

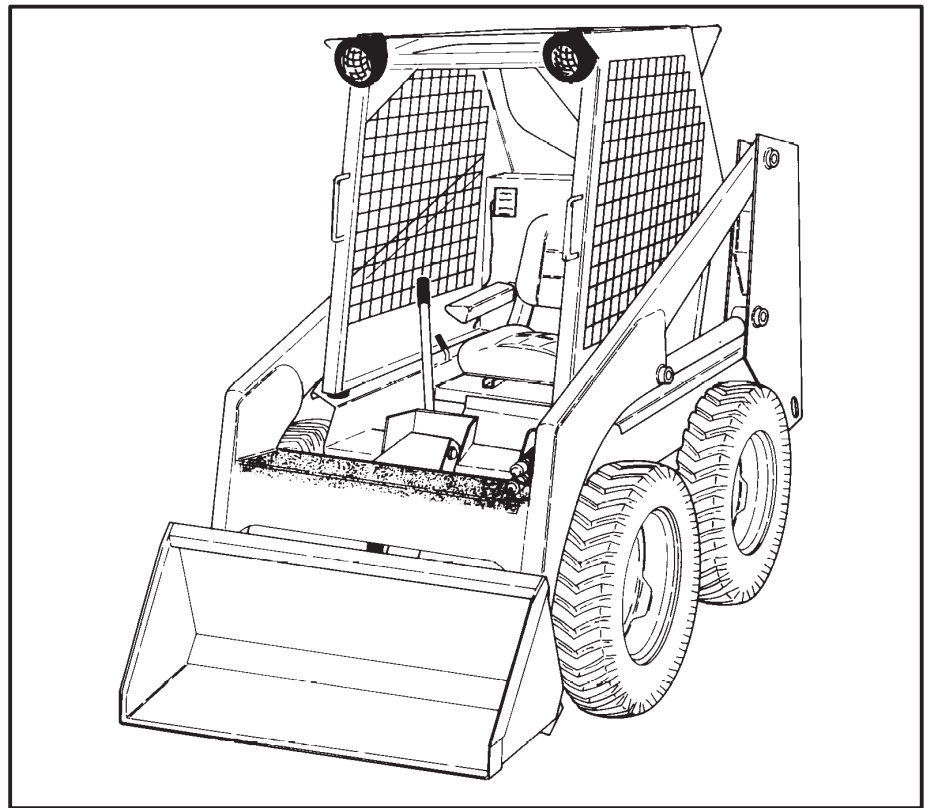
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Service Manual

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**PREVENTIVE
MAINTENANCE**

**HYDRAULIC
SYSTEM**

**HYDROSTATIC
SYSTEM**

**DRIVE
SYSTEM**

**MAIN
FRAME**

**ELECTRICAL
SYSTEM**

**ENGINE
SERVICE**

**TECHNICAL
DATA**

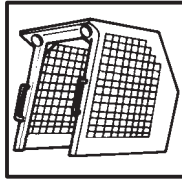
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FOREWORD

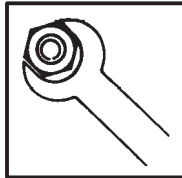
This manual is for the Bobcat loader mechanic. It provides necessary servicing and adjustment procedures for the Bobcat loader and its component parts and systems. Refer to the Operator's Manual for operating instructions, starting procedure, daily checks, etc.

A general inspection of the following items must be made after the loader has had service or repair:

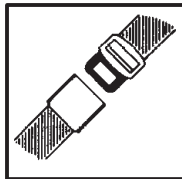
1. Check that the ROPS/FOPS (Including sidescreens) is in good condition and is not modified.



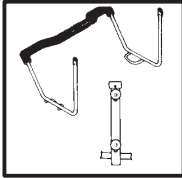
2. Check that ROPS mounting hardware is tightened and is Melroe approved.



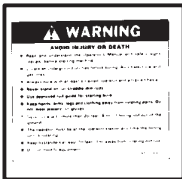
3. The seat belt must be correctly installed, functional and in good condition.



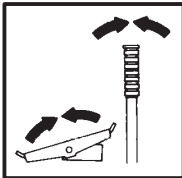
4. The seat bar and pedal interlocks must be correctly adjusted, clean and lubricated.



5. Machine signs must be legible and in the correct location.



6. Steering levers and foot pedals must return to neutral.



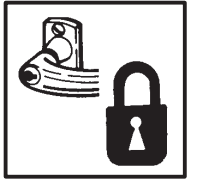
7. Check for correct function of the work lights and travel lights.



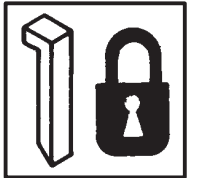
8. The parking brake must function correctly.



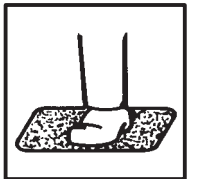
9. Enclosure door latches must open and close freely.



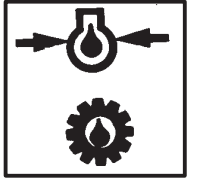
10. Bob-Tach wedges and linkages must function correctly and be in good condition.



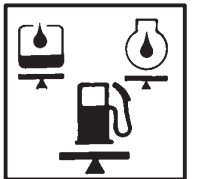
11. Safety treads must in good condition.



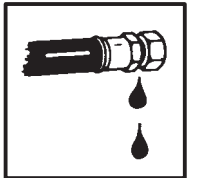
12. Check for correct function of indicator lamps (Optional on some models).



13. Check hydraulic fluid level, engine oil level and fuel supply.



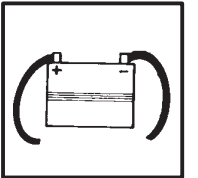
14. Inspect for fuel, oil or hydraulic fluid leaks.



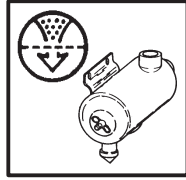
15. Lubricate the loader.



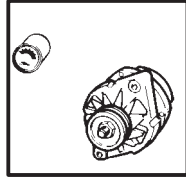
16. Check the condition of the battery and cables.



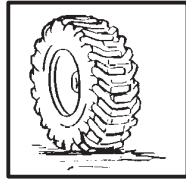
17. Inspect the air cleaner for damage or leaks. Check the condition of the element.



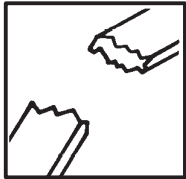
18. Check the electrical charging system.



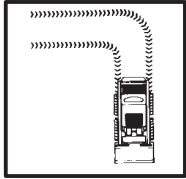
19. Check tires for wear and pressure.



20. Inspect for loose or broken parts or connections.



21. Operate the loader and check all functions.



Recommend to the owner that all necessary corrections be made before the machine is returned to service.



PREVENTIVE MAINTENANCE

PREVENTIVE MAINTENANCE

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1 PREVENTIVE MAINTENANCE

1-1 INTRODUCTION

1-1.1 Symbols

IMPORTANT

This notice identifies important procedures which must be followed to prevent damage to the loader.



WARNING

This safety alert symbol indicates important safety messages in this manual. Be alert to the possibility of personal injury and carefully read the message that follows this symbol.

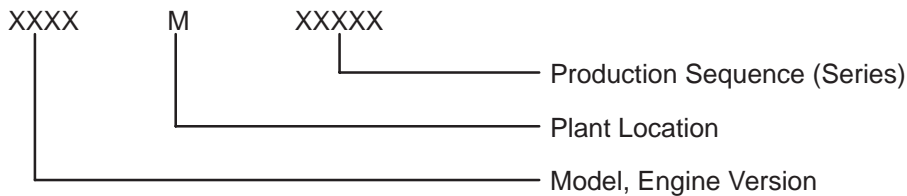
1-1.2 Serial Number Identification

It is important to make correct reference to the serial number of the loader when making repairs or ordering parts. It is possible that the present machines do not use all the same parts as earlier machines; or it is possible that different procedures are used for service or repair.

1-1.3 Loader Serial Number

The loader serial number plate location is on the inside of the left upright, above the grill (Fig. 1-1).

Explanation of serial number:



1-1.4 Engine Serial Number

730 Wisconsin: (Fig. 1-2) The engine serial number location is on the engine shroud on the left side of engine. Use all numbers when ordering parts for this engine.

731 Deutz: (Fig. 1-3) The engine serial number location is on the right side of cylinder block. Use all numbers when ordering parts for this engine.

732 Ford: (Fig. 1-4) The engine serial number location is on the right side of the valve cover. Use all numbers when ordering parts for this engine.

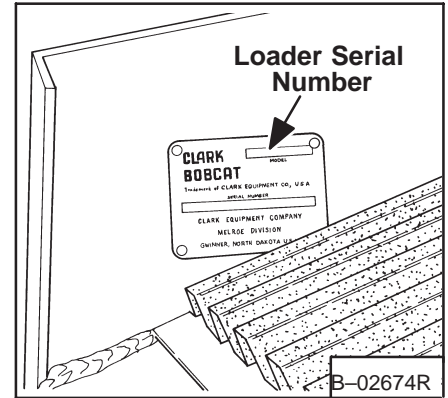


Fig. 1-1 Loader Serial Number

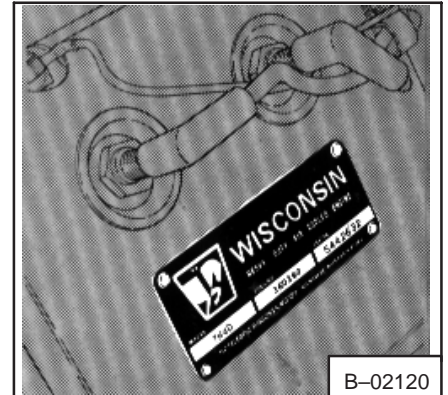


Fig. 1-2 Engine Serial Number (730)

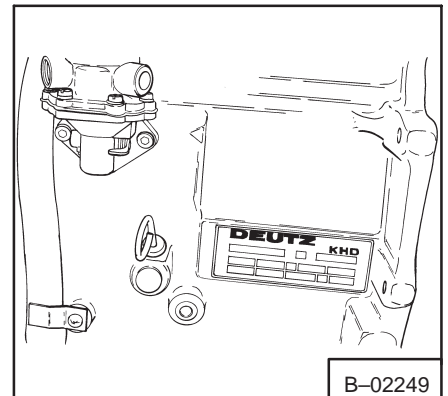


Fig. 1-3 Engine Serial Number (731)

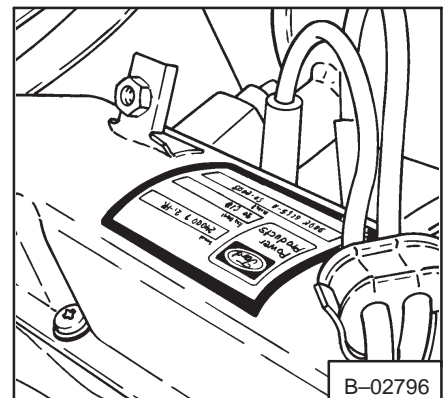


Fig. 1-4 Engine Serial Number (732)

1-2 SERVICE SCHEDULE

Maintenance work must be done at regular intervals. Failure to do so will result in damage to the Bobcat loader or the engine. The service schedule is a guide for correct maintenance of the Bobcat loader. DO NOT change this service schedule unless the frequency of service is increased when the Bobcat loader is operated in very hot, cold, dusty or corrosive conditions.



WARNING

DO NOT work on the loader with the lift arms in a raised position without support. Use the lift arm stops or other methods.

MODEL			SERVICE SCHEDULE	HOURS								
730	731	732		ITEM	SERVICE REQUIRED	8-10	50	100	250	300	500	1000
			Engine Air Cleaner	Clean dust cup. Check condition of system. Check condition indicator.								
			Engine Cooling System	Check coolant level. Add coolant when level is low. Remove debris from the radiator grill area.								
			Tires	Check air pressure & check for damage.								
			Wheel Nuts	Tighten nuts 115 ft.-lbs. (155 Nm) torque.								
			Engine Oil	Check and add oil as needed.								
			All Pivot Points	Add lubricant to all fittings.								
			Engine Cooling Inlet	Check rear door grill & blower inlets for restriction of air flow. Clean cooling fins & blower housing when necessary.								
			Indicators, etc.	Check for correct operation of all.								
			Operator Cab	Check condition of cab & bolts								
			Seat Belt	Check condition of strap, buckle & replace if damaged.								
			Hydraulic Fluid	Check & add recommended fluid as needed.								
			Safety Signs (Decals)	Check for damaged decals or decals that are gone. Replace as needed.								
			Engine Oil & Filter	Change the oil & the filter.								
			Control Pedals & Steering	Add grease to fittings until extra grease shows.								
			Battery	Check water level & cables.								
			Hydraulic Tubes & Hoses	Check for damage or leaks. Replace as needed.								
			V-Belts	Check tension & make adjustments.								
			Crankcase Breather	Clean breather cap every oil change.								
			Bob-Tach	Check locking levers & wedges for condition & operation.								
			Parking Brake	Check operation & adjust as needed.								
			Chaincase Fluid	Check fluid level & add as needed.								
			Hydraulic Filter	Make replacement of filter element.								
			Engine Cylinder Head Bolts	Tighten to correct torque after first 100 hours & adjust the valves as needed.								
			Engine Air Cleaner	Check system for leaks. Replace element when condition indicator shows red.								
			Crankcase Breather	Remove breather & clean.								
			Governor	Check oil level in the reservoir.								
			Main Frame Upright	Check the torque of the bolts that hold the transmission assembly to the upright.								
			Steering Lever Pivots	Grease pivot points.								
			Spark Arrestor Muffler	Remove the plug & clean the spark chamber.								
			Engine Fuel Filter	Replace the filter element.								
			Starting Motor	Remove, clean & service as needed.								
			Engine Fuel Filter (Inline)	Replace the element.								
			Main Fuel Filter	Make replacement of the element. Vent air from the fuel system after changing element.								
			40 Micron Filter	Replace the filter in the port block.								
			Universal Joint	Grease u-joint								
			Engine Compression	The minimum compression reading must be at least 75% of maximum compression reading.								
			Chaincase	Make replacement of fluid.								
			Hydraulic System	Make replacement of fluid & filter. Replace cap.								

1-3 ENGINE SERVICE (General)

1-3.1 Engine Oil and Filter (Fig. 1-7 thru Fig. 1-10)

Oil Specification:

730 and 732: Use a good quality oil which has API Service Classification SE.

731: Use a good quality oil which has API Service Classification CC or CD.

Use oil of correct SAE viscosity for temperature conditions at the time of starting; not for the highest temperature expected during the working day.

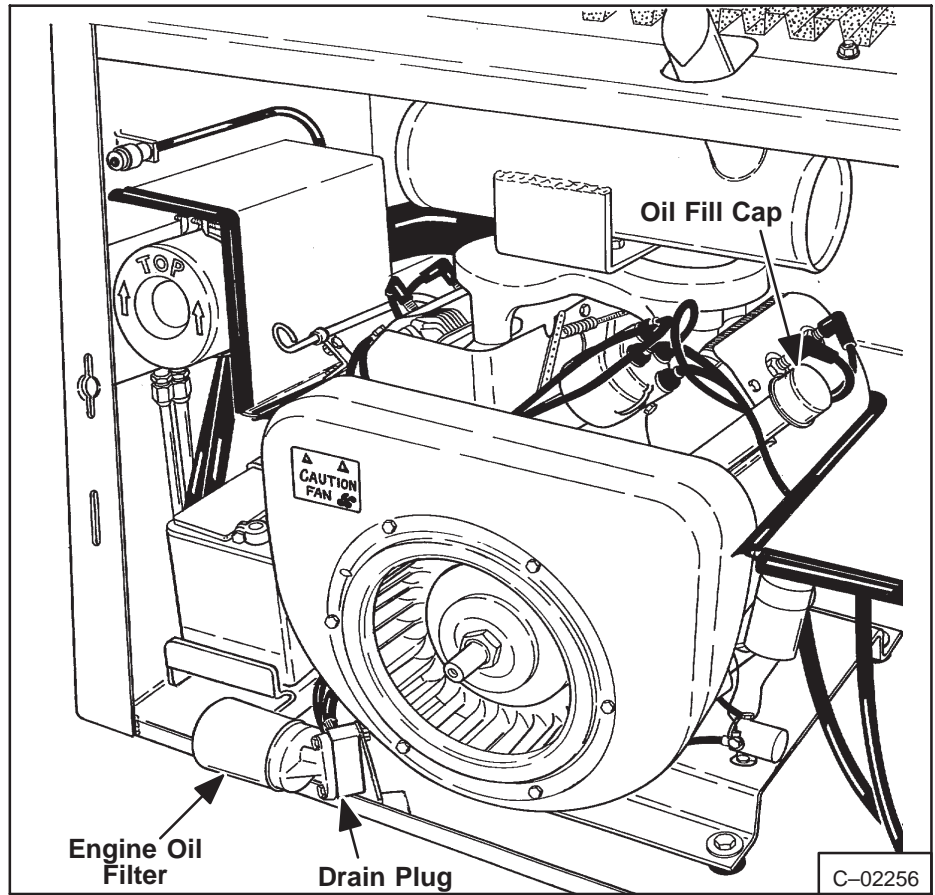


Fig. 1-7 Engine Servicing (730)

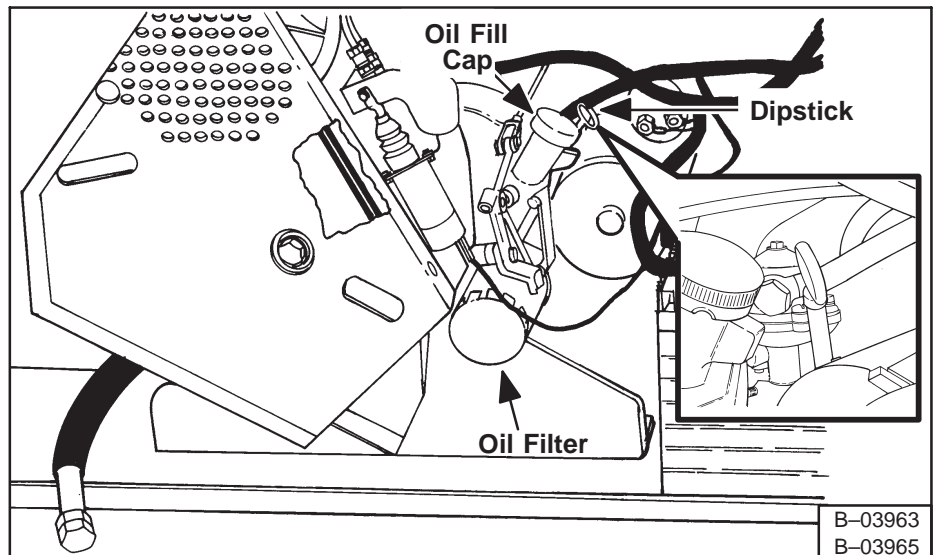
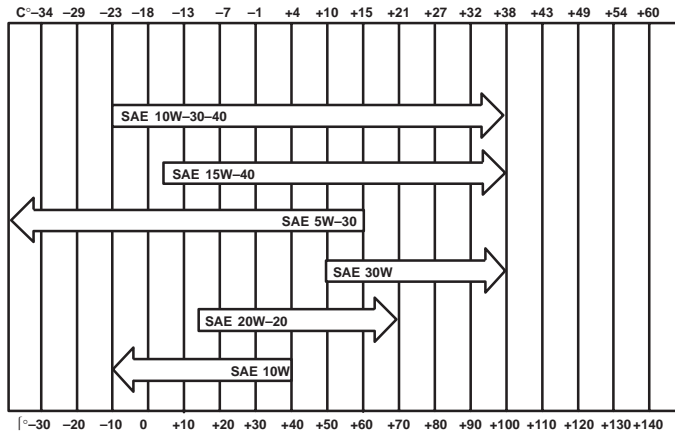


Fig. 1-8 Engine Servicing (731)

**RECOMMENDED SAE VISCOSITY NUMBER
(LUBRICATION OILS FOR ENGINE CRANKCASE)**



**TEMPERATURE RANGE ANTICIPATED BEFORE NEXT OIL CHANGE
(GASOLINE: USE API CLASSIFICATION SE)
(DIESEL: USE API CLASSIFICATION CD)**

Checking Oil:

Engine must be stopped to check oil level. Check oil level every 4 hours for the first 50 hours of operation. After the first 50 hours of operation, check oil level every day (8–10 hours). Oil level must be kept between the “MIN” and “MAX” marks on the dipstick.

Adding Oil:

Remove oil fill cap and add enough oil of the correct specification and viscosity to make oil level near the “MAX” on the dipstick.

Replacement Oil and Filter:

1. Stop the engine.
2. Remove the drain plug when engine is hot.
3. Let oil flow for several minutes.
4. Remove filter.
5. Install drain plug.
6. Clean area around filter base.
7. Put clean oil on gasket of new filter and install new filter. Tighten filter by hand only.
8. Fill with 4 quarts (3,79 l) of oil of the correct specification and viscosity.

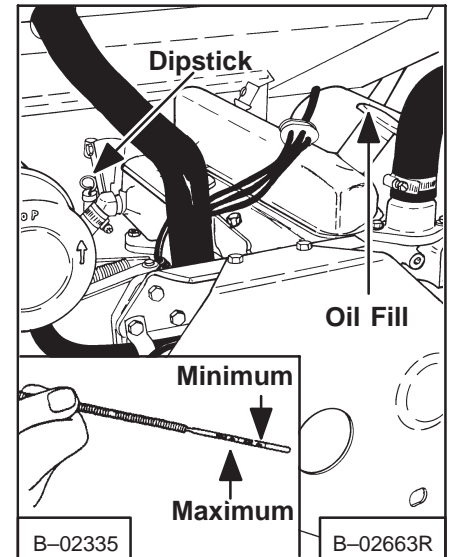


Fig. 1-9 Checking Crankcase Oil (732)

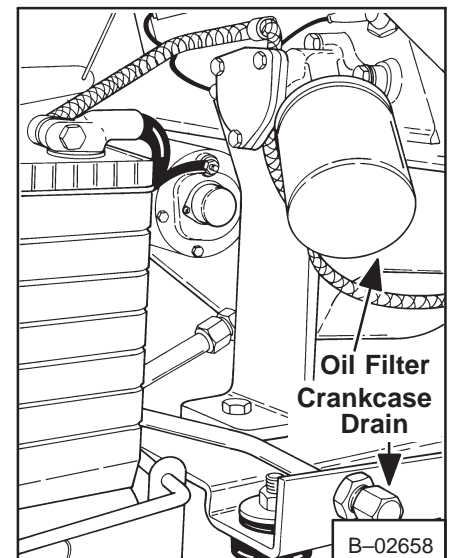


Fig. 1-10 Engine Oil Filter Location (732)

1-3.2 Crankcase Breather

730 Wisconsin: The crankcase breather is a closed system. The breather system must be cleaned every 500 hours.

732 Ford: (Fig. 1-12) The crankcase breather is also the oil fill cap. Clean the breather cap with solvent every time you replace engine oil.

731 Deutz: (Fig. 1-11) The crankcase breather is located on the right side of cylinder block. Clean the breather assembly every 500 hours.

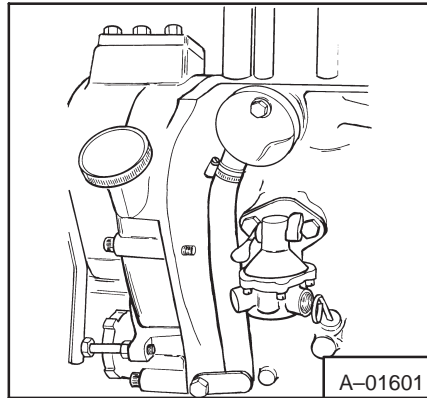


Fig. 1-11 Crankcase Breather (731)

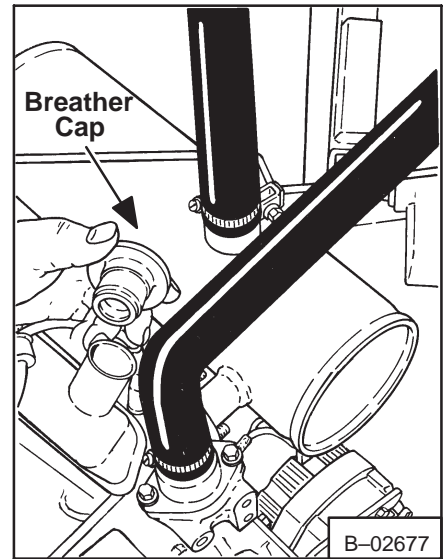


Fig. 1-12 Crankcase Breather (732)

1-3.3 Air Cleaner System

The air cleaner system must be kept clean and free from defects for good engine performance and long service life.

Service air cleaner as follows:

1. Remove and clean dust cup every day (Fig. 1-13).
2. Do not remove element unless replacement is necessary. (When condition indicator shows red.)

NOTE: Be sure (1) gasket surfaces are clean before installing new element and (2) be sure gasket is in correct place.

3. Inspect complete air cleaner system and make replacement of any parts with defects. Be sure hose connections are tight.
4. Check running operation of air cleaner system as follows:
 - a. Start engine and run at idle.
 - b. Close air inlet on air cleaner. The engine speed must become slower then stop.
 - c. If the engine does not stop, the system has a leak. Inspect, and make repairs as necessary.

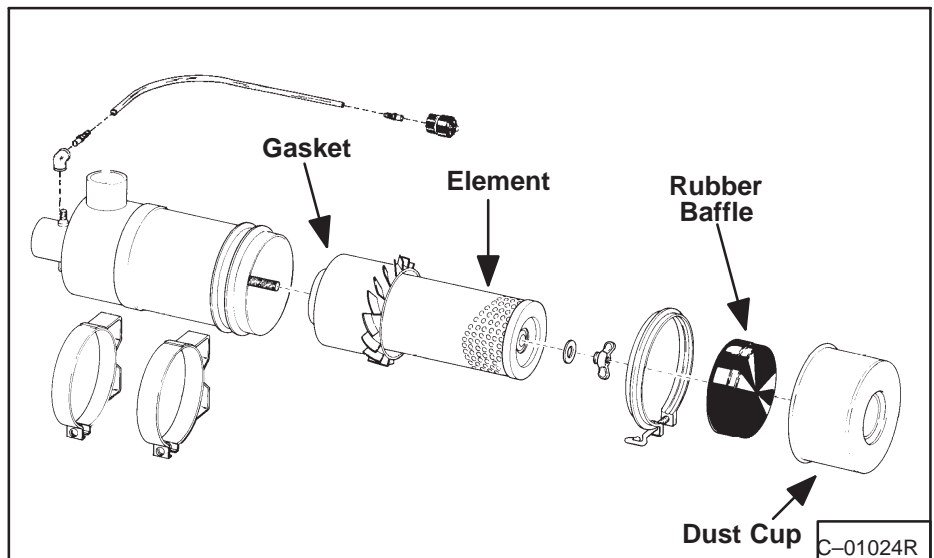


Fig. 1-13 Air Cleaner Assembly

1-3.4 Fuel System (730, 732)

Use only "regular" gasoline with an octane rating of 90-94. DO NOT USE UNLEADED GASOLINE.

1. Engine must be stopped, ignition off and engine cool before putting fuel in tank.
2. Remove fuel cap (Fig. 1-14) and fill tank with clean fuel using an approved safety container.
3. Put fuel in the tank ONLY when the machine is in a large open area (outside or a large building).

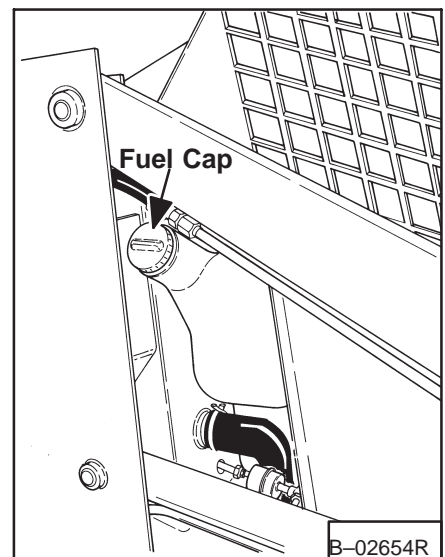


Fig. 1-14 Fuel Filling Location

WARNING DO NOT put fuel in tank while near open flames or sparks. DO NOT SMOKE while putting fuel in tank.

4. Use only clean fuel.
5. Install fuel cap after filling. Be sure cap is tight.

Fuel Filter (Inline)

A fuel filter is located on the right side of the machine near the fuel tank outlet (Fig. 1-10).

The fuel filter must be checked every 300 hours.

To check or make replacement of fuel filter:

1. Turn fuel valve off (Fig. 1-15).
2. Loosen hose clamp and remove hose from inlet end of fuel filter.
3. Connect a short piece of hose to the outlet end of fuel filter and turn fuel valve on.
4. If fuel goes through the filter, it does not need replacement. If fuel does not go through filter, make replacement.
5. When installing new fuel filter, loosen both hose clamps to remove filter.
6. Install fuel filter with arrow toward carburetor (Fig. 1-15) and be sure fittings are tight.

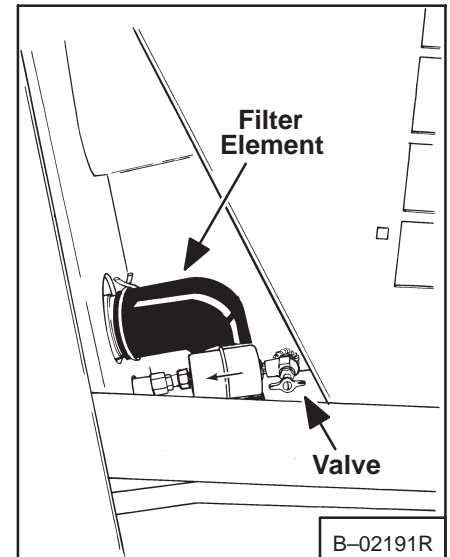


Fig. 1-15 Fuel Filter and Valve (730, 731)

1-3.4a Fuel System (731)

See Section 7 for 731 fuel system maintenance.

Fuel Pump

730: The fuel pump is located on top of the cylinder block and under the intake manifold. Repair parts are not available for the fuel pump. If the fuel pump does not operate correctly, replacement must be made.

732: The fuel pump is located on the left side of the engine above the starter. Repair parts are not available for the fuel pump. If the fuel pump does not operate correctly, replacement must be made.

Carburetor

730: The carburetor is located in the center of the engine on top of the intake manifold.

732: The carburetor is located on the left side of the engine, above and behind the fuel pump. Repair kits are available for the carburetor.

730: Carburetor Adjustment (Fig. 1-16).

Adjust the idle screw for the best low speed operation.

The engine must idle at 1125 to 1150 RPM.

Repair kits are available for this carburetor.

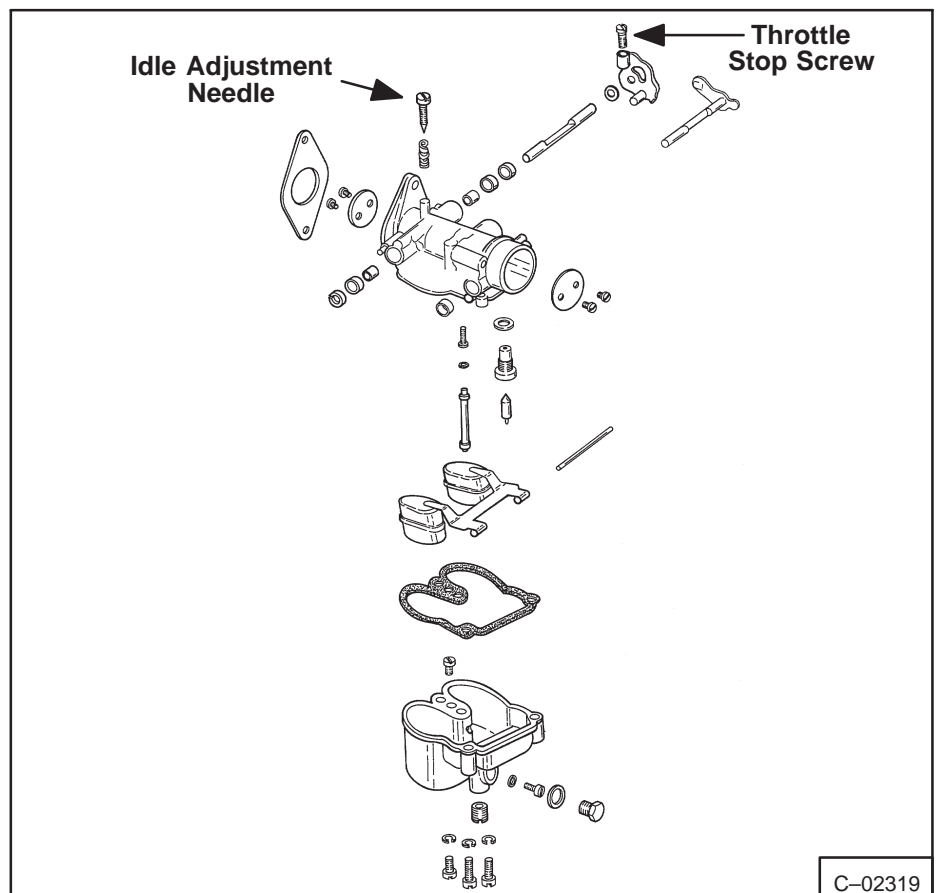


Fig. 1-16 Carburetor Adjustment (730)



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