EN

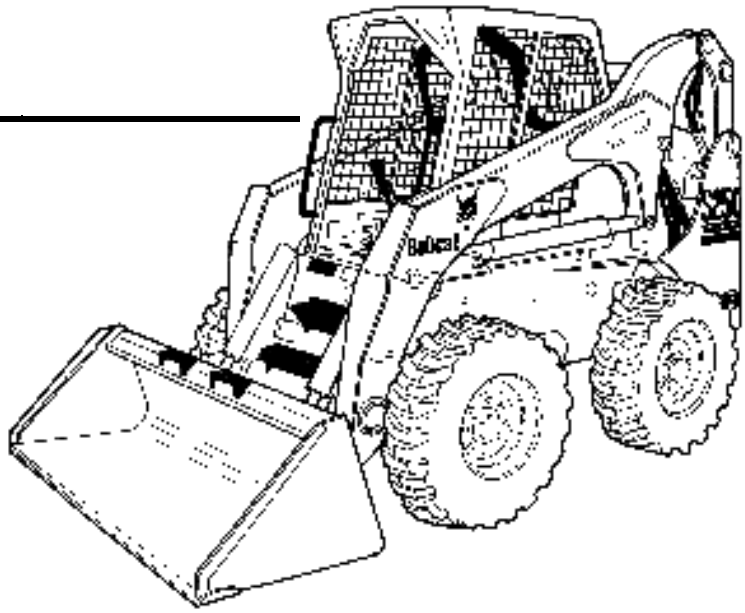
S250 TURBO

S250 TURBO HIGH FLOW

Bobcat®

Operation & Maintenance Manual

S/N 526016700 & Above
S/N 526112200 & Above



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

6904178-EN (04-05)

A 1 Ingersoll-Rand bl.si 1e3e

Printed in Europe

OPERATOR SAFETY WARNINGS

WARNING

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

W-2001-1285

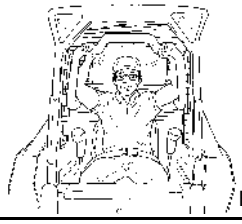
Safety Alert Symbol: **This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.**

CORRECT

B-10731a

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

CORRECT



B-16245

Always use the seat bar and fasten seat belt snugly.

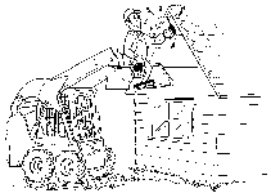
Always keep feet on the pedals or foot rest when operating loader.

CORRECT

B-16253

Never use loader without operator cab with ROPS and FOPS approval. Fasten your seat belt.

CORRECT



B-16249

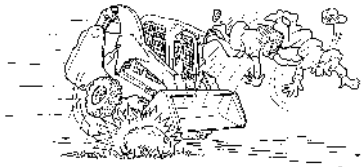
Never use loader as man lift or elevating device for personnel.

WRONG

B-6578

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

WRONG

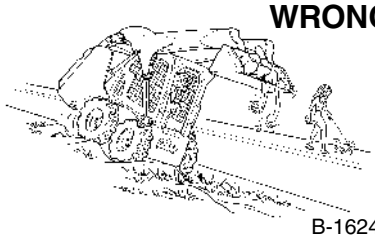


B-16252

Never carry riders.

Keep bystanders away from work area.

WRONG



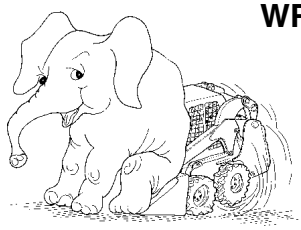
B-16248

Always carry bucket or attachments as low as possible.

Do not travel or turn with lift arms up.

Load, unload and turn on flat level ground.

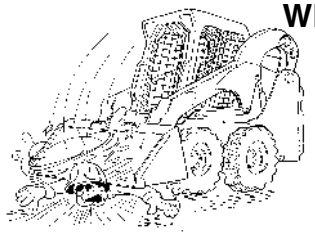
WRONG



B-16251

Never exceed rated operating capacity.

WRONG

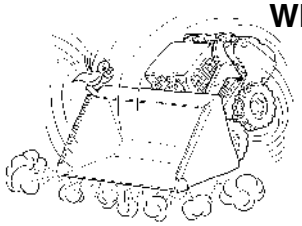


B-16250

Never leave loader with engine running or with lift arms up.

To park, engage parking brake and put attachment flat on the ground.

WRONG



B-16244

Never modify equipment.

Use only attachments approved by Bobcat Company for this model loader.

SAFETY EQUIPMENT

The Bobcat loader must be equipped with safety items necessary for each job. Ask your dealer about attachments and accessories.

1. **SEAT BELT: Check belt fasteners and check for damaged webbing or buckle.**
2. **SEAT BAR: When up, it must deactivate travel and hydraulic functions.**
3. **OPERATOR CAB (ROPS and FOPS): It must be on the loader with all fasteners tight.**
4. **HANDBOOK: Must be in the cab.**
5. **SAFETY SIGNS (DECALS): Replace if damaged.**
6. **SAFETY TREADS: Replace if damaged.**
7. **GRAB HANDLES: Replace if damaged.**
8. **LIFT ARM SUPPORT DEVICE: Replace if damaged.**
9. **PARKING BRAKE**
10. **BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)**

OSW14-0903

U.S. Publication 6904178 (3-05) (1)

CONTENTS

REFERENCE INFORMATION

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

Loader Serial Number _____

Engine Serial Number _____

_____

_____

NOTES:

_____

_____

_____

_____

_____

YOUR BOBCAT® DEALER:

_____

ADDRESS:

_____

PHONE:

_____

CE

Bobcat Europe
J. Huysmanslaan 59
B-1651 LOT
Belgium


Bobcat®

FOREWORD

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


Bobcat®

BOBCAT COMPANY IS IS0 9001:2000 CERTIFIED

ISO 9001:2000 is a set of international standards that control the processes and procedures which we use to design, develop, manufacture, distribute, and service Bobcat products.

British Standards Institute (**BSI**) is the Certified Registrar Bobcat chose to assess the Company's compliance with the ISO 9001:2000 set of standards. The BSI registration certifies that the two Bobcat manufacturing plants and the Bobcat corporate offices (Gwinner, Bismarck & West Fargo) in North Dakota are in compliance with ISO 9001:2000. Only certified assessors, like BSI, can grant registrations.

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

REGULAR MAINTENANCE ITEMS

	ENGINE OIL FILTER (6 Pack) 6678233		BATTERY 6665427
	FUEL FILTER 6667352		FLUID, Hydraulic/Hydrostatic 6903117 - (Two - 9,5 L containers) 6903118 - (19 L) 6903119 - (215 L)
	AIR FILTER, Outer 6681475		RADIATOR CAP 6733429
	AIR FILTER, Inner 6681474		PROPYLENE GLYCOL ANTI-FREEZE, Premixed [-34°F (-37°C)] 6724094
	HYDROSTATIC FILTER 6661248		PROPYLENE GLYCOL ANTI-FREEZE, Concentrate 6724354
	HYDROSTATIC FILTER, In-Line 6661022		

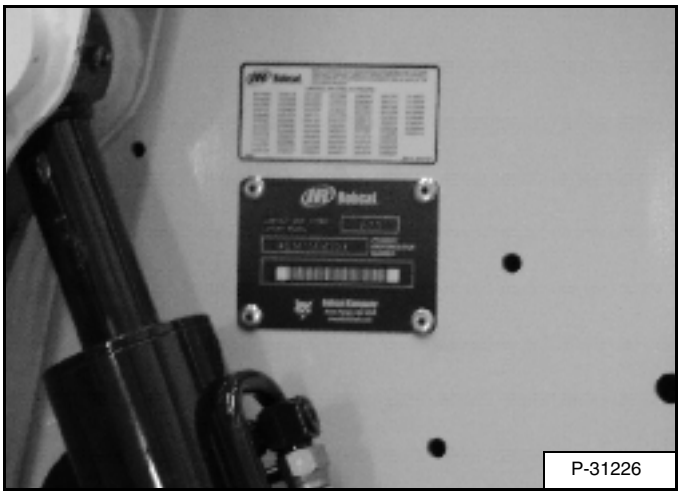
MOTOR OIL

6667299 SAE 15W40 CE/SG (12 L)	6724558 SAE 15W40 CE/SG (3,8 L)	6674294 SAE 15W40 CE/SG (9,5 L)
6657301 SAE 10W30 CE/SG (12 L)	6724557 SAE 10W30 CE/SG (3,8 L)	6674205 SAE 10W30 CE/SG (9,5 L)
6903109 SAE 30W CE/SG (12 L)	6903110 SAE 30W CE/SG (3,8 L.)	6903111 SAE 30W CE/SG (9,5 L.)

SERIAL NUMBER LOCATIONS

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

Figure 1



LOADER SERIAL NUMBER

The loader serial number plate is located on the outside of the loader frame **[Figure 1]**.

Explanation of loader Serial Number:

XXXX XXXXX

Module 2. - Production Sequence (Series)

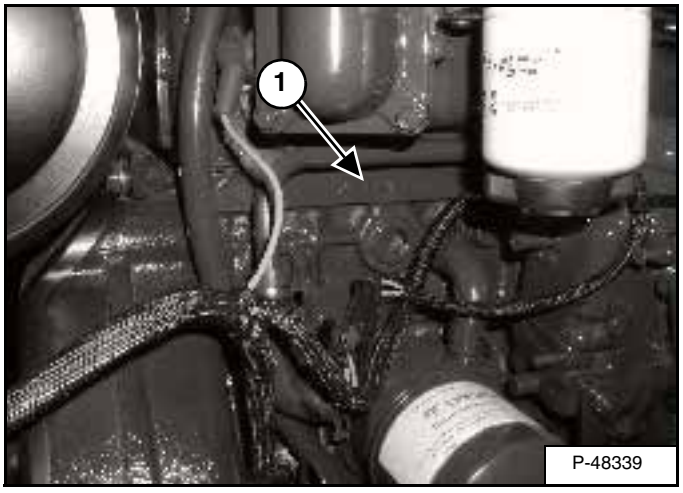
Module 1. - Model / Engine Combination

1. The four digit Model/Engine Combination Module number identifies the model number and engine combination.

2. The five digit Production Sequence Number identifies the order which the loader is produced.

ENGINE SERIAL NUMBER

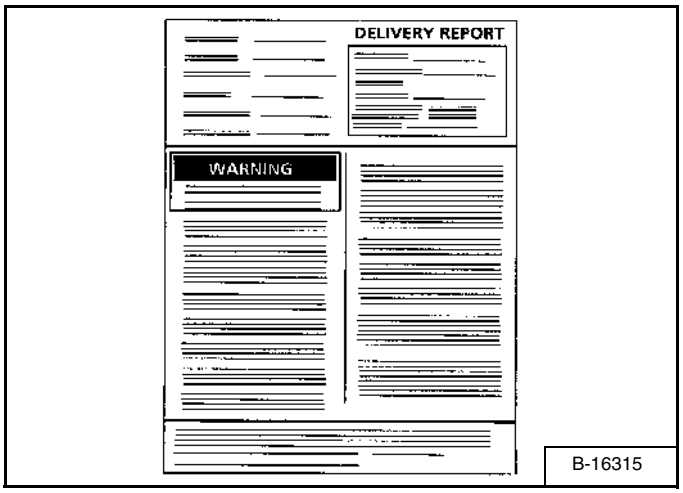
Figure 2



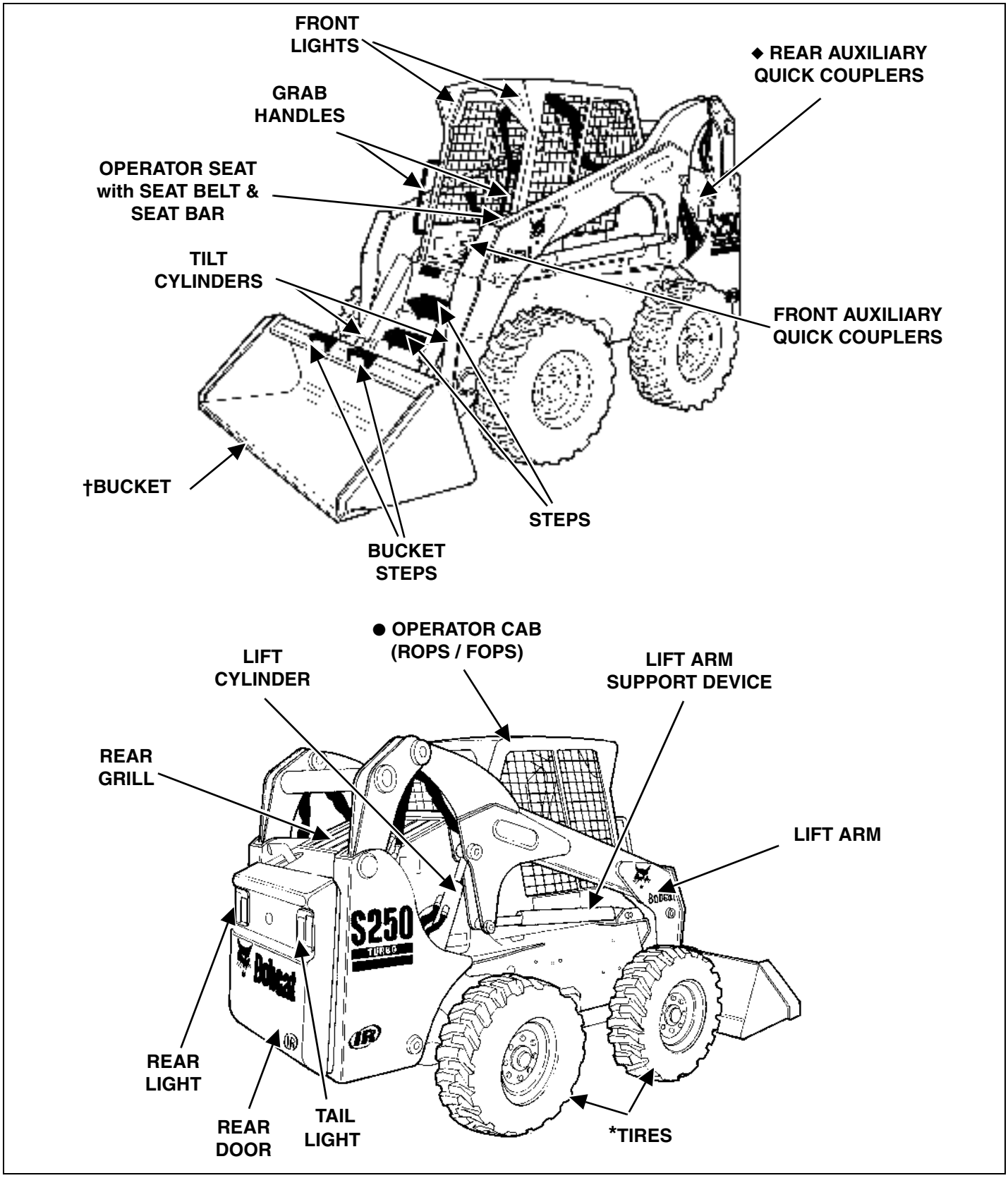
The engine serial number is located on the side of the engine (Item 1) **[Figure 2]** above the oil filter.

DELIVERY REPORT

Figure 3



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



◆ Optional or Field Accessory (Not Standard Equipment)

✻ TIRES - Tires shown may not be standard. The machine is factory equipped with standard tires. Other tires are available.

† Bucket - Several different buckets and other attachments are available for this machine.

● ROPS, FOPS - Roll Over Protective Structure, per SAE J1040 and ISO 3471, and Falling Object Protective Structure per SAE J1043 and ISO 3449, Level I. Level II is available.

FEATURES, ACCESSORIES AND ATTACHMENTS

Standard Items

Model S250 Bobcat loaders are equipped with the following standard items:

- Automatically activated air intake heater
- Bobcat Interlock Control System (BICS)
- Bob-Tach™ frame
- CE certification
- Counterweights: four axle weight sets and two tailgate plate weights
- Deluxe operator cab*
  Includes interior cab foam, side, top and rear windows, accessory wire harness, dome light, and electrical power port
- Electrically activated proportional front auxiliary hydraulics
- Engine/hydraulics system shutdown
- High-back cushion suspension seat
- Hydraulic bucket positioning (including ON/OFF switch)
- Instrumentation
- Lift arm support
- Operating lights, front and rear
- Parking brake
- Seat bar
- Seat belt
- Turbo-charger with approved spark arrestor
- Tyres – 12-16.5 – 12-ply – Bobcat heavy duty
- Warranty: 12 months or 2000 hours

*** Roll Over Protective Structure (ROPS) – meets requirements of SAE-J1040 and ISO 3471**

Options and Accessories

Below is a list of some equipment available from your Bobcat Loader dealer as Dealer and/or Factory Installed Accessories and Factory Installed Options. See your Bobcat dealer for other available options, accessories and attachments.

- Dealer Installed Options
  - 7 and 14-pin electrical attachment control kit (7-pin kit standard with S250H)
  - Air conditioning kit
  - Back up alarm kit
  - Bob-Tach™ frame
  - Cab enclosure kit
  - Catalytic purifier kit
  - Door switch sensor kit
  - FOPS kit**
  - Four-point lift kit
  - Fresh air heater kit
  - Front door kit
  - Lift arm spacer – 1-inch
  - Operator cab, CE, enclosure kit
  - Plumbing kit for fresh air heater
  - Rear auxiliary hydraulic kit
  - Secondary auxiliary hydraulics kit
  - Special applications kit
  - Urethane track package to fit 12-16.5 tyres
  - Wheel spacer kit for steel tracks – 1.5-inch
- Factory Options
  - Advanced Control System (ACS)
  - Advanced Hand Controls (AHC)
  - Cab enclosure with heat
  - Deluxe instrument panel
  - Heavy duty tyres with offset rims – 12-16.5 – 12-ply
  - Power Bob-Tach™
  - Segmented tyres – 12-16.5
  - Segmented tyres – industrial type – 8.25-15
  - Selectable Joystick Controls (SJC)
  - Severe duty foam-filled tyres – 12-16.5 – 12-ply
  - Severe duty tyres – 12-16.5 – 12-ply
  - Steel track package to fit 12-16.5 tyres
  - Super float tyres – 31 x 15.5-15 – 12-ply
  - Two-speed travel

**** Falling Objects Protective Structure (FOPS) – meets requirements of SAE-J1043 and ISO 3449, Level I**

Specifications subject to change without notice.

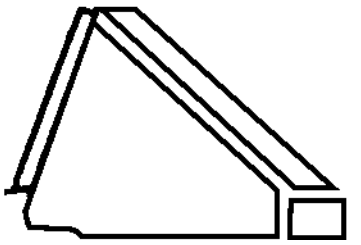
These and other attachments are approved for use on this model loader. Do not use unapproved attachments. Attachments not manufactured by Bobcat may not be approved.

The versatile Bobcat loader quickly turns into a multi-job machine with a tight-fit attachment hook-up . . . from bucket to grapple to pallet fork to backhoe and a variety of other attachments.

See your Bobcat dealer for more details on these and other attachments and field accessories.

Increase the versatility of your Bobcat loader with a variety of bucket styles and sizes.

Buckets Available


BUCKET

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

Attachments

For specific model availability, see Bobcat Product Price List.

- Angle blade
- Angle broom*†
- Auger
- Backhoe
- Box blade
- Brushcat rotary cutter
- Buckets
- Chipper*
- Combination bucket
- Concrete pump*
- Cutter crusher*
- Digger
- Dozer blade*
- Dumping hopper
- Farm grapple
- Grader*
- Hydraulic breaker**
- Industrial grapple
- Landplane
- Landscape rake
- Mixing bucket*
- Pallet fork – hydraulic
- Pallet fork – standard
- Planer*
- Rear stabiliser
- Scarifier
- Snow blower*
- Sod layer*
- Soil conditioner*
- Spreader
- Stump grinder*
- Super scraper
- Sweeper
- Three-point hitch
- Tiller
- Tilt-Tatch™
- Tracks, steel
- Tree transplanter*
- Trench compactor
- Trencher
- Utility forks
- Utility frame
- Vibratory roller
- Water kit
- Wheel saw
- Whisker broom

*** Attachment control kit required.**

**** When operating the loader with this attachment, a Special Applications Kit, which includes a 12 mm Lexan front door with 6 mm top and rear windows, must be used.**

† Optional water kit.


Bobcat®


Bobcat®

SAFETY INSTRUCTIONS

Safe Operation Is The Operator's Responsibility

Carefully follow the operating and maintenance instructions in this manual.

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

The Bobcat loader has an internal combustion engine with resultant heat and exhaust. All exhaust gasses can kill or cause illness so use the loader with adequate ventilation. The loader has a spark arrestor exhaust system or muffler which is required for operation in certain areas.

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

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

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

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

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

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

SI01-0903

Safe Operation Is The Operator's Responsibility (Cont'd)

Safety Alert Symbol

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

WARNING

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

W-2001-0502

IMPORTANT

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

I-2019-0284

WARNING

Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause injury or death.

W-2044-1285

The Bobcat loader and attachment must be in good operating condition before use.

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

SAFE OPERATION NEEDS A QUALIFIED OPERATOR

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

A qualified operator must do the following:

Understand the Written Instructions, Rules and Regulations

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

Have Training with Actual Operation

- Operator training must consist of a demonstration and verbal instruction. This training is given by your Bobcat dealer before the product is delivered.
- The new operator must start in an area without bystanders and use all the controls until he can operate the machine and attachment safely under all conditions of the work area. Always fasten seat belt before operating.

Know the Work Conditions

- Know the weight of the materials being handled. Avoid exceeding the Rated Operating Capacity of the machine. Material which is very dense will be heavier than the same volume of less dense material. Reduce the size of load if handling dense material.
- The operator must know any prohibited uses or work areas, for example, he needs to know about excessive slopes.
- Know the location of any underground lines.
- Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service. Safety glasses, hearing protection or special applications kit are required for some work. See your dealer about Bobcat Safety equipment.

SI02-0903

FIRE PREVENTION

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

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

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

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

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

- Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part.

- Check fuel and hydraulic tubes, hoses and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Tighten or replace any parts that show leakage. Always clean fluid spills. Do not use gasoline or diesel fuel for cleaning parts. Use commercial nonflammable solvents.

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

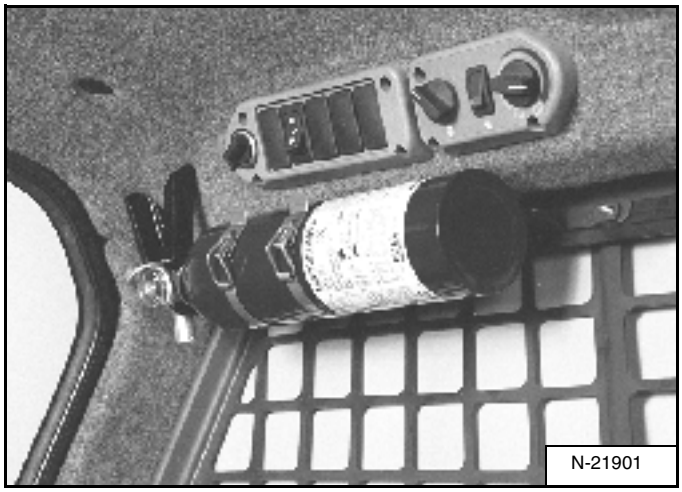
- Always clean the machine, disconnect the battery, and disconnect the wiring from the Bobcat controllers before welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the loader when welding. Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.

- Stop the engine and let it cool before adding fuel. No smoking!

- Use the procedure in the Operation & Maintenance Manual for connecting the battery.

- Use the procedure in the Operation & Maintenance Manual for cleaning the spark arrestor muffler (if equipped).

Figure 4

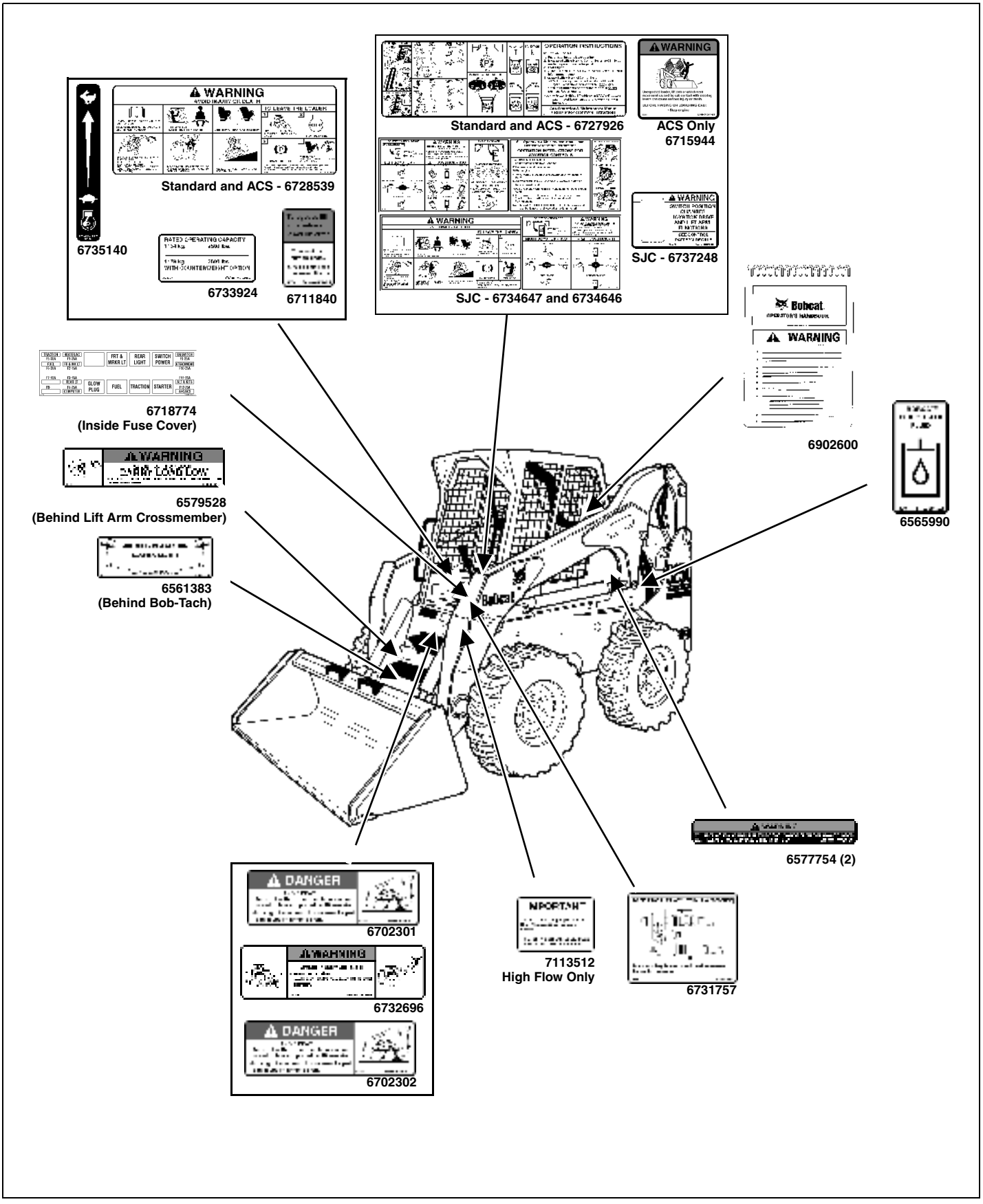


- Know where fire extinguishers and first aid kits are located and how to use them. Fire extinguishers are available from your Bobcat dealer. The fire extinguisher can be installed in the location shown in **[Figure 4]**.

SI03-0301

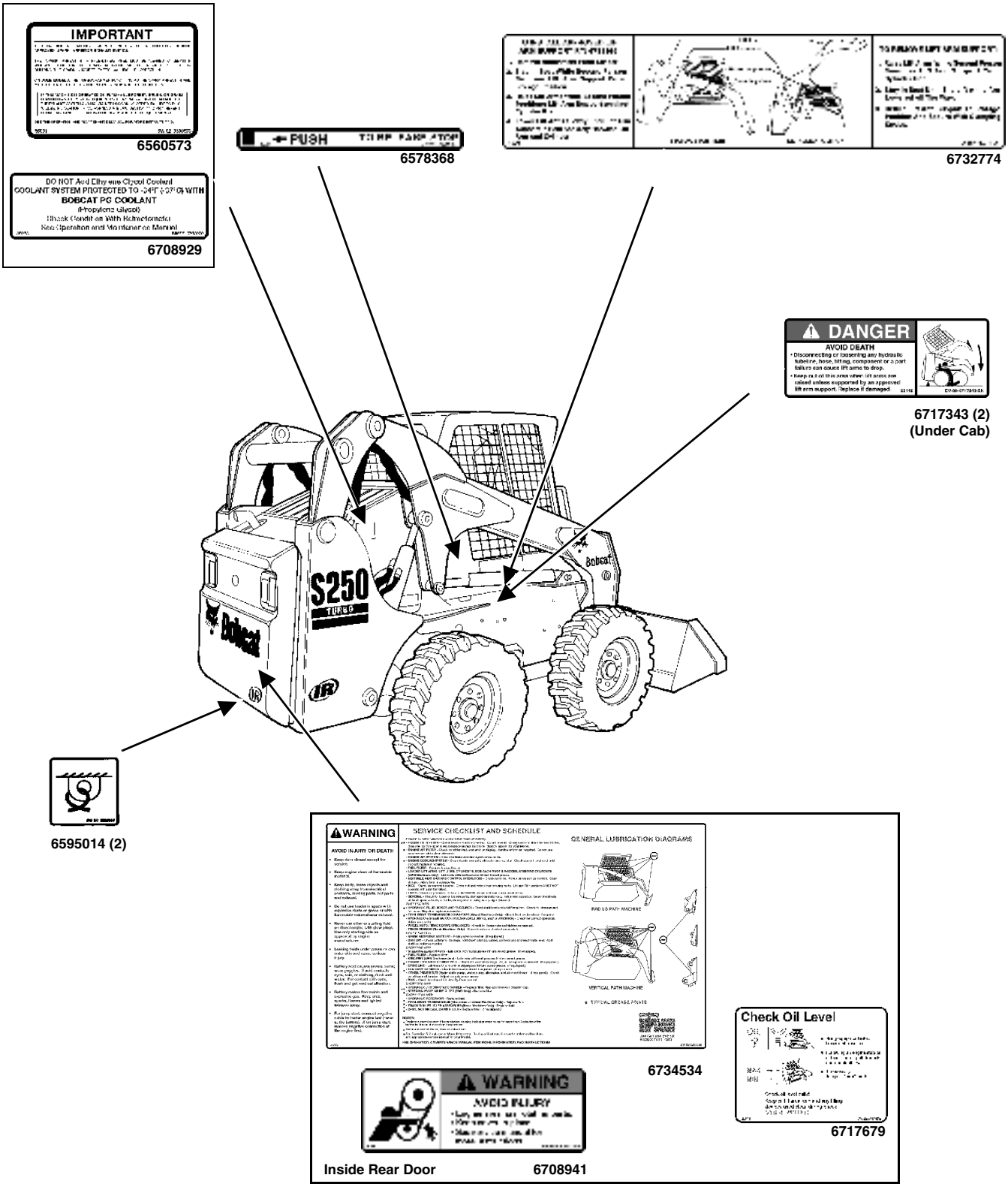
MACHINE SIGNS (DECALS)

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



MACHINE SIGNS (DECALS) (CONT'D)

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




Bobcat®

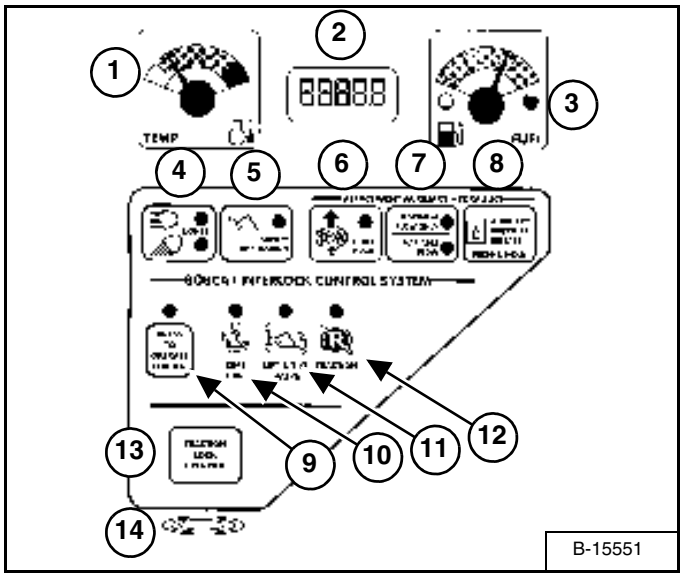
OPERATING INSTRUCTIONS


Bobcat®

INSTRUMENT PANEL IDENTIFICATION

Left Panel

Figure OI-1



The left instrument panel is the same for both the Standard and Deluxe Instrument Panels **[Figure OI-1]**.

The table below shows the DESCRIPTION and FUNCTION / OPERATION for each of the components of the left panel.

Press and hold LIGHTS button (Item 4) **[Figure OI-1]** for two seconds to view SERVICE CODES in the HOURMETER / CODE DISPLAY (Item 2) **[Figure OI-1]**. If more than one SERVICE CODE is present, the codes will scroll on the HOURMETER / CODE DISPLAY.

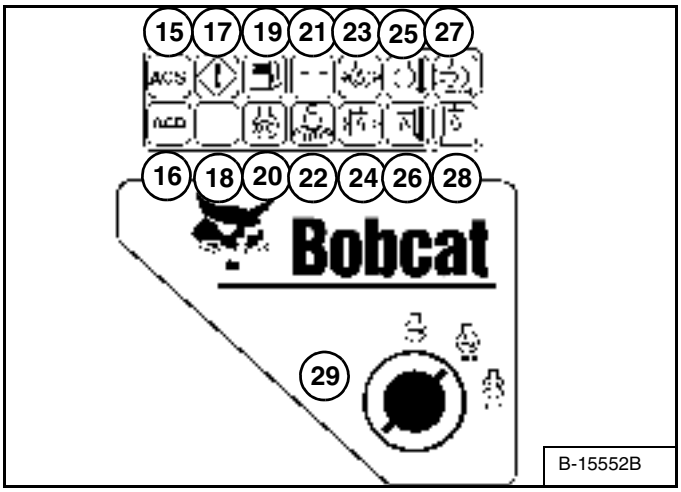
REF. NO	DESCRIPTION	FUNCTION / OPERATION
1	TEMPERATURE GAUGE	Shows the engine coolant temperature.
2	HOURMETER / CODE DISPLAY / GLOW PLUG COUNTDOWN	HOURMETER - Records operating hours of loader. CODE DISPLAY - Display numeric SERVICE CODES* relating to the loader monitoring system. COUNTDOWN - Preheat time remaining.
3	FUEL GAUGE	Shows the amount of fuel in the tank.
4	LIGHTS / HOLD FOR CODES	LIGHTS - Press once for FRONT LIGHTS. Press a second time for FRONT AND REAR lights. Press a third time to turn all lights off. HOLD FOR CODES - Press and hold two seonds for display of SERVICE CODES (Item 2). (CODES* show only when there is an error found by loader monitoring system.)
5	BUCKET POSITIONING (Option)	Press to engage the BUCKET POSITIONING function. Press again to disengage. Press and hold 2 seconds to view SHTDN (SHUTDOWN) feature & Operational Code Number in HOURMETER / CODE DISPLAY.
	ATTACHMENT AUXILIARY HYDRAULICS	
6	HIGH FLOW (Option)	Press to engage the HIGH FLOW auxiliary hydraulics. Press again to disengage.
7	MAXIMUM FLOW / VARIABLE FLOW	Press once to engage the VARIABLE FLOW auxiliary hydraulics. Press a second time to engage MAXIMUM FLOW. Press a third time to disengage all auxiliary hydraulics. [VARIABLE FLOW allows for slow-to-fast movement of auxiliary functions (The farther you move the switch, the faster the movement of auxiliary functions.) MAXIMUM FLOW allows for only fast movement.]
8	AUXILIARY PRESSURE RELEASE	Rear Auxiliary Only - With Key ON or Engine Running, press and hold button for 5 seconds. (See Releasing Hydraulic Pressure - Loader and Attachment Page OI-19 for front auxiliary pressure release.)
	BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)	
9	PRESS TO OPERATE LOADER	Press to activate BICS™ System when the Seat Bar is down and operator is seated in operating position.
10	SEAT BAR	The light comes *ON* when the seat bar is down.
11	LIFT & TILT VALVE	The light comes *ON* when the seat bar is down and the PRESS TO OPERATE Button is pressed. The lift and tilt functions can be operated when the light is *ON*.
12	TRACTION	The light comes *ON* when the seat bar is down, engine is running, and parking brake is released. The loader can be moved forward or backward when the light is *ON*.
13	TRACTION LOCK OVERRIDE	(Function Only When Seat Bar Is Raised And The Engine Is Running) Press to unlock the brakes. Allows you to use the steering levers to move the loader forward or backward when using the backhoe attachment or for loader service. (See TRACTION LOCK OVERRIDE Page OI-10). Press a second time to lock the brakes.
14	ALARM	The ALARM beeps when there is an Error, WARNING or SHUTDOWN condition.

* See System Setup & Analysis, Page SA-4 for further description on Service Codes.

INSTRUMENT PANEL IDENTIFICATION (CONT'D)

Right Panel (Standard - With Key Switch)

Figure OI-2



The right instrument panel shown **[Figure OI-2]** is the Standard Panel.

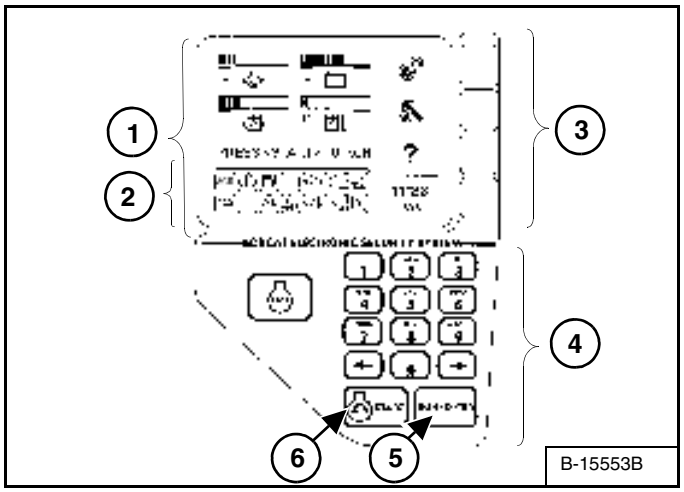
The table below shows the Icons and other components of the Right Standard Panel.

REF.	FUNCTION	ICON/ LIGHT	ALARM	CODE	CONDITION	DESCRIPTION
15	Advanced Control System (ACS) (Opt.)	ON	3 Beeps	*	Error	Error with Advanced Control System (ACS).
16	Attachment Control Device (ACD) (Opt.)	ON FLASHING	--- 3 Beeps	--- *	--- Error	Electrical controlled attachment is present. Error with Attachment Control Device (ACD).
17	General Warning	ON ON FLASHING	3 Beeps 3 Beeps Continuous	* * *	Error WARNING SHUTDOWN	Error with one or more engine or hydraulic functions. Engine speed high or in shutdown. Engine speed very high. Engine will stop in 10 seconds.
18	NOT USED					
19	Fuel Level	ON FLASHING	3 Beeps 3 Beeps	* *	Error WARNING	Fuel level sender system fault. Fuel level low.
20	Glow Plugs	ON FLAHSING	--- 3 Beeps	--- *	--- Error	Air Intake Heater energized. Error with Air Intake Heater
21	System Voltage	ON	3 Beeps	*	WARNING	Voltage low, high or very high.
22	Seat Belt	ON	---	---	---	Light stays on for 45 seconds to remind operator to fasten seat belt.
23	Engine Oil Pressure	ON ON FLASHING	3 Beeps 3 Beeps Continuous	* * *	Error WARNING SHUTDOWN	Engine Oil Pressure sender out of range. Engine oil level low. Engine oil pressure very low. Engine will shutdown in 10 seconds.
24	Hydrostatic Charge Pressure	ON ON FLASHING	3 Beeps 3 Beeps Continuous	* * *	Error WARNING SHUTDOWN	Hydraulic oil pressure sender out of range. Hydraulic oil pressure low. Hydraulic charge pressure very low. Engine will stop in 10 seconds.
25	Engine Coolant Temperature	ON ON FLASHING	3 Beeps 3 Beeps Continuous	* * *	Error WARNING SHUTDOWN	Engine coolant sender out of range Engine coolant temperature high. Engine coolant temperature very high. Engine will stop in 10 seconds.
26	Hydraulic Oil Temperature	ON ON FLASHING	3 Beeps 3 Beeps Continuous	* * *	Error WARNING SHUTDOWN	Hydraulic oil temperature out of range. Hydraulic oil temperature high. Hydraulic oil temperature very high. Engine will stop in 10 seconds.
27	Engine Air Filter	ON FLASHING	3 Beeps 3 Beeps	* *	Error WARNING	Air filter with high restriction. Air filter switch not connected.
28	Hydraulic Filter	ON FLASHING	3 Beeps 3 Beeps	* *	Error WARNING	Hydraulic filter with high restriction. Hydraulic filter switch not connected.
29	Key Switch	---	---	----	---	Used to start and stop the engine.

* See SYSTEM SETUP & ANALYSIS, Page SA-4 for further description of SERVICE CODES.

Right Panel (Deluxe - With Keyless Start)

Figure OI-3



The right instrument panel shown **[Figure OI-3]** is the Deluxe Panel.

1. **Display Panel:** The Display Panel is where all system setup, monitoring, troubleshooting, and error conditions are displayed.

2. **Function Icons:** The lower left area of the Deluxe Panel has the same Icons as the Standard Panel. These Icons are only visible when the monitoring system has detected an error.

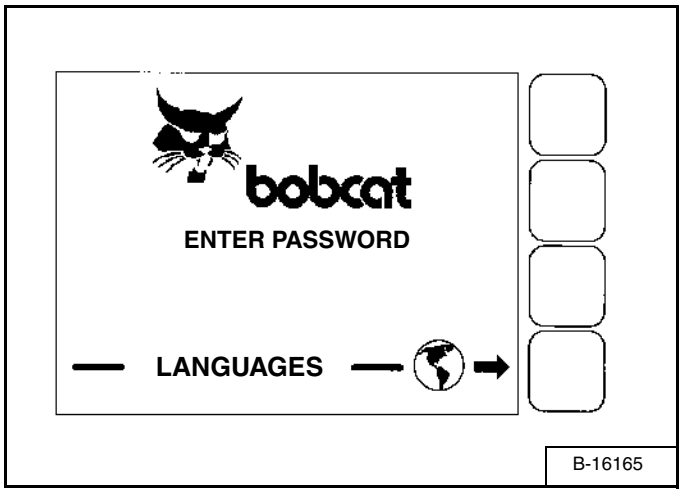
3. **Selection Buttons:** The four Selection Buttons allow you to select items from the Display Panel and scroll through screens.

4. **Keypad:** The numeric keypad (Item 4) **[Figure OI-3]** has two functions:

   To enter a number code (password) to allow starting the engine (Keyless Start).

   To enter a number as directed for further use of the Display Panel.

Figure OI-4



The first screen you will see on your new loader will be as shown in **[Figure OI-4]**.

When this screen is on the display you can enter the password and start the engine or change the Display Panel setup features.

NOTE: Your new loader (with Deluxe Instrument Panel) will have a Owner Password. Your dealer will provide you with this password. Change the password to one that you will easily remember to prevent unauthorized use of your loader. (See Passwords (Deluxe) on Page SA-10). Keep your password in a safe place for future needs.

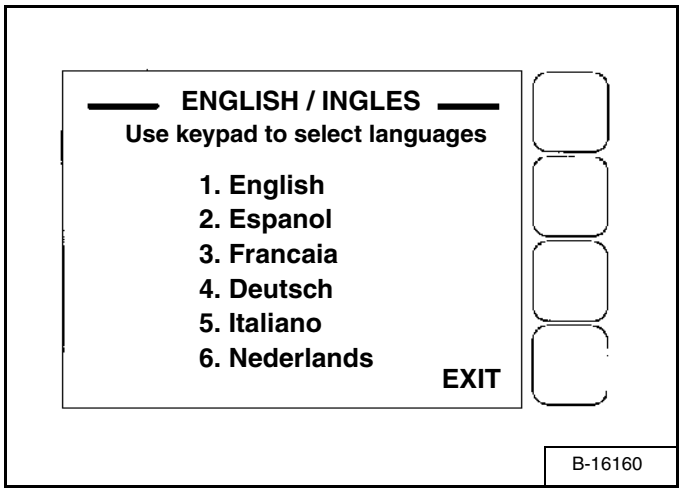
Start Engine: Use the Keypad to enter the numbers (letters) of your password and press the RUN / ENTER key (Item 5) **[Figure OI-3]**.

Press and hold the START Button (Item 6) **[Figure OI-3]** until the engine starts.

Change Language: Press the Selection Button at the end of the arrow **[Figure OI-4]** to go to the next screen.

Right Panel (Deluxe - With Keyless Start) (Cont'd)

Figure OI-5



Use the Keypad to select the number of the language **[Figure OI-5]**.

Press EXIT. The screen will return to **[Figure OI-4]**. You can then enter the password and start the engine.

(See DELUXE INSTRUMENT PANEL SETUP on Page SA-9) for further description of screens to setup the system for your use.

NOTE: Pressing the EXIT key will go to the previous screen and you can continue pressing until you get to the initial (home) screen. SHORTCUT: Press the "0" (zero) key to get to the home screen immediately.

Option And Field Accessory Panels (If Equipped)

Figure OI-6

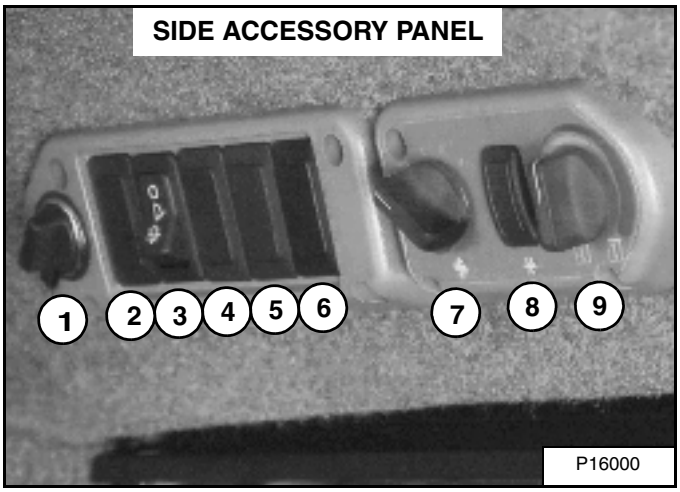
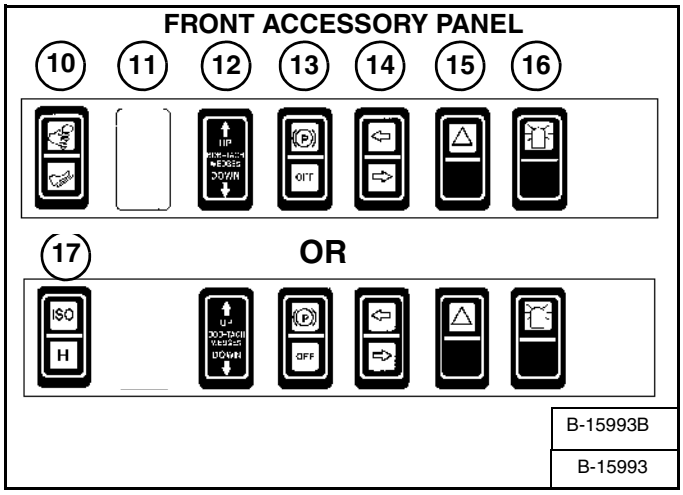


Figure OI-7



NOTE: Parking Brake (Item 13) [Figure OI-7] is Standard on all loaders.

Side Accessory Panel **[Figure OI-6]**.

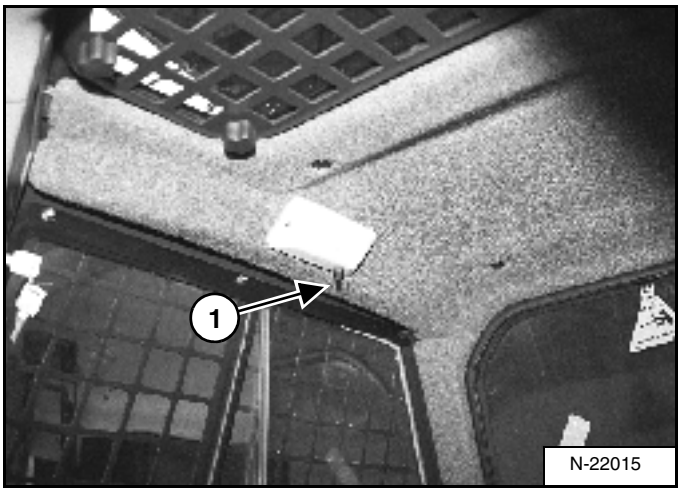
REF. NO.	DESC.	FUNCTION / OPERATION
1.	POWER PLUG	Provides a 12V receptacle for accessories.
2.	NOT USED	---
3.	FRONT WIPER	Press the top of the switch to start the front wiper (press and hold for washer fluid). Press the bottom of the switch to stop the wiper.
4.	REAR WIPER	Press the bottom of the switch to start the rear wiper. Press the top of the switch to provide washer fluid to clean the rear window.
5.	NOT USED	---
6.	NOT USED	---
7.	FAN MOTOR	Turn clockwise to increase fan speed; counterclockwise to decrease. There are four positions; OFF-1-2-3.
8.	AIR COND. SWITCH	Press top of switch to start; bottom to stop. Fan Motor (Item 7) must be ON for A/C to operate.
9.	TEMP. CONTROL	Turn clockwise to increase the temperature; counterclockwise to decrease.

Front Accessory Panel **[Figure OI-7]**.

REF. NO.	DESC.	FUNCTION / OPERATION
10.	ADVANCED CONTROL SYSTEM (ACS)	Press the top to select Hand Controls; bottom to select Foot Controls.
11.	NOT USED	- - -
12.	POWER BOB-TACH	Press and hold the up arrow to disengage the the Bob-Tach wedges. Press and hold the down arrow to engage the wedges into the mounting frame holes.
13.	PARKING BRAKE (Standard on all Loaders)	Press the top to engage the PARKING BRAKE; bottom to disengage.
14.	TURN SIGNAL INDICATORS	Indicates left or right TURN SIGNALS are ON.
15.	HAZARD LIGHTS	Press the top to turn the HAZARD LIGHTS ON; right side bottom to turn OFF.
16.	ROTATING BEACON	Press the top to turn the ROTATING BEACON ON; bottom to turn OFF.
17.	SELECTABLE JOYSTICK CONTROL (SJC)	Press the top to select 'ISO' Control Pattern; bottom to select 'H' Control Pattern.

Cab Light

Figure OI-8

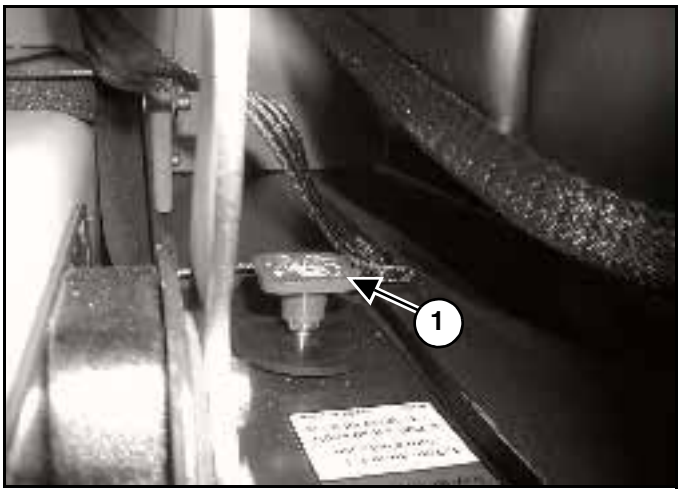


Push the button (Item 1) **[Figure OI-8]** to turn the light ON. Push the button again to turn OFF.

LIFT ARM BY-PASS CONTROL

Operation

Figure OI-9



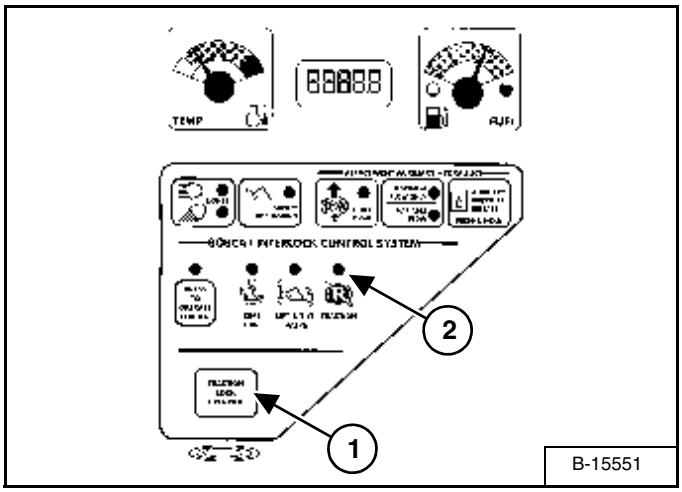
The lift arm by-pass control (Item 1) **[Figure OI-9]** is used to lower the lift arms if the lift arms cannot be lowered during normal operations.

- Sit in the operator's seat.
- Fasten the seat belt and lower the seat bar.
- Turn the knob (Item 1) **[Figure OI-9]** clockwise 1/4 turn.
- Pull up and hold the knob until the lift arms slowly lower.

TRACTION LOCK OVERRIDE

Operation

Figure OI-10



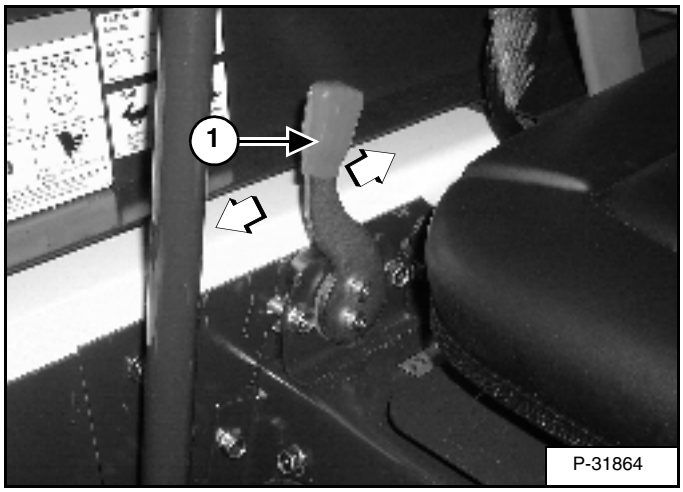
(Functions Only When The Seat Bar Is Raised And The Engine Is Running) There is a TRACTION LOCK OVERRIDE Button (Item 1) **[Figure OI-10]** on the left instrument panel which will allow you to use the steering levers to move the loader forward and backward when using the backhoe attachment or for loader service.

- Press the TRACTION LOCK OVERRIDE button once to unlock traction lock drive. The TRACTION light (Item 2) **[Figure OI-10]** will be ON.
- Press the button a second time to lock the traction drive. The TRACTION light (Item 2) **[Figure OI-10]** will be OFF.

ENGINE SPEED CONTROL

Operation

Figure OI-11

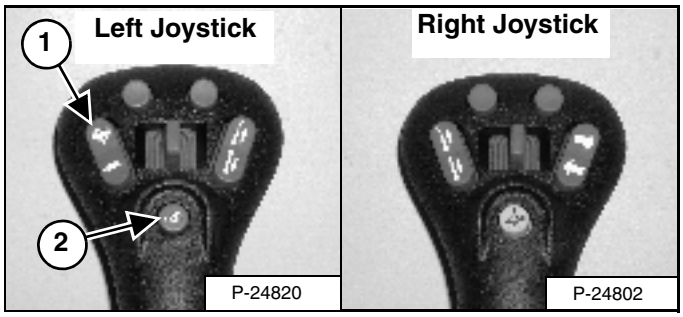


The speed control lever is at the right side of the operator's seat (Item 1) **[Figure OI-11]**.

Move the lever forward to increase engine speed. Move backward to decrease engine speed.

TWO-SPEED CONTROL

Figure OI-12



The two speed allows you to reduce cycle times when there is a long travel distance between the dig site and the dump site. You can also use the two speed when traveling from one job site to another at faster speeds.

Press the top of the switch (Item 1) **[Figure OI-12]** of the left joystick for high range. Fasten the shoulder belt when operating in High Range speed.

Press the bottom of switch for low range.

When the two-speed control is in high range and AWS Mode is selected, only the front wheels angle when steering; the rear wheels remain straight ahead.

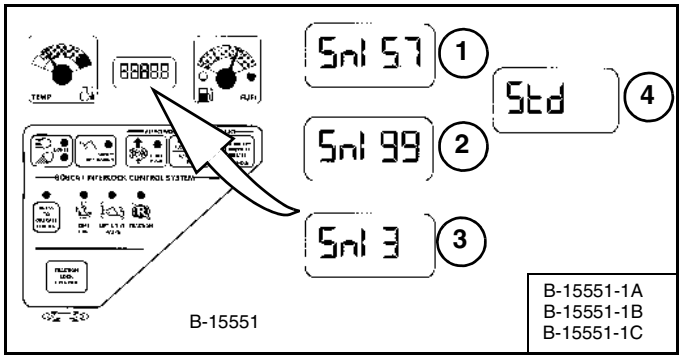
INCHING CONTROL

Operation

The Inching Control allows the loader to be maneuvered at slow travel speed for installing attachments, loading or unloading.

Press the button (Item 2) **[Figure OI-12]** on the left joystick once to engage the Inching Control.

Figure OI-13



When the Inching Control is engaged, the machine will travel at 57% of Standard travel speed and the percentage (**Snl 57**) will appear in the display (Item 1) **[Figure OI-13]**.

While Inching Control is engaged, press the top of the Two-Speed switch (Item 1) **[Figure OI-12]** to increase the speed up to 99% (**Snl 99**) or the bottom of the switch to decrease the speed down to 3% (**Snl 3**). The percentages will appear in the display (Items 2 and 3) **[Figure OI-13]**.

Press button (Item 2) **[Figure OI-12]** again to disengage Inching Control and return to Standard Travel Speed (**Std** (Item 4) **[Figure OI-13]** will appear in display.) You must return to Standard Travel Speed before engaging the Two-Speed Control for High Range Speed.

The system will retain the speed percentage as long as the key remains ON (Standard Panel) or the STOP button has not been pressed (Deluxe Panel).

EXAMPLE: You can be using the machine at 40% and then disengage the Inching Control to reposition the loader, then re-engage Inching Control. The speed percentage will still be at 40%.

If you turn the key OFF or press the STOP button, the next time you start the engine and engage the Inching Control, the speed will be at 57% of Standard Travel Speed.

DRIVING AND STEERING THE LOADER

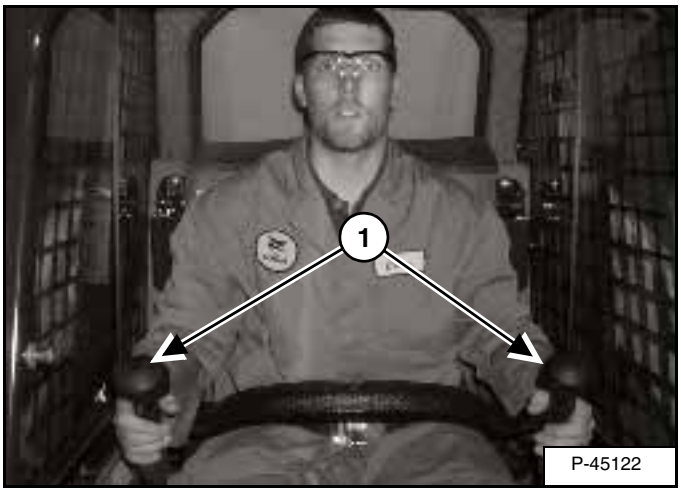
Available Controls Configurations

The loader has three configurations available:

- **Standard Controls** - Two Steering Levers control drive and steering functions.
- **Advanced Control System (ACS) (Option or Field Accessory)** - Two Steering Levers control drive and steering functions.
- **Selectable Joystick Controls (SJC) (Option)** - *('ISO' Pattern)* Left joystick controls the drive and steering functions.
  ('H' Pattern) Left and right joysticks control left and right side drive and steering functions.

Operation (Standard and ACS)

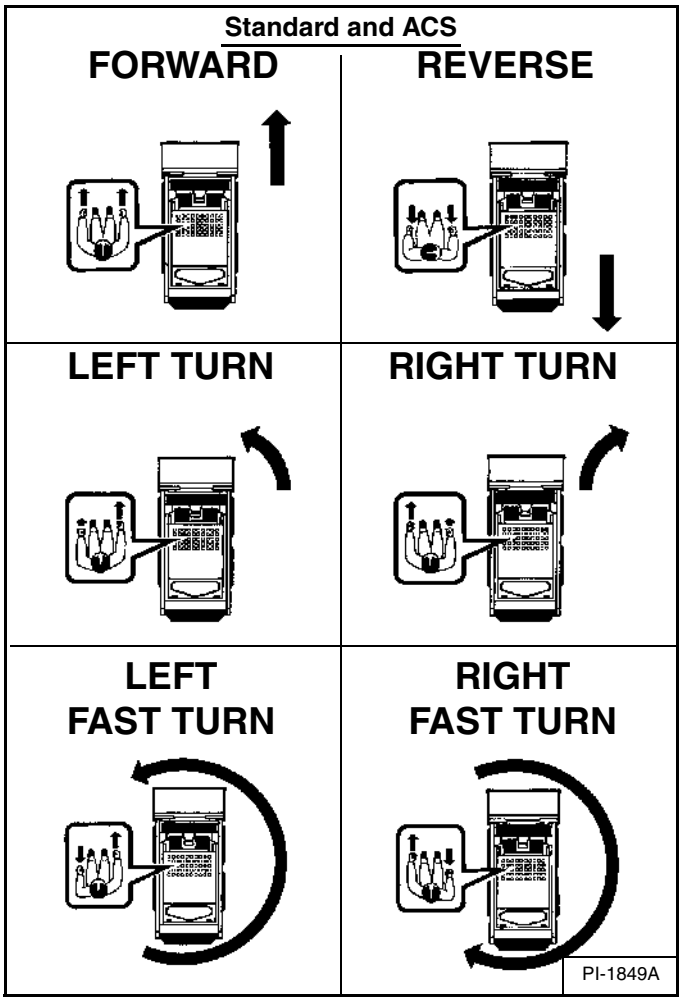
Figure OI-14



The steering levers (Item 1) **[Figure OI-14]** are on the left and right side in front of the seat.

Move the levers smoothly. Avoid sudden starting and stopping.

Figure OI-15



The steering levers control forward and reverse travel and turning the loader **[Figure OI-15]**.

Forward Travel - Push both levers forward.

Reverse Travel - Pull both levers backward.

Normal Turning - Move one lever farther forward than the other.

Fast Turning - Push one lever forward and pull the other lever backward.

⚠ WARNING

AVOID INJURY OR DEATH

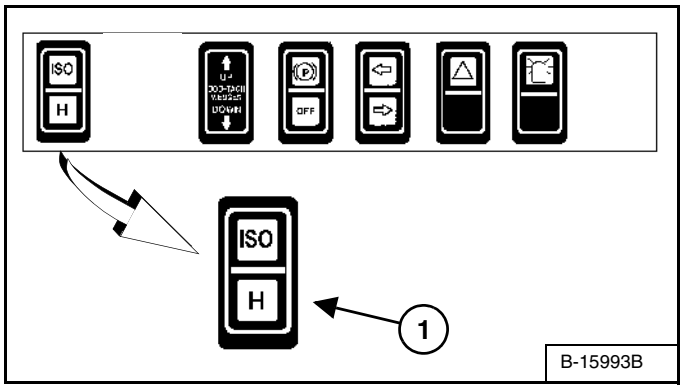
When operating the machine:

- **Keep the seat belt fastened snugly.**
- **The seat bar must be lowered.**
- **Keep your feet on the pedal controls or footrests and hands on steering levers.**

W-2261-0799

Operation (SJC in 'H' Control Pattern)

Figure OI-16



Select the 'H' control pattern by pressing the bottom of the switch (Item 1) **[Figure OI-16]**.

⚠ WARNING

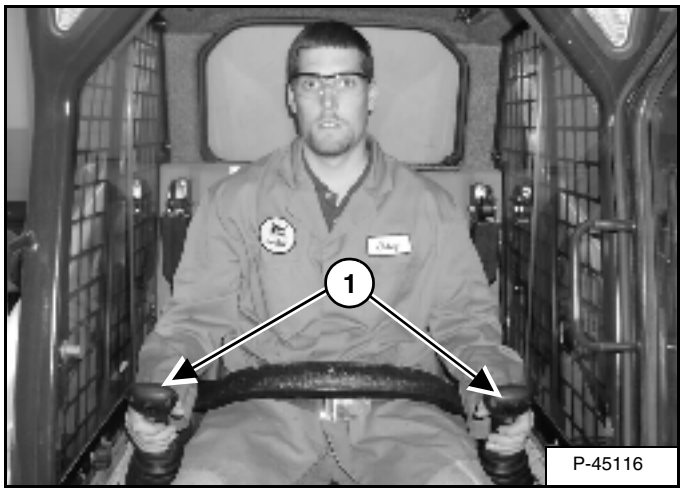
AVOID INJURY OR DEATH

When operating the machine:

- **Keep the seat belt fastened snugly.**
- **The seat bar must be lowered.**
- **Keep your feet on the foot rests and hands on control levers.**

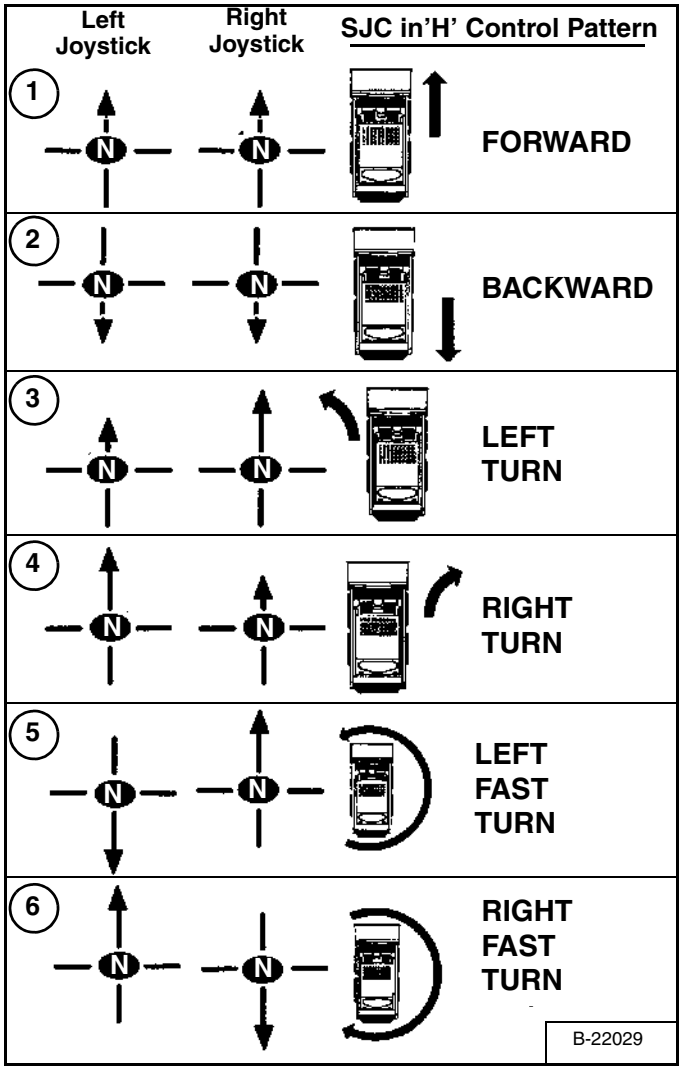
W-2399-0501

Figure OI-17



Both joysticks control drive and steering and are located on the right and left side in front of the seat (Item 1) **[Figure OI-17]**.

Figure OI-18

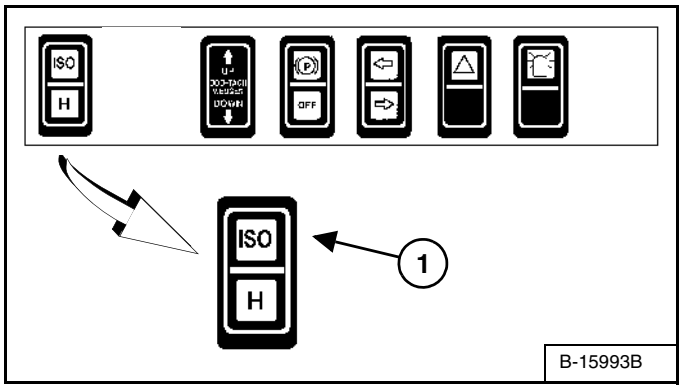


Hand Control Functions (Drive and Steering) **[Figure OI-18]**.

1. **Forward Travel** - Move both joysticks forward.
2. **Backward Travel** - Move both joysticks backward.
3. **Forward Left Turn** - Move the right joystick farther forward than the left joystick.
4. **Forward Right Turn** - Move the left joystick farther forward than the right joystick.
5. **Left Fast Turn** - Move the left joystick backward and the right joystick forward.
6. **Right Fast Turn** - Move the left joystick forward and the right joystick backward.

Operation (SJC in 'ISO' Control Pattern)

Figure OI-19



Select the 'ISO' control pattern by pressing the top of the switch (Item 1) **[Figure OI-19]**.

⚠ WARNING

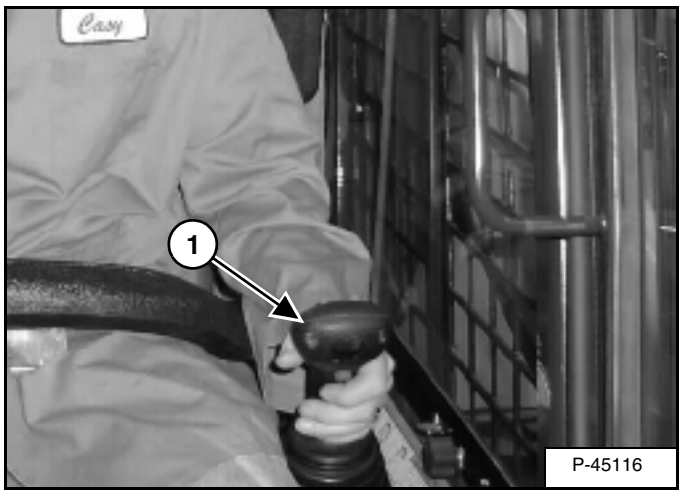
AVOID INJURY OR DEATH

When operating the machine:

- **Keep the seat belt fastened snugly.**
- **The seat bar must be lowered.**
- **Keep your feet on the foot rests and hands on control levers.**

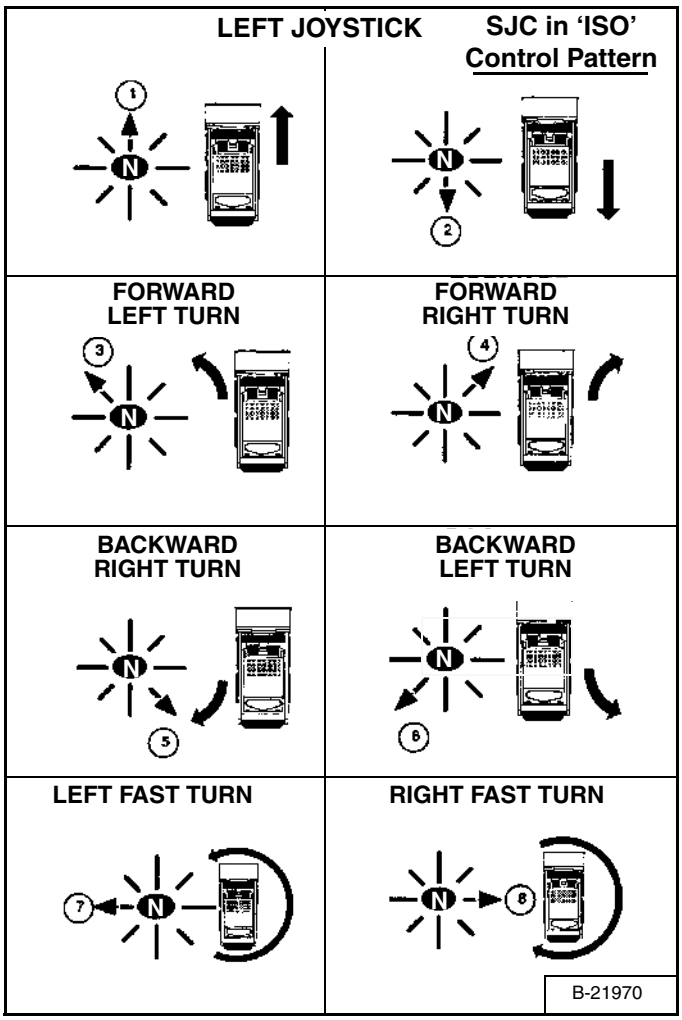
W-2399-0501

Figure OI-20



The joystick which controls drive and steering is on the left side in front of the seat (Item 1) **[Figure OI-20]**.

Figure OI-21



Left Joystick Functions (Drive and Steering) **[Figure OI-21]**.

Move the joystick smoothly. Avoid sudden starting and stopping.

1. **Forward Travel** - Move joystick forward.
2. **Backward Travel** - Move joystick backward.
3. **Forward Left Turn** - Move joystick forward and to the left.
4. **Forward Right Turn** - Move joystick forward and to the right.
5. **Backward Left Turn** - Move joystick backward and to the right.
6. **Backward Right Turn** - Move joystick backward and to the left.
7. **Left Fast Turn** - Move joystick to the left.
8. **Right Fast Turn** - Move joystick to the right.

STOPPING THE BOBCAT LOADER

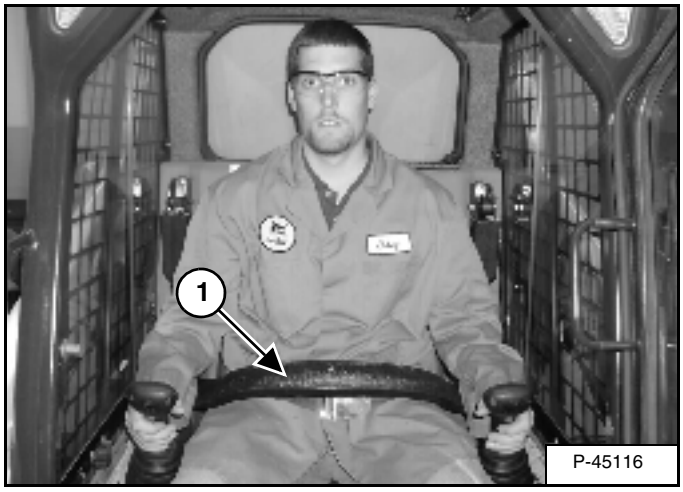
Using The Steering Levers Or Joysticks

When the steering levers or joysticks are moved to the neutral position, the hydrostatic transmission will act as a *service* brake to stop the loader.

SEAT BAR RESTRAINT SYSTEM

Operation

Figure OI-22



The seat bar restraint system has a pivoting seat bar with arm rests (Item 1) **[Figure OI-22]**.

The operator controls the use of the seat bar. The seat bar is the down position helps to keep the operator in the seat.

⚠ WARNING

AVOID INJURY OR DEATH

When operating the machine:

- **Keep the seat belt fastened snugly.**
- **The seat bar must be lowered.**
- **Keep your feet on the pedal controls or footrests and hands on steering levers.**

W-2261-0799

When the seat bar is down, the PRESS TO OPERATE LOADER button is activated, and the brake is released, the lift, tilt, and traction drive functions can be operated. (Traction drive will operate only when the engine is running.)

When the seat bar is up, the lift, tilt and traction drive functions are deactivated and both foot pedals (if equipped) will be locked.

⚠ WARNING

Before you leave the operator's seat:

- **Lower the lift arms, put the attachment flat on the ground.**
- **Stop the engine.**
- **Engage the parking brake.**
- **Raise seat bar.**
- **(Foot Pedal Controls) Move pedals until both lock.**
- **(Advanced Control System - ACS) Move the hydraulic controls to the NEUTRAL POSITION to make sure that both lift and tilt functions are deactivated.**

The seat bar system must deactivate the lift and tilt control functions when the seat bar is up. Service the system if hand controls do not deactivate.

- **(Selectable Joystick Control - SJC) Move the joysticks to the NEUTRAL POSITION to make sure that travel and hydraulic functions are deactivated.**

The seat bar system must deactivate these functions when the seat bar is up. Service the system if controls do not deactivate.

W-2463-0603

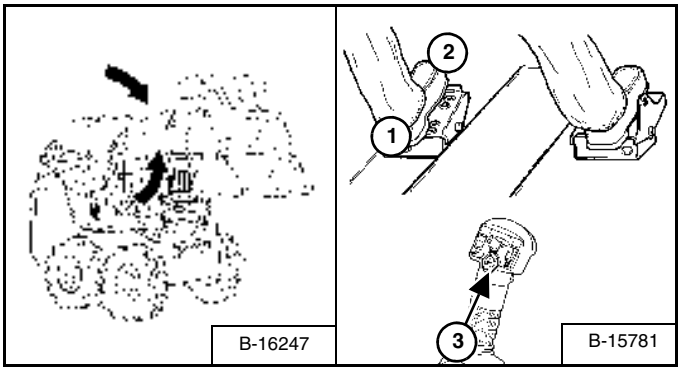
HYDRAULIC CONTROLS

Operation

Two foot pedals (or optional hand controls) control the hydraulic cylinders for the lift and tilt functions.

Put your feet on the pedals (or footrests) and KEEP THEM THERE any time you operate the loader.

Figure OI-23



Standard Controls (Also ACS in Foot Pedal Mode)

Lift Arm Operation - **(Left Pedal)**

Push the heel (Item 1) **[Figure OI-23]** of the pedal to raise the lift arms.

Push the toe (Item 2) **[Figure OI-23]** of the pedal to lower the lift arms.

Lift Arm Float Position - **(Left Pedal)**

Push the toe (Item 2) **[Figure OI-23]** of the pedal all the way forward until it locks into the float position.

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

Raise the lift arms to disengage the float position.

Lift Arm Float Position (With ACS) - **(Left Pedal)**

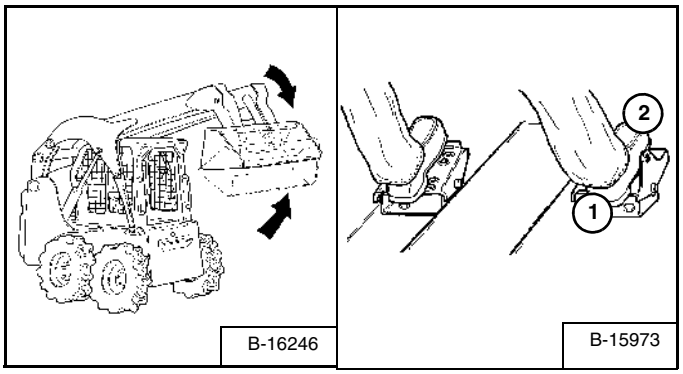
Press and hold the Float button (Item 3) **[Figure OI-23]**.

Push the toe (Item 2) **[Figure OI-23]** of the pedal forward to lower the lift arms. Then release the float button.

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

Raise the lift arms to disengage the float position.

Figure OI-24



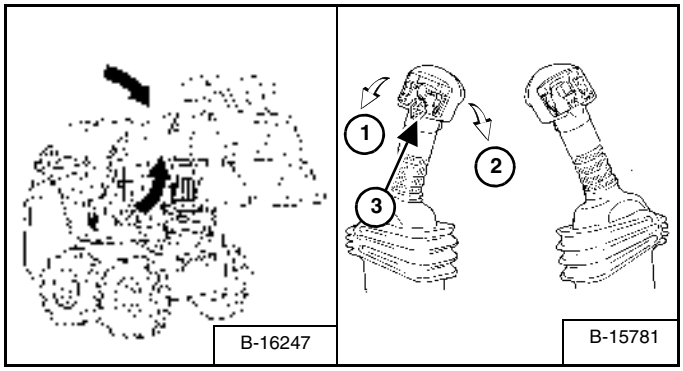
Tilt Operation - **(Right Pedal)**

Push the heel (Item 1) **[Figure OI-24]** of the pedal to tilt the bucket backward.

Push the toe (Item 2) **[Figure OI-24]** of the pedal to tilt the bucket forward.

Advanced Control System (ACS) in HAND Control Mode

Figure OI-25



Lift Arm Operation - **(Left Hand Lever)**

Move the lever outward (Item 1) **[Figure OI-25]** to raise the lift arms.

Move the lever inward (Item 2) **[Figure OI-25]** to lower the lift arms.

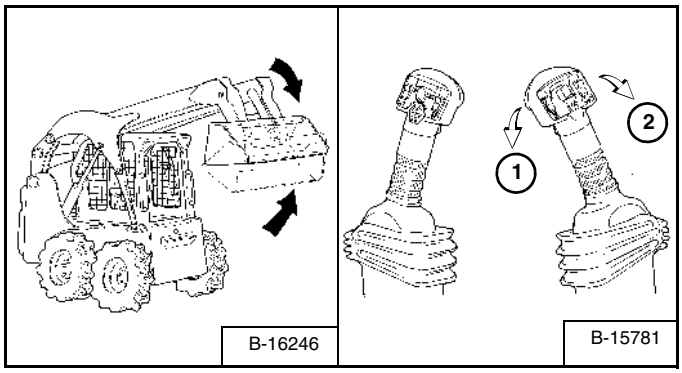
Lift Arm Float Position - **(Left Hand Lever)**

Press and hold the Float Button (Item 3) **[Figure OI-25]** while the lever is in neutral. Move the lever to lift arm down position (Item 2) **[Figure OI-25]**, then release the button.

Press Float Button again or move the lever to lift arm up position (Item 3) **[Figure OI-25]**.

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

Figure OI-26



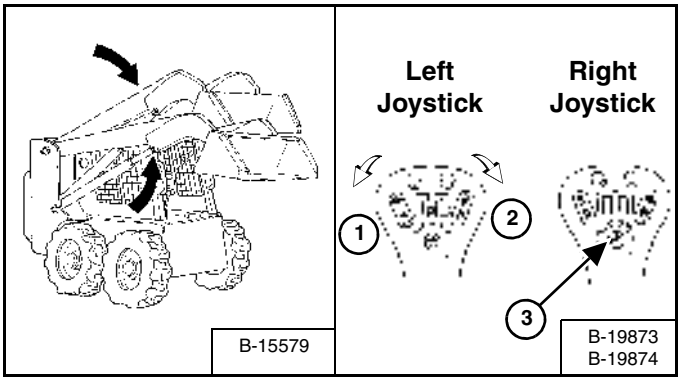
Tilt Operation - **(Right Hand Lever)**

Move the lever inward (Item 1) **[Figure OI-26]** to tilt the bucket backward.

Move the lever outward (Item 2) **[Figure OI-26]** to tilt the bucket forward.

Selectable Joystick Control (SJC) - 'H' Control Pattern

Figure OI-27



Lift Arm Operation - **(Left Hand Joystick)**

Move the joystick outward (Item 1) **[Figure OI-27]** to raise the lift arms.

Move the joystick inward (Item 2) **[Figure OI-27]** to lower the lift arms.

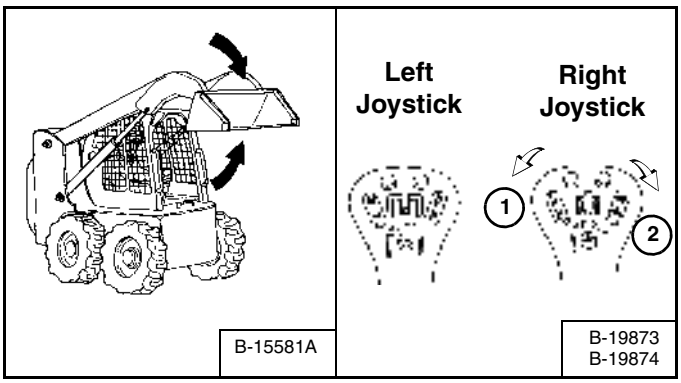
Lift Arm Float Position - **(Left & Right Hand Joysticks)**

Press and hold the Float Button (Item 3) **[Figure OI-27]** while the joysticks are in neutral. Move the left joystick to lift arm down position (Item 2) **[Figure OI-27]**, then release the button.

Press Float Button again or move the left joystick to lift arm up position (Item 3) **[Figure OI-27]** to disengage.

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

Figure OI-28



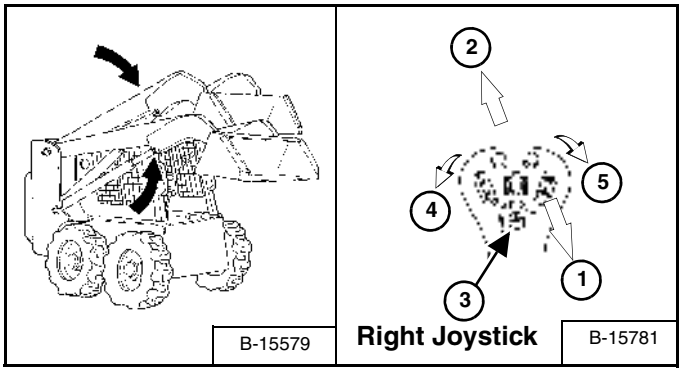
Tilt Operation - **(Right Hand Joystick)**

Move the joystick inward (Item 1) **[Figure OI-28]** to tilt the bucket backward.

Move the joystick outward (Item 2) **[Figure OI-28]** to tilt the bucket forward.

Selectable Joystick Control (SJC) - 'ISO' Control Pattern

Figure OI-29



Lift Arm Operation - **(Right Hand Joystick)**

Move the joystick backward (Item 1) **[Figure OI-29]** to raise the lift arms.

Move the joystick forward (Item 2) **[Figure OI-29]** to lower the lift arms.

Lift Arm Float Position - **(Right Hand Joystick)**

Press and hold the Float Button (Item 3) **[Figure OI-29]** while the joystick is in neutral. Move the joystick to lift arm down position (Item 2) **[Figure OI-29]**, then release the button.

Press Float Button again or move the joystick to lift arm up position (Item 2) **[Figure OI-29]** to disengage.

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

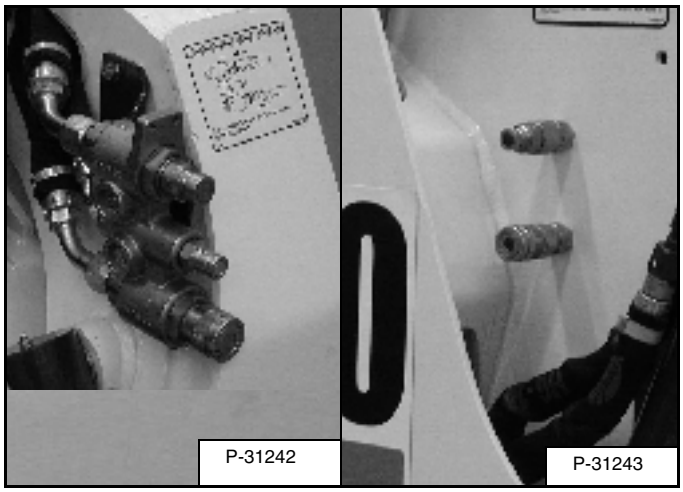
Tilt Operation - **(Right Hand Joystick)**

Move the joystick inward (Item 4) **[Figure OI-29]** to tilt the bucket backward.

Move the joystick outward (Item 5) **[Figure OI-29]** to tilt the bucket forward.

Quick Couplers

Figure OI-30



To Connect: Remove dirt or debris from the surface of both the male and female couplers, and from the outside diameter of the male coupler. Visually check the couplers for corroding, cracking, damage or excessive wear. If any of these conditions exist, the coupler(s) **[Figure OI-30]** must be replaced.

Install the male coupler into the female coupler. Full connection is made when the ball release sleeve slides forward on the female coupler.

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

Releasing Hydraulic Pressure (Loader and Attachment)

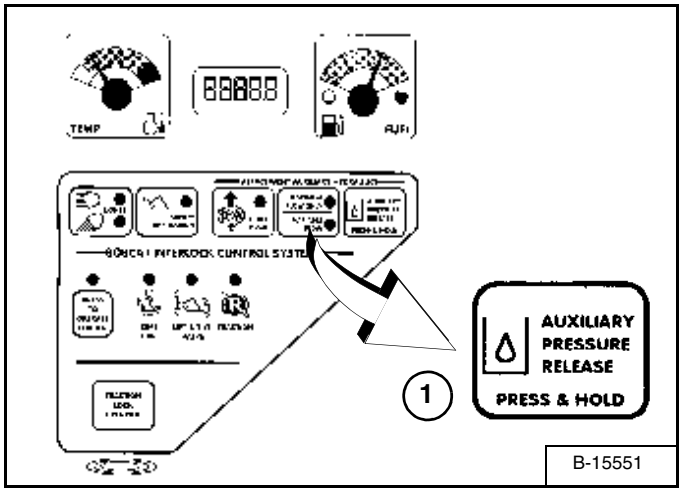
Front Auxiliary Quick Couplers

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

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

Rear Auxiliary Quick Couplers

Figure OI-31



Press the AUXILIARY PRESSURE RELEASE Button (Item 1) **[Figure OI-31]**. Hold it for two seconds after the engine comes to a complete stop. The pressure will be released.

⚠ WARNING

AVOID BURNS

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

W-2220-0396

Auxiliary Hydraulics Button - VARIABLE FLOW

Figure OI-32

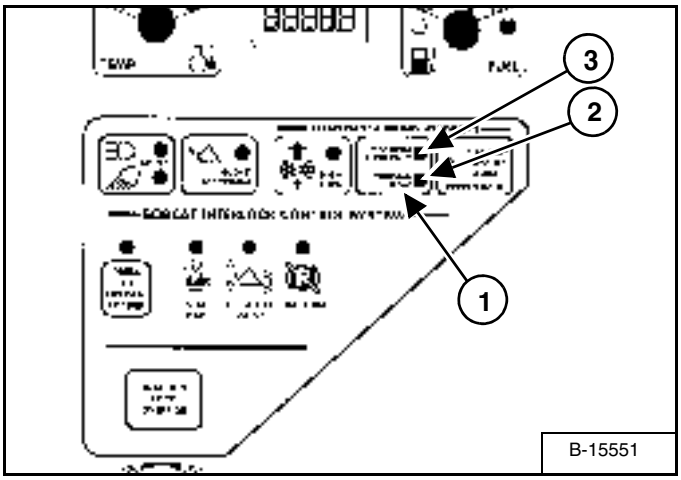
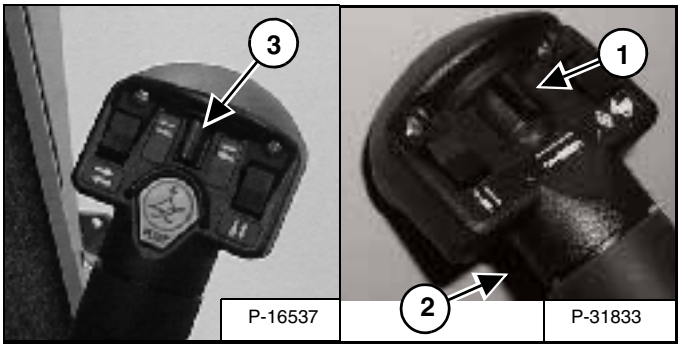


Figure OI-33



NOTE: The appearance of Joysticks is different than handles shown [Figure OI-33] but hydraulic function is the same.

VARIABLE FLOW allows for slow-to-fast movement of auxiliary functions. If you move the auxiliary switch (Item 1) **[Figure OI-33]** half-way, the auxiliary functions move at approximately one-half speed.

Press the auxiliary hydraulics button (Item 1) **[Figure OI-32]** once.

The light (Item 2) **[Figure OI-32]** will be ON.

Auxiliary Hydraulics Button - MAXIMUM FLOW ONLY

MAXIMUM FLOW ONLY allows for fast movement only. If you move the auxiliary switch (Items 1 or 3) **[Figure OI-33]**, the auxiliary functions move at fast speed; release the switch to stop auxiliary functions.

Press the auxiliary hydraulics button (Item 1) **[Figure OI-32]** a second time.

The light (Item 3) **[Figure OI-32]** will be ON.

Auxiliary Hydraulics Button - DISENGAGE

To disengage press the auxiliary hydraulics button (Item 1) **[Figure OI-32]** a third time.

Both lights (Items 2 & 3) **[Figure OI-32]** will be OFF.

NOTE: When the operator is seated and raises the seat bar, the Auxiliary Hydraulic System (Front *and* Rear) will deactivate.

FRONT Auxiliary Hydraulics Operation - VARIABLE FLOW

Press the auxiliary hydraulics button for VARIABLE FLOW (See Auxiliary Hydraulics Button - VARIABLE FLOW on Page OI-20).

Push the switch (Item 1) **[Figure OI-33]** to the right or left to change the fluid flow direction of the front quick couplers. (EXAMPLE: Open and close grapple teeth.)

FRONT Auxiliary Hydraulics Operation - MAXIMUM FLOW

Press the auxiliary hydraulics button for MAXIMUM FLOW (See Auxiliary Hydraulics Button - MAXIMUM FLOW ONLY on Page OI-20).

Push the switch (Item 1) **[Figure OI-33]** to the right or left to change the fluid flow direction of the front quick couplers. (EXAMPLE: Open and close grapple teeth.)

FRONT Auxiliary Hydraulics Operation - CONTINUOUS FLOW

After selecting VARIABLE or MAXIMUM FLOW, press the front switch (Item 2) **[Figure OI-33]** to give the front quick couplers a constant flow of fluid with the female coupler being pressurized. (EXAMPLE: Operate a backhoe.)

REVERSE CONTINUOUS FLOW - To set reverse flow (male coupler pressurized), hold the auxiliary switch (Item 1) **[Figure OI-33]** to the left, press VARIABLE or MAXIMUM FLOW and then press the front switch (Item 2) **[Figure OI-33]**. Reverse flow can be used only with augers, power rakes, sweepers, tillers, and vibratory rollers.

To release from continuous operation, press the front switch (Item 2) **[Figure OI-33]** a second time.