

EN

**Utility Vehicle
2200D**

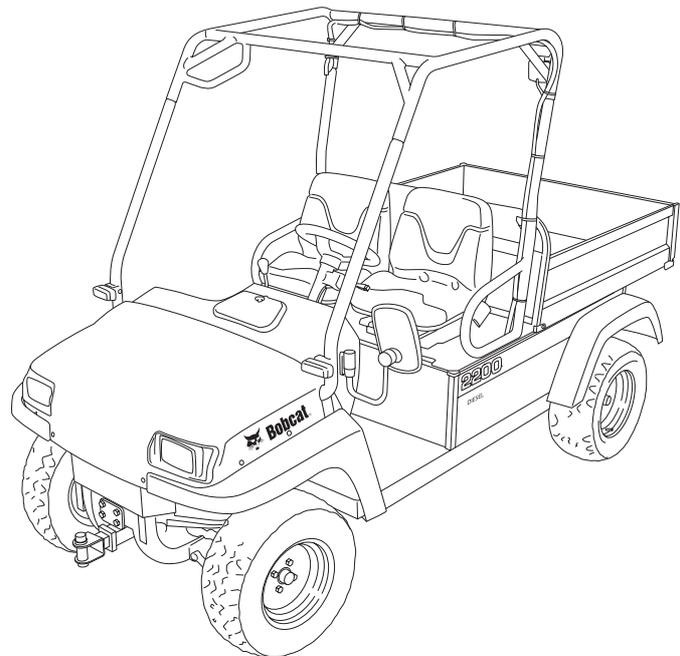


**Bobcat®
Operation**

&

**Maintenance
Manual**

S/N 235211001 & Above



**EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)**
6903128-EN (09-05)

An **IR** Ingersoll Rand business

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NOTICE

The Bobcat Utility Vehicle Limited Warranty appears on the last pages of this manual. No other warranties, express or implied, are contained herein. Your authorized representative checked the vehicle before it was delivered to you and will provide you a copy of the completed vehicle warranty registration form.

This manual contains proprietary information that is protected by copyright. All rights are reserved. No part of this manual may be photocopied, reproduced, or translated to another language without the written consent of Bobcat.

The information contained in this document is subject to change without notice.

Bobcat reserves the right to make design changes to vehicles without obligation to make these changes on units previously sold.

These vehicles do not conform to Federal Motor Vehicle Safety Standards for automobiles or to FMVSS 500 for low-speed vehicles, and are not equipped for operation on public streets, roads, or highways.



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J. Huysmanslaan 59
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FOREWORD

SAFETY

**OPERATING
INSTRUCTIONS**

**PREVENTIVE
MAINTENANCE**

ACCESSORIES

SPECIFICATIONS



Bobcat®

FOREWORD

FOREWORD

Thank you for choosing Bobcat. You have chosen the finest utility vehicle on the market; the vehicle most widely recognized as the industry leader in vehicle efficiency and long-lasting value. Please protect your investment and ensure that your Bobcat vehicle provides years of reliable, superior performance by reading and following the maintenance instructions in this manual.

Your comfort and safety are important to us, so we urge you to read and follow the step-by-step operating instructions and safety precautions in this manual. These instructions must be followed in order to avoid the risk of severe personal injury. If you rent or loan your vehicle to others, we recommend that you ask them to read this manual before they operate the vehicle.



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SAFETY

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SAFETY



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PRACTICE SAFETY



Safety signs like you see above may at first seem shocking, but their impact is mild compared with the reality of severe personal injury.

Your safety and satisfaction are of the utmost importance to Bobcat. That is why before operating the vehicle, we urge you to review the information in this manual. Understand and become familiar with the DANGER, WARNING and CAUTION statements and procedures it contains, along with the safety decals that are affixed to your vehicle.

Take time to understand the language of safety. It is a language that can save your life.

WARNING

- This owner's manual should be read completely before attempting to drive or service the vehicle. Failure to follow the instructions in this manual could result in property damage, severe personal injury, or death.
- The homologated diesel vehicle is equipped to operate at a top speed of 40 km/h (25 mph) and is intended for use as a low-speed vehicle.

It is important to note that some vital statements throughout this manual and on the decals affixed to the vehicle are preceded by the words DANGER, WARNING, or CAUTION. For your protection, we recommend that you take special notice of these safety precautions. Safety precautions are essential and must be followed.

If any of the operation or warning decals on the vehicle become damaged, have been removed, or cannot be easily read, they should be replaced immediately to avoid possible property damage, personal injury, or death. Contact your Bobcat dealer.

DANGER

- A DANGER indicates an immediate hazard that will result in severe personal injury or death.

WARNING

- A WARNING indicates an immediate hazard that could result in severe personal injury or death.

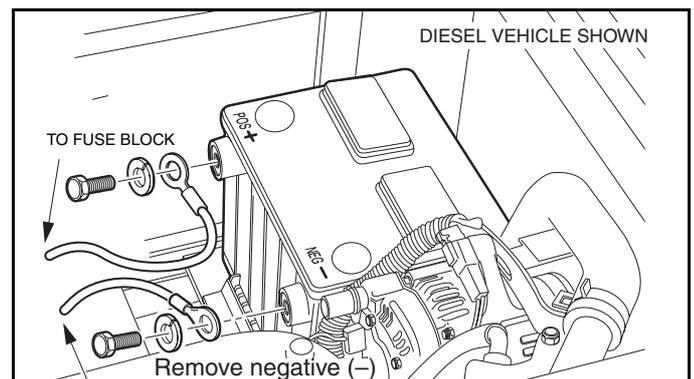
CAUTION

- A CAUTION with the safety alert symbol indicates a hazard or unsafe practice that could result in minor personal injury.

CAUTION

- A CAUTION without the safety alert symbol indicates a situation that potentially could result in property damage.

Figure 1 Battery Cable Removal



The following safety statements must be heeded whenever the vehicle is being operated, repaired, or serviced. Safety decal identification information is also included beginning on page VII. Other specific safety statements appear throughout this manual and on the vehicle.

GENERAL WARNINGS



DANGER

- **Battery – Explosive gases! Do not smoke. Keep sparks and flames away from the vehicle and service area. Ventilate when charging or operating vehicle in an enclosed area. Wear a full face shield and rubber gloves when working on or near batteries.**
- **Diesel – Flammable! Explosive! Do not smoke. Keep sparks and flames away from the vehicle and service area. Service only in a well-ventilated area.**
- **Do not operate engine in an enclosed area without proper ventilation. The engine produces carbon monoxide, which is an odorless, deadly poison.**
- **A Bobcat vehicle will not provide protection from lightning, flying objects, or other storm-related hazards. If caught in a storm while driving a Bobcat vehicle, exit the vehicle and seek shelter in accordance with applicable safety guidelines for your location.**



WARNING

- **Follow the procedures exactly as stated in this manual, and heed all DANGER, WARNING, and CAUTION statements in this manual as well as those on the vehicle.**
- **Do not leave children unattended on vehicle.**
- **Children requiring a child safety seat must not ride on the vehicle. Comply with state and local laws pertaining to child safety.**
- **The driver and passenger must be restrained at all times with the safety belts provided to help prevent injury in the event of sudden braking, collision, or roll-over.**
- **No more than one person per seat at one time. Do not allow people to ride in any part of the vehicle that is not equipped with a seat and a safety belt. Do not allow a passenger to hold a child in his or her lap while the vehicle is moving.**
- **Prior to leaving the vehicle unattended or servicing the vehicle, set the park brake, place the Forward/Reverse handle in the NEUTRAL position, turn the key switch to the OFF position, and remove the key. Chock the wheels when servicing the vehicle.**
- **Improper use of the vehicle or failure to properly maintain it could result in decreased vehicle performance, severe personal injury, or death.**

- **Any modification or change to the vehicle that affects the stability or handling of the vehicle, or increases maximum vehicle speed beyond factory specifications, could result in severe personal injury or death.**
- **Check the vehicle for proper location of all vehicle safety and operation decals and make sure they are in place and are easy to read.**
- **For vehicles with cargo beds, remove all cargo before raising the bed or servicing the vehicle. If the vehicle is equipped with a prop rod, ensure that it is securely engaged while bed is raised. Do not close bed until all persons are clear of cargo bed area. Keep hands clear of all crush areas. Do not drop cargo bed; lower gently and keep entire body clear. Failure to heed this warning could result in severe personal injury or death.**
- **Only trained technicians should service or repair the vehicle. Anyone doing even simple repairs or service should have knowledge and experience in electrical and mechanical repair. The appropriate instructions must be used when performing maintenance, service, or accessory installation.**
- **To avoid unintentionally starting the vehicle:**
 - **Disconnect battery cables, negative (-) cable first [Figure 1].**
- **Frame ground – Do not allow tools or other metal objects to contact frame when disconnecting battery cables or other electrical wiring. Do not allow a positive wire to touch the vehicle frame, engine, or any other metal component.**
- **Wear safety glasses or approved eye protection when servicing the vehicle. Wear a full face shield and rubber gloves when working on or near batteries.**
- **Do not wear loose clothing or jewelry such as rings, watches, chains, etc., when servicing the vehicle.**
- **Use insulated tools when working near batteries or electrical connections. Use extreme caution to avoid shorting of components or wiring.**
- **When servicing the vehicle with part of the vehicle on jack stands, do not operate the engine with the Forward/Reverse handle in either the FORWARD or REVERSE position. The all-wheel drive system will engage any wheel(s), front or rear, with traction.**

GENERAL WARNINGS (CONT'D)

Figure 2 All-wheel Drive Warning



WARNING

WHEN OPERATING VEHICLE ON PUBLIC ROADS THIS VEHICLE OFFERS MUCH LESS CRASH PROTECTION THAN A REGULAR CAR, VAN, OR TRUCK. THIS MEANS A HIGHER RISK OF INJURY OR DEATH IN COLLISIONS, EVEN AT LOW SPEEDS.

The higher the speed of the traffic around you, the higher the risk of injury.

To reduce these risks:

- Avoid roads with regular traffic, even if the speed limit is low.
- Whenever possible, stay on roads and lanes limited to low-speed vehicles.
- Wear your safety belts at all times.
- Avoid operating vehicle at night, because your vehicle may be difficult for others to see.
- Never drink and drive.
- To help avoid rollovers, **SLOW DOWN BEFORE MAKING SHARP TURNS.**

See the Bobcat 2200D Diesel Vehicle Operation & Maintenance Manual for additional Safety Details.

UNDER 16

WARNING

YOUNG DRIVERS INCREASE CHANCE OF DEATH

- Young drivers may not be able to control vehicle.
- No drivers younger than 16 years old.
- Do not leave children unattended on vehicle.

CCI 102454601

UNDERAGE WARNING DECAL

Club Car, Inc.
Augusta, Georgia, USA
Roll-over Protective Structure (ROPS)
ROPS per ISO 9471, SAE J1040,
AS 2294.1, and CSA B362.2
Certified for vehicle models:
Carrall 294, XRT 1500, and Bobcat 2200
Max. unladen vehicle mass: 2094 lb (950 kg)

WARNING

- Do not modify or remove Roll-over Protective Structure (ROPS).
- Replace ROPS if damaged. Do not attempt repair.
- Use seat belts during operation. Do not jump from vehicle.
- Keep away from drop-offs, steep slopes, and unstable surfaces.

CCI 102621101

CERTIFICATION NOTICE AND WARNING DECAL

WARNING

ROLLOVER OR FALLING OFF MAY CAUSE DEATH

- Read owner's manual and operating instructions.
- Fasten seat belts and remain seated while moving.
- Children requiring a child safety seat must not ride on vehicle. Comply with state and local laws pertaining to child safety.
- Drive slowly in turns and straight up and down slopes.
- Do not start vehicle until all occupants are seated.
- Front seats: One (1) person per seat maximum.
- Operate from driver side only and not on public roads.
- Keep entire body inside vehicle while moving.
- Do not operate while under the influence of alcohol or drugs.
- Never attempt jumps and avoid extremely hard braking in reverse.

102455301

DRIVER/PASSENGER WARNING DECAL

WARNING

Riding in cargo bed can cause severe injury or death.
Do not ride in cargo bed.

CCI 101265301

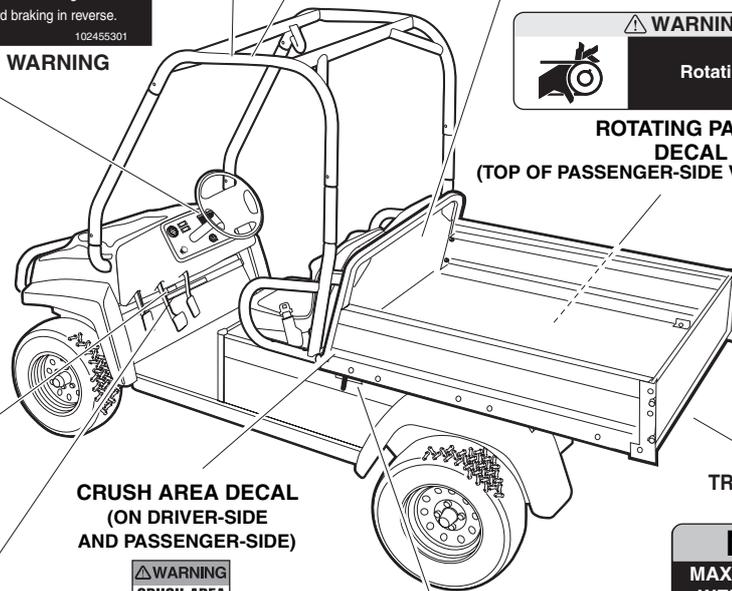
BED LOAD WARNING DECAL

WARNING

Rotating Parts

CCI 102224001

ROTATING PARTS DECAL (TOP OF PASSENGER-SIDE VEHICLE FRAME)



SERIAL NUMBER DECAL

CRUSH AREA DECAL (ON DRIVER-SIDE AND PASSENGER-SIDE)

WARNING

CRUSH AREA

STAY CLEAR

CCI 101609401

BED LATCH WARNING DECAL

WARNING

Crush area. Can cause severe injury. Stay clear when closing bed.

CCI 102459601

TRAILER HITCH DECAL

NOTICE

MAXIMUM TONGUE WEIGHT - 150 lbs.

CG 1011553

(ON REAR RECEIVER HITCH)

VEHICLE LOADING DECAL

<p>VEHICLE LOADING</p> <p>Read owner's manual and warnings on dash.</p>	<ul style="list-style-type: none"> • Maximum gross vehicle weight: 2750 lb. (1247 kg) • Maximum cargo load: 800 lb. (363 kg) - Includes cargo bed load and gross trailer weight. - Maximum cargo load is reduced by the weight of optional equipment. • Maximum trailer hitch tongue weight: 150 lb. force (667 N). 	<ul style="list-style-type: none"> • PREVENT VEHICLE ROLL-OVER. - Place cargo forward in the cargo bed and distribute evenly side to side. Secure load. - On uneven or steep terrain reduce speed and load. Avoid stopping on or backing down steep hills. - Avoid top heavy loads. See owner's manual. <p>CCI 1022682301</p>
	(STANDARD VEHICLE)	

<p>HIGH-CAPACITY VEHICLE LOADING</p> <p>Read owner's manual and warnings on dash.</p>	<ul style="list-style-type: none"> • Maximum gross vehicle weight: 3012 lb. (1366 kg) • Maximum cargo load: 1050 lb. (476 kg) - Includes cargo bed load and gross trailer weight. - Maximum cargo load is reduced by the weight of optional equipment. • Maximum trailer hitch tongue weight: 150 lb. force (667 N). 	<ul style="list-style-type: none"> • PREVENT VEHICLE ROLL-OVER. - Place cargo forward in the cargo bed and distribute evenly side to side. Secure load. - On uneven or steep terrain reduce speed and load. Avoid stopping on or backing down steep hills. - Avoid top heavy loads. See owner's manual. <p>CCI 102459601</p>
	(HIGH CAPACITY OPTION)	

MACHINE SIGNS (CONT'D)

DIESEL WARNING DECAL

WARNING

DIESEL FUEL EXPLOSION / FIRE.

- Can cause severe injury or death.
- No smoking, sparks, or open flame.
- Stop engine, allow to cool before refueling.

CCI 102459201

(ON PASSENGER-SIDE SEAT SUPPORT)

WARNING

CAN CAUSE SEVERE INJURY
Rotating parts. **KEEP CLEAR.**

CCI 102460201

ROTATING PARTS WARNING DECAL

WARNING

CAN CAUSE SEVERE INJURY

HOT manifold

KEEP CLEAR

CCI 102459001

HOT MANIFOLD WARNING DECAL (ON ENGINE VALVE COVER)

WINCH CABLE WARNING DECAL (FOR VEHICLES WITH WINCH ACCESSORY)

WARNING

WINCH CABLE FRACTURE COULD RESULT IN SERIOUS INJURY OR DEATH.

- Do not use winch while persons are seated on the vehicle.
- Use remote operation switch for winch control.
- Stand to the side and away from the vehicle to operate winch.
- Read winch operator manual before operating winch.

102231601

(ON FRONT BODY)

WARNING

CAN CAUSE SEVERE BURNS
Hot Surface

CCI 102458901

HOT SURFACE WARNING DECAL (ON COOLANT PIPES AND UNDERSIDE OF BOTH SEATS)

FRAME GROUND WARNING DECAL (ON VEHICLE FRAME NEAR BATTERY)

WARNING

Negative frame ground. Can cause severe injury. Do not contact positive (+) battery post or cable to frame. Disconnect negative (-) battery cable first.

CCI 102459101

ROTATING PARTS AND HOT MANIFOLD DECAL (ON DRIVER-SIDE VEHICLE FRAME)

	WARNING CAN CAUSE SEVERE INJURY Rotating parts. KEEP CLEAR.		WARNING CAN CAUSE SEVERE INJURY Hot manifold and muffler. KEEP CLEAR.
CCI 102459501			

OPERATING INSTRUCTIONS

• Read owner's manual and vehicle safety warnings. Study and understand controls.

TOSTAR ENGINE

- Place shift lever in Neutral (N) position and press brake pedal.
- To preheat glow plugs, turn key to "PREHEAT" position and hold for 10-15 seconds.
- Turn key to "START" position and hold until engine starts.

TOOPER/IB/HC

- Make sure wheels are turned in desired direction and nothing is in your path.
- Engine must be at idle before moving shift lever.
- While vehicle is stopped, and the engine is at idle, select shift lever position.

↑ - Forward N - Neutral ↓ - Reverse (Buzzer will sound)

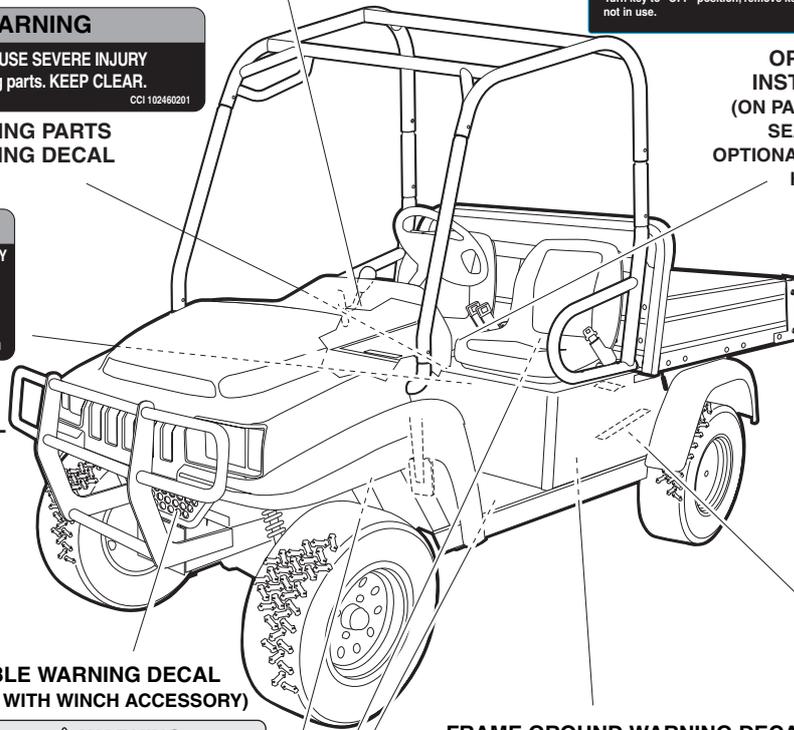
- Release park brake and slowly press accelerator pedal to increase speed.
- All-wheel drive will automatically drive appropriate wheel(s) as required.

TOST/VEHICLE

- Release accelerator pedal and push brake pedal. After stopping, firmly set park brake.
- Turn key to "OFF" position, remove key and place shift lever in neutral position when not in use.

CCI 102455101

OPERATING INSTRUCTIONS (ON PANEL BETWEEN SEATS OR ON OPTIONAL CONSOLE/CUP HOLDER)





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OPERATING INSTRUCTIONS

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**OPERATING
INSTRUCTIONS**



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GENERAL INFORMATION

This manual is designed to include information on both the diesel Bobcat 2200 vehicles. Both are key-start vehicles. The vehicles start and operate similar to an automobile. Each has a feature that allows the engine to run at idle or advanced RPM using the accelerator pedal when the Forward/Reverse handle is in the NEUTRAL position.

All operating procedures, maintenance, and regular servicing are identical to both vehicles unless otherwise noted. If any of these differ between vehicles, it will be noted for that specific procedure.

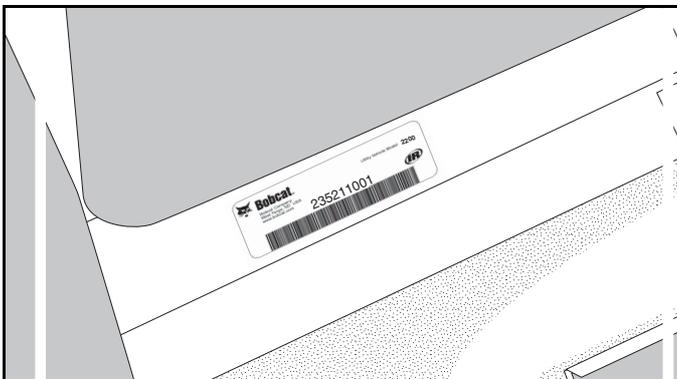
This homologated diesel vehicle is designed for operation on public roads. Its construction also allows for operation on rough terrain on inclines not exceeding 20%. Throughout this supplement, important features particular to the homologated vehicle are highlighted.

MODEL IDENTIFICATION

The serial number of each Bobcat vehicle is printed on a bar code decal mounted on the frame behind and to left of brake pedal (Example: 235211001) [Figure 1]. See following NOTE.

NOTE: Have the Bobcat serial number available when ordering parts or making inquiries.

Figure 1 Serial Number



CONTROLS AND INDICATORS

See **GENERAL WARNINGS** on page 7.

WARNING

- Before allowing anyone to drive the vehicle, make sure the driver is familiar with all controls and operating procedures.
- Do not tamper with the high idle speed setting on the diesel vehicle. Doing so will void the warranty, as well as damage the engine and other components, and could result in property damage, personal injury, or death due to unsafe speeds.
- Do not shift the Forward/Reverse handle while the vehicle is in motion.
- Engine must be at idle before shifting the Forward/Reverse handle. Failure to do so may result in injury to inattentive passengers and (or) damage to the vehicle.
- To avoid unintentionally starting or rolling the vehicle, set the park brake, place the Forward/Reverse handle in the NEUTRAL position, turn the key switch to the OFF position, and remove the key when leaving the vehicle.

Key Switch

The key switch (2) is mounted on the instrument panel to the right of the steering column [Figure 2]. It has four positions: PREHEAT, OFF, ON, and START. To preheat glow plugs in cold weather, turn the key to the PREHEAT position and hold for 10-15 seconds. Then turn the key all the way to the START position and hold until the engine starts. If the engine does not start after 10-15 seconds, return the key to the OFF position and repeat the procedure. Once the engine starts, release the key and it will return to the ON position. The engine will idle in neutral. The engine will continue to idle until the key is turned to the OFF position. See following **WARNING**, **CAUTION** and **NOTE**.

Turn the key to PREHEAT position if the temperature falls below -5°C (23°F). Do not hold the key in the PREHEAT position longer than 20 seconds.

WARNING

- Moving parts! Keep clear of the engine compartment while the engine is running.

CAUTION

- Do not shift the Forward/Reverse handle while the accelerator pedal is pressed. Shift the handle only when the vehicle is at a complete stop and the engine is at idle. Failure to heed this caution could result in damage to the transmission.

NOTE: The key can be removed only when the key switch is in the OFF position.

Forward/Reverse Control

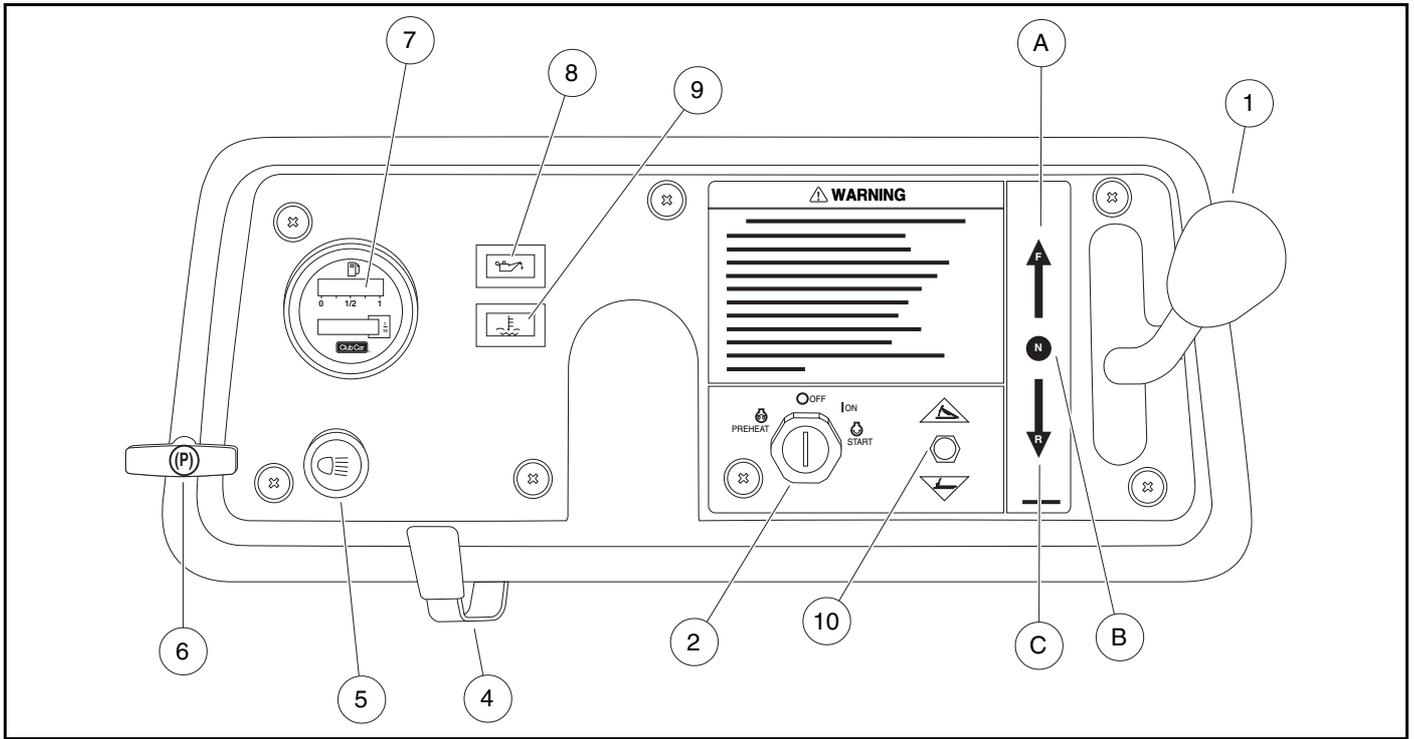
The Forward/Reverse handle (1) is located on right-hand side of the instrument panel. The handle has three distinct positions: FORWARD (A), NEUTRAL (B), and REVERSE (C) [Figure 2]. Push the handle up to operate the vehicle in the forward direction, or pull the handle down to operate the vehicle in reverse. The engine can be started only when the handle is in the NEUTRAL (middle) position. The engine must be at idle before shifting the Forward/Reverse handle. **See WARNING and CAUTION beginning on page 3.**

Bobcat vehicles operate at a reduced speed in reverse. The reverse buzzer will sound as a warning when the Forward/Reverse handle is in the REVERSE position.

CONTROLS AND INDICATORS (CONT'D)

Forward/Reverse Control (Cont'd)

Figure 2 Instrument Panel



CONTROLS AND INDICATORS (CONT'D)

Accelerator Pedal

The accelerator pedal (1) is the pedal on the right [Figure 3].

With the engine running and the Forward/Reverse handle in the FORWARD or REVERSE position, vehicle speed will increase as the accelerator pedal is pressed. When the accelerator pedal is released, it will return to the original position and the engine will idle. See **WARNING** and **CAUTION** on page 3.

Brake Pedal

The brake pedal (2) is located to the immediate left of the accelerator pedal [Figure 3]. To slow or stop the vehicle, press the brake pedal.

Figure 3 Pedals

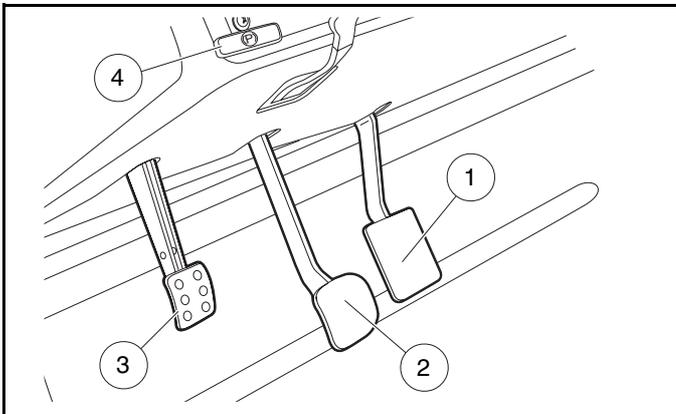
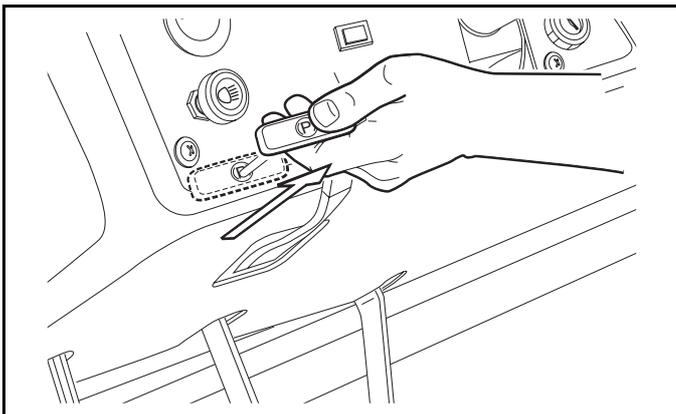


Figure 4 Park Brake Release



Park Brake

The park brake pedal (3) is located to the left of the brake pedal [Figure 3]. To engage the park brake, first apply pressure to the brake pedal, then firmly press the park brake pedal until it latches into place. To disengage, pull the park brake release handle [Figure 4]. See following **WARNING**.

! WARNING

- The park brake has multiple locking positions and should be firmly locked to prevent the vehicle from rolling.

Low Oil Warning Light

The low oil warning light (8) is located on the instrument panel just to the left of the steering column [Figure 2]. If the warning light comes on, oil should be checked and added to the engine as necessary before continuing to use the vehicle. The vehicle should never be driven when the low oil warning light remains on. If the warning light goes on and off, the vehicle may be driven, but oil should be added at the first opportunity. If the oil level is correct and the warning light stays on, have a trained technician check the vehicle. See following **CAUTION**.

CAUTION

- Failure to add oil immediately when the low oil warning light stays on may result in permanent engine damage.

CONTROLS AND INDICATORS (CONT'D)

Fuel Gauge/Hour Meter

The fuel gauge and hour meter (7) are housed together at the left side of the instrument panel [Figure 2]. The fuel gauge operates when the key switch is in the ON position, and allows the operator to monitor the fuel level in the vehicle. The hour meter operates only when the engine is running, and should be used by the trained technician to track vehicle usage and determine when periodic service procedures are required. See **PERIODIC SERVICE SCHEDULE** on page 24.

Headlight control

The headlight control (5) is located on the left side of the instrument panel below the fuel gauge/hour meter [Figure 2]. Pull the headlight control knob out to turn headlights on and push the knob in to turn headlights off.

NOTE: Using the headlights for extended periods of time without the engine running, or with the engine idling, will discharge the battery.

Steering Adjustment Lock

The steering wheel on the Bobcat 2200 vehicle is adjustable. To adjust the steering wheel, press down on the steering adjustment lock lever (4), then move the steering wheel to the desired position [Figure 2]. While holding the steering wheel in the desired position, pull up on the steering adjustment lock lever to firmly lock the steering column in position.



WARNING

- **Ensure that the steering wheel lock is fully engaged prior to operating the vehicle.**

Electric Bed Lift

Vehicles with Electric Bed Lift Option

The electric bed lift switch (10) is located on the instrument panel to the right of the key switch [Figure 2].

To lift the bed, pull up and hold the toggle switch (10) in the upper position. Release switch to stop lifting operation. To close the bed, press down and hold switch in the lower position. The bed lift will make a loud clicking sound to signal the bed is in the rest position.

High-Temperature Warning Light

The high-temperature warning light is located on the instrument panel below the low oil warning light. The diesel engine is liquid-cooled; if the engine coolant has exceeded its normal safe operating temperature, the warning lamp will illuminate. If the warning light comes on, stop the vehicle and allow it to idle for approximately five minutes before stopping the engine. Contact a Bobcat dealer or a trained technician.



WARNING

- **Allow the engine to cool before servicing the engine coolant system. Engine coolant can cause severe burns.**

CONTROLS AND INDICATORS (HOMOLOGATED DIESEL VEHICLE)

Electric Bed Lift

The electric bed lift switch (1) is located on the instrument panel to the right of the key switch [Figure 2]. To lift the bed, pull up and hold the toggle switch in the upper position. Release switch to stop lifting operation. To close the bed, press down and hold switch in the lower position. The bed lift will make a loud clicking sound to signal the bed is in the rest position.

Headlamps and Taillamps

The headlamp/taillamp and side position lamp control switch (5) is located to the left of the steering column [Figure 2]. Press the switch to the right to turn all lamps on. Press the switch to the left to turn side position lamps on only. Return the switch to the middle position to turn the lamps off.

Brake Lamps

The brake lamps illuminate when the brake pedal is pressed. When the park brake is engaged, the brake lamps will turn off. **See following NOTE.**

NOTE: When the key switch is in the OFF position, the brake lamps are disabled.

Turn Signal

There are two turn signal indicator lights (3) on the instrument panel [Figure 2]. The upper symbol indicates the turn direction for the vehicle; the lower symbol indicates the turn direction for an attached trailer.

The turn signal control (1) is mounted on the steering column [Figure 5]. Move the handle up to indicate a right-hand turn. Move the handle down to indicate a left-hand turn. Return the handle to the center position after completing a turn.

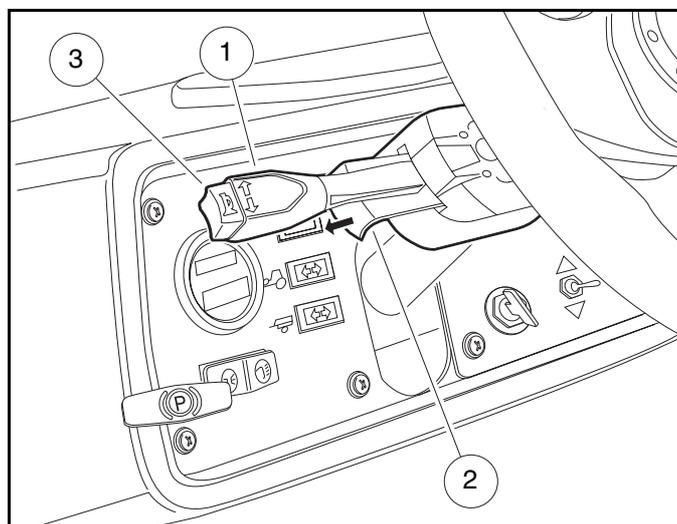
NOTE: If the turn signal lamp burns out, the indicator light on the instrument panel will flash at twice the normal speed.

If an attached trailer's turn signal lamp burns out, the indicator light will not flash.

Hazard Lamps

The hazard lamp switch (2) is located behind the turn signal handle [Figure 5]. To activate the hazard lamps, make sure that the turn signal handle is in the center (off) position, then pull the switch marked "HAZARD" until it is locked in place. To deactivate the hazard lamps, move the turn signal handle in either direction and return it to the center position.

Figure 5 Turn Signal and Horn Controls



Horn

The horn button (3) is located on the end of the turn signal handle [Figure 5]. Press the button in to sound the horn.

ROLL-OVER PROTECTIVE STRUCTURE (ROPS) AND SAFETY BELTS

The Bobcat 2200 is equipped with a certified Roll-over Protective Structure (ROPS) and safety belts for each occupant. **See following WARNING.**

WARNING

- **The ROPS must be properly installed before operating the vehicle.**
-

Bobcat strongly urges that the vehicle's occupants be properly restrained at all times with the safety belts provided.

Pregnant woman: Consult your doctor for specific recommendations. The safety belt should be worn securely and as low as possible over the hips and not on the waist.

Injured person: Depending on the injury, first check with your doctor for specific recommendations.

To secure safety belt, sit up straight and well back in the seat. Pull safety belt out of the retractor and insert the tab into the buckle. A click will be heard when the tab locks into the buckle. Position the lap belt as low as possible on the hips – not on the waist. **[Figure 6].**

The retractor will lock the belt during a sudden stop. It also may lock if the person leans forward too quickly. A slow, easy motion will allow the belt to extend, and the person can move around freely. If the safety belt cannot be pulled out of the retractor, firmly pull the belt and release it. It should then pull smoothly out of the retractor.

To release the safety belt, press the buckle release button (1) and allow the belt to retract. If the belt does not retract smoothly, pull it out and check for kinks or twists. Then make sure it remains free of twists as it retracts **[Figure 7].**

WARNING

- **Do not modify the ROPS or operate the vehicle with the ROPS removed. Doing so will void the certification and could result in property damage, personal injury, or death.**
 - **Do not operate the vehicle if the ROPS is damaged. If the ROPS is damaged, replace the structure. Do not attempt repair.**
 - **The driver and passenger must be restrained at all times with the safety belts provided to help prevent injury in the event of sudden braking, collision, or roll-over.**
 - **In the event of a roll-over, do not attempt to jump or otherwise exit the vehicle. Remain seated with safety belt fastened and with arms and legs inside the vehicle.**
 - **After inserting the tab, make sure the tab and buckle are locked and that the belt is not twisted.**
 - **Loose fitting safety belts could increase the chance of injury due to sliding under the belt if sudden braking should occur. Keep the safety belt snug and positioned as low on the hip bone as possible.**
 - **Use a single safety belt for one person at a time. Do not use a single safety belt for two or more people – this includes children.**
 - **No more than one person per seat at one time. Do not allow people to ride in any part of the vehicle that is not equipped with a seat and a safety belt. Do not allow a passenger to hold a child in his or her lap while the vehicle is moving.**
 - **The Bobcat vehicle is not designed to meet child seat compatibility requirements. Children requiring a child safety seat must not ride on the vehicle. Comply with state and local laws pertaining to child safety.**
-

! CAUTION

- Be careful not to damage the safety belt webbing or hardware.
- Inspect the safety belt system periodically. Check for cuts, fraying, and loose parts. Damaged parts should be replaced immediately. Do not disassemble or modify the system.
- Keep safety belts clean and dry. If cleaning is necessary, use a mild soap and lukewarm water solution. Do not use bleach, dye or abrasive cleaners as they may severely weaken the safety belts.
- Do not insert coins, clip, etc. in the buckle as this may prevent the tab from locking into the buckle properly.
- If the safety belt does not function normally, contact your Bobcat dealer or trained technician immediately. Do not occupy the seat until the safety belt is repaired.

Figure 6 Secure Safety Belt

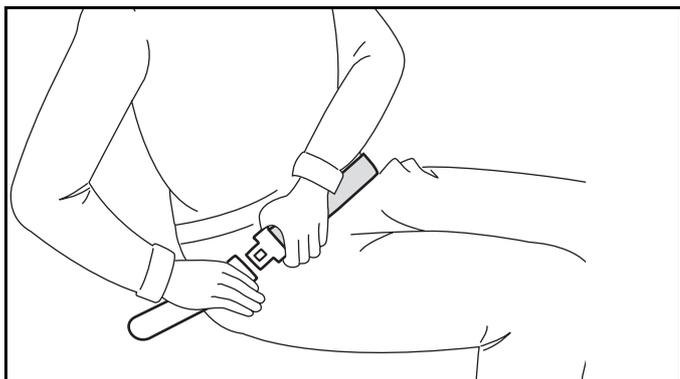
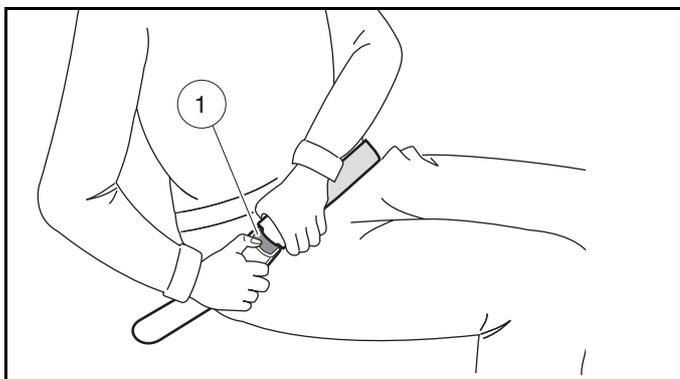


Figure 7 Release Safety Belt



SEAT LATCH AND ADJUSTMENT

The seats are hinged to allow easy access to the engine compartment. A latch at the rear of each seat bottom keeps the seat from moving on its hinges while the vehicle is in operation. To disengage the latch, grasp the seat back and pull firmly in a forward/upward direction until the latch releases. To engage the seat latch, push down firmly on the seat back until the seat locks into place. See following WARNING.

! WARNING

- Make sure seat hinges and latch are securely engaged before operating vehicle.

The driver-side bucket seat is adjustable and can be moved forward or backward to accommodate the driver. To adjust seat, push lever located under the driver seat to the left (towards outside of the vehicle). Position seat and return lever to its original position. See following WARNING.

! WARNING

- Do not adjust driver-side seat while vehicle is in motion.

To adjust the passenger-side seat:

1. Remove the seat from the vehicle.
2. Remove the four bolts and washers from the bottom of the seat mounting plate.
3. Align the mounting plate holes with holes in the seat to achieve the desired seat position.
4. Install washers and bolts and tighten to 10,8 Nm.
5. Install seat in the vehicle. See preceding WARNING "Make sure seat hinges and latch...".

PRE-OPERATION AND DAILY SAFETY CHECKLIST

Each Bobcat vehicle has been thoroughly inspected and adjusted at the factory; however, upon receiving your new vehicle(s), you should become familiar with its controls, indicators, and operation. Carefully inspect each vehicle to ensure that it is in proper working condition before accepting delivery.

Use the following checklist as a guide to inspect the vehicle. This checklist should be used daily to ensure that the vehicle is in proper working condition and in conjunction with the on page 24. Any problems should be corrected by a Bobcat dealer or a trained technician.

- **General:** All the parts should be in place and properly installed. Be sure that all nuts, bolts, and screws are tight. Check hose clamps for tight fit.
- **Safety and information decals:** Check to ensure that all safety and information decals are in place. **See pages 6.**
- **Roll-over Protective Structure (ROPS):** Check to ensure the ROPS is not damaged and all hardware is secure. See ROLL-OVER PROTECTIVE STRUCTURE (ROPS) AND SAFETY BELTS on page 9.
- **Safety belts:** Visually inspect for cuts, fraying, and loose parts. See ROLL-OVER PROTECTIVE STRUCTURE (ROPS) AND SAFETY BELTS on page 9.
- **Tires:** Check for proper tire pressure. Visually inspect tires for wear, damage, and proper inflation on a daily basis. See DIESEL VEHICLE SPECIFICATIONS on page 43.
- **Battery:** Check electrolyte to ensure it is at the proper level [**Figure 29, Page 35**]. Check battery posts. Wires should be tight and free of corrosion and battery should be fully charged.
- **Engine:** Check for proper engine oil and coolant levels and leaks. **See on page 28 and on page 33.** Check air filter and replace if necessary.
- **Fuel:** Check fuel level. See FUELING INSTRUCTIONS on page 34. Check fuel tank, lines, fuel cap, pump, fuel filters for fuel leakage. Drain water from the fuel filter. See Draining Water from Fuel Filter on page 34.
- **Exhaust system:** Check for leaks.
- **Hydraulic brakes:** Check fluid level. See BRAKE FLUID RESERVOIR on page 28.
- **Seat controls:** Check to be sure all seat controls are operating correctly. Be sure seat locks are engaged.

Performance Inspection

After you have familiarized yourself with the vehicle controls and have read and understood the driving instructions, take the vehicle for a test drive.

Use the following checklist as a guide to inspect the vehicle and check daily for proper operation. Any problems should be corrected by a Bobcat dealer or a trained technician.

- **Forward/Reverse shifter:** Check for proper operation. See CONTROLS AND INDICATORS on page 3.
- **Brakes:** Be sure the brakes function properly. When brake pedal is fully pressed under moderate pressure, the vehicle should come to a smooth, straight stop. If the vehicle swerves or fails to stop, have the brake system checked and adjusted as required. When brake pedal is fully pressed under heavy pressure, pedal should feel firm and the back of the pedal should be a minimum of 1.25 inches (3.2 cm) from floorboard. Brake adjustment must be maintained so the brake pedal cannot be pressed to the floorboard under any circumstance.
- **Park brake:** When latched, the park brake should lock the wheels and hold the vehicle stationary (on an incline of 20% or less).
- **Reverse buzzer:** The reverse buzzer should sound as a warning when the Forward/Reverse handle is in the REVERSE position.
- **Steering:** The vehicle should be easy to steer and should not have any play in the steering wheel. Be sure the steering wheel adjustment lever is locked into position.
- **Accelerator:** After starting the engine with the key switch and placing the Forward/Reverse handle in the FORWARD position, the vehicle should accelerate smoothly to full speed as the accelerator pedal is pressed. When the pedal is released it should return to the original position and the engine should idle. Bobcat vehicles operate at reduced speed in reverse.
- **Governor:** Check maximum vehicle speed. It should operate in forward at 40 km/h (25 mph) on a level surface.
- **General:** Listen for any unusual noises such as squeaks or rattles. Check the vehicle's ride and performance. Have a Bobcat dealer or a trained technician investigate anything unusual.

WARNING

- Only licensed drivers should be allowed to drive the vehicle.
- Before allowing anyone to drive the vehicle, make sure the driver is familiar with all controls and operating procedures.
- No one under the age of 16 years should be allowed to drive the vehicle.
- No more than one person per bucket seat at one time, or two persons per bench seat.
- Do not allow riders in the cargo bed.
- For night use, the vehicle must be equipped with headlights, taillights, and reflectors.
- The vehicle is not specially equipped for handicapped persons:
 - Be sure all passengers are capable of securing themselves in a moving Bobcat vehicle before allowing them to ride in one.
 - Be sure all persons can properly operate the vehicle prior to allowing them to drive the vehicle.
- Stop the vehicle before shifting the Forward/Reverse handle. Engine must be at idle before shifting the Forward/Reverse handle. Failure to do so may result in injury to inattentive passengers and (or) damage to the vehicle.
- To help avoid being struck, do not stand in front of or behind the vehicle.
- Do not leave children unattended on vehicle.
- Children requiring a child safety seat must not ride on the vehicle. Comply with state and local laws pertaining to child safety.
- Operate the vehicle from the driver seat only.
- To help prevent falls from the vehicle, remain seated with safety belt fastened and hold on to hand holds at all times. Driver should keep both hands on the steering wheel when the vehicle is in motion.
- To help prevent the possibility of serious injury, keep entire body inside the vehicle.
- To help prevent overturning the vehicle, drive slowly in turns.
- To help prevent overturning the vehicle, drive slowly straight up and down slopes. Avoid driving the vehicle on slopes exceeding 20% incline.
- Avoid stopping a loaded vehicle on a hill. If a loaded vehicle must be stopped on a hill, avoid sudden starts or rolling backwards and stopping suddenly. Failure to heed this warning could result in overturning the vehicle.
- To help avoid possible injury to inattentive passengers and (or) damage to the vehicle, avoid sudden starts, sudden stops, and abrupt turns.
- To help avoid the possibility of losing control of or overturning the vehicle, reduce speed for adverse driving conditions such as wet grass or rough terrain.
- Do not use the vehicle on public roads. It is neither designed nor intended for street use and should not be licensed for use on public roads.
- The vehicle should be driven in only specified areas by trained drivers.
- Do not drive while under the influence of alcohol, drugs, or medications.
- Use brakes to reduce speed when coasting downhill.
- Never attempt jumps.
- Keep away from drop-offs, steep slopes, and unstable surfaces.
- Avoid extremely hard braking in reverse.

No one should drive the vehicle without first being instructed in the proper operation and use of vehicle controls. An experienced operator should accompany each first-time driver on a test drive before allowing the driver to operate the vehicle alone.

To ensure safe operation of the vehicle, follow exactly and in order, all of the following procedures. Read and understand all instructions prior to driving the vehicle.

DRIVING INSTRUCTIONS (CONT'D)

Starting The Vehicle

1. Read safety warnings on the instrument panel and vehicle loading information located above pedals.
2. Be sure load, if any, is secure.
3. Study and understand controls.
4. Be sure all passengers are seated with safety belt fastened and holding on to hand holds. Driver should have both hands on the steering wheel.
5. Make sure wheels are turned in desired direction and nothing is in your path.
6. Make sure the Forward/Reverse handle is in the NEUTRAL position.
7. Press and hold the brake pedal.
8. To start the vehicle:
 - 8.1. To preheat glow plugs in cold weather, turn the key to the PREHEAT position and hold for 10-15 seconds. Then turn the key all the way to the START position and hold until the engine starts. If the engine does not start after 10-15 seconds, return the key to the OFF position and repeat the procedure. Once the engine starts, release the key and it will return to the ON position. The engine will idle in neutral.
9. Release the park brake.
10. While keeping the brake pedal engaged, select direction of travel by placing shift handle in desired position [Figure 2, Page 5]. Engine must be at idle before moving shift handle. A buzzer will sound as a warning when the Forward/Reverse handle is in the REVERSE position.
11. Release the brake pedal completely, and then slowly press the accelerator pedal. As the accelerator pedal is pressed, the vehicle will begin to move, and speed will increase until full speed is reached. All-wheel drive will automatically drive appropriate wheel(s) as required. **See following WARNING.**

WARNING

- Operator must control vehicle speed when going downhill.
- Never shift the vehicle out of the FORWARD position while going downhill. If you do, you will not be able to shift into the REVERSE position or back into the FORWARD position until stopped.
- Press the brake pedal as necessary and press the accelerator pedal partially when descending a hill. With the accelerator pedal partially pressed, the governor will cause the engine to assist the brakes in controlling downhill speed.

All-Wheel Drive (AWD) Operation

The Bobcat 2200 vehicle features an all-wheel drive (AWD) system. The AWD system automatically directs power to the wheel, or wheels, that have the most traction, providing optimum traction at all times. For example, if all wheels except the rear passenger-side wheel lose traction, then power will be directed to the rear passenger-side wheel. The all-wheel drive vehicle can adapt traction for a wide variety of driving surfaces and conditions. **See following WARNING.**

WARNING

- When servicing the vehicle with part of the vehicle on jack stands, do not operate the engine with the Forward/Reverse handle in either the FORWARD or REVERSE position. The all-wheel drive system will engage any wheel(s), front or rear, with traction. See Figure 2 on page 8.

Under most circumstances the driver will not need to do anything to engage the AWD system; however, the front differential may become locked (rotate at the same speed regardless of the terrain) under certain conditions. If the front differential becomes locked, drive slowly in reverse for at least 3 meters, then brake gently. **See following WARNING.**

WARNING

- Reduced steering control can occur if the front differential becomes locked. To help prevent this condition, avoid extremely hard braking in reverse.

DRIVING INSTRUCTIONS (CONT'D)

Stopping The Vehicle

To stop the vehicle, release the accelerator pedal and press the brake pedal until the vehicle comes to a complete stop. **See following WARNING and CAUTION.**

WARNING

- **Driving through water may affect the brakes. After driving through water, check effectiveness of the brakes by gently pressing the brake pedal. If the vehicle does not slow down at the normal rate, continue to press the brake pedal until the brakes dry out and normal performance returns.**

CAUTION

- **When stopped on a hill, use the brake pedal to hold your position. Do not use the accelerator pedal to hold position.**

Parking And Leaving The Vehicle

1. After stopping the vehicle, firmly set park brake. Make sure it is fully engaged. This will prevent the vehicle from rolling.
2. Turn the key switch to the OFF position, remove the key, and place the Forward/Reverse handle in the NEUTRAL position.

BED LATCH AND PROP ROD

See GENERAL WARNINGS on page 7.

The bed latch [Figure 8] has an automatically engaging prop rod and prop rod track [Figure 9] as standard features. To lift the bed, pull the bed latch handle toward the rear of the vehicle and lift the bed. The prop rod will come to rest in one of the notches in the prop rod track. To close the bed, lift the bed so that the prop rod is no longer supported in one of the track notches. Push the prop rod toward the front of the vehicle to free it from the track notch and gently lower the bed. **DO NOT** drop the bed. **See following DANGER, WARNING, and NOTE.**

DANGER

Use caution when working under bed. Be sure prop rod is secure. Otherwise the bed will fall, resulting in severe personal injury or death.

Figure 8 Bed Latch

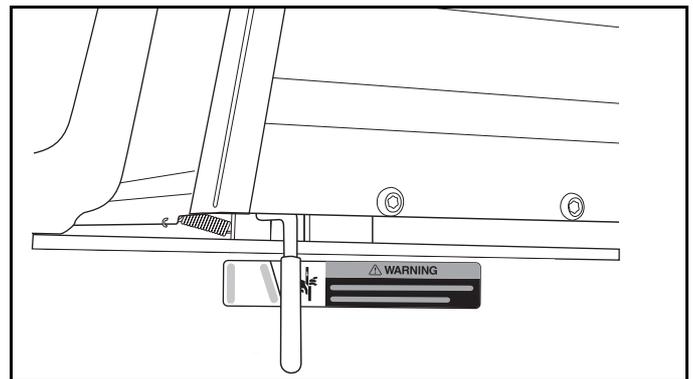
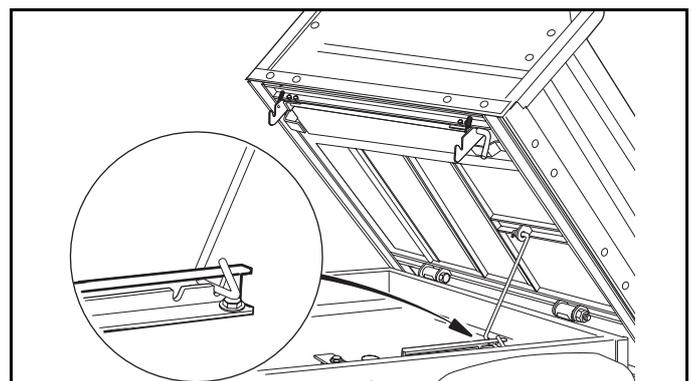


Figure 9 Prop Rod



WARNING

- For vehicles with cargo beds, remove all cargo before raising the bed or servicing the vehicle. If the vehicle is equipped with a prop rod, ensure that it is securely engaged. Do not close bed until all persons are clear of cargo bed area. Keep hands clear of all crush areas. Do not drop cargo bed; lower gently and keep entire body clear. Failure to heed this warning could result in severe personal injury or death.

NOTE: The Bobcat 2200 vehicle is equipped with an automatically engaging prop rod [Figure 9], unless equipped with the electric bed lift accessory.

The vehicle arrives from the factory with the front coil-over shock absorbers pre-adjusted for optimum vehicle performance. We do not recommend adjusting the shock absorbers unless the vehicle will be equipped with a cab enclosure or snow plow. In that event, please refer to the cab installation instructions for the shock absorber adjustment procedure.

LOADING AND UNLOADING

WARNING

- Firmly engage park brake before loading vehicle.
- Do not allow riders in the cargo bed.
- Reduce vehicle load and speed when driving up or down slopes or on uneven terrain.
- Do not exceed rated vehicle capacity. Rated capacity is for level surfaces only.
- Overloading can affect vehicle handling or cause component failure, resulting in loss of control of vehicle and possible severe personal injury or death.
- Do not load tailgate. The tailgate should be in the upright position and latched securely while the vehicle is in motion.
- To help avoid shifting vehicle load and possibly overturning the vehicle, avoid sudden starts, sudden stops and abrupt turns. Make sure cargo is well secured.
- Avoid top-heavy loads. The center of gravity of load should never exceed 38 cm above the bottom of the cargo bed.
- The cargo's center of gravity may affect handling, steering, and braking of the vehicle. When the vehicle is loaded, reduce speed and drive slowly in turns.
- Unload cargo bed before raising vehicle with a lift, hoist, or jack.
- Avoid stopping on a hill when loaded. If you must stop on a hill, avoid sudden starts, or rolling backwards and stopping suddenly. Failure to heed this warning may cause vehicle to overturn, possibly resulting in severe personal injury.
- Reduce speed and avoid sudden stops when backing up. Failure to do so may cause the vehicle to overturn or flip over backwards.
- Maximum cargo load must be reduced by the weight of optional equipment.

LOADING AND UNLOADING (CONT'D)

Center and secure cargo as far forward as possible in the cargo bed. Do not overload the vehicle. **See the following chart for vehicle capacities.**

	STANDARD VEHICLES	HIGH CAPACITY OPTION VEHICLES
Maximum payload capacity (cargo bed load plus gross trailer weight)	363 kg	476 kg
Maximum passenger capacity (operator and passenger)	181 kg	181 kg
Maximum gross vehicle weight limit (fully loaded vehicle, including accessories)	1247 kg	1366 kg
Trailer tongue weight	1667 N	667 N

Maximum payload capacity must be reduced accordingly when any option or accessory is installed on the vehicle. **See following NOTE.**

NOTE: A standard vehicle with a cab accessory weighing 107 kg must reduce its maximum payload capacity by 107 kg to 256 kg.

TOWING WITH THE VEHICLE

WARNING

- **Do not tow a vehicle or trailer on public streets or highways.**
- **Normal vehicle operating speed should be reduced when towing.**
- **Extreme caution should be used when towing.**
- **Do not allow riders in the vehicle or trailer being towed.**
- **Avoid sudden starts, sudden stops, and tight turns when towing.**
- **Avoid stopping on a hill when towing. If you must stop on a hill, avoid sudden starts, or rolling backwards and stopping suddenly. Failure to heed this warning may cause vehicle to overturn, possibly resulting in severe personal injury.**

Towing another Bobcat vehicle or a trailer can have adverse effects on vehicle handling. Be especially cautious when towing other equipment with a Bobcat vehicle. **See the preceding chart for vehicle capacities.**

Parking the vehicle with a trailer on a hill should be avoided. If you must park on a hill, apply brakes and have someone chock tires of trailer. Brakes should be released to allow chocks to absorb load of trailer. After tires have been chocked, engage park brake.

TRANSPORTING ON A TRAILER

WARNING

- Do not allow riders in the trailer being towed.
- Avoid sudden starts, sudden stops, and tight turns when towing.
- Avoid stopping on a hill when towing. If you must stop on a hill, avoid sudden starts, or rolling backwards and stopping suddenly. Failure to heed this warning could cause the vehicle to overturn, possibly resulting in severe personal injury.
- Reduce normal driving speed when transporting a vehicle on a trailer.
- For use on public roads, the trailer must meet all federal, state, and local requirements such as taillights, brake lights, etc.
- Never tow a Bobcat vehicle behind a passenger vehicle or truck on a public road unless it is on an approved trailer.
- The vehicle to be transported should be tied securely to the trailer, with the Forward/Reverse handle in the NEUTRAL position, the key switch in the OFF position, and the park brake firmly engaged.
- Because of the added length of the trailer, use caution when making turns.
- Do not transport the vehicle on a trailer with a load in the vehicle cargo bed.
- Remove the vehicle windshield and secure seats before transporting on a trailer.

If the vehicle must be transported over long distances or on public highways, it should be transported on an approved trailer that has an approved load rating of 908 kg per vehicle being transported.

NOTE: A two-car trailer should be rated at 2 x 908 kg = 1816 kg.

STORAGE

See **GENERAL WARNINGS** on page 7.

DANGER

- Do not attempt to drain fuel when the engine is hot or while it is running.
- Clean up any spilled fuel before operating the vehicle.
- Store fuel in an approved fuel container only. Store in a well-ventilated area away from sparks, open flames, heaters, or heat sources.
- Keep fuel out of the reach of children.
- Do not siphon fuel from the vehicle.

WARNING

- Turn the key switch to the OFF position, remove the key, and leave the Forward/Reverse handle in the NEUTRAL position during storage. This is to prevent unintentionally starting the vehicle or a fire hazard.
- Do not attempt to charge frozen batteries or batteries with bulged cases. Discard the battery. Frozen batteries can explode.

CAUTION

- Batteries in a low state of charge will freeze at low temperatures.
-

STORAGE (CONT'D)

Figure 10 Fuel Shut-off Valve – Closed Position

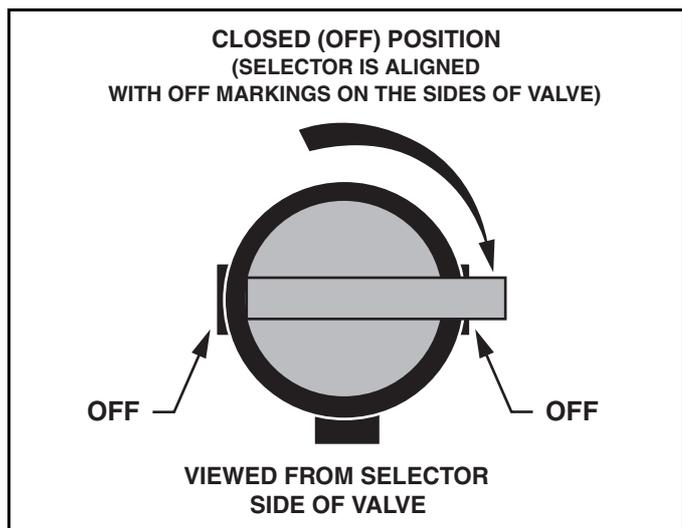


Figure 11 Fuel Shut-off Valve – Open Position

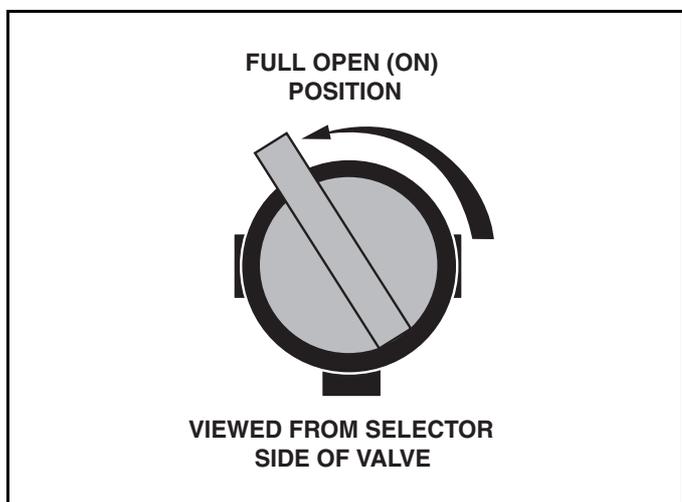
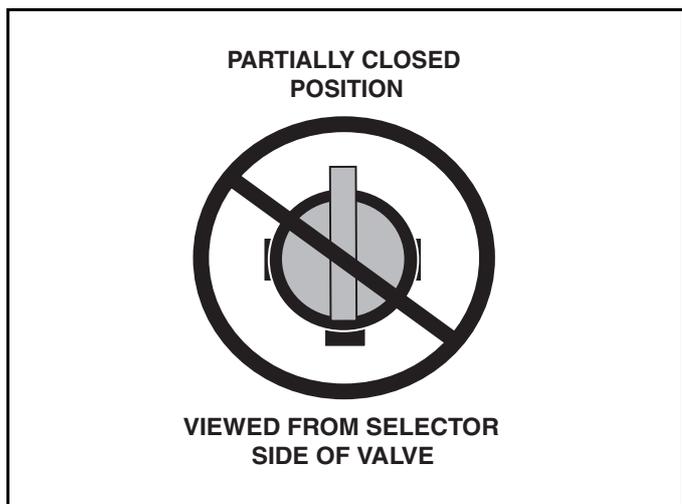


Figure 12 Fuel Valve – Partially Closed Position



Preparing the Vehicle for Extended Storage

1. Unload the vehicle so that the tires are supporting only the weight of the vehicle.
2. Store the vehicle in a cool, dry place. This will minimize battery self-discharge. If the battery appears to be weak, have it charged by a trained technician. Use an automotive-type 12-volt battery charger rated at 10 amps or less. Check electrolyte level after charging and add distilled water if necessary.
3. Make sure the key switch is in the OFF position and the Forward/Reverse handle is in the NEUTRAL position. Chock the wheels.
4. Remove both spark plugs and pour 14,2 mL of SAE 10 weight oil through each of the two spark plug holes. Rotate the engine crankshaft by hand several times, then install both spark plugs.
5. Prepare the fuel tank.
 - 5.1. Fill the fuel tank with fresh fuel.
 - 5.2. Disconnect the fuel vent line from the fuel tank vent nipple. **See Figure 26 on page 34.**
 - 5.3. Plug the fuel tank vent nipple so that it is air tight. Bobcat recommends using a slip-on vinyl cap.
6. Change engine oil. See Engine Oil and Filter Change on page 29.
7. Disconnect the battery cables, negative (-) cable first. **See WARNING "To avoid unintentionally starting..." on page 7.**
8. Batteries should be clean and free of corrosion. Wash tops and terminals of batteries with a solution of baking soda and water (237 mL baking soda per 3,8 L of water). Rinse solution off batteries. Do not allow this solution to enter the batteries. Be sure terminals are tight. Let the terminals dry and then coat them with Battery Terminal Protector Spray (1014305 CC).
9. Adjust the tires to the recommended tire pressure. See DIESEL VEHICLE SPECIFICATIONS on page 43.
10. Perform semiannual periodic lubrication. See PERIODIC LUBRICATION SCHEDULE on page 27.
11. Thoroughly clean the front body, rear body, seats, cargo bed, engine compartment, and underside of vehicle.
12. Do not engage the park brake. Chock the wheels to prevent the vehicle from rolling.

STORAGE (CONT'D)

Returning the Stored Vehicle to Service

1. Make sure the key switch is in the OFF position and the Forward/Reverse handle is in the NEUTRAL position. Chock the wheels.
2. Restore the fuel system to operation. **See Figure 26 on page 34.**
 - 2.1. Remove the plug from the fuel tank vent.
 - 2.2. Connect the vent tube to the fuel tank vent.
3. Connect the battery cables, positive (+) cable first, and tighten the terminals to 27,1 Nm. Coat terminals with Battery Terminal Protector Spray (1014305 CC).
4. Place the Forward/Reverse handle in the NEUTRAL position. Crank the engine until fuel is pumped into the fuel lines and the engine starts. Turn the engine off. **See following NOTE.**

NOTE: Due to the oil added to the engine in preparation for storage, the engine may smoke excessively for a short time when it is run for the first time after storage.

5. Perform the on page 11.



Bobcat[®]

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**PREVENTIVE
MAINTENANCE**



Bobcat®

MAINTENANCE

See GENERAL WARNINGS on page 7.

To ensure trouble-free vehicle performance, follow an established preventive maintenance program. Regular and consistent maintenance can prevent vehicle downtime and expensive repairs. Use the on page 11 and the following Periodic Service Schedule and Periodic Lubrication Schedule to keep the vehicle in proper working condition.

Any vehicle not functioning correctly should not be used until it is properly repaired. This will prevent further damage to the vehicle and avoid the possibility of injury due to unsafe conditions.

Contact your local Bobcat dealer for repairs and semiannual and annual periodic service.

- If wires are removed or replaced make sure wiring and wire harness are properly routed and secured. Failure to properly route and secure wiring could result in vehicle malfunction, property damage, personal injury, or death.
 - Lift only one end of the vehicle at a time. Use a suitable lifting device (chain hoist or hydraulic floor jack) with 454 kg minimum lifting capacity. Do not use lifting device to hold vehicle in raised position. Use approved jack stands of proper weight capacity to support the vehicle and chock the wheels that remain on the floor.
 - When servicing the vehicle with part of the vehicle on jack stands, do not operate the engine with the Forward/Reverse handle in either the FORWARD or REVERSE position. The all-wheel drive system will engage any wheel(s), front or rear, with traction. See Figure 2 on page 8.
-

WARNING

- Only trained technicians should service or repair the vehicle. Anyone doing even simple repairs or service should have knowledge and experience in electrical and mechanical repair. The appropriate instructions must be used when performing maintenance, service, or accessory installation.
- If any problems are found during scheduled inspection or service, do not operate vehicle until repairs are made. Failure to make necessary repairs could result in fire, property damage, severe personal injury, or death.
- Do not wear loose clothing or jewelry, such as rings, watches, chains, etc., when servicing vehicle.
- Turn key switch to the OFF position, remove the key, place the Forward/Reverse handle in the NEUTRAL position and chock the wheels prior to servicing.
- Moving parts: Do not attempt to service vehicle while engine is running.
- Hot! Do not attempt to service hot engine or exhaust system. Failure to heed this warning could result in severe burns.
- For vehicles with cargo beds, remove all cargo before raising the bed or servicing the vehicle. If the vehicle is equipped with a prop rod, ensure that it is securely engaged. Do not close bed until all persons are clear of cargo bed area. Keep hands clear of all crush areas. Do not drop cargo bed; lower gently and keep entire body clear. Failure to heed this warning could result in severe personal injury or death.
- Do not work on vehicle powertrain or under cargo bed when it is loaded.
- To help avoid unintentionally starting the vehicle:
 - Disconnect battery cables, negative (-) cable first [Figure 1, Page 6].

PERIODIC SERVICE SCHEDULE

See **GENERAL WARNINGS** on page 7.



WARNING

- Service, repairs, and adjustments must be made per instructions in the appropriate maintenance and service manual.

NOTE: If the vehicle is constantly subjected to heavy use or severe operating conditions, the preventive maintenance procedures should be performed more often than recommended in the Periodic Service and Lubrication Schedule.

Both the Periodic Service Schedule and the Periodic Lubrication Schedule must be followed to keep vehicle in optimum operating condition.

PERIODIC SERVICE SCHEDULE (CONT'D)

REGULAR INTERVAL	SERVICE	
Daily service by owner or trained technician	Engine	Check engine oil level; add if necessary. See Engine Oil Level Check on page 28.
		Check engine coolant; add if necessary. See Engine Coolant Level Check on page 33.
	Fuel filters	Drain water from fuel filter. See Draining Water from Fuel Filter on page 34.
	Brakes	Check brake fluid; add if necessary. Check brake pedal for proper operation. See Performance Inspection on page 11.
Monthly service by owner or trained technician	Engine	Check engine circulating air passage; visually inspect unshrouded area around engine exhaust for grass and debris and clean if necessary. Check for grass and debris around the radiator.
	Tires	Check air pressure and adjust if necessary. See DIESEL VEHICLE SPECIFICATIONS on page 43.
	Transmission and differentials	Check lubricant levels. Add if necessary. See Lubrication Level Check for Front Differential, Transmission, and Rear Differential on page 32.
	General vehicle	Wash engine compartment and underside of vehicle. Do not wash engine when hot.
Semiannual service by trained technician only (or every 50 hours of operation, whichever comes first)	Battery	Clean terminals and wash dirt from casing; check electrolyte level. Add distilled water if necessary. See page 31.
	Front wheel alignment and toe-in	Check and adjust if necessary. See Section 7 – Steering and Front Suspension in the maintenance and service manual.
	Electrical wiring and connections	Check for tightness and damage.
	Brake system	Inspect master cylinder, brake lines, and hoses for damage or leakage.
		Check park brake cables for damage; replace if necessary.
	Check brake pads and discs; replace if necessary. See Section 6 – Brake System in the maintenance and service manual.	
Annual service by trained technician only (or every 100 hours of operation, whichever comes first)	Engine	Check for leaks around gaskets, fill plugs, etc.
		Check the v-belt for proper tension or damage. Adjust or replace if necessary.
		Change engine coolant. See Section 15 – Radiator and Cooling System in the maintenance and service manual.
	Radiator	Check clamps for tightness; check hoses for cracks. Replace if necessary.
	Engine air intake system	Replace air filter element. See AIR INTAKE on page 33.
		Check clamps for tightness; check hose for cracks.
	General vehicle	Check for loose hardware and tighten if necessary.
	Fuel filters	Replace. Dispose of used filters properly.
1000 hours of operation	Brake system	Replace park brake cable.



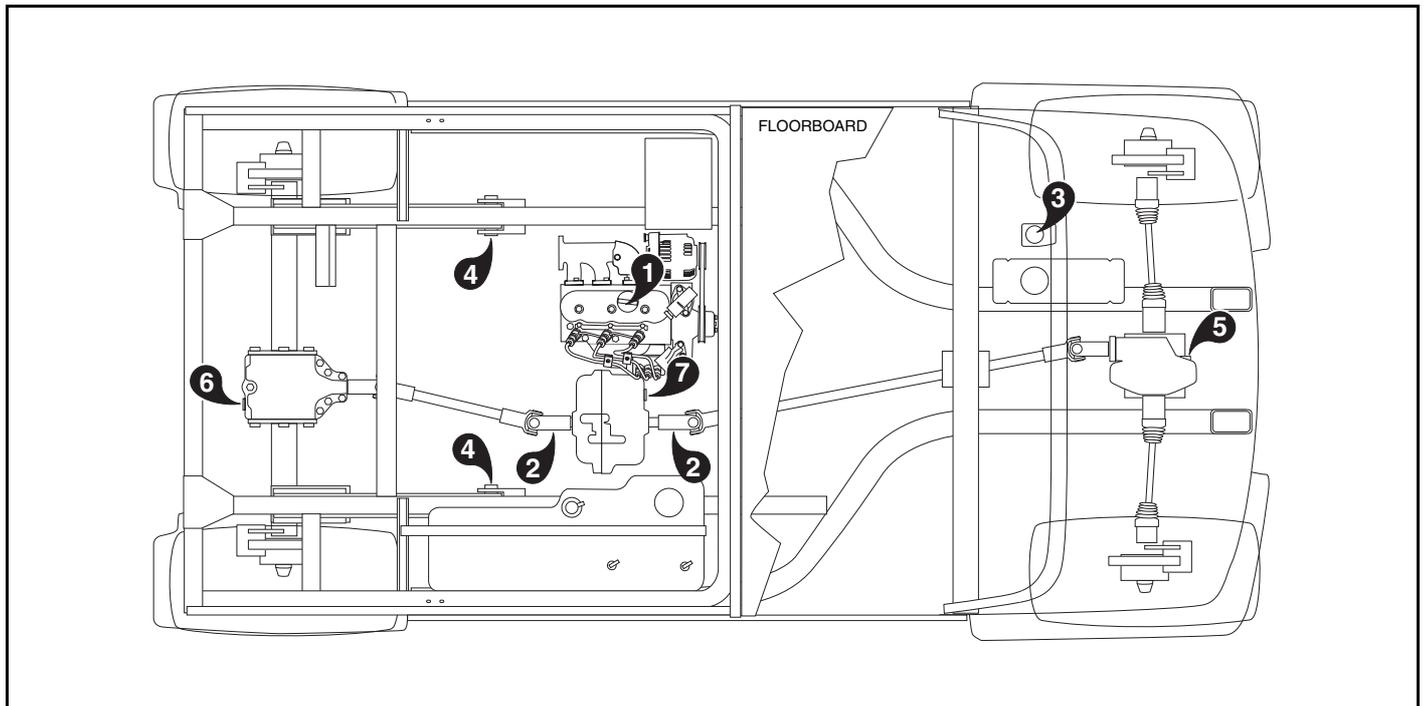
WARNING

- If any problems are found during scheduled inspection or service, do not operate the vehicle until repairs are made. Failure to make necessary repairs could result in fire, property damage, severe personal injury, or death.

PERIODIC LUBRICATION SCHEDULE

REGULAR INTERVAL	SERVICE	LUBRICATION POINTS	RECOMMENDED LUBRICANT
First change 50 hours – additional change for both every 100 hours of operation or annually, whichever comes first.	Change engine oil and oil filter	1	2,8 L with filter See Oil Viscosity on page 31.
Monthly by owner or trained technician	Driveshaft	2	Chassis Lube (EP NLGI Grade 2)
Semiannually by owner or trained technician (every 50 hours of operation)	Check/add brake fluid	3	Use only DOT 5 (silicone) brake fluid
	Rear suspension (2 fittings)	4	Chassis Lube (EP NLGI Grade 2)
First change 50 hours – additional change every 100 hours of operation or annually, whichever comes first	Change front differential lubricant	5	150 mL Bobcat Trans/Differential Fluid (P/N 6687120)
First change 50 hours – additional change every 300 hours of operation or annually, whichever comes first	Change rear differential lubricant	6	600 mL Bobcat Trans/Differential Fluid (P/N 6687120)
	Change transmission lubricant	7	600 mL Bobcat Trans/Differential Fluid (P/N 6687120)

Figure 13 Lubrication Points



BRAKE FLUID RESERVOIR

Figure 14 Brake Fluid and Coolant Access Door

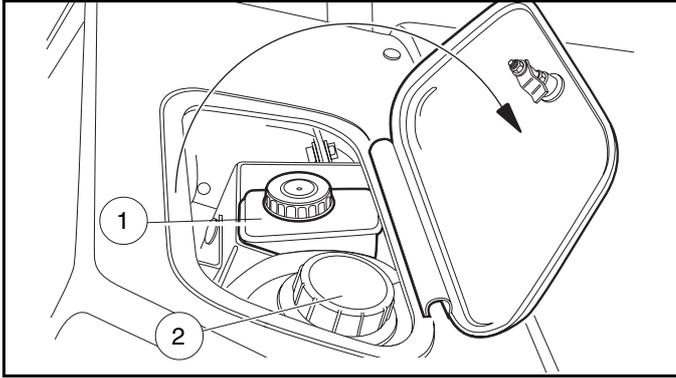
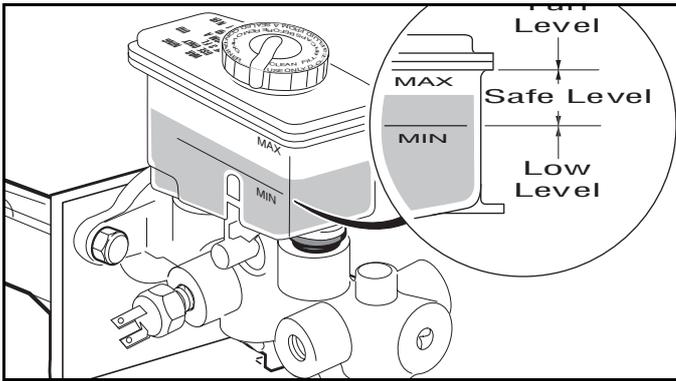


Figure 15 Brake Fluid Reservoir



The brake fluid reservoir (1) is located under the dashboard [Figure 14]. Raise the access panel located on top of the dashboard to check the brake fluid level.

When checking the brake fluid, also inspect the following:

- The presence of brake fluid on the exterior surface of the master cylinder indicates a leak.
- The brake fluid reservoir diaphragm (located in the cap) should not have holes or other damage.

Brake Fluid

Brake fluid level should be within 6 mm from the top of the reservoir [Figure 15]. Also, brake fluid should be clean with no residue in the bottom of the reservoir or other evidence of contamination.

! CAUTION

- Use only DOT 5 (silicone) brake fluid. Use of any other type brake fluid is not recommended.

ENGINE OIL

Even though the low oil warning light on the instrument panel should illuminate if the oil level becomes low, the engine oil level should be checked daily. The vehicle should be on a level surface when the oil is checked. Do not overfill with oil.

Engine Oil Level Check

1. Remove the oil level dipstick from the oil filler tube and wipe oil from the dipstick [Figure 16]. See following CAUTION.

! CAUTION

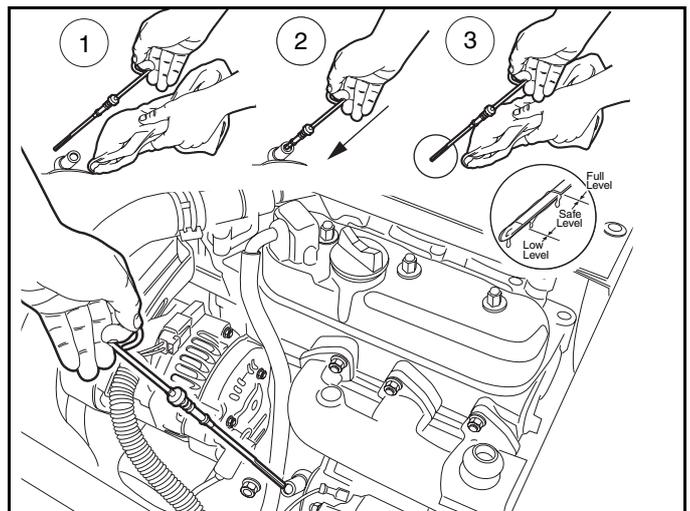
- Do not remove dipstick while engine is running.

2. Check oil level by fully inserting the dipstick into the tube and immediately removing it.
3. If the oil level is at or below the low level mark on the dipstick gauge, add oil until the level is between low and full levels (safe level).

CAUTION

- Do not fill oil above the full level mark. Doing so will result in decreased engine performance or damage to the engine.

Figure 16 Engine Oil Level Check



ENGINE OIL (CONT'D)

Engine Oil and Filter Change

Engine oil and oil filter should be changed after the first 50 hours of operation. After that, they should be changed every 100 hours of operation or annually, whichever comes first.

Engine Oil Draining

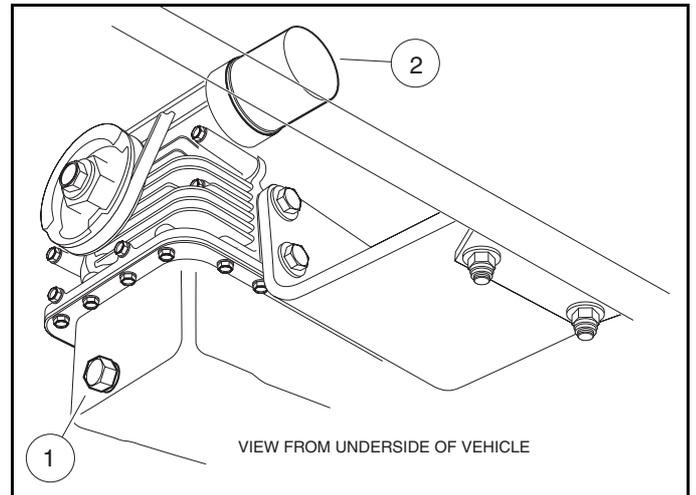
1. Turn the key switch to the OFF position and remove the key. Place the Forward/Reverse handle in the NEUTRAL position. Chock the front wheels.
2. Disconnect the battery cables, negative (-) cable first. **See WARNING "To avoid unintentionally starting..." on page 3.**
3. Remove the oil filler cap to allow the oil to drain properly.
4. Position a pan designed for oil changes under the drain plug (**Figure 17**).
5. From the underside of the vehicle, use a socket- or box-end (do not use an open-end) wrench to remove the drain plug (1). Turn the plug counterclockwise and drain the engine oil into the pan. **See following WARNING.**

WARNING

- Do not attempt to change engine oil when the engine is hot or even warm. Hot engine oil can cause skin burns.
- Wear safety glasses or approved eye protection when servicing the vehicle. Wear rubber gloves when handling oil drain plug, oil filter, and oil drain pan.

6. Clean the oil drain plug threads with solvent to remove oil and oil residue. Make sure that the compression washer remains on the drain plug. Inspect the compression washer and replace if necessary.
7. Use a socket- or box-end (do not use an open-end) wrench to replace the oil drain plug. Turn the plug clockwise and tighten to 42 Nm.

Figure 17 Engine Oil Drain Plug and Oil Filter



Engine Oil Filter Change

1. Drain the engine oil. See Engine Oil Draining on page 29.
2. Place the oil drain pan under the engine oil filter (2) [**Figure 17**].
3. Remove the engine oil filter. Turn it counterclockwise and drain the residual oil in the filter port and filter into the oil drain pan. **See following NOTE.**

NOTE: An oil drip guard can be used to prevent excess oil from dripping onto the engine base plate. Use an empty quart (liter) container and cut the bottom off at an angle, then slide the open area of the container up and under the oil filter before removal. Position the port of the plastic container so oil will be directed into the oil pan [**Figure 18**]. A drip guard can be made by folding a piece of cardboard, thin metal, or plastic under the oil filter, forming a channel to direct the filter port oil into the drain pan.

Dispose of used oil according to the environmental laws and regulations for your area.

ENGINE OIL (CONT'D)

Engine Oil and Filter Change (Cont'd)

Figure 18 Remove Engine Oil Filter

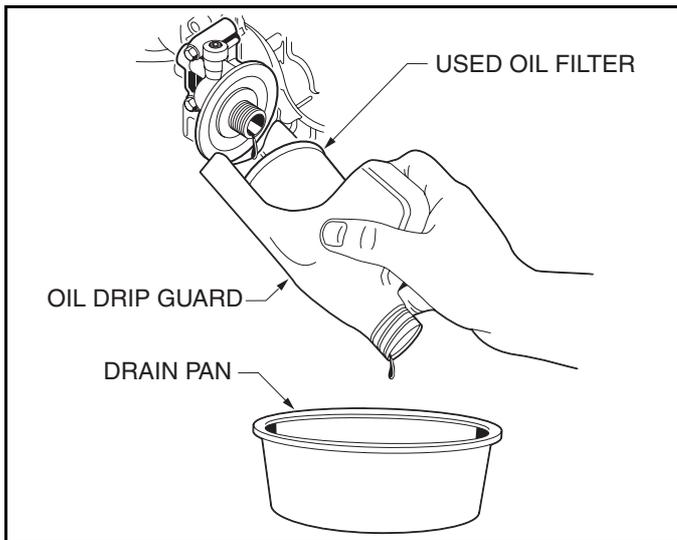


Figure 19 Coat Rubber Seal

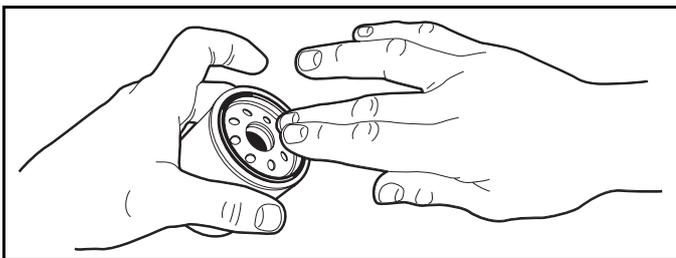
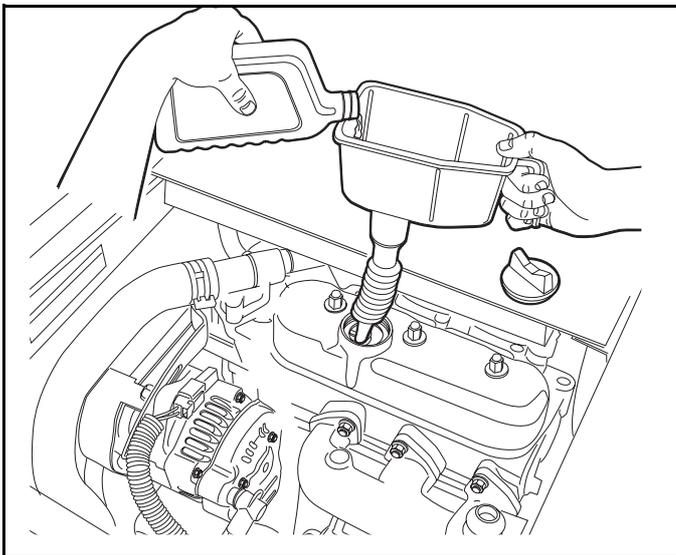


Figure 20 Add Engine Oil



4. Use a clean, lint-free rag to wipe the oil filter port flange surface clean where the oil filter gasket seats.
5. To help seal the new oil filter to the oil port flange, apply a light coat of white lithium NLGI Number 2 grease (Dow Corning® BR2-Plus or equivalent) or new engine oil to the rubber seal around the outside surface of the filter before attaching it to the oil filter port **[Figure 19]**. Install the new oil filter (gas: 102443401 CC, diesel: 102628401 CC) onto the engine oil filter port. **See following NOTE.**

NOTE: Use only Bobcat oil filters designed for your engine.

6. Tighten the oil filter by hand 2/3 turn after gasket contact. Do not use a band wrench or channel lock pliers.

Engine Oil Filling

1. Add engine oil; use a funnel or pour spout to direct the oil into the opening **[Figure 20]**. With filter change, the engine requires 2,8 L. Refer to oil viscosity guidelines for selection of oil grade **[Figure 21]**. **See following CAUTION.**

CAUTION

- **Do not exceed recommended oil capacity. Doing so will decrease engine performance or result in damage to the engine.**

2. Connect the battery cables, positive (+) cable first, and tighten terminals to 27,1 Nm. Coat terminals with Battery Terminal Protector Spray (1014305 CC).
3. With the Forward/Reverse handle in the NEUTRAL position, start and run the engine for a few minutes. Observe both the drain plug and the oil filter from under the vehicle and watch for oil leaks. If a leak is detected, check the tightness of the oil filter and drain plug. Tighten, repair, and/or replace components as necessary.

NOTE: Wait five minutes after turning off the engine before removing the dipstick.

4. Remove the dipstick and check the engine oil as a final step. Replace the dipstick.

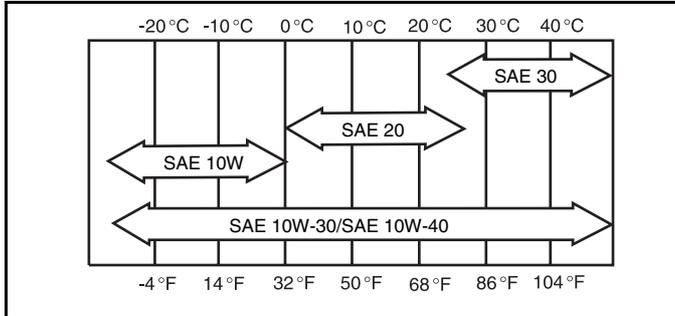
ENGINE OIL (CONT'D)

Oil Viscosity

Choose the viscosity according to the temperature as shown in the appropriate oil viscosity chart [Figure 21]. See following NOTE.

NOTE: Use engine oil with API classification CF

Figure 21 Oil Viscosity Chart



Using multi-grade oils (5W-20, 10W-30, and 10W-40) will increase oil consumption. If multi-grade oil is used, check the oil level more frequently.

GEARCASE LUBRICATION

NOTE: Dispose of used oil according to the environmental laws and regulations for your area.

Lubrication Level Check for Front Differential, Transmission, and Rear Differential

Each gearcase component is equipped with two oil port plugs (1 and 2) [Figure 22, Figure 23, or Figure 24]. When the vehicle is on a level surface, use the level indicator hole (upper plug) (1) as a lubricant level indicator. Lubricant level should be even with the bottom of level indicator hole (1).

Lubrication Change for Front Differential, Transmission, and Rear Differential

Use the lower plug (2) for drainage [Figure 22, Figure 23, or Figure 24]. Remove both plugs to allow the lubricant to drain faster. See preceding NOTE.

Front differential:

Clean and install the drain plug (2) and washer before filling the front differential with new lubricant [Figure 22]. Tighten the drain plug to 12 Nm. Use a funnel when filling the gearcase through the lubricant level indicator hole (1). See PERIODIC LUBRICATION SCHEDULE on page 27. Tighten the level indicator plug to 14 Nm.

Transmission:

Clean and install the drain plug (2) before filling the transmission with new lubricant [Figure 23]. Tighten the drain plug to 11 Nm. Remove the fill plug on the top of the transmission case and use a funnel when filling with lubricant. See PERIODIC LUBRICATION SCHEDULE on page 27. Apply Loctite 567 to the threads of the fill plug and tighten to 28 Nm.

Check the level of lubricant at the level indicator plug (1). Apply Loctite 567 to the threads of the level indicator plug and tighten to 28 Nm.

Figure 22 Front Differential Lubrication Level

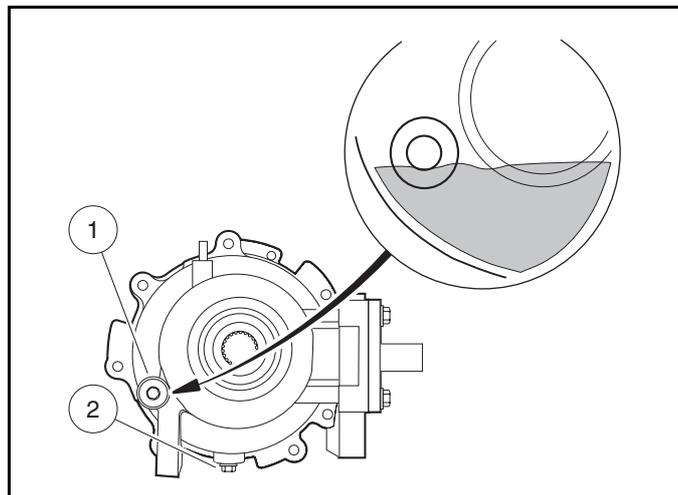
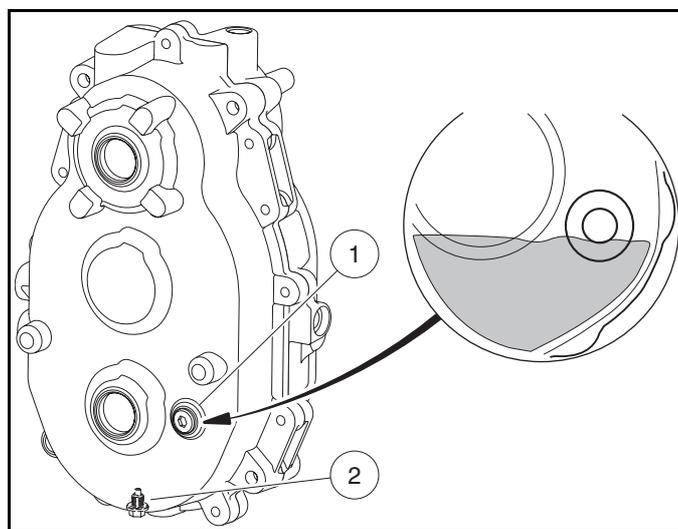
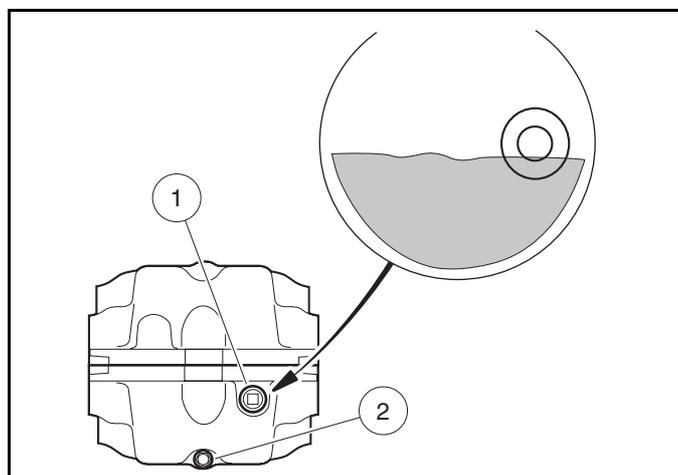


Figure 23 Transmission Lubrication Level



Clean and install the drain plug (2) and washer before filling the rear differential with new lubricant [Figure 24]. Tighten the drain plug to 10,8 Nm. Use a funnel when filling the differential through the lubricant level indicator hole (1). See PERIODIC LUBRICATION SCHEDULE on page 27. Apply Loctite 567 to the threads of the level indicator plug and tighten to 28 Nm.

Figure 24 Rear Differential Lubrication Level



ENGINE COOLANT

Engine Coolant Level Check

The coolant reserve tank is located under the dashboard next to the brake fluid reservoir [Figure 14]. Raise the access panel located on top of the dashboard to check the coolant level before every operation.

1. Check the coolant level of the reserve tank (2). If the coolant is at or below the LOW mark, add water until level reaches the FULL mark. If a leak is detected, have it checked by a trained technician. **See following WARNING.**

WARNING

- **Hot! Coolant reserve tank is pressurized. Do not remove cap when engine is hot.**

AIR INTAKE

CAUTION

- **Do not drill into the driver-side frame. Failure to heed this caution could damage the engine by allowing excessive contamination to enter the air intake system.**

Air Filter Replacement

The air filter should be inspected periodically and replaced when necessary. Filter changes should not exceed the recommended interval. **See PERIODIC SERVICE SCHEDULE on page 24.** More frequent service may be required in extremely dirty operating environments. In the event of a loss of power, sluggish acceleration, or a roughly running engine, service the air filter immediately.

Air Filter Removal

1. Release both canister tab lock [Figure 25].
2. Pull the canister cap away from the canister.
3. Remove the air filter cartridge. **See following NOTE.**

NOTE: The air filter cartridge is specifically designed for this engine. It only fits into the canister one way. Use only the Bobcat part (102498601 CC) designed for this engine.

Figure 25 Air Filter Cartridge



Air Filter Installation

1. Push the new air filter cartridge onto the inside canister nozzle.
2. Place the canister cap, marked TOP, on the top center of the canister.
3. Secure the canister cap with both tab locks.

FUELING INSTRUCTIONS

See **GENERAL WARNINGS** on page 7.

! DANGER

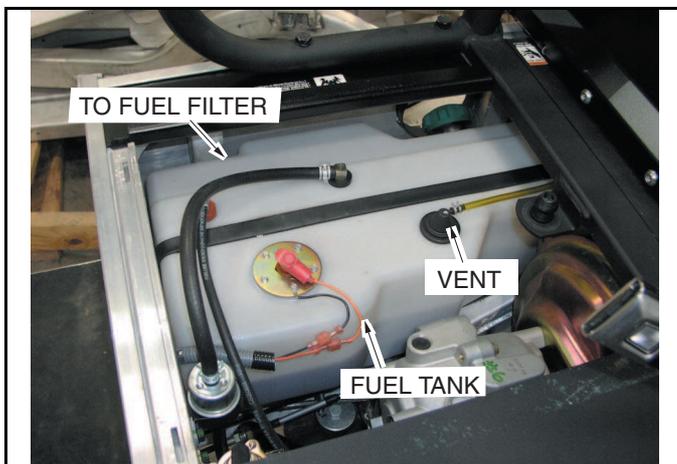
- Turn key switch to the OFF position before fueling.
- Never pour fuel into the fuel tank when the engine is hot or while it is running.
- To avoid electric arc caused by static electricity, the fuel storage/pumping device must be grounded. If the pump is not grounded, the vehicle must be grounded to the pump before and during the fueling operation.
- To avoid the possibility of fire, clean up any spilled fuel before operating the vehicle.

1. Remove the fuel cap and fill the tank with fuel diesel vehicles have a green fuel cap. See preceding **DANGER** and following **NOTE**.

NOTE: Use only diesel fuel grade no. 2 with a cetane rating of 45 or higher.

2. Replace the fuel cap. Ensure that the cap is tightened securely.
3. Clean any spilled fuel from the cap or around the fuel cap area.

Figure 26 Fuel Tank



Draining Water from Fuel Filter

Water should be drained from the fuel filter daily. The fuel filter is mounted on a plate by the lower seat support panel [Figure 27].

1. Position a pan under the fuel filter.
2. Lift the passenger-side seat.
3. Locate the valve (1) on the underside of the filter. Turn the valve clockwise until water begins to stream from the filter.
4. Drain the water until it changes color (to fuel). See following **WARNING**.

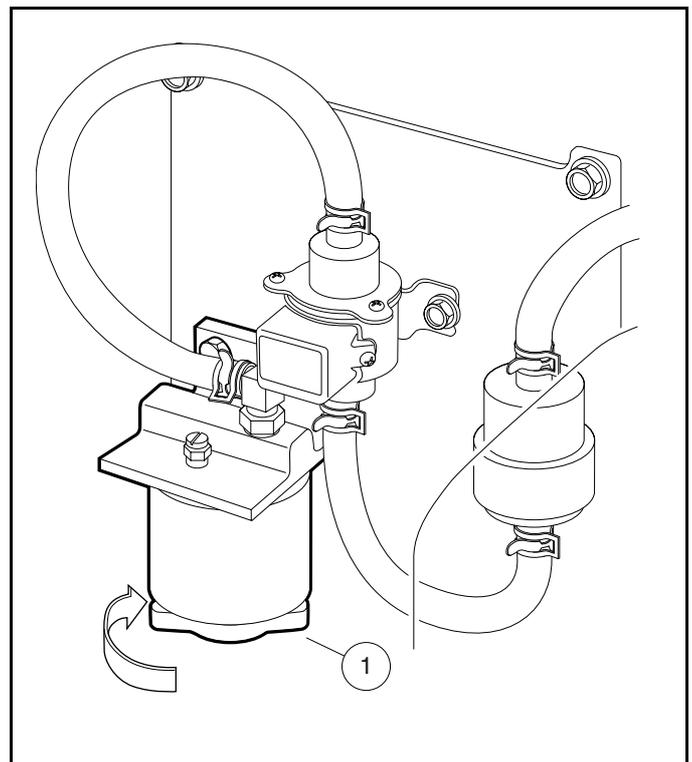
! WARNING

- Clean up spilled fuel. Keep sparks and flames away from the vehicle and service area. Failure to heed this warning could result in an explosion or fire, resulting in severe personal injury or death.

5. Close the valve by rotating it counterclockwise until the valve is firmly sealed.
6. To resupply the filter with fuel, turn the key switch to the ON position for 10 seconds. See following **NOTE**.

NOTE: Dispose of water according to the environmental laws and regulations for your area.

Figure 27 Fuel Filter



BATTERY

See **GENERAL WARNINGS** on page 7.

! DANGER

- **Battery – Explosive gases! Do not smoke. Keep sparks and flames away from the vehicle and service area. Ventilate when charging or operating vehicle in an enclosed area. Wear a full face shield and rubber gloves when working on or near batteries.**
- **Tools, wires, and metal objects can cause sparks when shorted across a battery.**
- **Follow all instructions carefully when working with batteries.**
- **Charge battery in a well-ventilated area only.**
- **Battery – Poison! Contains acid! Causes severe burns. Avoid contact with skin, eyes, or clothing.**
Antidotes:
 - **External: Flush with water. Call a physician immediately.**
 - **Internal: Drink large quantities of milk or water followed with milk of magnesia or vegetable oil. Call a physician immediately.**
 - **Eyes: Flush with water for 15 minutes. Call a physician immediately.**

! WARNING

- **Do not jump-start a dead battery using another battery and jumper cables.**

The battery in a Bobcat vehicle is a 12-volt, low-maintenance battery that requires infrequent checks [Figure 28]. Electrolyte level should be checked semiannually.

Figure 28 Battery

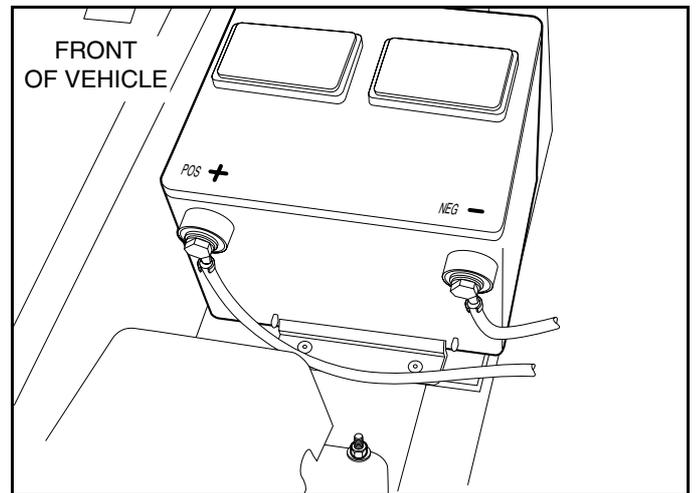
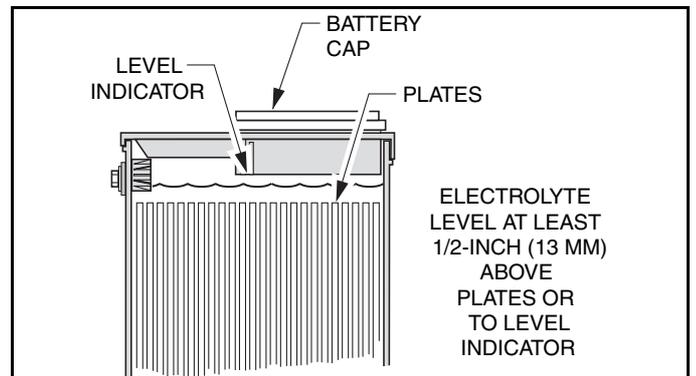


Figure 29 Battery Electrolyte Level



1. Turn the key switch to the OFF position and remove the key. Place the Forward/Reverse handle in the NEUTRAL position. Check the wheels.
2. Access the engine compartment. **See WARNING “For vehicles with cargo beds...” on page 7.**
 - 2.1. Remove the driver-side seat.
3. Disconnect the battery cables, negative (–) cable first. **See WARNING “To avoid unintentionally starting...” on page 7.**
4. Use a flat-blade screwdriver, and carefully remove the battery cell caps from the battery. **See following WARNING.**

BATTERY (CONT'D)



WARNING

Wear safety glasses or approved eye protection when servicing the vehicle. Wear a full face shield and rubber gloves when working on or near batteries.

5. Carefully check the electrolyte level and add distilled water if necessary. Do not fill above designated fill line. Replace battery cell caps.
6. Clean both battery terminals with a solution of baking soda and water (237 mL baking soda per 3,8 L of water). Rinse thoroughly. Do not allow this solution to enter the battery. Tighten battery terminals to 27,1 Nm. Let the terminals dry and then spray them with Battery Terminal Protector Spray (1014305 CC). **See following CAUTION.**



CAUTION

If battery wire terminals are damaged or corroded, replace or clean them as necessary. Failure to do so may cause them to overheat during operation.

Be sure battery hold-down clamp is properly tightened. Tighten to 12,2 Nm. A loose clamp may allow the battery to become damaged from vibration or jarring.

If battery appears weak, have it charged by a trained technician. The battery should never be left discharged any longer than absolutely necessary (do not leave discharged overnight).

CLEANING THE VEHICLE

Each vehicle is equipped with an ABS/DR acrylic front body and an all-aluminum rear body. The vehicle has a powder-coated steel cargo bed. Use a commercial automotive cleaning solutions with a sponge or soft cloth for normal cleaning. A garden hose at normal residential water pressure is adequate. To remove oxidation or discoloration from aluminum, use a commercially available aluminum cleaner paste and fine grade (No. 00) steel wool.

Bobcat does not recommend any type of pressure washing or steam cleaning. Such a process will expose electrical components to moisture. Moisture entering electrical components can result in water damage and subsequent component failure.

Use non-abrasive wax products. Battery acid, fertilizers, tars, asphalt, creosote, paint, or chewing gum should be removed immediately to prevent possible stains.

The front body is made of an ABS/DR acrylic cap material similar to the material used to manufacture hot tubs and shower/tub units. Cleaning and repair techniques for the front body are the same as those used on conventional acrylic sheet. Use cleaning and polishing products available at any hardware store where ABS/DR acrylic (hot tubs and shower/tub units) are sold.

The seats of the vehicle will last longer with proper cleaning. Use a solution of 10% liquid soap and warm water applied with a soft cloth. For imbedded dirt, a soft bristle brush may be used. For heavy soiling, difficult stains, or scratches, blemishes, or other body damage, see the appropriate maintenance and service manual. **See following NOTE.**

NOTE: Dispose of waste water properly.

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ACCESSORIES



Bobcat®

ACCESSORIES

There is a complete line of accessory equipment available from Bobcat and our dealers. You can obtain the name and phone number of your closest Bobcat contact by visiting our web site at www.bobcat.com and clicking the "Dealer Locator" link.

Care should be taken that these accessories are properly installed by trained technicians, and that they are used in the manner for which they were designed. **See following WARNING and CAUTION.**

WARNING

- Custom cab assemblies, canopy tops, weatherproof enclosures, and windshields will not protect occupants from flying objects.
- If the vehicle is equipped with an electric-powered bed lift, remove the bed before servicing the bed lift system.

CAUTION

- Do not drill into the driver-side frame. Failure to heed this caution could damage the engine by allowing excessive contamination to enter the air intake system.

Electric Winch Accessory

If your vehicle is equipped with an electric winch, read and follow all manufacturer safety warnings and instructions in the winch operator manual, as well as the following WARNING and CAUTION statements. Make sure a winch warning decal is affixed to the vehicle on the seat support panel next to the receptacle for the remote operation switch. **See Safety Decal Identification beginning on page 6.**

The winch kit available from Bobcat includes a remote operation switch, which enables the operator to move away from the vehicle and cable. **See following WARNING and CAUTION.**

WARNING

- Before beginning a winch operation:
 - Turn key switch to the OFF position, put Forward/Reverse handle in the NEUTRAL position, and engage the park brake.
 - Do not use winch while persons are seated on the vehicle.
- Stand to the side and away from the vehicle to operate winch.

CAUTION

- Use of the winch for an extended period of time could discharge the battery. Keep winch operations as short as possible, and drive the vehicle for several minutes after the winch operation to recharge the battery.

ACCESSORIES (CONT'D)

Mud Tire Option

All-wheel drive (AWD) vehicles equipped with optional mud tires are intended only for off-road operation; they are not designed for use on paved surfaces such as asphalt and concrete. Frequent driving on paved surfaces will significantly decrease the life of the mud tires. Vehicle performance will also be reduced when driving on paved surfaces. **See following WARNING.**



WARNING

- **To avoid the risk of rollover when operating a vehicle equipped with mud tires on a paved surface: reduce speed, use extreme caution, and drive slowly in turns.**

Bobcat tires are made specifically for the AWD vehicle; therefore, Bobcat recommends that only tires purchased from Bobcat be used on your AWD vehicle.

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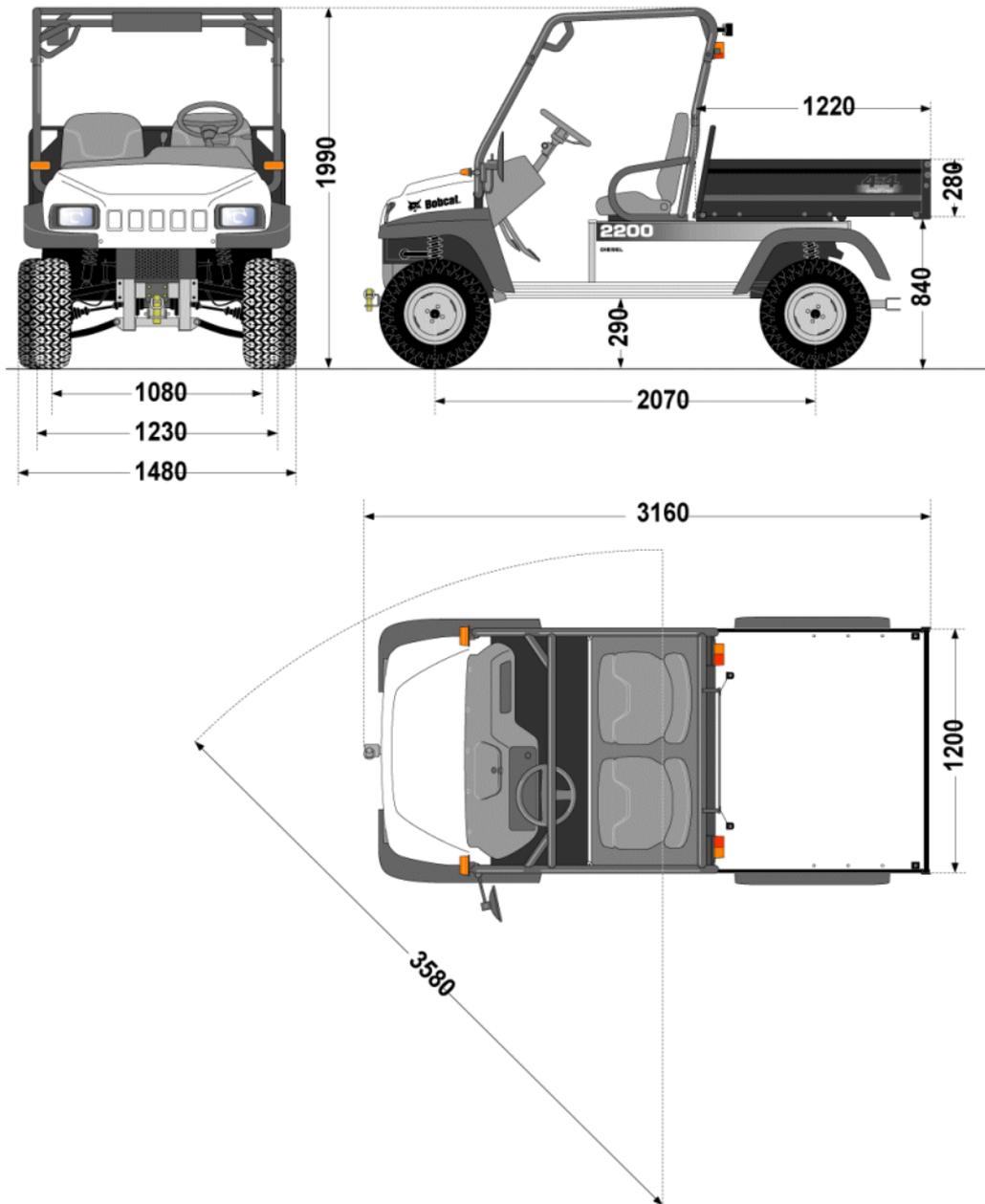
SPECIFICATIONS



Bobcat®

DIESEL VEHICLE SPECIFICATIONS

- Dimensions are given for loader equipped with standard dirt bucket and may vary with other bucket types. All dimensions are shown in millimeters.
- Where applicable, specifications conform to SAE or ISO standards and are subject to change without notice.



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.

DIESEL VEHICLE SPECIFICATIONS (CONT'D)

Machine Rating

Ground pressure with all terrain tyres	1,38–1,52 bar
Maximum bed load	476 kg

Weights

Operating weight	835 kg
Shipping weight	745 kg

Controls

Engine speed	Foot pedal
Starting	Key-type starter switch and shutdown. Glow plugs, automatically activated.
Cargo box	Electrical switch on dashboard
Service brake	Four-wheel hydraulic disc brake system controlled by foot pedal.
Parking brake	Dual rear mechanical disc brake operated by either foot pedal (to engage) or release handle (to disengage)
Vehicle steering	Self adjusting rack and pinion, tilt adjustable steering wheel
Travel speed	Foot pedal. Forward/reverse travel direction is selected by a transmission lever on the dashboard.

Engine

Make/Model	Kubota D722
Fuel	Diesel
Cooling	Liquid
Power (EEC 97/68/EC)	14,9 kW
Maximum governed speed	3800 RPM
Maximum torque at 2600 RPM (EEC 97/68/EC)	46,2 Nm
Number of cylinders	3
Displacement	0,7 l
Bore	67 mm
Stroke	68 mm
Lubrication	Pressure system
Crankcase ventilation	Closed breathing
Air filter	Dry replaceable cartridge with separate safety element
Ignition	Diesel-compression
Starting aid	Glow plugs

DIESEL VEHICLE SPECIFICATIONS (CONT'D)

Electrical

Alternator	12 V, belt driven with internal regulator
Battery	12 V, 105 minutes reserve capacity, 35 A charging capacity
Starter	12 V

Drive System

Transmission	Torque converter with 6:1 ratio
Differentials	Front and rear differential with IntelliTrak® automatic lock system
Wheel bolts	Four 1/2–20 UNF 2A bolts on 4-inch circle

Traction

Standard tyres, front	All-terrain 23 x 8-12, tubeless, 4-ply rating
Standard tyres, rear	All-terrain 23 x 10.5-12, tubeless, 4-ply rating
Max. travel speed – forward	40 km/h
Max. travel speed – reverse	24,4 km/h
Front suspension	Independent double A-arm with coil over shock absorbers
Rear suspension	Swing arm with coil over shock absorbers

Instrumentation

The following functions are monitored by a combination of gauges and warning lights in the operator's line of sight. The system alerts the operator of monitored malfunctions by way of visual warning lights.

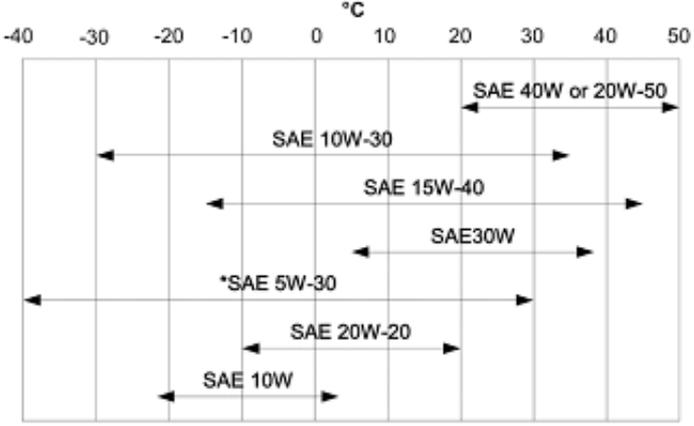
- Gauges
 - Fuel
- LCD display
 - Hourmeter
- Buttons
 - Electric box lift
 - Lights (three-way rocker switch)
- Warning lights (red)
 - Fuel level
 - Low engine oil pressure
 - High coolant temperature
- Indicators (green)
 - Turn signal indicator
 - Trailer turn signal indicator

DIESEL VEHICLE SPECIFICATIONS (CONT'D)

Fluid Capacities

Cooling system capacity	7,8 l
Engine oil with filter capacity	2,8 l
Fuel tank capacity	24,6 l
Brake system capacity	0,25 l
Front differential capacity	0,15 l
Rear differential capacity	0,6 l
Transmission capacity	0,6 l

Fluid Specifications

Engine coolant	Polypropylene glycol/water mix (55% – 45%) with freeze protection to -37°C
Engine oil	<p>Oil must meet API Service Classification of CF or better. Recommended SAE viscosity number for anticipated temperature range.</p>  <p>The chart shows the following temperature ranges for SAE oil grades:</p> <ul style="list-style-type: none"> SAE 10W-30: -30°C to 30°C SAE 15W-40: -20°C to 40°C SAE 30W: 0°C to 40°C *SAE 5W-30: -30°C to 30°C SAE 20W-20: -10°C to 20°C SAE 10W: -30°C to 10°C SAE 40W or 20W-50: 20°C to 50°C
Brake fluid	Silicone brake fluid (DOT 5)
Transmission and differentials	Bobcat fluid P/N 6687120

Environmental

Noise level L_{pA} (EU Directive 2000/14/EC)	85,6 dB(A)
Noise level L_{WA} (EU Directive 2000/14/EC)	79,9 dB(A)
Whole body vibration (ISO 2631-1)	1,06–1,20 m/s^2

WARRANTY

UTILITY VEHICLE

INGERSOLL RAND INTERNATIONAL (IRI) WARRANTS TO ITS AUTHORISED DEALERS, WHO IN TURN WARRANT TO THE END-USER / OWNER, THAT EACH NEW BOBCAT UTILITY VEHICLE WILL BE FREE FROM PROVEN DEFECTS IN MATERIAL AND WORKMANSHIP FOR TWELVE (12) MONTHS FROM THE DATE OF DELIVERY TO THE END-USER / OWNER OR 1000 HOURS OF MACHINE USAGE, WHICHEVER OCCURS FIRST. INGERSOLL RAND INTERNATIONAL (IRI) ALSO WARRANTS ITS AUTHORISED DEALERS THAT THE ENGINE, MOTOR AND MAIN FRAME ASSEMBLY ARE FREE FROM PROVEN DEFECTS IN MATERIAL AND WORKMANSHIP FOR TWENTY FOUR (24) MONTHS FROM THE DATE OF DELIVERY TO THE END CUSTOMER OR 2000 HOURS OF MACHINE USAGE, WHICHEVER OCCURS FIRST.

DURING THE WARRANTY PERIOD, THE AUTHORISED BOBCAT DEALER SHALL REPAIR OR REPLACE, AT IRI'S OPTION, WITHOUT CHARGE FOR PARTS, LABOUR AND TRAVEL TIME OF MECHANICS, ANY PART OF THE BOBCAT PRODUCT WHICH FAILS BECAUSE OF DEFECTS IN MATERIAL OR WORKMANSHIP. THE END-USER / OWNER SHALL PROVIDE THE AUTHORISED BOBCAT DEALER WITH PROMPT WRITTEN NOTICE OF THE DEFECT AND ALLOW REASONABLE TIME FOR REPAIR OR REPLACEMENT. INGERSOLL RAND INTERNATIONAL (IRI) MAY, AT ITS OPTION, REQUIRE FAILED PARTS TO BE RETURNED TO THE FACTORY. TRANSPORTATION OF THE BOBCAT PRODUCT TO THE AUTHORISED BOBCAT DEALER FOR WARRANTY WORK IS THE RESPONSIBILITY OF THE OWNER. THE REMEDIES PROVIDED IN THIS WARRANTY ARE EXCLUSIVE.

THE WARRANTY DOES NOT APPLY TO TYRES OR OTHER TRADE ACCESSORIES NOT MANUFACTURED BY INGERSOLL RAND. THE END-USER / 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 INGERSOLL RAND, AIR FLOW OBSTRUCTIONS, OR FAILURE TO MAINTAIN OR USE THE BOBCAT PRODUCT ACCORDING TO THE INSTRUCTIONS APPLICABLE TO IT.

IRI EXCLUDES OTHER CONDITIONS, WARRANTIES OR REPRESENTATIONS OF ALL KINDS, EXPRESSED OR IMPLIED, STATUTORY OR OTHERWISE (EXCEPT THAT OF TITLE) INCLUDING ALL IMPLIED WARRANTIES AND CONDITIONS RELATING TO MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE.

CORRECTIONS BY IRI OF NONCONFORMITIES WHETHER PATENT OR LATENT, IN THE MANNER AND FOR THE TIME PERIOD PROVIDED ABOVE, SHALL CONSTITUTE FULFILMENT OF ALL LIABILITIES OF IRI FOR SUCH NONCONFORMITIES, WHETHER BASED ON CONTRACT, WARRANTY, TORT, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHERWISE WITH RESPECT TO OR ARISING OUT OF SUCH PRODUCT.

THE REMEDIES OF THE END-USER / OWNER SET FORTH UNDER THE PROVISIONS OF THE WARRANTY OUTLINED ABOVE ARE EXCLUSIVE AND THE TOTAL LIABILITY OF IRI INCLUDING ANY HOLDING, SUBSIDIARY, ASSOCIATED OR AFFILIATED COMPANY OR DISTRIBUTOR WITH RESPECT TO THIS SALE OR THE PRODUCT AND SERVICE FURNISHED HEREUNDER IN CONNECTION WITH THE PERFORMANCE OR BREACH THEREOF, OR FROM DELIVERY, INSTALLATION, REPAIR OR TECHNICAL DIRECTION COVERED BY OR FURNISHED UNDER THIS SALE, WHETHER BASED ON CONTRACT, WARRANTY, TORT, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHERWISE SHALL NOT EXCEED THE PURCHASE PRICE OF THE PRODUCT UPON WHICH SUCH LIABILITY IS BASED.

IRI INCLUDING ANY HOLDING, SUBSIDIARY, ASSOCIATED OR AFFILIATED COMPANY AND DISTRIBUTOR SHALL IN NO EVENT BE LIABLE TO THE END-USER / OWNER, ANY SUCCESSORS IN INTEREST OR ANY BENEFICIARY OR ASSIGNEE RELATING TO THIS SALE FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, SPECIAL OR PUNITIVE DAMAGES ARISING OUT OF THIS SALE OR BY ANY BREACH THEREOF, OR ANY DEFECT IN, OR FAILURE OF, OR MALFUNCTION OF THE PRODUCT UNDER THIS SALE, WHETHER BASED UPON LOSS OF USE, LOST PROFITS OR REVENUE, INTEREST, LOST GOODWILL, WORK STOPPAGE, IMPAIRMENT OF OTHER GOODS, LOSS BY REASON OF SHUTDOWN OR NON-OPERATION, INCREASED EXPENSES OF OPERATION OR CLAIMS OF USER OR CUSTOMERS OF THE USER FOR SERVICE INTERRUPTION WHETHER OR NOT SUCH LOSS OR DAMAGE IS BASED ON CONTRACT, WARRANTY, TORT, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHERWISE.

