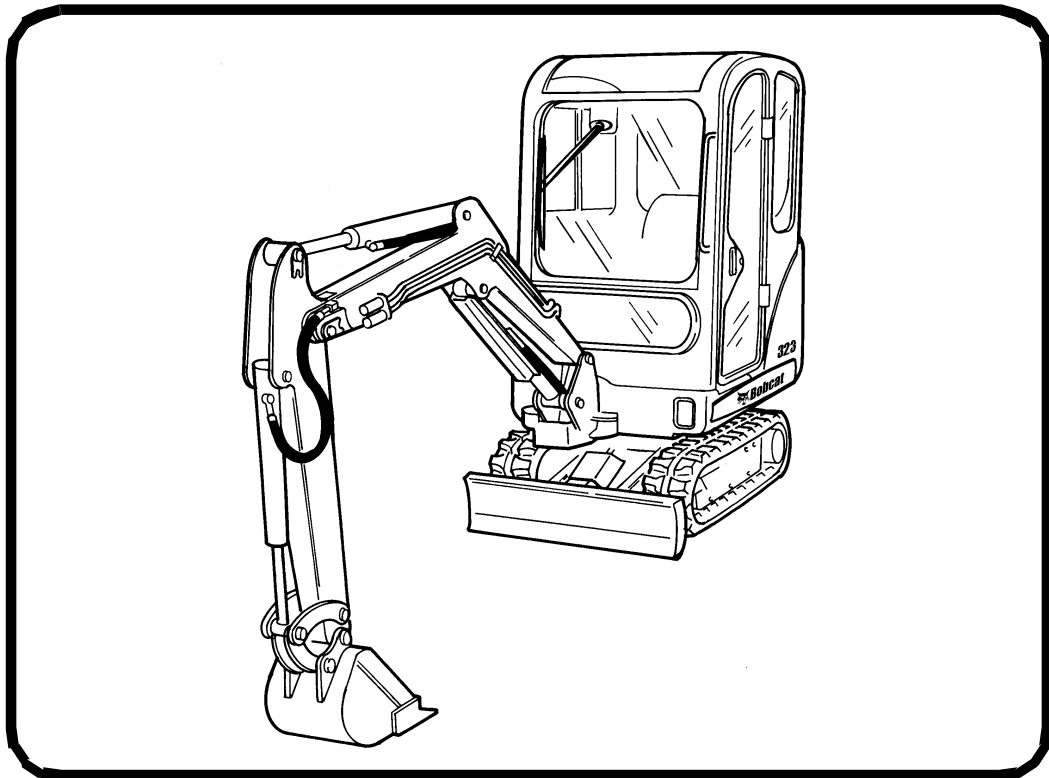




Bobcat®

Operation & Maintenance Manual 323 Compact Excavator

S/N A9JZ11001 & Above



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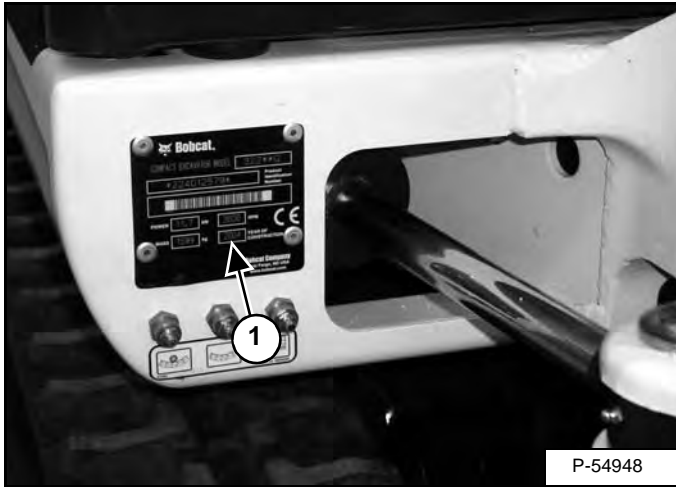
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SERIAL NUMBER LOCATIONS

Always use the serial number of the excavator when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation.

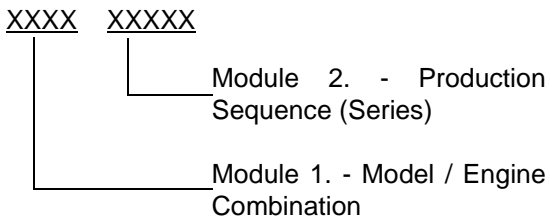
Excavator Serial Number

Figure 1



The excavator serial number plate (Item 1) [Figure 1] is located on the front right hand corner of the frame.

Explanation of Excavator Serial Number:



1. The four digit Model/Engine Combination Module number identifies the model number and engine combination.
2. The five digit Production Sequence Number identifies the order which the excavator is produced.

Engine Serial Number

Figure 2

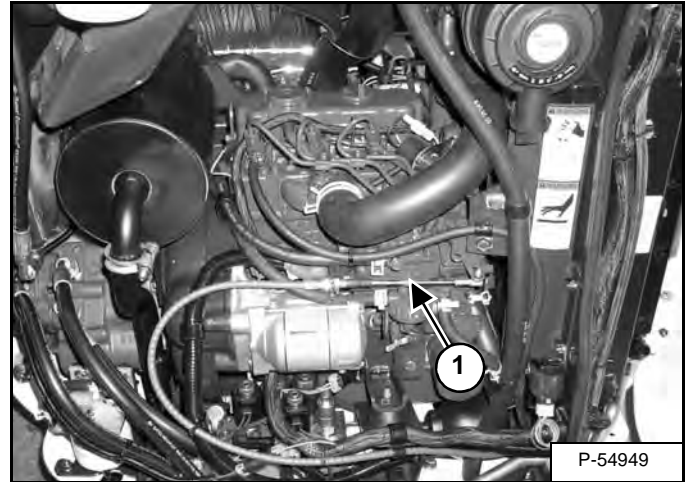
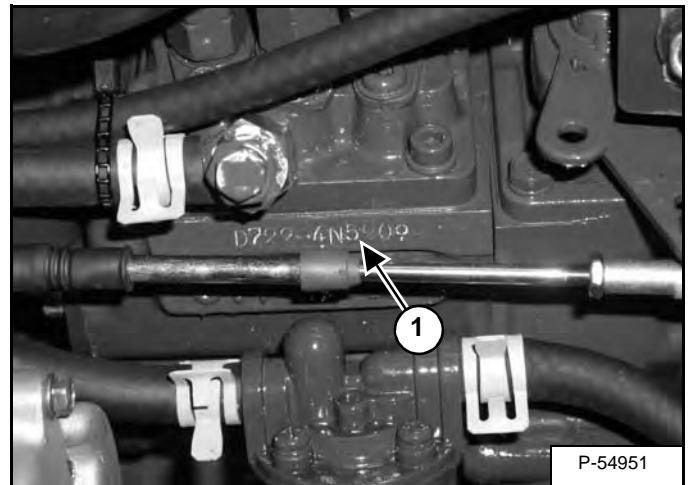


Figure 3



The engine serial number (Item 1) [Figure 2] & [Figure 3] is located on the engine in the locations shown.

SAFETY INSTRUCTIONS (CONT'D)

Avoid Silica Dust



Cutting or drilling concrete containing sand or rock containing quartz may result in exposure to silica dust. Do not exceed Permissible Exposure Limits (PEL) to silica dust as determined by OSHA or other job site Rules and Regulations. Use a respirator, water spray or other means to control dust. Silica dust can cause lung disease and is known to the state of California to cause cancer.

FIRE PREVENTION



Maintenance

The machine and some attachments have components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcs or sparks.

Flammable debris (leaves, straw, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation. Flammable debris in the engine compartment is a potential fire hazard.

The operator's area, engine compartment and engine cooling system must be inspected every day and cleaned if necessary to prevent fire hazards and overheating.

All fuels, most lubricants and some coolants mixtures are flammable. Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire.

Operation

Do not use the machine where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.

Electrical



Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part or wires that are loose or frayed.

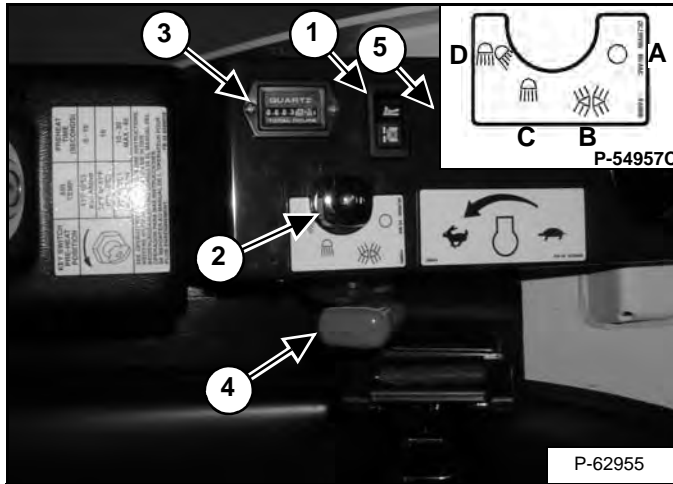
Battery gas can explode and cause serious injury. Use the procedure in the Operation & Maintenance Manual for connecting the battery and for jump starting. Do not jump start or charge a frozen or damaged battery. Keep any open flames or sparks away from batteries. Do not smoke in battery charging area.

SI EXC-0208

INSTRUMENTS AND CONSOLES (CONT'D)

Right Control Panel

Figure OI-5

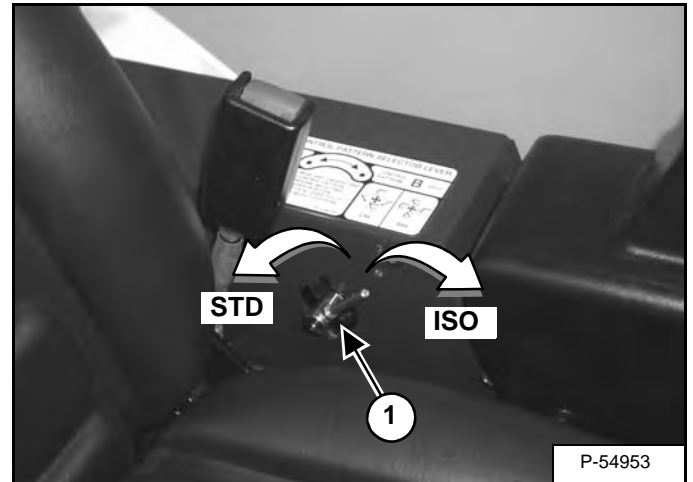


Right Console [Figure OI-5]

REF. NO.	DESCRIPTION	FUNCTION/OPERATION
1	Blade / Track Expansion Switch	Switch functions between raise/lower the blade and track expansion. (See BLADE CONTROL LEVER on Page OI-20). or (See TRACK FRAME EXPANSION on Page OI-21).
2	Light Switch (Work, Strobe, Flasher)	<p>A. Light Switch is OFF</p> <p>B. Strobe Light or Flasher is ON (If Equipped)</p> <p>C. Front Work Lights plus 'B' is ON (If Equipped)</p> <p>D. Additional Work Lights plus 'B' and 'C' is ON (If Equipped)</p>
3	Hourmeter	Records the total operating hours of the excavator
4	Engine Speed Control	Push forward to increase speed; backward to decrease.
5	Wiper / Washer (If Equipped)	Press left side to turn wiper ON. Press and hold for washer. Press right side to turn OFF.

STD / ISO Selector Valve

Figure OI-6

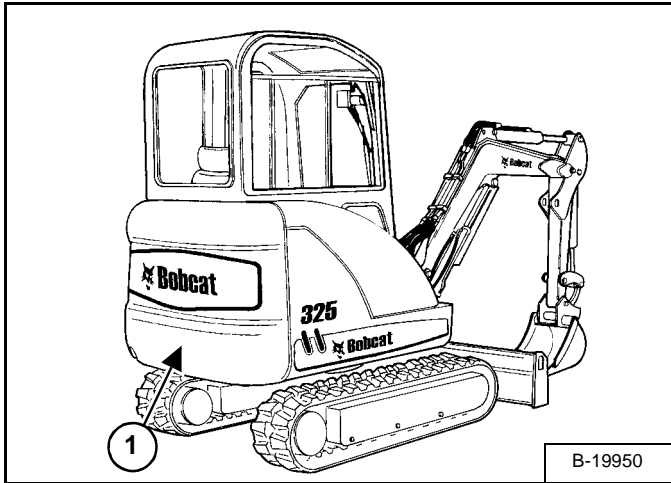


STD / ISO Selector Valve (Item 1) [Figure OI-6] - Move the lever to the rear to select STANDARD Control Pattern. Move to the front to select ISO Control Pattern.

MOTION ALARM SYSTEM (IF EQUIPPED)

Operation

Figure OI-32



This excavator may be equipped with a motion alarm system. The motion alarm (Item 1) [Figure OI-32] is located inside the lower part of the engine compartment.

WARNING

**This machine is equipped with a motion alarm.
ALARM MUST SOUND!
when operating forward or backward.**

Failure to maintain a clear view in the direction of travel could result in serious injury or death.

The operator is responsible for the safe operation of this machine.

W-2786-0309

The motion alarm will sound when the operator moves the travel control levers in either the forward or reverse direction.

If alarm does not sound or for adjustment instructions, see inspection and maintenance instructions for the motion alarm system in the preventive maintenance section of this manual. (See MOTION ALARM SYSTEM (IF EQUIPPED) on Page PM-8)

DAILY INSPECTION (CONT'D)

Service Schedule

- * Service only when machine is equipped with this item.
- Service at first 50 hours, then as scheduled.
- ▲ Service at first 100 hours, then as scheduled.

SERVICE SCHEDULE

EVERY 8-10 HOURS

- Check engine coolant level.
- Check engine oil level.
- Check hydraulic fluid level.
- Check air cleaner condition indicator.
- Check and adjust track tension.
- Check indicator lights for correct operation.
- Check canopy or *cab condition and mounting hardware.
- Check seat belt condition and mounting hardware.
- Check control console(s) lockout for proper operation.
- Check for damaged signs (decals) - Replace as needed.
- Grease all machinery pivot points. (See illustrations)
- *Apply grease to slide on extendable arm.
- *Clean cab heater filter

EVERY 50 HOURS

- Grease swing pinion and swing circle. (See illustrations)
- Drain water and sediment from fuel tank and fuel filter.
- Check battery, cables and electrolyte level.

EVERY 100 HOURS

- Check and adjust belt(s) if required. (Models 323, 325, 328 and 329)
- ▲ Spark Arrestor Muffler - Clean spark chamber.

EVERY 250 HOURS

- Replace engine oil and filter. (Models 325, 328, 329 and 425)
- Replace inline diesel fuel filter. (Models 425, 430 and 435)
- Replace diesel fuel filter.
- Check oil level in both final drive cases.

EVERY 500 HOURS

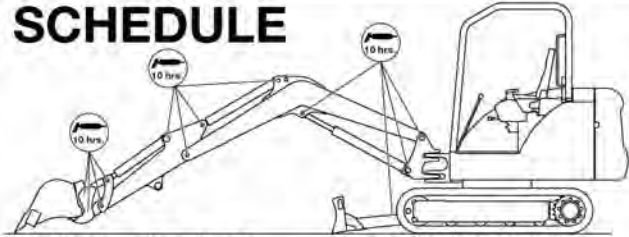
- Replace engine oil and filter. (Models 323, 331, 331E, 334, 335, 337, 341, 430 and 435)
- Clean radiator, oil cooler and *A/C condenser.
- ▲ Check and adjust drive belts and idlers. Replace as needed. (Models 331, 331E, 334, 335, 337, 341, 425, 430 and 435)
- ▲ Replace primary hydraulic filter and reservoir breather.
- ▲ Replace case drain hydraulic filter. (Models 325, 328, 329, 331, 334, 331E, 335, 337, 341, 425, 430 and 435)
- ▲ Replace fan hydraulic filter. (Models 430 and 435)
- ▲ Check alternator and starter connections.
- Check and adjust engine valve clearance.

EVERY 1000 HOURS OR EVERY 12 MONTHS

- ▲ Replace oil in both final drive cases.
- Replace hydraulic fluid and filter(s).

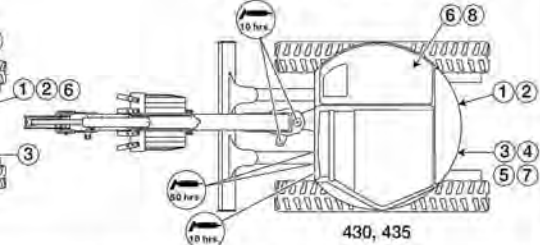
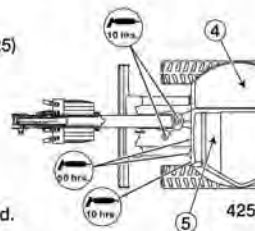
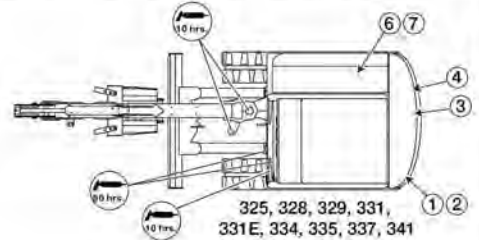
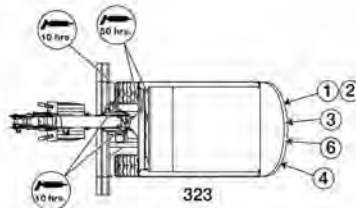
EVERY 2 YEARS

- Drain and flush cooling system - Replace coolant.



Machine shown in position to check hydraulic fluid levels.

323, 325, 328, 329, 331, 331E, 334, 335, 337, 341, 425, 430, 435



FILTER CHART

	323	325, 328, 329	331, 334, 331E, 335	337, 341	425	430	435
1. PRIMARY AIR FILTER	6673752	6672467	6666333	6666375	6672467	6666333	6666375
2. SECONDARY AIR FILTER	6673753	6672468	6666334	6666376	6672468	6666334	6666376
3. ENGINE OIL FILTER	6671057	6675517	6675517	6675517	6657635	6675517	6675517
4. FUEL FILTER	6667352	6667352	6667352	6667352	6667352	6667352	6667352
5. IN-LINE FUEL FILTER	N/A	N/A	N/A	N/A	6633977	6633977	6633977
6. PRIMARY HYDRAULIC FILTER	6653336	6661248	6661248	6670207	6661248	6668819	6668819
7. DRAIN HYDRAULIC FILTER	N/A	6516722	6516722	6516722	6661022	6681012	6681012
8. FAN HYDRAULIC FILTER	N/A	N/A	N/A	N/A	N/A	6681012	6681012

* See illustrations above for filter locations.

IMPORTANT

THIS MACHINE IS FACTORY EQUIPPED WITH A U.S.D.A. FORESTRY SERVICE APPROVED SPARK ARRESTOR MUFFLER.

IT IS NECESSARY TO CLEAN THIS SPARK ARRESTOR MUFFLER TO KEEP IT IN WORKING CONDITION. THE SPARK ARRESTOR MUFFLER MUST BE SERVICED BY DUMPING THE SPARK CHAMBER EVERY 100 HOURS OF OPERATION.

IF THIS MACHINE IS OPERATED ON FLAMMABLE FOREST, BRUSH OR GRASS COVERED LAND, IT MUST BE EQUIPPED WITH A SPARK ARRESTOR ATTACHED TO THE EXHAUST SYSTEM AND MAINTAINED IN WORKING ORDER. FAILURE TO DO SO WILL BE IN VIOLATION OF CALIFORNIA STATE LAW, SECTION 4442 PRC.

REFER TO LOCAL LAWS AND REGULATIONS FOR SPARK ARRESTOR REQUIREMENTS.

* See Operation & Maintenance Manual for more information and instructions.

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OPERATING PROCEDURE (CONT'D)

Lifting A Load

Do not exceed the Rated Lift Capacity. (See LIFT CHART (7104069) on Page OI-4).

! WARNING

AVOID INJURY OR DEATH

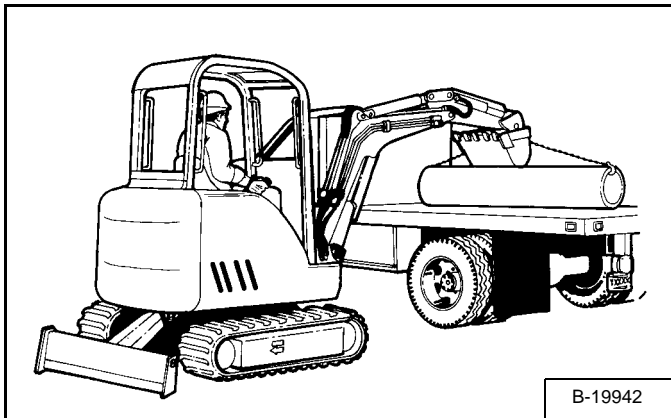
Do not exceed rated lift capacity. Excessive load can cause tipping or loss of control.

W-2374-0500

Extend the bucket cylinder completely and lower the boom to the ground. Stop the engine.

Wrap the chain assembly around the bucket mounting plate.

Figure OI-72



Make sure the load is evenly weighted and centered on the lifting chain, and is secured to prevent the load from shifting [Figure OI-72].

Lift and position the load. Once the load is in position and tension is removed from the lift chain (secondary lift system), remove the secondary lift system.

! WARNING

AVOID INJURY OR DEATH

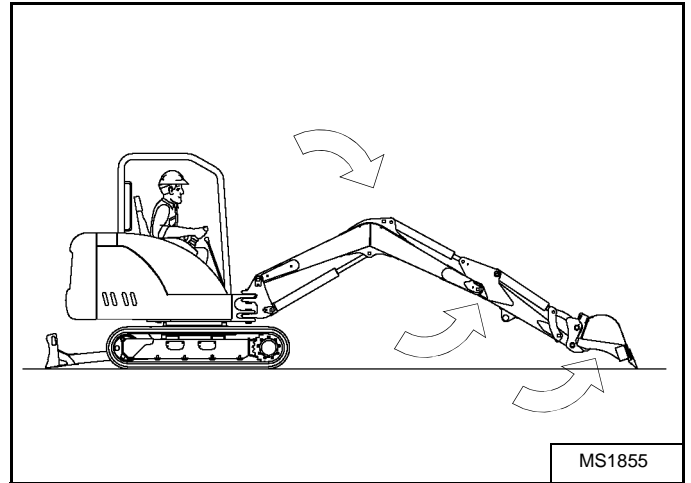
Check area to be excavated for overhead or underground lines such as electrical, gas, oil, water, etc. CALL 1-888-258-0808 and consult local utilities before digging. Extreme caution must be used in areas where utility lines are present.

W-2116-0903

Excavating

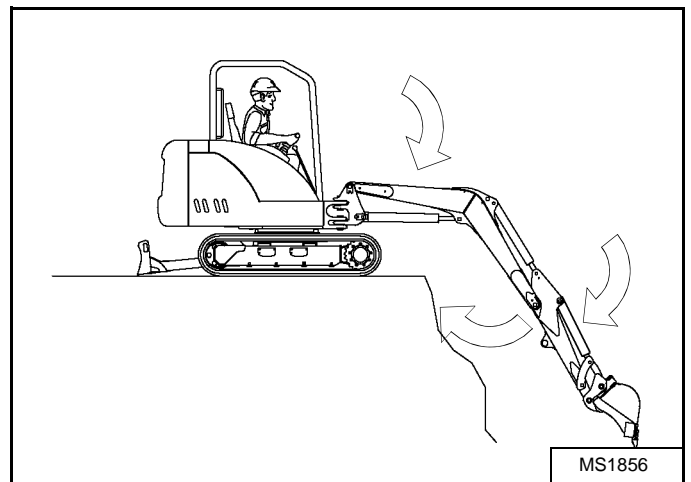
Lower the blade to provide stability.

Figure OI-73



Extend the arm, lower the boom, and open the bucket [Figure OI-73].

Figure OI-74



Retract the arm, while lowering boom and curling the bucket [Figure OI-74].

TRANSPORTING THE EXCAVATOR

When transporting the machine, observe the rules, motor vehicle laws and vehicle limit ordinances. Use a transport and towing vehicle of adequate length and capacity.

Secure the parking brakes and block the wheels of the transport vehicle.

Remove the blade extensions (if equipped). (See **BLADE EXTENSION** on Page PM-34).

Retract the track frame if required. (See **TRACK FRAME EXPANSION** on Page OI-21).

Align the ramps with the center of the transport vehicle. Secure the ramps to the truck bed and be sure ramp angle does not exceed 15 degrees.

Use metal loading ramps with a slip resistant surface that are the correct length and width, and can support the weight of the machine.

The rear of the trailer must be blocked or supported when loading or unloading the excavator to prevent the front of the transport vehicle from raising.

Determine the direction of the track movement before moving the machine (blade forward). Engage the upperstructure slew lock (See **Upperstructure Slew Lock** on Page OI-6).

Figure OI-98



Move the machine forward onto the transport vehicle [**Figure OI-98**].

Do not change direction of the machine while it is on the ramps.

Lower the boom, arm, and bucket to the transport vehicle.

Stop the engine and remove the key.

Put blocks under the front and rear of the tracks.

Figure OI-99



Figure OI-100



Fasten chains to the front corners of the blade and to the tie down loop at the rear [**Figure OI-99**] & [**Figure OI-100**] to prevent it from moving when going up or down slopes, or during sudden stops.

Use chain binders to tighten the chains and then safely tie the chain binder levers to prevent loosening.

! WARNING

AVOID SERIOUS INJURY OR DEATH
Adequately designed ramps of sufficient strength are needed to support the weight of the machine when loading onto a transport vehicle. Wood ramps can break and cause personal injury.

W-2058-0807

TAILGATE

Opening And Closing The Tailgate

WARNING

AVOID INJURY OR DEATH

Never service or adjust the machine when the engine is running unless instructed to do so in the manual.

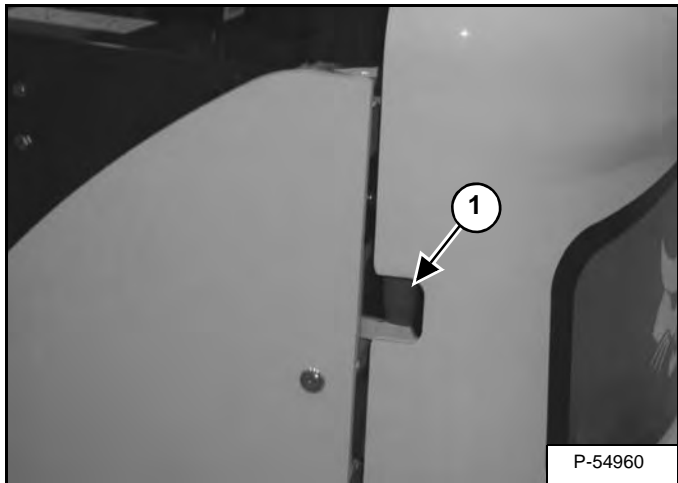
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WARNING

Keep the rear door closed when operating the machine. Failure to do so could seriously injure a bystander.

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Figure PM-7



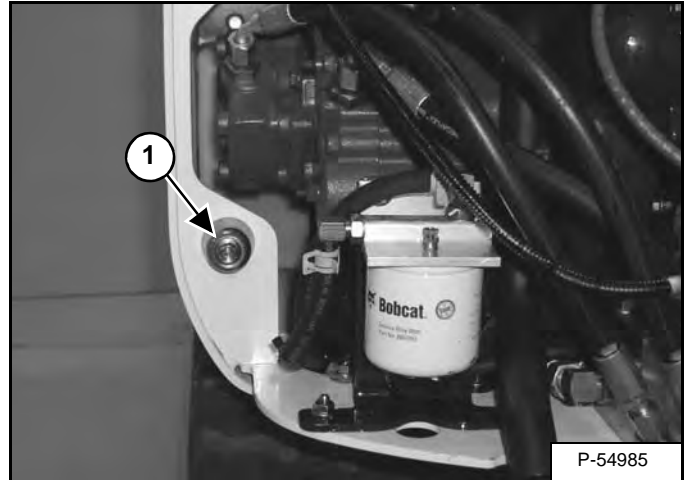
Release the latch (Item 1) [Figure PM-7] and pull the tailgate open.

Push firmly to close the tailgate.

Note: The tailgate can be locked using the start key.

Adjusting the Bumper

Figure PM-8

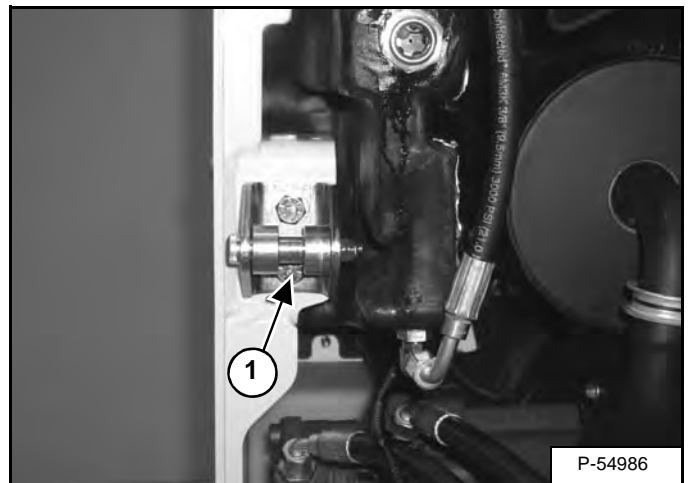


The door bumper (Item 1) [Figure PM-8] can be adjusted for alignment with the tailgate.

Close the tailgate before operating the excavator.

Adjusting The Tailgate Catch

Figure PM-9



The door catch (Item 1) [Figure PM-9] can be adjusted by loosening the two bolts, moving the catch, and tightening the two bolts.

Close the tailgate before operating the excavator.

COOLING SYSTEM (CONT'D)

Removing And Replacing Coolant

See the SERVICE SCHEDULE (See SERVICE SCHEDULE on Page PM-5) for correct service intervals.

Turn the upperstructure so there is access to the engine and radiator from between the tracks. Stop the engine.

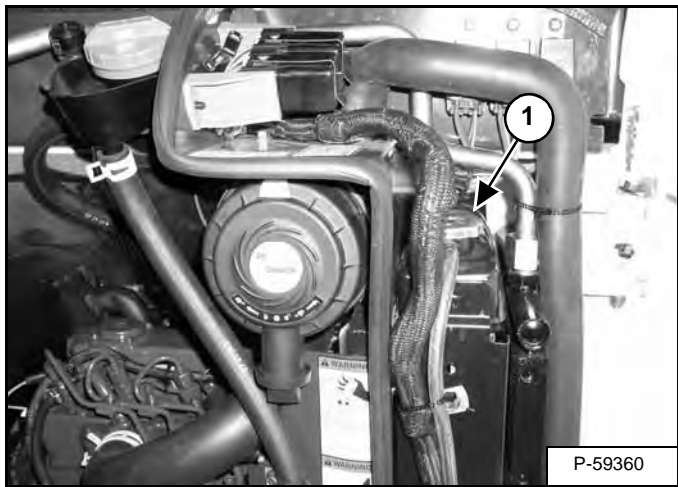
! WARNING

AVOID BURNS

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

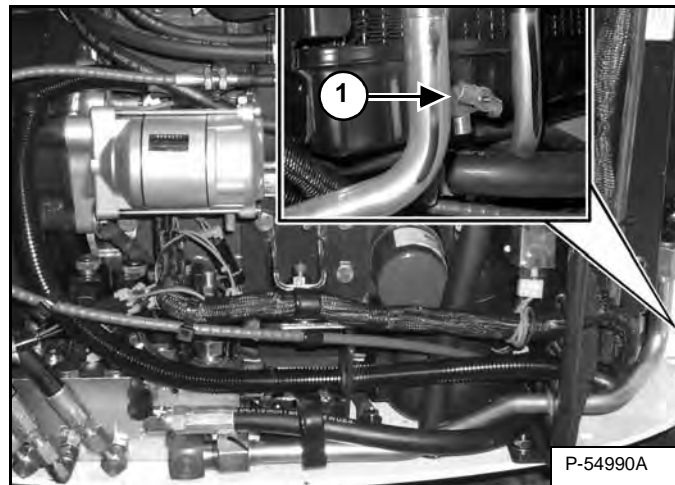
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Figure PM-24



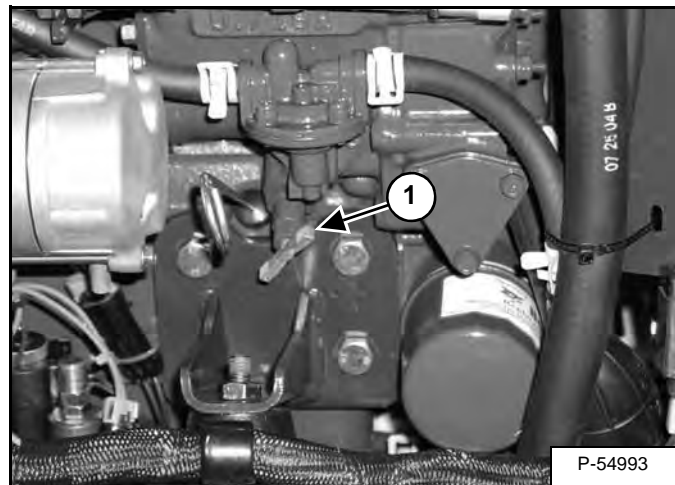
When the engine is cool, loosen and remove the radiator cap (Item 1) [Figure PM-24].

Figure PM-25



Open the drain valve (Item 1) [Figure PM-25] at the bottom of the radiator and drain the coolant into a container.

Figure PM-26



Open the drain valve (Item 1) [Figure PM-26] on the engine block and drain the coolant into a container.

After all the coolant is removed, close the drain valve.

Recycle or dispose of the used coolant in an environmentally safe manner.

TRACK TENSION

NOTE: The wear of undercarriage parts vary with working conditions and types of soil conditions. Maintain the correct track tension by inspecting regularly. (See **SERVICE SCHEDULE** on Page PM-5) for the correct service interval.

Adjusting

Figure PM-46



Raise one side of the machine (approximately four inches) using the boom and arm as shown in **[Figure PM-46]**.

Raise the blade fully and install jackstands under the blade and the track frame. Lower the machine until all machine weight is on the jackstands.

Stop the engine.

! WARNING

AVOID INJURY

Keep fingers and hands out of pinch points when checking the track tension.

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Figure PM-47

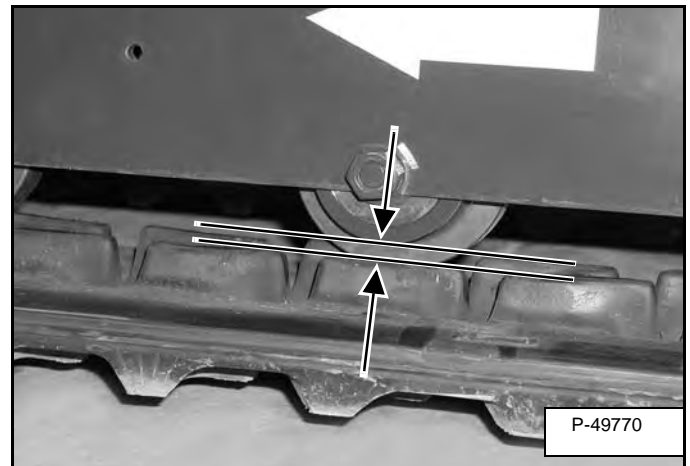


Figure PM-48

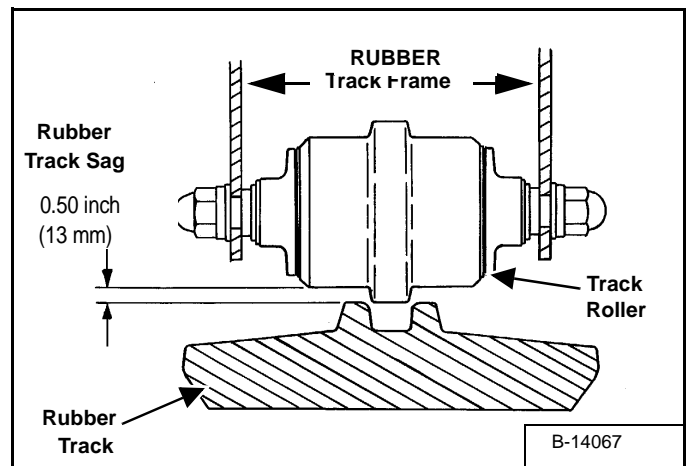
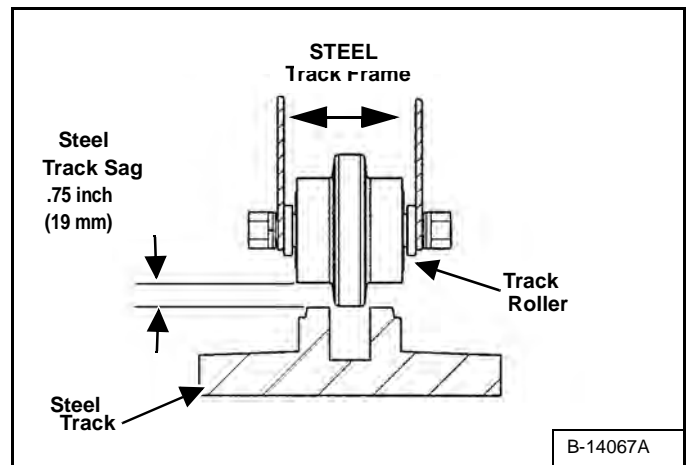


Figure PM-49



Measure the rubber or steel track sag at the middle track roller **[Figure PM-47]**. Do not get your fingers into pinch points between the track and the track roller. Use material of appropriate size to check the gap between the contact edge of the roller and top edge of the track guide lug **[Figure PM-47]**, **[Figure PM-48]** & **[Figure PM-49]**.

EXCAVATOR STORAGE AND RETURN TO SERVICE

Storage



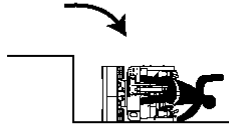

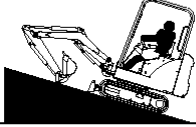
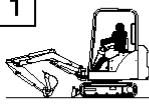


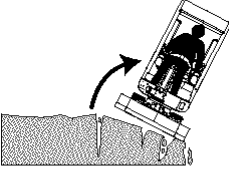


Sometimes it may be necessary to store your Bobcat Excavator for an extended period of time. Below is a list of items to perform before storage.

- Thoroughly clean the excavator including the engine compartment.
- Lubricate the excavator.
- Replace worn or damaged parts.
- Drive the excavator onto planks in a dry protected shelter.
- Lower the boom fully with the bucket flat on the ground.
- Put grease on any exposed cylinder rods.
- Put fuel stabilizer in the fuel tank and run the engine a few minutes to circulate the stabilizer to the pump and fuel injectors.
- Drain and flush the cooling system. Refill with premixed coolant.
- Replace all fluids and filters (engine, hydraulic).
- Replace all filters (i.e.: air cleaner, heater, etc.).
- Put all controls in neutral position.
- Remove the battery. Be sure the electrolyte level is correct then charge the battery. Store it in a cool dry place above freezing temperatures and charge it periodically during storage.
- Cover the exhaust pipe opening.
- Tag the machine to indicate that it is in storage condition.

Return to Service

After the Bobcat Excavator has been in storage, it is necessary to follow a list of items to return the excavator to service.

- Check the engine and hydraulic oil levels; check coolant level.
- Install a fully charged battery.
- Remove grease from exposed cylinder rods.
- Check all belt tensions.
- Be sure all shields and guards are in place.
- Lubricate the excavator.
- Remove cover from exhaust pipe opening.
- Start the engine and let run for a few minutes while observing the instrument panels and systems for correct operation.
- Drive the excavator off of the planks.
- Operate machine, check for correct function.
- Stop the engine and check for leaks. Repair as needed.

 <h1 style="margin: 0;">WARNING</h1> <h2 style="margin: 0;">AVOID INJURY OR DEATH</h2>				
				<p>TO LEAVE THE EXCAVATOR:</p> <p>1  Lower attachment. Never park with tracks pointed down hill.</p> <p>2  Stop the engine. Raise control console.</p>
<p>Never use Excavator without instructions.</p> <p>Read Operation and Maintenance Manual and Handbook.</p>	<p>Always use cab/canopy.</p> <p>Never modify equipment or use attachments not approved by Bobcat Company.</p>	<p>Check for overhead or underground lines before operating.</p>	<p>On slopes, keep heavy end uphill.</p> <p>Do not travel or turn with attachment extended.</p>	
				<p>Weitere instruktionen finden sie in der Bedienungsanleitung.</p> <p>Consulte el Manual del Operador par mas instrucciones.</p> <p>Se reporter au manual de l'opérateur pour plus de renseignements.</p>
<p>Fasten seat belt securely. Keep feet and hands on controls. Operate controls only from operator's position.</p> <p>42088</p>	<p>Keep away from drop-offs. Avoid steep areas or banks that could break away.</p>	<p>Keep bystanders away. No riders.</p> <p>Check location of blade for direction of travel before moving steering controls.</p>	<p>When swinging loads:</p> <ul style="list-style-type: none"> ● Keep load low. ● Swing slowly. ● Do not exceed lift capacity. Read lift capacity chart. 	<p>SW 01 6807776</p>

 <h1 style="margin: 0;">ADVERTENCIA</h1> <h2 style="margin: 0;">EVITE LESIONES OR ACCIDENTES FATALES</h2>				
				<p>ANTES DE BAJARSE DE LA EXCAVADORA:</p> <p>1  Baje el implemento. Jamás estacione la unidad con las orugas mirando cuesta abajo.</p> <p>2  Detenga el motor. Levante la consola de control.</p>
<p>Jamás utilice la Excavadora sin leer las instrucciones previamente.</p> <p>Lea el Manual de operación y mantenimiento y el Manual del Operador.</p>	<p>Utilice siempre la cabina/ cubierta.</p> <p>Jamás modifique los equipos o utilice implementos no aprobados por Bobcat Company.</p>	<p>Verifique la presencia de líneas aéreas y subterráneas antes de operar.</p>	<p>En pendiente, mantenga el extremo pesado cuesta arriba.</p>	
				<p>Weitere instruktionen finden sie in der Bedienungsanleitung.</p> <p>Consulte el Manual del operador para obtener mayores instrucciones.</p> <p>Se reporter au manual de l'opérateur pour plus de renseignements.</p>
<p>Abróchese el cinturón de seguridad con firmeza. Mantenga los pies y las manos en los controles. Opere los controles solamente desde el asientodel operador.</p> <p>42088</p>	<p>Manténgase alejado de pendientes perpendiculares. Evite áreas muy inclinadas o bancos desprendibles.</p>	<p>Mantenga a los espectadores alejados. No lleve pasajeros. Revise la ubicación de la cuchilla para la dirección del desplazamiento antes de mover los controles de dirección.</p>	<p>Quando gire cargas:</p> <ul style="list-style-type: none"> ● Mantenga la carga abajo. ● Gire lentamente. ● No exceda la capacidad de elevación. Lea la tabla de capacidad de elevación. 	<p>SW 01 6807776 AR</p>

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