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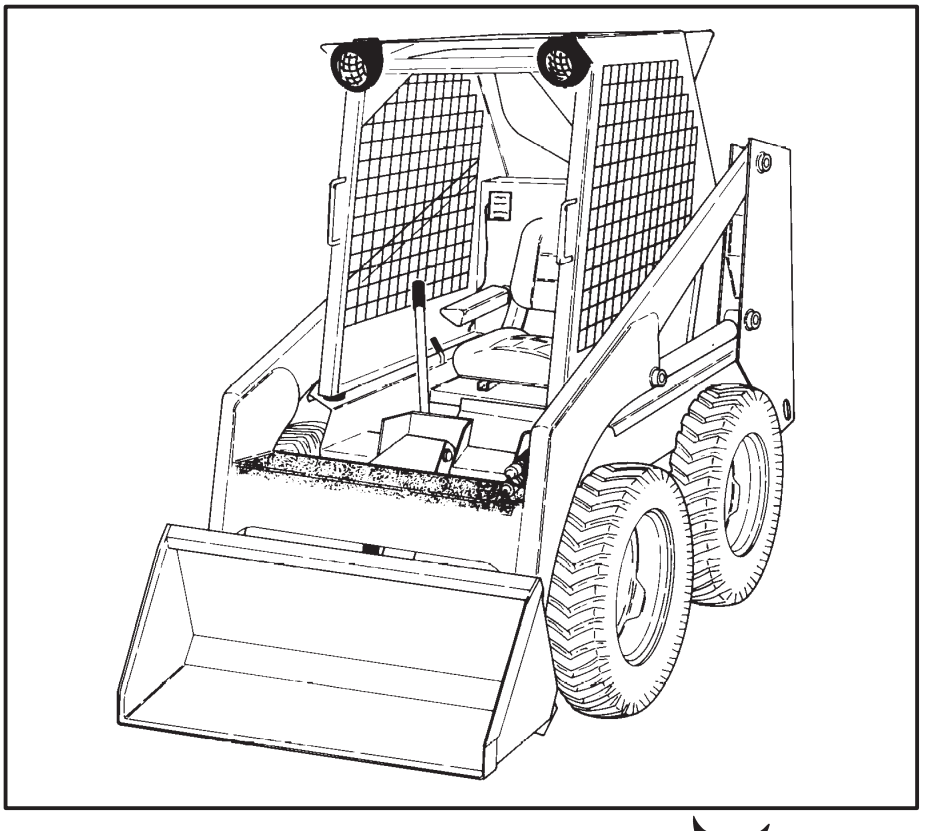
Service Manual



MELROE
INGERSOLL-RAND

bobcat®

6556454 (2–87) Printed in U.S.A.

MAINTENANCE SAFETY

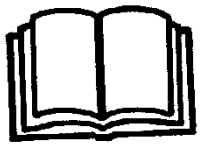
WARNING

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

W-2003-0903

Safety Alert Symbol: This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.

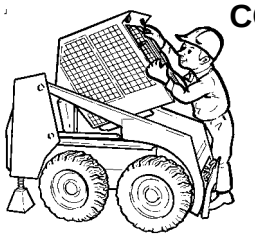
CORRECT



B-10731a

Never service the Bobcat Skid-Steer Loader without instructions.

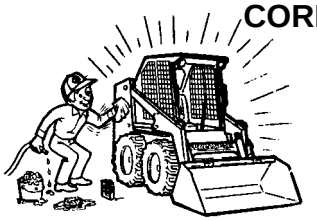
CORRECT



B-12365

Use the correct procedure to lift or lower operator cab.

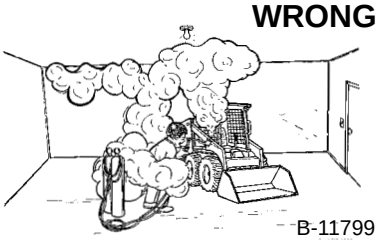
CORRECT



B-7469

Cleaning and maintenance are required daily.

WRONG



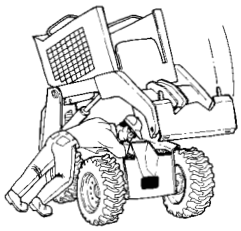
B-11799

Have good ventilation when welding or grinding painted parts.

Wear dust mask when grinding painted parts. Toxic dust and gas can be produced.

Avoid exhaust fume leaks which can kill without warning. Exhaust system must be tightly sealed.

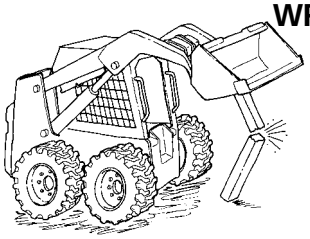
WRONG



B-15231

Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause lift arms to drop. Do not go under lift arms when raised unless supported by an approved lift arm support device. Replace it if damaged.

WRONG

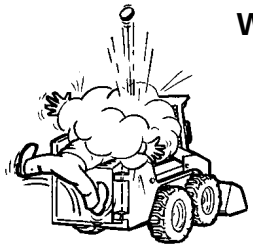


B-15280

Never work on loader with lift arms up unless lift arms are held by an approved lift arm support device. Replace if damaged.

Never modify equipment or add attachments not approved by Bobcat Company.

WRONG



B-6590

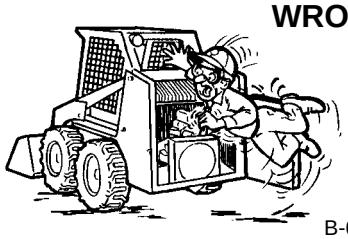
Stop, cool and clean engine of flammable materials before checking fluids.

Never service or adjust loader with the engine running unless instructed to do so in the manual.

Avoid contact with leaking hydraulic fluid or diesel fuel under pressure. It can penetrate the skin or eyes.

Never fill fuel tank with engine running, while smoking or when near open flame.

WRONG



B-6580

Keep body, jewelry and clothing away from moving parts, electrical contact, hot parts and exhaust.

Wear eye protection to guard from battery acid, compressed springs, fluids under pressure and flying debris when engines are running or tools are used. Use eye protection approved for type of welding.

Keep rear door closed except for service. Close and latch door before operating the loader.

WRONG

B-6589

Lead-acid batteries produce flammable and explosive gases.

Keep arcs, sparks, flames and lighted tobacco away from batteries.

Batteries contain acid which burns eyes or skin on contact. Wear protective clothing. If acid contacts body, flush well with water. For eye contact flush well and get immediate medical attention.

Maintenance procedures which are given in the Operation & Maintenance Manual can be performed by the owner/operator without any specific technical training. Maintenance procedures which are **not** in the Operation & Maintenance Manual must be performed **ONLY BY QUALIFIED BOBCAT SERVICE PERSONNEL. Always use genuine Bobcat replacement parts.** The Service Safety Training Course is available from your Bobcat dealer.

MSW01-0805

FOREWORD

This manual provides instruction for proper routine servicing and adjustment of the Bobcat, and detailed overhaul instructions of the drive system, loader hydraulic/hydrostatic system and general main frame components.

Refer to the Owner's Manual for general operating instructions (Starting Procedure, Daily Checks, Bucket Operation, Minor Maintenance, etc.).

A general inspection of the following items should be made whenever the machine has had service or repair:

1. Check hydraulic fluid level, engine oil level and fuel supply.
2. Inspect for any sign of fuel, oil or hydraulic fluid leaks.
3. Lubricate the machine.
4. Check battery condition and cables.
5. Inspect air cleaner system for damage or leaks. Check element and make replacement, if necessary.
6. Check electrical charging system.
7. Check indicator lamps.
8. Check tires for wear and pressure.
9. Check the Bob–Tach attachment for condition. Inspect the wedges for damage or wear.
10. Inspect safety items for condition (Operator Guard, Seat Belt, Safety Treads, Lamps, etc.).
11. Make a visual inspection for loose or broken parts or connections.
12. Operate the loader, checking all functions.

Advise the owner if any of the above items are in need of repair.

CONTENTS

Hello

Thank you very much for your download.

In the last page of this PDF document.

There is a link.

Please click on that link and return to our website.

Then you can get the complete manual immediately.

No need to wait.

Thanks for continuing to read the documentation.

Best wishes.

PREVENTIVE MAINTENANCE

1 PREVENTIVE MAINTENANCE

1–1 INTRODUCTION

1–1.1 Symbols

IMPORTANT

This notice identifies procedures which must be followed to avoid damage to the machine.

I–2019–0284

⚠ WARNING

Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause injury or death.

W–2044–1285

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 lift upright, above the grill (Fig. 1–1). Explanation of serial number:

XXXX M XXXX

- XXXX — Production Sequence (Series)
- M — Plant Location
- XXXX — Model, Engine Version

1–1.4 Engine Serial Number

630 Winsconsin: (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.

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

632 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.

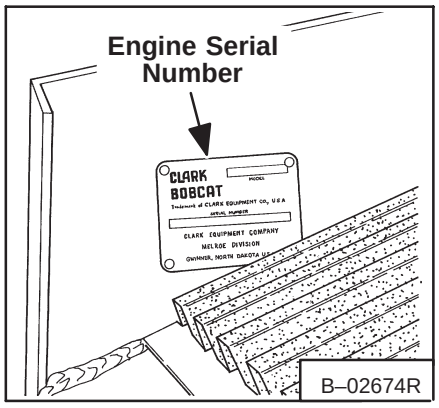


Fig. 1–1 Loader Serial Number

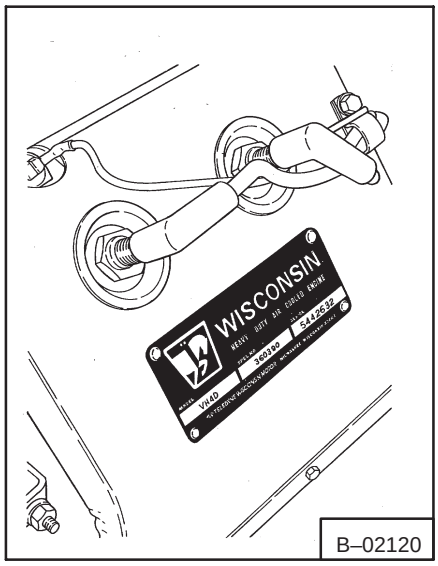


Fig. 1–2 Engine Serial Number (630)

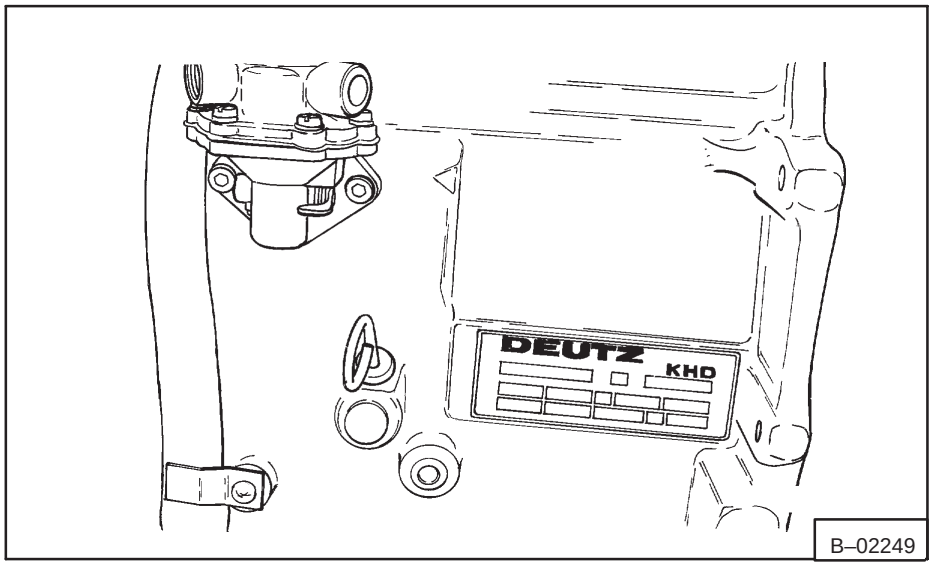


Fig. 1–3 Engine Serial Number (631)

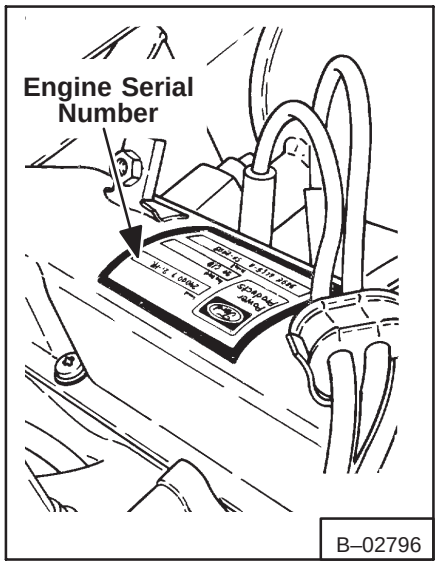


Fig. 1–4 Engine Serial Number (632)

1–1.5 Pre–Delivery Inspection

The purpose of the pre–delivery inspection is to make sure that the loader is in correct operating condition when it comes to the dealer and before delivery to the customer.

The pre–delivery inspection also lets the factory know when something is wrong with the loader so that the problem can be corrected and prevented in the future.

All items on the inspection form (Fig. 1–5) must be completed according to specification in this manual.

One copy of the completed form is to be mailed to:

CLARK EQUIPMENT COMPANY
MELROE DIVISION
QUALITY CONTROL DEPT.
GWINNER, NORTH DAKOTA 58040

The other copy is for the dealer.

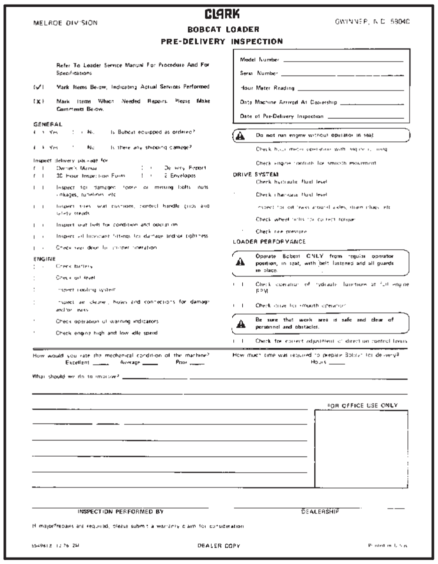

CLARK
MELROE DIVISION
GWINNER, N.D. 58040
BOBCAT LOADER
PRE-DELIVERY INSPECTION

Fig. 1–5 Pre–Delivery Inspection

1–1.6 30 Hour Inspection

The 30–hour inspection must be completed soon after the first 30 hours of operation.

The purpose of the 30–hour inspection is:

1. For adjustment and inspection after first work period
2. To correct wrong maintenance and operation methods.
3. For demonstration of correct service procedures to customer.All items on the 30–hour inspection form (Fig. 1–6) must be completed by the dealer's mechanic, according to specification in this manual.

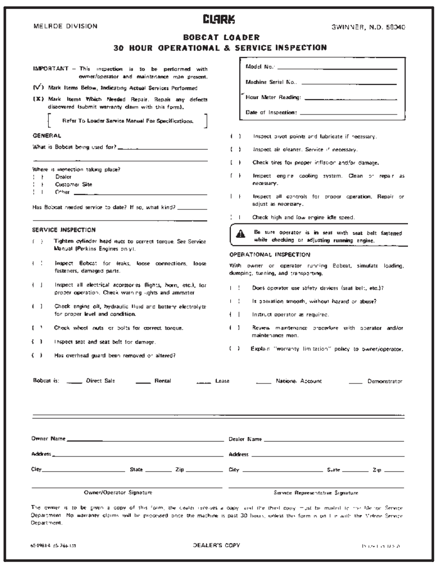

CLARK
MELROE DIVISION
GWINNER, N.D. 58040
BOBCAT LOADER
30 HOUR OPERATIONAL & SERVICE INSPECTION

Fig. 1–6 30 Hour Inspection

When the 30 hour inspection has been completed, the form must be signed by (1) the mechanic that completed the inspection, (2) the dealer, and (3) the owner or operator.

One copy of the completed form is to be mailed to:

CLARK EQUIPMENT COMPANY
MELROE DIVISION - SERVICE DEPARTMENT
GWINNER, NORTH DAKOTA 58040

One copy is for the owner and one copy is for the dealer.

1–2 SERVICE INTERVALS

Maintenance work must be done regularly. Failure to do so will result in damage to the machine or its engine. The service schedule must be used as a guide to correct maintenance of the Bobcat loader. Use this schedule unless it is to shorten the intervals due to extremely hot, cold, dusty or corrosive operation conditions.

BOBCAT SERVICE SCHEDULE*

SERVICE SCHEDULE					HOURS						
630	631	632	ITEM	SERVICE REQUIRED	8–10	50	100	250	300	500	1000
■	■	■	Engine Air Cleaner	Clean dust cup. Inspect condition of system.	■						
■	■	■	Engine Oil	Check and add oil as necessary.	■						
		■	Engine Cooling System	Check coolant lever. Add coolant when low. Remove any debris from radiator grill area.	■						
■	■		Engine Coolinf Inlet	Check rear door grill and blower inlets for restriction of air flow. Clean cylinder cooling fins and blower housing, when necessary.	■						
■	■	■	Tires	Inspect for damage and check air pressure in tires.	■						
■	■	■	All Pivot Points	Add lubricant to all fittings (12).	■						
■	■	■	Indicators, etc.	Check for correct operation of all inficatos, switches, lights.	■						
■	■	■	Operator Guard	Check condition of guard and bolts.	■						
■	■	■	Seat Belt	Check condition of straps and buckle and make replacement if there is a defect.	■						
■	■	■	Safety Decals	Be sure all decals are in place and can be read. Make replacement as necessary.	■						
■	■	■	Hydraulic Fluid	Check level and add recommended fluid if necessary.	■						
■	■	■	Engine Oil & Filter	Make replacement of oil and filter.		■					
		■	Crankcase Breather	Clean breather cap every oil change.		■					
■	■	■	Battery	Check water level. Add water if necessary.		■					
■	■	■	Control Pedals & Steering	Check operation. Make repairs and adjustments as necessary.		■					
■	■	■	Bob–Tach	Inspect locking levers and wedges for condition and operation.		■					
■	■	■	Brakes	Check operation. Make adjustment as necessary.		■					
■			Distributor Cam (Wisconsin)	Put 3 – 5 frops of oil in spring cap oil cup.		■					
■	■	■	Spark Arrestor Muffler	Remove plug. Run engine to remove carbon.			■				
■	■	■	Chaincase Fluid	Check level. Add fluid if necessary.			■				
■	■	■	Hydraulic Filter	Make replace of filter element.			■				
		■	Engine Cylinder Head Bolts	Tighten to correct torque after first 100 hours. Also make adjustment to valves if necessary.			■				
■	■	■	Engine Air Cleaner	Inspect system for leaks. Replace element, if necessary.			■				
■	■		Crankcase Breather	Remove and clean breather assembly.			■				
■			Valve Tappets	Check clearance. Make adjustment when required.				■			
■	■		Starting Motor	Remove, clean and serice as required.					■		
■	■	■	Engine Fuel Filter	Replace element or clean as necessary.					■		
	■		Main Fuel Filter	Make replacement of element (Vent air from system after chainging element.)						■	
■	■	■	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 and filter. Clean cap and vent.							■

1–3 ENGINE SERVICE

The rear door must be opened to service the engine. Pull the door latch to the left to open the door (Fig. 1–7).

WARNING

Door must be closed when operating the loader.

W–2313–0498

In some conditions the rear door can be lifted upward and the lower hinge can come out of the hole in the upright.

A door stop can be installed to prevent the door hinge from coming out of the hole.

To install the door stop:

1. Drill a 1/2" hole in the upright above the lower hinge (Fig. 1–8).
2. Install the door stop on the inner side of upright (Fig. 1–9).
3. Install the bolt and nut and tighten to 40–50 ft.–lbs. (54,2–67,8 Nm) torque.

NOTE: On the 630; S/N 13205 & Up, 631; S/N 13225 & Up have a rear door stop installed. Push down on the door stop to hold rear door open while servicing the engine. Be sure to disengage the door stop before closing the rear door (Fig. 1–10).

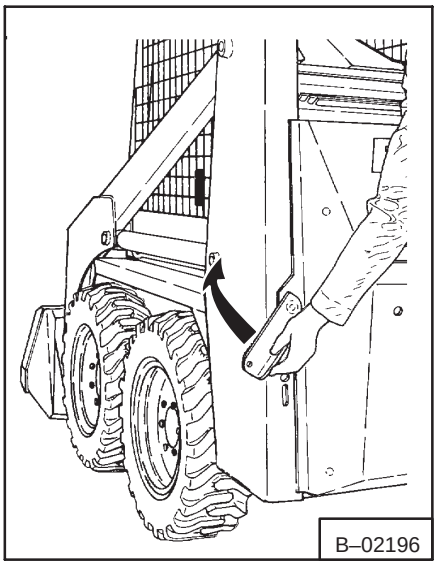


Fig. 1–7 Releasing Rear Door

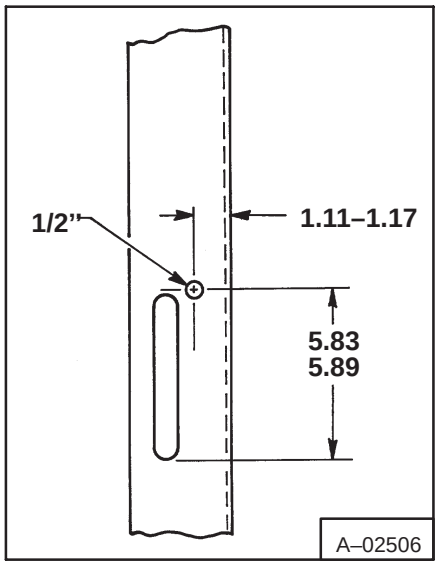


Fig. 1–8 Hole Location

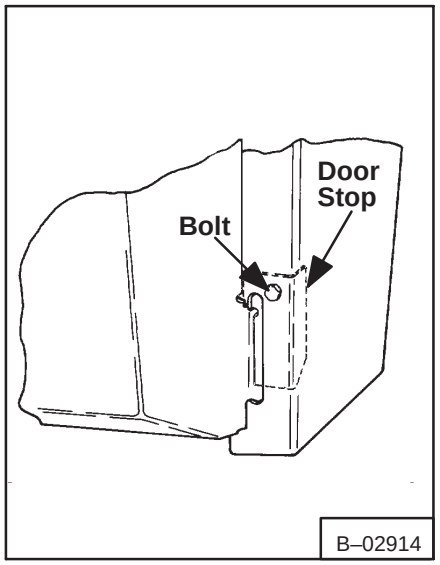


Fig. 1–9 Door Stop Installation

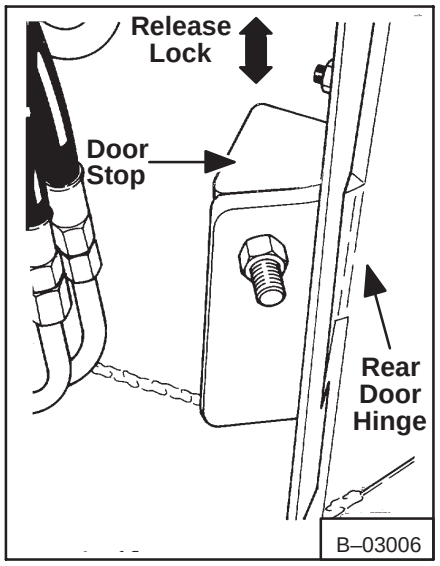


Fig. 1–10 Door Stop

1–3.1 Engine Oil and Filter (Fig. 1–11 thru Fig. 1–14)

Oil Specification:

630 and 632: Use a good quality oil which has API Service Classification SE.

631: Use a good quality oil which has API Service Classification CD.

Use oil of correct SAE viscosity for temperature conditions at the time of starting (See Page 1–6); not for the highest temperature expected during the working day.

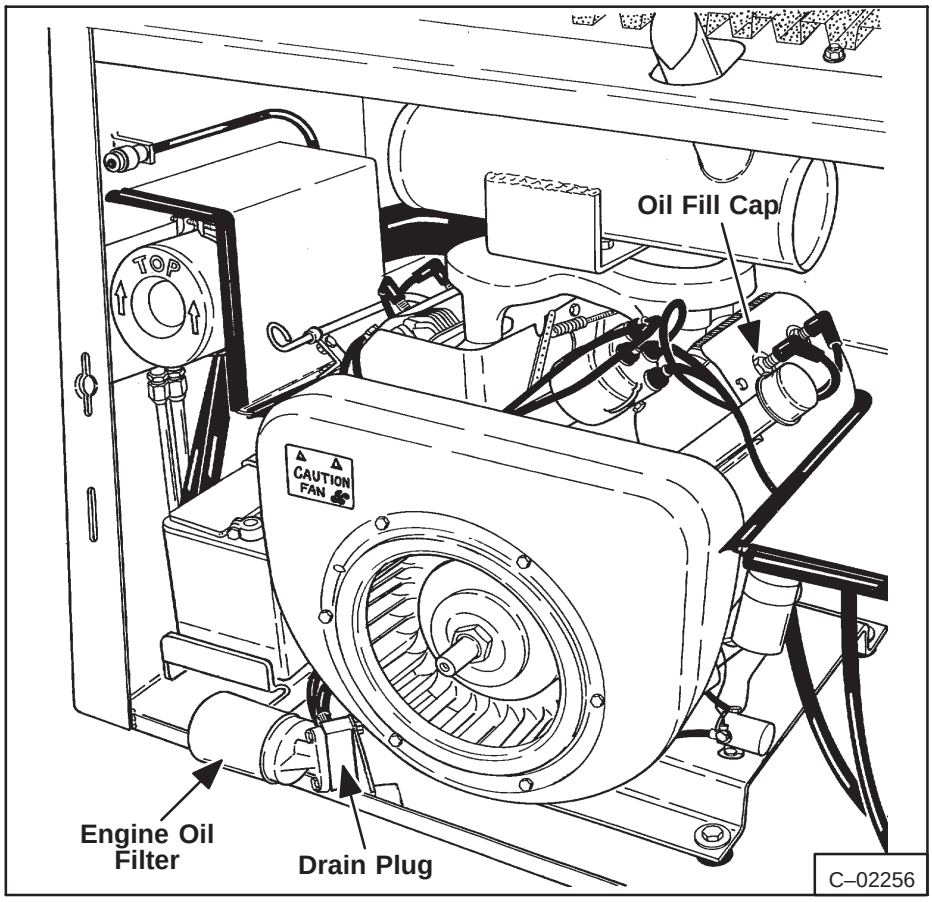


Fig. 1–11 Engine Servicing (630)

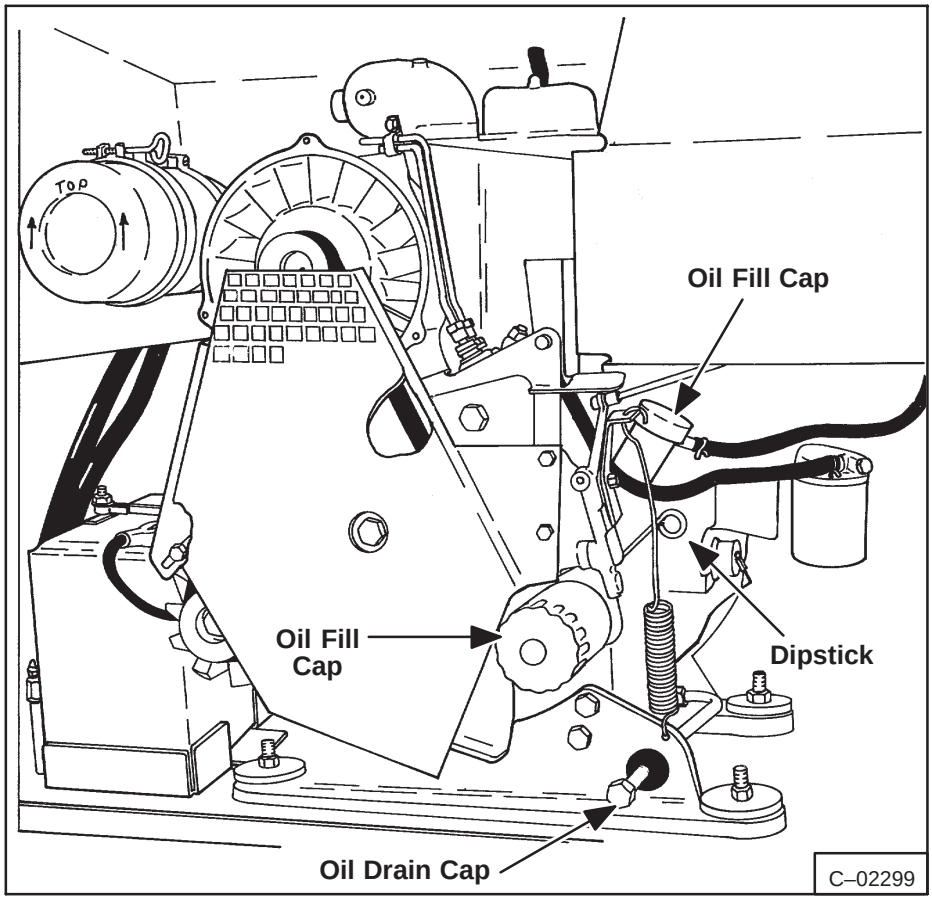
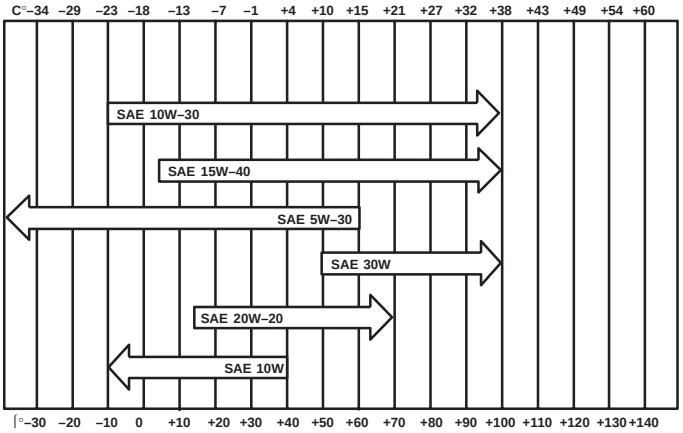


Fig. 1–12 Engine Servicing (631)

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)

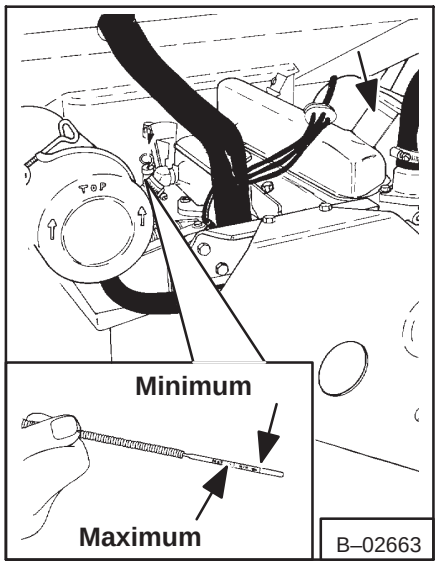


Fig. 1–13 Checking Crankcase Oil (632)

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 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 drain plug when engine is hot.
3. Remove the engine oil.
4. Remove filter.
5. Install drain plug.
6. Clean area around filter base.

NOTE: There may be a failure of the oil filter bracket on the 630 Bobcat due to engine vibration. Install a new bracket (P/N 6558773) on the loader frame by drilling a hole in the loader frame (behind engine plate) and installing a 3/8” carriage head bolt and nut (Fig. 1–15).

7. Put clean oil on gasket of new filter and install new filter. Tighten filter by hand only.
8. Fill with 4 quarts (3,791.) of oil of the correct specification and viscosity.

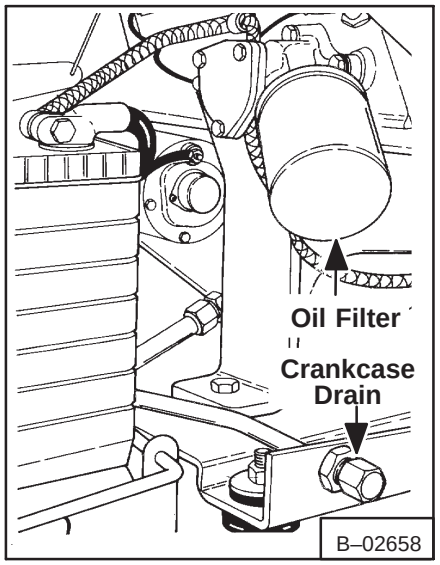


Fig. 1–14 Engine Oil Filter Location (632)

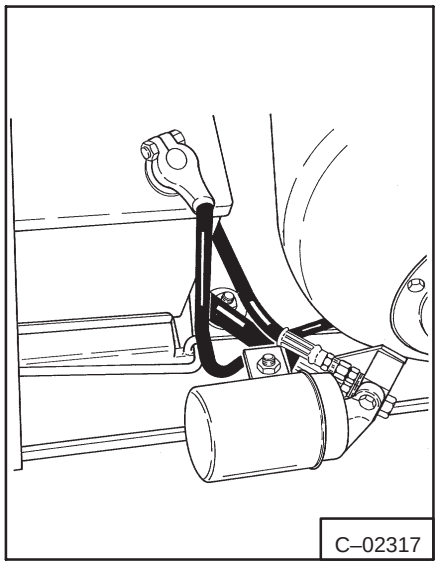


Fig. 1–15 Filter Location (630)

1–3.2 Crankcase Breather

630 Wisconsin: the crankcase breather is a closed system and does not need service.

632 Deutz: (Fig. 1–16) the crankcase breather is located on the right side of the cylinder block. Clean the breather assembly every 500 hours.

632 Ford: (Fig. 1–17) the crankcase breather is also the oil fill cap. Clean the breather cap in solvent every time you replace the engine oil.

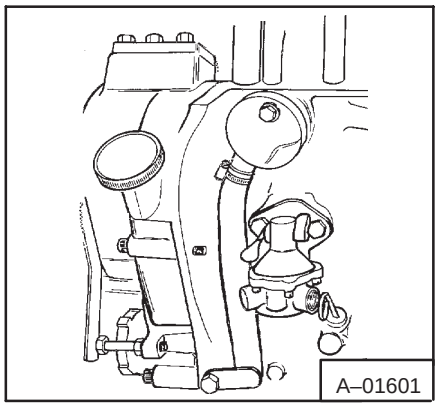


Fig. 1–16 Crankcase Breather (631)

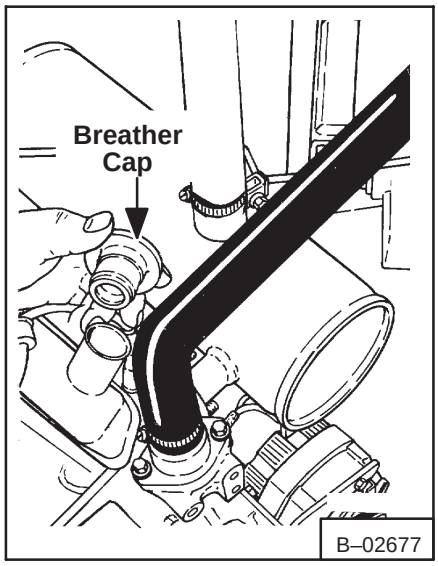


Fig. 1–17 Crankcase Breather (632)

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. 1–18).
2. Do not remove element unless replacement is necessary.

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 (630, 632 only). Check the condition indicator for the red ring (631); if the red ring appears, the system is good.

   c. If the engine does not stop, the system has a leak. Inspect, and make repairs as necessary.

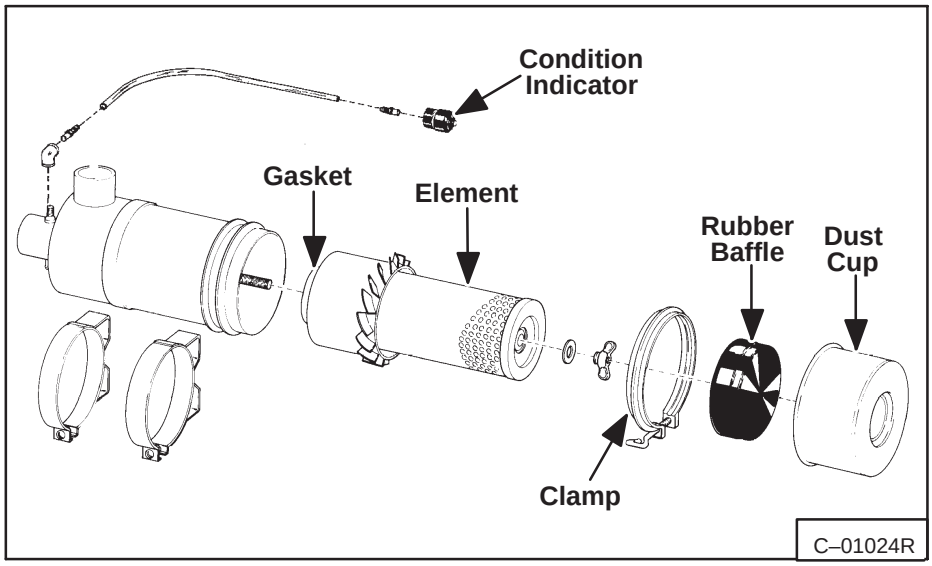


Fig. 1–18 Air Cleaner Assembly

NOTE: Use special care when installing and tightening the hose clamp on the carburetor on the 632 Bobcat engine. Because of the short clamp area on the air inlet of the carburetor the clamp and the hose must be pushed toward the carburetor when the clamp is being tightened (Fig. 1–19).

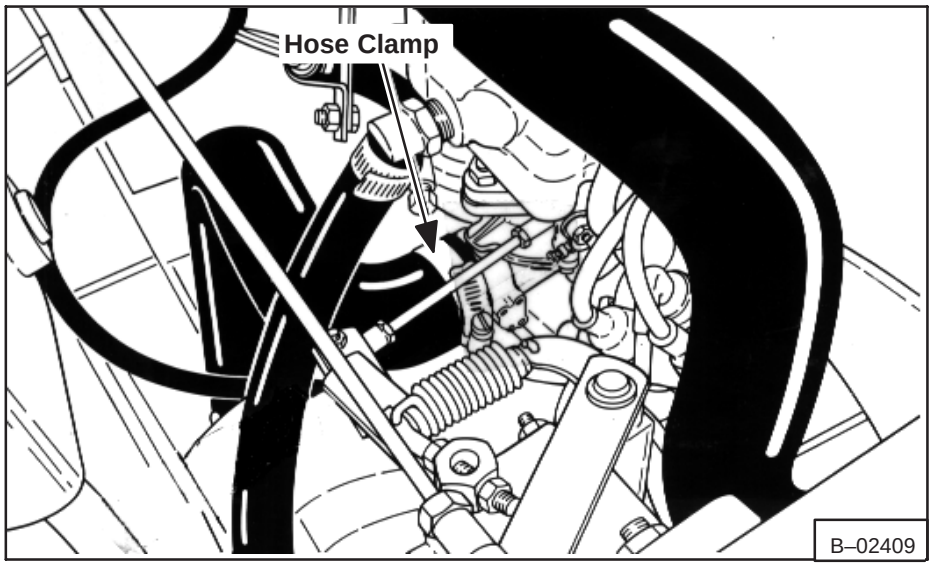


Fig. 1–19 Carburetor Clamp

1–3.4 Fuel System (630, 632)

Use only “regular” gasoline with an octane rating of 90–94. DO NOT USE UNLEADED GASOLINE.

1. Engine must be stopped, ignition off, and the engine cool before putting fuel in tank.
2. Remove fuel cap (Fig. 1–20) 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).

WARNING

Stop and cool the engine before adding fuel. NO SMOKING! Failure to obey warnings can cause an explosion or fire.

W–2063–0887

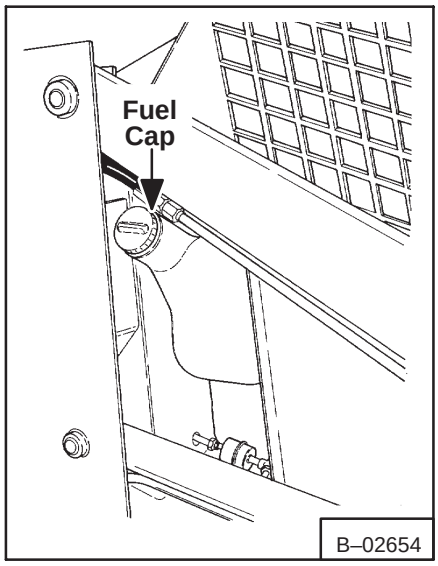


Fig. 1–20 Fuel Fill Location

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

Fuel Filter

A fuel filter is located on the right side of the loader near the fuel tank outlet (Fig. 1 - 15).

NOTE: On some model loaders may not have the manual “shut–off”. Install the parts as shown in figure 1–21 (See Parts catalog for the Parts).

The fuel filter must be replaced every 1000 hours.

To check or make replacement of fuel filter.

1. Turn fuel valve off (Fig. 1–21).
2. Loosen hose clamp and remove hose from outlet end of fuel filter.
3. Connect a short piece of hose to the outlet end of fuel filter and turn fuel valve on.

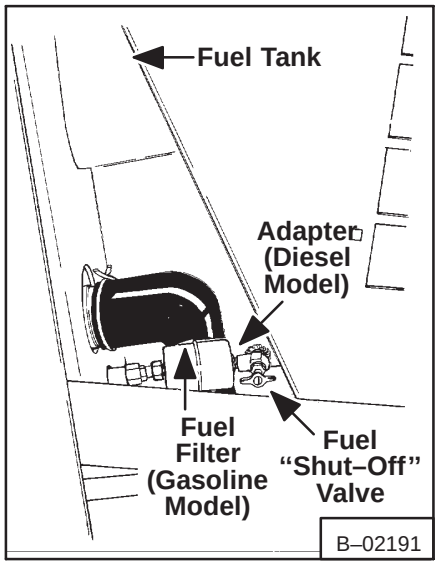


Fig. 1–21 Fuel Filter and Valve

4. If fuel hose 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 towards carburetor (Fig. 1–21) and be sure fittings are tight.

1–3.4a Fuel System (631)

See Section 7 for 631 fuel system maintenance.

Fuel Pump

630: 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.

NOTE: Too much fuel to the engine can be caused by the pump pressure being too high. Check fuel pump pressure by installing a "Tee" in the fuel line between fuel pump and carburetor and connecting a gauge. Run engine at full RPM. Correct pressure is 2–3 PSI (13,79–20,68 kPa). If pressure is too high, install new spring (P/N 6516387). Also, too a low pressure will cause vapor lock.

632: 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, replace the pump.

Carburetor

630: The carburetor is located at the center of the engine on the intake manifold.

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

630: Carburetor Adjustment (Fig. 1–22).

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.

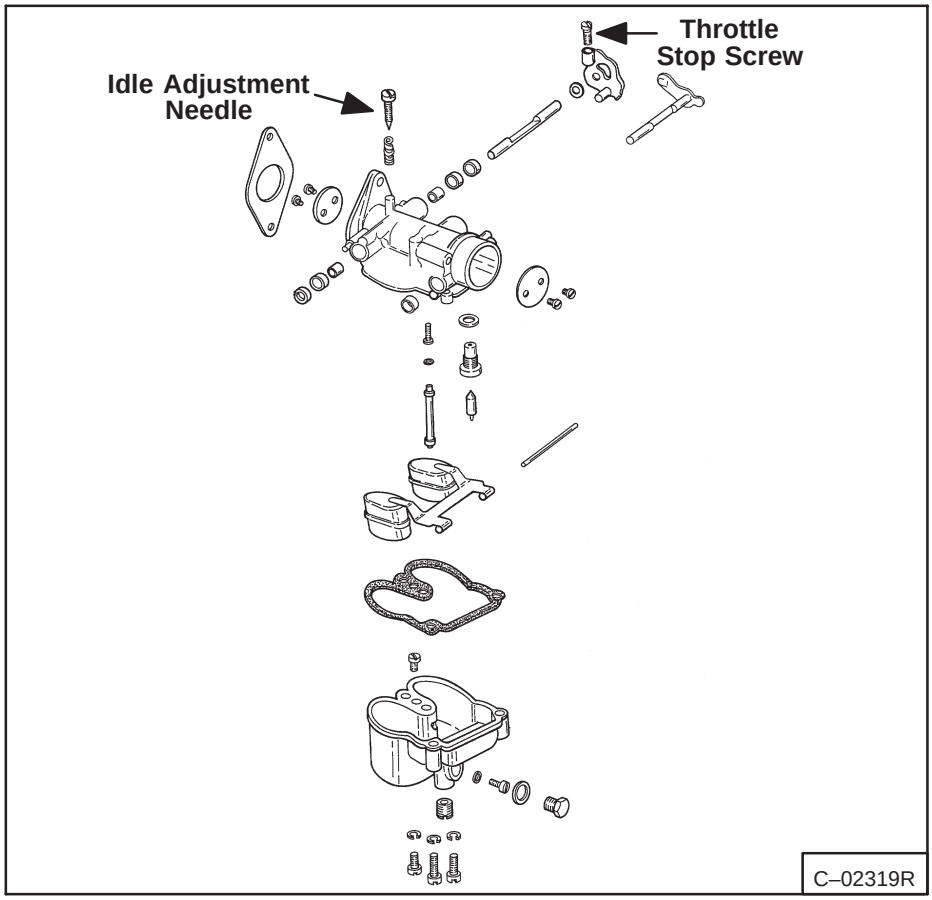


Fig. 1–22 Carburetor Adjustment (630)

632: Carburetor Adjustment (Fig. 1–23)

The only adjustments to the carburetor are; (1) idle adjusting needle and (2) throttle idle adjustment.

Idle Adjusting Needle

1. Turn needle all the way in. DO NOT use force, it will cause damage to the needle.
2. Turn needle out (counterclockwise) about 1–1/2 turns, then start engine.
3. If engine does not run smoothly, turn needle out until it does.

Throttle Idle Adjustment

1. Start the engine.
2. Hold governor speed change lever against the stop.
3. Make adjustment to throttle idle screw until engine runs 800 RPM.

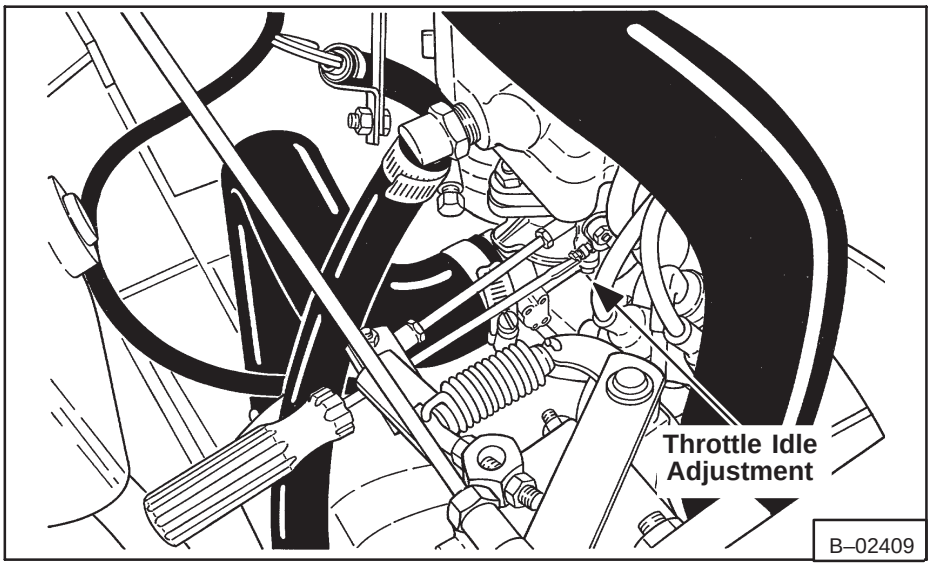


Fig. 1–23 Carburetor Adjustment (632)

1–3.4b Fuel Shut–Off

The 630 and 632 Bobcat are equipped with a fuel–shut (automatic). The fuel shut–off solenoid is activated when the ignition switch is turned ''off'' and shuts off the fuel to the carburetor.

Be sure to check the wires to the fuel shut–off solenoid for opens when the engine stops or will not start.

NOTE: On the 630; S/N 12,999 & Below and 632; S/N 12,046 & Below there is a kit available to install the fuel line shut–off on these loaders (See the Parts Catalog for Part Number).

1–3.5 Engine Cooling System

630 and 631: These engines are cooled with air. Be sure cooling fins on cylinder heads are kept clean.

632: Check coolant level at the coolant recovery tank (Fig. 1–24). The tank must be 1/3 full when cold. Also, when engine is cold, check to see that radiator is full.

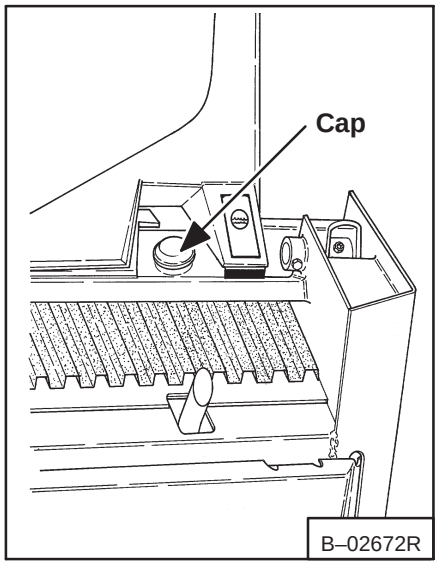


Fig. 1–24 Coolant Recover Tank

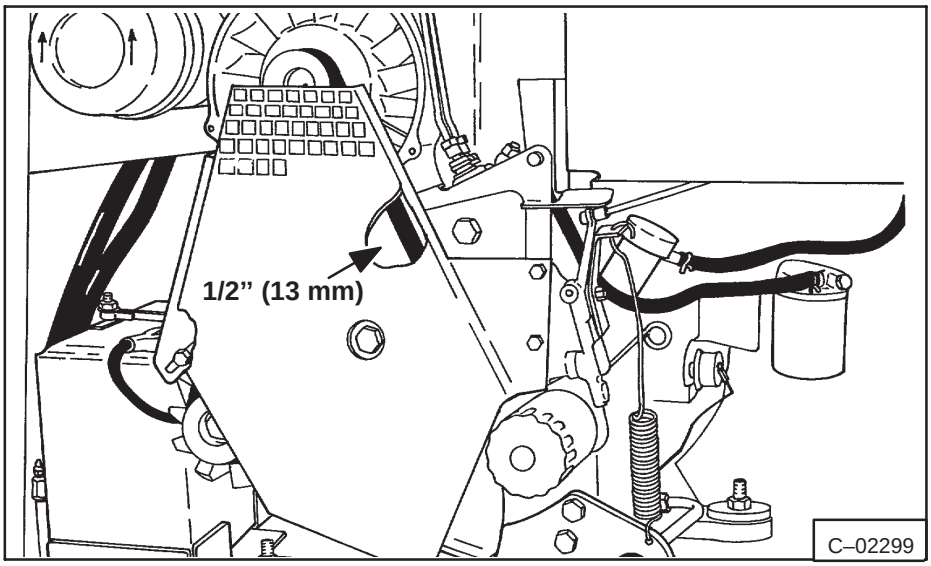


Fig. 1–25 Belt Tension Adjustment (631)

WARNING

Do not remove radiator cap when the engine is hot. You can be seriously burned.

W–2070–1285

Removing Coolant From System (632)

1. Disconnect wire from temperature switch, located on the right side of the engine block.
2. Remove temperature sender switch.

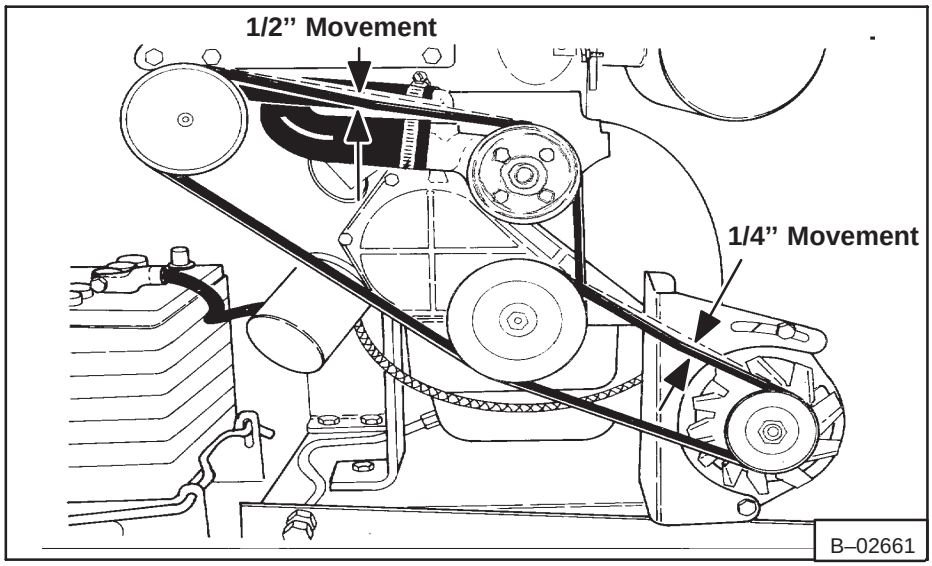


Fig. 1–26 Belt Tension Adjustment (632)

3. After all coolant has come out, install switch and connect wire to switch.

1–3.6 Engine Electrical System (630, 631 & 632)

The Bobcat has a 12 volt, negative ground, alternator charging system.

General service of the electrical system is as follows:

1. The factory battery is maintenance free. Batteries that are not maintenance free must have electrolyte checked every 50 hours.
2. Check battery cables to see that both are clean and tight. Remove corrosion with soda and water solution. Put grease on cable ends to prevent further corrosion.
3. a. 630: The 630 Bobcat has a flywheel type alternator. Check wires for damage condition.

   b. 631,632: Check alternator belt tension. Make adjustment for belt movement with 5 lbs. (2,27 kg) force (Fig. 1–25 & Fig. 1–26) as shown.
4. The 630 series Bobcats have two fuses located in the instrument panel (Fig. 1–27).

If any fuse is bad, it is caused by an overload in the electrical system. Check for a broken wire or broken insulation.

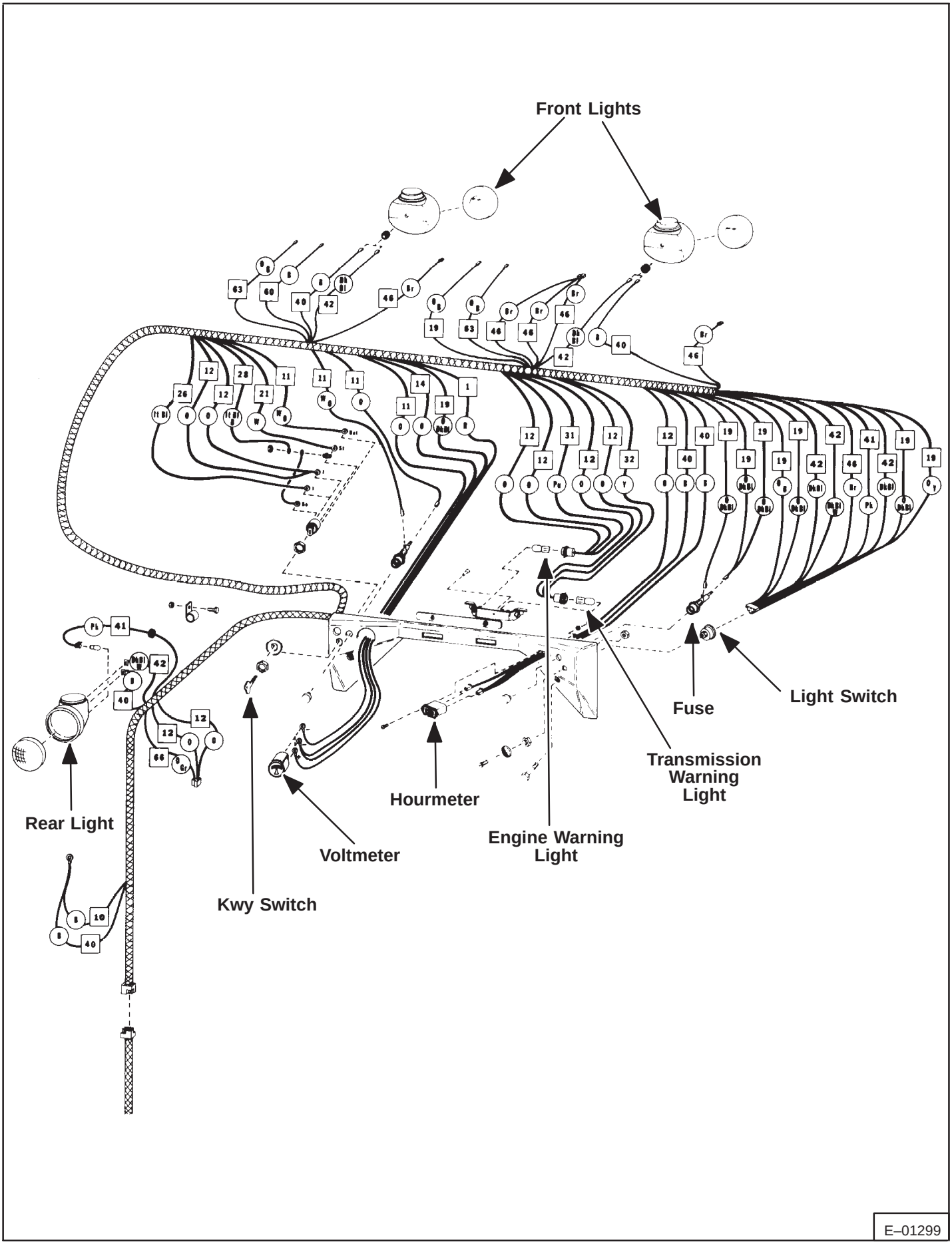


Fig. 1–27 ROPS Electrical System

1–3.7 Using An Extra Battery

If it is necessary to use an extra battery to start the engine, be careful. This is a two person operation. There must be one person in the operator's seat and one person to connect and disconnect the battery cables.

WARNING

You must wear goggles when you work near batteries. Do not let acid make contact with your body or clothing.

W–2312–0498

1. The ignition must be in the OFF position.
2. The battery to be used must be of the same voltage.
3. Battery terminals have identification marks. The positive terminal is marked (+) and the negative terminal is marked (–).
4. The negative terminal (–) of the battery must be connected to the engine or loader.

WARNING

You must wear goggles when you work near batteries. Do not let acid make contact with your body or clothing.

W–2312–0498

5. Connect the end of the first cable to the positive terminal (+) of the extra battery. Connect the other end of the same cable to the positive terminal (+) of the loader battery.
6. Connect the end of the second cable to the negative terminal (–) of the extra battery. Connect the other end of the second cable to the engine. DO NOT connect directly to the negative terminal (–) of the loader battery. Connecting cable directly to the negative terminal (–) of the loader battery can cause spark and destroy the battery and cause personal injury.
7. Keep the cables away from fans and belts.

NOTE: The operator must be in operator's seat and have seat belt fastened.

8. Start the engine.
9. After engine has started, first remove the cable connected to the engine or loader.
10. Then remove cable from the loader battery positive terminal (+).

IMPORTANT

Damage to the alternator can occur if:

- **Engine is operated with battery cables disconnected.**
- **Battery cables are connected when using a fast charger or when welding on the loader. (Remove both cables from the battery.)**
- **Extra battery cables (booster cables) are connected wrong.**

I–2023–1285

1–3.8 Installing New Battery

To remove the battery, pull back and lift up on the holddown lever (Fig. 1–28). On later models remove nuts and clamp (Fig. 1–29).

NOTE: On the 630; S/N 11060 & Below and 632; S/N 11212 & Below the battery holddown may bend. Install a new holddown rod which has been heat treated, part number 6553338 (P/N has not changed).

1. Remove battery cables and mark for correct installation.
2. Clean new battery connectors and cable ends.
3. Put new battery in same position as old one.
4. Fasten battery in place with the holddown lever or clamp.
5. Be sure cable ends do not touch any metal. Tighten the cable ends.

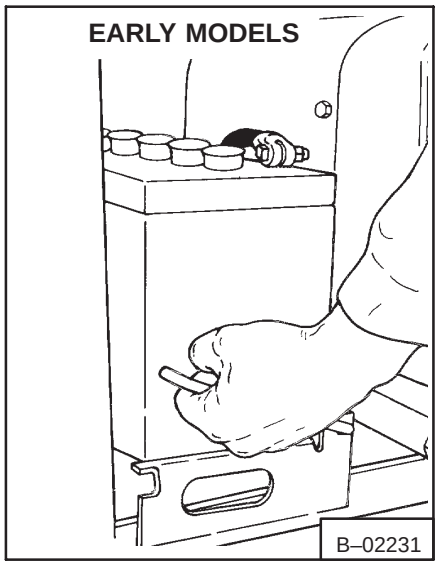


Fig. 1–28 Battery Hold Down

1–3.9 Ignition System (630 & 632)

The basic items of the ignition system are coil, distributor and spark plugs.

Every 200 hours, check condition of points and make replacement of spark plugs.

Making Adjustment of Spark Plug Gap

1. Remove wires from spark plugs.
2. Remove spark plugs.
3. Remove carbon deposits from spark point.
4. Set spark plug gap. See Section 8 for correct gap.
5. Install spark plugs and wires.

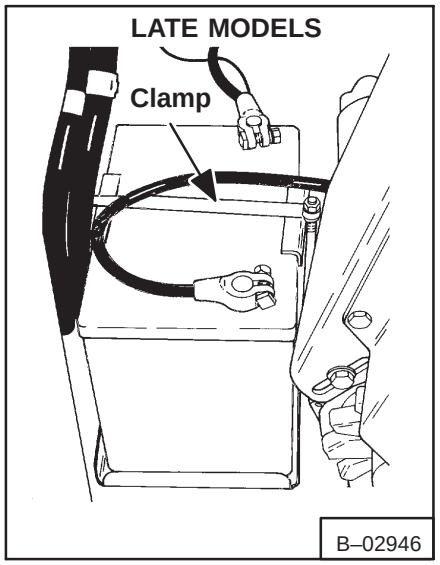


Fig. 1–29 Battery Hold Down

Making Adjustment of Point Gap

1. Turn engine until rubbing block is on high point of cam.
2. Put correct thickness feeler gauge (See Section 8–Technical Data) between contact points.
3. Loosen adjustment screw. Move breaker arm contact until correct gap is given. Tighten screws again.

1–4 HYDRAULIC FLUID AND FILTER

Fluid

Check level of hydraulic fluid every 50 hours (Fig. 1–30).

1. Turn lower check valve counterclockwise.
2. If hydraulic fluid comes from valve, fluid level is satisfactory.
3. If fluid does not come from valve, turn lower valve clockwise until tight. Turn upper valve counterclockwise and fill reservoir (See below for oil specifications) until fluid comes from upper valve. DO NOT OVERFILL. Turn upper valve clockwise until tight.

Use only SAE 10W–30 or 10W–40 oil which has an API classification of SE.

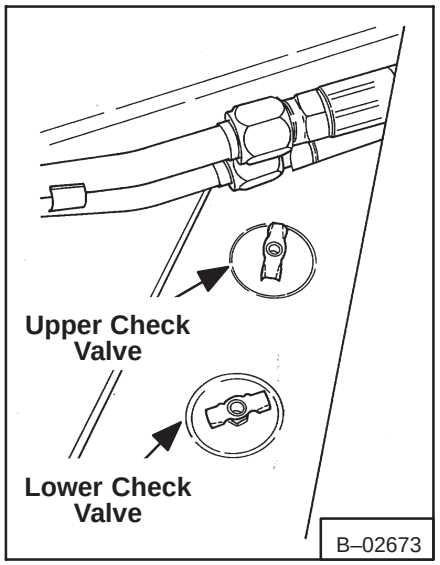


Fig. 1–30 Checking Hydraulic Fluid

IMPORTANT

DO NOT USE AUTOMATIC TRANSMISSION FLUID IN THE HYDRAULIC/HYDROSTATIC SYSTEM.

I–2154–1297

Filter

Make replacement of hydraulic filter every 100 hours.

1. Remove hydraulic filter (Fig. 1–31).
2. Thoroughly clean surface where filter gasket will make contact.
3. Put clean oil on gasket of new filter.
4. Install new filter and tighten hand tight.
5. Start the engine and inspect for leaks.

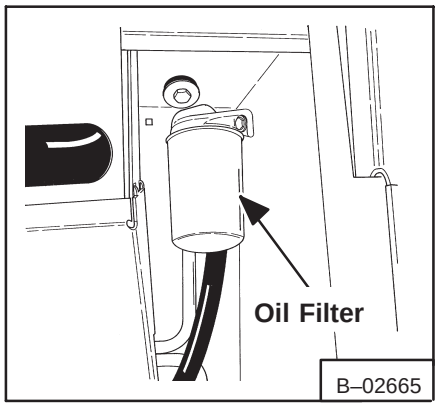


Fig. 1–31 Hydraulic Oil Filter

1–5 TRANSMISSION AND DRIVE SYSTEM

Drive Chains

The drive chains need replacement only when one becomes broken. (See Section 4 for replacement of drive chains).

Brakes

Check brakes for correct operation every 50 hours.

Make adjustment to brakes as follows: (Fig. 1–31)

1. Put brake pedal in open position.
2. Check pedal and linkage for freeplay.
3. There must be 1/4" (6,35) of freeplay between the spacer and the nut at the rear end of linkage (Fig. 1–32). See Section 4 for brake pad replacement and complete installation of brakes.

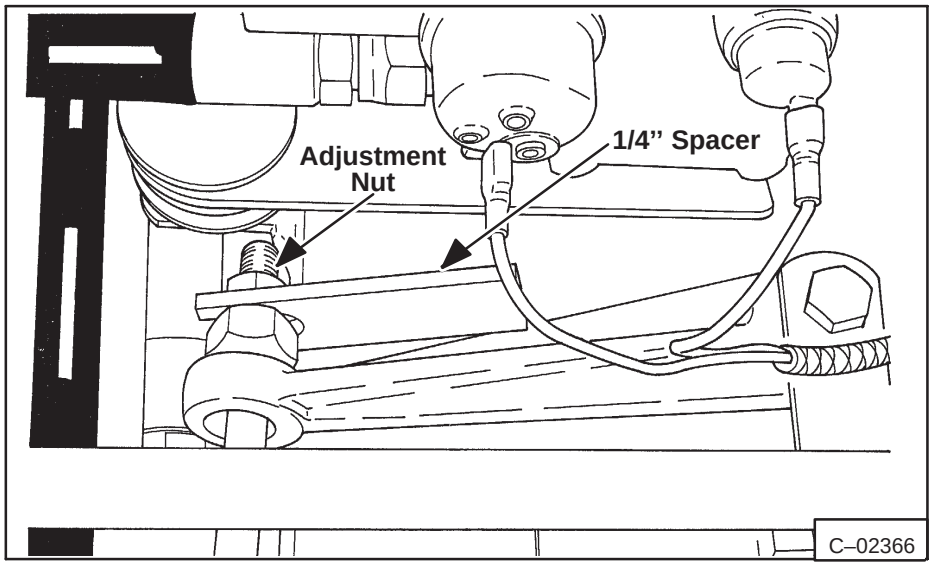


Fig. 1–32 Brake Linkage Adjustment

Fluid

Check transmission fluid level every 100 hours.

1. Put Bobcat on a level surface.
2. Remove check plug (Fig. 1–33) located at the front of the transmission housing.
3. If fluid does not come out of check hole, add fluid through hole until it comes out.

NOTE: Use only SAE 10W–30 or 10W–40 oil which meets an API classification of SE.

4. Install check plug.

Make replacement of transmission fluid every 1000 hours. Remove the hydraulic filter element. Remove the hose from the filter housing and let fluid flow into the container.

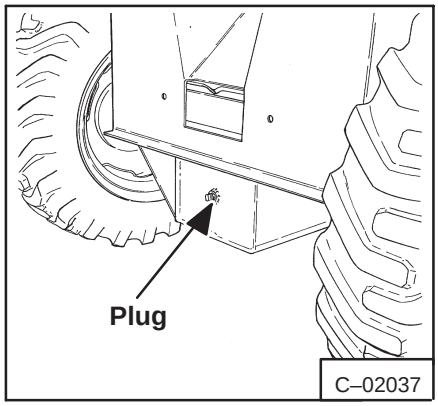


Fig. 1–33 Chaincase Check/Fill Plug

1–6 Tires

Check tires regularly for wear, damage and correct pressure. (Correct pressure is 45–50 PSI (310–340 kPa).

Tire Rotation

Tire rotation is necessary to be sure of even wear. Make tire rotation from front to rear, rear to front as shown in figure 1–34.

When new tires are installed, install two new tires at the same time and put both on the same side of Bobcat.

IMPORTANT

DO NOT put fluid (ballast) in the tires on this loader.

I–2153–1297

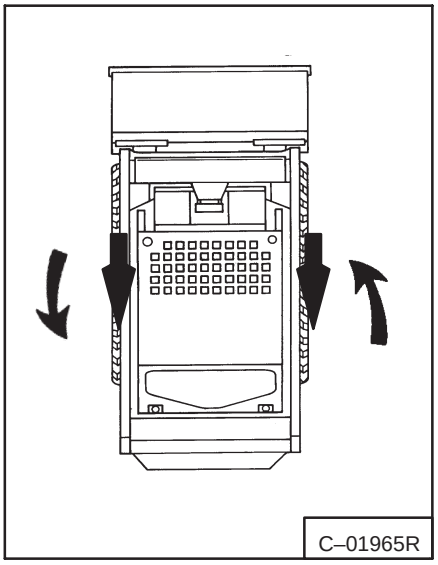


Fig. 1–34 Tire Rotation

Check wheel bolts regularly and make sure all are tight. (See Section 8 for torque specifications).

1–7 LOADER LUBRICATION

Regular lubrication of the loader is important for good performance. Make lubrication at intervals according to 1–2 "SERVICE INTERVALS" on Page 1–3.

Figure 1–35 shows the location of grease fittings on the 630 series Bobcat.

Use a good quality lithium based, multi–purpose grease.

Also put lubricant on the seat rails (Fig. 1–36).

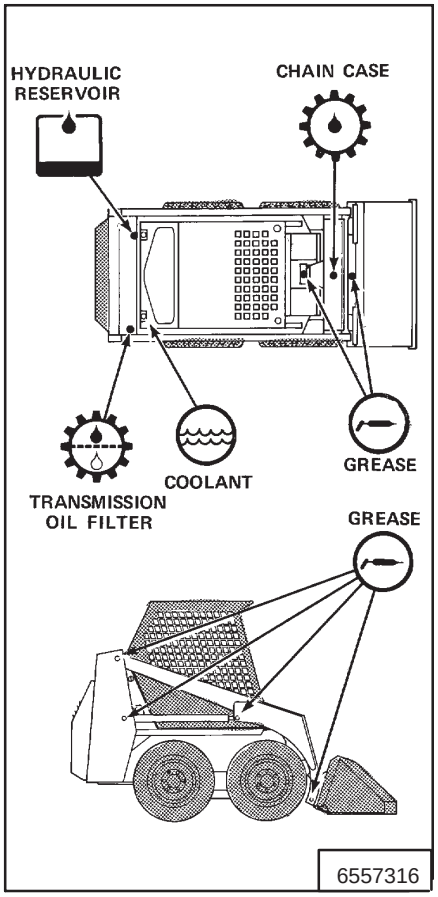


Fig. 1–35 Lubrication Points

1–8 BOB–TACH AND PIVOT PINS

The Bob–Tach must be checked regularly for condition and wear (See 1–2 "SERVICE INTERVALS" on Page 1–3).

When levers are in "locked" position, the wedges must go through the holes in the frame of the attachment.Make replacement of bent or broken wedges.

All pivot points (Lift Arm, Bob–Tach and Cylinders) use pins which are held in place by lockbolts (Fig. 1–37).

Check lockbolt nuts to be sure all are tight.

NOTE: Some Bob–Tach's will not fit into the mounting frame of attachments (Example: Pallet Fork, Angle Broom, etc.). Grind away 1/4" (6,35 mm) of material from each side of the Bob–Tach (Fig. 1–38).

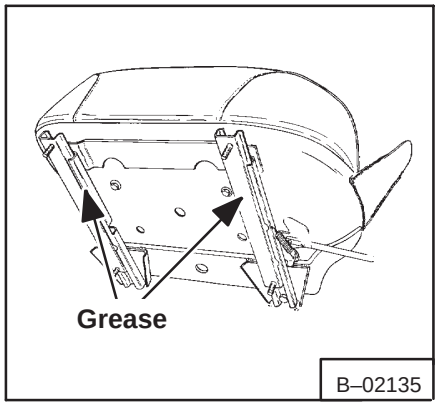


Fig. 1–36 Seat Rail Lubrication

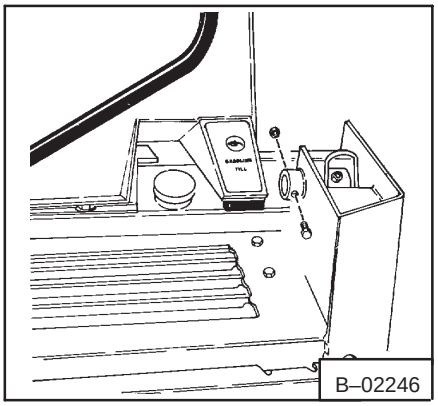


Fig. 1–37 Pivot Pin Lockbolts

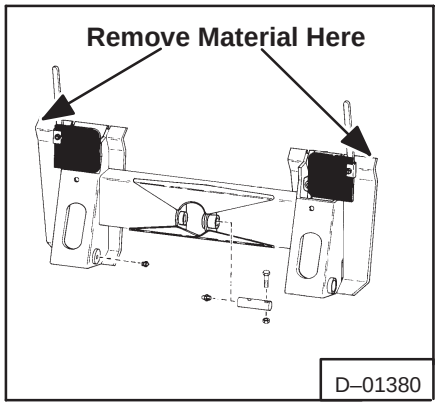


Fig. 1–38 Bob–Tach

1–9 THE ENGINE MUFFLER

The muffler on the engine of the 630 loader (S/N 13575 & Below) can come loose, because there is a failure of the studs at the manifold. Replace the studs and nuts which fasten the muffler to the manifold (Fig. 1–39, Items 1 & 2). Tighten the nuts to 14–18 ft.–lbs. (19–24 Nm) torque. (See the Part Book or Microfiche for the correct part numbers.)

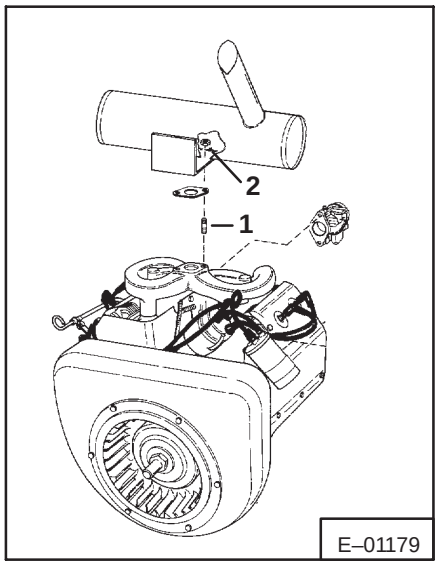


Fig. 1–39 Engine Muffler Installation

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