



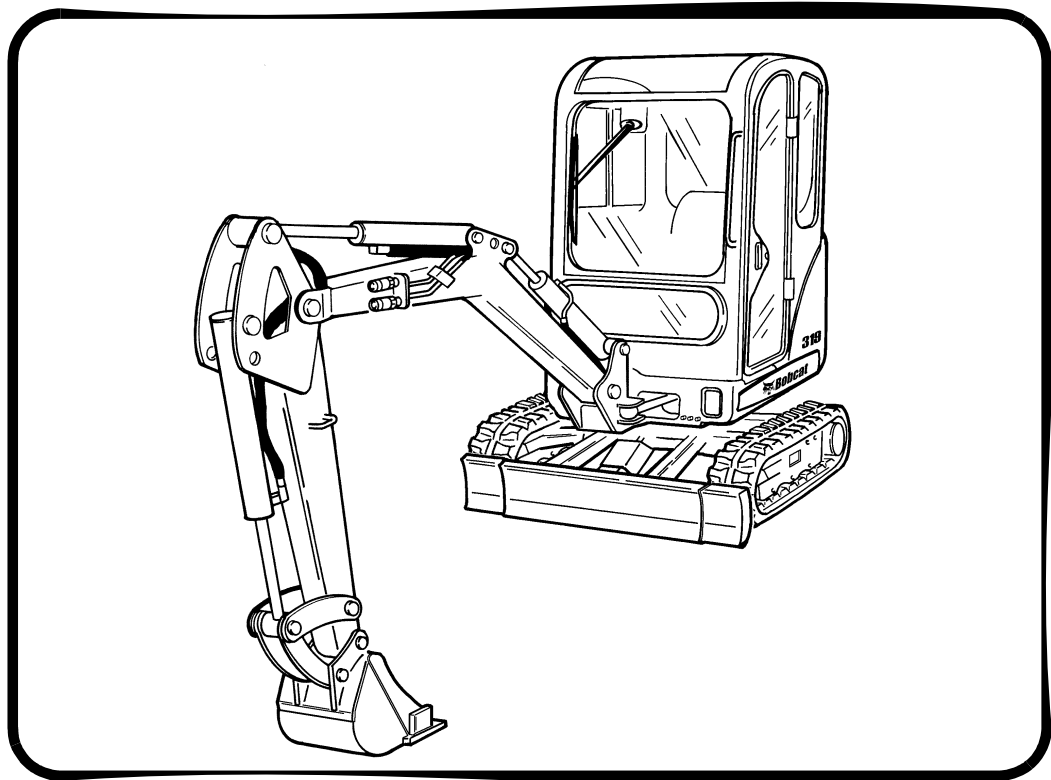
# Bobcat®

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## Operation & Maintenance Manual 319 Compact Excavator

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S/N 563311001 & Above



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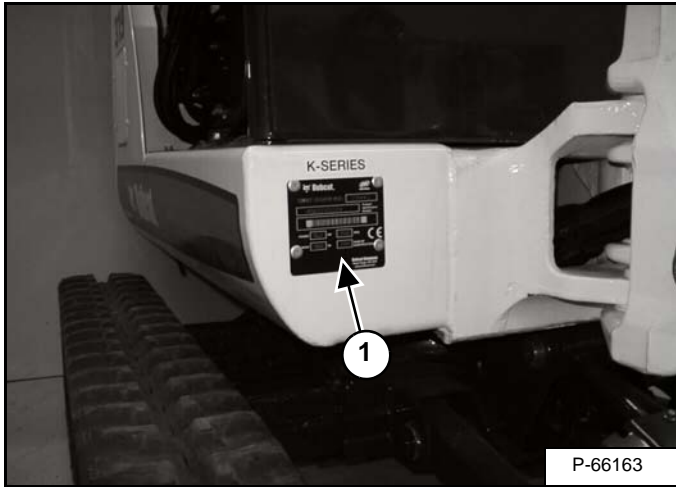
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## SERIAL NUMBER LOCATIONS

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.

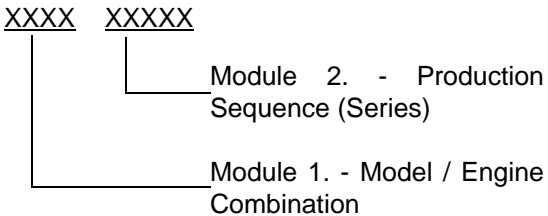
### Excavator Serial Number

Figure 1



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

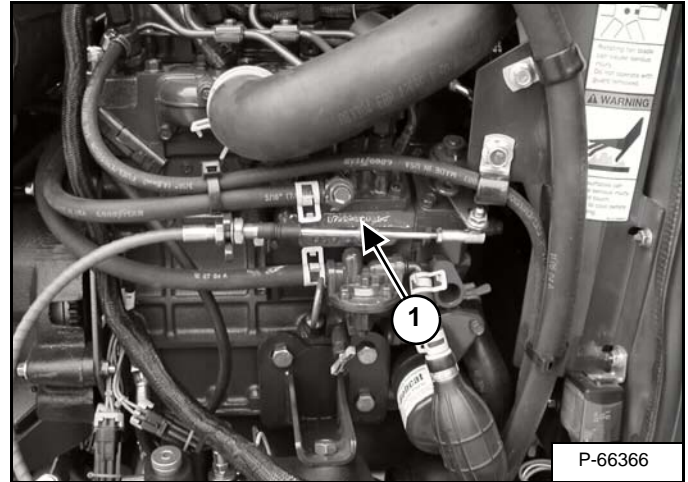
Explanation of Excavator Serial Number:



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



The engine serial number (Item 1) [Figure 2] is located on the side of the engine.

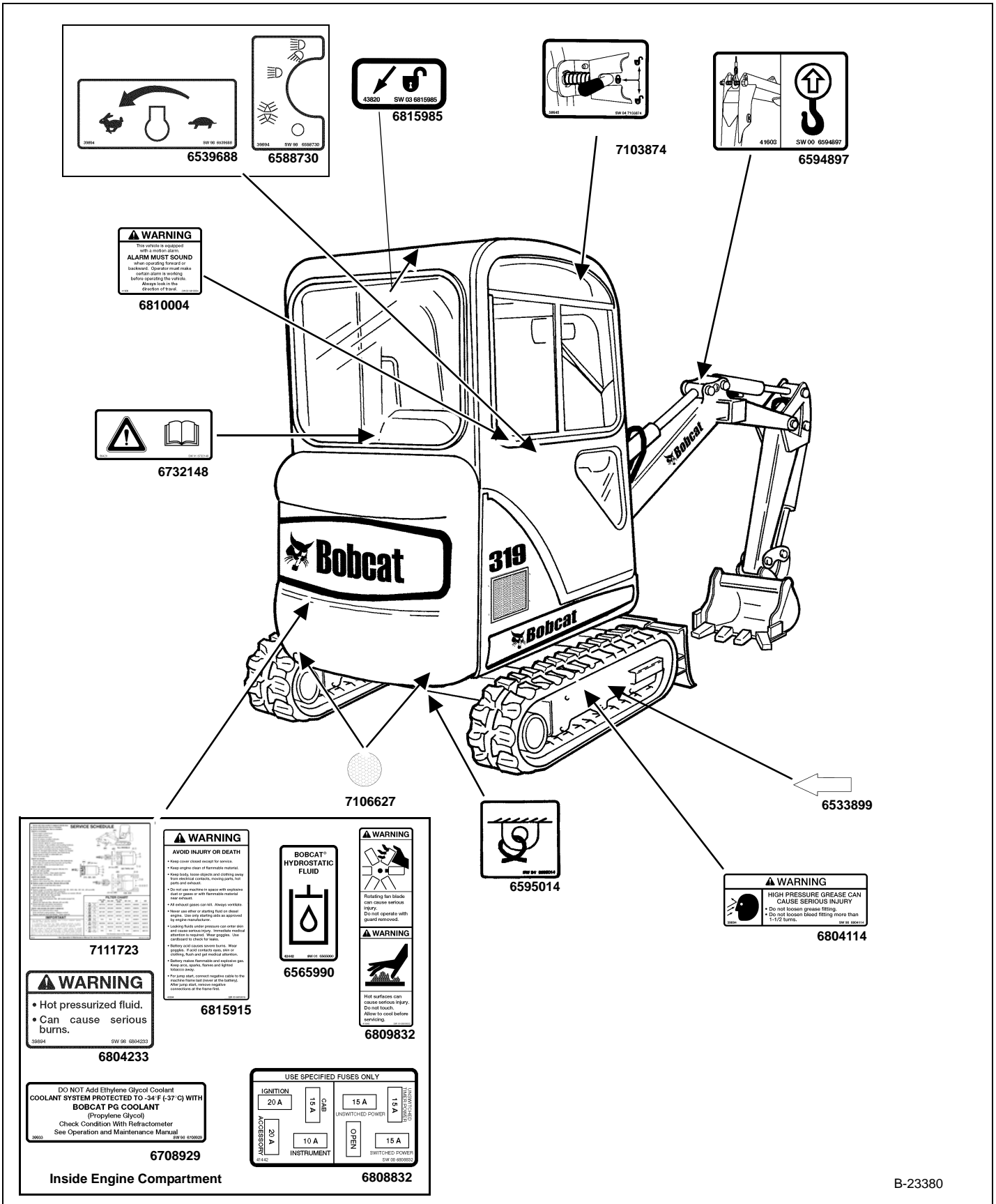
### DELIVERY REPORT

Figure 3

The delivery report must be filled out by the dealer and signed by the owner or operator when the Bobcat Excavator is delivered. An explanation of the form must be given to the owner. Make sure it is filled out completely [Figure 3].

# MACHINE SIGNS (DECALS) (CONT'D)

Follow the instructions on all the Machine Signs (Decals) that are on the excavator. Replace any damaged machine signs and be sure they are in the correct locations. Machine signs are available from your Bobcat Excavator dealer.



B-23380

## OPERATOR CAB (ROPS/TOPS) (CONT'D)

### Front Window (Cont'd)

#### *Closing The Front Window*

Support the window while releasing both window latch pins and placing the pins in the unlocked position [Figure OI-13 on Page OI-8].

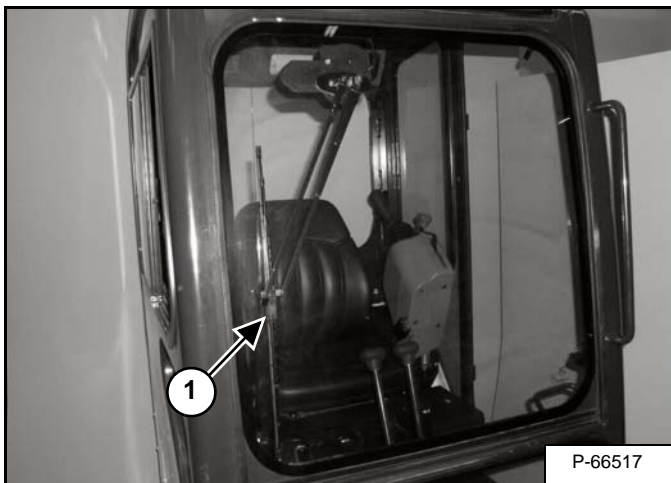
Support the window using the left grab handle and pull down on the latch (Item 1) [Figure OI-13 on Page OI-8] to release the window.

Use both window grab handles to pull the window down [Figure OI-12 on Page OI-8].

Rotate the top latches (Item 1) [Figure OI-11 on Page OI-8] to the locked position (Item 1) [Figure OI-10 on Page OI-8].

### Front Wiper

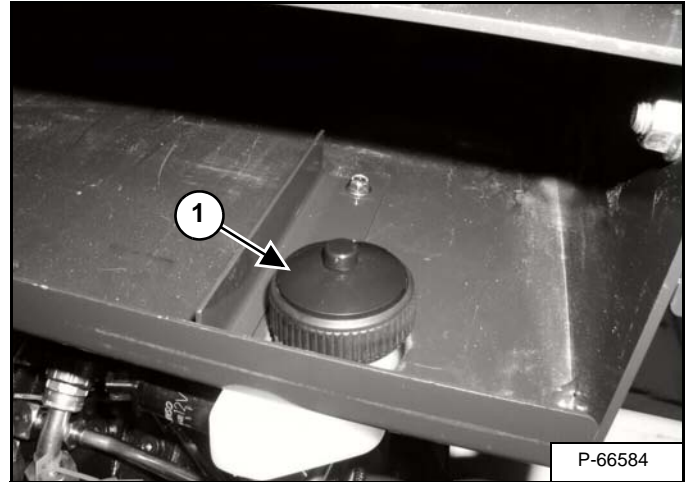
#### Figure OI-14



The front window is equipped with a wiper (Item 1) [Figure OI-14] and washer.

### Window Washer Reservoir

#### Figure OI-15

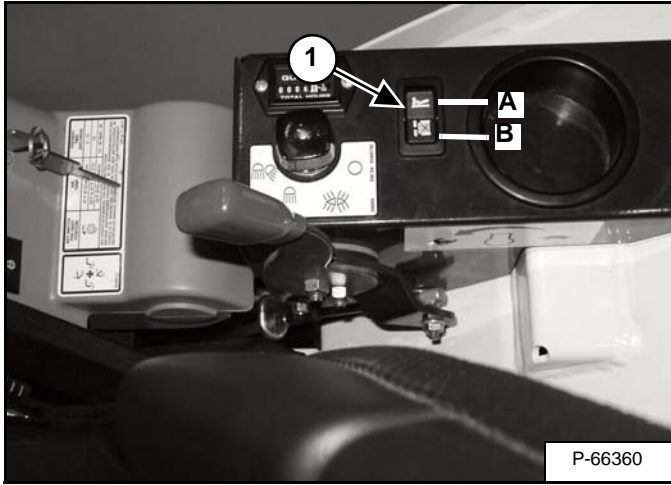


The window washer reservoir (Item 1) [Figure OI-15] is located under the operator seat.

## TRACK FRAME EXPANSION (CONT'D)

### Operation (Cont'd)

Figure OI-41



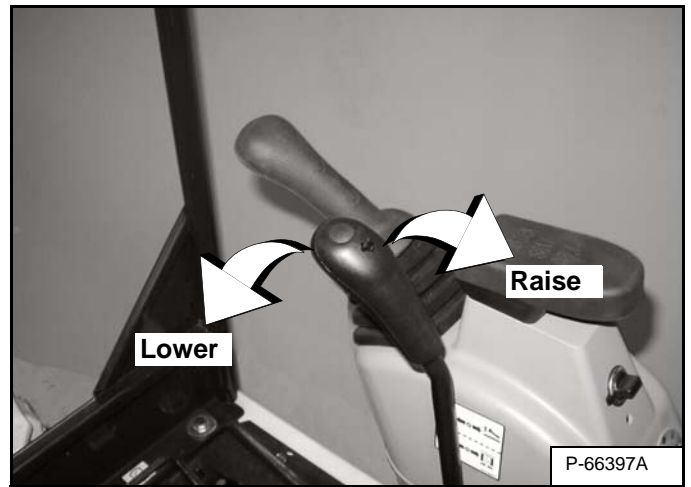
Push the Blade / Track Expansion switch (Item 1) [Figure OI-41] to the Track Expansion position, "B".

## IMPORTANT

To prevent wear and damage to the track, always lift the excavator before expanding or retracting the track frame.

I-2193-0599

Figure OI-42

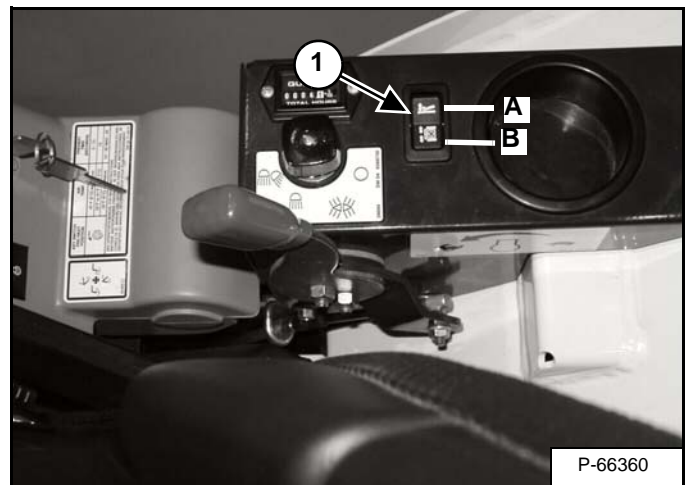


Push the Blade / Track Expansion lever [Figure OI-42] forward to expand the track frame. Hold the lever forward until the track frame is fully expanded.

Pull the Blade / Track Expansion lever [Figure OI-42] back to retract the track frame. Hold the lever back until the track frame is fully retracted.

The track frame must be either in the fully expanded or fully retracted position when in use.

Figure OI-43



**NOTE:** Always return the Blade / Track Expansion switch to the Blade position "A" (Item 1) [Figure OI-43] during operation so that the track does not move when using the blade lever.

Raise the boom and arm to lower the rear of the excavator to the ground.

Rotate the upperstructure 180 degrees.

Raise the blade until the track is on the ground.

## STOPPING THE ENGINE AND LEAVING THE EXCAVATOR

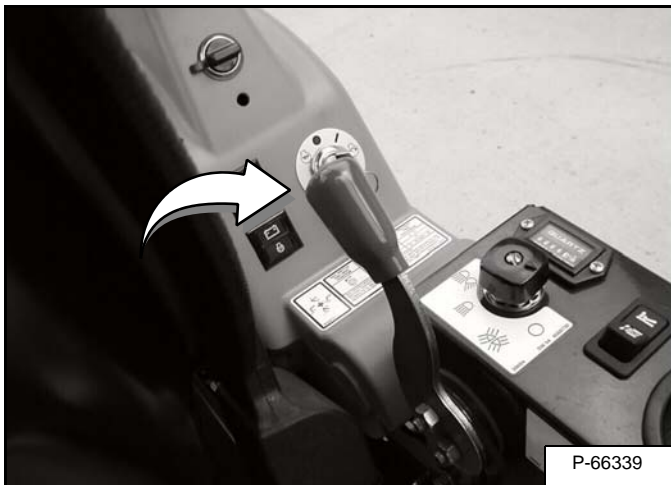
### Procedure

Figure OI-62



Stop the machine on level ground. Lower the work equipment and the blade to the ground [Figure OI-62].

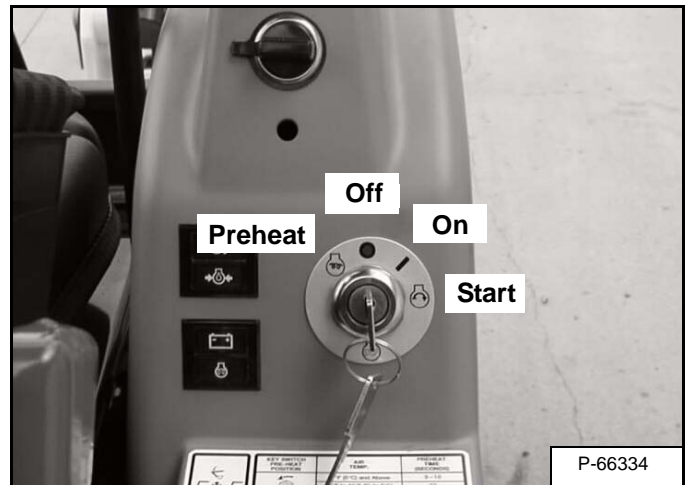
Figure OI-63



Move the speed control lever fully backward [Figure OI-63].

Run the engine at idle speed for approximately 5 minutes to allow it to cool.

Figure OI-64



Turn the key switch OFF [Figure OI-64].

Disconnect the seat belt.

Remove the key from the switch to prevent operation of machine by unauthorized personnel.

Exit machine.

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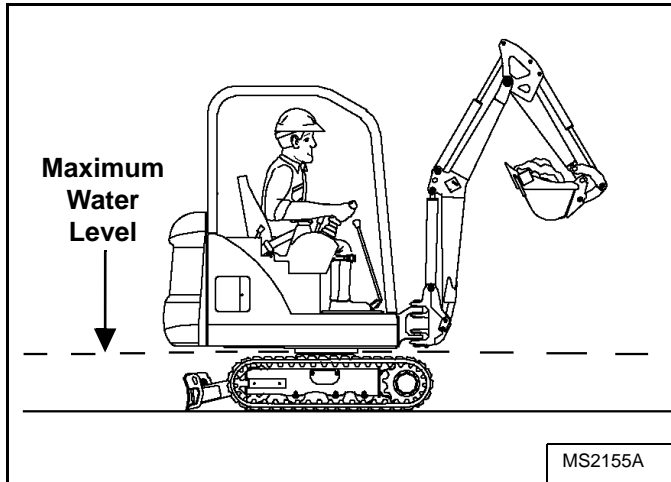
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## OPERATING PROCEDURE (CONT'D)

### Operating In Water

Mud and water should be removed from the machine before parking. In freezing temperatures, park the machine on boards or concrete to prevent the track or undercarriage from freezing to the ground and preventing machine movement.

**Figure OI-88**



Do not operate or immerse the excavator in water higher than the bottom of the swing bearing **[Figure OI-88]**.

Grease the excavator when it has been operated or immersed in water for a period of time. Greasing forces the water out of the lubrication areas.

Water must be removed from the cylinder rods. If water freezes to the cylinder rod, the cylinder seals can be damaged when the rod is retracted.

### Avoiding Track Damage

Mud and water should be removed from the machine before parking. In freezing temperatures, park the machine on boards or concrete to prevent the track or undercarriage from freezing to the ground and preventing machine movement.

## TOWING THE EXCAVATOR

### Procedure

There is not a recommended towing procedure for the excavators.

- The excavator can be lifted onto the transport vehicle.
- The excavator can be skidded a short distance move for service (EXAMPLE: Move onto a transport vehicle) without damage to the hydraulic system. (The tracks will not turn.) There might be slight wear to the tracks when the excavator is skidded.
- The towing chain (or cable) must be rated at 1 & 1/2 times the weight of the excavator. (See Performance on Page SPEC-5)

## SEAT BELT

### Inspection And Maintenance

# WARNING

Failure to properly inspect and maintain the seat belt can cause lack of operator restraint resulting in serious injury or death.

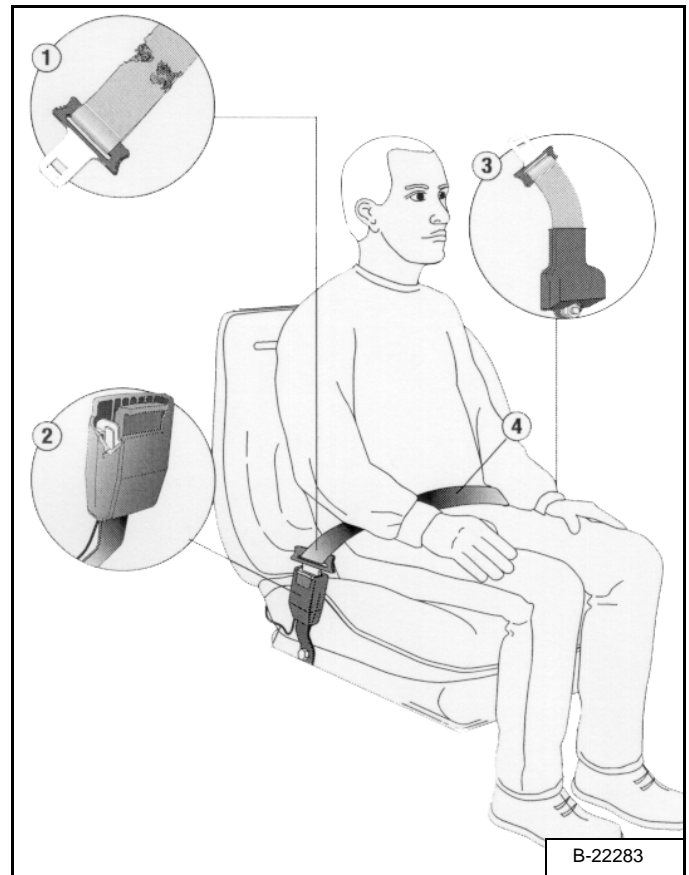
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Check the seat belt daily for correct function.

Inspect the seat belt system thoroughly yearly or more often if the machine is exposed to severe environmental conditions or applications.

The seat belt system should be repaired or replaced if it shows cuts, fraying, extreme or unusual wear, significant discolorations due to ultraviolet (UV) rays from the sun, dusty/dirty conditions, abrasion to the seat belt webbing, or damage to the buckle, latch plate, retractor (if equipped), or hardware.

Figure PM-3



The items below are referenced in [Figure PM-3].

1. Check the seat belt webbing. If the system is equipped with a retractor, pull the webbing completely out and inspect the full length of the webbing. Look for cuts, wear, fraying, dirt and stiffness.
2. Check the buckle and latch for proper function. Make sure latch plate is not excessively worn, deformed or buckle is not damaged.
3. Check the retractor web storage device (if equipped) by extending the seat belt webbing to determine if it extends and retracts the webbing correctly.
4. Check webbing in areas exposed to ultraviolet (UV) rays from the sun or extreme dust or dirt. If the original color of the webbing in these areas is extremely faded and / or the webbing is packed with dirt, the webbing strength may have weakened.

See your Bobcat dealer for approved seat belt system replacement parts for your machine.

## ENGINE COOLING SYSTEM

Check the cooling system every day to prevent overheating, loss of performance or engine damage.

### Cleaning

Open the tailgate.

Use air pressure or water pressure to clean the radiator and oil cooler.

### Checking Level



### AVOID BURNS

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

W-2070-1003

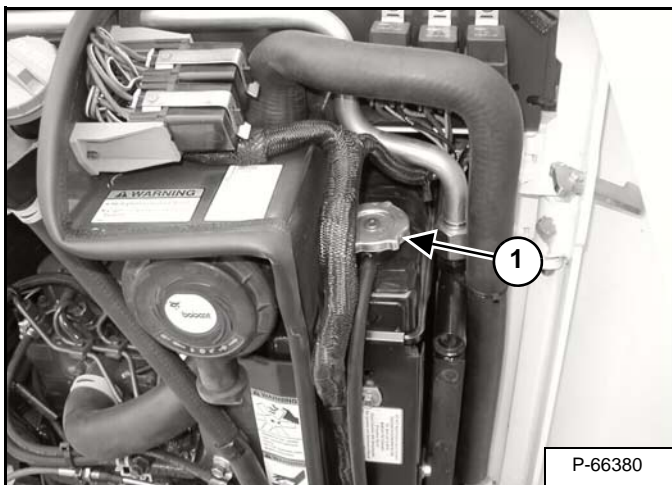


Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

W-2019-1285

Figure PM-22



When the engine is cool, remove the radiator cap (Item 1) [Figure PM-22].

The coolant level must be 0.750 - 1.0 inch (20 - 25 mm) below the filler neck.

If the coolant level is low, add premixed coolant to the radiator.

# IMPORTANT

### AVOID ENGINE DAMAGE

Always use the correct ratio of water to antifreeze.

Too much antifreeze reduces cooling system efficiency and may cause serious premature engine damage.

Too little antifreeze reduces the additives which protect the internal engine components; reduces the boiling point and freeze protection of the system.

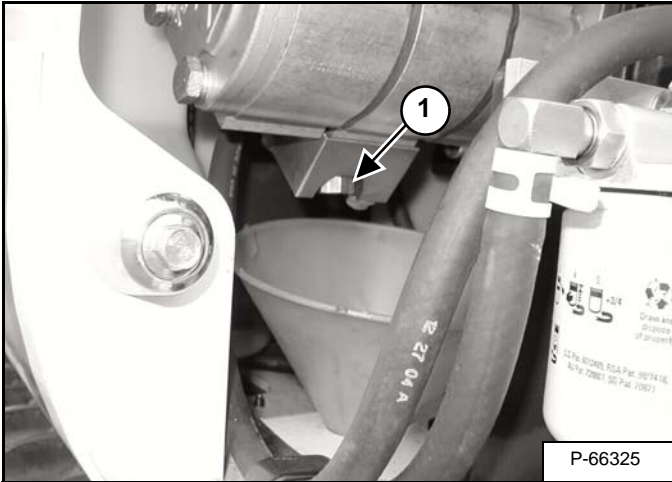
Always add a premixed solution. Adding full strength concentrated coolant can cause serious premature engine damage.

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## HYDRAULIC SYSTEM (CONT'D)

### Removing And Replacing Hydraulic Fluid (Cont'd)

Figure PM-43



Remove the drain plug (Item 1) [Figure PM-43] from the pump fitting and drain the hydraulic fluid into the container.

## IMPORTANT

Fluid such as engine oil, hydraulic fluid, coolants, grease, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal.

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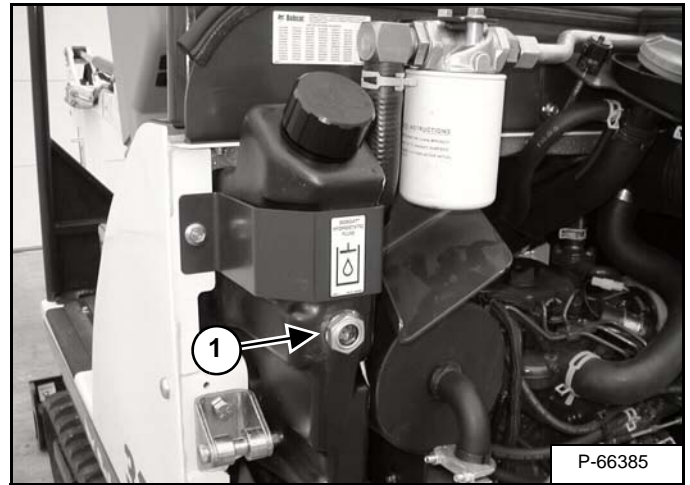
## IMPORTANT

If the fluid is being drained because of a system failure, remove and clean all hydraulic lines.

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Install the drain plug.

Figure PM-44



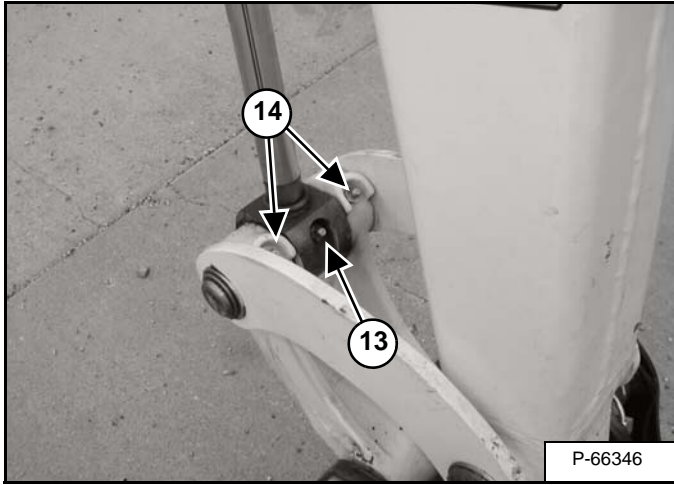
Add fluid to the reservoir until it is at the center of the sight gauge (Item 1) [Figure PM-44]. (See HYDRAULIC SYSTEM on Page PM-25)

Run the excavator through the hydraulic functions. Stop the engine. Check the fluid level and add as needed.

## LUBRICATING THE EXCAVATOR (CONT'D)

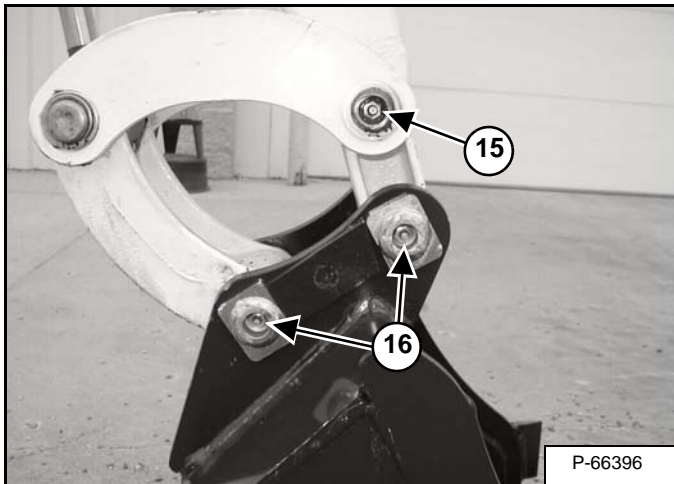
### Lubrication Locations (Cont'd)

Figure PM-65



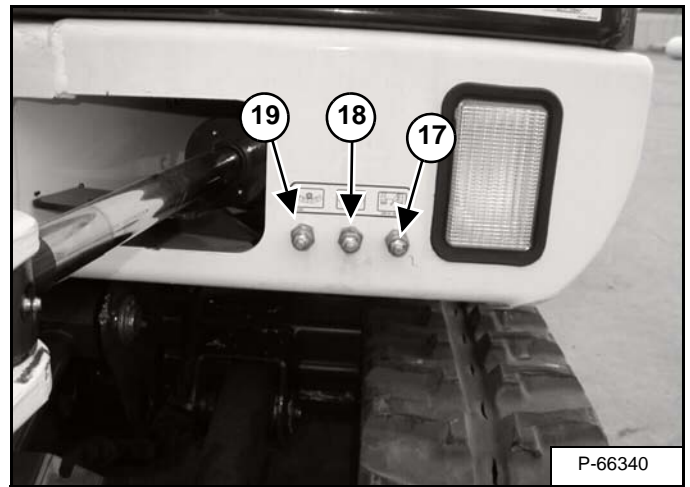
- 13. Bucket Cylinder - Rod End, every 8 - 10 hours (1) [Figure PM-65]
- 14. Bucket Link Pivots, every 8 - 10 hours (2) [Figure PM-65]

Figure PM-66



- 15. Bucket Link Pivot, every 8 - 10 hours (1) [Figure PM-66]
- 16. Bucket Pivots, every 8 - 10 hours (2) [Figure PM-66]

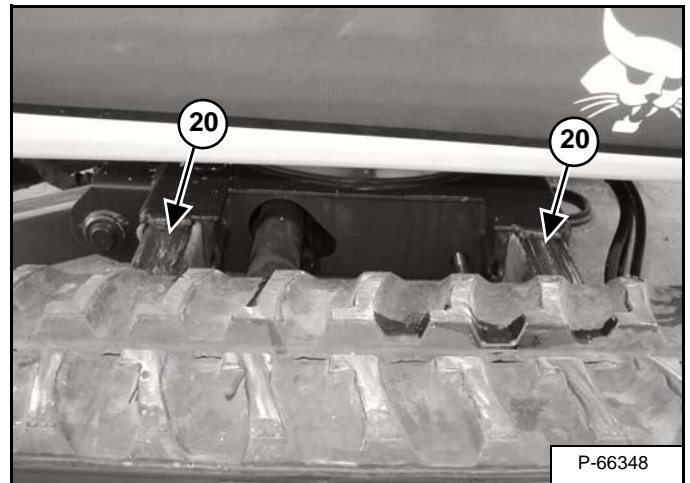
Figure PM-67



- 17. Boom Swing Cylinder-Base End every 8 - 10 hours [Figure PM-67]
- 18. Swing Circle Bearing, every 50 hours [Figure PM-67]
- 19. Swing Circle Pinion, every 50 hours. Pump 4 times with a grease gun. Rotate the upperstructure 180° and repeat. [Figure PM-67]

**NOTE: Do not over-grease the swing circle; damage to the seal could result. Pump 4 - 5 times with a grease gun. Rotate the upperstructure 90° and repeat three more times.**

Figure PM-68





- 20. Track Expansion Tube, as required [Figure PM-68].

**NOTE: Spread lubriplate gearshield extra heavy grease evenly on wear surfaces on both sides of excavator as required.**

N/A

**WARNING ( 7112679)**

 <p>60469</p>	<b>KEY SWITCH PRE-HEAT POSITION</b>	<b>AIR TEMP.</b>	<b>PREHEAT TIME (SECONDS)</b>
		41°F (5°C) and Above	0 - 10
		32°F to 41°F (0° to 5°C)	10
		32°F (0°C) and Below	10 - 30 MAX - 45
<p>SEE OPERATOR'S MANUAL FOR MORE INSTRUCTIONS          WEITERE INSTRUKTIONEN FINDEN SIE IN DER BEDIENUNGSANLEITUNG          CONSULTA EL MANUAL DEL OPERADOR PARA MAS INSTRUCCIONES. SE          REPORTER AU MANUAL DE L'OPERATEUR POUR PLUS ENSEIGNEMENT.          SW 05 7112679</p>			

N/A

N/A

**WARNING (6810004)**

 <p><b>WARNING</b></p> <p>This vehicle is equipped with a motion alarm.</p> <p><b>ALARM MUST SOUND</b> when operating forward or backward. Operator must make certain alarm is working before operating the vehicle.</p> <p>Always look in the direction of travel.</p> <p>41909 <span style="float: right;">SW00 6810004</span></p>
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N/A

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