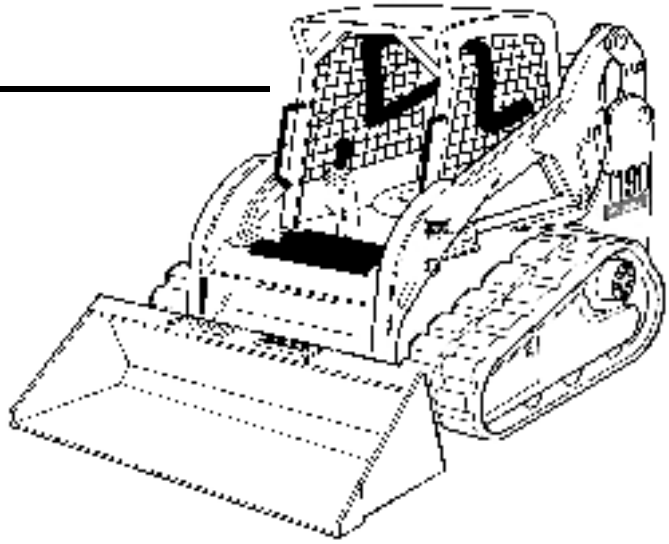
EN

T190

Bobcat®

Operation & Maintenance Manual

S/N 531711001 & Above



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS)

6904144-EN (09-06)

An Ingersoll-Rand Business

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

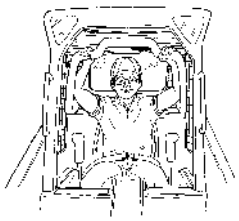
Safety Alert Symbol: **This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.**

CORRECT

B-10731A

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

CORRECT



B-15570

Always use the seat bar and fasten seat belt snugly.

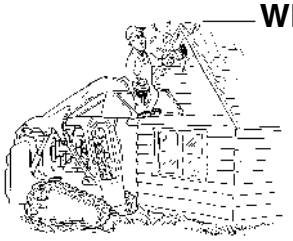
Always keep feet on the foot pedals or foot rest when operating loader.

WRONG

B-15953

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

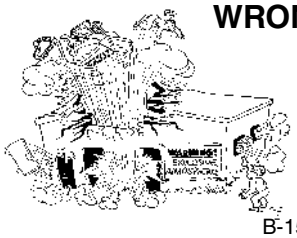
WRONG



B-15962

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

WRONG



B-15968

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

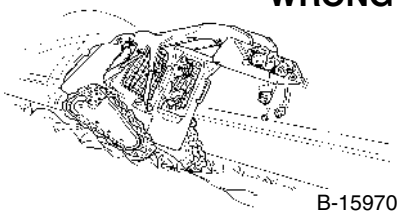
WRONG

B-15952

Never carry riders.

Keep bystanders away from work area.

WRONG



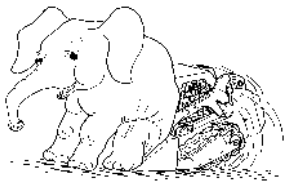
B-15970

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.

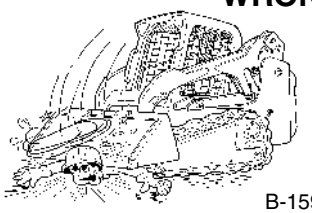
WRONG



B-15948

Never exceed Rated Operating Capacity.

WRONG

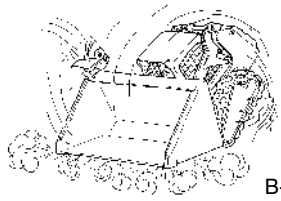


B-15957

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-15969

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 lock the loader controls.**
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)**

OSW12-0805

U.S. Publication 6904144 (12-05) Revised (5-06) (2)

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
Drève Richelle 167
B-1410 WATERLOO
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 LOADER. If you have any questions, see your Bobcat dealer.

Bobcat®

BOBCAT COMPANY IS ISO 9001:2000 CERTIFIED

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

British Standards Institute (**BSI**) is the Certified Registrar Bobcat Company chose to assess the Company's compliance with the ISO 9001:2000 standard. The BSI registration certifies that 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) 6675517		HYDROSTATIC FILTER, In-Line 6661022
	FUEL FILTER 6667352		BATTERY 6674687
	AIR FILTER, Outer 6598492		FLUID, Hydraulic / Hydrostatic 6903117 - (9,5 L) 6903118 - (19 L) 6903119 - (208 L)
	AIR FILTER, Inner 6598362		COOLANT PRESSURE CAP 6733429
	HYDROSTATIC FILTER 6661248		PROPYLENE GLYCOL Premixed - 6724094 Concentrate - 6724354

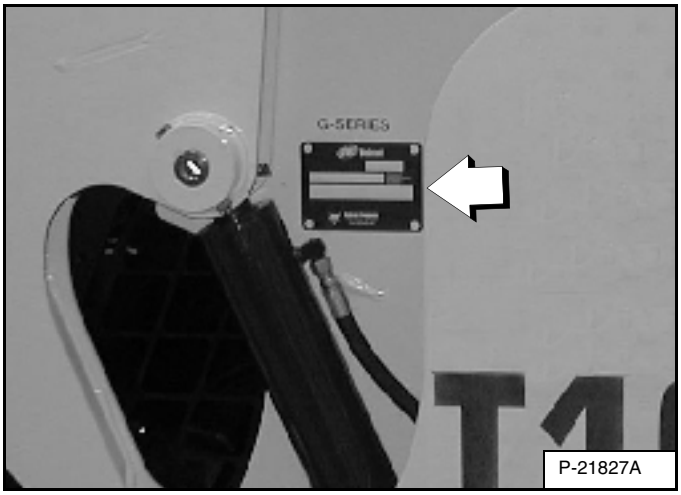
MOTOR OIL

6903105 -	SAE 15W40 CE/SG (12 L)	6903106 -	SAE 15W40 CE/SG (3,8 L)
6903107 -	SAE 10W30 CE/SG (12 L)	6903108 -	SAE 10W30 CE/SG (3,8 L)
6903109 -	SAE 30W CE/SG (12 L)	6903110 -	SAE 30W CE/SG (3,8 L)
6903113 -	SAE 15W40 CE/SG (9,5 L)	6903111 -	SAE 30W CE/SG (9,5 L)
6903112 -	SAE 10W30 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

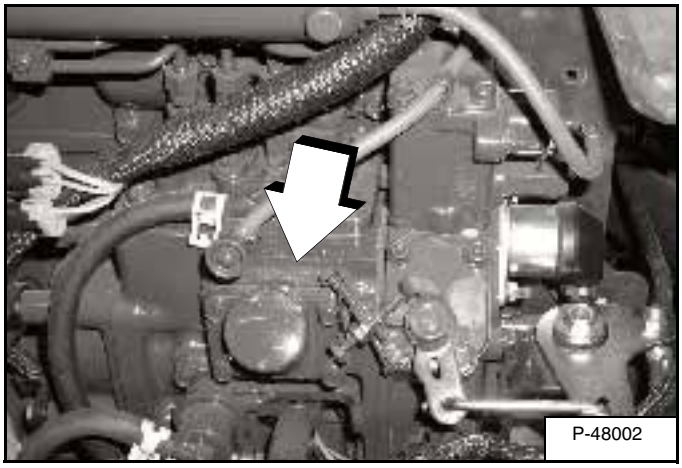
- XXXXX — Module 2. - Production Sequence (Series)
- XXXX — Module 1. - Model / Engine Combination

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

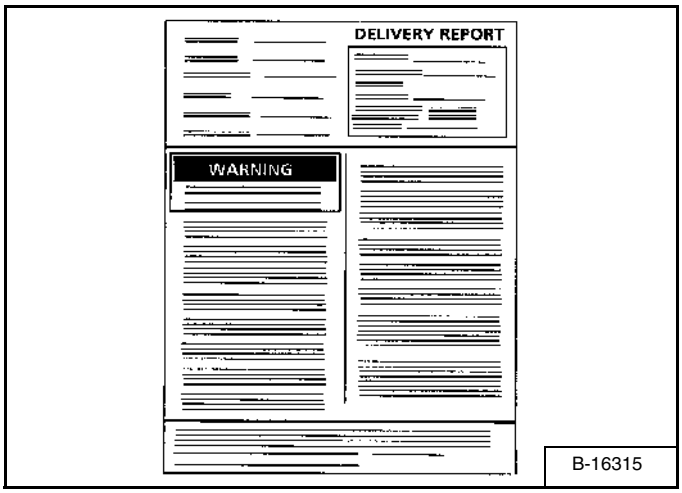
Figure 2



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

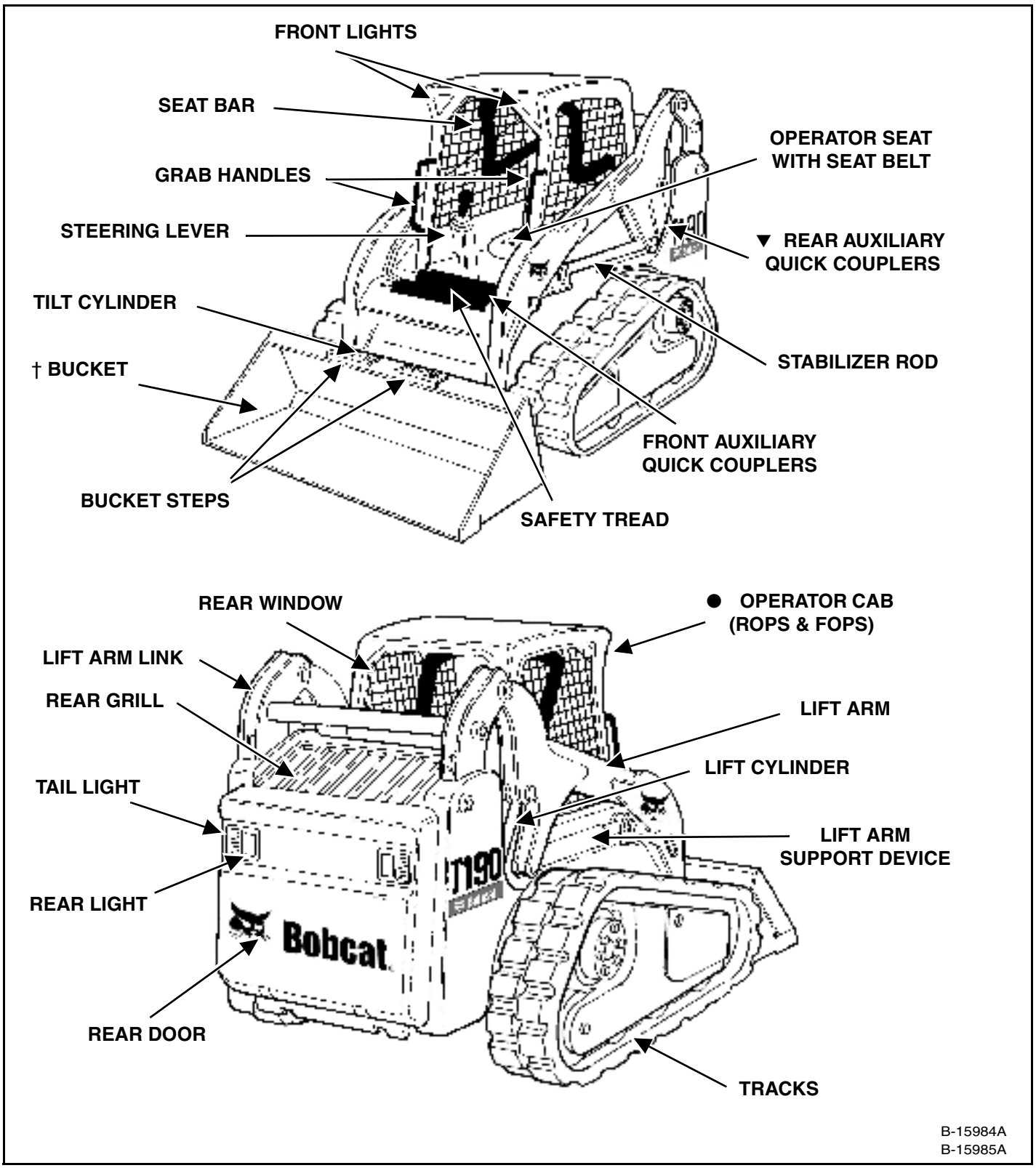
DELIVERY REPORT

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]**.

LOADER IDENTIFICATION



▼ OPTIONAL OR FIELD ACCESSORY (Not Standard Equipment)

† BUCKET - Several different buckets and other attachments are available from the Bobcat Loader.

● ROPS, FOPS - Roll Over Protective Structure, per ISO 3471, and Falling Object Protective Structure per SAE and ISO 3449, Level I. Level II is available. The Bobcat Loader is base-equipped with a standard operator cab as shown. Extra insulated cab is available as an option (Reduced noise level).

FEATURES, ACCESSORIES AND ATTACHMENTS

Standard Items

Model T190 Bobcat Loaders are equipped with the following standard items:

- Adjustable cushion seat
- Automatically activated glow-plugs
- Auxiliary hydraulics: variable flow / maximum flow
- Bobcat Interlock Control System (BICS)
- Bob-Tach™ frame
- CE certification
- Deluxe operator cab*
  Includes interior cab foam, side, top and rear windows, Deluxe wire harness, dome light, and electrical power port
- Front door w / windshield wiper
- Electrically activated proportional front auxiliary hydraulics
- Engine / hydraulics system shutdown
- Hydraulic bucket positioning (including ON / OFF switch)
- Instrumentation
- Lift arm support
- Operating lights, front and rear
- Parking brake
- Seat bar
- Seat belt
- Tracks - rubber - 320 mm
- Turbo-charger with approved spark arrestor
- Warranty: 12 months or 2000 hours

*** Roll Over Protective Structure (ROPS) - meets requirements of SAE-J1040 and ISO 3471; Falling Object Protective Structure (FOPS) - meets requirements of SAE-J1043 and ISO 3449, Level I**

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 Accessories
  - 7-pin attachment control kit (standard with T190H)
  - Back up alarm kit
  - Cab enclosure kit
  - Deluxe instrument panel
  - Door sensor kit
  - FOPS kit **
  - Four-point lift kit
  - Fresh air heater kit
  - Front door kit
  - Fuel cap locking kit
  - Operator cab, CE, enclosure kit
  - Plumbing kit for fresh air heater
  - Power Bob-Tach™ kit
  - Rear auxiliary hydraulic kit
  - Replacement Bob-Tach™
  - Replacement operator cab structure
  - Single-point lift kit
  - Special applications kit
- Factory Options
  - Advanced Control System (ACS)
  - Advanced Hand Controls (AHC)
  - Air conditioning
  - Cab enclosure with heat
  - Deluxe instrument panel
  - Power Bob-Tach™

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

Specifications subject to change without notice.

FEATURES, ACCESSORIES AND ATTACHMENTS (CONT'D)

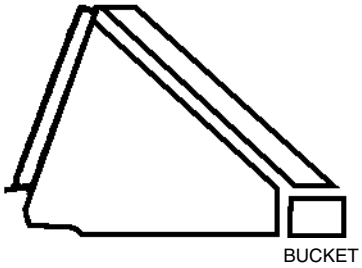
These and other attachments are approved for use on this model loader. Do not use unapproved attachments. Attachments not manufactured by Bobcat may not be approved.

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



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.

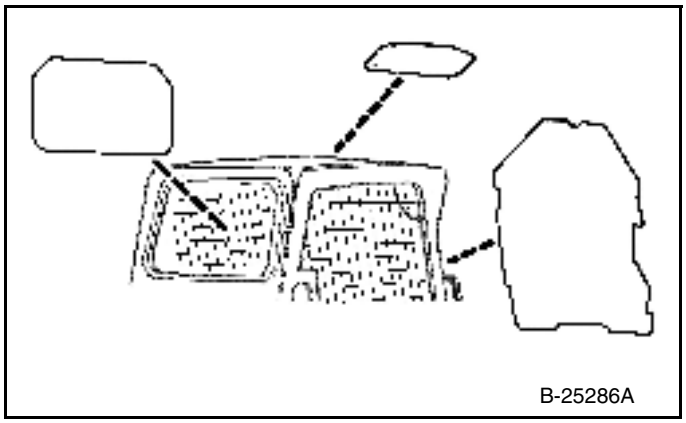
Attachments

For specific model availability, see Bobcat Product Price List.

- Angle 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*
- Scarifier
- Snow blower*
- Sod layer*
- Soil conditioner*
- Spreader
- Stump grinder*
- Super scraper
- Sweeper
- Three-point hitch
- Tiller
- Tree transplanter*
- Trench compactor
- Trencher
- Utility forks
- Utility frame
- Vibratory roller
- 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.

Special Applications Kit



Available for special applications to restrict material from entering cab openings. Kit includes 12 mm Lexan™ front door, top and rear windows.

See your Bobcat dealer for availability.

Special Applications Kit Inspection And Maintenance

- Inspect for cracks or damage. Replace if required.
- Pre-rinse with water to remove gritty materials.
- Wash with a mild household detergent and warm water.
- Use a sponge or soft cloth. Rinse well with water and dry with a clean soft cloth or rubber squeegee.
- Do not use abrasive or highly alkaline cleaners.
- Do not operate windshield wipers on a dry surface.
- Do not clean with metal blades or scrapers.

SAFETY

Bobcat®

SAFETY INSTRUCTIONS

Before Operation

Carefully follow the operating and maintenance instructions in this manual.

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

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

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

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

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

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

SI SSL-0206

Safe Operation Is The Operator's Responsibility

Safety Alert Symbol

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

WARNING

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

W-2001-1285

IMPORTANT

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

I-2019-0284

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

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 emblem. Regulations may identify a hazard such as a utility line.

Have Training with Actual Operation

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

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 the load if handling dense material.
- The operator must know any prohibited uses or work areas, for example, he or she needs to know about excessive slopes.
- Know the location of any underground lines.
- Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service. Safety glasses, hearing protection or Special Applications Kits are required for some work. See your Bobcat dealer about Bobcat Safety Equipment for your model.

SI SSL-0206

SAFETY INSTRUCTIONS (CONT'D)

Fire Prevention

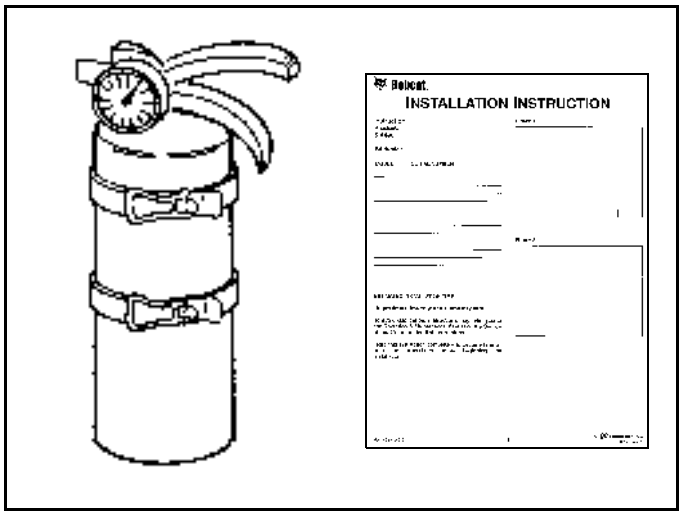
The machines and some attachments have components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcs or sparks.

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 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 that 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 machine when welding. Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.
- Stop the engine and let it cool before adding fuel. No smoking!
- Use the procedure in the Operation & Maintenance Manual for connecting the battery and for jump starting.
- Use the procedure in the Operation & Maintenance Manual for cleaning the spark arrestor muffler (if equipped).

Figure 4

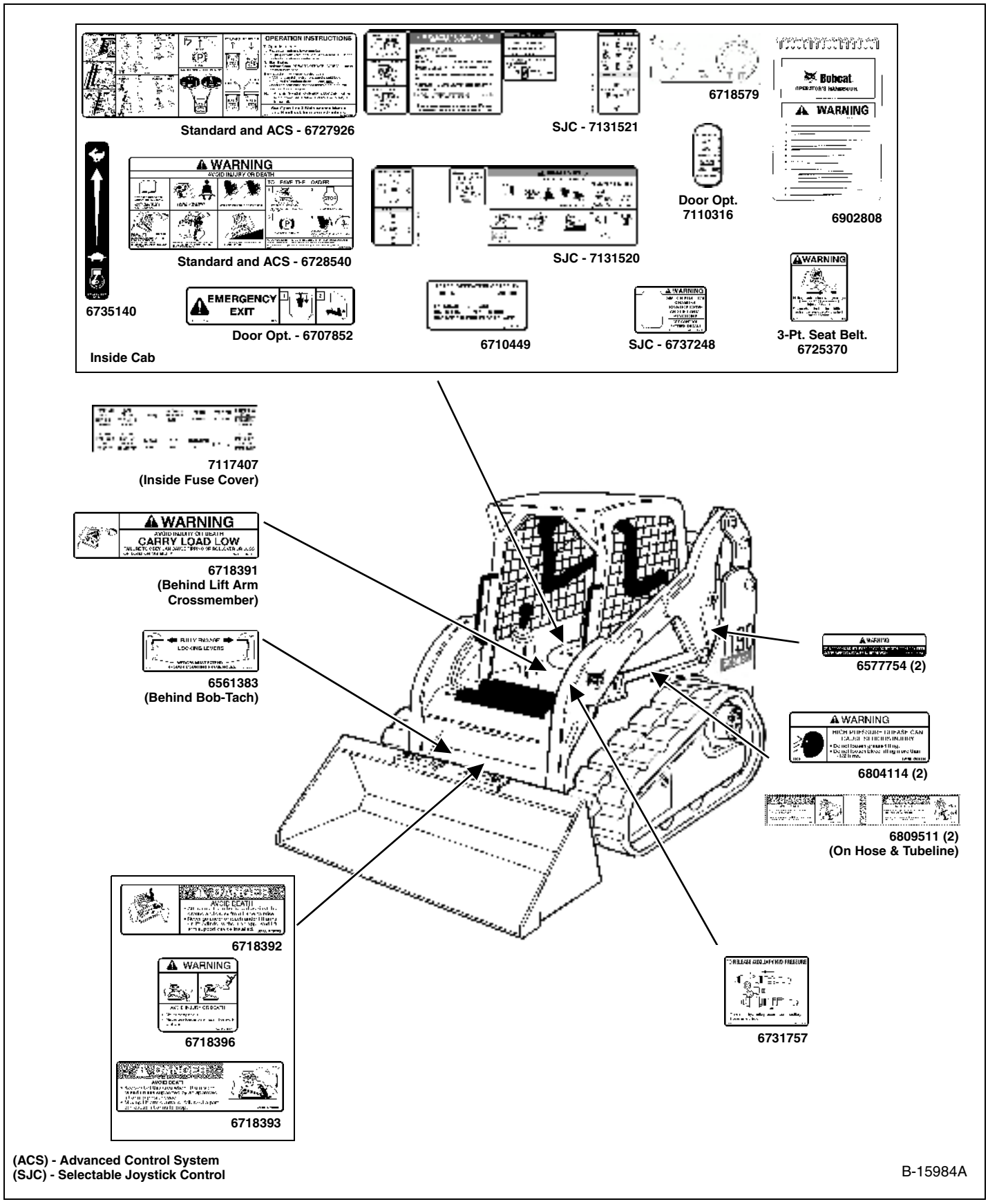


- Know where fire extinguishers and first aid kits are located and how to use them. Fire extinguishers are available from your Bobcat dealer **[Figure 4]**.

SI SSL-0206

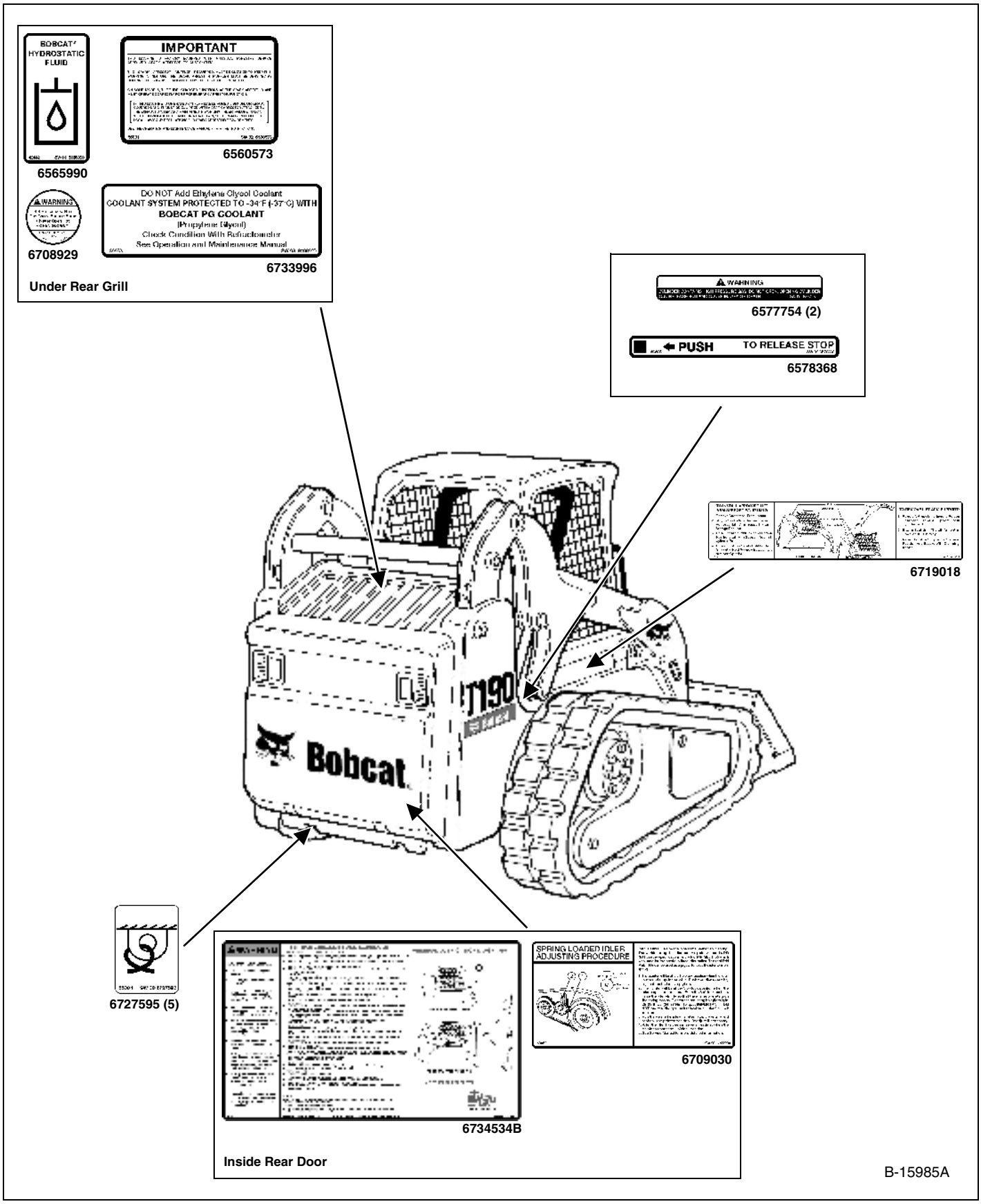
MACHINE SIGNS (DECALS)

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 your 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 your Bobcat Loader dealer.




Bobcat®

OPERATING INSTRUCTIONS

OPERATING INSTRUCTIONS (CONT'D)

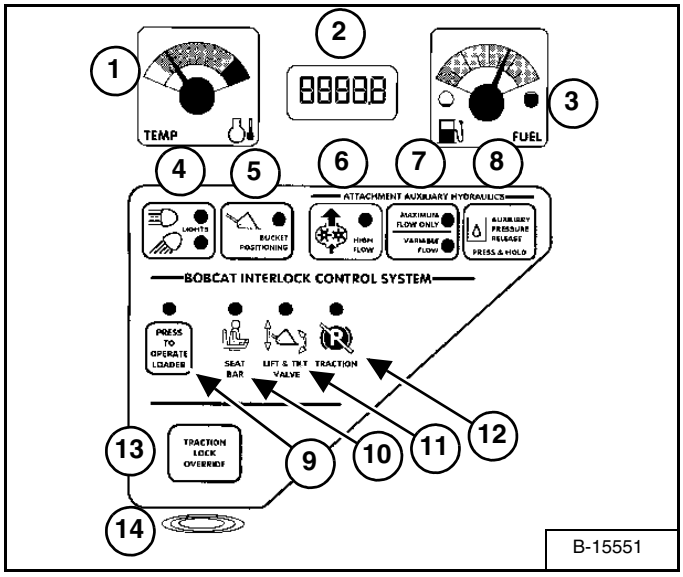
OPERATING INSTRUCTIONS (CONT'D)

Bobcat®

INSTRUMENT PANEL IDENTIFICATION

Left Panel

Figure 5



The left instrument panel is the same for both the Key Switch and Keyless Instrument Panels **[Figure 5]**.

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

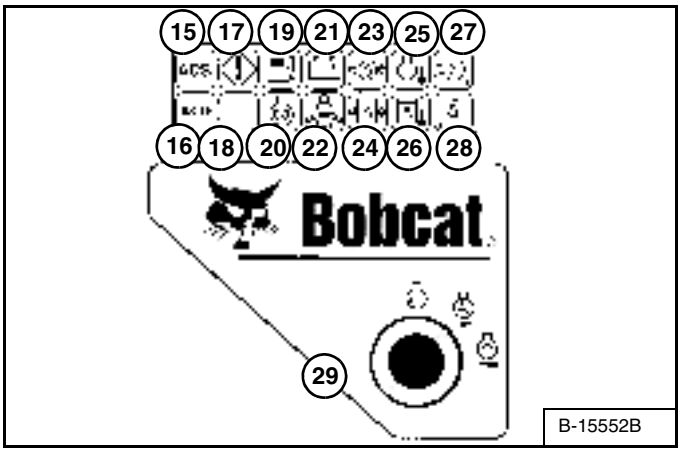
REF. NO	DESCRIPTION	FUNCTION / OPERATION
1	TEMPERATURE GAUGE	Shows the engine coolant temperature.
2	HOURMETER / CODE DISPLAY / GLOW PLUG COUNTDOWN	HOURMETER - Records operating hours of loader. CODE DISPLAY - Display numeric SERVICE CODES* relating to the loader monitoring system. COUNTDOWN - Preheat 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 seconds for display of SERVICE CODES (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 Relieve Hydraulic Pressure (Loader And Attachment) on Page 23 for front auxiliary pressure release.)
	BOBCAT INTERLOCK CONTROL SYSTEM (BICS) (See SYSTEM ANALYSIS, Page 109 for more information.)	
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 on Page 12). 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 110 for further description of SERVICE CODES.

INSTRUMENT PANEL IDENTIFICATION (CONT'D)

Right Panel (Key Switch)

Figure 6



The right instrument panel shown **[Figure 6]** is the Key Switch Panel.

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

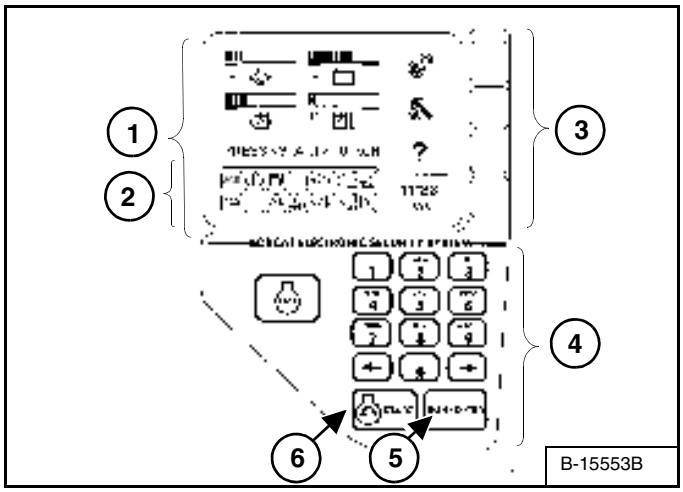
* These functions are monitored and have SERVICE CODES associated with them. For descriptions of DIAGNOSTICS SERVICE CODES. (See DIAGNOSTIC SERVICE CODES on Page 110.)

REF.	FUNCTION	ICON / LIGHT	ALARM	CODE	CONDITION	DESCRIPTION
15	Advanced Control System (ACS)	ON	3 Beeps	*	Error	Error with Advanced Control System (ACS).
16	Attachment Control Device (ACD)	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 FLASHING	- - - 3 Beeps	- - - *	- - - Error	Glow plugs are energized. Error with glow plugs.
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 110 for further description of SERVICE CODES.

Right Panel (Keyless)

Figure 7



The right instrument panel shown **[Figure 7]** is the Keyless 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 Keyless Panel has the same Icons as the Key Switch Panel. These Icons are only visible when the monitoring system has detected an error.

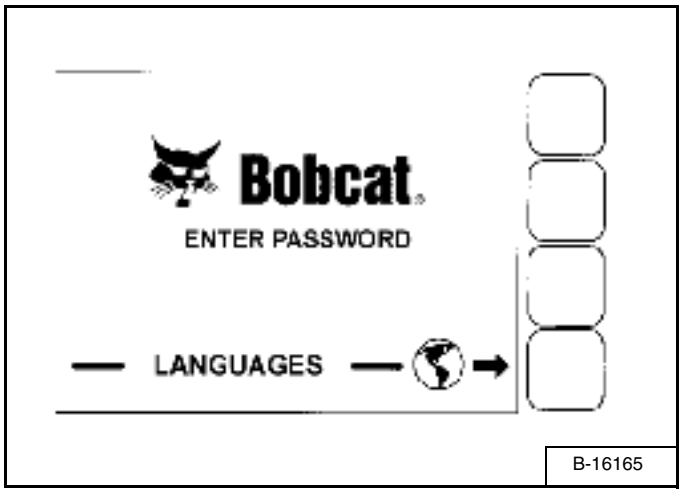
3. **Selection Buttons:** The four Selection Buttons allow you to select items from the Display Panel and scroll through screens.

4. **Keypad:** The numeric keypad (4) **[Figure 7]** 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 8



The first screen you will see on your new loader will be as shown in **[Figure 8]**.

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 Keyless Instrument Panel) will have an 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 Panel Setup on Page 116.) Keep your password in a safe place for future needs.

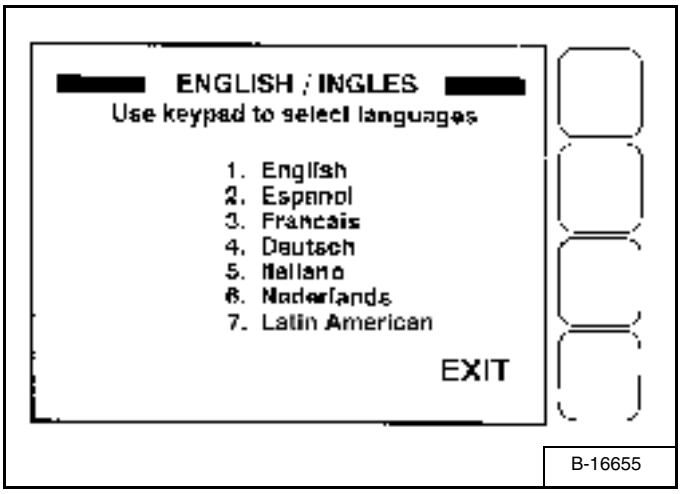
Start Engine: Use the Keypad to enter the numbers (letters) of your password and press the RUN / ENTER key (5) **[Figure 7]**.

Press and hold the START Button (6) **[Figure 7]** until the engine starts.

Change Language: Press the Selection Button at the end of the arrow **[Figure 8]** to go to the next screen.

Right Panel (Keyless) (Cont'd)

Figure 9



Use the Keypad to select the number of the language **[Figure 9]**.

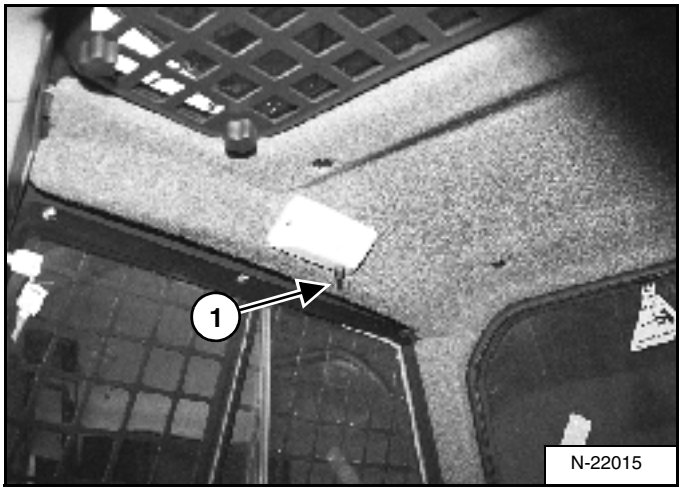
Press EXIT. The screen will return to **[Figure 8]**. You can then enter the password and start the engine.

For further description of screens to setup the system for your use (See Panel Setup on Page 116.)

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.

Cab Light

Figure 10

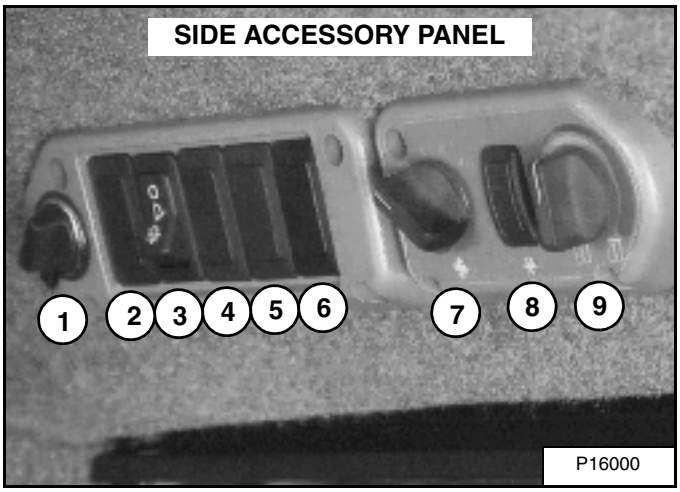


Push the button (1) **[Figure 10]** to turn the light ON. Push the button again to turn OFF.

INSTRUMENT PANEL IDENTIFICATION (CONT'D)

Option And Field Accessory Panels

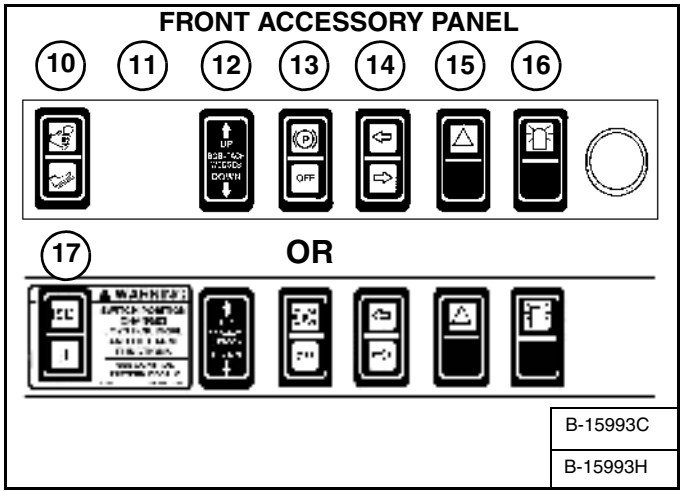
Figure 11



Side Accessory Panel [Figure 11]

REF. NO.	DESCRIPTION	FUNCTION / OPERATION
1	POWER PLUG	Provides a 12 V 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 (7) must be ON for A/C to operate.
9	TEMP. CONTROL	Turn clockwise to increase the temperature; counterclockwise to decrease.

Figure 12



NOTE: Parking Brake (13) [Figure 12] is Standard on all loaders.

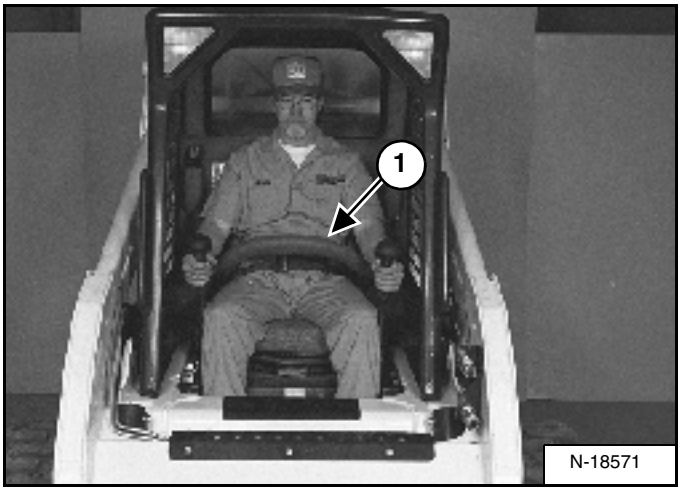
Front Accessory Panel [Figure 12]

REF. NO.	DESCRIPTION	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 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.

SEAT BAR RESTRAINT SYSTEM

Operation

Figure 13



The seat bar restraint system has a pivoting seat bar with arm rests (1) **[Figure 13]**.

The operator controls the use of the seat bar. The seat bar in 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, PRESS TO OPERATE LOADER Button is activated, and the brake pedal 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 when returned to neutral position.

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 Controls - 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

BOBCAT INTERLOCK CONTROL SYSTEM (BICS)

Operation

WARNING

AVOID INJURY OR DEATH

The Bobcat Interlock Control System (BICS) must deactivate the lift, tilt and traction drive functions. If it does not, contact your dealer for service. DO NOT modify the system.

W-2151-0394

Figure 14

The Bobcat Interlock Control System (BICS) has a pivoting seat bar with arm rests (1) **[Figure 14]**.

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

The BICS requires the operator to be seated in the operating position with the Seat Bar (1) **[Figure 14]** fully lowered before the lift, tilt, auxiliary hydraulics, and traction functions can be operated. The seat belt must be fastened anytime you operate the machine.

WARNING

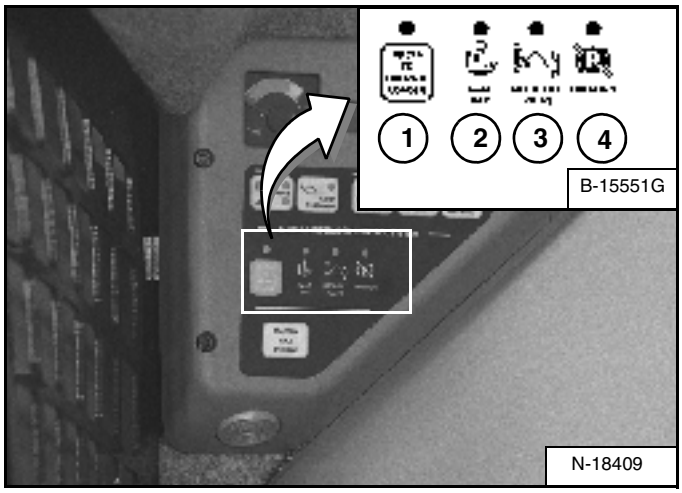
AVOID INJURY OR DEATH

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

Figure 15



There are display lights (1, 2, 3, and 4) **[Figure 15]** located on the left instrument panel that must be ON to operate the machine.

When the seat bar is down, PRESS TO OPERATE LOADER Button is activated, and the parking brake is released, the lift, tilt, auxiliary hydraulics, and traction drive functions can be operated.

When, the seat bar is up, the lift, tilt, auxiliary hydraulics, and traction drive functions are deactivated.

WARNING

Before you leave the operator's seat:

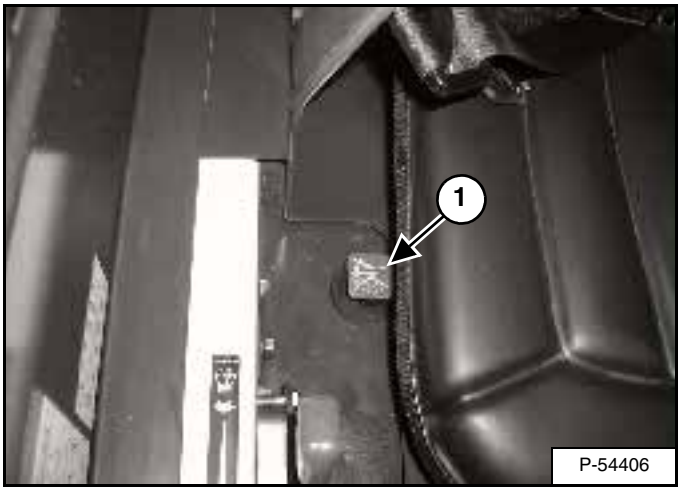
- **Lower the lift arms, put the attachment flat on the ground.**
- **Stop the engine.**
- **Engage the parking brake.**
- **Raise seat bar.**
- **(Foot Pedal Controls) Move pedals until both lock.**
- **(Advanced Control system - ACS) Move the hydraulic controls to the NEUTRAL POSITION to make sure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

LIFT ARM BY-PASS CONTROL

Operation

Figure 16



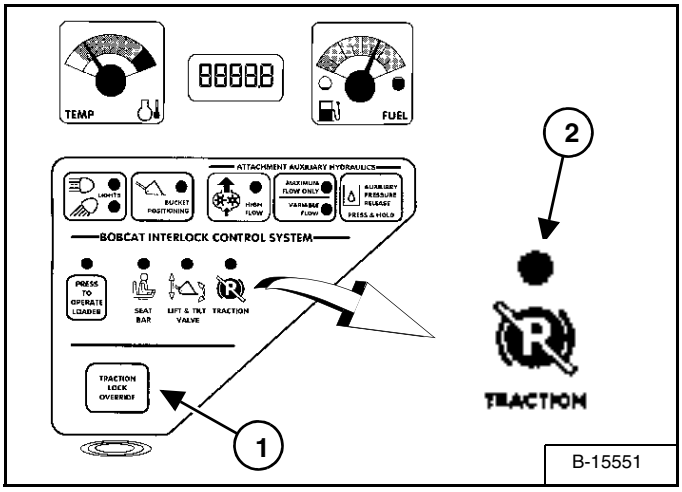
The lift arm by-pass control (1) **[Figure 16]** is used to lower the lift arms if the lift arms cannot be lowered during normal operations.

- Sit in the operator's seat.
- Fasten the seat belt and lower the seat bar.
- Turn the knob (1) **[Figure 16]** clockwise 1/4 turn.
- Pull up and hold the knob until the lift arms slowly lower.

TRACTION LOCK OVERRIDE

Operation

Figure 17



(Functions Only When The Seat Bar Is Raised And The Engine Is Running) There is a TRACTION LOCK OVERRIDE Button (1) **[Figure 17]** on the left instrument panel which will allow you to use the steering levers to move the loader forward & backward when using the backhoe attachment or for loader service.

- Press the TRACTION LOCK OVERRIDE Button once to unlock traction drive. The TRACTION light (2) **[Figure 17]** will be ON.

- Press the button a second time to lock the traction drive. The TRACTION light (2) **[Figure 17]** will be OFF.

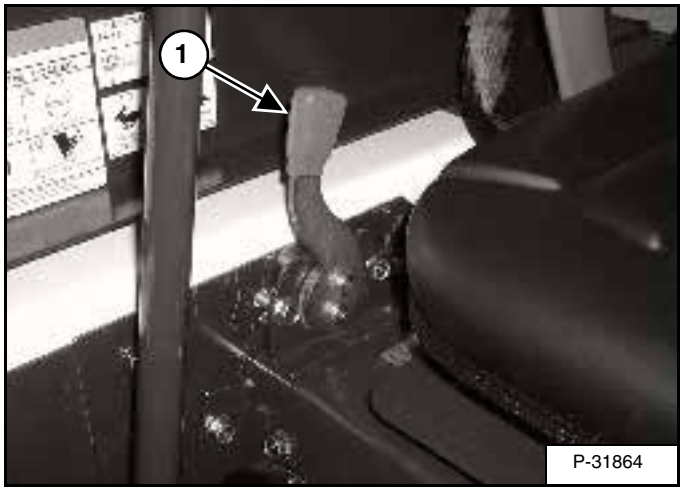
NOTE: The TRACTION LOCK OVERRIDE Button will unlock the traction drive when seat bar is raised and the engine is running.

The TRACTION LOCK OVERRIDE Button <u>will</u> function if brake pedal is in the engaged or disengaged position and the engine is running.

ENGINE SPEED CONTROL

Operation

Figure 18



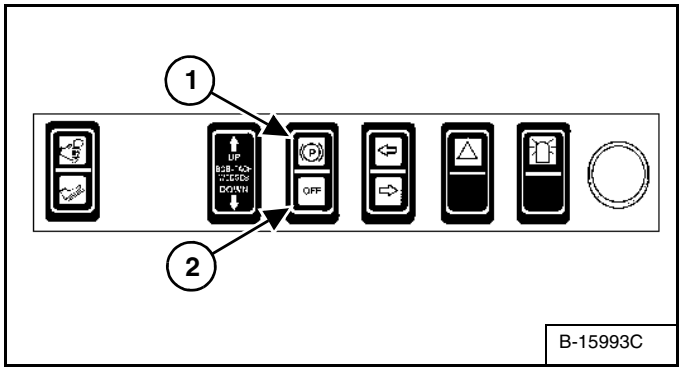
The speed control lever is at the right side of the operator's seat (1) **[Figure 18]**.

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

PARKING BRAKE

Operation

Figure 19



Press the top of the switch (1) **[Figure 19]** to engage the parking brake. The traction drive system will be locked.

Press the bottom of the switch (2) **[Figure 19]** to disengage the parking brake. The traction drive system will be unlocked.

NOTE: The TRACTION light on the left instrument panel will remain OFF until the engine is started, the PRESS TO OPERATE LOADER button is pressed and the parking brake is disengaged.

DRIVING AND STEERING THE LOADER

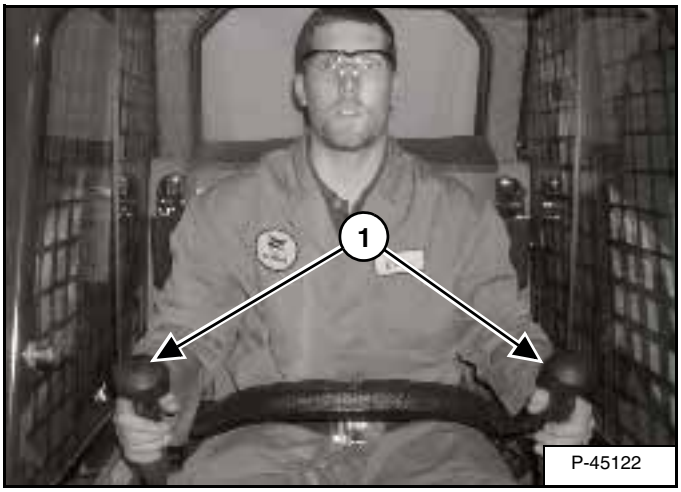
Available Controls Configurations

The loader has three configurations available:

- *Standard Controls* - Two Levers control drive and steering functions.
- *Advanced Control System (ACS) (Optional or Field Accessory)* - Two 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)

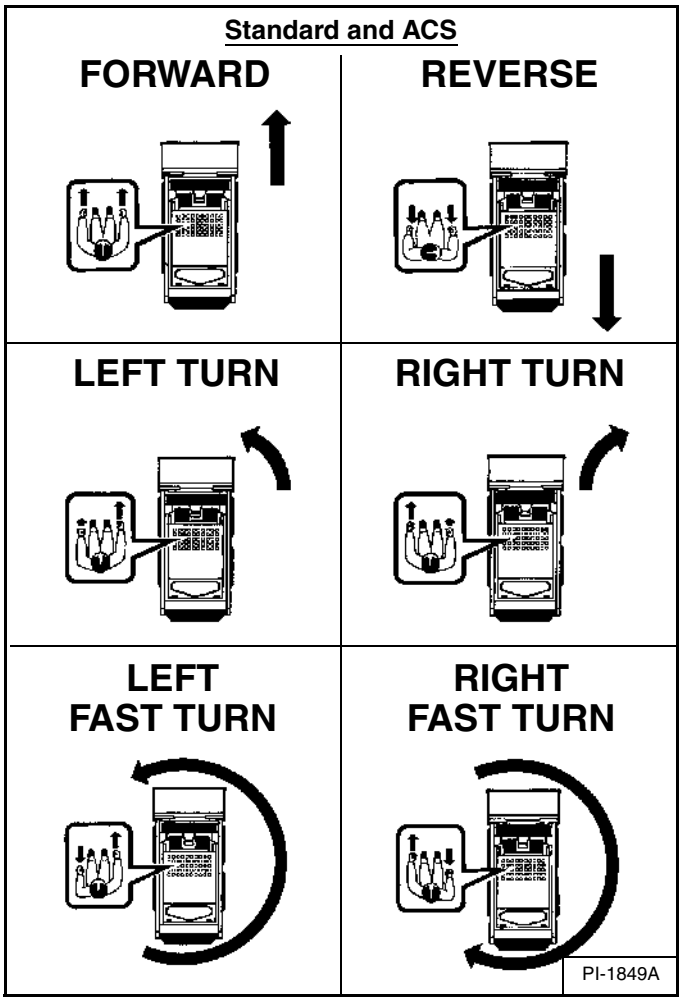
Figure 20



The control levers (1) **[Figure 20]** are on the left and right side in front of the seat.

Move levers smoothly. Avoid sudden starting and stopping.

Figure 21



The steering levers control forward and reverse travel and turning the loader **[Figure 21]**.

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

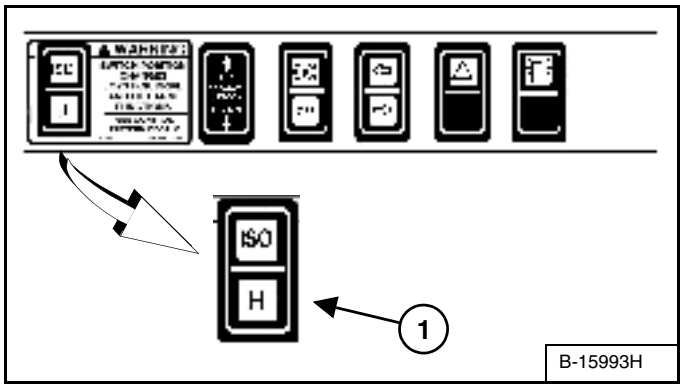
When operating the machine:

- **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 22



Select the 'H' control pattern by pressing the bottom of the switch (1) **[Figure 22]**.

WARNING

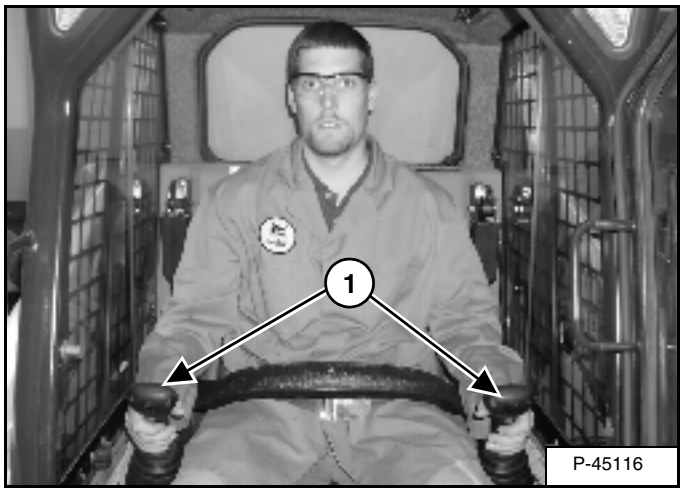
AVOID INJURY OR DEATH

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

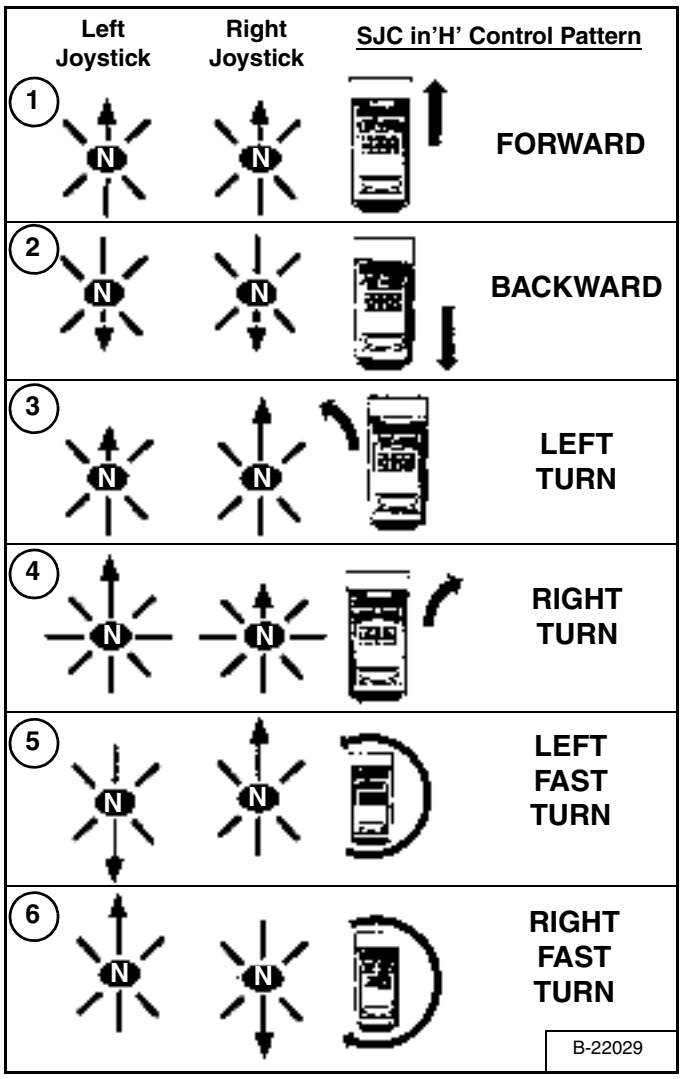
Figure 23



Both joysticks control drive and steering and are located on the right and left side in front of the seat (1) **[Figure 23]**.

Move the joysticks smoothly. Avoid sudden starting and stopping.

Figure 24

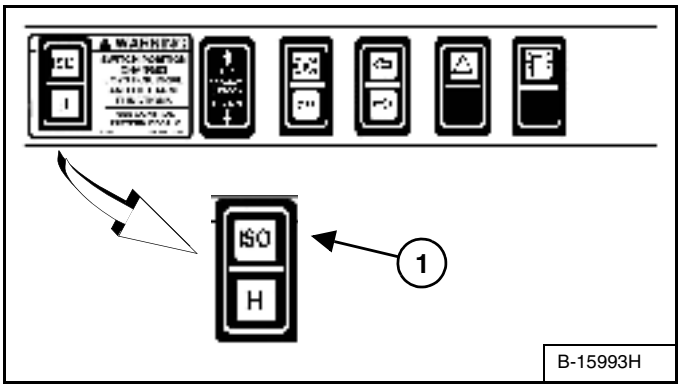


Hand Control Functions (Drive and Steering) **[Figure 24]**

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 25



Select the 'ISO' control pattern by pressing the top of the switch (1) **[Figure 25]**.

WARNING

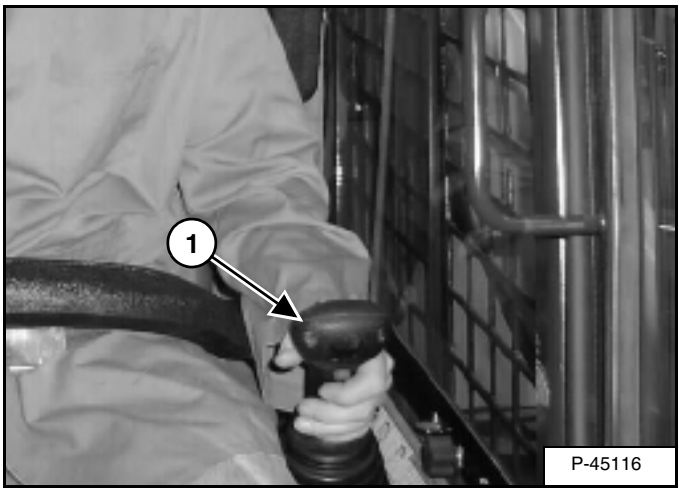
AVOID INJURY OR DEATH

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

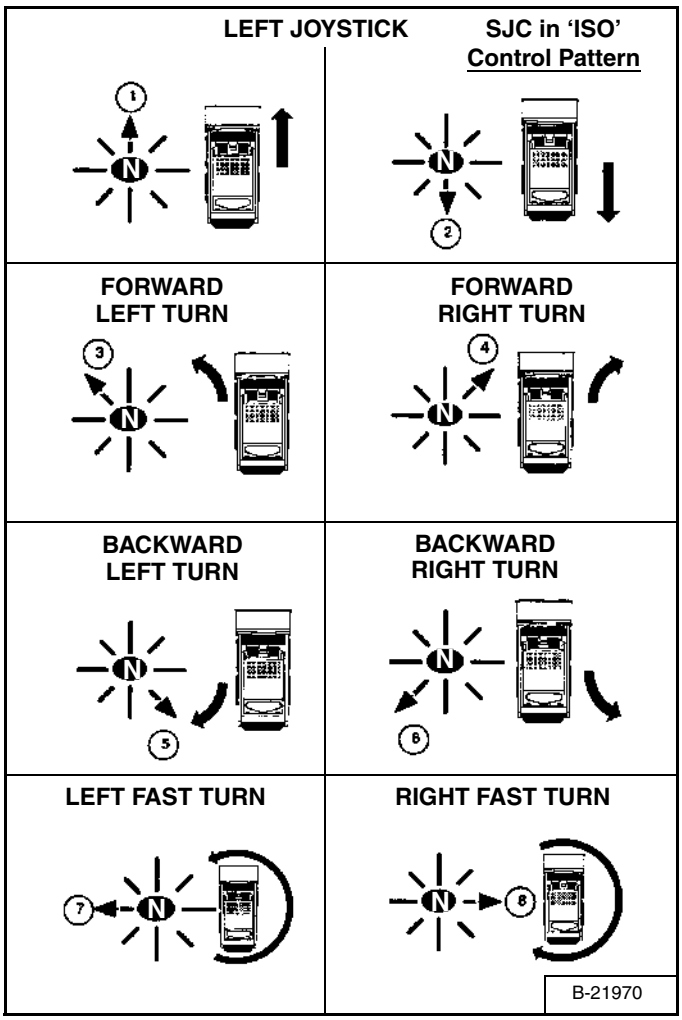
Figure 26



The joystick which controls drive and steering is on the left side in front of the seat (1) **[Figure 26]**.

Move the joystick smoothly. Avoid sudden starting and stopping.

Figure 27



Left Joystick Functions (Drive and Steering) **[Figure 27]**

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 LOADER

Using The Control Levers Or Joysticks

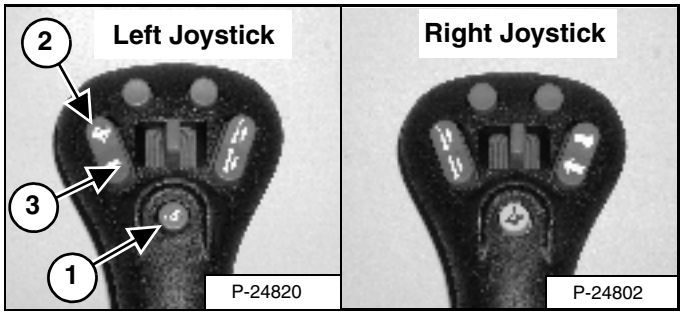
When the levers or joysticks are moved to the neutral position, the hydrostatic transmission will act as a *service brake* to stop the loader.

SPEED MANAGEMENT (SJC OPTION)

Operation

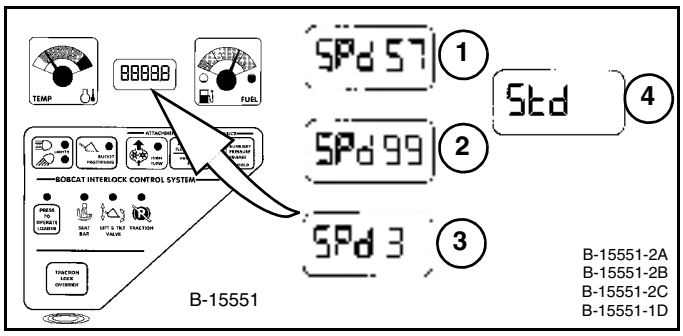
Speed Management allows the loader to be maneuvered at slow travel speed for installing attachments, loading or unloading, and work applications such as trenching, tilling and landscaping.

Figure 28



Press the button (1) **[Figure 28]** on the left joystick once to engage Speed Management.

Figure 29



When Speed Management is engaged, the machine will travel at 57% of Standard travel speed and the percentage **[SPd 57]** will appear in the display (1) **[Figure 29]**.

While Speed Management is engaged, press the top of the Speed Control switch (2) **[Figure 28]** to increase the speed up to 99% **[SPd 99]** or the bottom of the switch (I3) **[Figure 28]** to decrease the speed down to 3% **[SPd 3]**. The percentages will appear in the display (1, 2 and 3) **[Figure 29]**.

Press button (1) **[Figure 28]** again to disengage Speed Management and return to Standard Travel Speed (**[Std]** (4) **[Figure 29]** will appear in display.)

NOTE: <u>Early model loaders</u> will show Snl in the display [Figure 29] instead of SPd.

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

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

EXAMPLE: If you turn the key OFF or press the STOP button, the next time you start the engine and engage Speed Management, the speed will be at 57% of Standard Travel Speed. Press button (1) [Figure 28] to resume Speed Management Operation.

HYDRAULIC CONTROLS

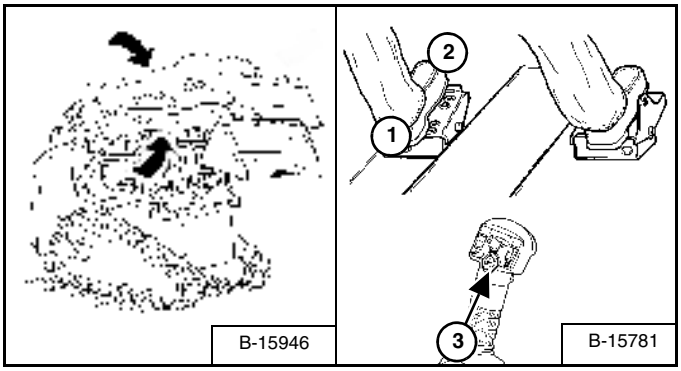
Description

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.

Standard Controls (Also ACS In FOOT Pedal Mode)

Figure 30



Lift Arm Operation - (Left Pedal)

Push the heel (1) **[Figure 30]** of the pedal to raise the lift arms.

Push the toe (2) **[Figure 30]** of the pedal to lower the lift arms.

Lift Arm Float Position Operation - (Left Pedal)

Push the toe (2) **[Figure 30]** 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)

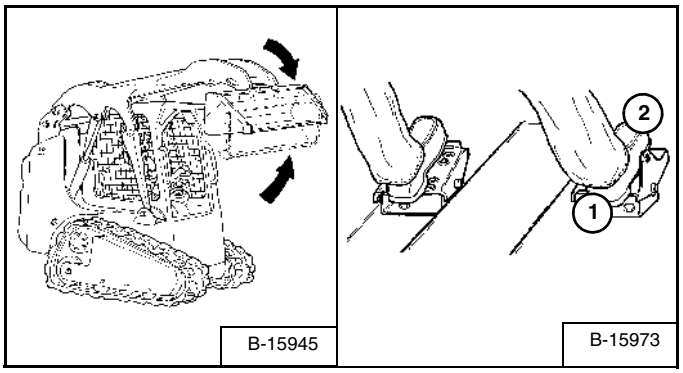
Press and hold the Float button (3) **[Figure 30]**.

Push the toe (2) **[Figure 30]** 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 31



Tilt Operation - (Right Pedal)

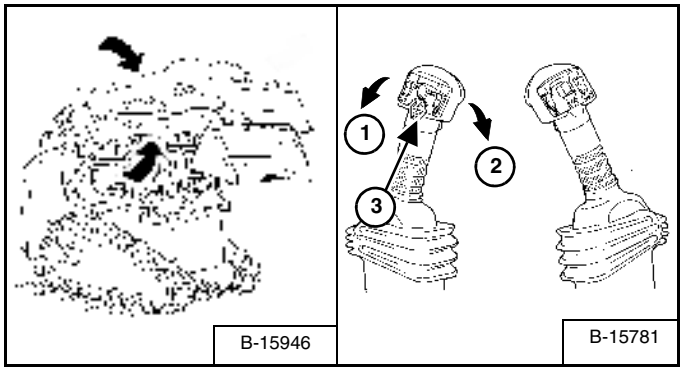
Push the heel (1) **[Figure 31]** of the pedal to tilt the bucket backward.

Push the toe (2) **[Figure 31]** of the pedal to tilt the bucket forward.

HYDRAULIC CONTROLS (CONT'D)

Advanced Control System (ACS) In HAND Control Mode

Figure 32



Lift Arm Operation - (Left Hand Lever)

Move the lever outward (1) **[Figure 32]** to raise the lift arms.

Move the lever inward (2) **[Figure 32]** to lower the lift arms.

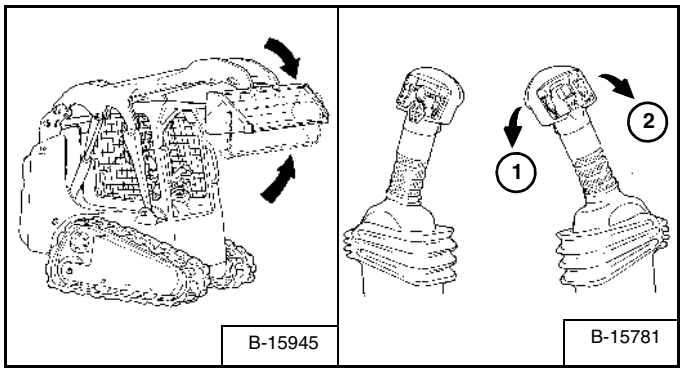
Lift Arm Float Position - (Left Hand Lever)

Press and hold the Float Button (3) **[Figure 32]** while the lever is in neutral. Move the lever to lift arm down position (2) **[Figure 32]**, then release the button.

Press Float Button (3) again or move the lever to lift arm up position (1) **[Figure 32]**.

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

Figure 33



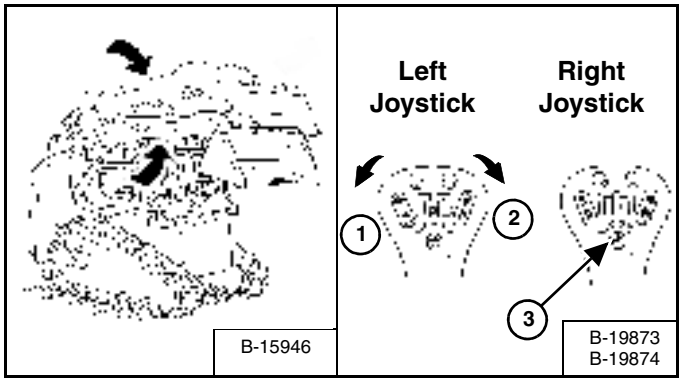
Tilt Operation - (Right Hand Lever)

Move the lever inward (1) **[Figure 33]** to tilt the bucket backward.

Move the lever outward (2) **[Figure 33]** to tilt the bucket forward.

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

Figure 34



Lift Arm Operation - (Left Hand Joystick)

Move the joystick outward (1) **[Figure 34]** to raise the lift arms.

Move the joystick inward (2) **[Figure 34]** to lower the lift arms.

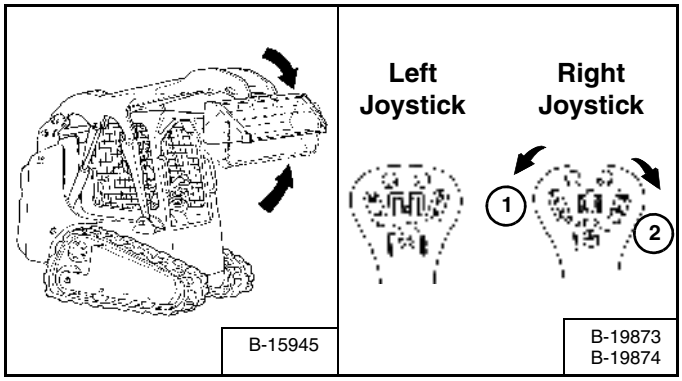
Lift Arm Float Position - (Left & Right Hand Joysticks)

Press and hold the Float Button (3) **[Figure 34]** while the joysticks are in neutral. Move the left joystick to lift arm down position (2) **[Figure 34]**, then release the button.

Press Float Button (3) again or move the left joystick to lift arm up position (1) **[Figure 34]** to disengage.

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

Figure 35



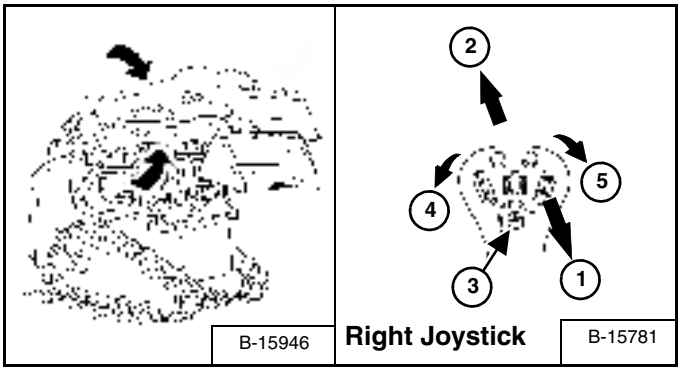
Tilt Operation - (Right Hand Joystick)

Move the joystick inward (1) **[Figure 35]** to tilt the bucket backward.

Move the joystick outward (2) **[Figure 35]** to tilt the bucket forward.

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

Figure 36



Lift Arm Operation - (Right Hand Joystick)

Move the joystick backward (1) **[Figure 36]** to raise the lift arms.

Move the joystick forward (2) **[Figure 36]** to lower the lift arms.

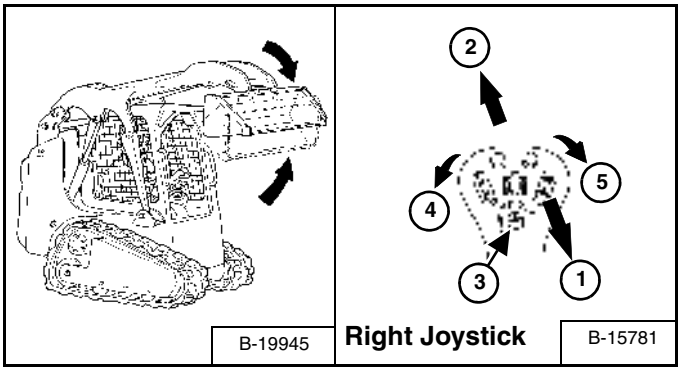
Lift Arm Float Position - (Right Hand Joystick)

Press and hold the Float Button (3) **[Figure 36]** while the joystick is in neutral. Move the joystick to lift arm down position (2) **[Figure 36]**, then release the button.

Press Float Button (3) again or move the joystick to lift arm up position (1) **[Figure 36]** to disengage.

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

Figure 37



Tilt Operation - (Right Hand Joystick)

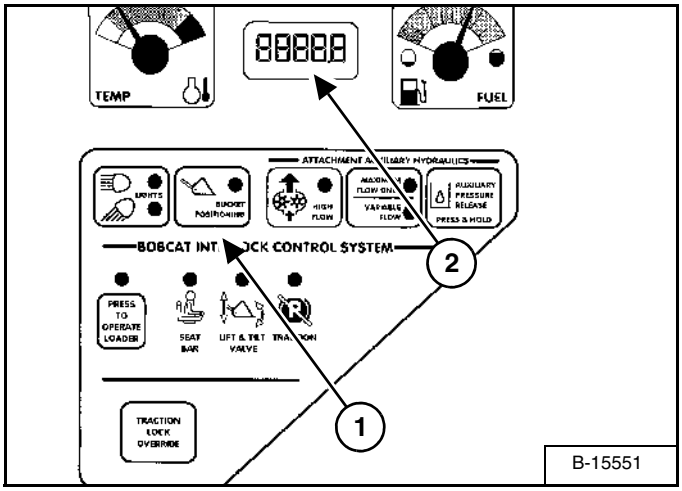
Move the joystick inward (4) **[Figure 37]** to tilt the bucket backward.

Move the joystick outward (5) **[Figure 37]** to tilt the bucket forward.

Bucket Position Valve Operation (If Equipped)

The function of the bucket position valve is to keep the bucket in the same approximate position it is in before you begin raising the lift arms.

Figure 38



Press BUCKET POSITIONING button (1) **[Figure 38]** to engage the bucket position function. (The light will be on.) Press again to disengage.

Bucket Positioning functions only during upward lift cycle.

If the Bucket Positioning button is pressed and held for 2 seconds, the Warning and Shutdown status will be displayed (2) **[Figure 38]**. (See SHUTDOWN FEATURE on Page 118.)

Auxiliary Hydraulics Operation (VARIABLE FLOW)

Figure 39

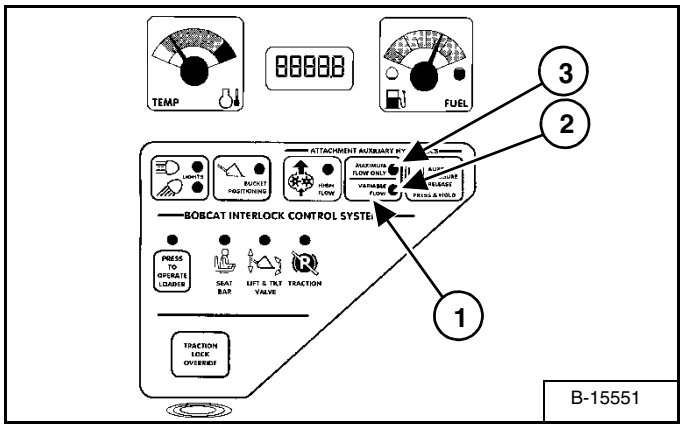
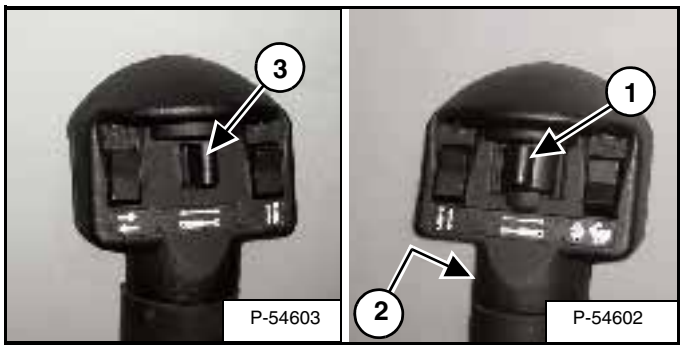


Figure 40



VARIABLE FLOW allows for slow-to-fast movement of auxiliary functions. If you move the auxiliary switch (1) **[Figure 40]** half-way, the auxiliary functions move at approximately one-half speed.

Press the auxiliary hydraulics button (1) **[Figure 39]** once.

The light (2) **[Figure 39]** will be ON.

To disengage, press the auxiliary hydraulics button (1) **[Figure 39]** two more times.

Both lights (2 and 3) **[Figure 39]** will be OFF.

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

Auxiliary Hydraulics Operation (MAXIMUM FLOW ONLY)

MAXIMUM FLOW ONLY allows for fast movement only. If you move the auxiliary switch (1 or 3) **[Figure 40]**, the auxiliary functions move at fast speed; release the switch to stop auxiliary functions.

Press the auxiliary hydraulics button (1) **[Figure 39]** two times.

The light (3) **[Figure 39]** will be ON.

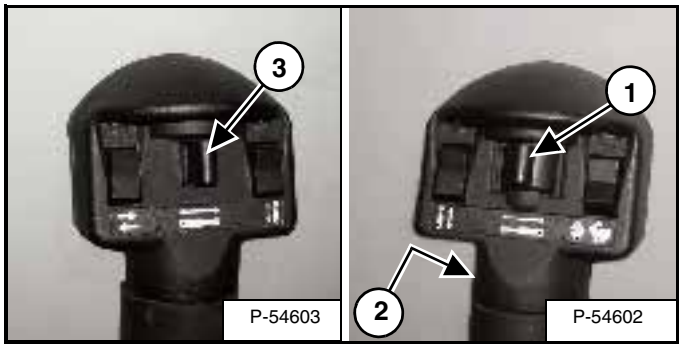
To disengage, press the auxiliary hydraulics button (1) **[Figure 39]** again.

Both lights (2 and 3) **[Figure 39]** 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)

Figure 41



Press the auxiliary hydraulics button for VARIABLE FLOW.

Push the switch (1) **[Figure 41]** 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.

Push the switch (1) **[Figure 41]** to the right or left to change the fluid flow direction of the front quick couplers. (EXAMPLE: Open and close grapple teeth.)

Press again to disengage.

FRONT Auxiliary Hydraulics Operation (CONTINUOUS FLOW)

After selecting VARIABLE or MAXIMUM FLOW, press the front switch (2) **[Figure 40]** 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), select VARIABLE or MAXIMUM FLOW, then, while holding the auxiliary switch (1) **[Figure 40]** to the left, press the front switch (2) **[Figure 40]**. Reverse flow can be used only with augers, power rakes, sweepers, tillers, and vibratory rollers.

To release from continuous operation, press the front switch (2) **[Figure 40]** a second time.

REAR Auxiliary Hydraulics Operation (If Equipped)

Figure 42

The switches on the left hand lever control the rear auxiliary hydraulics.

Press the auxiliary hydraulics button for MAXIMUM FLOW.

Push the switch (3) **[Figure 41]** to the right or left to change the fluid flow direction to rear quick couplers **[Figure 42]**. (EXAMPLE: Raise and lower rear stabilizers.)

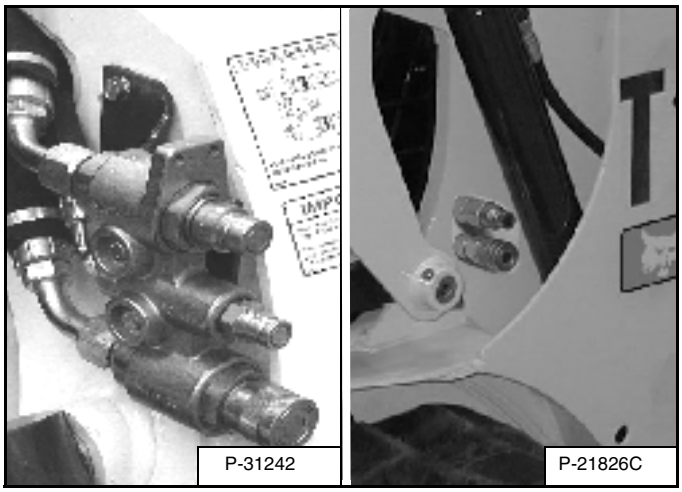
Quick Couplers

⚠ WARNING

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

W-2072-0496

Figure 43



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 43]** 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.

Relieve Hydraulic Pressure (Loader And Attachment)

WARNING

AVOID BURNS

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

W-2220-0396

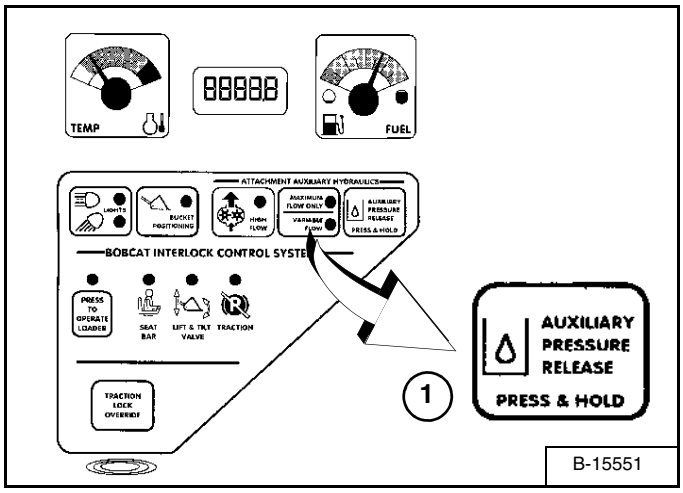
Front Auxiliary Quick Couplers

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

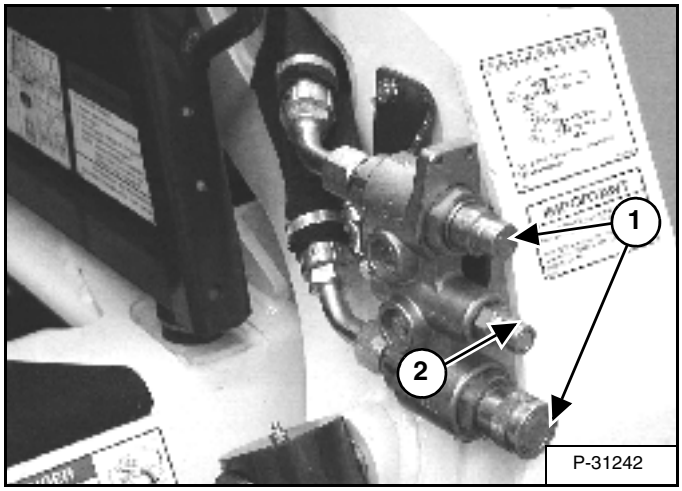
Figure 44



Press the AUXILIARY PRESSURE RELEASE Button (1) **[Figure 44]**. Hold it for two seconds after the engine comes to a complete stop. The pressure will be released.

High-Flow Hydraulics Operation (If Equipped)

Figure 45

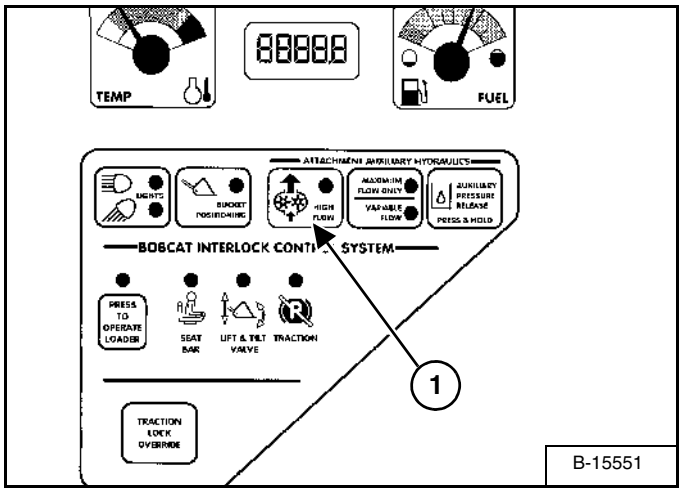


The High-Flow function provides additional flow to the system to operate an attachment which requires more hydraulic flow (EXAMPLE: Planer).

Connect the attachment to the quick couplers (1) **[Figure 45]**.

Some attachments may have a case drain which needs to be connected to the small quick coupler (2) **[Figure 45]**.

Figure 46

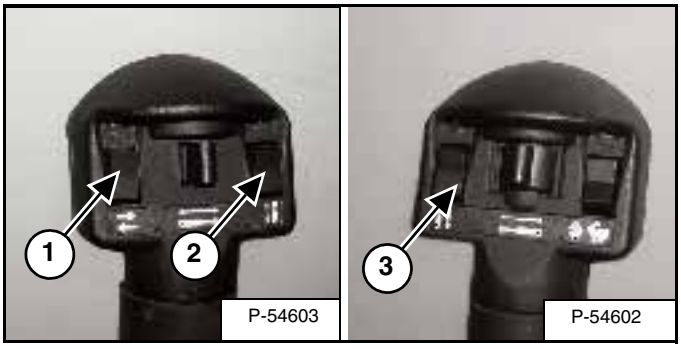


Press the HIGH FLOW button (1) **[Figure 46]**.

Press a second time to disengage.

High-Flow Hydraulics Operation (If Equipped) (Cont'd)

Figure 47

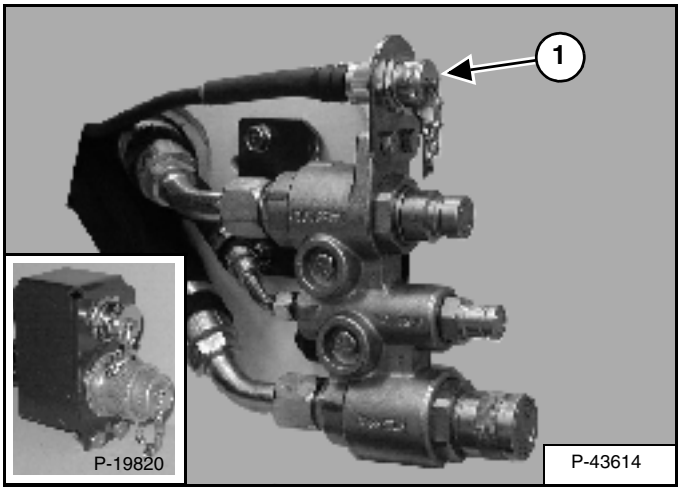


You can use additional switches (1, 2 and 3) **[Figure 47]** on the right and left control handles for functions which control some attachments.

See the appropriate Attachment Operation & Maintenance Manual for control details.

Attachment Control Device (ACD) (If Equipped)

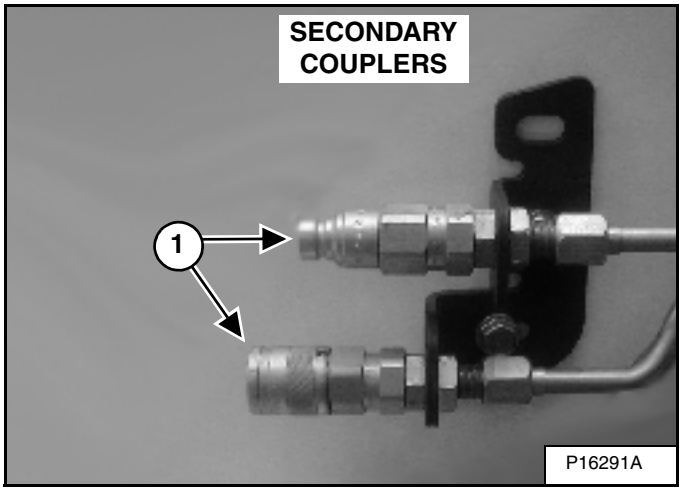
Figure 48



You will need the Dual-Connector (7-pin / 14-pin) kit (1) **[Figure 48]** to operate early model attachments. See your Bobcat Loader dealer.

Secondary Front Auxiliary Hydraulics (If Equipped)

Figure 49

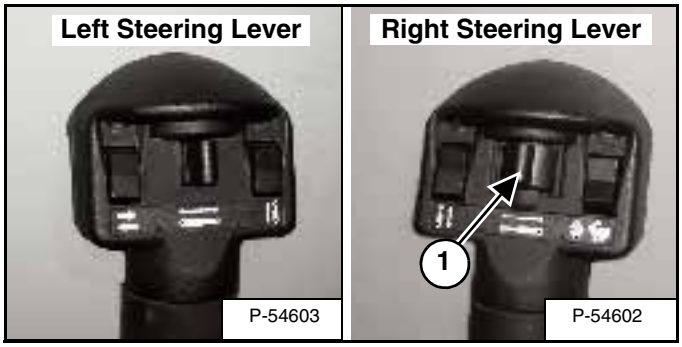


The secondary front auxiliary quick couplers (1) **[Figure 49]** are available a Field Installed Accessory. These are used when there is a need for additional auxiliary hydraulics (EXAMPLE: Planer side shift).

Connect the attachment to the secondary auxiliary hydraulics (1) **[Figure 49]**.

Set the Auxiliary Hydraulic Button for *Variable Flow* or *Maximum Flow Only.* (See Auxiliary Hydraulics Operation (VARIABLE FLOW) on Page 21) or (See Auxiliary Hydraulics Operation (MAXIMUM FLOW ONLY) on Page 21).

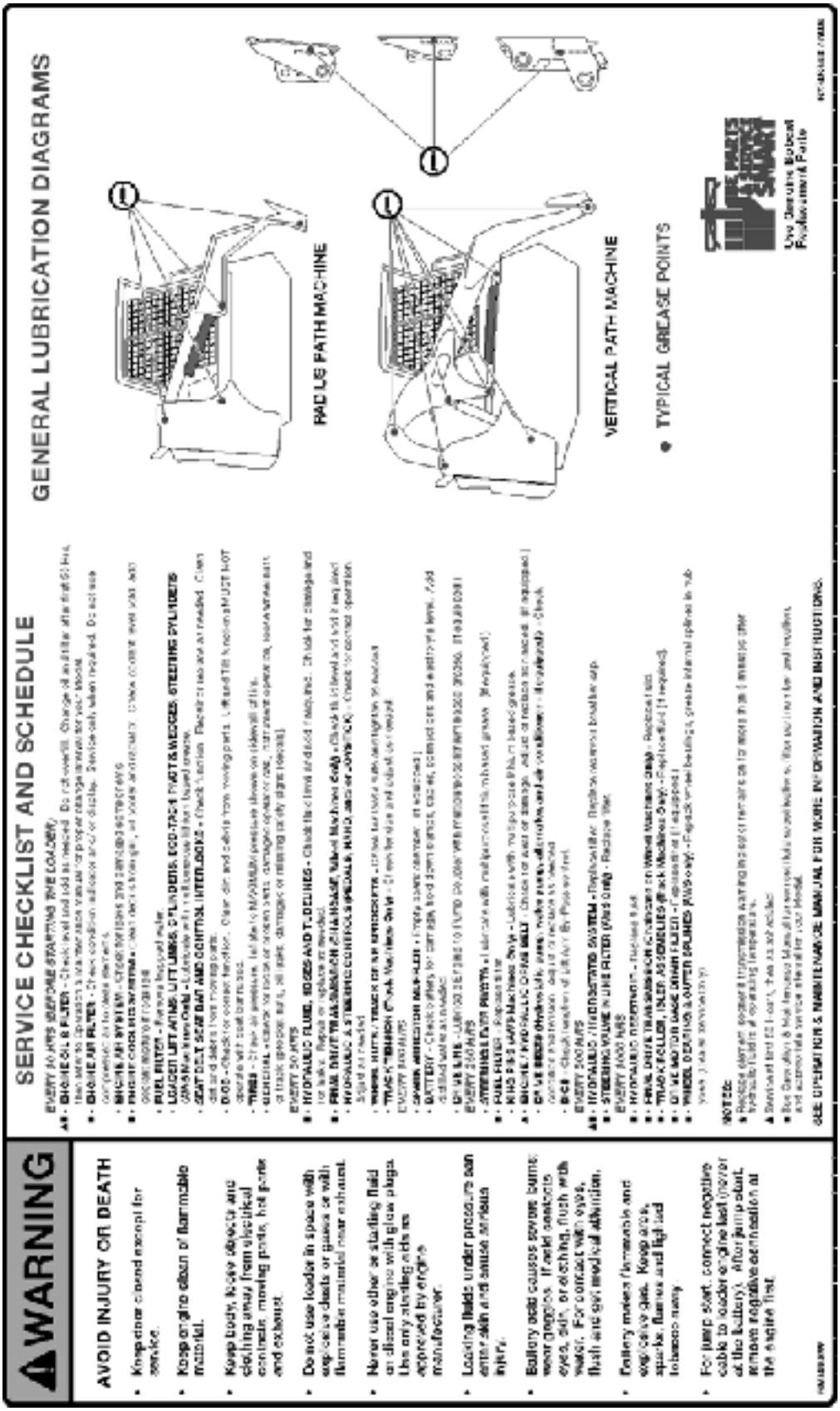
Figure 50



Push switch (1) **[Figure 50]** to the right or left to change fluid flow direction. (EXAMPLE: Side shift on the Planer.)

NOTE: The secondary front auxiliary hydraulics *and* the rear auxiliary hydraulics operate from the same auxiliary section of the control valve. To operate only one of these auxiliary functions, disconnect the other.

Figure 51



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Daily Inspection And Maintenance

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures. The Service Schedule **[Figure 51]** is a guide for correct maintenance of the Bobcat Loader. It is located inside the rear door of the loader and also in this manual.

- Engine Oil Level
- Hydraulic / Hydrostatic Fluid Level
- Engine Air Filter, Check Air System for Damage or Leaks
- Engine Coolant Level, Check System for Damage or Leaks
- Operator Cab and Cab Mounting Hardware
- Seat Belt
- Seat Bar and Control Interlocks
- Grease Pivot Pins (Lift Arms, Bob-Tach, Cylinders, Bob-Tach Wedges)
- Tracks, Check for Wear or Damage
- Fuel Filter, Remove Trapped Water
- Loose or Broken Parts, Repair or Replace as necessary
- Safety Treads and Safety Signs (Decals), Replace as necessary
- Lift Arm Support Device. Replace if Damaged
- Bobcat Interlock Control System (BICS)

WARNING

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

W-2001-0502

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

IMPORTANT

PRESSURE WASHING DECALS

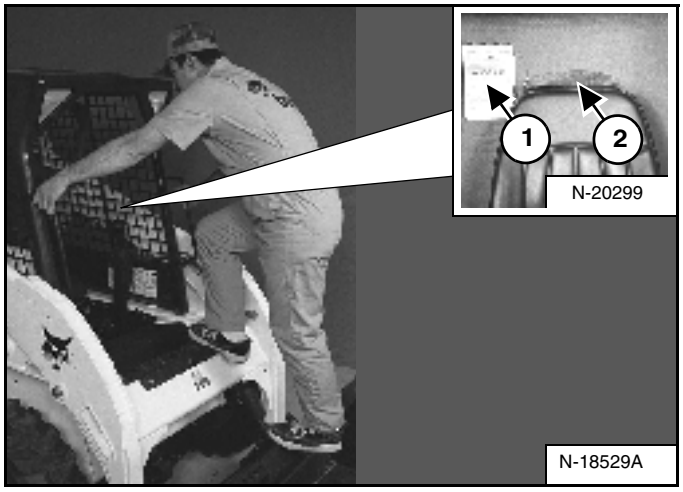
- **Never direct the stream at a low angle toward the decal that could damage the decal causing it to peel from the surface.**
- **Direct the stream at a 90 degree angle and at least 300 mm from the decal. Wash from the center of the decal toward the edges.**

I-2226-0104

PRE-STARTING PROCEDURE

Entering The Loader

Figure 52



Use the bucket or attachment steps, grab handles and safety treads (on top of the loader lift arms and frame) to get on and off the loader **[Figure 52]**. Do not jump.

Safety treads are installed on the Bobcat Loader to provide a slip resistant surface for getting on and off the loader.

Keep safety treads clean and replace when damaged. Replacement treads are available from your Bobcat Loader dealer.

Read and understand the Operation & Maintenance Manual and the Operator's Handbook (1) **[Figure 52]** before operating the loader.

The Operation & Maintenance Manual and other manuals can be kept in a container (2) **[Figure 52]** provided behind the operator seat.

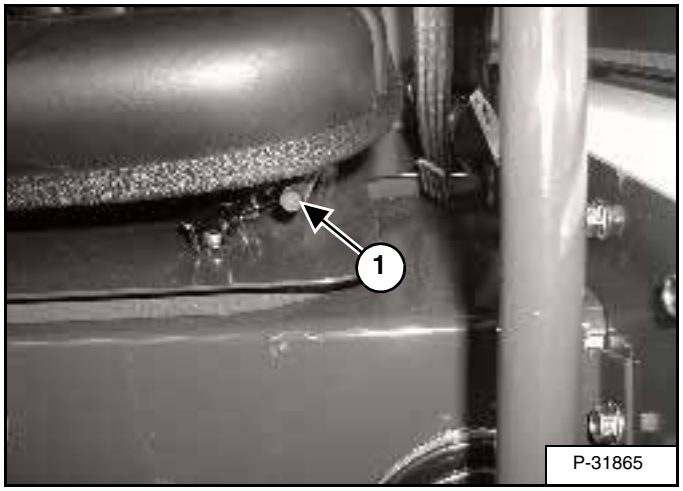
⚠ WARNING

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

W-2003-0903

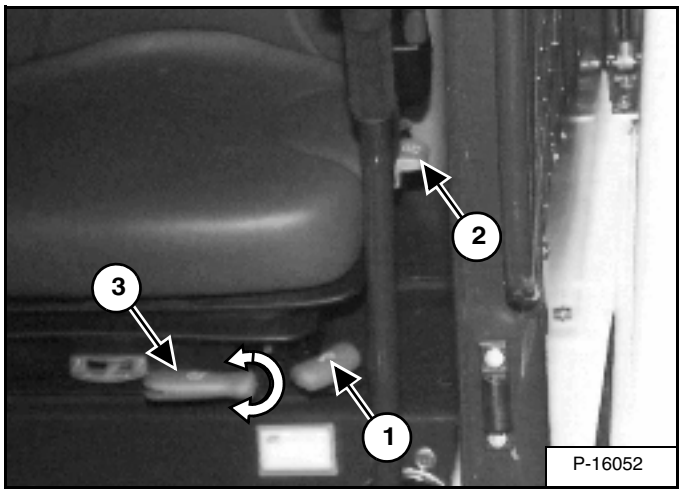
Seat Adjustment

Figure 53



Release the seat lever (1) **[Figure 53]** and adjust the seat position for comfortable operation of the loader controls.

Figure 54



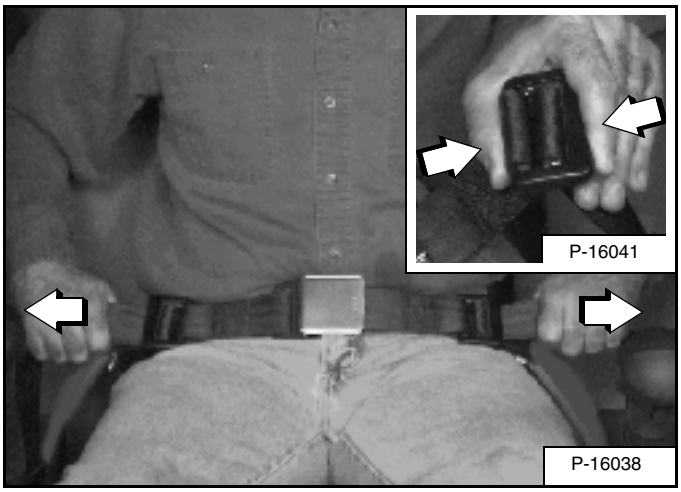
Suspension Seat - (Option & Field Accessory) Release the lever (1) **[Figure 54]** to adjust the seat distance from the levers and footrests.

Release the lever (2) **[Figure 54]** to adjust the angle of the seat back.

Turn the lever (3) **[Figure 54]** to adjust the seat cushion for weight of the operator.

Seat Belt Adjustment

Figure 55

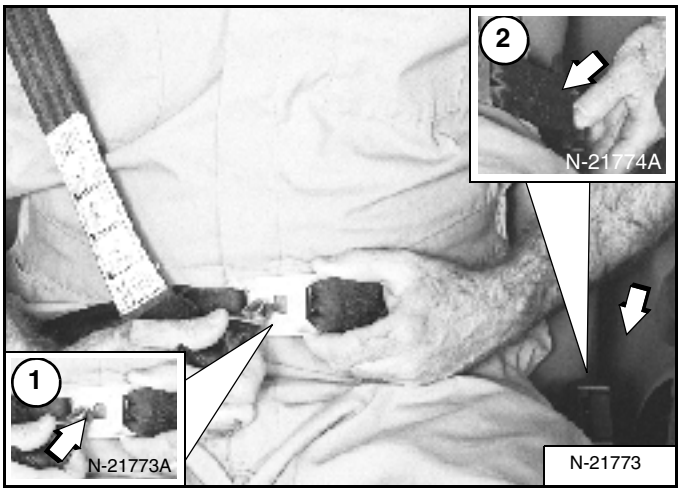


Squeeze both seat belt adjusters to release and lengthen each half of the seat belt **[Figure 55]**.

Fasten the seat belt.

Pull the ends of the belt through the belt adjusters so that the seat belt is snug and the buckle is centered between your hips **[Figure 55]**.

Figure 56

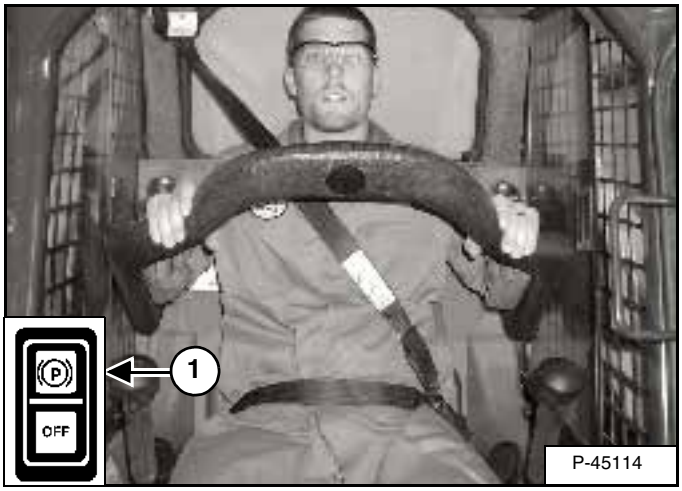


3-Point Restraint - (Option) Connect the shoulder belt to the lap belt (1) **[Figure 56]**. Pull the lap belt across to the left side of the seat (2) **[Figure 56]** and fasten.

The shoulder belt must be positioned over your right shoulder and the lap belt must be snug over your lower hips **[Figure 56]**.

Seat Bar

Figure 57



Lower the seat bar and engage the parking brake (1) **[Figure 57]**.

Put the foot pedals or hand controls in neutral position.

NOTE: Keep your hands on the steering levers and your feet on the foot pedals (or footrests) while operating the loader.

⚠ 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

IMPORTANT

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

Keep retractors clean and replace as necessary.

I-2199-0200

STARTING THE ENGINE

Key Switch

WARNING

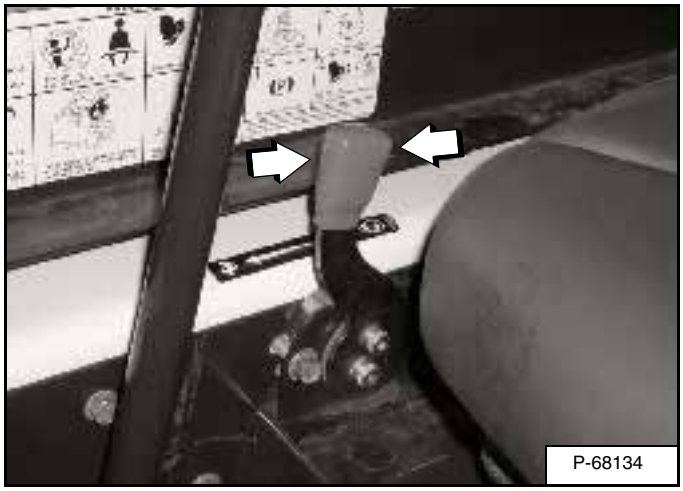
AVOID INJURY OR DEATH

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

W-2051-1086

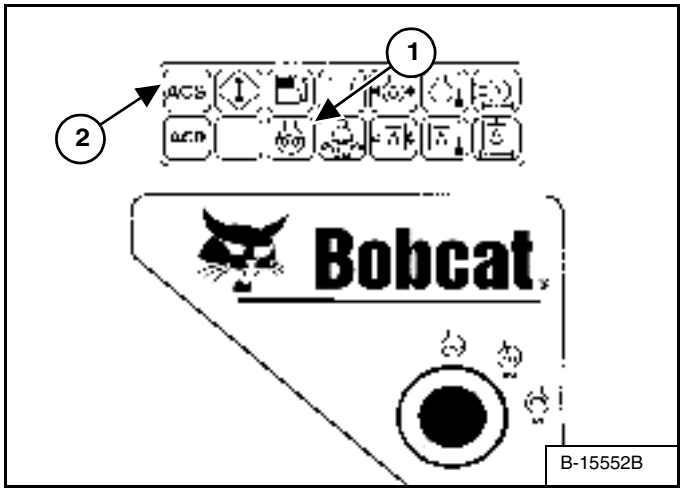
Perform the PRE-STARTING PROCEDURE. (See PRE-STARTING PROCEDURE on Page 27.)

Figure 58



Set the engine speed control to the 1/2 speed position **[Figure 58]**.

Figure 59



Turn the key switch to RUN **[Figure 59]**. The indicator lights on the right instrument panel **[Figure 59]** will come ON briefly and the Instrument Panel / monitoring system will do a self test.

If the temperature is cold, the intake air heater will automatically cycle. The Icon light (1) **[Figure 59]** will be ON and the cycle time remaining will show in the hour meter.

When the Icon light goes OFF, turn the key switch to START **[Figure 59]**.

Advanced Control System (ACS): **Make sure both hand controls are in the neutral position before starting the engine. Do not move the Hand Control levers from the neutral position when turning the key to RUN or START [Figure 59].**

NOTE: Make sure both hand controls (ACS) or Joysticks (SJC) are in the neutral position before starting the engine. Do not move the levers or joysticks from the neutral position when turning the key to RUN or START [Figure 59].

If either hand control is moved:

a. The neutral position for the hydraulic valve spool and hand control may not be correctly calibrated. This can result in movement of the lift or tilt hydraulic cylinders when the hand control lever is returned to the neutral position after start-up.

OR

b. ACS (2) [Figure 59] indicator light on right instrument panel will be ON.

If either condition occurs, return key to STOP (3) [Figure 59]. Put the controls in neutral position and re-start the engine.

Release the key when the engine starts. It will return to the RUN position.

WARNING

AVOID INJURY OR DEATH

- **Fasten seat belt, start and operate only from the operator seat.**
- **Never wear loose clothing when working near machine.**

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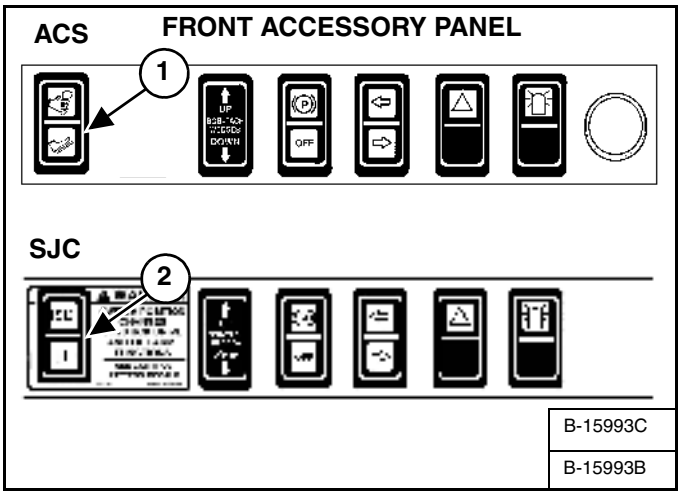
Key Switch (Cont'd)

Figure 60

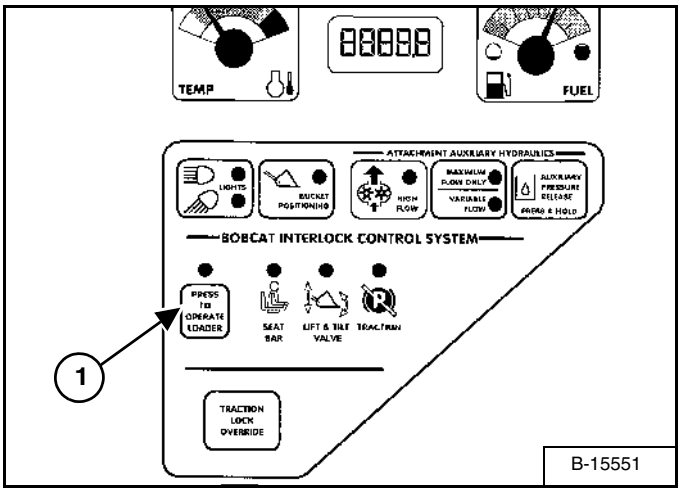


(ACS) Select hand control or foot pedal operation (1) **[Figure 60]**.

OR

(SJC) Select 'ISO' or 'H' Control Pattern (2) **[Figure 60]**.

Figure 61



Press the PRESS TO OPERATE LOADER Button (1) **[Figure 61]** to activate the BICS system and to perform hydraulic and loader functions. (See Cold Temperature Starting on Page 33.)

NOTE: (SJC) The pending mode will flash which will indicate PRESS TO OPERATE LOADER is required. The light will flash when key is ON and continue to flash until the PRESS TO OPERATE LOADER button is pressed and thereafter it will light solid. If the mode (ISO / H) is changed while driving, the active mode will be solid and the pending mode will flash. When operation of the machine is returned to neutral, the active mode will then turn off and the pending mode will continue to flash until the PRESS TO OPERATE LOADER button is pressed.

⚠ WARNING

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

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