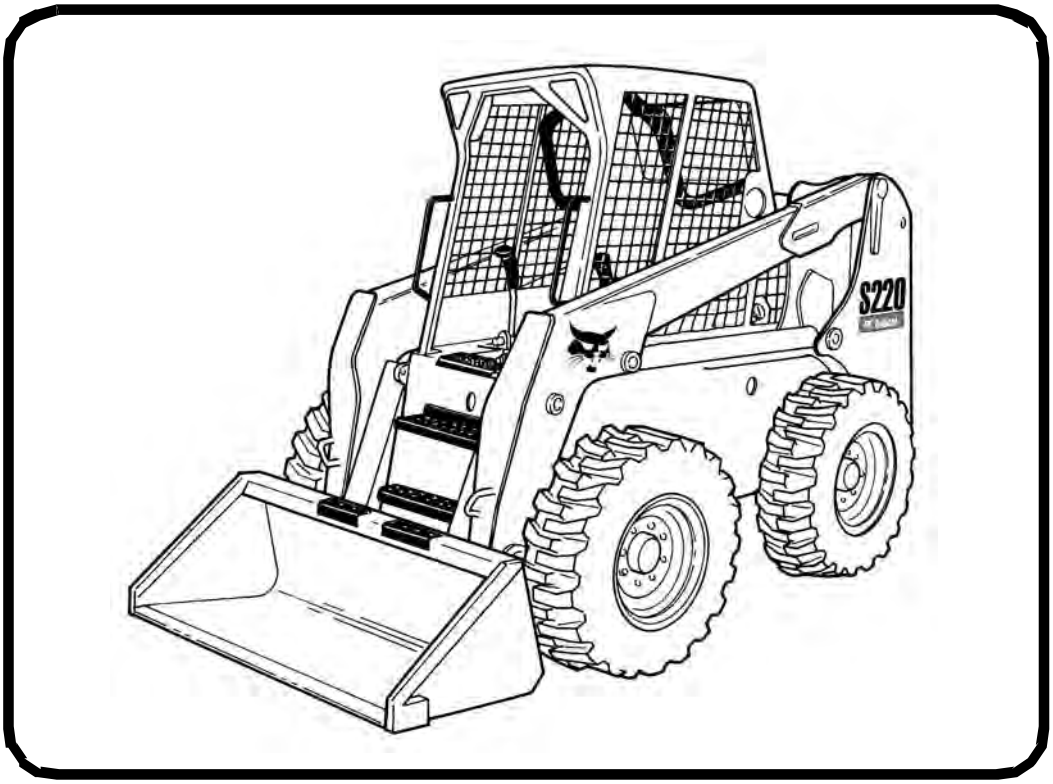
Operation & Maintenance Manual
S220 Skid-Steer Loader

S/N A5GK20001 & Above
S/N A5GL20001 & Above



EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)

6986989 (12-09) Revised (4-10) (8)

Printed in U.S.A.

© Bobcat Company 2010

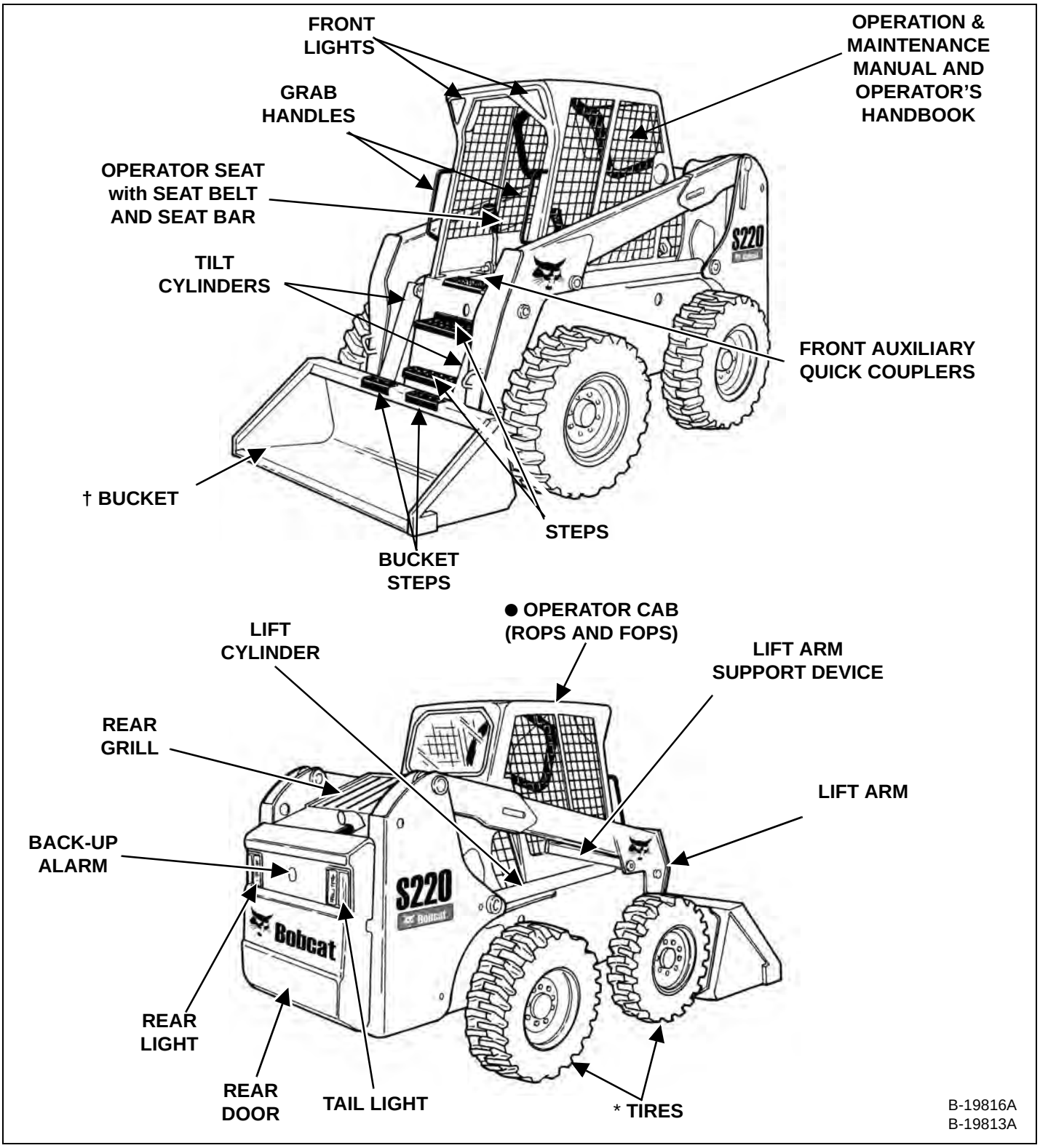
CLICK HERE TO DOWNLOAD THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below

- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO DOWNLOAD THE COMPLETE MANUAL

LOADER IDENTIFICATION



* TIRES - The Bobcat loader is factory equipped with standard tires.

† BUCKETS - Several different buckets and other attachments are available for the Bobcat loader.

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


Bobcat®

Left Panel (Cont'd)

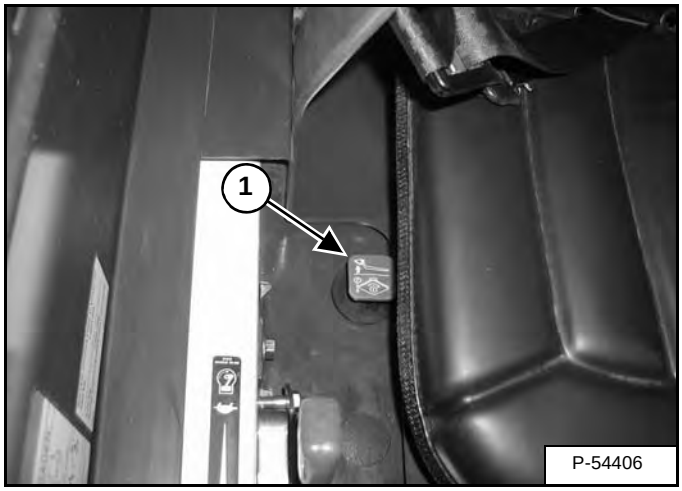
REF. NO.	DESCRIPTION	FUNCTION / OPERATION
1	ENGINE TEMPERATURE GAUGE	Shows the engine coolant temperature.
2	LEFT DIRECTION INDICATOR (Option)	Indicates left turn signals are ON.
3	GENERAL WARNING	Malfunction with one or more machine functions. (See Service Codes*)
4	TWO-SPEED (Option)	High range selected.
5	ENGINE MALFUNCTION	Engine malfunction or failure. (See Service Codes*)
6	ENGINE COOLANT TEMPERATURE	Engine coolant temperature high or sensor error.
7	DISPLAY SCREEN	Displays information. (See Display Screen in this manual.)
8	SEAT BELT	Instructs operator to fasten seat belt. Remains lit for 45 seconds.
9	SEAT BAR	The light comes on when the seat bar is UP.
10	LIFT & TILT VALVE	The light comes on when the lift and tilt functions cannot be operated.
11	PARKING BRAKE	The light comes on when the loader cannot be driven.
12	RIGHT DIRECTION INDICATOR (Option)	Indicates right turn signals are ON.
13	SHOULDER BELT (Option)	Instructs operator to fasten shoulder belt when operating in high range. Remains lit while in high range.
14	HYDRAULIC SYSTEM MALFUNCTION	Hydraulic system malfunction or failure. (See Service Codes*)
15	FUEL	Fuel level low or sensor error.
16	FUEL GAUGE	Shows the amount of fuel in the tank.
17	LIGHTS	Press once for FRONT work lights and REAR taillights. (Left green LED will light.) Press a second time to add REAR work lights. (Left and right green LEDs will light.) Press a third time to turn all lights off. (Left and right green LEDs will be off.) Press and hold five seconds to display software version in display screen.
18	HIGH-FLOW (Option)	Press once to engage the HIGH-FLOW auxiliary hydraulics. (Left green LED will light.) Press a second time to disengage.
19	AUXILIARY HYDRAULICS	Press once to engage the auxiliary hydraulics. (Left green LED will light.) Press a second time to disengage.
20	INFORMATION	Cycles through (after each button press): • Hourmeter (On start up) • Engine RPM • Battery voltage • Maintenance clock (Press and hold for seven seconds when displayed to reset the maintenance clock.) • Service codes*
21	TRACTION LOCK OVERRIDE	Functions only when the seat bar is raised and the engine is running. Press once to unlock the brakes. Allows you to use the steering levers or joystick(s) to move the loader forward or backward when using the backhoe attachment or for service. (See TRACTION LOCK OVERRIDE in this manual.) Press a second time to lock the brakes.
22	PRESS TO OPERATE LOADER	Press to activate the BICS System when the seat bar is down and operator is seated in operating position. Button will light. Press and hold **three seconds** to engage Drive Response and Steering Drift Compensation. (See DRIVE RESPONSE and STEERING DRIFT COMPENSATION in this manual.)
23	ALARM	The alarm beeps when Error, Warning or Shutdown conditions exist.

* See SYSTEM SETUP & ANALYSIS for Service Code description. (See DIAGNOSTIC SERVICE CODES on Page SA-3.)

LIFT ARM BYPASS CONTROL

Operation

Figure OI-19



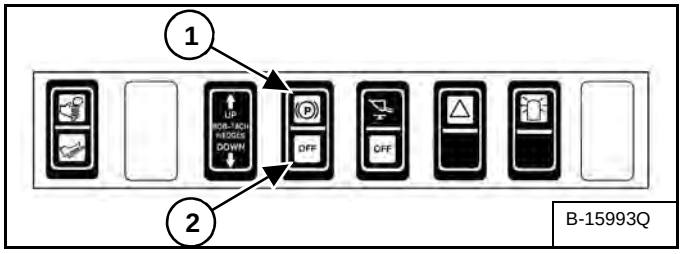
The lift arm bypass control (Item 1) **[Figure OI-19]** is used to lower the lift arms if the lift arms cannot be lowered during normal operations.

1. Sit in the operator's seat.
2. Fasten the seat belt and lower the seat bar.
3. Turn the knob (Item 1) **[Figure OI-19]** clockwise 1/4 turn.
4. Pull up and hold the knob until the lift arms lower.

PARKING BRAKE

Operation

Figure OI-20



Press the top of the switch (Item 1) **[Figure OI-20]** to engage the parking brake. The red light in the switch will turn on. The traction drive system will be locked.

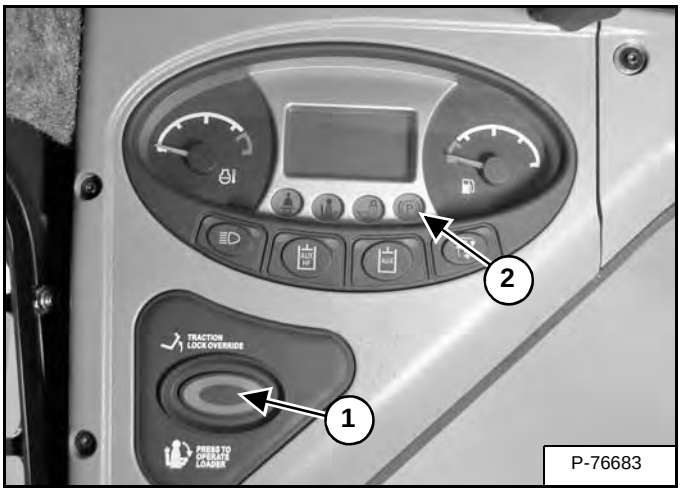
Press the bottom of the switch (Item 2) **[Figure OI-20]** to disengage the parking brake. The red light in the switch will turn off. The traction drive system will be unlocked.

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

TRACTION LOCK OVERRIDE

Operation

Figure OI-21



(Functions Only When The Seat Bar Is Raised And The Engine Is Running) There is a TRACTION LOCK OVERRIDE button (Item 1) **[Figure OI-21]** 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 drive. The PARKING BRAKE light (Item 2) **[Figure OI-21]** will be OFF.

- Press the button a second time to lock the traction drive. The PARKING BRAKE light (Item 2) **[Figure OI-21]** will be ON.

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

NOTE: The TRACTION LOCK OVERRIDE button <u>will</u> function if the parking brake is in the engaged or disengaged position and the engine is running. If the parking brake switch is turned ON, the red light in the parking brake switch will turn OFF when TRACTION LOCK OVERRIDE is engaged.

DRIVE RESPONSE

Drive Response is available on SJC equipped machines.

NOTE: An upgrade to the loader software may be required if this feature does not function as described in this manual. See your Bobcat dealer to update your machine software version if necessary.

Description

Drive Response changes how responsive (more or less) the loader drive and steering systems are when the operator moves the joystick(s).

Drive Response can be changed by the operator for different drive response preferences and various job conditions and attachment use.

NOTE: Changes to drive response do not affect braking or stopping the loader.

There are three drive response settings:

- **[DR-1]** provides a smooth responsive reaction to joystick movement. (Drive only)
- **[DR-2]** is the default setting and provides a normal responsive reaction to joystick movement. (Drive only)
- **[DR-3]** provides a quick responsive reaction to joystick movement. (Drive only)

Operation

NOTE: Changes CANNOT be performed until the seat bar is lowered, the engine is started and the PRESS TO OPERATE LOADER button is pressed to activate the BICS.

Perform pre-starting and starting procedures:

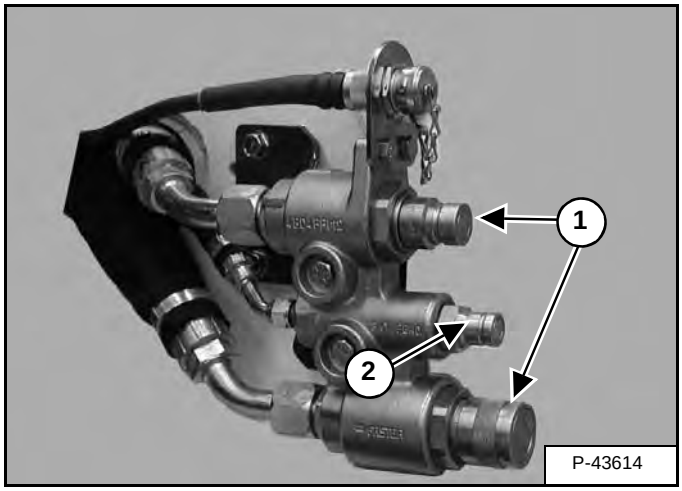
1. Fasten seat belt.
2. Lower seat bar.
3. Place joysticks in neutral position.
4. Start the engine.
5. Press the PRESS TO OPERATE LOADER button.
6. Current drive response setting will be displayed briefly in the data display.

NOTE: Raising the seat bar or changing control mode (ISO / H) will cause the machine to disengage from drive response. The last displayed setting will remain in effect until the STOP button is pressed or the key is turned OFF.

High-Flow Hydraulics Operation

This machine may be equipped with High-Flow Hydraulics.

Figure OI-69

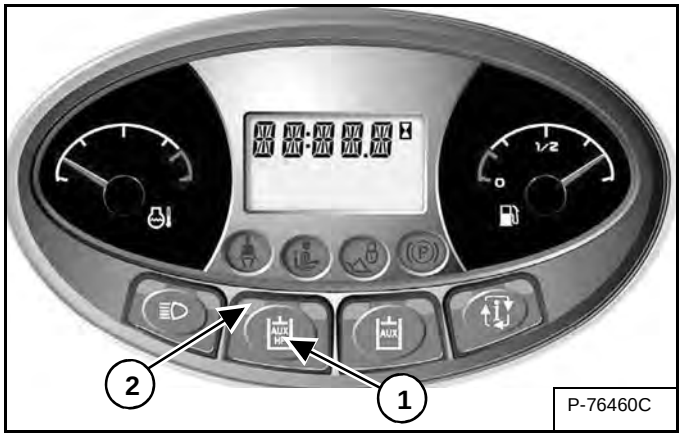


The High-Flow function provides additional flow to the system to operate an attachment which requires more hydraulic flow. (EXAMPLE: Planer)

Connect the attachment to the quick couplers (Item 1) **[Figure OI-69]**.

Some attachments may have a case drain which needs to be connected to the small quick coupler (Item 2) **[Figure OI-69]**.

Figure OI-70



Press the HIGH FLOW button (Item 1) **[Figure OI-70]**.

The light (Item 2) **[Figure OI-70]** will be ON.

To disengage, press the HIGH FLOW button (Item 1) **[Figure OI-70]** again.

The light (Item 2) **[Figure OI-70]** will be OFF.

Quick Couplers

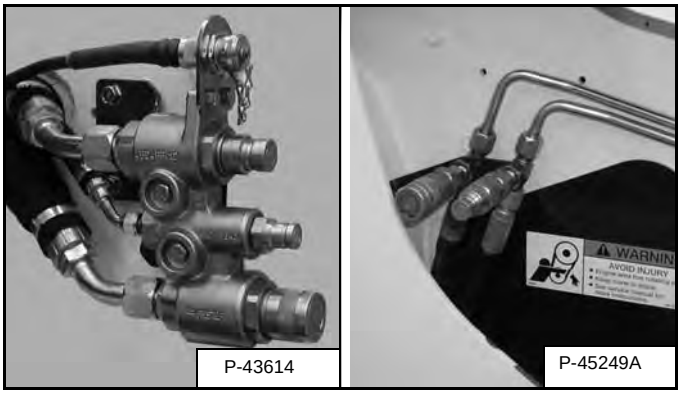
⚠ WARNING

AVOID INJURY OR DEATH

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

W-2072-0807

Figure OI-71



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-71]** 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.

⚠ 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

Keyless Start Panel

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 OI-42.)

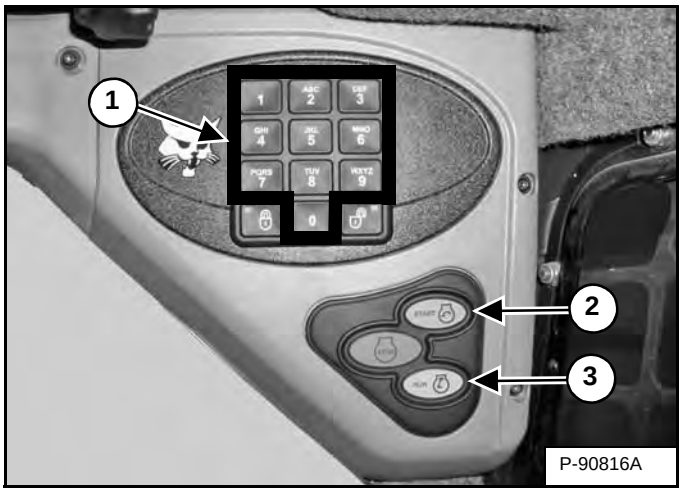
Figure OI-93

Set the engine speed control to the idle position **[Figure OI-93]**

NOTE: Loaders with a Keyless Start Panel have a permanent, randomly generated Master Password set at the factory. Your loader will have an Owner Password. The password can be changed to prevent unauthorized use of your loader. (See Changing The Owner Password on Page SA-11.) Keep your password in a safe place for future needs.

NOTE: The Password Lockout feature can be used to allow starting of the loader without a password. (See Password Lockout Feature on Page SA-11.)

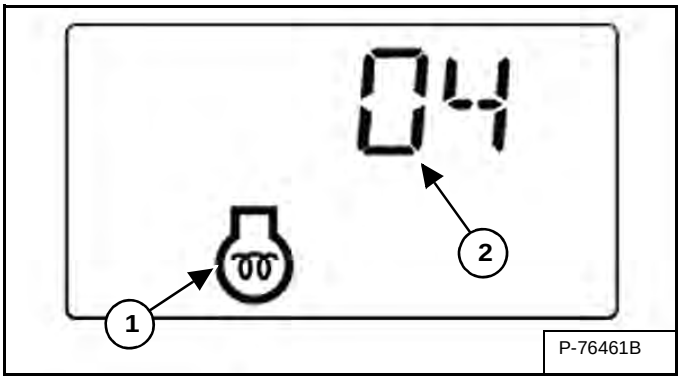
Figure OI-94



Press the RUN button (Item 3) **[Figure OI-94]**.

Use the numeric keypad (Item 1) to enter the password, then press the RUN button (Item 3) **[Figure OI-94]**.

Figure OI-95



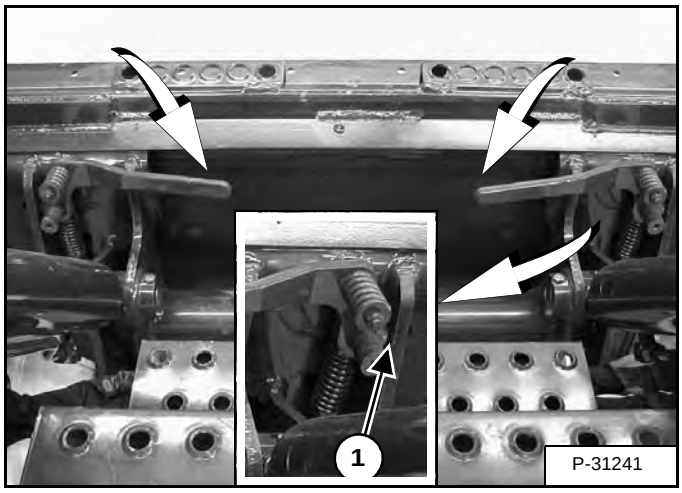
The machine will cycle the air intake heater automatically based on temperature. The engine preheat icon (Item 1) will be ON and the cycle time remaining will show in the data display (Item 2) **[Figure OI-95]**.

When the engine preheat icon goes OFF, press the START button (Item 2) **[Figure OI-94]**. Release the button when the engine starts.

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

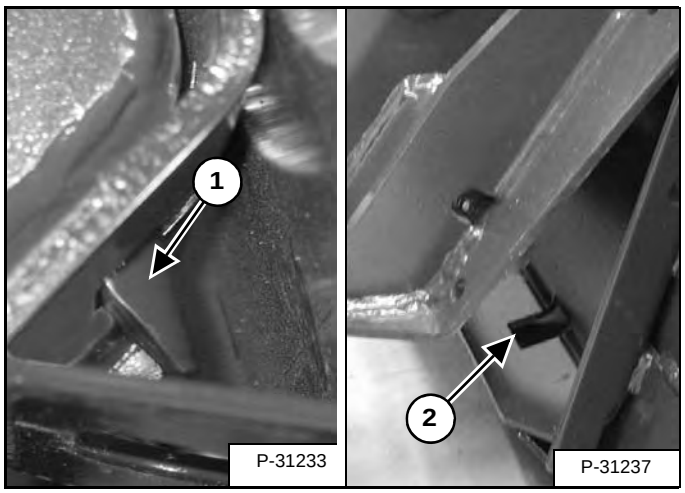
Installing (Cont'd)

Figure OI-111



Push down on the Bob-Tach levers until they are fully engaged in the locked position (Item 1) **[Figure OI-111]** (wedges fully extended).

Figure OI-112



The wedges (Item 1) must extend through the holes (Item 2) **[Figure OI-112]** in the mounting frame of the bucket (or other attachment), securely fastening the bucket to the Bob-Tach.

⚠ WARNING

AVOID INJURY OR DEATH

The Bob-Tach wedges must extend through the holes in the attachment mounting frame. Levers must be fully down and locked. Failure to secure wedges can allow attachment to come off.

W-2715-0208

Removing

Lower the lift arms and put the attachment flat on the ground. Lower or close any hydraulic equipment, if applicable.

Stop the engine and exit the loader. (See STOPPING THE ENGINE AND LEAVING THE LOADER on Page PM-53.)

⚠ WARNING

AVOID INJURY OR DEATH

Before you leave the operator's seat:

- **Lower the lift arms and put the attachment flat on the ground.**
- **Stop the engine.**
- **Engage the parking brake.**
- **Raise the seat bar.**
- **Move all controls to the NEUTRAL / LOCKED position to make sure the lift, tilt and travel 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-2463-0909

Disconnect attachment electrical harness, water line and hydraulic lines, if applicable, from the loader. (See Relieve Auxiliary Hydraulic Pressure (Loader And Attachment) on Page OI-38.)

CLICK HERE TO DOWNLOAD THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below

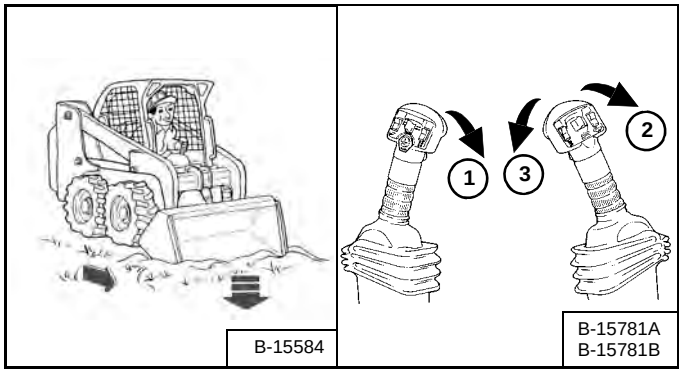
- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO DOWNLOAD THE COMPLETE MANUAL

Digging And Filling A Hole (ACS - Handles, SJC - 'H' Pattern)

Digging

Figure OI-136

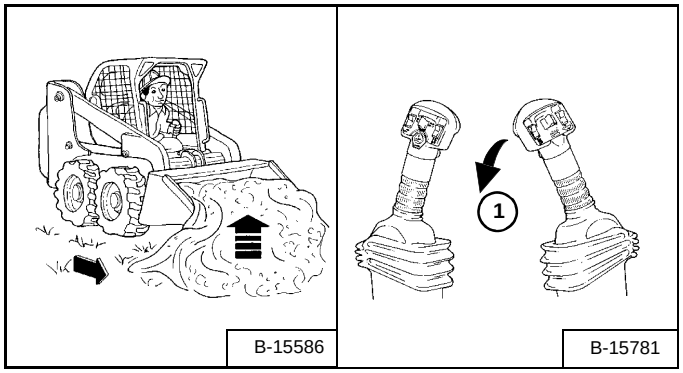


Lower the lift arms all the way (Item 1) **[Figure OI-136]**. Tilt the bucket forward (Item 2) **[Figure OI-136]** until the cutting edge of the bucket is on the ground.

Drive forward slowly and continue to tilt the bucket down (Item 2) **[Figure OI-136]** until it enters the ground.

Tilt the bucket backward a small amount (Item 3) **[Figure OI-136]** to increase traction and keep an even digging depth. Continue to drive forward until the bucket is full. When the ground is hard, raise and lower the cutting edge (Items 2 and 3) **[Figure OI-136]** while driving forward.

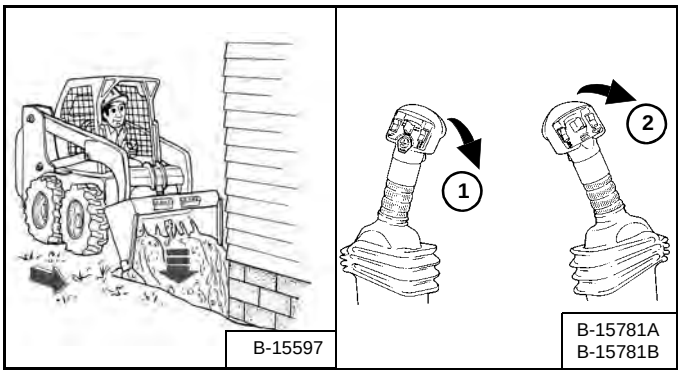
Figure OI-137



Tilt the bucket backward (Item 1) **[Figure OI-137]** as far as it will go when the bucket is full.

Filling

Figure OI-138



Lower the lift arms (Item 1) **[Figure OI-138]** and put the cutting edge of the bucket on the ground (Item 2) **[Figure OI-138]**. Drive forward to the edge of the hole to push the material into the hole.

Tilt the bucket forward (Item 2) **[Figure OI-138]** as soon as it is past the edge of the hole.

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

MAINTENANCE SAFETY

WARNING

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

W-2003-0807

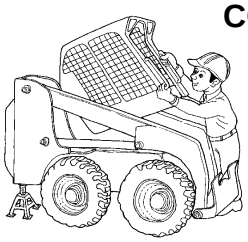
Safety Alert Symbol: This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.

CORRECT

P-90216

Never service the Bobcat Skid-Steer Loader without instructions.

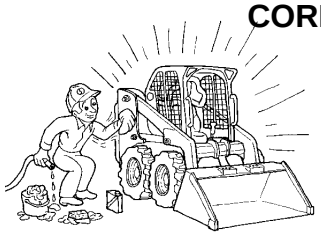
CORRECT



B-15590

Use the correct procedure to lift or lower operator cab.

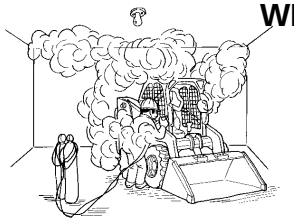
CORRECT



B-15591

Cleaning and maintenance are required daily.

WRONG



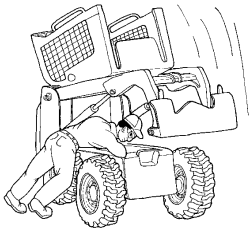
B-15592

Have good ventilation when welding or grinding painted parts.

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

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

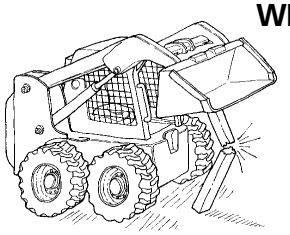
WRONG



B-15593

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

WRONG

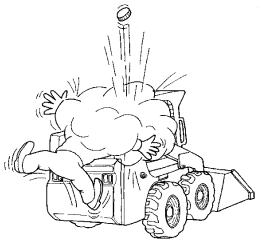


B-15599

Never work on loader with lift arms up unless lift arms are held by an approved lift arm support device. Replace if damaged.

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

WRONG



B-15600

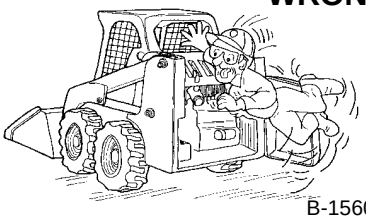
Stop, cool and clean engine of flammable materials before checking fluids.

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

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

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

WRONG



B-15601

Keep body, jewelry and clothing away from moving parts, electrical contact, hot parts and exhaust.

Wear eye protection to guard from battery acid, compressed springs, fluids under pressure and flying debris when engines are running or tools are used. Use eye protection approved for type of welding.

Keep rear door closed except for service. Close and latch door before operating the loader.

WRONG

B-6589

Lead-acid batteries produce flammable and explosive gases.

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

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

Maintenance procedures which are given in the Operation & Maintenance Manual can be performed by the owner/operator without any specific technical training. Maintenance procedures which are **not** in the Operation & Maintenance Manual must be performed **ONLY BY QUALIFIED BOBCAT SERVICE PERSONNEL. Always use genuine Bobcat replacement parts.** The Service Safety Training Course is available from your Bobcat dealer.

MSW08-0409

Raising (Cont'd)

Figure PM-14

Lift on the grab handles and bottom of the operator cab **[Figure PM-14]** slowly until the operator cab is all the way up and the latching mechanism engages.

Lowering

Always stop the engine before raising or lowering the operator cab.

NOTE: Always use the grab handles to lower the operator cab.

Figure PM-15

Pull down on the bottom of the operator cab until it stops at the latching mechanism **[Figure PM-15]**.

NOTE: The weight of the operator cab increases when equipped with options and accessories such as cab door, heater, air conditioning, etc. In these cases, the operator cab may need to be raised slightly from the latch to be able to release the latch.

⚠ WARNING

UNEXPECTED LOADER, LIFT ARM OR ATTACHMENT MOVEMENT CAUSED BY CAB CONTACT WITH CONTROLS CAN CAUSE SERIOUS INJURY OR DEATH

- **STOP ENGINE before raising or lowering cab.**

W-2758-0908

NOTE: On some machines, the operator cab frame could contact the steering levers while raising or lowering the operator cab. The engine MUST be stopped before raising or lowering the operator cab.

Support the operator cab and release the latching mechanism (Inset) **[Figure PM-15]**. Remove your hand from the latch mechanism when the operator cab is past the latch stop. Use both hands to lower the operator cab all the way down.

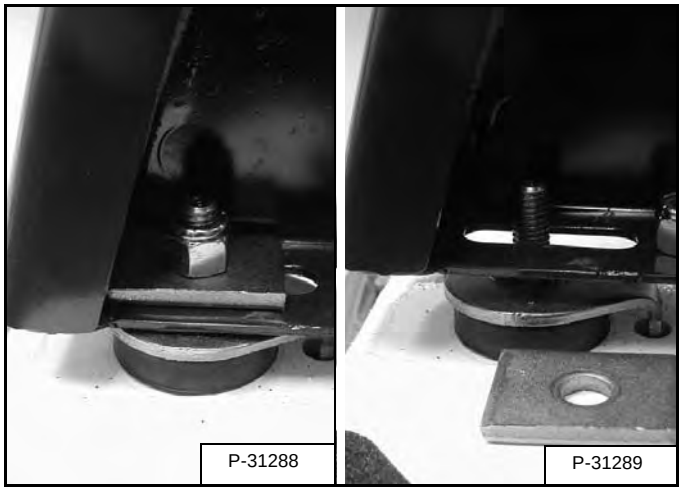
⚠ WARNING

PINCH POINT CAN CAUSE INJURY

Remove your hand from the latching mechanism when the cab is past the latch stop.

W-2469-0803

Figure PM-16



Install the plates and nuts (both sides) **[Figure PM-16]**.

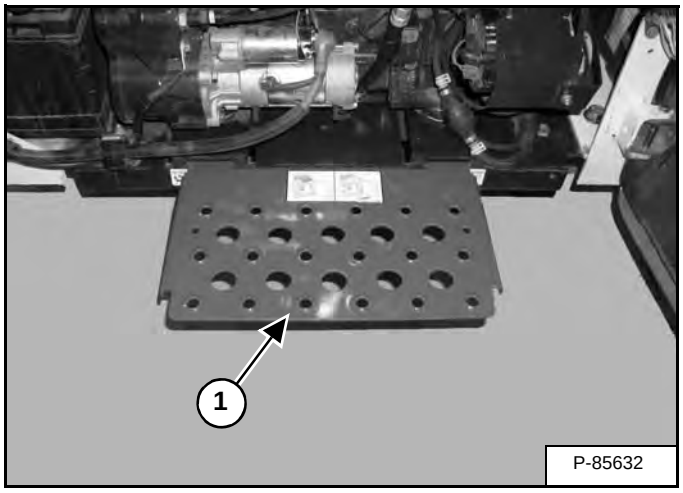
Tighten the nuts to 40 - 45 ft.-lb. (54 - 61 N•m) torque.

ENGINE COOLING SYSTEM

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

Maintenance Platform

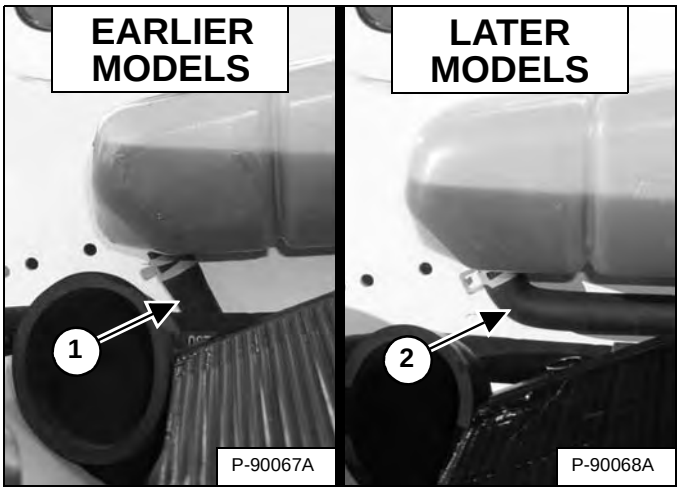
Figure PM-40



A maintenance platform (Item 1) **[Figure PM-40]** is available from your Bobcat dealer to facilitate access when cleaning the engine cooling system.

Description

Figure PM-41



This model may be equipped with a straight (Item 1) or curved (Item 2) **[Figure PM-41]** hose underneath the coolant tank. Identification of your machine configuration is necessary to select the correct cleaning procedure.

Cleaning (Earlier Models)

Open the rear door. (See REAR DOOR (TAILGATE) on Page PM-17.)

Remove the rear grill. (See REAR GRILL on Page PM-17.)

⚠ WARNING

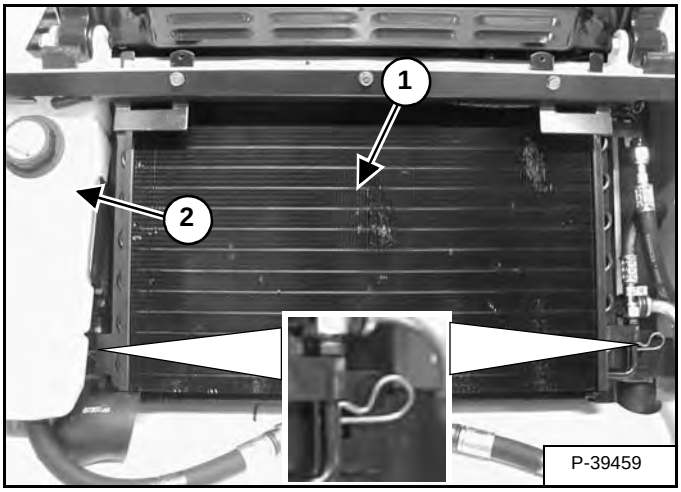
AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- **When fluids are under pressure.**
- **Flying debris or loose material is present.**
- **Engine is running.**
- **Tools are being used.**

W-2019-0907

Figure PM-42

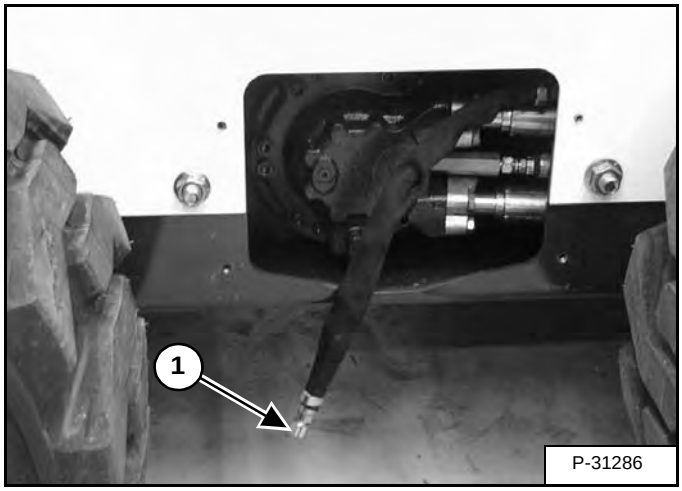


Use low air pressure or water pressure to clean the top of the air conditioning condenser (Item 1) **[Figure PM-42]**, if equipped.

Raise the coolant tank (Item 2) slightly and remove the two clips (Inset) **[Figure PM-42]**.

Removing And Replacing Hydraulic Fluid (Cont'd)

Figure PM-64



Pull the reservoir drain hose out the left motor cover hole. Remove the cap (Item 1) **[Figure PM-64]** and drain the fluid into a container.

Recycle or dispose of used fluid in an environmentally safe manner.

⚠ WARNING

AVOID INJURY OR DEATH

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

W-2103-0508

Install the cap on the reservoir drain hose and tighten. Store the drain hose and install the motor cover.

Lower the operator cab. (See Lowering on Page PM-15.)

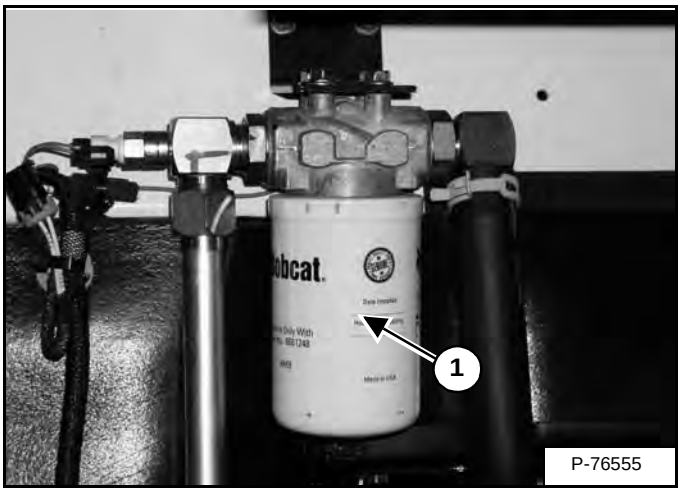
Add the correct fluid to the reservoir until the fluid level is at the center of the sight gauge. (See Checking And Adding Fluid on Page PM-33.)

Removing And Replacing Hydraulic / Hydrostatic Filter

For the correct service interval. (See SERVICE SCHEDULE on Page PM-7.)

Raise the operator cab. (See Raising on Page PM-14.)

Figure PM-65



Remove the filter (Item 1) **[Figure PM-65]**.

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

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

⚠ WARNING

AVOID INJURY OR DEATH

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

W-2103-0508

Lower the operator cab. (See Lowering on Page PM-15.)

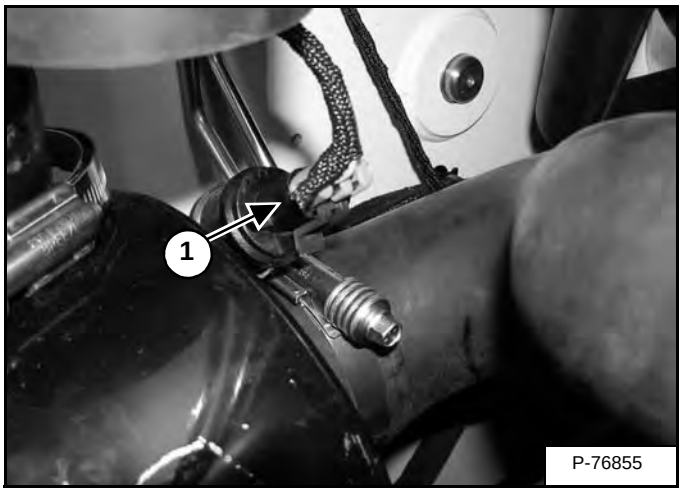
Start the engine and operate the loader hydraulic controls.

Stop the engine and check for leaks at the filter.

Check the fluid level in the reservoir and add as needed. (See Checking And Adding Fluid on Page PM-33.)

Belt Replacement (Cont'd)

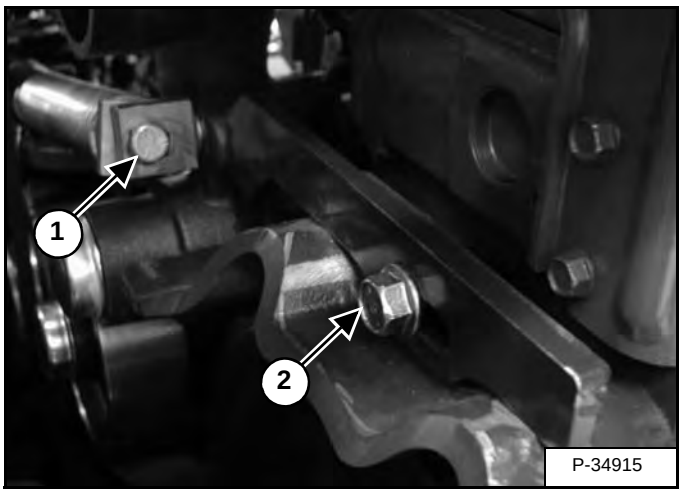
Figure PM-89



Disconnect the wire connector (Item 1) **[Figure PM-89]** from the air cleaner sender.

Remove the air cleaner housing from the loader.

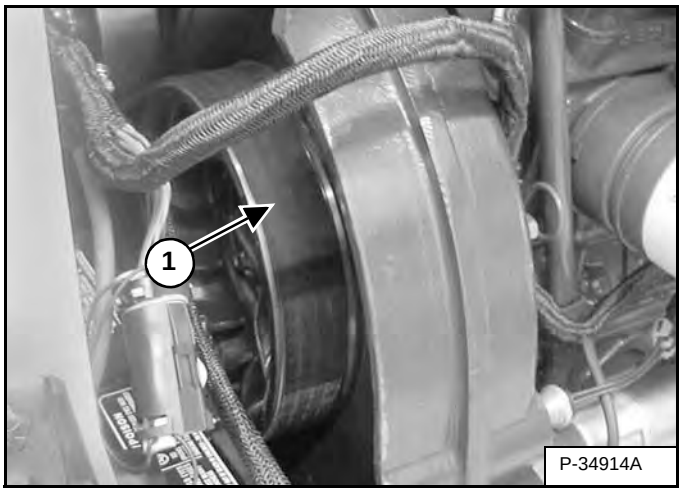
Figure PM-90



Loosen the stop mounting bolt (Item 2) **[Figure PM-90]**.

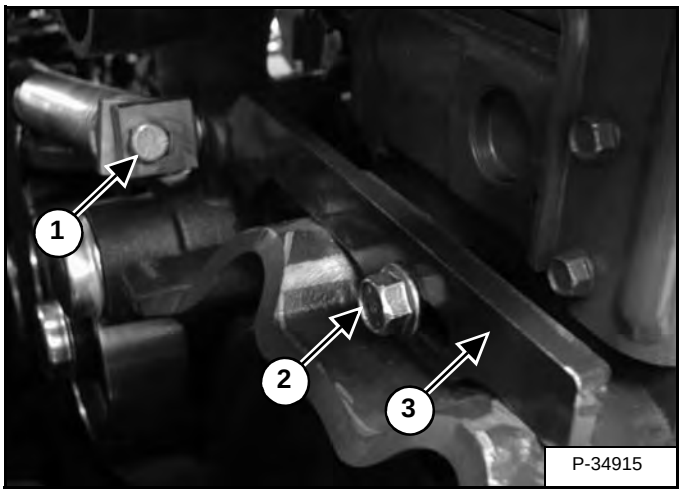
Loosen the spring tension bolt (Item 1) **[Figure PM-90]**.

Figure PM-91



Remove the drive belt (Item 1) **[Figure PM-91]** from the hydrostatic pump pulley and flywheel pulley and install a new belt.

Figure PM-92



Tighten the spring tension bolt (Item 1) **[Figure PM-92]**.

Slide the stop (Item 3) against the idler arm. Tighten the bolt (Item 2) **[Figure PM-92]**.

Install the air cleaner housing.

Install the drive belt shield to the drive belt housing with three drive belt shield clips.

Install the battery cable bracket and bolt.

Connect the negative battery cable.

Close the rear door.

DIAGNOSTIC SERVICE CODES (CONT'D)

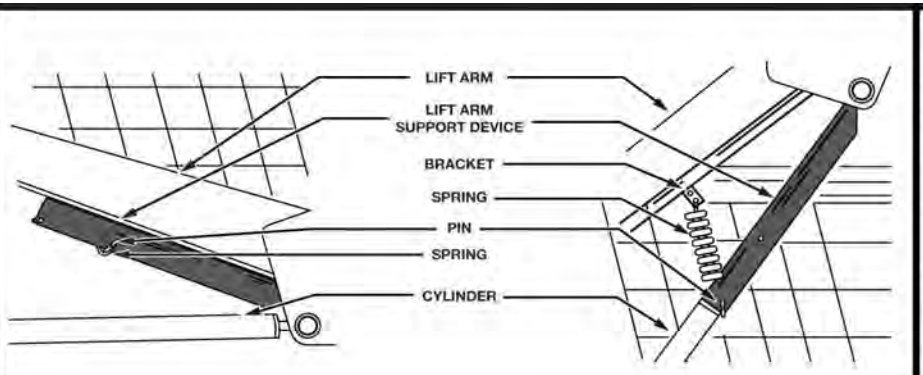
Service Codes List (Cont'd)

CODE	DESCRIPTION	CODE	DESCRIPTION
D7521	Left joystick Y-axis out of range high	D7572	Drive pump not calibrated
D7522	Right joystick Y-axis out of range high	D7573	Operating mode switch flipped while operating
D7523	Right front wheel angle sensor out of range high	D7574	Right wheel speed uncommanded motion
D7524	Left front wheel angle sensor out of range high	D7575	Left wheel speed uncommanded motion
D7525	Right rear wheel angle sensor out of range high	D7576	No communication from ACS controller
D7526	Left rear wheel angle sensor out of range high	D7577	Left speed sensor out of range high
D7527	Left swash plate out of position	D7578	Right speed sensor out of range high
D7528	Right swash plate out of position	D7579	Left speed sensor out of range low
D7529	Left joystick X-axis out of range low	D7580	Right speed sensor out of range low
D7531	Left joystick Y-axis out of range low	D7581	Right front steer retract short to battery
D7532	Right joystick Y-axis out of range low	D7582	Left front steer retract short to battery
D7533	Right front wheel angle sensor out of range low	D7583	Right rear steer retract short to battery
D7534	Left front wheel angle sensor out of range low	D7584	Left rear steer retract short to battery
D7535	Right rear wheel angle sensor out of range low	D7585	Sensor supply 1 out of range high
D7536	Left rear wheel angle sensor out of range low	D7586	Sensor supply 2 out of range high
D7537	Sensor supply 1 out of range low	D7587	Software update required
D7538	Sensor supply 2 out of range low	D7588	Switched power stuck ON
D7539	Left swash plate sensor out of range high	D7589	Switched power error OFF
D7540	Left swash plate sensor out of range low	D7591	Left swash plate sensor reversed
D7541	Right swash plate sensor out of range high	D7592	Right swash plate sensor reversed
D7542	Right swash plate sensor out of range low	D7593	Right speed sensor unresponsive
D7543	Left forward drive solenoid error ON	D7594	Left speed sensor unresponsive
D7544	Left reverse drive solenoid error ON	D7595	Left speed sensor reversed
D7545	Right forward drive solenoid error ON	D7596	Right speed sensor reversed
D7546	Right reverse drive solenoid error ON	D7597	Controller programmed
D7547	Right front steer extend short to battery	D7598	In drive calibration mode
D7548	Left front steer extend short to battery	D7599	In angle calibration mode
D7549	Right rear steer extend short to battery		
D7550	Left rear steer extend short to battery	H1221	Right Primary out of range high
D7551	Steer pressure short to battery	H1222	Right Primary out of range low
D7552	Back-up alarm error ON	H1224	Right Primary not in neutral
D7553	Left forward drive solenoid error OFF	H1321	Left Primary out of range high
D7554	Left reverse drive solenoid error OFF	H1322	Left Primary out of range low
D7555	Right forward drive solenoid error OFF	H1324	Left Primary not in neutral
D7556	Right reverse drive solenoid error OFF	H2005	Boost solenoid short to battery
D7557	Right front steer extend short to ground	H2006	Boost solenoid short to ground
D7558	Right front steer retract short to ground	H2007	Boost solenoid open circuit
D7559	Left front steer extend short to ground	H2032	Boost solenoid overcurrent
D7560	Left front steer retract short to ground	H2205	Pressure control solenoid short to battery
D7561	Right rear steer extend short to ground	H2206	Pressure control solenoid short to ground
D7562	Right rear steer retract short to ground	H2207	Pressure control solenoid open circuit
D7563	Left rear steer extend short to ground	H2232	Pressure control solenoid overcurrent
D7564	Left rear steer retract short to ground	H2305	Rear base solenoid short to battery
D7565	Steer pressure short to ground	H2306	Rear base solenoid short to ground
D7566	Back-up alarm error OFF	H2307	Rear base solenoid open circuit
D7567	No communication from Gateway controller	H2332	Rear base solenoid overcurrent
D7568	Angle sensors not calibrated	H2405	Rear rod solenoid short to battery
D7569	Battery voltage out of range high	H2406	Rear rod solenoid short to ground
D7570	Interrupted power	H2407	Rear rod solenoid open circuit
D7571	Battery voltage out of range low	H2432	Rear rod solenoid overcurrent

MACHINE SIGN TRANSLATIONS

TO ENGAGE LIFT ARM SUPPORT DEVICE

1. Remove attachment from loader.
2. Unhook spring from pin. Hold lift arm support device. Remove pin.
3. Lower the lift arm support device to the top of the cylinder.
4. Hook spring into slot on top of lift arm support device.
5. Enter loader, fasten seat belt, lower seat bar and start engine.
6. Raise lift arms until lift arm support device drops on cylinder rod.
7. Lower lift arms slowly until movement stops.
8. Stop engine. Raise seat bar. Move pedals until both pedals lock. Leave loader.
9. Install pin into rear of lift arm support device below cylinder rod.



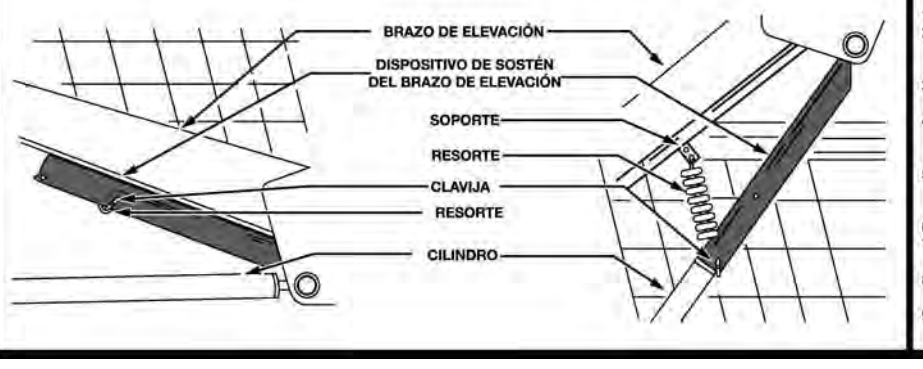
TO DISENGAGE LIFT ARM SUPPORT DEVICE

1. Remove pin.
2. Hook spring into bracket below lift arm (Hook in top hole for Models 953 and 963).
3. Enter loader, fasten seat belt, lower seat bar and start engine.
4. Raise lift arms until lift arm support device raises off cylinder rod.
5. Lower lift arms. Stop engine. Raise seat bar. Move pedals until both pedals lock. Leave loader.
6. Unhook spring from bracket.
7. Raise lift arm support device to storage position.
8. Insert pin through lift arm support device and bracket.
9. Hook spring to pin.

62554 SW 6706558B enUS

CMO ENGANCHAR EL DISPOSITIVO DE SOSTÉN DEL BRAZO DE ELEVACIÓN

1. Retire el accesorio de la cargadora.
2. Desenganche el resorte de la clavija. Sostenga el dispositivo de sostén del brazo de elevación. Retire la clavija.
3. Baje el dispositivo de sostén del brazo de elevación hasta la parte superior del cilindro.
4. Enganche el resorte en la ranura sobre la parte superior del dispositivo de sostén del brazo de elevación.
5. Ingrese la cargadora, ajústese el cinturón de seguridad, baje la barra del asiento y encienda el motor.
6. Eleve los brazos de elevación hasta que el dispositivo de sostén del brazo de elevación caiga sobre la varilla del cilindro.
7. Baje los brazos de elevación lentamente hasta que el movimiento se detenga.
8. Detenga el motor. Eleve la barra del asiento. Mueva los pedales hasta que ambos se bloqueen. Retírese de la cargadora.
9. Instale la clavija en la parte trasera del dispositivo de sostén del brazo de elevación debajo de la varilla del cilindro.



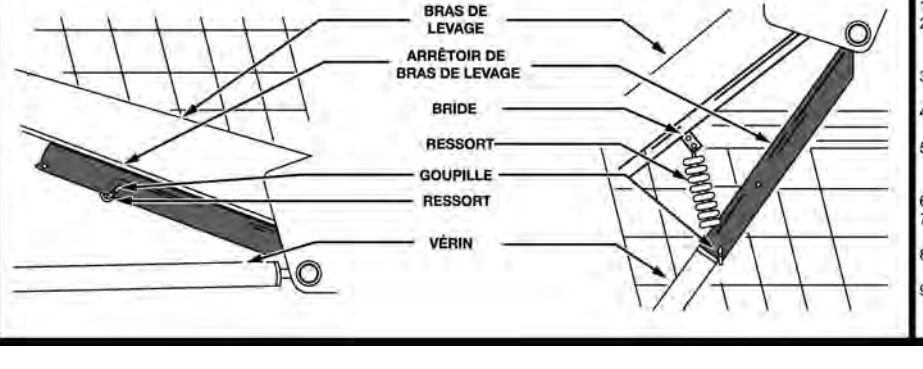
CMO DESENGANCHAR EL DISPOSITIVO DE SOSTÉN DEL BRAZO DE ELEVACIÓN

1. Retire la clavija.
2. Enganche el resorte en el soporte debajo del brazo de elevación (enganche el orificio superior en los modelos 953 y 963).
3. Ingrese la cargadora, ajústese el cinturón de seguridad, baje la barra del asiento y encienda el motor.
4. Eleve los brazos de elevación hasta que el dispositivo de sostén del brazo de elevación se eleve fuera de la varilla del cilindro.
5. Baje los brazos de elevación. Detenga el motor. Eleve la barra del asiento. Mueva los pedales hasta que ambos se bloqueen. Retírese de la cargadora.
6. Desenganche el resorte del soporte.
7. Eleve el dispositivo de sostén del brazo de elevación a la posición de almacenamiento.
8. Introduzca la clavija a través del dispositivo de sostén del brazo de elevación y el soporte.
9. Enganche el resorte a la clavija.

62554 SW 6706558B esAR

ENCLENCHEMENT DE L'ARRÊTOIR DE BRAS DE LEVAGE

1. Retirez l'accessoire de la chargeuse.
2. Décrochez le ressort de la goupille. Tenez l'arrêtoir de bras de levage. Retirez la goupille.
3. Abaissez l'arrêtoir de bras de levage jusqu'à la partie supérieure du vérin.
4. Accrochez le ressort en le passant dans la fente sur l'arrêtoir de bras de levage.
5. Prenez place dans la chargeuse, bouclez la ceinture, abaissez l'arceau de siège et mettez le moteur en marche.
6. Relevez les bras de levage jusqu'à ce que l'arrêtoir de bras de levage tombe sur la tige du vérin.
7. Abaissez lentement les bras de levage jusqu'à ce qu'ils s'arrêtent.
8. Arrêtez le moteur. Relevez l'arceau de siège. Bougez les pédales jusqu'à ce qu'elles se verrouillent. Quittez la chargeuse.
9. Installez la goupille à l'arrière de l'arrêtoir de bras de levage sous la tige du vérin.



DÉSENCLENCHEMENT DE L'ARRÊTOIR DE BRAS DE LEVAGE

1. Retirez la goupille.
2. Accrochez le ressort sur la bride sous le bras de levage (accrochez-le au trou supérieur dans le cas des modèles 953 et 963).
3. Prenez place dans la chargeuse, bouclez la ceinture, abaissez l'arceau de siège et mettez le moteur en marche.
4. Relevez les bras de levage jusqu'à ce que l'arrêtoir de bras de levage se lève hors de la tige du vérin.
5. Abaissez les bras de levage. Arrêtez le moteur. Relevez l'arceau de siège. Bougez les pédales jusqu'à ce qu'elles se verrouillent. Quittez la chargeuse.
6. Décrochez le ressort de la bride.
7. Relevez l'arrêtoir de bras de levage en position de rangement.
8. Insérez la goupille dans l'arrêtoir de bras de levage et la bride.
9. Accrochez le ressort à la goupille.

62554 SW 6706558B frCA

(S220) LOADER SPECIFICATIONS (CONT'D)

Engine

Make / Model	Kubota / V3800DI-T-E3CB Tier III
Fuel / Cooling	Diesel / Liquid
Horsepower (SAE Net)	71.7 HP (53,5 kW) @ 2400 RPM
Low Idle RPM	1150 - 1300
High Idle RPM	2525 - 2650
Torque (SAE Net)	199.0 ft.-lb. (269,8 N•m) @ 1600 RPM
Number of Cylinders	4
Displacement	230 cu. in. (3,769 L)
Bore / Stroke	3.94 in. / 4.72 in. (100 mm / 120mm)
Lubrication	Gear Pump Pressure System with Filter
Crankcase Ventilation	Open Breathing
Air Cleaner	Dry replaceable paper cartridge with safety element
Ignition	Diesel - Compression
Air Induction	Turbo-Charged
Engine Coolant	Propylene Glycol / Water Mixture
Starting Aid	Intake Air Heater - Automatically activated as needed in RUN position.

Controls

Vehicle Steering	Direction and speed controlled by two hand operated steering levers *or* optional joystick(s)
Loader Hydraulics - Lift and Tilt	Controlled by separate foot pedals or optional Advanced Control System (ACS) or optional Selectable Joystick Controls (SJC)
- Front Auxiliary (Standard)	Controlled by electrical switch on Right Hand steering lever or joystick
- Rear Auxiliary (Option)	Controlled by electrical switch on Left Hand steering lever or joystick
Auxiliary Pressure Release	Pressure relieved through quick couplers; Push couplers in, hold for 5 seconds
Engine	Hand lever speed control; key-type start switch *or* optional Deluxe Instrumentation Panel and function error shutdown.
Starting Aid	Intake Air Heater automatically activated as needed by Instrument Panel
Service Brake	Two independent hydrostatic systems controlled by two hand operated steering levers *or* optional joystick(s)
Secondary Brake	One of the hydrostatic transmissions
Parking Brake (Standard)	Mechanical disc, manually operated switch on front instrument panel
Parking Brake (Two-Speed Option)	Spring applied pressure release multi-disk brake activated by manually operated switch on front instrument panel

Drive System

Main Drive	Fully hydrostatic, 4-wheel drive
Transmission	Infinitely variable tandem hydrostatic piston pumps, driving two fully reversing hydrostatic motors
Final Drive	Pre-stressed #120 HSOC endless roller chain (no master link) and sprockets in sealed chaincase with oil lubrication (Chains do not require periodic adjustments) Two chains per side with no idler sprocket
Engine to Wheel Reduction	29.9:1
Axle Size	2.76 in. (70,1 mm), Heat treated
Wheel Bolts	Eight - 9/16 in. Wheel bolts fixed to axle hubs

CLICK HERE TO DOWNLOAD THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below

- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO DOWNLOAD THE COMPLETE MANUAL