

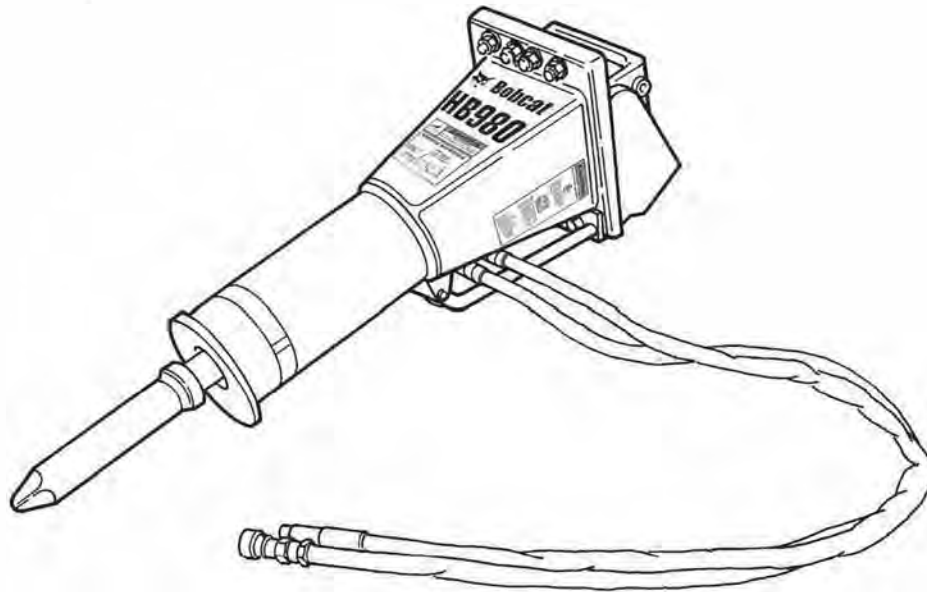
Our associates will ensure the tool works properly before you leave the store. If you experience issues with the tool while completing your project, simply bring it back to the Tool Rental Center to get a replacement. If you purchase Damage Protection at the time of your rental, you are not responsible for repair costs for tools that break due to normal use.





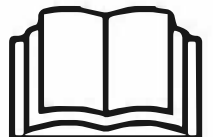
Bobcat®

Operation & Maintenance Manual



HB Series Hydraulic Breaker

(Breaker HB280) S/N A5T500101 & Above
(Breaker HB680) S/N A00W00101 & Above
(Breaker HB880) S/N A00X00101 & Above
(Breaker HB980) S/N A00Y00101 & Above
(Breaker HB1180) S/N A01R00101 & Above



OPERATOR SAFETY WARNINGS

WARNING

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

W-2001-0502

! Safety Alert Symbol: This symbol is used for important safety messages. When you see this symbol, follow the safety messages to avoid personal injury or death.

CORRECT

P-90216

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

CORRECT

B-23294

! Always install approved lift arm support device when servicing loader when lift arms are raised.

CORRECT

B-15570

! Always use the seat bar and fasten seat belt snugly.
! Always keep feet on the pedals when operating loader.

CORRECT

B-23299

! Never use loader without operator cab with ROPS and FOPS approval.

WRONG

B-23293

! Do not use loader in atmosphere with explosive dust, gas, or where exhaust can contact flammable material.
! Avoid cutting gas, electric, or other utility lines.

WRONG

B-23291

! Never demolish load bearing walls.
! Keep other personnel away from work area.
! Always use special applications kit.

WRONG

B-23292

! Do not undercut machine which can cause machine to fall.
! Check rules and regulations at your location.
! Operator and bystanders must wear goggles, hard hats, and hearing protection.

WRONG

B-23298

! Always carry attachment as low as possible.
! Do not travel or turn with lift arms up.

WRONG

B-23296

! Never leave machine with engine running or with lift arms up.
! To park, engage parking brake and put attachment on the ground.

WRONG

B-23295

! Never modify equipment or add attachments not approved by Bobcat Company.
! Never demolish ceilings or overhead structure.

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 hydraulic functions.
3. **OPERATOR CAB (ROPS and FOPS):** It must be on the loader with all fasteners tight.
4. **OPERATOR'S HANDBOOK:** Must be in the cab.
5. **MACHINE AND ATTACHMENT SAFETY SIGNS (DECALS):** Replace if damaged, clean if soiled.
6. **SPECIAL APPLICATIONS KIT**
7. **GRAB HANDLES:** Replace if damaged.
8. **SAFETY TREADS:** Replace if damaged.
9. **LIFT ARM SUPPORT DEVICE**
10. **PARKING BRAKE**



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OPERATOR SAFETY WARNINGS

WARNING

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

W-2001-0502

! Safety Alert Symbol: This symbol is used for important safety messages. When you see this symbol, follow the safety messages to avoid personal injury or death.

CORRECT

P-90216

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

CORRECT

B-21928

! Always fasten seat belt snugly.

! Always operate controls only from the operator's position.

CORRECT

B-23316

! Never use excavator without operator cab with ROPS and TOPS approval.

CORRECT

B-23323

! Never exceed a 15° degree slope when operating the excavator and breaker.

WRONG

B-23320

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

! Avoid cutting gas, electric, or other utility lines.

WRONG

B-23319

! Never demolish load bearing walls.

! Keep other personnel away from work area.

! Always use special applications kit.

WRONG

B-23317

! Do not undercut machine which can cause machine to fall.

! Check rules and regulations at your location.

! Operator and bystanders must wear goggles, hard hats, and hearing protection.

WRONG

B-23321A

! Always carry attachment as low as possible.

! Do not travel or turn with attachment extended.

WRONG

B-23318

! Never leave machine with engine running or with attachment raised.

! To park excavator, lower attachment fully and stop the engine.

WRONG

B-23322

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

! Never demolish ceilings or overhead structure.

SAFETY EQUIPMENT

The Bobcat Excavator 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. **SLEW LOCK**
3. **OPERATOR CAB (ROPS and TOPS)** It must be on the excavator with all fasteners tight.
4. **OPERATOR'S HANDBOOK:** Must be in the cab.
5. **MACHINE AND ATTACHMENT SAFETY SIGNS (DECALS):** Replace if damaged, clean if soiled.
6. **SPECIAL APPLICATIONS KIT**
7. **GRAB HANDLES:** Replace if damaged.
8. **SAFETY TREADS:** Replace if damaged.

OPERATOR SAFETY WARNINGS

WARNING

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

W-2001-0502

! Safety Alert Symbol: This symbol is used for important safety messages. When you see this symbol, follow the safety messages to avoid personal injury or death.

CORRECT

P-90216

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

CORRECT

B-23334

! Always fasten seat belt securely & keep arms and legs inside operator's area.
! Always operate the controls from the operator's position only.

CORRECT

B-23332

! Never use loader backhoe without operator cab with ROPS and FOPS approval.

WRONG

B-23333

! Keep bystanders away from the swing area and stabilizers.
! Operate the backhoe and stabilizers from the operator's area only.

WRONG

B-23331

! Do not use loader backhoe in atmosphere with explosive dust, gas, or where exhaust can contact flammable material.
! Avoid cutting gas, electric, or other utility lines.

WRONG

B-23330

! Never demolish load bearing walls.
! Keep other personnel away from work area.

WRONG

B-23327

! Do not undercut machine which can cause machine to fall.
! Check rules and regulations at your location.
! Operator and bystanders must wear goggles, hard hats, and hearing protection.

WRONG

B-2332A€

! Always carry attachment as low as possible.
! Do not travel or turn with attachment extended.

WRONG

B-23329

! Never leave machine with engine running or with backhoe boom up.
! To park, engage parking brake and put attachment on the ground.

WRONG

B-23326

! Never modify equipment or add attachments not approved by Bobcat Company.
! Never demolish ceilings or overhead structure.

SAFETY EQUIPMENT

The Bobcat Loader Backhoe 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. **OPERATOR CAB (ROPS and FOPS):** It must be on the loader backhoe with all fasteners tight.
3. **OPERATOR'S HANDBOOK:** Must be in the cab.
4. **PARKING BRAKE:** Check for correct operation.
5. **MACHINE AND ATTACHMENT SAFETY SIGNS (DECALS):** Replace if damaged, clean if soiled.
6. **PRESS TO DRIVE SYSTEM:** Check function.
7. **GRAB HANDLES:** Replace if damaged.
8. **SAFETY TREADS:** Replace if damaged.
9. **LIFT ARM SUPPORT DEVICE AND/OR BACKHOE SWING LOCK PIN**



Bobcat®

OPERATOR SAFETY WARNINGS



WARNING

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

W-2001-0502



Safety Alert Symbol: This symbol is used for important safety messages. When you see this symbol, follow the safety messages to avoid personal injury or death.

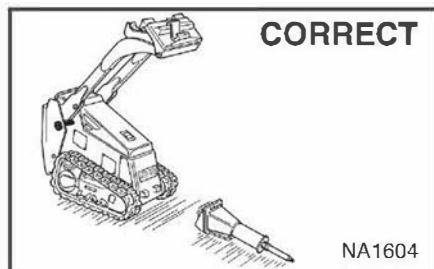
CORRECT



P-90216



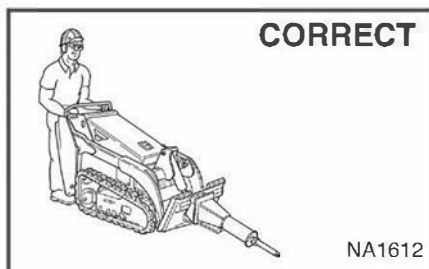
Never use the breaker without instructions. See attachment safety signs (decals), and Operation & Maintenance Manual.



CORRECT

NA1604

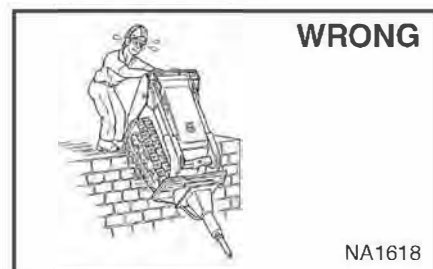
Always install approved lift arm support device when servicing mini loader when lift arms are raised.



CORRECT

NA1612

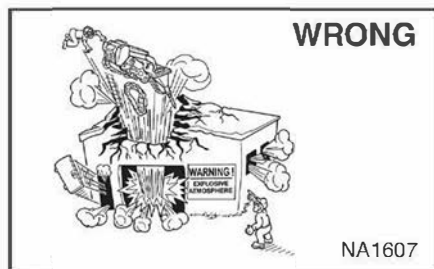
Operate only from the operator's position at the rear of the mini loader.
Always keep your hands on the controls.
Stay away from the tracks.



WRONG

NA1618

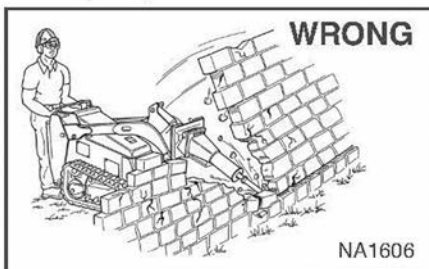
Never operate the breaker and mini loader near drop offs.



WRONG

NA1607

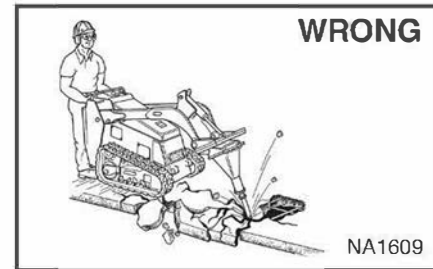
Do not use mini loader in atmosphere with explosive dust, gas, or where exhaust can contact flammable material.
Avoid cutting gas, electric, or other utility lines.



WRONG

NA1606

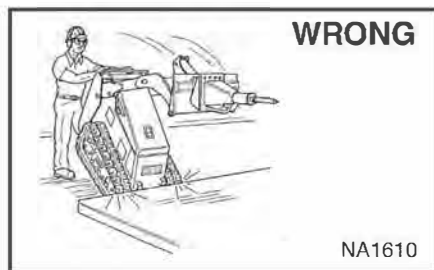
Never demolish load bearing walls.
Keep other personnel away from work area.



WRONG

NA1609

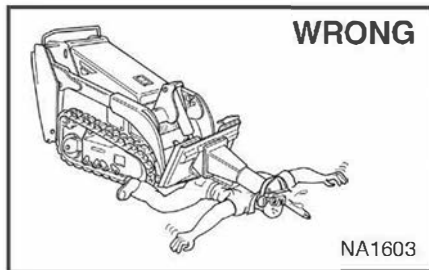
Do not undercut machine which can cause machine to fall.
Check rules and regulations at your location.
Operator and bystanders must wear goggles, hard hats, and hearing protection.



WRONG

NA1610

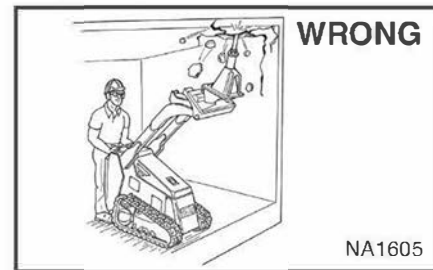
Always carry attachment as low as possible.
Do not travel or turn with lift arms up.



WRONG

NA1603

Never leave machine with engine running or with lift arms up.
To park, engage parking brake and put attachment on the ground.



WRONG

NA1605

Never modify equipment or add attachments not approved by Bobcat Company.
Never demolish ceilings or overhead structure.

SAFETY EQUIPMENT

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

1. MACHINE AND ATTACHMENT SAFETY SIGNS (DECALS): Replace if damaged, clean if soiled.
2. LIFT ARM SUPPORT DEVICE: Replace if damaged.
3. PARKING BRAKE: Check function, adjust or repair if necessary.
4. REVERSE STOP PANEL: Check function.

OSW67-0509



Bobcat®

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REFERENCE INFORMATION

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

Attachment Serial Number _____

NOTES:

YOUR BOBCAT DEALER:

ADDRESS: _____

PHONE: _____

Bobcat Company
P.O. Box 128
Gwinner, ND 58040-0128
UNITED STATES OF AMERICA

Doosan Bobcat EMEA s.r.o.
U Kodetky 1810
263 12 Dobris
CZECH REPUBLIC



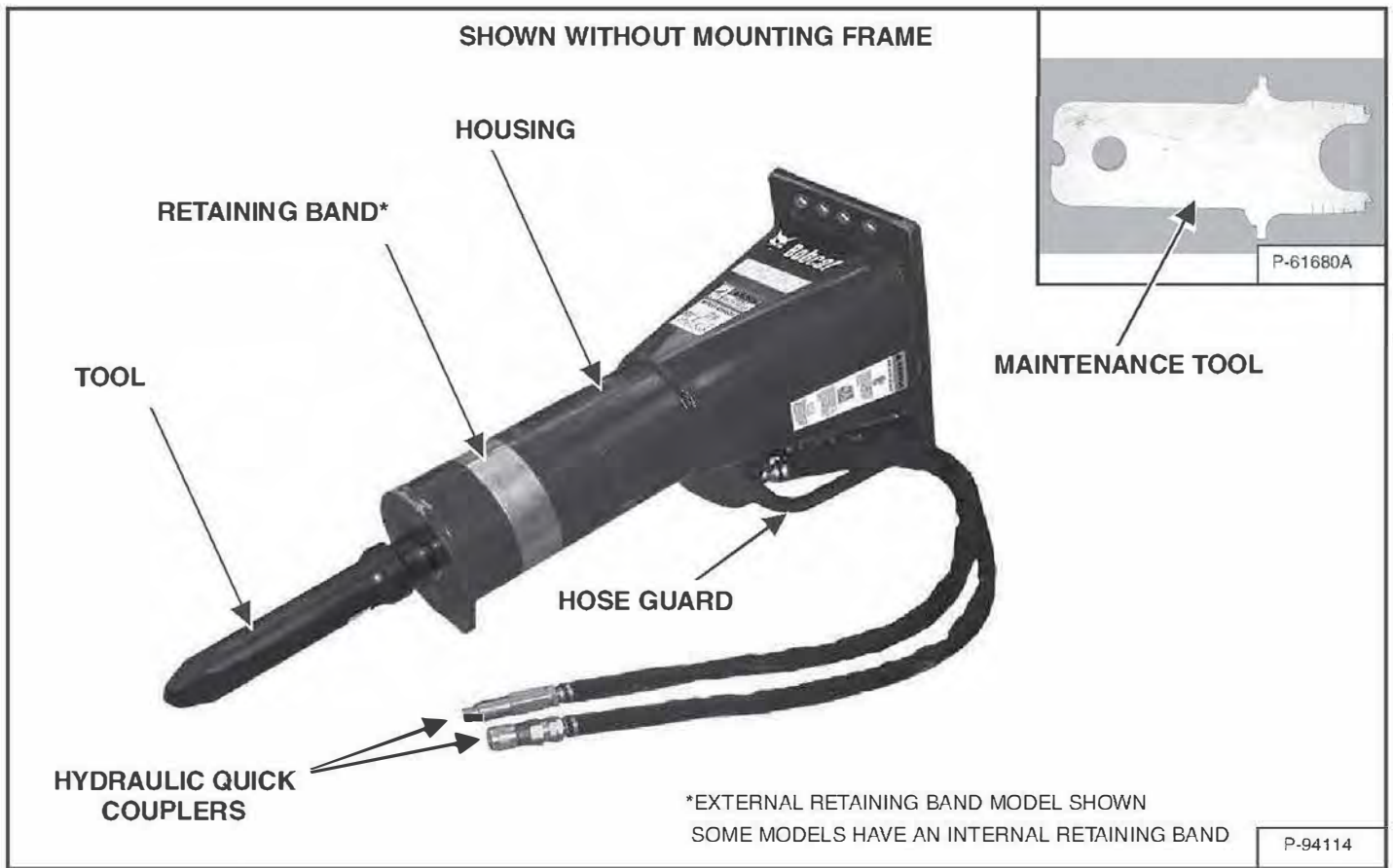
Bobcat®

FOREWORD

This Operation & Maintenance Manual was written to give the owner / operator instructions on the safe operation and maintenance of the Bobcat attachment. READ AND UNDERSTAND THIS OPERATION & MAINTENANCE MANUAL BEFORE OPERATING YOUR BOBCAT ATTACHMENT. If you have any questions, see your Bobcat dealer. This manual may illustrate options and accessories not installed on your Bobcat attachment.

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Special Applications Kit For Excavators	22

ATTACHMENT IDENTIFICATION



ATTACHMENT IDENTIFICATION (CONT'D)

X-CHANGE™ MOUNTING FRAME



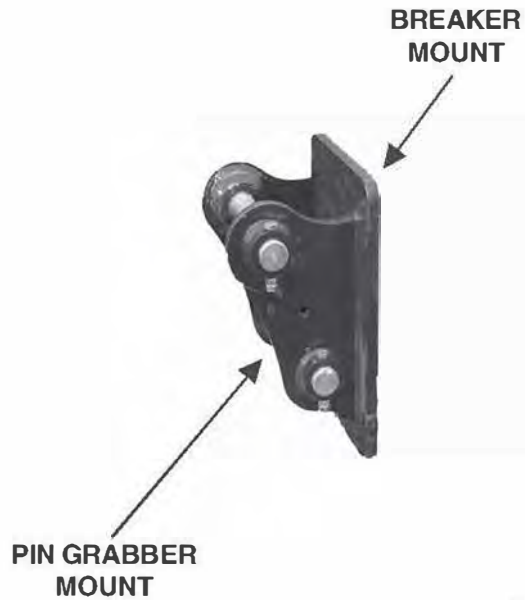
P-88735

PIN-ON MOUNTING FRAME



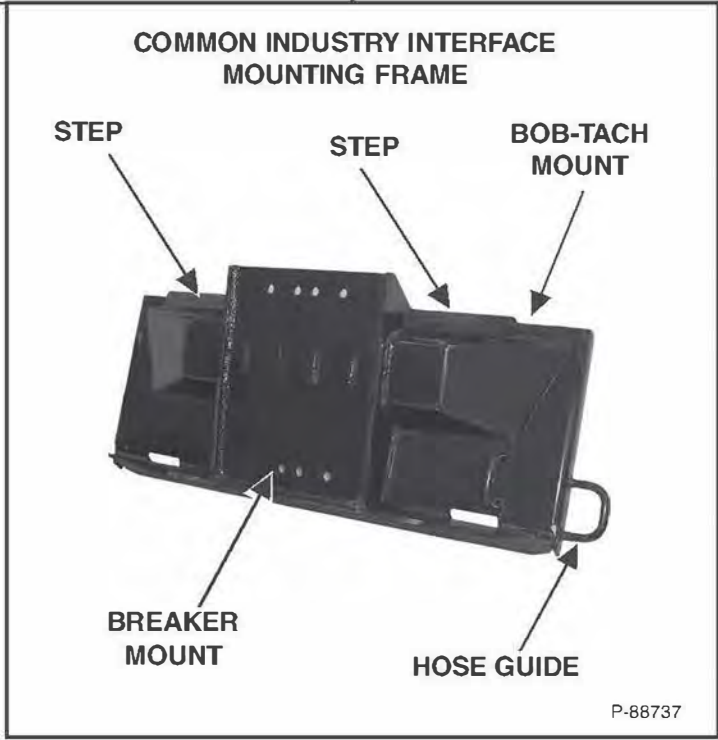
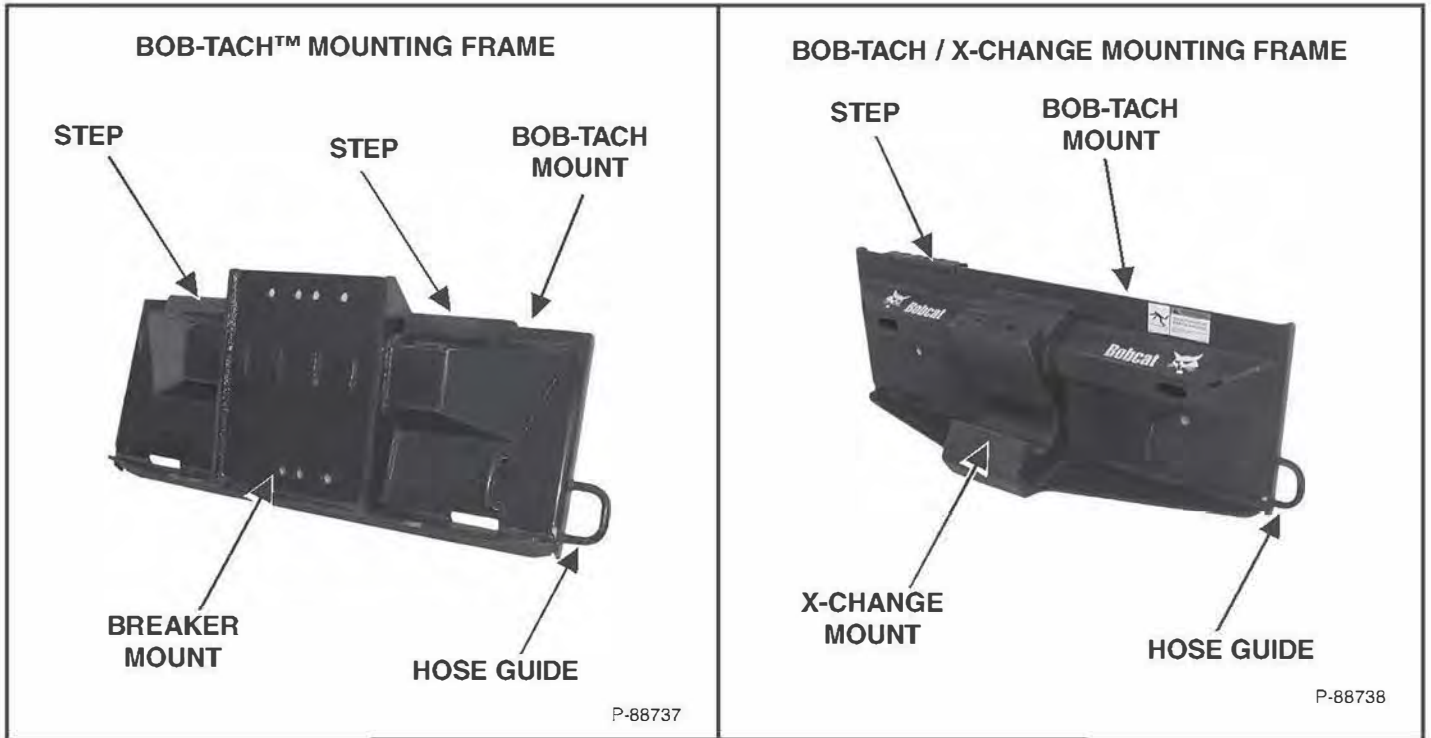
P-88736

PIN GRABBER MOUNTING FRAME



P-116237

ATTACHMENT IDENTIFICATION (CONT'D)



FEATURES AND ACCESSORIES (CONT'D)

Special Applications Kit For Loaders

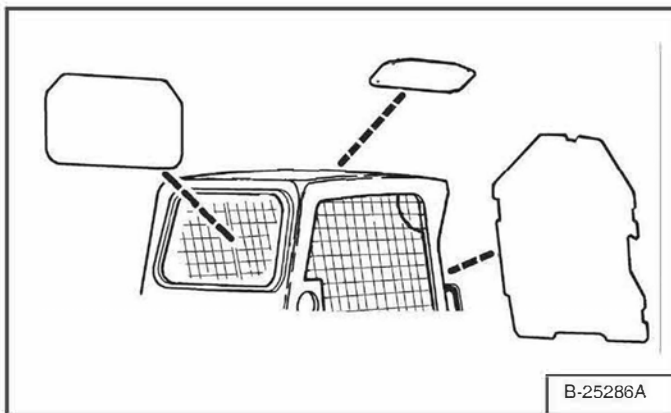
! WARNING

AVOID INJURY OR DEATH

Some attachment applications can cause flying debris or objects to enter front, top or rear cab openings. Install the Special Applications Kit and Top Guard (if applicable) to provide added operator protection in these applications.

W-2737-0917

Figure 7



Available for special applications to restrict material from entering cab openings. Kit includes 12,7 mm (1/2 in) thick polycarbonate front door, top and rear windows [Figure 7].

See your Bobcat dealer for available special applications kit for your model loader.

Falling-Object Guard Structure (FOGS) For Excavators

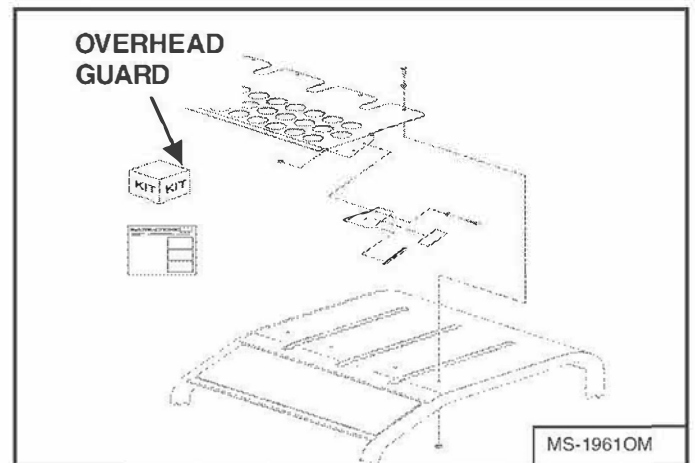
! WARNING

AVOID INJURY OR DEATH

Some attachment applications can cause flying debris or objects to enter front, top or rear cab openings. Install the Special Applications Kit and Top Guard (if applicable) to provide added operator protection in these applications.

W-2737-0917

Figure 8



The Falling-Object Guard Structure (FOGS) provides additional protection from smaller objects which can fall on the canopy or cab.

For the canopy or cab to meet the Falling-Object Guard Structure (FOGS) (ISO 10262 - level 1), the excavator must have the overhead guard and the Special Applications Kit installed [Figure 8] and [Figure 9].

See your Bobcat dealer for available falling object guard structure kit for your model excavator.

FEATURES AND ACCESSORIES (CONT'D)

Special Applications Kit For Excavators

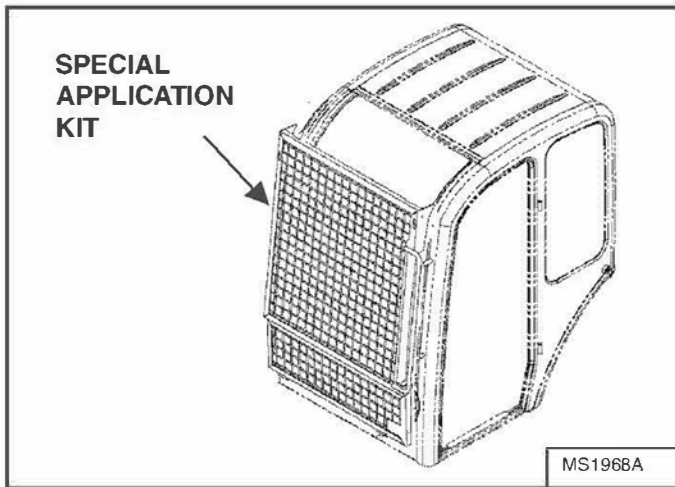
WARNING

AVOID INJURY OR DEATH

Some attachment applications can cause flying debris or objects to enter front, top or rear cab openings. Install the Special Applications Kit and Top Guard (if applicable) to provide added operator protection in these applications.

W-2737-0917

Figure 9



The Special Applications Kit **[Figure 9]** can be installed when certain attachments are used on the excavator to restrict material from entering the canopy or cab opening.

The Special Applications Kit includes an upper and lower screen guard.

See your Bobcat dealer for available special applications kit for your model excavator.

SAFETY AND TRAINING RESOURCES

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SAFETY INSTRUCTIONS

Safe Operation Is The Operator's Responsibility



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

W-2001-0502



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

I-2019-0284



The signal word **DANGER** on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.

D-1002-1107



The signal word **WARNING** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

W-2044-1107

The Bobcat machine 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 and the attachment.

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, Safety Manual and machine signs (decals).
- Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.

Have Training with Actual Operation

- Operator training must consist of a demonstration and verbal instruction. This training is given by your Bobcat dealer before the product is delivered.
- The new operator must start in an area without bystanders and use all the controls until he 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 machine load capacities. Material which is very dense will be heavier than the same volume of less dense material. Reduce the size of load if handling dense material.
- The operator must know any prohibited uses or work areas, for example, he or she needs to know about excessive slopes.
- Know the location of any underground lines. Call local utilities or the TOLL FREE phone number found in the *Call Before You Dig* section of this manual.
- Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service. Safety glasses, respiratory equipment, and hearing protection are required for some work. See your Bobcat dealer about Bobcat safety equipment for your machine.

SI ATT-0819

SAFETY INSTRUCTIONS (CONT'D)

Use Safety Rules

- Read and follow instructions in the machine and the attachment's Operation & Maintenance Manual before operating.
- Check for underground lines before operating attachment (if applicable).
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.
- Check that the Bob-Tach® levers are in the locked position and the wedges are fully engaged into the holes of the attachment (if applicable).
- Check that the attachment is securely fastened to the machine.
- Make sure all the machine controls are in the NEUTRAL position before starting the machine.
- Operate the attachment only from the operator's position.
- Operate the attachment according to the Operation & Maintenance Manual.
- When learning to operate the attachment, do it at a slow rate in an area clear of bystanders.
- DO NOT permit personnel to be in the work area when operating the machine and attachment.
- The attachment must be used ONLY on approved machines. See your Bobcat dealer for updated list of approved attachments for each machine model.
- DO NOT modify equipment or add attachments that are not approved by the manufacturer.
- DO NOT make any adjustments or repairs on the machine or attachment while the engine is running.
- Keep shields and guards in place. Replace if damaged.

Call Before You Dig



Call Before You Dig Dial 811 (USA Only) 1-888-258-0808 (USA & Canada)

When you call, you will be directed to a location in your state / province, or city for information about buried lines (telephone, cable TV, water, sewer, gas, etc.).

Avoid Silica Dust



Cutting or drilling concrete containing sand or rock containing quartz may result in exposure to silica dust. Do not exceed Permissible Exposure Limits (PEL) to silica dust as determined by OSHA or other job site Rules and Regulations. Use a respirator, water spray or other means to control dust. Silica dust can cause lung disease and is known to the state of California to cause cancer.

SI ATT-0819

FIRE PREVENTION



Maintenance

The machine 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 operator's area, engine compartment and engine cooling system must be inspected every day and cleaned if necessary to prevent fire hazards and overheating.

All fuels, most lubricants and some coolant mixtures are flammable. Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire.

Operation

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

Electrical



Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part or wires that are loose or frayed.

Battery gas can explode and cause serious injury. Use the procedure in the Operation & Maintenance Manual for connecting the battery and for jump starting. Do not jump start or charge a frozen or damaged battery. Keep any open flames or sparks away from batteries. Do not smoke in battery charging area.

Hydraulic System

Check hydraulic tubes, hoses and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Hydraulic tubes and hoses must be properly routed and have adequate support and secure clamps. 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.

Fueling



Stop the engine and let it cool before adding fuel. No smoking! Do not refuel a machine near open flames or sparks. Fill the fuel tank outdoors.

Ultra Low Sulfur Diesel (ULSD) poses a greater static ignition hazard than earlier diesel formulations with higher Sulfur content. Avoid death or serious injury from fire or explosion. Consult with your fuel or fuel system supplier to ensure the delivery system is in compliance with fueling standards for proper grounding and bonding practices.

Starting

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.

Use the procedure in the Operation & Maintenance Manual for connecting the battery and for jump starting.

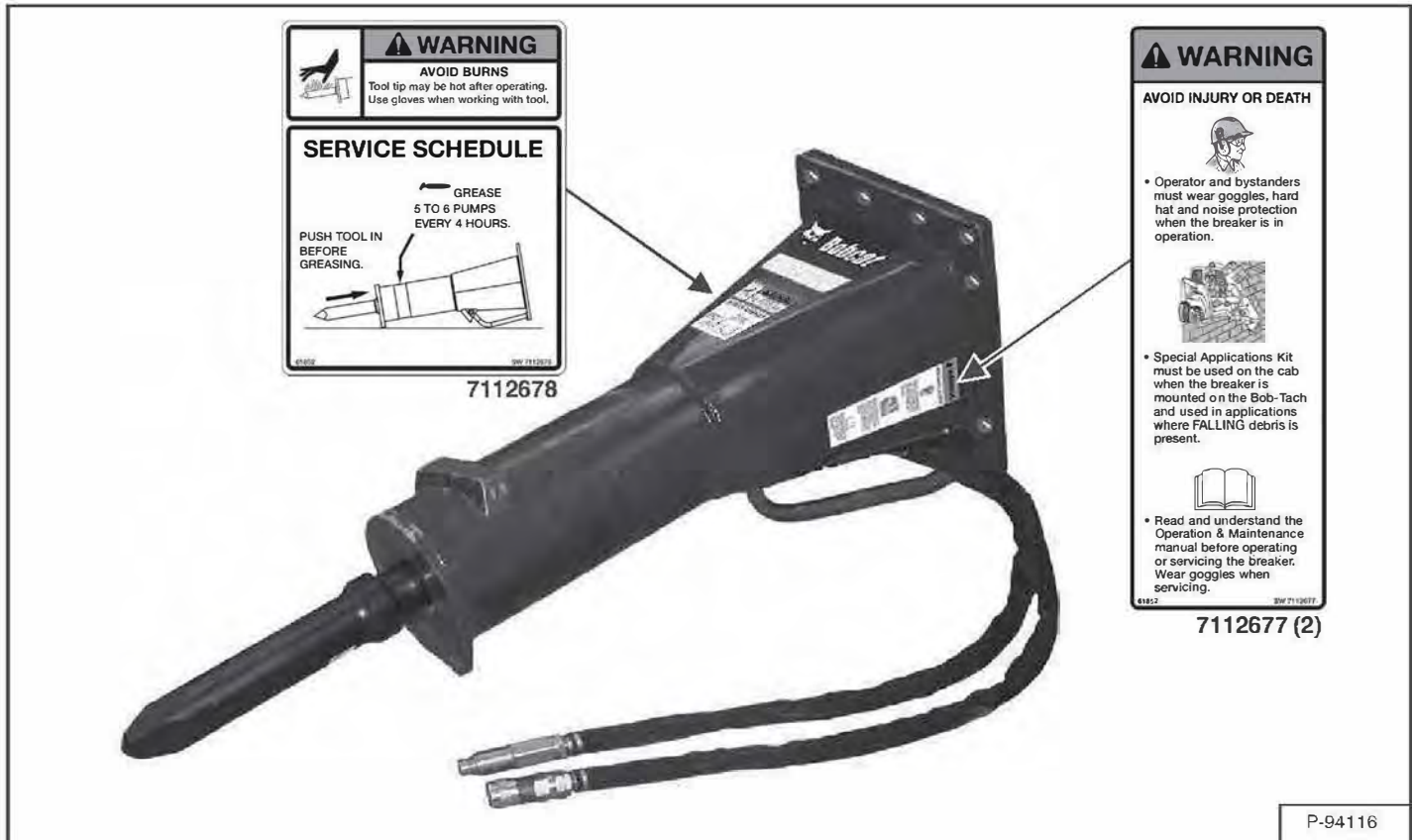
Spark Arrester Exhaust System

The spark arrester 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.

Check the spark arrester exhaust system regularly to make sure it is maintained and working properly. Use the procedure in the Operation & Maintenance Manual for cleaning the spark arrester muffler (if equipped).

ATTACHMENT SIGNS (TEXT DECALS)

Follow the instructions on all the Attachment Signs (Decals) that are on the attachment. Replace any damaged attachment signs and be sure they are in the correct locations. Attachment signs are available from your Bobcat attachment dealer.



P-94116

BOB-TACH / X-CHANGE MOUNTING FRAME



P-88738

ATTACHMENT SIGNS (PICTORIAL ONLY DECALS)

Follow the instructions on all the Attachment Signs (Decals) that are on the attachment. Replace any damaged attachment signs and be sure they are in the correct locations. Attachment signs are available from your Bobcat attachment dealer.



BOB-TACH / X-CHANGE MOUNTING FRAME

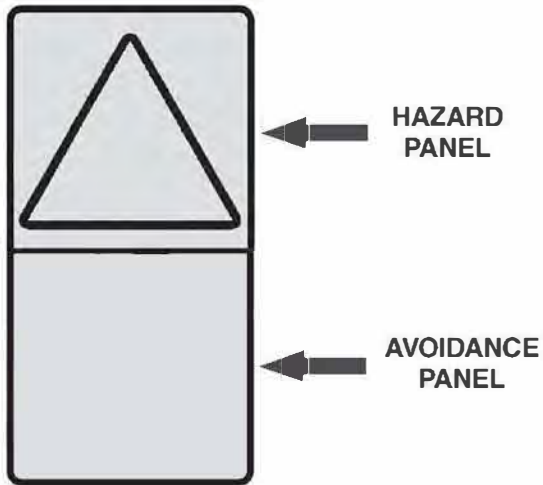


ATTACHMENT SIGNS (PICTORIAL ONLY DECALS) (CONT'D)

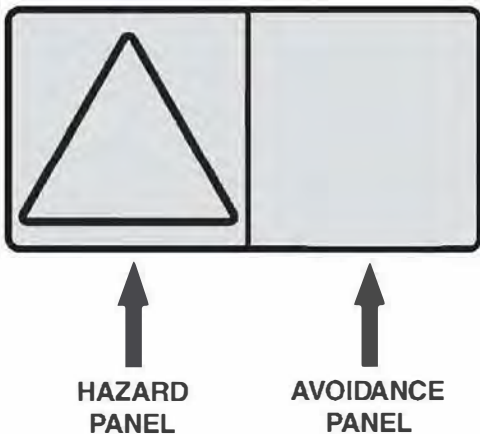
Pictorial Only Safety Signs

Safety signs are used to alert the equipment operator or maintenance person to hazards that may be encountered in the use and maintenance of the equipment. The location and description of the safety signs are detailed in this section. Please become familiarised with all safety signs installed on the machine / attachment.

Vertical Configuration



Horizontal Configuration



The format consists of the hazard panel(s) and the avoidance panel(s):

Hazard panels depict a potential hazard enclosed in a safety alert triangle.

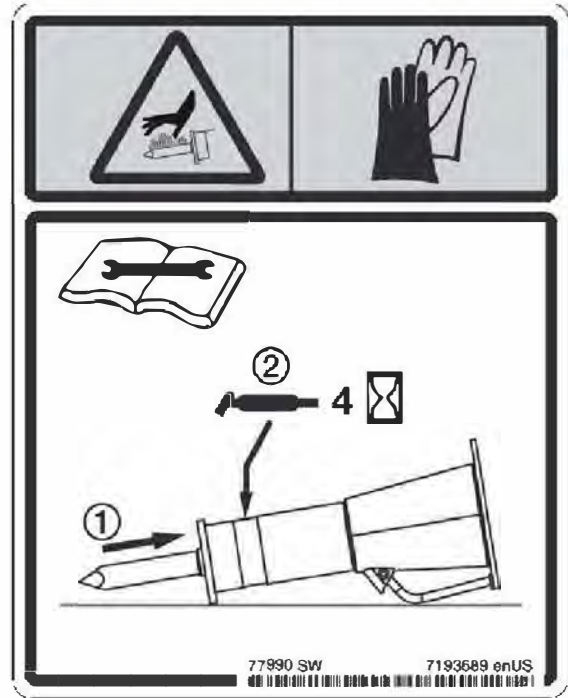
Avoidance panels depict actions required to avoid the hazards.

A safety sign may contain more than one hazard panel and more than one avoidance panel.

NOTE: See the numbered ATTACHMENT SIGNS (PICTORIAL ONLY DECALS) on Page 31 for the location of each correspondingly numbered pictorial only decal.

1. Warning / Service Schedule (7193689)

This decal is located on the front side of the breaker frame.



AVOID BURN INJURY

Breaker tool can be hot after use. Let breaker tool cool or use gloves when handling tool.

W-2204-0905

Grease the breaker every 4 hours of operation.

- Push the tool fully into the breaker.
- Apply grease (5 - 6 pumps) to the grease fitting at the upper end of the tool.

ATTACHMENT SIGNS (PICTORIAL ONLY DECALS) (CONT'D)

Pictorial Only Safety Signs (Cont'd)

2. Breaker Personal Protection Warning Decal (7193690)

This safety sign is located on both sides of the breaker frame.



3. Tripping Hazard (7130141)

This safety sign is located on the front of the Bob-Tach / X-Change mounting frame.



AVOID INJURY OR DEATH

- Operator and bystanders must wear goggles, hard hat and noise protection when breaker is in operation.
- Special Applications Kit must be used when the breaker is used in applications where FALLING debris is present.
- Read and understand the Operation & Maintenance manual before operating or servicing the breaker. Wear goggles when servicing.

W-2884-0610

OPERATING INSTRUCTIONS

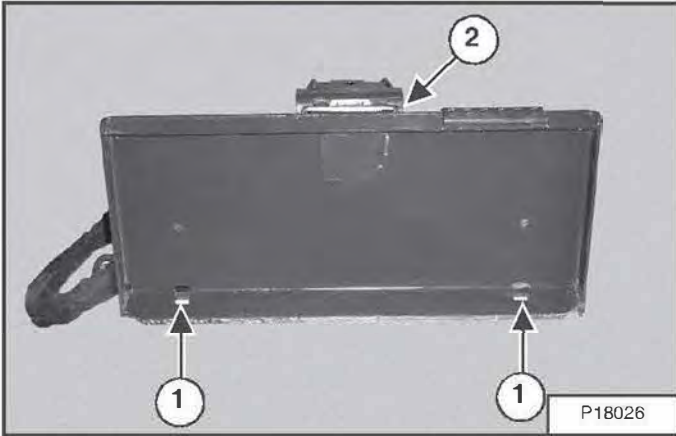
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DAILY INSPECTION

Bob-Tach

Figure 60



Inspect the Bob-Tach wedge mounts (Item 1), mounting flange (Item 2) [Figure 60] and all welds on the breaker mount for wear and damage each time the breaker is removed from the machine.

WARNING

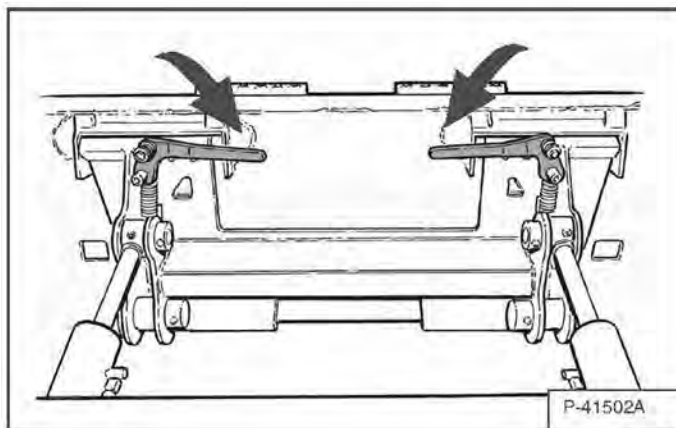
AVOID INJURY OR DEATH

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

Hand Lever Bob-Tach

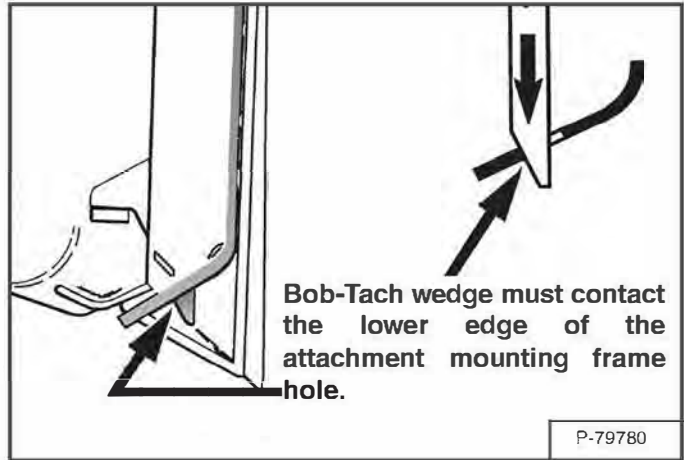
Figure 61



Push down on the Bob-Tach levers until they are fully engaged in the locked position [Figure 61] (wedges fully extended through the attachment mounting frame holes).

The levers and wedges must move freely [Figure 61].

Figure 62



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach [Figure 62].

NOTE: If the wedge does not contact the lower edge of the hole, the attachment will be loose and can come off the Bob-Tach.

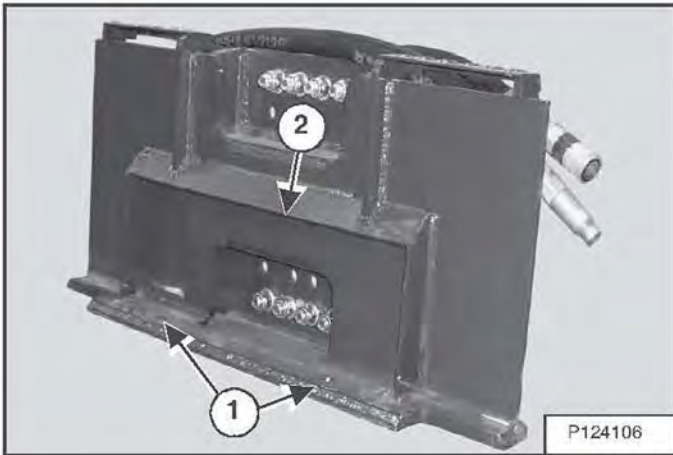
Inspect the mounting frame on the attachment. (See the machine's Operation & Maintenance Manual for inspecting the Bob-Tach). Replace any parts that are damaged, bent or missing. Keep all fasteners tight. Look for cracked welds. Contact your Bobcat dealer for repair or replacement parts.

Lubricate the wedges. (See the machine's Operation & Maintenance Manual for the correct procedure.)

DAILY INSPECTION (CONT'D)

Common Industry Interface

Figure 66



Common Industry Interface: Inspect the Common Industry Interface mounting holes (Item 1), mounting flange (Item 2) [Figure 66] and all welds on the breaker for wear and damage each time the breaker is removed from the machine.

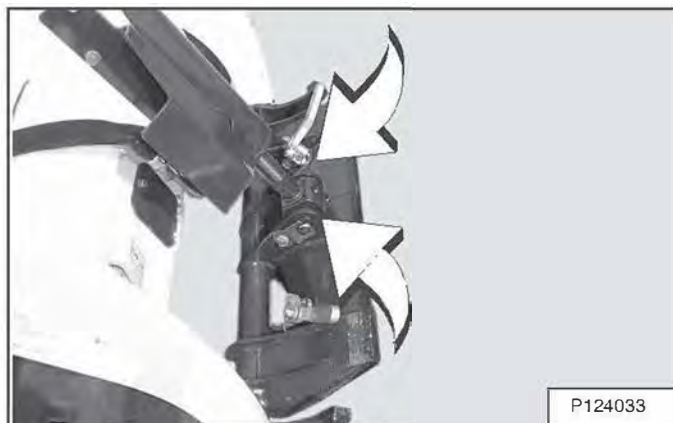
Frequently inspect the breaker to ensure that all components are secure and that all bolts and nuts are tight.

WARNING

The Common Industry Interface locking pins must extend through the holes in attachment frame. Levers must be fully down and locked. Failure to secure the locking pins can allow attachment to come off and cause serious injury or death.

W-2996-1015

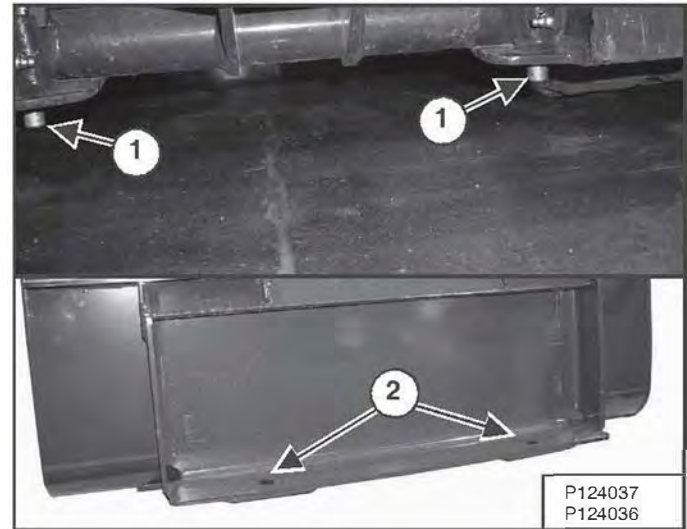
Figure 67



Push down on the locking levers until they are fully engaged in the locked position [Figure 67] (pins fully extended through the attachment mounting frame holes).

The levers and pins must move freely [Figure 67].

Figure 68



The pins (Item 1) must extend through the holes in the attachment mounting frame (Item 2), [Figure 68] securely fastening the attachment to the interface.

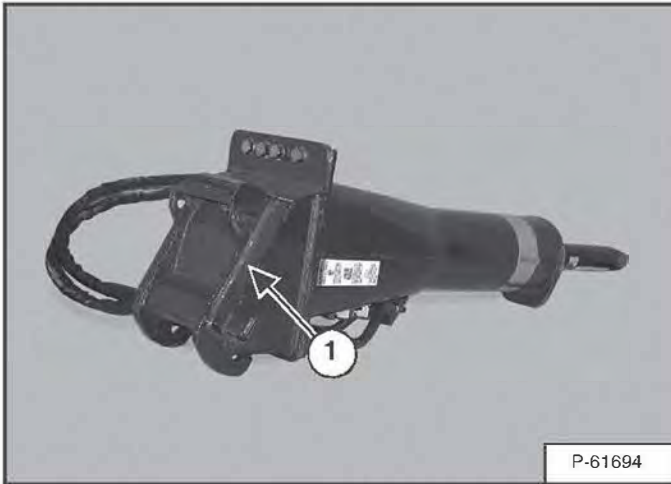
Inspect the mounting frame on the machine. (See the machine's Operation & Maintenance Manual for inspecting the Common Industry Interface). Replace any parts that are damaged, bent or missing. Keep all fasteners tight. Look for cracked welds. Contact your Bobcat dealer for repair or replacement parts.

Lubricate the locking pins. (See the machine's Operation & Maintenance Manual for the correct procedure.)

DAILY INSPECTION (CONT'D)

X-Change Mount

Figure 69

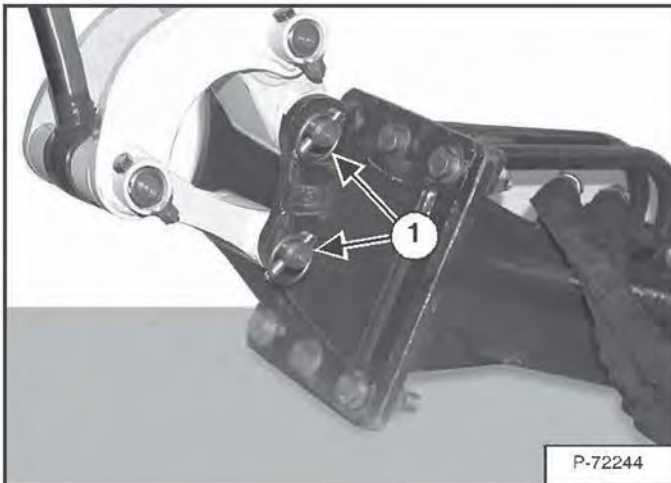


Inspect the X-Change mount (Item 1) [Figure 69] and all welds on the breaker mount for wear or damage each time the breaker is removed from the machine.

Repair or replace damaged parts.

Pin-On Attachment

Figure 70

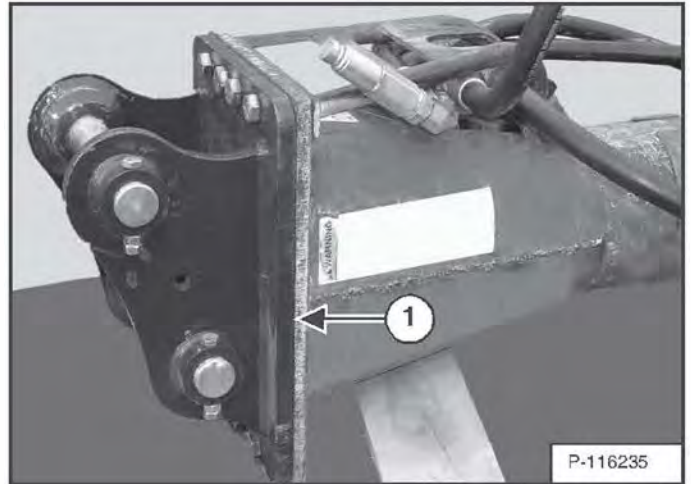


Inspect the Pin-On mount for wear or damage. Inspect the pivot pins (Item 1) [Figure 70] and mounts (on the attachment) for wear or damage.

Repair or replace damaged parts.

Pin Grabber Mount

Figure 71



Inspect the Pin Grabber mount (Item 1) [Figure 71] and all welds on the breaker mount for wear or damage each time the breaker is removed from the machine.

Repair or replace damaged parts.

Manual Spring Loaded Coupler (442 Only)

Figure 72



Inspect the manual spring loaded coupler and mount for wear or damage. Inspect the pivot pins (Item 1) [Figure 72] and mounts (on the attachment) for wear or damage.

Repair or replace damaged parts.

OPERATING PROCEDURE WITH LOADERS

Approved Loader Models And Requirements

Figure 73

LOADER MODEL	HB SERIES BREAKER			
	680	880	980	1180
463	X			
553	X	X		
A300			X	X
A770			*X	X
S70	X			
S100		X	X	
S130		X	X	
S150		X	X	
S160		X	X	
S175		X	X	
S185		X	X	
S205		X	X	
S220			X	X
S250			X	X
S300			X	X
S330			X	X
S450		X	X	
S510		X	X	
S530		X	X	
S550		X	X	
S570		X	X	
S590		X	X	
S630			*X	X
S650			*X	X
S740			*X	X
S750			*X	X
S770			*X	X
S850				X
S62		X	*X	
S64		X	*X	
S66		X	*X	
S76			*X	X
S86			*X	X
T110		X	X	X
T140		X	X	X
T180		X	X	
T190		X	X	
T250			X	X
T300			X	X
T320			X	X
T450		X	X	
T550		X	X	
T590		X	X	
T630			*X	X
T650			*X	X
T740			*X	X
T750			*X	X

LOADER MODEL	HB SERIES BREAKER			
	680	880	980	1180
T770			*X	X
T870				X
T62		X	*X	
T64		X	*X	
T66		X	*X	
T76			*X	X
T86			*X	X

X = Approved

The chart [Figure 73] shows the breaker models approved for use with each loader model.

NOTE: * When using the HB980 (S/N A00Y19999 & Below) on A770, S630, S650, S740, S750, S770, S62, S64, S66, S76, S86, T630, T650, T740, T750, T770, T62, T64, T66, T76 and T86 model loaders, the breaker must be equipped with a diverter valve kit. See your Bobcat dealer for available kits. Breakers with a higher serial number are equipped with an internal diverter valve and do not require the external diverter valve kit.

Warranty on this attachment is void if used on a non-approved carrier. See your Bobcat dealer for an updated list of approved carriers.

WARNING

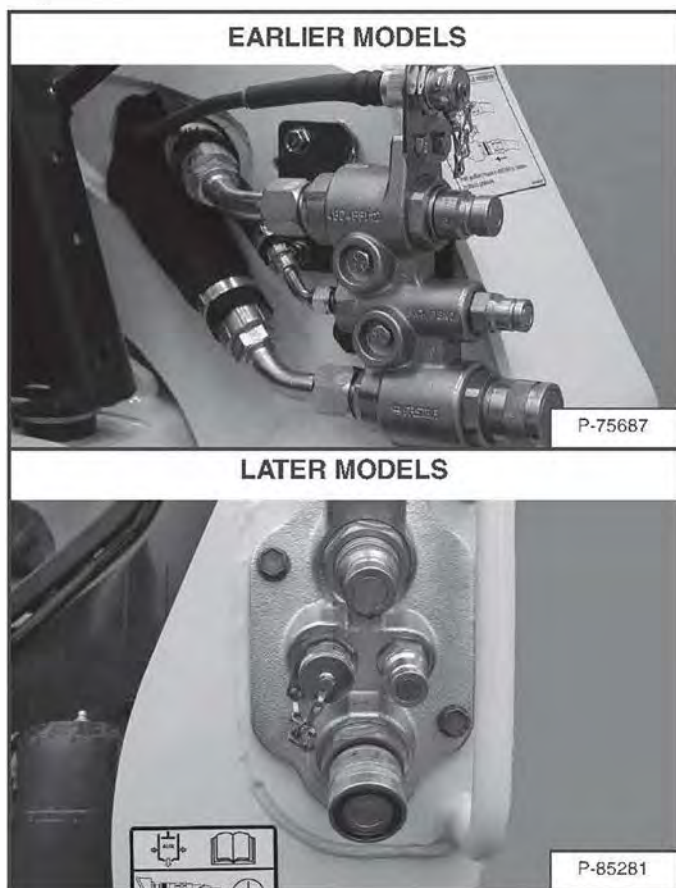
Never use attachments or buckets which are not approved by the Bobcat Company. Attachments and buckets for safe loads of specified densities are approved for each model. Unapproved attachments and buckets can cause injury or death.

W-2662-0108

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Approved Loader Models And Requirements (Cont'd)

Figure 74



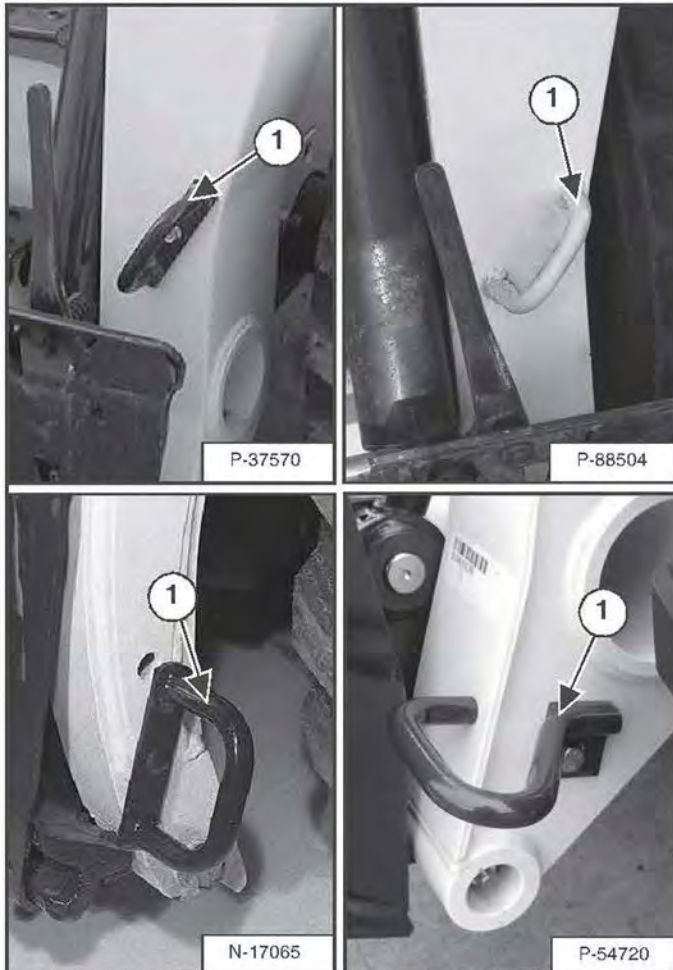
The loader must be equipped with auxiliary hydraulics [Figure 74].

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Machine / Attachment Setup

Hose Guide Installation (Earlier Version)

Figure 76



Install the correct hose guide (Item 1) [Figure 76] on the loader.

NOTE: Hose guide styles vary between loader models. Hose guides are not included with the attachment. See your Bobcat dealer for available hose guide kits.

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation

Hand Lever Bob-Tach

NOTE: The attachment mounting frame for the attachment has a top flange that is designed to receive the top edge of the Bob-Tach and the lower part of the frame is designed to receive the Bob-Tach wedges.

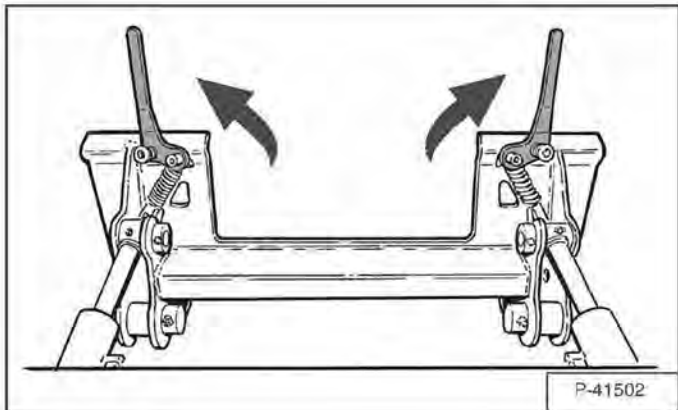
WARNING

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

W-2744-0608

Always inspect the loader's Bob-Tach and the attachment mounting frame before installation. See the loader's Operation & Maintenance Manual. (See DAILY INSPECTION on Page 54.)

Figure 80

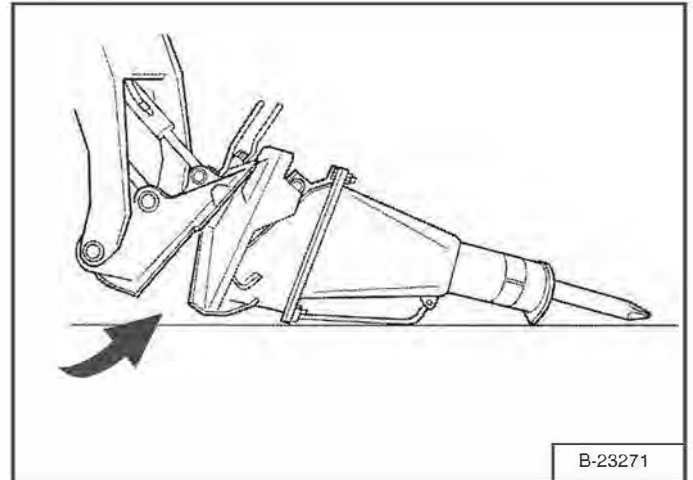


Pull the Bob-Tach levers up until they are fully raised (wedges fully raised) [Figure 80].

Enter the loader. (See Entering And Exiting The Loader on Page 62.)

Start the engine, press the PRESS TO OPERATE LOADER button and release the parking brake.

Figure 81

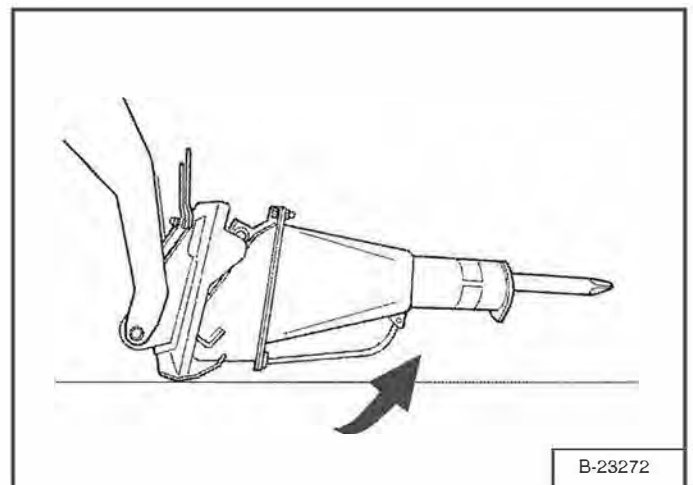


Lower the lift arms and tilt the Bob-Tach forward.

Drive the loader slowly forward until the top edge of the Bob-Tach is completely under the top flange of the attachment mounting frame [Figure 81].

NOTE: Be sure the Bob-Tach levers do not hit the attachment.

Figure 82



Tilt the Bob-Tach backward until the attachment is slightly off the ground [Figure 82]. This will cause the attachment mounting frame to fit up against the front of the Bob-Tach.

NOTE: When leaving the operator's seat to install an attachment, tilt the attachment until it is slightly off the ground.

Stop the engine and exit the loader. (See Entering And Exiting The Loader on Page 62.)

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

Hand Lever Bob-Tach (Cont'd)

! WARNING

AVOID INJURY OR DEATH

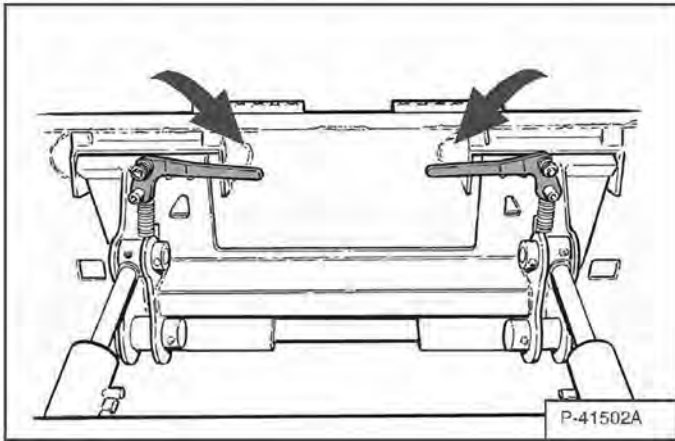
Before you leave the operator's seat:

- 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 traction drive functions are deactivated.

The seat bar system must deactivate these functions when the seat bar is up. See your Bobcat dealer for service if controls do not deactivate.

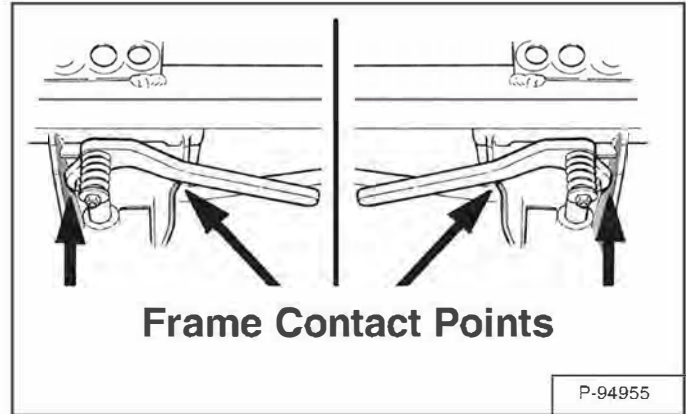
W-2463-1110

Figure 83



Push down on the Bob-Tach levers until they are fully engaged in the locked position [Figure 83] (wedges fully extended through the attachment mounting frame holes).

Figure 84



Both levers must contact the frame as shown when locked [Figure 84].

If both levers do not engage in the locked position, see your Bobcat dealer for maintenance.

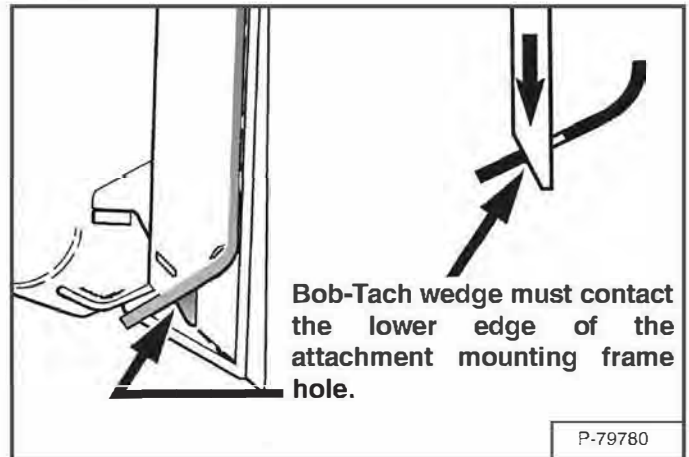
! WARNING

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

Figure 85



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach [Figure 85].

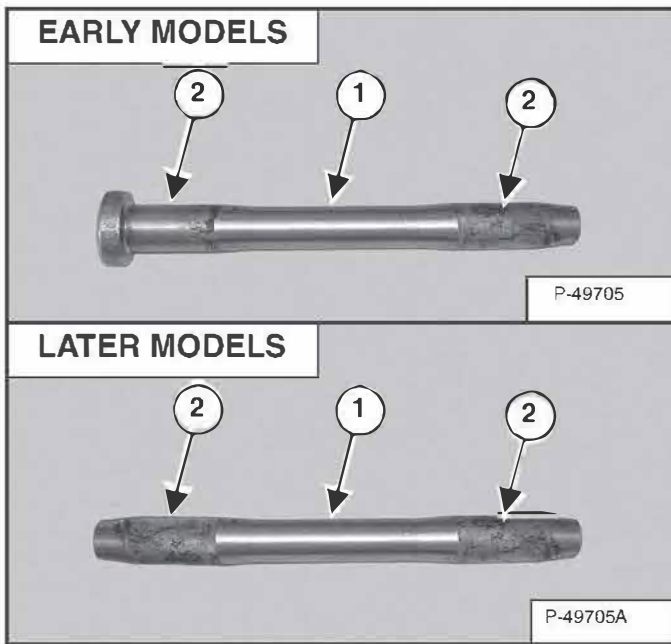
Connect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 74.)

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

Bob-Tach / X-Change Mounting Frame (Pin-On) (Cont'd)

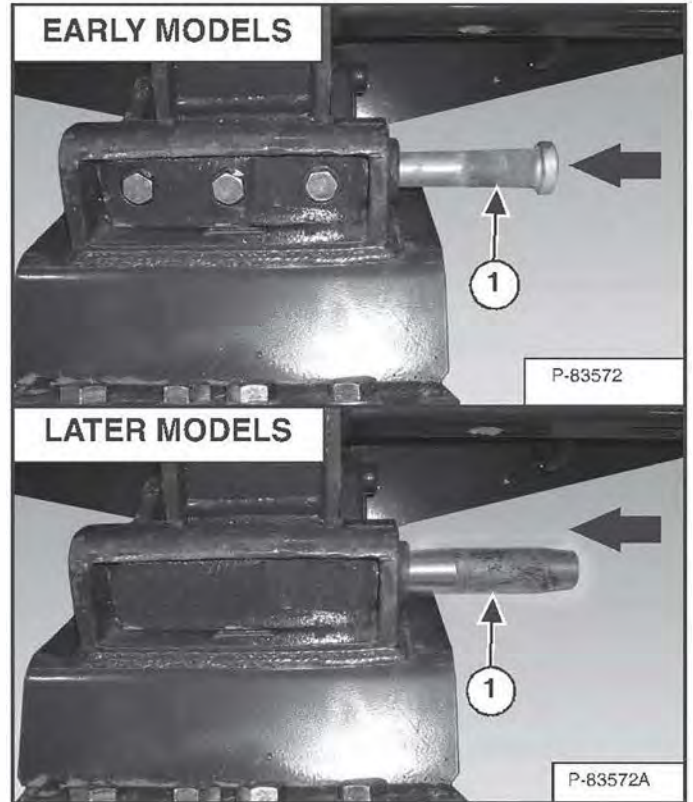
Figure 96



Inspect the pin (Item 1) [Figure 96] for wear or damage. Replace the pin as needed.

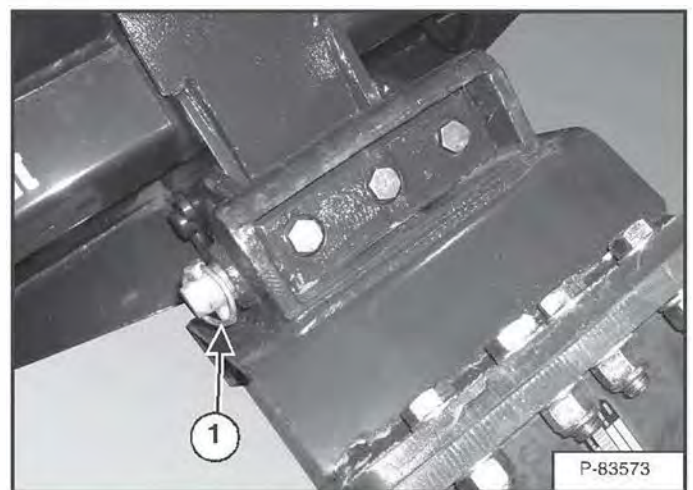
Apply a light coat of grease to the ends of the pin (Item 2) [Figure 96].

Figure 97



Drive the pin (Item 1) [Figure 97] through the breaker mount and X-Change.

Figure 98



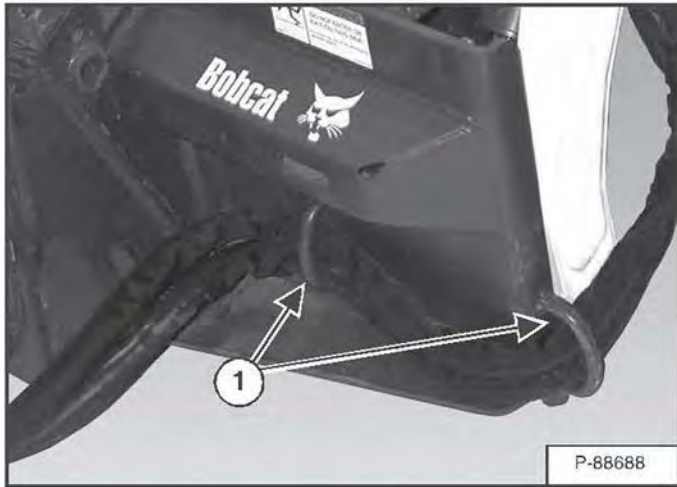
Install the retainer pin(s) (Item 1) [Figure 98].

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

Bob-Tach / X-Change Mounting Frame (Pin-On) (Cont'd)

Figure 99



Relieve hydraulic pressure. (See the loader's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Route the hydraulic hoses through the hose guides (Item 1) [Figure 99] on the breaker mounting frame.

Connect the hose couplers to the loader quick couplers. (See Hydraulic Quick Couplers on Page 74.)

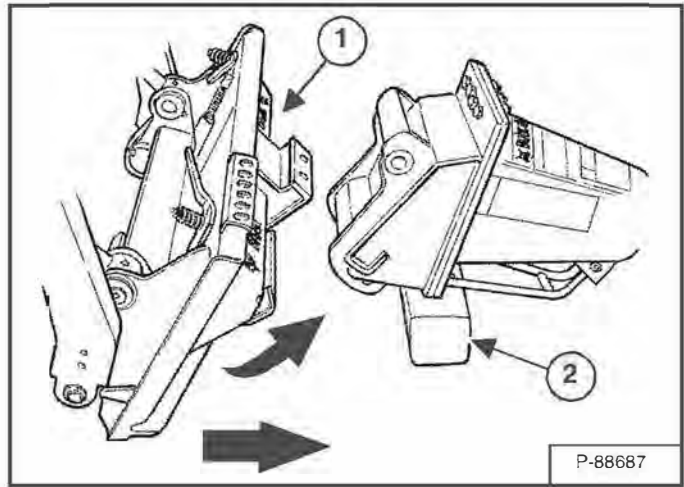
Turn the hoses so they are not twisted or kinked.

The hoses should route smoothly through the hose guides to the breaker.

The hoses must not contact the tires or tracks.

Bob-Tach / X-Change Mounting Frame (Bolt-On)

Figure 100



Install the breaker mount (Item 1) [Figure 100] on the loader.

Place the breaker on a block (Item 2) [Figure 100].

Enter the loader. (See Entering And Exiting The Loader on Page 62.)

Start the engine, press the PRESS TO OPERATE LOADER button and release the parking brake.

Tilt the Bob-Tach forward.

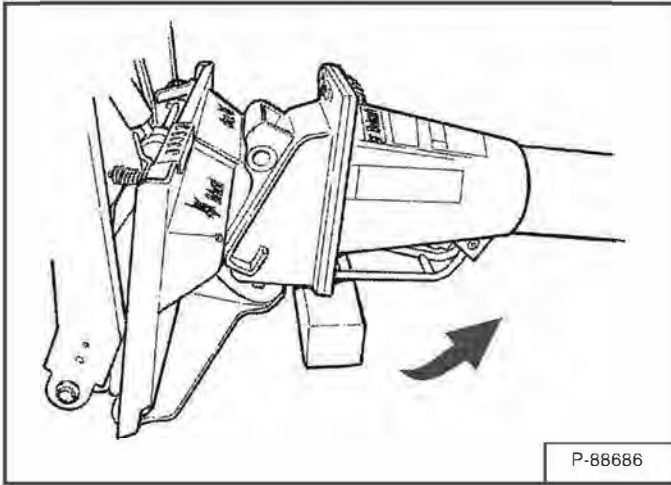
Drive the loader forward until the breaker mount frame engages the breaker [Figure 100].

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

Bob-Tach / X-Change Mounting Frame (Bolt-On) (Cont'd)

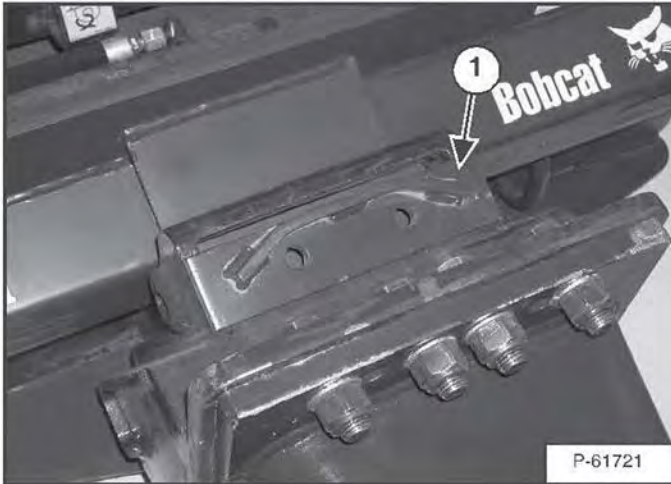
Figure 101



Tilt the Bob-Tach backward until the breaker is slightly off the ground [Figure 101].

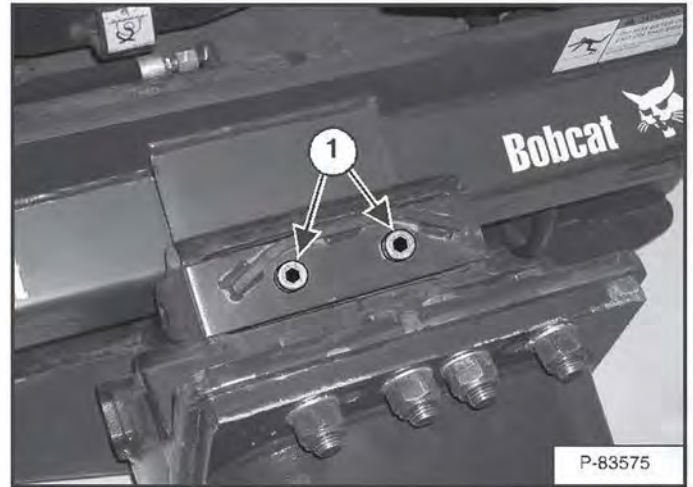
Stop the engine and exit the loader. (See Entering And Exiting The Loader on Page 62.)

Figure 102



Install the plate (Item 1) [Figure 102].

Figure 103



Install the bolts (Item 1) [Figure 103].

Tighten the bolts to 170 - 190 N•m (125 - 140 ft-lb) torque. Re torque the bolts after every eight hours of operation.

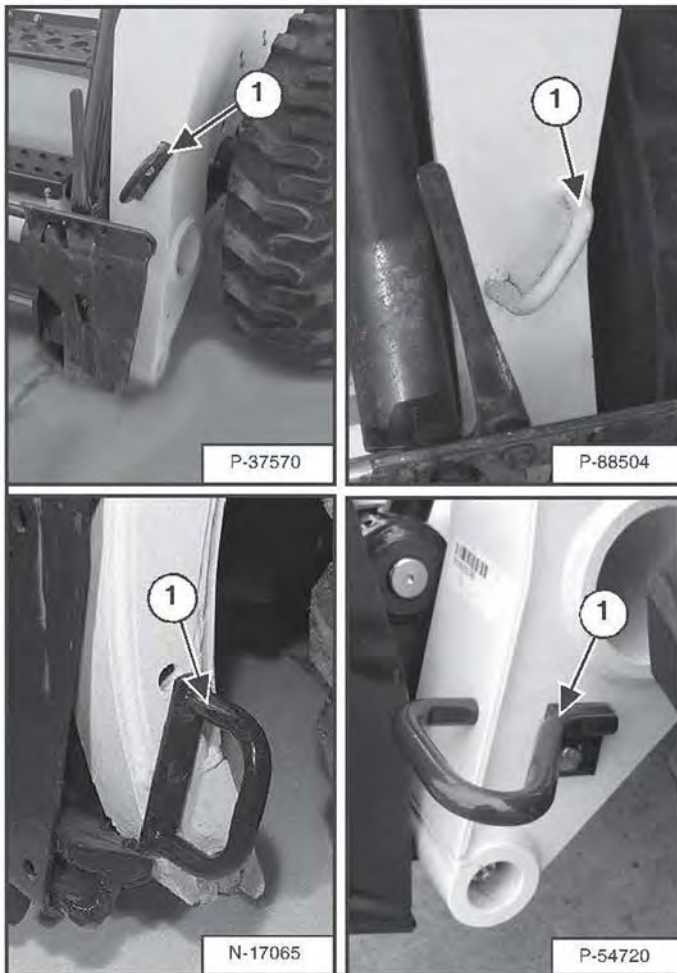
NOTE: Do not over torque the bolts (Item 1) [Figure 103]. Over torquing may cause bolt or thread damage or could result in the bolts breaking during operation.

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

Hose Routing (Earlier Version)

Figure 104



Route hoses through hose guide (Item 1) [Figure 104] and connect quick couplers to the loader. (See For First Time Installation on Page 73.)

NOTE: Hose guide styles vary between loader models. Hose guides are not included with the attachment. See your Bobcat dealer for available hose guide kits.

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

For First Time Installation

New attachments and new loaders are factory equipped with flush face couplers. If installing an attachment equipped with poppet style couplers, the attachment couplers will have to be changed to match the loader. See your Bobcat dealer for parts information.

IMPORTANT

- **Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.**
- **Contain and dispose of any oil leakage in an environmentally safe manner.**

I-2278-0608

With the loader engine off and using the hose guides (if equipped), route the attachment hydraulic hoses to the loader. Connect the attachment hydraulic quick couplers to the loader couplers. (See Hydraulic Quick Couplers on Page 74.)

Check that the attachment hydraulic hoses are not twisted or contacting any moving parts of the loader or attachment.

NOTE: It may be necessary to loosen the quick couplers on the attachment hydraulic hoses to remove any twists in the hoses.

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

Loosen the quick coupler connections on the attachment hydraulic hoses while connected to the loader. Do not remove the quick couplers.

Rotate the attachment hydraulic hoses as needed so the hoses are not twisted or contacting any moving parts of the loader or attachment.

With the twist(s) removed from the hydraulic hoses, tighten the attachment quick coupler connections while the couplers are still connected to the loader. This will help hold the hydraulic hoses in position while tightening.

Tighten the quick couplers connections to 63 N•m (46 ft-lb) torque before starting the loader.

Enter the loader. (See Entering And Exiting The Loader on Page 62.)

Start the engine, press the PRESS TO OPERATE LOADER button and release the parking brake.

Engage auxiliary hydraulics. (See the loader's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

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

Check the attachment hydraulic quick coupler connections for leaks.

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Hydraulic Quick Couplers

IMPORTANT

- Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.
- Contain and dispose of any oil leakage in an environmentally safe manner.

I-2278-0608

New attachments and new loaders are factory equipped with flush face couplers. If installing an attachment equipped with poppet style couplers, the attachment couplers will have to be changed to match the loader. See your Bobcat dealer for parts information.

NOTE: Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and type.

Figure 105

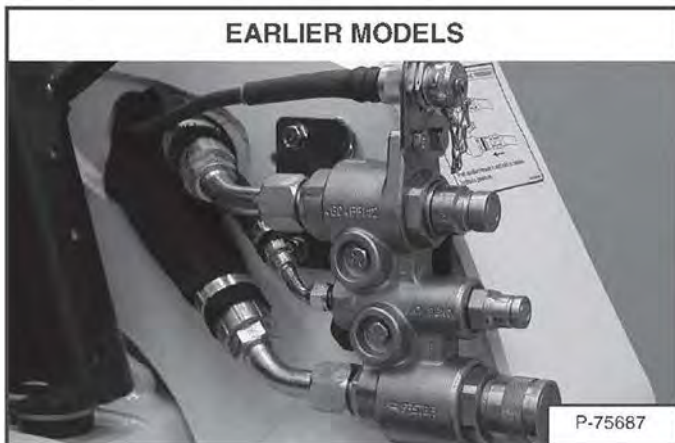
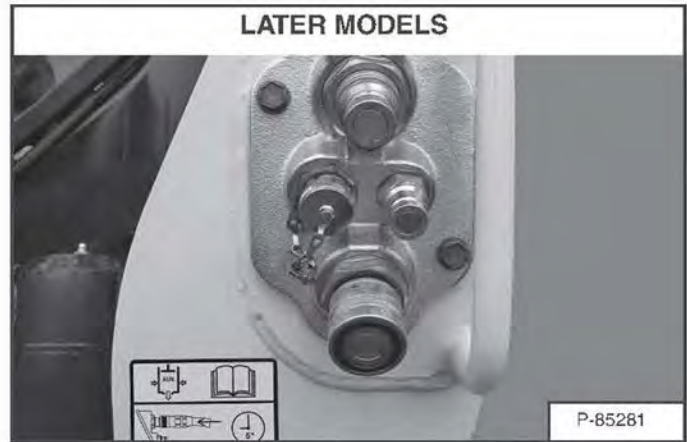


Figure 106



! 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

To Connect:

Remove any 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) must be replaced [Figure 105] or [Figure 106].

Install the male coupler into the female coupler. Full connection is made when the ball release sleeve slides forward on the female coupler [Figure 105] or [Figure 106].

NOTE: Check that the attachment hydraulic hoses are not twisted or contacting any moving parts of the loader or attachment. (See For First Time Installation on Page 73.) for proper adjustment.

To Disconnect:

Relieve hydraulic pressure. (See the loader's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Push the couplers together, retract the sleeve on the female coupler until the couplers disconnect.

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Control Functions

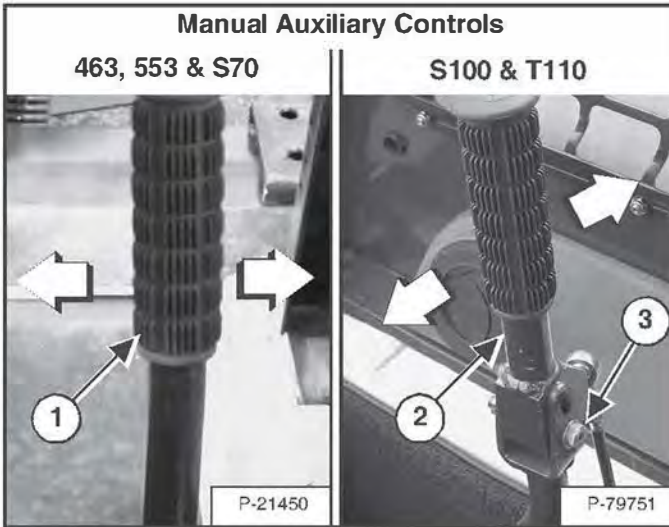
Enter the loader. (See Entering And Exiting The Loader on Page 62.)

Start the engine.

Engage auxiliary hydraulics. (See the loader's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

NOTE: The auxiliary hydraulics must be activated prior to attachment operation.

Figure 107



To start the breaker, move the right steering lever (Item 1) or the right steering lever handle (Item 2) [Figure 107] to the right.

For continuous hydraulic flow, move the right steering lever (Item 1) or right steering handle (Item 2) [Figure 107] fully to the right.

To stop the breaker, move the right steering lever (Item 1) or the right steering lever handle (Item 2) [Figure 107] to the center position.

NOTE: Remove the auxiliary control lockout bolt and nut (Item 3) [Figure 107] (S100 and T110) before using the auxiliary control for the first time.

Figure 108



Continuous Flow

Press the front button (Item 1) [Figure 108] on the right steering lever once for continuous flow to the front auxiliary quick couplers (hydraulic breaker starts).

Push the button (Item 1) [Figure 108] a second time to disengage continuous flow (DETENT) (hydraulic breaker stops).

NOTE: See the loader's Operation & Maintenance Manual for more information on operation of the Auxiliary Hydraulic System for your model loader.

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Operation With The Loader

NOTE: Special Application Kits are available for the loaders. Special Application Kits must be used in applications where falling debris is present. See your Bobcat dealer for availability.



WARNING

AVOID INJURY OR DEATH

- Operator and bystanders must wear goggles, hard hat and noise protection when the breaker is in operation.
- DO NOT demolish overhead materials or ceilings.
- Keep all bystanders 6 m (20 ft) away from equipment when operating.

W-2627-0910

For the first time use on a rebuilt breaker, use low engine rpm and feather the hydraulics to fill the internal passages of the breaker with hydraulic oil. If the breaker is used without first flooding the hydraulic passages, internal damage may result.

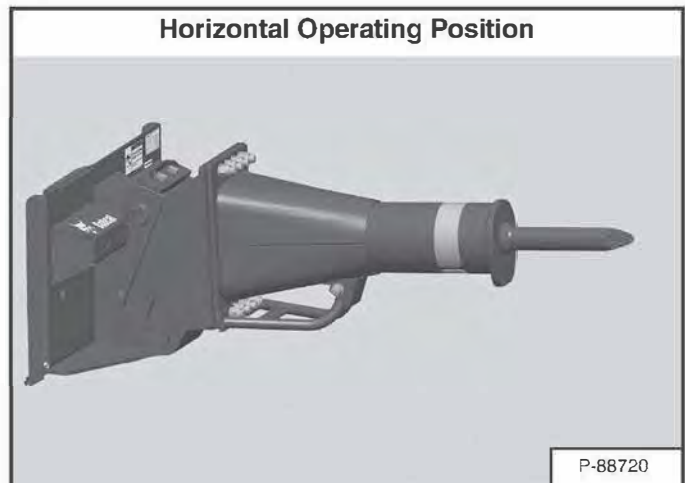
In cold weather conditions, warm the loader hydraulic fluid to operating temperature before operating the breaker.

Figure 109



When operating in the vertical position [Figure 109], on flat material, keep the tool vertical or curled back a small amount to direct the impact force downward and slightly toward the loader.

Figure 110



When operating in the horizontal position [Figure 110], work near the edge.

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Operation With The Loader (Cont'd)

Tips / Recommendations

WARNING

AVOID INJURY OR DEATH

- **Operator and bystanders must wear goggles, hard hat and noise protection when the breaker is in operation.**
- **DO NOT demolish overhead materials or ceilings.**
- **Keep all bystanders 6 m (20 ft) away from equipment when operating.**

W-2627-0910

IMPORTANT

Avoid Blank (No Load) Firing. Disengage auxiliary hydraulics when breaker is not in use.

I-2205-0800

IMPORTANT

Do not use the breaker bit as a pry bar to move broken material. Excess prying force can cause damage to the breaker or machine.

I-2074-0409

Use the following procedures as a guide when operating the breaker:

NOTE: With experience, the operator will become more effective at breaking.

- Break off small pieces to prevent damage to the equipment from falling material.
- Keep the tool perpendicular to the work surface.
- Apply penetrating force by raising the front of the loader slightly off the ground.
- Apply penetrating force for no more than 15 seconds.
- Move the tool to a different location whenever the tool penetrates but does not crack the material.

- Strike the material several places along a line where you want it to break.
- Deep tool penetration is not necessary, 152 - 254 mm (6 - 10 in) is usually enough to break the material.
- Concrete reinforced with rebar will hold together when concrete is broken. Use a chisel point tool to cut the rebar.
- Excessive sideways force can cause tool binding, poor breaking and wear of the tool shank, cylinders and breaker attachment.
- Always direct the force toward the point of the tool in contact with the material.

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Removal

Hand Lever Bob-Tach

Lower the lift arms and put the attachment flat on the ground. Lower or close the hydraulic equipment (if equipped).

NOTE: In muddy conditions or to prevent the attachment from freezing to the ground, put the attachment on planks or blocks before removing the attachment from the loader.

Stop the engine and release auxiliary hydraulic pressure (if applicable). (See the loader's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Exit the loader. (See Entering And Exiting The Loader on Page 62.)

! WARNING

AVOID INJURY OR DEATH

Before you leave the operator's seat:

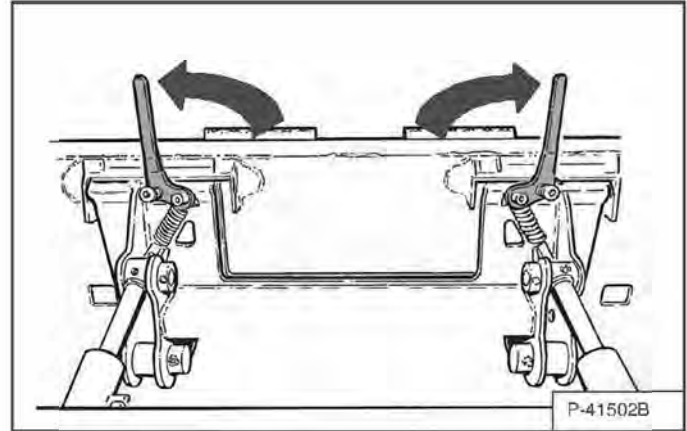
- Lower the lift arms and put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise the seat bar.
- Move all controls to the **NEUTRAL / LOCKED** position to make sure the lift, tilt and traction drive functions are deactivated.

The seat bar system must deactivate these functions when the seat bar is up. See your Bobcat dealer for service if controls do not deactivate.

W-2463-1110

Disconnect auxiliary hydraulic hoses (if applicable). (See Hydraulic Quick Couplers on Page 74.)

Figure 111



Pull the Bob-Tach levers up [Figure 111] until they are fully raised (wedges fully raised).

! WARNING

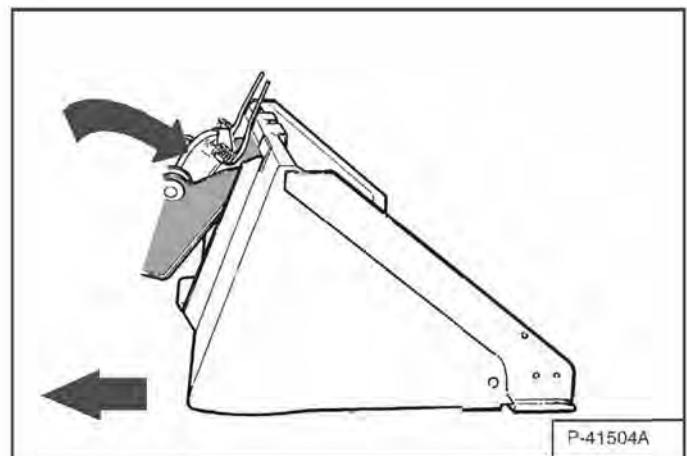
Bob-Tach levers have spring tension. Hold lever tightly and release slowly. Failure to obey warning can cause injury.

W-2054-1285

Enter the loader. (See Entering And Exiting The Loader on Page 62.)

Start the engine, press the **PRESS TO OPERATE LOADER** button and release the parking brake.

Figure 112



Tilt the Bob-Tach forward and drive the loader backward, away from the attachment [Figure 112].

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Removal (Cont'd)

Bob-Tach / X-Change Mounting Frame (Pin-On)

Park the loader on a flat and level surface.

Lower the breaker fully to the ground.

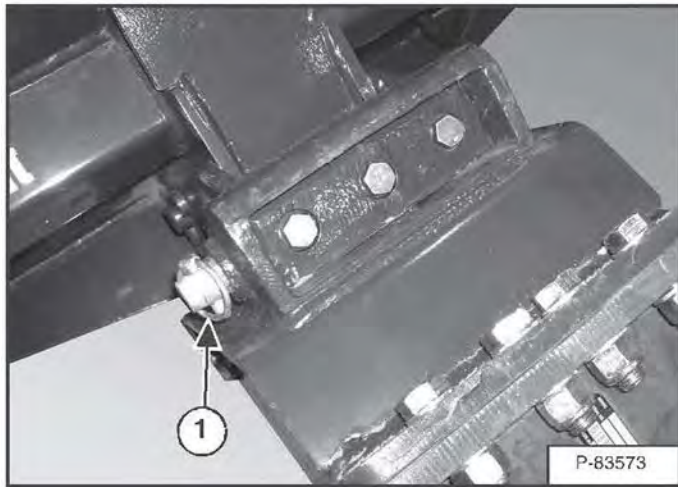
Stop the engine.

Relieve hydraulic pressure. (See the loader's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Exit the loader. (See Entering And Exiting The Loader on Page 62.)

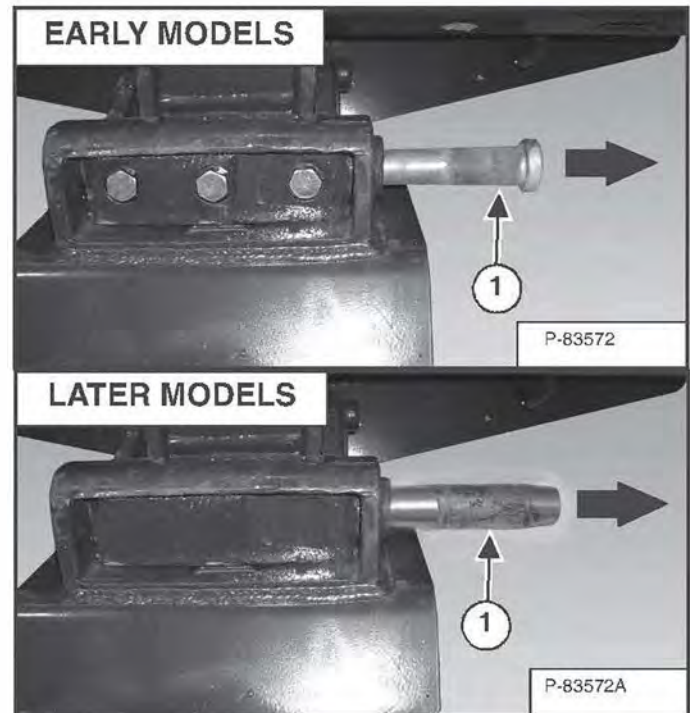
Disconnect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 74.)

Figure 116



Remove the retainer pin (Item 1) [Figure 116].

Figure 117

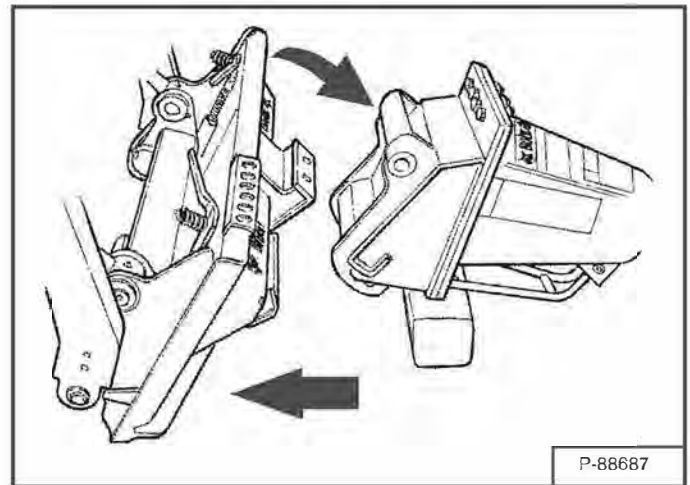


Drive the pin (Item 1) [Figure 117] out of the breaker and X-Change Mount.

Enter the loader. (See Entering And Exiting The Loader on Page 62.)

Start the engine.

Figure 118



Tilt the Bob-Tach forward while backing the loader away from the breaker [Figure 118].

NOTE: In muddy conditions or to prevent the attachment from freezing to the ground, put the attachment on planks or blocks before removing the attachment from the loader.

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Removal (Cont'd)

Bob-Tach / X-Change Mounting Frame (Bolt-On)

Park the loader on a flat and level surface.

Lower the breaker fully to the ground.

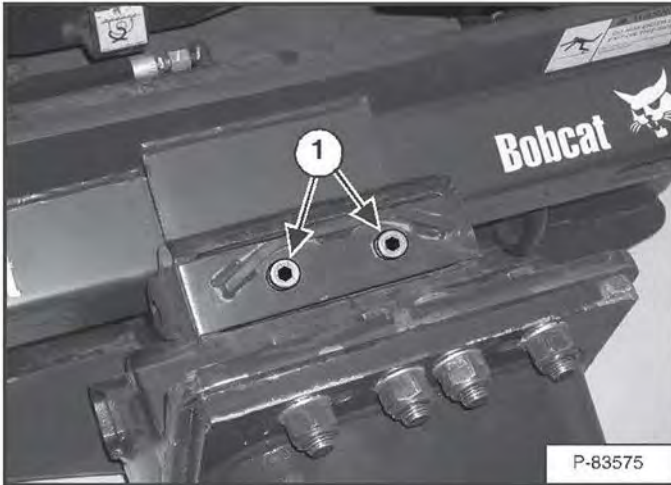
Stop the engine.

Relieve hydraulic pressure. (See the loader's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Exit the loader. (See Entering And Exiting The Loader on Page 62.)

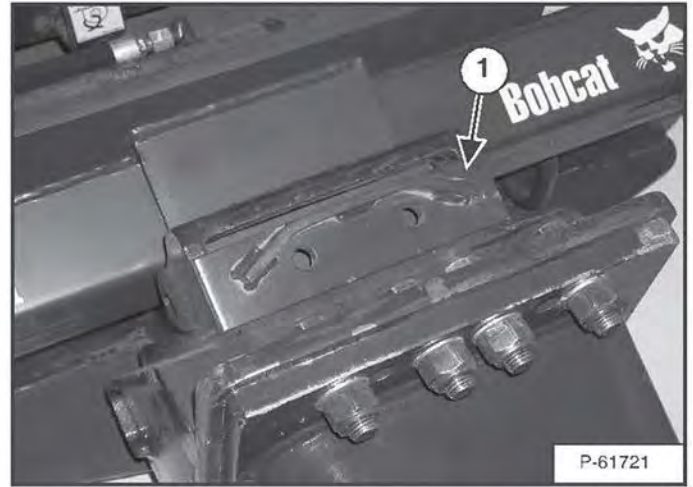
Disconnect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 74.)

Figure 119



Remove the bolts (Item 1) [Figure 119].

Figure 120

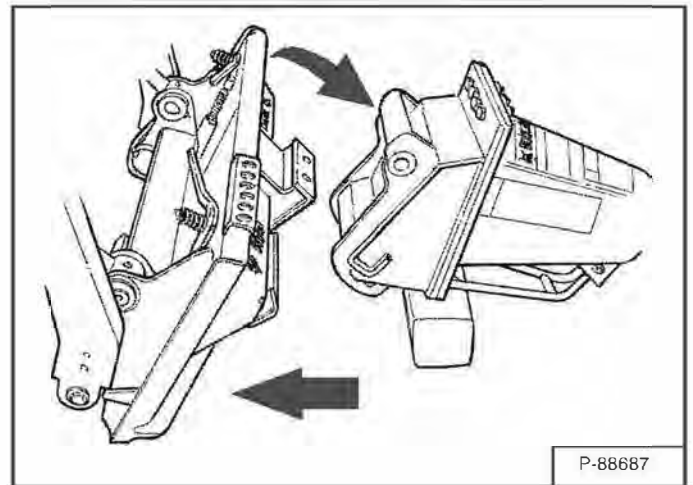


Remove the plate (Item 1) [Figure 120].

Enter the loader. (See Entering And Exiting The Loader on Page 62.)

Start the engine.

Figure 121



Tilt the Bob-Tach forward while backing the loader away from the breaker [Figure 121].

NOTE: In muddy conditions or to prevent the attachment from freezing to the ground, put the attachment on planks or blocks before removing the attachment from the loader.

OPERATING PROCEDURE WITH EXCAVATORS

Approved Excavator Models And Requirements

Figure 122

EXCAVATOR MODEL	HB SERIES BREAKER				
	280	680	880	980	1180
316	X				
322		X			
323		X			
325		X	X		
328		X	X		
329			X		
331			X	X	
331E			X	X	
334			X	X	
335				X	X
337				X	X
341				X	
418	X				
425		X	X		
430			X	X	
435				X	X
442					X
E19		X			
E20		X			
E26		X			
E32			X	X	
E35			X	X	
E42				X	X
E45				X	X
E50				X	X
E50z				X	X
E55				X	X
E55z				X	X
E60			*X	*X	X
E63					X
E80					X
E85					X
E88					X

X = Approved

The chart [Figure 122] shows the hydraulic breaker models approved for use with each excavator model.

Warranty on this attachment is void if used on a non-approved carrier. See your Bobcat dealer for a current list of approved carriers.

NOTE: * When using the HB880 (S/N A00X19999 & Below) or HB980 (S/N A00Y19999 & Below) on E60 excavator (S/N AGSZ11320 & Below), the breaker must be equipped with a diverter valve kit. See your Bobcat dealer for available kits. Breakers with a higher serial number are equipped with an internal diverter valve and do not require the external diverter valve kit.



WARNING

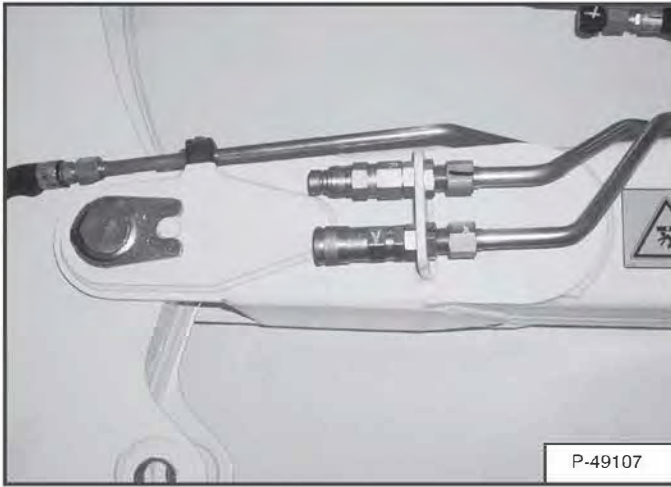
Never use attachments or buckets which are not approved by the Bobcat Company. Attachments and buckets for safe loads of specified densities are approved for each model. Unapproved attachments and buckets can cause injury or death.

W-2662-0108

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Approved Excavator Models And Requirements (Cont'd)

Figure 123

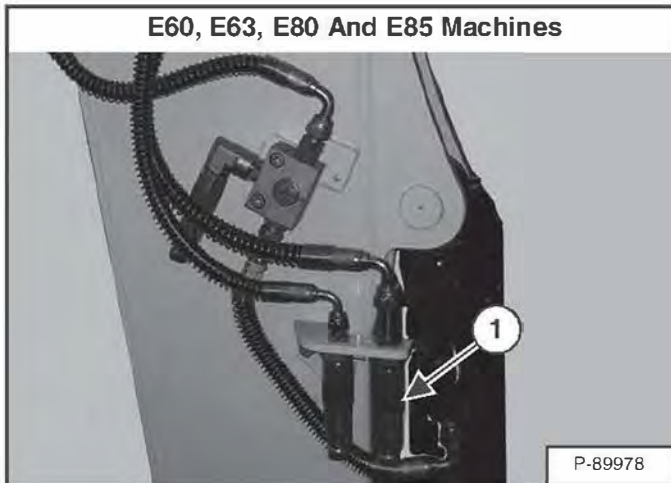


NOTE: The male flush face coupler is located on the right side of the arm (shown) [Figure 124], the female coupler is located on the left side of the arm on E60, E63, E80 and E85 excavators.

NOTE: Special Application Kits are available for excavators. Special Application Kits must be used in applications where falling debris is present. See your Bobcat dealer for availability.

NOTE: Make sure the direct to tank valve (if equipped) on the excavator is in the proper position for breaker operation. (See the excavator's Operation & Maintenance Manual for detailed information.)

Figure 124



The excavator must be equipped with front auxiliary hydraulics [Figure 123] or [Figure 124].

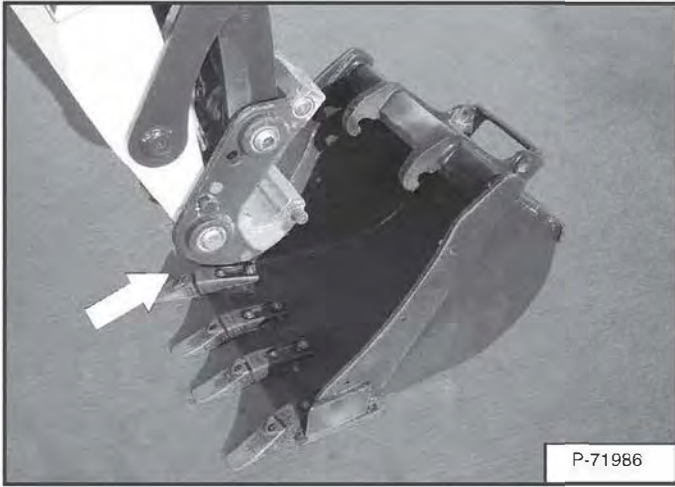
Primary auxiliary male coupler (Item 1) [Figure 124]. Primary auxiliaries will be used for breaker operation.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

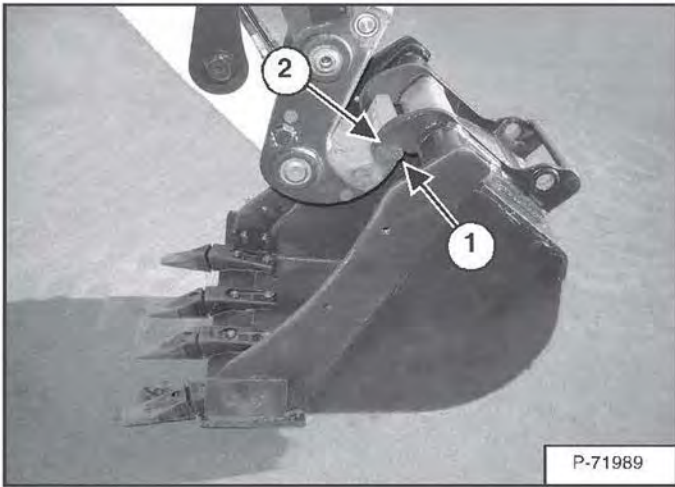
Hydraulic X-Change (Earlier Models) (Cont'd)

Figure 135



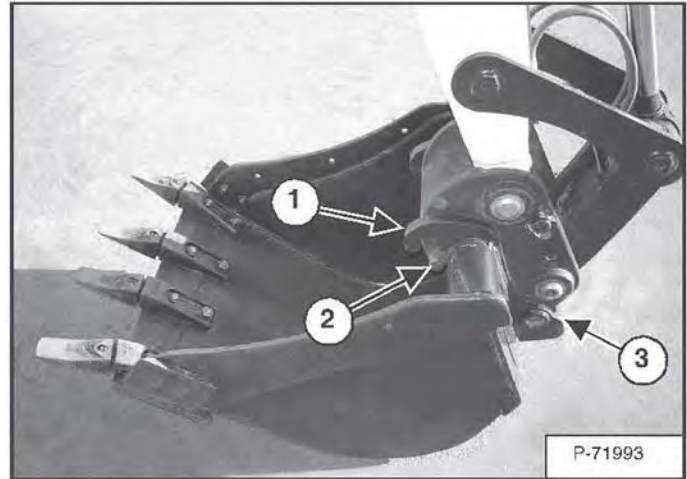
Move the arm toward the attachment [Figure 135].

Figure 136



Raise the boom until the X-Change pins (Item 1) engage the attachment hooks (Item 2) [Figure 136] on the bucket.

Figure 137



Raise the boom and extend (curl in) the bucket cylinder until the X-Change contacts the back of the attachment [Figure 137].

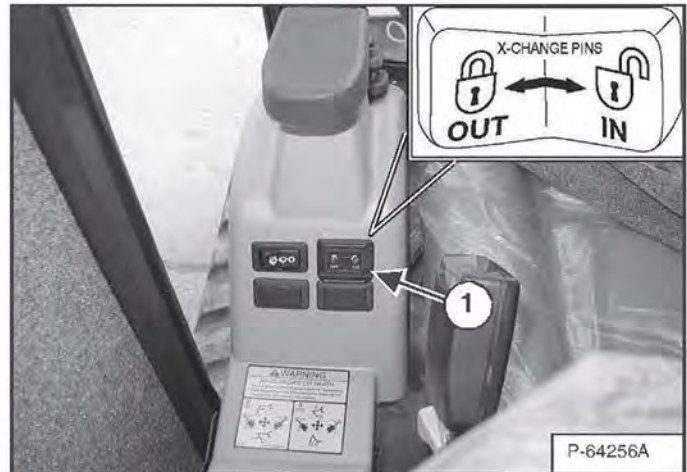
With the arm vertical, lower the boom until the hooks (Item 1) of the bucket engage the X-Change pins (Item 2) and the plate (Item 3) [Figure 137] fully engages into the bucket crossmember.

! 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 138



Press and hold the X-Change switch (Item 1) [Figure 138] to the left and **FULLY EXTEND** the hydraulic pins.

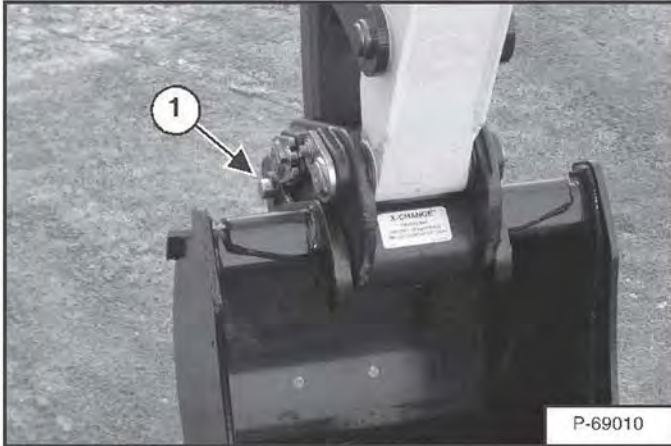
OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Hydraulic X-Change (Earlier Models) (Cont'd)

Stop the engine and exit the excavator. (See Entering And Exiting The Excavator on Page 85.)

Figure 139



Check that both hydraulic pins (Item 1) [Figure 139] are fully engaged to secure the attachment.

Figure 140

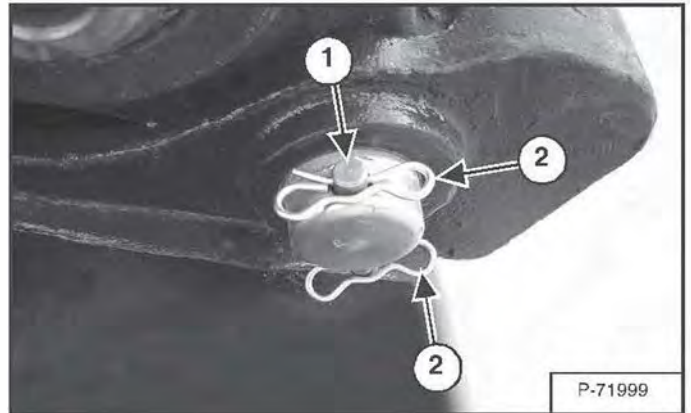
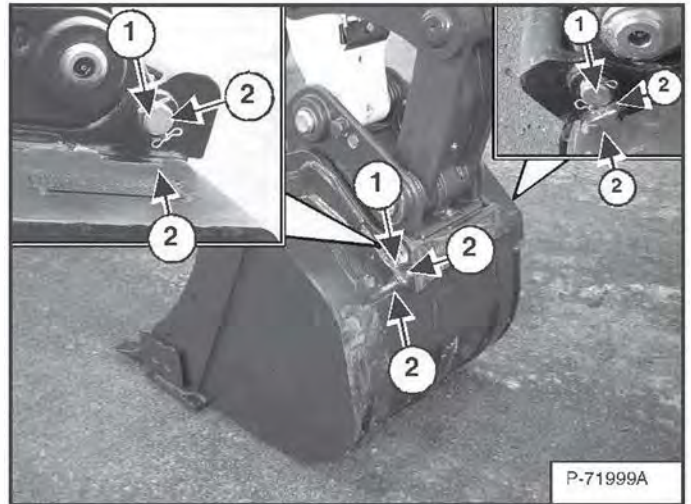


Figure 141



Install retainer pin (Item 1) and clips (Item 2) [Figure 140] and [Figure 141] into each hydraulic pin (both sides).



WARNING

Both hydraulic pins must be fully extended through the attachment mounting holes and locked with both retainer pins and clips. Failure to fully engage and lock hydraulic pins can allow attachment to come off and cause serious injury or death.

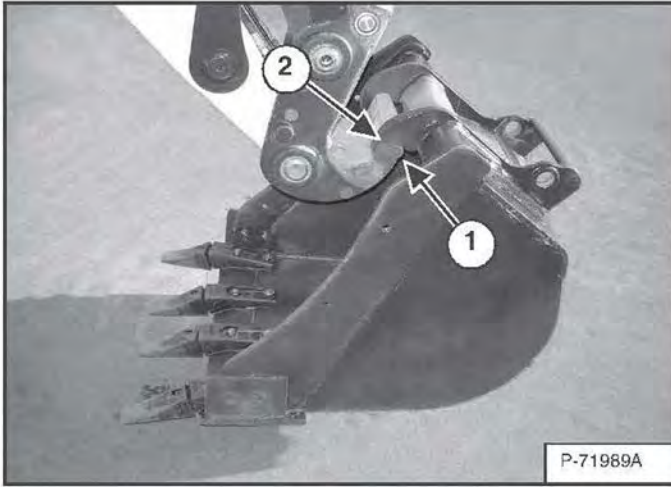
W-2507-0706

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

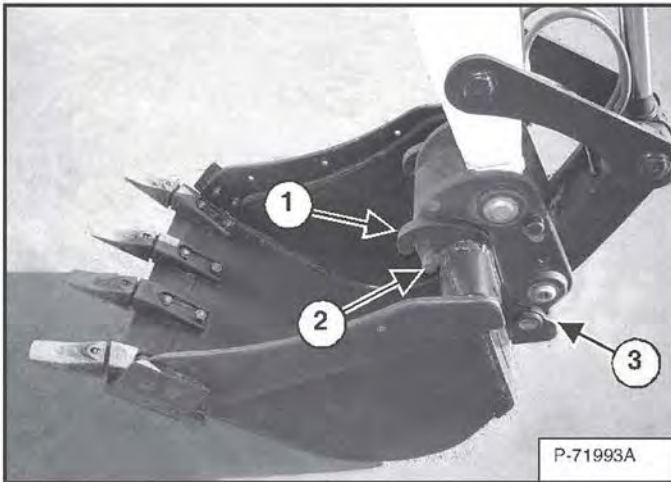
Hydraulic X-Change (Later Models) (Cont'd)

Figure 145



Raise the boom until the X-Change pins (Item 1) engage the attachment hooks (Item 2) [Figure 145] on the bucket.

Figure 146



Raise the boom and extend (curl in) the bucket cylinder until the X-Change contacts the back of the attachment [Figure 146].

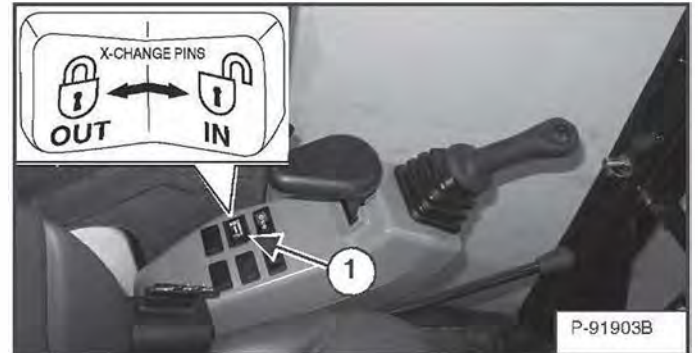
With the arm vertical, lower the boom until the hooks (Item 1) of the bucket disengage the X-Change pins (Item 2) and the plate (Item 3) [Figure 146] fully engages into the bucket crossmember.

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.

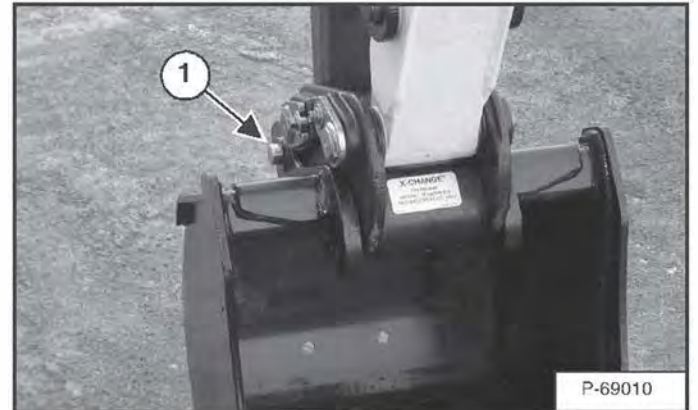
W-2119-0910

Figure 147



Press and hold the X-Change switch (Item 1) [Figure 147] to the left (OUT) and **FULLY EXTEND** the hydraulic pins.

Figure 148



Check that both hydraulic pins (Item 1) [Figure 148] are fully engaged to secure the attachment.

WARNING

AVOID INJURY OR DEATH

Both hydraulic pins must be fully extended through the attachment mounting holes. Failure to fully engage the hydraulic pins can allow attachment to come off.

W-2935-0512

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Pin-On X-Change

Position the breaker so the hydraulic hoses will be toward the excavator during operation and are facing up.

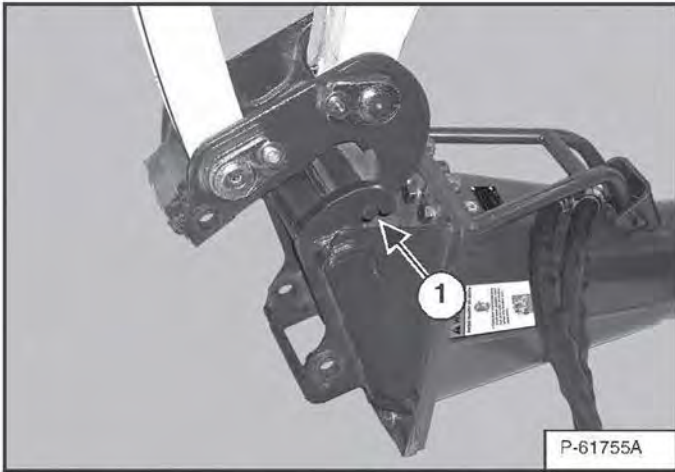
Enter the excavator, fasten the seat belt and start the engine.

See the excavator's Operation & Maintenance Manual to correctly operate the excavator.

Fully retract the bucket cylinder.

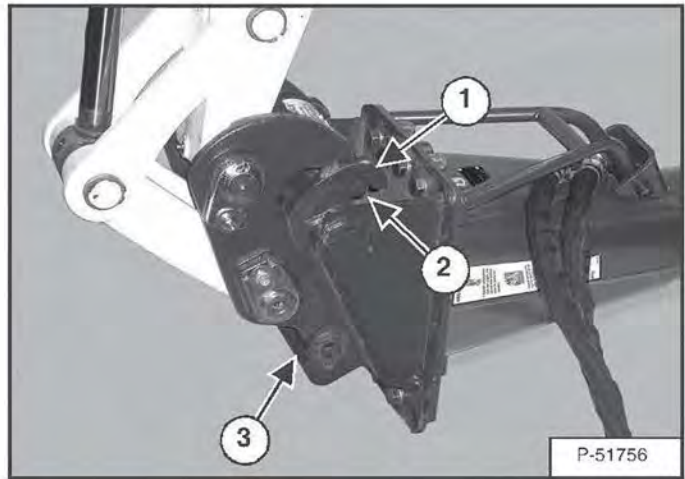
Move the arm toward the breaker mounting frame.

Figure 149



Raise the boom until the pins (Item 1) [Figure 149] engage the hooks on the mounting frame.

Figure 150



Raise the boom and extend the bucket cylinder until the X-Change contacts the attachment back [Figure 150].

With the arm vertical, lower the boom until the hooks (Item 1) of the mounting frame disengage the pins (Item 2) of the X-Change and the plate (Item 3) [Figure 150] fully engages in the mounting frame.



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

Stop the engine.

Relieve hydraulic pressure. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

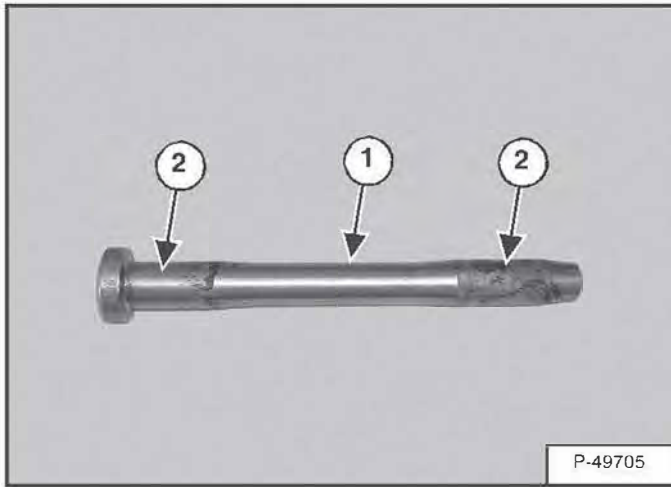
Exit the excavator. (See Entering And Exiting The Excavator on Page 85.)

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Pin-On X-Change (Cont'd)

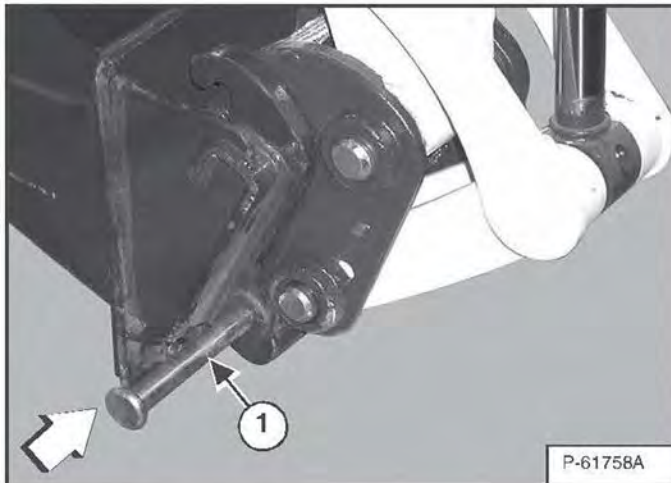
Figure 151



Inspect the pin (Item 1) [Figure 151] for wear or damage. Replace the pin as needed.

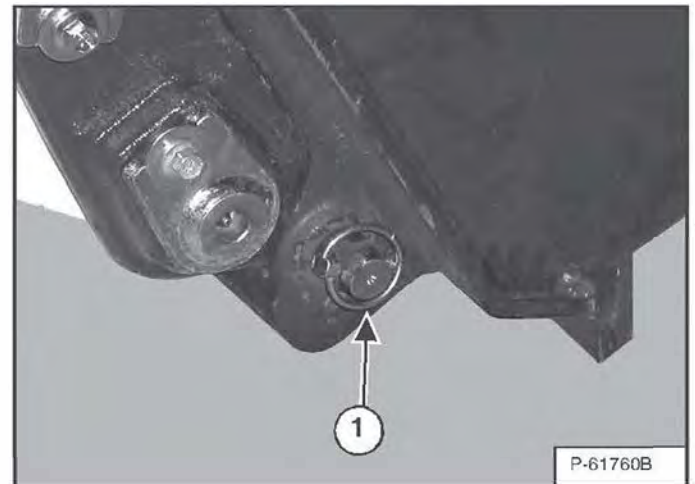
Apply a light coat of grease to the ends of the pin (Item 2) [Figure 151].

Figure 152



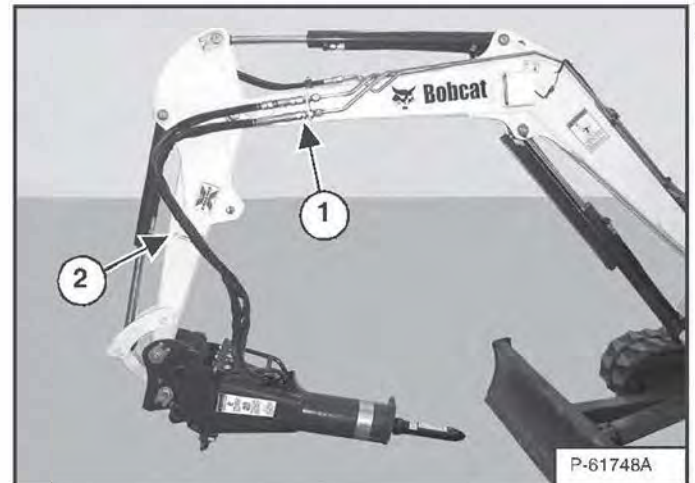
Drive the pin (Item 1) [Figure 152] through the breaker mount and X-Change.

Figure 153



Install the retainer pin (Item 1) [Figure 153].

Figure 154



Route the hoses up to the auxiliary couplers (Item 1) [Figure 154]. (See Hydraulic Quick Couplers on Page 109.)

NOTE: Do not route the hoses through the retainer (Item 2) [Figure 154] on the excavator arm.

Relieve auxiliary hydraulic pressure. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Turn the hoses so they are not twisted or kinked. The hoses should route smoothly to the breaker.

Check for proper installation.

Lift the attachment and fully extend and retract the bucket cylinder.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Bolt-On X-Change

! WARNING

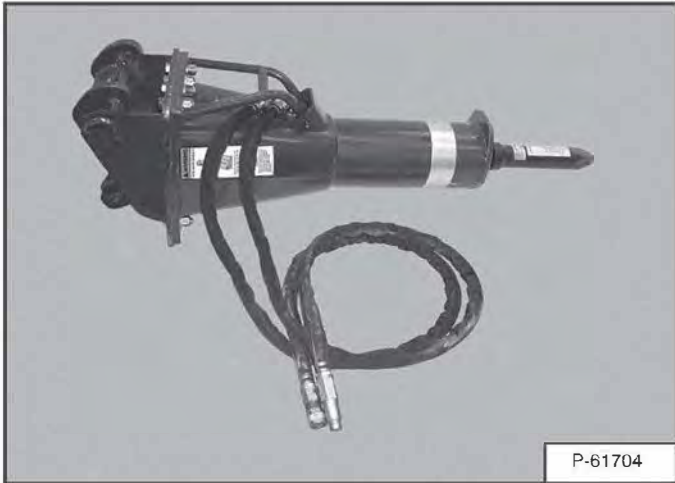
AVOID INJURY OR DEATH

Never use attachments or buckets which are not approved by Bobcat Company. Buckets and attachments for safe loads of specified densities are approved for each model. Unapproved attachments can cause injury or death.

W-2052-0907

Place the breaker on blocks.

Figure 155



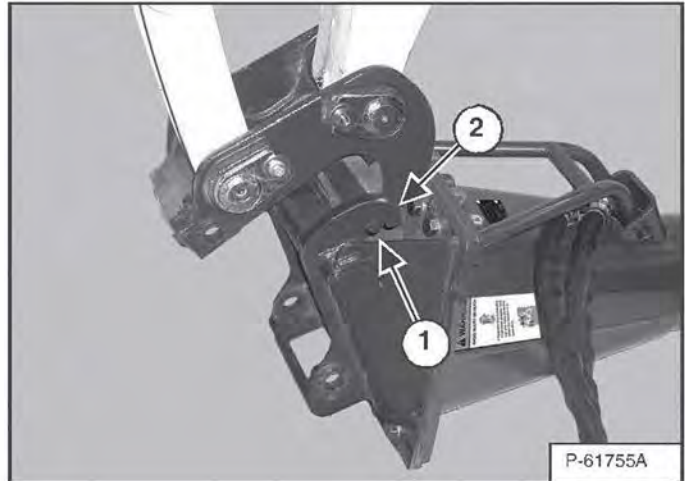
Position the breaker so the hydraulic hoses will be toward the excavator during operation and are facing up [Figure 155].

Enter the excavator. (See Entering And Exiting The Excavator on Page 85.)

See the excavator's Operation & Maintenance Manual to correctly operate the excavator.

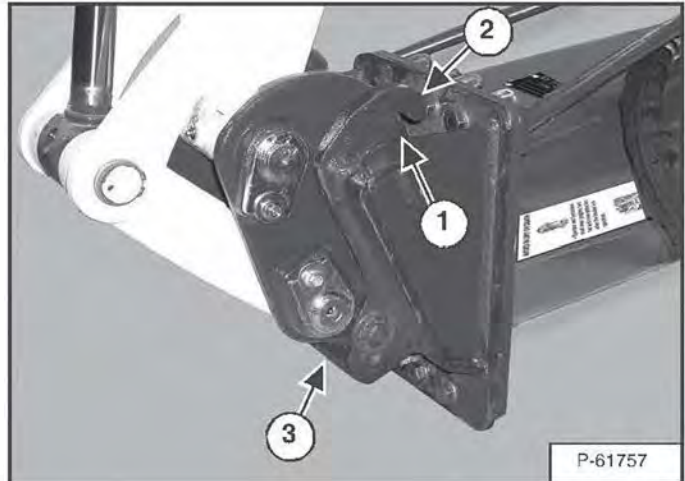
Fully retract the bucket cylinder.

Figure 156



Move the arm toward the breaker. Raise the boom until the pins (Item 1) engage the hooks (Item 2) [Figure 156] on the mount.

Figure 157



Raise the boom, and extend the bucket cylinder until the X-Change contacts the attachment back [Figure 157].

With the arm vertical, lower the boom until the hooks (Item 1) of the breaker disengage the pins (Item 2) of the X-Change and the plate (Item 3) [Figure 157] fully engages in the mounting frame.

Stop the engine.

Relieve hydraulic pressure. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

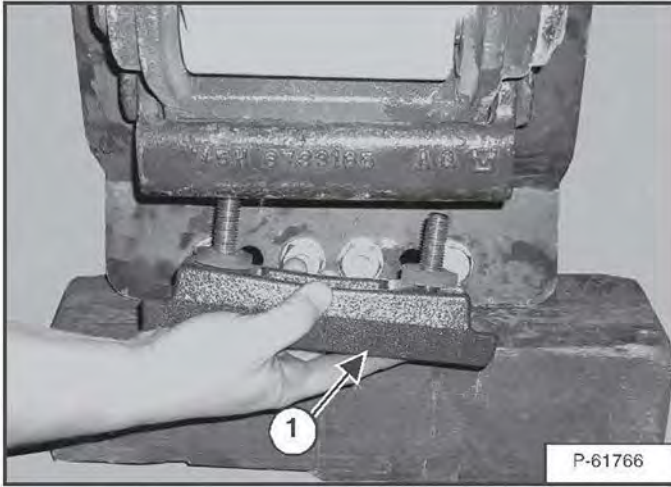
Exit the excavator. (See Entering And Exiting The Excavator on Page 85.)

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

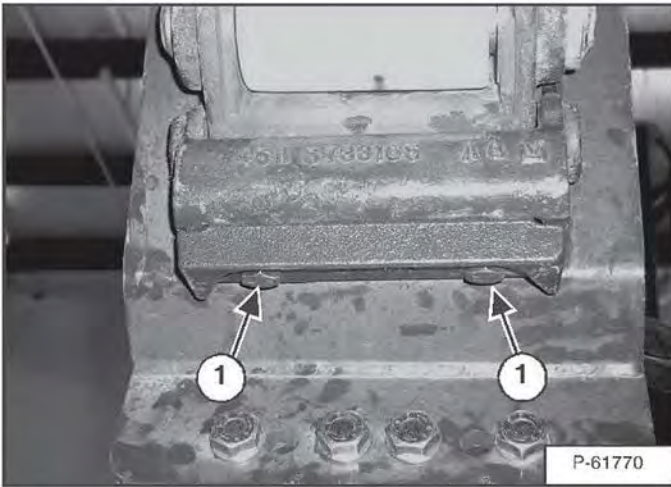
Bolt-On X-Change (Cont'd)

Figure 158



Install the plate (Item 1) [Figure 158] into the X-Change.

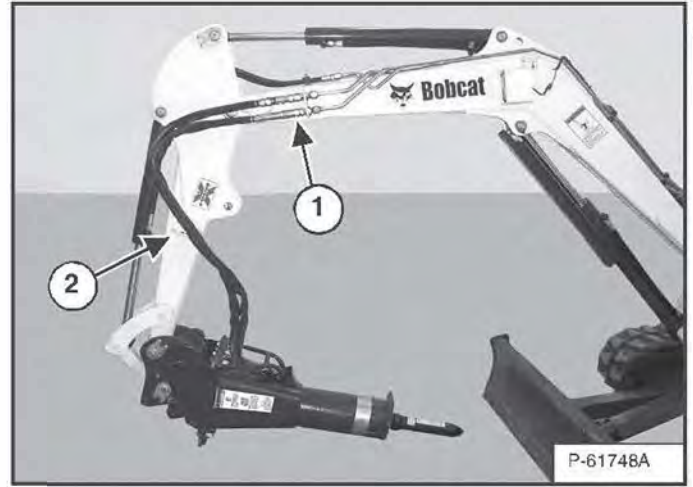
Figure 159



Install the two bolts (Item 1) [Figure 159]. Tighten the bolts to 170 - 190 N•m (125 - 140 ft-lb) torque. Retired the bolts after every eight hours of operation.

NOTE: Do Not over torque the bolts (Item 1) [Figure 159]. Over torquing may cause bolt or thread damage or could result in the bolts breaking during operation.

Figure 160



Route the hoses up to the auxiliary couplers (Item 1) [Figure 160]. (See Hydraulic Quick Couplers on Page 109.)

NOTE: Do Not route the hoses through the retainer (Item 2) [Figure 160] on the excavator arm.

Hydraulic pressure in the auxiliary hydraulic system can make it difficult to connect or disconnect the auxiliary hydraulic lines from the quick couplers.

Relieve auxiliary hydraulic pressure. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Turn the hoses so they are not twisted or kinked. The hoses should route smoothly to the breaker.

Check for proper installation.

Lift the attachment and fully extend and retract the bucket cylinder.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

X-Change System

Figure 161



Position the breaker so the hydraulic hoses will be toward the excavator during operation and are facing up [Figure 161].

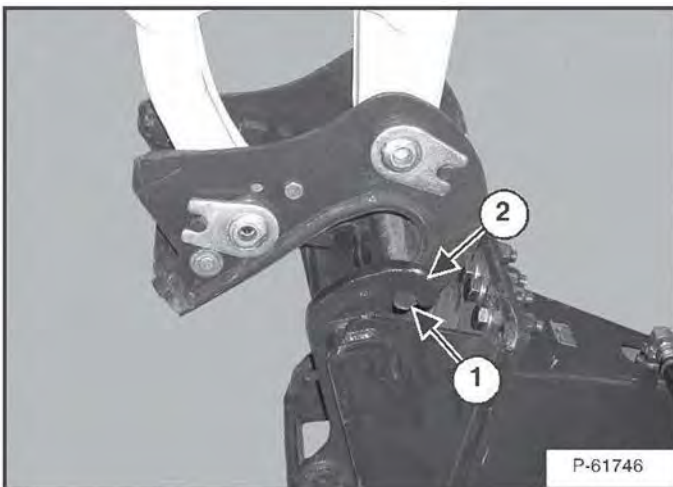
Enter the excavator. (See Entering And Exiting The Excavator on Page 85.)

See the excavator's Operation & Maintenance Manual to correctly operate the excavator.

Fully retract the bucket cylinder.

Move the arm toward the breaker mounting frame.

Figure 162



Raise the boom until the pins (Item 1) engage the hooks (Item 2) [Figure 162] on the mounting frame.

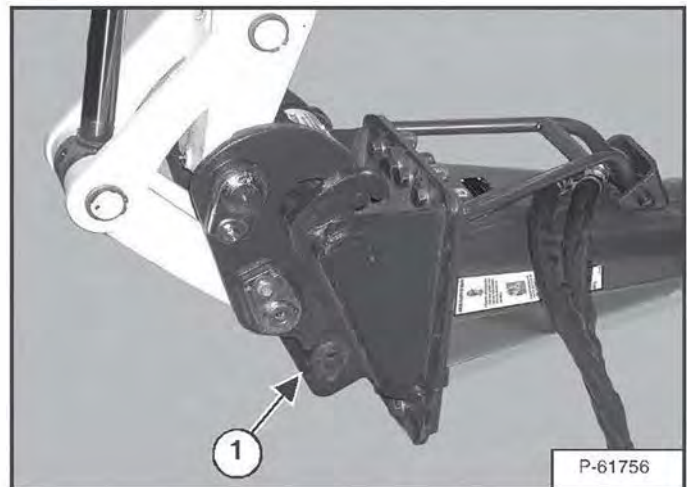
WARNING

AVOID INJURY OR DEATH

Never use the X-Change pins only to lift the attachment. The attachment can disengage and fall.

W-2277-1297

Figure 163



Raise the boom and extend the bucket cylinder until the X-Change seats in the mating area of the mounting frame [Figure 163].

Continue to extend the bucket cylinder to raise the point of the breaker off the ground.

With the arm vertical, lower the boom to the ground until the hooks of the breaker frame disengage the pins of the X-Change and the plate fully engages in the mounting frame (Item 1) [Figure 163] locking the breaker frame to the X-Change.

Stop the engine.

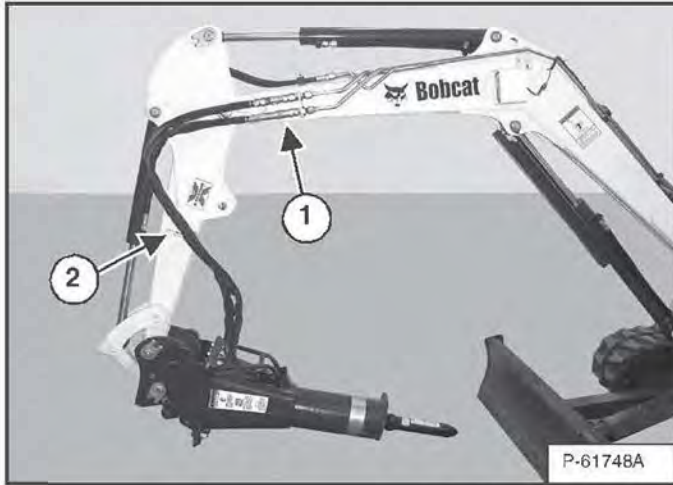
Exit the excavator. (See Entering And Exiting The Excavator on Page 85.)

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

X-Change System (Cont'd)

Figure 164



Route the hoses up to the auxiliary couplers (Item 1) [Figure 164]. (See Hydraulic Quick Couplers on Page 109.)

NOTE: Do Not route the hoses through the retainer (Item 2) [Figure 164] on the excavator arm.

Hydraulic pressure in the auxiliary hydraulic system can make it difficult to connect or disconnect the auxiliary hydraulic lines from the quick couplers.

Relieve auxiliary hydraulic pressure. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Turn the hoses so they are not twisted or kinked. The hoses should route smoothly to the breaker.

Check for proper installation.

Lift the attachment and fully extend and retract the bucket cylinder.

Pin-On Attachment (442 Excavators)

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

Position the breaker so the hydraulic hoses will be toward the excavator during operation and are facing up.

Enter the excavator. (See Entering And Exiting The Excavator on Page 85.)

Refer to the excavator Operation & Maintenance Manual to correctly operate the excavator.

Move the arm toward the breaker mounting frame.

Retract the bucket cylinder so the bucket link is up and out of the way.

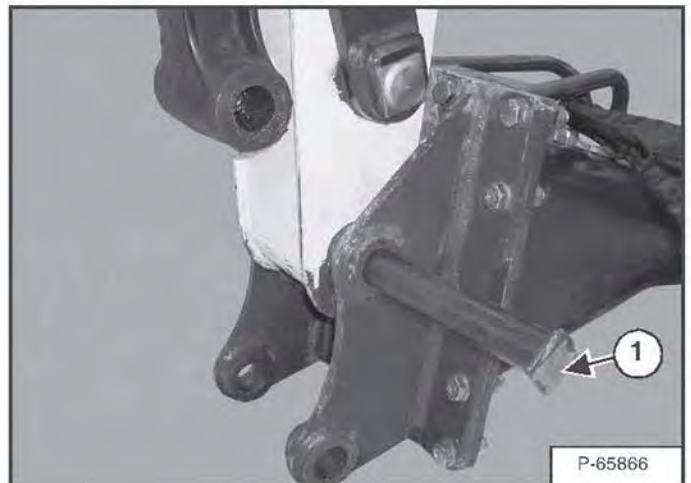
Align the boom into the breaker mounting frame.

The boom will be aligned with the top mounting frame pin hole.

Stop the engine.

Exit the excavator. (See Entering And Exiting The Excavator on Page 85.)

Figure 165



Install the pin (Item 1) [Figure 165].

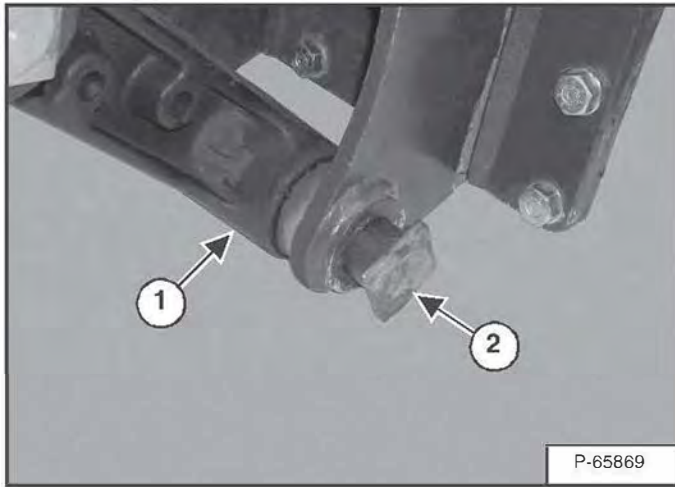
Enter the excavator and start the engine.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Pin-On Attachment (442 Excavators) (Cont'd)

Figure 166



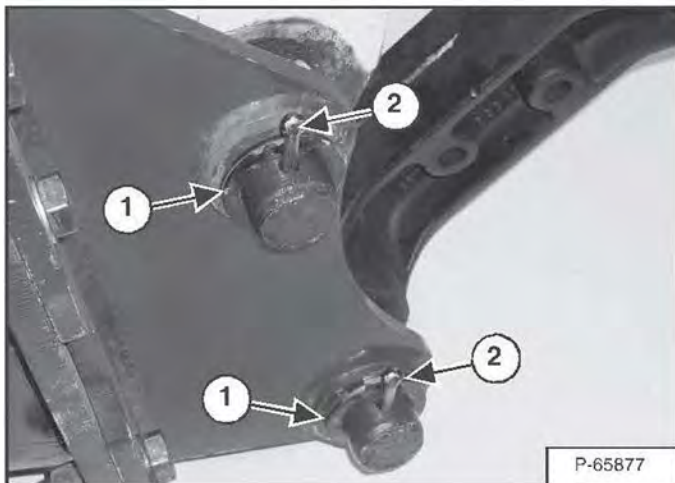
Extend the bucket cylinder until the bucket link (Item 1) [Figure 166] aligns with the bottom hole on the breaker frame.

Stop the engine.

Exit the excavator. (See Entering And Exiting The Excavator on Page 85.)

Install the pin (Item 2) [Figure 166] into the bottom hole of the breaker mounting frame and the bucket link.

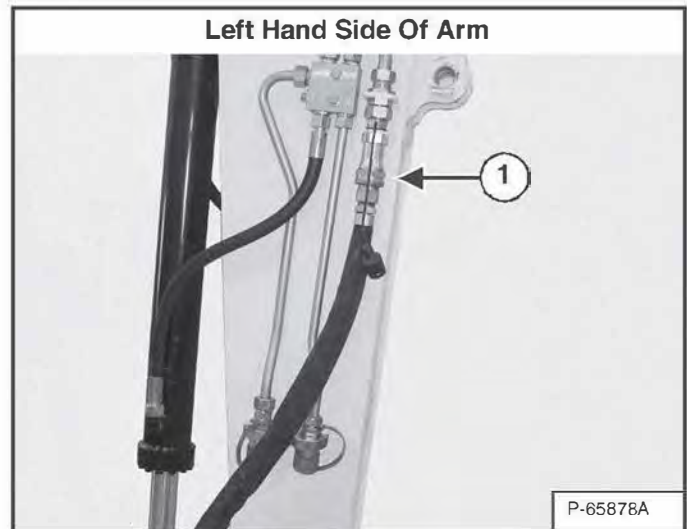
Figure 167



On the opposite side of the pins, install the washers (Item 1) and the retainer pins (Item 2) [Figure 167].

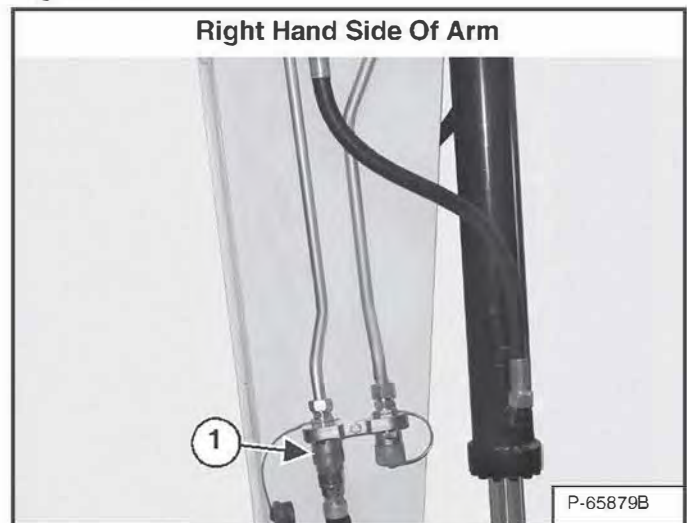
Spread the ends of the two retainer pins (Item 2) [Figure 167] so that they will be retained in the pin.

Figure 168



Route the hoses (from the *HB* port on the breaker) up the arm and connect the auxiliary coupler (Item 1) [Figure 168] to the return to tank coupler.

Figure 169



Route the hose (from the *HP* port on the breaker) up the arm and connect to the auxiliary coupler (Item 1) [Figure 169].

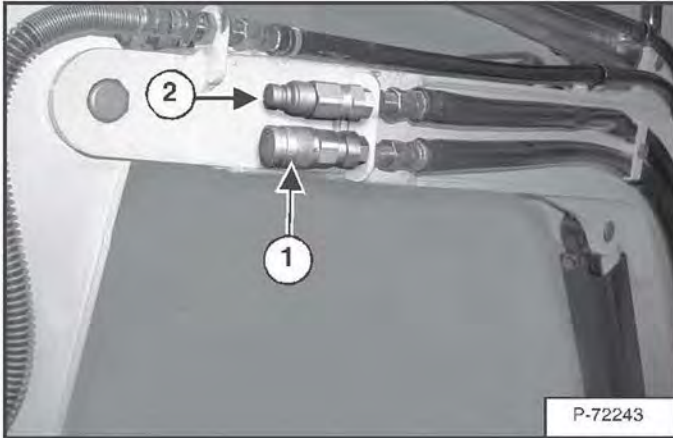
OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Pin-On Attachment (316, 418, E20, E26, E32, E35, E42, E45, E50 And E55 Excavators)

NOTE: Before installing attachments requiring auxiliary hydraulics, quick couplers must be installed on the 316 and 418 excavator.

Figure 170



Install the male quick coupler (Item 1) on the bottom auxiliary hydraulic line and the female quick coupler (Item 2) [Figure 170] on the top hydraulic line.

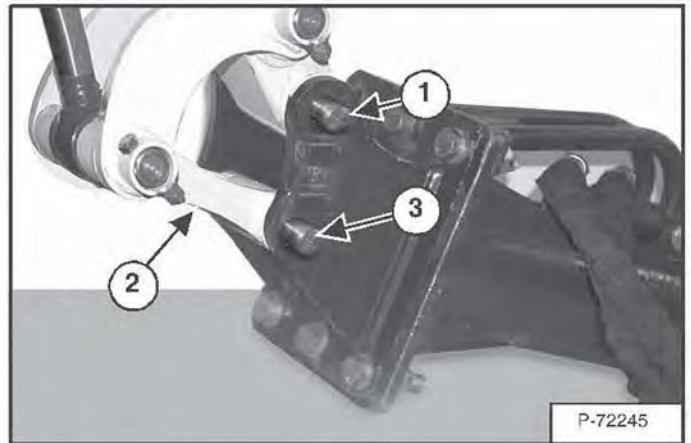


Keep all bystanders 6 m (20 ft) away from equipment when operating. Contact with moving parts, a trench cave-in or flying objects can cause injury or death.

W-2119-0910

Position the breaker so the hydraulic hoses will be toward the excavator during operation and are facing up.

Figure 171



Refer to the excavator's Operation & Maintenance manual to correctly operate the excavator.

Move the arm toward the breaker mounting frame.

Retract the bucket cylinder so the bucket link is up and out of the way.

Raise the boom and position the boom into the breaker mounting frame.

Align the boom with the top mounting frame pin hole.

Stop the engine.

Exit the excavator. (See Entering And Exiting The Excavator on Page 85.)

Install the pivot pin (Item 1) [Figure 171].

Enter the excavator. (See Entering And Exiting The Excavator on Page 85.)

Start the engine.

Extend the bucket cylinder until the link (Item 2) [Figure 171] aligns with the bottom hole on the breaker frame.

Stop the engine and exit the excavator. (See Entering And Exiting The Excavator on Page 85.)

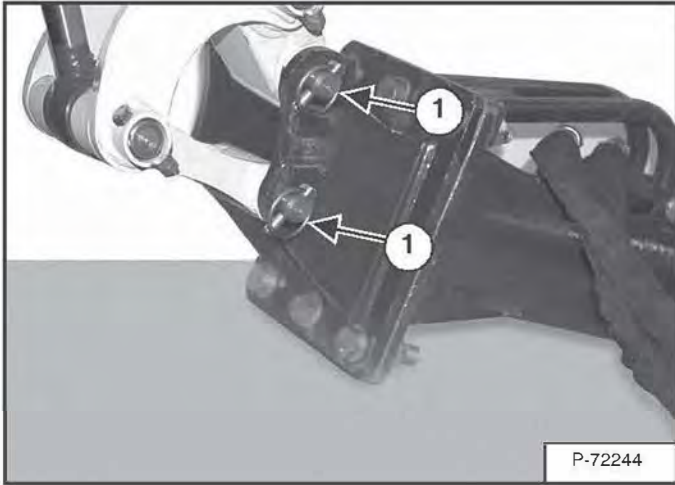
Install the pivot pin (Item 3) [Figure 171].

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Pin-On Attachment (316, 418, E20, E26, E32, E35, E42, E45, E50 And E55 Excavators) (Cont'd)

Figure 172



Install the retaining clips (Item 1) [Figure 172].

Figure 173



Route the hoses up the arm and connect to the auxiliary couplers [Figure 173]. (See Hydraulic Quick Couplers on Page 109.)



WARNING

AVOID INJURY OR DEATH

Never use attachments or buckets which are not approved by Bobcat Company. Buckets and attachments for safe loads of specified densities are approved for each model. Unapproved attachments can cause injury or death.

W-2052-0907

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

For First Time Installation

New attachments and new excavators are factory equipped with flush face couplers. If installing an attachment equipped with poppet style couplers, the attachment couplers will have to be changed to match the excavator. See your Bobcat dealer for parts information.

IMPORTANT

- **Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.**
- **Contain and dispose of any oil leakage in an environmentally safe manner.**

I-2278-0608

With the excavator engine off and using the hose guides (if equipped), route the attachment hydraulic hoses to the excavator. Connect the attachment hydraulic quick couplers to the excavator couplers. (See Hydraulic Quick Couplers on Page 109.)

Check that the attachment hydraulic hoses are not twisted or contacting any moving parts of the excavator or attachment.

NOTE: It may be necessary to loosen the quick couplers on the attachment hydraulic hoses to remove any twists in the hoses.

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

Loosen the quick coupler connections on the attachment hydraulic hoses while connected to the excavator. Do not remove the quick couplers.

Rotate the attachment hydraulic hoses as needed so the hoses are not twisted or contacting any moving parts of the excavator or attachment.

With the twist(s) removed from the hydraulic hoses, tighten the attachment quick coupler connections while the couplers are still connected to the excavator. This will help hold the hydraulic hoses in position while tightening.

Tighten the quick couplers connections to 63 N•m (46 ft-lb) torque before starting the excavator.

Enter the excavator. (See Entering And Exiting The Excavator on Page 85.)

Start the engine.

Engage auxiliary hydraulics. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

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

Check the attachment hydraulic quick coupler connections for leaks.

Hydraulic Quick Couplers

IMPORTANT

- Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.
- Contain and dispose of any oil leakage in an environmentally safe manner.

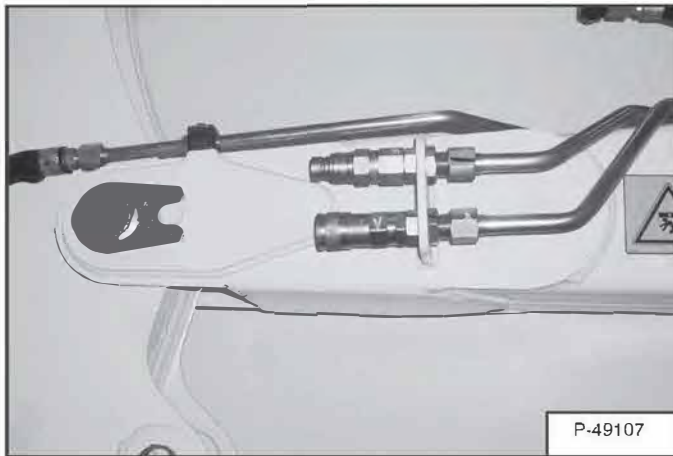
I-2278-0608

NOTE: The following illustrations may not show your hydraulic quick couplers exactly but the procedure is correct.

New attachments and new excavators are factory equipped with flush face couplers. If installing an attachment equipped with poppet style couplers, the attachment couplers will have to be changed to match the excavator. See your Bobcat dealer for parts information.

NOTE: Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and type.

Figure 195



NOTE: The male flush face coupler is located on the right side of the arm and the female coupler is located on the left side of the arm (E80 and E85 excavators only).

! 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

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) must be replaced [Figure 195].

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

NOTE: Check that the attachment hydraulic hoses are not twisted or contacting any moving parts of the excavator or attachment. (See For First Time Installation on Page 108.) for proper adjustment.

To Disconnect:

Relieve hydraulic pressure. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Push the couplers together, retract the sleeve on the female coupler until the couplers disconnect.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

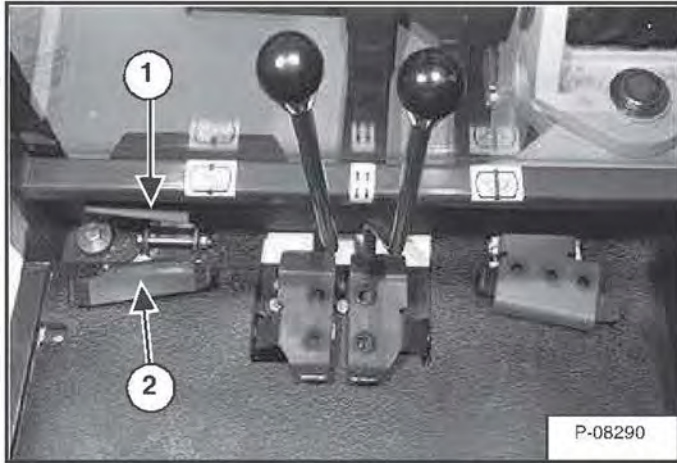
Control Functions

Engage the auxiliary hydraulics. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

NOTE: Auxiliary hydraulic must be activated prior to attachment operation.

Early Models And 320, 323, Current Models

Figure 196

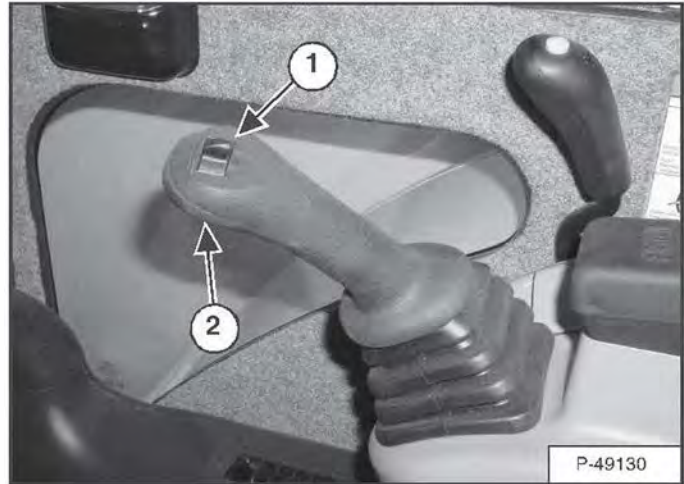


Raise the pedal lock / footrest (Item 1) to operate the auxiliary operation pedal (Item 2) [Figure 196]. Push the pedal to the right to pressurize the female coupler (breaker starts).

Later Model 300 And 400 Series Machines

Engage the auxiliary hydraulics. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Figure 197



Move the switch (Item 1) [Figure 197] on the right control lever to the right to pressurize the female coupler (breaker starts).

Press the front switch (Item 2) [Figure 197] on the front of the right control lever to give the quick couplers a continuous flow of fluid to the female coupler.

To release from continuous operation, press the front switch (Item 2) [Figure 197] a second time.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Control Functions (Cont'd)

442 Excavator Auxiliary Hydraulics

Figure 198



Press the switch (Item 1) [Figure 198]. The switch will be illuminated.

Figure 199



Press and hold the switch (Item 1) [Figure 199] to provide hydraulic flow to the hydraulic breaker.

Release the switch to stop hydraulic flow.

316 Excavator Auxiliary Hydraulics

Figure 200

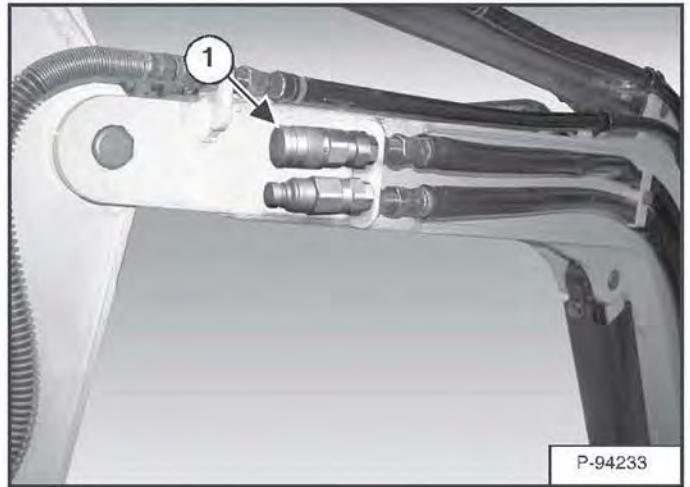
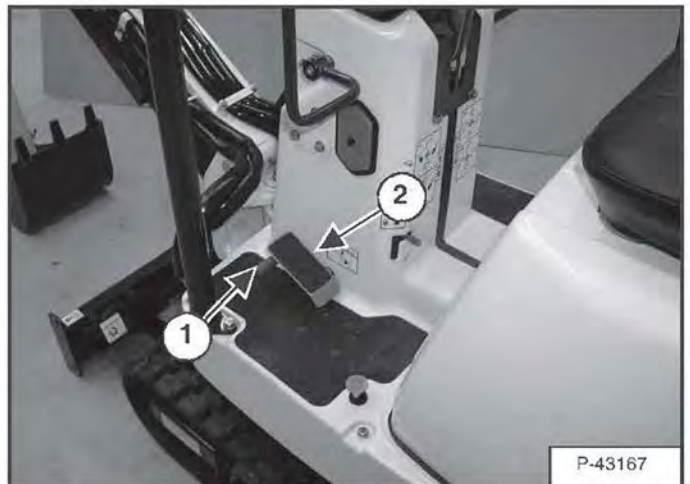


Figure 201



Pull the locking pin out (Item 1) [Figure 201] to allow the pedal to pivot.

Press the auxiliary Hydraulics Pedal (Item 2) [Figure 201] to provide hydraulic pressure to the top hydraulic line (Item 1) [Figure 200]. Release the pedal to stop hydraulic flow.

When you are not using the auxiliary hydraulics, engage the locking pin so that you can use the pedal as a footrest.

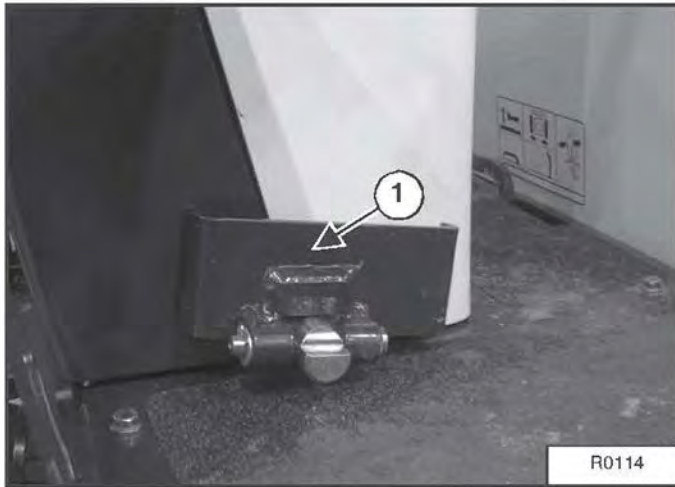
Only the top auxiliary line is pressurized. The bottom line is for return oil flow.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Control Functions (Cont'd)

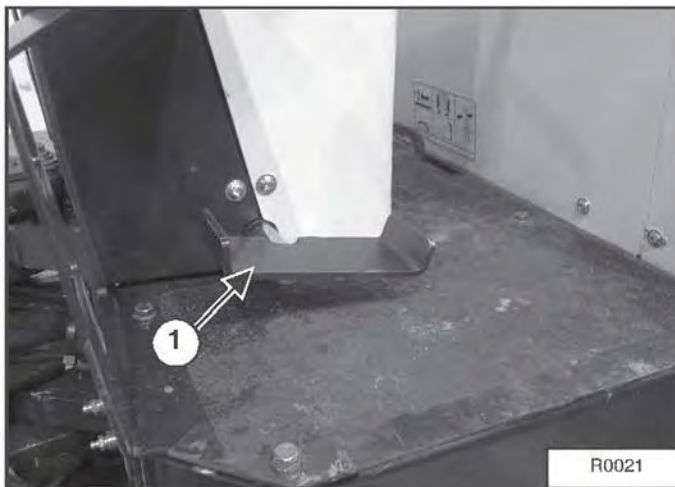
418 Excavator Auxiliary Hydraulics

Figure 202



Rotate the auxiliary pedal (Item 1) [Figure 202] down.

Figure 203



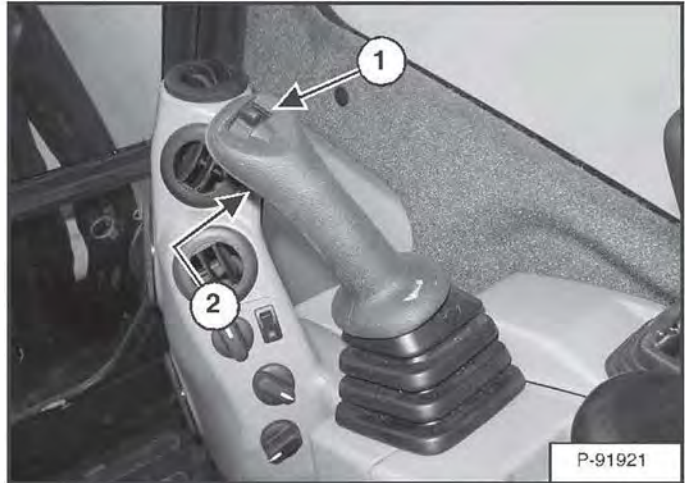
Press the front of the auxiliary Hydraulics Pedal (Item 1) [Figure 203] to provide hydraulic pressure to the top hydraulic line (Item 1) [Figure 200]. Release the pedal to stop hydraulic flow.

When you are not using the auxiliary hydraulics, rotate the pedal up to the storage position.

E20, E26, E32, E35, E42, E45, E50 And E55 Auxiliary Hydraulics

Engage auxiliary hydraulics. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Figure 204



Move the switch (Item 1) [Figure 204] on the right control lever to the right to pressurize the female coupler (breaker starts).

Press the switch (Item 2) [Figure 204] on the front of the handle to provide constant flow to the female coupler.

Press the switch (Item 2) [Figure 204] a second time to stop auxiliary flow to the quick couplers.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Operation With The Excavator

NOTE: Special Application Kits are available for loaders and excavators. Special Application Kits must be used in applications where falling debris is present. See your Bobcat dealer for availability.



WARNING

AVOID INJURY OR DEATH

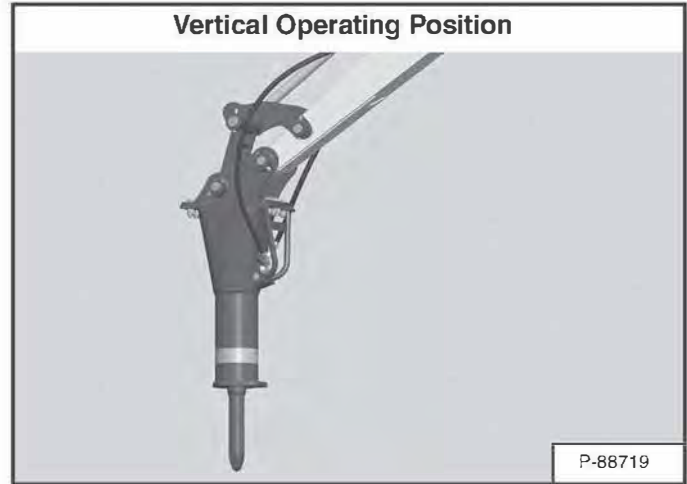
- Operator and bystanders must wear goggles, hard hat and noise protection when the breaker is in operation.
- DO NOT demolish overhead materials or ceilings.
- Keep all bystanders 6 m (20 ft) away from equipment when operating.

W-2627-0910

For the first time use on a rebuilt breaker, use low engine rpm and feather the hydraulics to fill the internal passages of the breaker with hydraulic oil. If the breaker is used without first flooding the hydraulic passages, internal damage may result.

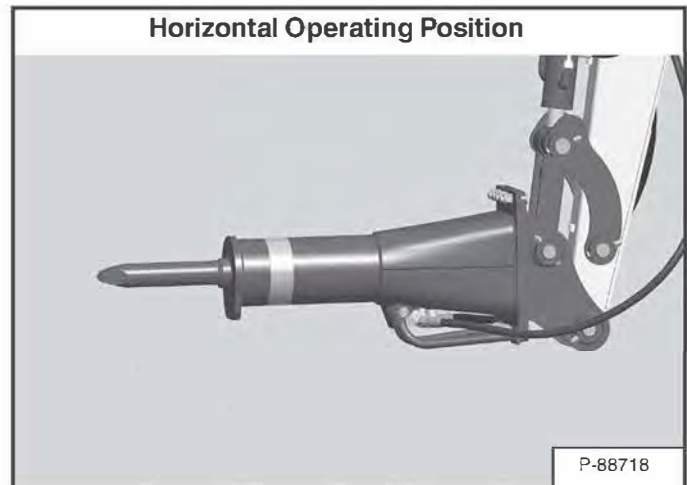
In cold weather conditions, warm the excavator hydraulic fluid to operating temperature before operating the breaker.

Figure 207



When operating in the vertical position [Figure 207], on flat material, keep the tool vertical or curled back a small amount to direct the impact force downward and slightly toward the excavator.

Figure 208



When operating in the horizontal position [Figure 208], work near the edge.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Operation With The Excavator (Cont'd)

Driving The Excavator And Attachment To The Worksite

When driving the excavator and attachment to the worksite or operating on public roads, on slopes or in water, see the excavator's Operation & Maintenance Manual and Operator's Handbook to correctly operate the excavator.

Tips / Recommendations

WARNING

AVOID INJURY OR DEATH

- Operator and bystanders must wear goggles, hard hat and noise protection when the breaker is in operation.
- DO NOT demolish overhead materials or ceilings.
- Keep all bystanders 6 m (20 ft) away from equipment when operating.

W-2627-0910

IMPORTANT

Avoid Blank (No Load) Firing. Disengage auxiliary hydraulics when breaker is not in use.

I-2205-0800

IMPORTANT

Do not use the breaker bit as a pry bar to move broken material. Excess prying force can cause damage to the breaker or machine.

I-2074-0409

Use the following procedures as a guide when operating the breaker:

NOTE: With experience, the operator will become more effective at breaking.

- Break off small pieces to prevent damage to the equipment from falling material.
- Keep the tool perpendicular to the work surface.

- Apply penetrating force by raising the front of the excavator slightly off the ground.
- Apply penetrating force for no more than 15 seconds.
- Move the tool to a different location whenever the tool penetrates but does not crack the material.
- Strike the material several places along a line where you want it to break.
- Deep tool penetration is not necessary, 152 - 254 mm (6 - 10 in) is usually enough to break the material.
- Concrete reinforced with rebar will hold together when concrete is broken. Use a chisel point tool to cut the rebar.
- Excessive sideways force can cause tool binding, poor breaking and wear of the tool shank, cylinders and breaker attachment.
- Always direct the force toward the point of the tool in contact with the material.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

Pin-On X-Change

Select a flat and level surface.

Position the arm vertically, lower the breaker to the ground.

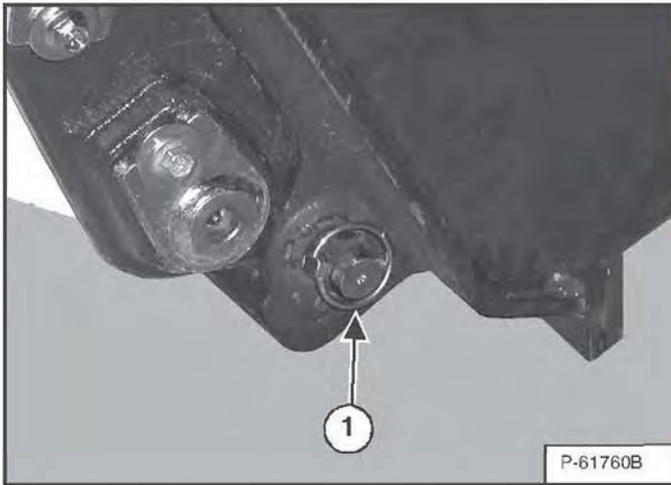
Stop the engine.

Relieve hydraulic pressure. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Exit the excavator. (See Entering And Exiting The Excavator on Page 85.)

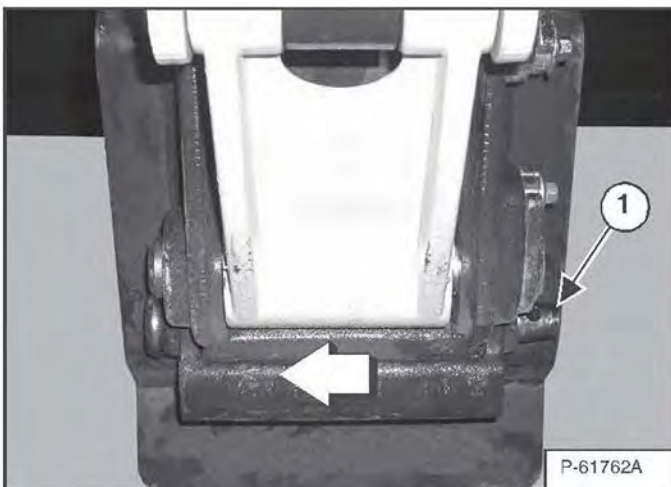
Disconnect the auxiliary couplers. (See Hydraulic Quick Couplers on Page 109.)

Figure 218



Remove the retainer pin (Item 1) [Figure 218].

Figure 219



Drive the pin (Item 1) [Figure 219] out of the breaker and X-Change Mount.

WARNING

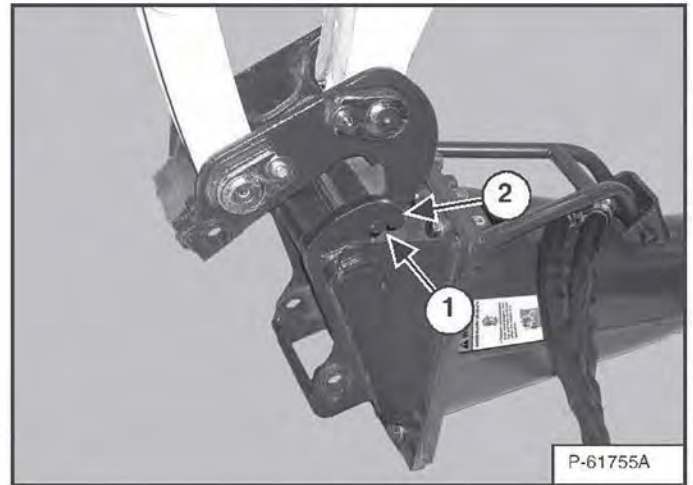
AVOID INJURY OR DEATH

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 220



Enter the excavator. (See Entering And Exiting The Excavator on Page 85.)

Start the engine.

Lift the boom approximately 305 mm (12 in) and fully retract the bucket cylinder to disengage the breaker [Figure 220].

Lower the boom until the X-Change pins (Item 1) are clear of the hooks (Item 2) [Figure 220].

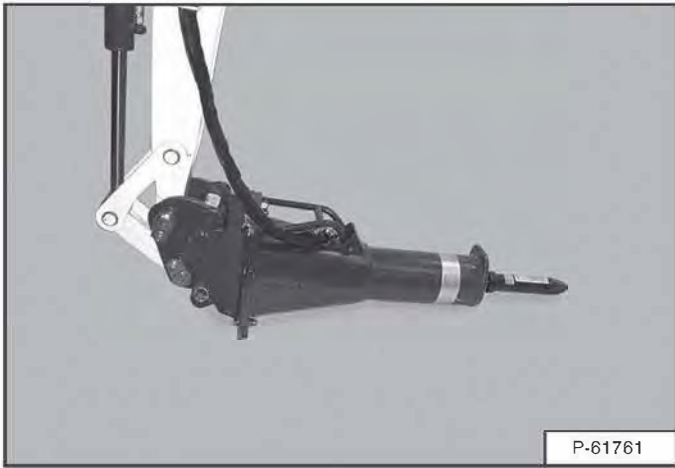
Move the arm toward the excavator until the X-Change pins are clear of the breaker.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

Bolt-On X-Change

Figure 221



Select a flat and level surface.

Position the arm vertically and put the breaker on the ground [Figure 221].

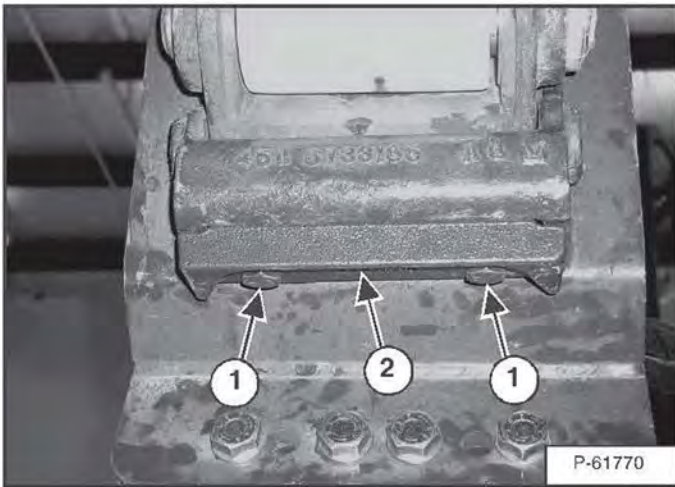
Stop the engine.

Relieve hydraulic pressure. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Exit the excavator. (See Entering And Exiting The Excavator on Page 85.)

Disconnect the auxiliary couplers. (See Hydraulic Quick Couplers on Page 109.)

Figure 222

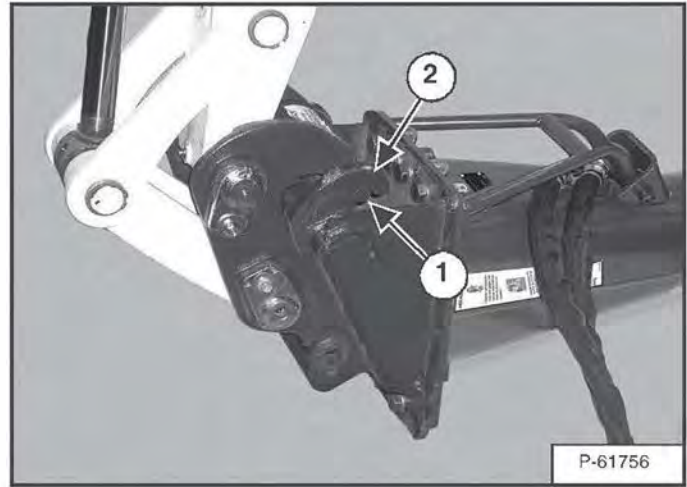


Remove the two bolts (Item 1) and plate (Item 2) [Figure 222].

Enter the excavator. (See Entering And Exiting The Excavator on Page 85.)

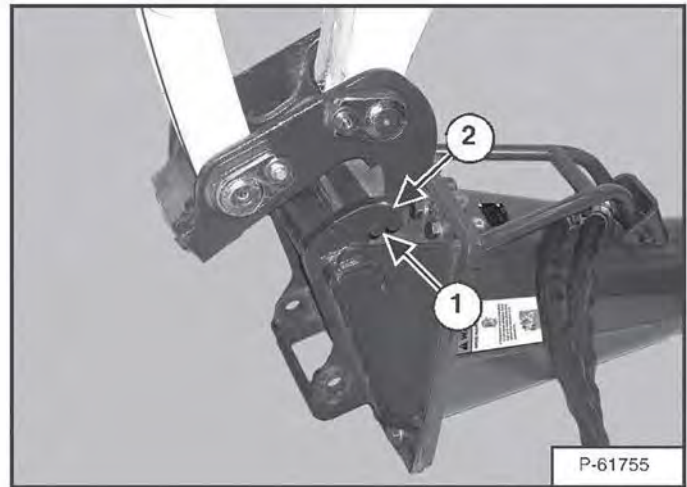
Start the engine.

Figure 223



Raise the boom approximately 305 mm (12 in) until the X-Change pins (Item 1) engage the hooks (Item 2) [Figure 223] on the breaker.

Figure 224



Fully retract the bucket cylinder and lower the boom and arm until the breaker is on the ground, and the X-Change pins (Item 1) are disengaged from the hooks (Item 2) [Figure 224].

Move the arm toward the excavator until the X-Change pins are clear of the breaker.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

X-Change System

Select a flat and level surface.

Position the arm vertically, lower the breaker to the ground.

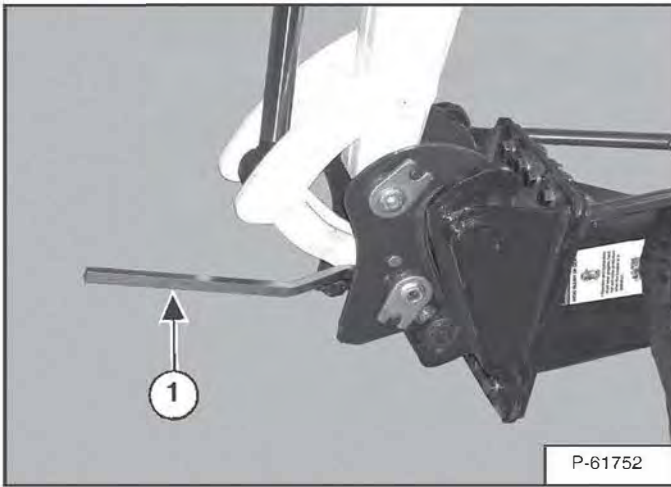
Stop the engine.

Relieve hydraulic pressure. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Exit the excavator. (See Entering And Exiting The Excavator on Page 85.)

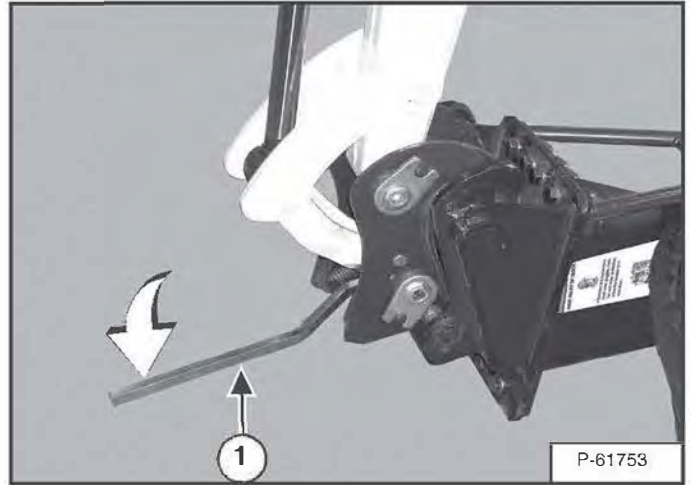
Disconnect the auxiliary couplers. (See Hydraulic Quick Couplers on Page 109.)

Figure 225



Install the X-Change tool (Item 1) [Figure 225] in the latch.

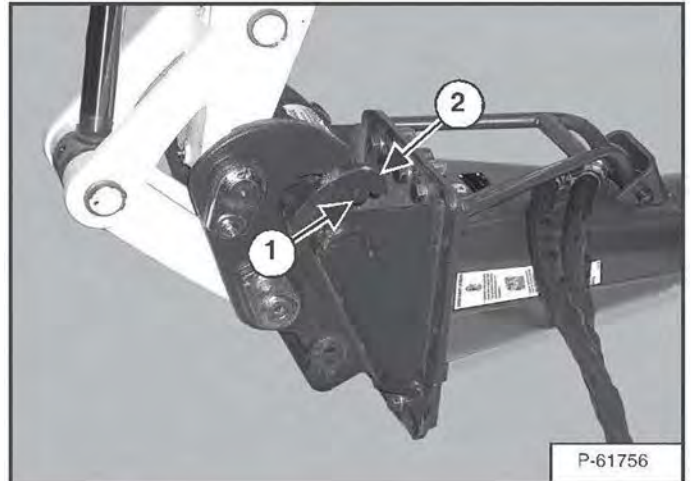
Figure 226



Pull the lever (Item 1) [Figure 226] away from the excavator, to unlock the latch. Remove the tool.

Enter the excavator. (See Entering And Exiting The Excavator on Page 85.)

Figure 227



Start the engine.

Lift the boom approximately 305 mm (12 in), until the X-Change pins (Item 1) engage the hooks (Item 2) [Figure 227] on the breaker.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

X-Change System

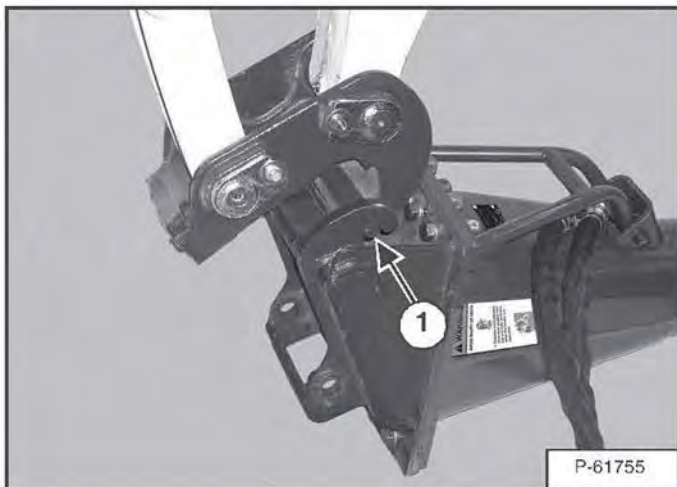


WARNING

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 228



Fully retract the bucket cylinder. Lower the boom and arm until the breaker is on the ground and the X-Change pins (Item 1) [Figure 228] are clear of the breaker.

Move the arm toward the excavator until the X-Change pins are clear of the breaker.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

Pin-On Attachment (316, 418, E20, E26, E32, E35, E42, E45, E50 And E55 Excavators)

Park the excavator on a flat surface and place the breaker flat on the ground.

Relieve hydraulic pressure. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Stop the engine.

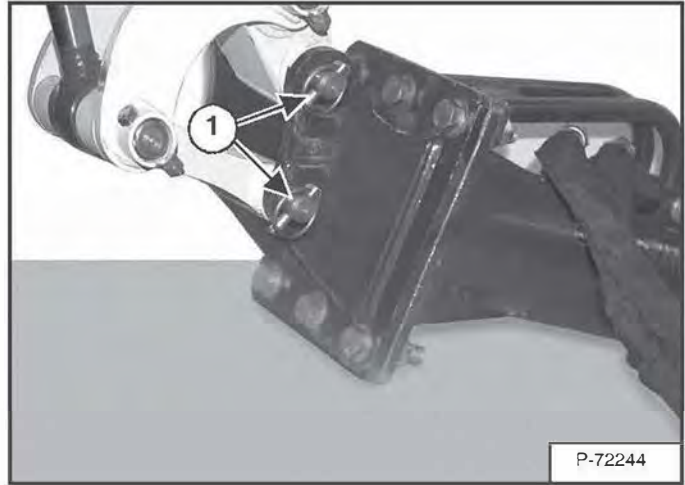
Exit the excavator. (See Entering And Exiting The Excavator on Page 85.)

Figure 231



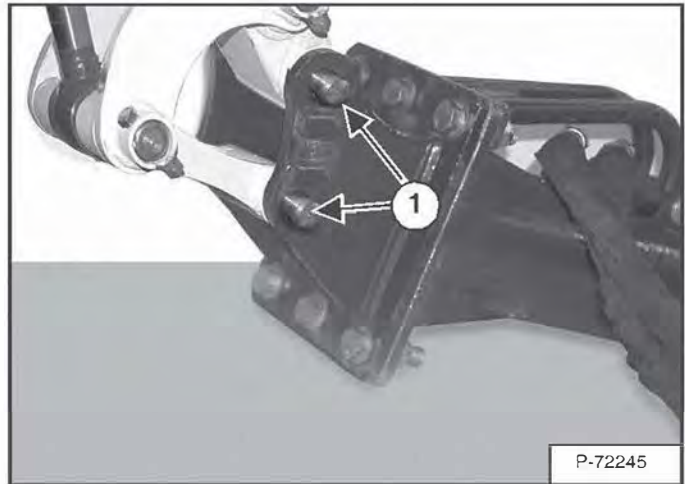
Disconnect the hoses from the auxiliary couplers [Figure 231]. (See Hydraulic Quick Couplers on Page 109.)

Figure 232



Remove the retaining clips (Item 1) [Figure 232].

Figure 233



Remove the two pivot pins (Item 1) [Figure 233].

Do not damage the dust seals in the arm.

Enter the excavator. (See Entering And Exiting The Excavator on Page 85.)

Start the engine, raise the boom and move the arm away from the breaker.

LIFTING THE ATTACHMENT

Procedure

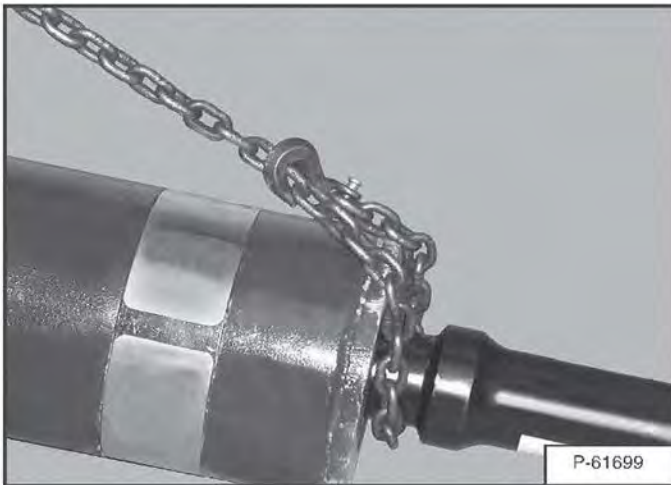
Bob-Tach Mounting Frame

NOTE: Use chains that are in good condition and of adequate size to lift the breaker.

Figure 368



Figure 369



Fasten the chains to the breaker [Figure 368] and [Figure 369].

Figure 370



Lift the breaker [Figure 370].

LIFTING THE ATTACHMENT (CONT'D)

Procedure (Cont'd)

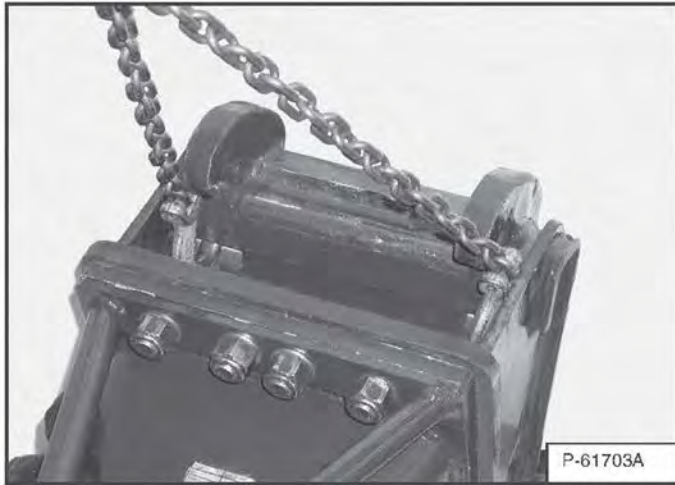
X-Change, Pin-On, Or Pin Grabber Mounting Frame

NOTE: Use chains that are in good condition and of adequate size to lift the breaker.

Figure 371



Figure 372



Fasten the chains to the breaker [Figure 371] and [Figure 372].

Figure 373



Lift the breaker [Figure 373].

TRANSPORTING THE ATTACHMENT ON A TRAILER

Fastening

Bob-Tach Mounting Frame

Figure 374

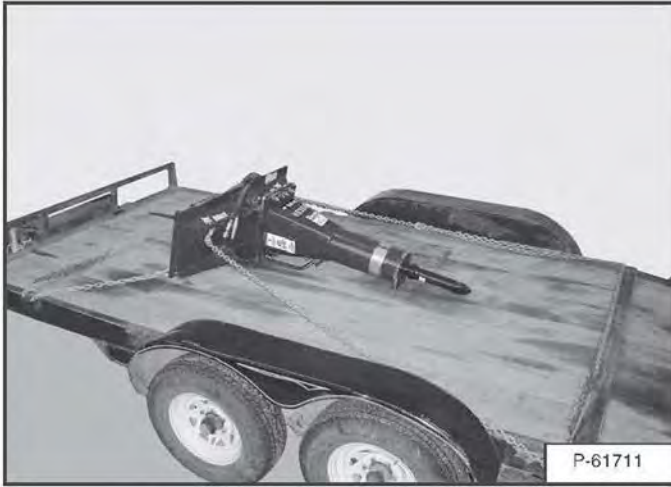
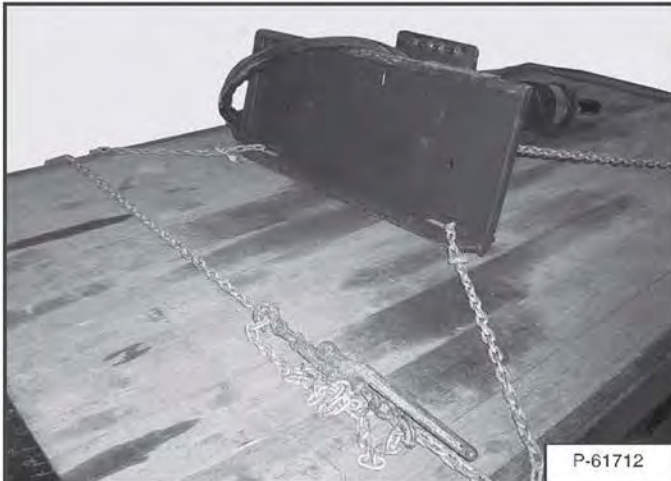


Figure 376



Figure 375



Fasten the chains to the breaker and to the transport vehicle [Figure 374], [Figure 375] and [Figure 376].

Use chain binders to prevent the breaker from moving during transport.

Secure the hydraulic hoses to the breaker.

TRANSPORTING THE ATTACHMENT ON A TRAILER (CONT'D)

Fastening (Cont'd)

X-Change, Pin-On, Or Pin Grabber Mounting Frame

Figure 377



Figure 378

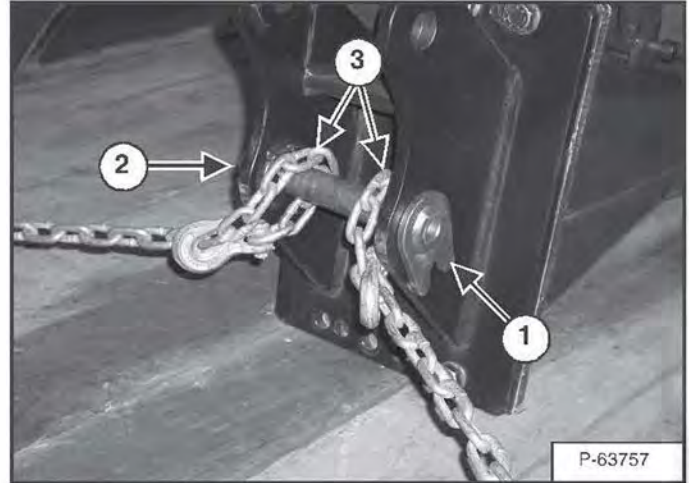


Figure 379



Fasten the chains to the breaker [Figure 377], [Figure 378], and [Figure 379] and to the transport vehicle.

Figure 380



For pin on breaker mounting frames, install the pin (Item 1) and retainer (Item 2) [Figure 380] in the mounting frame.

Install the chains (Item 3) around the pin (Item 1) [Figure 380] and to the transport vehicle.

Fasten the chains to the breaker [Figure 377], [Figure 378] and [Figure 379] and to the transport vehicle.

Use chain binders to prevent the breaker from moving during transport.

Secure the hydraulic hoses to the breaker.

TRANSPORTING THE ATTACHMENT AND MACHINE ON A TRAILER

Loading And Fastening



AVOID SERIOUS INJURY OR DEATH

Adequately designed ramps of sufficient strength are needed to support the weight of the machine when loading onto a transport vehicle. Wood ramps can break and cause personal injury.

W-2058-0807

Be sure the transport and towing vehicles are of adequate size and capacity for weight of machine and attachment combination. (See machine and attachment Operation & Maintenance Manuals for specifications.)

Loading

The rear of the trailer must be blocked or supported when loading and unloading to prevent the front of the trailer from raising.

- Load the heaviest end of the machine and attachment combination first.
- Lower the attachment to the floor.
- Stop the engine.
- Engage the parking brake (if equipped).
- Exit the machine. (See the machine's Operation & Maintenance Manual for the correct procedure.)

Fastening

Install the chains at the front and rear tie down positions on the machine. (See the machine's Operation & Maintenance Manual to properly chain the machine to the transport vehicle.)

- Install chains on the attachment (if needed).
- Fasten each end of the chain to the transport vehicle.

NOTE: Use chain binders to prevent the attachment and machine from moving during transport.



Bobcat®

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Warning (6701391)

	 WARNING
	<p>DO NOT ENTER OR EXIT ON THIS SIDE.</p> <p>You could slip, trip or fall and become seriously injured.</p> <p>67172 SW 6701391B enUS</p>

	 ADVERTENCIA
	<p>NO SALGA O ENTRE POR ESTE LADO.</p> <p>Podría resbalarse, tropezarse o caer y lesionarse seriamente.</p> <p>67172 SW 6701391B esAR</p>

	 AVERTISSEMENT
	<p>N'ENTREZ PAS DE CE CÔTÉ ET N'EN SORTEZ PAS NON PLUS.</p> <p>Vous pourriez glisser, trébucher ou tomber et gravement vous blesser.</p> <p>67172 SW 6701391B frCA</p>


Warning (7112677)

⚠ WARNING

AVOID INJURY OR DEATH



- Operator and bystanders must wear goggles, hard hat and noise protection when the breaker is in operation.



- Special Applications Kit must be used on the cab when the breaker is mounted on the Bob-Tach and used in applications where FALLING debris is present.



- Read and understand the Operation & Maintenance manual before operating or servicing the breaker. Wear goggles when servicing.

61852 SW 7112677

⚠ ADVERTENCIA

EVITE LESIONES O ACCIDENTES FATALES



- El operador y los transeúntes deben portar lentes de seguridad, casco duro y protectores auditivos cuando el martillo hidráulico está en uso.



- La cabina debe utilizar el kit de aplicaciones especiales cuando el martillo hidráulico está montado en el Bob-Tach y se utiliza en aplicaciones donde hay escombros QUE CAEN presentes.



- Lea y entienda el manual de operación y mantenimiento antes de usar o dar servicio al martillo hidráulico. Porte lentes de seguridad cuando dé servicio a la máquina.

61852 SW 7112677 esAR

⚠ AVERTISSEMENT

RISQUE DE BLESSURE OU DE MORT



- L'utilisateur et les spectateurs doivent porter des lunettes de sécurité, un casque de chantier et une protection contre le bruit lorsque le marteau de démolition est en marche.



- Le nécessaire pour applications spéciales doit être installé dans la cabine lorsque le marteau de démolition est monté sur la Bob-Tach et est utilisé là où il y a des CHUTES de débris.



- Lisez et comprenez le manuel d'utilisation et d'entretien avant d'utiliser le marteau de démolition ou d'y faire de l'entretien. Portez des lunettes de sécurité lors de l'entretien.

61852 SW 7112677 frCA

Warning (7112678)



WARNING

AVOID BURNS

Tool tip may be hot after operating.
Use gloves when working with tool.



ADVERTENCIA

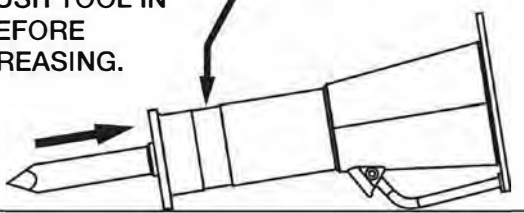
EVITE QUEMADURAS

La punta de la herramienta puede estar caliente después de usarse.
Utilice guantes cuando trabaje con la herramienta.

SERVICE SCHEDULE

GREASE
5 TO 6 PUMPS
EVERY 4 HOURS.

PUSH TOOL IN
BEFORE
GREASING.



61852 SW 7112678

PROGRAMA DE MANTENIMIENTO

ENGRASE
ENTRE 5 Y 6 BOMBAS
CADA 4 HORAS.

EMPUJE LA
HERRAMIENTA
HACIA ADENTRO
ANTES DE
ENGRASARLA.



61852 SW 7112678 esAR



AVERTISSEMENT

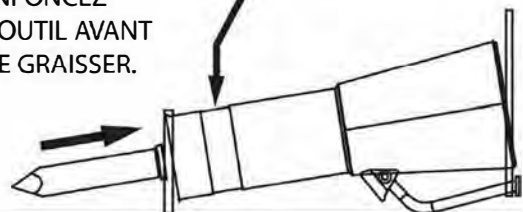
DANGER DE BRÛLURE

La pointe de l'outil peut être chaude après l'utilisation.
Portez des gants lorsque vous travaillez sur cet outil.

PROGRAMME D'ENTRETIEN

5 À 6 COUPS
DE POMPE TOUTES
LES 4 HEURES.

ENFONCEZ
L'OUTIL AVANT
DE GRAISSER.



61852 SW 7112678 frCA

SPECIFICATIONS

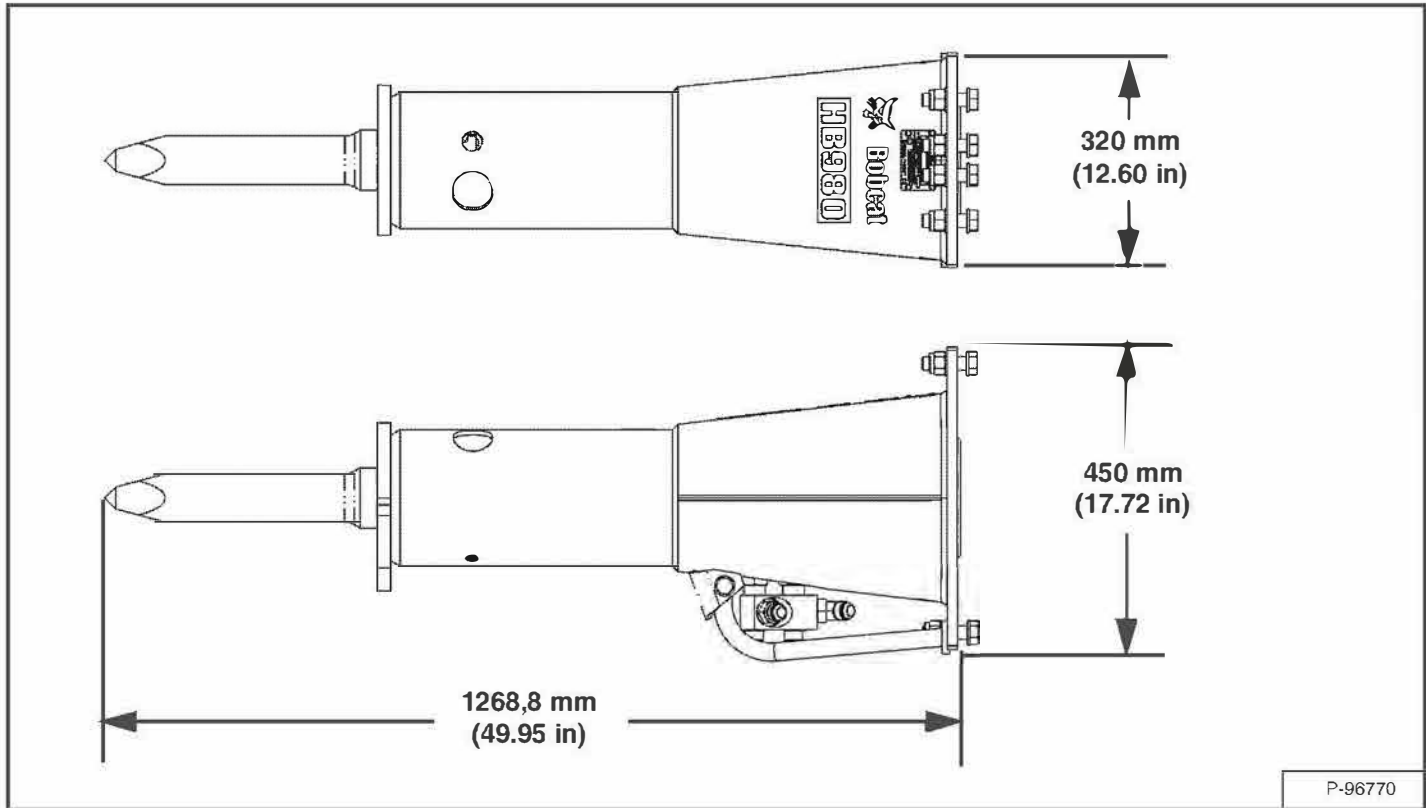
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Certain specification(s) are based on engineering calculations and are not actual measurements. Specification(s) are provided for comparison purposes only and are subject to change without notice. Specification(s) for your individual Bobcat equipment will vary based on normal variations in design, manufacturing, operating conditions and other factors.

(HB980) HYDRAULIC BREAKER SPECIFICATIONS

Dimensions

- Where applicable, specifications conform to **SAE and ISO** standards and are subject to change without notice.



P-96770

Performance

Breaker Weight	228 kg (502 lb)
Blow Rate	
Soft Ground	855 - 1060 bpm
Hard Ground	1170 - 1450 bpm
Operating Pressure	12065 kPa (120,6 bar) (1750 psi)
System Pressure	14823 kPa (148 bar) (2150 psi)
Impact Class	2,224 kN (500 lbf)
CIMA Energy Rating	1,254 kN (282 lbf)
Nitrogen Charge Pressure	3206 kPa (32 bar) (465 psi)
Bit Diameter	72,1 mm (2.84 in)
Bit Working Length	356 mm (14.0 in)

Hydraulic System

Hydraulic Flow	45 - 80 L/min (11.9 - 21.1 U.S. gpm)
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WARNING: Cancer and Reproductive Harm. This product can expose you to chemicals including lead and lead compounds, mineral oils, and phthalates which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.