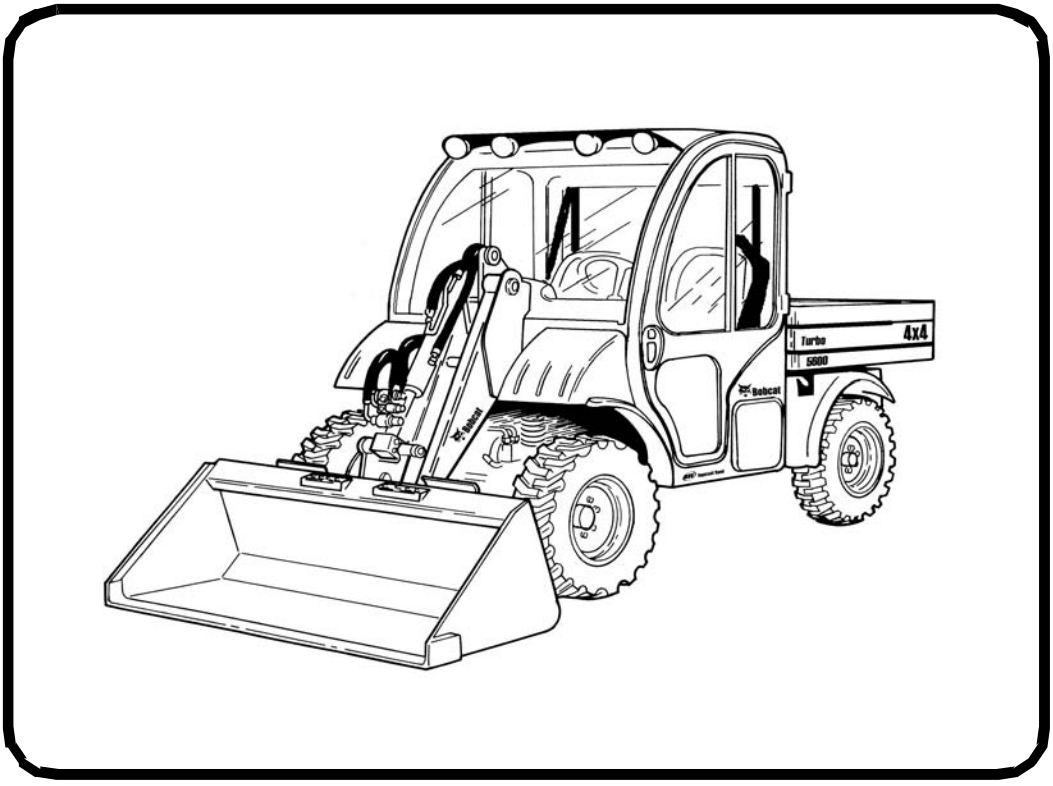
Bobcat®

Operation & Maintenance Manual
Toolcat™ 5600 Utility Work Machine

S/N A00211001 & Above
S/N A00311001 & Above



EQUIPPED WITH
TOOLCAT INTERLOCK
CONTROL SYSTEM (TICS)

6904207 (9-05) Revised (6-08) (1)

Printed in U.S.A.

OPERATOR SAFETY WARNINGS

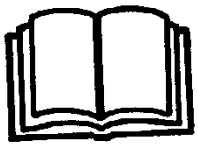
⚠ WARNING

Operator must have instructions before running the machine. Untrained operators can cause injury or death.

W-2001-1285

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

CORRECT



B-10731a

Never use the machine without instructions. See machine signs (decals), Operation & Maintenance Manual, and Operator's Handbook.

CORRECT

B-19707

Always lower arm rest and fasten seat belts snugly.

Always keep arms and feet inside cab.

CORRECT

B-19677

Never use machine without operator cab with ROPS and FOPS approval. Always fasten your seat belt.

WRONG

B-21503

Never use machine as a man lift or work platform.

WRONG

B-21504

Do not use machine in atmosphere with explosive dust, explosive gas, or where exhaust can contact flammable material.

WRONG

B-21505

Carry one rider only in the passenger seat.

Keep bystanders away from work area.

No riders in Cargo Box.

WRONG

B-21506

Always carry load as low as possible.

Slow down when turning.

Load, unload, and turn on flat level ground.

WRONG

B-21476

B-21511

Never exceed machine load capacities.

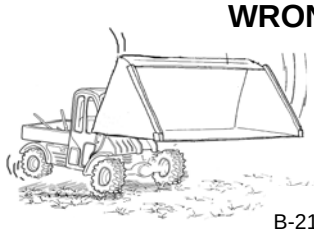
WRONG

B-21499

Never leave machine with engine running, with lift arm up, or with cargo box up.

To park, put Travel Control Lever in PARK, put attachment flat on the ground and stop the engine.

WRONG



B-21507

Never modify equipment.

Use only attachments approved by Bobcat Company for this machine.

SAFETY EQUIPMENT

The machine must be equipped with safety items necessary for each job. Ask your dealer for information on the safe use of attachments and accessories.

1. **SEAT BELTS: Check fasteners, check for damaged webbing or buckle.**
2. **ARM REST: When up, it must deactivate travel and hydraulic functions.**
3. **CAB (ROPS and FOPS): It must be maintained in good condition.**
4. **OPERATOR'S HANDBOOK: Must be in the cab.**
5. **SAFETY SIGNS (DECALS): Replace if damaged.**
6. **SAFETY TREADS: Replace if damaged.**
7. **GRAB HANDLES: Replace if damaged.**
8. **LIFT ARM SUPPORT DEVICE: Replace if damaged.**
9. **CARGO BOX SUPPORT DEVICE: Replace if damaged.**
10. **TOOLCAT INTERLOCK CONTROL SYSTEM (TICS): Check function.**

OSW16-0805

CONTENTS

CALIFORNIA PROPOSITION 65 WARNING

Diesel Engine Exhaust And Some Of Its Constituents Are Known To The State Of California To Cause Cancer, Birth Defects And Other Reproductive Harm.

REFERENCE INFORMATION

Write the correct information for YOUR Machine in the spaces below. Always use these numbers when referring to your Bobcat product.

Work Machine Serial Number _____

Engine Serial Number _____

_____

_____

NOTES:

_____

_____

YOUR BOBCAT DEALER:

_____

ADDRESS:

_____

PHONE:

_____

Bobcat Company
P.O. Box 128
Gwinner, ND 58040-0128

Bobcat Company Europe
Dréve Richelle 167
B-1410 WATERLOO
Belgium

FOREWORD

This Operation & Maintenance Manual was written to give the owner/operator instructions on the safe operation and maintenance of the Toolcat utility work machine. READ AND UNDERSTAND THIS OPERATION & MAINTENANCE MANUAL BEFORE OPERATING YOUR MACHINE. If you have any questions, see your Bobcat dealer.

BOBCAT COMANY IS IS0 9001:2000 CERTIFIED

CERTIFICATE NUMBER: FM 31682

ISO 9001:2000 is an international standard that controls the processes and procedures which we use to design, develop, manufacture and distribute Bobcat products.

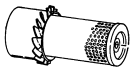
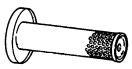
British Standards Institute (**BSI**) is the Certified Registrar Bobcat Company chose to assess the Company's compliance with the ISO 9001:2000 standard. The BSI registration certifies that Bobcat's manufacturing facilities in Gwinner and Bismarck, North Dakota (North America), Pontchateau (France), Dobris (Czech Republic) and the Bobcat corporate offices (Gwinner, Bismarck & West Fargo) in North Dakota are in compliance with ISO 9001:2000. Only certified assessors, like BSI, can grant registrations.

ISO 9001:2000 means that as a company we say what we do and do what we say. In other words, we have established procedures and policies, and we provide evidence that the procedures and policies are followed.

CALIFORNIA PROPOSITION 65 WARNING

Diesel Engine Exhaust And Some Of Its Constituents Are Known To The State Of California To Cause Cancer, Birth Defects And Other Reproductive Harm.

REGULAR MAINTENANCE ITEMS

	ENGINE OIL FILTER (6 Pack) 6675517		BATTERY 6674687
	FUEL FILTER 6667352		FLUID, Hydraulic/Hydrostatic 6903117 - (2.5 Gal.) 6903118 - (5 Gal.) 6903119 - (55 Gal.)
	AIR FILTER, Outer 6666333		COOLANT PRESSURE CAP 6733429
	AIR FILTER, Inner 6666334		PROPYLENE GLYCOL ANTI-FREEZE, 6724094 Premixed [-34 F (-37C)] 6724354 Concentrate
	HYDRAULIC/HYDROSTATIC FILTER 6668819		AXLE LUBRICANT (2.5 Gal. Container) 100032-06A

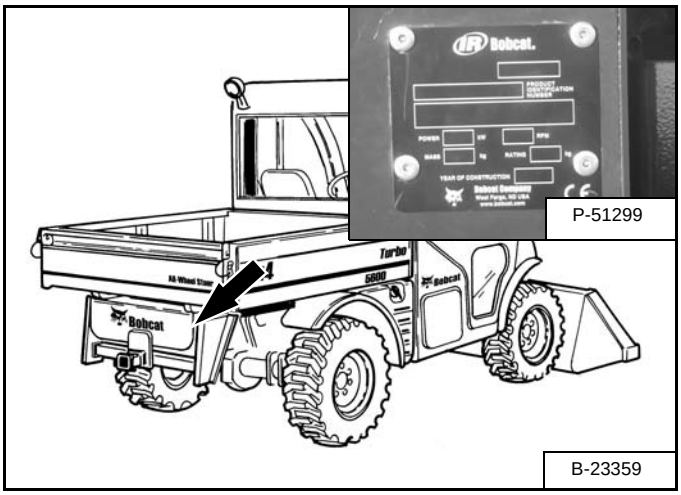
MOTOR OIL

6903105	SAE 15W/40 CE/SG (12 qt.)	6903109	SAE 30W CE/SG (12 qt.)
6903106	SAE 15W/40 CE/SG (1 Gal.)	6903110	SAE 30W CE/SG (1 Gal.)
6903113	SAE 15W/40 CE/SG (2.5 Gal.)	6903111	SAE 30W CE/SG (2.5 Gal.)
6903107	SAE 10W/30 CE/SG (12 qt.)		
6903108	SAE 10W/30 CE/SG (1 Gal.)		
6903112	SAE 10W/30 CE/SG (2.5 Gal.)		

SERIAL NUMBER LOCATIONS

Always use the serial number of the machine 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.

Figure 1



Utility Work Machine Serial Number

The Toolcat™ utility work machine serial number plate is located on the rear of the frame below the cargo box **[Figure 1]**.

Explanation of machine Serial Number:

XXXX XXXXX

Module 2. - Production Sequence (Series)

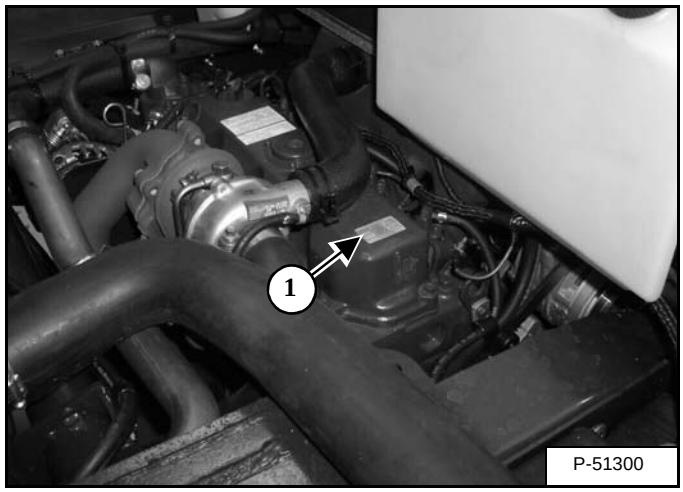
Module 1. - Model / Engine Combination

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 machine is produced.

Engine Serial Number

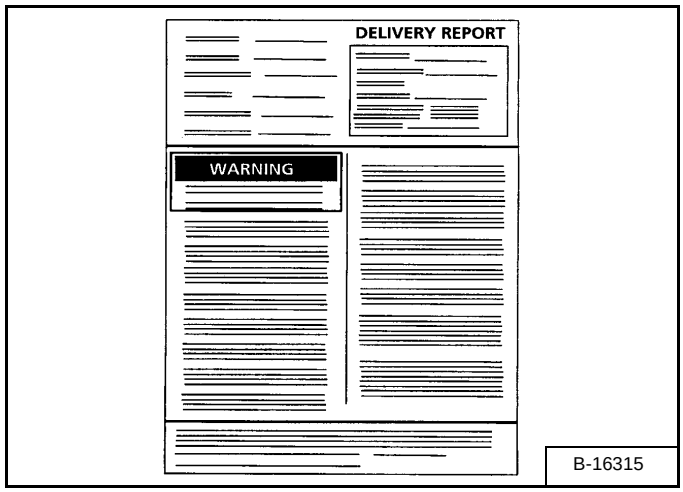
Figure 2



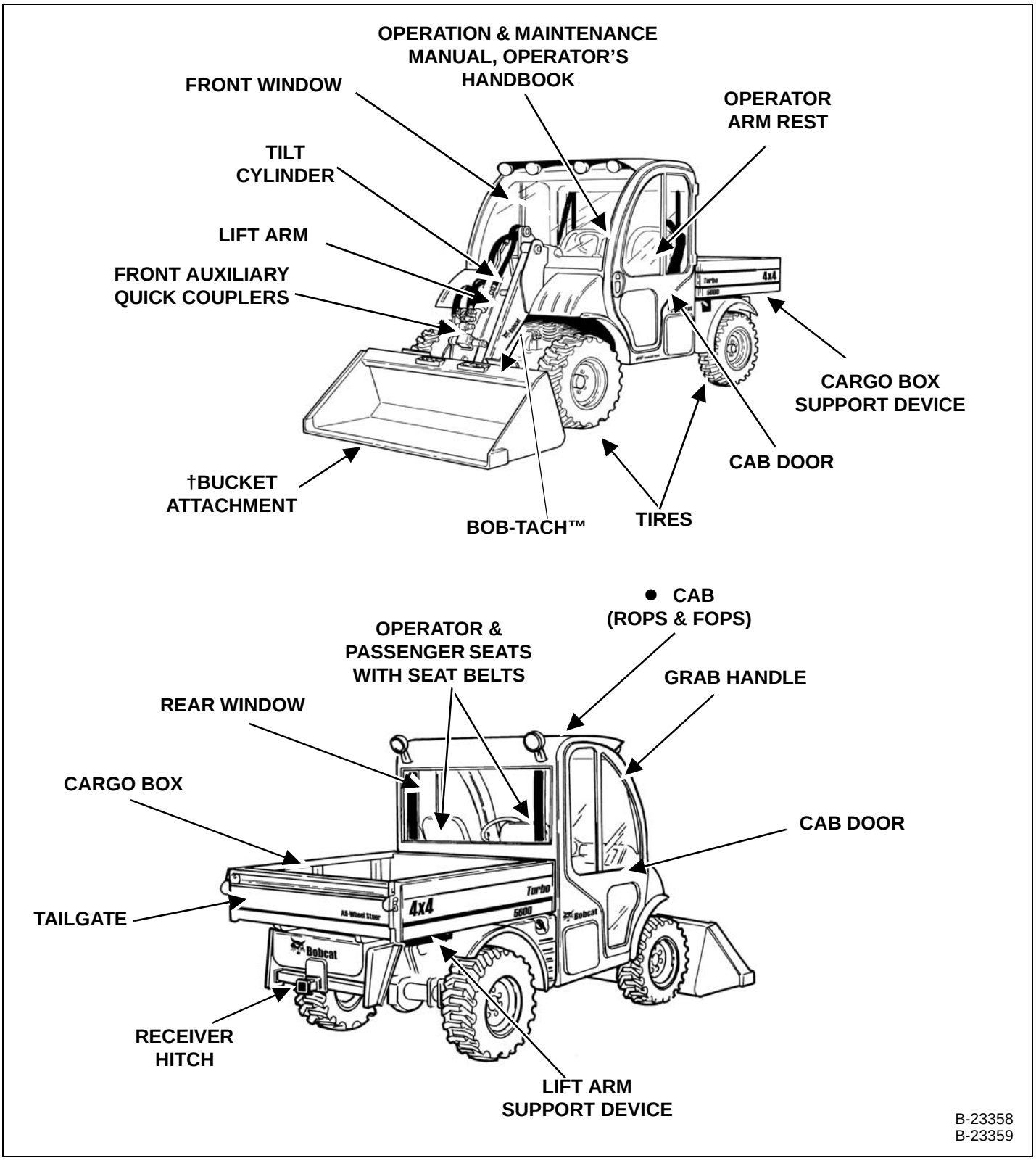
The engine serial number is located at the right end of the valve cover (Item 1) **[Figure 2]**.

DELIVERY REPORT

Figure 3



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



† BUCKET - Buckets and other attachments are available for the Toolcat™ utility work machine.

● ROPS, FOPS - Roll Over Protective Structure, per SAE J1040 and ISO 3471, and Falling Object Protective Structure per ISO 3449, Level I.

FEATURES, ACCESSORIES AND ATTACHMENTS

Standard Items

The 5600 utility work machine is equipped with the following standard items:

- Arm Rest, Driver's Side (TICS)
- Bob-Tach™
- Beverage Holder
- Cargo Box Support Device
- Cargo Box With Hydraulic Lift, Bolt-on Sides with Stake Pockets
- Cruise Control
- Differential Lock
- Engine & Hydraulic Monitor With Shutdown
- Four-Wheel Drive
- Front Auxiliary Hydraulics
- Front Work Lights
- Front Wheel & All Wheel Steer Modes
- Front & Rear Suspension
- Hydraulically Controlled Joystick w/ Lift Arm Float
- Instrumentation:
  Hourmeter, Job Hours, Speedometer, Tachometer, Fuel Gauge, Engine Temperature, & Warning Lights
- Lift Arm Support Device
- Parking Brake
- Power Steering with Tilt Wheel
- Quick Latch Tailgate
- Rear Receiver Hitch
- Seat Belts With 3-Point Restraint
- Spark Arrestor Exhaust System
- Suspension Driver's Seat
- Tires 27 x 10.5 x 15
- Two-Speed Travel
- Variable Speed Hydrostatic Drive

Options And Field Accessories

The machine can be equipped with the following Options and Field Installed Accessories.

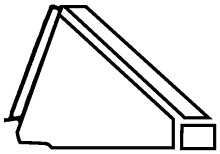
- Attachment Control Device / Remote Attachment Control
- Auxiliary Hydraulics:
  High Flow Front
  Rear Auxiliary Hydraulics
- Backup Alarm
- Battery, Heavy Duty
- Beacon or Strobe Light
- Belly Pan
- Cab Doors
- Cab Heater
- Cab Heater and Air Conditioning
- Cab Headliner
- Cab, Sound (Reduced Noise Level)
- Cargo Box Liner
- Keyless Start
- Engine Guard, Lower
- Engine Block Heater
- Floor Mat
- High Flow Auxiliary Hydraulics (Turbo Only)

Options And Field Accessories (Cont'd)

- Deluxe Operator Cab (with ROPS / FOPS Approval)
  Includes: Front & Rear Windows, Front Wipers, Dome Light, 12V Power Port, Headliner
- Horn
- Keyless Start
- Lights
  Front & Rear Work Lights, Head Lights, Tail Lights, Brake Lights, Flashers, Direction Signals
- Mirrors
  Rear View Mirror
  Side Mirrors
- Power Take-Off (PTO)
- Radiator Screen Kit
- Radio Kit
- Rear Window Guard
- Receiver Hitch Accessories
- Remote Hydraulics
- Special Applications Kit (Front Window Guard)
- Special Applications Kit (Rear Window Guard)
- Turf Tires
- Turbocharger (Turbo Models Only)

Specifications subject to change without notice.

Buckets Available



BUCKET

Many bucket styles, widths and different capacities are available for a variety of different applications. They include Construction & Industry, Low profile, Fertilizer and Snow, to name a few. See your Bobcat dealer for the correct bucket for your Bobcat loader and application.

Attachments

- Auger
- Brooms
  - Angle Broom
  - Whisker Broom
- Blades
  - Box Blade
  - Dozer Blade
  - Snow Blade
- Chipper
- Farm Grapple
- Grader
- Landplane
- Mower, Finish
- Pallet Fork
- Spreader
- Snow Blower
- Sprayer
- Stump Grinder
- Super Scraper
- Tiller
- Trencher
- Utility Fork
- Utility Grapple
- Vibratory Roller
- Water Kit

Other attachments may also be available for your machine. See your Bobcat dealer.

SAFETY TRAINING & RESOURCES

SAFETY INSTRUCTIONS

Before Operation

Carefully follow the operating and maintenance instructions in this manual.

The Bobcat utility work machine is highly maneuverable and compact. It is rugged and useful under a wide variety of conditions. This presents an operator with hazards associated with off highway, rough terrain applications, common with Bobcat machine usage.

The Bobcat utility work machine has an internal combustion engine with resultant heat and exhaust. All exhaust gases can kill or cause illness so use the machine with adequate ventilation.

The dealer explains the capabilities and restrictions of the Bobcat utility work machine and attachment for each application. The dealer demonstrates the safe operation according to Bobcat instructional materials, which are also available to operators. The dealer can also identify unsafe modifications or use of unapproved attachments. The attachments and buckets are designed for a Rated Operating Capacity (some have restricted lift heights). They are designed for secure fastening to the Bobcat machine. The user must check with the dealer, or Bobcat literature, to determine safe loads of materials of specified densities for the machine - attachment combination.

The following publications and training materials provide information on the safe use and maintenance of the Bobcat machine and attachments:

- The Delivery Report is used to assure that complete instructions have been given to the new owner and that the machine and attachment is in safe operating condition.

- The Operation & Maintenance Manual delivered with the machine or attachment gives operating information as well as routine maintenance and service procedures. It is a part of the machine and can be stored in a container provided on the machine. Replacement Operation & Maintenance Manuals can be ordered from your Bobcat dealer.

- Machine signs (decals) instruct on the safe operation and care of your Bobcat machine or attachment. The signs and their locations are shown in the Operation & Maintenance Manual. Replacement signs are available from your Bobcat dealer.

- An Operator's Handbook is fastened to the operator cab of the machine. It's brief instructions are convenient to the operator. The Handbook is available from your dealer in an English edition or one of many other languages. See your Bobcat dealer for more information on translated versions.

- The Toolcat Utility Work Machine Operating Training Course is available through your Bobcat dealer. This course is intended to provide rules and practices of correct operation of the Toolcat Utility Work Machine. The course is available in English and Spanish versions.

- See the PUBLICATIONS AND TRAINING RESOURCES Page in this manual or your Bobcat dealer for Service and Parts Manuals, printed materials, videos, or training courses available. Also check the Bobcat web sites **www.training.bobcat.com** or **www.bobcat.com**

The dealer and owner / operator review the recommended uses of the product when delivered. If the owner / operator will be using the machine for a different application(s) he or she must ask the dealer for recommendations on the new use.

Call Before You Dig

Dial 811 (USA Only)

1-888-258-0808 (USA & Canada)

When you call, you will be directed to a location in your state / province, or city for information about buried lines (telephone, cable TV, water, sewer, gas, etc.).

SI TC-0208

Safe Operation Is The Operator's Responsibility

Safety Alert Symbol

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

WARNING

Operator must have instructions before running the machine. Untrained operators can cause injury or death.

W-2001-1285

IMPORTANT

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

I-2019-0284

DANGER

The signal word DANGER on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.

D-1002-1107

WARNING

The signal word WARNING on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

W-2044-1107

The Bobcat utility work machine and attachment must be in good operating condition before use.

Check all of the items on the Bobcat Service Schedule Decal under the 8-10 hour column or as shown in the Operation & Maintenance Manual.

Safe Operation Needs A Qualified Operator

For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine and attachment.

A Qualified Operator Must Do The Following:

Understand the Written Instructions, Rules and Regulations

- The written instructions from Bobcat Company include the Delivery Report, Operation & Maintenance Manual, Operator's Handbook and machine signs (decals).
- Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.

Have Training with Actual Operation

- Operator training must consist of a demonstration and verbal instruction. This training is given by your Bobcat dealer before the product is delivered.
- The new operator must start in an area without bystanders and use all the controls until he or she can operate the machine and attachment safely under all conditions of the work area. Always fasten seat belt before operating.
- Operator Training Courses are available from your Bobcat dealer in English and Spanish. They provide information for safe and efficient equipment operation. Safety videos are also available.

Know the Work Conditions

- Know the weight of the materials being handled. Avoid exceeding the Rated Machine Load Capacities of the machine. Material which is very dense will be heavier than the same volume of less dense material. Reduce the size of the load if handling dense material.
- The operator must know any prohibited uses or work areas, for example, he or she needs to know about excessive slopes.
- Know the location of any underground lines. Call local utilities or the TOLL FREE phone number found in the *Before Operation* Section of this manual.
- Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service. Safety glasses, respiratory equipment, hearing protection or Special Applications Kits are required for some work. See your Bobcat dealer about Bobcat Safety Equipment for your model.

SI TC-0208

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 TC-0208

Hydraulic System

Check hydraulic tubes, hoses and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Hydraulic tubes and hoses must be properly routed and have adequate support and secure clamps. Tighten or replace any parts that show leakage.

Always clean fluid spills. Do not use gasoline or diesel fuel for cleaning parts. Use commercial nonflammable solvents.

Fueling

Stop the engine and let it cool before adding fuel. No smoking! Do not refuel a machine near open flames or sparks. Fill the fuel tank outdoors.

Starting

Do not use ether or starting fluids on any engine that has glow plugs. These starting aids can cause explosion and injure you or bystanders.

Use the procedure in the Operation & Maintenance Manual for connecting the battery and for jump starting.

Spark Arrestor Exhaust System

The spark arrestor exhaust system is designed to control the emission of hot particles from the engine and exhaust system, but the muffler and the exhaust gases are still hot.

Check the spark arrestor exhaust system regularly to make sure it is maintained and working properly. Use the procedure in the Operation & Maintenance Manual for cleaning the spark arrestor muffler (if equipped).

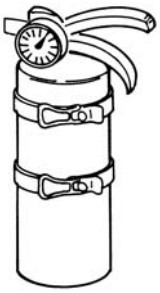
Welding And Grinding

Always clean the machine and attachment, disconnect the battery, and disconnect the wiring from the Bobcat controllers before welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the machine when welding.

Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.

Dust generated from repairing nonmetallic parts such as hoods, fenders or covers can be flammable or explosive. Repair such components in a well ventilated area away from open flames or sparks.

Fire Extinguishers

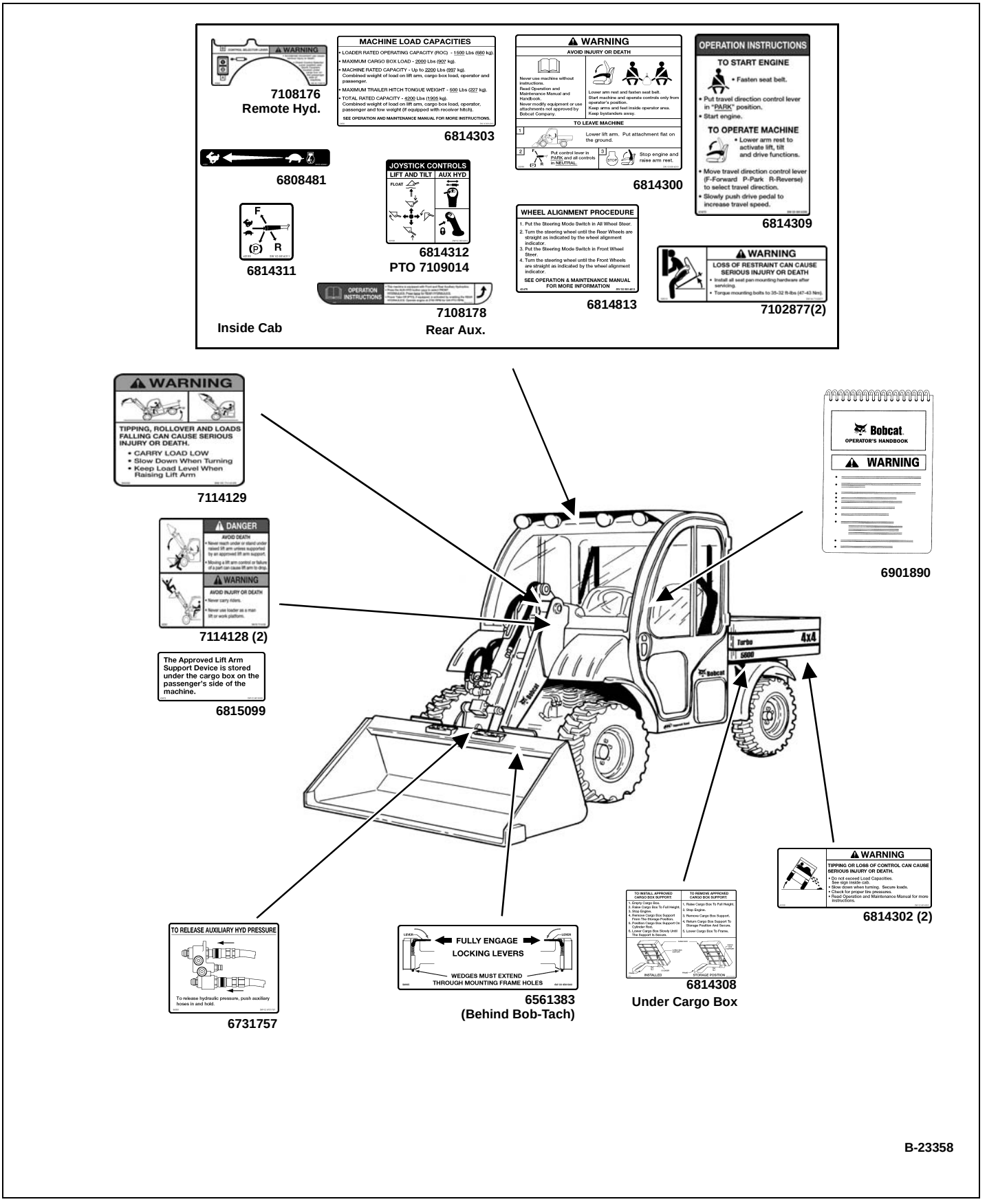


Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

SI TC-0208

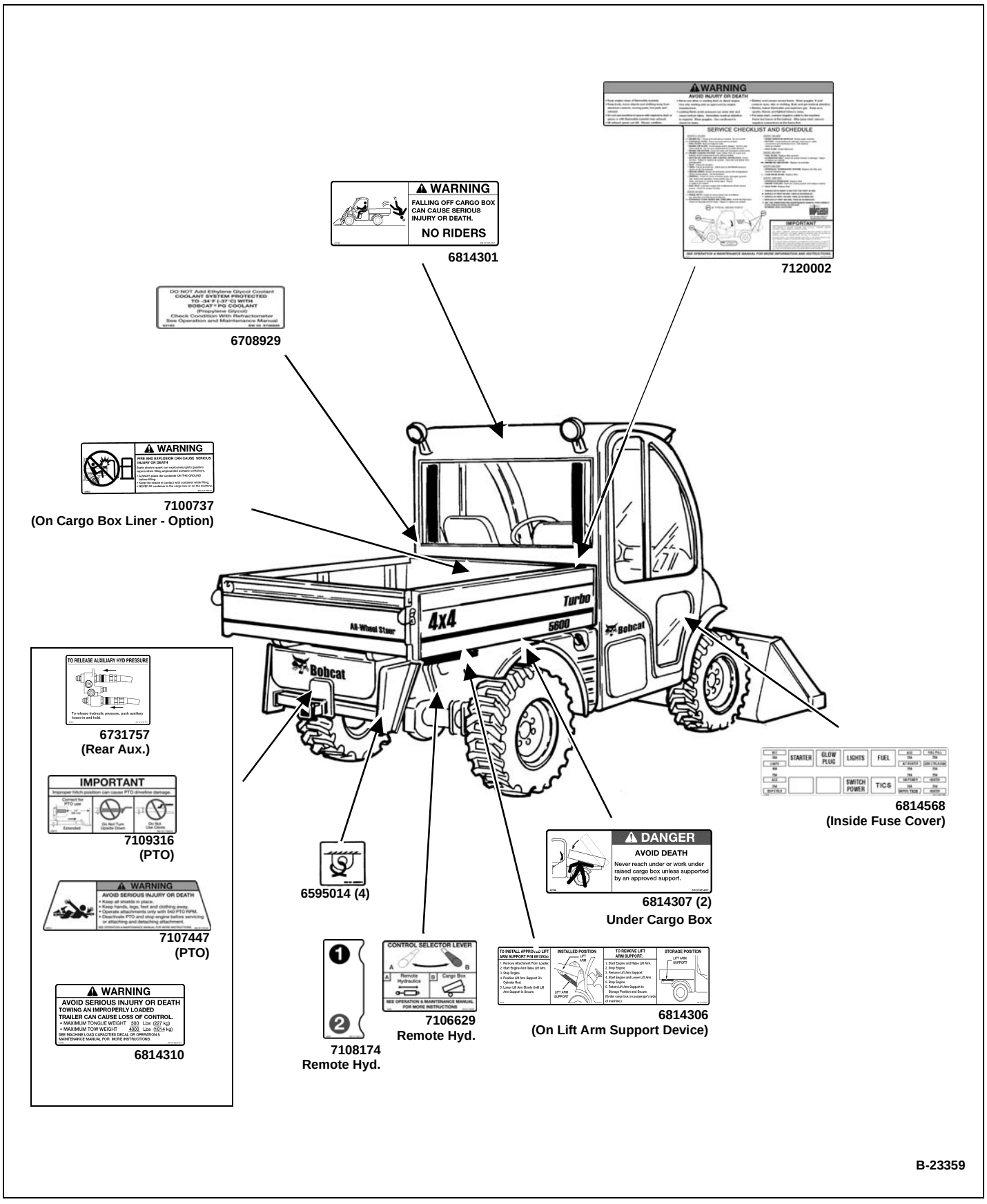
MACHINE SIGNS (DECALS)

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



MACHINE SIGNS (DECALS) (CONT'D)

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

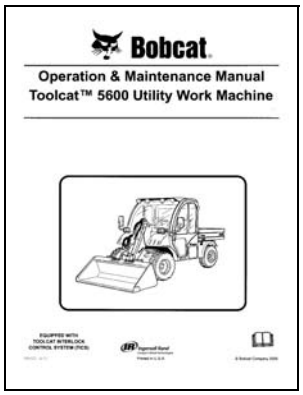


B-23359

PUBLICATIONS AND TRAINING RESOURCES

The following publications are also available for your Bobcat Toolcat Utility Work Machine. You can order them from your Bobcat dealer.

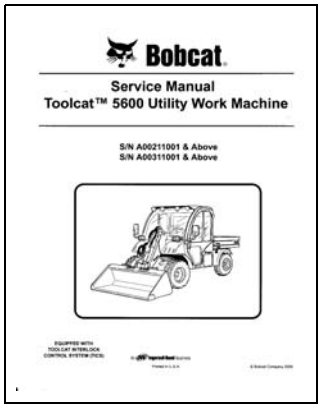
For the latest information on Bobcat products and the Bobcat Company, visit our web site at **www.bobcat.com**; see also **www.bobcatstore.com**



OPERATION & MAINTENANCE MANUAL

6904207

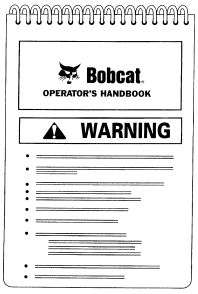
- complete instructions on the correct operation and the routine maintenance of the Toolcat utility work machine.



SERVICE MANUAL

6904209

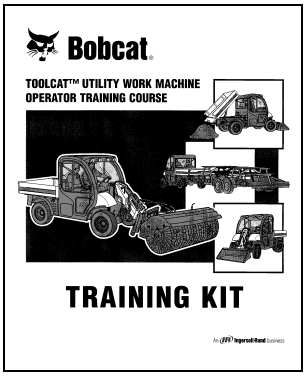
- complete maintenance instructions for your Toolcat utility work machine.



OPERATOR'S HANDBOOK

6901890

- gives basic operation instructions and safety warnings.



TOOLCAT UTILITY WORK MACHINE

OPERATOR TRAINING COURSE

6902643

- Introduces operator to step-by-step basics of the utility work machine operation.

OPERATOR SAFETY VIDEO

6902430

- Provides basic safety instructions.

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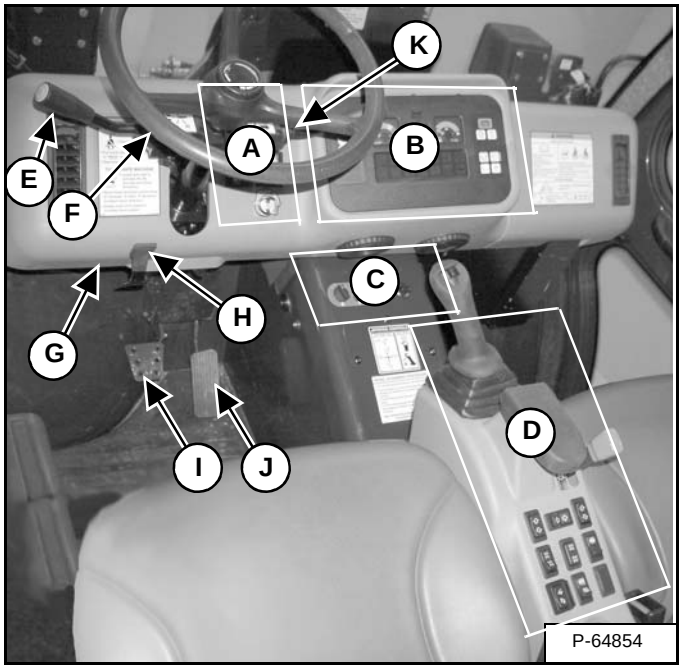
OPERATOR CONTROLS AND INSTRUMENT PANELS

Overview

Figure OI-1

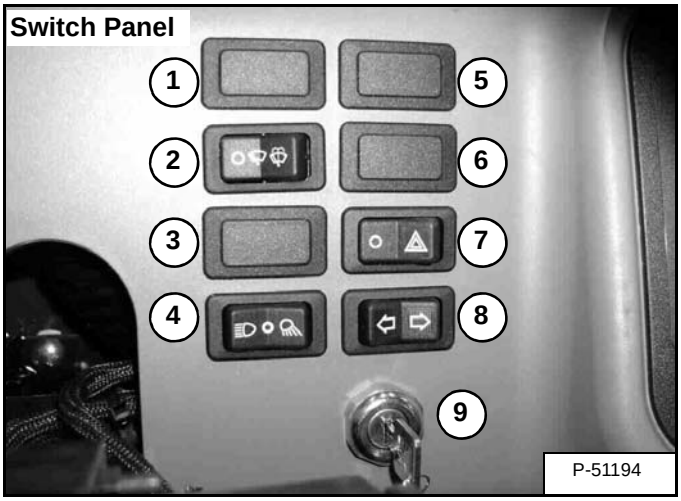


View from operator's seat **[Figure OI-1]**

REF	DESCRIPTION
A	Switch Panel (See Page OI-5)
B	Display Controller Panel (See Page OI-6)
C	Floor Console (See Page OI-8)
D	Center Console (See Page OI-8)
E	Travel Direction Control Lever (See Page OI-12)
F	Steering Wheel
G	Lift Arm Bypass Knob (Near Steering Column)
H	Release for Steering Column Adjustment
I	Brake Pedal (See Page OI-12)
J	Drive Pedal (See Page OI-12)
K	Direction Signal Lever Move up for left turn; down for right turn.

Switch Panel

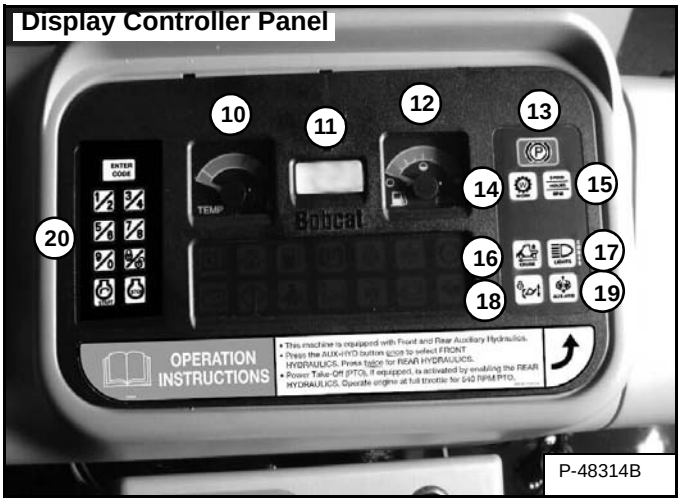
Figure OI-2



REF	DESCRIPTION	FUNCTION / OPERATION
1	Not Used	- - -
2	Front Wiper / Washer	Press right side to turn ON; left to turn OFF. Press & Hold right side for washer.
3	Rotating Beacon Or Strobe Light (Option)	Press right side to turn ON; left to turn OFF.
4	Light Selection Switch	Left Position - headlights Center Position - front flood lights Right Position - front and rear flood lights
5	Not Used	- - -
6	Rear Wiper / Washer (Option)	Press right side to turn ON; left to turn OFF. Press & Hold for washer.
7	Hazard / Flasher Lights (Option)	Press right side to turn ON; left to turn OFF.
8	Direction Signal Indicators	Lights come on when signal lever is moved.
9	Key Switch	For starting and stopping engine.

Display Controller Panel

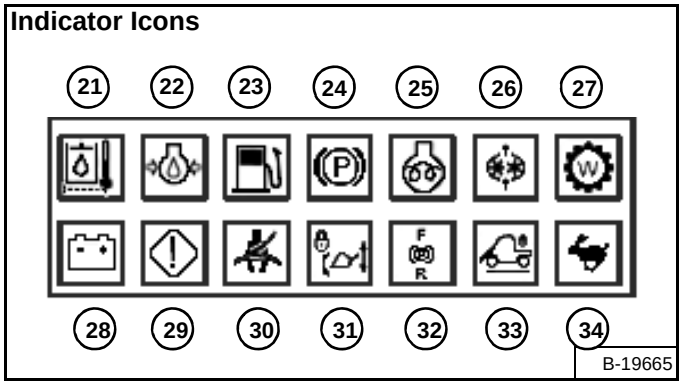
Figure OI-3



REF	DESCRIPTION	FUNCTION / OPERATION
10	Engine Temperature Gauge	Shows engine coolant temperature.
11	LCD (Liquid Crystal Display)	Speedometer/Hourmeter/Job/RPM & Diagnostic Codes
12	Fuel Gauge	Shows amount of fuel in the tank.
13	Parking Brake	Press to engage; press again to disengage. (Parking Brake Icon, Item 24, Figure OI-4 will be ON.)
14	Work / Drive Mode	Press button to engage WORK Mode. (Work Icon Item 27, Figure OI-4, will be ON.) Press again to disengage.
15	SPEED / HOURS / RPM	Press button to toggle LCD for Speed (MPH or km/hr), Hours, Job Clock, Engine RPM. While screen is showing SPEED, press and hold to change units of measure (English / Metric).
	Additional Menu Functions	(Key OFF/Engine Stopped) Toggle the button until RPM is in the LCD. Press and hold the button for three seconds to get to additional menu functions. Keyless Start machines will show **CODES** in the LCD - enter the master password using the keypad (Item 20). To scroll between options, press the SPEED / HOURS / RPM button.
	- Two-Speed (Option)	- If 2-Speed is installed, the LCD will show 2-SPd or 1-SPd. Press the WORK button to toggle between enabled or disabled. When 2-SPd is displayed, the 2-Speed option will be enabled. Continue with additional changes or press and hold SPEED / HOURS / RPM button (Item 14) until **donE** appears on LCD to save and exit.
15	SPEED / HOURS / RPM (Cont'd)	
	- Axle- Matching *(When enabled, will detect when one axle is turning and the other is not; and will stop the turning axle and transfer power to the other axle.)*	- For axle-matching the LCD will show **0 - - - 0** (enabled) or **0 0** (disabled). Press the WORK button to toggle between enabled or disabled. When **0 - - - 0** is displayed, that selection is active. Continue with additional changes or press and hold SPEED / HOURS / RPM button (Item 14) until **donE** appears on LCD to save and exit.
	- High Flow (Option)	- If High-Flow is installed, the LCD will show **H FLO** or **L FLO**. Press the WORK button to toggle between enabled or disabled. When **H FLO** is displayed, that selection is enabled.
	- SAVE	- To save selections, press and hold SPEED / HOURS / RPM button until **donE** is on LCD.
	- EXIT	- To exit without saving, turn the key to RUN **or** wait 30 seconds without pressing any buttons.
16	Cruise Control	While traveling at the desired speed, press the button to continue traveling at that speed. (Cruise Control Icon, Item 33, Figure OI-4, will be ON.) Press brake or press button again to disengage.
17	LIGHTS / Codes	Press & release to turn lights ON; press & release again to turn OFF. Press and hold for two seconds to reveal CODES in LCD.
18	Lift And Tilt Transport Lock	Press to lock lift and tilt functions when transporting.
19	Front Auxiliary Hydraulics (Std.)	- Press once to select Front Auxiliary Hydraulics. (Auxiliary Icon, Item 26, Figure OI-4, will be ON.) (Must be selected for Hi Flow to operate.) (See Front Auxiliary Hydraulics, Page OI-15.) - Press a second time to deselect Front Auxiliary Hydraulics.
	Rear Auxiliary Hydraulics (Option)	- Press two times to select Rear Auxiliary Hydraulics. After several seconds, the word **rEAr** will remain on the display (Item 11). (See REAR AUXILIARY HYDRAULICS, Page OI-17.) - Press a third time to deselect all auxiliary hydraulics.
20	Keypad for Keyless Start (Option)	See *STARTING THE ENGINE*, Page OI-31.

Indicator Icons

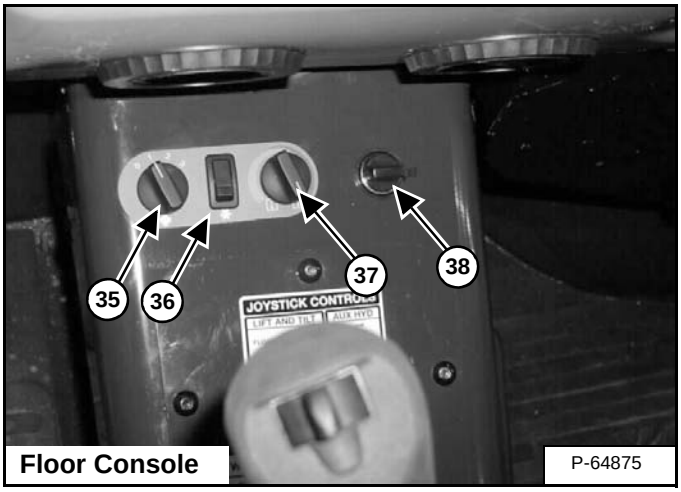
Figure OI-4



REF NO	INDICATOR ICONS
	When Indicator Icon Is Lighted . . . .
21	Plugged Hydraulic Filter or High Hydraulic Temperature
22	Low Engine Oil Pressure
23	Low Fuel Level
24	Parking Brake Engaged
25	Glow Plugs Activated
26	Auxiliary Hydraulics Engaged
27	Work Mode Engaged
28	Low Battery Voltage
29	General Warning (See SERVICE CODES, Page SA-3)
30	Fasten Seat Belt Reminder
31	Lift Arm, Tilt and Traction Functions Deactivated
32	Return to PARK reminder (Must be in PARK to start engine.)
33	Cruise Control Engaged
34	High Speed Engaged

Floor Console

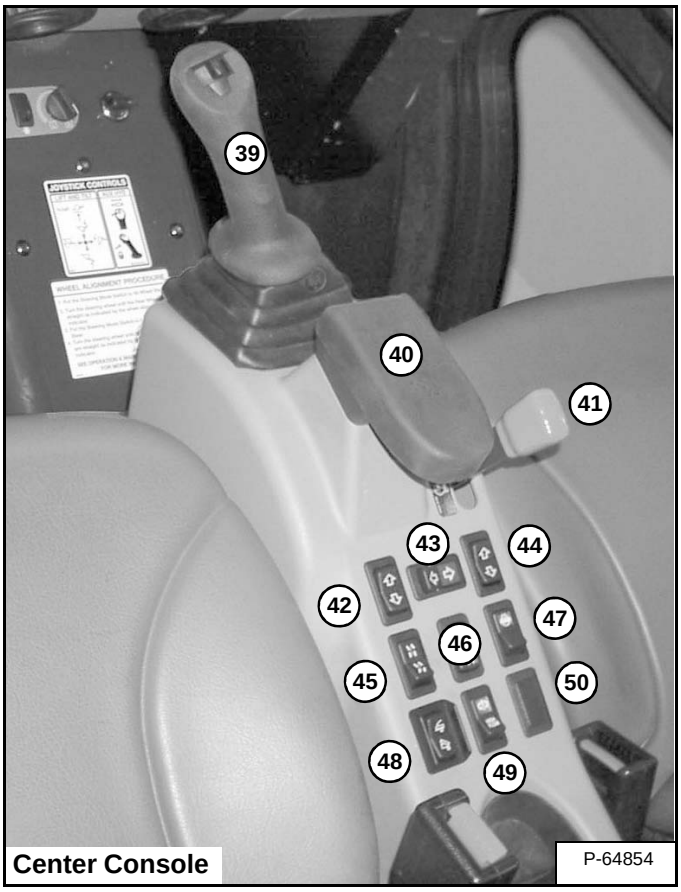
Figure OI-5



REF NO	DESCRIPTION	FUNCTION / OPERATION
35	HVAC Fan	Turn clockwise to increase speed
36	Air Conditioner	Press top of switch to start; bottom to stop. Fan Motor (Item 25) must be On for A/C to operate.
37	Temperature Control	Turn clockwise to increase the cab temperature; counterclockwise to decrease.
38	Power Plug	Provides a 12 V receptacle for accessories.

Center Console

Figure OI-6



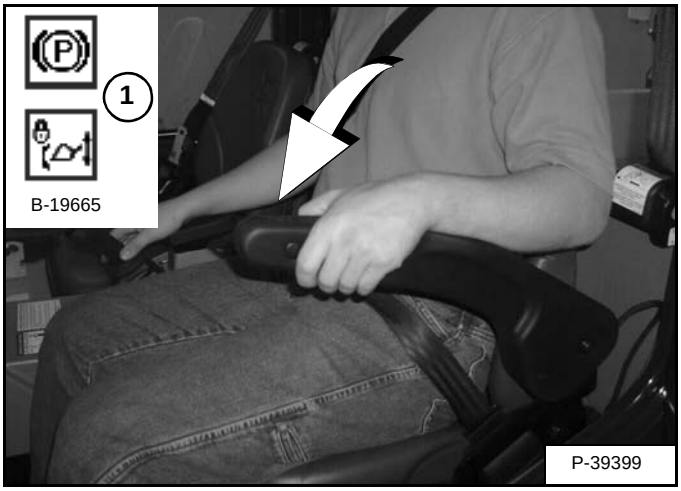
REF NO	DESCRIPTION	FUNCTION / OPERATION
39	Joystick	Lift Arm, Tilt & Auxiliary Hydraulic operation
40	Arm Rest	- - -
41	Engine Speed Control	Move forward to increase engine RPM; backward to decrease.
42 **43** **44**	Auxiliary Hydraulic Functions (Option)	See Attachment Operation & Maintenance Manual(s) for more information.
45	Steering Mode	Press front of switch to select Front Wheel Steer; rear to select All Wheel Steer (See Page OI-6)
46	Wheel Alignment Indicator	Shows when wheels are aligned straight ahead.
47	Rear Differential Lock	Press and hold back of switch to engage.
48	Cargo Box Dump	Press rear of switch to dump; front to lower Cargo Box.
49	High Flow Auxiliary Hydraulics	Press and release front of switch to engage; back to disengage
50	Not Used	- - -

TOOLCAT INTERLOCK CONTROL SYSTEM (TICS)

TICS And Arm Rest Operation

The Toolcat Interlock Control System (TICS) has a pivoting arm rest located on the left side of the operator's seat.

Figure OI-7



The TICS requires the operator to be seated in the operating position with the arm rest **[Figure OI-7]** fully lowered before the lift, tilt and traction functions can be operated. The seat belt must be fastened anytime you operate or are a passenger riding in the machine.

There are display lights (Item 1) **[Figure OI-7]** located on the display control panel that must be OFF to operate the machine. When the operator raises the arm rest, the lift, tilt, auxiliary hydraulics and traction drive functions are deactivated.

⚠ WARNING

AVOID INJURY OR DEATH

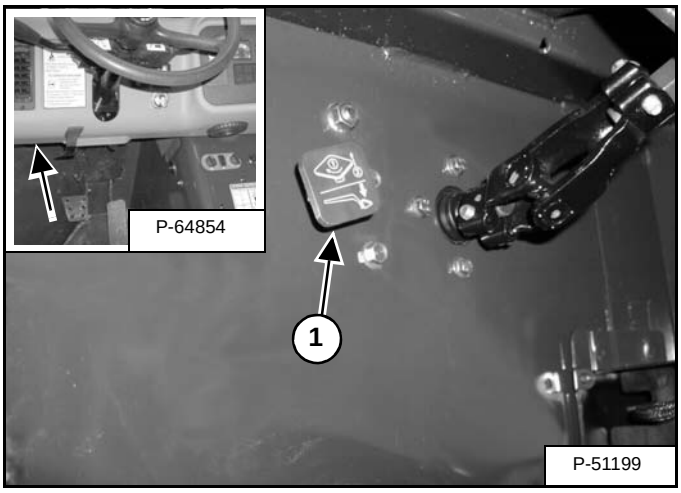
The Toolcat Interlock Control System (TICS) must deactivate the lift, tilt, auxiliary hydraulics and traction drive functions. If it does not, contact your dealer for service. DO NOT MODIFY THE SYSTEM.

W-2452-1102

LIFT ARM BY-PASS CONTROL

Operation

Figure OI-8



The lift arm by-pass is used to lower the lift arm in the event that you cannot lower the lift arm using the joystick.

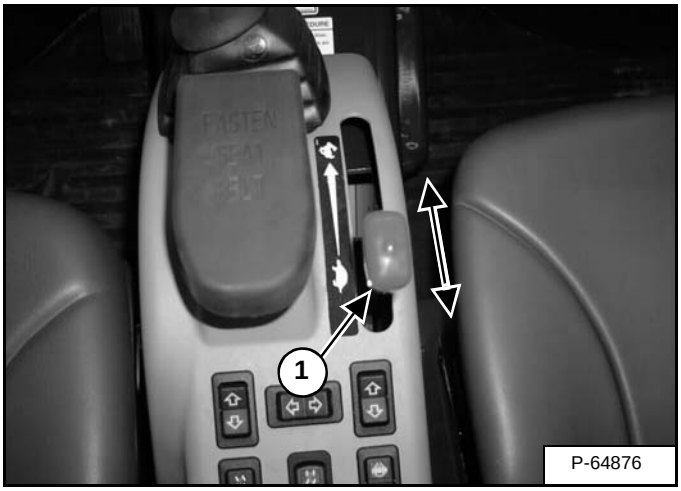
The by-pass knob is located under the steering wheel (Inset) **[Figure OI-8]**.

Turn the by-pass knob (Item 1) **[Figure OI-8]** clockwise 1/4 turn, then pull out and hold until the lift arm slowly lowers.

ENGINE SPEED CONTROL

Operation

Figure OI-9

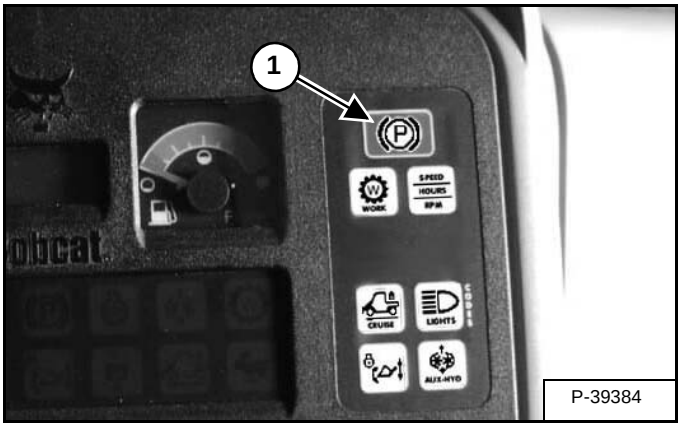


The engine speed control (Item 1) **[Figure OI-9]** is on the center console at the right side of the operator's seat. Move the engine speed control forward to increase the engine RPM and backward to decrease.

PARKING BRAKE

Operation

Figure OI-10



Press the button (Item 1) **[Figure OI-10]** to engage the parking brake. If the button is pressed, you must press it again to disengage.

NOTE: The parking brake is also engaged when the Travel Direction Control Lever is in PARK position. Brake is disengaged when the lever is moved to the Forward or Reverse position.

STEERING MODE SELECTION

Operation

WARNING

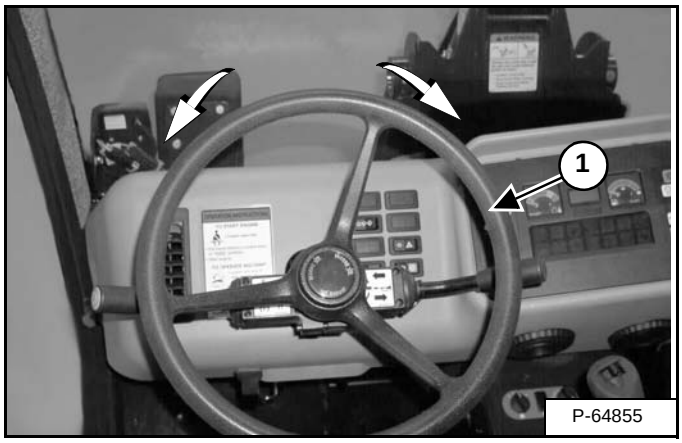
AVOID INJURY OR DEATH

When operating the machine:

- **Keep the seat belts fastened snugly.**
- **The arm rest must be lowered.**
- **Keep your feet and arms inside the cab.**

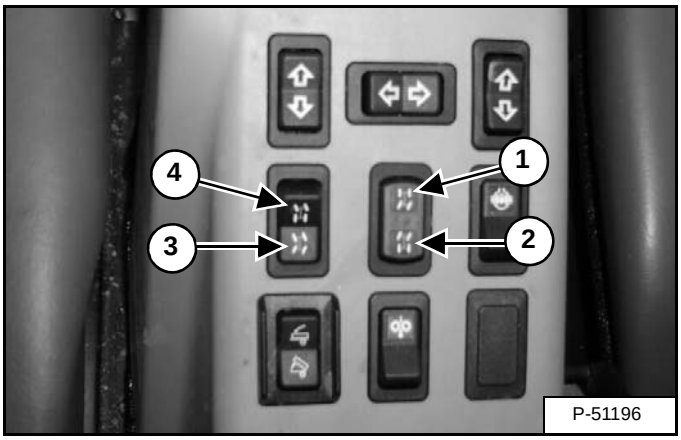
W-2454-1102

Figure OI-11



Turn the steering wheel (Item 1) **[Figure OI-11]** to the right or left to steer the machine.

Figure OI-12



The steering mode can be selected either for Front Wheel Steer or All Wheel Steer operation.

All Wheel Steer allows the machine to turn in a smaller circle. In All Wheel Steer, the rear wheels follow the same track as the front wheels.

Front Wheel Steer - TO - All Wheel Steer

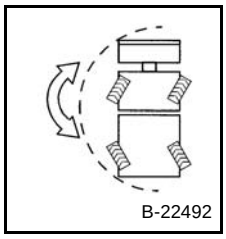
- Turn the steering wheel until the wheel alignment indicator lights (Items 1 & 2) **[Figure OI-12]** are both ON. When the lights are both ON, the front AND rear wheels are pointing straight ahead

- Press the rear of the switch (Item 3) **[Figure OI-12]** to engage All Wheel Steer.

All Wheel Steer - TO - Front Wheel Steer

- Turn the steering wheel until the rear wheel alignment indicator light (Item 2) **[Figure OI-12]** is ON. When the light is ON, the rear wheels are pointing straight ahead.

- Press the front of the switch (Item 4) **[Figure OI-12]** to engage Front Wheel Steer.



Tail Swing: When using the All-Wheel-Steer Mode, the front or rear of the machine will swing in the opposite direction of the turn. Always allow room for the turn on that side of the machine.

WARNING

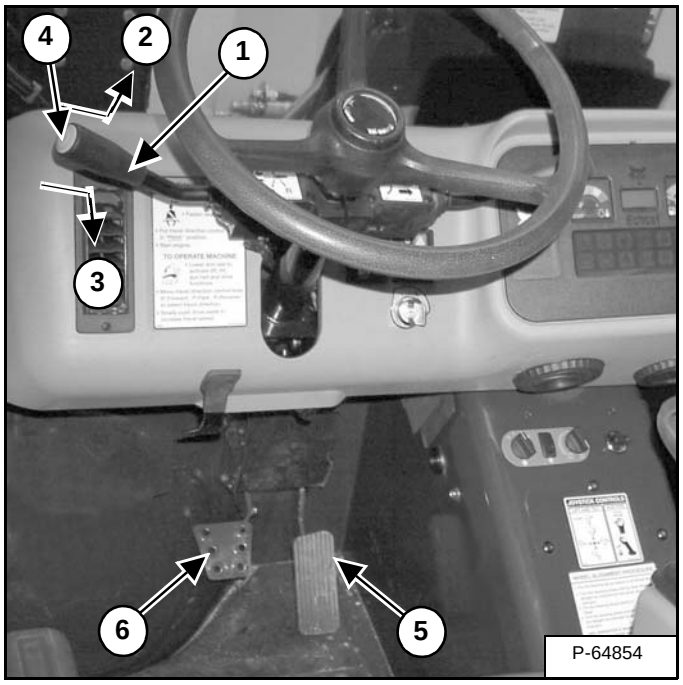
Leave adequate room for tail swing of machine when operating in All-Wheel-Steer Mode. Always look in the direction of travel.

W-2472-0903

TRAVEL DIRECTION CONTROL LEVER

Operation

Figure OI-13



The Travel Direction Control Lever (Item 1) **[Figure OI-13]** has three positions; Forward - PARK - Reverse (**FPR**).

Pull lever toward steering wheel and move the lever up (Item 2) **[Figure OI-13]** for forward travel.

Pull lever toward steering wheel and move the lever down (Item 3) **[Figure OI-13]** for reverse travel.

Put the lever in PARK whenever you stop the machine. The PARK position automatically engages the parking brake.

Note: The Travel Direction Control Lever must be in PARK to start the engine.

Two-Speed Control

Press the button (Item 4) **[Figure OI-13]** at the end of lever to engage high range. (High Speed Icon, Item 34, **[Figure OI-4]**, will be ON.) Press again to disengage.

DRIVE PEDAL

Operation

Use the Travel Direction Control Lever to select Forward or Reverse travel then press the Drive Pedal (Item 5) **[Figure OI-13]** to move the machine. To increase the speed of the machine, continue to press the Drive Pedal. Release the Drive Pedal to stop the machine.

BRAKE PEDAL

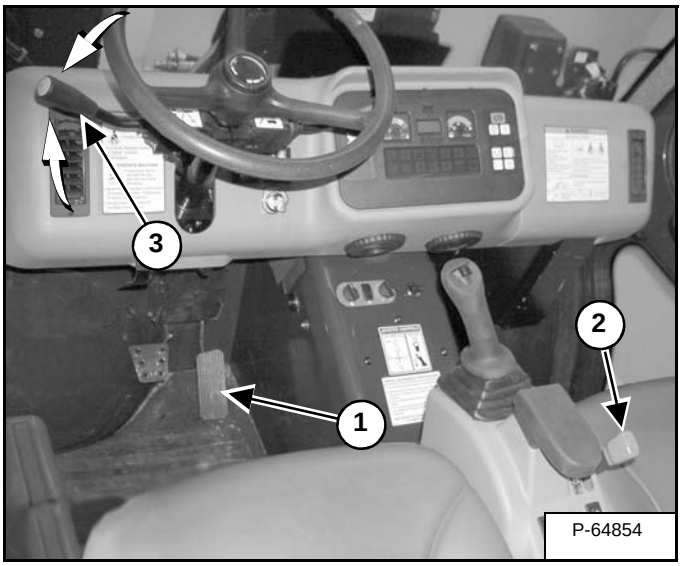
Operation

Press the Brake Pedal (Item 6) **[Figure OI-13]** to stop the machine. The Brake Pedal will decelerate the machine faster than releasing the Drive Pedal only. Continue to press and hold the Brake Pedal to temporarily hold the machine in position until the Travel Direction Control Lever is returned to the PARK position or drive operation is resumed.

STOPPING THE UTILITY WORK MACHINE

Procedure

Figure OI-14



Gradually release pressure on the Drive Pedal (Item 1) **[Figure OI-14]** until the machine comes to a complete stop.

Move Engine Speed Control (Item 2) **[Figure OI-14]** backward to decrease engine RPM.

Move the Travel Direction Control Lever (Item 3) **[Figure OI-14]** to PARK position.

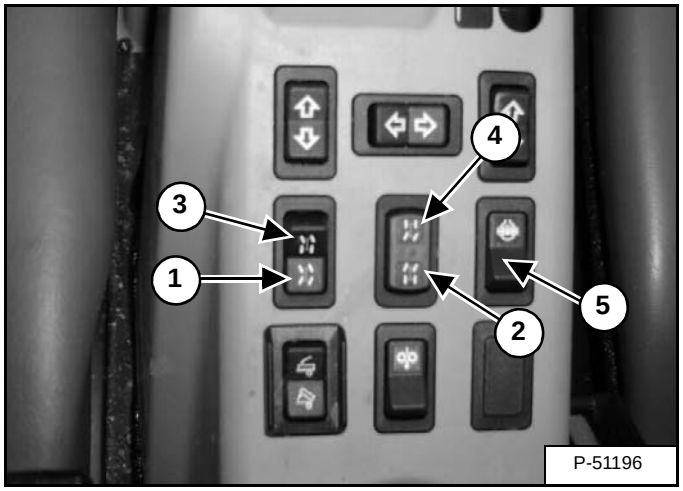
Lower the lift arm and put the attachment flat on the ground. Put all controls in neutral.

Turn the key OFF and remove the key to prevent use by unauthorized personnel. (*Keyless Start:* Press the STOP button.)

WHEEL ALIGNMENT

Procedure

Figure OI-15



Put the Steering Mode Switch in All-Wheel-Steer (Item 1) **[Figure OI-15]**.

Turn the steering wheel until the rear wheels are straight as indicated by the wheel alignment indicator (Item 2) **[Figure OI-15]**.

Put the Steering Mode Switch in Front Wheel Steer (Item 3) **[Figure OI-15]**.

Turn the steering wheel until the front wheels are straight as indicated by the wheel alignment indicator (Item 4) **[Figure OI-15]**.

DIFFERENTIAL LOCK

The differential lock can be used to provide extra traction (EXAMPLE: Muddy conditions).

Engaging

NOTE: The differential lock will NOT engage when the machine is in All Wheel Steer.

Be sure machine is stopped and front wheel steering is engaged.

Press and hold the back of the switch (Item 5) **[Figure OI-15]** to engage. Release switch after use.

IMPORTANT

Do not operate the Toolcat Utility Work Machine at high speeds when the differential lock is engaged.

Always operate the machine at low speeds.

Disengage differential lock when driving at high range speeds.

I-2225-0104

HYDRAULIC CONTROLS

Description

Figure OI-16

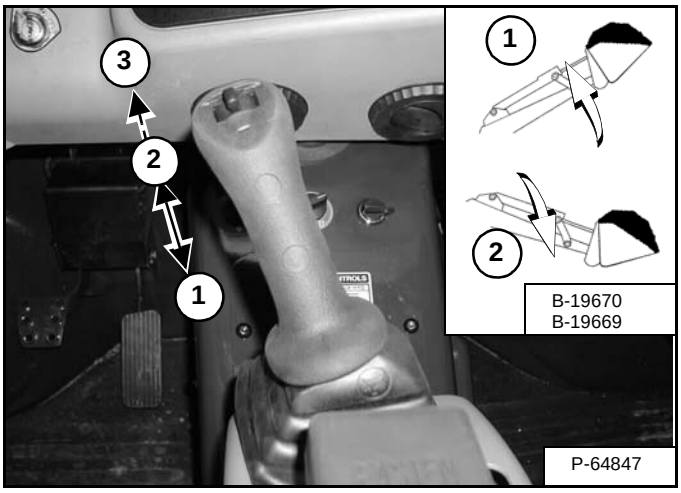
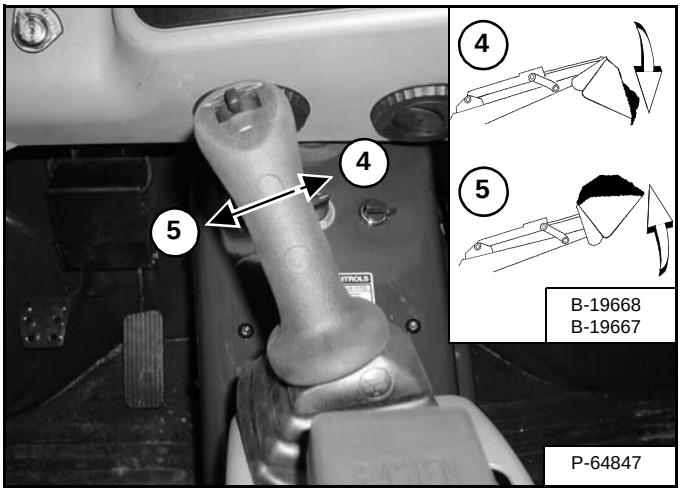


Figure OI-17



Movement of the joystick **[Figure OI-16]** and **[Figure OI-17]** controls the hydraulic cylinders for the lift and tilt functions.

Lift Arm Operation

Pull the joystick backward to raise the lift arm (Item 1) **[Figure OI-16]**.

Push the joystick forward to lower the lift arm (Item 2) **[Figure OI-16]**.

Lift Arm Float Position

Push the joystick all the way forward (Item 3) **[Figure OI-16]** until it locks into the detent position.

Use the float position of the lift arm to level loose material while driving backward.

Pull the joystick backward to raise the lift arm (Item 1) **[Figure OI-16]** and release from float position.

Tilt Operation

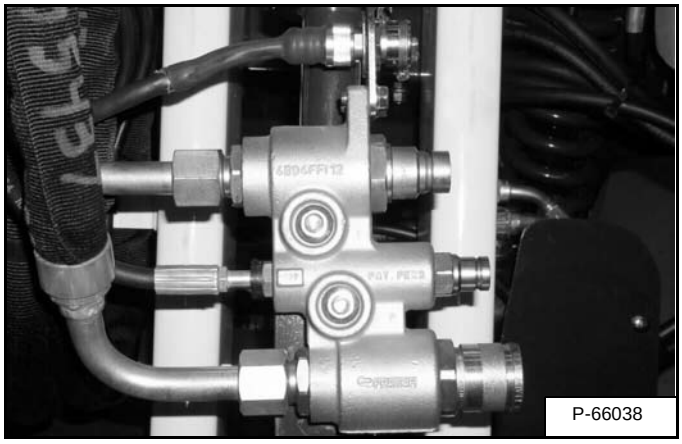
Move the joystick to the right to tilt the bucket forward (Item 4) **[Figure OI-17]**.

Move the joystick left to tilt the bucket backward (Item 5) **[Figure OI-17]**.

HYDRAULIC CONTROLS (CONT'D)

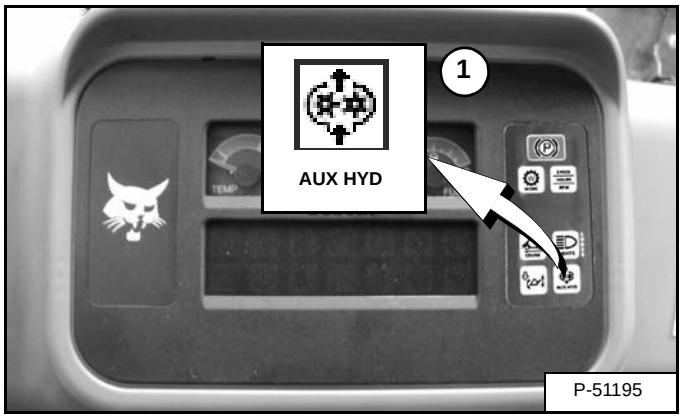
Front Auxiliary Hydraulics Operation

Figure OI-18



Front auxiliary hydraulics **[Figure OI-18]** are standard.

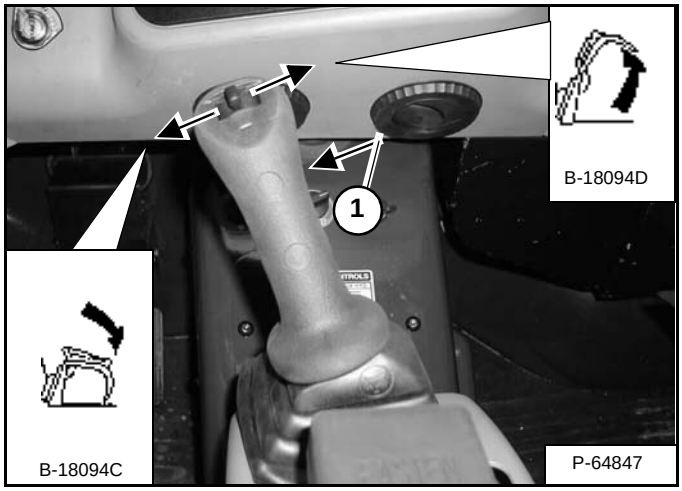
Figure OI-19



Press the auxiliary hydraulics button (Item 1) **[Figure OI-19]** to activate the front auxiliary hydraulics.

The switch on the joystick controls the auxiliary hydraulic functions.

Figure OI-20



The thumb switch on the joystick now controls the front auxiliary hydraulic functions.

Move the thumb switch to the left or to the right to control the front auxiliary hydraulics to operate an attachment. (EXAMPLE: To open or close grapple teeth.) **[Figure OI-20]**.

Move the thumb switch in the opposite direction to reverse the action of the attachment.

Front Auxiliary Hydraulics Operation (CONTINUOUS FLOW)

Move and hold the thumb switch for the desired hydraulic movement then press the trigger switch on the joystick (Item 1) **[Figure OI-20]** for a constant flow of hydraulic fluid under pressure to the front auxiliary hydraulics. (EXAMPLE: Sweeper operation)

Quick Couplers

To Connect: Remove dirt or debris from the surface of both the male and female couplers, and from the outside diameter of the male coupler. Visually check the couplers for corroding, cracking, damage or excessive wear. If any of these conditions exist, the coupler(s) must be replaced.

To Disconnect: Hold the male coupler. Retract the sleeve of the female coupler until the couplers disconnect.

⚠ WARNING

AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running machine and attachments. Be careful when connecting and disconnecting quick couplers.

W-2220-0396

Relieve Hydraulic Pressure (Utility Work Machine and Attachment)

WARNING

AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running machine and attachments. Be careful when connecting and disconnecting quick couplers.

W-2220-0396

When Connecting: Push the quick couplers tightly together and hold for five seconds; the pressure is automatically released as the couplers are connected.

When Disconnecting: Push the quick couplers tightly together and hold for five seconds; then retract the sleeve until the couplers disconnect.

High Flow Hydraulics Operation (If Equipped)

Figure OI-21

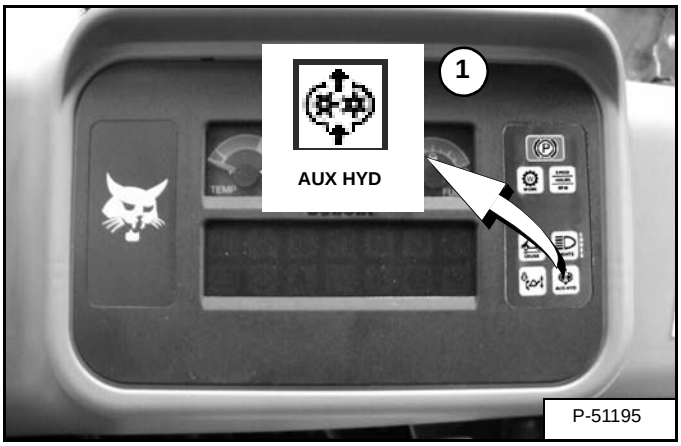
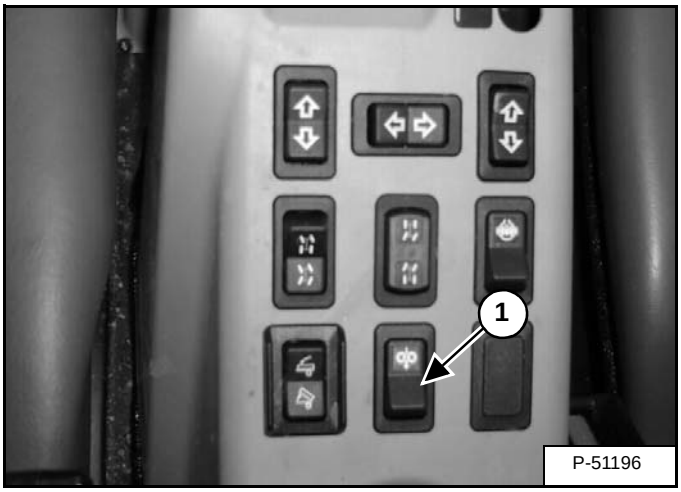


Figure OI-22



After auxiliary hydraulics is activated (Item 1) **[Figure OI-21]**, press the high flow switch (Item 1) **[Figure OI-22]** on the center console. (The High Flow Icon on the switch will be ON.)

Press high flow switch again to deselect high flow.

IMPORTANT

If the High Flow is engaged, High Horsepower Hydraulics will flow through the auxiliary hydraulic quick couplers. Damage to unapproved attachments can result. See your Bobcat dealer for approved high flow attachments.

I-2227-0204

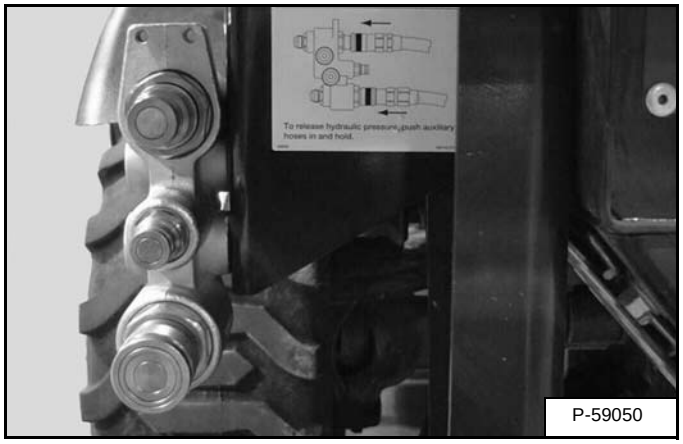
REAR AUXILIARY HYDRAULICS (If Equipped)

Description

The rear auxiliary hydraulics system uses a diverter valve to supply oil from the front auxiliary hydraulics to the rear of the machine.

The rear auxiliary hydraulics can be used for rear attachments that require continuous hydraulic flow in both directions. The Power Take-Off (PTO), if equipped, is also operated with the rear auxiliary hydraulics.

Figure OI-23



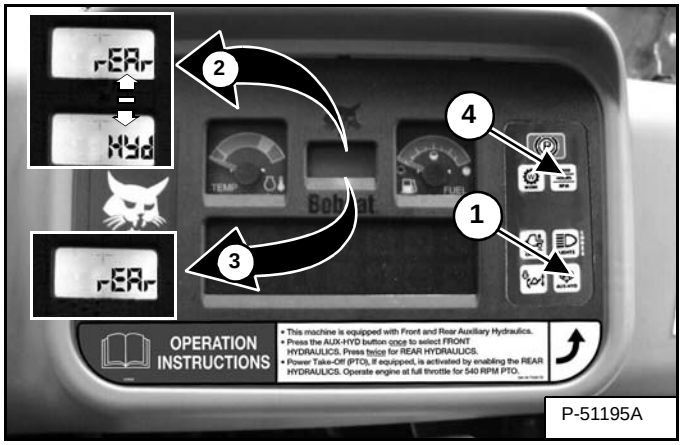
The quick couplers are located under the left side of the cargo box near the rear of the machine **[Figure OI-23]**.

Rear Auxiliary Hydraulics Operation

Enter the machine, fasten the seat belt and lower the arm rest.

Start the engine.

Figure OI-24



Press the auxiliary hydraulics button (Item 1) twice to activate the rear auxiliary hydraulics. The words **rEAr** *then* **Hyd** (Item 2) will flash several times on the display.

After a few seconds, the word **rEAr** (Item 3) **[Figure OI-24]** will remain on the display.

Pressing the auxiliary hydraulics button (Item 1) **[Figure OI-24]** a third time will turn the auxiliary hydraulics OFF.

NOTE: You can manually change the display back to read machine speed, hours or engine speed by pressing the SPEED/HOURS/RPM button (Item 4) [Figure OI-24].

NOTE: When the arm rest is raised, the rear auxiliary hydraulics will shut off.

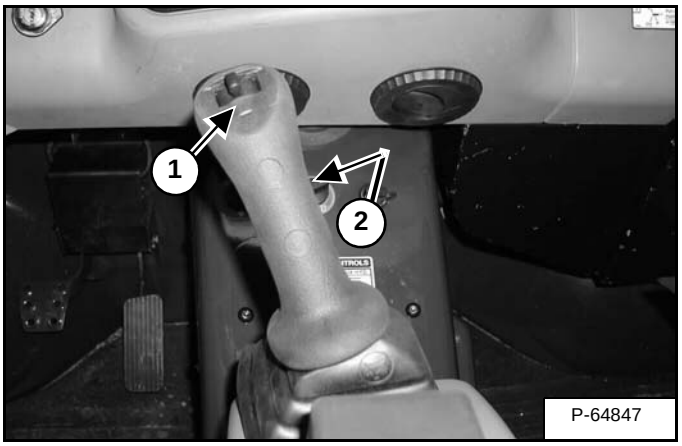
⚠ WARNING

ACCIDENTAL MACHINE MOVEMENT CAN CAUSE INJURY OR DEATH

- **Keep bystanders away when connecting implement.**
- **If using a second person to help connect implement, to not stand between tractor and implement while tractor is moving.**
- **Keep bystanders away.**

W-2620-1104

Figure OI-25



The switches on the joystick now control the rear auxiliary hydraulic functions (and PTO if equipped and connected).

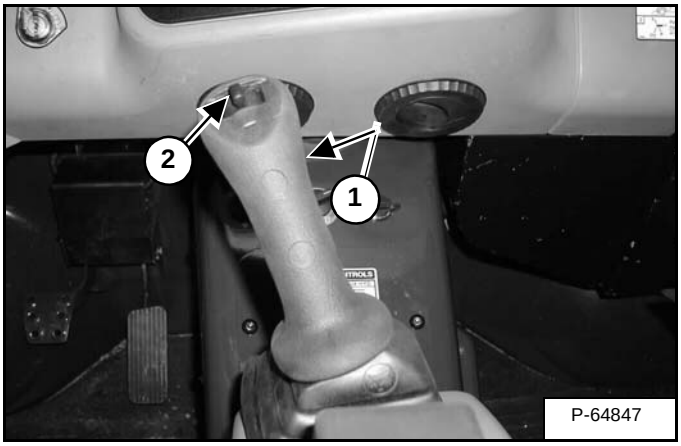
Move the thumb switch (Item 1) **[Figure OI-25]** to the left or right to control the rear auxiliary hydraulics to operate an attachment.

Move the thumb switch to the right for hydraulic flow out of the female quick coupler. Move the thumb switch to the left for hydraulic flow out of the male quick coupler.

REAR AUXILIARY HYDRAULICS (IF EQUIPPED) (CONT'D)

Rear Auxiliary Hydraulics Operation (CONTINUOUS FLOW)

Figure OI-26



The trigger switch (Item 1) **[Figure OI-26]** on the front of the joystick can be used for continuous flow. Move the thumb switch (Item 2) **[Figure OI-26]** to the desired direction, then press and release the trigger switch. Release the thumb switch.

Quick Couplers

To Connect: Remove dirt or debris from the surface of both the male and female couplers, and from the outside diameter of the male coupler. Visually check the couplers for corroding, cracking, damage or excessive wear. If any of these conditions exist, the coupler(s) must be replaced.

To Disconnect: Hold the male coupler. Retract the sleeve of the female coupler until the couplers disconnect.

WARNING

AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running machine and attachments. Be careful when connecting and disconnecting quick couplers.

W-2220-0396

Relieve Hydraulic Pressure (Utility Work Machine and Attachment)

WARNING

AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running machine and attachments. Be careful when connecting and disconnecting quick couplers.

W-2220-0396

When Connecting: Push the quick couplers tightly together and hold for five seconds; the pressure is automatically released as the couplers are connected.

When Disconnecting: Push the quick couplers tightly together and hold for five seconds; then retract the sleeve until the couplers disconnect.

POWER TAKE-OFF (PTO) (If Equipped)

Description

The Toolcat 5600 utility work machine Power Take-Off (PTO) system is a hydraulically driven rear PTO designated as Type I per ASAE S203.15. The PTO system operates only at 540 RPM [@ 2700 RPM engine speed and 22 HP (16,4 kW)]. The attachment or implement driveline should not exceed Category 4 per ASAE S331.5.

NOTE: Some attachments require a minimum engine power for proper operation. The PTO system can be used with attachments requiring up to 46 HP (34,3 kW) or 56 HP (41,8 kW) [on Model 5600 equipped with a Turbo Charged engine]. Type I attachments or implements exceeding the approved towing capacity are not approved for use on the Toolcat 5600. Use of attachments or implements in applications requiring more than 22 HP (16,4 kW) [PTO] may result in less than optimum performance.

The PTO motor is operated using the Rear Auxiliary Hydraulic system (See REAR AUXILIARY HYDRAULICS (If Equipped) on Page OI-17.)

The PTO is not approved for use in stationary applications where the operator is required to leave the machine. The operator must be in the machine any time the PTO is being operated.

Mirrors are available and can be field installed. Mirrors may be beneficial when using rear attached implements and other attachments.

WARNING

AVOID INJURY OR DEATH

Before you leave the operator's seat:

- **Lower the lift arm, put the attachment flat on the ground.**
- **Put Travel Direction Control Lever in PARK.**
- **Stop the engine.**
- **Raise operator arm rest.**

W-2443-1102

Safety Rules For PTO

WARNING

AVOID INJURY OR DEATH

Warnings and instructions in this manual and on the machine are for your protection.

Failure to follow the warnings and instructions can cause serious injury or death.

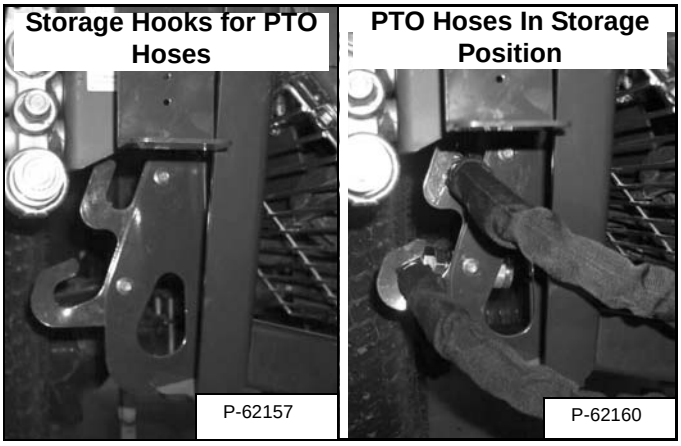
W-2621-1104

- Lower the lift arm, stop the engine and raise the arm rest before leaving the machine.
- Keep all shields in place. Replace damaged or missing shields before operating
- Follow warnings and instructions on machine signs (decals). Replace damaged or missing decals.
- Do not wear loose or bulky clothing around the PTO or other moving parts.
- Keep bystanders away from PTO driven equipment, and never allow children near machines.
- Read and understand the manuals for the PTO driven equipment and be aware of safe operating procedures and hazards that may not be readily apparent.
- Always walk around equipment to avoid coming near a turning PTO driveline. Stepping over, leaning across or crawling under a turning PTO driveline can lead to entanglement.
- Position the machine and attachment hitch correctly to prevent driveline stress and separation.
- Use caution when turning. Turning too sharp can cause driveline damage.
- Periodically check on PTO operators to ensure a quick response in the event of an accident. Injuries that would not ordinarily be fatal can be life threatening if the victim is not found until hours later. PTO accident victims require immediate medical care.

POWER TAKE-OFF (PTO) (If Equipped) (CONT'D)

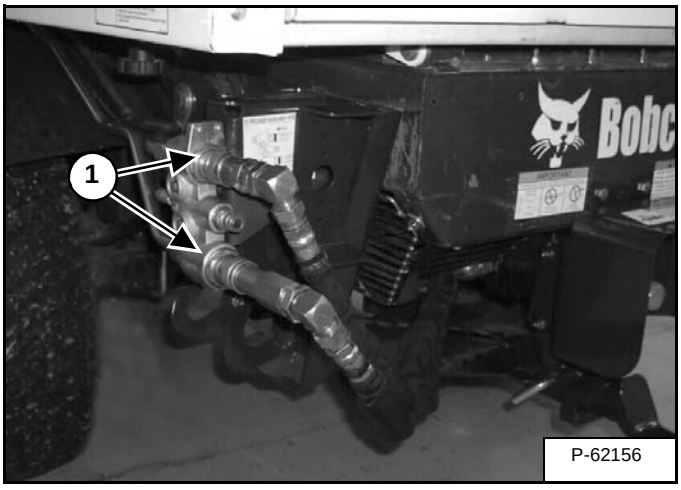
Connecting The Motor

Figure OI-27



When the PTO motor quick couplers are disconnected, they can be stored in the hooks provided at the rear of the machine **[Figure OI-27]**.

Figure OI-28

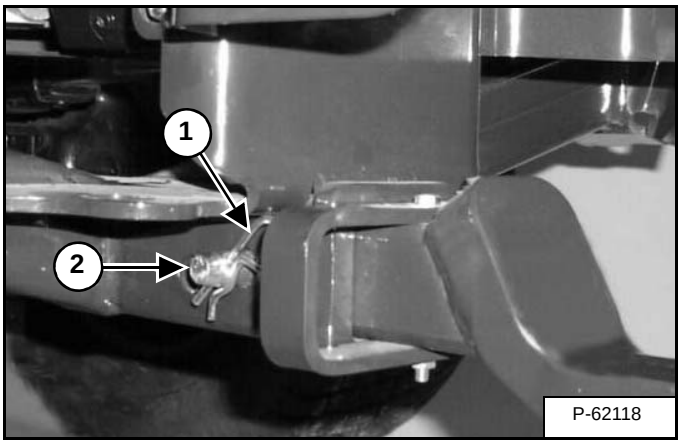


To connect the PTO motor, remove the hoses from the storage hooks. Connect the quick couplers (Item 1) **[Figure OI-28]** to the rear auxiliary hydraulics by pressing the couplers together until they securely latch. (See REAR AUXILIARY HYDRAULICS (If Equipped) on Page OI-17.)

Connecting The Attachment

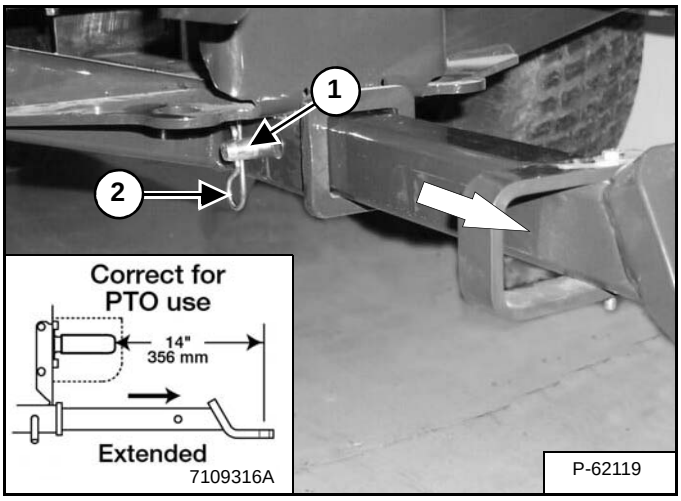
Adjust the hitch of the implement or attachment to match the height of the machine hitch. See the implement or attachment Operator Manual for details.

Figure OI-29



Remove the retaining pin (Item 1) **[Figure OI-29]** and then remove the receiver hitch pin (Item 2) **[Figure OI-29]**.

Figure OI-30



Extend the receiver hitch to the position shown (Inset) **[Figure OI-30]**. Install the receiver hitch pin in the hole (Item 1) and secure it with the retaining pin (Item 2) **[Figure OI-30]**.

NOTE: The mounting holes for extend position are offset from center so that the hitch cannot be installed upside down.

IMPORTANT

Improper hitch placement can cause PTO driveline damage.

- **Do not modify the receiver hitch or use an unapproved hitch.**
- **Do not turn the hitch upside down.**
- **Do not use clevis devices. A clevis is not compatible with PTO drivelines on this machine.**

I-2232-1104

Connecting The Attachment (Cont'd)

Enter the machine, fasten the seat belt, and lower the arm rest.

Start the engine and move the machine to the attachment. If a second person helps guide the machine, have them stand a safe distance away from the side of the attachment.

When the machine is aligned with the attachment, place the Travel Direction Control Lever in the PARK position.

Stop the engine, unbuckle the seat belt and raise the arm rest.

⚠ WARNING

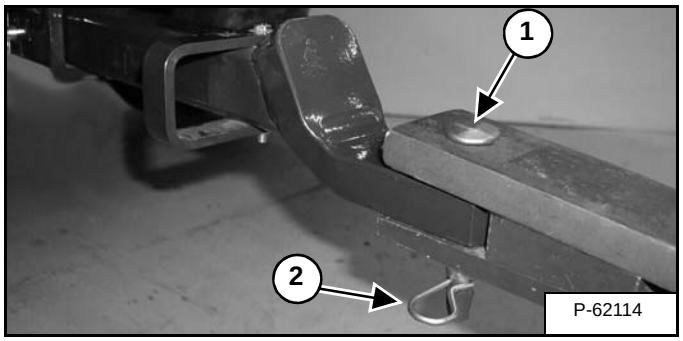
AVOID INJURY OR DEATH

Before you leave the operator's seat:

- **Lower the lift arm, put the attachment flat on the ground.**
- **Put Travel Direction Control Lever in PARK.**
- **Stop the engine.**
- **Raise operator arm rest.**

W-2443-1102

Figure OI-31



Connect the attachment to the hitch using a hitch pin with a very low or no handle (Item 1) **[Figure OI-31]**. The hitch pin should be long enough to go through the hitch on the attachment. Install a retaining pin (Item 2) **[Figure OI-31]**.

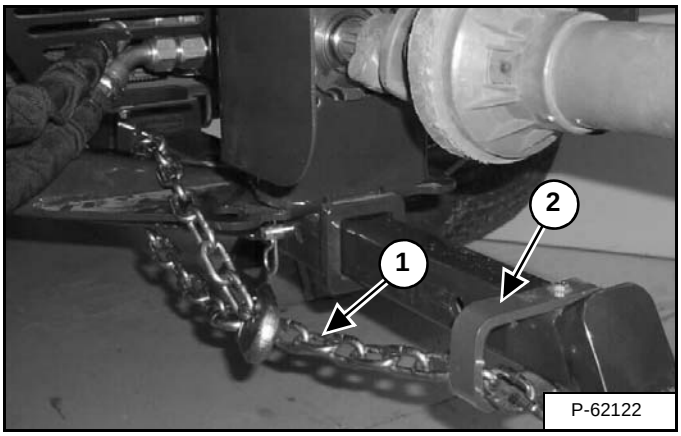
⚠ WARNING

VOID INJURY OR DEATH

- **Keep all shields in place.**
- **Keep hands, legs, feet and clothing away.**
- **Replace damaged or missing shields.**

W-2622-0707

Figure OI-32



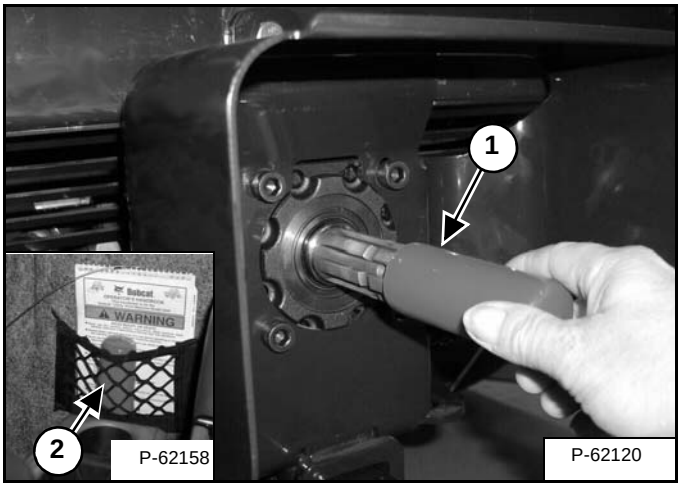
Route the safety chain (Item 1) **[Figure OI-32]** through the intermediate support (Item 2) **[Figure OI-32]** and fasten it around the hitch as shown. Allow no more slack in the chain than is necessary for turning.

IMPORTANT

- **Use only approved safety chains when towing equipment.**
- **See your implement or attachment dealer for safety chains for your equipment.**
- **Replace safety chains that are broken, stretched or damaged.**

I-2235-0907

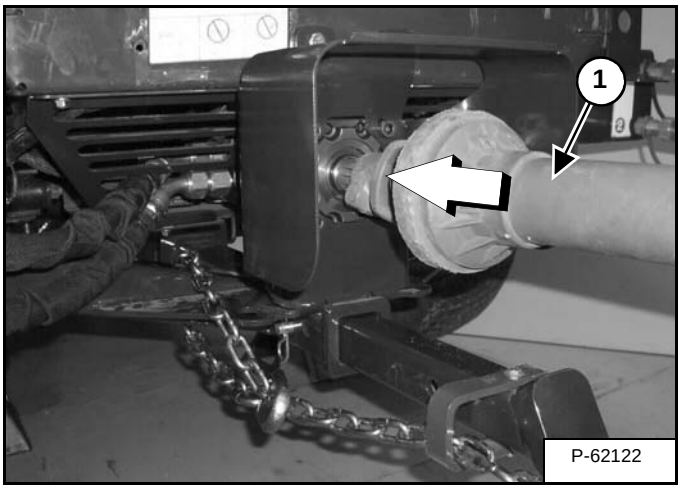
Figure OI-33



Remove the plastic PTO shaft sleeve (Item 1) **[Figure OI-33]**. Keep the sleeve for use later when no PTO driveline is attached. It keeps dirt and debris off the shaft splines. Store the sleeve in the Handbook pouch (Item 2) **[Figure OI-33]** in the cab of the machine.

Connecting The Attachment (Cont'd)

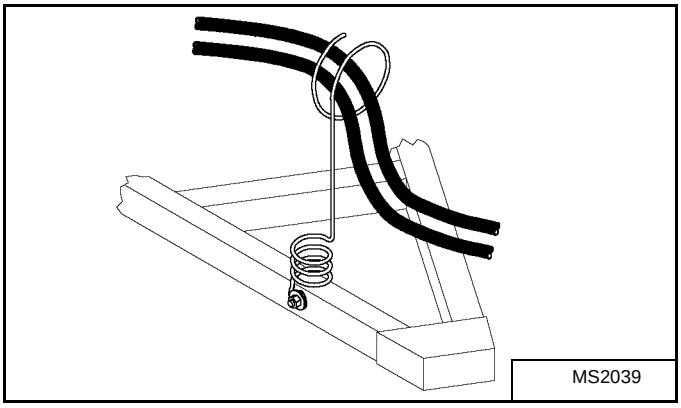
Figure OI-34



Connect the PTO driveline (Item 1) **[Figure OI-34]** to the PTO motor shaft. Make sure it is securely connected.

NOTE: The implement or attachment driveline must have a means to retain it to the PTO motor shaft.

Figure OI-35



If the attachment requires remote hydraulic operation, connect the hoses to the remote hydraulic quick couplers (See REMOTE HYDRAULICS (If Equipped) on Page OI-25.)

Secure hoses **[Figure OI-35]** to prevent damage.

IMPORTANT

To prevent hose damage caused by dragging on the ground, rubbing, pinching or PTO entanglement:

- **Support attachment and implement hydraulic hoses using available hose guides or supports.**
- **Contact your implement or attachment dealer for available hose guides or supports.**

I-2230-0907

Operation

Enter the machine, fasten the seat belt, and lower the arm rest.

Start the engine.

NOTE: The PTO is operated by activating the Rear Auxiliary Hydraulics when the PTO motor quick couplers have been connected.

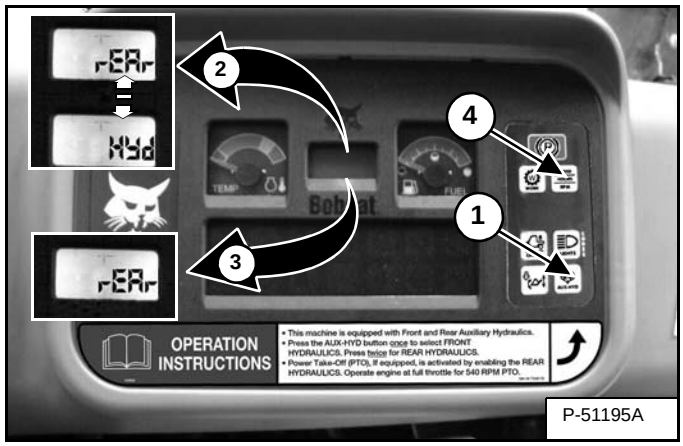
⚠ WARNING

ACCIDENTAL MACHINE MOVEMENT CAN CAUSE INJURY OR DEATH

- **Keep bystanders away when connecting implement.**
- **If using a second person to help connect implement, to not stand between tractor and implement while tractor is moving.**
- **Keep bystanders away.**

W-2620-1104

Figure OI-36



Press the Auxiliary Hydraulics button (Item 1) twice to activate the Rear Auxiliary Hydraulics/PTO. The words **rEAr** *then* **Hyd** (Item 2) will flash several times on the display. After a few seconds, the word **rEAr** (Item 3) **[Figure OI-36]** will remain on the display.

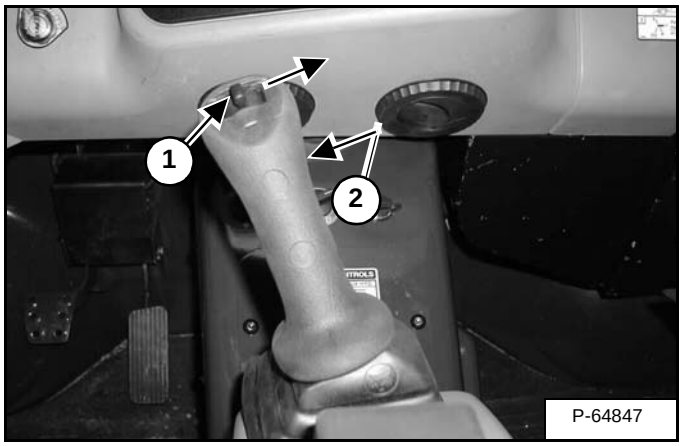
Pressing the Auxiliary Hydraulics Button (Item 1) **[Figure OI-36]** a third time will turn the Auxiliary Hydraulics OFF.

NOTE: You can manually change the display back to read machine speed, hours, or engine speed by pressing the SPEED/HOURS/RPM button (Item 4) [Figure OI-36].

NOTE: When the arm rest is raised, the Rear Auxiliary Hydraulics/PTO will shut off.

Operation (Cont'd)

Figure OI-37



The switches on the joystick now control the PTO.

Move the thumb switch (Item 1) **[Figure OI-37]** slowly to the right to start the PTO.

Once the PTO is turning, press the trigger switch (Item 2) **[Figure OI-37]** on the front of the joystick to lock the PTO on for continuous operation.

Press the trigger switch again to stop the PTO.

NOTE: The PTO motor has a flow control valve that prevents the PTO from turning the wrong direction.

⚠ WARNING

VOID INJURY OR DEATH

- **Keep all shields in place.**
- **Keep hands, legs, feet and clothing away.**
- **Replace damaged or missing shields.**

W-2622-0707

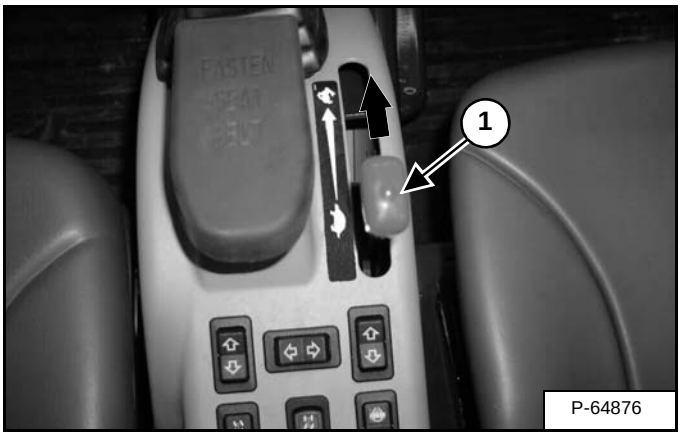
IMPORTANT

Turning too tight when operating PTO driven equipment can cause damage to the PTO driveline.

- **Put the machine in Front Wheel Steer mode when operating PTO attachments.**
- **Make gradual turns.**
- **In some applications it may be necessary to turn the PTO off when turning around.**

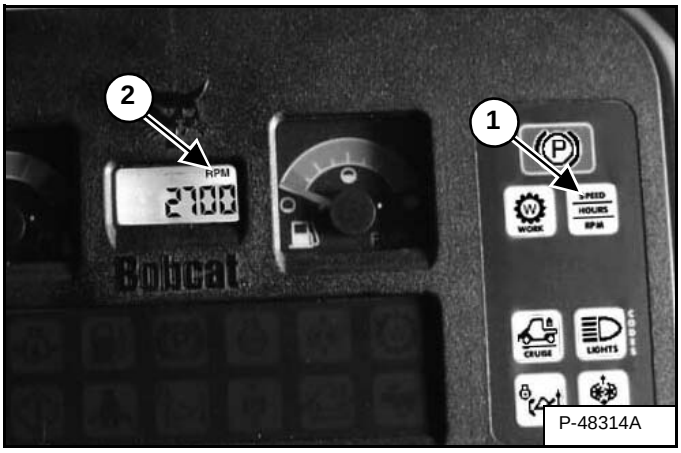
I-2233-1104

Figure OI-38



Push the engine speed lever (Item 1) **[Figure OI-38]** forward to increase engine speed to 2700 RPM (+/- 10 RPM). The engine must be operated at 2700 RPM for 540 RPM PTO operation.

Figure OI-39



To Set 2700 RPM Engine Speed: Press SPEED/HOURS/RPM button (Item 1) **[Figure OI-39]** until RPM appears in display (Item 2) **[Figure OI-39]**.

Push the engine speed lever (Item 1) **[Figure OI-38]** forward until 2700 RPM shows in the display **[Figure OI-39]**. After PTO operation has begun and the PTO is under load, push the engine speed lever forward more to maintain 2700 RPM (540 RPM at PTO).

IMPORTANT

Operating the engine above 2700 RPM can cause a serious overspeed condition and can damage the implement or attachment.

I-2234-1204

Disconnecting The Attachment

Always park on flat, level ground.

Place the Travel Direction Control Lever in PARK position.

Stop the engine, unbuckle the seat belt and raise the arm rest.

⚠ WARNING

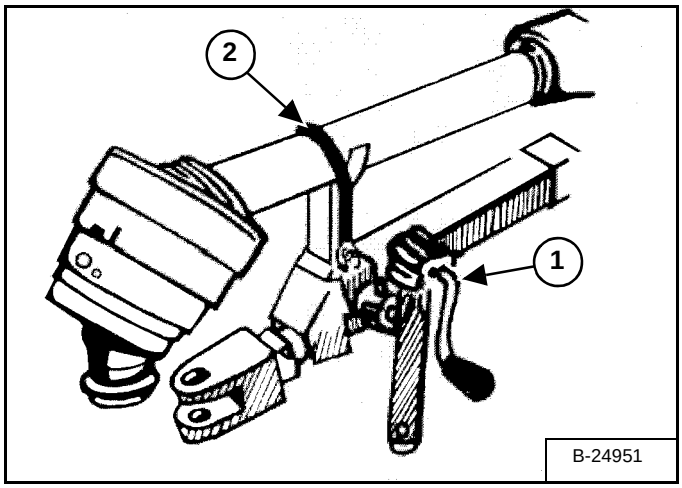
AVOID INJURY OR DEATH

Before you leave the operator's seat:

- **Lower the lift arm, put the attachment flat on the ground.**
- **Put Travel Direction Control Lever in PARK.**
- **Stop the engine.**
- **Raise operator arm rest.**

W-2443-1102

Figure OI-40



Use an approved jack to support the hitch of the attachment (Item 1) **[Figure OI-40]**.

Block the wheels of the attachment to keep it from moving.

Disconnect the PTO driveline and place it in the driveline storage area provided on the attachment (Item 2) **[Figure OI-40]**.

Figure OI-41

Put the plastic sleeve on the PTO shaft **[Figure OI-41]** to prevent dirt and debris from collecting on the PTO shaft splines.

⚠ WARNING

VOID INJURY OR DEATH

- **Keep all shields in place.**
- **Keep hands, legs, feet and clothing away.**
- **Replace damaged or missing shields.**

W-2622-0707

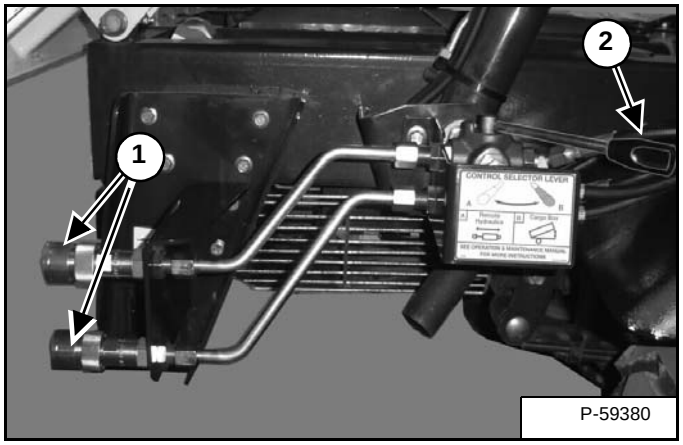
REMOTE HYDRAULICS (If Equipped)

Description

The remote hydraulic system uses the cargo box hydraulic circuit to supply hydraulic oil through a selector valve to two poppet style quick couplers.

The remote hydraulics can be used for rear attachments that require hydraulic function such as extending and retracting a hydraulic cylinder.

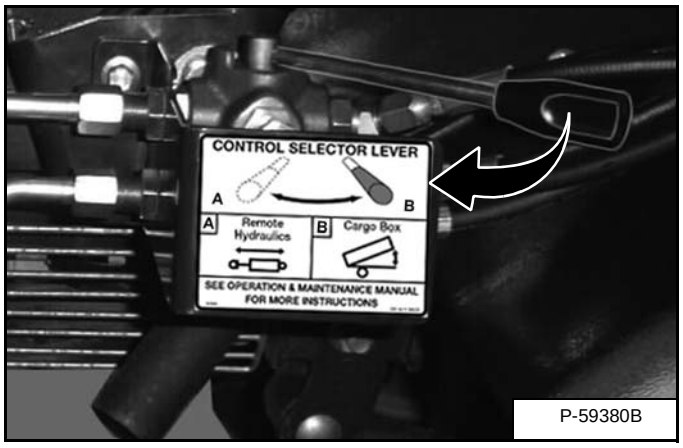
Figure OI-42



The quick couplers (Item 1) and the selector valve (Item 2) are mounted under the right side of the cargo box at the rear of the machine **[Figure OI-42]**.

Remote Hydraulics Operation

Figure OI-43

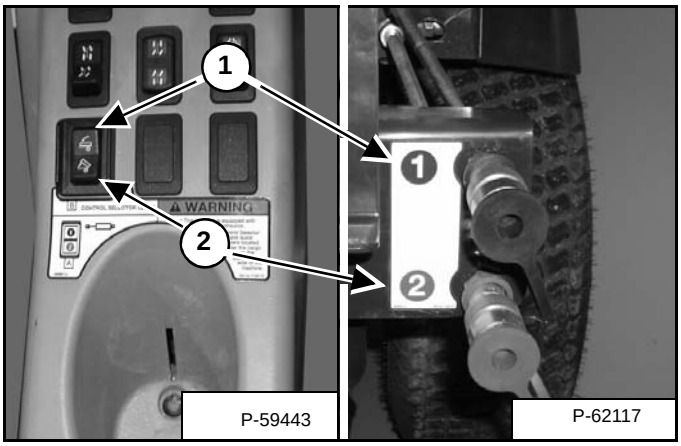


Move the selector lever to position **"A" [Figure OI-43]** for remote hydraulic operation.

Enter the machine, fasten the seat belt and lower the arm rest.

Start the engine.

Figure OI-44



The lower left switch on the center console **[Figure OI-44]** controls the remote hydraulics when the selector valve is in the **"A"** position.

Press the front of the switch (Item 1) **[Figure OI-44]** to pressurize the top quick coupler **(1)**.

Press the rear of the switch (Item 2) **[Figure OI-44]** to pressurize the bottom quick coupler **(2)**.

NOTE: Return the lever to position "B" [Figure OI-43] to operate the cargo box.

⚠ WARNING

ACCIDENTAL MACHINE MOVEMENT CAN CAUSE INJURY OR DEATH

- **Check the Control Selector Lever position and quick couplers located under cargo box on the passenger side of the machine before operating the cargo box/remote hydraulics switch.**
- **Keep bystanders away.**

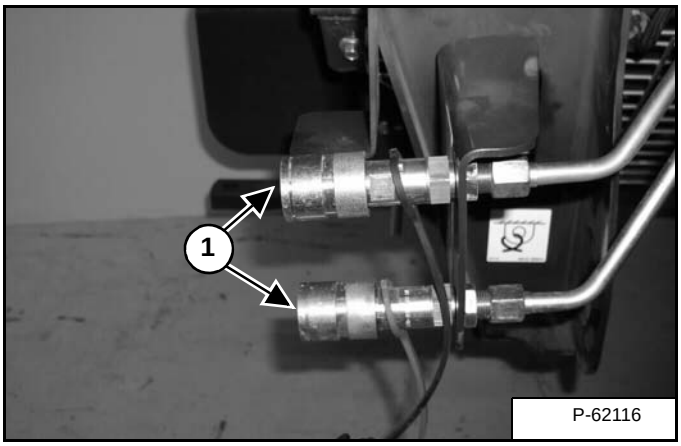
W-2619-1104

Function Chart [Figure OI-43] and [Figure OI-44]

DIVERTER LEVER POSITION [Figure 43]	SWITCH POSITION [Figure 44]	CARGO BOX	REMOTE HYDRAULICS
A	Forward	- - -	1 (Black)
A	Rearward	- - -	2 (Red)
B	Forward	Down	- - -
B	Rearward	Up	- - -

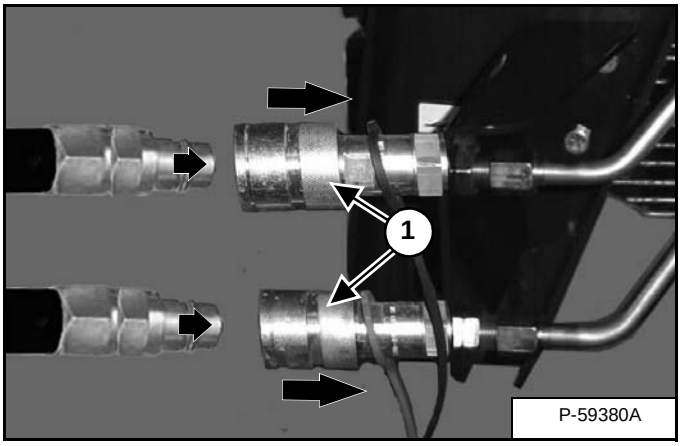
Quick Couplers And Hoses

Figure OI-45



Remove the plugs from the quick couplers. Clean both the male and female couplers (Item 1) **[Figure OI-45]** before connecting.

Figure OI-46



To Connect: Pull back on the collar of the female couplers (Item 1) **[Figure OI-46]**. Push couplers together, release the collar when the couplers are fully engaged and locked.

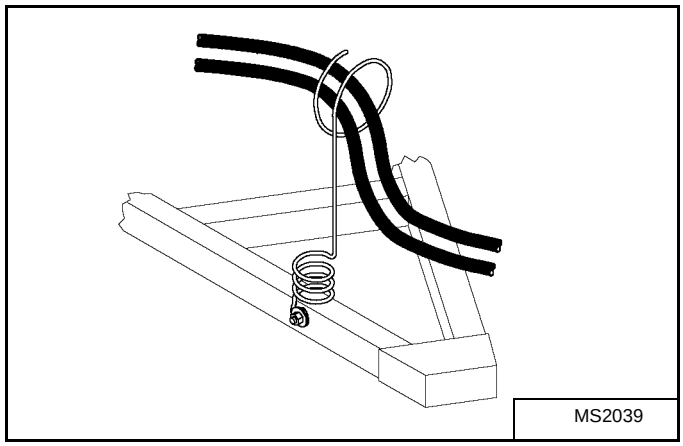
IMPORTANT

To prevent hose damage caused by dragging on the ground, rubbing, pinching or PTO entanglement:

- **Support attachment and implement hydraulic hoses using available hose guides or supports.**
- **Contact your implement or attachment dealer for available hose guides or supports.**

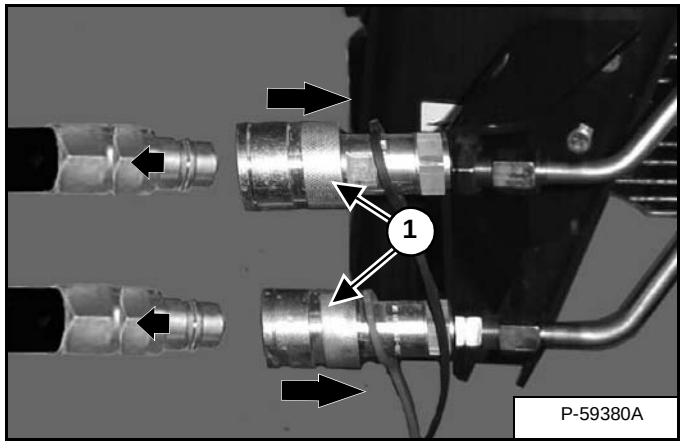
I-2230-0907

Figure OI-47



Secure the hoses to prevent damage **[Figure OI-47]**.

Figure OI-48



To Disconnect: Pull back on the collar (Item 1) **[Figure OI-48]** and pull the male coupler out to disconnect.

IMPORTANT

Avoid operating hydraulics over relief pressure. Failure to do so will overheat hydraulic components.

I-2220-0503

NOTE: Always clean and install the rubber plugs when the remote hydraulics are not used to prevent dirt from getting into the quick couplers.

Figure OI-49

⚠ WARNING

AVOID INJURY OR DEATH

- Keep engine clean of flammable material.
- Keep body, loose objects and clothing away from electrical contacts, moving parts, hot parts and exhaust.
- Do not use machine in space with explosive dust or gases or with flammable material near exhaust.
- All exhaust gases can kill. Always ventilate.
- Never use ether or starting fluid on diesel engine. Use only starting aids as approved by engine manufacturer.
- Leaking fluids under pressure can enter skin and cause serious injury. Immediate medical attention is required. Wear goggles. Use cardboard to check for leaks.
- Battery acid causes severe burns. Wear goggles. If acid contacts eyes, skin or clothing, flush and get medical attention.
- Battery makes flammable and explosive gas. Keep arcs, sparks, flames and lighted tobacco away.
- For jump start, connect negative cable to the machine frame last (never at the battery). After jump start, remove negative connections at the frame first.

SERVICE CHECKLIST AND SCHEDULE

EVERY 8-10 HRS

♦ • **ENGINE OIL-** Check level and add as needed. Do not overfill.
♦ • **HYDRAULIC FLUID-** Check level and add as needed.
• **FUEL FILTER-** Remove trapped water.
• **ENGINE AIR FILTER-** Check gauge and/or display. Service only when required. Do not use compressed air to clean element.
• **ENGINE AIR SYSTEM-** Check for leaks and damaged components.
♦ • **ENGINE COOLING SYSTEM-** Clean debris from oil cooler and radiator check coolant level cold, add as needed.
• **SEAT BELTS, ARM REST, AND CONTROL INTERLOCKS-** Check function. Repair or replace as needed. Clean dirt and debris from moving parts.
• **TICS™-** Check for function.
• **TIRES-** Check air pressure. Inflate tires to MAXIMUM pressure shown on the tire sidewall.
• **GREASE ZERKS-** Grease all machinery pivots with multipurpose lithium based grease. See Illustrations.
• **GENERAL-** Check for loose or broken parts, damaged operator cab, instrument operation, loose wheel nuts, oil leaks, damaged or missing safety signs. Repair or replace as needed.
• **BOB-TACH-** Lubricate wedge with multipurpose lithium based grease. Check for proper function.

EVERY 50 HRS

◊ • **WHEEL NUTS-** Check for loose wheel nuts and tighten per Operation and Maintenance Manual.
♦ • **HYDRAULIC FLUID, HOSES AND TUBELINES-** Check the fluid level. Check for damage and for leaks. Repair or replace as needed.

EVERY 100 HRS

• **SPARK ARRESTOR MUFFLER-** Empty spark chamber.
• **BATTERY-** Check battery for damage, hold downs, cable connections and electrolyte level. Add distilled water as needed.
• **AXLE FLUID-** Check fluid level.

EVERY 250 HRS

• **FUEL FILTER-** Replace filter element.
• **ALTERNATOR BELT-** Check for proper tension or damage. Adjust or replace as needed.
♦ ■ • **ENGINE OIL AND FILTER-** Replace oil and filter.

EVERY 500 HRS

• **HYDRAULIC/ HYDROSTATIC SYSTEM-** Replace the filter and reservoir breather cap.
† • **CASE DRAIN FILTER-** Replace filter.

EVERY 1000 HRS

• **HYDRAULIC RESERVOIR-** Replace fluid.
• **ENGINE COOLANT-** Flush the cooling system and replace coolant.
▲ • **AXLE FLUID-** Replace fluid.

◊ *TORQUE NUTS EVERY 8 HRS FOR THE FIRST 24 HRS.*
■ *SERVICE AT FIRST 50 HRS, THEN AS SCHEDULED.*
† *SERVICE AT FIRST 100 HRS, THEN AS SCHEDULED.*
▲ *REPLACE AT FIRST 300 HRS, THEN AS SCHEDULED.*
♦ *SEE THE OPERATION AND MAINTENANCE MANUAL FOR CORRECT FLUID SPECIFICATION, FILTER PART NUMBERS AND LOCATIONS.*

● *TYPICAL GREASE POINTS*

Use Genuine Bobcat® Replacement Parts

IMPORTANT

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

THE SPARK ARRESTOR MUFFLER, IF EQUIPPED, MUST BE CLEANED TO KEEP IT IN WORKING CONDITION. THE SPARK ARRESTOR MUFFLER MUST BE SERVICED BY DUMPING THE SPARK CHAMBER EVERY 100 HRS. OF OPERATION.

ON SOME MODELS, THE TURBOCHARGER FUNCTIONS AS THE SPARK ARRESTOR AND MUST OPERATE CORRECTLY FOR PROPER SPARK ARRESTOR FUNCTION.

[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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7120002

Daily Inspection and Maintenance

Maintenance work must be done at regular intervals to be sure that the machine is in good operating condition **[Figure OI-49]**. Failure to do so will result in excessive wear and early failures. The Service Schedule is a guide for correct maintenance of the machine. It is located on the rear of the operator cab and (See *MACHINE SIGN TRANSLATIONS* Contents Page MST-1.)

- Check seat belts and replace if damaged.
- Check Operator's Cab (ROPS & FOPS).
- Check Toolcat Interlock Control System (TICS) function.
- Repair broken or loose parts.
- Clean engine of flammable material. (Cargo Box Support Device must be installed.)
- Clean pedal area and windows.
- Check engine oil level. (Cargo Box Support Device must be installed.)
- Check the hydraulic fluid level.
- Check the tire condition and tire pressure.
- Monitor the display controller panel for fuel level, coolant temperature & other engine and hydraulic functions.
- Safety Signs (Decals), replace if damaged or missing.

WARNING

AVOID INJURY OR DEATH

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

W-2003-0807

IMPORTANT

PRESSURE WASHING DECALS

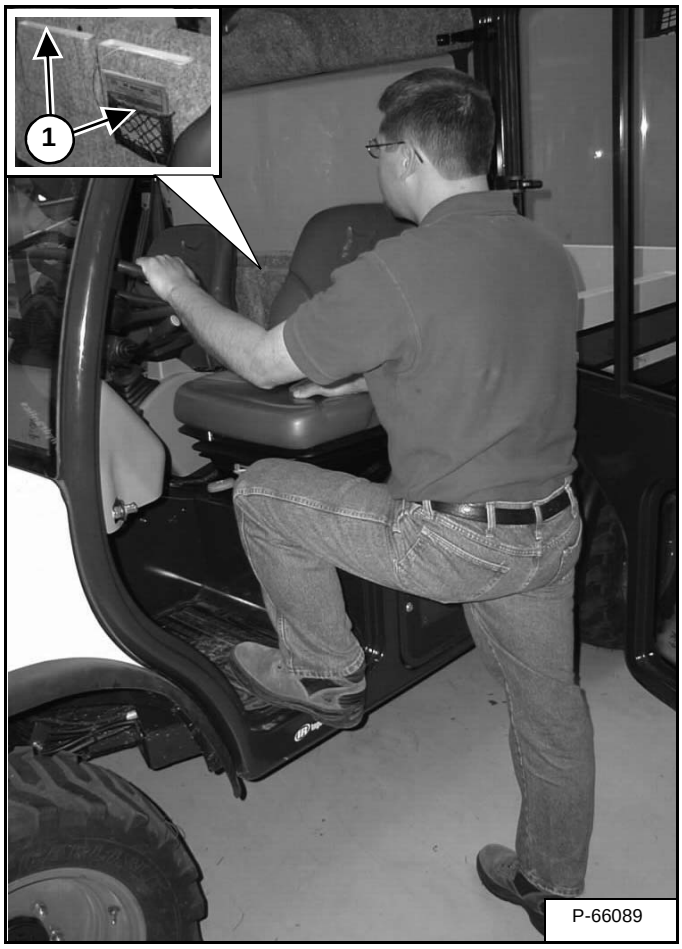
- **Never direct the stream at a low angle toward the decal that could damage the decal causing it to peel from the surface.**
- **Direct the stream at a 90 degree angle and at least 12 inches (300 mm) from the decal. Wash from the center of the decal toward the edges.**

I-2226-0104

PRE-STARTING PROCEDURE

Entering The Utility Work Machine

Figure OI-50



Enter the cab **[Figure OI-50]**.

Read the Operation & Maintenance Manual and the Operator's Handbook (Item 1) **[Figure OI-50]** before operating the machine.

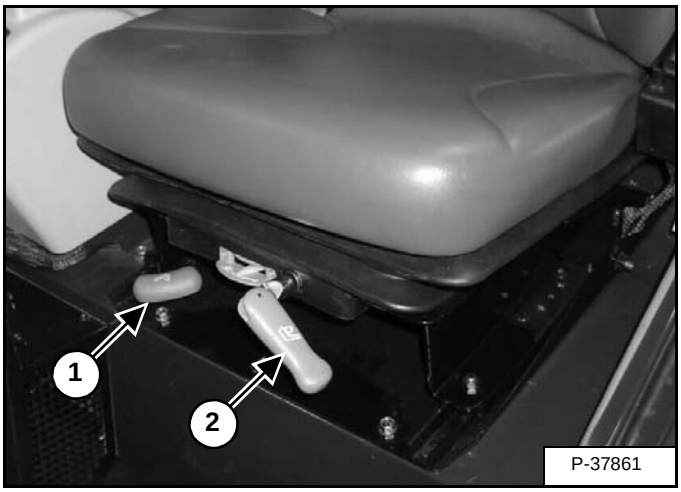
⚠ WARNING

Operator must have instructions before operating the machine. Untrained operators can cause injury or death.

W-2001-0502

Seat And Steering Wheel Adjustment

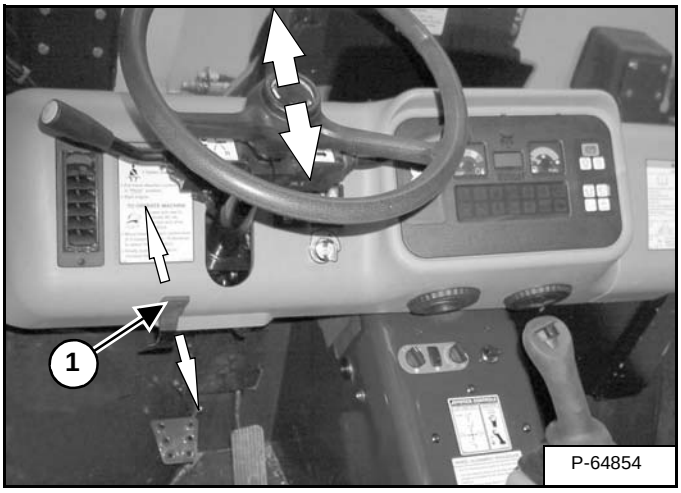
Figure OI-51



Release the lever (Item 1) **[Figure OI-51]** to adjust the seat distance from the steering wheel.

Turn the lever (Item 2) **[Figure OI-51]** to adjust the seat cushion for weight of the operator.

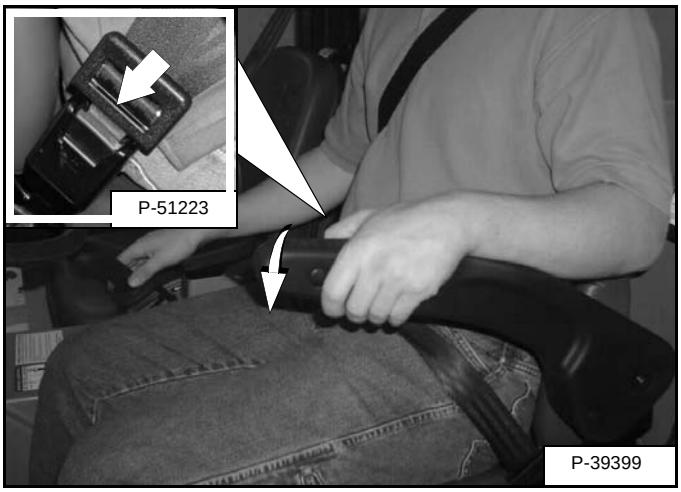
Figure OI-52



Release the steering column lock (Item 1) **[Figure OI-52]** and move steering wheel up or down for comfortable operation. Push lock up to secure.

Seat Belt Adjustment And Arm Rest

Figure OI-53



Fasten the seat belt snugly and lower the operator arm rest **[Figure OI-53]**. Adjust the belt so that it fits snug around the lower part of your hips. Passenger must also fasten seat belt.

IMPORTANT

Check the seat belt and shoulder belt retractors for correct operation.

Keep retractors clean and replace as necessary.

I-2199-0200

Figure OI-54

Put the Travel Direction Control Lever (Item 1) **[Figure OI-54]** in PARK position.

All controls must be in NEUTRAL POSITION before starting the engine.

Keep feet and arms inside the cab.

⚠ WARNING

AVOID INJURY OR DEATH

When operating the machine:

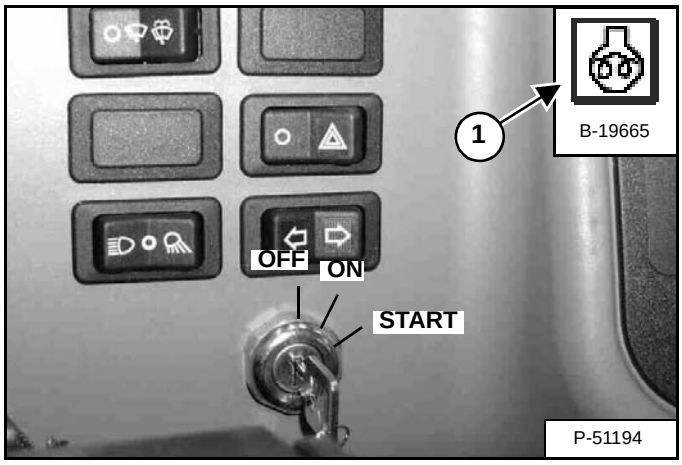
- **Keep the seat belts fastened snugly.**
- **The arm rest must be lowered.**
- **Keep your feet and arms inside the cab.**

W-2454-1102

STARTING THE ENGINE

Key Switch

Figure OI-55



Turn the key to the ON position **[Figure OI-55]**.

If the glow plug Icon (Item 1) **[Figure OI-55]** is ON, wait for it to go OFF.

Turn the key to START position **[Figure OI-55]** and release it when the engine starts.The key will return to the ON position **[Figure OI-55]**.

(See Cold Temperature Starting on Page OI-32.)

STOP THE ENGINE IF ANY WARNING LIGHTS DO NOT GO OFF.

⚠ WARNING

AVOID INJURY OR DEATH

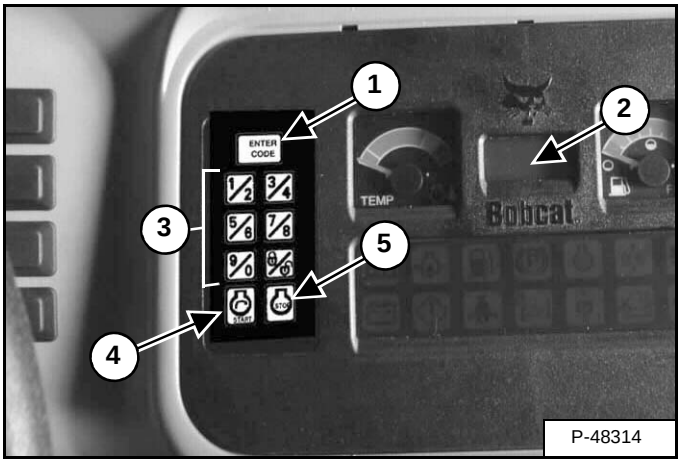
When an engine is running in an enclosed area, fresh air must be added to avoid concentration of exhaust fumes. If the engine is stationary, vent the exhaust outside. Exhaust fumes contain odorless, invisible gases which can kill without warning.

W-2050-0807

Pull the engine speed control fully backward and turn the key switch OFF **[Figure OI-55]** to stop the engine.

Keyless

Figure OI-56



Press the ENTER CODE Button (Item 1) **[Figure OI-56]**. The display will become lighted and there will be two short beeps. **CodE** will appear on the LCD (Item 2) **[Figure OI-56]**.

Use the keypad (Item 3) **[Figure OI-56]** to enter the password. For each digit that you enter, a dash will appear on the LCD. (You will have 40 seconds to enter the password or the process will abort and you will need to start over.) There will be one long beep when the password is entered correctly.

NOTE: If the password was incorrect there will be three short beeps and "Error" will appear on the LCD. Press the ENTER CODE Button again and start over. After three failed attempts, you must wait three minutes to try again.

Press the START Button (Item 4) **[Figure OI-56]** and release it when the engine starts.

IMPORTANT

Do not engage the starter for longer than 15 seconds at a time. Longer use can damage the starter by overheating. Allow starter to cool for one minute before using starter again.

I-2034-0700

Pull the engine speed control fully backward and press the STOP Button (Item 5) **[Figure OI-56]** to stop the engine.

Password Lockout Feature - (See Password Lockout Feature on Page SA-7.)

Cold Temperature Starting

If the temperature is below 32°F (0°C), use the following procedure to make starting the engine easier:

- Replace the engine oil with the correct type and viscosity for the anticipated starting temperature. (See Checking And Adding Engine Oil on Page PM-22.)
- Make sure the battery is fully charged.
- Install an engine heater.

Press the START button (Item 4) **[Figure OI-56]** (or turn the key to START position) and release when the engine starts.

⚠ WARNING

AVOID INJURY OR DEATH

- **Engines can have hot parts and hot exhaust gas. Keep flammable material away.**
- **Do not use machines in atmosphere containing explosive gas.**

W-2051-1086

Warming The Hydraulic / Hydrostatic System

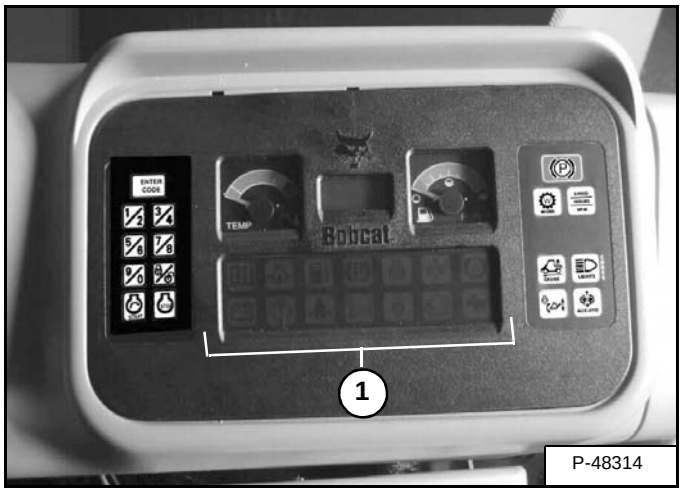
Let the engine run for a minimum of 5 minutes to warm the engine and the hydrostatic transmission fluid before operating.

If the warning light comes ON when operating (cold), more warm up time is needed.

MONITORING THE DISPLAY PANEL

Key Switch And Keyless

Figure OI-57



After the engine is running, frequently monitor the display controller panel **[Figure OI-57]** for error conditions.

Several of the Function Icons (Item 1) **[Figure OI-57]** are associated with error conditions and will come on when an error condition occurs. (See Function Chart [Figure OI-43] and [Figure OI-44] on Page OI-25.)

Warning And Shutdown

When a WARNING condition exists, the associated Icon light will come ON and there will be 3 beeps from the alarm. Be aware that, if this condition is allowed to continue, there may be damage to the engine or loader hydraulic systems.

When a SHUTDOWN condition exists, the associated Icon light will come ON and there will be a continuous beep from the alarm and the monitoring system will automatically stop the engine in 10 seconds. The engine can be restarted to move or relocate the loader.

The SHUTDOWN feature is associated with the following Icons:

General Warning
Engine Oil Pressure
Engine Coolant Temperature
Hydraulic Oil Temperature
Hydrostatic Charge Pressure

STOPPING THE ENGINE AND LEAVING THE UTILITY WORK MACHINE

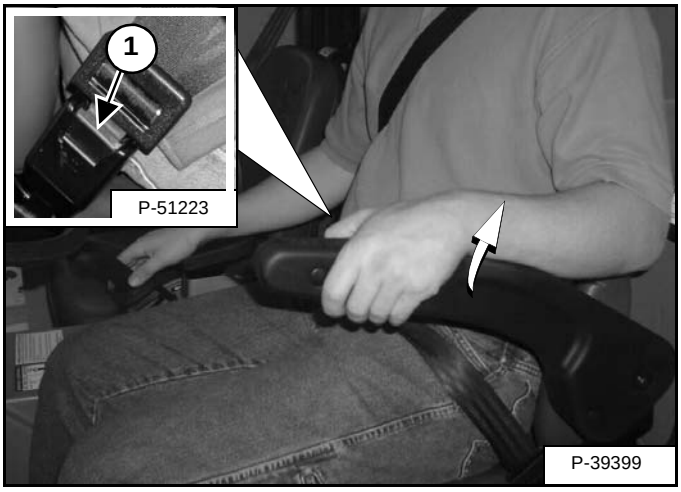
Procedure

Figure OI-58

Lower the lift arm, put the attachment flat on the ground **[Figure OI-58]** and stop the engine.

Put the Travel Direction Control Lever in PARK (Item 1) **[Figure OI-58]**.

Figure OI-59



Press the red release button (Item 1) **[Figure OI-59]** to disconnect the seat belt.

Raise the arm rest **[Figure OI-59]** to deactivate lift, tilt, auxiliary and traction drive functions.

Remove the key and exit the cab.

⚠ WARNING

Always park machine on flat, level ground.

W-2441-1102

Emergency Exit

Figure OI-60

The cab door on the opposite side of the machine is used as an emergency exit **[Figure OI-60]**.

Alternate Emergency Exit:

The rear window in each door can be used as an alternate emergency exit. Release the latch and open the rear window.

MACHINE LOAD CAPACITIES

Loader Rated Operating Capacity (ROC)

The operating load on the lift arms with a standard dirt bucket is **1500 lb. (680 kg)**. If longer buckets or other attachments such as a Pallet Fork is used, the load center is moved forward and lift arm capacity is reduced.

Maximum Cargo Box Load

The maximum load that can be carried in the Cargo Box of the machine is **2000 lb. (907 kg)**.

Machine Rated Capacity

The total capacity that the machine can handle when the lift arm and cargo box are used together is up to **2200 lbs. (997 kg)**. This includes the combined weight of load on lift arm, cargo box load, operator and passenger.

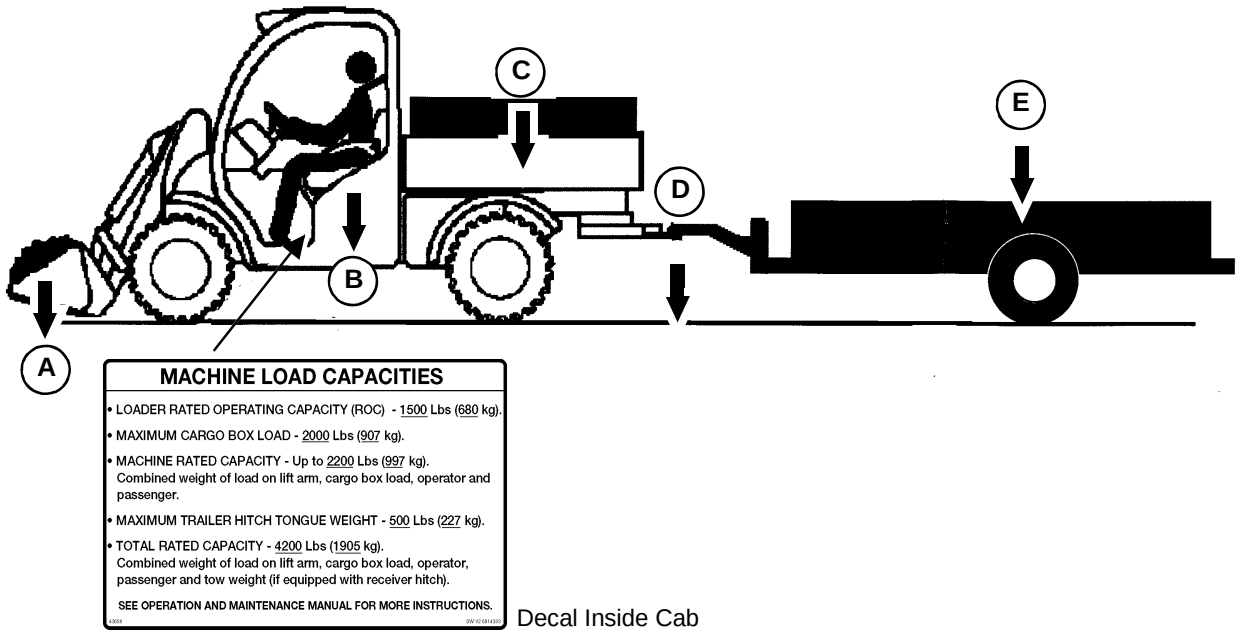
Maximum Trailer Hitch Tongue Weight

The maximum vertical load that can be applied to the receiver hitch (if equipped) is **500 lb. (227 kg)**.

Total Rated Capacity

The maximum load that can be applied to the machine while towing is **4200 lb. (1905 kg)**. This includes the combined weight of the load on the lift arm, cargo box load, operator, passenger and tow weight (if equipped with receiver hitch).

Figure OI-61



Decal Inside Cab

B-22493

Refer to **[Figure OI-61]** for references below.

A - Loader **R**ated **O**perating **C**apacity (ROC)***** = **1500 lb. (680 kg) Maximum**

B - Operator and Passenger Weight

C - Maximum Cargo Box Load = **2000 lb. (907 kg)**

D - Maximum Trailer Hitch Tongue Weight = **500 lb. (227 kg)**

E - Tow Weight = **4000 lb. (1814 kg)** (Including weight of trailer) (If **A plus C** = 0 lbs.)

Machine Rated Capacity = **A plus B plus C = 2200 lb. (998 kg)**

(A) must not exceed **1500 lb. (680 kg)**

Total Rated Capacity (when towing) = **A plus B plus C plus E** = **4200 lb. (1905 kg) Maximum**

(A) must not exceed **1500 lb. (680 kg)**

(C) must not exceed **2000 lb. (907 kg)**

A + B + C must not exceed **2200 lb. (998 kg)**

***** Loader **ROC** is determined by using a standard dirt bucket and material of normal density, such as dirt or dry gravel. If longer buckets or other attachments such as Pallet forks are used, the load center is moved forward and the lift arm capacity is reduced. If very dense material is loaded, the volume must be reduced.

ATTACHMENTS

Choosing The Correct Bucket

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.

W-2052-0907

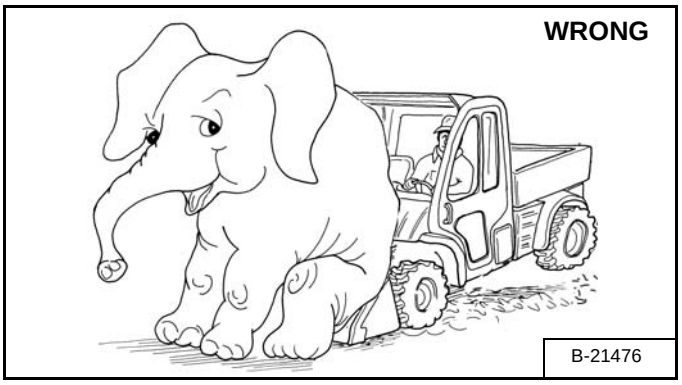
NOTE: Warranty is void if non-approved attachments are used.

The dealer can identify, for each model, the attachments and buckets approved by Bobcat. The buckets and attachments are approved for load capacity and for secure fastening to the Bob-Tach.

The load capacity is shown on a label in the operator cab. (See Performance on Page SPEC-4.)

Load capacity is determined by using a standard dirt bucket, and material of normal density, such as dirt or dry gravel. If longer buckets are used, the load center is moved forward and reduces the load capacity. If very dense material is loaded, the volume must be reduced.

Figure OI-62



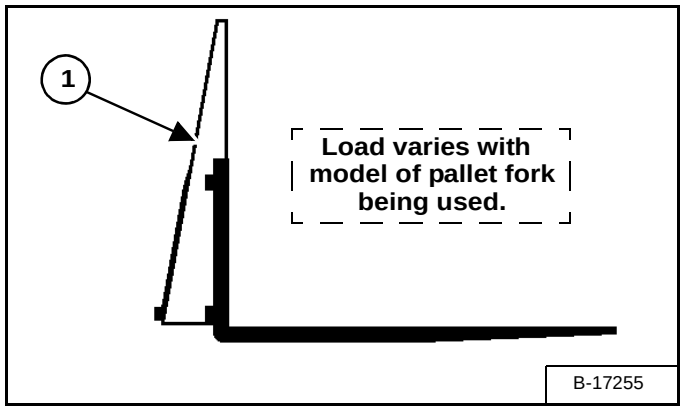
Exceeding the load capacity **[Figure OI-62]** can cause the following problems:

1. Steering may be difficult.
2. Tires may wear faster.
3. There will be a loss of stability.
4. The life of the machine will be reduced.

Use the correct size bucket for the type and density of material being handled. For safe handling of materials and avoiding machine damage, the attachment (or bucket) should handle a full load without going over the load capacity for the loader.

Pallet Fork

Figure OI-63



If a pallet fork attachment is used, the load center moves forward and reduces the load capacity.

The maximum load to be carried when using a pallet fork is shown on a decal located on the pallet fork frame (Item 1) **[Figure OI-63]**.

WARNING

AVOID INJURY OR DEATH

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

W-2442-1102

See your Bobcat dealer for more information about pallet fork inspection, maintenance and replacement. See your Bobcat dealer for load capacity when using a pallet fork and for other available attachments.

Installing And Removing The Attachment

The Bob-Tach is used for fast changing of buckets and attachments. See the Attachment Operation & Maintenance Manual to install other attachments.

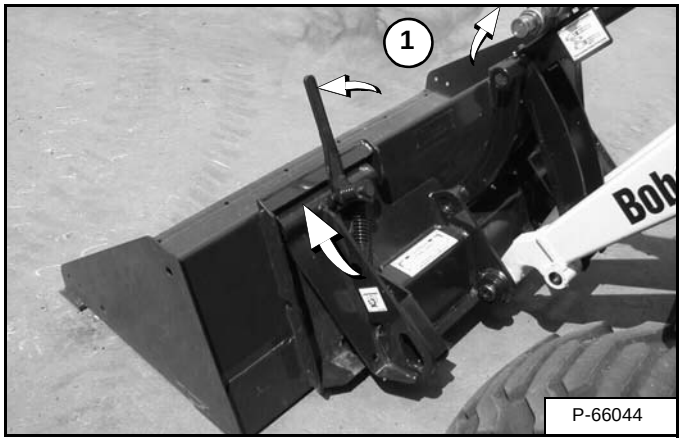
WARNING

Bob-Tach levers have spring tension. Hold lever tightly and release slowly. Failure to obey warning can cause injury.

W-2054-1285

Installing

Figure OI-64



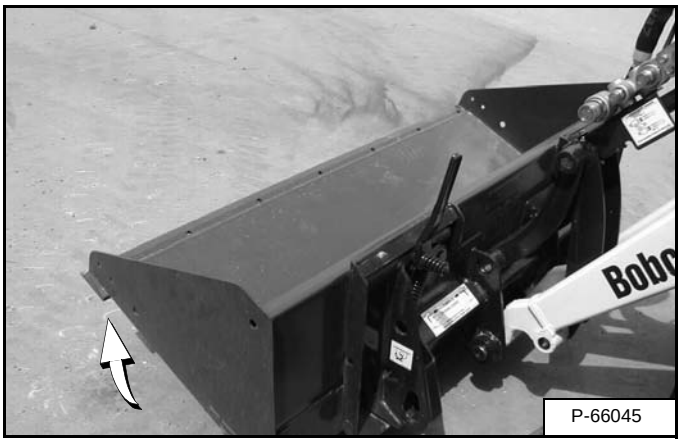
Pull the Bob-Tach levers all the way up (Item 1) **[Figure OI-64]**.

Enter the cab and fasten the seat belt. Lower the operator arm rest, start the engine and disengage the parking brake.

Lower the lift arm and tilt the Bob-Tach forward.

Drive forward until the top edge of the Bob-Tach is completely under the top flange of the bucket **[Figure OI-64]** (or other attachment).

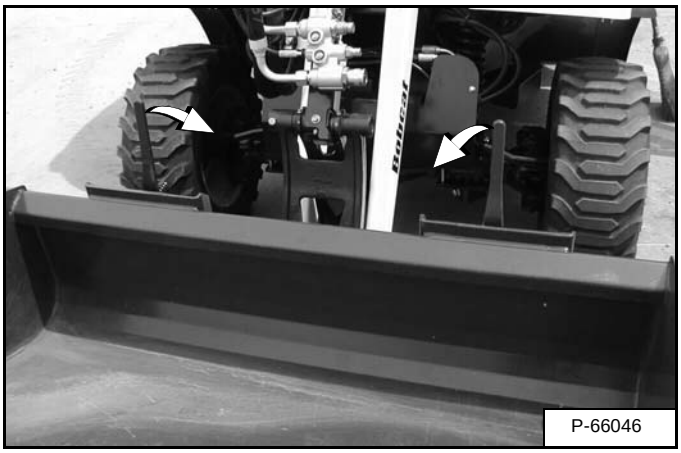
Figure OI-65



Be sure the Bob-Tach levers do not hit the bucket or attachment.

Tilt the Bob-Tach backward until the cutting edge of the bucket is slightly off the ground **[Figure OI-65]**.

Figure OI-66



Stop the engine and exit the cab.

WARNING

AVOID INJURY OR DEATH

Before you leave the operator's seat:

- **Lower the lift arm, put the attachment flat on the ground.**
- **Put Travel Direction Control Lever in PARK.**
- **Stop the engine.**
- **Raise operator arm rest.**

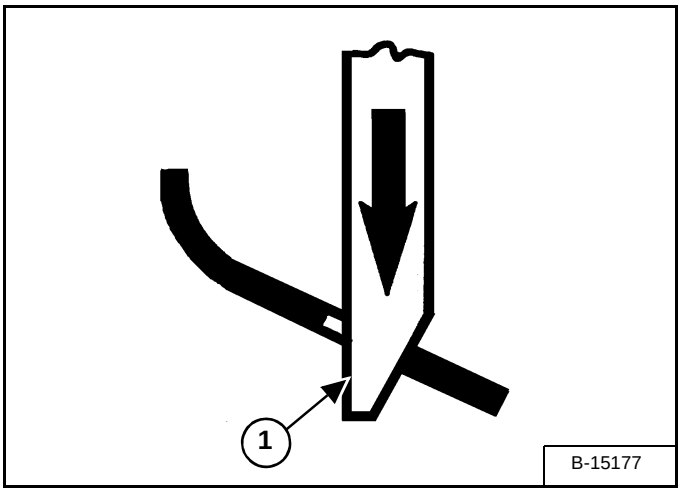
W-2443-1102

Push down on the Bob-Tach levers **[Figure OI-66]** until they are fully engaged in the locked position.

If the lever does not engage in the locked position, see your Bobcat dealer for maintenance.

Installing And Removing The Attachment (Hand Lever Bob-Tach) (Cont'd)

Figure OI-67



The wedges (Item 1) **[Figure OI-67]** must extend through the holes in the mounting frame of the bucket (or attachment), securely fastening the bucket or attachment to the Bob-Tach.

⚠ WARNING

Bob-Tach wedges must extend through the holes in attachment. Lever(s) must be fully down and locked. Failure to secure wedges can allow attachment to come off and cause injury or death.

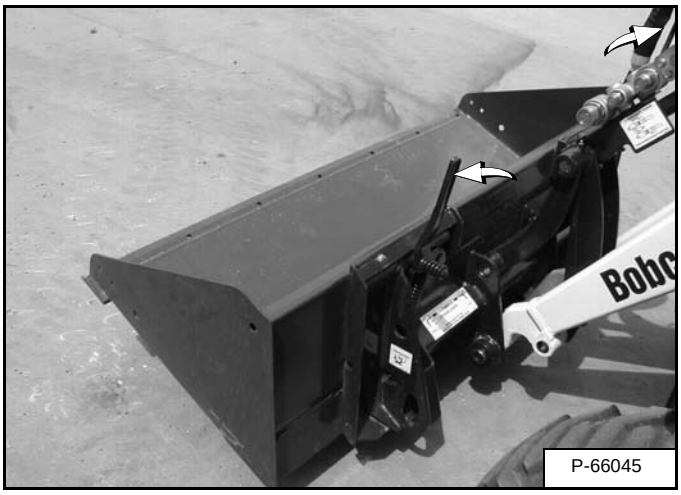
W-2102-0497

Removing

Put the attachment flat on the ground and lower or close the hydraulic equipment. If the attachment is hydraulically controlled (i.e.: sweeper, auger, etc.), stop the engine and relieve hydraulic pressure in the auxiliary circuit. (See Relieve Hydraulic Pressure (Utility Work Machine and Attachment) on Page OI-16.)

Raise the arm rest, unfasten the seat belt, put the Travel Direction Control Lever in PARK and exit the cab.

Figure OI-68

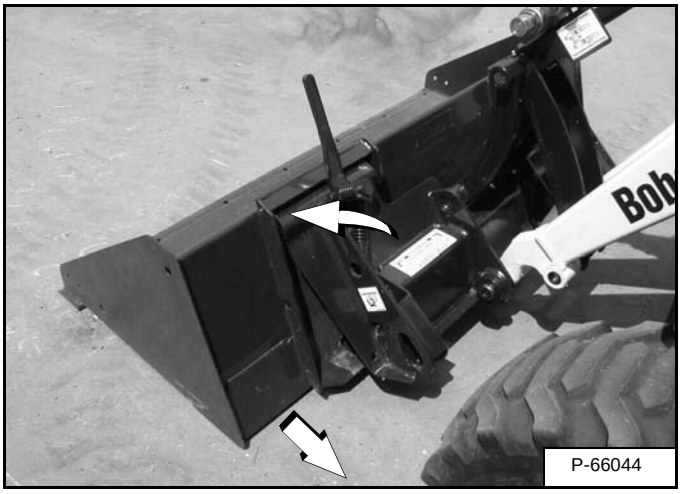


Pull the Bob-Tach levers all the way up **[Figure OI-68]**.

Disconnect the hydraulic hoses, if necessary.

Enter the cab and fasten the seat belt. Lower the arm rest and start the engine.

Figure OI-69



Tilt the Bob-Tach forward.

Move backward, away from the bucket or attachment **[Figure OI-69]**.

OPERATING PROCEDURE

Inspect The Work Area

Before beginning operation, inspect the work area for unsafe conditions.

Look for sharp drop-offs or rough terrain. Have underground utility lines (gas, water, sewer, irrigation, etc.) located and marked.

Remove objects or other construction material that could damage the loader or cause personal injury.

Operating With A Full Bucket & Empty Cargo Box

When operating on a public road or highway, always follow local regulation. For example: Slow Moving Vehicle (SMV) Sign or directional signals may be required.

Always warm up the engine and hydrostatic system before operating the loader.

IMPORTANT

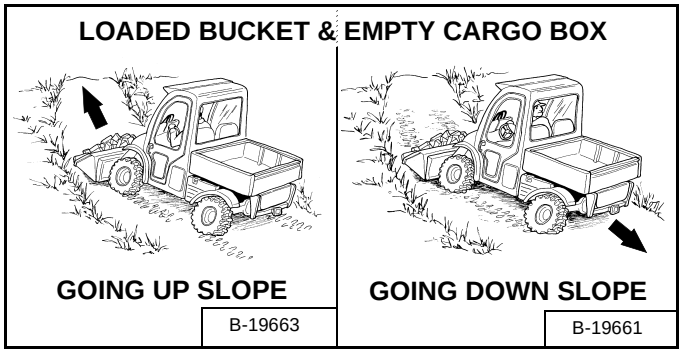
Machines warmed up with moderate engine speed and light load have longer life.

I-2015-0284

Operate with the engine at full speed for maximum horsepower. Push the Drive Control Pedal only a small amount to operate the machine.

New operators must operate the machine in an open area without bystanders. Operate the controls until the machine can be handled at a efficient and safe rate for all conditions of the work area.

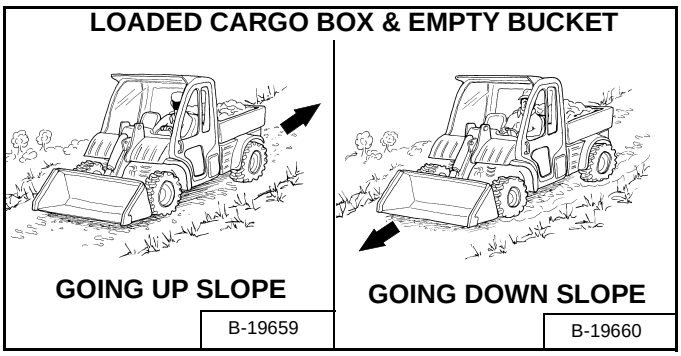
Figure OI-70



With a loaded bucket and empty cargo box, go up or down the slope with the heavy end toward the top of the slope **[Figure OI-70]**.

Operating With An Empty Bucket & Loaded Cargo Box

Figure OI-71



With empty bucket and a loaded cargo box, go down or up the slope with the heavy end toward the top of the slope **[Figure OI-71]**.

⚠ WARNING

AVOID INJURY OR DEATH

- **Keep the lift arm as low as possible.**
- **Do not travel or turn with the lift arm up.**
- **Turn on level ground. Slow down when turning.**
- **Go up and down slopes, not across them.**
- **Keep the heavy end of the machine uphill.**
- **Do not overload the machine.**

Failure to obey warnings can cause the machine to tip or roll over and cause injury or death.

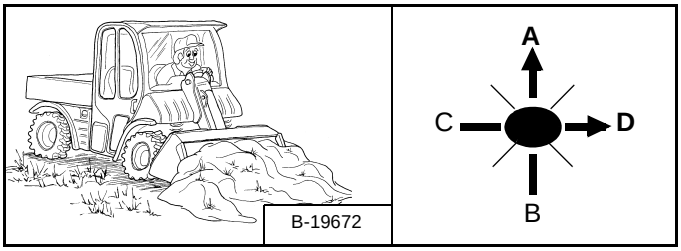
W-2444-1102

Raise the bucket only high enough to avoid obstructions on rough ground.

Filling And Emptying The Bucket

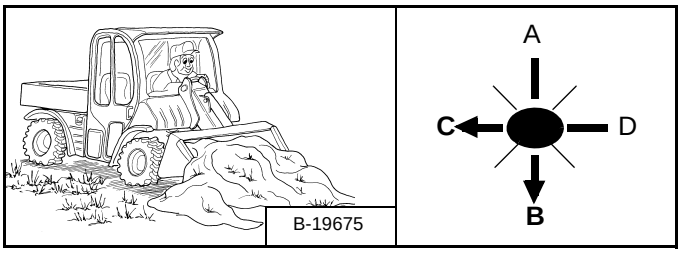
Filling

Figure OI-72



Lower the lift arm all the way (Item A) and tilt the bucket forward (Item D) **[Figure OI-72]** until the cutting edge is on the ground. Drive slowly forward to push the bucket slightly into the material.

Figure OI-73



Raise the lift arm (Item B) and tilt the bucket backward (Item C) **[Figure OI-73]**.

⚠ WARNING

Load, unload and turn on flat level ground. Do not exceed operating capacity shown on sign (decal) in cab. Failure to obey warnings can cause the machine to tip or roll over and cause injury or death.

W-2445-1102

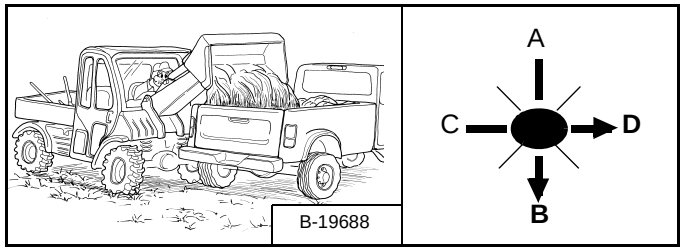
Drive backward away from the material.

Emptying

Keep the bucket low when moving to the area where you want to dump the material.

Move the machine slowly to the dump area.

Figure OI-74

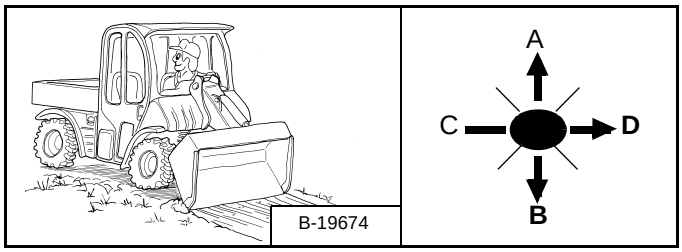


While raising the lift arm (Item B), tilt the bucket forward (Item D) **[Figure OI-74]** to keep it level and help prevent material from falling off the back of the bucket.

Tilt the bucket all the way forward (Item D) **[Figure OI-74]** to empty the bucket.

Leveling The Ground Using Float

Figure OI-75



Raise the lift arm (Item B) and tilt the bucket forward (Item D) **[Figure OI-75]**.

Push the joystick all the way forward (Item A) **[Figure OI-75]** until it locks into detent position to engage the float. The lift arm will slowly lower.

IMPORTANT

Never drive forward when the hydraulic control for the lift arm is in float position.

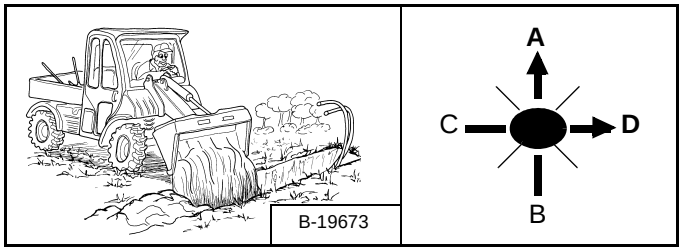
I-2218-1102

Drive backward to level loose material.

Pull the joystick backward (Item B) **[Figure OI-75]** to unlock the lift arm from the float position.

Backfilling

Figure OI-76



Lower the lift arm (Item A) **[Figure OI-76]** and put the cutting edge of the bucket on the ground (Item D) **[Figure OI-76]**. Drive forward to the edge of the hole to push the material into the hole.

Tilt the bucket forward (Item D) **[Figure OI-76]** as soon as it is past the edge of the hole.

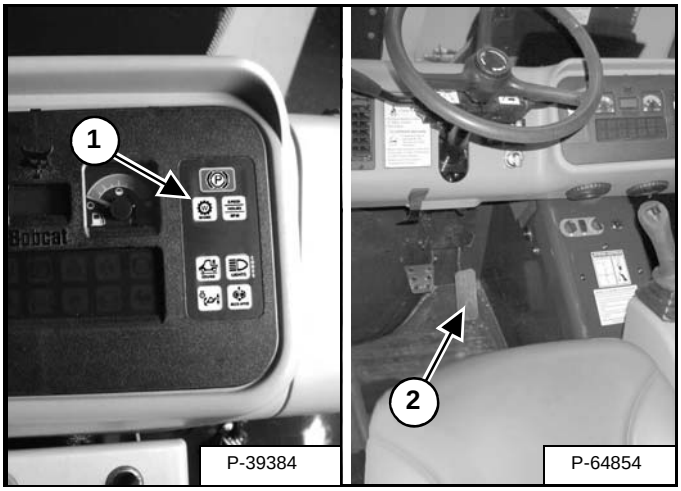
If necessary, raise the lift arms to empty the bucket.

Work Mode Operation

The Work Mode feature changes the drive system to a more aggressive response when operating in low range while maintaining hydraulic and traction power.

You can use the Work Mode while digging or loading material, when maneuvering the machine to install an attachment or when using a tiller or trencher.

Figure OI-77



Press the Work Mode button (Item 1) **[Figure OI-77]**.

Select forward or reverse travel direction.

Press the Drive Control Pedal (Item 2) **[Figure OI-77]**.

⚠ WARNING

AVOID INJURY OR DEATH

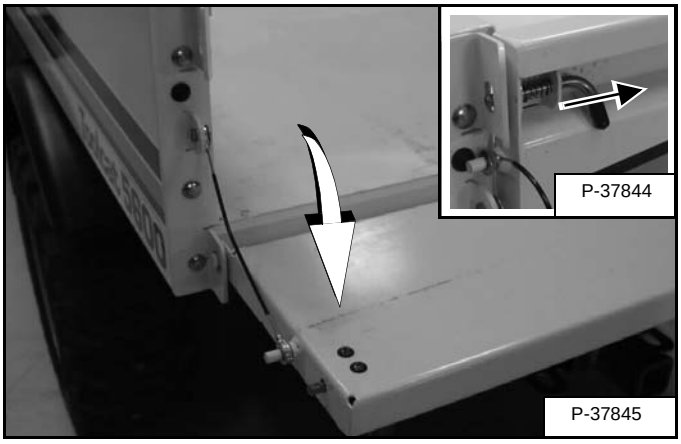
Before you leave the operator's seat:

- **Lower the lift arm, put the attachment flat on the ground.**
- **Put Travel Direction Control Lever in PARK.**
- **Stop the engine.**
- **Raise operator arm rest.**

W-2443-1102

Opening And Closing The Tailgate

Figure OI-78



Release both latches and open the tailgate **[Figure OI-78]**.

Do not put heavy loads on the tailgate.

Close the tailgate. The tailgate will latch as it closes.

Raising And Lowering The Cargo Box

Figure OI-79

Press the back of the switch (Item 1) **[Figure OI-79]** to raise the cargo box. Press the front of the switch (Item 2) **[Figure OI-79]** to lower.

⚠ WARNING

AVOID INJURY OR DEATH

- **DO NOT exceed maximum Cargo Box Load Capacity.**
- **DO NOT drive machine with Cargo Box raised.**
- **Load, unload and turn on flat level ground.**
- **Make sure loads in Cargo Box are secured.**
- **Slow down when turning.**

W-2455-1102

Hauling Loads In The Cargo Box

Put the Travel Direction Control Lever in PARK, stop the engine and raise the operator's arm rest before loading Cargo Box.

Never allow riders in the Cargo Box and do not exceed the Cargo Box load capacity. (See Decal inside cab or (See Capacities on Page SPEC-6.))

Be sure to secure the load to the Cargo Box so that it does not shift when the machine is moving.

Keep the load within the sides and ends of the Cargo Box and keep the load evenly distributed.

Avoid top-heavy loads. The load's center of gravity may affect the handling, steering, and braking of the Work Machine.

Towing Equipment With The Utility Work Machine

Do not exceed the towing capacity or the trailer hitch tongue weight capacity of the Utility Work Machine. (See Decal inside cab or (See Capacities on Page SPEC-6.)

Do not tow a vehicle or trailer on public streets or highways.

Do not allow riders in a vehicle being towed.

Avoid sudden starts, sudden stops, and tight turns when towing. Slow down when driving on wet, slippery or rough terrains. Allow for additional stopping distance when towing loads.

Avoid stopping on a slope when towing. If you must stop on a slope, avoid sudden starts or rolling backward and stopping suddenly.

Slow down when towing equipment downhill by letting up on the drive pedal or pressing the brake pedal as necessary.

Always park towed equipment on level ground.

Make sure the coupler is of adequate capacity for the load being towed.

TOWING THE UTILITY WORK MACHINE

Procedure

In the event that your Toolcat Utility Work Machine needs to be towed, see your Bobcat dealer for instructions.

TRANSPORTING THE UTILITY WORK MACHINE ON A TRAILER

Loading And Unloading

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

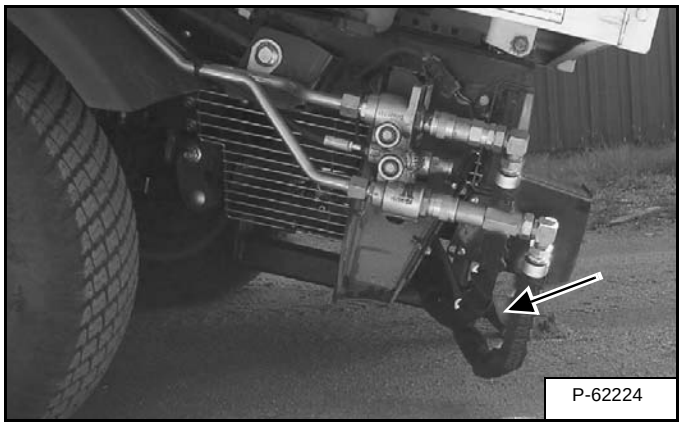
Be sure the transport and towing vehicles are of adequate size and capacity for weight of machine. (See Performance on Page SPEC-4.)

Figure OI-80

A machine with an attachment must be loaded or unloaded forward. A machine without an attachment can be loaded or unloaded either forward or backward **[Figure OI-80]**.

The rear of the trailer must be blocked or supported **[Figure OI-80]** when loading or unloading to prevent the front end of the trailer from raising up.

Figure OI-81



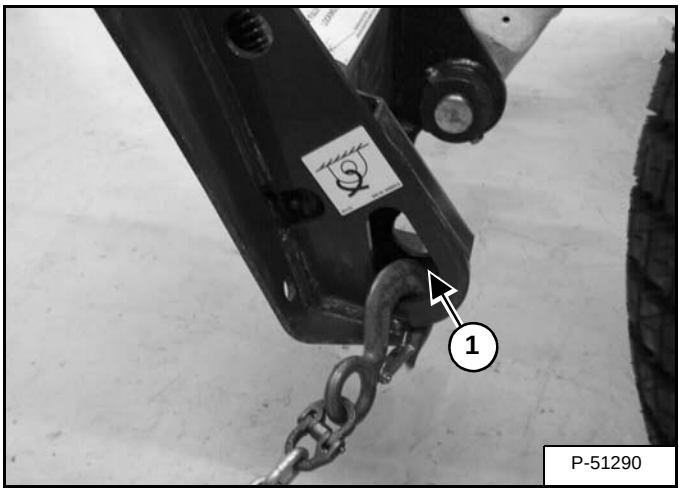
Remove the receiver hitch (if necessary) before loading or unloading to prevent it from hitting the ground **[Figure OI-81]**.

Fastening

Use the following procedure to fasten the machine to the transport vehicle to prevent it from moving during turns, sudden stops or when going up and down slopes.

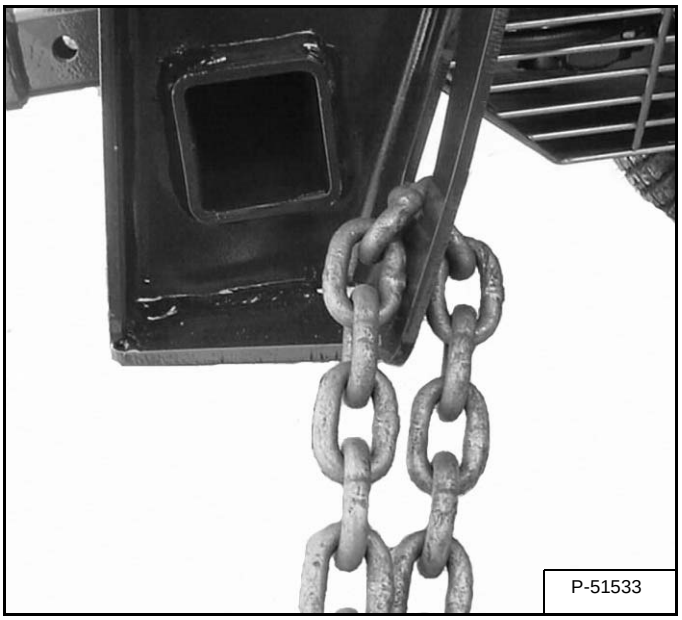
Fully lower any bucket or attachment. Put the Travel Direction Control Lever in PARK position. Stop the engine. Raise arm rest and move the controls to neutral.

Figure OI-82



Fasten chains at the front using the tie down holes in the Bob-Tach (Item 1) **[Figure OI-82]**.

Figure OI-83



Fasten the rear of machine using the receiver hitch frame **[Figure OI-83]**.

PREVENTIVE MAINTENANCE

Continued On Next Page

PREVENTIVE MAINTENANCE (CONT'D)

Continued On Next Page

MAINTENANCE SAFETY

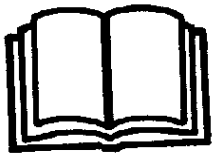
WARNING

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

W-2003-0903

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

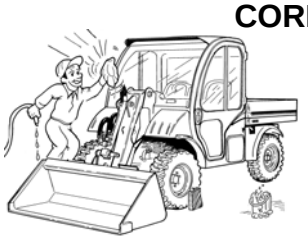
CORRECT



B-10731a

Never service the machine without instructions.

CORRECT



B-21495

Cleaning and maintenance are required daily.

WRONG

21498

Have good ventilation when welding or grinding painted parts.

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

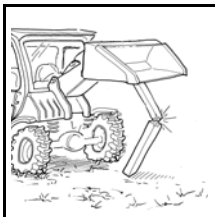
Avoid exhaust fume leaks which can kill without warning. Exhaust system must be tightly sealed.

WRONG

B-21499

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

WRONG



B-21500

B-21509

Never work on the machine with lift arm or cargo box up unless supported by an approved support device. Replace if damaged.

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

WRONG

B-21497

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

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

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

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

WRONG

B-21496

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 side access doors closed except for service.

WRONG

B-6589

Lead-acid batteries produce flammable and explosive gases.

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

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

Maintenance procedures which are given in the Operation & Maintenance Manual can be performed by the owner/operator without any specific technical training. Maintenance procedures which are **not** in the Operation & Maintenance Manual must be performed **ONLY BY QUALIFIED BOBCAT SERVICE PERSONNEL. Always use genuine Bobcat replacement parts.**

MSW25-0805

SERVICE SCHEDULE

Chart

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures. The service schedule is a guide for correct maintenance of the Bobcat product.

⚠ WARNING

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

W-2003-0199

SERVICE SCHEDULE		HOURS					
ITEM	**SERVICE REQUIRED**	**8-10**	**50**	**100**	**■ 250**	**■ 500**	**■ 1000**
Engine Oil	Check the oil level and add as needed. Do not overfill.						
Hydraulic Fluid	Check level and add as needed.						
Engine Air Filter and Air System	Check condition indicator or display. Service only when required. Check for leaks and damaged components. Do not use compressed air to clean elements.						
Engine Cooling System	Clean debris from oil cooler and radiator. Check coolant level cold, add premixed coolant as needed.						
Seat Belt, Toolcat™ Interlock Control System (TICS) (operator's arm rest)	Check the condition of seat belts. Check for correct operation of the TICS. Clean dirt and debris from moving parts.						
Lift Arm, Cylinders, Bob-Tach, Pivot Pins and Wedges	Lubricate with multi-purpose lithium based grease.						
Tires	Check for damaged tires and correct air pressure. Inflate tires to MAXIMUM pressure shown on the sidewall.						
Safety Signs and Safety Treads	Check for damaged signs (decals) and safety treads. Replace any signs or safety treads that are damaged or worn.						
Operator Cab	Check the condition of the cab.						
Indicators and Lights	Check for correct operation of all indicators and lights.						
Fuel Filter	Remove the trapped water.						
Heater / Air Conditioning Filter (If Equipped)	Clean or replace filter as needed during heating and cooling seasons.						
Parking Brake	Check function.						
Wheel Nuts	Check for loose wheel nuts and tighten to correct torque.	*					
Hydraulic Fluid, Hoses and Tubelines	Check fluid level and add as needed. Check for damage and leaks. Repair or replace as needed.						
Spark Arrestor Muffler	Empty Spark Chamber.						
Battery	Check cables, connections and electrolyte level. Add distilled water as needed.						
Axle Lubricant	Check lubricant level; add as needed.						
Fuel Filter	Replace filter element.						
Alternator Belt	Check for damage and correct tension. Adjust or replace as needed.						
Engine Oil and Filter	Replace oil and filter. Use CF / CG4 or better grade oil and Bobcat filter.		^				
Engine / Hydro. Drive Belt	Check for wear or damage.		▲				
Hydraulic / Hydrostatic Filter	Replace the filter element.		●				
Hydraulic Reservoir Breather Cap	Replace the reservoir breather cap.						
Case Drain Filter	Replace filter.						
Engine Valves	Adjust the engine valves. See your Bobcat dealer for this service.						
Hydraulic Reservoir	Replace the fluid.						
Axle Lubricant	Replace the lubricant.				◆		
Coolant	Replace the coolant	Every 2 years					

■ Or every 12 months.
*** Check every 8-10 hours for the first 24 hours; then at 50 hour intervals.**
^ First oil and filter change must occur at 50 hours; 250 hours thereafter.
● Replace the hydraulic / hydrostatic filter element after the first 50 hours; and thereafter when the transmission warning light comes ON while operating or at the 500 hour interval.
◆ First axle lubricant change must occur at 250 hours; 1000 hours thereafter.
▲ Perform at first 50 hours, then as scheduled.

TOOLCAT INTERLOCK CONTROL SYSTEM (TICS)

The Toolcat Interlock Control System (TICS) is controlled by the left arm rest.

The interlock system requires the operator to lower the arm rest in order to operate the machine.

When the arm rest is up, the lift, tilt, auxiliary hydraulics and traction control functions are deactivated.

Inspecting The TICS

Sit in the seat and fasten the seat belt. Lower the arm rest all the way down. Start the engine.

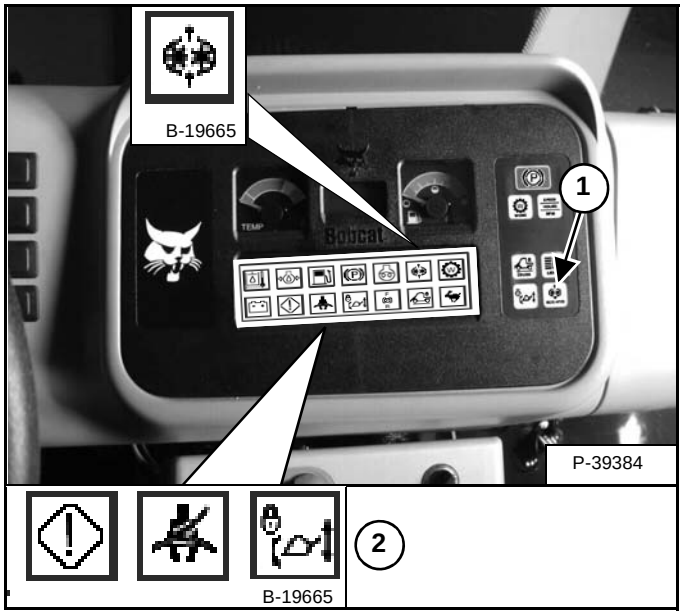
Operate the joystick to check that both the lift and tilt functions operate correctly. Raise the lift arm until the attachment is about 2 feet (600 mm) off the ground.

Raise the arm rest. Move the joystick in all four directions. There must be no motion of the lift arm functions or tilt functions when the joystick is moved.

Lower the arm rest. Lower the lift arm. Move the joystick backward to raise the lift arm. While the lift arm is going up, raise the arm rest. The lift arm must stop.

Repeat for the tilt function. While tilting the attachment forward and backward, raise the arm rest. The tilt function must stop.

Figure PM-1



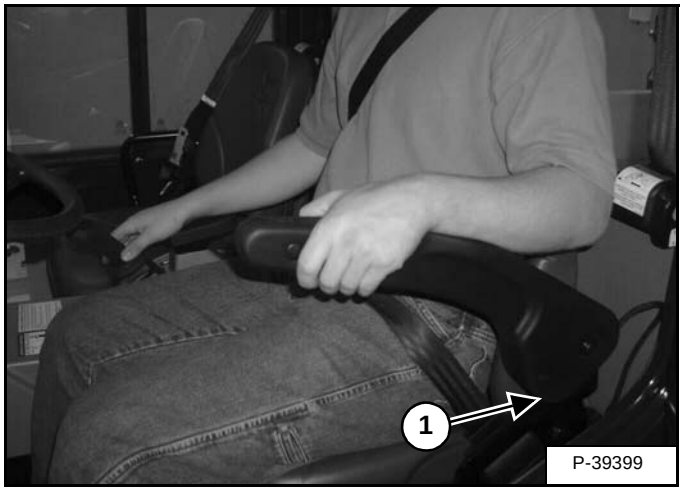
Activate the auxiliary hydraulics (Item 1) **[Figure PM-1]**, raise the arm rest, and verify that the auxiliary hydraulics are deactivated.

When the arm rest is raised, three Icons will be ON (Item 2) **[Figure PM-1]**.

Maintaining The TICS

Use the correct service interval to inspect and maintain the arm rest (See SERVICE SCHEDULE on Page PM-7.)

Figure PM-2



Use compressed air to clean any debris or dirt from the pivot parts (Item 1) **[Figure PM-2]**. Do not lubricate. Inspect all mounting hardware and tighten as necessary.

If the TICS does not function correctly, check for free movement of the arm rest. Check electrical connections and for excessive wear. Replace parts that are worn or damaged. Use only genuine Bobcat replacement parts.

⚠ WARNING

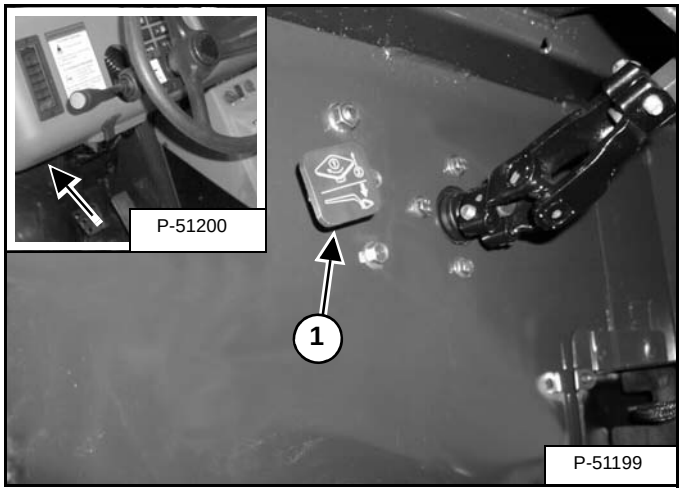
AVOID INJURY OR DEATH

The Toolcat Interlock Control System (TICS) must deactivate the lift, tilt, auxiliary hydraulics and traction drive functions. If it does not, contact your dealer for service. DO NOT MODIFY THE SYSTEM.

W-2452-1102

Inspecting The Lift Arm By-Pass Control

Figure PM-3



Enter the cab, start the engine and raise the lift arm about 4 feet (1-1/4 meters). Stop the engine.

Locate the lift arm by-pass valve under the steering wheel and above the brake pedal (Inset) **[Figure PM-3]**. Turn the lift arm by-pass knob (Item 1) **[Figure PM-3]** clockwise 1/4 turn, then pull out and hold the until the lift arm slowly lowers.

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.

W-2466-0703

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), hardware.

The items below are referenced in **[Figure PM-4]**.

1. Check the 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.

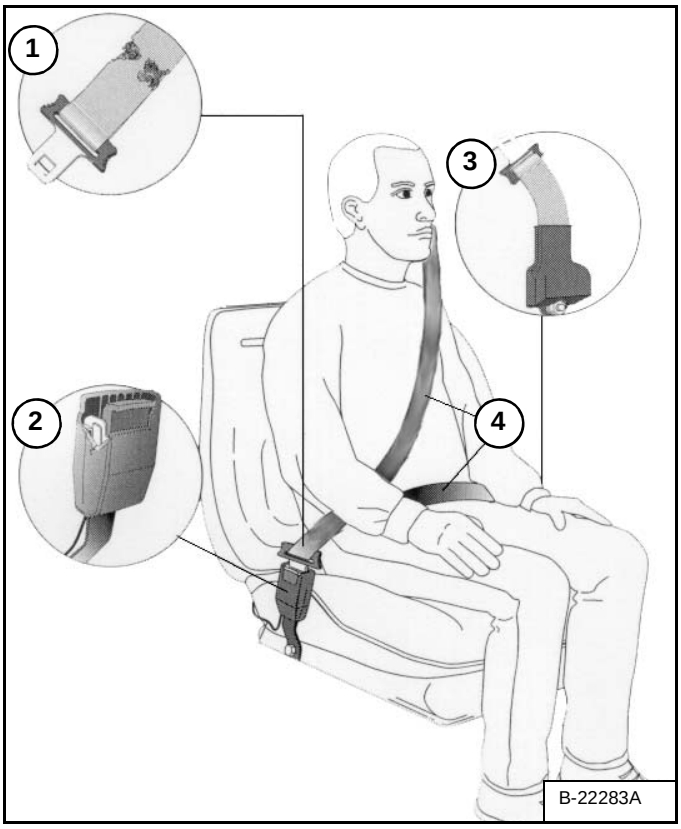
2. Check the buckle and latch for proper function. Make sure latch plate is not excessively worn, deformed or buckle is not damaged.

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.

Figure PM-4

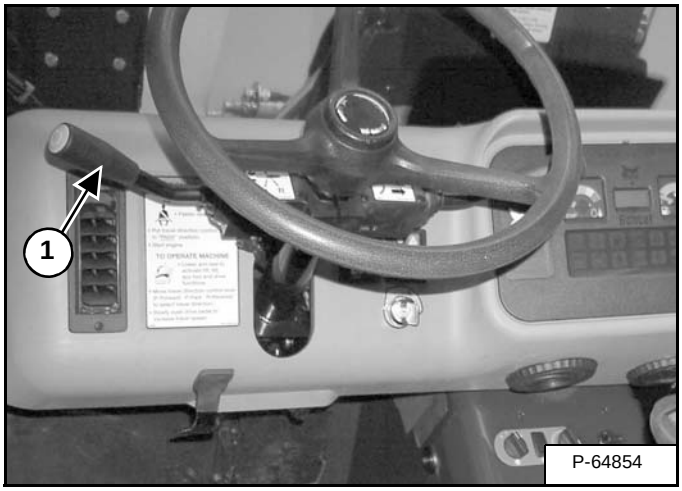


NEUTRAL START SYSTEM

Inspection And Maintenance

The Toolcat work machine is equipped with a Neutral Start System. The Travel Direction Control Lever must be in PARK for the engine to start.

Figure PM-5



To check the function of the Neutral Start System, place the Travel Direction Control Lever (Item 1) **[Figure PM-5]** in FORWARD and turn the key switch to START position. The engine must not start.

Repeat this procedure with the Travel Direction Control Lever in REVERSE.

If the engine starts when the Travel Direction Control Lever is in FORWARD or REVERSE, see your Bobcat dealer for service.

LIFT ARM SUPPORT DEVICE

Installing

WARNING

Never work on a machine with the lift arm up unless the lift arm is supported by an approved lift arm support device. Failure to use an approved lift arm support device can allow the lift arm or attachment to fall and cause injury or death.

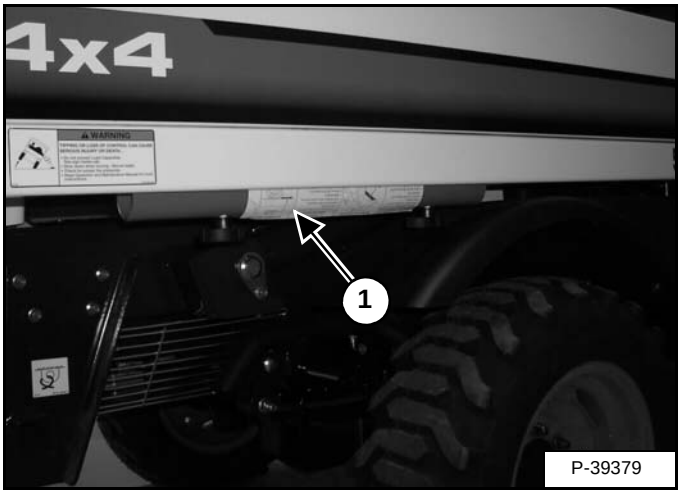
W-2447-1102

WARNING

Service lift arm support device if damaged. Using a damaged lift arm support can cause lift arm to drop causing injury or death.

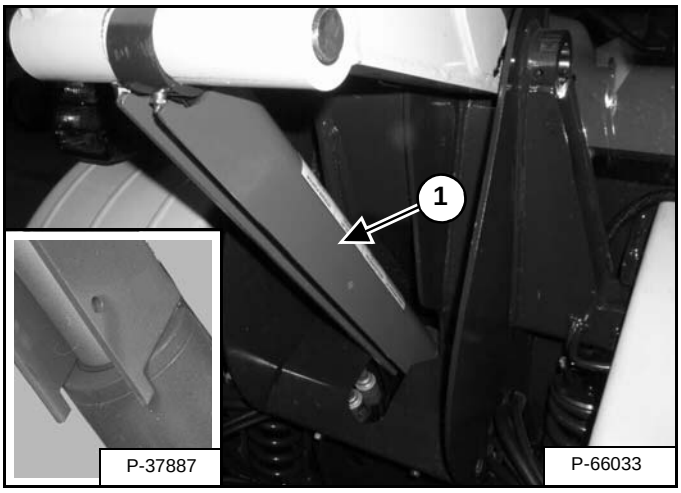
W-2448-1102

Figure PM-6



Remove the lift arm support device (Item 1) **[Figure PM-6]** from the storage position under the right side of the Cargo Box.

Figure PM-7



Enter the cab, lower the arm rest, fasten the seat belt and start the engine.

Remove any attachment from the Bob-Tach.

Raise the lift arm all the way up.

Stop the engine and exit the cab.

Install the lift arm support device (Item 1) **[Figure PM-7]** over the rod of the lift cylinder. Be sure the tabs are over the end of the lift cylinder (Inset) **[Figure PM-7]**.

Enter the cab and start the engine.

Lower the lift arm until it is supported by the support device.

Removing

Start the engine and raise the lift arm all the way up. Stop the engine.

Remove the lift arm support device.

Enter the cab, start the engine and lower the lift arm all the way.

Stop the engine and exit the cab.

Return the lift arm support device to the storage position.

CARGO BOX SUPPORT DEVICE

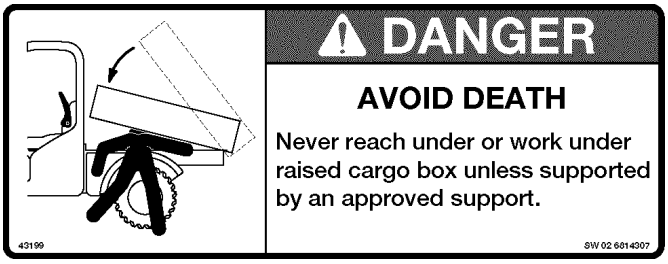
Installing

WARNING

Never work on a machine with the cargo box up unless the cargo box is supported by an approved support device. Failure to use an approved support device can allow the cargo box to fall and cause injury or death.

W-2449-1102

Figure PM-8



WARNING

Service cargo box support device if damaged or if parts are missing. Using a damaged support or with missing parts can cause cargo box to drop causing injury or death.

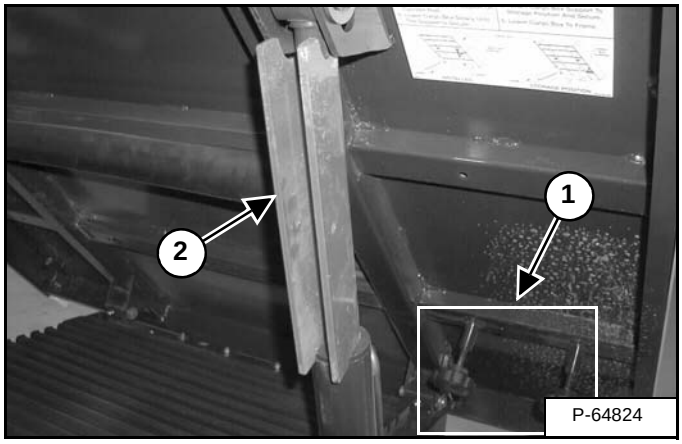
W-2450-1102

Empty the cargo box before installing the cargo box support device.

Enter the cab, lower the arm rest, fasten the seat belt, start the engine and raise the cargo box all the way.

Stop the engine and exit the cab.

Figure PM-9



Remove the cargo box support device from the storage position (Item 1) **[Figure PM-9]**.

Install the support device over the cargo box cylinder rod (Item 2) **[Figure PM-9]**.

Enter the cab, lower the arm rest, fasten the seat belt, start the engine and lower the cargo box until it is supported by the support device.

Removing

Enter the cab, lower the arm rest, fasten the seat belt, start the engine and raise the cargo box all the way.

Stop the engine and exit the cab.

Remove the support device (Item 2) **[Figure PM-9]** from the cylinder rod.

Enter the cab, lower the arm rest, fasten the seat belt, start the engine and lower the cargo box all the way.

Return the support device to the storage position.

Raising The Cargo Box When Engine Is Not Running

Figure PM-10

Install lift straps (or chains) through the stake holes at the front of the cargo box **[Figure PM-10]**.

Fasten the lift straps to a hoist.

Raise the hoist until the cargo box is all the way up.

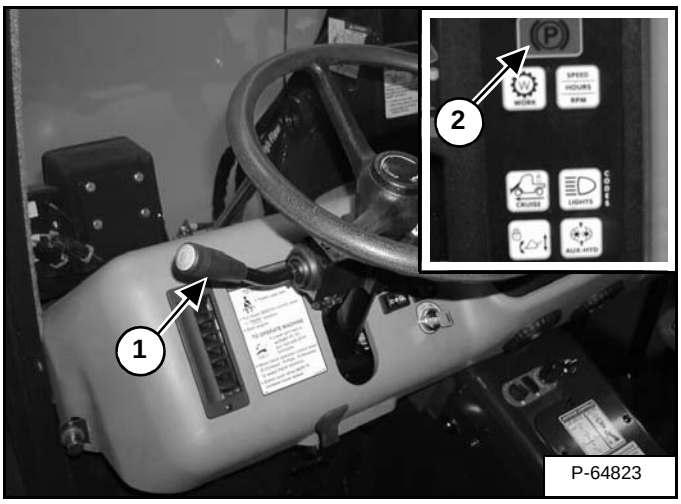
Install cargo box support device. (See Installing.)

PARKING BRAKE SYSTEM

Inspection And Maintenance

The Toolcat is equipped with a Parking Brake System.

Figure PM-11



When the Travel Direction Control Lever (Item 1) **[Figure PM-11]** is in PARK, the Parking Brake is engaged.

The Parking Brake can also be engaged separately by pressing the Parking Brake button (Item 2) **[Figure PM-11]** on the instrument panel. If the Parking Brake is engaged using the Parking Brake button, the button must be pressed again to disengage.

The parking brake function check should be performed on a slope of approximately 11 degrees. Conduct the check in an area free of objects and bystanders.

Back the machine up the slope and put the Travel Direction Control Lever in PARK. The machine must not move.

If the machine moves after the inspection procedure, see your Bobcat dealer for service.

OPERATOR CAB

Description

Figure PM-12

P-64708

The machine has an operator cab (ROPS and FOPS) **[Figure PM-12]** as standard equipment to protect the operator from rollover and falling objects. The seat belt must be worn for rollover protection. Check with your dealer if the operator cab has been damaged or modified.

ROPS / FOPS - Roll Over Protective Structure per SAE J1040 and ISO 3471, and Falling Object Protective Structure per ISO 3449, Level I.

Level I

Protection from falling bricks, small concrete blocks, and hand tools encountered in operations such as highway maintenance, landscaping, and other construction site services.

⚠ WARNING

Never modify operator cab by welding, grinding, drilling holes or adding attachments unless instructed to do so by Bobcat Company. Changes to the cab can cause loss of operator protection from rollover and falling objects, and result in injury or death.

W-2069-0200

HEATING AND AIR CONDITIONING

Cleaning and Maintenance

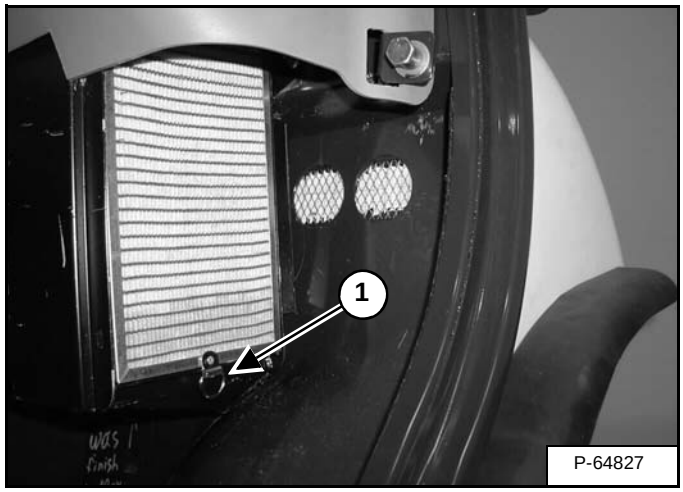
The heating system requires regular inspection and maintenance. See the SERVICE SCHEDULE for intervals. (See SERVICE SCHEDULE on Page PM-7.)

Filters

See CAB AIR FILTERS for filter cleaning and replacement. (See CAB AIR FILTER on Page PM-16.)

Evaporator Coil

Figure PM-13



P-64827

Remove the filter (Item 1) **[Figure PM-13]** and use a vacuum to clean the evaporator coils.

If the coils require a more thorough cleaning, the heater / air conditioning unit must be disconnected from the front of the cab. (See your Bobcat dealer.)

Air Conditioning Lubrication

Run the air conditioner for about 5 minutes every week to lubricate the internal components. (In winter too.)

Troubleshooting

If the fan does not run or the air conditioning does not turn on, check the fuse. (See ELECTRICAL SYSTEM on Page PM-26.)

If the air conditioning system circulates warm air, the refrigerant may need to be recharged. (See your Bobcat dealer.)

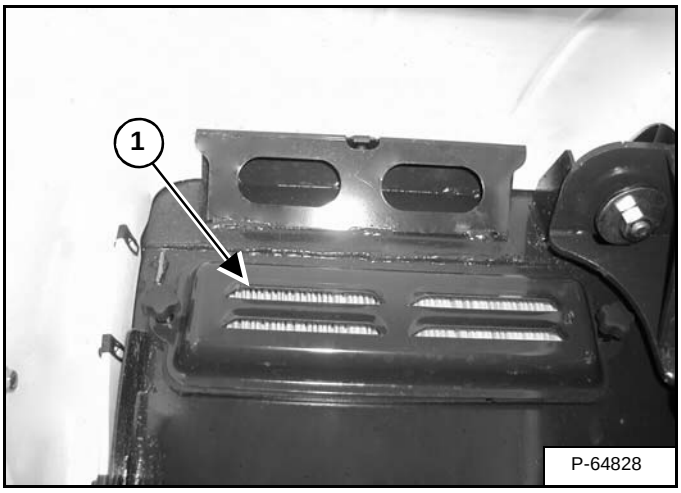
CAB AIR FILTER

Cleaning And Maintenance

The heating system requires regular inspection and maintenance. For intervals (See SERVICE SCHEDULE on Page PM-7.)

Fresh Air Filter

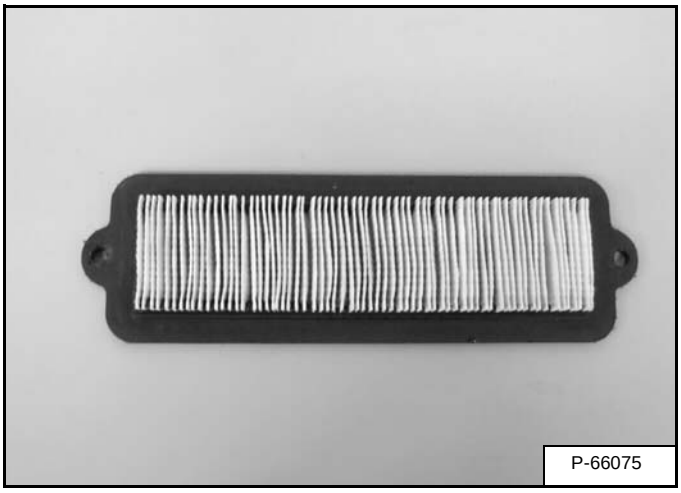
Figure PM-14



The fresh air filter is located under the right front fender **[Figure PM-14]**.

Remove the two thumb bolts and remove the filter housing (Item 1) **[Figure PM-14]**.

Figure PM-15

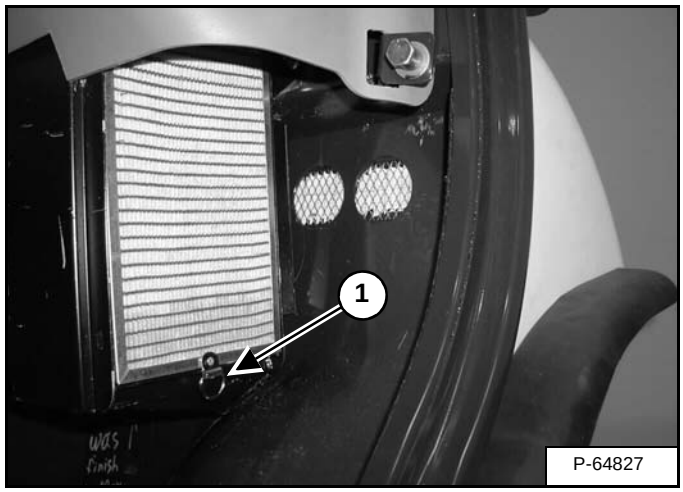


Remove the filter and shake it or use low air pressure to remove dirt **[Figure PM-15]**. The filter can be cleaned several times in this manner then it must be replaced.

Reinstall the filter and housing.

Recirculating Air Filter

Figure PM-16



The recirculating filter is located on the right end of the heater / air conditioning housing.

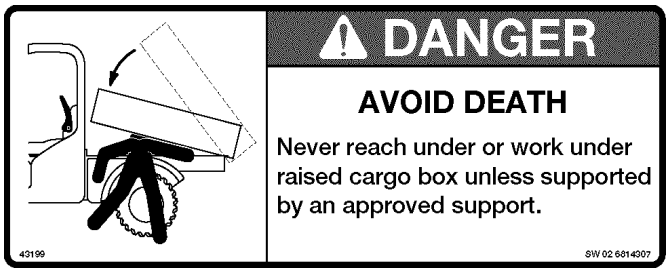
Use the ring (Item 1) **[Figure PM-16]** to pull the filter out.

Shake the filter or use low air pressure to remove dirt. The filter can be cleaned several times in this manner, then it must be replaced. If air flow from the fan is reduced, the filter may need replacement.

Reinstall the filter.

AIR CLEANER SERVICE

Replacing Filter Elements



Raise the cargo box and install the approved cargo box support device. (See CARGO BOX SUPPORT DEVICE on Page PM-13.)

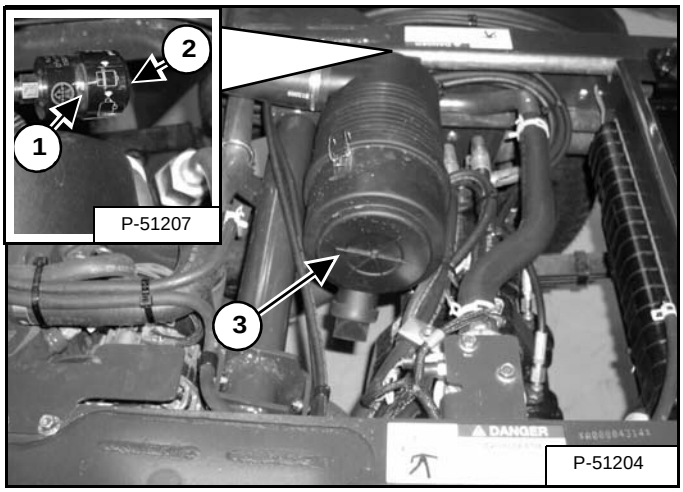
See SERVICE SCHEDULE on Page PM-7 for the interval to service the air cleaner.

Check the air intake hose and the air cleaner housing for damage.

Check to make sure all connections are tight.

Outer Filter

Figure PM-17



Replace the outer filter element only when the red ring (Item 1) **[Figure PM-17]** shows in the window of the condition indicator.

NOTE: Before replacing the filter element, push the button on the condition indicator (Item 2) [Figure PM-17]. Start the engine and run it at fast idle, then stop the engine. If the red ring does not show, do not replace the filter element.

Inner Filter

Replace the inner filter every third time the outer filter is replaced or when the red ring still shows in the indicator window after the outer filter has been replaced.

Release the fasteners and remove the cover (Item 3) **[Figure PM-17]**. Clean any debris or dust from the cover.

Figure PM-18

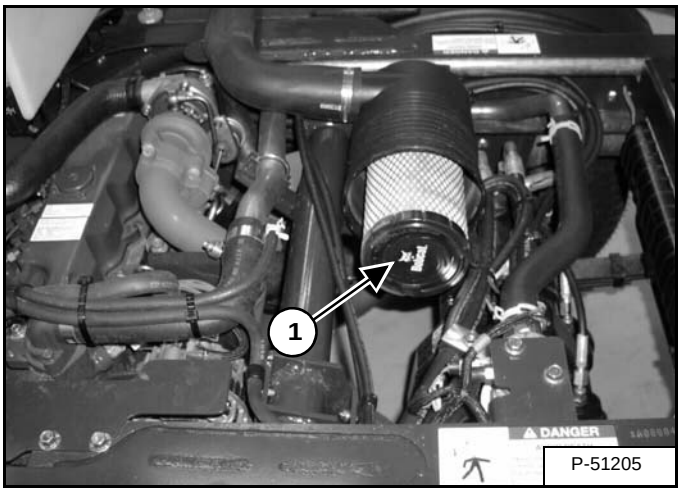
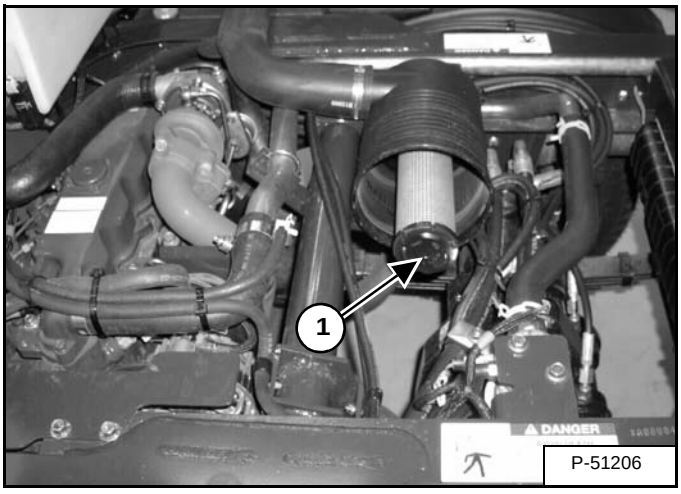


Figure PM-19



Remove the outer filter element (Item 1) **[Figure PM-18]** and, if required, remove the inner element (Item 1) **[Figure PM-19]**.

Clean the inside of the filter housing. (Do not use compressed air.)

Install the inner element (if removed).

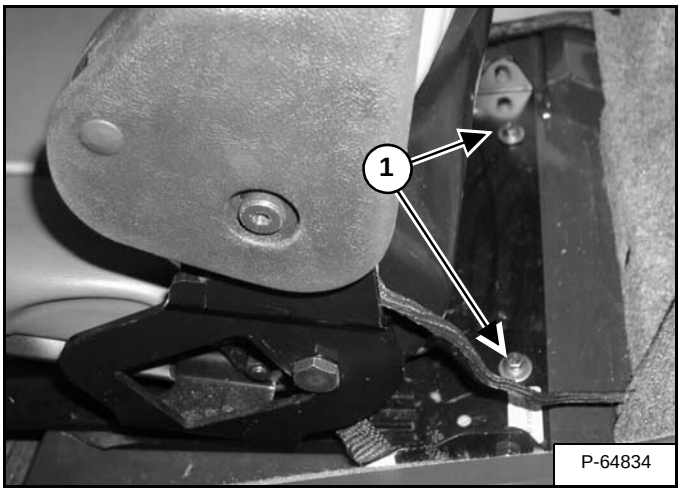
Install the outer element.

Install the cover and engage the fasteners **[Figure PM-17]**.

SEATS

Removal

Figure PM-20



Remove two bolts (Item 1) **[Figure PM-20]** at the rear edge of the seat pan.

Driver's Seat Only: Disconnect the arm rest sensor connector.

Tilt the seat forward and remove the entire seat assembly.

Installation

Install the seat assembly and align the holes.

Install bolts at the rear edge of the seat pan.

Tighten the bolts to 32-35 ft.-lb. (43-47 N•m) torque.

FUEL SYSTEM

Fuel Specifications

Use only clean, high quality diesel fuel, Grade No. 2 or Grade No. 1.

The following is one suggested blending guideline which should prevent fuel gelling during cold temperatures:

TEMPERATURE F (C)	NO. 2	NO. 1
+15° (9°) & Above	100%	0%
Down to -20° (-29°)	50%	50%
Below -20° (-29°)	0%	100%

Contact your fuel supplier for local recommendations.

Filling The Fuel Tank

Figure PM-21

WARNING

AVOID INJURY OR DEATH

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

W-2063-0807

Remove the fill cap (Item 1) **[Figure PM-21]**.

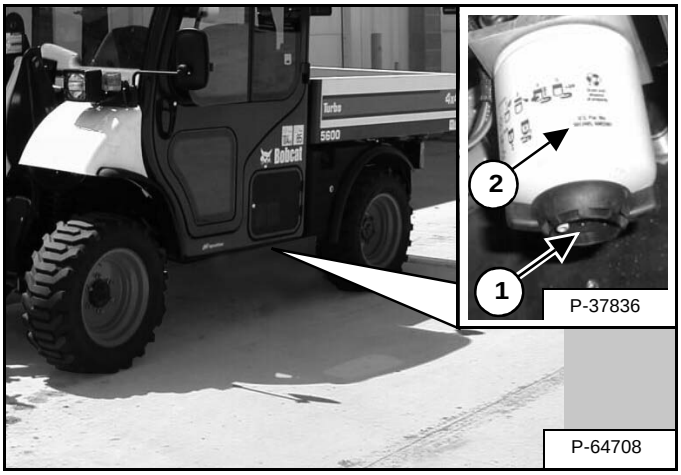
Use a clean, approved safety container to add fuel of the correct specification. Add fuel only in an area that has free movement of air and no open flames or sparks. *NO SMOKING*.

Install and tighten the fuel cap (Item 1) **[Figure PM-21]**.

Fuel Filter

Remove water from, or replace the fuel filter at correct interval (See SERVICE SCHEDULE on Page PM-7.)

Figure PM-22



Drain Water:

The fuel filter is located under the front end of the cargo box **[Figure PM-22]**.

Loosen the drain (Item 1) **[Figure PM-22]** at the bottom of the filter element to remove water from the filter. Close the drain.

Replace Fuel Filter:

Remove the filter element (Item 2) **[Figure PM-22]**.

NOTE: Be sure the filter gasket is removed with the old fuel filter.

Clean the area around the filter housing.

Put clean oil on the seal of the new filter element.

Install the fuel filter, and hand tighten.

Remove air from the fuel system. (See Removing Air From The Fuel System on Page PM-20.)

Removing Air From The Fuel System

⚠ 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 which can result in injury or death.

W-2103-0807

After replacing the filter element or when the fuel tank has run out of fuel, air must be removed from the fuel system before starting the engine.

Be sure the engine is cool.

NOTE: The passenger seat must be removed to access the priming bulb and injection pump valve. (See SEATS on Page PM-18.)

Figure PM-23

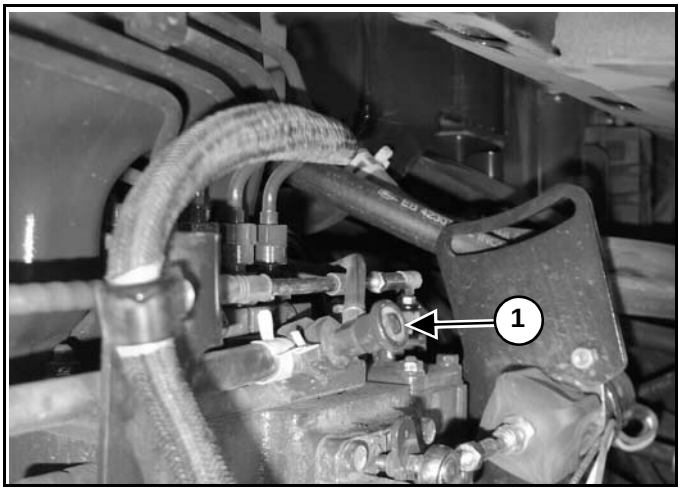
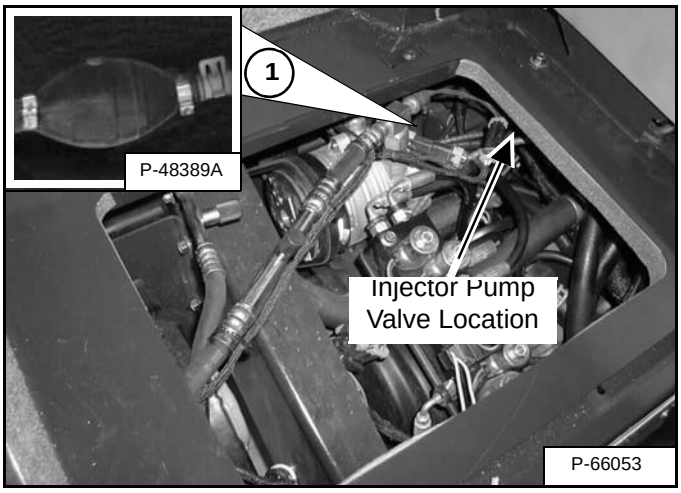


Figure PM-24



Open the valve (Item 1) **[Figure PM-23]** on the injector pump and squeeze the hand pump (Item 1) **[Figure PM-24]** several times until fuel comes from the valve with no air bubbles.

Close the valve (Item 1) **[Figure PM-24]**.

With the operator in the seat, seat belt fastened, arm rest lowered and Travel Direction Control Lever in PARK, start the engine.

Repeat until the engine starts.

Install the passenger seat and tighten the bolts to 32-35 ft.-lb. (43-47 N•m) torque.

Filling A Portable Fuel Container

Static electric spark can explosively ignite gasoline vapors when filling ungrounded portable containers.

Always put the container **ON THE GROUND** before filling.

Keep the nozzle in contact with container while filling.

NEVER fill container in the cargo box or on the machine.

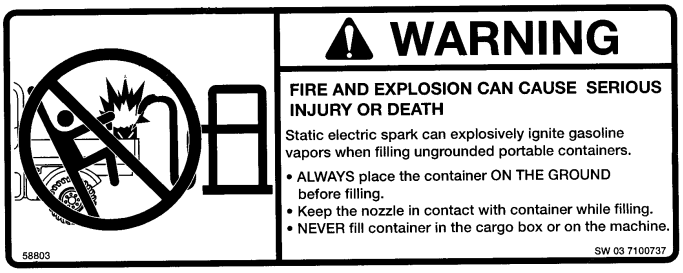
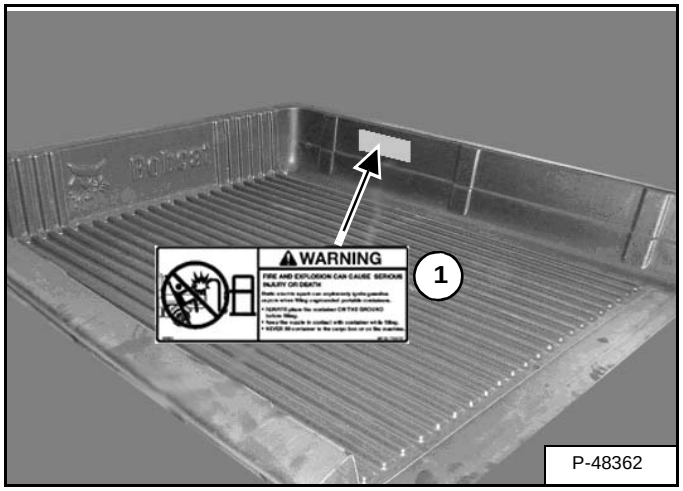


Figure PM-25

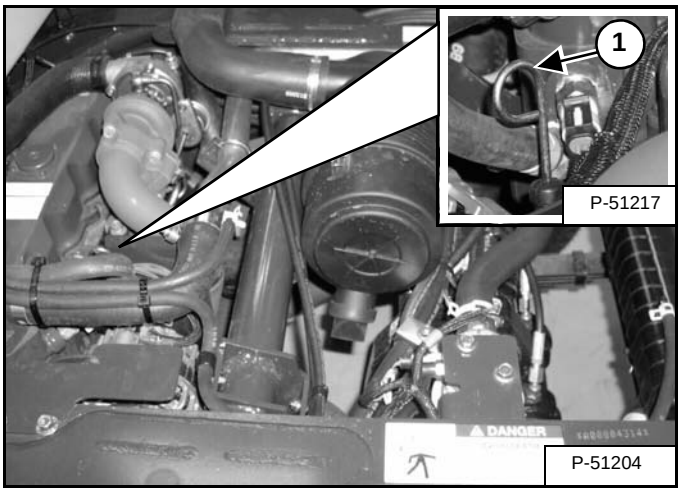


Cargo Box Liner (Option) has a Warning decal (Item 1) **[Figure PM-25]**. Replace if damaged or missing.

ENGINE LUBRICATION SYSTEM

Checking And Adding Engine Oil

Figure PM-26



Check the engine oil level every day.

Start the engine and raise the cargo box.

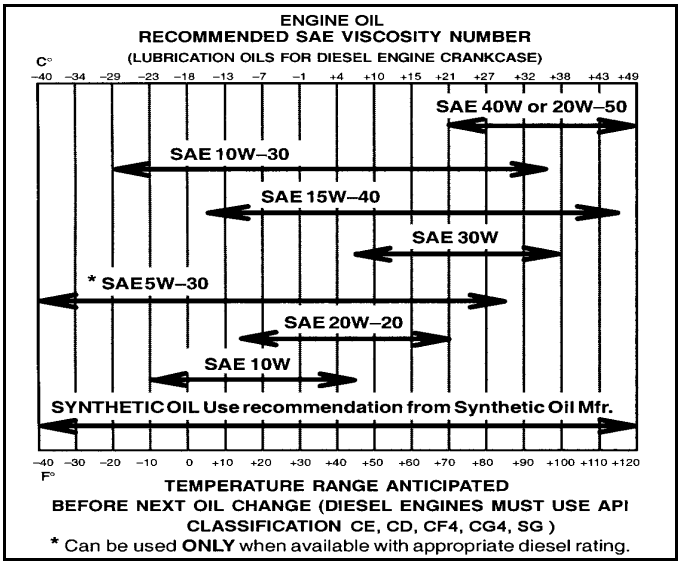
Install the cargo box support device.

Stop the engine.

Wait about 5 minutes then remove the dipstick (Item 1) **[Figure PM-26]** to check the oil level.

Keep the oil level between the marks on the dipstick.

Engine Oil Chart



Use good quality motor oil that meets API Service Classification of CD or better.

Removing And Replacing Oil And Filter

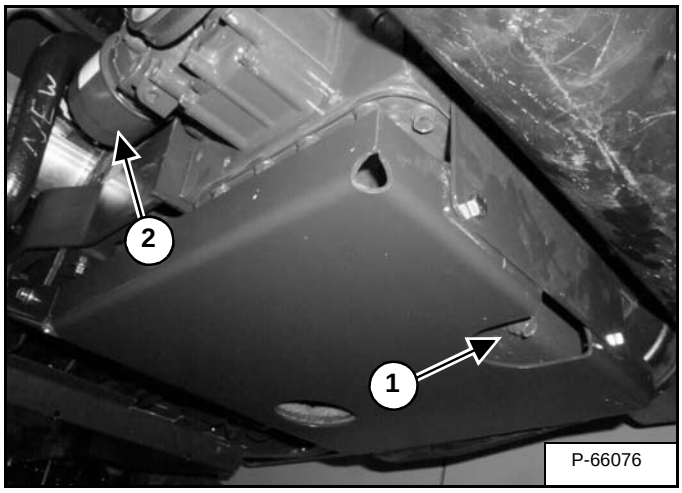
Follow the service interval for replacing the engine oil and filter (See SERVICE SCHEDULE on Page PM-7.)

Run the engine until it is at operating temperature.

NOTE: While the engine is running, raise the Cargo Box and install the approved support device. The Cargo Box must be up to have access to the engine oil fill and dipstick.

Stop the engine.

Figure PM-27



The engine oil drain and filter are located under the machine at the front end of the cargo box.

Remove the drain plug (Item 1) **[Figure PM-27]**. Drain the oil into a container and recycle or dispose of used oil in an environmentally safe manner.

NOTE: Some machines have a belly pan (option or accessory) under the engine area. The belly pan has holes in it for access to drain and filters.

Reinstall the drain plug.

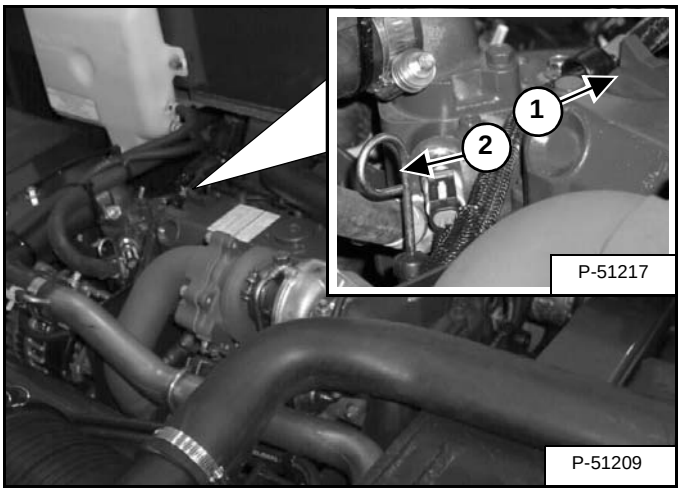
Remove the oil filter (Item 2) **[Figure PM-27]** and clean the filter housing surface.

Use genuine Bobcat filter only.

Put clean oil on the new filter gasket, install the filter and hand tighten.

Removing And Replacing Oil & Filter (Cont'd)

Figure PM-28



Remove the fill cap (Item 1) **[Figure PM-28]**.

Put the correct quantity of oil in the engine (See TOOLCAT 5600 UTILITY WORK MACHINE SPECIFICATIONS on Page SPEC-3.)

Start the engine and let it run for several minutes. Stop the engine and check for leaks at the filter.

Remove the dipstick (Item 2) **[Figure PM-28]** and check the oil level. (See Checking And Adding Engine Oil on Page PM-22.)

Add oil as needed if it is not at the top mark on the dipstick.

Install the dipstick and lower the cargo box.

⚠ WARNING

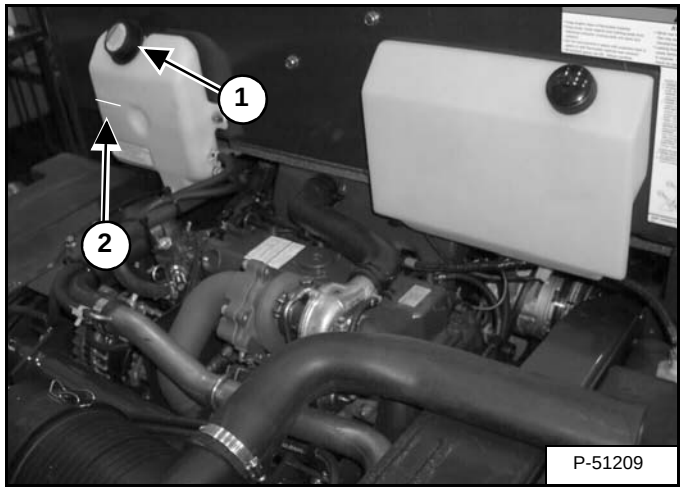
AVOID INJURY OR DEATH

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 which can result in injury or death.

W-2103-0807

Checking

Figure PM-29



The coolant recovery tank (Item 1) **[Figure PM-29]** is located behind the cab.

Raise the cargo box and install the Cargo Box Support Device. Stop the engine.

⚠ WARNING

AVOID INJURY

Stop the engine and allow to cool before adding coolant or you can be burned.

W-2106-0907

The coolant level in the recovery tank must be at the mark on the tank (Item 2) **[Figure PM-29]** when the engine is cool.

NOTE: The cooling system is factory filled with propylene glycol coolant. DO NOT mix propylene glycol with ethylene glycol.

Propylene Glycol

Add premixed coolant; 47% water 53% propylene glycol to the recovery tank if the coolant level is low.

One gallon and one pint of propylene glycol mixed with one gallon of water is the correct mixture of coolant to provide a -34°F (-37°C) freeze protection.

Use a refractometer to check the condition of propylene glycol in your cooling system.

Lower the cargo box.

⚠ WARNING

AVOID INJURY

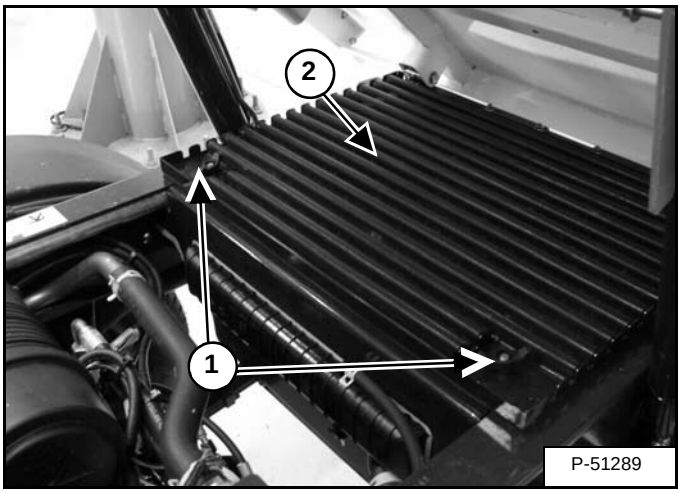
Use safety goggles when using air or water under pressure. Do not use cold water to clean a hot engine.

W-2064-0907

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

Raise the cargo box and install the Cargo Box Support Device. Stop the engine.

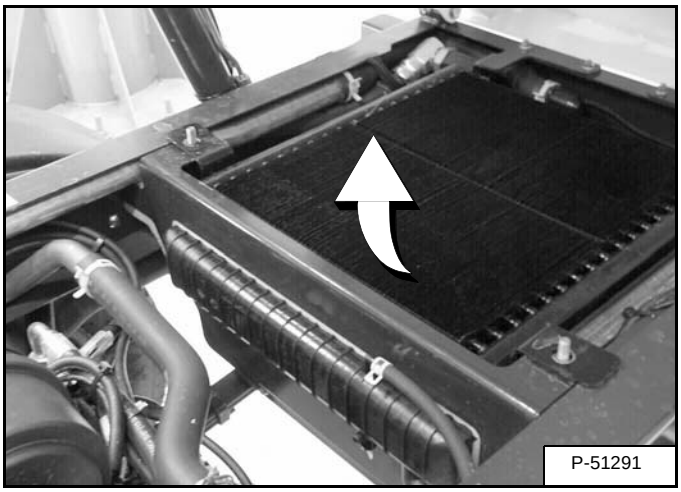
Figure PM-30



Remove the two debris screen wing nuts (Item 1) and remove the screen (Item 2) **[Figure PM-30]**.

Cleaning (Cont'd)

Figure PM-31



Lift up on the oil cooler to clean in between the oil cooler and the radiator **[Figure PM-31]**.

Use low air or water pressure to remove debris in the area of the radiator and oil cooler.

IMPORTANT

Do not use a pressure washer to clean the radiator and oil cooler. High pressure can damage the fins.

I-2219-1102

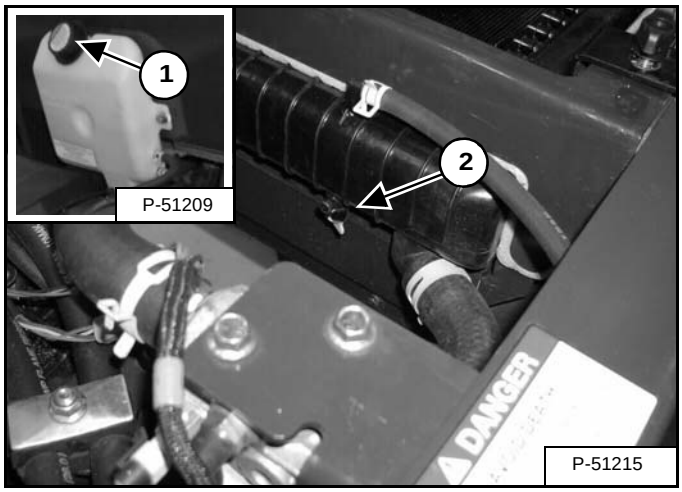
Check the cooling system for leaks.

Reinstall the screen.

Lower the cargo box.

Removing And Replacing Coolant

Figure PM-32



Raise the cargo box and install the Cargo Box Support Device. Stop the engine.

Remove the cap (Item 1) **[Figure PM-32]** from the coolant recovery tank.

Open the radiator drain valve (Item 2) **[Figure PM-32]** and drain the coolant into a container.

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

Close the drain valve.

NOTE: The loader is factory filled with propylene glycol coolant (purple color). DO NOT mix propylene glycol with ethylene glycol.

Add premixed coolant, 47% water and 53% propylene glycol to the recovery tank. (See Checking on Page PM-23.)

One gallon and one pint (4,3 L) of propylene glycol mixed with one gallon (3,8 L) of water is the correct mixture of coolant to provide a -34°F (-37°C) freeze protection.

Add premixed coolant to the coolant recovery tank until it is at the full mark. Install the cap.

Start the engine and let it run until it is at operating temperature.

Stop the engine and check the coolant level. Add premixed coolant to the recovery tank as needed.

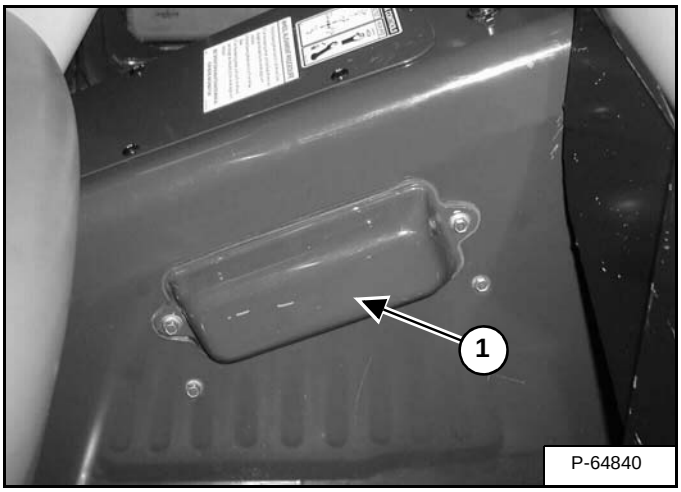
Lower the cargo box.

ELECTRICAL SYSTEM

Description

The machine has a 12 volt, negative ground alternator charging system. The electrical system is protected by fuses and relays. The fuses will protect the electrical system when there is an electrical overload. The reason for the overload must be found before starting the engine again.

Figure PM-33



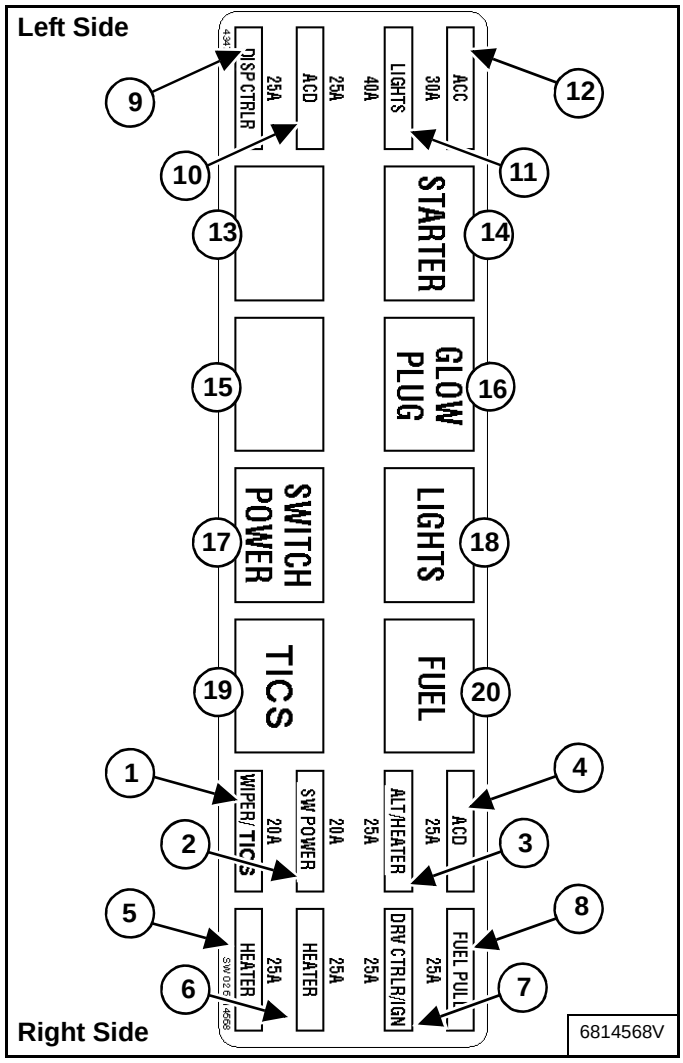
Fuse And Relay Location / Identification

The fuse panel (Item 1) **[Figure PM-33]** is located inside the cab on the right side of the floor console.

Figure PM-34

Remove the cover to get access to the fuses and relays **[Figure PM-34]**.

Figure PM-35



There is a decal **[Figure PM-35]** inside the fuse panel cover which shows location and size of fuses. Description and amp ratings (or relays) are also shown below.

REF	DESCRIPTION	AMP	REF	DESCRIPTION	AMP
1	Wiper / TICS	20	**11**	Lights	40
2	Switched Power	20	**12**	Accessories	30
3	Alternator / Heater	25	**13**	Not Used	R
4	Attachment Control Device (ACD)	25	**14**	Starter	R
5	Heater	25	**15**	Not Used	R
6	Heater	25	**16**	Glow Plugs	R
7	Drive Control / Ignition	25	**17**	Switched Power	R
8	Fuel Shut Off	25	**18**	Lights	R
9	Controller	25	**19**	TICS	R
10	Attachment Control Device (ACD)	25	**20**	Fuel Shut Off	R

R = Relay

Battery And Battery Terminal Maintenance

WARNING

AVOID INJURY OR DEATH

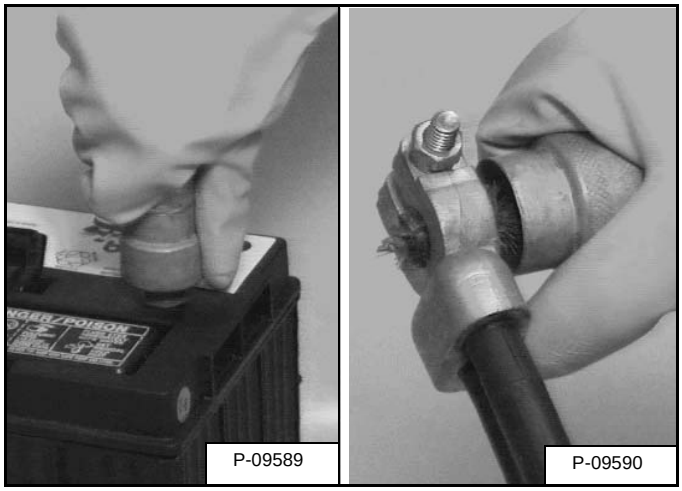
Batteries contain acid which burns eyes and skin on contact. Wear goggles, protective clothing and rubber gloves to keep acid off body.

In case of acid contact, wash immediately with water. In case of eye contact get prompt medical attention and wash eye with clean, cool water for at least 15 minutes.

If electrolyte is taken internally drink large quantities of water or milk! DO NOT induce vomiting. Get prompt medical attention.

W-2065-0807

Figure PM-36



Always clean the battery terminals and cable ends when installing a new or used battery **[Figure PM-36]**.

Check the electrolyte level in the battery (If needed). Add distilled water as necessary.

Put grease on the battery terminals and cable ends to prevent corrosion.

Using A Booster Battery (Jump Starting)

If it is necessary to use a booster battery to start the engine, BE CAREFUL! There must be one person in the operator's seat and one person to connect and disconnect the battery cables.

The key switch must be OFF. The booster battery must be 12 volt.

The battery is located behind the access screen on the left side of the cab.

WARNING

AVOID INJURY OR DEATH

Keep arcs, sparks flames and lighted tobacco away from batteries. When *jumping* from booster battery make final connection (negative) at machine frame.

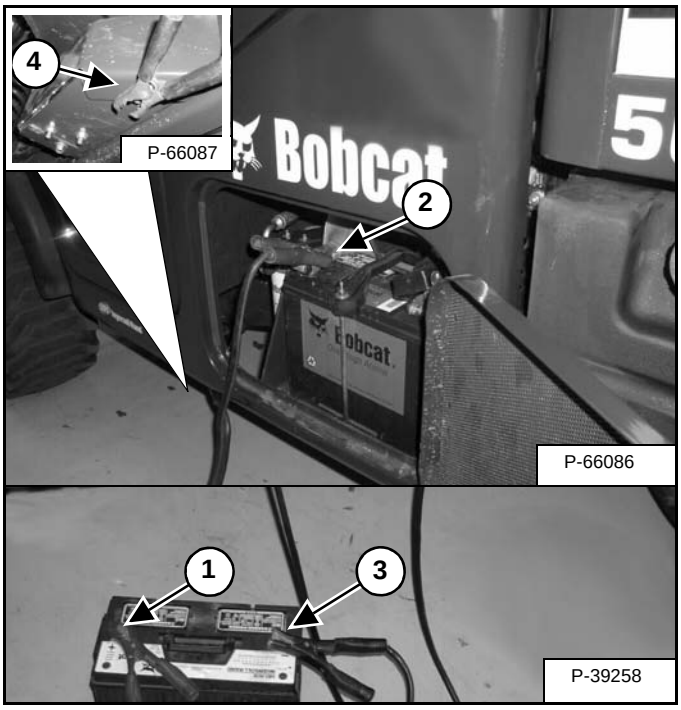
Do not jump start or charge a frozen or damaged battery. Warm battery to 60°F (16°C) before connecting to a charger. Unplug charger before connecting or disconnecting cables to battery. Never lean over battery while boosting, testing or charging.

Battery gas can explode and cause serious injury.

W-2066-0705

Using A Booster Battery (Jump Starting) (Cont'd)

Figure PM-37



Connect the end of the first cable (Item 1) **[Figure PM-37]** to the positive (+) terminal of the booster battery. Connect the other end of the same cable (Item 2) **[Figure PM-37]** to the positive terminal of the machine battery.

⚠ WARNING

AVOID INJURY OR DEATH

Keep arcs, sparks flames and lighted tobacco away from batteries. When *jumping* from booster battery make final connection (negative) at machine frame.

Do not jump start or charge a frozen or damaged battery. Warm battery to 60°F (16°C) before connecting to a charger. Unplug charger before connecting or disconnecting cables to battery. Never lean over battery while boosting, testing or charging.

Battery gas can explode and cause serious injury.

W-2066-0705

Connect the end of the second cable (Item 3) **[Figure PM-37]** to the negative terminal of the booster battery. Connect the other end of the same cable (Item 4) **[Figure PM-37]** to a ground point on the machine.

Start the engine.

After the engine has started, remove the ground (-) cable (Item 4) **[Figure PM-37]** first. Remove the cable from the positive terminal (Item 2) **[Figure PM-37]**. Then remove the cables from the booster battery.

IMPORTANT

Damage to the alternator can occur if:

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

I-2217-1102

Removing And Installing Battery

WARNING

AVOID INJURY OR DEATH

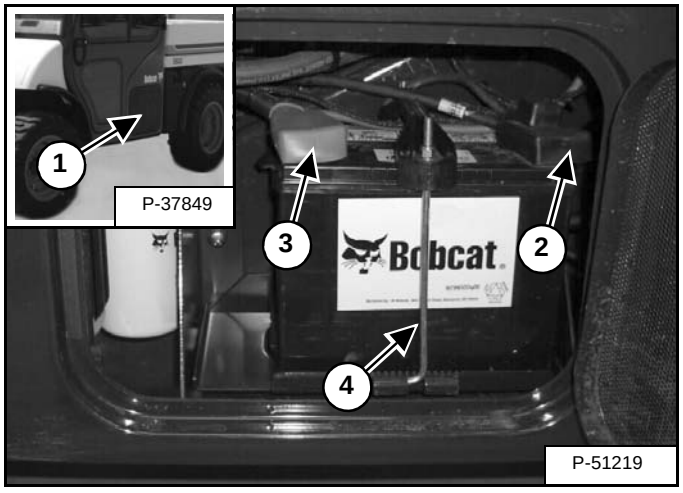
Batteries contain acid which burns eyes and skin on contact. Wear goggles, protective clothing and rubber gloves to keep acid off body.

In case of acid contact, wash immediately with water. In case of eye contact get prompt medical attention and wash eye with clean, cool water for at least 15 minutes.

If electrolyte is taken internally drink large quantities of water or milk! DO NOT induce vomiting. Get prompt medical attention.

W-2065-0807

Figure PM-38



Open the screen cover (Item 1) **[Figure PM-38]**.

Disconnect the negative (-) cable (Item 2) **[Figure PM-38]**.

Disconnect the positive (+) cable (Item 3) **[Figure PM-38]**.

Remove the battery hold down (Item 4) **[Figure PM-38]**.

Remove the battery.

When installing the battery, do not touch any metal parts with the battery terminals.

Connect the negative (-) cable last to prevent sparks.

Connect and tighten the battery cables.

Install and tighten the battery clamp.

Close the screen cover.

WARNING

AVOID INJURY OR DEATH

Keep arcs, sparks flames and lighted tobacco away from batteries. When *jumping* from booster battery make final connection (negative) at machine frame.

Do not jump start or charge a frozen or damaged battery. Warm battery to 60°F (16°C) before connecting to a charger. Unplug charger before connecting or disconnecting cables to battery. Never lean over battery while boosting, testing or charging.

Battery gas can explode and cause serious injury.

W-2066-0705

HYDRAULIC / HYDROSTATIC SYSTEM

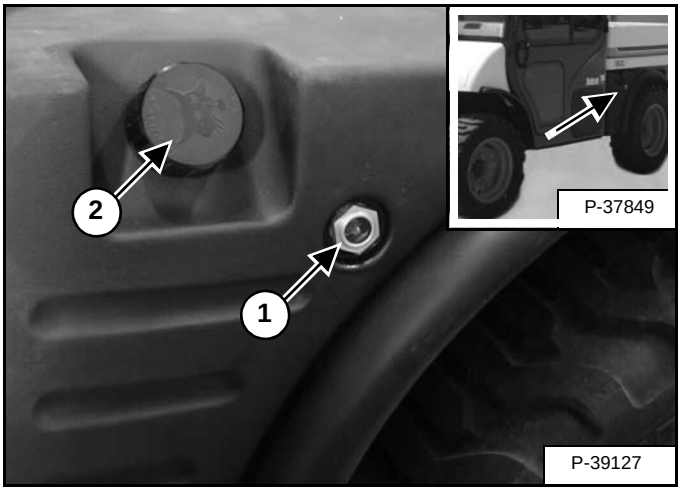
Checking And Adding Fluid

Use only recommended fluid in the hydraulic system. (See TOOLCAT 5600 UTILITY WORK MACHINE SPECIFICATIONS on Page SPEC-3.)

Put the machine on a level surface, lower the lift arm, tilt the Bob-Tach fully back and lower the cargo box.

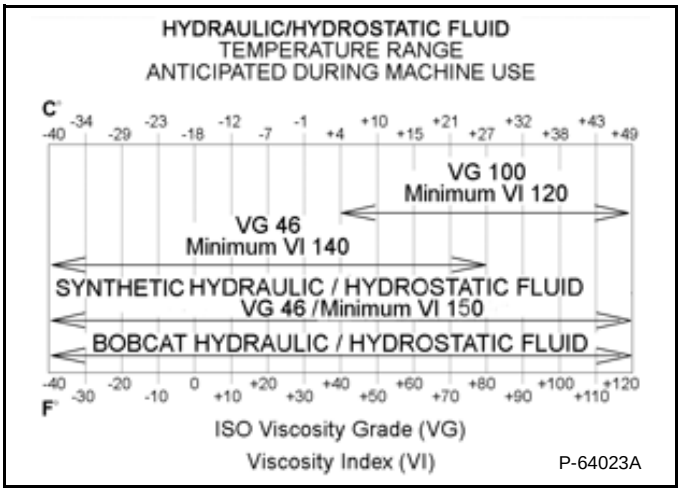
Stop the engine.

Figure PM-39



Check the fluid level in the sight gauge (Item 1) **[Figure PM-39]**. The fluid level is correct when at the center of the sight gauge.

Hydraulic / Hydrostatic Fluid Chart



If needed, remove the fill cap (Item 2) **[Figure PM-39]** and add fluid. (See chart above.)

Removing And Replacing Hydraulic/Hydrostatic And Case Drain Filters

Replace the filters at the correct interval (See SERVICE SCHEDULE on Page PM-7.)

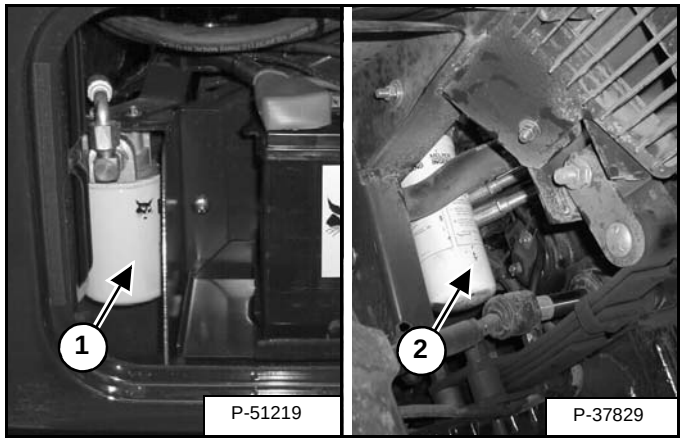
⚠ WARNING

AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.

W-2072-0807

Figure PM-40



Remove the case drain filter (Item 1) **[Figure PM-40]**.

Remove the hydrostatic filter (Item 2) **[Figure PM-40]** (near the left rear wheel).

Clean the surface of the filter housings where the filter seal contacts the housing.

Put clean oil on the seal of the new filters. Install and hand tighten.

Start the engine and operate the hydraulic controls. Stop the engine and check for leaks at the filters.

Check fluid level and add as needed.

⚠ 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 which can result in injury or death.

W-2103-0807

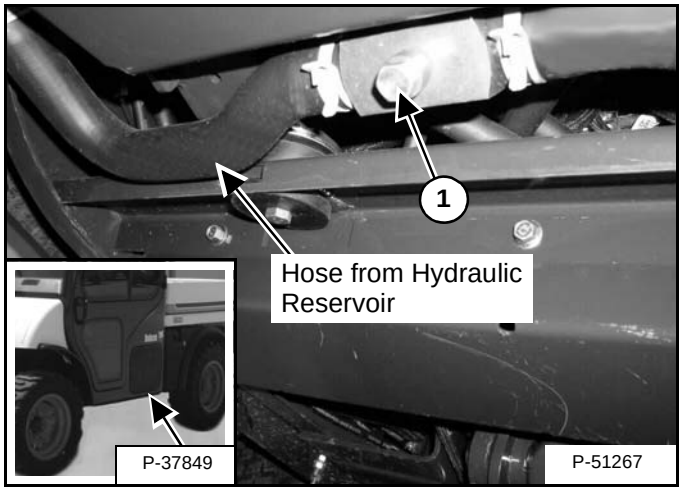
Removing And Replacing Hydraulic Fluid

Replace hydraulic fluid at the correct service interval (See SERVICE SCHEDULE on Page PM-7.)

Replace the fluid if it becomes contaminated or after major repair.

Always replace the hydraulic / hydrostatic filters whenever the hydraulic fluid is replaced.

Figure PM-41



Remove the plug (Item 1) **[Figure PM-41]** from the fitting under the front end of the cargo box.

Drain the fluid into a container.

Dispose of the used fluid in an environmentally safe manner.

Install the drain plug and fill to the center of the sight gauge with the correct specification fluid. (See Hydraulic / Hydrostatic Fluid Chart on Page PM-30.)

⚠ WARNING

AVOID INJURY OR DEATH

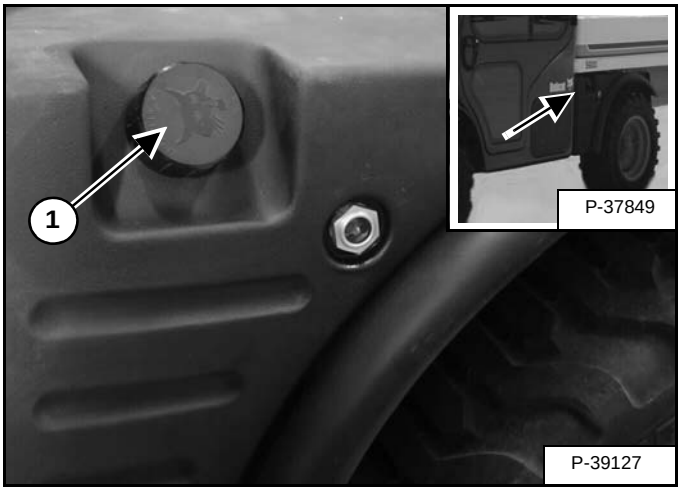
Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire which can result in injury or death.

W-2103-0807

Breather Cap

Replace breather cap at the correct service interval. (See SERVICE SCHEDULE on Page PM-7.)

Figure PM-42



Thoroughly clean the area around the breather cap.

Remove the breather cap (Item 1) **[Figure PM-42]** and discard.

Install new breather cap.

SPARK ARRESTOR MUFFLER

Cleaning Procedure

Clean the spark arrestor muffler at the correct service interval. (See SERVICE SCHEDULE on Page PM-7.) Do not operate the machine with a defective exhaust system.

⚠ WARNING

Stop engine and allow the muffler to cool before cleaning the spark chamber. Wear safety goggles. Failure to obey can cause serious injury.

W-2011-1285

⚠ WARNING

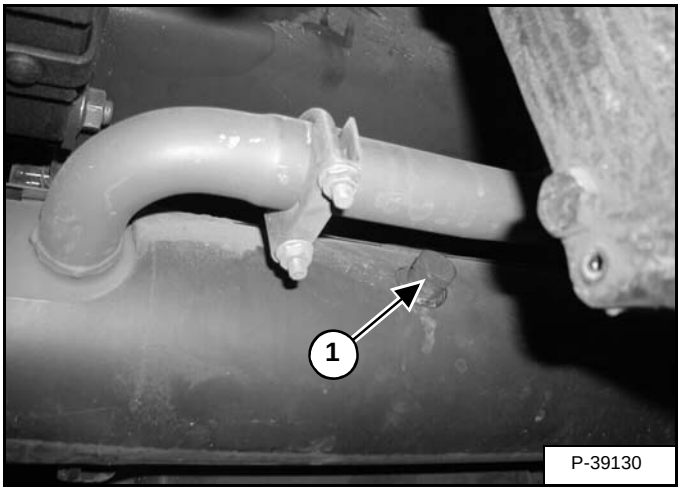
AVOID INJURY OR DEATH

When an engine is running in an enclosed area, fresh air must be added to avoid concentration of exhaust fumes. If the engine is stationary, vent the exhaust outside. Exhaust fumes contain odorless, invisible gases which can kill without warning.

W-2050-0807

Stop the engine and allow it to cool.

Figure PM-43



Remove the plug (Item 1) **[Figure PM-43]** from the cleanout hole in the muffler.

Start the engine.

Have a second person, stand to the side of the machine, hold a block of wood over the outlet of the muffler (with the engine running) for about 10 seconds.

This will force contaminants out through the cleanout hole.

Stop the engine and install the plug.

IMPORTANT

This loader is factory equipped with a U.S.D.A. Forestry Service approved spark arrestor muffler. It is necessary to do maintenance on 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.

Consult local laws and regulations for spark arrestor requirements

I-2022-0807

SUPPORTING THE MACHINE ON JACKSTANDS

Procedure

For service work under the machine, or to remove the wheels, always support the machine with jackstands or blocks of adequate capacity for weight of machine (See Performance on Page SPEC-4.)

Figure PM-44

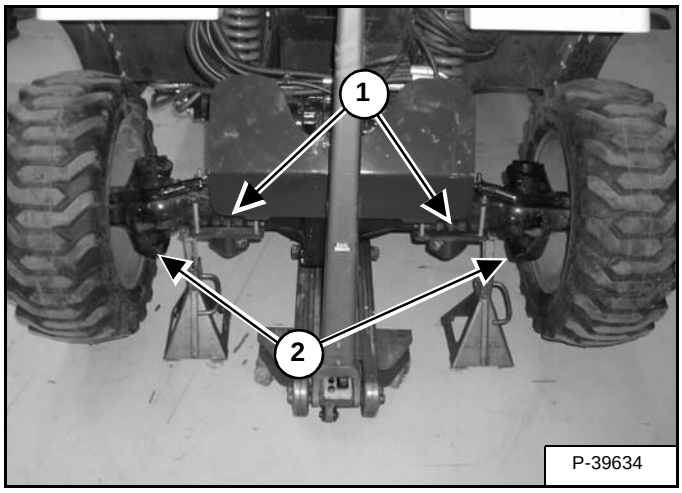
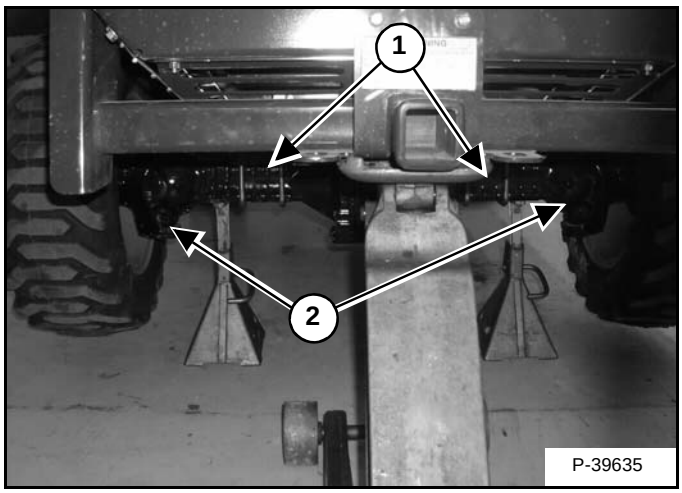


Figure PM-45



Park the machine on a level surface.

Install the approved lift arm support device (See LIFT ARM SUPPORT DEVICE on Page PM-12.)

Put jackstands under the front and rear axles between the axle mounts (Item 1) and the axle hub (Item 2) **[Figure PM-44]** and **[Figure PM-45]**.

NOTE: When lifting the machine, put the jack under the frame of the machine, not under the axle housing.

For service work requiring axle or suspension component removal see your Bobcat dealer.

TIRE MAINTENANCE

Wheel Nuts

Check the wheel nut torque at the correct service interval (See SERVICE SCHEDULE on Page PM-7.)

The correct torque is 132-147 ft.-lb. (179-199 N•m).

Rotating

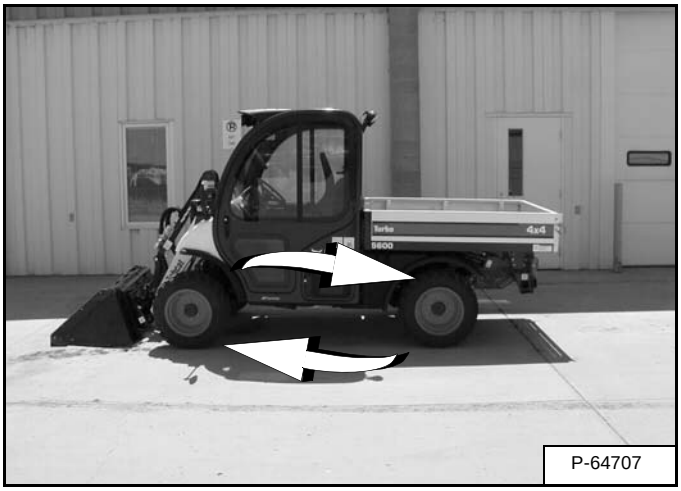
Check the tires regularly for wear, damage and pressure.

IMPORTANT

Inflate tires to the MAXIMUM pressure shown on the sidewall of the tire. DO NOT mix brands of tires used on the same loader.

I-2057-0794

Figure PM-46



Rear tires usually wear faster than front tires. To keep tire wear even, move the front tires to the rear and rear tires to the front **[Figure PM-46]**.

It is important to keep the same size tires on each side of the machine. If different sizes are used, each tire will be turning at a different rate and cause excessive wear. The tread bars of all the tires must face the same direction.

Recommended tire pressure must be maintained to avoid excessive tire wear and loss of stability and handling capability. Check for correct pressure before operating.

Mounting

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

Tires and rims must always be checked for correct size before mounting. Check rim and tire bead for damage.

The rim flange must be cleaned and free of rust.

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

Avoid excessive pressure which can rupture the tire and cause serious injury or death.

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

⚠ WARNING

AVOID SERIOUS INJURY OR DEATH

Do not inflate tires above specified pressure. Failure to use correct tire mounting procedure can cause an explosion which can result in injury or death.

W-2078-0807

AXLE / DIFFERENTIAL (FRONT AND REAR)

Checking And Adding Lubricant

Stop the machine on a level surface and stop the engine.

Figure PM-47

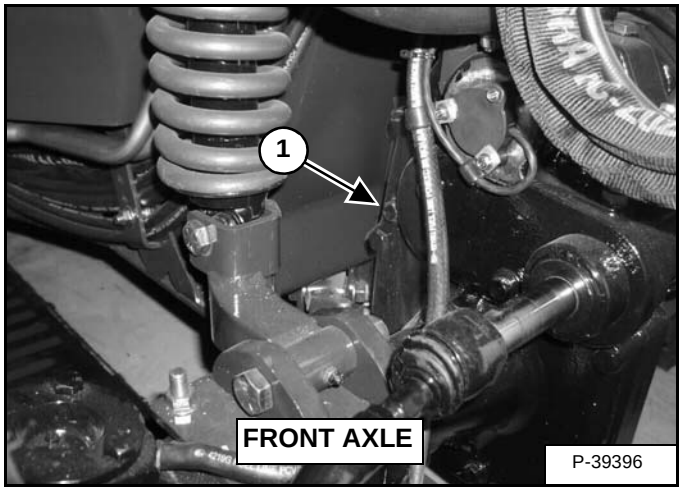
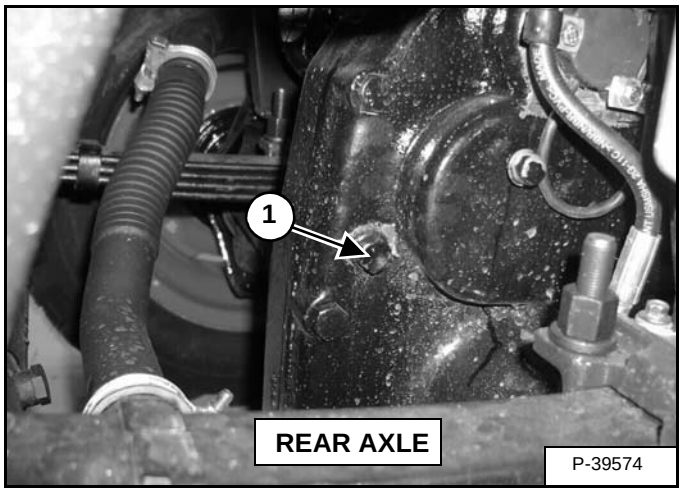


Figure PM-48



Remove the check plug (Item 1) **[Figure PM-47]** & **[Figure PM-48]** from the front or rear housing.

If lubricant can be reached with the tip of your finger through the hole, the level is correct.

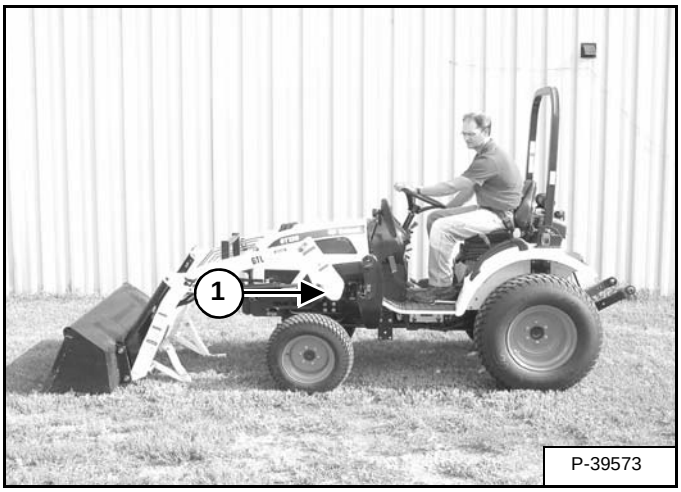
If the level is low, add lubricant through the check plug hole until lubricant flows from the hole.

NOTE: When adding axle housing lubricant (See Drive System on Page SPEC-6) for correct fluid type.

Install and tighten the plug.

Removing And Replacing Lubricant

Figure PM-49



Remove the drain plug at the bottom of the differential (Item 1) **[Figure PM-49]**.

Drain the lubricant into a container and dispose of it in an environmentally safe manner.

Install and tighten drain plug.

Remove check plug (Item 1) **[Figure PM-47]** & **[Figure PM-48]** and fill as shown above.

NOTE: When adding axle housing lubricant (See Drive System on Page SPEC-6) for correct fluid type.

ALTERNATOR BELT

Belt Adjustment

Raise the cargo box and install the Cargo Box Support Device.

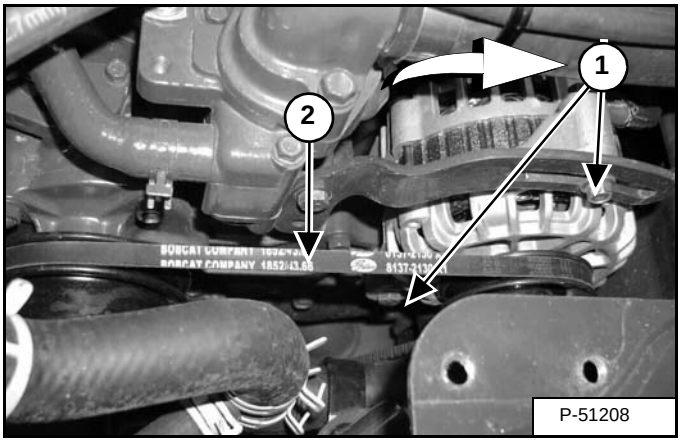
⚠ WARNING

Never work on a machine with the Cargo Box up unless the Cargo Box is supported by an approved Cargo Box Support Device.

W-2451-1102

Stop the engine.

Figure PM-50



Remove the belt shield.

Loosen the mounting and adjustment bolts (Item 1) **[Figure PM-50]** (Belt shield is removed for clarity).

Move the top of the alternator backward **[Figure PM-50]** to tighten the belt.

The tension is correct with 1/4 inch (6 mm) belt movement at mid span (Item 2) **[Figure PM-50]** to tighten the belt, when 15 lb. (67 N) force is applied to the belt.

Tighten the mounting and adjustment bolts (Item 1) **[Figure PM-50]**.

Install the belt shield.

Belt Replacement

Loosen the mounting and adjustment bolts (Item 1) **[Figure PM-50]** and move the alternator all the way forward. Remove the belt.

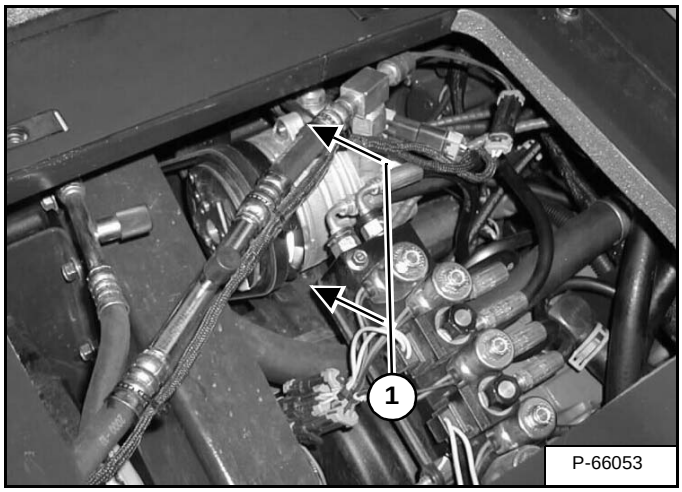
Install new belt and adjust as shown above.

Install the belt shield.

AIR CONDITIONER BELT

Belt Adjustment

Figure PM-51



Loosen adjustment and mounting bolts (Item 1) **[Figure PM-51]**.

Move the compressor unit to tighten the belt until there is 1/4 inch (6 mm) belt movement at mid span, when 15 lbf. (67 N) is applied to the belt.

Belt Replacement

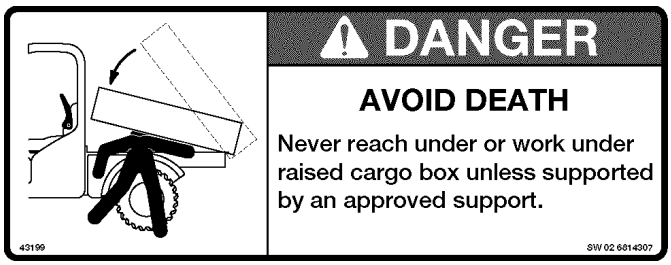
Loosen adjustment and mounting bolts (Item 1) **[Figure PM-51]**.

Move the compressor unit to loosen the belt all the way. Remove the belt.

Install new belt and adjust as shown above.

DRIVE BELT

Belt Adjustment

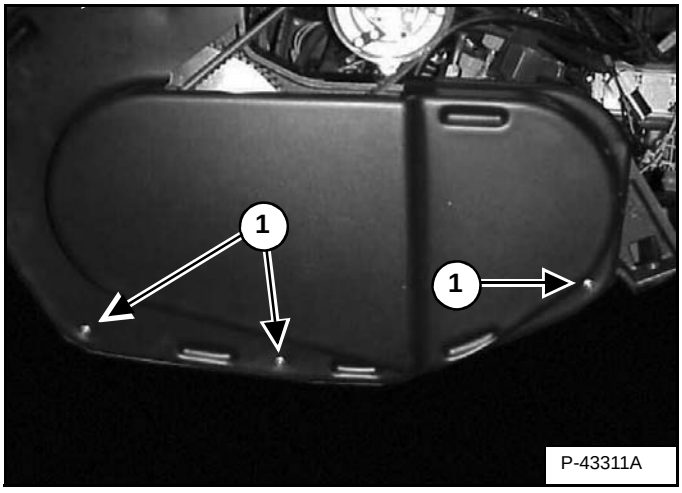


Raise the cargo box and install the approved lift arm support device.

Stop the engine.

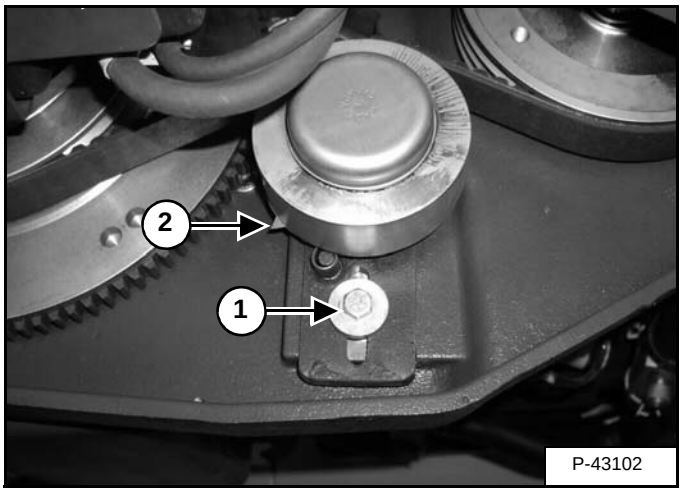
Disconnect the negative (-) battery cable.

Figure PM-52



Remove the belt shield **[Figure PM-52]**.

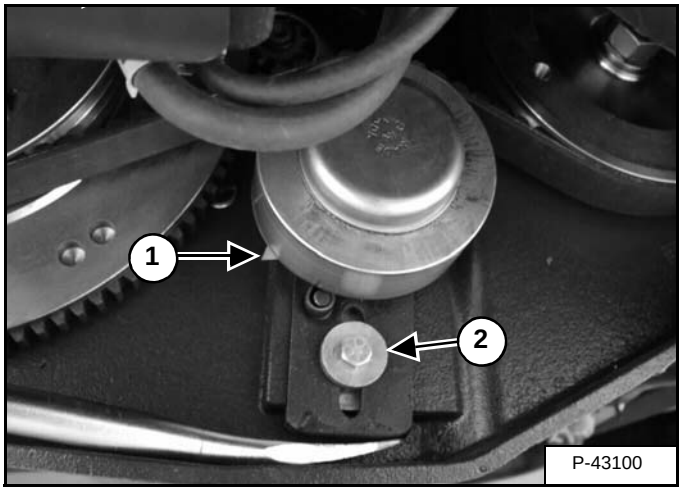
Figure PM-53



Loosen the bolt (Item 1) **[Figure PM-53]** on the spring loaded drive idler.

NOTE: The pointer (Item 2) [Figure PM-53] will be at the 7 o'clock position when the idler is not under spring tension.

Figure PM-54



Use a pry bar to push the idler assembly against the belt, the pointer (Item 1) **[Figure PM-54]** will be at the 9 o'clock position when the idler stop is bottomed out.

Lower the idler assembly slightly so that the pulley is operating on spring tension and not against the stop.

NOTE: Do not set the idler against the travel stop in the 9 o'clock position.

Tighten the mounting bolt (Item 2) **[Figure PM-54]** to 25-28 ft.-lb. (34-38 N•m) torque.

Install the belt shield and fasteners.

Run the engine for a few minutes.

Stop the engine and recheck the pointer position.

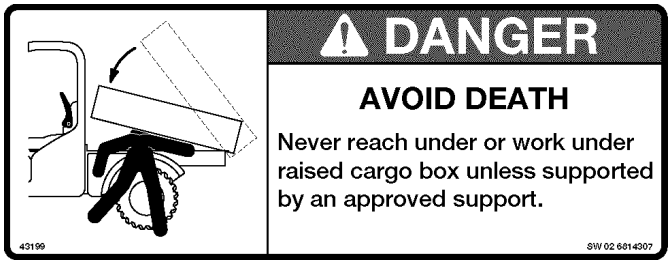
Readjust if necessary.

After the idler has been in service, readjust when the pointer reaches the 7 o'clock position.

Reconnect the negative (-) battery cable.

Lower the cargo box.

Drive Belt Replacement



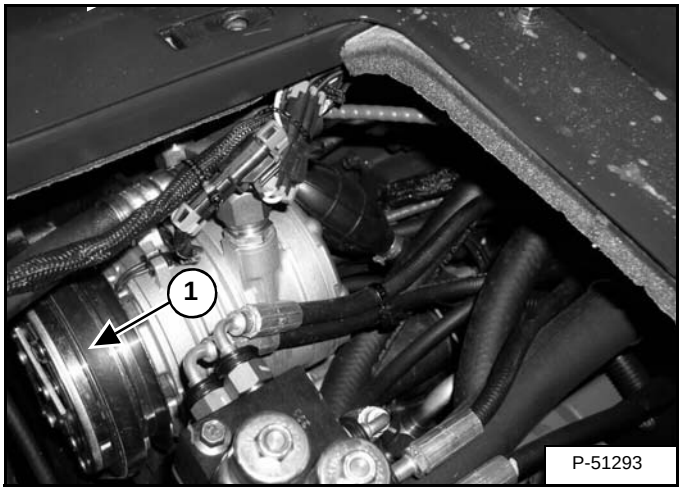
Raise the cargo box and install the approved lift arm support device.

Stop the engine.

Disconnect the negative (-) battery cable.

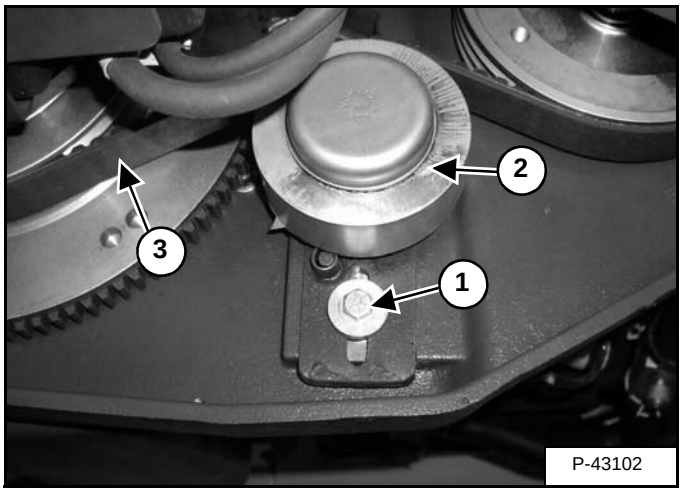
Remove the belt shield.

Figure PM-55



Remove the air conditioner compressor drive belt (Item 1) **[Figure PM-55]** (If equipped).

Figure PM-56



Loosen and remove the bolt (Item 1) **[Figure PM-56]** from the belt tensioner.

Remove the belt tensioner assembly (Item 2) **[Figure PM-56]**.

Remove the drive belt (Item 3) **[Figure PM-56]** from the machine.

Install the new drive belt.

Install the belt tensioner assembly.

Install the air conditioner compressor drive belt (If equipped).

Adjust the drive belt. (See Belt Adjustment on Page PM-38.)

LUBRICATING THE UTILITY WORK MACHINE

Lubrication Locations

Lubricate as specified for the best performance of the machine (See SERVICE SCHEDULE on Page PM-7.)

Record the operating hours each time you lubricate the machine.

Always use a good quality lithium based multi-purpose grease. Apply lubricant until extra grease shows.

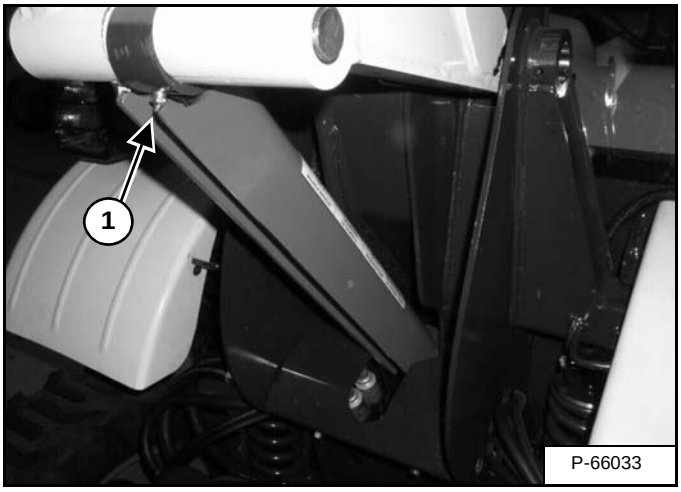
Lubricate the following:

⚠ WARNING

Never work on a machine with the lift arm up unless the lift arm is supported by an approved lift arm support device. Failure to use an approved lift arm support device can allow the lift arm or attachment to fall and cause injury or death.

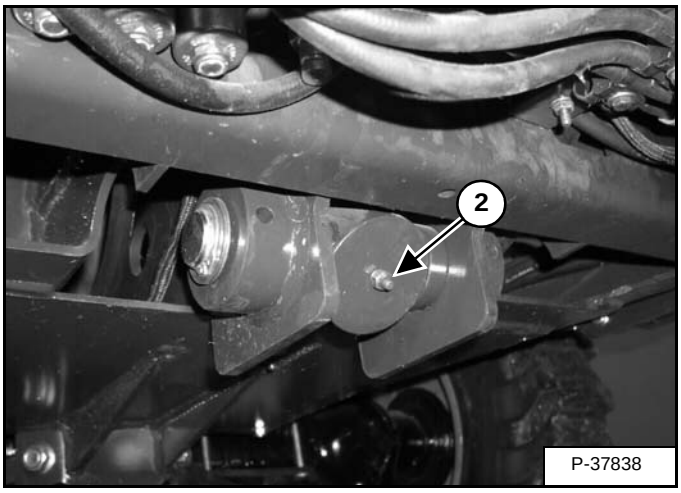
W-2447-1102

Figure PM-57



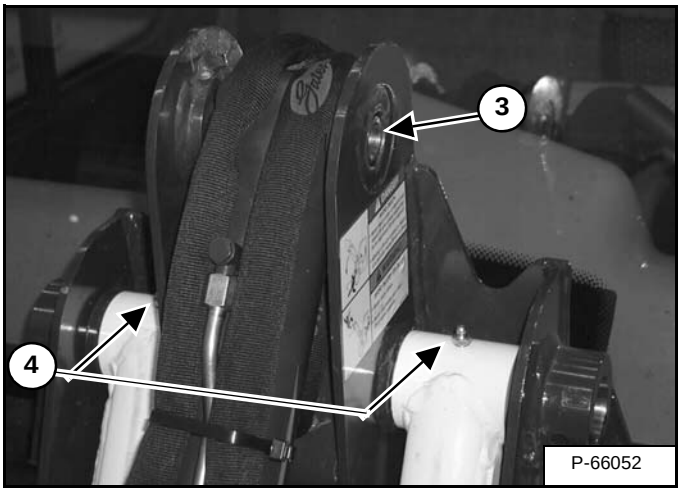
1. Rod End Lift Cylinder (1) **[Figure PM-57]**.

Figure PM-58



2. Base End Lift Cylinder (1) **[Figure PM-58]** (under machine).

Figure PM-59



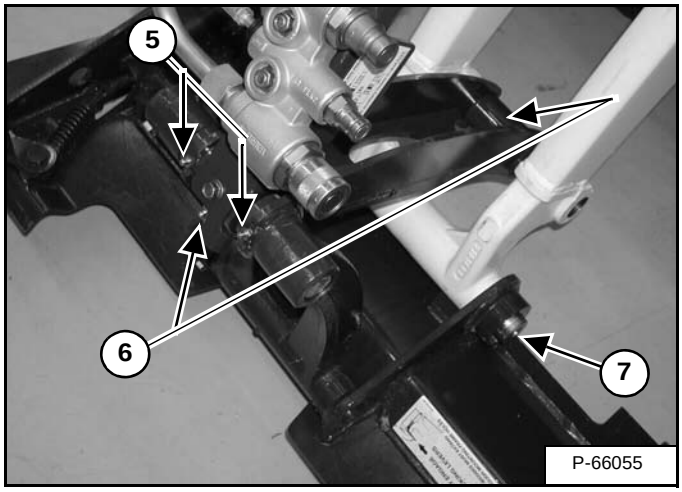
3. Base End Tilt Cylinder (1) **[Figure PM-59]**.

4. Lift Arm Pivot Pin (1) **[Figure PM-59]**.

LUBRICATING THE UTILITY WORK MACHINE (CONT'D)

Lubrication Locations (Cont'd)

Figure PM-60

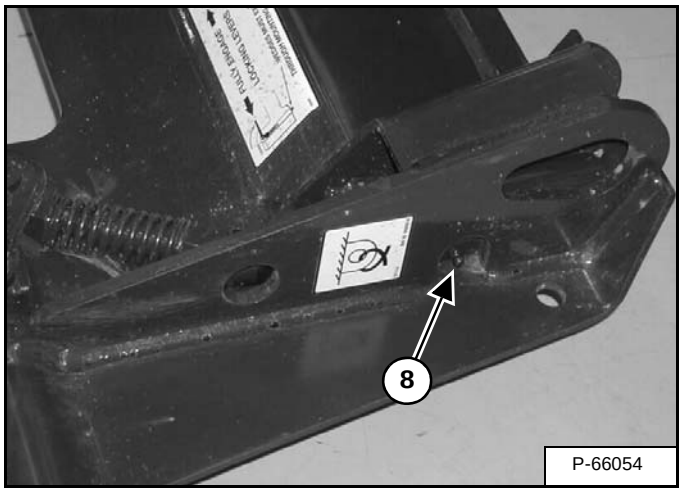


5. Rod End of Tilt Cylinder Pin (2) **[Figure PM-60]**.

6. Tilt Link Pivots (2) **[Figure PM-60]**.

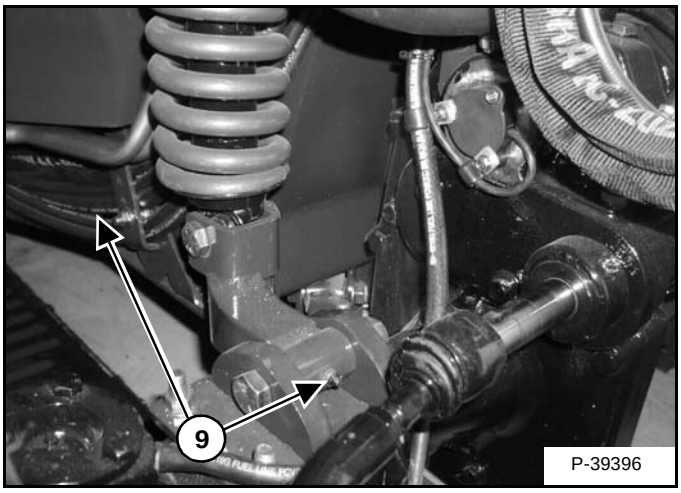
7. Bob-Tach Pivot Pin (1) **[Figure PM-60]**.

Figure PM-61



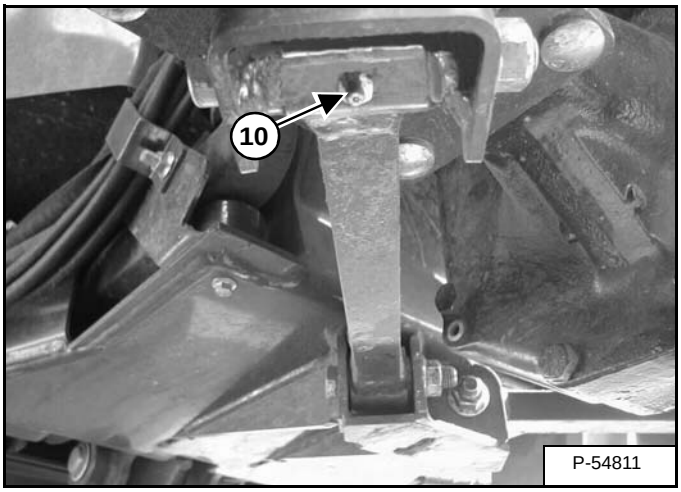
8. Bob-Tach Wedges (Both Sides) (2) **[Figure PM-61]**.

Figure PM-62



9. Lower Link (Front and Rear end of Link - Both Sides) (4) **[Figure PM-62]**.

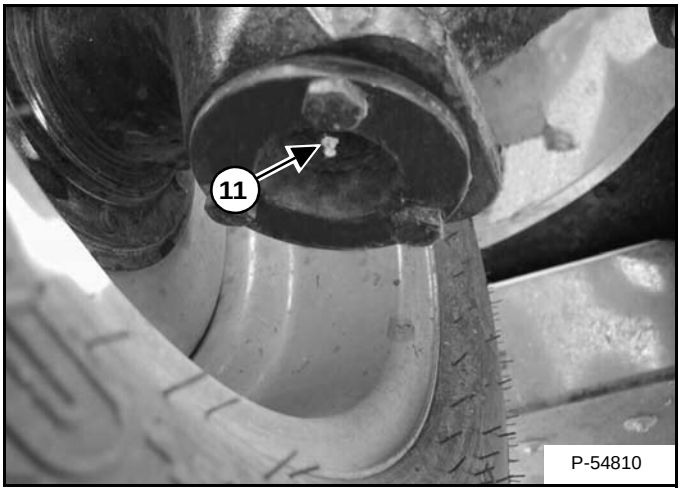
Figure PM-63



10. Control Link (Both Sides) (2) **[Figure PM-63]**

Lubrication Locations (Cont'd)

Figure PM-64



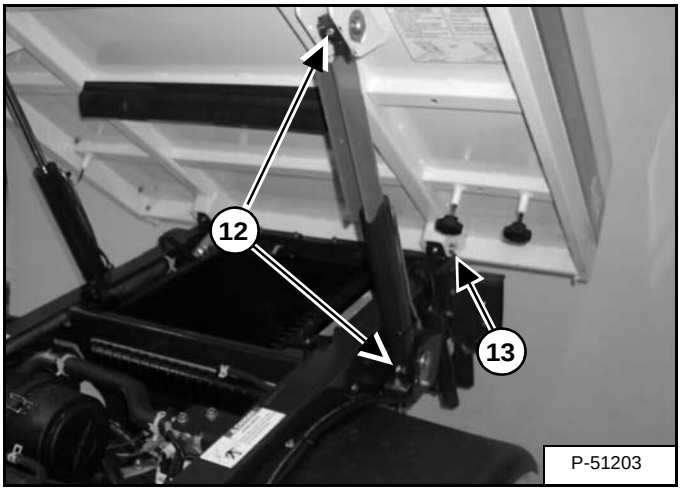
11. Front Bearing Pivots (Both Sides) (2) **[Figure PM-64]**.

WARNING

Never work on a machine with the cargo box up unless the cargo box is supported by an approved support device. Failure to use an approved support device can allow the cargo box to fall and cause injury or death.

W-2449-1102

Figure PM-65



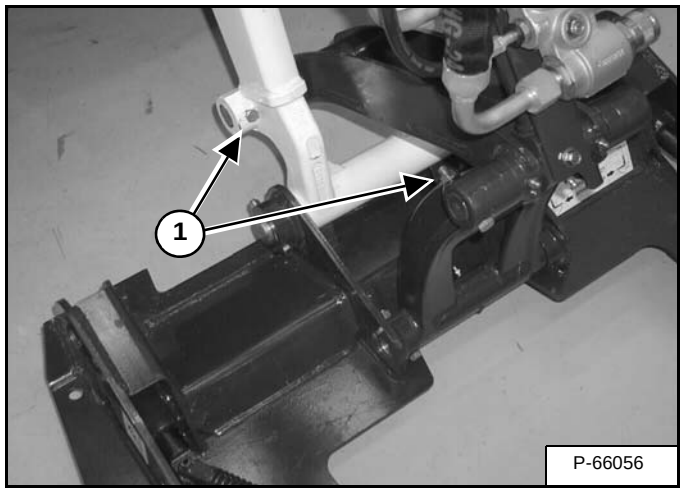
12. Cargo Box Cylinder (Both Sides) (4) **[Figure PM-65]**.

13. Cargo Box Pivots (Both Sides) (2) **[Figure PM-65]**.

PIVOT PINS

Inspection And Maintenance

Figure PM-66



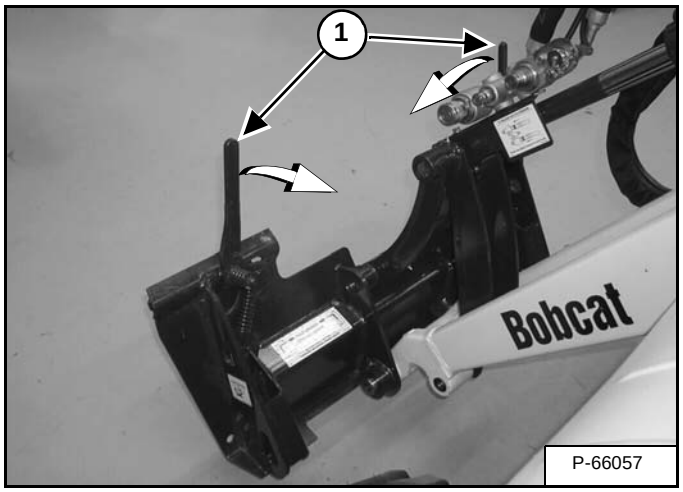
Each pivot pin is held in position with a bolt and lock nut (Item 1) **[Figure PM-66]**.

Check that the lock nuts are tightened to 25-28 ft.-lb. (34-37 N•m) torque.

BOB-TACH

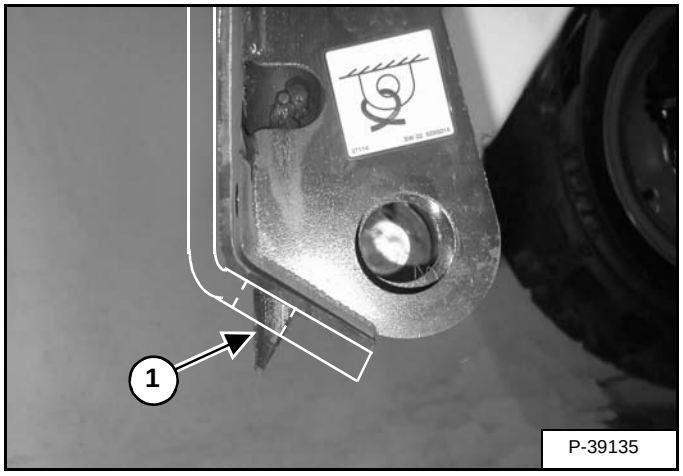
Inspection And Maintenance

Figure PM-67



Move the Bob-Tach levers (Item 1) down to engage the wedges **[Figure PM-67]**. The levers and wedges must move freely.

Figure PM-68



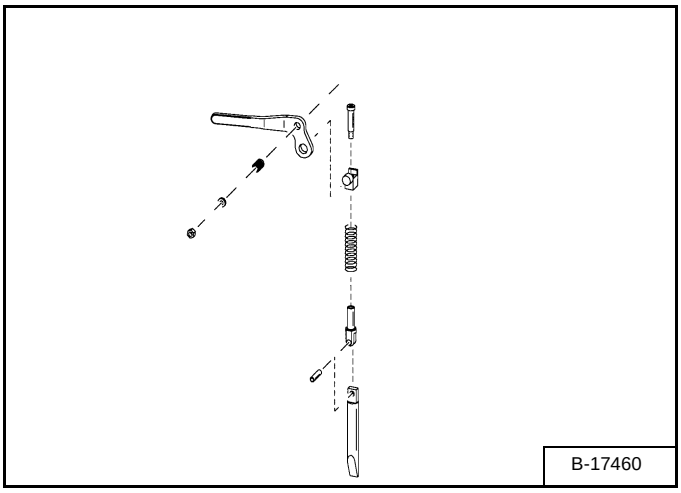
The wedges must extend through the holes in the attachment mounting frame (Item 1) **[Figure PM-68]**.

WARNING

Bob-Tach wedges must extend through the holes in attachment. Lever(s) must be fully down and locked. Failure to secure wedges can allow attachment to come off and cause injury or death.

W-2102-0497

Figure PM-69



Inspect the mounting frame on the attachment and Bob-Tach, linkages and wedges for excessive wear or damage **[Figure PM-69]**. Replace any parts that are damaged, bent or missing. Look for cracked welds. Keep all fasteners tight. Contact your Bobcat dealer for repair or replacement parts.

Lubricate the wedges (See SERVICE SCHEDULE on Page PM-7) and (See LUBRICATING THE UTILITY WORK MACHINE on Page PM-40.)

MACHINE STORAGE AND RETURN TO SERVICE

Storage

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

- Thoroughly clean the machine including the engine compartment.
- Lubricate the machine as shown in the Operation & Maintenance Manual.
- Replace worn or damaged parts.
- Park the machine in a dry protected shelter.
- Lower the lift arm all the way and put the bucket or attachment 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, hyd. / hydros.).
- Replace air cleaner, heater and air conditioning filters.
- Put blocks under the frame to remove weight from the tires.
- 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 machine has been in storage, it is necessary to follow a list of items to return the machine to service.

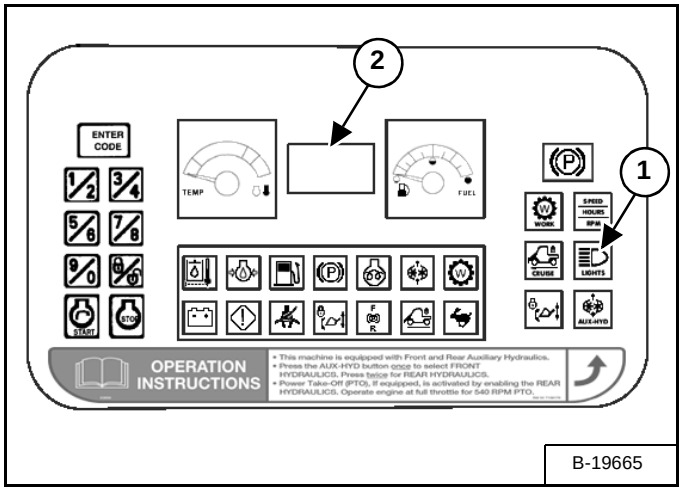
- Check the engine and hydraulic oil levels; check coolant level.
- Install a fully charged battery.
- Remove grease from exposed cylinder rods.
- Check all belt tensions.
- Be sure all shields and guards are in place.
- Lubricate the machine as shown in the Operation & Maintenance Manual.
- Check tire inflation and remove blocks from under frame.
- 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.
- Operate machine, check for correct function.
- Stop the engine and check for leaks. Repair as needed.

SYSTEM SETUP & ANALYSIS

DIAGNOSTIC SERVICE CODES

Viewing Service Codes

Figure SA-1



Turn the key on (Key Switch) or press ENTER CODE (Keyless). Press and hold the LIGHTS Button (Item 1) **[Figure SA-1]** for two seconds to view SERVICE CODES in the HOURMETER/CODE DISPLAY (Item 2) **[Figure SA-1]**. If more than one SERVICE CODE is present, the codes will scroll on the HOURMETER/CODE DISPLAY.

NOTE: Corroded or loose grounds can cause multiple service codes and/or abnormal symptoms. All instrument panel lights flashing, alarm sounding, headlights and taillights flashing, could indicate a bad ground. The same symptoms could apply if the voltage is low, such as loose or corroded battery cables. If you observe these symptoms, check grounds and positive leads first.

The Diagnostic Service Codes will help your dealer identify and correct problems with your machine.

Service Codes List

CODE	DESCRIPTION	CODE	DESCRIPTION
02-16	Hydraulic Filter Not Connected	12-22	Front Auxiliary PWM Switch Out Of Range Low
02-17	Hydraulic Filter Plugged	12-23	Front Auxiliary PWM Switch Not Calibrated
03-09	Battery Voltage Low	13-05	Secondary Fuel Shutoff Solenoid Short To Battery
03-10	Battery Voltage High	13-06	Secondary Fuel Shutoff Solenoid Short To Ground
03-11	Battery Voltage Extremely High	13-07	Secondary Fuel Shutoff Solenoid Open Circuit
03-14	Battery Voltage Extremely Low	14-02	Primary Fuel Shutoff Error ON
03-15	Battery Voltage In Shutdown	14-03	Primary Fuel Shutoff Error OFF
03-22	Battery Voltage Out Of Range	21-02	Glow Plugs Error ON
04-14	Engine Oil Pressure Extremely Low	21-03	Glow Plugs Error OFF
04-15	Engine Oil Pressure Extremely High	22-02	Starter Output Error ON
06-10	Engine Speed High	22-03	Starter Output Error OFF
06-11	Engine Speed Extremely High	26-02	Front Base Solenoid Error ON
06-13	Engine Speed No Signal	26-03	Front Base Solenoid Error OFF
06-15	Engine Speed In Shutdown	27-02	Front Rod Solenoid Error ON
06-18	Engine Speed Out Of Range	27-03	Front Rod Solenoid Error OFF
07-10	Hydraulic Oil Temperature High	31-28	Recovery Mode Error Failure
07-11	Hydraulic Oil Temperature Extremely High	33-23	Constant Data Not Calibrated
07-15	Hydraulic Oil Temperature In Shutdown	35-05	Two Speed Fan Short To Battery
07-21	Hydraulic Oil Temperature Out Of Range High	35-06	Two Speed Fan Short to Ground
07-22	Hydraulic Oil Temperature Out Of Range Low	36-48	ACD Multiple Controllers Present
08-10	Engine Coolant Temperature High	50-01	Travel Pedal High
08-11	Engine Coolant Temperature Extremely High	50-02	Travel Pedal Low
08-15	Engine Coolant Temperature In Shutdown	50-03	Travel Pedal Not Calibrated
08-21	Engine Coolant Temperature Out Of Range High	50-04	Brake Pedal High
08-22	Engine Coolant Temperature Out Of Range Low	50-05	Brake Pedal Low
09-09	Fuel Level Low	50-06	Brake Pedal Not Calibrated
09-21	Fuel Level Out Of Range High	50-07	FPR Switch No Signal
09-22	Fuel Level Out Of Range Low	50-08	FPR Switch Multiple Inputs
12-21	Front Auxiliary PWM Switch Out Of Range High	50-09	Front Wheel Speed Sensor High

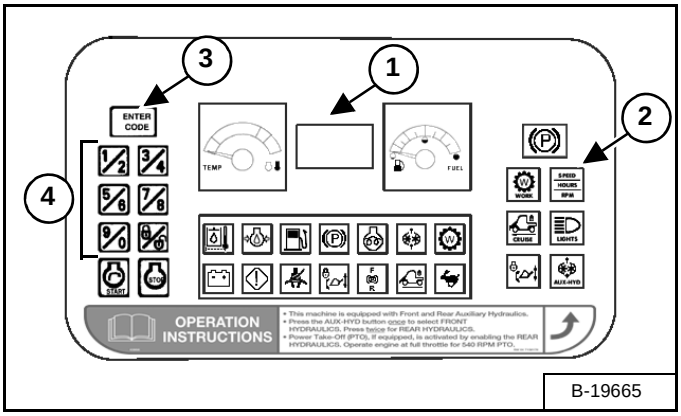
Service Codes List (Cont'd)

CODE	DESCRIPTION	CODE	DESCRIPTION
50-10	Front Wheel Speed Sensor Low	50-62	Front Angle Sensor High
50-11	Rear Wheel Speed Sensor High	50-63	Front Angle Sensor Calibration Error
50-12	Rear Wheel Speed Sensor Low	50-64	Rear Angle Sensor Low
50-13	Front Wheel Speed Sensor No Signal	50-65	Rear Angle Sensor High
50-14	Rear Wheel Speed Sensor No Signal	50-66	Rear Angle Sensor Calibration Error
50-24	Battery Voltage Over voltage	63-05	Console Switch Short To Battery
50-25	Battery Voltage Under voltage	63-06	Console Switch Short To Ground
50-27	Sensor Supply 1 High	64-05	Accessory Relay Short to Battery
50-28	Sensor Supply 1 Low	64-06	Accessory Relay Short To Ground
50-29	Sensor Supply 2 High	64-07	Accessory Relay Open Circuit
50-30	Sensor Supply 2 Low	65-05	Work Group Lockout Short To Battery
50-31	Front PWM Error ON	65-06	Work Group Lockout Short to Ground
50-33	Front PWM Error OFF	65-07	Work Group Lockout Open Circuit
50-34	Forward PWM Not Calibrated	69-05	TICS™ Relay Short to Battery
50-35	Front Forward Error ON	69-06	TICS™ Relay Short To Ground
50-36	Front Forward Error OFF	69-07	TICS™ Relay Open Circuit
50-37	Front Reverse Error ON	80-02	ACD Output A Error ON
50-38	Front Reverse Error OFF	80-03	ACD Output A Error OFF
50-39	Rear PWM Error ON	81-02	ACD Output B Error ON
50-41	Rear PWM Error OFF	81-03	ACD Output B Error OFF
50-42	Reverse PWM Not Calibrated	82-02	ACD Output C Error ON
50-43	Rear Forward Error ON	82-03	ACD Output C Error OFF
50-44	Rear Forward Error OFF	83-02	ACD Output D Error ON
50-45	Rear Reverse Error ON	83-03	ACD Output D Error OFF
50-46	Rear Reverse Error OFF	84-02	ACD Output E Error ON
50-47	Two Speed Error ON	84-03	ACD Output E Error OFF
50-48	Two Speed Error OFF	85-02	ACD Output F Error ON
50-49	Brake Coil Error ON	85-03	ACD Output F Error OFF
50-50	Brake Coil Error OFF	86-02	ACD Output G Error ON
50-51	Brake Coil No Signal	86-03	ACD Output G Error OFF
50-52	Brake Light Error ON	87-02	ACD Output G Error ON
50-53	Brake Light Error OFF	87-03	ACD Output H Error ON
50-54	Differential Lock Error ON	90-02	Service Tool Output C Error ON
50-55	Differential Lock Error OFF	90-03	Service Tool Output C Error OFF
50-56	CAN Comms Error	91-02	Service Tool Output D Error ON
50-57	Calibration Error	91-03	Service Tool Output D Error OFF
50-58	Control Uncommanded Movement	92-02	Service Tool Output E Error ON
50-59	Front Wheel Speed Sensor Missing Pulses	92-03	Service Tool Output E Error OFF
50-60	Rear Wheel Speed Sensor Missing Pulses	93-02	Service Tool Output F Error On
50-61	Front Angle Sensor Low	93-03	Service Tool Output F Error OFF

DISPLAY CONTROLLER PANEL SETUP

Display Selection

Figure SA-2



You can set the LCD (Item 1) **[Figure SA-2]** to show SPEED, HOURS, JOB clock or engine RPM.

Press the button (Item 2) **[Figure SA-2]** until the desired selection is made.

SPEED - Shows the machine speed in MPH. Press and hold the button (Item 2) **[Figure SA-2]** to select units of measure (English / Metric).

HOURS - Shows the total operating hours of the machine.

JOB - Sets the display to record hours of a particular job. Press and hold the button (Item 2) **[Figure SA-2]** to reset to zero.

RPM - Shows the RPM of the engine.

Passwords

All new machines with Keyless Start arrive at Bobcat Dealerships with the panel in locked mode. This means that a password must be used to start the engine.

For security purposes, your dealer may change the password and also set it in the locked mode. Your dealer will provide you with the password.

Master Password

A permanent, randomly selected password set at the factory which cannot be changed. This password is used for service by the Bobcat dealer if the Owner Password is not known; or to change the Owner Password.

Owner Password

There is only one Owner Password (**CodE 0**). It must be used to change the owner or operator passwords. See below for changing the Operator Password.

Operator Password

There can be up to three Operator Passwords (**CodE 1, CodE 2, CodE 3**). See below for changing the Operator Password.

Password Entry (For Starting And Operating The Machine)

Press ENTER CODE Button (Item 3) **[Figure SA-2]**. The panel will become lighted and there will be two short beeps. **CodE** will appear in the LCD (Item 1) **[Figure SA-2]**.

NOTE: After you press ENTER CODE you have 40 seconds to use the keypad (Item 4) [Figure SA-2] to enter the password. (If more than 40 seconds is used, the process will abort and you will need to start over.)

Enter the password. For each digit that you enter, a dash will appear on the LCD. If the password was entered correctly, there will be one long beep.

NOTE: If the password was incorrect, there will be three short beeps and Error will appear on the LCD. Press the ENTER CODE Button again and start over. After three failed attempts, you must wait three minutes to try again.

You are now ready to start and operate the machine.

If you will be changing passwords, do not start the engine. (See *Changing The Password* below.)

Changing The Operator Password

Perform Password Entry (above) using the owner password, but do not start the engine.

Press and hold the ENTER CODE Button (Item 3) **[Figure SA-2]** for three seconds. CodE 0 will appear on the LCD.

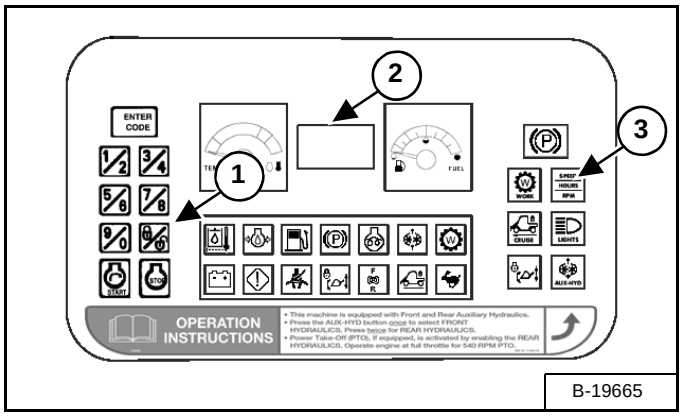
Press the ENTER CODE Button until the desired Operator Code (**CodE 1, CodE 2, CodE 3**) appears. CodE 0 is Owner Password, the other codes are Operator Passwords. You now have 40 seconds to use the keypad (Item 4) **[Figure SA-2]** to enter each digit of a new four digit password.

Enter the new four digit password. After the fourth digit is entered, there will be two short beeps and **rPEAt** will appear.

Re-enter the new four digit password to verify. If the new passwords match, there will be two short beeps, **CodE** will appear for 1 second and then the LCD will return to HOURMETER function.

Password Lockout Feature

Figure SA-3



This allows the operator to Unlock the password feature so that a password does not need to be used every time you start the engine.

Enter owner password (See Password Entry (For Starting And Operating The Machine) on Page SA-6.) (The engine can be started or stopped.)

Press the Lock/Unlock Button (Item 1) **[Figure SA-3]**. The LCD will continuously alternate from **UnLoc** to **CodE** at 1 second periods.

Enter password again.

UnLoc will appear in the LCD (Item 2) **[Figure SA-3]**, there will be two short beeps.

To start an Unlocked system, press the ENTER CODE Button and press the START Button.

When you stop the engine with the system unlocked, you will hear one long beep every 3 seconds for 15 seconds.

To lock the system again, press the Lock/Unlock Button (Item 1) **[Figure SA-3]** and enter the owner password during the next 15 seconds.

Job Clock

The JOB CLOCK can be set to record accumulated hours for a particular job.

Press and release the (Item 3) **[Figure SA-3]** until JOB light is ON at the top center of the LCD (Item 2) **[Figure SA-3]**.

While the JOB light is ON, press and hold the HOURS/JOB/RPM Button (Item 3) **[Figure SA-3]** until the LCD returns to zero.

This process will clear the accumulated hours and will begin recording JOB CLOCK time again. (This does not affect the HOURMETER which continues to record the total operating hours of the machine.)

Pressing the HOURS/JOB/RPM Button again or pressing the START Button will return the LCD to HOURMETER function.

RPM

The LCD (Item 2) **[Figure SA-3]** can be set to display engine RPM.

With the engine running, press and release the HOURS/JOB/RPM Button (Item 3) **[Figure SA-3]** until RPM light is ON at the top, left of the LCD.

Engine RPM is now displayed in the LCD.

Press the HOURS/JOB/RPM Button (Item 3) **[Figure SA-3]** again to return to HOURMETER function.

MACHINE SIGN TRANSLATIONS

Bobcat®

⚠ WARNING

AVOID INJURY OR DEATH

- Keep engine clean of flammable material.
- Keep body, loose objects and clothing away from electrical contacts, moving parts, hot parts and exhaust.
- Do not use machine in space with explosive dust or gases or with flammable material near exhaust.
- All exhaust gases can kill. Always ventilate.
- Never use ether or starting fluid on diesel engine. Use only starting aids as approved by engine manufacturer.
- Leaking fluids under pressure can enter skin and cause serious injury. Immediate medical attention is required. Wear goggles. Use cardboard to check for leaks.
- Battery acid causes severe burns. Wear goggles. If acid contacts eyes, skin or clothing, flush and get medical attention.
- Battery makes flammable and explosive gas. Keep arcs, sparks, flames and lighted tobacco away.
- For jump start, connect negative cable to the machine frame last (never at the battery). After jump start, remove negative connections at the frame first.

SERVICE CHECKLIST AND SCHEDULE

EVERY 8-10 HRS

♦ • **ENGINE OIL-** Check level and add as needed. Do not overfill.
♦ • **HYDRAULIC FLUID-** Check level and add as needed.
• **FUEL FILTER-** Remove trapped water.
• **ENGINE AIR FILTER-** Check gauge and/or display. Service only when required. Do not use compressed air to clean element.
• **ENGINE AIR SYSTEM-** Check for leaks and damaged components.
♦ • **ENGINE COOLING SYSTEM-** Clean debris from oil cooler and radiator check coolant level cold, add as needed.
• **SEAT BELTS, ARM REST, AND CONTROL INTERLOCKS-** Check function. Repair or replace as needed. Clean dirt and debris from moving parts.
• **TICS™-** Check for function.
• **TIRES-** Check air pressure. Inflate tires to MAXIMUM pressure shown on the tire sidewall.
• **GREASE ZERKS-** Grease all machinery pivots with multipurpose lithium based grease. See Illustrations.
• **GENERAL-** Check for loose or broken parts, damaged operator cab, instrument operation, loose wheel nuts, oil leaks, damaged or missing safety signs. Repair or replace as needed.
• **BOB-TACH-** Lubricate wedge with multipurpose lithium based grease. Check for proper function.

EVERY 50 HRS

◊ • **WHEEL NUTS-** Check for loose wheel nuts and tighten per Operation and Maintenance Manual.
♦ • **HYDRAULIC FLUID, HOSES AND TUBELINES-** Check the fluid level. Check for damage and for leaks. Repair or replace as needed.

● *TYPICAL GREASE POINTS*

EVERY 100 HRS

• **SPARK ARRESTOR MUFFLER-** Empty spark chamber.
• **BATTERY-** Check battery for damage, hold downs, cable connections and electrolyte level. Add distilled water as needed.
• **AXLE FLUID-** Check fluid level.

EVERY 250 HRS

• **FUEL FILTER-** Replace filter element.
• **ALTERNATOR BELT-** Check for proper tension or damage. Adjust or replace as needed.
♦■ • **ENGINE OIL AND FILTER-** Replace oil and filter.

EVERY 500 HRS

• **HYDRAULIC/ HYDROSTATIC SYSTEM-** Replace the filter and reservoir breather cap.
† • **CASE DRAIN FILTER-** Replace filter.

EVERY 1000 HRS

• **HYDRAULIC RESERVOIR-** Replace fluid.
• **ENGINE COOLANT-** Flush the cooling system and replace coolant.
• ♦ **AXLE FLUID-** Replace fluid.

◊ *TORQUE NUTS EVERY 8 HRS FOR THE FIRST 24 HRS.*
■ *SERVICE AT FIRST 50 HRS, THEN AS SCHEDULED.*
† *SERVICE AT FIRST 100 HRS, THEN AS SCHEDULED.*
• *REPLACE AT FIRST 300 HRS, THEN AS SCHEDULED.*
♦ *SEE THE OPERATION AND MAINTENANCE MANUAL FOR CORRECT FLUID SPECIFICATION, FILTER PART NUMBERS AND LOCATIONS.*

BE PARTS & SERVICE SMART
Use Genuine Bobcat® Replacement Parts

IMPORTANT

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

THE SPARK ARRESTOR MUFFLER, IF EQUIPPED, MUST BE CLEANED TO KEEP IT IN WORKING CONDITION. THE SPARK ARRESTOR MUFFLER MUST BE SERVICED BY DUMPING THE SPARK CHAMBER EVERY 100 HRS. OF OPERATION.

ON SOME MODELS, THE TURBOCHARGER FUNCTIONS AS THE SPARK ARRESTOR AND MUST OPERATE CORRECTLY FOR PROPER SPARK ARRESTOR FUNCTION.

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.

85007 SW 05 7129002

⚠ ADVERTENCIA

EVITE LESIONES O ACCIDENTES FATALES

- Mantenga el motor limpio de material inflamable.
- Mantenga el cuerpo, objetos sueltos y prendas alejados de contactos eléctricos, partes móviles y escape.
- No utilice la máquina en espacios con polvo o gases explosivos, o con material inflamable cerca del escape.
- Todos los gases de escape pueden matar. Ventile siempre.
- Jamás utilice éter o fluido de arranque en motores diesel. Utilice solamente ayudas de arranque que apruebe el fabricante del motor.
- Los fluidos que se fugan a presión pueden penetrar la piel y provocar lesiones graves. Se requiere atención médica de inmediato. Porte lentes de seguridad. Use cartón para revisar la presencia de fugas.
- El ácido de la batería causa quemaduras graves. Porte lentes de seguridad. Si el ácido hace contacto con ojos, piel o prendas, purgue y busque atención médica.
- La batería produce gas inflamable y explosivo. Mantenga arcos, chispas, llamas y tabaco encendido alejados.
- Para arranques en puente, conecte el cable negativo en el bastidor de la máquina de último (jamás en la batería). Después del arranque en puente, retire las conexiones negativas en el bastidor primero.

LISTA DE CHEQUEO Y PROGRAMA DE MANTENIMIENTO

CADA 8-10 HORAS

♦ • **ACEITE DE MOTOR –** revise el nivel y agregue si es del caso. No llene demasiado.
♦ • **FLUIDO HIDRÁULICO –** revise el nivel y agregue si es del caso.
• **FILTRO DE COMBUSTIBLE –** retire el agua atrapada.
• **FILTRO DE AIRE DE MOTOR –** revise el medidor y/o pantalla. Dé servicio solamente cuando se requiera. No use aire comprimido para limpiar el elemento.
• **SISTEMA DE AIRE DE MOTOR –** revise la presencia de fugas y componentes averiados.
♦ • **SISTEMA DE ENFRIAMIENTO DE MOTOR –** limpie escombros del enfriador de aceite y radiador. Revise el nivel de enfriador frío y agregue si es del caso.
• **CINTURONES DE SEGURIDAD, APOYABRAZOS Y ENCLAVAMIENTOS DE CONTROL –** revise el funcionamiento. Repare o reemplace si es del caso. Limpie arena y escombros de partes móviles.
• **TICS™-** revise el funcionamiento.
• **NEUMÁTICOS –** revise la presión de aire. Infle los neumáticos hasta la presión MÁXIMA que aparece en la pared lateral.
• **RECEPTORES DE GRASA –** engrase todos los pivotes de la maquinaria con grasa multipropósito a base de litio. Ver ilustraciones.
• **GENERAL –** revise la presencia de partes sueltas o rotas, cabina del operador averiada, funcionamiento de instrumentos, tuercas de ruedas flojas, fugas de aceite, y calcomanías de seguridad averiadas o perdidas. Repare o reponga si es del caso.
• **BOB-TACH –** lubrique la cuña con grasa multipropósito a base de litio. Revise que funcione correctamente.

CADA 50 HORAS

◊ • **TUERCAS DE RUEDAS** - revise si hay tuercas de ruedas flojas y apriete según lo indicado en el Manual de Operación y Mantenimiento.
♦ • **FLUIDO HIDRÁULICO, MANGUERAS Y TUBERÍAS –** revise el nivel de fluido. Revise la presencia de averías o fugas. Repare o cambie si es del caso.

CADA 100 HORAS

• **SILENCIADOR DEL SISTEMA PARACHISPAS –** vacíe la cámara de chispas.
• **BATERÍA –** revise averías en la batería, amarres, conexiones de cables y nivel electrolítico. Agregue agua destilada si es del caso.
• **FLUJO DE EJE –** revise el nivel de fluido.

CADA 250 HORAS

• **FILTRO DE COMBUSTIBLE –** cambie el elemento del filtro.
• **CORREA DEL ALTERNADOR –** revise la tensión correcta o si está averiada. Ajuste o reemplace si es del caso.
♦■ • **ACEITE Y FILTRO DE MOTOR –** cambie el aceite y filtro.

CADA 500 HORAS

• **SISTEMA HIDRÁULICO/ HIDROSTÁTICO –** cambie el filtro y la tapa del respiradero del depósito.
† • **FILTRO DE CAJA DE DESCARGA –** cambie el filtro.

CADA 1000 HORAS

• **DEPÓSITO HIDRÁULICO –** cambia el fluido.
• **ENFRIADOR DE MOTOR –** purgue el sistema de enfriamiento y cambia el enfriador.
• ♦ **FLUIDO DE EJE –** cambie el fluido.

◊ *APRIETE LAS TUERCAS CADA 8 HORAS LAS PRIMERAS 24 HORAS.*
■ *DÉ SERVICIO A LAS PRIMERAS 50 HORAS, LUEGO SEGÚN LO PROGRAMADO.*
† *DÉ SERVICIO A LAS PRIMERAS 100 HORAS, LUEGO SEGÚN LO PROGRAMADO.*
• *REEMPLACE A LAS PRIMERAS 300 HORAS, LUEGO SEGÚN LO PROGRAMADO.*
♦ *VER EN EL MANUAL DE OPERACIÓN Y MANTENIMIENTO LA ESPECIFICACIÓN CORRECTA DEL FLUIDO, EL NÚMERO DE PARTE Y UBICACIONES DE FILTROS.*

● *TYPICAL GREASE POINTS*

SEA INTELIGENTE UTILIZANDO REPUESTOS Y SERVICIOS ORIGINALES
Utilice repuestos Bobcat genuinos

IMPORTANTE

ESTA MÁQUINA VIENE DE FÁBRICA CON UN SILENCIADOR DEL SISTEMA PARACHISPAS APROBADO POR EL SERVICIO DE SILVICULTURA DE U.S.D.A.
EL SILENCIADOR DEL SISTEMA PARACHISPAS, DE ESTAR EQUIPADO, DEBE LIMPIARSE PARA MANTENERSE EN CONDICIONES DE TRABAJO. DICHO SILENCIADOR DEBE RECIBIR SERVICIO VACIANDO LA CÁMARA DE CHISPAS CADA 100 HORAS DE OPERACIÓN.
EN ALGUNOS MODELOS, EL TURBOCARGADOR FUNCIONA COMO EL PARACHISPAS Y DEBE FUNCIONAR CORRECTAMENTE PARA QUE EL PARACHISPAS FUNCIONE BIEN.

SI ESTA MÁQUINA SE UTILIZA EN BOSQUES O MATORRALES INFLAMABLES, O EN SUELO CUBIERTO DE GRAMA, DEBE VENIR CON UN PARACHISPAS COLOCADO EN EL SISTEMA DE ESCAPE Y MANTENERSE EN CONDICIONES DE TRABAJO. NO CUMPLIR LO ANTERIOR ES UNA VIOLACIÓN DE LA SECCIÓN 4442 PRC DE LA LEY ESTATAL DE CALIFORNIA. REFIÉRASE A LAS LEYES Y REGLAMENTOS LOCALES PARA LOS REQUERIMIENTOS DE PARACHISPAS.

VER EL MANUAL DE OPERACIÓN Y MANTENIMIENTO PARA MAYOR INFORMACIÓN E INSTRUCCIONES.

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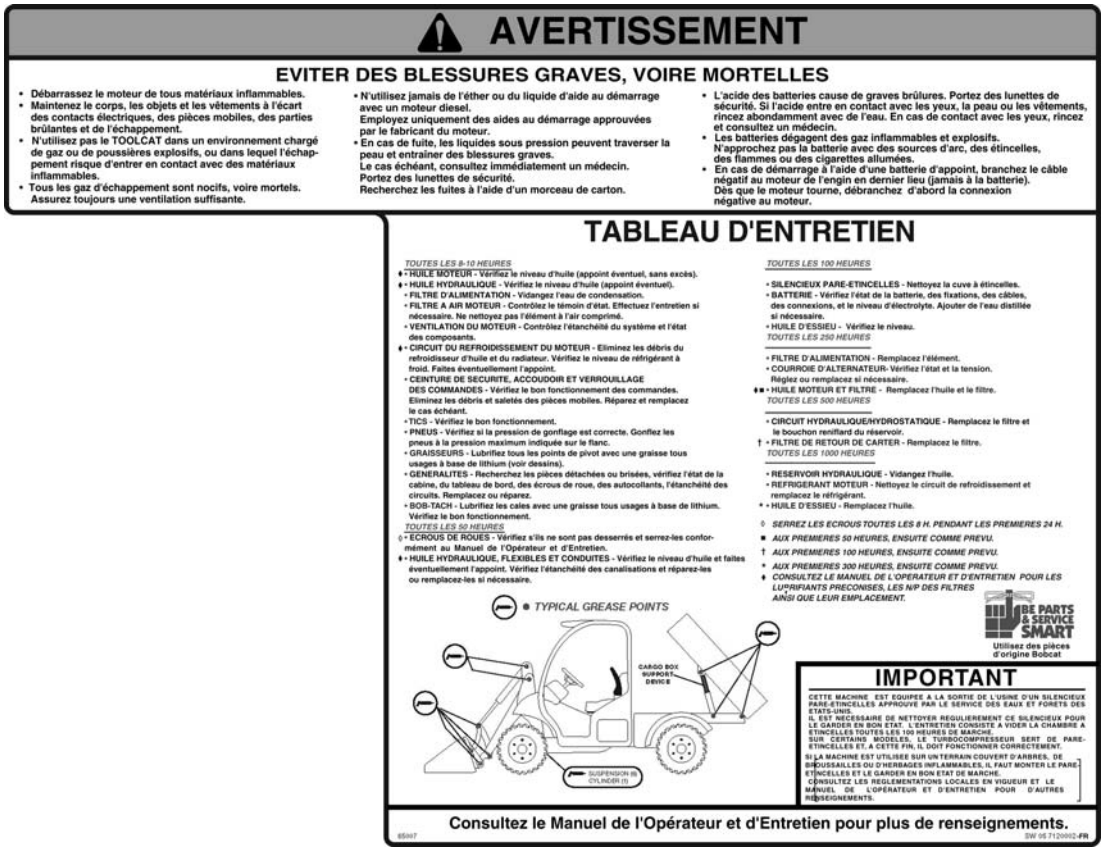


AVERTISSEMENT

EVITER DES BLESSURES GRAVES, VOIRE MORTELLES

- Débarrassez le moteur de tous matériaux inflammables.
- Maintenez le corps, les objets et les vêtements à l'écart des contacts électriques, des pièces mobiles, des parties brûlantes et de l'échappement.
- N'utilisez pas le TOOLCAT dans un environnement chargé de gaz ou de poussières explosifs, ou dans lequel l'échappement risque d'entrer en contact avec des matériaux inflammables.
- Tous les gaz d'échappement sont nocifs, voire mortels. Assurez toujours une ventilation suffisante.
- N'utilisez jamais de l'éther ou du liquide d'aide au démarrage avec un moteur diesel. Employez uniquement des aides au démarrage approuvées par le fabricant du moteur.
- En cas de fuite, les liquides sous pression peuvent traverser la peau et entrainer des blessures graves. Le cas échéant, consultez immédiatement un médecin. Portez des lunettes de sécurité. Recherchez les fuites à l'aide d'un morceau de carton.
- L'acide des batteries cause de graves brûlures. Portez des lunettes de sécurité. Si l'acide entre en contact avec les yeux, la peau ou les vêtements, rincez abondamment avec de l'eau. En cas de contact avec les yeux, rincez et consultez un médecin.
- Les batteries dégagent des gaz inflammables et explosifs. N'approchez pas la batterie avec des sources d'arc, des étincelles, des flammes ou des cigarettes allumées.
- En cas de démarrage à l'aide d'une batterie d'appoint, branchez le câble négatif au moteur de l'engin en dernier lieu (jamais à la batterie). Dès que le moteur tourne, débranchez d'abord la connexion négative au moteur.

TABLEAU D'ENTRETIEN

TOUTES LES 8-10 HEURES

♦ • **HUILE MOTEUR** - Vérifiez le niveau d'huile (appoint éventuel, sans excès).
♦ • **HUILE HYDRAULIQUE** - Vérifiez le niveau d'huile (appoint éventuel).
• **FILTRE D'ALIMENTATION** - Vidangez l'eau de condensation.
• **FILTRE A AIR MOTEUR** - Contrôlez le témoin d'état. Effectuez l'entretien si nécessaire. Ne nettoyez pas l'élément à l'air comprimé.
• **VENTILATION DU MOTEUR** - Contrôlez l'étanchéité du système et l'état des composants.
♦ • **CIRCUIT DU REFROIDISSEMENT DU MOTEUR** - Eliminez les débris du refroidisseur d'huile et du radiateur. Vérifiez le niveau de réfrigérant à froid. Faites éventuellement l'appoint.
• **CEINTURE DE SECURITE, ACCOUDOIR ET VERROUILLAGE DES COMMANDES** - Vérifiez le bon fonctionnement des commandes. Eliminez les débris et saletés des pièces mobiles. Réparez et remplacez le cas échéant.
• **TICS** - Vérifiez le bon fonctionnement.
• **PNEUS** - Vérifiez si la pression de gonflage est correcte. Gonflez les pneus à la pression maximum indiquée sur le flanc.
• **GRAISSEURS** - Lubrifiez tous les points de pivot avec une graisse tous usages à base de lithium (voir dessins).
• **GENERALITES** - Recherchez les pièces détachées ou brisées, vérifiez l'état de la cabine, du tableau de bord, des écrous de roue, des autocollants, l'étanchéité des circuits. Remplacez ou réparez.
• **BOB-TACH** - Lubrifiez les cales avec une graisse tous usages à base de lithium. Vérifiez le bon fonctionnement.

TOUTES LES 50 HEURES

◊ • **ECROUS DE ROUES** - Vérifiez s'ils ne sont pas desserrés et serrez-les conformément au Manuel de l'Opérateur et d'Entretien.
♦ • **HUILE HYDRAULIQUE, FLEXIBLES ET CONDUITES** - Vérifiez le niveau d'huile et faites éventuellement l'appoint. Vérifiez l'étanchéité des canalisations et réparez-les ou remplacez-les si nécessaire.

TOUTES LES 100 HEURES

• **SILENCIEUX PARE-ETINCELLES** - Nettoyez la cuve à étincelles.
• **BATTERIE** - Vérifiez l'état de la batterie, des fixations, des câbles, des connexions, et le niveau d'électrolyte. Ajouter de l'eau distillée si nécessaire.
• **HUILE D'ESSIEU** - Vérifiez le niveau.

TOUTES LES 250 HEURES

• **FILTRE D'ALIMENTATION** - Remplacez l'élément.
• **COURROIE D'ALTERNATEUR**- Vérifiez l'état et la tension. Réglez ou remplacez si nécessaire.
♦■ • **HUILE MOTEUR ET FILTRE** - Remplacez l'huile et le filtre.

TOUTES LES 500 HEURES

• **CIRCUIT HYDRAULIQUE/HYDROSTATIQUE** - Remplacez le filtre et le bouchon reniflard du réservoir.
† • **FILTRE DE RETOUR DE CARTER** - Remplacez le filtre.

TOUTES LES 1000 HEURES

• **RESERVOIR HYDRAULIQUE** - Vidangez l'huile.
• **REFRIGERANT MOTEUR** - Nettoyez le circuit de refroidissement et remplacez le réfrigérant.
* • **HUILE D'ESSIEU** - Remplacez l'huile.

◊ *SERREZ LES ECROUS TOUTES LES 8 H. PENDANT LES PREMIERES 24 H.*
■ *AUX PREMIERES 50 HEURES, ENSUITE COMME PREVU.*
† *AUX PREMIERES 100 HEURES, ENSUITE COMME PREVU.*
* *AUX PREMIERES 300 HEURES, ENSUITE COMME PREVU.*
♦ *CONSULTEZ LE MANUEL DE L'OPERATEUR ET D'ENTRETIEN POUR LES LUBRIFIANTS PRECONISES, LES N/P DES FILTRES AINSI QUE LEUR EMPLACEMENT.*

● *TYPICAL GREASE POINTS*

BE PARTS & SERVICE SMART
Utilisez des pièces d'origine Bobcat

IMPORTANT

CETTE MACHINE EST EQUIPEE A LA SORTIE DE L'USINE D'UN SILENCIEUX PARE-ETINCELLES APPROUVE PAR LE SERVICE DES EAUX ET FORETS DES ETATS-UNIS.
IL EST NECESSAIRE DE NETTOYER REGULIEREMENT CE SILENCIEUX POUR LE GARDER EN BON ETAT. L'ENTRETIEN CONSISTE A VIDER LA CHAMBRE A ETINCELLES TOUTES LES 100 HEURES DE MARCHE.
SUR CERTAINS MODELES, LE TURBOCOMPRESSEUR SERT DE PARE-ETINCELLES ET, A CETTE FIN, IL DOIT FONCTIONNER CORRECTEMENT.

SI LA MACHINE EST UTILISEE SUR UN TERRAIN COUVERT D'ARBRES, DE BROUSSAILLES OU D'HERBAGES INFLAMMABLES, IL FAUT MONTER LE PARE-ETINCELLES ET LE GARDER EN BON ETAT DE MARCHE.
CONSULTEZ LES REGLEMENTATIONS LOCALES EN VIGUEUR ET LE MANUEL DE L'OPERATEUR ET D'ENTRETIEN POUR D'AUTRES RENSEIGNEMENTS.

Consultez le Manuel de l'Opérateur et d'Entretien pour plus de renseignements.

MACHINE LOAD CAPACITIES (6814303)

MACHINE LOAD CAPACITIES

- LOADER RATED OPERATING CAPACITY (ROC) - 1500 Lbs (680 kg).
- MAXIMUM CARGO BOX LOAD - 2000 Lbs (907 kg).
- MACHINE RATED CAPACITY - Up to 2200 Lbs (997 kg). Combined weight of load on lift arm, cargo box load, operator and passenger.
- MAXIMUM TRAILER HITCH TONGUE WEIGHT - 500 Lbs (227 kg).
- TOTAL RATED CAPACITY - 4200 Lbs (1905 kg). Combined weight of load on lift arm, cargo box load, operator, passenger and tow weight (if equipped with receiver hitch).

SEE OPERATION AND MAINTENANCE MANUAL FOR MORE INSTRUCTIONS.

43656 SW 02 6814303

CAPACIDADES DE CARGA DEL TOOLCAT

- CARGA NOMINAL DE LA CARGADORA - 680 kg.
- CARGA MÁXIMA DEL CAJÓN DE CARGA - 907 kg.
- CARGA NOMINAL DE LA MÁQUINA - Hasta 997 kg. Combinación del peso de la carga de los brazos de elevación, la del cajón de carga, el operador y el pasajero.
- PESO MÁXIMO DEL ENGANCHE DE REMOLQUE- 227 kg.
- CARGA NOMINAL TOTAL - 1905 kg. Combinación del peso de la carga de los brazos de elevación, la del cajón de carga, el operador y el pasajero y el peso remolcado (si está equipada con un enganche receptor).

CONSULTE EL MANUAL DE UTILIZACIÓN Y MANTENIMIENTO PARA OBTENER MÁS INSTRUCCIONES

43656 VM-03-6814303-ES

CAPACITES DE CHARGE DU TOOLCAT

• CAPACITE OPERATIONNELLE DU CHARGEUR	680 Kg
• CHARGE MAXI DE LA PLATE-FORME	907 Kg
• POIDS MAXI DE LA BARRE D'ATTELAGE (le cas échéant).	113 Kg
• POIDS DE REMORQUAGE MAXI (le cas échéant).	907 Kg
• CAPACITE NOMINALE TOTALE DE LA MACHINE	1905 Kg*

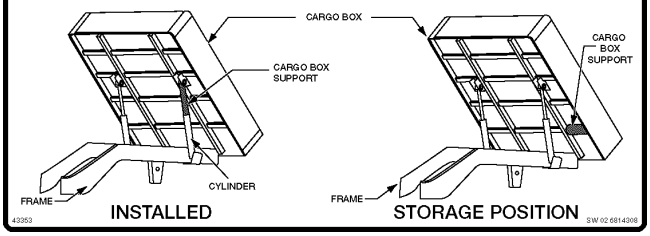
* poids cumulé de la charge ou de l'accessoire sur le bras de levage, charge de la plate-forme, opérateur, passager et poids de remorquage.

CONSULTEZ LE MANUEL DE L'OPERATEUR ET D'ENTRETIEN POUR PLUS DE RENSEIGNEMENTS.

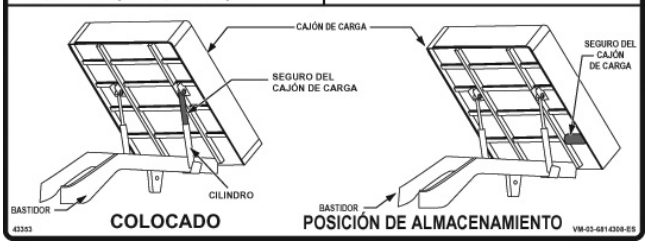
43353 VM-03-6814303-FR

CARGO BOX SUPPORT (6814308)

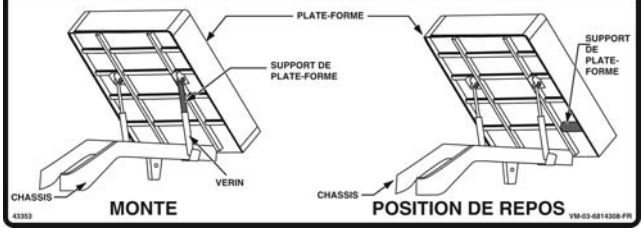
TO INSTALL APPROVED CARGO BOX SUPPORT:	TO REMOVE APPROVED CARGO BOX SUPPORT:
1. Empty Cargo Box. 2. Raise Cargo Box To Full Height. 3. Stop Engine. 4. Remove Cargo Box Support From The Storage Position. 5. Position Cargo Box Support On Cylinder Rod. 6. Lower Cargo Box Slowly Until The Support Is Secure.	1. Raise Cargo Box To Full Height. 2. Stop Engine. 3. Remove Cargo Box Support. 4. Return Cargo Box Support To Storage Position And Secure. 5. Lower Cargo Box To Frame.



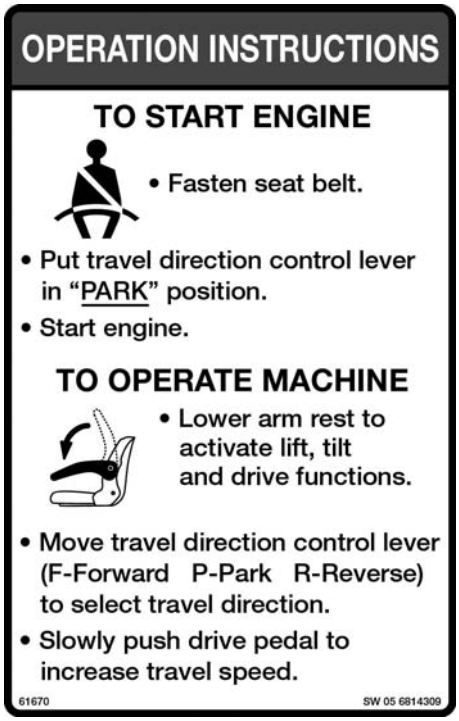
COLOCACIÓN DEL SEGURO HOMOLOGADO DEL CAJÓN DE CARGA:	DESINSTALACIÓN DEL SEGURO HOMOLOGADO DEL CAJÓN DE CARGA:
1. Vaciar el cajón de carga. 2. Elevar el cajón al máximo. 3. Detener el motor. 4. Extraer el seguro del cajón de la posición de almacenamiento. 5. Colocar el seguro del cajón de carga sobre el vástago del cilindro. 6. Bajar el cajón lentamente hasta que el seguro quede fijo.	1. Elevar el cajón al máximo. 2. Detener el motor. 3. Retirar el seguro del cajón de carga. 4. Colocar el seguro del cajón en la posición de almacenamiento. 5. Bajar el cajón de carga hasta el bastidor



MONTAGE DU SUPPORT DE PLATE-FORME APPROUVE :	DEPOSE DU SUPPORT DE PLATE-FORME APPROUVE :
1. Videz la plate-forme. 2. Relevez la plate-forme jusqu'en bout de course. 3. Arrêtez le moteur. 4. Dégagez le support de plate-forme de sa position de repos. 5. Placez le support de plate-forme sur la tige de vérin. 6. Abaissez lentement la plate-forme jusqu'au blocage du support.	1. Relevez la plate-forme jusqu'en bout de course. 2. Arrêtez le moteur. 3. Déposez le support de plate-forme. 4. Remettez le support de plate-forme en position de repos et fixez-le. 5. Abaissez la plate-forme sur le châssis.



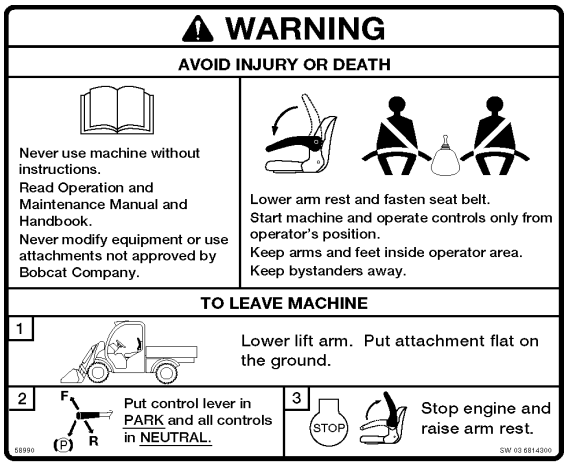
OPERATION INSTRUCTION (6814309)

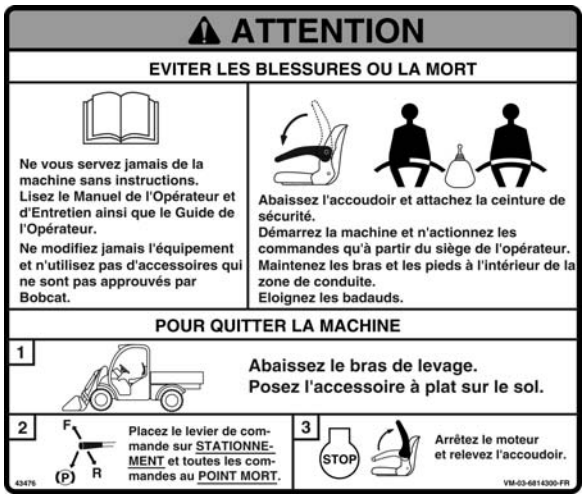


DANGER / WARNING (6814305)

WARNING (7114129)

WARNING (6814300)





LIFT ARM SUPPORT (6814306)

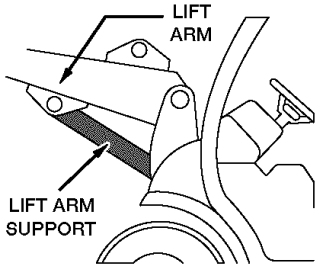
LIFT ARM SUPPORT LOCATION (6815099)

TO INSTALL APPROVED LIFT ARM SUPPORT P/N 6813934:

1. Remove Attachment From Loader.
2. Start Engine And Raise Lift Arm.
3. Stop Engine.
4. Position Lift Arm Support On Cylinder Rod.
5. Lower Lift Arm Slowly Until Lift Arm Support Is Secure.

43476

INSTALLED POSITION

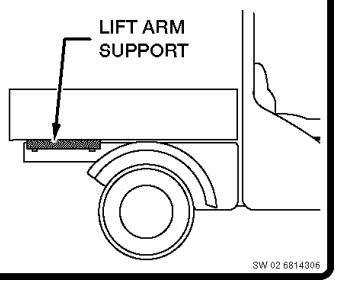


TO REMOVE LIFT ARM SUPPORT:

1. Start Engine and Raise Lift Arm.
2. Stop Engine.
3. Remove Lift Arm Support.
4. Start Engine and Lower Lift Arm.
5. Stop Engine.
6. Return Lift Arm Support to Storage Position and Secure.

(Under cargo box on passenger's side of machine.)

STORAGE POSITION



SW 02 6814306

The Approved Lift Arm Support Device is stored under the cargo box on the passenger's side of the machine.

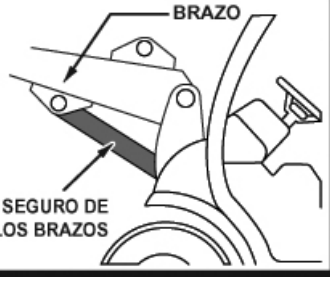
43476 SW 02 6815099

COLOCACIÓN DEL SEGURO HOMOLOGADO DE LOS BRAZOS DE ELEVACIÓN REF. 6813934:

1. Desmontar el implemento de la cargadora.
2. Arrancar el motor y subir los brazos de elevación.
3. Detener el motor.
4. Colocar el seguro de los brazos de elevación sobre el vástago del cilindro.
5. Bajar los brazos de elevación lentamente hasta que el seguro quede fijo.

43476

SEGURO COLOCADO



DESINSTALACIÓN DEL SEGURO DE LOS BRAZOS DE ELEVACIÓN:

1. Arrancar el motor y subir los brazos.
2. Detener el motor.
3. Retirar el seguro de los brazos de elevación.
4. Arrancar el motor y bajar los brazos.
5. Detener el motor.
6. Colocar el seguro en la posición de almacenamiento y asegurarlo.

(Debajo el cajón de carga en el lado del pasajero de la máquina.)

POSICIÓN DE ALMACENAMIENTO

VM-03-6814306-ES

El seguro homologado del cajón de carga está almacenado debajo del propio cajón, en el lado del pasajero de la máquina.

43476 VM-03-6815099-ES

MONTAGE DU SUPPORT DE BRAS DE LEVAGE N/P 6813934 :

1. Déposez l'accessoire de la chargeuse.
2. Démarrez le moteur et relevez le bras de levage.
3. Arrêtez le moteur.
4. Placez le support de bras de levage sur la tige de vérin.
5. Abaissez lentement le bras de levage jusqu'au blocage du support.

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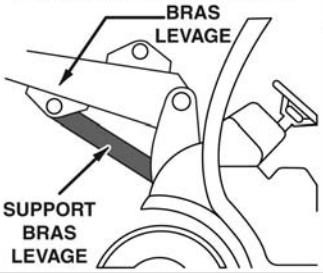
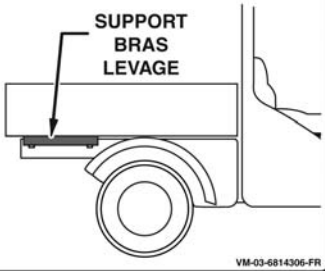
POSITION DE MONTAGE



DEPOSE DU SUPPORT DE BRAS DE LEVAGE

1. Démarrez le moteur et relevez le bras de levage.
2. Arrêtez le moteur.
3. Déposez le support de bras de levage.
4. Démarrez le moteur et abaissez le bras de levage.
5. Arrêtez le moteur.
6. Remettez le support de bras de levage en position de repos . (sous la plate-forme, côté passager de la machine.)

POSITION DE REPOS



VM-03-6814306-FR

Le support de bras de levage approuvé est remisé sous la plate-forme, côté passager, de la machine.

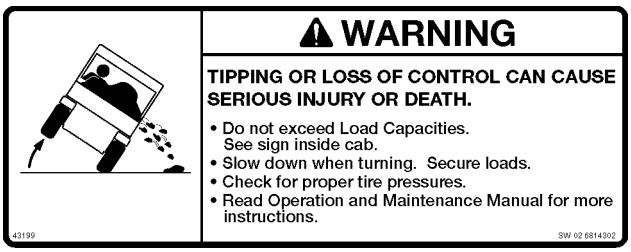
43476 VM-03-6815099-FR

WARNING (6814301)

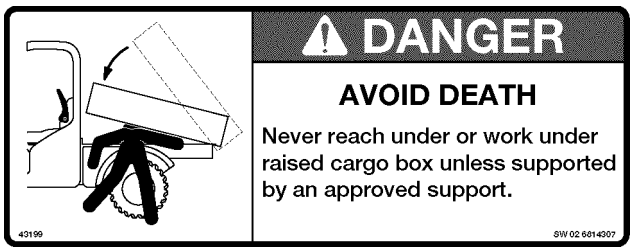
WARNING (6814310)

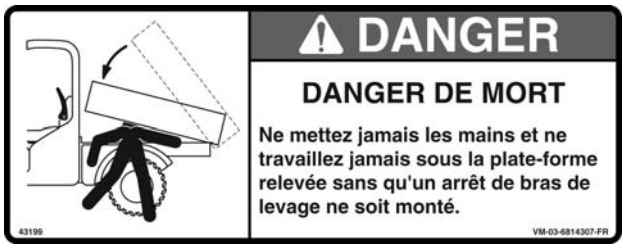
WARNING (7102877)

WARNING (6814302)

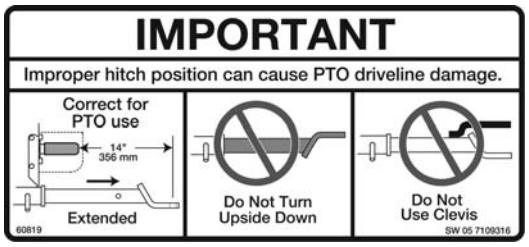


DANGER (6814307)

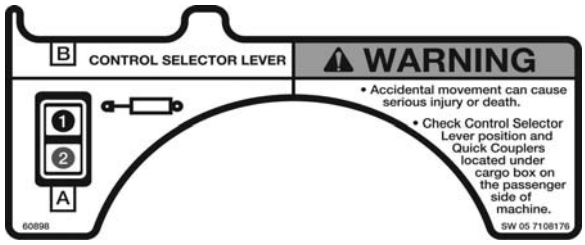




IMPORTANT (7109316) (Power Take-Off Only) (Option)



WARNING (7108176) (Remote Hydraulics Only) (Option)



WARNING (7107447) (Power Take-Off Only) (Option)

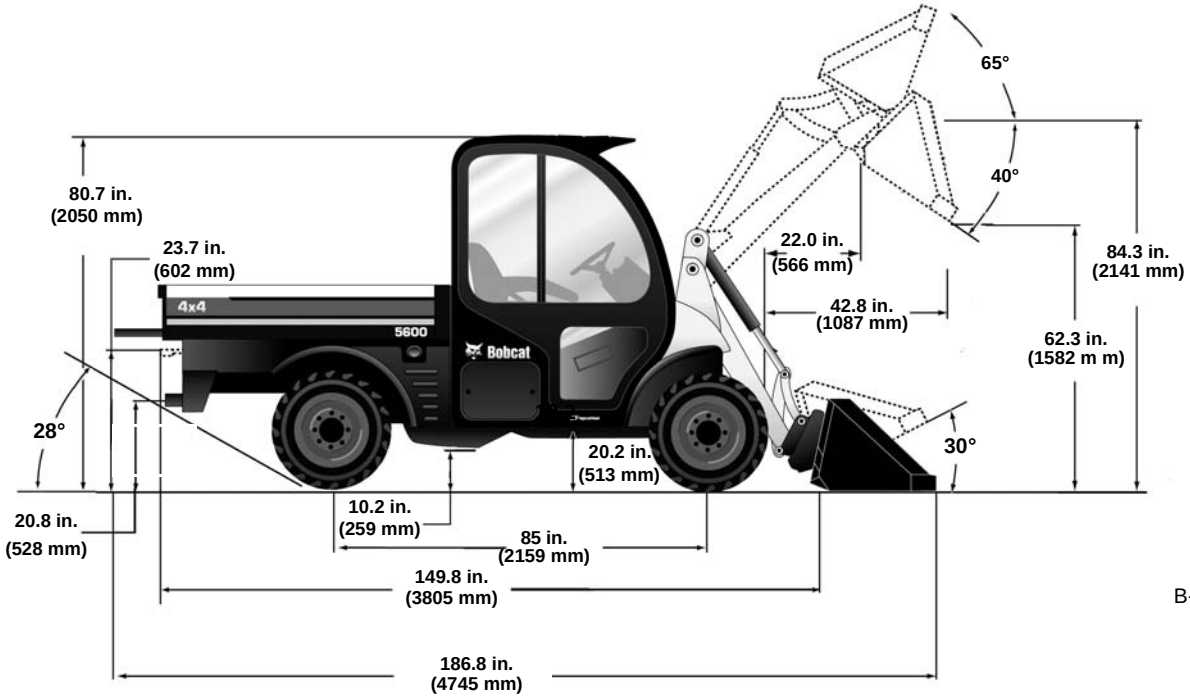
SPECIFICATIONS

SPECIFICATIONS (SPEC)

Bobcat®

Dimensions

- Dimensions are given for machine equipped with standard tires and bucket and may vary with other bucket types. All dimensions are shown in inches. Respective metric dimensions are given in millimeters enclosed by parentheses.
- Where applicable, specification conform to SAE, ANSI or ISO standards and are subject to change without notice.



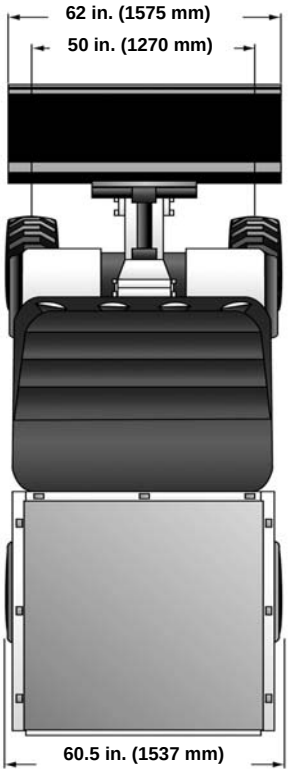
B-25303

Ground Clearance
Differentials . . . . . .8.2 in. (1582 mm)

Box Inside Dimensions
(LxWxH) . . . . . .61 x 52 x 10 in.
(LxWxH) . . . . (1549 x 1321 x 254 mm)

Flat Bed Dimensions
(LxW). . . . . .61 x 57 in.
(LxW). . . . . (1549 x 1448 mm)

Turning Diameter
in AWS mode . . . . . 204 in. (5181 mm)



P-43969

Changes of structure or weight distribution of the loader can cause changes in control and steering response and can cause failure of the loader parts.

Performance

Load Capacity Loader Rated Operating Capacity Cargo Box Load (Maximum) Machine Rated Capacity Trailer Hitch Tongue Weight (Max) Total Rated Capacity	 1500 lb. (680 kg) 2000 lb. (907 kg) 2200 lb. (997 kg)* 500 lb. (227 kg) 4200 lb. (1905 kg)** * Combined weight of load on lift arm, cargo box load, operator and passenger. ** Combined weight of the load on lift arm. cargo box load, operator, passenger and tow weight (If equipped with receiver hitch.).
Tipping Load (SAE Rating)	3000 lb. (1362 kg)
Operating Weight Standard Turbo	 5290 lb. (2400 kg) 5410 lb. (2454 kg)
Travel Speed Low Range (Forward & Reverse) High Range (Forward Only)	 0 - 10 mph (0 - 16,1 km/hr.) 0 - 18 mph (0 - 28,9 km/hr.)

Controls

Vehicle Steering	Steering Wheel
Loader Hydraulics - Lift and Tilt - Front and Rear Auxiliary	 Joystick Switches on Joystick
Engine	Hand lever engine speed control; key-type starter switch (or optional keyless start).
Starting Aid	Glow Plugs automatically activated as needed.
Service Brake	Hydrostatic transmission system controlled by foot pedal.
Parking Brake (Std.)	Spring Applied Pressure Release (SAPR) activated by the park position of the travel direction control lever or automatically when engine is stopped.

Engine

	Non-Turbo	**Turbo**
Make/Model	Kubota V2203-M-DI	Kubota V2003-M-DI-T
Fuel/Cooling	Diesel / Liquid	
Horsepower, Maximum	46 HP (34 kW)	56 HP (41,8 kW)
High Idle RPM	2830-2850 RPM	
Low Idle RPM	1000-1200 RPM	
Number of Cylinders	4	
Displacement	134.0 cu. in. (2,2 L)	122.0 cu. in. (2,0 L)
Bore/Stroke	3.425 / 3.638 in. (87,0 mm / 92,4 mm)	3.268 / 3.638 in. (83,0 mm / 92,4 mm)
Lubrication	Pressure System with Filter	
Crankcase Ventilation	Closed Breathing	Open Breathing
Air Cleaner	Dry replaceable paper cartridge with safety element	
Ignition	Diesel-Compression	
Engine Coolant	Propylene Glycol / Water Mixture	
Starting Aid	Glow Plugs	

Hydraulic System

Pump Type	Engine driven, gear type
Pump Capacity - Standard High Flow (Turbo Only)	18 GPM (68,1 L/min.) 26 GPM (98,4 L/min.)
System Relief at Quick Couplers	3000 PSI (207 bar)
Filter (Hydraulic)	Full flow replaceable, 10-micron synthetic media element with 46 PSI internal cold-weathered bypass valve
Hydraulic Cylinders	Double-acting; tilt cylinders have cushioning feature on dump and rollback
Bore Diameter: Lift Cylinder Tilt Cylinder Cargo Box Cylinder (2)	2.5 in. (63,5 mm) 2.5 in. (63,5 mm) 2.0 in. (50,8 mm)
Rod Diameter: Lift Cylinder Tilt Cylinder Cargo Box Cylinder (2)	1.5 in. (38,1 mm) 1.5 in. (38,1mm) 1.00 in. (25,4 mm)
Stroke: Lift Cylinder Tilt Cylinder Cargo Box Cylinder (2)	22.19 in. (563,6 mm) 16.34 in. (415,0 mm) 10.89 in. (276,6 mm)
Control Valve	Pivot operated, open center, series type with float detent on lift.
Fluid Lines	SAE Standard tubelines, hoses and fittings
Fluid Type (Hydraulic/Hydrostatic)	FLUID, Hydraulic/Hydrostatic 6903117 - (2.5 Gal.) 6903118 - (5 Gal.) 6903119 - (55 Gal.)

Electrical

Alternator	Belt driven, 90 amps, open
Battery	12 volts, 600 cold cranking amps @ 0° F (-18° C), 115 minute reserve capacity
Starter	12 volts, gear reduction type, 4.02 HP (2,99 kW)
Instrumentation	**Gauges:** Engine Coolant Temperature, Fuel Gauge **LCD Display:** Diagnostic Codes, Hourmeter, Job Clock (resetable), Speedometer, Tachometer. **Warning lights (Red):** Fuel Level, General Warning, High Hyd. Temperature, Lift Arm and Tilt Transport Lock, Low Engine Oil Pressure, Low Battery Voltage, Parking Brake. **Indicator Lights (Amber):** Auxiliary Hyd. Enabled, Cruise Control Engaged reminder, Glow Plugs Activated, Return to Park reminder, Two-Speed engaged reminder, Work Mode indicator. **Buttons:** Auxiliary Hydraulics, Cruise Control, Display (speed, hours, RPM), Lift Arm and Tilt Transport Lock, Lights, Parking Brake, Work Mode.

Power Take-Off (PTO) System (Option)

Rear PTO	Hydraulic Motor
PTO Type	TYPE I per ASAE S203.15
Operating Speed	540 RPM +/- 10 RPM @2700 RPM engine speed
Driveline	Up to Category 4 per ASAE S331.5
Engine Power	56HP (41,8 kW [Turbo Charged Engine]) 46 HP (34,3 kW)
PTO Power	22 HP (16,4 kW)

Drive System

Main Drive	Fully hydrostatic, 4-wheel drive
Transmission	Infinitely variable tandem hydrostatic piston pumps, driving two fully reversing hydrostatic motors
Final Drive	Front and rear differentials.
Wheel Bolts	Eight 7/16 inch wheel bolts fixed to axle hubs
Differential	Differentials provided in both axles. Rear axle includes a momentary differential lock.
Differential Fluid (Front & Rear)	Axle Housing Lubricant (P/N 6687120)

Capacities

Fuel - Standard Turbo	10.5 Gal. (39,7 L) 16 Gal. (60,6 L)
Engine Lubrication & Filter	7.5 qt. (7,1 L)
Engine Cooling System (W/O Heater)	12 qt. (11,4 L)
Engine Cooling System (With Heater)	13 qt. (12,3 L)
Hydraulic/Hydrostatic Reservoir	3.7 Gal. (14,2 L) @ Sight Glass
Hydraulic/Hydrostatic System	10 Gal. (37,9 L)
Differential (Front & Rear)	5.6 qt. (5,3 L) each

Tires

Standard	10.5 x 27
Recommended Pressure	Inflate tires to MAXIMUM pressure shown on the side wall of the tire. DO NOT mix brands of tires used on the same machine.

WARRANTY

WARRANTY

Bobcat Utility Work Machines

Bobcat Company warrants to its authorized dealers and authorized dealers of Bobcat Equipment Ltd., who in turn warrant to the owner, that each new Bobcat Utility Work Machine will be free from proven defects in material and workmanship with respect to (i) all components of the product except as otherwise specified herein for twelve (12) months, (ii) the drive belt from the hydrostatic pump to the engine, for thirty six (36) months, provided that after the initial twelve month warranty period, such warranty shall be limited to parts only and does not include labor, (iii) Bobcat brand tires, for twelve (12) months on a prorated basis based on the remaining depth of the tire at the time any defect is discovered, and (iv) Bobcat brand batteries, for an additional twelve (12) months after the initial twelve month warranty period, provided that Bobcat Company shall only reimburse a fixed portion of the cost of replacing the battery during such additional twelve months. The foregoing time periods shall all commence after delivery by the authorized Bobcat dealer to the original buyer.

During the warranty period, the authorized Bobcat dealer shall repair or replace, at Bobcat Company's option, without charge for parts and labor, any part of the Bobcat product except as otherwise specified herein which fails because of defects in material or workmanship. The owner shall provide the authorized Bobcat dealer with prompt written notice of the defect and allow reasonable time for repair or replacement. Bobcat Company may, at its option, require failed parts to be returned to the factory. Travel time of mechanics and transportation of the Bobcat product to the authorized Bobcat dealer for warranty work are the responsibility of the owner. The remedies provided in this warranty are exclusive.

This warranty does not apply to diesel engine fuel injection pumps and injectors or tires (except Bobcat brand tires). The owner shall rely solely on the warranty, if any, of the respective manufacturers thereof. This warranty does not cover replacement of scheduled service items such as oil, filters, tune-up parts, and other high-wear items. This warranty does not cover damages resulting from abuse, accidents, alterations, use of the Bobcat product with any accessory or attachment not approved by Bobcat Company, air flow obstructions, or failure to maintain or use the Bobcat product according to the instructions applicable to it.

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6902334 (11-02)

Printed in U.S.A.

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ALPHABETICAL INDEX

ALPHABETICAL INDEX (CONT'D)