DX48 Tractor PIN Number HDG500142 and Above,

DX55 Tractor PIN Number HDG600346 and Above

Operator's Manual

87544706
Replaces 87399423

CASE IH

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SAFETY

⚠ PRECAUTIONARY STATEMENTS ⚠

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read the following precautions before operating this equipment. Equipment should be operated only by those who are responsible and instructed to do so.

Carefully review the procedures given in this manual with all operators. It is important that all operators be familiar with and follow safety precautions.

THE TRACTOR

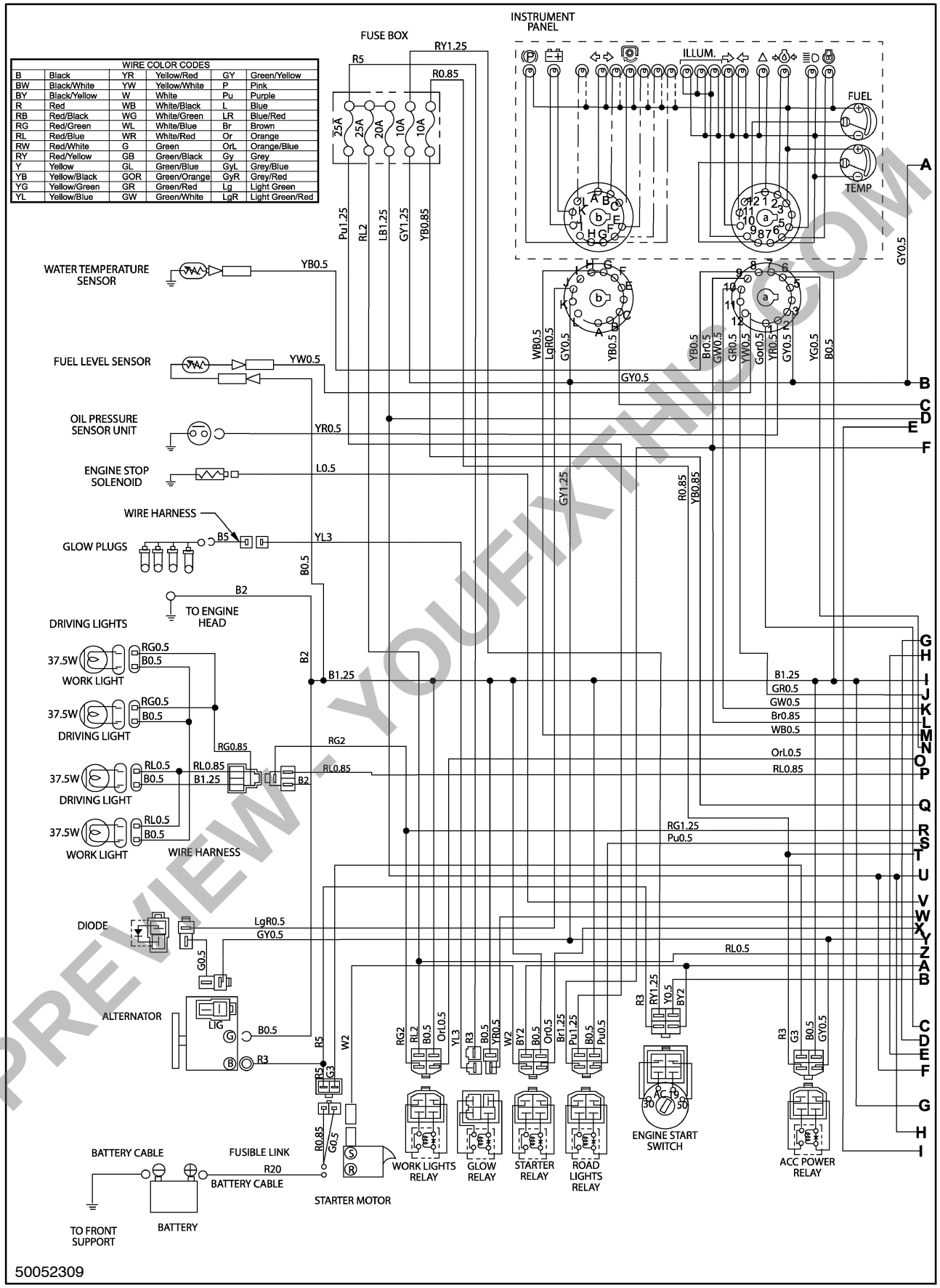
1. Read the Operator's Manual carefully before using the tractor. Lack of operating knowledge can lead to accidents.
2. Use an approved roll bar and seat belt for safe operation. Overturning a tractor without a roll bar can result in death or injury. If your tractor is not equipped with a roll bar and seat belt, see your Case IH Dealer.
3. Always use the seat belt. The only instance when the seat belt should not be used is if the roll bar has been removed from the tractor or folding ROPS is in down position.
4. If a front end loader is to be installed, always use a FOPS (Falling Object Protective Structure) canopy to avoid injury from falling objects.
5. Use the handholds and step plates when getting on and off the tractor to prevent falls. Keep steps and platform cleared of mud and debris.
6. Do not permit anyone but the operator to ride on the tractor. There is no safe place for extra riders.
7. Keep all safety decals clean of dirt and grime, and replace all missing, illegible, or damaged safety decals. See the list of decals in the Decal section of this manual.

SERVICING THE TRACTOR

1. The cooling system operates under pressure which is controlled by the radiator cap. It is dangerous to remove the cap while the system is hot. Always turn the cap slowly to the first stop and allow pressure to escape before removing the cap entirely.
2. Keep any type of open flame away from the tractor and do not smoke while refueling. Wait for the engine to cool before refueling.
3. Keep the tractor and equipment, particularly brakes and steering, maintained in a reliable and satisfactory condition to ensure your safety and comply with legal requirements.
4. Keep open flame or cold weather starting aids away from the battery to prevent fires or explosions. Use jumper cables according to instructions to prevent sparks which could cause explosion. Do not use chemical starting aids on glow plug equipped tractors.
5. Stop the engine before performing any service on the tractor.
6. Escaping hydraulic/diesel fluid under pressure can penetrate the skin causing serious injury. If fluid is injected into the skin, obtain medical attention immediately or gangrene may result.
   - DO NOT use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks.
   - Stop the engine and relieve pressure before connecting or disconnecting lines.
   - Tighten all connections before starting the engine or pressurizing lines.
7. Do not modify or permit anyone else to modify or alter this tractor or any of its components or functions without first consulting a Case IH Dealer.
8. The fuel oil in the injection system is under high pressure and can penetrate the skin. Unqualified persons should not remove or attempt to adjust a pump, injector, nozzle, or any other part of the fuel injection system. Failure to follow these instructions can result in serious injury.
9. Continuous long-term contact with used engine oil may cause skin cancer. Avoid prolonged contact with used engine oil. Wash skin promptly with soap and water.

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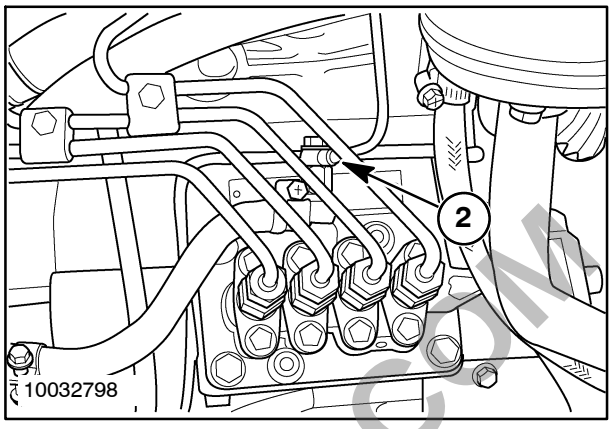
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3. Open the bleed screw, 2, at the pump, then close the bleed screw when air-free fuel flows.
4. Push the hand throttle to the high speed position. Turn the engine over for a few seconds to bleed the high pressure fuel tubes.



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Bleeding the Injector Lines
Bleed the injector lines if:

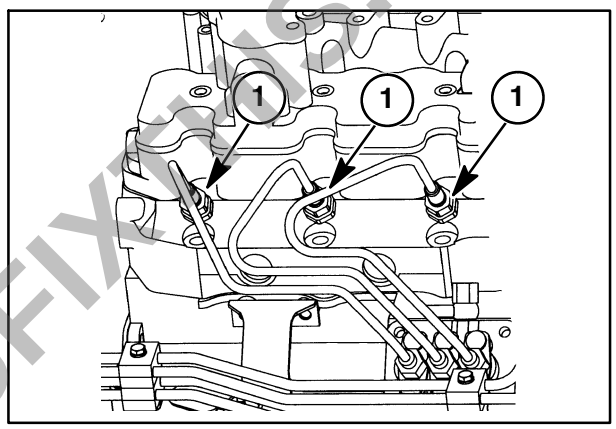
- the tractor has run out of fuel.
- new injectors have been installed.
- the injection pump has been removed for service repairs.

To bleed the injector lines:

1. Loosen the injector line fittings, 1, at the injectors.
2. Move the hand throttle control lever to its wide open position.
3. Crank the engine until air-free fuel flows from each connection, then tighten the fittings to 24 – 29 N·m (18 – 22 ft-lb).

IMPORTANT: *If air is not purged from the system, repeat the above procedures.*

Do not crank the engine continuously for more than 30 seconds as this may cause starting motor failure.



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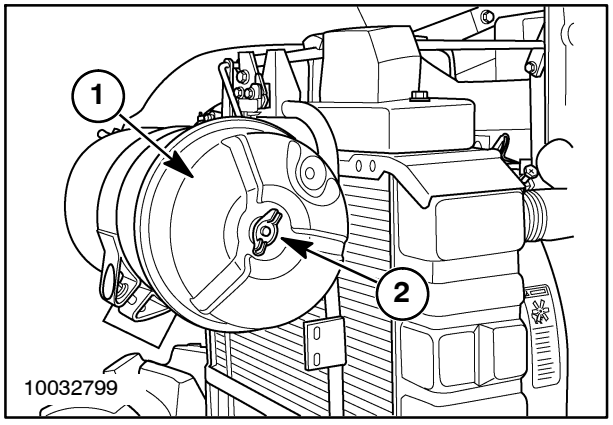
AIR CLEANER

Prior to PIN #s
DX48 - HDG600156
DX55 - HDG500483

The air cleaner, 1, is accessed by opening the tractor hood.

The air cleaner assembly contains two elements: an outer primary element and an inner safety element.

To remove the primary element, remove wing nut, 2, on the end cap. Remove the end cap from the air cleaner body to expose the primary element.



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MINIMUM HARDWARE TIGHTENING TORQUES

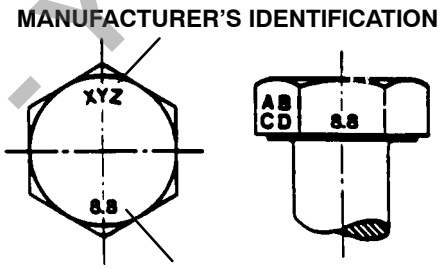
IN NEWTON-METERS (FOOT POUNDS) FOR NORMAL ASSEMBLY APPLICATIONS

METRIC NON-FLANGED HARDWARE AND LOCKNUTS

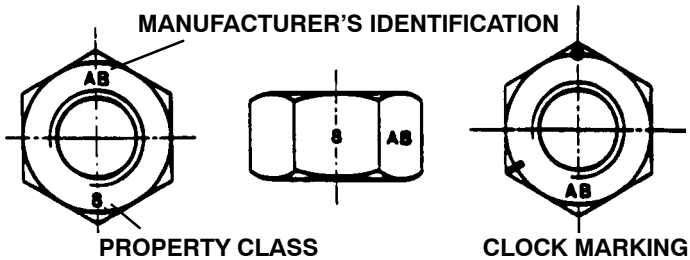
NOMINAL SIZE	CLASS 5.8		CLASS 8.8		CLASS 10.9		LOCKNUT CL.8 W/CL8.8 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	
M4	1.7 (15)*	2.2 (19)*	2.6 (23)*	3.4 (30)*	3.7 (33)*	4.8 (42)*	2.3 (20)*
M6	5.8 (51)*	7.6 (67)*	8.9 (79)*	12 (102)*	13 (115)*	17 (150)*	7.8 (69)*
M8	14 (124)*	18 (159)*	22 (195)*	28 (248)*	31 (274)*	40 (354)*	19 (169)*
M10	28 (21)	36 (27)	43 (32)	56 (41)	61 (45)	79 (58)	38 (28)
M12	49 (36)	63 (46)	75 (55)	97 (72)	107 (79)	138 (102)	66 (49)
M16	121 (89)	158 (117)	186 (137)	240 (177)	266 (196)	344 (254)	164 (121)
M20	237 (175)	307 (226)	375 (277)	485 (358)	519 (383)	671 (495)	330 (243)
M24	411 (303)	531 (392)	648 (478)	839 (619)	897 (662)	1160 (855)	572 (422)

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



86529681 REV F 5.1

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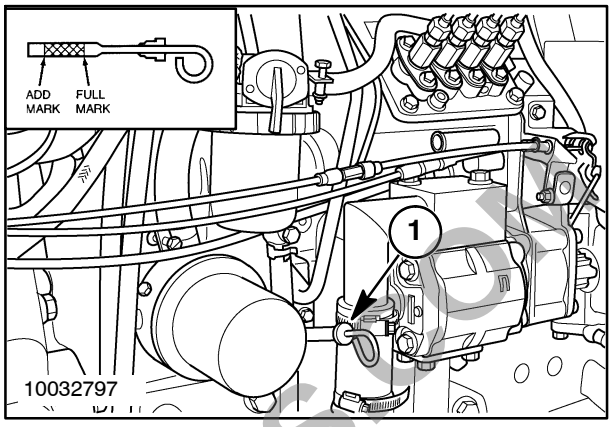
FUEL AND LUBRICANT SERVICE PROCEDURES

ENGINE

Checking the Engine Oil Level

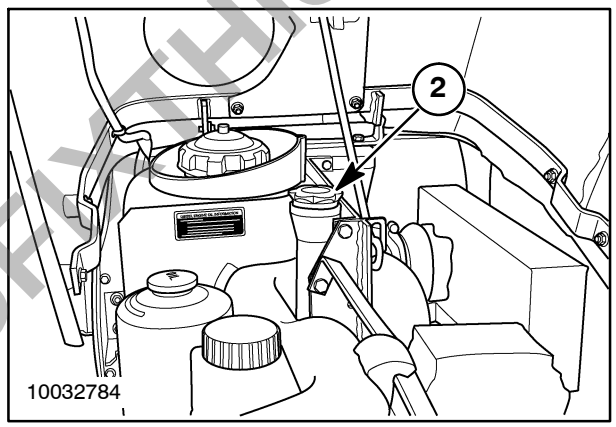
NOTE: *Check the engine oil level daily or after every 10 hours of operation.*

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.



3

2. If the oil level is low, remove the filler cap, 2, 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.



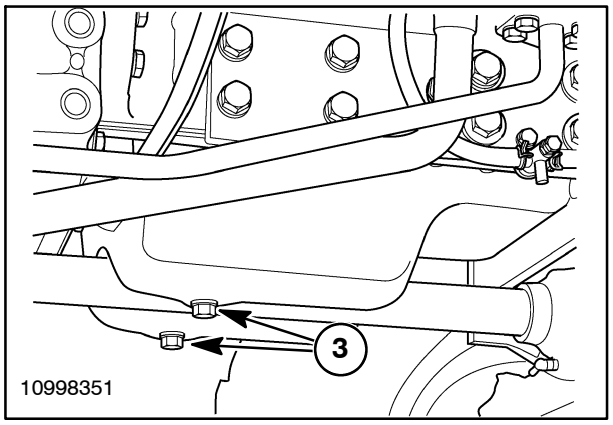
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Changing the Engine Oil

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 openings to catch the used oil. With the tractor engine off but at normal operating temperature, remove the drain plugs, 3. Reinstall the plugs after all of the oil has been drained.



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NOTE: *Remove both drain plugs to properly drain all oil.*

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SECTION 4
SPECIFICATIONS

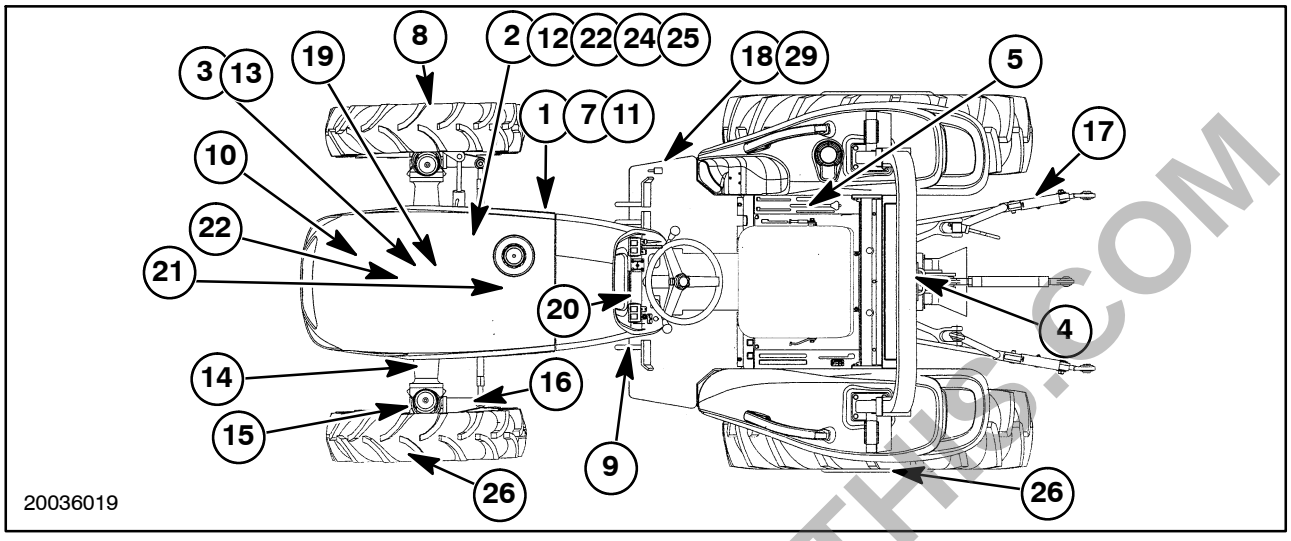
	Model DX48	Model DX55
ENGINE		
Type/Model	Diesel/844L	Diesel/N844L-T
Engine Gross Horsepower	35.8 kw (48 HP)	41.0 kw (55 HP)
Cylinders	4	4
Bore	84 mm (3.31 in)	84 mm (3.31 in)
Stroke	100 mm (3.94 in)	100 mm (3.94 in)
Displacement	2.2 L (135.2 cu. in.)	2.2 L (135.2 cu. in.)
Compression Ratio	22.4:1	22.4:1
Firing Order	1-3-4-2	1-3-4-2
Low Idle Speed	1000 RPM (± 50)	1000 RPM (± 50)
Maximum Speed:		
High Idle	3000 RPM (± 50)	2900 RPM (± 50)
Rated	2800 RPM (± 50)	2700 RPM (± 50)
CAPACITIES		
Fuel Tank	51.0 liters/ 13.5 U.S. gals.	51.0 liters/ 13.5 U.S. gals.
Cooling System	8.0 liters/ 8.4 U.S. qts. *5.5 liters 5.8 U.S. qts.	8.0 liters/ 8.4 U.S. qts. *5.5 liters 5.8 U.S. qts.
Engine Crankcase:		
With Filter	7.0 liters/ 7.4 U.S. qts.	7.0 liters/ 7.4 U.S. qts.
Rear Axle & Transmission (EHSS & SSS) (Includes Hydraulics)	42.0 liters/ 11.1 U.S. gals.	42.0 liters/ 11.1 U.S. gals.
Power Steering	1.8 liters/ 1.9 U.S. qts.	1.8 liters/ 1.9 U.S. qts.
Front Axle Final Reduction /Differential Gear Case	5.8 liters/ 6.1 U.S. qts.	5.8 liters/ 6.1 U.S. qts.

* DX48 on and Above PIN# HDG500156
DX55 on and Above PIN# HDG600483

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LUBRICATION AND MAINTENANCE CHART
CASE IH DX48, DX55 — FRONT-WHEEL DRIVE



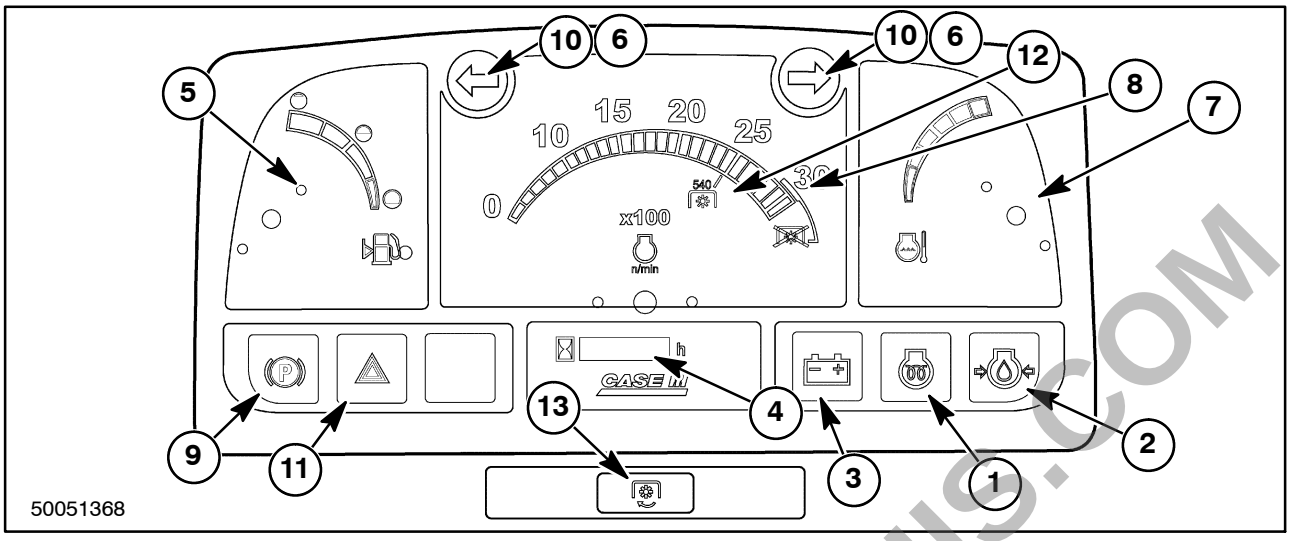
1

NO.	LUBRICATION & MAINTENANCE ITEMS	CHECK	CLEAN	LUBE	CHANGE	ADJUST	SERVICE INTERVALS
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					
29	Brake Pedal Free Play	X					
8	Tires	X					Every 50 Hours
9	Clutch/Inching 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					
29	Brake Pedal Free Play	X					
	Lubrication Fittings:						
16	Steering Linkage			X			
17	3-Point Linkage			X			
18	Brake Pedal			X			
19	Power Steering Cylinder	X		X			
20	Pedal Shaft			X			
21	Drive Cover Shaft			X			
22	Pivot Shaft			X			

NO.	LUBRICATION & MAINTENANCE ITEMS	CHECK	CLEAN	LUBE	CHANGE	ADJUST	SERVICE INTERVALS
1, 7	Engine Oil & Filter				X		Every 100 Hours
2	Air Cleaner Element		X				
11	Fuel Filter		X				
29	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		
14	Front Axle Oil				X		
15	Final Reduction Gear Cases Oil				X		
12	Power Steering Oil & Filter				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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INSTRUMENT PANEL

1. **Cold Starting Indicator Light** - Illuminates when the key switch is turned to the “ACC/RUN” position. It remains lit for approximately four seconds when the key is in position, during which time the glow plugs are heating the precombustion chambers of cylinder head.
2. **Engine Oil Pressure Warning Light** - Illuminates with the key switch in the “ACC/RUN” position 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 “ACC/RUN” position 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 based on an average engine speed of 1833 RPM. Engine speeds below 1833 RPM accumulate engine hours at a slower rate than clock hours. Engine speeds above 1833 RPM accumulate engine hours faster than clock hours. 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 “ACC/RUN” position. It will register empty with the key switch in the “STOP” position.
6. **Flasher Warning Hazard 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 “ACC/RUN” position. 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. **Parking Brake Light** - Illuminates if the parking brake is engaged when the key switch is turned from the “OFF” position.
10. **Flasher Turn Lights** - When the turn signal switch is moved to the right for right turns, the right arrow will flash. When moved to the left for left turns, the left arrow will flash. The key switch has to be in the “ACC/RUN” or “START” positions.

NOTE: *The arrow opposite the direction will illuminate constant, not flashing.*

11. **Flasher Warning Hazard Lights Indicator** - SMV symbol flashes in unison with directional arrows, 6, when the flasher switch is turned on, regardless of key position.
12. **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.
13. **PTO Indicator Light** - Illuminates with the key switch in the “ON” position and the PTO clutch lever engaged. This light indicates that the PTO clutch is engaged.

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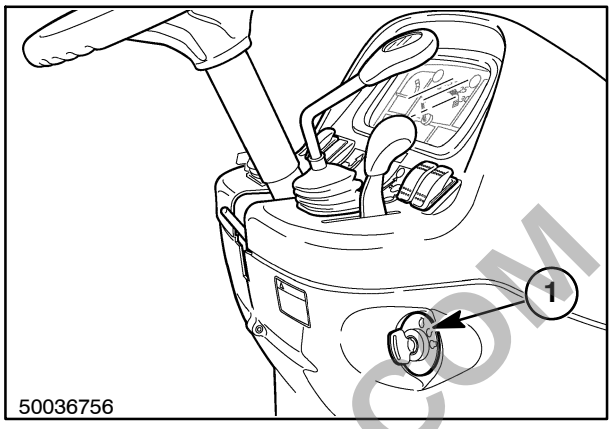
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STARTING THE ENGINE

The key switch, 1, allows activation of the starter motor and fuel delivery only when:

1. The PTO clutch lever, 2, is in the “OFF” position.
2. The forward/reverse shuttle lever, 3, is in the “NEUTRAL” position.

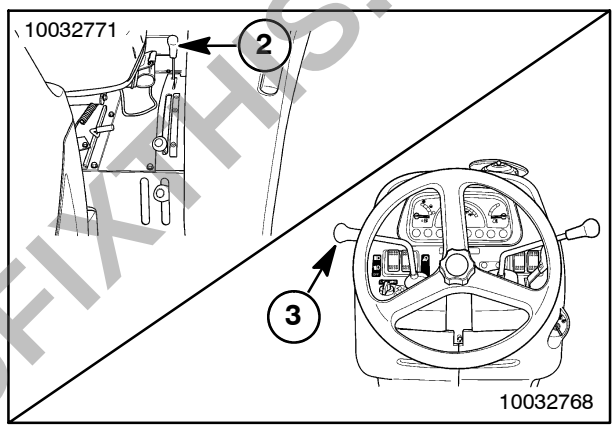
NOTE: *The tractor can be started with the operator out of the seat and the park brake NOT applied. However, an alarm will sound indicating that the operator needs to either apply the park brake or sit in the seat.*



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IMPORTANT: (EHSS TRANSMISSION ONLY) *The following procedures have to be performed, after starting the tractor, to allow the EHSS controller to be activated and enable the transmission to operate.*

- *Operator in the seat*
- *Fully depress and release inching pedal, 4.*



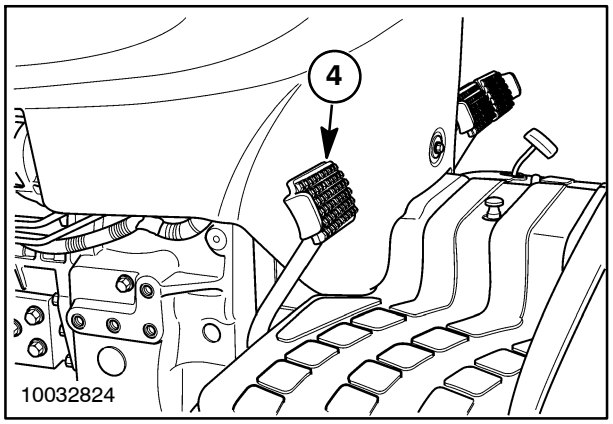
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Always use safe practices when starting your tractor. Turn the key to the extreme right. Position the hand throttle forward so that it is one-fourth to one-third open.

⚠ 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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The engine will shut off in approximately two seconds if the operator leaves the seat without the shuttle lever in the neutral position.

NOTE: *If the operator leaves the seat, with the shuttle lever in the “NEUTRAL” position and the park brake NOT applied, a buzzer will sound for approximately ten seconds.*

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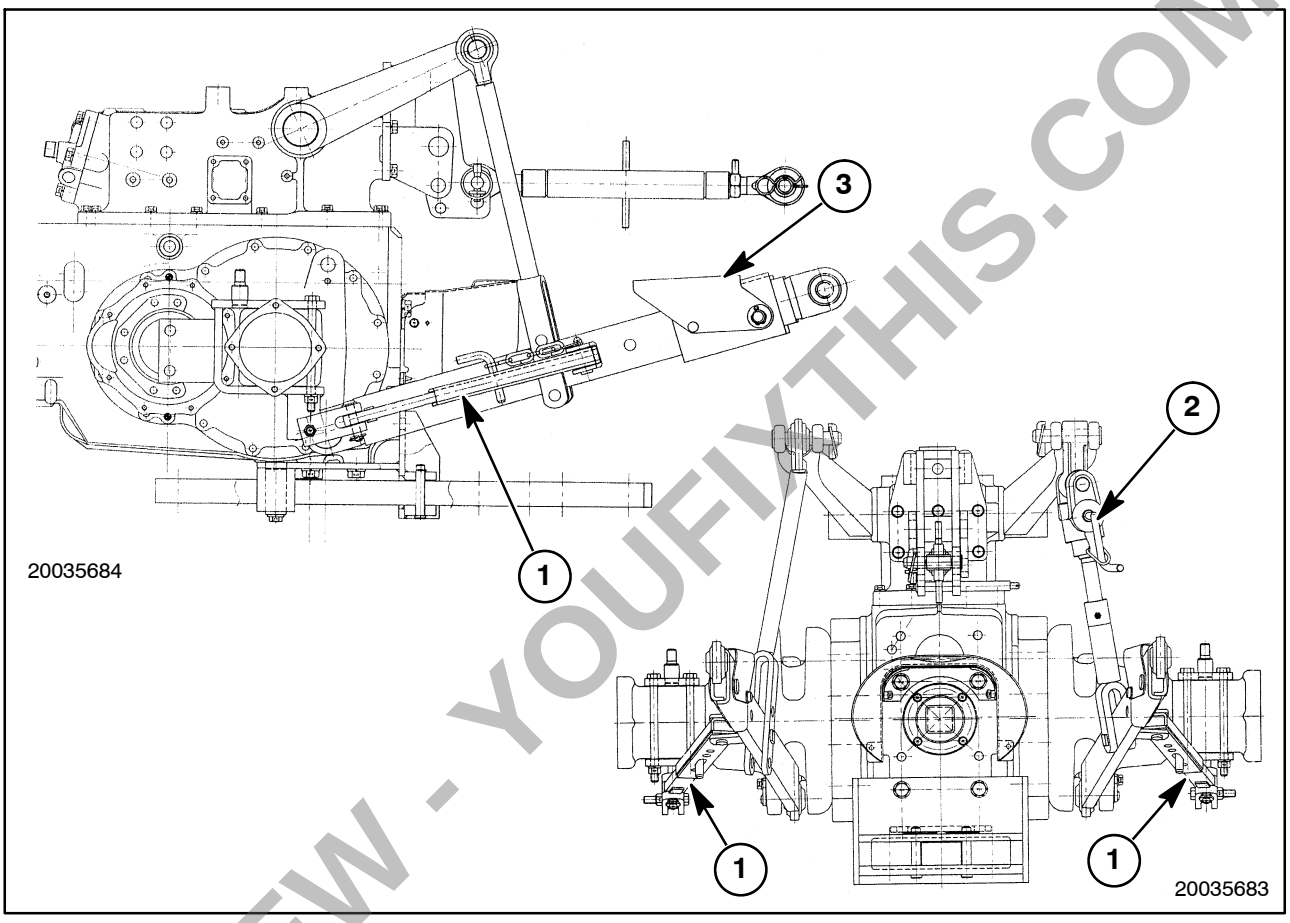
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DELUXE THREE-POINT LINKAGE

The tractor's three-point linkage is used to attach three-point mounted equipment which is usually PTO operated, such as rotary mowers, tillers, flail mowers, snowblowers, etc. The three linkage points are the two lower lift arms and the top link.

The three-point linkage has easy to adjust sway bars, 1, to control lateral movement of the lift arms. The height of the right-hand lift arm and the top link can be adjusted by turning the leveling crank, 2.

The flex ends of the lift arms can be adjusted by pushing down on the clamp, 3, and placing the ends in the desired position.

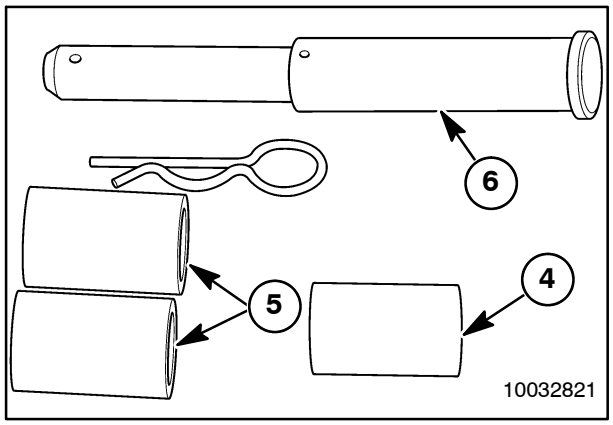


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The three point linkage ball ends are category II, the tractor is shipped with category II to I conversion bushings. Install one 25 mm (0.98 in) outer diameter bushing, 4, in the top link end and the other two 28 mm (1.10 in) outer diameter bushing, 5, at the lower lift arm ball ends.

A special double diameter pin, 6, for the top link installation is standard equipment with your tractor. Use the smaller diameter end of the pin for category I implements and the larger diameter for category II implements.

NOTE: *Cycle the three point linkage through the entire travel and check for any interference with rear tires. If interference is present, adjust sway bars as needed.*



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