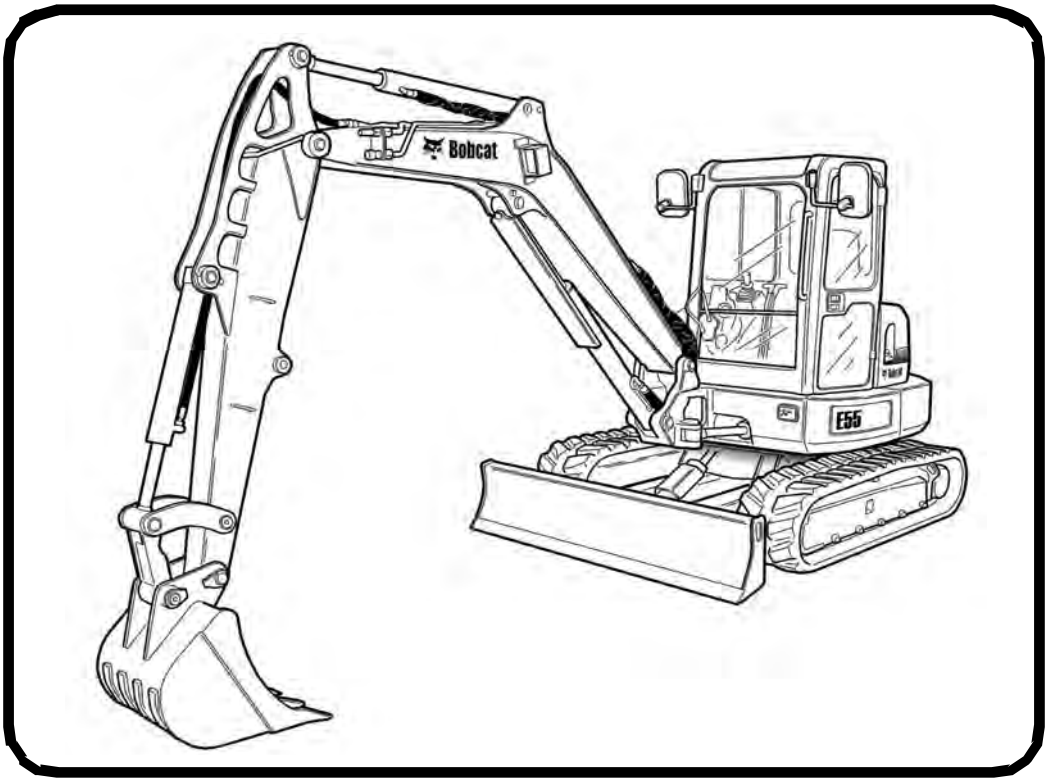
Operation & Maintenance Manual
E55 Compact Excavator

S/N ARWM11001 - ARWM11999



6990092enUS (11-15) (D)

Printed in U.S.A.

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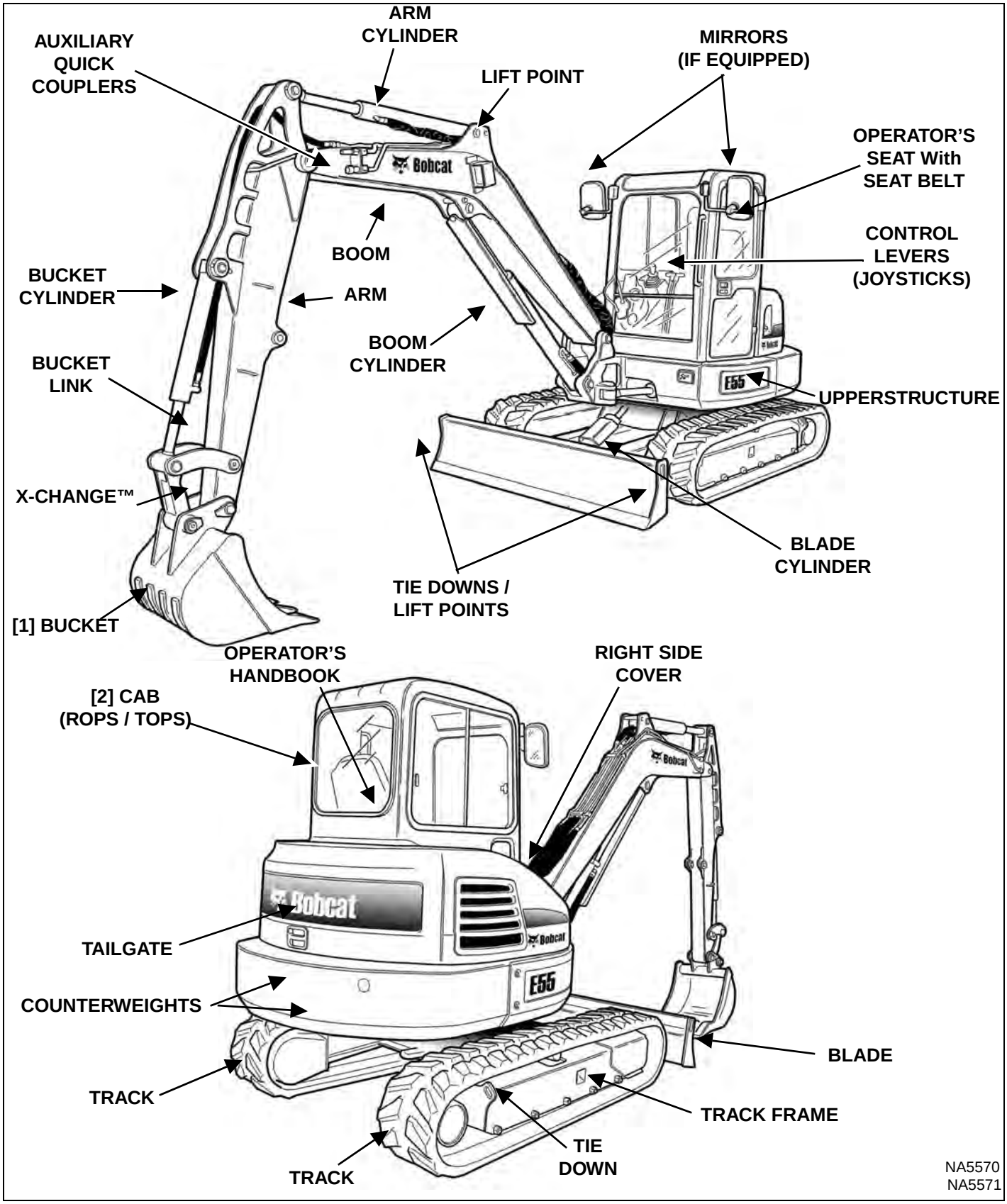
EXCAVATOR IDENTIFICATION



[1] BUCKET - Several different buckets and other attachments are available for the Bobcat Excavator.

[2] ROPS / TOPS - (Roll Over Protective Structure / Tip Over Protective Structure) as standard equipment. The ROPS / TOPS meets ISO 12117-2 and ISO 12117.

PUBLICATIONS AND TRAINING RESOURCES

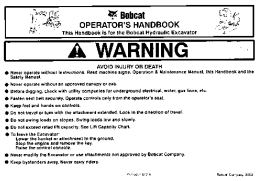
The following publications are also available for your Bobcat excavator. You can order them from your Bobcat dealer.

For the latest information on Bobcat products and the Bobcat Company, visit our Web site at **www.training.bobcat.com** or **www.bobcat.com**.

OPERATION & MAINTENANCE MANUAL

6990092enUS

Complete instructions on the correct operation and the routine maintenance of your Bobcat excavator.



OPERATOR'S HANDBOOK

6987271enUS

Gives basic operation instructions and safety warnings.

SAFETY MANUAL

6901951 (English and Spanish)

Gives basic safety procedures and warnings for your Bobcat excavator.

OPERATOR SAFETY DVD

6904762 (English and Spanish)

DVD gives basic safety instructions for many Bobcat products including excavators.

COMPACT EXCAVATOR OPERATOR TRAINING COURSE

7249283 (English)
7249286 (Spanish)

Introduces operator to step-by-step basics of skid-steer excavator operation.

EXCAVATOR SERVICE SAFETY TRAINING COURSE

6900916

Introduces service technicians to step-by-step basics of proper and safe skid-steer excavator maintenance and servicing procedures.

SERVICE MANUAL

6990093enUS

Complete maintenance instructions for your Bobcat excavator.

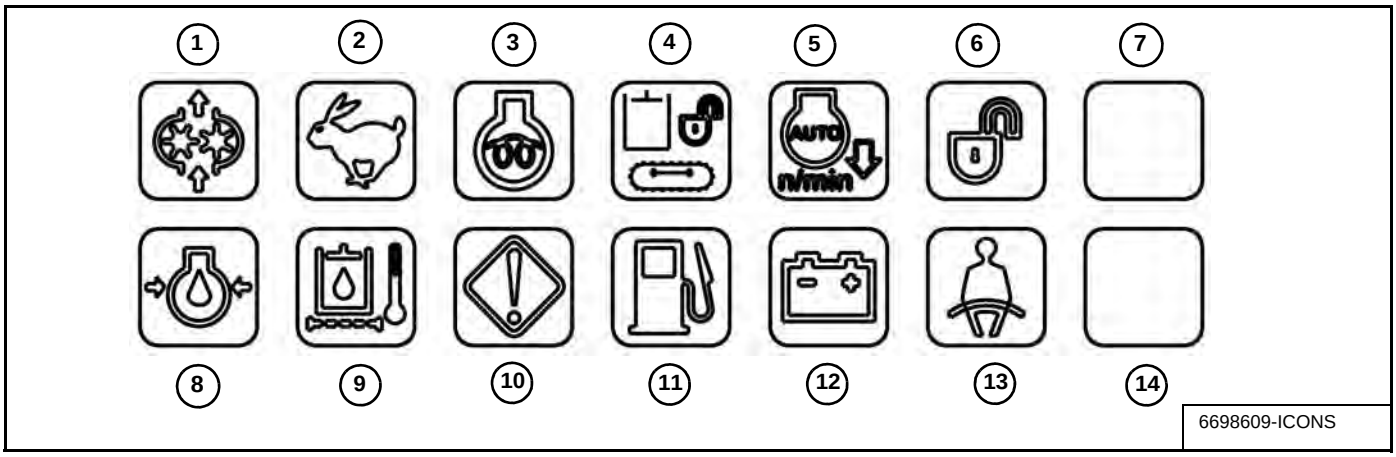
EXCAVATOR SAFETY VIDEO

(Mobile device with quick response code application required)

Scan the code above to watch the excavator safety video or view at **www.training.bobcat.com**.

Indicator Icons

Figure 10



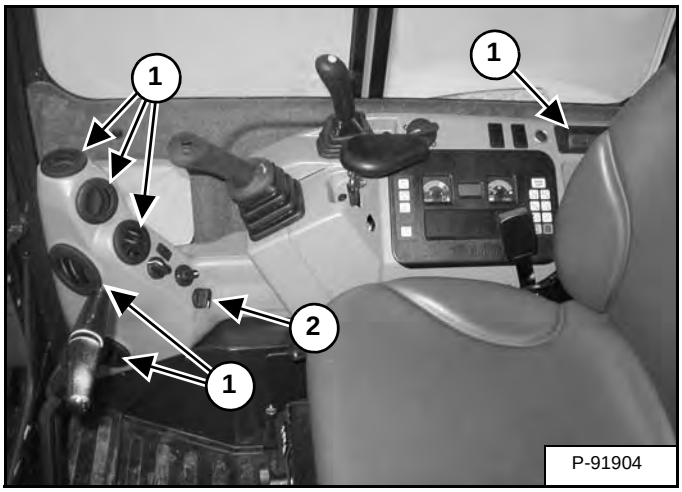
The right console contains the instrument panel with Indicator Icons **[Figure 10]**.

NOTE: If a Warning Icon (Icons 8, 9, 10 and 12) is illuminated or flashes, appropriate action is needed to avoid potential machine damage. Service the machine as soon as possible when conditions are present.

REF. NO.	INDICATOR ICONS		
	When Indicator Icon Is Illuminated	*When Indicator Icon Is OFF*	*When Indicator Icon Is Flashing*
1	Auxiliary Hydraulics Engaged	Auxiliary Hydraulics Disengaged	See Error Codes in SA section
2	High Range Engaged	Low Range Engaged	See Error Codes in SA section
3	Glow Plugs Energized	Glow Plugs OFF	See Error Codes in SA section
4	Hydraulic Traction Drive Activated	Hydraulic Traction Drive Deactivated	See Error Codes in SA section
5	Auto Idle System Activated	Auto Idle System Deactivated	See Error Codes in SA section
6	Keypad Unlocked	Keypad Locked	------
7	Future Use		
8	Low Engine Oil Pressure	Engine Oil Pressure in operating range	Extremely Low Engine Oil Pressure, Engine will shut down in 10 seconds, See Error Codes in SA section
9	Plugged Hydraulic Filter or High Hydraulic Oil Temperature	Hydraulic Filter and Oil in operating range.	Extremely High Hydraulic Oil Temperature, Engine will shut down in 10 seconds, See Error Codes in SA section
10	General Warning	All system in operating range	Extremely High Coolant Temperature or Extremely High Engine rpm, Engine will shut down in 10 seconds, See Error Codes in SA section
11	Low Fuel Level	Fuel level in operating range	----
12	Extremely Low Battery Voltage, Engine will shut down in 10 seconds, See Error Codes in SA section	Battery Voltage in operating range	High or Low Battery Voltage
13	Fasten Seat Belt Reminder - Light stays on for 45 seconds to remind operator to fasten seat belt.	----	----
14	Future Use		

Heating, Ventilation, And Air Conditioning Ducting

Figure 37



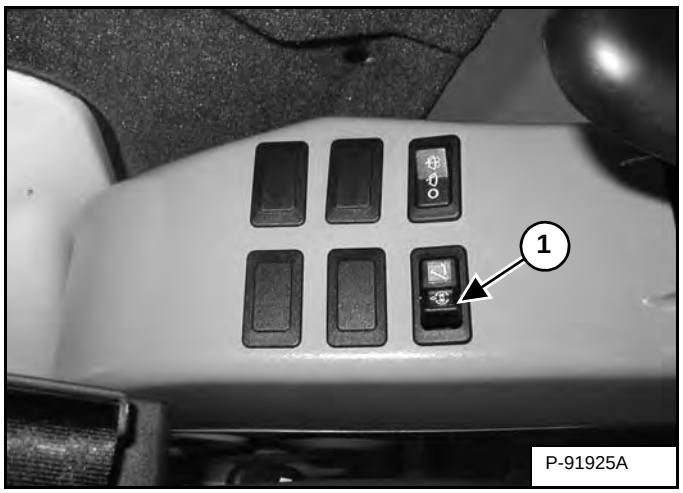
The HVAC louvers (Item 1) **[Figure 37]** can be positioned as needed to direct the air flow to various areas in the cab.

Operating Tip: To increase heating or cooling efficiency, move the Recirculation / Fresh Air Control knob (Item 2) **[Figure 37]** *to the recirculation position. This will allow the air to recirculate through the HVAC system and improve temperature control. If left in the fresh air position, the HVAC system will also need to heat or cool the ambient air that is drawn in from the outside, slowing and / or reducing the temperature change inside the cab.*

Secondary Auxiliary Hydraulics

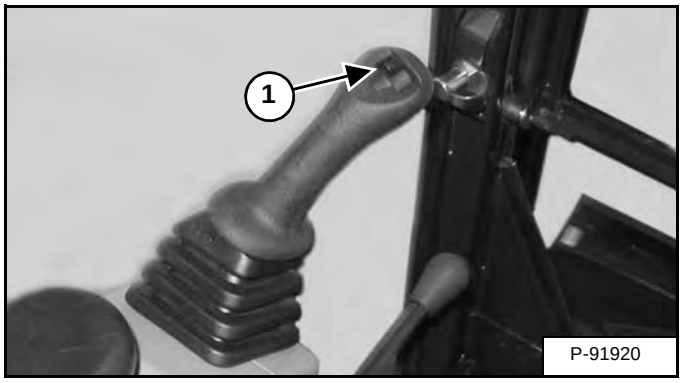
When equipped with secondary auxiliary hydraulics, the second set of hydraulic couplers will be mounted on the right side of the arm.

Figure 57



Move the boom swing / secondary auxiliary hydraulic switch (Item 1) **[Figure 57]** to the right, secondary auxiliary hydraulic position.

Figure 58



Move the switch (Item 1) **[Figure 58]** on the left control lever to the left to supply hydraulic flow to the female coupler. Move the switch to the right to supply hydraulic flow to the male coupler. If you move the switch halfway, the auxiliary functions move at approximately one-half speed.

Relieve Hydraulic Pressure (Excavator And Attachment)

Excavator:

Put the attachment flat on the ground.

Stop the engine and turn the key to ON (Standard) or press ENTER CODE Button (Keyless).

NOTE: The left console must be fully lowered for relieving hydraulic pressure.

Move the boom swing / secondary auxiliary hydraulic switch (Item 1) **[Figure 57]** to the right, secondary auxiliary hydraulic position.

Move the switch (Item 1) **[Figure 58]** to the right and left several times.

Attachments:

- Follow procedure above to release pressure in excavator.
- Connect male coupler from attachment to female coupler of excavator then repeat procedure above. This will release pressure in the attachment.
- Connect the female coupler from the attachment.

Hydraulic pressure in the auxiliary hydraulic system can make it difficult to engage quick couplers to an attachment.

Operation & Maintenance Manual And Operator's Handbook Locations

Figure 74

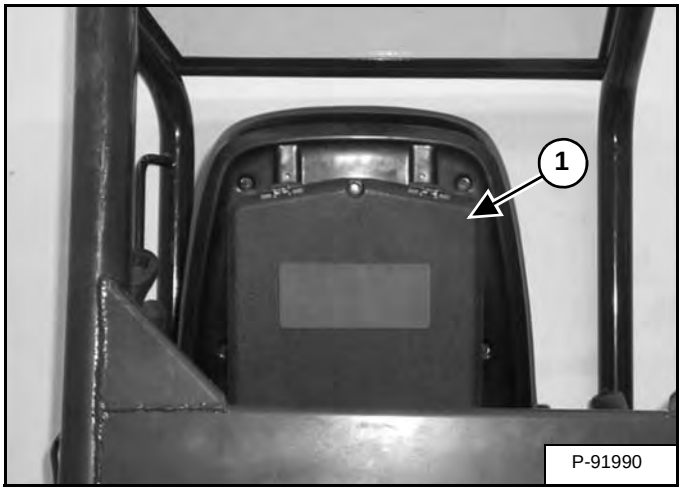
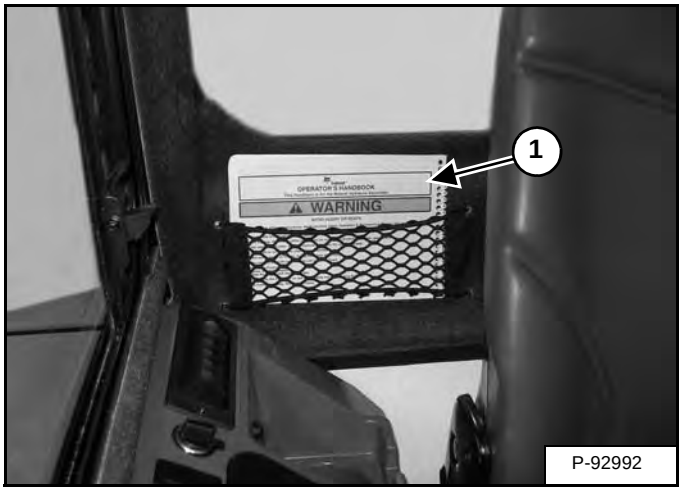


Figure 75



Read and understand the Operation & Maintenance Manual (Item 1) **[Figure 74]** (located inside the storage box on the back of the operator's seat) and the Operator's Handbook (Item 1) **[Figure 75]** before operating.

Entering The Excavator

Figure 76

Use the grab handles and tracks to enter the cab **[Figure 76]**.

WARNING

AVOID INJURY OR DEATH

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

W-2003-0807

Installing And Removing The Attachment (Hydraulic X-Change) (Cont'd)

Removal

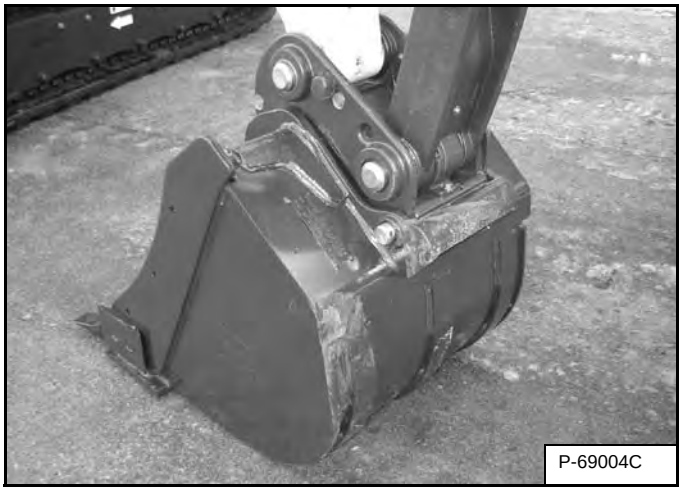
NOTE: Removal and installation of the bucket is shown. The procedure is the same for other attachments. Disconnect any hydraulic lines that are operated by hydraulic power before removing any attachments (breaker, auger, etc.).

⚠ WARNING

Keep all bystanders 6 m (20 ft) away from equipment when operating. Contact with moving parts, a trench cave-in or flying objects can cause injury or death.

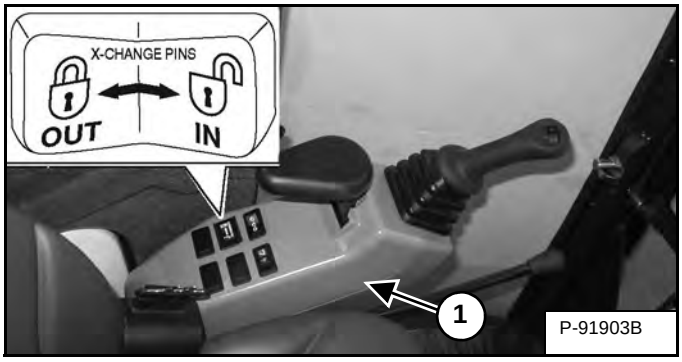
W-2119-0910

Figure 100



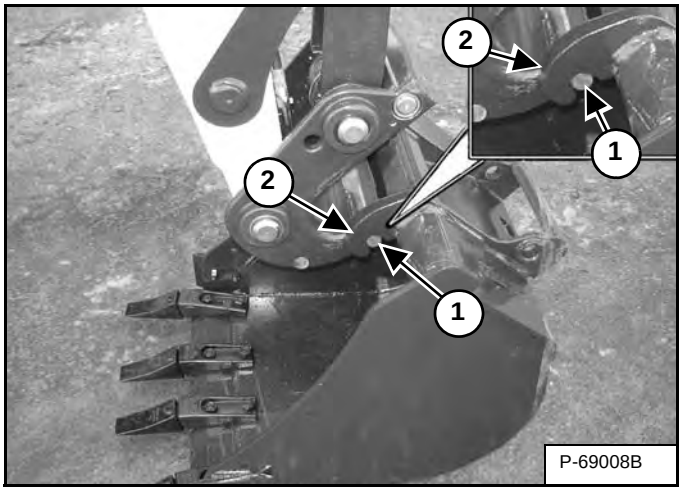
Park the excavator on a flat level surface. Put the attachment on the ground **[Figure 100]**.

Figure 101



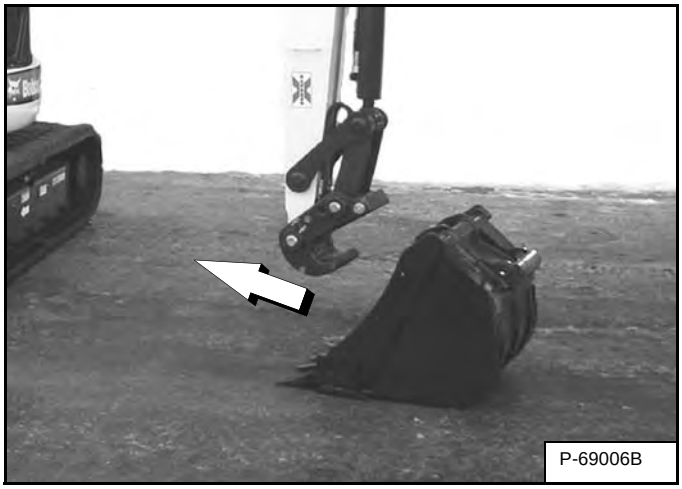
Press and hold the X-Change switch (Item 1) **[Figure 101]** on the left console to the right (IN) to **FULLY RETRACT** the hydraulic pins.

Figure 102



Raise the boom and retract the bucket cylinder until the X-Change pins (Item 1) engage the attachment hooks (Item 2) **[Figure 102]** on the bucket.

Figure 103



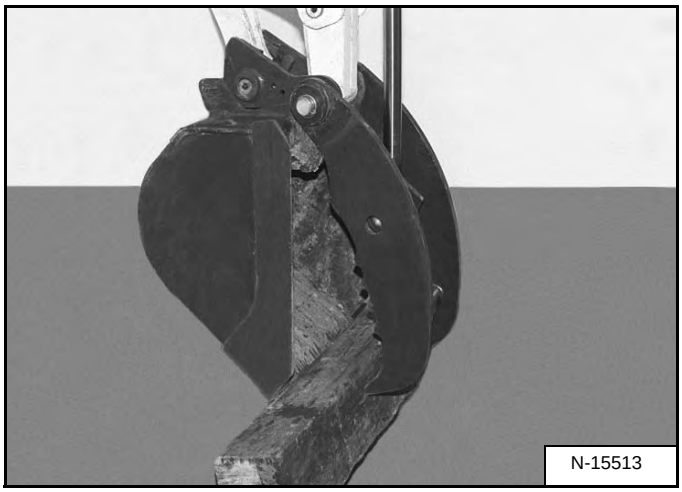
Fully retract the bucket cylinder (bucket dump).

Lower the boom and arm until the attachment is on the ground and the X-Change pins are disengaged from the attachment hooks.

Move the arm toward the excavator until the X-Change pins are clear of the attachment **[Figure 103]**.

Using The Clamp

Figure 119



The optional lifting clamp attachment gives the excavator a wider range of use and mobility for debris removal **[Figure 119]**.

The lifting clamp cylinder must be fully retracted when the machine is being used for excavating.

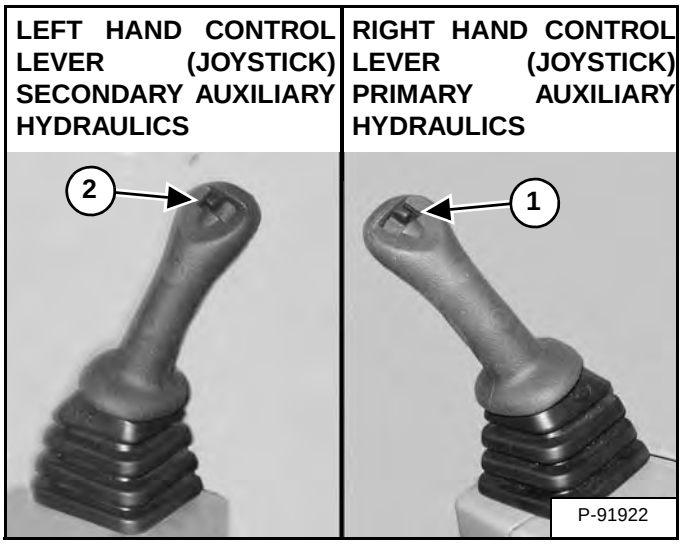
The lift capacities are reduced by 122 Kg (270 lb) if the excavator is equipped with the optional lifting clamp.

NOTE: Use care when operating the bucket and clamp functions on machines equipped with an X-Change and without a bucket or attachment installed. Cylinder damage can occur due to contact between the X-Change and the clamp when both cylinders are fully extended.

When Using Primary Auxiliary Hydraulics To Activate Clamp

Engage the auxiliary hydraulics and toggle to the Aux2 setting. (See Auxiliary Hydraulics on Page 47.)

Figure 120



Move the switch (Item 1) **[Figure 120]** on the right control lever to the right to open the clamp. Move the switch to the left to close the clamp.

When Using Secondary Auxiliary Hydraulics To Activate Clamp

Move the switch (Item 2) **[Figure 120]** on the left control lever to the left open the clamp. Move the switch to the right to close the clamp.

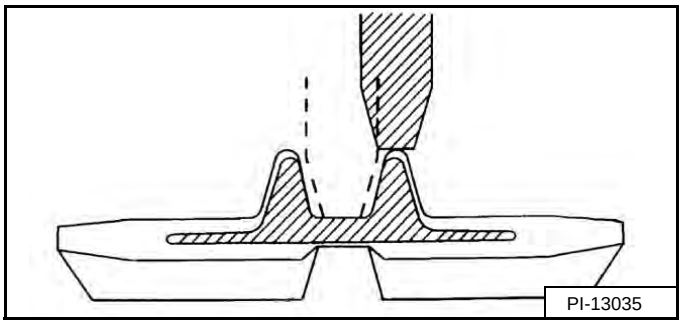
NOTE: The lifting clamp will be connected to the secondary auxiliary hydraulic quick couplers when equipped with the optional extendable arm.

Avoiding Track Damage

Mud and water should be removed from the machine before parking. In freezing temperatures, park the machine on boards or concrete to prevent the track or undercarriage from freezing to the ground and preventing machine movement.

Some Cause Of Track Damage:

Figure 147

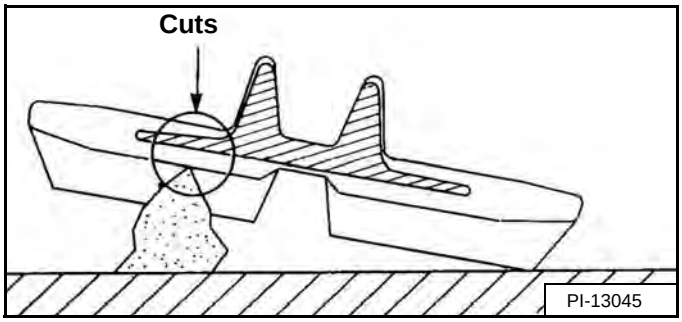


Incorrect track tension: When the rubber track is detracting, the idler or sprocket rides on the projections of the embedded metal **[Figure 147]** causing the embedded metal to be exposed to corrosion. (See TRACK TENSION on Page 129.)

If rubber track is clogged with stones or foreign objects, these can get wedged between the sprocket / rollers and cause detracting and track stress.

When moisture invades through cuts on the track, the embedded steel cords will corrode. The deterioration of the design strength may lead to the breaking of the steel cords.

Figure 148

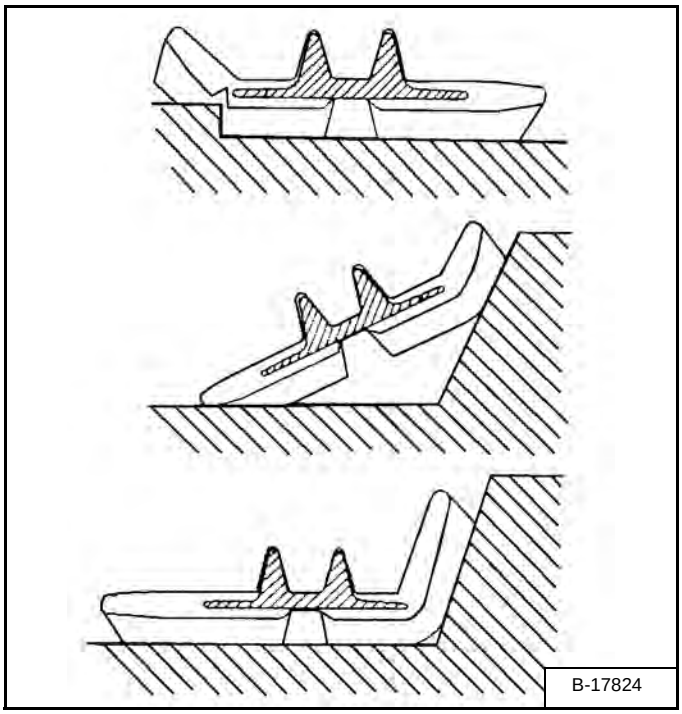


When rubber tracks drive over projections or sharp objects in the field, the concentrated forces applied cause cuts on the lug side rubber surface **[Figure 148]**. In case of making turns on projections, the lug side rubber surface will have an even higher chance to be cut. If the cuts run through the embedded steel cords, it might result in the steel cords' breakage due to their corrosion.

Avoid quick turns on bumpy and rocky fields.

Driving over sharp objects should be avoided. If this is impossible, do not make turns while driving over sharp objects.

Figure 149



When rubber tracks drive over sharp projections, intensive stress is applied to the lug side rubber surface, especially at the edges of embedded metals, causing cracks and cuts in the area around the embedded metals **[Figure 149]**.

Avoid extensive stress applied to the lug root where metals are embedded. Operators should try to avoid driving over stumps and ridges.

SERVICE SCHEDULE

Maintenance Intervals

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures.

The service schedule is a guide for correct maintenance of the Bobcat excavator.

⚠ WARNING

AVOID INJURY OR DEATH

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

W-2003-0807

Every 10 Hours (Before Starting The Excavator)

- **Engine Oil** - Check level and add as needed.
- **Engine Air Filters and Air System** - Check display panel. Service only when required. Check for leaks and damaged components.
- **Engine Cooling System** - Check coolant level COLD and add premixed coolant as needed.
- **Hydraulic Fluid** - Check fluid level and add as needed.
- **Fuel Filter** - Drain water and sediment from filter.
- **Seat Belt, Seat Belt Retractors, Seat Belt Mounting hardware, Control Console Lockout** - Check the condition of seat belt and mounting hardware. Clean or replace seat belt retractors as needed. Check the control console lockout lever for proper operation. Clean dirt and debris from moving parts.
- **Motion Alarm** - Check for proper function.
- **Operator Canopy / Cab** - Check the canopy / cab condition and mounting hardware.
- **Operator Cab and HVAC Filters** - Clean filters as needed.
- **Indicators and Lights** - Check for correct operation of all indicators and lights.
- **Safety Signs** - Check for damaged signs (decals). Replace any signs that are damaged.
- **Track Tension** - Check tension and adjust as needed.
- **Pivot Points** - Grease all machinery pivot points. Grease clamp and angle blade (if equipped).
- **X-Change / Attachment Coupler** - Check for damage or loose parts (if equipped).

Every 50 Hours

- **Swing Bearing** - Grease swing bearing and swing pinion. Service every 10 hours when operating in water.
- **Battery** - Check cables, connections, and electrolyte level; add distilled water as needed.
- **Fuel Tank** - Drain water and sediment from fuel tank and fuel filter.

Every 250 Hours Or Every 12 Months

- **Travel Motors (Final Drive)** - Service at first 50 hours, then as scheduled. Check fluid level and add as needed.

SS EXC E32 - E55 iT4 T4-K-0815

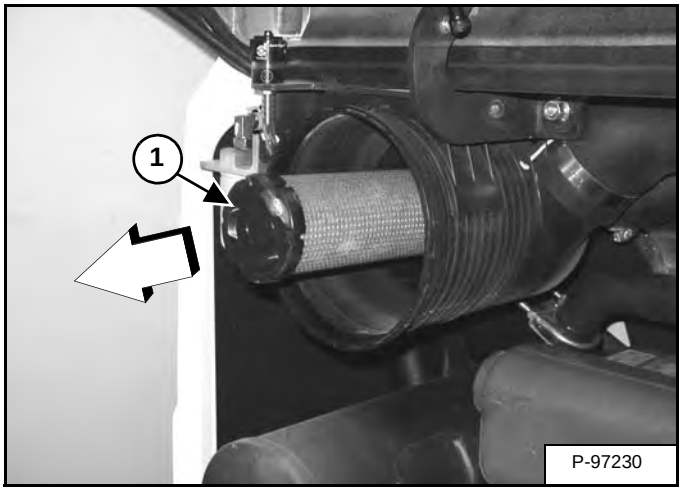
Replacing The Filter Elements (Cont'd)

Inner Filter

Only replace the inner filter under the following conditions:

- Replace the inner filter every *third* time the outer filter is replaced.
- After the outer filter has been replaced, press the button (Item 2) **[Figure 170]** on the end of the condition indicator. Start the engine. Run the engine at full rpm, then reduce engine speed. Stop the engine. If the red ring shows in the condition indicator, replace the inner filter.

Figure 174



Remove the dust cup, outer filter and inner filter (Item 1) **[Figure 174]**.

NOTE: Make sure all sealing surfaces are free of dirt and debris.

Install the new inner filter.

Install the outer filter and the dust cup.

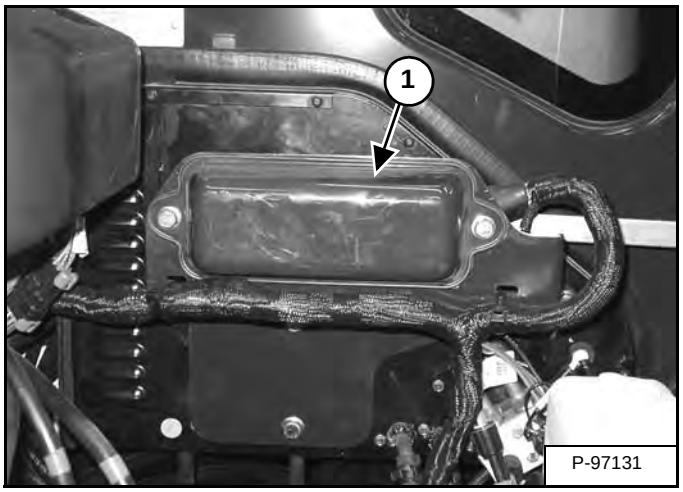
Press the button on the condition indicator to remove the red ring.

Close the tailgate.

ELECTRICAL SYSTEM

Description

Figure 194



The excavator has a 12 volt, negative ground electrical system. The electrical system is protected by fuses (Item 1) **[Figure 194]** located under the right side cover of the excavator. The fuses will protect the electrical system when there is an electrical overload. The reason for the overload must be found and corrected before starting the engine again.

The battery cables must be clean and tight. Check the electrolyte level in the battery. Add distilled water as needed. Remove acid or corrosion from the battery and cables with a sodium bicarbonate and water solution.

Put Battery Saver P/N 6664458 or grease on the battery terminals and cable ends to prevent corrosion.

⚠ WARNING

AVOID INJURY OR DEATH

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

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

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

W-2065-0807

Fuse And Relay Location / Identification

A decal is inside the fuse cover to show location and amp ratings.

Remove the cover to check or replace the fuses and relays.

The location and sizes are shown in **[Figure 195]**.

Always replace fuses using the same type and capacity.

TRACK TENSION

NOTE: The wear of the pins and bushings on the undercarriage vary with the working conditions and the different types of soil conditions. It is necessary to inspect track tension and maintain the correct tension. See SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 99.)

WARNING

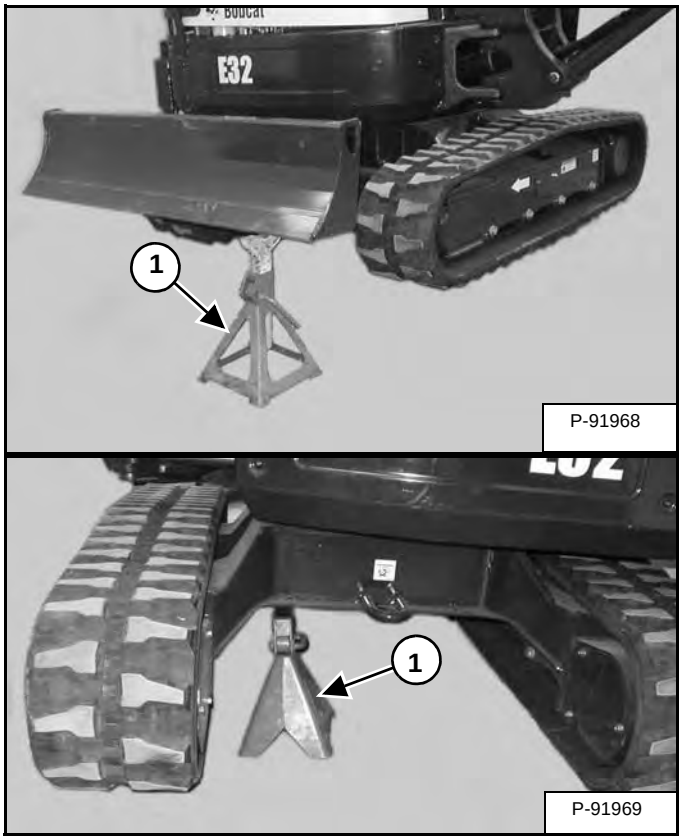
AVOID INJURY

Keep fingers and hands out of pinch points when checking the track tension.

W-2142-0903

Adjusting

Figure 211



Raise one side of the machine (Approximately four inches) using the boom and arm.

Raise the blade fully and install jackstands under the blade and track frame (Item 1) **[Figure 211]**. Lower the boom until all machine weight is on the jackstands.

Stop the engine.

LUBRICATION OF THE HYDRAULIC EXCAVATOR

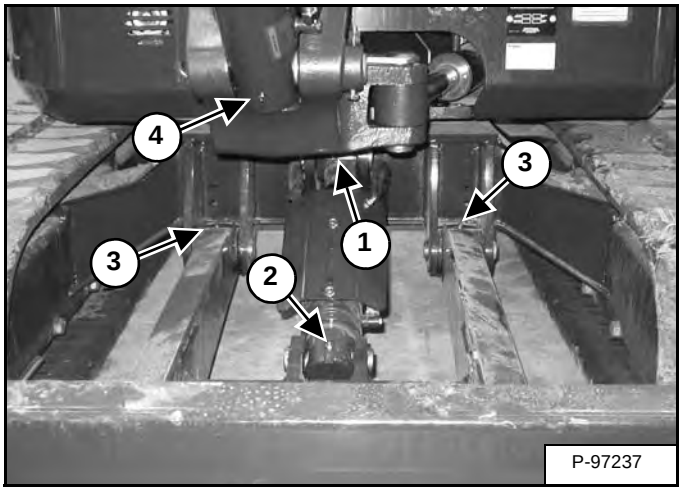
Lubrication Locations

Lubricate the excavator as specified in the SERVICE SCHEDULE for the best performance of the machine. (See SERVICE SCHEDULE on Page 99.)

Always use a good quality lithium based multipurpose grease when lubricating the machine. Apply the lubricant until extra grease shows.

Lubricate the following locations on the excavator EVERY 8 - 10 HOURS:

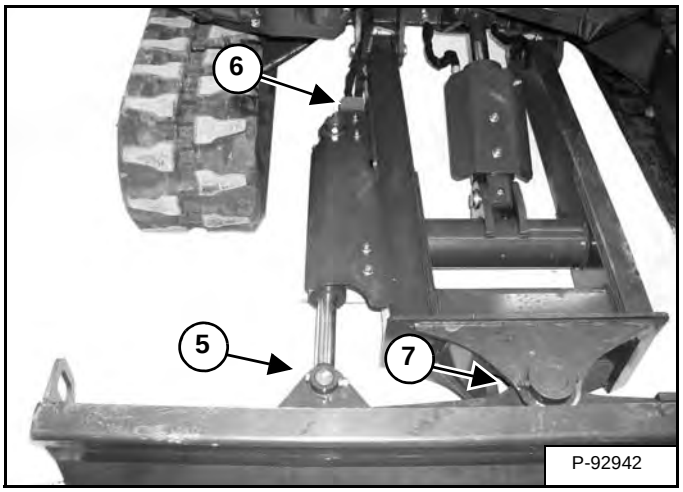
Figure 234



Ref Description (# of Fittings)

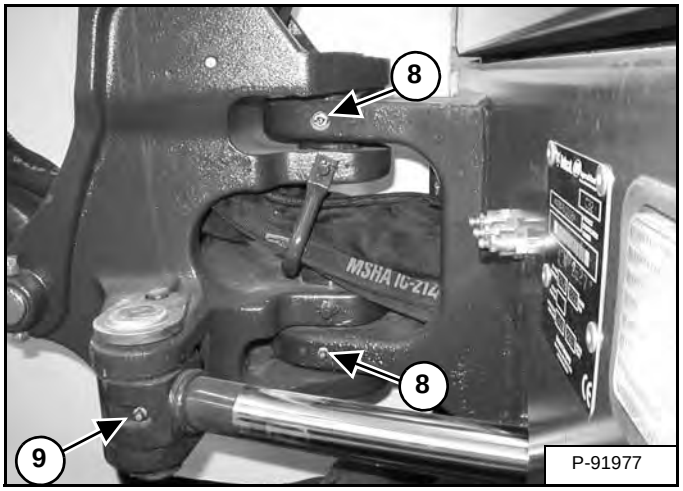
1. Blade Cylinder Rod End (1) **[Figure 234]**
2. Blade Cylinder Base End (1) **[Figure 234]**
3. Blade Pivots (2) **[Figure 234]**
4. Boom Cylinder Base End (1) **[Figure 234]**

Figure 235



5. Angle Blade Cylinder Rod End (1) **[Figure 235]** (If Equipped)
6. Angle Blade Cylinder Base End (1) **[Figure 235]** (If Equipped)
7. Angle Blade Pivot (1) **[Figure 235]** (If Equipped)

Figure 236



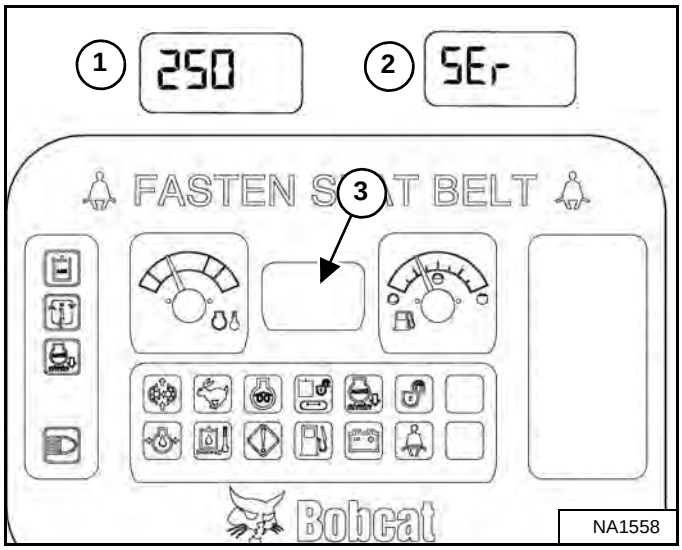
8. Boom Swing Pivot (2) **[Figure 236]**
9. Boom Swing Cylinder Rod End (1) **[Figure 236]**

MAINTENANCE CLOCK

Description

The Maintenance Clock alerts the operator when the next service interval is due. *EXAMPLE:* The Maintenance Clock can be set to a 250 hour interval as a reminder for the next 250 hour planned maintenance.

Figure 246



During machine operation, a two beep alarm will sound when there are less than 10 hours until the next planned maintenance.

The hours interval (Item 1) and the **[SEr]** (Item 2) will alternate in the data display screen display window (Item 3) **[Figure 246]** for ten seconds.

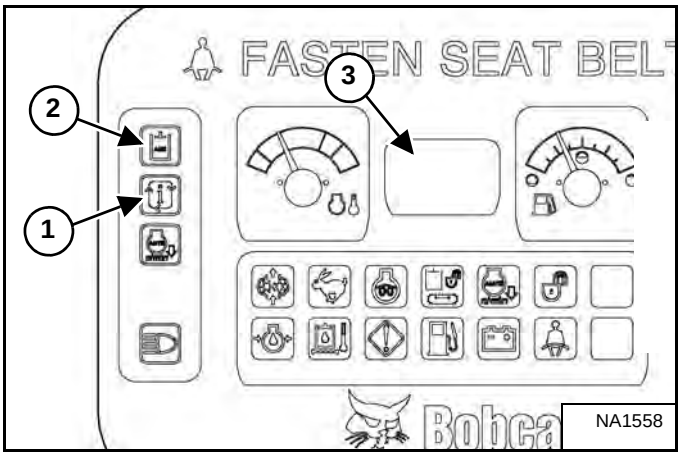
The display will then revert back to the previous display and will appear for ten seconds every time the machine is started until the maintenance clock is reset.

Setup

See your Bobcat dealer about installation of this feature.

Reset

Figure 247



To reset the panel after the scheduled maintenance is completed, do the following:

Turn the key to the OFF position or press the stop button (keyless panel).

Press the information button (Item 1) **[Figure 247]** to turn the panel on.

Press and hold the information button (Item 1) and the auxiliary hydraulic button (Item 2) simultaneously until **[rESEt]** appears in the data display screen display window (Item 3) **[Figure 247]**.

Lift Chart (7204759) With Standard Arm (Cont'd)

AVERTISSEMENT

TOUTE SURCHARGE PEUT ENTRAÎNER LE RENVERSEMENT DE L'EXCAVATRICE ET PROVOQUER DES BLESSURES GRAVES, VOIRE MORTELLES

- Ne jamais lever ni porter de charges qui dépassent ces capacités au rayon et à la hauteur spécifiés.
- Le chiffre indiqué représente la charge nominale totale. Le poids de tous les équipements de levage doit être déduit pour déterminer la charge nette pouvant être soulevée.

Le cas échéant, les caractéristiques techniques sont conformes aux normes ISO.
Elles peuvent être modifiées sans préavis.
Le point de levage s'entend comme le point d'articulation du godet standard avec le vérin de godet en extension complète.

EXCAVATRICE MODÈLE E55

PRESSION DES CIRCUITS
EN EFFORT 250 bars (3 625 lb/po²)
EN MAINTIEN 290 bars (4 206 lb/po²)

LONGUEUR - FLÈCHE 2 775 mm (109,3 po)
LONGUEUR - BALANCIER 1 925 mm (75,8 po)
CONTREPOIDS 1 070 kg (2 359 lb)
GODET STANDARD 610 mm (24,0 po)
142 kg (313 lb)

Hauteur du point de levage

Rayon de levage

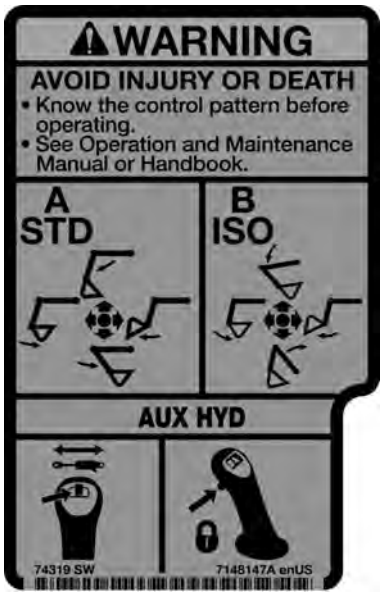
HAUTEUR DU POINT DE LEVAGE	CAPACITÉ DE LEVAGE EXTRÉMITÉ LAME, CELLE-CI ÉTANT BAISSÉE - kg (lb)				CAPACITÉ DE LEVAGE EXTRÉMITÉ LAME, CELLE-CI ÉTANT BAISSÉE - kg (lb)				CAPACITÉ DE LEVAGE EXTRÉMITÉ LAME, CELLE-CI ÉTANT BAISSÉE - kg (lb)				
	RAYON DE LEVAGE - mm (po)			LEVAGE - RAYON MAXIMUM, kg (lb) à mm (po)	RAYON DE LEVAGE - mm (po)			LEVAGE - RAYON MAXIMUM, kg (lb) à mm (po)	RAYON DE LEVAGE - mm (po)			LEVAGE - RAYON MAXIMUM, kg (lb) à mm (po)
mm (po)	2 000 (78,7)	3 000 (118,1)	4 000 (157,5)	5 000 (196,9)		2 000 (78,7)	3 000 (118,1)	4 000 (157,5)	5 000 (196,9)		2000 (78,7)	3000 (118,1)	4000 (157,5)	5000 (196,9)	
4 000 (157,5)			802 (1 767)		867 (1 911) à 4 315 (169,9)			766 (1 689)		829 (1 828) à 4 315 (169,9)			839 (1 850)		918 (2 024) à 4 315 (169,9)
3 000 (118,1)			815 (1 798)		918 (2 024) à 4 947 (194,8)			782 (1 724)		746 (1 644) à 4 947 (194,8)			861 (1 898)		633 (1 396) à 4 947 (194,8)
2 000 (78,7)		1 214 (2 676)	1 025 (2 259)	973 (2 146)	959 (2 115) à 5 246 (206,5)		1 167 (2 572)	979 (2 159)	725 (1 599)	666 (1 467) à 5 246 (206,5)		1 248 (2 750)	1 048 (2 311)	608 (1 340)	552 (1 216) à 5 246 (206,5)
1 000 (39,4)		1 885 (4 155)	1 315 (2 898)	1 078 (2 376)	1 029 (2 268) à 5 283 (208,0)		1 790 (3 947)	1 041 (2 296)	711 (1 569)	635 (1 400) à 5 283 (208,0)		1 370 (3 020)	865 (1 906)	589 (1 299)	529 (1 167) à 5 283 (208,0)
Au niveau du sol		2 268 (4 999)	1 530 (3 372)	1 169 (2 576)	1 106 (2437) à 5 149 (202,7)		1 615 (3 560)	1 009 (2 225)	693 (1 527)	655 (1 445) à 5 149 (202,7)		1 307 (2 881)	837 (1 846)	579 (1 276)	546 (1 205) à 5 149 (202,7)
-1 000 (-39,4)	3 012 (6 639)	2 372 (5 230)	1 569 (3 459)		1208 (2663) à 4738 (186,5)	2909 (6413)	1 557 (3 432)	989 (2 180)		737(1 625) à 4 738 (186,5)	2 532 (5 581)	1 288 (2 840)	820 (1 809)		618 (1 362) à 4 738 (186,5)

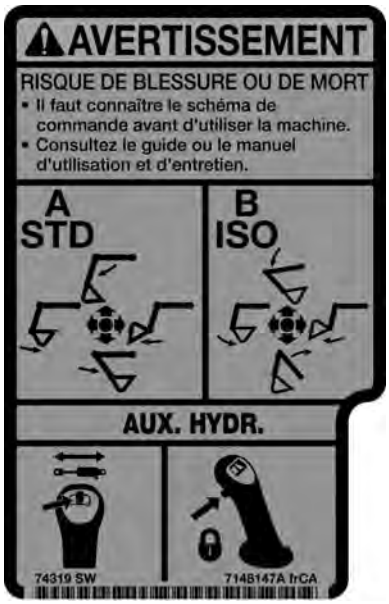
* Capacité de levage hydraulique nominale

80112 SW 7204759 frCA

Warning (7148145)

Warning (7148147)





SPECIFICATIONS