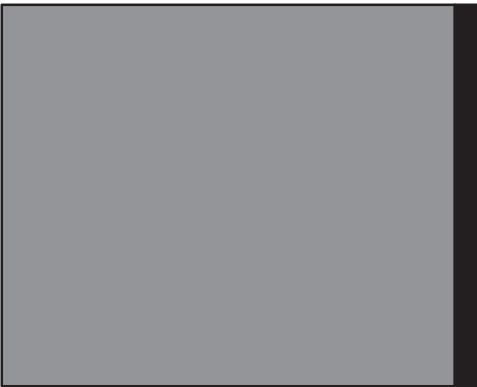


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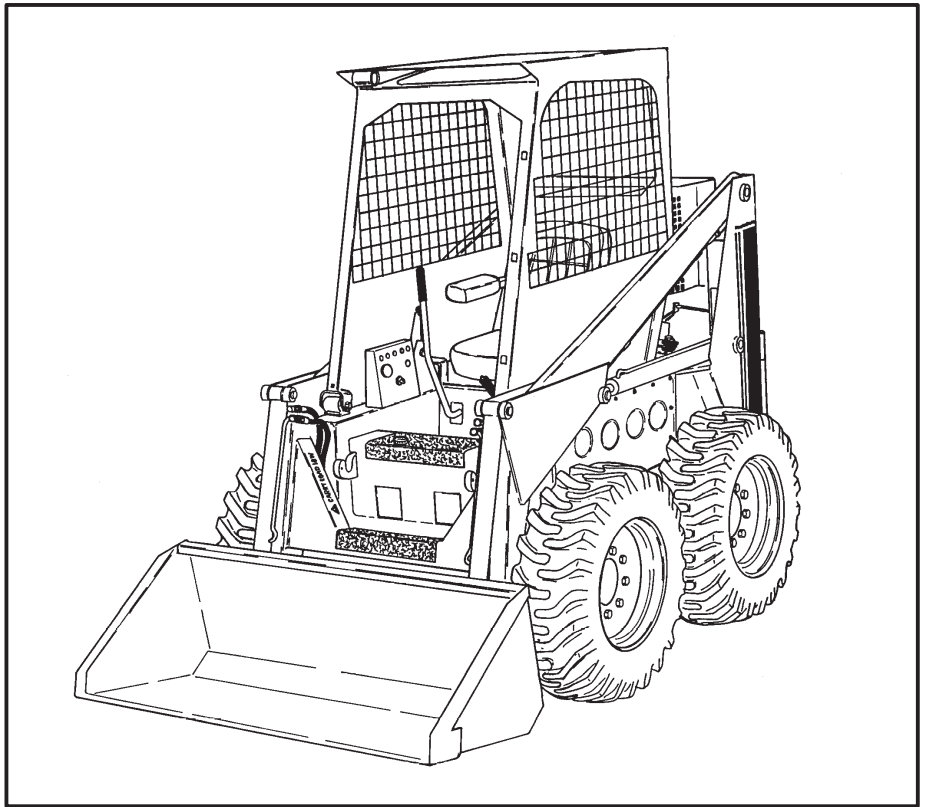
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Service Manual



MELROE
INGERSOLL-RAND

6556619(3-87)

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MAINTENANCE SAFETY



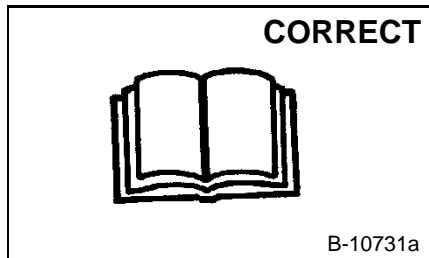
WARNING

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.

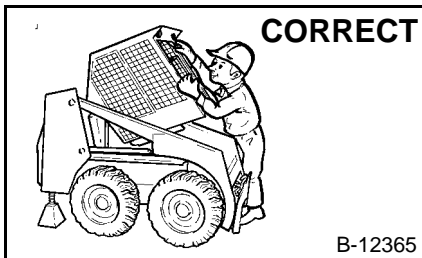
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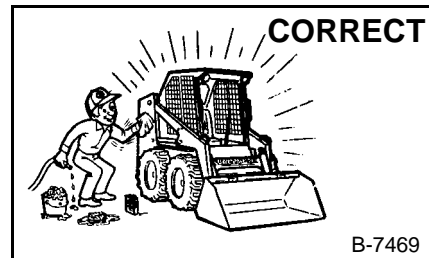
Safety Alert Symbol: This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.



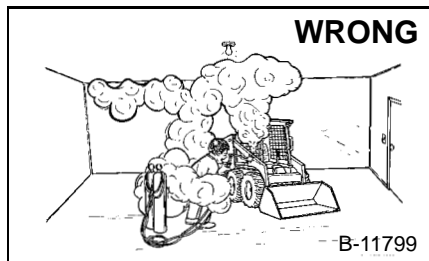
Never service the Bobcat Skid-Steer Loader without instructions.



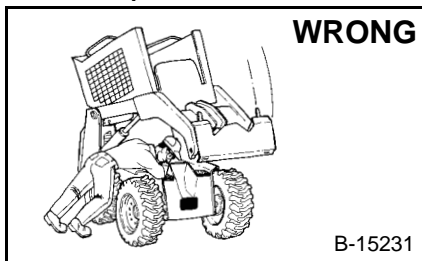
Use the correct procedure to lift or lower operator cab.



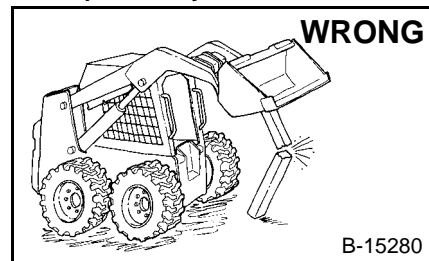
Cleaning and maintenance are required daily.



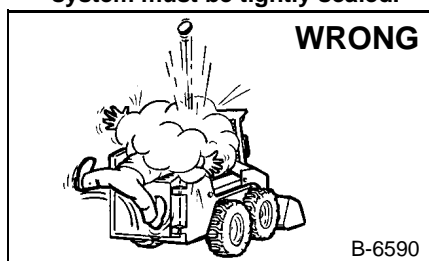
- Have good ventilation when welding or grinding painted parts.
- Wear dust mask when grinding painted parts. Toxic dust and gas can be produced.
- Avoid exhaust fume leaks which can kill without warning. Exhaust system must be tightly sealed.



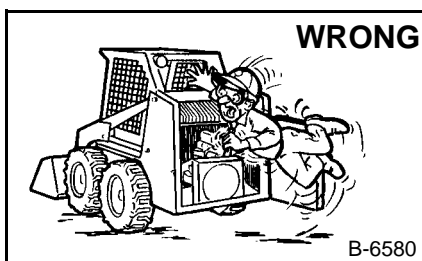
Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause lift arms to drop. Do not go under lift arms when raised unless supported by an approved lift arm support device. Replace it if damaged.



- 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.



- 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.



- 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.



- 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.

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FORWARD

This manual gives instructions for correct service and adjustment of the Bobcat, and detailed overhaul instructions of the engine, drive system, loader hydraulic/hydrostatic system and general mainframe 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. Make lubrication of 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 (belts, sheaves, etc.).
7. Check for loose chains by lifting the machine and turning the wheels by hand.
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 Enclosure, Seat Belt, Safety Treads, Lights, etc.).
11. Make a visual inspection for loose or broken parts or connections.
12. Operate the loader; check all functions.

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

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**PREVENTIVE
MAINTENANCE**

**HYDRAULIC
SYSTEM**

**HYDROSTATIC
DRIVE SYSTEM**

**MECHANICAL
TRANSMISSION**

**MAIN
FRAME**

**ELECTRICAL
SYSTEM**

**ENGINE
SERVICE**

**TECHNICAL
DATA**

**ALPHABETICAL
INDEX**

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PREVENTIVE MAINTENANCE

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INTRODUCTION	1-1	1-1
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 **WARNING**

DO NOT service the Bobcat loader without instructions or taking the necessary safety precautions. Before working on the loader, see the warnings and instructions at the beginning of this Service Manual. After making the repair or adjustment, always check the function of the loader. Failure to obey warnings may cause injury or death.

722 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.

1–1.5 Pre-Delivery Inspection

The purpose of the pre-delivery inspection is to make sure that the loader is in correct 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 specifications 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**

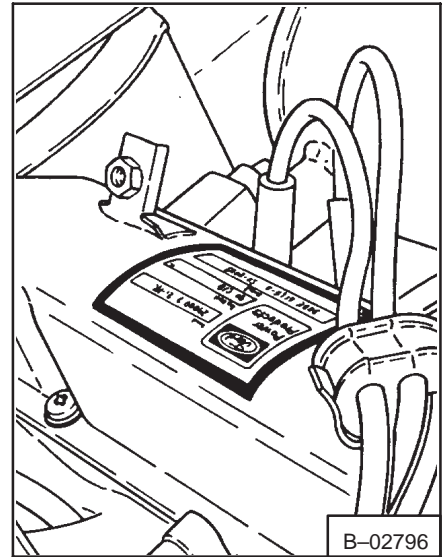


Fig. 1–4 Engine Serial Number (722)

The other copy is for the dealer.

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 operating methods.
3. For demonstration of correct service procedures to customer.

All items on the 30 hours inspection for (Fig. 1–6) must be completed by the dealer's mechanic, according to specifications in this manual.

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.

Fig. 1–5 Pre-Delivery Inspection

Fig. 1–6 30 Hour Inspection

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.

720, 721, 722

Make inspection of the following items every (8-10 hours).

ITEM	SERVICE REQUIRED
Engine air Cleaner	Clean dust cup. Check condition of system.
Engine Oil	Check oil level and add as necessary.
Tires	Check for damage and check air pressure in tires.
All Pivot Points Gauges, etc. lights, etc.	Add lubricant to all fittings. check for correct operation only of all indicators, gauges, switches,
Seat Belt	Check condition of belt & buckle and make replacement if there is a defect.
Operator Guard	Check condition of guard & bolts.
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 as necessary.
Engine Cooling System (722)	Check coolant level. Add coolant when low. Remove any debris from radiator grill area.
Engine Cooling Inlet (720 & 721)	Check rear grill & blower inlets for restriction of air flow. Clean cylinder cooling fins and blower housing when necessary.

Make inspection of the following items as shown:

SERVICE SCHEDULE				HOURS							
720	721	722	ITEM	SERVICE REQUIRED	50	100	200	250	500	1000	2000
			Engine Oil & Filter	Replace the oil & filter.							
			Crankcase Breather	Clean breather cap every oil change.							
			Battery	Check electrolyte level. Add water if necessary.							
			Control Pedals And Steering	Check operation. Make repairs and adjustments as necessary.							
			Bob-Tach	Check locking levers and wedges for condition and operation.							
			Brakes	Check operation. Make adjustments or repairs as necessary.							
			Distributor Cam	Put very small amount of oil in oil cup.							
			Chaincase Fluid	Check fluid level. Check for water in reservoir. Add fluid if necessary.							
			Alternator Belt	Check tension of alternator belt.							
			Trans. Fluid Filter (10 Micron pressure)	Replace filter element at this interval or when <i>FILT</i> light stays on.							
			Engine Cylinder Head Bolts	Tighten to correct torque after first 100 hours. Also adjust valves.							
			Engine Air Cleaner	Check system for leaks. Replace element if necessary.							
			Ignition Points	Check points and ignition timing. Replace spark plugs.							
			Fuel Filter	Clean or replace filter element as necessary.							
			Valve Tappets	Check tappet clearance and adjust when necessary.							
			Starter	Remove clean and service starting motor as needed.							
			Compression	Check engine compression. Minimum engine compression must be at least 75% of the maximum compression reading.							
			Governor Lubrication	Check oil level in governor.							
			Hydraulic Filter (25 Micron Suction)	Replace element.							

1-3 ENGINE SERVICE (General):

1-3.1 Engine Oil And Filter (Fig. 1-7 thru Fig. 1-13)

Check oil level after every eight hours of operation. (Check oil every four hours on new engine during the first 50 hours of operation.)

Oil level must be maintained between the *add* and *full* mark on the dipstick. Use a good quality detergent motor oil that meets the correct API service classification SE.

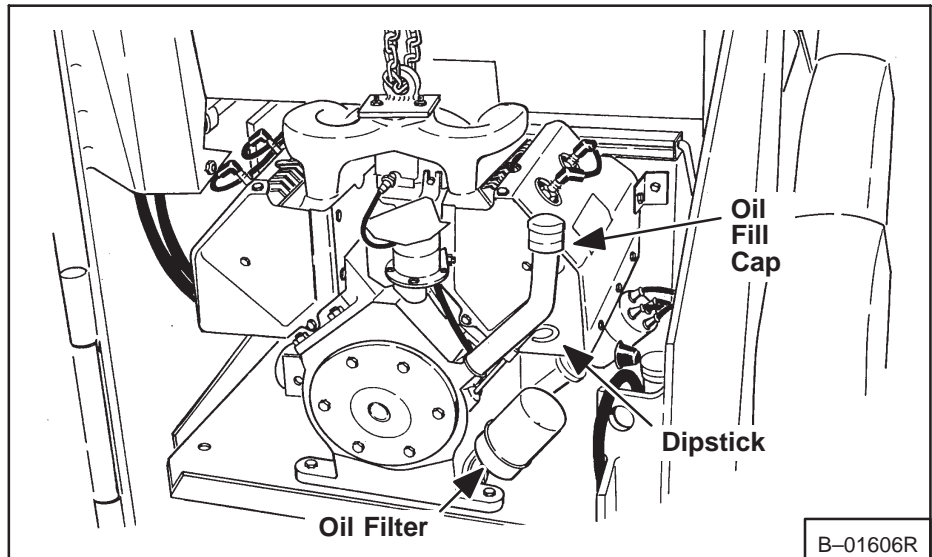


Fig. 1-7 Engine Service (720)

Use oil of proper SAE viscosity for expected temperature conditions.

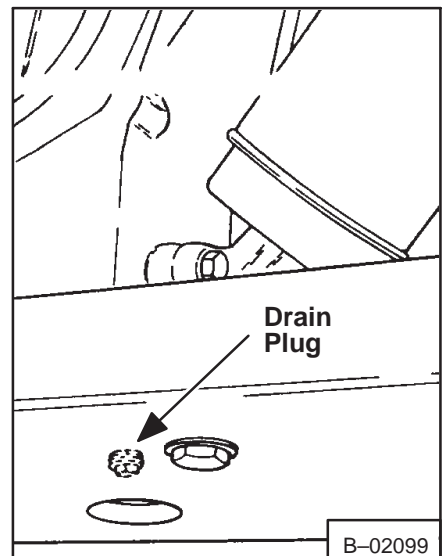
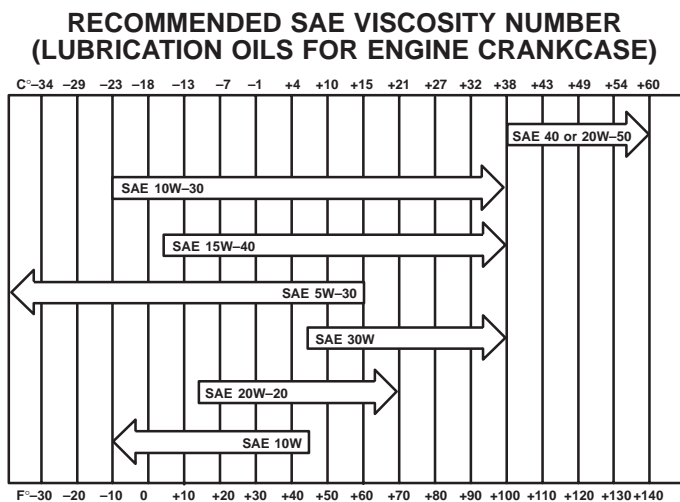


Fig. 1-8 Engine Oil Drain (720)

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

IMPORTANT

Never overfill the engine crankcase with oil.

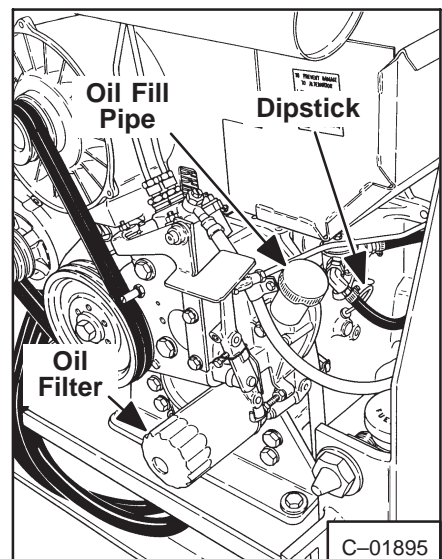


Fig. 1-9 Engine Servicing (721)

Checking Oil:

Engine must be stopped to check oil level. Check oil level every four 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 (Fig. 1–11).

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.

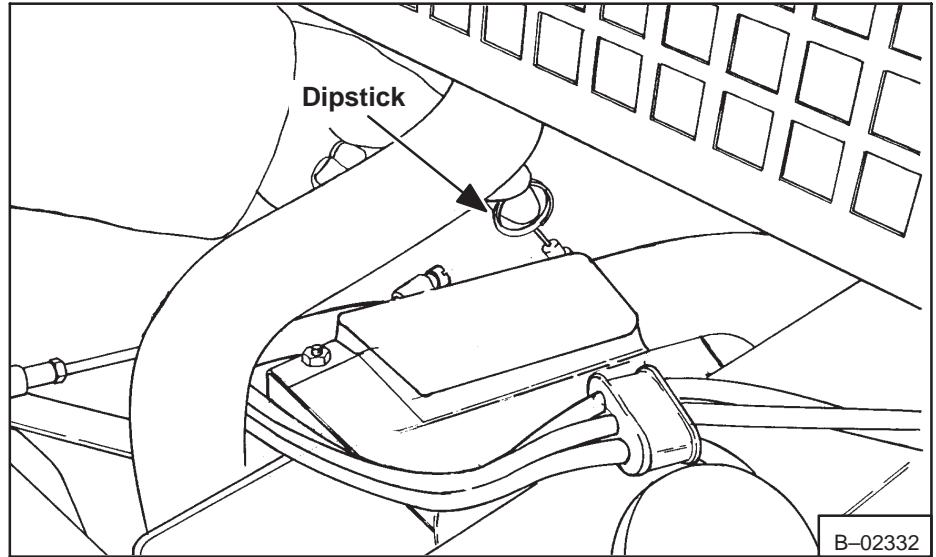


Fig. 1–10 Checking Crankcase Oil (722)

Replacement Oil And Filter:

1. Stop the engine.
2. Remove 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 four quarts (3,79 L) of oil of the correct specification and viscosity.

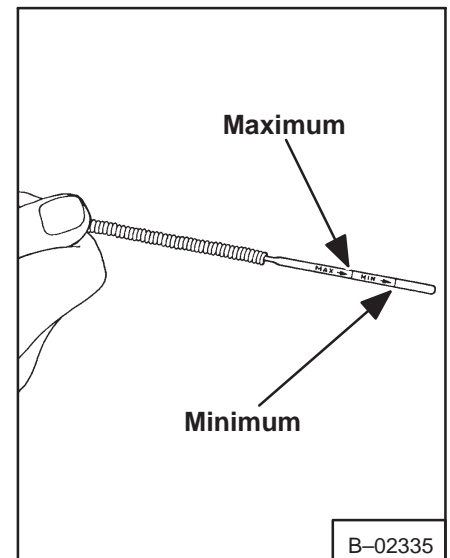


Fig. 1–11 Checking Dipstick

1–3.2 Crankcase Breather

720 Wisconsin: Remove the breather hose (Fig. 1–14). Put hose in solvent and use compressed air to blow debris from hose.

721 Deutz: (Fig. 1–15) the crankcase breather is located on the right side of the cylinder block.

722 Ford: (Fig. 1–13) the crankcase breather is also the fill cap. Clean the breather cap in solvent every time you replace the engine oil.

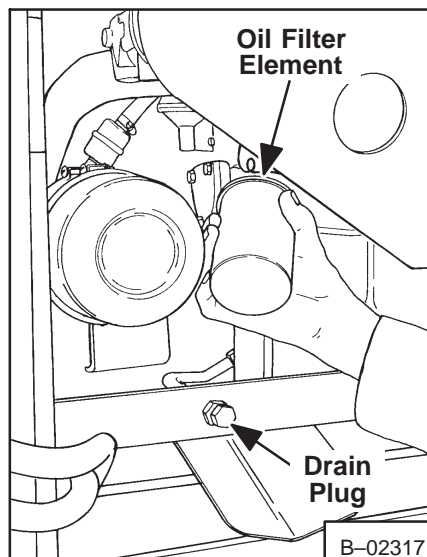


Fig. 1–12 Engine Service (722)

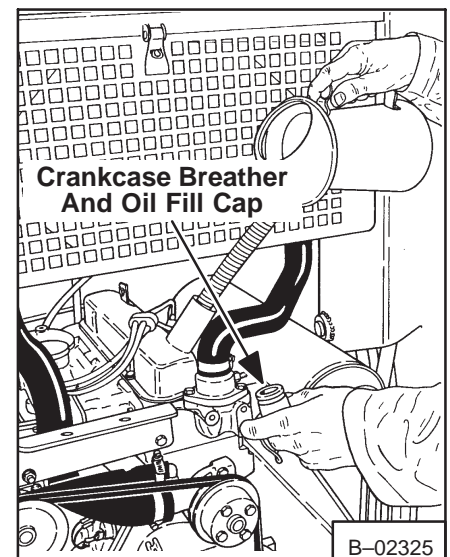


Fig. 1–13 Adding Oil (722)

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. 1-16).
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. Check 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 (722 only). Check the condition indicator for the red ring (720, 721); if the red ring appears, the system is good.

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

5. Check hose from air cleaner to carburetor for damage caused by the hose clamp not being correct at carburetor inlet (Fig. 1-6a).

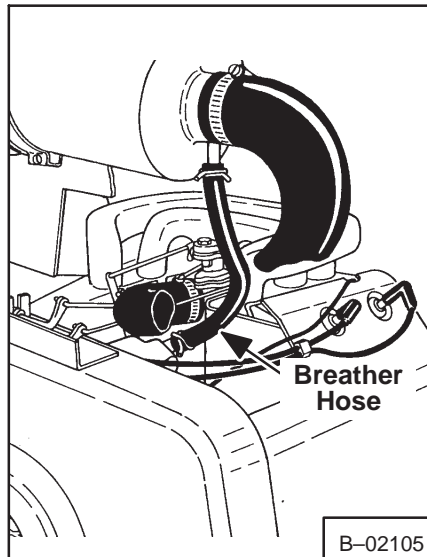


Fig. 1-14 Crankcase Breather (720)

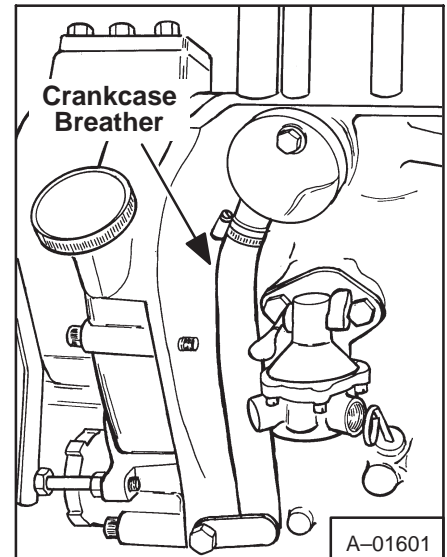


Fig. 1-15 Crankcase Breather (721)

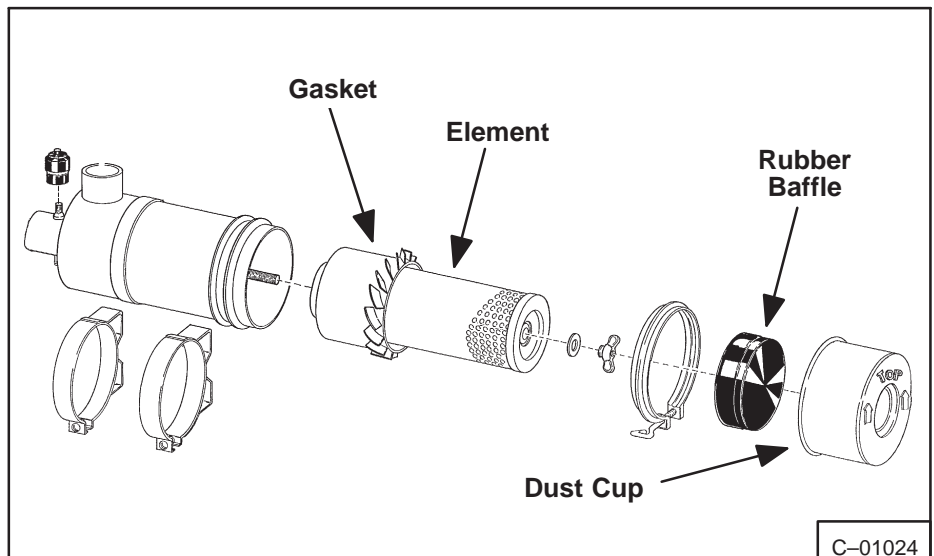


Fig. 1-16 Air Cleaner Assembly

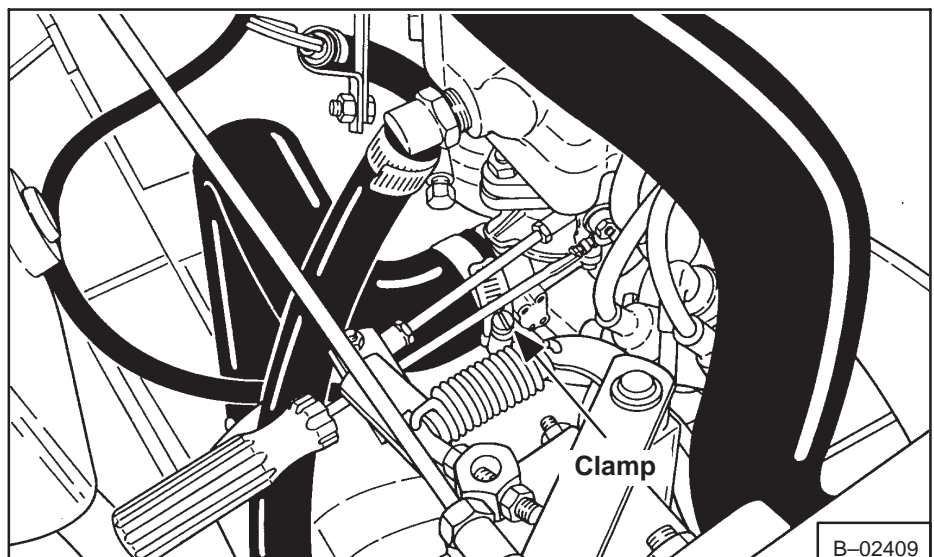


Fig. 1-16a Carburetor Clamp

1-3.4 Fuel System (720, 722)

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 you put fuel in the tank.
2. Remove the fuel cap and fill the 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 of a large building).

! WARNING

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

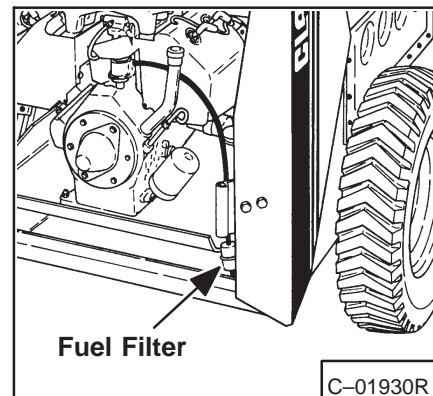


Fig. 1-17 Fuel Filter (720)

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

Fuel Filter

Fuel filters are located as shown in figures 1-17, 1-18, 1-19.

The fuel filter must be replaced at regular intervals (See Sec. 1-2 Service Intervals).

To check or make replacement of fuel filter:

1. Loosen hose clamps and remove the fuel filter.
2. Connect a clean piece of hose to the inlet end of fuel filter and blow through the filter.
3. If air goes through the filter, it does not need replacement. If air does not go through filter, make replacement.
4. Install fuel filter with arrow toward the engine (Fig. 1-20) and be sure fittings are tight.

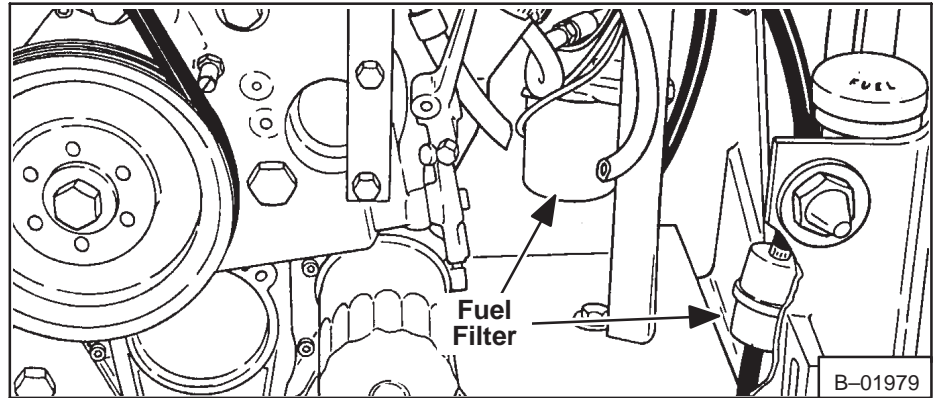


Fig. 1-18 Fuel Filters (721)

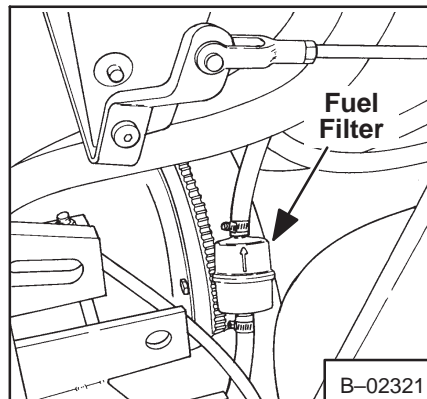


Fig. 1-19 Fuel Filter (722)

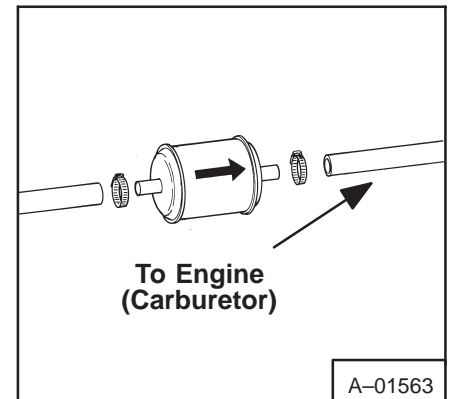


Fig. 1-20 Inline fuel Filter

1-3.4a Fuel System (721)

See Section 7b for 721 Fuel System Maintenance

Fuel Pump

720: The fuel pump is located on top of the cylinder block, under the intake manifold. Check fuel pump pressure by installing a tee in the fuel pump and carburetor and connecting a gauge to the tee. At full engine RPM correct pressure is 2-3 PSI. If pressure is too high, install new spring from fuel pump repair kit (See Parts Manual).

722: 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. Fuel pump pressure must be 3.5-5 PSI.

Carburetor

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

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

720: Carburetor Adjustment (Fig. 1-21)

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.

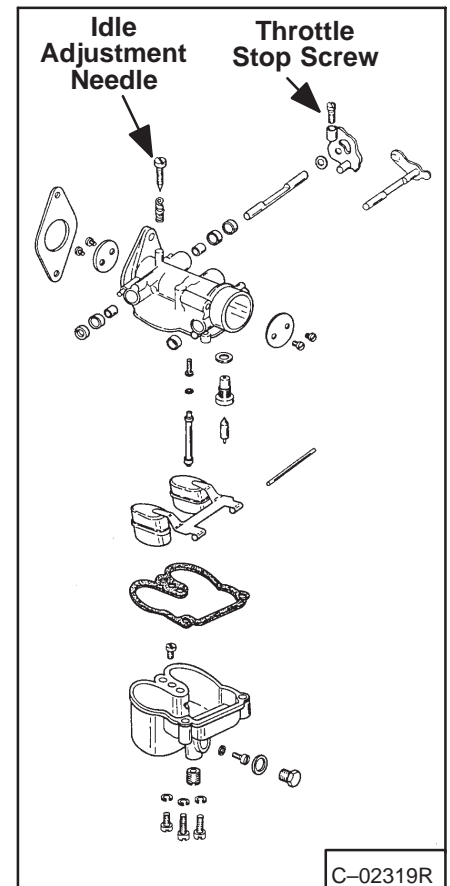


Fig. 1-21 Carburetor (720)

722: Carburetor Adjustment (Fig. 1-22)

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

Idle Adjusting Needle (722)

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

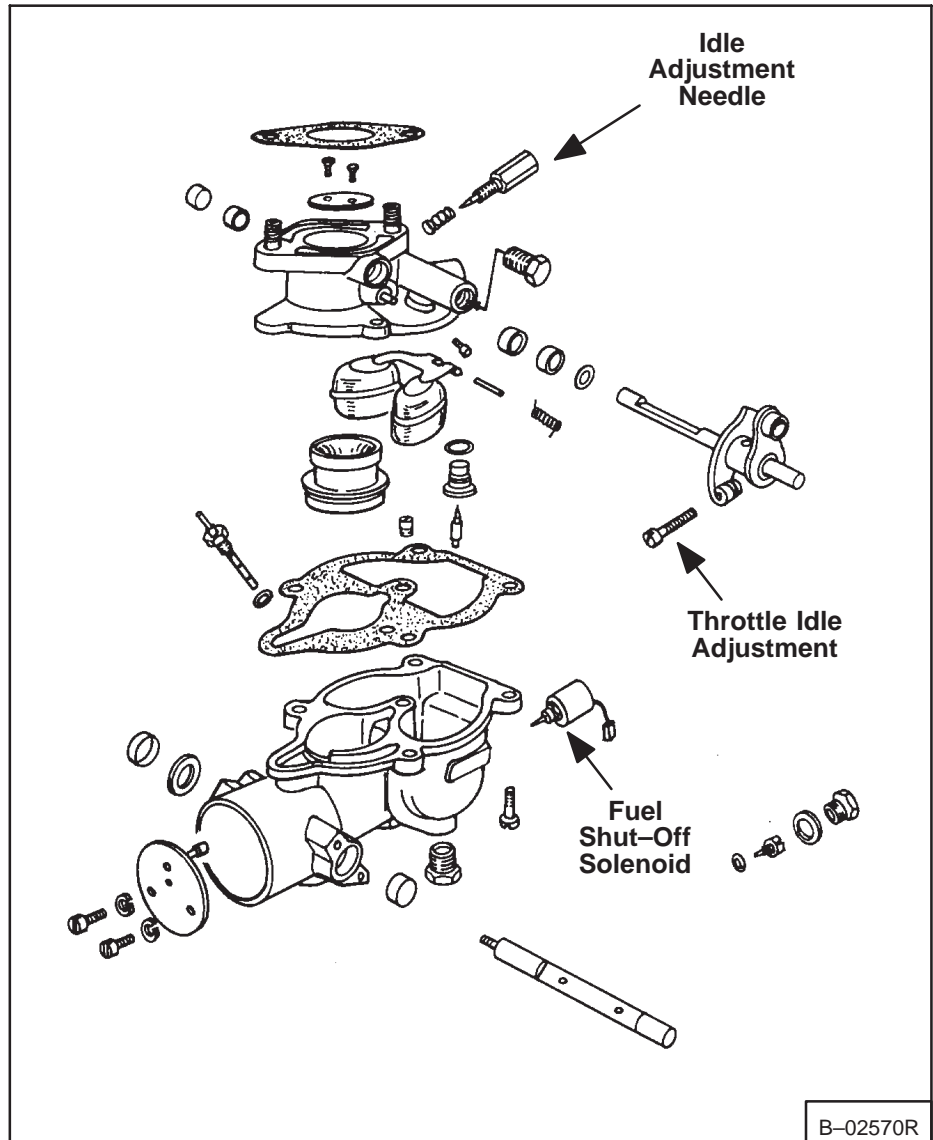
Throttle Idle Adjustment (722)

1. Start the engine.
2. Hold governor speed change lever against the stop.
3. Make adjustment to throttle idles screw until engine runs 550 to 650 RPM.

1-3.5 Engine Cooling System

720 and 721: These engines are cooled with air. Be sure cooling fins on cylinder heads are kept clean.

722: Check coolant level at the coolant recovery tank (Fig. 1-23). The tank must be 1/3 full when cold. Also, when engine is cold, check to see that radiator is full.



*Fig. 1-22 Carburetor Assembly (722)

! WARNING

NEVER remove radiator cap when engine is hot.

Removing Coolant From System (722)

1. Disconnect wire from temperature switch.
2. Remove temperature switch located on the right side of the engine block.
3. After all coolant has come out, install switch and connect wire to switch.

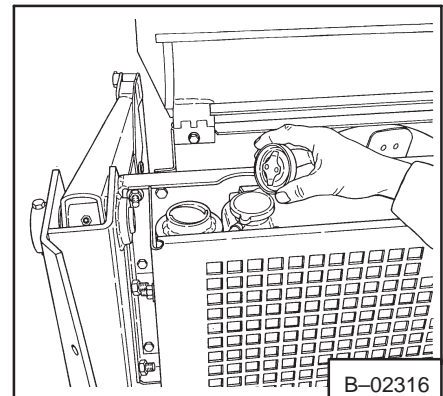


Fig. 1-23 Checking Coolant Level (722)

1-3.6 Engine Electrical System (720, 721 & 722)

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 regularly. (See 1-2 Service Intervals).
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. Check alternator belt tension. Make adjustment for belt movement with 5 lbs. (2,27 kg) force (Fig. 1-24, Fig. 1-25 & Fig. 1-26) as shown.
4. Electrical circuit breakers give the electrical system protection from overload. The circuit breakers will automatically turn ON again after the circuit breaker is cool (several minutes).
5. The cover for the cooling fan is not giving enough support to the alternator and muffler. To correct this use, bracket, tube, and adapter as shown in (Fig. 1-25a). See current Parts Manual to order these parts.

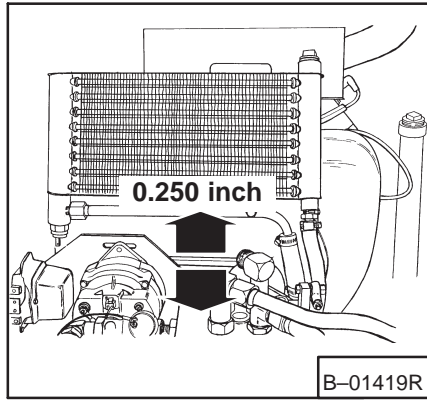


Fig. 1-24 Checking Belt Tension (720)

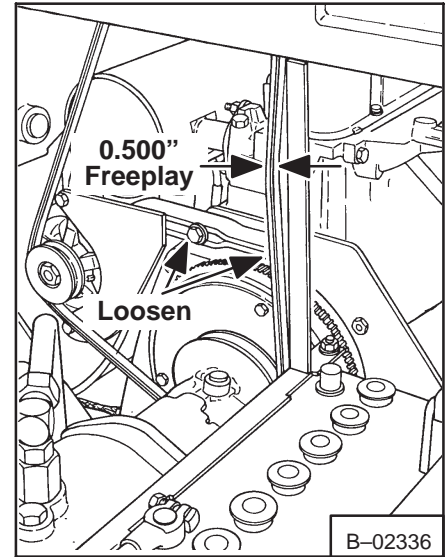


Fig. 1-25 Checking Belt Tension (722)

Using extra battery as an aid in starting:

If it is necessary to use an extra battery as an aid in starting, it must be correctly connected to the Bobcat electrical system as follows:



1. Fasten one end of cable to positive (+) connector of Bobcat battery.
2. Fasten the other end of the same cable to positive (+) connector of extra battery.
3. Use second cable and fasten one end to the negative (-) connector of extra battery.

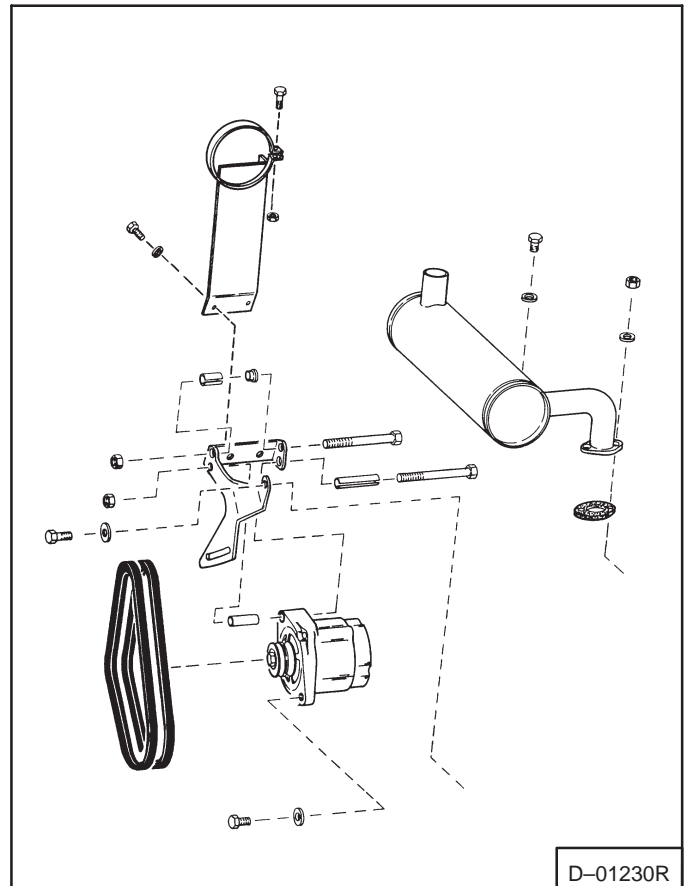


Fig. 1-25a Generator And Bracket Installation (721)

4. Fasten the other end of second cable to engine block. Fasten to block as far away from battery as possible to prevent sparks near battery.

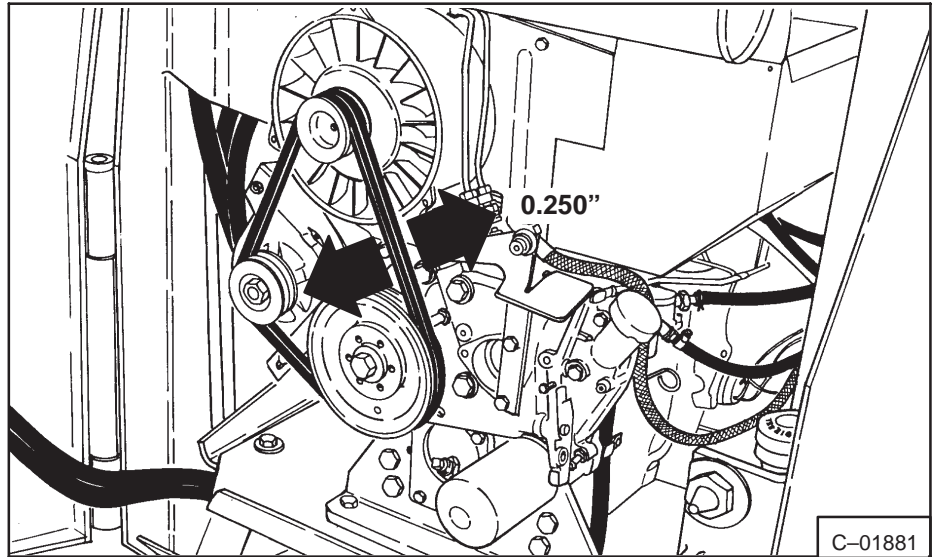
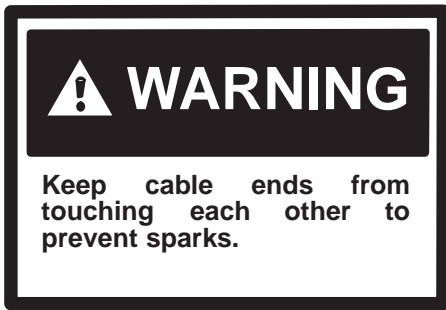


Fig. 1-26 Checking Belt Tension (721)

Installing New Battery

1. Remove battery cables.
2. Mark cables for correct installation on the battery.
3. Thoroughly clean new battery connectors and ends of cable.
4. Put new battery in same position as old one was in. Fasten battery in correct location.

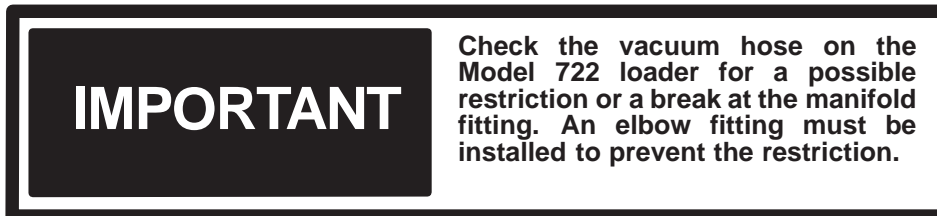


5. Cable ends must not touch anything except battery connectors.
6. Install cables and tighten bolts.

1-3.7 Ignition System (720 & 722)

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

Check condition of points and make replacement of spark plugs at regular intervals (See 1-2 Service Intervals).



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.

Making Adjustment Of Point Gap

1. Remove distributor cap.
2. Turn engine until rubbing block is on high point of cam.
3. Put correct thickness feeler gauge (See Section 8 for correct gap) between contact points.
4. Loosen adjustment screw. Move breaker arm contact until correct gap is given. Tighten screws again.
5. Install distributor cap.

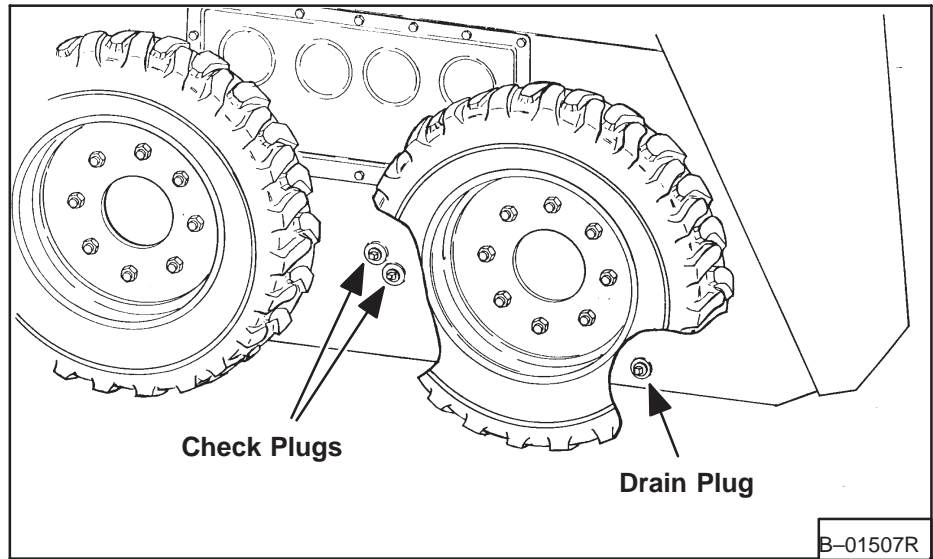


Fig. 1-27 Checking Fluid Level

1-4 HYDRAULIC/HYDROSTATIC FLUID AND FILTER

Fluid

Check level of fluid regularly (See 1-2 Service Intervals) (Fig. 1-27).

1. Lower the lift arms and tilt the Bob-Tach fully back.
2. Stop the engine.
3. Remove lower check plug.
4. If fluid comes from hole, fluid level is satisfactory.
5. If fluid does not come from hole, install lower plug again. Remove upper plug and fill reservoir (See below for oil specifications. DO NOT OVERFILL) until fluid comes from upper hole. Install upper plug again.

Use only oil which has the correct viscosity and grade (See Section 8 Technical Data).

IMPORTANT

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

Filters

Make replacement of hydraulic filter at regular intervals (See 1–2 Service Intervals).

IMPORTANT

KEEP IT CLEAN!

It is important that the hydraulic/hydrostatic system be kept clean any time you work on the system.

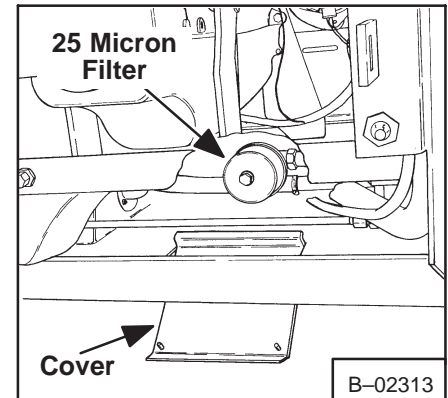


Fig. 1–28 Replacing Filter

Replacing The 25 Micron Filter (Fig. 1–28)

1. Lift the rear of the Bobcat about 4.0 inches (102 mm) higher than the front and put jackstands under the rear axles so that there is no danger of the machine falling and causing personal injury.
2. Remove the cover from under the machine. Use a special filter wrench (MEL1192) to remove the filter, remove the old gasket.
3. Put clean oil on both sides of new gasket and install gasket into new filter element. Tighten the new filter with your hand.
4. Install cover, remove jackstands, then operate the Bobcat, and hydraulic controls for about 15 minutes. If hydraulic action is still rough after this time, check the filter for air leaks.

NOTE: The rough hydraulic action is caused by air in the system.

Replacing The 10 Micron Filter (Fig. 1–29)

1. Lift the ROPS with the jack (See ROPS Enclosure).
2. Clean the area around the filter thoroughly.
3. Use a filter wrench to remove the old filter.

NOTE: Make sure to remove the old rubber seal from the filter housing.

4. Put clean oil on the gasket of the new filter and install it. Tighten the new filter with your hand about 1/2 turn after the gasket touches the mounting surface.
5. Lower the ROPS and start the Bobcat. Check the filter for leaks.

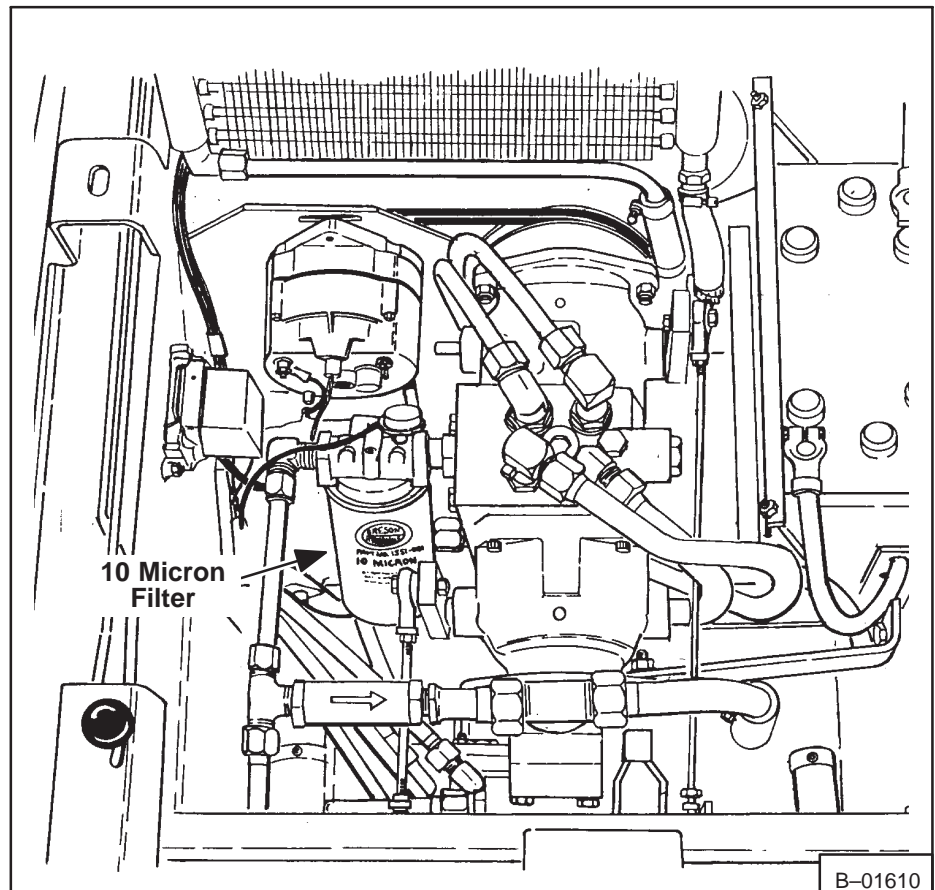


Fig. 1–29 Location Of 10 Micron Filter

1-5 TRANSMISSION AND DRIVE SYSTEM

Chain Adjustment (Fig. 1-30)

NOTE: As you turn the drive stem, some parts of the chain will be tighter than others because of uneven wear. You must turn the drive system until this *tight* part of the chain is between the sprockets where you are to check for chain movement.

Primary Chain: There must be 0.250 inch (6,5 mm) of total movement as shown in Figure 1-30.

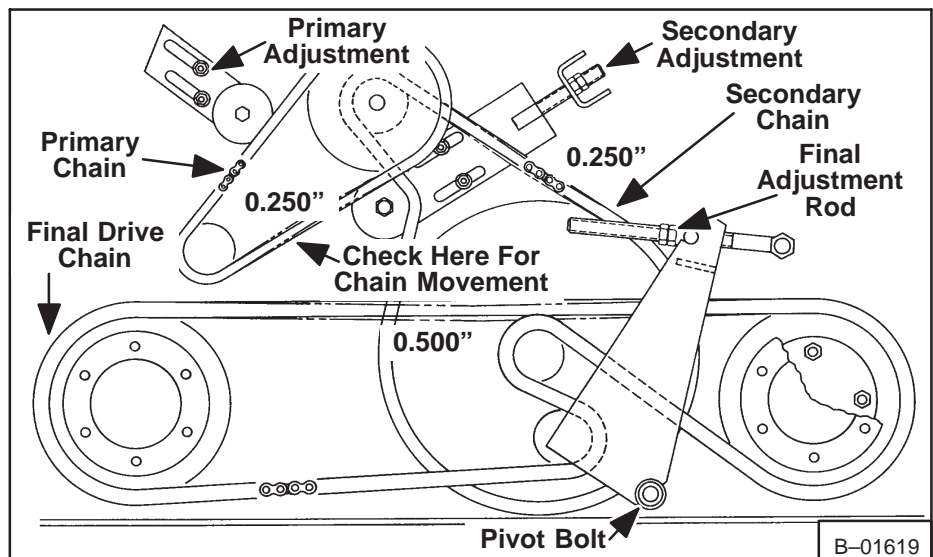
1. Remove cover from side tank.
2. Loosen the two nuts that hold the idler bracket.
3. Move the idler until there is 0.250 inch (6,5 mm) of total movement.
4. Tighten the nuts and check the adjustment.
5. Turn the drive system and check the adjustment again. If adjustment is not correct, go back to step (1) and make adjustment again.
6. Install cover on side tank.

Secondary Drive Chain: There must be 0.250 inch (6,5 mm) of total movement as shown in figure 1-30.

1. Remove cover from side tank.
2. Loosen the two nuts that hold the idler bracket.
3. Loosen the locknut on the secondary adjustment rod.
4. Turn the adjustment nut until there is 0.250 inch (6,5 mm) of total movement.
5. Tighten the nuts on the idler bracket and the locknut on the adjustment rod, then check the adjustment.
6. Turn the drive system and check the adjustment again. If adjustment is not correct, go back to step (1) and make adjustment again.
7. Install cover on side tank.

Final Drive Chain: There must be 0.500 inch (13,0 mm) of total movement as shown in Figure 1-30.

1. Remove cover from side tank.
2. Loosen the nut on the pivot bolt.
3. Loosen the locknut on the final adjustment rod.
4. Turn the adjustment nut until there is 0.500 inch (13,0 mm) of total movement.
5. Tighten the locknut and check the adjustment.
6. Turn the drive system and check the adjustment again. If adjustment is not correct, go back to step (1) and make adjustment again.
7. Tighten the nut on the pivot bolt.
8. Install cover on side tank.



*Fig. 1-30 Chain Adjustment

Brakes

Check brakes regularly for correct operation (See 1–2 Service Intervals).

Brake Adjustment (Fig. 1–31)

1. Remove cover from side tank.
2. Loosen nuts which hold the caliper assembly (Item 1).
3. Move the brake handle into the *engaged* position. This will put the caliper assembly in the correct position.
4. Tighten the nuts which hold the caliper assembly.
5. Disengage the brake lever. Check to see that the calipers are free on the brake disc.
6. Engage the brake lever again and check the length of the spring. The spring must be 2.0 to 2.150 inches (50,8 to 54,6 mm) in length.

To adjust spring length:

7. Loosen nut (Item 2) then tighten nut (Item 3) until spring is the correct length.
8. Tighten nut (Item 2) again.
9. Disengage the brake lever. Check to see that the calipers are free on the brake disc.

1–6 TIRES

Check tires regularly for wear, damage and correct pressure. See Section 8 – Technical Data for correct pressure.

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 1–32.

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

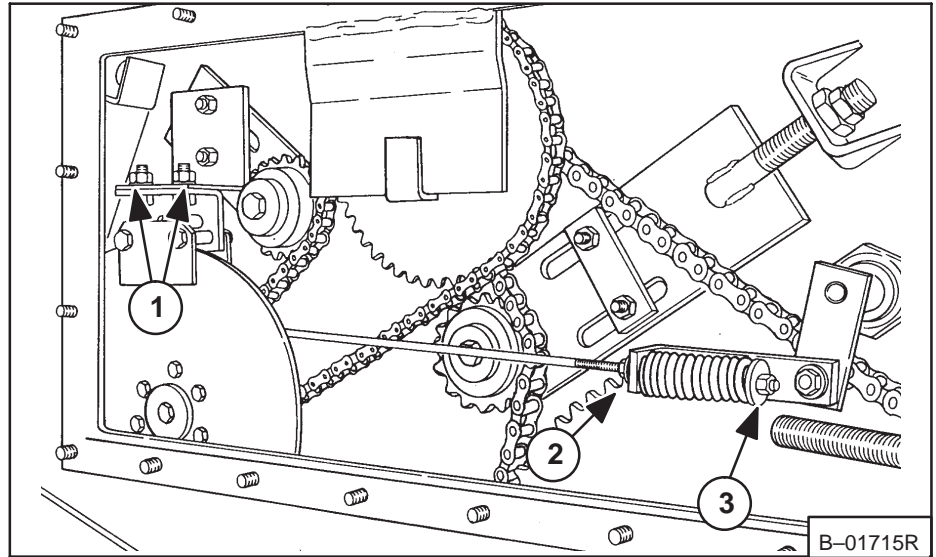


Fig. 1–31 Brake Adjustment

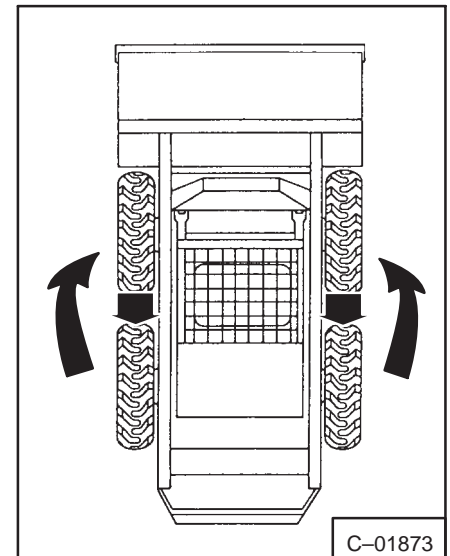


Fig. 1–32 Tire Rotation

IMPORTANT

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

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.

Figure 1-33 shows the location of grease fittings on the 720 series Bobcat.

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

Also put lubricant on the seat rails (Fig. 1-34).

1-8 BOB-TACH AND PIVOT PINS

The Bob-Tach must be checked regularly for condition and wear (See 1-2 SERVICE INTERVALS).

When levers are in *locked* position (Fig. 1-35), 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. 1-36).

Check lockbolt nuts to be sure all are tight.

Check Bob-Tach for correct weld. Weld must be 0.250 inch in areas shown in (Fig. 1-37).

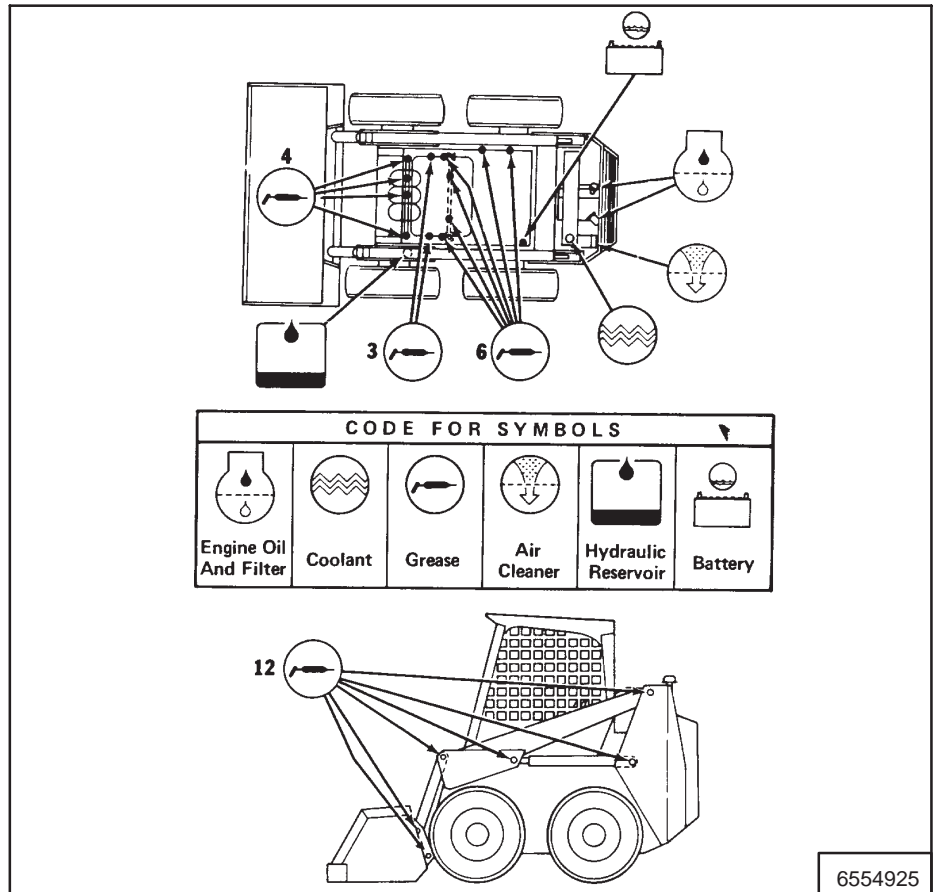


Fig. 1-33 Lubrication Points

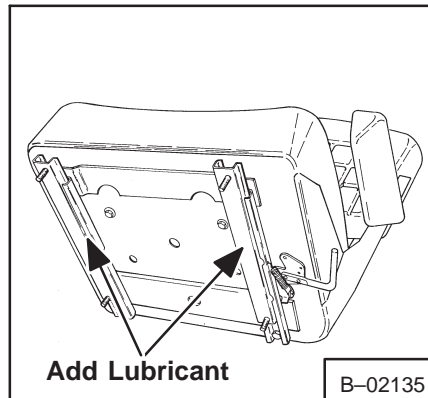


Fig. 1-34 Seat Rail Lubrication

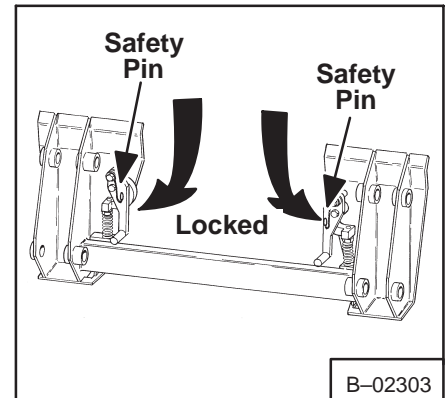


Fig. 1-35 Bob-Tach Locking Levers

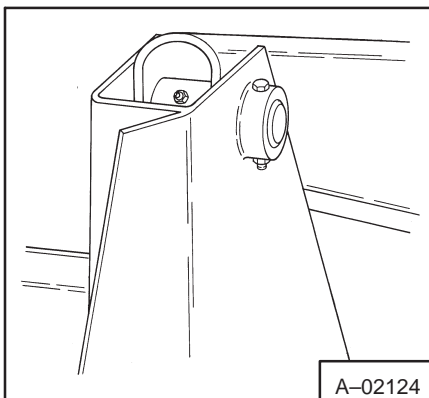


Fig. 1-36 Lock Bolts For Pivot Pins

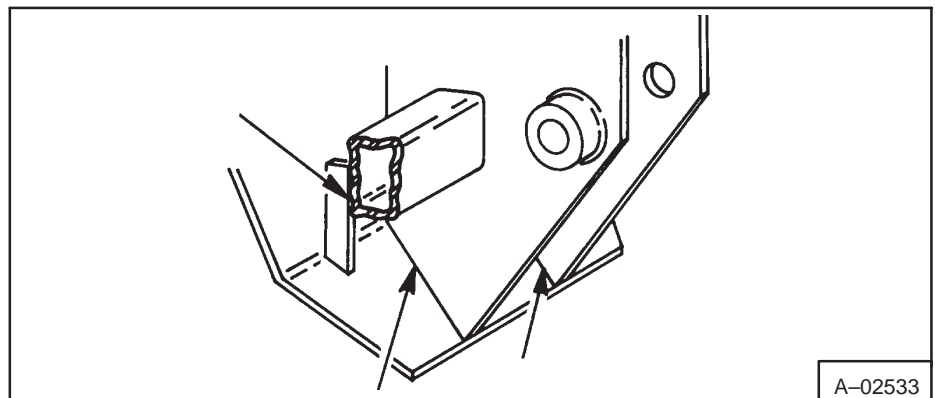


Fig. 1-37 Weld Areas (0.250 inch Beads)

HYDRAULIC SYSTEM

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OPERATION OF THE HYDRAULIC SYSTEM	2-1	2-3
PROBLEM ANALYSIS CHART	2-3	2-6
VANE PUMP SERVICE	2-7	2-9

HYDRAULIC
SYSTEM

WARNING

DO NOT service the Bobcat loader without instructions or taking the necessary safety precautions. Before working on the loader, see the warnings and instructions at the beginning of this Service Manual. After making the repair or adjustment, always check the function of the loader. Failure to obey warnings may cause injury or death.



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SYSTEM OPERATIONS

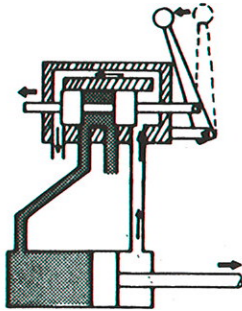


700, 720, 721, 722 HYDRAULIC/HYDROSTATIC SYSTEM (Chart # PI-2514)

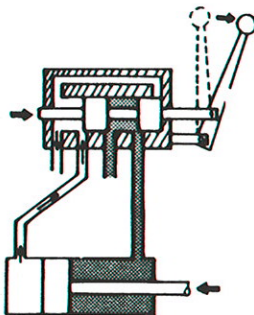


The fluid moves from the reservoir (chaincase) to the inlet of the filter ④ and from the filter ④ to the inlet of the hydraulic pump ⑦. At the filter "tee" fitting ④ return fluid from the oil cooler ③ joins with the fluid from the filter ④ to supply the hydraulic pump ⑦. Also at the inlet of the hydraulic pump ⑦ there is a "tee" fitting where the fluid from the filter ④ is joined by fluid from the by-pass valve ⑬.

The hydraulic pump ⑦ is a "vane" type pump and is driven by a shaft through the hydrostatic pumps ⑤. The fluid goes from the hydraulic pump ⑦ to the hydraulic control valve ⑫.



The control valve ⑫ has an adjustable relief valve ⑪. When all three spools are in neutral position, the fluid goes through the control valve ⑫ and back to the filter ⑭. If one of the spools is activated, the fluid goes out the respective port and to either the base end, or the rod end of the cylinders ⑧ ⑩. As the fluid goes into one end of the hydraulic cylinders ⑧ ⑩, return fluid comes from the opposite end of the cylinders and back into the control valve ⑫. When the cylinders ⑧ ⑩ reach the end of the stroke, the fluid flow stops and causes hydraulic pressure to increase. When the pressure reaches the setting of the relief valve ⑪, it will open and let the fluid by-pass the hydraulic control valve (internally) and go back to the filter ⑭. If you let the spool go back to the neutral position, then there is fluid available for the other sections. Two sections of the control valve ⑫ can be used at the same time if the main relief valve ⑪ is not open.



(Chart # PI-2525 & PI-2516)

From the control valve ⑩ the fluid moves through the "tee" fitting at the by-pass valve ⑪ into the filter ⑫. The by-pass

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