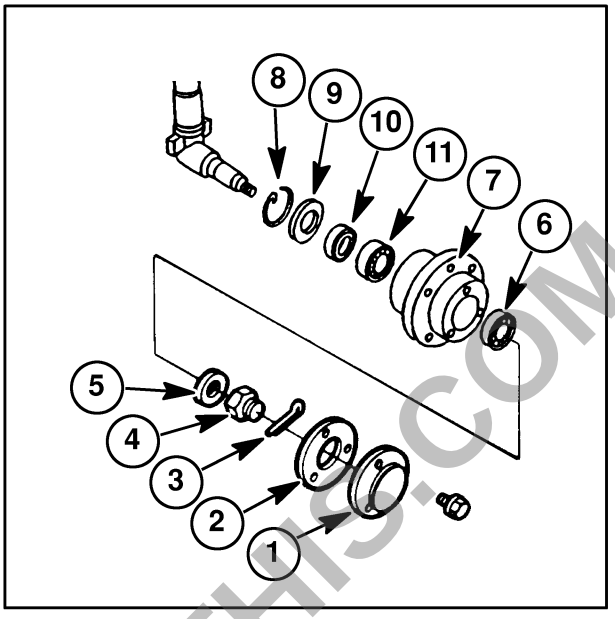


Figure 3-44

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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.

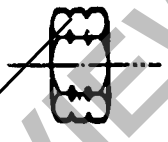
IDENTIFICATION
CAP SCREWS AND CARRIAGE BOLTS



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, 1.

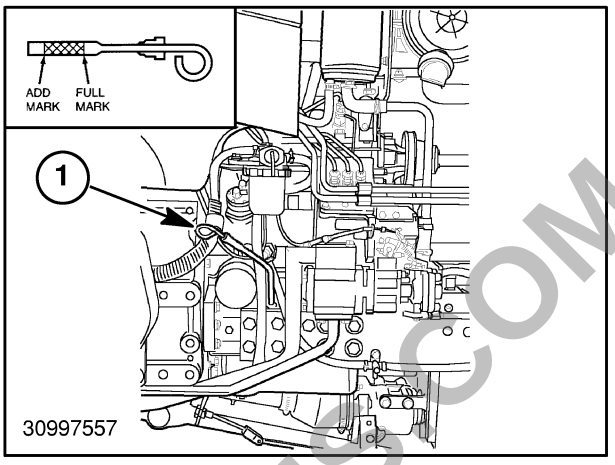


Figure 3-4

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.

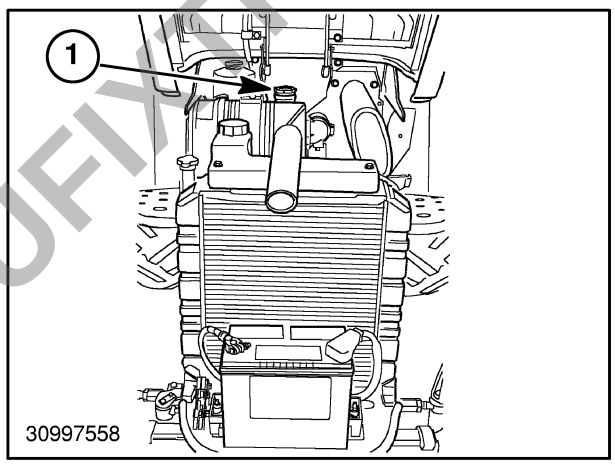


Figure 3-5

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.

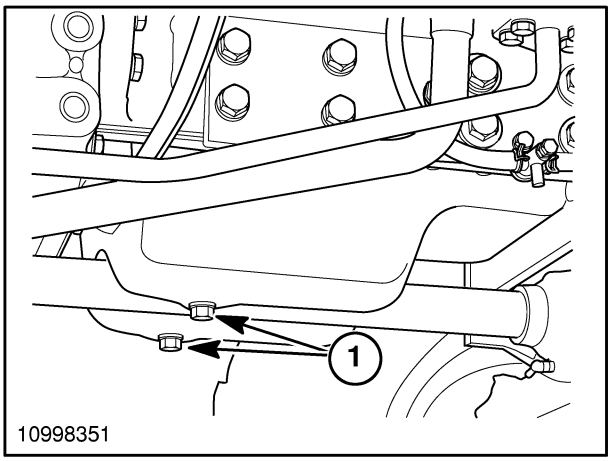


Figure 3-6

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LUBRICATION AND MAINTENANCE CHART
NEW HOLLAND TC35, TC40, TC45 — TWO-WHEEL DRIVE

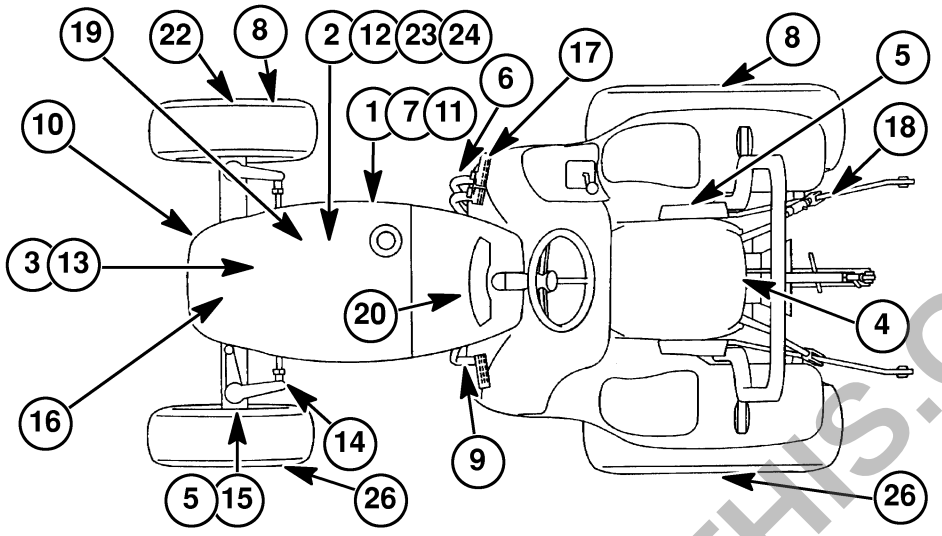


Figure 3-1

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
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					
	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			

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				
6	Brake Pedal Free Play					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		
11	Power Steering Oil & Filter				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 3rd Primary Element Change or Every **1000** Hours, Whichever Comes First

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SECTION 4
SPECIFICATIONS

	Model TC35	Model TC40	Model TC45
ENGINE			
Type/Model	Diesel/N843L	Diesel/N844	Diesel/N844L
Engine Gross Horsepower	26.1 kw (35.0)	29.8 kw (40.0)	33.6 kw (45)
Cylinders	3	4	4
Bore	84 mm (3.31″)	84 mm (3.31″)	84 mm (3.31″)
Stroke	100 mm (3.94″)	90 mm (3.54″)	100 mm (3.94″)
Displacement	1.65 L (101.1 cu. in.)	2.0 L (121.7 cu. in.)	2.2 L (135.2 cu. in.)
Compression Ratio	22.5:1	22.5:1	22.5:1
Firing Order	1-2-3	1-3-4-2	1-3-4-2
Low Idle Speed	1025 ±50 RPM	1025 ±50 RPM	1025 ±50 RPM
Maximum Speed:			
High Idle	2855 RPM	2855 RPM	2855 RPM
Rated	2600 RPM	2600 RPM	2600 RPM
CAPACITIES			
Fuel Tank	54.5 liters/ 13 U.S. gals.	54.5 liters/ 13 U.S. gals.	54.5 liters/ 13 U.S. gals.
Cooling System	7.4 liters/ 7.8 U.S. qts.	7.9 liters/ 8.3 U.S. qts.	8.0 liters/ 8.4 U.S. qts.
Engine Crankcase:			
With Filter	5.8 liters/ 6.1 U.S. qts.	6.0 liters/ 6.3 U.S. qts.	6.0 liters/ 6.3 U.S. qts.
Rear Axle & Transmission (Includes Hydraulics)	36 liters/ 9.2 U.S. gals.	36 liters/ 9.2 U.S. gals.	36 liters/ 9.2 U.S. gals.
Power Steering	1.4 liters/ 1.5 U.S. qts.	1.4 liters/ 1.5 U.S. qts.	1.4 liters/ 1.5 U.S. qts.
Front Axle Final Reduction /Differential Gear Case	5.3 liters/ 5.6 U.S. qts.	5.3 liters/ 5.6 U.S. qts.	5.3 liters/ 5.6 U.S. qts.

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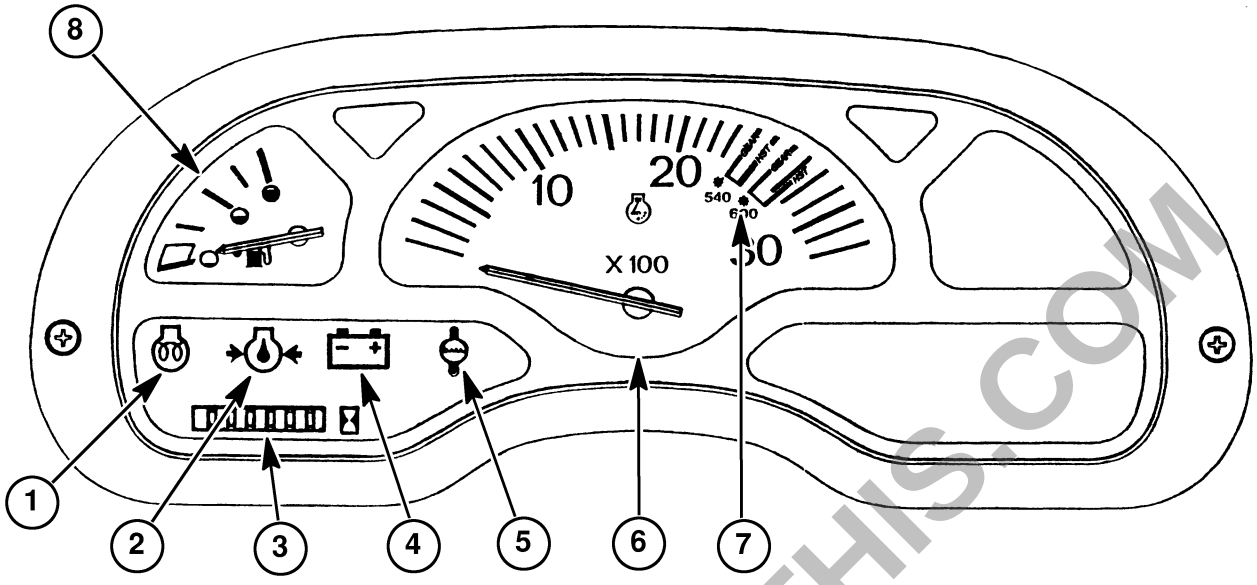


Figure 2-6

INSTRUMENT PANEL

1. **Cold Starting Indicator Light**— Illuminates when the key switch is turned to the "ACC/RUN" position. It remains lit for approximately 10 seconds when the key is in "ACC/RUN" position, during which time the glow plugs are heating the precombustion chambers of the cylinder head.
2. **Engine Oil Pressure Warning Light**—Illuminates with the key switch in the "ACC/RUN" 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. **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.
4. **Battery Charge Warning Light**—Illuminates when the key switch is in the "ACC/RUN" 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.
5. **Temperature Light**—Indicates coolant temperature. This light illuminates only when engine coolant temperature rises above normal operating temperature to a level which could cause damage and the key switch is in the "ACC/RUN" position. Stop the tractor engine immediately and investigate the cause.
6. **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.
7. **Rear/ PTO Speed**- Determined by the position of the needle on the tachometer. The tachometer is marked to indicate 540 PTO RPM and 600 PTO RPM. If the needle registers at the 600 mark, this indicates a dangerous overspeed condition, and engine RPM should be reduced immediately.
8. **Fuel Gauge**—Indicates the amount of diesel fuel remaining in the tank. The gauge is activated when the key switch is in the "ACC/RUN" position. It will register empty with the key switch in the "STOP" position.

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FEDERAL EMISSIONS WARRANTY

New Holland warrants that your new 1996 and later heavy-duty off-road diesel engine was designed, built, and equipped to conform to applicable U.S. Environmental Protection Agency regulations for a period of use of five years or 3,000 hours of operation, whichever occurs first.

The new model year, class of diesel engine, and emission application determination for your engine are identified on the emission control information label affixed to the top of your engine's rocker arm cover. The warranty period begins on the date the new equipment is sold to the first retail purchaser.

Any emission control system parts which are proven defective during normal use will be repaired or replaced during the warranty period. The warranty repairs and service will be performed by any authorized New Holland dealer at the dealer's place of business, with no charge for parts or labor (including diagnosis).

As the engine owner, you are responsible to perform all the required maintenance listed in your owner's manual. New Holland will not deny an emission warranty claim solely because you have no record of maintenance; however, a claim may be denied if your failure to perform maintenance resulted in the failure of a warranted part. Receipts covering regular maintenance should be retained in the event of questions and these receipts should be passed on to each subsequent owner of the engine.

It is recommended replacement parts used for maintenance or repairs be New Holland Service Parts to maintain the quality originally designed into your emission certified engine. The use of non-New Holland parts does not invalidate the warranty on other components unless the use of such parts causes damage to warranted parts.

New Holland wishes to assure the emission control systems warranty is being properly administered. If you believe you have not received the service entitled to under this warranty, you should contact the nearest New Holland Branch Office for assistance. The address and phone number of each Branch Office is in your vehicle owner's manual. If additional assistance or information is needed, contact:

Service Department
New Holland North America, Inc.
500 Diller Avenue
New Holland, PA 17557
(717) 355-1121

Please note that the Emission Warranty does not cover:

1. Systems and parts that were not first installed on the new equipment or engine as original equipment by New Holland.
2. Part malfunctions caused by abuse, misuse, improper adjustment, modification, alteration, tampering, disconnection, improper or inadequate maintenance, or use of non-recommended fuels and lubricating oils.
3. Accident caused damage, acts of nature, or other events beyond New Holland's control.
4. Replacement of expendable items made in connection with scheduled maintenance.
5. Parts requiring replacement, inspection or adjustment maintenance intervals for reasons other than being defective.
6. Parts which are not New Holland Service Parts.
7. Loss of time, inconvenience, loss of use of equipment/engine or commercial loss.
8. Equipment with altered or disconnected hourmeter where the hours cannot be determined.
9. Equipment normally operated outside the United States.
10. Non-defective parts replaced by other than New Holland dealers.

Coverage

This emission control system warranty applies to the following N843L, N844, and N844L emission control parts.

Fuel Injection Pump
Fuel Injectors
Intake Manifold
Exhaust Manifold

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