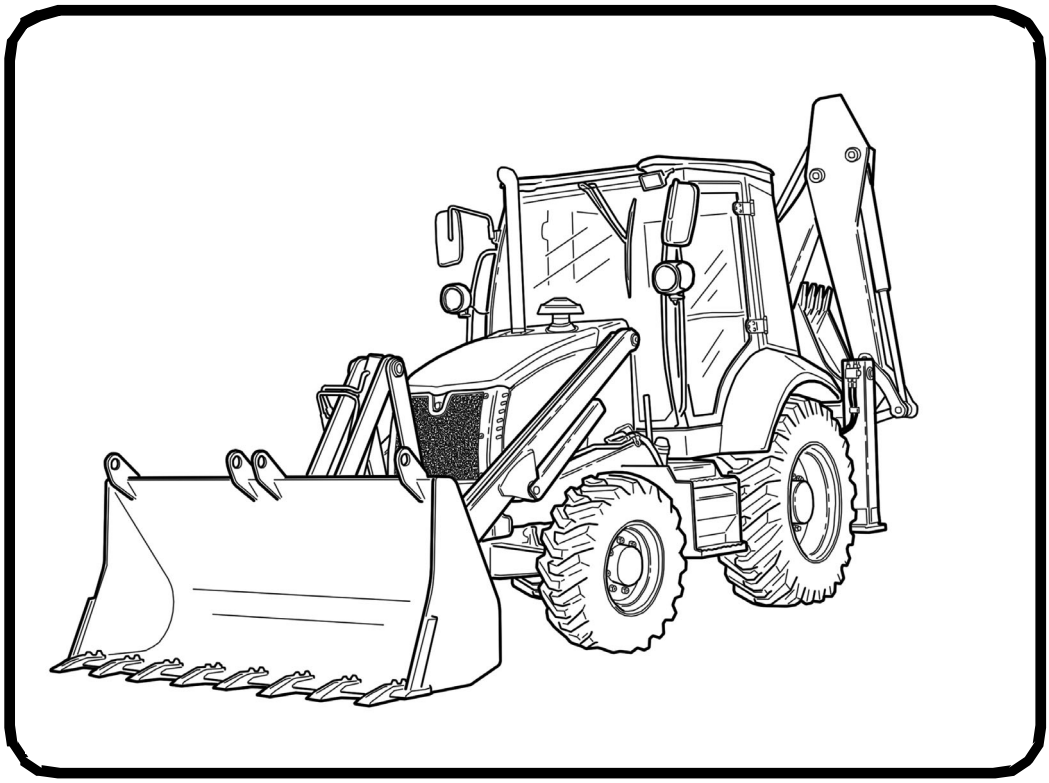
EN

Bobcat®

Operation & Maintenance Manual
B700 Backhoe Loader

S/N B44Z11001 & Above



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Printed in Turkey
Original Instructions

Fluids, Lubricants And Fuel

The lubricants and fuels described below are those used in the factory and apply to operating conditions in European temperate climate areas. Please consult Bobcat for requirements under other weather conditions.

Prior to refill or draining any equipment of your Bobcat product, read and understand the according lubrication pages described later in this manual.

(*) Source Locally / refer to Supplier Documentation
(**) Packaging Available
(***) Maximum Volume For Dry Components, For Service Volumes, (See Capacities on Page 15.)

A = 5 L Can
B = 25 L Container
C = 209 L Drum
D = 1000 L Tank
E = 400 gr Tube

ENGINE SYSTEMS					
Machine Components	**Fluids And Lubricants**	**T° Range**	**Packaging****	**Part Number**	**Volume*****
Engine	- Bobcat Engine Power SAE 10W30 API CG4 / CH4, ACEA E3 / E5	-20°C / +40°C	A, B, C, D	6987789	8,4 litre
	- Bobcat Engine Power SAE 15W40 API CG4 / CH4, ACEA E3 / E5	-25°C / +30°C	A, B, C, D	6987790	2.2 US gal
Cooling Circuit	- Bobcat EG Coolant Concentrated	-36°C	A, B, C, D	6987803	25 litre
	- Bobcat EG Coolant Premixed	-36°C	A, B, C, D	6987804	6.6 US gal
Fuel Tank	- High-quality diesel fuel that meets EN590 or ASTM D975 with a sulfur content of less than 0.2%	-	-	*	140 litre 37 US gal

HYDRAULIC / HYDROSTATIC									
Machine Components	**Fluids And Lubricants Types**	**T° Range**	**Packaging****	Part Number					**Volume**
				Bobcat	Petronas	PETROL OFISI	SHELL	MOBIL	
Hydraulic Oil Tank	- ISO Viscosity Grade 32	Below 0°C	*	NA	Grade 32 Hyd 46	HD32	TELLUS 32	DTE24	Tank 75 litre 19.8 US gal Hyd System 125 litre 33.0 US gal
	- ISO Viscosity Grade 46	0°C / +30°C	*	NA	Grade 46 Hyd 46	HD46	TELLUS 46	DTE25	
	- ISO Viscosity Grade 68	Above +30°C	*	NA	Grade 68 Hyd 46	HD68	TELLUS 68	DTE26	

TRANSMISSION AND AXLES				
Machine Components	**Brand**	**Specifications**	**Part Number**	**Volume**
Transmission	- PETROL OFISI - MOBIL - PETRONAS	ATF-DEXTRON II-D ATF-DEXTRON III	- MAXITRAK TMS OIL 500* - MOBIL FLUID 426* - PETRONAS AMBRA MULTI-G 10W30	18,0 litre 4.76 US gal
Front Axle & Reduction Gear	- PETROL OFISI - MOBIL - PETRONAS	API GL4	- MAXIGEAR EP-X 85W-90LS* - MOBIL FLUID 426* - PETRONAS AMBRA MULTI-G 10W30	8,3 litre 2.2 US gal
Rear Axle & Reduction Gear	- PETROL OFISI - MOBIL - PETRONAS	API GL4	- MAXITRAK TMS OIL 500* - MOBIL FLUID 426* - PETRONAS AMBRA MULTI-G 10W30	15,5 litre 4.1 US gal

BRAKE (FOR S/NB44Z11001 - B44Z11022)				
Machine Components	**Brand**	**Specifications**	**Part Number**	**Volume**
Brake Circuitry	- PETROL OFISI - PETROL OFISI - MOBIL - PETRONAS	API SL / CF ACEA A3/B3/B4	- MAXIMA 10W-40* - ATF II* - ATF 222* - PETRONAS TUTELA GI/A	0,4 litre 0.11 US gal

MECHANICAL SYSTEMS				
Machine Components	**Fluids And Lubricants**	**Dropping Point**	**Packaging****	**Part Number**
All Mechanical Systems	- Bobcat Multi-Purpose Grease	From 260°C	E	6987888
	- Bobcat Supreme HD Grease	From 280°C	E	6987889
	- Bobcat Extreme HP Grease	From 260°C	E	6987890

SAFETY INSTRUCTION

Machine Maintenance Safety (Cont'd)

- Never loosen or remove lines or fittings before the attachment has been lowered to the ground and the engine has been turned off. Then turn the ignition key to contact position, move all servo controls (lever and foot pedals) in both direction to release pressures. Then release the tank pressure as outlined in this Operation & Maintenance Manual.

- Always disconnect the battery cable before working on the electrical system or before any arc welding on the machine. Always disconnect the negative (-) cable first and reconnect it last.

- Check the electrical system regularly:

  Make sure that any problems, such as loose connections, burnt out fuses and bulbs, scorched or chafed cables are fixed immediately by an electrician or qualified personnel.

- Use only Original fuses with the specified amperage. Never use a different size or stronger fuse than the original fuse.

- On machines with electrical medium or high voltage systems:

1. If there is any problem with the electrical energy supply, turn the machine off immediately.

2. Follow established lockout / tagout procedures where applicable.

3. Any work on the electrical system may only be performed by a qualified electrician or qualified personnel under the guidance and supervision of an electrician, according to electro-technical regulations.

- If any work is required on any parts which carry current, use a second person to turn off the main battery switch, if necessary. Rope the work area off with a safety rope or chain, and set up warning signs. Use only insulated tools.

- When working on medium and high voltage components shut off the voltage and connect the supply cable to the earth and earth the components.

- Check all disconnected parts if they are truly free of current, earth them and close them off quickly. Insulate any close-by, current carrying parts.

Hydraulic Lines And Hoses

- Hydraulic lines and hoses may never be repaired!

- All hoses, lines and fittings must be checked daily, but at least every 2 weeks for leaks and any externally visible damage! Any damaged sections must be replaced immediately! Escaping oil can cause injuries and fires!

- Even if hoses and lines are stored and used properly, they undergo a natural aging process. For that reason, their service life is limited. Improper storage, mechanical damage and improper use are the most frequent causes of hose failures.

  The service life of a hose may not exceed six years, including a storage period of not more than two years (always check the manufacturer's date on the hoses).

  Using hoses and lines close to the limit of ranges of permitted use can shorten the service life (for example at high temperatures, frequent working cycles, extremely high impulse frequencies, multi shift or around the clock operations).

- Hoses and lines must be replaced if any of the following points are found during an inspection:

1. Damage on the external layer into the inner layer (such as chaffing, cuts and rips).

2. Brittleness of the outer layer (crack formation of the hose material).

3. Changes in shape, which differ from the natural shape of the hose or line, when under pressure or when not under pressure, or in bends or curves, such as separation of layers, blister or bubble formation.

4. Leaks.

5. Non observance of installation requirements.

6. Damage or deformation of hose fittings, which might reduce the strength of the fitting or the connection between hose and fitting.

7. Any movement of hose away from the fitting.

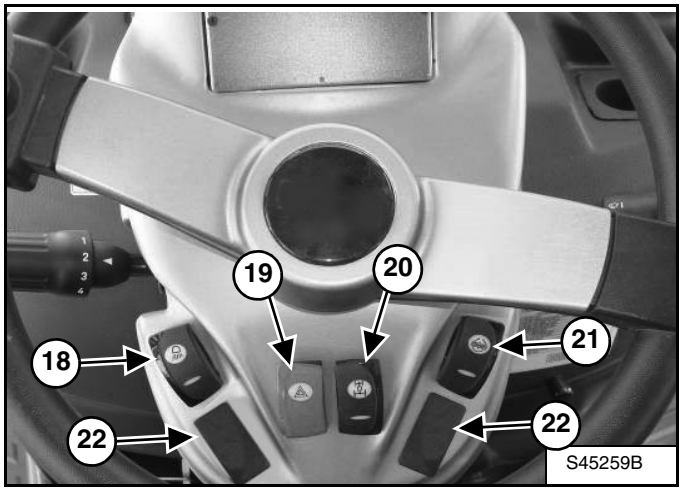
8. Corrosion on fittings, which might reduce the function or the strength of the fitting.

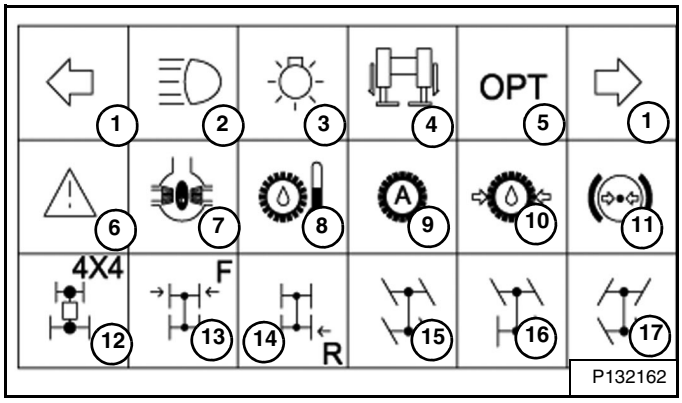
9. Storage or service life has been exceeded.

10. When replacing hoses or lines, always use original replacement parts.

CONTROLS AND INSTRUMENTATION

Front Control Panel





(1) DIRECTION INDICATOR LAMPS - Left and Right (Green)

This indicator lamp flashes when the direction indicator lever is moved.

(2) HIGH BEAM INDICATOR LAMP (Blue)

This indicator lamp lights up when head lights are on high beam.

(3) MASTER LIGHT INDICATOR LAMP (Green)

This indicator lamp lights up when the master light switch is activated.

(4) STABILIZER DOWN INDICATOR LAMP (4)

This indicator lamp lights up when the stabilizers are in the lowered position.

(5) OPTION INDICATOR LAMP (Amber)

Not used for this model.

(6) HAZARD (WARNING) INDICATOR LAMP (Red)

This indicator lamp lights up when engine oil pressure, transmission oil temperature, brake hydraulic level, air filter warning lamp and engine temperature warning lamp lights up.

(7) DIFFERENTIAL LOCKING INDICATOR LAMP (Red)

This indicator lamp lights up when the differential locking switch.

(8) TRANSMISSION OIL TEMPERATURE INDICATOR LAMP (Red)

This lamp lights up when the transmission oil temperature is high. If the warning lamp lights up during operation, stop the machine, and engage the parking brake lever. Check for external oil loss and run engine at 1500 rpm with transmission in neutral position to allow transmission oil to cool. If light stays on, turn the engine off, and find and correct the problem.

(9) AUTOMATIC TRANSMISSION STATUS INDICATOR LAMP (Amber)

Not used for this model.

(10) TRANSMISSION OIL PRESSURE INDICATOR LAMP (Red)

This lamp lights up when the transmission oil pressure is low, the warning lamp lights up and the buzzer will sound in the cab. Stop working, turn the engine off, pull the parking brake lever, find and correct the problem.

(11) BRAKE SYSTEM PRESSURE INDICATOR LAMP (Red) (For S/N B44Z11023 And Above Only)

This lamp lights up when the brake system pressure is low. If lamp lights during operation, stop working, turn the engine off, engage the parking brake lever, find and correct the problem.

(12) 4X4 INDICATOR LAMP (Red)

This 4X4 lamp lights up when the front drive axle engagement switch is engaged.

(13 - 17) NOT USED FOR THIS MODEL

(18) FRONT WORKING LIGHTS SWITCH

During night operation or poor light areas, front working lamps are used. After pressing the switch, the lights and the lights on the switch light up.

(19) HAZARD WARNING SWITCH

During short park or any failure, this switch is used. After pressing switch, direction indicator lamps flash and the lamp on the switch lights up.

(20) FRONT DRIVE AXLE ENGAGEMENT SWITCH (If Equipped)

Before pressing the switch, only the rear axle is engaged. After pressing the switch, the front drive axle is engaged, also, and the light (12) on the control panel lights up.

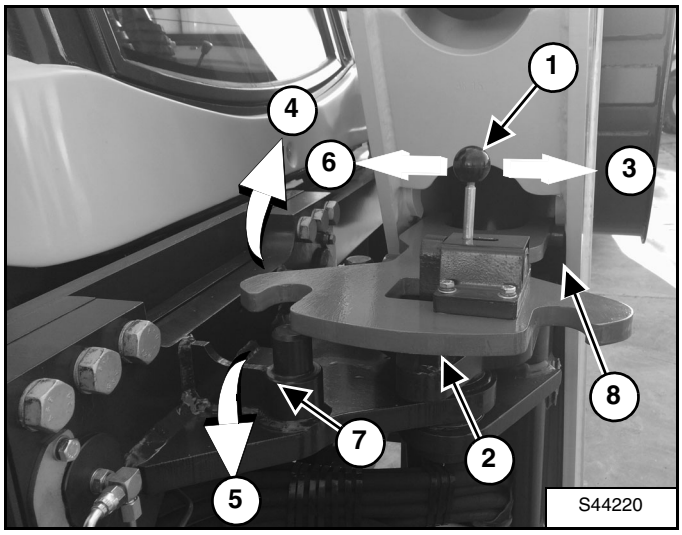
WARNING: Do not use the third or fourth gear and do not work on hard ground when the front drive axle is engaged.

(21) DIFFERENTIAL LOCKING SWITCH

In soft, slippery, and muddy conditions, this switch enables equal power to be transmitted to both rear wheels.

(22) NOT USED FOR THIS MODEL

Backhoe Boom / Swing Lock



Swing the boom fully to the left or right transport position.

Fully raise the boom and retract the arm.

Park the machine on a flat level surface.

Put all controls in neutral.

Engage the parking brake.

Stop the engine, remove the start key and exit the machine.

The lever (1) is used to secure the backhoe boom / swing lock device (2) in the unlocked position.

To unlock the boom / swing lock for work position:.

Position (3): Move the lever (1) to the unlocked position.

Position (4): Rotate the boom / swing lock device UP to the unlocked position.

To lock the boom / swing lock in the transport position:

Position (5): Rotate the boom / swing lock device DOWN to the locked position. The bracket must fit onto the swing lock pin (7) and into the boom lock plate (8).

Position (6): Move the lever (1) to the locked position.

OPERATING PROCEDURES

Installing And Removing The Loader Attachment

Installation

WARNING

AVOID INJURY OR DEATH

Stop the machine on a firm flat surface. When removing or installing attachments (such as a bucket), always have a second person in the operator's seat, give clear signals and work carefully.

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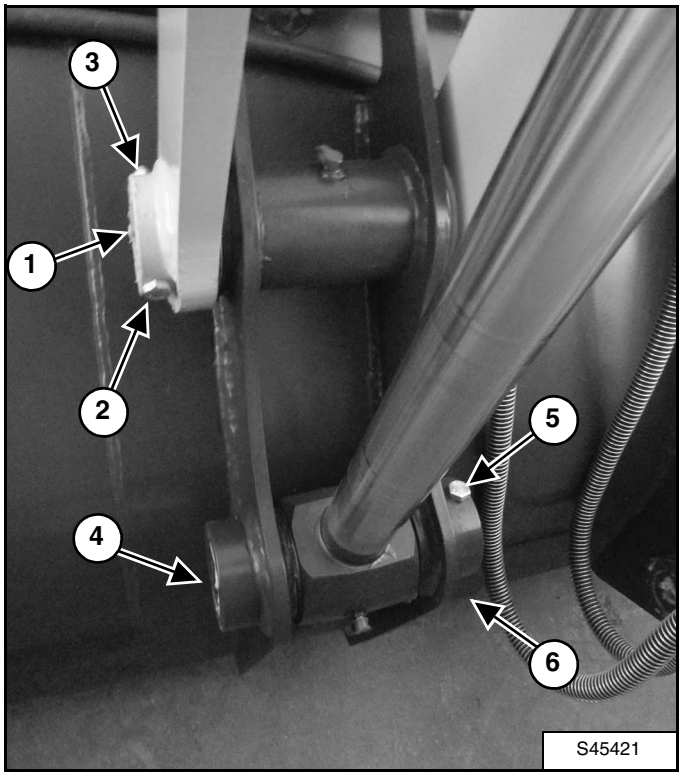
Position the backhoe loader to the bucket.



Install the loader arm into the bucket and align the mounting hole.

Install the pin (1), both sides.

Install the bolt (2) and nut (3), both sides.

Extend or retract the bucket cylinder as needed to align the cylinder rod end to the bucket.

Install the pin (4), both sides.

Install the bolt (5) and nut (6).

Install any auxiliary hydraulic hoses (if equipped) between the attachment to the backhoe loader.

Removal

Park the backhoe loader on a flat surface and lower the bucket fully.

Disconnect the auxiliary hydraulic hoses (if equipped) from the attachment to the backhoe loader.

Remove the two nuts (6) and two bolts (5), both sides.

Remove the two nuts (3) and two bolts (2), both sides.

Remove the pins (4) and lower the cylinder. rod end. Retract the cylinder and secure the cylinder so it does not contact the ground when moving the backhoe loader.

Remove the two pins (1).

Enter the backhoe loader, Fasten the seat belt, and start the engine.

Slowly back away from the attachment.

WARNING

AVOID INJURY OR DEATH

Never use attachments or buckets which are not approved by Bobcat Company. Buckets and attachments for safe loads of specified densities are approved for each model. Unapproved attachments can cause injury or death.

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LUBRICATION

General Safety Information

It is very important that all guidelines describing lubrication, checking the oil level, replacing the oil are strictly adhered to!

Regular maintenance increases the life of the backhoe loader and improves its reliability.

It is especially important to change the oil regularly and at the intervals noted in the maintenance schedule! Only use specified lubricants and oil!

When checking or replacing the oil, observe the following:

- Park the machine on level ground, if not otherwise stated, and turn the engine off.
- When working in the engine area, make sure the covers and side doors are secured.
- Only add fuel when the engine is turned off.
- Never smoke or allow an open flame in refuelling areas.
- Cleanliness is especially important when changing engine, gear or hydraulic oil. Before removing fittings or plugs, make sure the surrounding areas are cleaned. When changing the oil, clean the fill and drain plugs.

IMPORTANT!

Be sure to drain oil into a suitable container and dispose of oil and filter cartridges properly.

⚠ WARNING

AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

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Hydraulic System

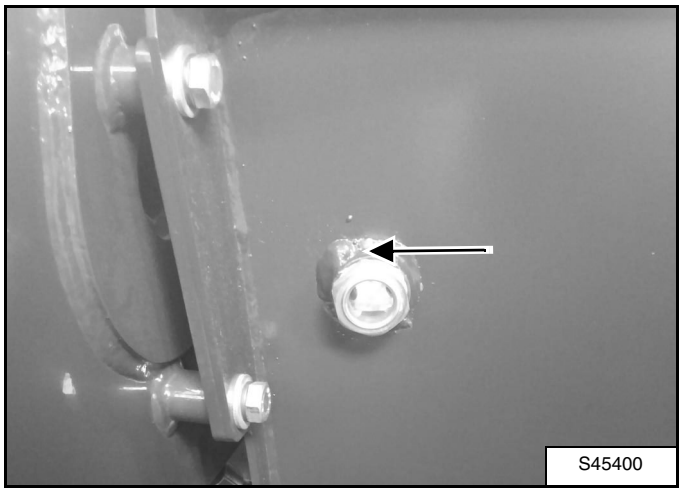
See Lubrication Chart. (See Fluids, Lubricants And Fuel on Page 9.) See Capacities. (See Capacities on Page 15.) See Service Schedule for service times. (See Service Schedule on Page 136.)

Maintenance Instruction

When checking the oil level or adding oil,

- Park the machine on level ground.
- Lower the attachments flat on the ground.
- Place all controls in neutral.
- Engage the parking brake.
- Turn the engine off and exit the machine. Allow the engine to cool.

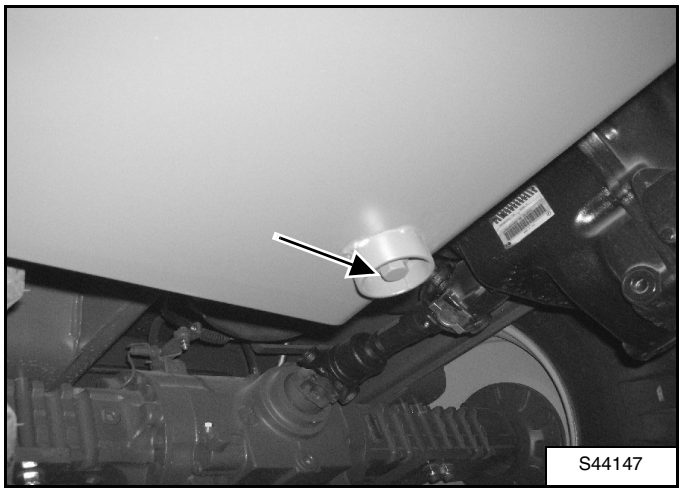
Check Hydraulic Oil Level



The fluid level should be in the middle of the sight gauge. Fill up if necessary.

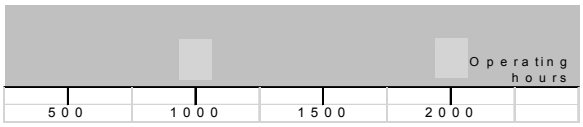
To Drain Oil

Maintenance Tools: combination wrench 22 mm

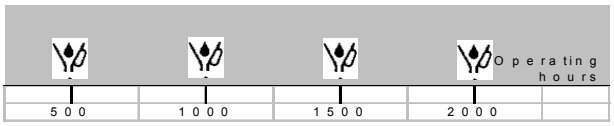


Place an appropriate container under the drain plug, remove the drain plug and drain the used oil into the container. The oil should be at operating temperature when draining.

NOTE: Some hydraulic fluid will remain in the tank in the suction filter chamber. To drain the remain hydraulic oil, see suction filter removal. (See To Clean The Suction Strainer on Page 100.)



Interval of changing the oil level at the normal condition.



Interval of changing the oil level at the dusty condition

Brake Fluid *(For B700 S/N B44Z11001 - B44Z11022 Only)*

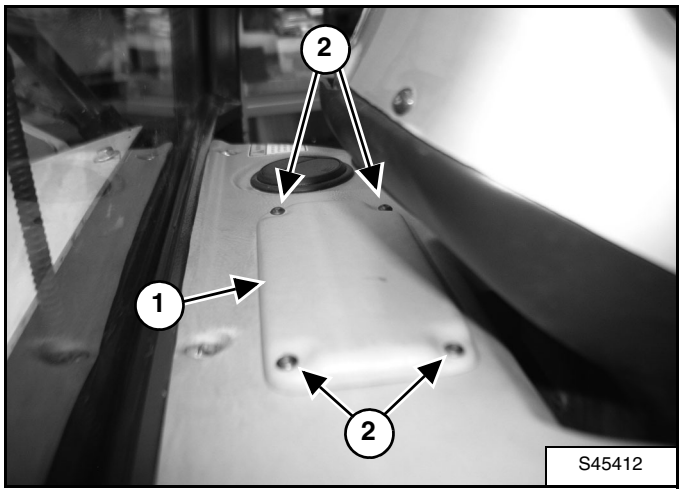
See Lubrication Chart. (See Fluids, Lubricants And Fuel on Page 9.) See Capacities. (See Capacities on Page 15.) See Service Schedule for service times. (See Service Schedule on Page 136.)

When checking the oil level, draining or adding oil,

When checking the oil level or adding oil,

- Park the machine on level ground.
- Engage the parking brake.
- Lower the attachments flat on the ground.
- Place all controls in neutral.
- Turn the engine off and exit the machine.

Checking Brake Fluid Reservoir Level *(For B700 S/N B44Z11001 - B44Z11022 Only)*

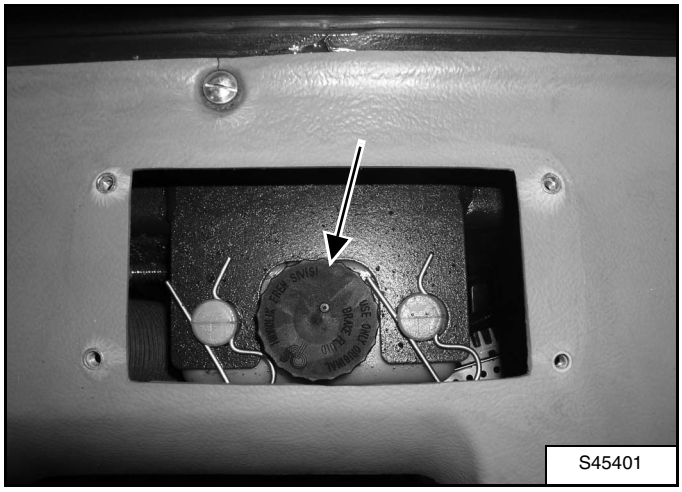


The brake fluid reservoir is located below the cover (1) in front of the cab dash panel.

Remove the four screws (2) and remove the cover (1).

The oil level should be between the MIN. and MAX. mark on the reservoir.

Adding Brake Fluid *(For B700 S/N B44Z11001 - B44Z11022 Only)*



Add oil through the filler cap. Install the drain plug and filler cap. Bleed the system.

To bleed the brake system

Lock the brake pedals. Loosen the bleeding screw. And press down until the pedal reaches end of the stroke. Hold the pedal end of the stroke and tighten the bleeding screw. Repeat this procedure until the oil flows form the bleeding screw without any air bubbles.

Reinstall the cover (1) with the four screws (2).

Machine Maintenance Safety (Cont'd)

- Operate combustion motors and fuel operated heaters only in well ventilated areas. Before operating these units, check ventilation. In addition, always follow applicable local regulations.

- Never try to lift heavy parts. Use appropriate lifting devices with sufficient load carrying capacity. When replacing or repairing parts or components, make sure they are mounted very carefully on lifting devices, to prevent any possible danger. Use only suitable and technically sound lifting devices, make sure that lifting tackle, wire cables, etc. have adequate load carrying capacity.

  Never position yourself, walk or work underneath suspended loads.

- Never use damaged lifting devices, or devices which are not sufficient to carry the load. Always wear gloves when handling wire cables.

- Ask only experienced personnel to attach loads and guide and signal the crane operator. The guide must be within the visibility range of the operator and /or must be in direct voice contact with the operator.

- When working overhead, use appropriate and safe ladders, scaffolding or other working platforms designated for that purpose. Never step on parts or components on the machine when maintaining or repairing items overhead.

  When working high above ground, make sure you are fitted with ropes and appropriate safety devices which will prevent a possible fall. Always keep handles, steps, platforms and ladders free of dirt, snow and ice!

- When working on the attachments, for example when replacing the bucket teeth, makes sure the attachment is supported properly. Never use metal on metal support!

- Never work underneath the machine if it is raised or propped up with the attachment.

- Always use the approved lift arm support device when loader lift arm is raised.

- Only qualified, especially trained personnel may work on travel gear, brake and steering systems.

- Only qualified, especially trained personnel may work on the hydraulic system.

- Never check for leaks with your bare hands, always wear gloves. Fluid escaping from a small hole can have enough force to penetrate the skin.

- Never loosen or remove lines or fittings before the attachments have been lowered to the ground and the engine has been turned off. Then turn the ignition key to contact position, move all servo controls (lever and foot pedals) in both direction to release pressures. Then release the tank pressure as outlined in this Operation & Maintenance Manual.

- Always disconnect the battery cable before working on the electrical system or before any arc welding on the machine. Always disconnect the negative (-) cable first and reconnect it last.

- Check the electrical system regularly.

- Make sure that any problems, such as loose connections, burnt out fuses and bulbs, scorched or chafed cables are fixed immediately by an electrician or qualified personnel.

- Use only Original fuses with the specified amperage. Never use a different size or stronger fuse than the original fuse.

- On machines with electrical medium or high voltage systems:

  I there is any problem with the electrical energy supply, turn the machine off immediately.

  Follow established lockout / tagout procedures where applicable.

  Any work on the electrical system may only be performed by a qualified electrician or qualified personnel under the guidance and supervision of an electrician, according to electro-technical regulations.

- If any work is required on any parts which carry current, use a second person to turn off the main battery switch. Rope the work area off with a safety rope or chain, and set up warning signs. Use only insulated tools.

- When working on medium and high voltage components shut off the voltage and connect the supply cable to the earth and earth the components.

- Check all disconnected parts if they are truly free of current, earth them and close them off quickly. Insulate any close-by, current carrying parts.

- Tyres are to be repaired only by an authorized person using the proper procedures and safe equipment.

- Tyres and rims must always be checked for correct size before mounting. Check rim and tyre bead for damage.

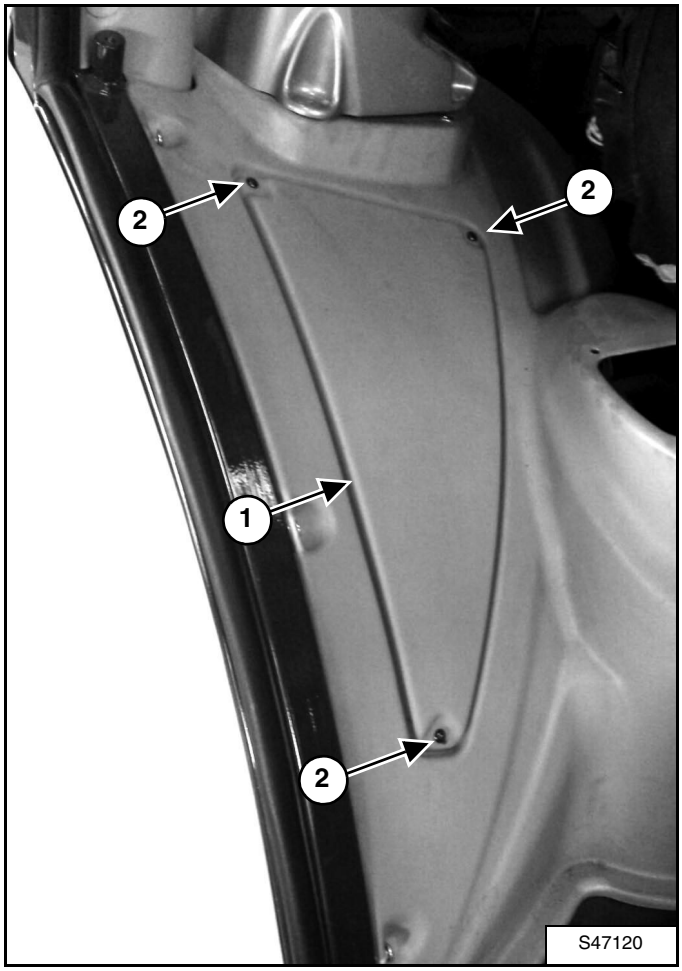
- The rim flange must be cleaned and free of rust.

- The tyre bead and rim flange must be lubricated with a rubber lubricant before mounting the tyre.

- Avoid excessive pressure that can rupture the tyre and cause serious injury or death.

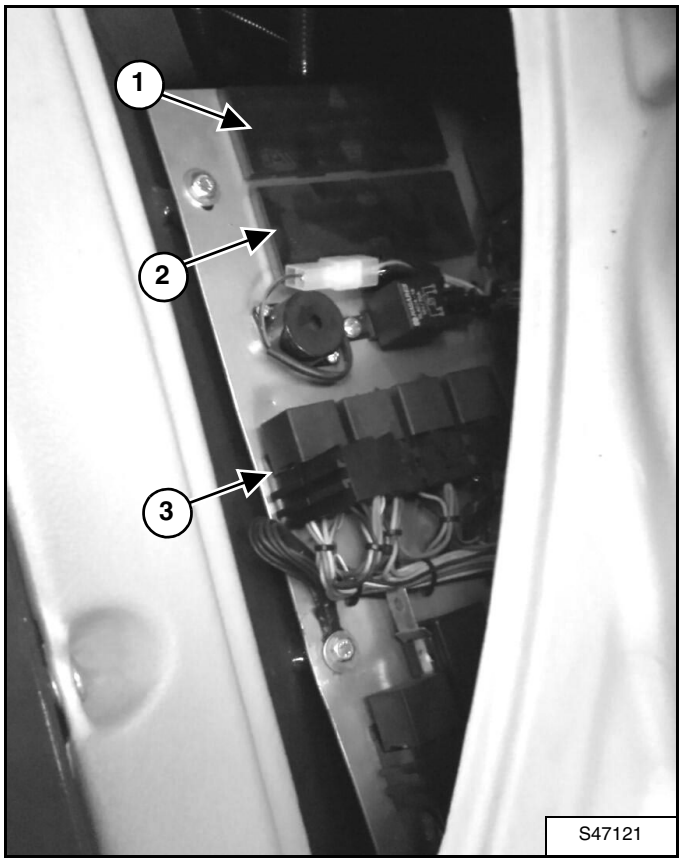
- During inflation of the tyre, check the tyre pressure frequently to avoid over inflation.

Fuse And Relay Location



The fuses and relays are located inside the cab under the right console panel (1).

Remove the three screws (2) and remove the panel (1) to access the fuses and relays.



(1) Remove the fuse cover (1) to access fuses (1 through 14). (See Fuses And Relays (For S/N B44Z11023 & Above) on Page 131.)

(2) Remove the fuse cover (2) to access fuses (15 through 28). (See Fuses And Relays (For S/N B44Z11023 & Above) on Page 131.)

(2) Relays. (See Fuses And Relays (For S/N B44Z11023 & Above) on Page 131.)

STORAGE