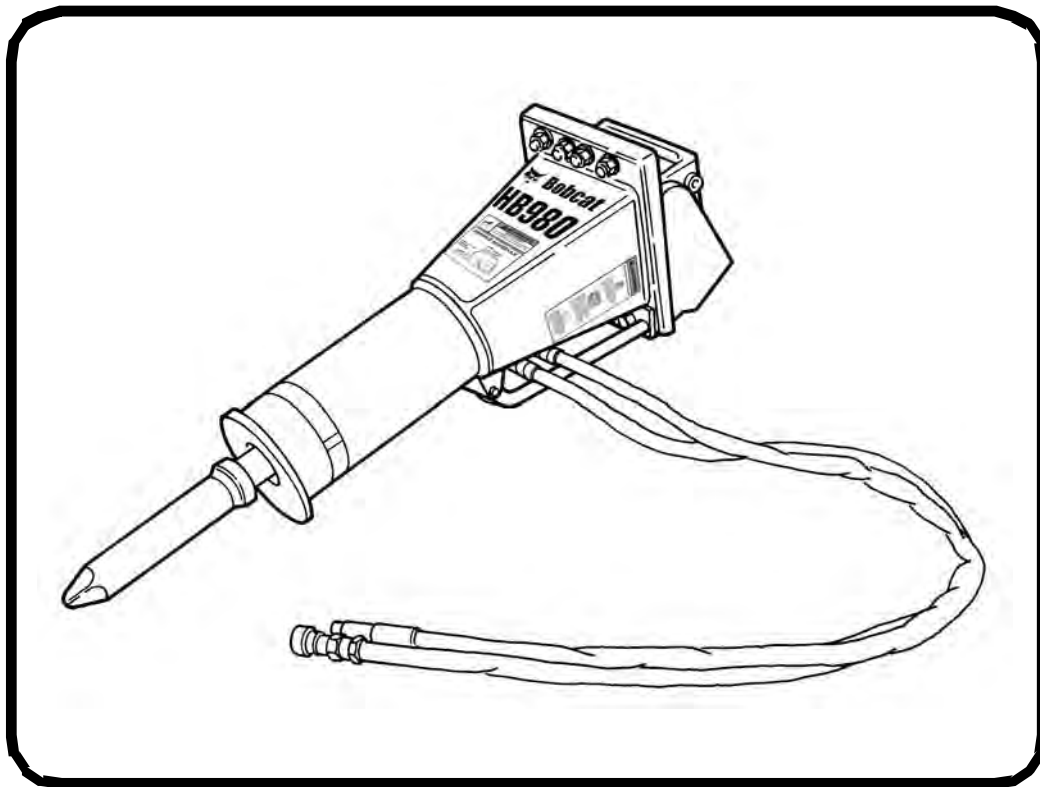




Bobcat®

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



Dealer Copy -- Not for Resale



OPERATOR SAFETY WARNINGS



WARNING

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

W-2001-0502

CORRECT



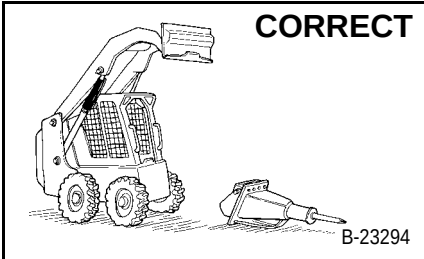
P-90216



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.



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

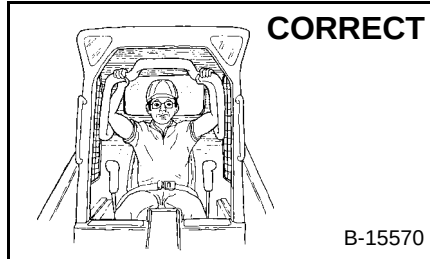


CORRECT

B-23294



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

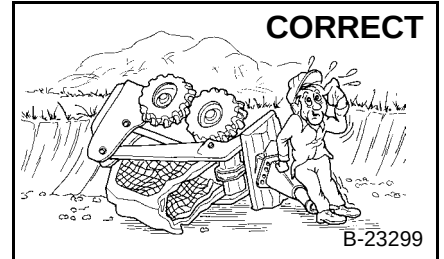


CORRECT

B-15570



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

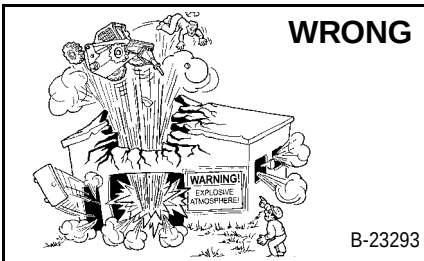


CORRECT

B-23299



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



WRONG

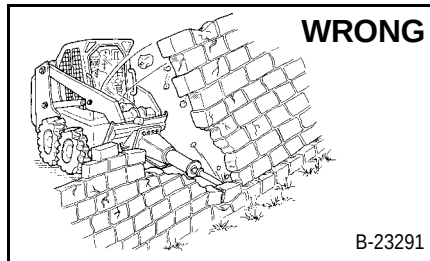
B-23293



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



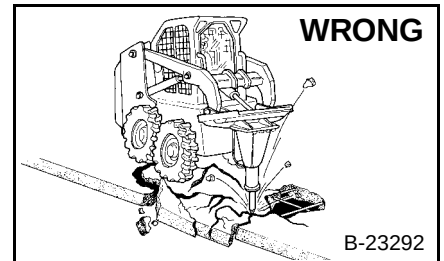
Never demolish load bearing walls.



Keep other personnel away from work area.



Always use special applications kit.



WRONG

B-23292



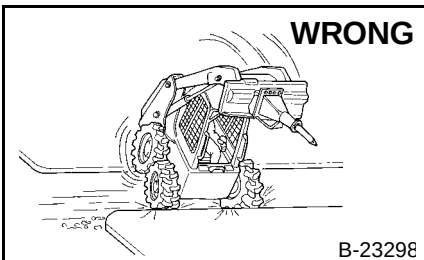
Do not undercut machine which can cause machine to fall.



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

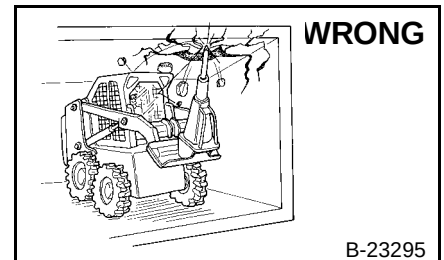
B-23296



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

OSW48-0509



Bobcat®

OPERATOR SAFETY WARNINGS



WARNING

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

W-2001-0502

CORRECT



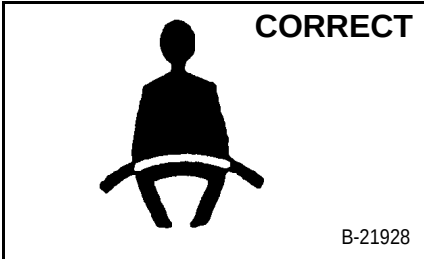
P-90216



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.



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



CORRECT

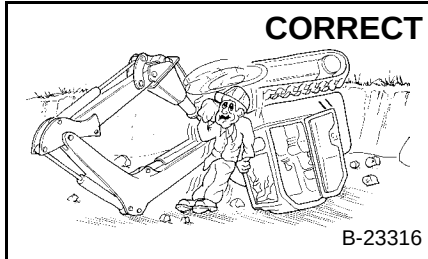
B-21928



Always fasten seat belt snugly.



Always operate controls only from the operator's position.

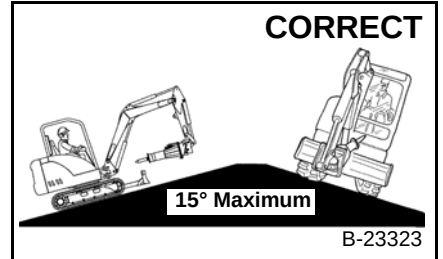


CORRECT

B-23316



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

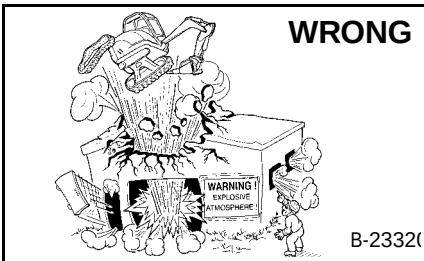


CORRECT

B-23323



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



WRONG

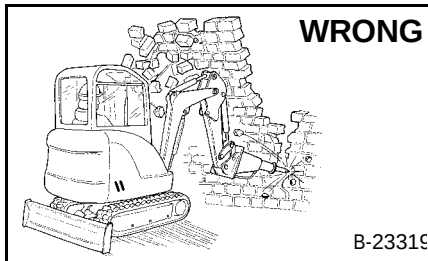
B-23321



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



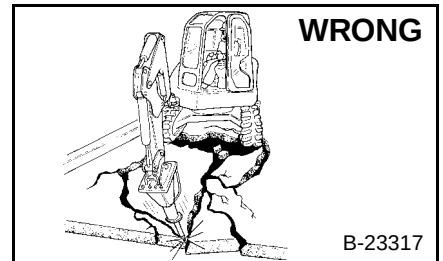
Never demolish load bearing walls.



Keep other personnel away from work area.



Always use special applications kit.



WRONG

B-23317



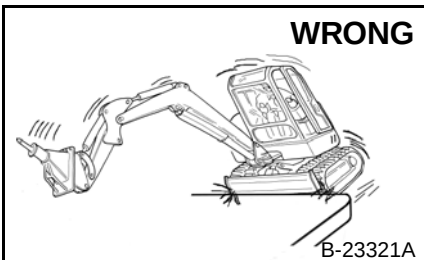
Do not undercut machine which can cause machine to fall.



Check rules and regulations at your location.



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



WRONG

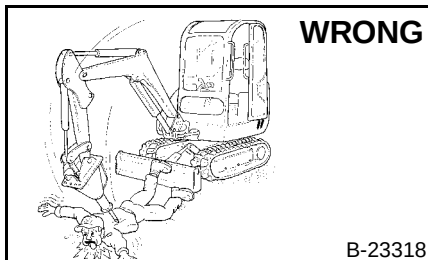
B-23321A



Always carry attachment as low as possible.



Do not travel or turn with attachment extended.



WRONG

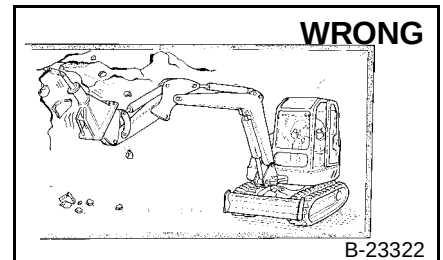
B-23318



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.

OSW49-0509



Bobcat®

OPERATOR SAFETY WARNINGS



WARNING

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

W-2001-0502

CORRECT



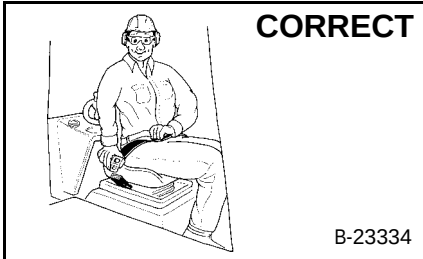
P-90216



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.



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



CORRECT

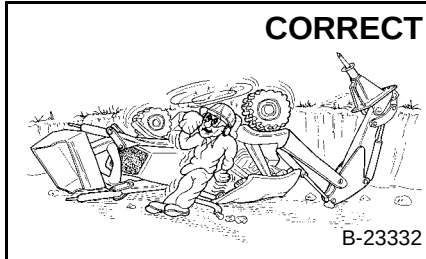
B-23334



Always fasten seat belt securely & keep arms and legs inside operator's area.



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

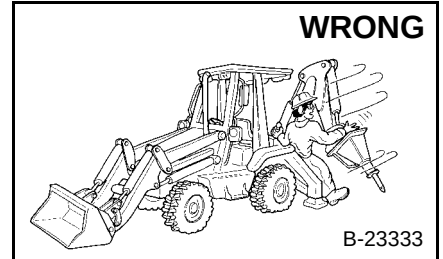


CORRECT

B-23332



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



WRONG

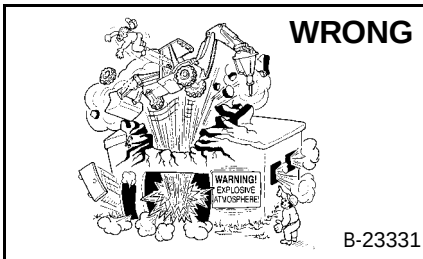
B-23333



Keep bystanders away from the swing area and stabilizers.



Operate the backhoe and stabilizers from the operator's area only.



WRONG

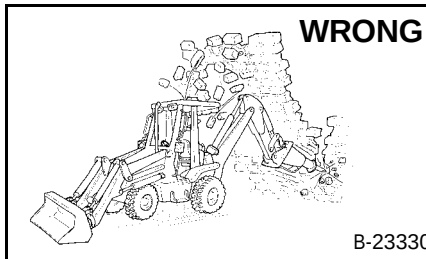
B-23331



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

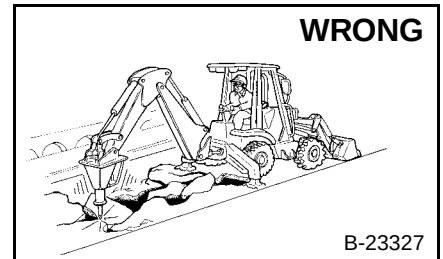
B-23330



Never demolish load bearing walls.



Keep other personnel away from work area.



WRONG

B-23327



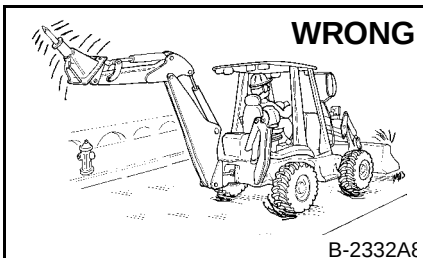
Do not undercut machine which can cause machine to fall.



Check rules and regulations at your location.



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



WRONG

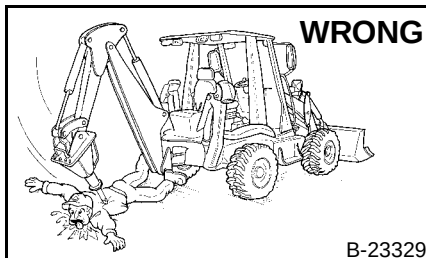
B-2332A



Always carry attachment as low as possible.



Do not travel or turn with attachment extended.



WRONG

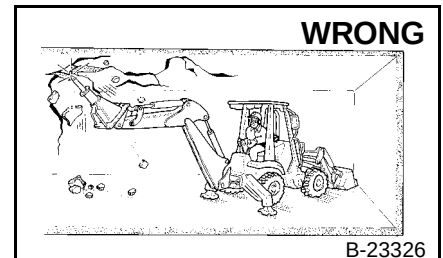
B-23329



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

OSW50-0509



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.

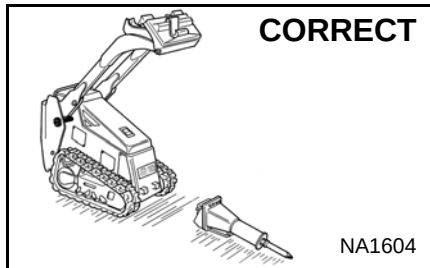
CORRECT



P-90216



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

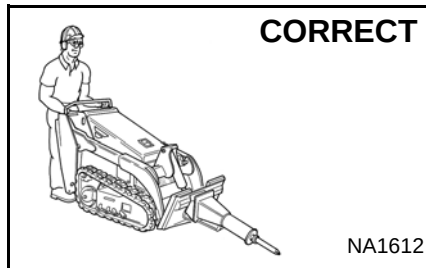


CORRECT

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.

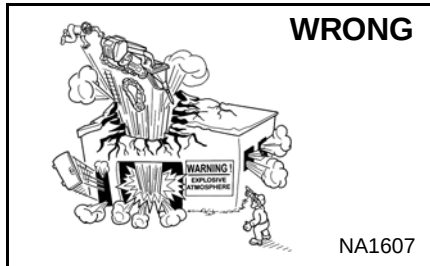
WRONG



NA1618



Never operate the breaker and mini loader near drop offs.



WRONG

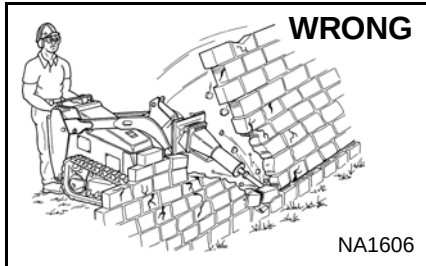
NA1607



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

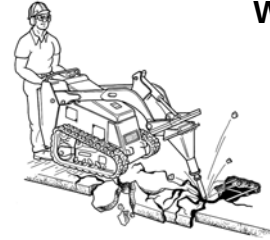


Never demolish load bearing walls.



Keep other personnel away from work area.

WRONG



NA1609



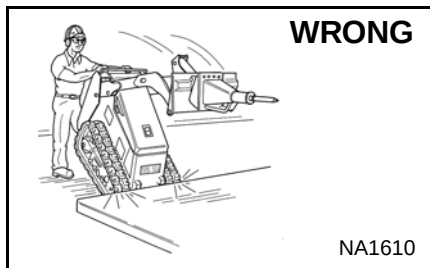
Do not undercut machine which can cause machine to fall.



Check rules and regulations at your location.



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



WRONG

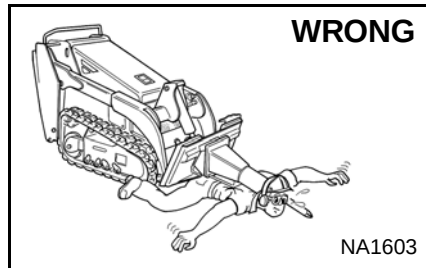
NA1610



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.

Dealer Copy -- Not for Resale



Bobcat®

CONTENTS

FOREWORD	11
SAFETY AND TRAINING RESOURCES	23
OPERATING INSTRUCTIONS	31
PREVENTIVE MAINTENANCE	161
MACHINE SIGN TRANSLATIONS	191
SPECIFICATIONS	197
WARRANTY	205
ALPHABETICAL INDEX	209

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 Benelux SA
Drève Richelle 167
B-1410 Waterloo
BELGIUM

Dealer Copy -- Not for Resale



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.

BOBCAT COMPANY IS ISO 9001 CERTIFIED	13
SERIAL NUMBER LOCATION	15
Attachment Serial Number	15
DELIVERY REPORT	16
ATTACHMENT IDENTIFICATION	17
FEATURES AND ACCESSORIES	20
Standard Items	20
Options And Accessories	20
Available Breaker Bits	20
Special Applications Kit For Loaders	21
Falling-Object Guard Structure (FOGS) For Excavators	21
Special Applications Kit For Excavators	22



Bobcat®

BOBCAT COMPANY IS ISO 9001 CERTIFIED



ISO 9001 is an international standard that specifies requirements for a quality management system that controls the processes and procedures which we use to design, develop, manufacture, and distribute Bobcat products.

British Standards Institute (**BSI**) is the Certified Registrar Bobcat Company chose to assess the company's compliance with the ISO 9001 at Bobcat's manufacturing facilities in Gwinner, North Dakota (U.S.A.), Pontchâteau (France), and the Bobcat corporate offices (Gwinner, Bismarck, and West Fargo) in North Dakota. **TÜV Rheinland** is the Certified Registrar Bobcat Company chose to assess the company's compliance with the ISO 9001 at Bobcat's manufacturing facility in Dobris (Czech Republic). Only certified assessors, like BSI and TÜV Rheinland, can grant registrations.

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

CALIFORNIA PROPOSITION 65 WARNING

Diesel engine exhaust and some of its constituents are known to the state of California to cause cancer, birth defects and other reproductive harm.

Dealer Copy -- Not for Resale



Bobcat®

SERIAL NUMBER LOCATION

Attachment Serial Number

Figure 1

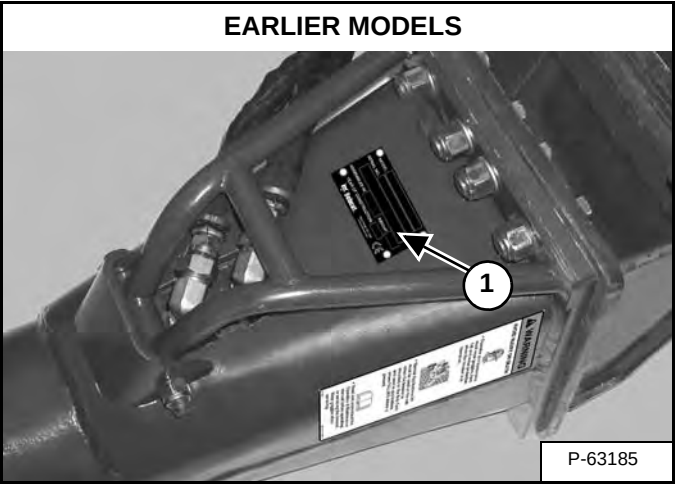


Figure 2

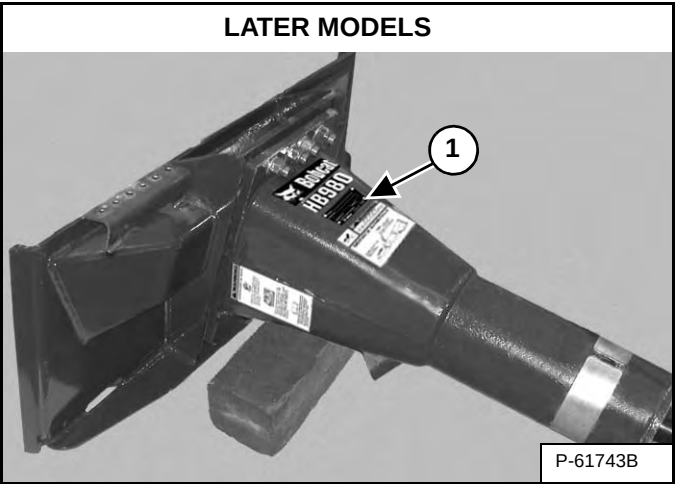
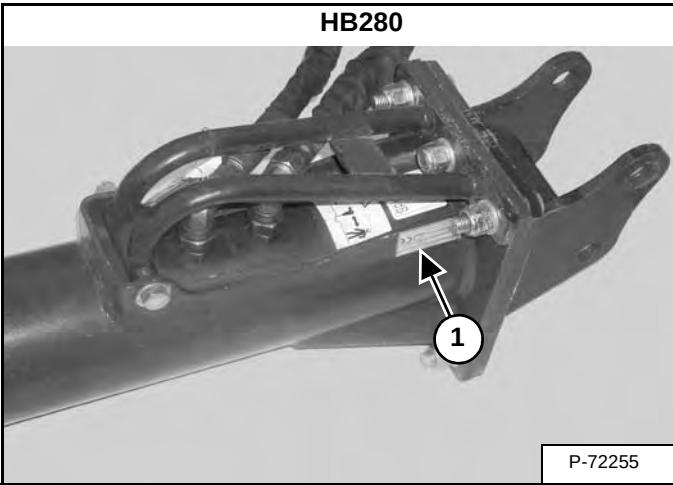


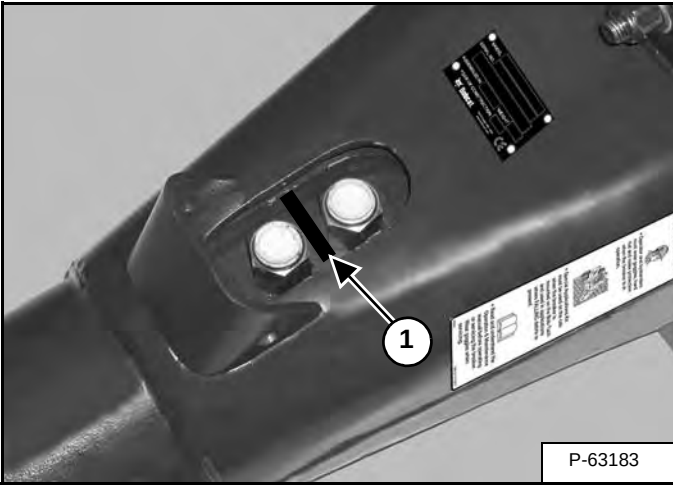
Figure 3



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

The breaker serial number plate (Item 1) [Figure 1], [Figure 2] or [Figure 3] is located on the frame.

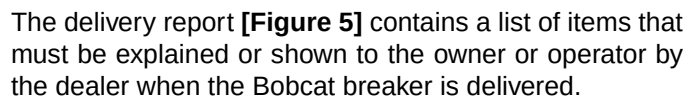
Figure 4



NOTE: The breaker serial number (Item 1) [Figure 4] is also etched into the face of the breaker power cell between the hydraulic ports.

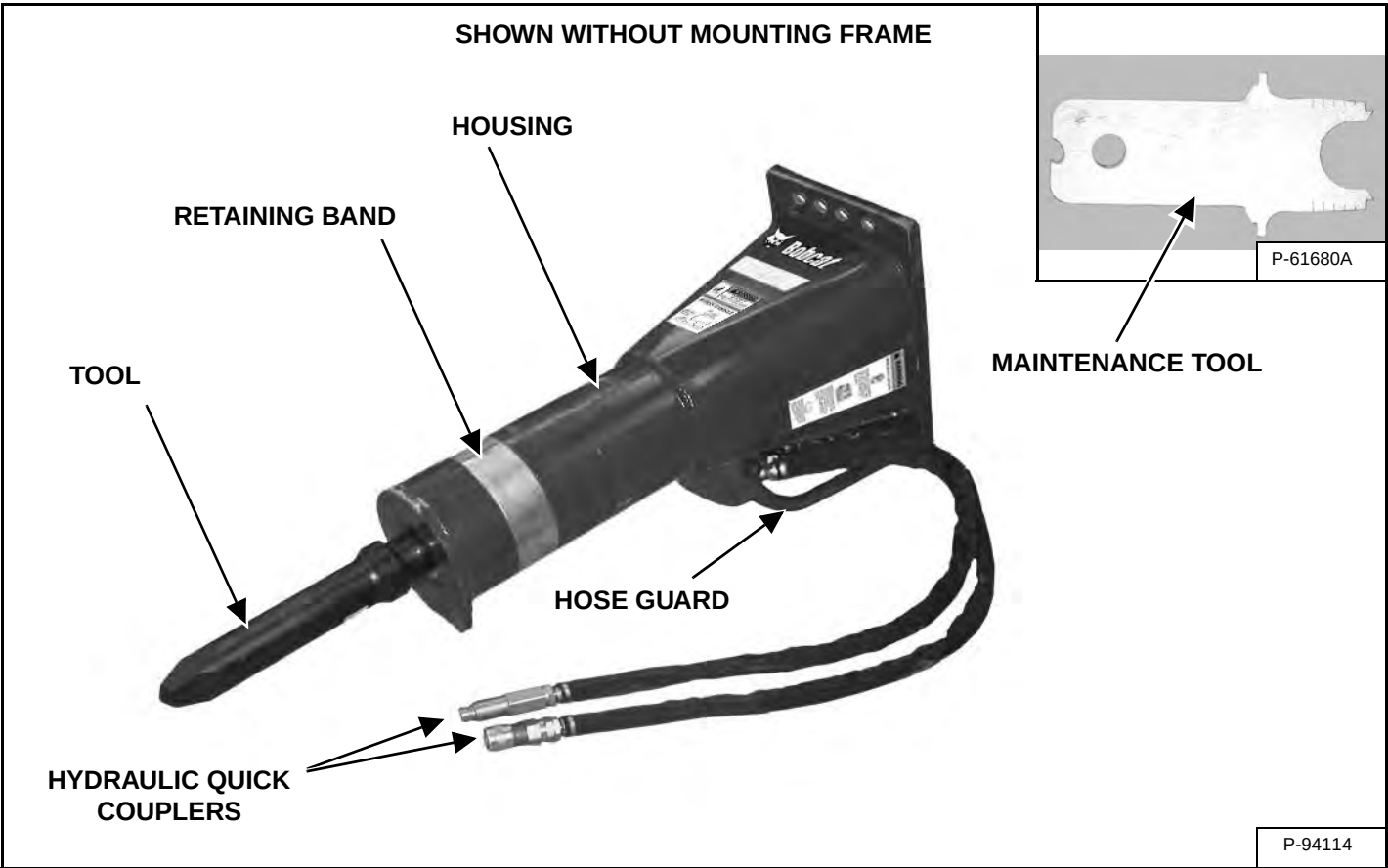
Dealer Copy -- Not for Resale

Figure 5



The delivery report must be reviewed and signed by the owner or operator and the dealer.

ATTACHMENT IDENTIFICATION



Dealer Copy -- Not for Resale

X-CHANGE™ MOUNTING FRAME

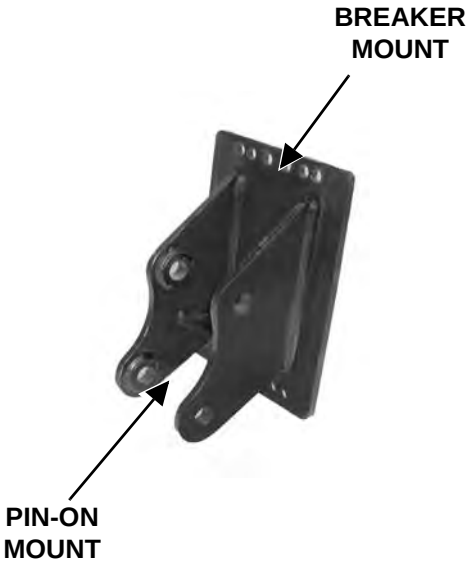


BREAKER MOUNT

X-CHANGE MOUNT

P-88735

PIN-ON MOUNTING FRAME

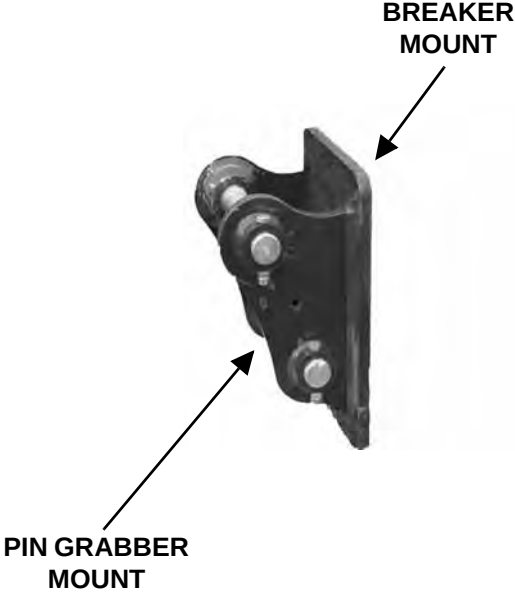


BREAKER MOUNT

PIN-ON MOUNT

P-88736

PIN GRABBER MOUNTING FRAME

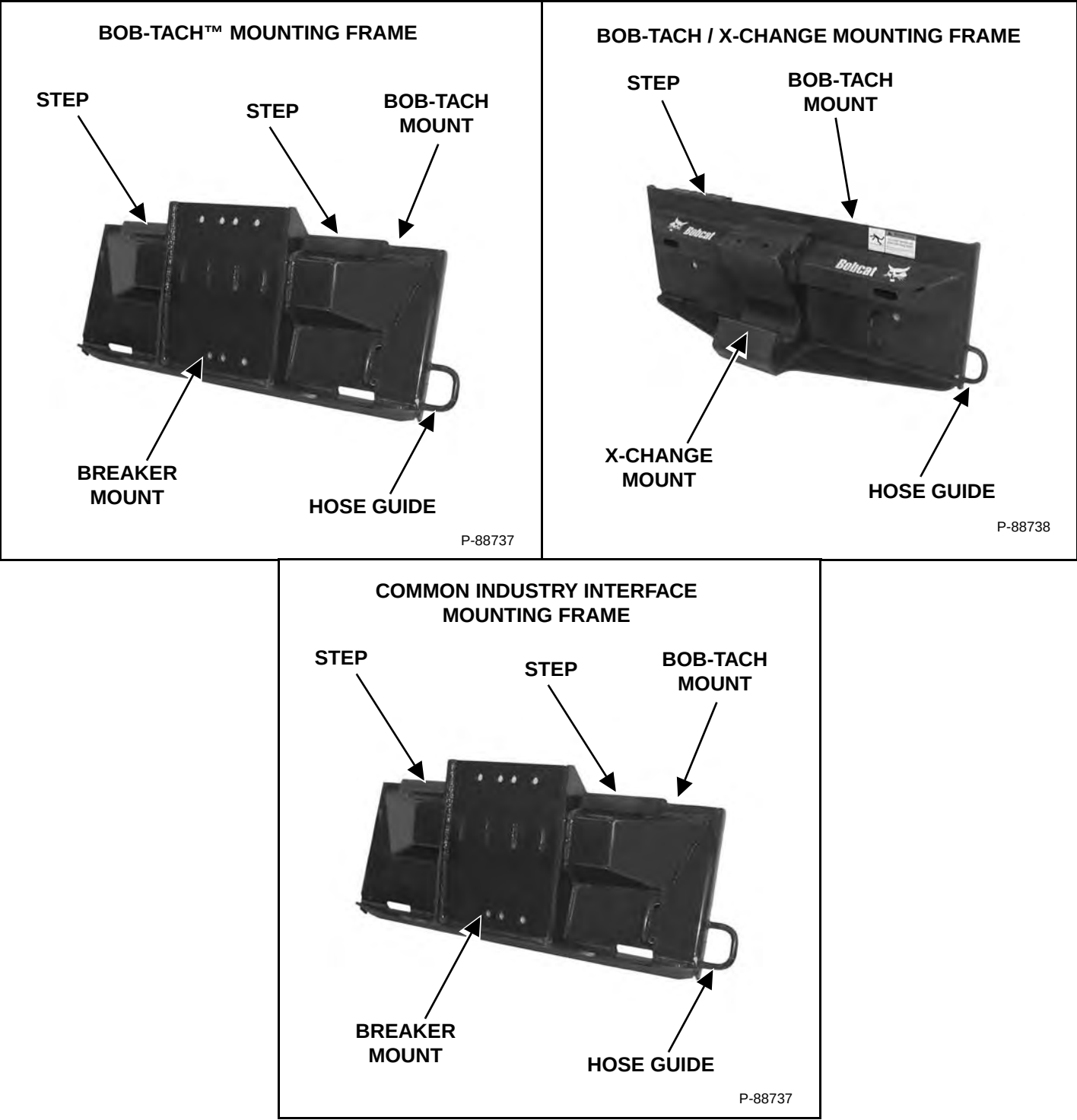


BREAKER MOUNT

PIN GRABBER MOUNT

P-116237

Dealer Copy -- Not for Resale



Dealer Copy -- Not for Resale

FEATURES AND ACCESSORIES

The breaker is equipped with the following Standard items:

Standard Items

- Breaker Cradle
- Hose Guard
- Upper and Lower Shock Absorbers

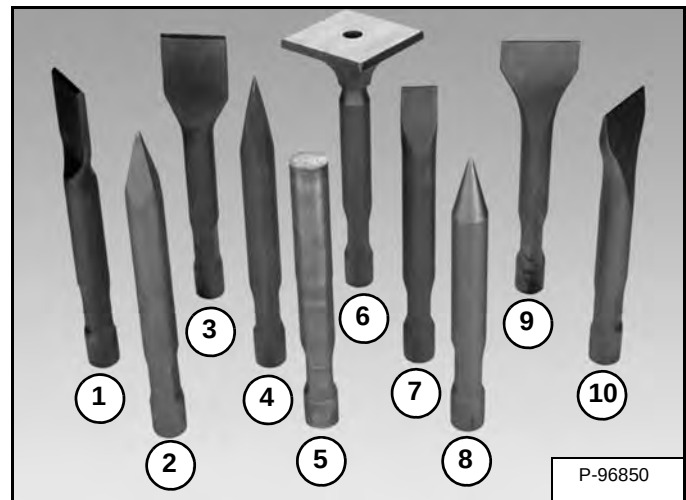
Options And Accessories

- Breaker Mounting Caps
- Loader Mounting Frames
- Excavator Mounting Frames
- Hose Kits

Available Breaker Bits

NOTE: See your Bobcat dealer for available bits for your model breaker.

Figure 6



Breaker Bit Identification [Figure 6].

1. In-Line Chisel Asphalt Cutter
2. Nail Point
3. Cross-Cut Asphalt Chisel
4. In-Line Chisel
5. Blunt Tool
6. Tamping Pad
7. Cross-Cut Chisel
8. Moil (Conical) Point
9. Cross-Cut Wide Chisel
10. In-Line Asphalt Chisel

Special Applications Kit For Loaders

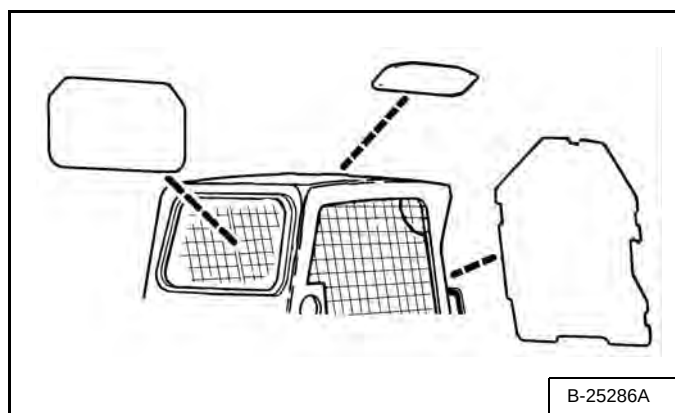
! WARNING

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 to provide added operator protection in these applications.

W-2737-0508

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

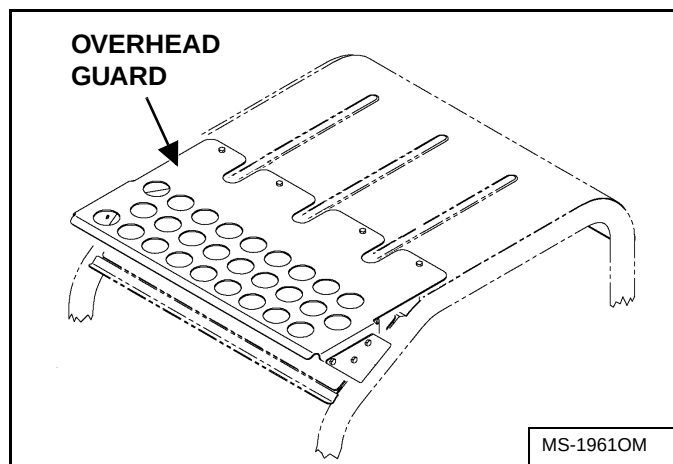
! WARNING

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 to provide added operator protection in these applications.

W-2737-0508

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.

Dealer Copy -- Not for Resale

FEATURES AND ACCESSORIES (CONT'D)

Special Applications Kit For Excavators

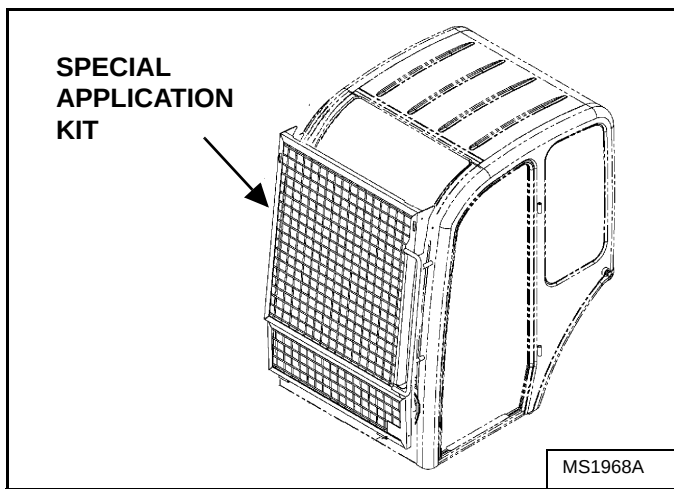
! WARNING

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 to provide added operator protection in these applications.

W-2737-0508

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.

Dealer Copy -- Not for Resale

SAFETY AND TRAINING RESOURCES

SAFETY INSTRUCTIONS	25
Safe Operation Is The Operator's Responsibility	25
Safe Operation Needs A Qualified Operator	25
Use Safety Rules	26
Call Before You Dig	26
Avoid Silica Dust	26
 FIRE PREVENTION	27
Maintenance	27
Operation	27
Electrical	27
Hydraulic System	27
Fueling	27
Starting	27
Spark Arrester Exhaust System	27
Welding And Grinding	28
Fire Extinguishers	28
 PUBLICATIONS AND TRAINING RESOURCES	29
 ATTACHMENT SIGNS (DECALS)	30



Bobcat®

Dealer Copy -- Not for Resale

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, hearing protection, Special Applications Kits or a Front Window Guard are required for some work. See your Bobcat dealer about Bobcat safety equipment for your machine.

SI ATT-0913

Dealer Copy -- Not for Resale

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.

Dealer Copy -- Not for Resale

SI ATT-0913

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).

Dealer Copy -- Not for Resale

SI ATT-0913

FIRE PREVENTION (CONT'D)

Welding And Grinding

Always clean the machine and attachment, disconnect the battery, and disconnect the wiring from the Bobcat controllers before welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the machine when welding.

Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.

Dust generated from repairing nonmetallic parts such as hoods, fenders or covers can be flammable or explosive. Repair such components in a well ventilated area away from open flames or sparks.

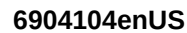
Fire Extinguishers



Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

Dealer Copy -- Not for Resale

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



6904105enUS

#6989743

31 of 212

ATTACHMENT SIGNS (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.

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

SERVICE SCHEDULE

GREASE
5 TO 6 PUMPS
EVERY 4 HOURS.

PUSH TOOL IN
BEFORE
GREASING.

7112678

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.

7112677 (2)

P-94116

BOB-TACH / X-CHANGE MOUNTING FRAME

6701391

WARNING
DO NOT ENTER OR
EXIT ON THIS SIDE.
You could slip, trip or fall and become
seriously injured.

P-88738

Dealer Copy -- Not for Resale

32 of 212

30 HB Series Breaker Operation & Maintenance Manual

OPERATING INSTRUCTIONS

INITIAL SETUP	33
Assembly	33
Hose Installation	34
DAILY INSPECTION	47
Bob-Tach	47
Common Industry Interface	49
X-Change Mount	50
Pin-On Attachment	50
Pin Grabber Mount	50
Manual Spring Loaded Coupler (442 Only)	50
OPERATING PROCEDURE WITH LOADERS	51
Approved Loader Models And Requirements	51
Special Applications Kit	52
Special Applications Kit Inspection And Maintenance	52
Machine / Attachment Setup	53
Entering And Exiting The Loader	54
Installation	55
Hydraulic Quick Couplers	66
Control Functions	67
Operation With The Loader	68
Removal	70
OPERATING PROCEDURE WITH EXCAVATORS	74
Approved Excavator Models And Requirements	74
Falling-Object Guard System (FOGS)	76
Falling-Object Guard System (FOGS) Inspection And Maintenance	76
Special Applications Kit	76
Special Applications Kit Inspection And Maintenance	76
Entering And Exiting the Excavator	77
Installation	79
Hydraulic Quick Couplers	101
Control Functions	102
Operation With The Excavator	106
Removal	108
OPERATING PROCEDURE WITH MINI TRACK LOADERS	122
Approved Mini Track Loader Models And Requirements	122
Entering And Leaving The Operator's Position	123
Installation	124
Installation	128
Hydraulic Quick Couplers	131
Control Functions	132
Operation With The Mini Track Loader	133
Operation With The Mini Track Loader	133
Removal	135
Removal	137

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES	138
Approved Loader Backhoe Models And Requirements	138
Entering And Exiting The Loader Backhoe	139
Installation	140
Hydraulic Quick Couplers	147
Control Functions	148
Operation With The Loader Backhoe	149
Removal	151
LIFTING THE ATTACHMENT	156
Procedure	156
TRANSPORTING THE ATTACHMENT ON A TRAILER	158
Fastening	158
TRANSPORTING THE ATTACHMENT AND MACHINE ON A TRAILER	160
Loading And Fastening	160

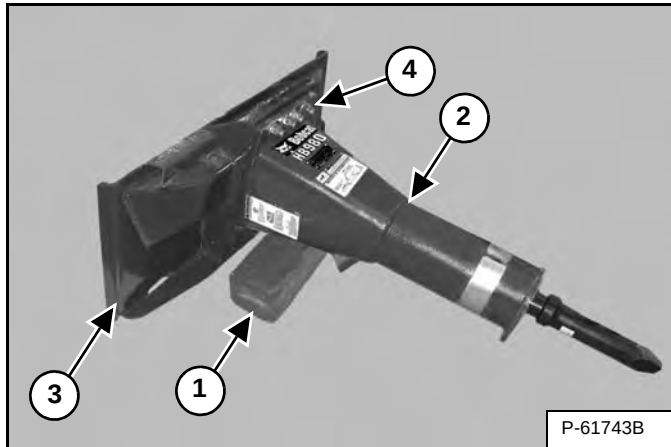
INITIAL SETUP

Assembly

Installing The Bob-Tach or Common Industry Interface Mounting Frame On The Breaker

NOTE: The Bob-Tach mounting frame is shown, but the procedure for the Common Industry Interface mounting frame is the same.

Figure 10



Install a block of wood (Item 1) under the breaker (Item 2) [Figure 10].

Install the Bob-Tach or Common Industry Interface mounting frame (Item 3) on the breaker (Item 2) [Figure 10].

Install the eight bolts (Item 4) [Figure 10], washers and nuts.

Install the hose guard.

NOTE: The bottom mounting bolts will be installed with hose guard.

Tighten the bolts and nuts in a crisscross pattern to 370 N•m (270 ft-lb) torque.

Installing The Excavator Mounting Frame On The Breaker

Figure 11

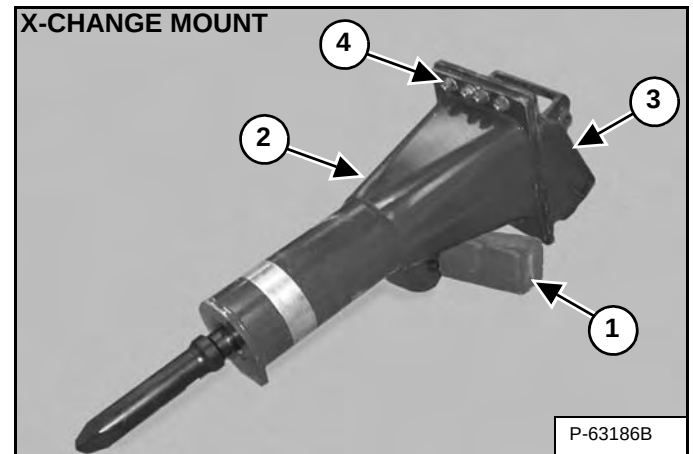


Figure 12

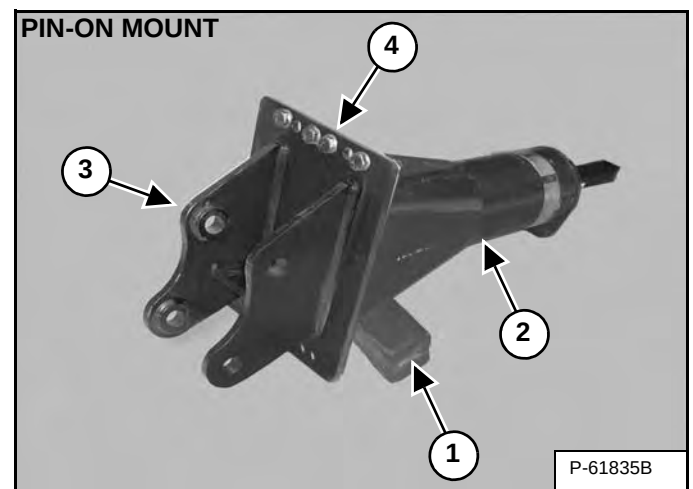
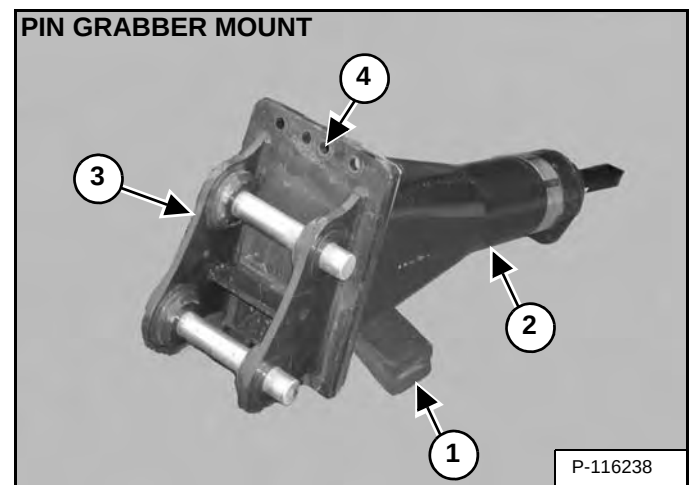


Figure 13



Install a block of wood (Item 1) under the breaker (Item 2) [Figure 11], [Figure 12] and [Figure 13].

Dealer Copy -- Not for Resale

INITIAL SETUP (CONT'D)

Assembly (Cont'd)

Installing The Excavator Mounting Frame On The Breaker (Cont'd)

Install the mounting frame (Item 3) on the breaker (Item 2) **[Figure 11]**, **[Figure 12]** and **[Figure 13]**.

Install the eight bolts, washers and nuts through the mounting frame and breaker holes (Item 4) **[Figure 11]**, **[Figure 12]** and **[Figure 13]**.

NOTE: The bottom mounting bolts will be installed with hose guard.

Tighten the bolts and nuts in a crisscross pattern to 370 N•m (270 ft-lb) torque.

Hose Installation

Use the following list for the correct hose installation for your model breaker and machine.

- (See HB280 (When Used On 316 And 418 Model Excavators) on Page 35.)
- (See HB680, HB880 And HB980 (Earlier Model Breakers) on Page 37.)
- (See HB880 And HB980 (Later Model Breakers) on Page 38.)
- (See HB1180 (When Used On A300, S250, S300, S330, S630, S650, S740, T250, T300, T320, T630, T650, T740 And T870 Model Loaders) on Page 41.)
- (See HB1180 (When Used On 442 Model Excavator) on Page 42.)
- (See HB880, HB980 And HB1180 (When Used On E60 Model Excavators) (S/N AGSZ11320 & Below) on Page 44.)
- (See HB1180 (When Used On E80 And E85 Model Excavators) on Page 45.)

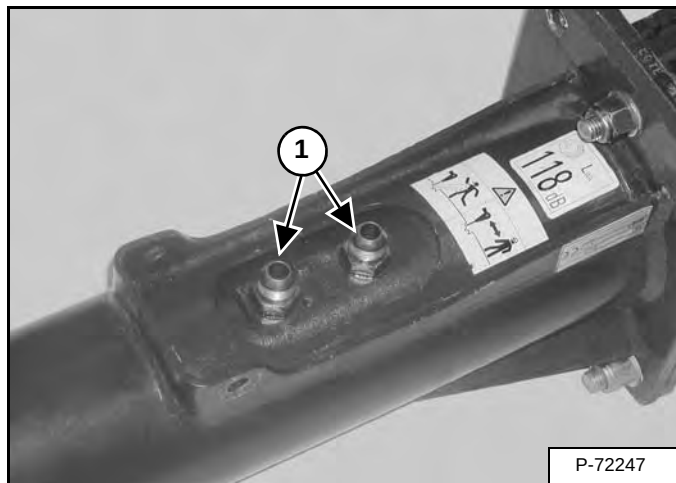
INITIAL SETUP (CONT'D)

Hose Installation (Cont'd)

HB280 (When Used On 316 And 418 Model Excavators)

The breaker is supplied without the hoses and couplers installed on the breaker.

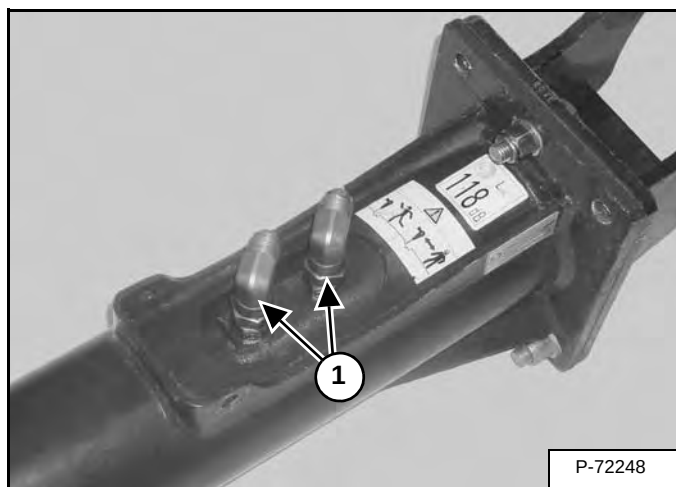
Figure 14



Install the fittings (Item 1) **[Figure 14]**.

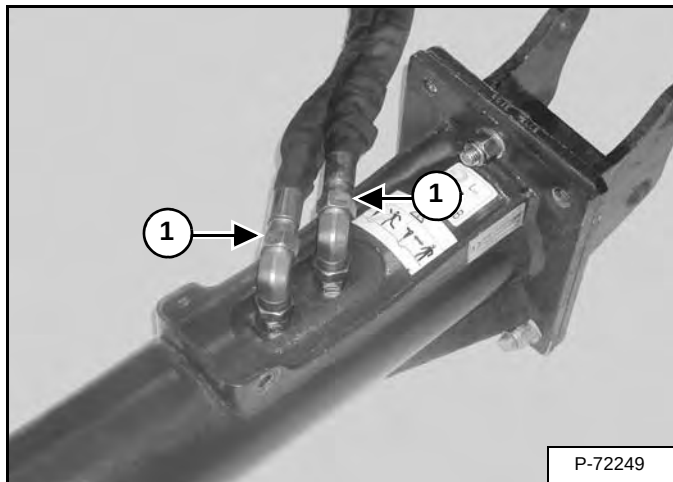
Tighten the fittings to 114 N•m (84 ft-lb) torque.

Figure 15



Install the two 90° elbows (Item 1) **[Figure 15]** in the ports.

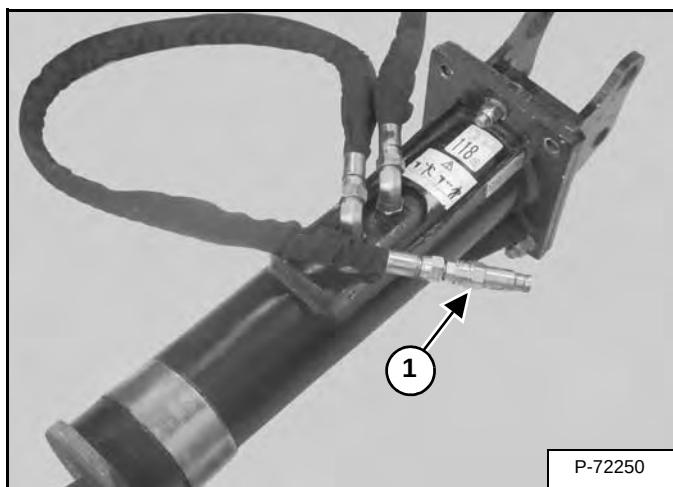
Figure 16



Install the two hoses (Item 1) **[Figure 16]** on the 90° elbows (Item 1) **[Figure 15]**.

Tighten the hoses to 114 N•m (84 ft-lb) torque.

Figure 17



Install the male coupler (Item 1) **[Figure 17]** on the hose that connects to the HP port.

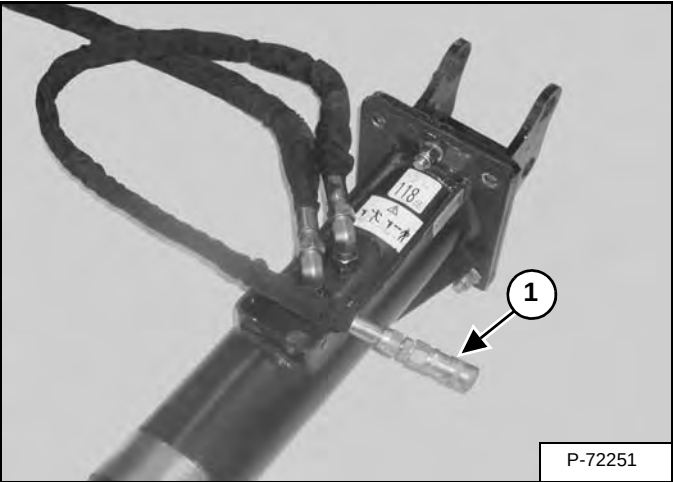
Dealer Copy -- Not for Resale

INITIAL SETUP (CONT'D)

Hose Installation (Cont'd)

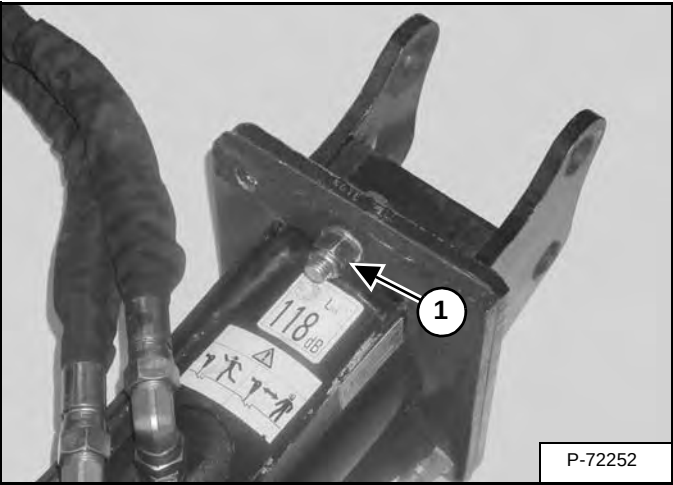
HB280 (When Used On 316 And 418 Model Excavators)
(Cont'd)

Figure 18



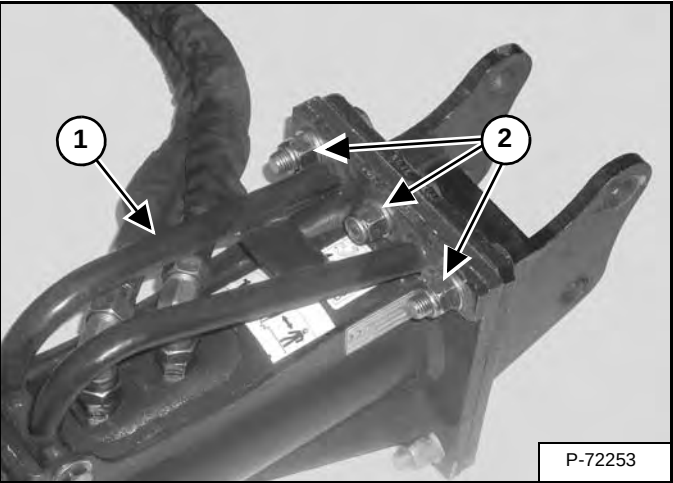
Install the female coupler (Item 1) [Figure 18] on the hose that connects to the BP port.

Figure 19



Remove the bolt (Item 1) [Figure 19], washer and nut.

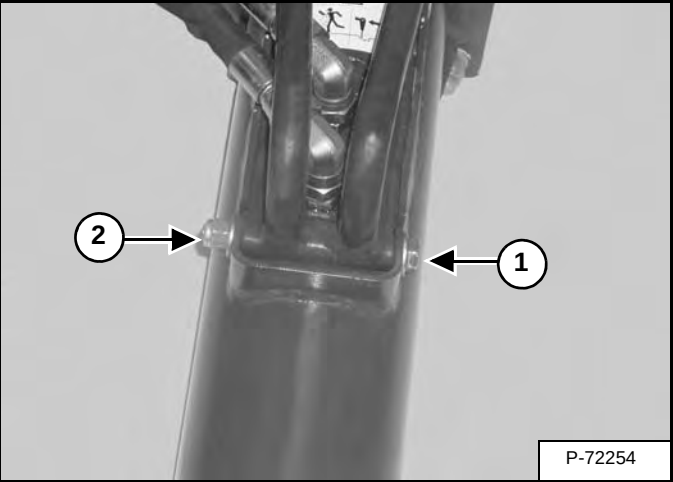
Figure 20



Install the hose guard (Item 1) using the three bolts, washers and nuts (Item 2) [Figure 20] provided with the breaker.

Tighten the three nuts to 370 N•m (270 ft-lb) torque.

Figure 21



The bolt (Item 1) and nut (Item 2) [Figure 21] need only to be lightly tightened.

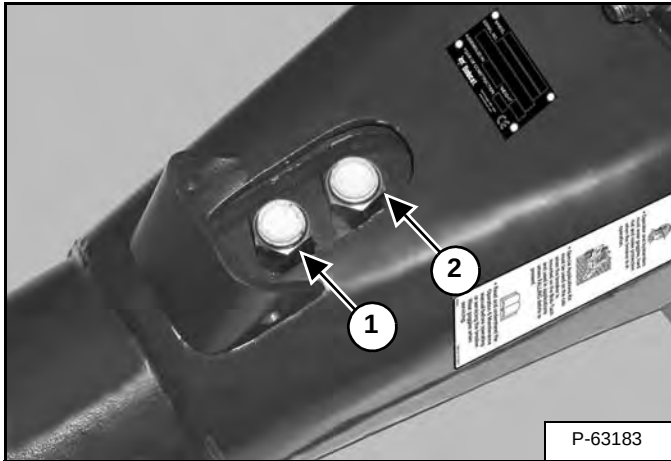
INITIAL SETUP (CONT'D)

Hose Installation (Cont'd)

HB680, HB880 And HB980 (Earlier Model Breakers)

The breaker is supplied without the hoses and couplers installed on the breaker.

Figure 22

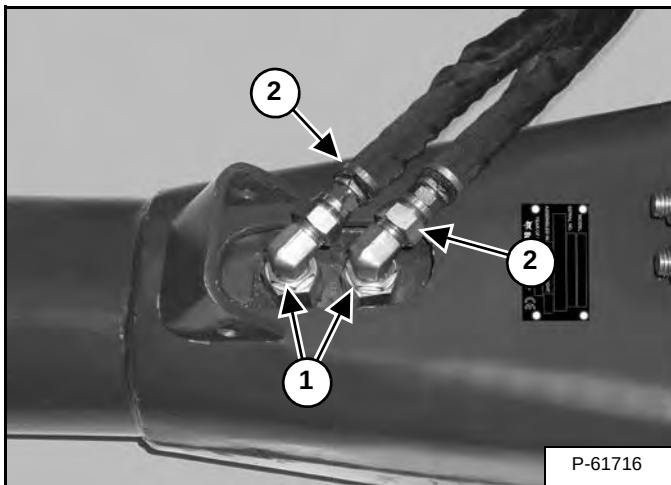


The port marked *HP* (Item 1) [Figure 22] will be connected to the breaker hose with the male coupler.

The port marked *BP* (Item 2) [Figure 22] will be connected to the breaker hose with the female coupler.

Tighten the fittings to 114 N•m (84 ft-lb) torque.

Figure 23

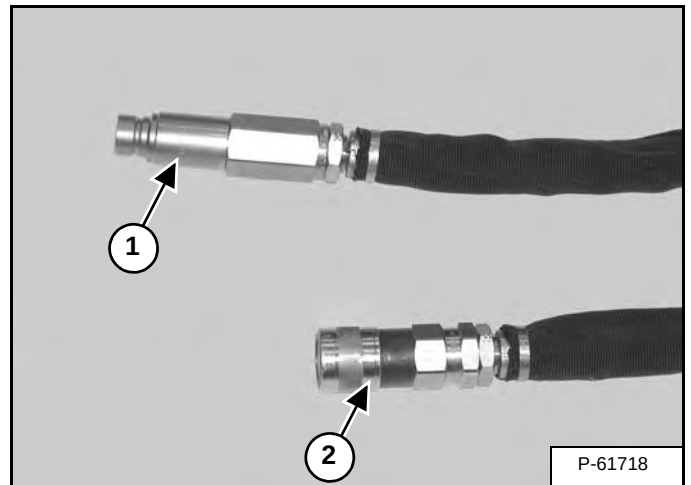


Install the two 90° elbows (Item 1) [Figure 23] in the ports.

Install the two hoses (Item 2) on the 90° elbows (Item 1) [Figure 23].

Tighten the hoses to 114 N•m (84 ft-lb) torque.

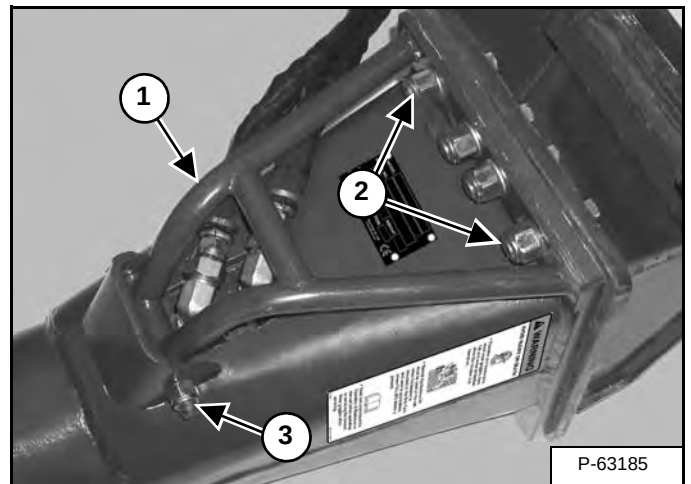
Figure 24



Install the male coupler (Item 1) [Figure 24] on the hose that connects to the *HP* port.

Install the female coupler (Item 2) [Figure 24] on the hose that connects to the *BP* port.

Figure 25



Install the hose guard (Item 1), the three bolts (Item 2 and 3) [Figure 25], washers and nuts.

Tighten the two bolts and nuts (Item 2) [Figure 25] to 370 N•m (270 ft-lb) torque.

The bolt and nut (Item 3) [Figure 25] need only to be lightly tightened.

Dealer Copy -- Not for Resale

INITIAL SETUP (CONT'D)

Hose Installation (Cont'd)

HB880 And HB980 (Later Model Breakers)

The breaker is supplied without the hoses and couplers installed on the breaker.

NOTE: When using the HB880 or HB980 breakers on A770, S630, S650, S740, S750, S770, T630, T650, T740, T750 and T770 model loaders or E60 excavator (S/N AGSZ11320 & Below), the breaker must be equipped with a diverter valve kit. See your Bobcat dealer for available kits.

Install the hose guard. (See Figure 25 on Page 37.)

Figure 26

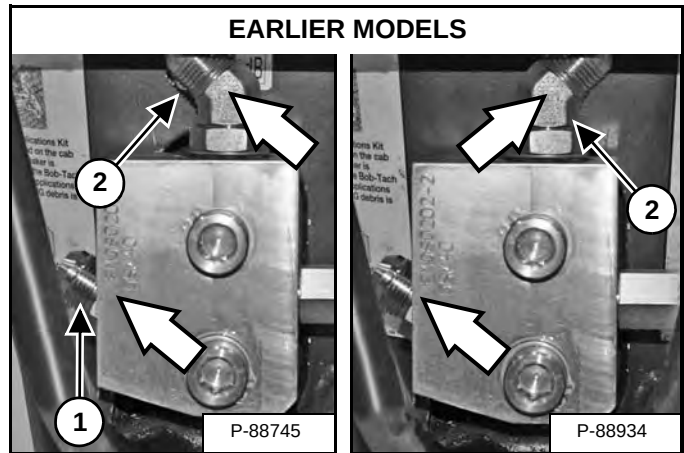
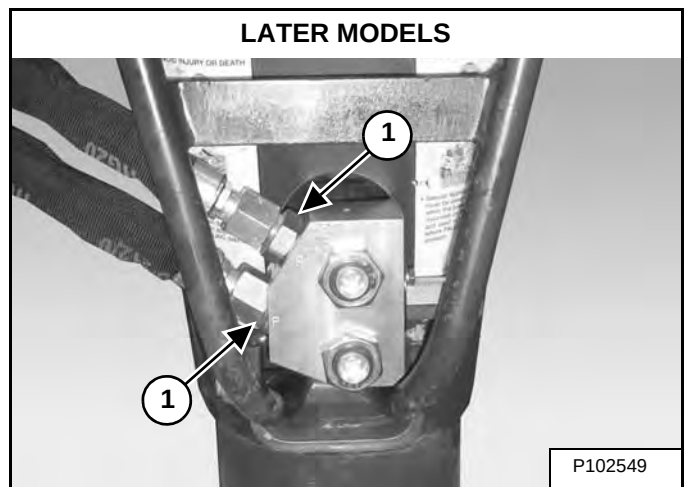


Figure 27



Install the straight fitting(s) (Item 1) [Figure 26] or [Figure 27] (if required).

Install the 45° fitting (Item 2) [Figure 26] (if required).

NOTE: If operating the breaker on an E60 excavator (S/N AGSZ11320 & Below), the 45° fitting (Item 2) [Figure 26] is installed facing away from the straight fitting.

Tighten the fittings to 114 N•m (84 ft-lb) torque.

INITIAL SETUP (CONT'D)

Hose Installation (Cont'd)

HB880 And HB980 (Later Model Breakers) (Cont'd)

Figure 28

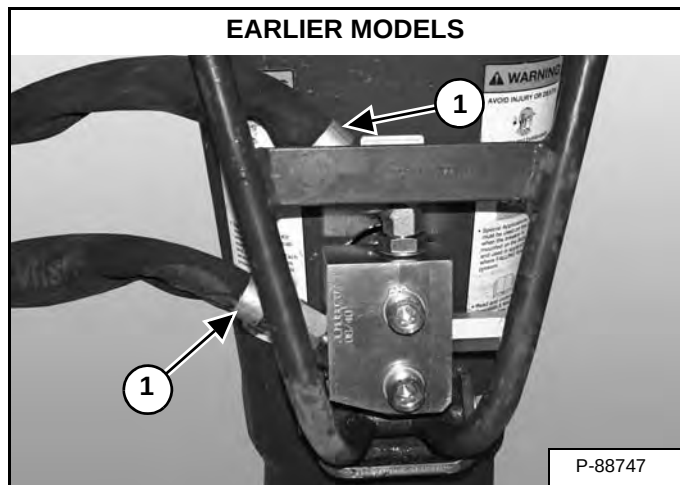
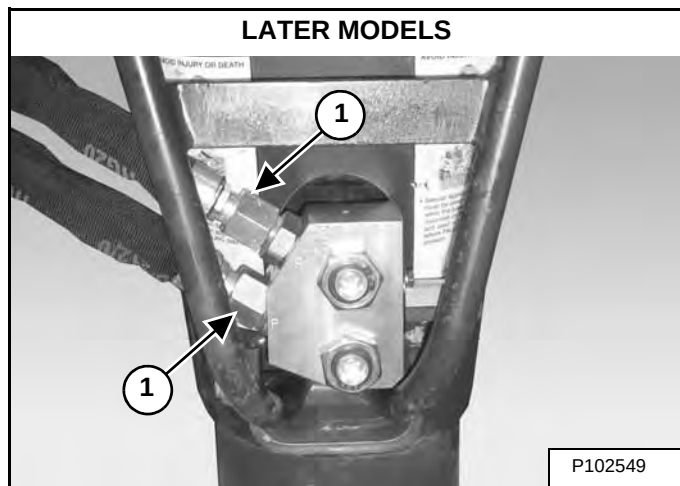


Figure 29



Install the hoses (Item 1) [Figure 28] or [Figure 29] on the fittings.

Tighten the hoses to 114 N•m (84 ft-lb) torque.

Figure 30



Figure 31



Install the hoses (Item 1) [Figure 30] or [Figure 31] on the fittings.

Tighten the hoses to 114 N•m (84 ft-lb) torque.

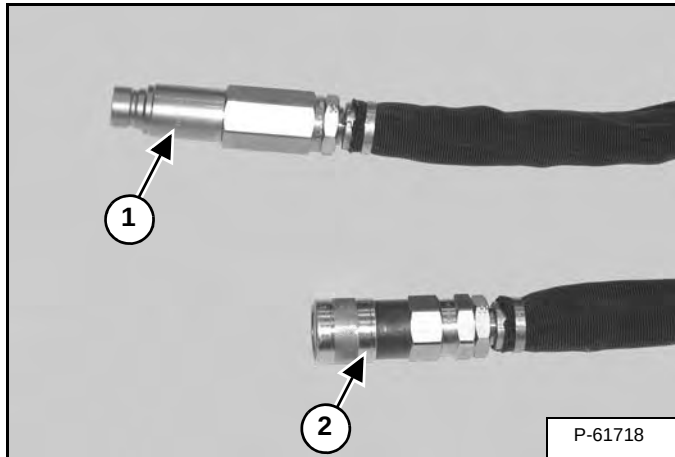
Dealer Copy -- Not for Resale

INITIAL SETUP (CONT'D)

Hose Installation (Cont'd)

HB880 And HB980 (Later Model Breakers) (Cont'd)

Figure 32



Install the male coupler (Item 1) **[Figure 32]** on the hose that connects to the valve P port (breaker HP port).

Install the female coupler (Item 2) **[Figure 32]** on the hose that connects to the valve R port (breaker BP port).

Figure 33



Install the male quick coupler hose (Item 1) **[Figure 33]** on the straight fitting.

Install the female quick coupler hose (Item 2) **[Figure 33]** on the 45° fitting.

Tighten the hoses to 114 N•m (84 ft-lb) torque.

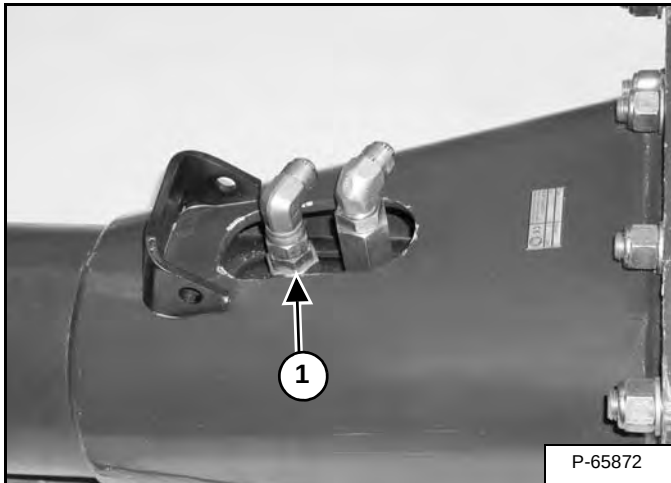
INITIAL SETUP (CONT'D)

Hose Installation (Cont'd)

HB1180 (When Used On A300, S250, S300, S330, S630, S650, S740, T250, T300, T320, T630, T650, T740 And T870 Model Loaders)

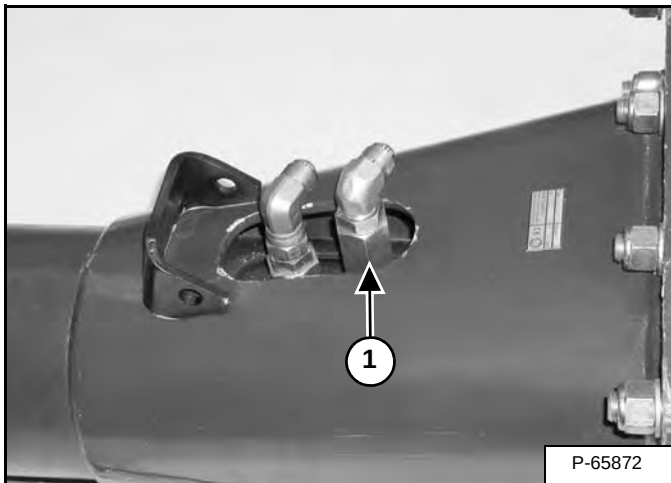
The breaker is supplied without the hoses installed on the breaker.

Figure 34



The port marked *HP* (Item 1) [Figure 34] will be connected to the breaker hose with the male coupler.

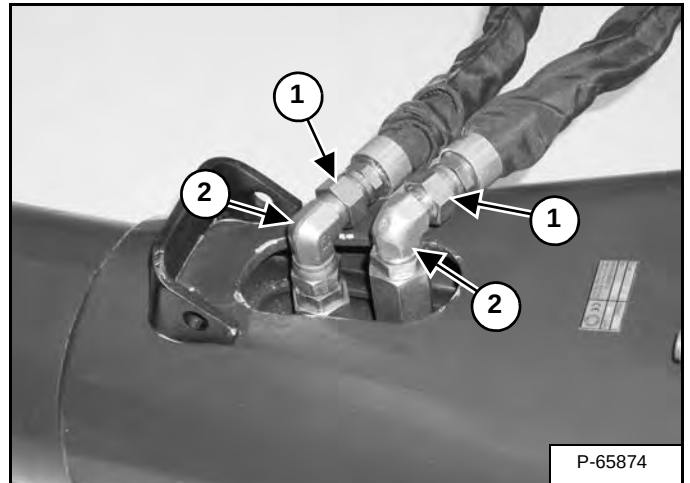
Figure 35



The port marked *BP* (Item 1) [Figure 35] will be connected to the breaker hose with the female coupler.

Install the two 90° elbows (Item 1) [Figure 34] and [Figure 35] in the ports.

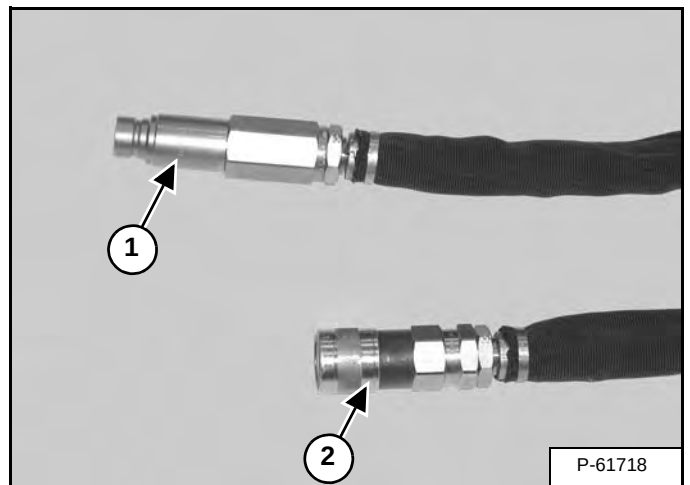
Figure 36



Install the two hoses (Item 1) on the 90° elbows (Item 2) [Figure 36].

Tighten the hoses to 114 N•m (84 ft-lb) torque.

Figure 37



Install the male coupler (Item 1) [Figure 37] on the hose that connects to the *HP* port.

Install the female coupler (Item 2) [Figure 37] on the hose that connects to the *BP* port.

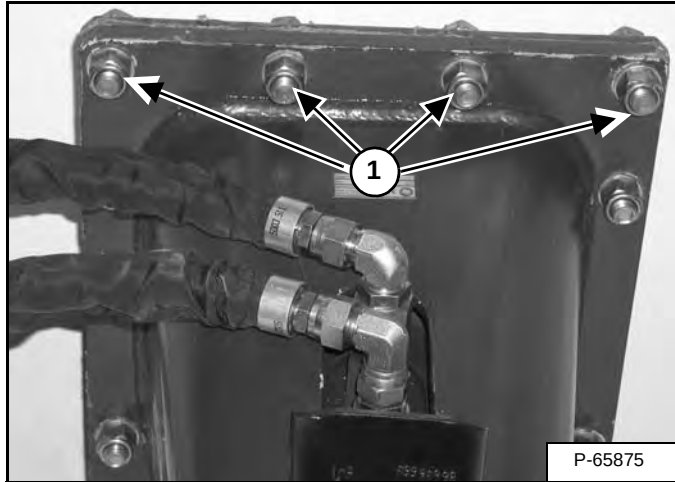
Dealer Copy -- Not for Resale

INITIAL SETUP (CONT'D)

Hose Installation (Cont'd)

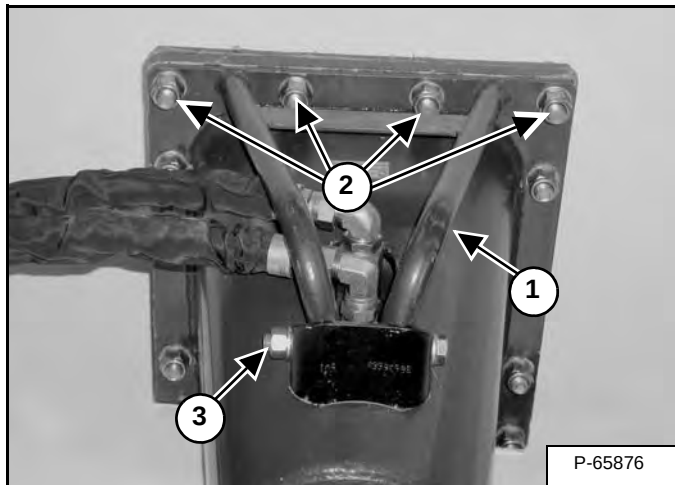
HB1180 (When Used On A300, S250, S300, S330, S630, S650, S740, T250, T300, T320, T630, T650, T740 And T870 Model Loaders) (Cont'd)

Figure 38



Remove the four bolts (Item 1) [Figure 38], washers and nuts.

Figure 39



Install the hose guard (Item 1) using the four bolts provided with the breaker, washers and nuts (Item 2) [Figure 39].

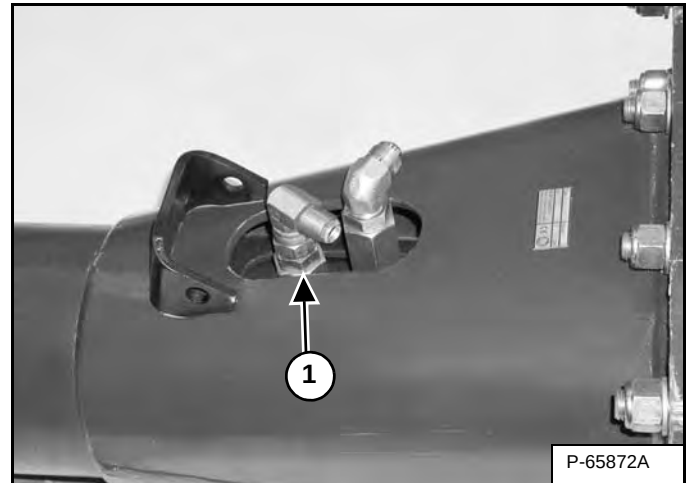
Tighten the four bolts and nuts (Item 2) [Figure 39] to 370 N•m (270 ft-lb) torque.

The bolt and nut (Item 3) [Figure 39] need only to be lightly tightened.

HB1180 (When Used On 442 Model Excavator)

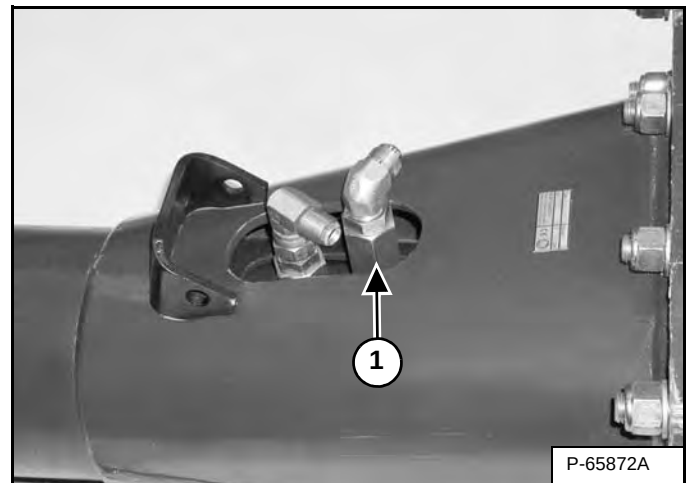
The breaker is supplied without the hoses installed on the breaker.

Figure 40



The port marked *HP* (Item 1) [Figure 40] will be connected to the breaker hose with the screw type quick coupler.

Figure 41



The port marked *BP* (Item 1) [Figure 41] will be connected to the breaker hose with the sleeve type quick coupler.

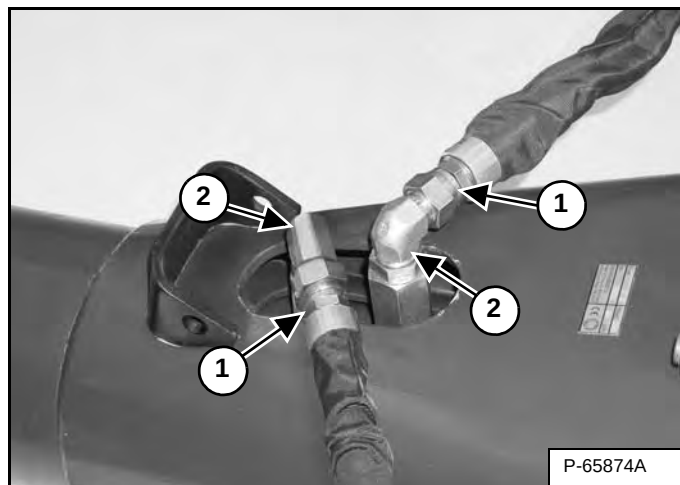
Install the two 90° elbows (Item 1) [Figure 40] and [Figure 41] in the ports.

INITIAL SETUP (CONT'D)

Hose Installation (Cont'd)

HB1180 (When Used On 442 Model Excavator) (Cont'd)

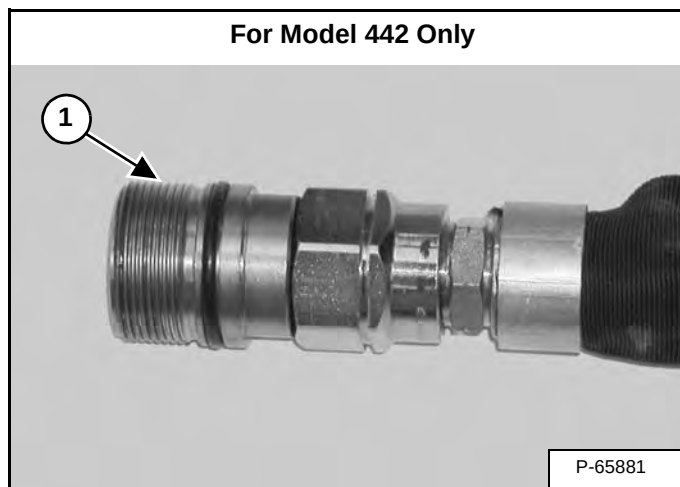
Figure 42



Install the two hoses (Item 1) on the 90° elbows (Item 2) [Figure 42].

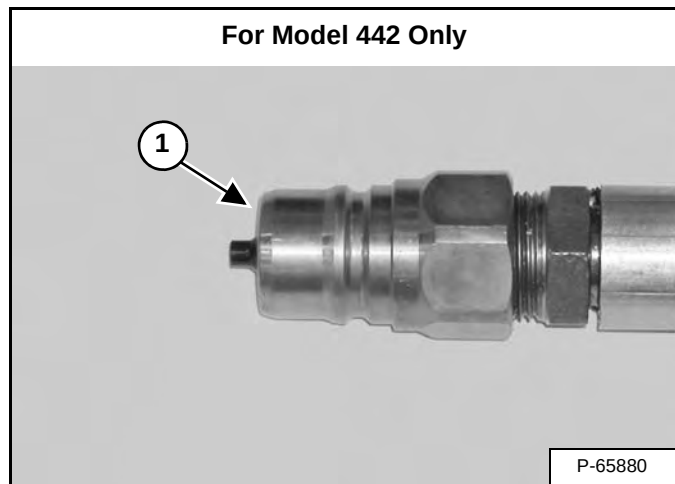
Tighten the hoses to 114 N•m (84 ft-lb) torque.

Figure 43



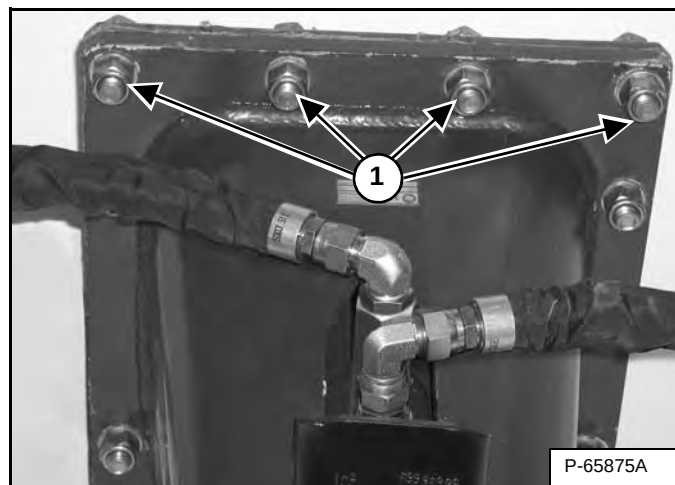
Install the screw type male coupler (Item 1) [Figure 43] on the hose that connects to the *HP* port.

Figure 44



Install the sleeve type male coupler (Item 1) [Figure 44] on the hose that connects to the *HB* port.

Figure 45



Remove the four bolts (Item 1) [Figure 45], washers and nuts.

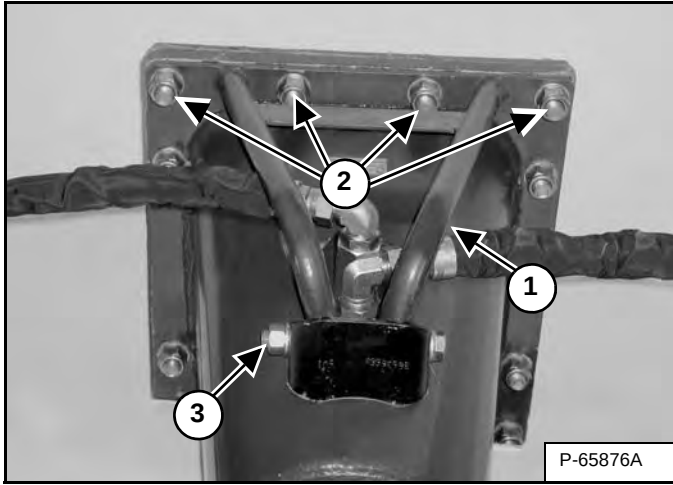
Dealer Copy -- Not for Resale

INITIAL SETUP (CONT'D)

Hose Installation (Cont'd)

HB1180 (When Used On 442 Model Excavator) (Cont'd)

Figure 46



Install the hose guard (Item 1) using the four bolts provided with the breaker, washers and nuts (Item 2) [Figure 46].

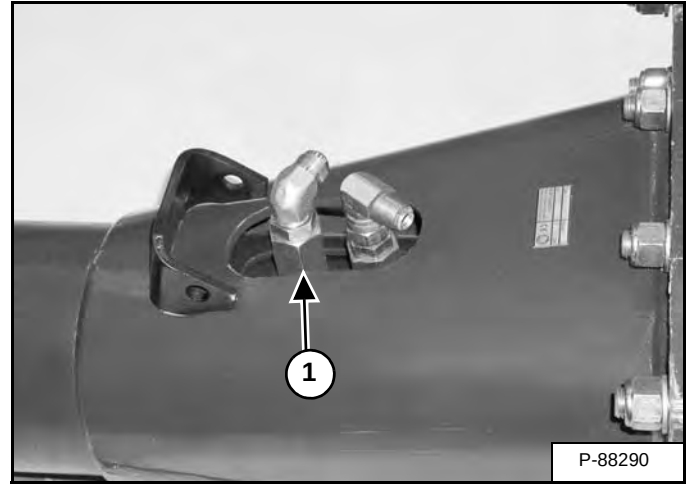
Tighten the four bolts and nuts (Item 2) [Figure 46] to 370 N•m (270 ft-lb) torque.

The bolt and nut (Item 3) [Figure 46] need only to be lightly tightened.

HB880, HB980 And HB1180 (When Used On E60 Model Excavators) (S/N AGSZ11320 & Below)

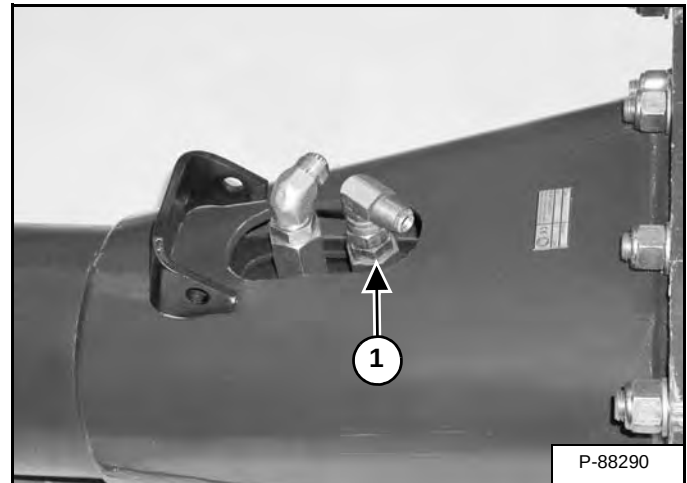
The breaker is supplied without the hoses installed on the breaker.

Figure 47



The port marked *HP* (Item 1) [Figure 47] will be connected to the breaker hose with the male coupler.

Figure 48



The port marked *BP* (Item 1) [Figure 48] will be connected to the breaker hose with the female coupler.

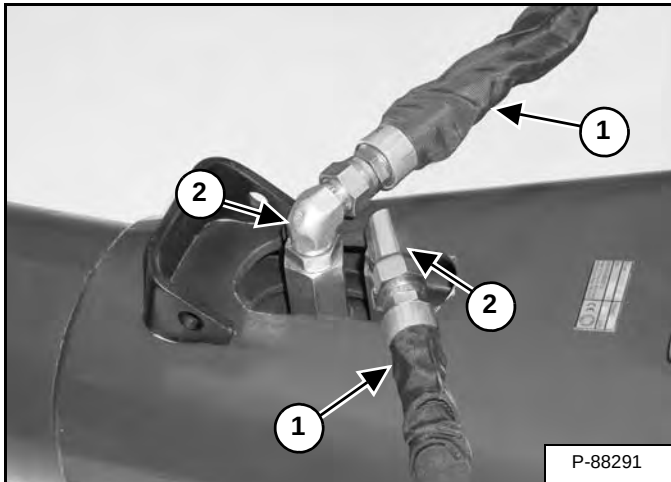
Install the two 90° elbows (Item 1) [Figure 47] and [Figure 48] in the ports.

INITIAL SETUP (CONT'D)

Hose Installation (Cont'd)

HB880, HB980 And HB1180 (When Used On E60 Model Excavators) (S/N AGSZ11320 & Below) (Cont'd)

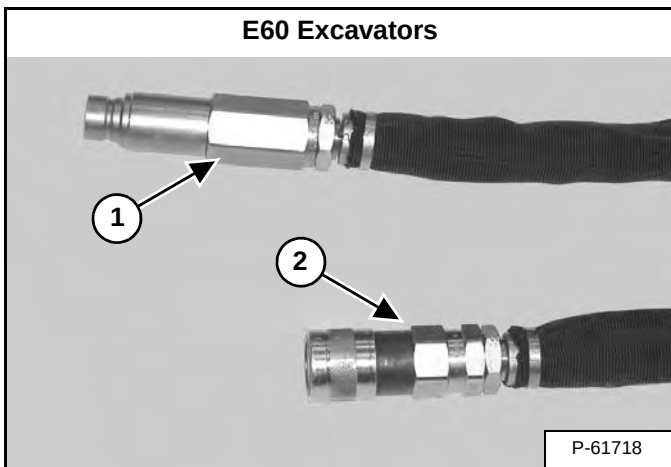
Figure 49



Install the two hoses (Item 1) on the 90° elbows (Item 2) **[Figure 49]**.

Tighten the hoses to 114 N•m (84 ft-lb) torque.

Figure 50



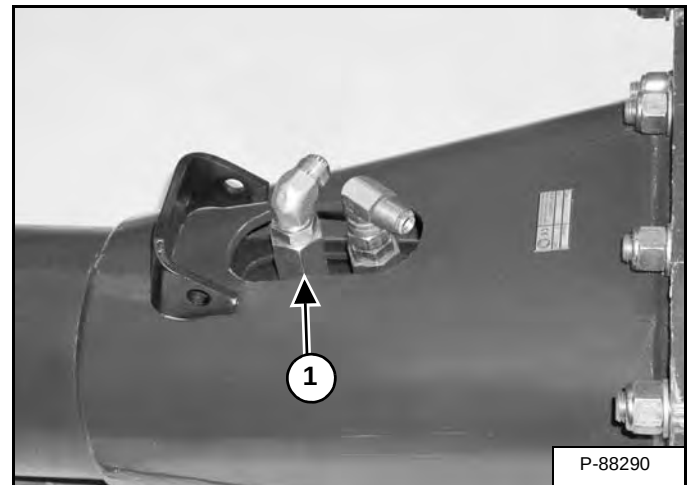
Install the male coupler (Item 1) **[Figure 50]** on the hose that connects to the *HP* port.

Install the female coupler (Item 2) **[Figure 50]** on the hose that connects to the *BP* port.

HB1180 (When Used On E80 And E85 Model Excavators)

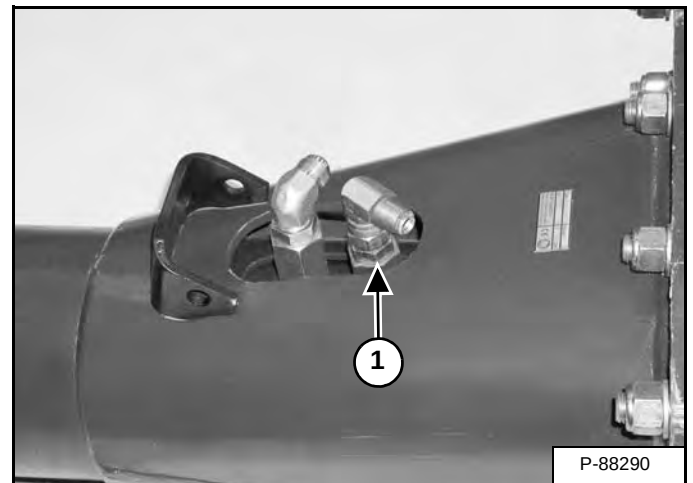
The breaker is supplied without the hoses installed on the breaker.

Figure 51



The port marked *HP* (Item 1) **[Figure 51]** will be connected to the breaker hose with the male coupler.

Figure 52



The port marked *BP* (Item 1) **[Figure 52]** will be connected to the breaker hose with the female coupler.

Install the two 90° elbows (Item 1) **[Figure 51]** and **[Figure 52]** in the ports.

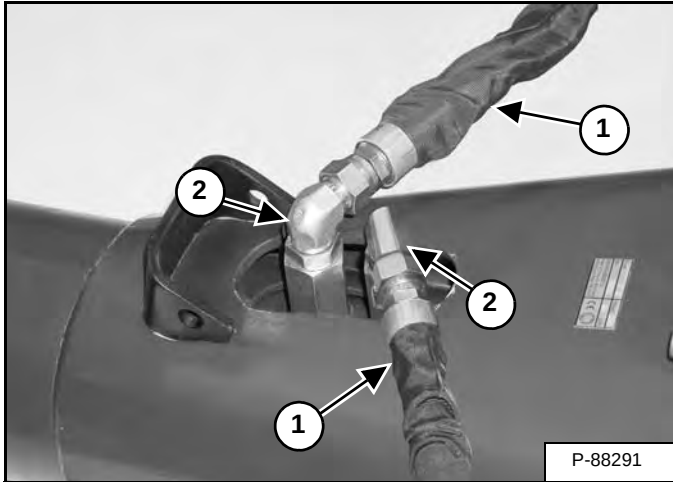
Dealer Copy -- Not for Resale

INITIAL SETUP (CONT'D)

Hose Installation (Cont'd)

HB1180 (When Used On E80 And E85 Model Excavators) (Cont'd)

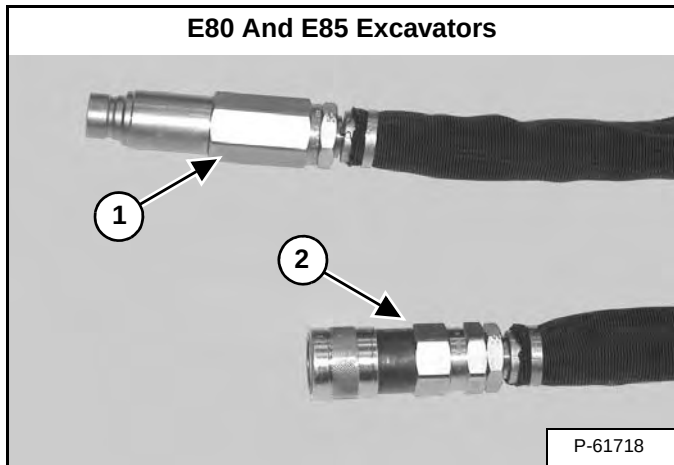
Figure 53



Install the two hoses (Item 1) on the 90° elbows (Item 2) [Figure 53].

Tighten the hoses to 114 N•m (84 ft-lb) torque.

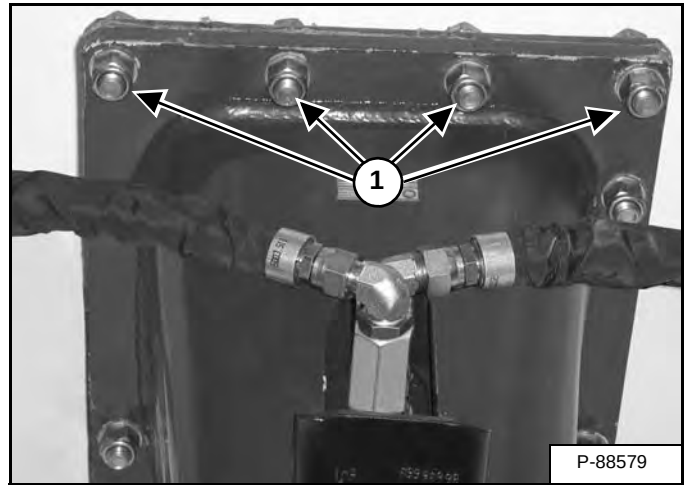
Figure 54



Install the male coupler (Item 1) [Figure 54] on the hose that connects to the *HP* port.

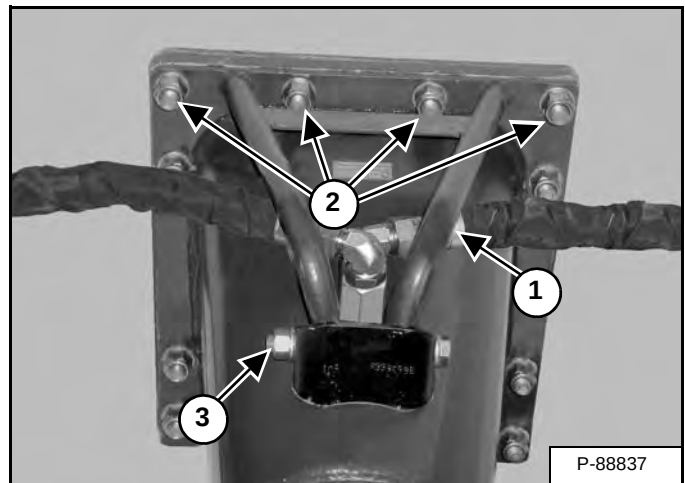
Install the female coupler (Item 2) [Figure 54] on the hose that connects to the *BP* port.

Figure 55



Remove the four bolts (Item 1) [Figure 55], washers and nuts.

Figure 56



Install the hose guard (Item 1) using the four bolts provided with the breaker, washers and nuts (Item 2) [Figure 56].

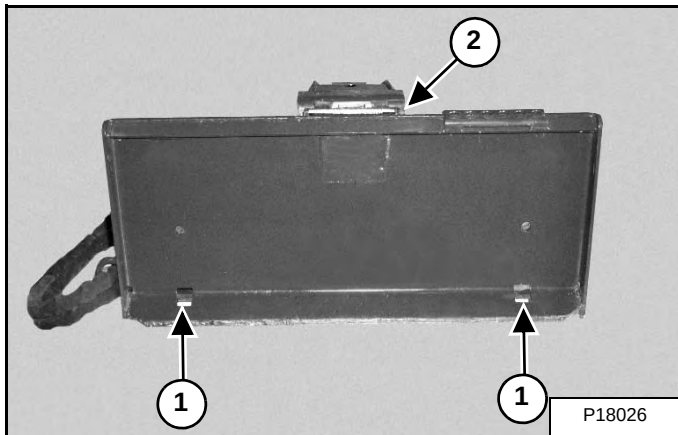
Tighten the four bolts and nuts (Item 2) [Figure 56] to 370 N•m (270 ft-lb) torque.

The bolt and nut (Item 3) [Figure 56] need only to be lightly tightened.

DAILY INSPECTION

Bob-Tach

Figure 57



Inspect the Bob-Tach wedge mounts (Item 1), mounting flange (Item 2) [Figure 57] and all welds on the breaker mount for wear and damage each time the breaker is removed from the machine.

WARNING

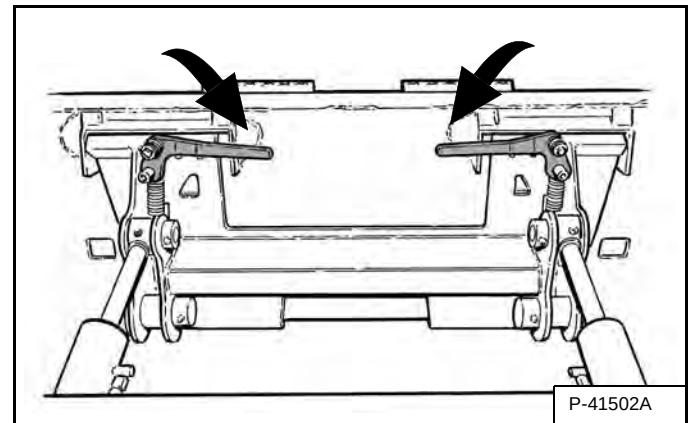
AVOID INJURY OR DEATH

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

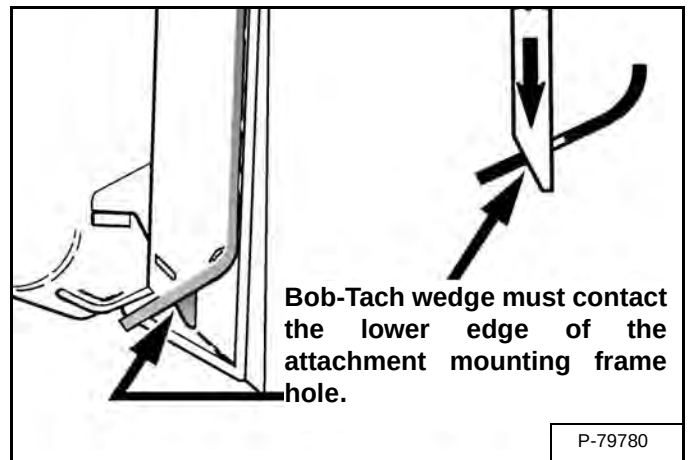
Figure 58



Push down on the Bob-Tach levers until they are fully engaged in the locked position [Figure 58] (wedges fully extended through the attachment mounting frame holes).

The levers and wedges must move freely [Figure 58].

Figure 59



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach [Figure 59].

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.)

Dealer Copy -- Not for Resale

Bob-Tach (Cont'd)

Power Bob-Tach



WARNING

AVOID INJURY OR DEATH

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

W-2715-0208

Figure 60

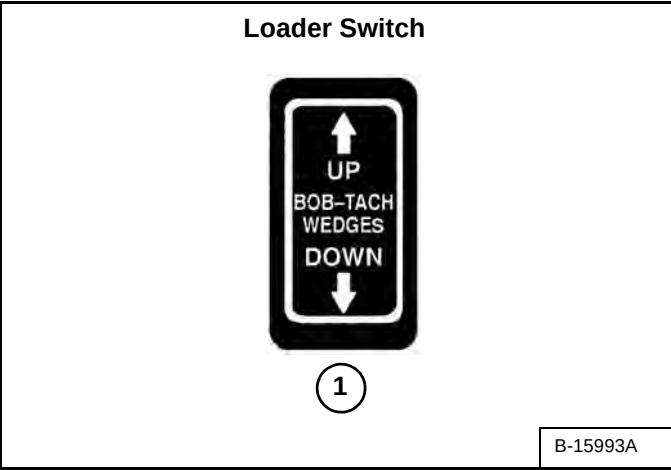
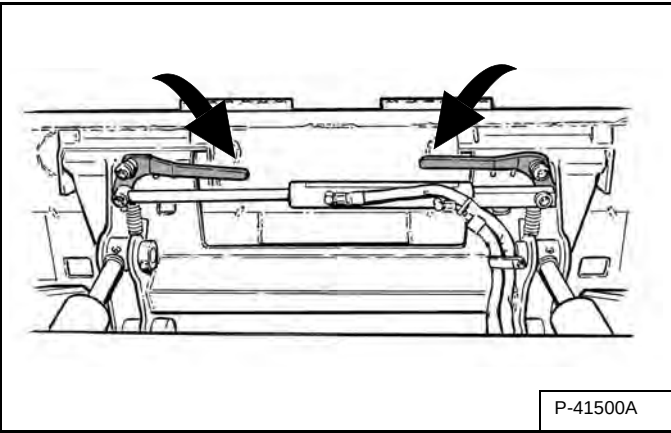
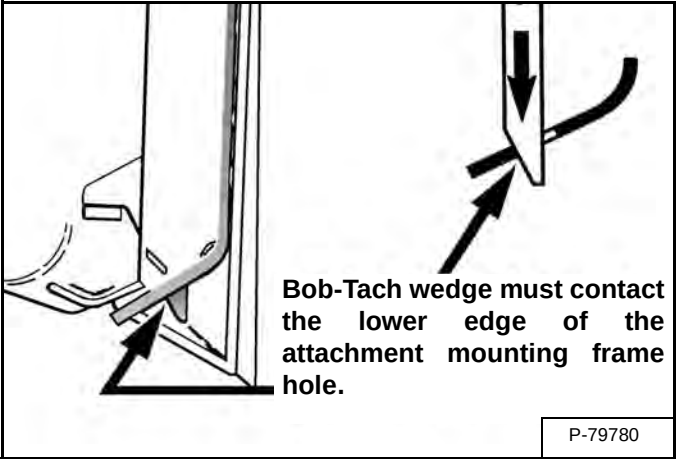


Figure 61



Push and hold the BOB-TACH “WEDGES DOWN” switch (Item 1) [Figure 60] until the levers are fully engaged in the locked position [Figure 61] (wedges fully extended through the attachment mounting frame holes).

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.

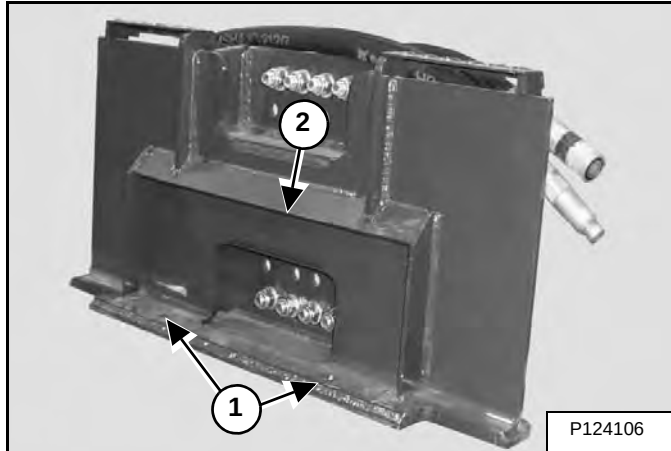
Lubricate the wedges. (See the machine's Operation & Maintenance Manual for the correct procedure.)

Dealer Copy -- Not for Resale

DAILY INSPECTION (CONT'D)

Common Industry Interface

Figure 63



Common Industry Interface: Inspect the Common Industry Interface mounting holes (Item 1), mounting flange (Item 2) [Figure 63] and all welds on the breaker for wear and damage each time the breaker is removed from the machine.

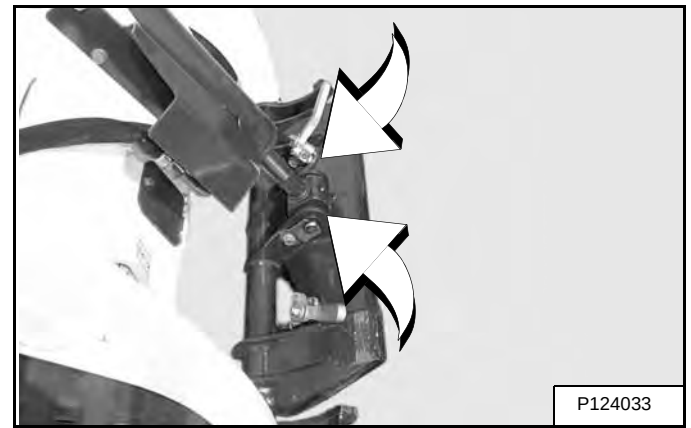
Frequently inspect the breaker to ensure that all components are secure and that all bolts and nuts are tight.

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

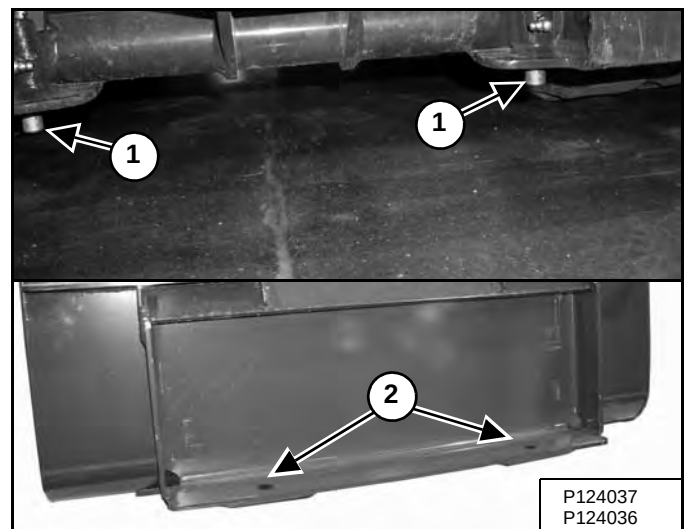
Figure 64



Push down on the locking levers until they are fully engaged in the locked position [Figure 64] (pins fully extended through the attachment mounting frame holes).

The levers and pins must move freely [Figure 64].

Figure 65



The pins (Item 1) must extend through the holes in the attachment mounting frame (Item 2), [Figure 65] 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.

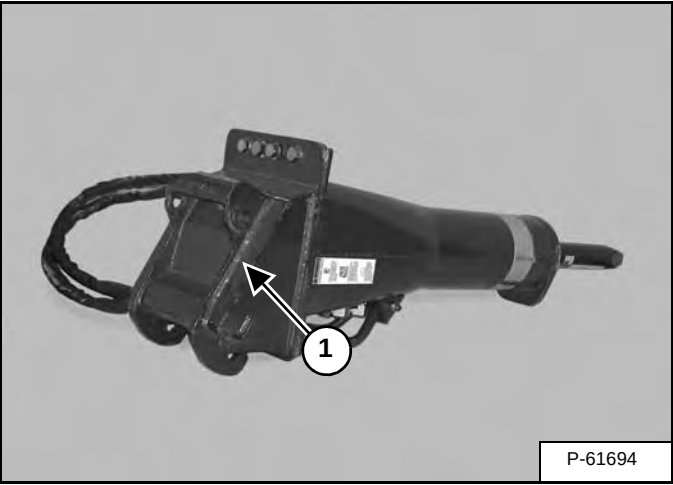
Lubricate the locking pins. (See the machine's Operation & Maintenance Manual for the correct procedure.)

Dealer Copy -- Not for Resale

DAILY INSPECTION (CONT'D)

X-Change Mount

Figure 66

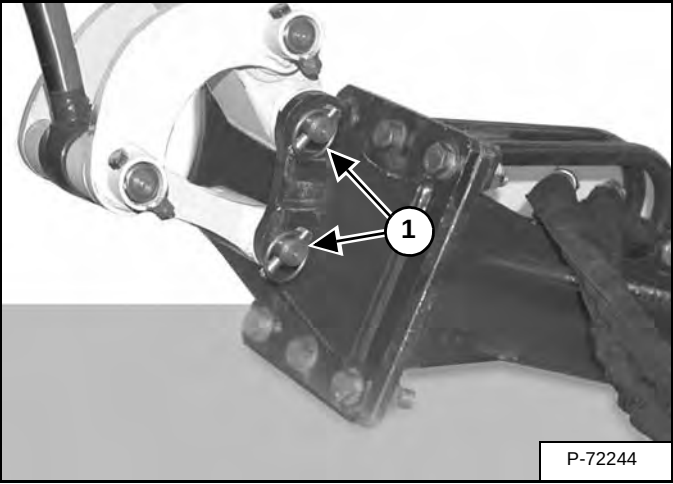


Inspect the X-Change mount (Item 1) [Figure 66] and all welds on the breaker mount for wear or damage each time the breaker is removed from the machine.

Repair or replace damaged parts.

Pin-On Attachment

Figure 67

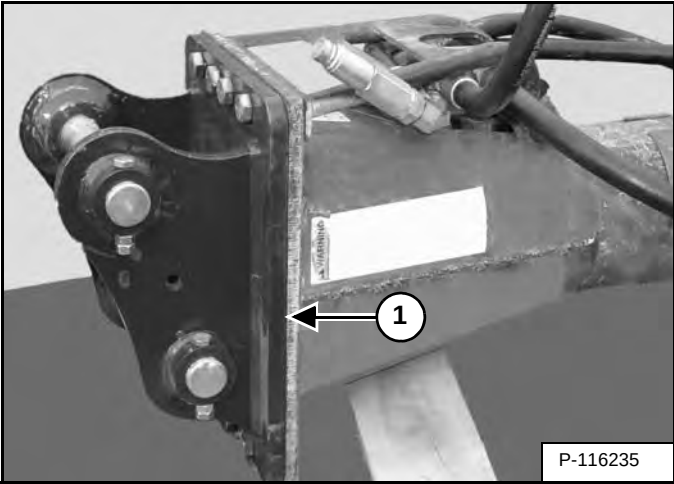


Inspect the Pin-On mount for wear or damage. Inspect the pivot pins (Item 1) [Figure 67] and mounts (on the attachment) for wear or damage.

Repair or replace damaged parts.

Pin Grabber Mount

Figure 68

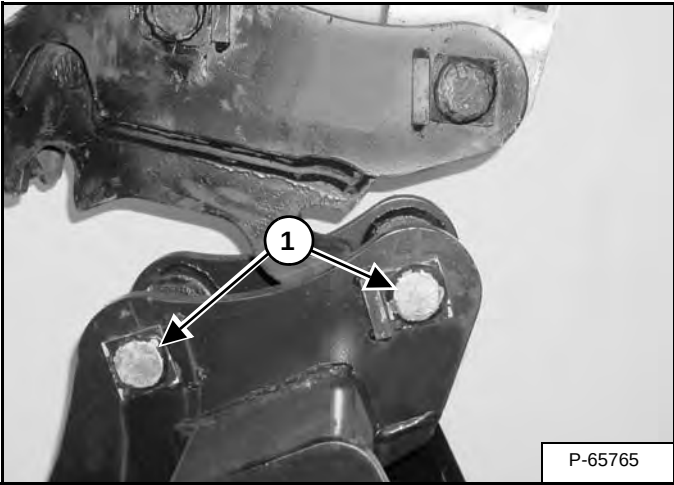


Inspect the Pin Grabber mount (Item 1) [Figure 68] and all welds on the breaker mount for wear or damage each time the breaker is removed from the machine.

Repair or replace damaged parts.

Manual Spring Loaded Coupler (442 Only)

Figure 69



Inspect the manual spring loaded coupler and mount for wear or damage. Inspect the pivot pins (Item 1) [Figure 69] and mounts (on the attachment) for wear or damage.

Repair or replace damaged parts.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADERS

Approved Loader Models And Requirements

Figure 70

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
T110		X	X	
T140		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
T770			*X	X
T870				X

X = Approved

The chart [Figure 70] shows the breaker models approved for use with each loader model.

NOTE: * When using the HB980 breaker on A770, S630, S650, S740, S750, S770, T630, T650, T740, T750 and T770 model loaders, the breaker must be equipped with a diverter valve kit. See your Bobcat dealer for available kits.

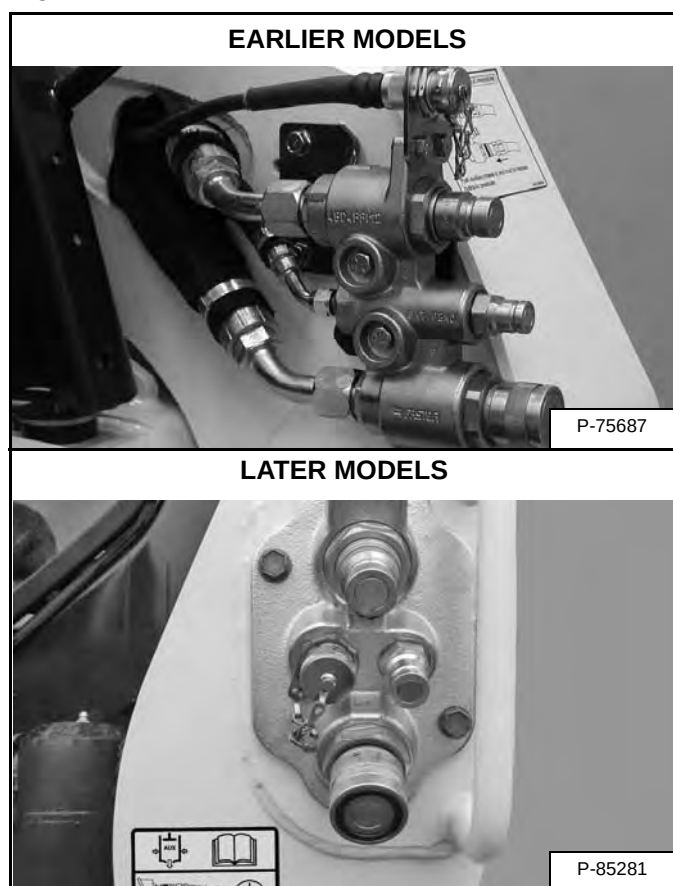
Warranty on this attachment is void if used on a non-approved carrier. See your Bobcat dealer for an updated list of approved carriers.

! 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

Figure 71



The loader must be equipped with auxiliary hydraulics [Figure 71].

Dealer Copy -- Not for Resale

Special Applications Kit

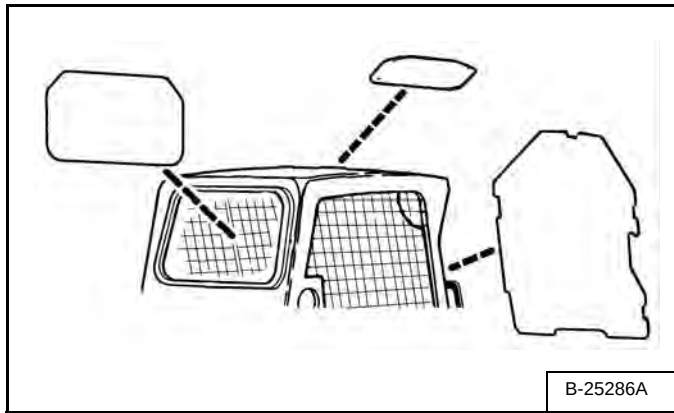
! WARNING

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 to provide added operator protection in these applications.

W-2737-0508

Figure 72



Available for special applications to restrict material from entering cab openings. Kit includes 12,70 mm (1/2 in) thick polycarbonate front door, top and rear windows [Figure 72].

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

Special Applications Kit Inspection And Maintenance

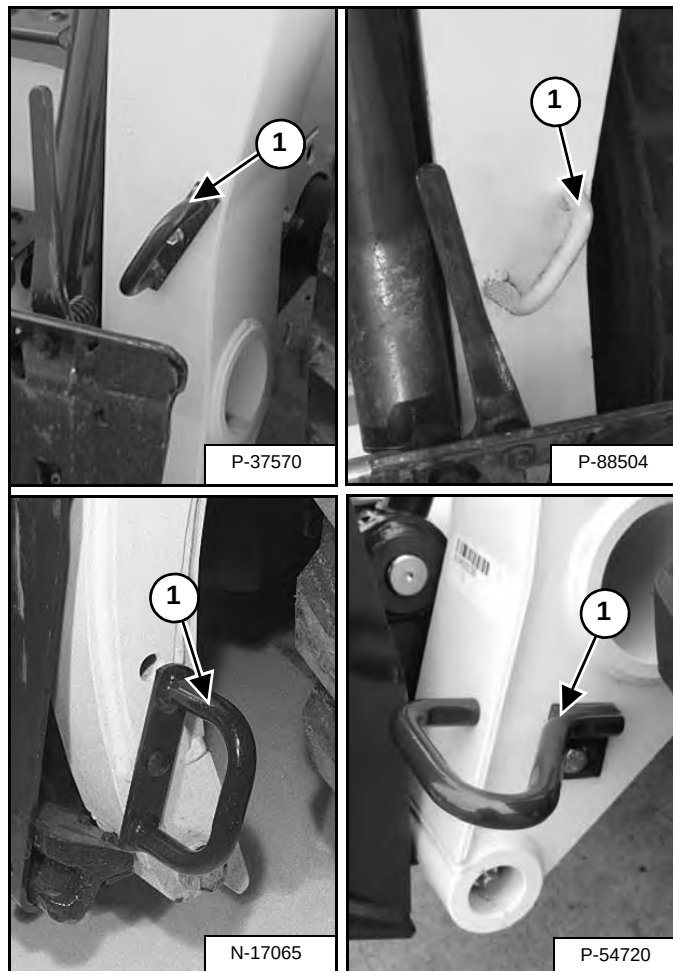
- Inspect for cracks or damage. Replace if required.
- Pre-rinse with water to remove gritty materials.
- Wash with a mild household detergent and warm water.
- Use a sponge or soft cloth. Rinse well with water and dry with a clean soft cloth or rubber squeegee.
- Do not use abrasive or high alkaline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

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Machine / Attachment Setup

Hose Guide Installation (Earlier Version)

Figure 73



Install the correct hose guide (Item 1) [Figure 73] 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)

Entering And Exiting The Loader

Entering

WARNING

AVOID INJURY OR DEATH

When operating the machine:

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

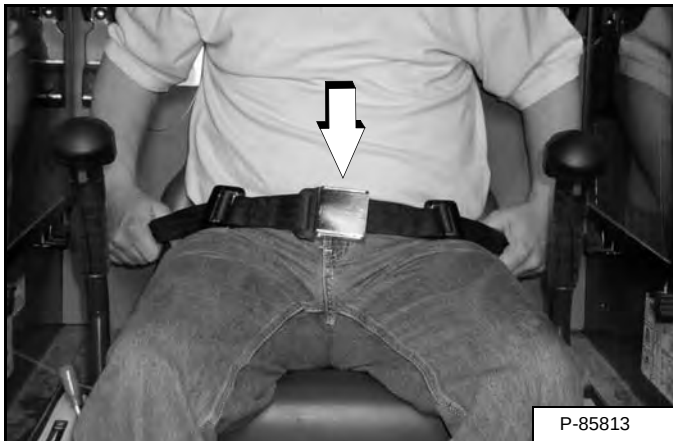
W-2261-0909

Figure 74



Use the breaker steps, grab handles (on cab) and the safety treads (on top of the loader lift arms and frame) to enter and exit the loader [Figure 74].

Figure 75



Enter the loader. Fasten the seat belt and adjust it so the buckle is centered between your hips [Figure 75].

Figure 76



Lower the seat bar and engage the parking brake [Figure 76].

Put the foot pedals or hand controls in NEUTRAL position.

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

See the loader's Operation & Maintenance Manual and Operator's Handbook for detailed information on operating the loader.

Exiting

Lower the lift arms and put the attachment flat on the ground.

Stop the engine and engage the parking brake.

Lift the seat bar and make sure the lift and tilt functions are deactivated.

Remove the key.

Exit the loader.

WARNING

AVOID INJURY OR DEATH

Before you leave the operator's position:

- Lower the lift arms, put the attachment flat on the ground.
- Stop the engine and engage the parking brake.
- Move all pedals, handles, joysticks, and other controls until they are LOCKED or in the NEUTRAL position.

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

W-2722-0208

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.

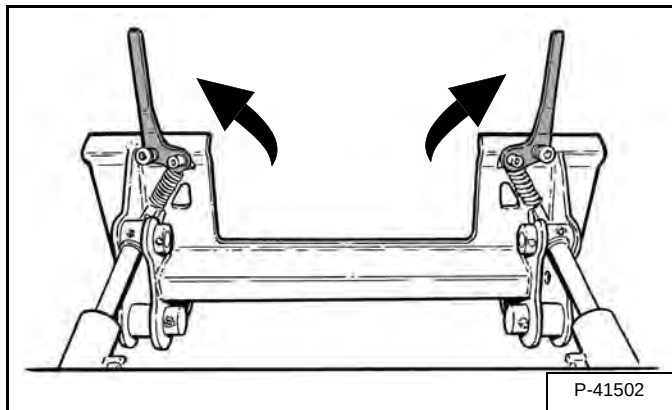


Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause serious injury or death.

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 47.)

Figure 77

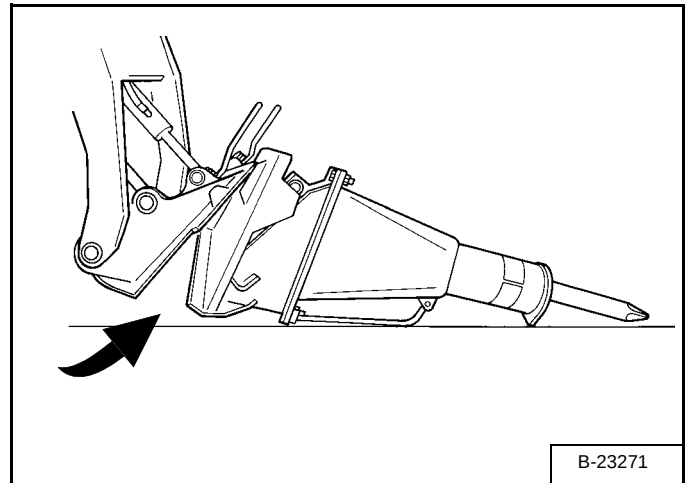


Pull the Bob-Tach levers up until they are fully raised (wedges fully raised) [Figure 77].

Enter the loader. (See Entering And Exiting The Loader on Page 54.)

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

Figure 78

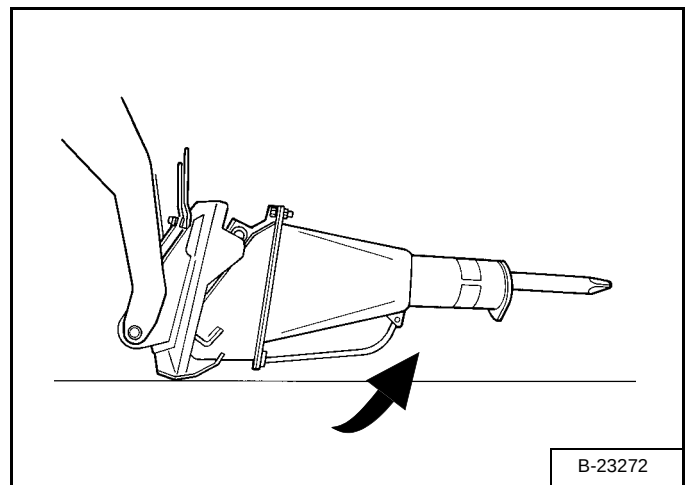


Lower the lift arms and tilt the Bob-Tach forward.

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 78].

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

Figure 79



Tilt the Bob-Tach backward until the attachment is slightly off the ground [Figure 79]. 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 54.)

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

Hand Lever Bob-Tach (Cont'd)

! WARNING

AVOID INJURY OR DEATH

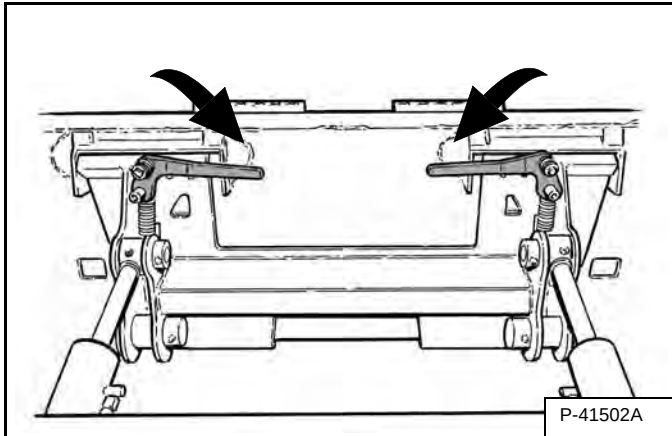
Before you leave the operator's seat:

- 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.

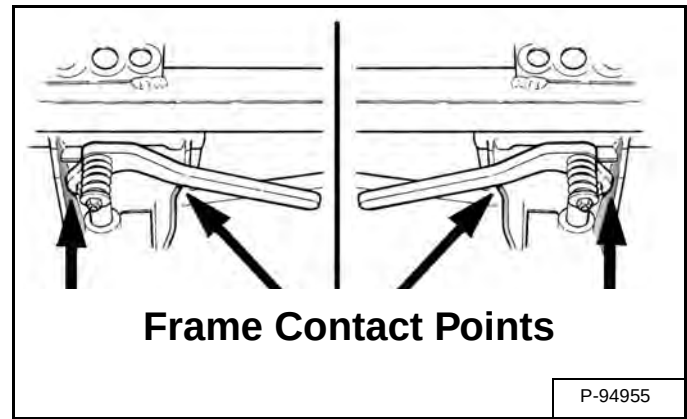
W-2463-1110

Figure 80



Push down on the Bob-Tach levers until they are fully engaged in the locked position [Figure 80] (wedges fully extended through the attachment mounting frame holes).

Figure 81



Both levers must contact the frame as shown when locked [Figure 81].

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

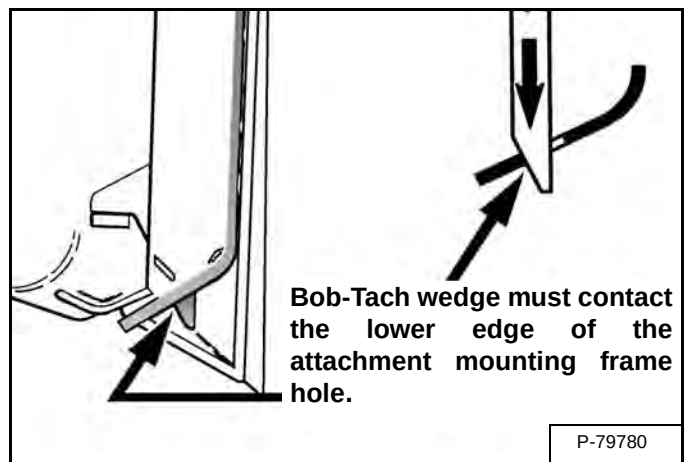
! WARNING

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 82



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach [Figure 82].

Connect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 66.)

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

Power Bob-Tach



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

This loader may be equipped with a Power Bob-Tach.

Enter the loader. (See Entering And Exiting The Loader on Page 54.)

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

Figure 83

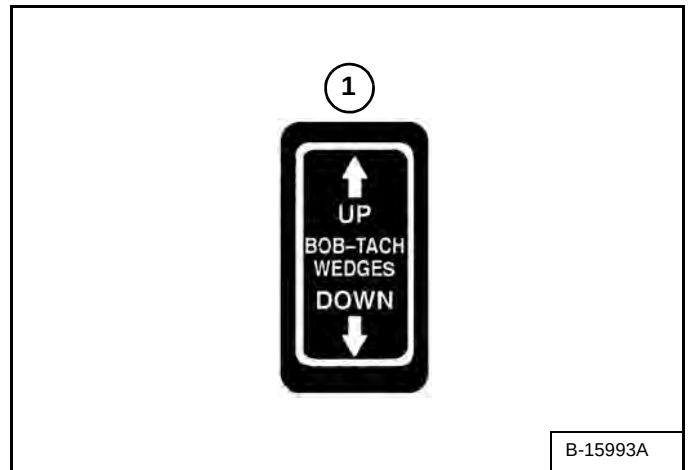
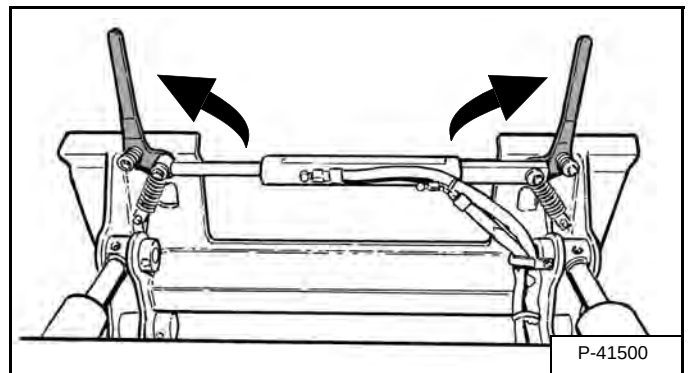


Figure 84



Push and hold the BOB-TACH “WEDGES UP” switch (Item 1) [Figure 83] until the levers are fully raised (wedges fully raised) [Figure 84].

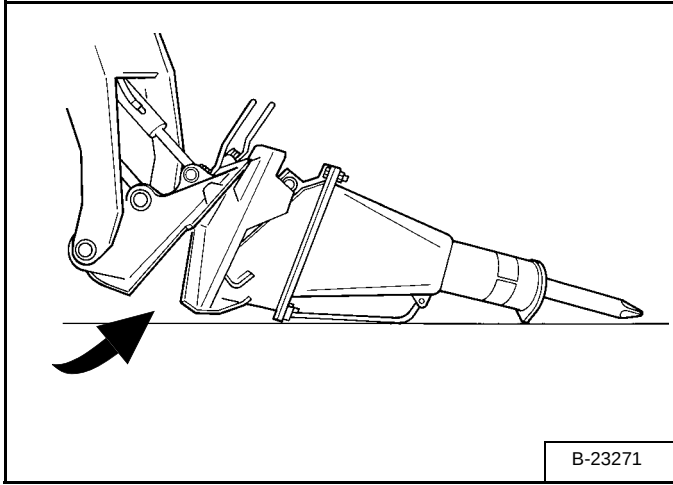
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

Power Bob-Tach (Cont'd)

Figure 85

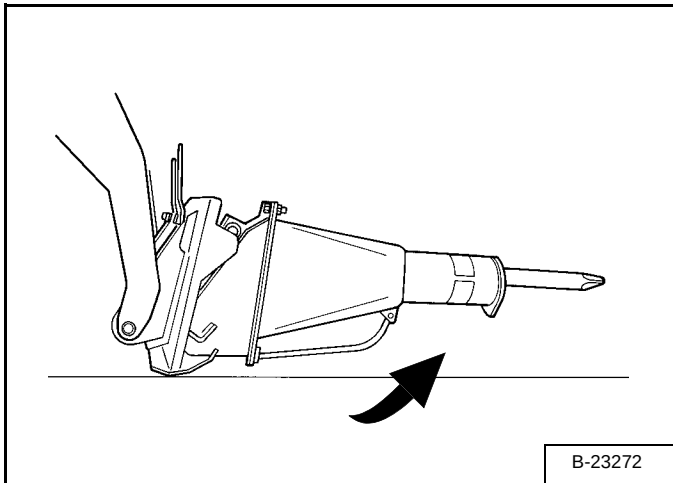


Lower the lift arms and tilt the Bob-Tach slightly forward.

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 85].

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

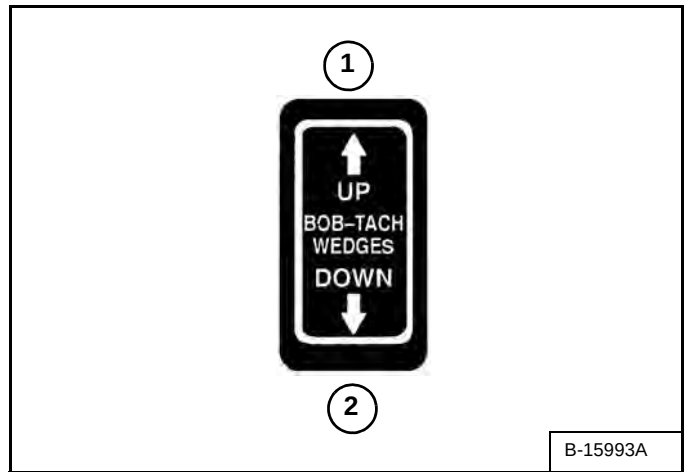
Figure 86



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

Tilt the Bob-Tach backward until the attachment is slightly off the ground [Figure 86]. This will cause the attachment mounting frame to fit up against the front of the Bob-Tach.

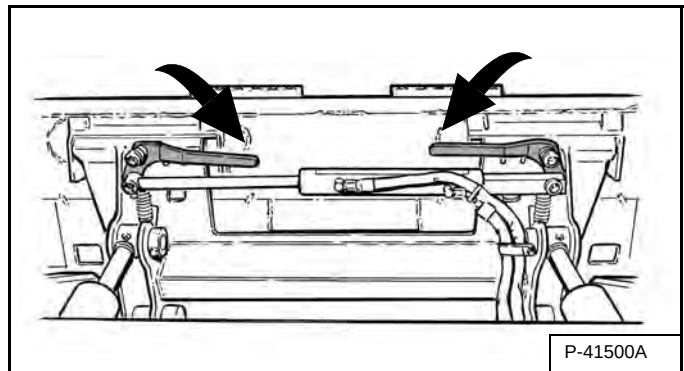
Figure 87



NOTE: The Power Bob-Tach system has continuous pressurized hydraulic oil to keep the wedges in the engaged position and prevent attachment disengagement. Because the wedges can slowly lower, the operator may need to reactivate the switch (BOB-TACH “WEDGES UP”) to be sure both wedges are fully raised before installing the attachment.

Push and hold the BOB-TACH “WEDGES UP” switch (Item 1) [Figure 87] until the levers are fully raised (wedges fully raised).

Figure 88



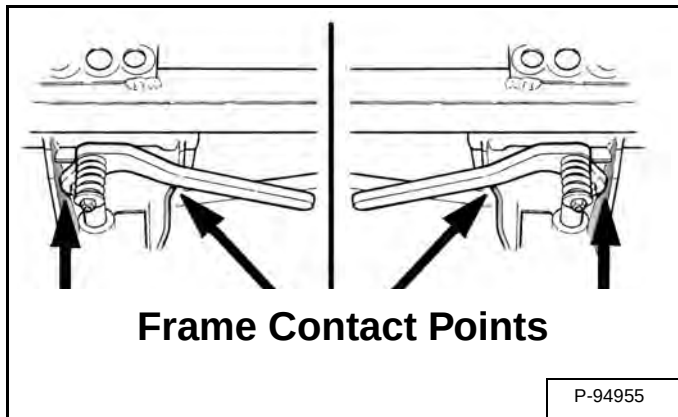
Push and hold the BOB-TACH “WEDGES DOWN” switch (Item 2) [Figure 87] until the levers are fully engaged in the locked position [Figure 88] (wedges fully extended through the attachment mounting frame holes).

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

Power Bob-Tach (Cont'd)

Figure 89



Both levers must contact the frame as shown when locked [Figure 89].

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

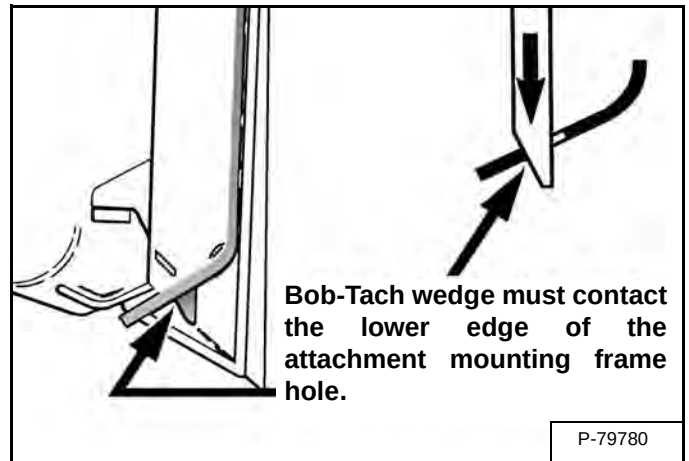
WARNING

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 90



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach [Figure 90].

Lower the lift arms and put the attachment flat on the ground.

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

Power Bob-Tach (Cont'd)

Stop the engine and exit the loader. (See Entering And Exiting The Loader on Page 54.)

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.

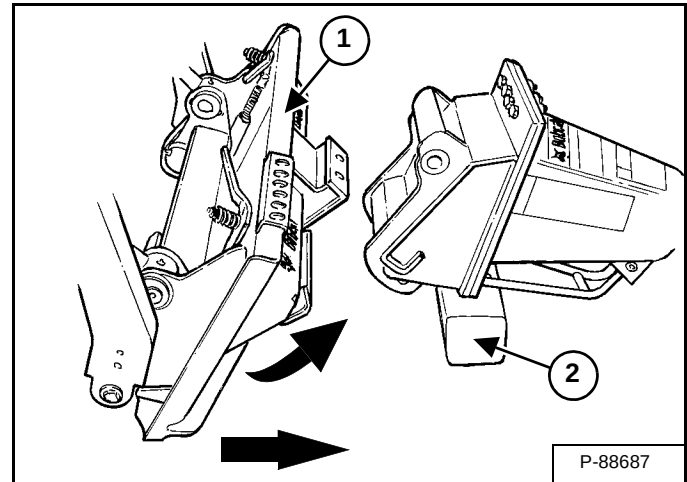
The seat bar system must deactivate these functions when the seat bar is up. See your Bobcat dealer for service if controls do not deactivate.

W-2463-1110

Connect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 66.)

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

Figure 91



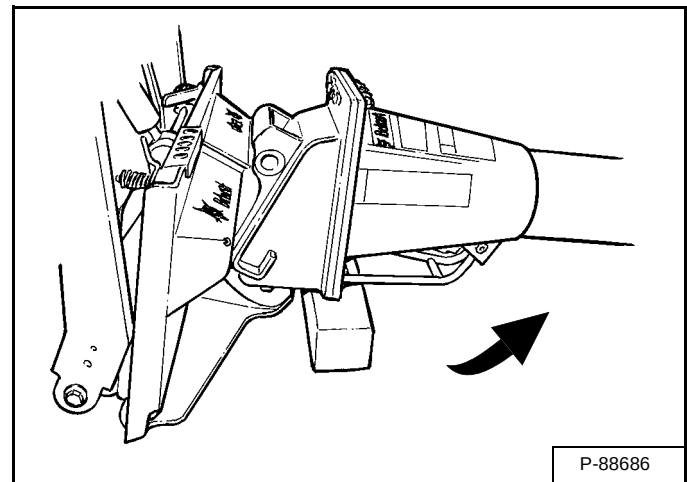
Install the breaker mount (Item 1) [Figure 91] on the loader.

Place the breaker on a block (Item 2) [Figure 91].

Tilt the Bob-Tach forward.

Drive the loader forward until the breaker mount frame engages the breaker [Figure 91].

Figure 92



Tilt the Bob-Tach backward until the breaker is slightly off the ground [Figure 92].

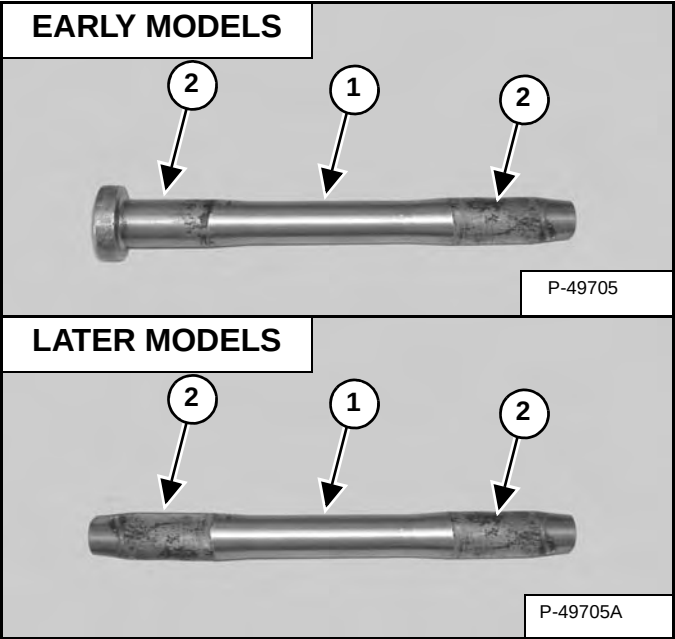
Stop the engine and exit the loader. (See Entering And Exiting The Loader on Page 54.)

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

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

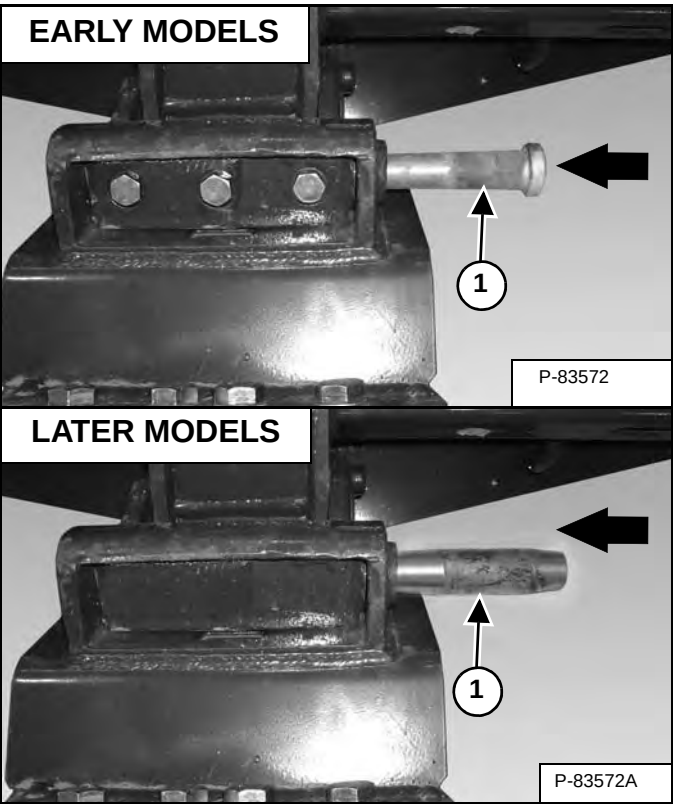
Figure 93



Inspect the pin (Item 1) [Figure 93] for wear or damage. Replace the pin as needed.

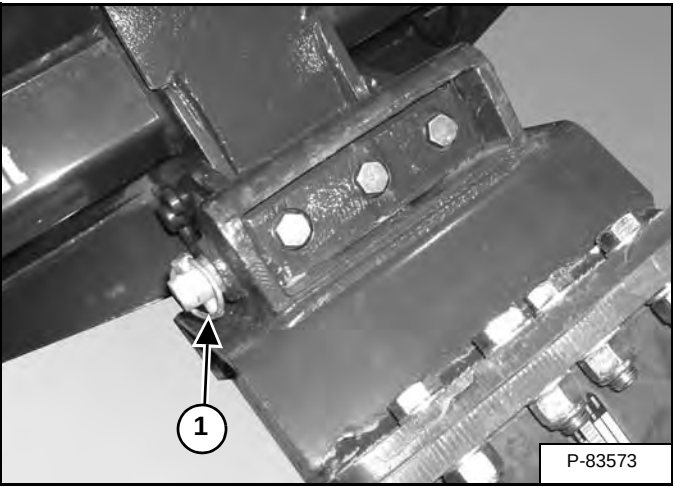
Apply a light coat of grease to the ends of the pin (Item 2) [Figure 93].

Figure 94



Drive the pin (Item 1) [Figure 94] through the breaker mount and X-Change.

Figure 95



Install the retainer pin(s) (Item 1) [Figure 95].

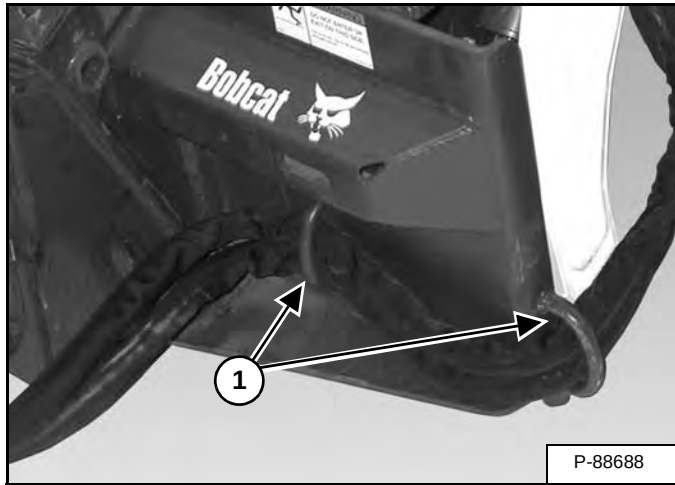
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

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

Figure 96



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 96] on the breaker mounting frame.

Connect the hose couplers to the loader quick couplers. (See Hydraulic Quick Couplers on Page 66.)

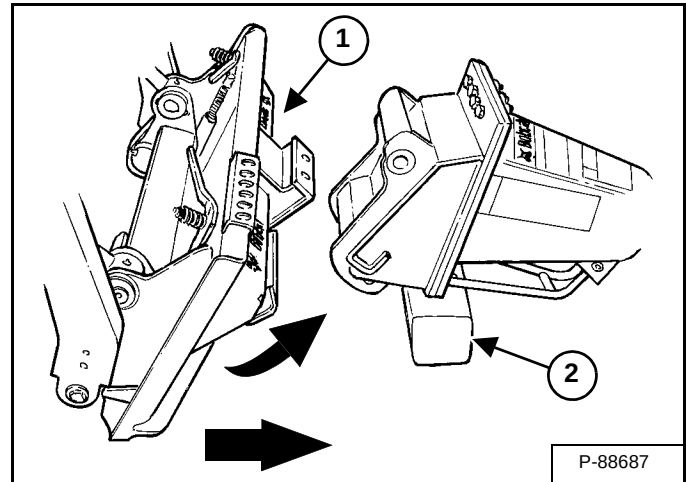
Turn the hoses so they are not twisted or kinked.

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 97



Install the breaker mount (Item 1) [Figure 97] on the loader.

Place the breaker on a block (Item 2) [Figure 97].

Enter the loader. (See Entering And Exiting The Loader on Page 54.)

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

Tilt the Bob-Tach forward.

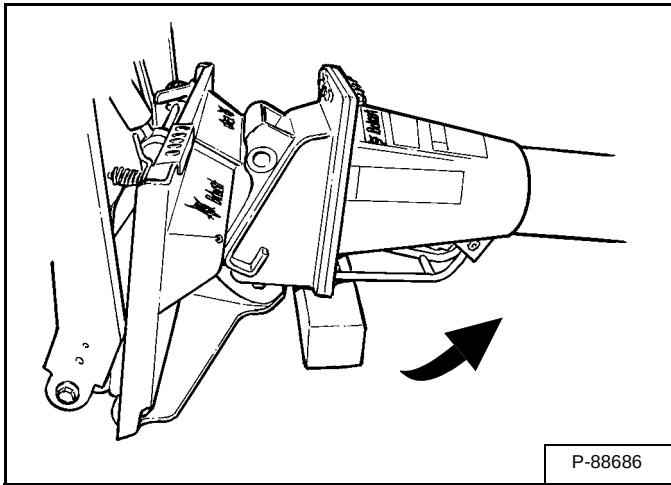
Drive the loader forward until the breaker mount frame engages the breaker [Figure 97].

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

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

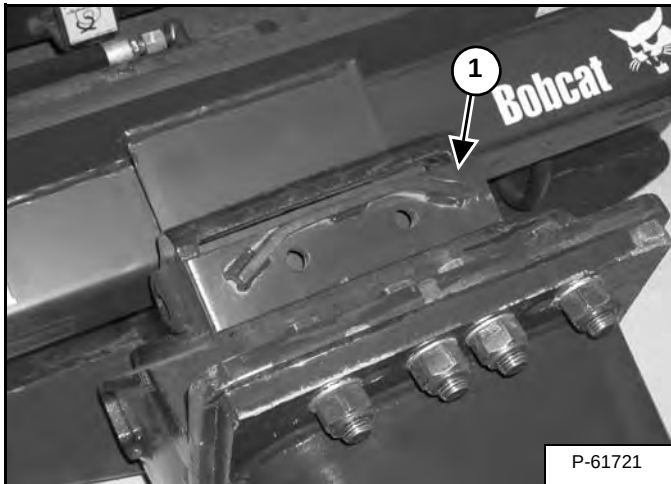
Figure 98



Tilt the Bob-Tach backward until the breaker is slightly off the ground [Figure 98].

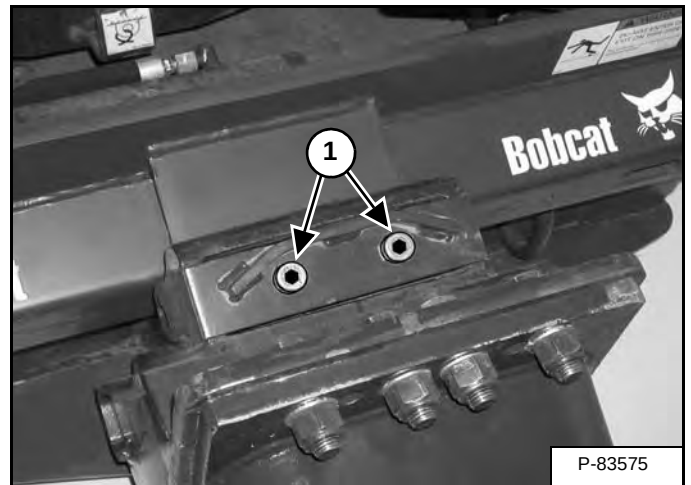
Stop the engine and exit the loader. (See Entering And Exiting The Loader on Page 54.)

Figure 99



Install the plate (Item 1) [Figure 99].

Figure 100



Install the bolts (Item 1) [Figure 100].

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 100]. Over torquing may cause bolt or thread damage or could result in the bolts breaking during operation.

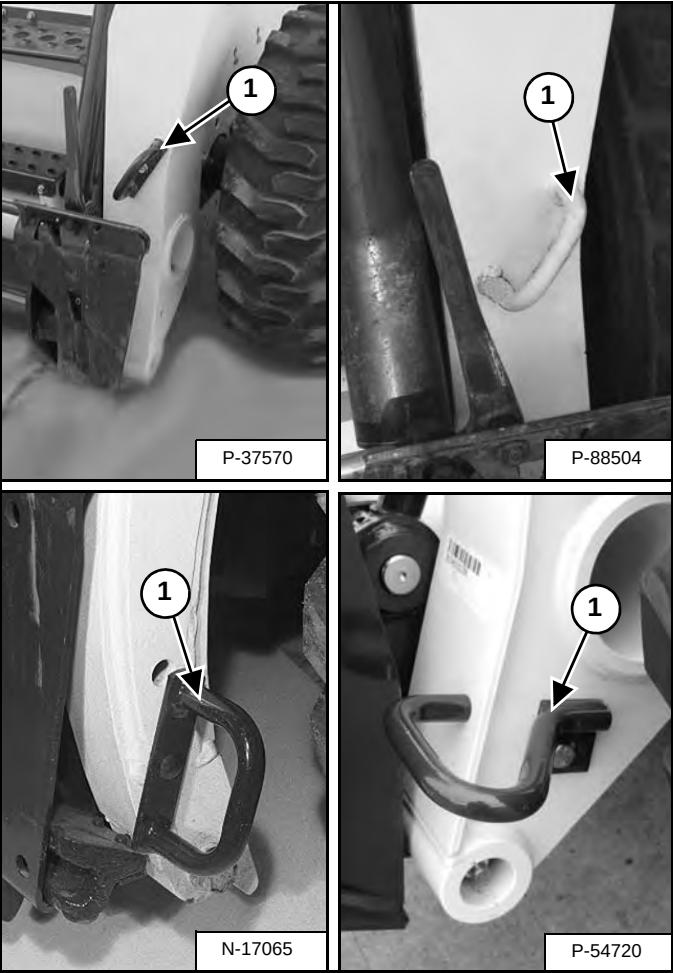
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Installation (Cont'd)

Hose Routing (Earlier Version)

Figure 101



Route hoses through hose guide (Item 1) [Figure 101] and connect quick couplers to the loader. (See For First Time Installation on Page 65.)

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.

Dealer Copy -- Not for Resale

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 66.)

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 54.)

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.

Dealer Copy -- Not for Resale

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 102

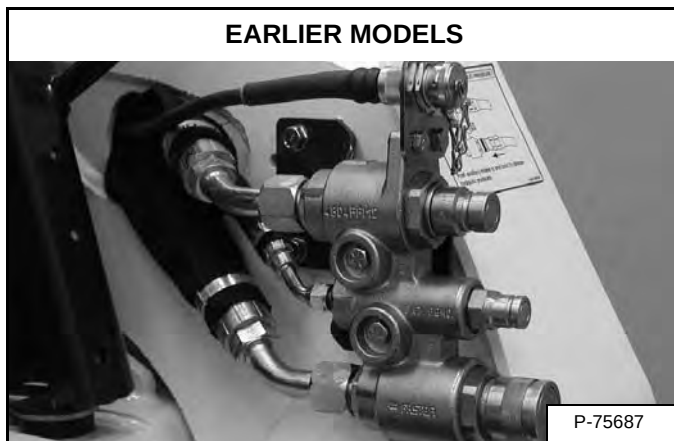
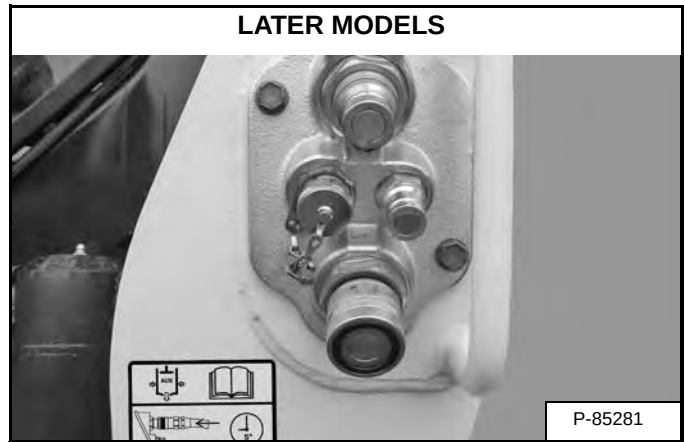


Figure 103



! 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 102] or [Figure 103].

Install the male coupler into the female coupler. Full connection is made when the ball release sleeve slides forward on the female coupler [Figure 102] or [Figure 103].

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 65.) 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

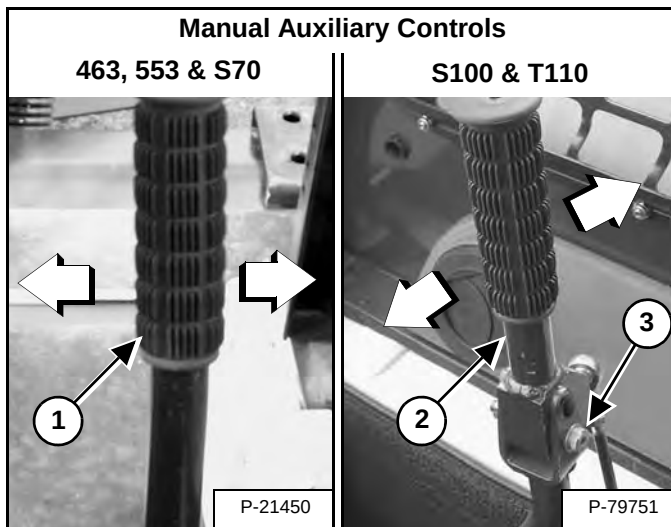
Enter the loader. (See Entering And Exiting The Loader on Page 54.)

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 104



To start the breaker, move the right steering lever (Item 1) or the right steering lever handle (Item 2) **[Figure 104]** to the right.

For continuous hydraulic flow, move the right steering lever (Item 1) or right steering handle (Item 2) **[Figure 104]** fully to the right.

To stop the breaker, move the right steering lever (Item 1) or the right steering lever handle (Item 2) **[Figure 104]** to the center position.

NOTE: Remove the auxiliary control lockout bolt and nut (Item 3) [Figure 104] (S100 and T110) before using the auxiliary control for the first time.

Figure 105



Continuous Flow

Press the front button (Item 1) **[Figure 105]** on the right steering lever once for continuous flow to the front auxiliary quick couplers (hydraulic breaker starts).

Push the button (Item 1) **[Figure 105]** 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.

Dealer Copy -- Not for Resale

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

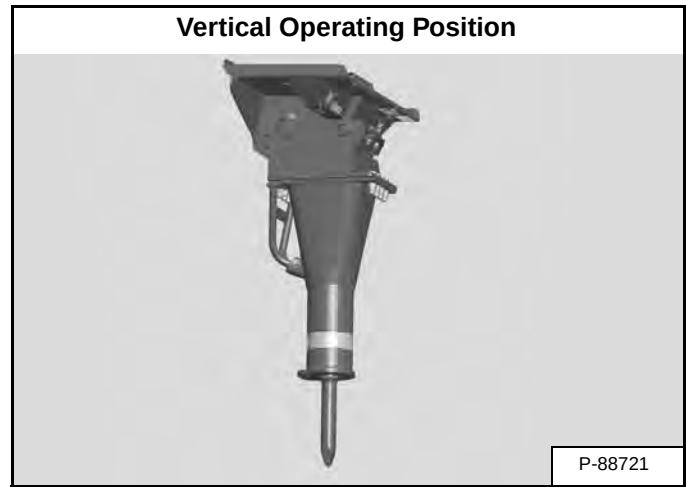
- Operator and bystanders must wear goggles, hard hat and noise protection when the breaker is in operation.
- **DO NOT** demolish overhead materials or ceilings.
- Keep all bystanders 6 m (20 ft) away from equipment when operating.

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.

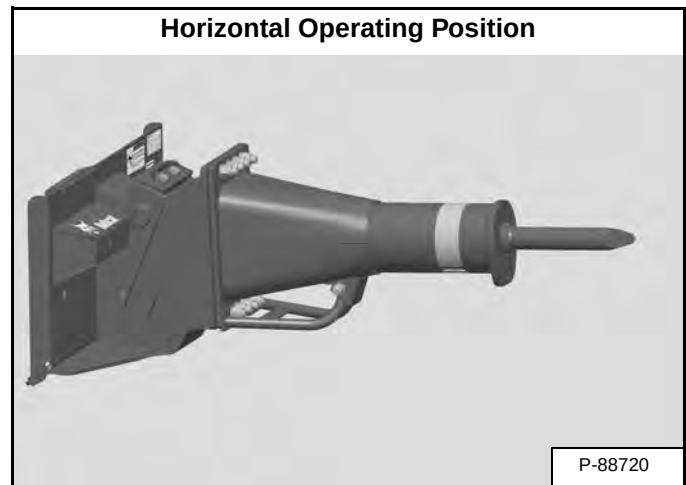
In cold weather conditions, warm the loader hydraulic fluid to operating temperature before operating the breaker.

Figure 106



When operating in the vertical position **[Figure 106]**, 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 107



When operating in the horizontal position **[Figure 107]**, work near the edge.

Dealer Copy -- Not for Resale

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 54.)

! WARNING

AVOID INJURY OR DEATH

Before you leave the operator's seat:

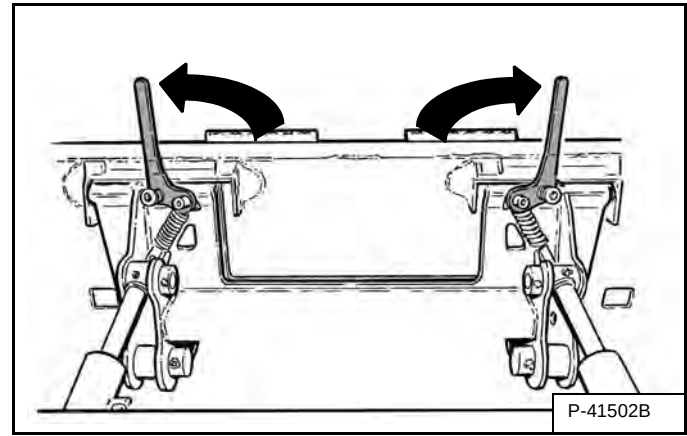
- Lower the lift arms and put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise the seat bar.
- Move all controls to the **NEUTRAL / LOCKED** position to make sure the lift, tilt and traction drive functions are deactivated.

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 66.)

Figure 108



Pull the Bob-Tach levers up [Figure 108] until they are fully raised (wedges fully raised).

! WARNING

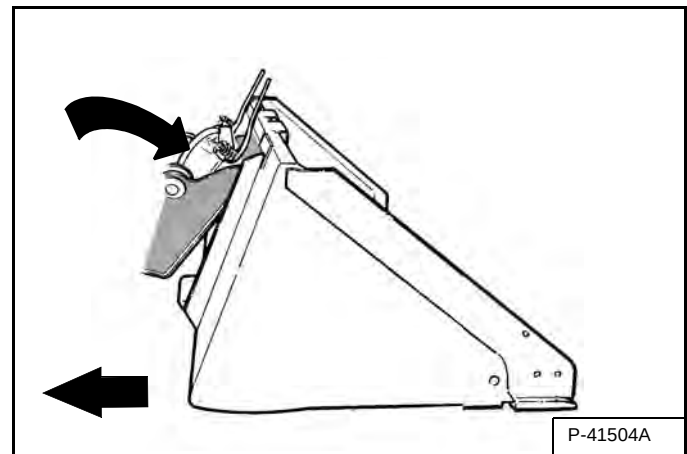
Bob-Tach levers have spring tension. Hold lever tightly and release slowly. Failure to obey warning can cause injury.

W-2054-1285

Enter the loader. (See Entering And Exiting The Loader on Page 54.)

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

Figure 109



Tilt the Bob-Tach forward and drive the loader backward, away from the attachment [Figure 109].

OPERATING PROCEDURE WITH LOADERS (CONT'D)

Removal (Cont'd)

Power 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 54.)

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 66.)

Enter the loader. (See Entering And Exiting The Loader on Page 54.)

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

Figure 110

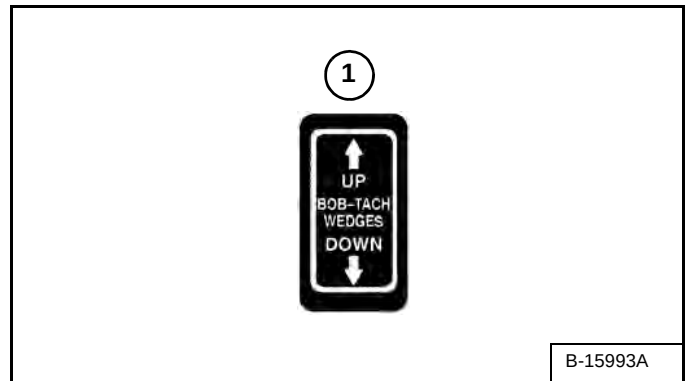
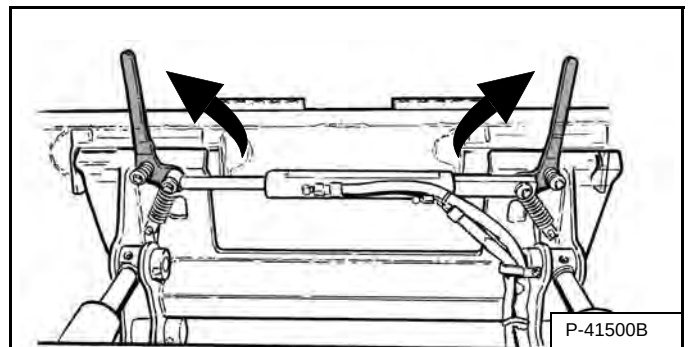
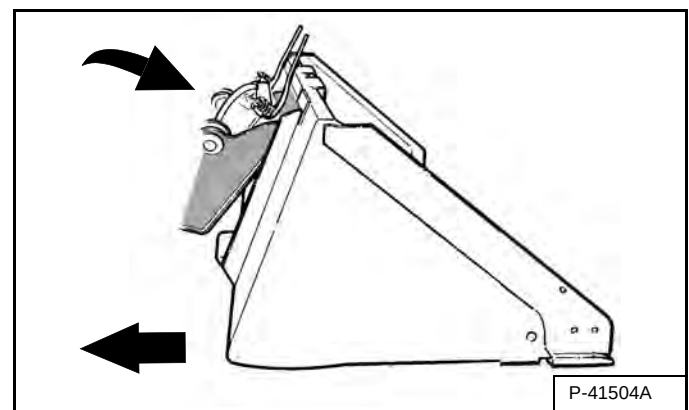


Figure 111



Push and hold the BOB-TACH "WEDGES UP" switch (Item 1) [Figure 110] (Front Panel) until the levers [Figure 111] are fully raised (wedges fully raised).

Figure 112



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

NOTE: The Power Bob-Tach system has continuous pressurized hydraulic oil to keep the wedges in the engaged position and prevent attachment disengagement. Because the wedges can slowly lower, the operator may need to reactivate the switch (BOB-TACH "WEDGES UP") when removing an attachment to be sure both wedges are fully raised.

Dealer Copy -- Not for Resale

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.

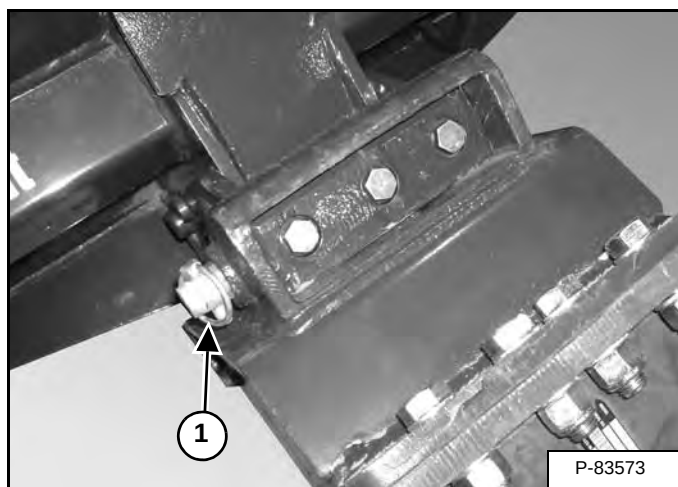
Stop the engine.

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 54.)

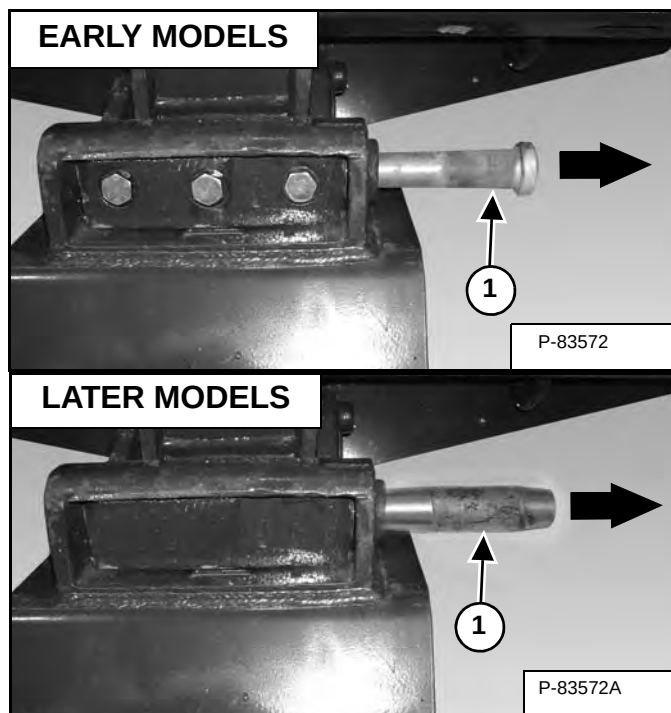
Disconnect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 66.)

Figure 113



Remove the retainer pin (Item 1) [Figure 113].

Figure 114

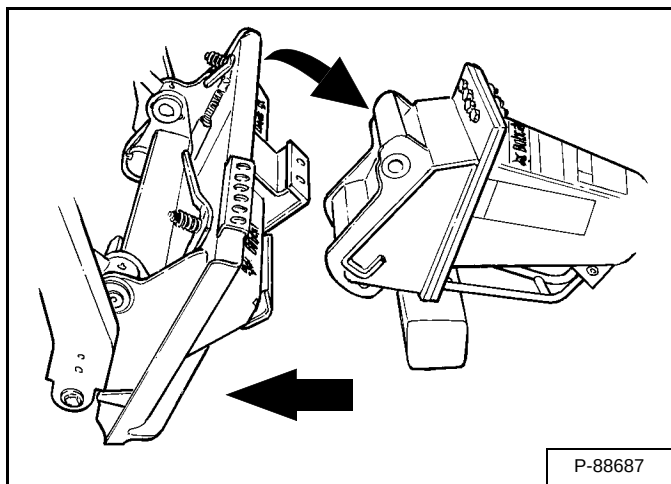


Drive the pin (Item 1) [Figure 114] out of the breaker and X-Change Mount.

Enter the loader. (See Entering And Exiting The Loader on Page 54.)

Start the engine.

Figure 115



Tilt the Bob-Tach forward while backing the loader away from the breaker [Figure 115].

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.

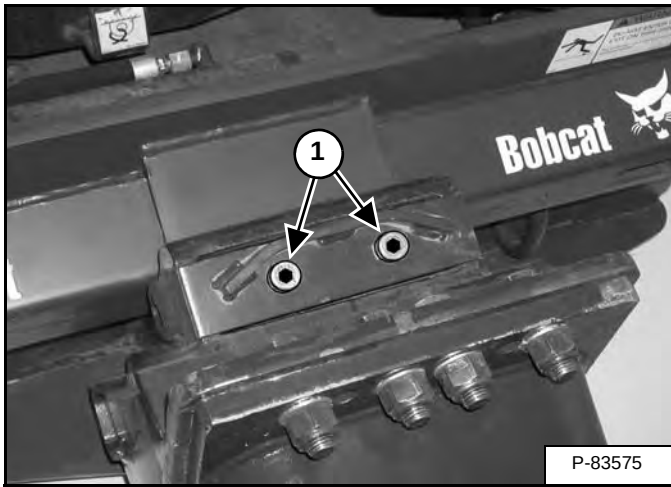
Stop the engine.

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 54.)

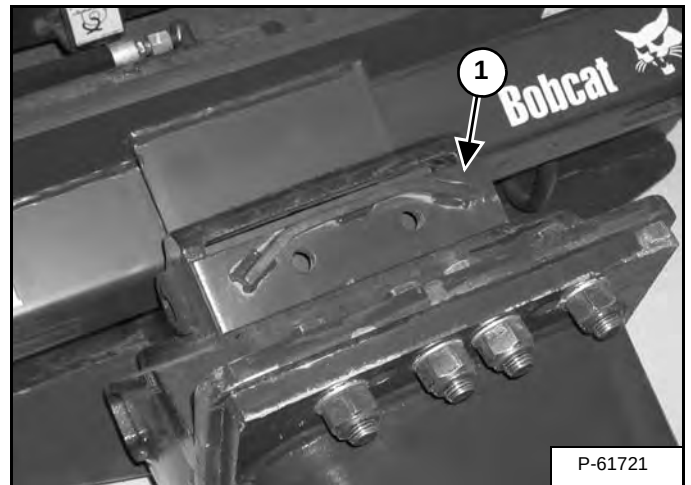
Disconnect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 66.)

Figure 116



Remove the bolts (Item 1) [Figure 116].

Figure 117

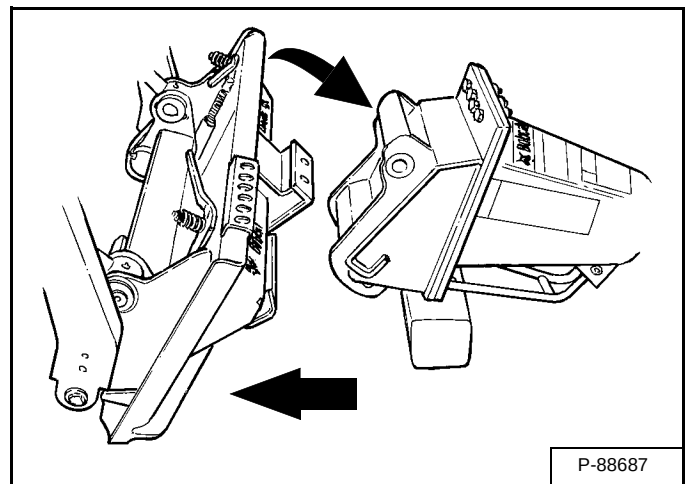


Remove the plate (Item 1) [Figure 117].

Enter the loader. (See Entering And Exiting The Loader on Page 54.)

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.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS

Approved Excavator Models And Requirements

Figure 119

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
E55				X	X
E60			*X	*X	X
E63					X
E80					X
E85					X

X = Approved

The chart [Figure 119] 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 or HB980 breakers on E60 excavator (S/N AGSZ11320 & Below), the breaker must be equipped with a diverter valve kit. See your Bobcat dealer for available kits.



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.

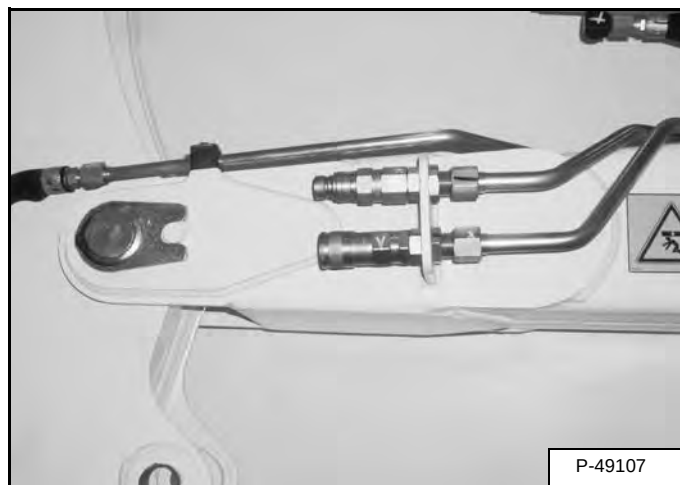
W-2662-0108

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Approved Excavator Models And Requirements (Cont'd)

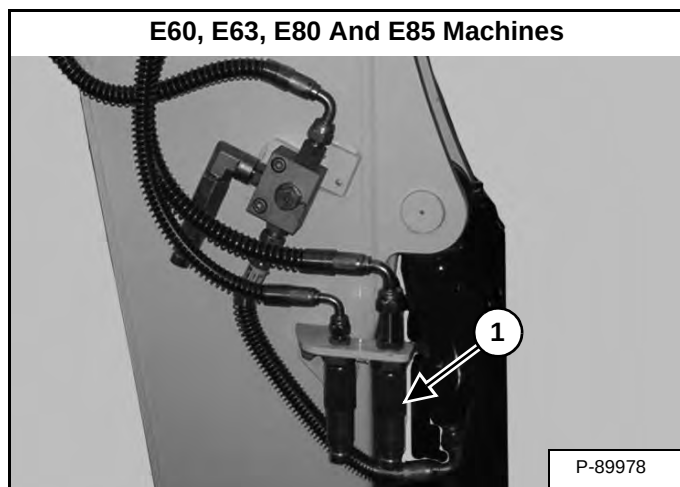
Figure 120



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 121



The excavator must be equipped with front auxiliary hydraulics [Figure 120] or [Figure 121].

Primary auxiliary male coupler (Item 1) [Figure 121].
Primary auxiliaries will be used for breaker operation.

NOTE: The male flush face coupler is located on the right side of the arm (shown) [Figure 121], the female coupler is located on the left side of the arm on E60, E63, E80 and E85 excavators.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Falling-Object Guard System (FOGS)



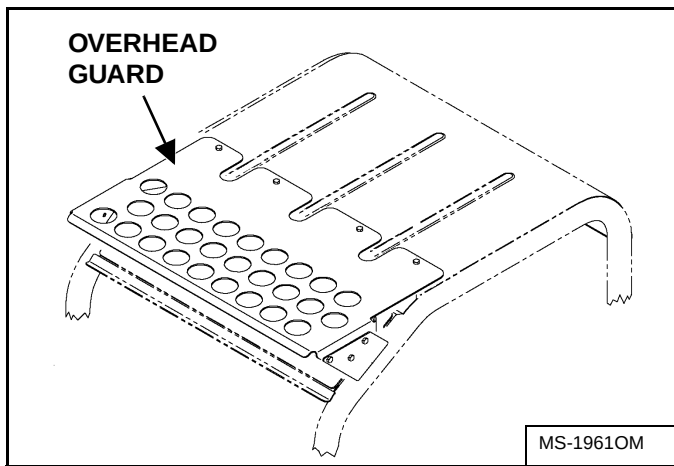
WARNING

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 to provide added operator protection in these applications.

W-2737-0508

Figure 122



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 122] and [Figure 123].

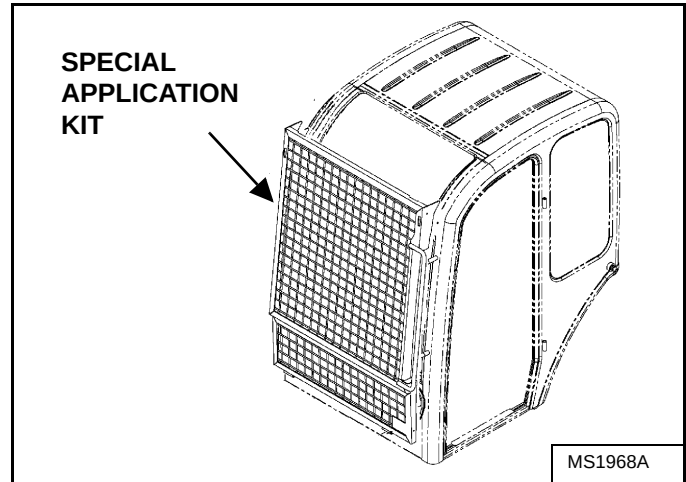
See your Bobcat dealer for available falling object guard structure kit for your model excavator.

Falling-Object Guard System (FOGS) Inspection And Maintenance

Inspect the Falling-Object Guard Structure (FOGS) [Figure 122] and all hardware. Repair or replace all damaged or missing parts.

Special Applications Kit

Figure 123



The Special Applications Kit includes an upper and lower screen guard [Figure 123].

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

Special Applications Kit Inspection And Maintenance

Inspect the Special Applications Kit [Figure 123] and all hardware. Repair or replace all damaged or missing parts.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Entering And Exiting the Excavator

Entering

WARNING

AVOID INJURY OR DEATH

When operating the machine:

- Keep the seat belt fastened snugly.
- The control console(s) must be lowered.
- Keep your feet and arms inside the cab.

W-2777-1208

Figure 124



Use the grab handles, tracks and the safety treads to enter and exit the excavator [Figure 124].

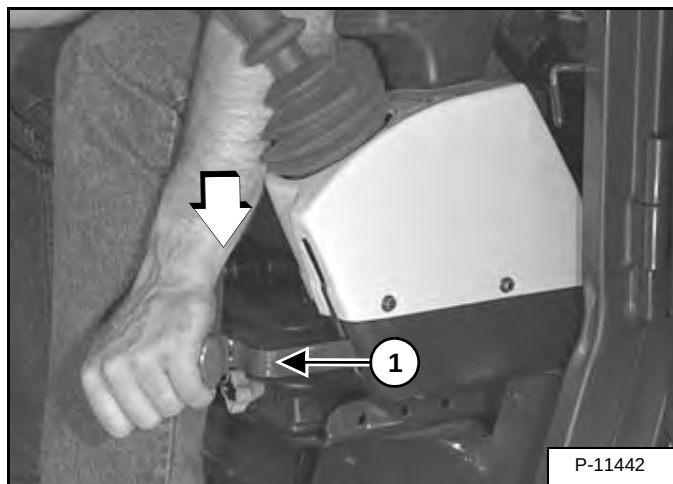
NOTE: Maintain three-point contact at all times while entering or exiting the excavator. Do not jump.

Figure 125



Fasten the seat belt snugly. Adjust the seat belt so the belt is over the operator's hips [Figure 125].

Figure 126



Lower the left control lever (Item 1) [Figure 126] console before starting the engine.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Entering And Exiting the Excavator (Cont'd)

Entering (Cont'd)

Figure 127



Lower the control console [Figure 127].

NOTE: There is a control lock switch in the left console which deactivates the hydraulic control levers (joysticks and traction system) when the control console lock lever is raised. The console must be in the locked down position for the hydraulic control levers (joysticks and traction system) to operate.

NOTE: If the control lock switch does not deactivate the control levers when the console lock lever is raised, see your Bobcat dealer for service.

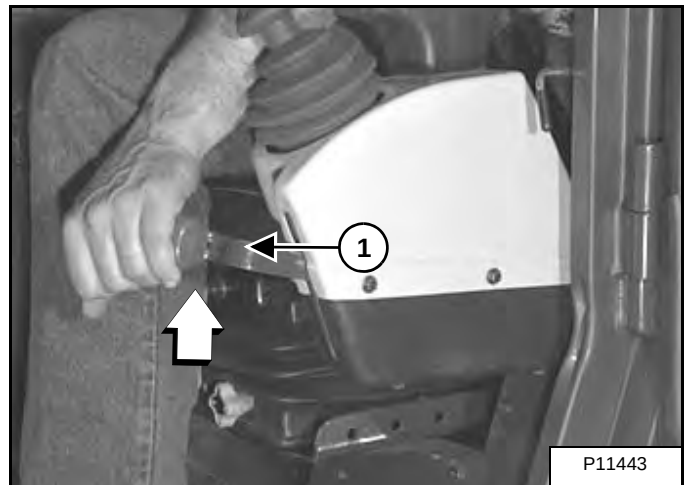
Exiting

Lower the work equipment to the ground.

Lower the blade to the ground.

Stop the engine and remove the key.

Figure 128



Lift up on the lever (Item 1) [Figure 128] to release and raise the control console.

Figure 129



Raise the control console [Figure 129].

Exit the excavator.

See the excavator's Operation & Maintenance Manual and Operator's Handbook for detailed information on operating the excavator.

WARNING

AVOID INJURY OR DEATH

Before leaving the machine:

- Lower the work equipment to the ground.
- Lower the blade to the ground.
- Stop the engine and remove the key.

W-2196-0595

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation

Hydraulic X-Change (Earlier Models)

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

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

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

Figure 130



Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

Swing the excavator arm fully to the left [Figure 130] (for better operator visibility when connecting attachments).

Figure 131



Press and hold the X-Change switch (Item 1) [Figure 131] to the right to fully retract the hydraulic pins.

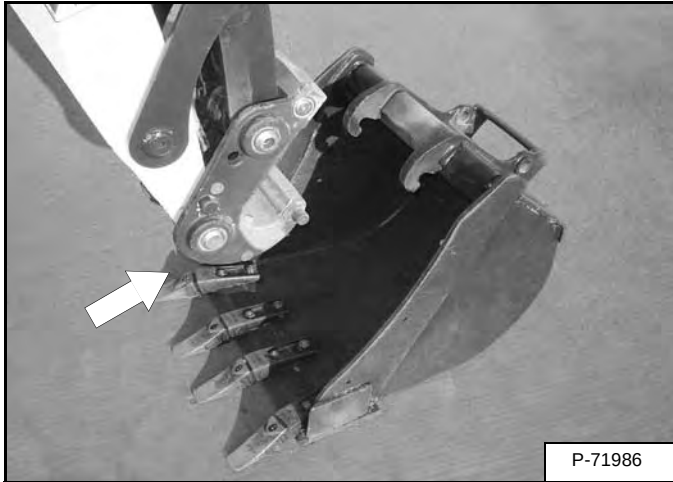
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

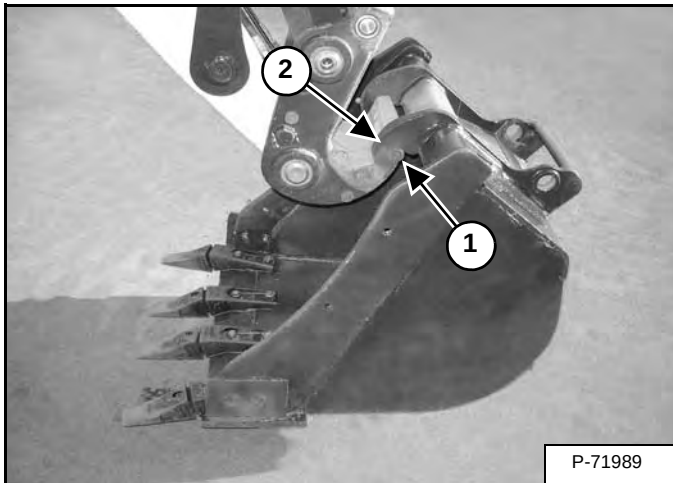
Hydraulic X-Change (Earlier Models) (Cont'd)

Figure 132



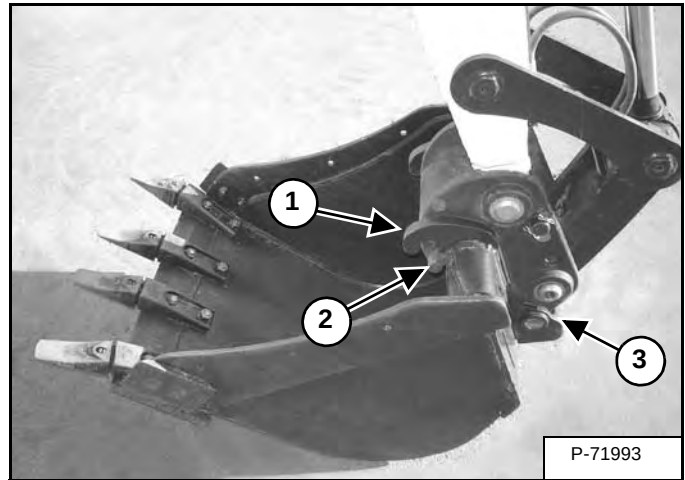
Move the arm toward the attachment [Figure 132].

Figure 133



Raise the boom until the X-Change pins (Item 1) engage the attachment hooks (Item 2) [Figure 133] on the bucket.

Figure 134



Raise the boom and extend (curl in) the bucket cylinder until the X-Change contacts the back of the attachment [Figure 134].

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 134] fully engages into the bucket crossmember.

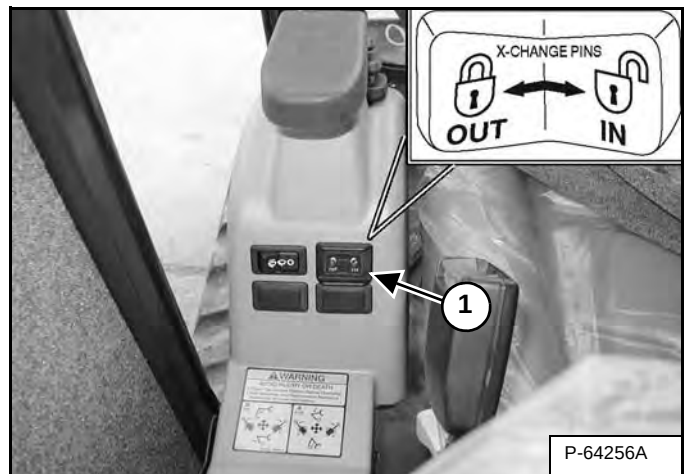


WARNING

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 135



Press and hold the X-Change switch (Item 1) [Figure 135] to the left and **FULLY EXTEND** the hydraulic pins.

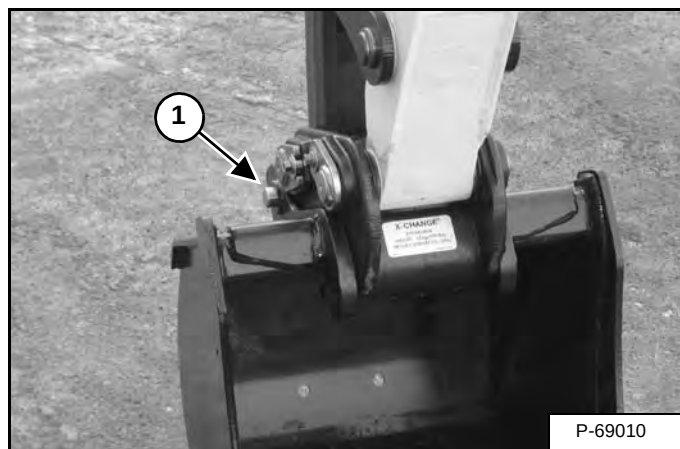
OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

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 77.)

Figure 136



Check that both hydraulic pins (Item 1) [Figure 136] are fully engaged to secure the attachment.

Figure 137

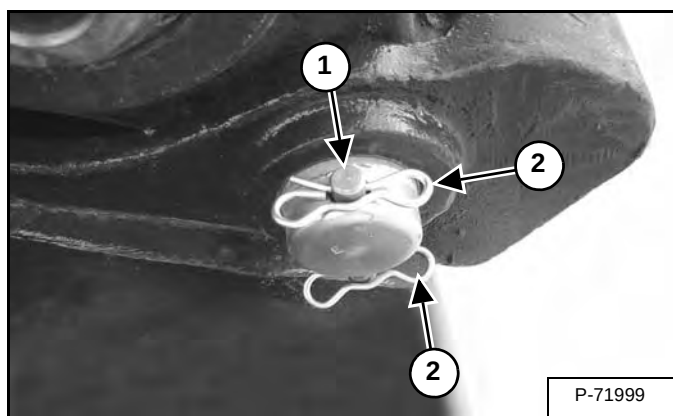
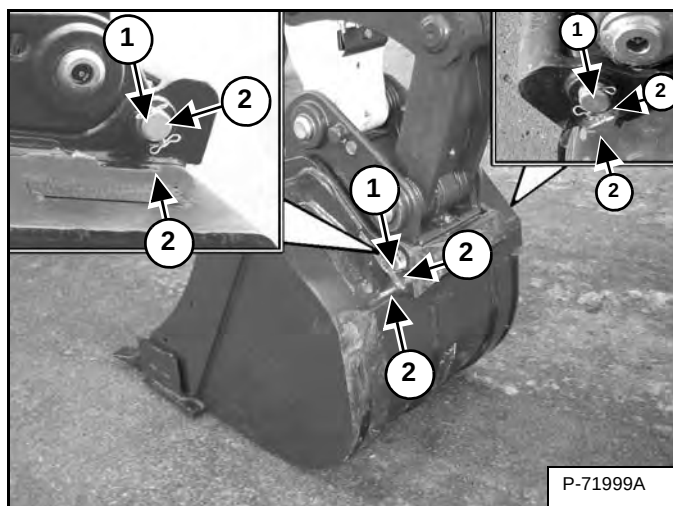


Figure 138



Install retainer pin (Item 1) and clips (Item 2) [Figure 137] and [Figure 138] into each hydraulic pin (both sides).

Dealer Copy -- Not for Resale

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)

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

WARNING

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

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

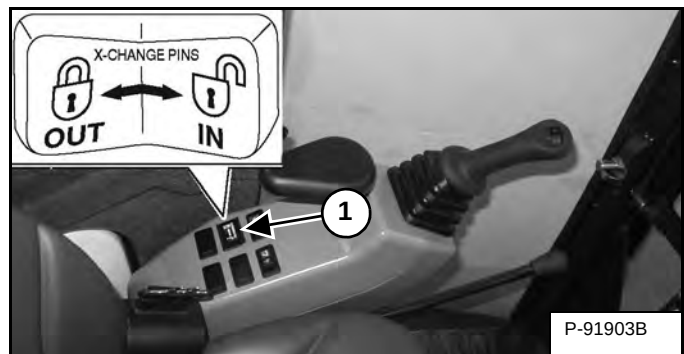
Figure 139



Start the engine.

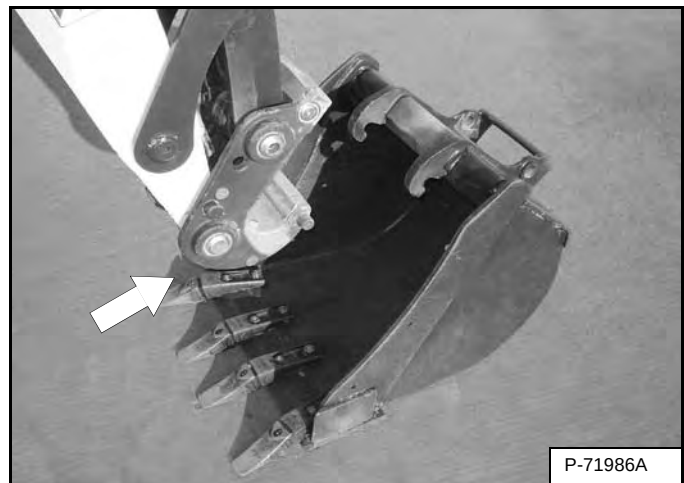
Swing the excavator arm fully to the left [Figure 139] (for better operator visibility when connecting attachments).

Figure 140



Press and hold the X-Change switch (Item 1) [Figure 140] to the right (IN) to fully retract the hydraulic pins.

Figure 141



Move the arm toward the attachment [Figure 141].

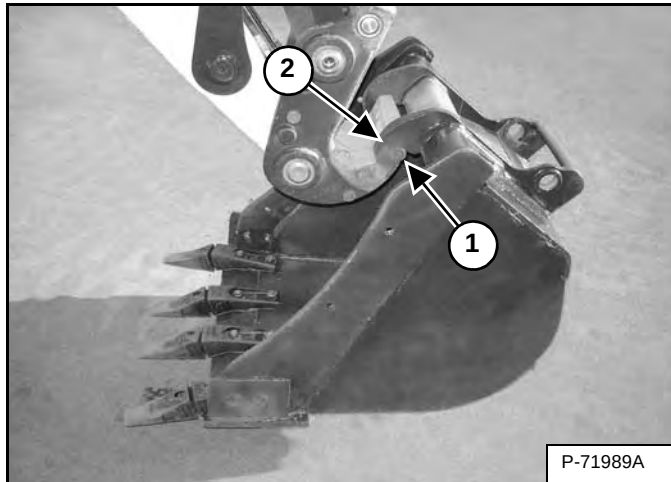
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

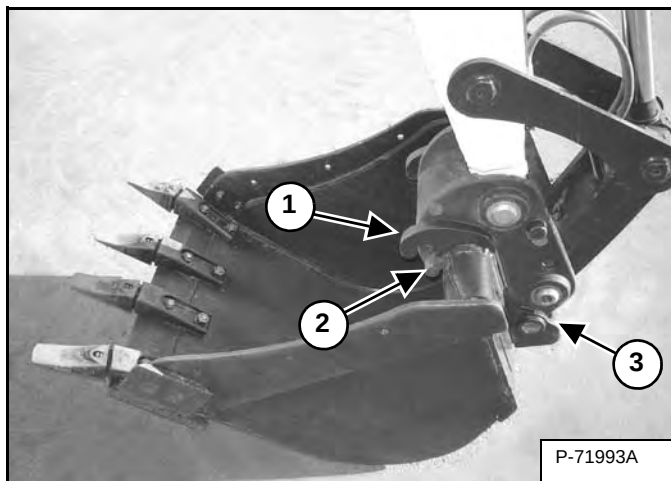
Hydraulic X-Change (Later Models) (Cont'd)

Figure 142



Raise the boom until the X-Change pins (Item 1) engage the attachment hooks (Item 2) [Figure 142] on the bucket.

Figure 143



Raise the boom and extend (curl in) the bucket cylinder until the X-Change contacts the back of the attachment [Figure 143].

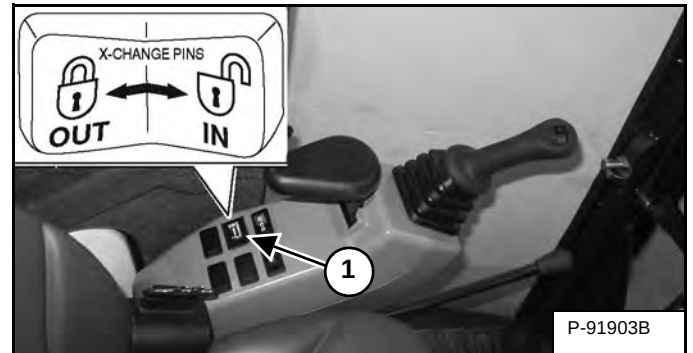
With the arm vertical, lower the boom until the hooks (Item 1) of the bucket disengage the X-Change pins (Item 2) and the plate (Item 3) [Figure 143] fully engages into the bucket crossmember.

! 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.

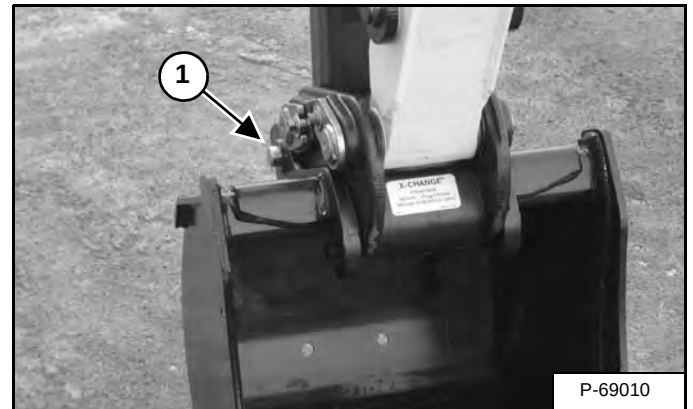
W-2119-0910

Figure 144



Press and hold the X-Change switch (Item 1) [Figure 144] to the left (OUT) and **FULLY EXTEND** the hydraulic pins.

Figure 145



Check that both hydraulic pins (Item 1) [Figure 145] 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

Dealer Copy -- Not for Resale

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.

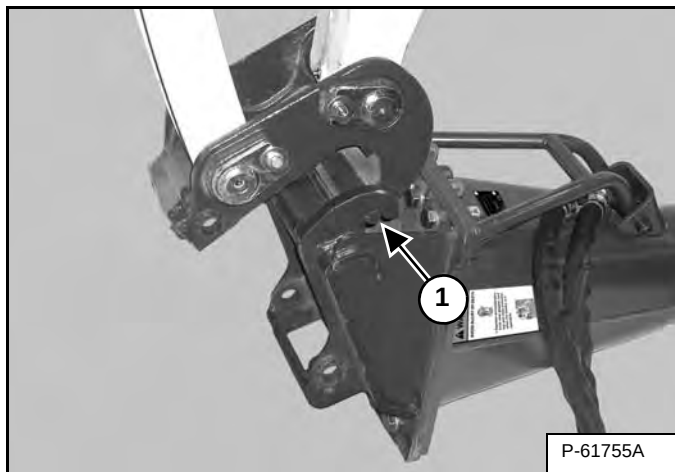
Enter the excavator, fasten the seat belt and start the engine.

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

Fully retract the bucket cylinder.

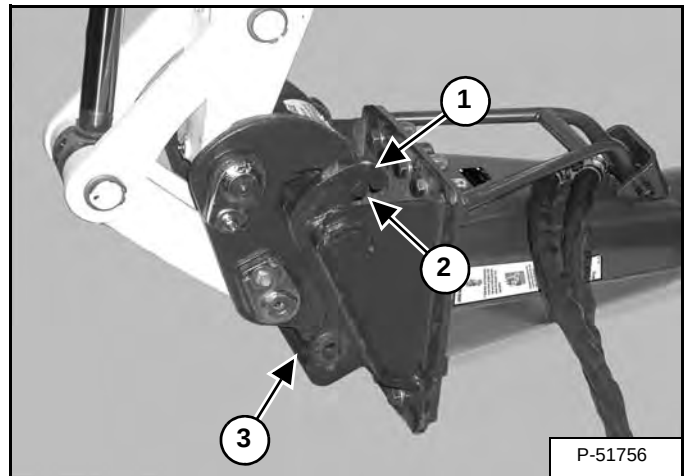
Move the arm toward the breaker mounting frame.

Figure 146



Raise the boom until the pins (Item 1) [Figure 146] engage the hooks on the mounting frame.

Figure 147



Raise the boom and extend the bucket cylinder until the X-Change contacts the attachment back [Figure 147].

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 147] 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.)

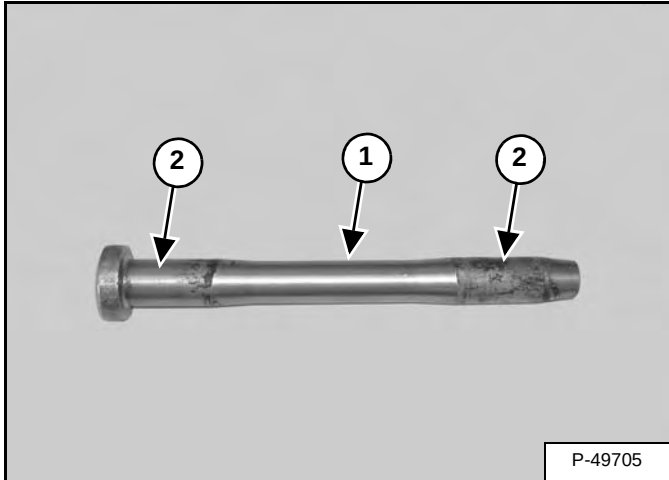
Exit the excavator. (See Entering And Exiting the Excavator on Page 77.)

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Pin-On X-Change (Cont'd)

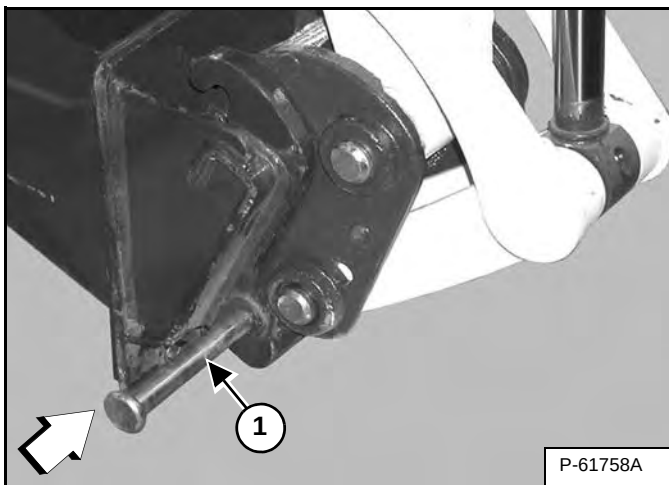
Figure 148



Inspect the pin (Item 1) [Figure 148] for wear or damage. Replace the pin as needed.

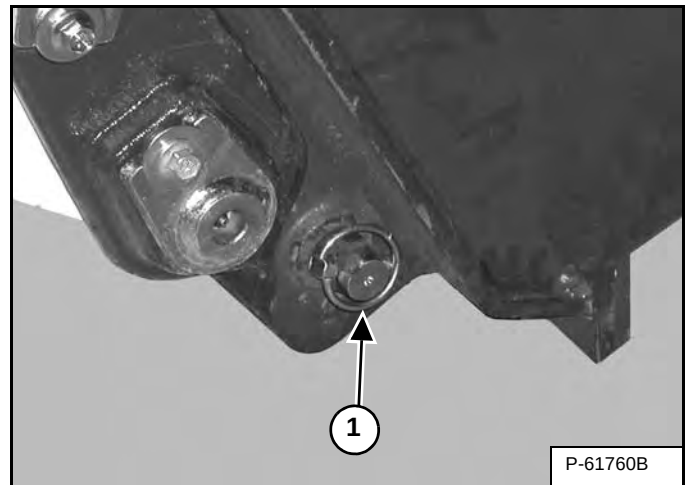
Apply a light coat of grease to the ends of the pin (Item 2) [Figure 148].

Figure 149



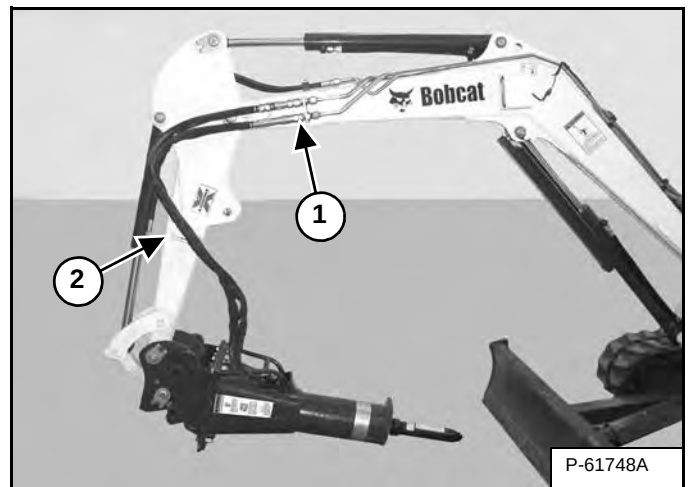
Drive the pin (Item 1) [Figure 149] through the breaker mount and X-Change.

Figure 150



Install the retainer pin (Item 1) [Figure 150].

Figure 151



Route the hoses up to the auxiliary couplers (Item 1) [Figure 151]. (See Hydraulic Quick Couplers on Page 101.)

NOTE: Do not route the hoses through the retainer (Item 2) [Figure 151] 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.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Bolt-On X-Change

! WARNING

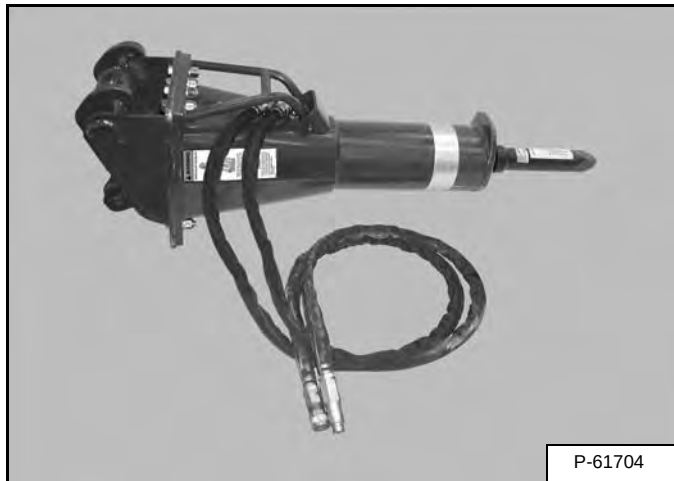
AVOID INJURY OR DEATH

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 152



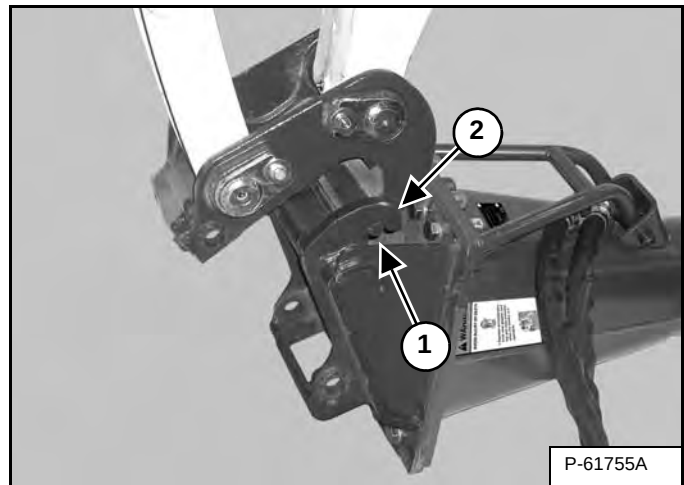
Position the breaker so the hydraulic hoses will be toward the excavator during operation and are facing up [Figure 152].

Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

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

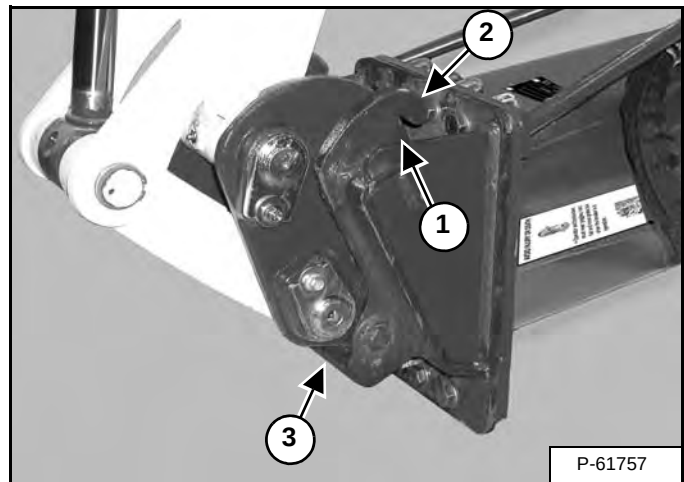
Fully retract the bucket cylinder.

Figure 153



Move the arm toward the breaker. Raise the boom until the pins (Item 1) engage the hooks (Item 2) [Figure 153] on the mount.

Figure 154



Raise the boom, and extend the bucket cylinder until the X-Change contacts the attachment back [Figure 154].

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 154] 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 77.)

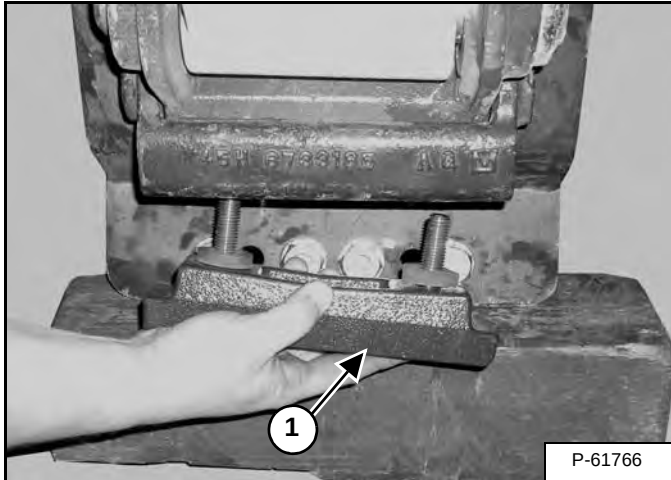
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

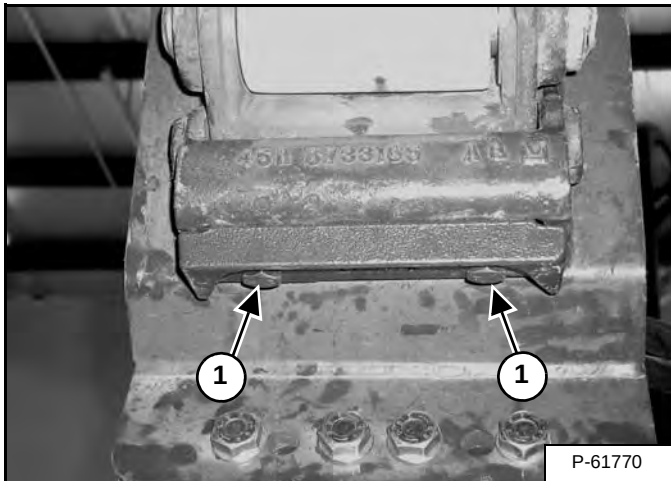
Bolt-On X-Change (Cont'd)

Figure 155



Install the plate (Item 1) [Figure 155] into the X-Change.

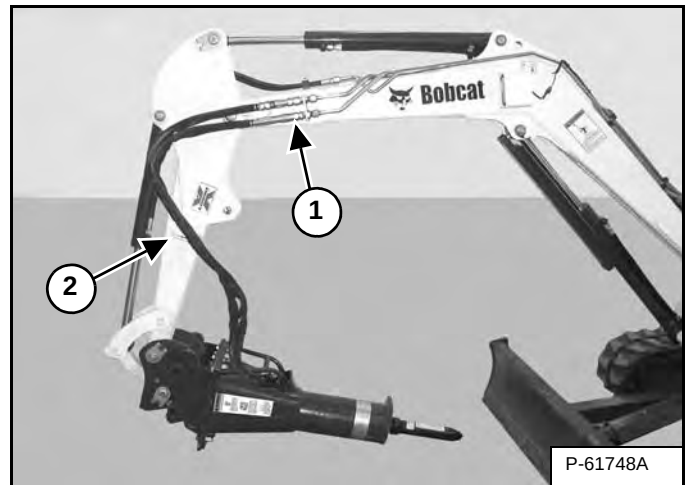
Figure 156



Install the two bolts (Item 1) [Figure 156]. 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 156]. Over torquing may cause bolt or thread damage or could result in the bolts breaking during operation.

Figure 157



Route the hoses up to the auxiliary couplers (Item 1) [Figure 157]. (See Hydraulic Quick Couplers on Page 101.)

NOTE: Do Not route the hoses through the retainer (Item 2) [Figure 157] 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.

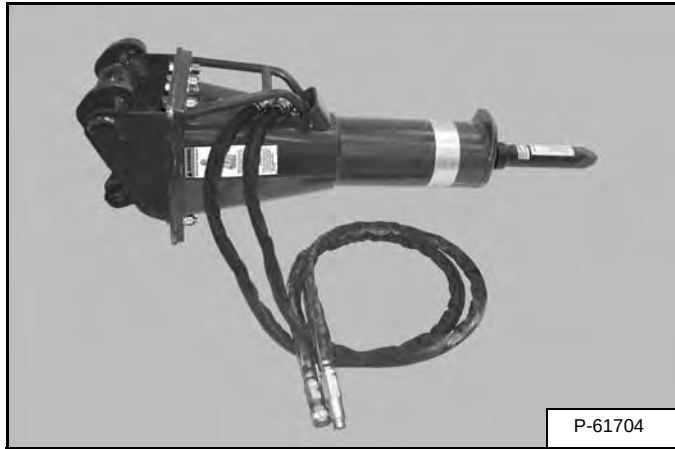
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

X-Change System

Figure 158



Position the breaker so the hydraulic hoses will be toward the excavator during operation and are facing up **[Figure 158]**.

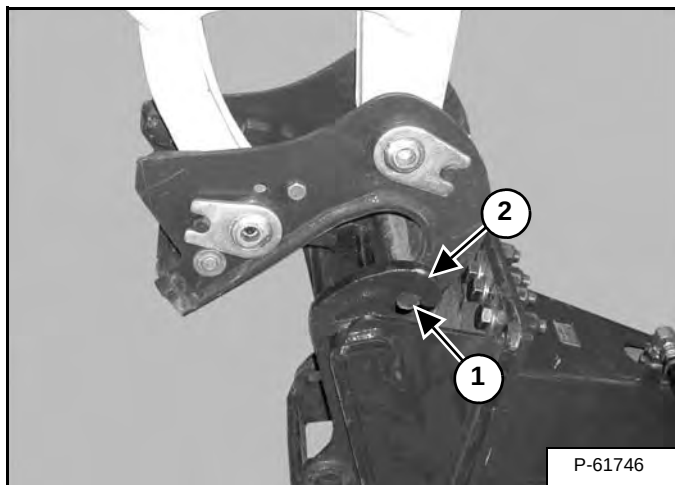
Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

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 159



Raise the boom until the pins (Item 1) engage the hooks (Item 2) **[Figure 159]** on the mounting frame.

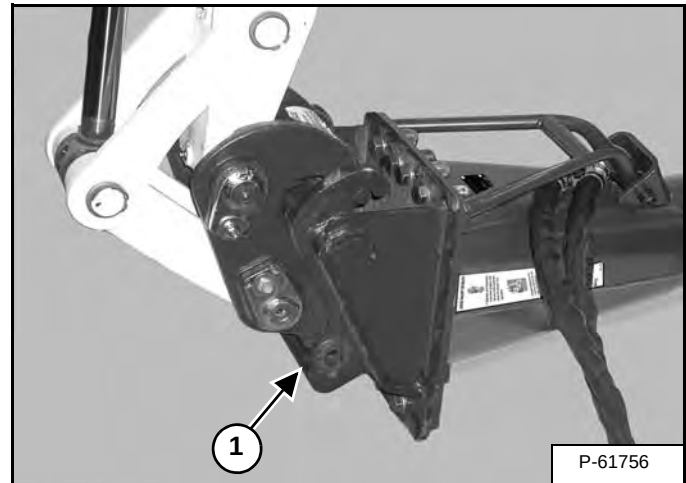
WARNING

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 160



Raise the boom and extend the bucket cylinder until the X-Change seats in the mating area of the mounting frame **[Figure 160]**.

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 160]** locking the breaker frame to the X-Change.

Stop the engine.

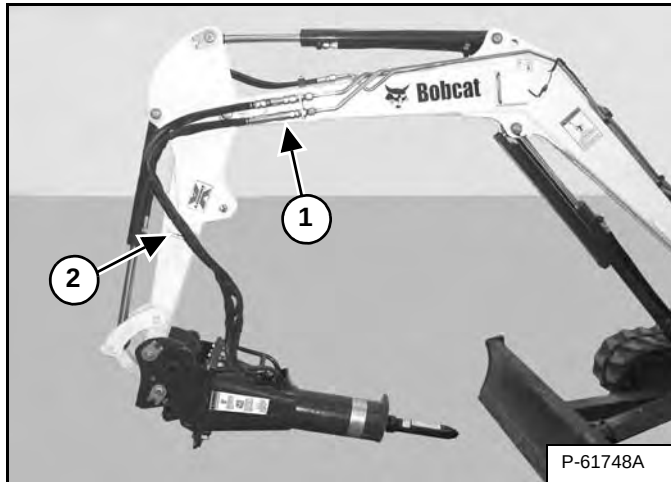
Exit the excavator. (See Entering And Exiting the Excavator on Page 77.)

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

X-Change System (Cont'd)

Figure 161



Route the hoses up to the auxiliary couplers (Item 1) [Figure 161]. (See Hydraulic Quick Couplers on Page 101.)

NOTE: Do Not route the hoses through the retainer (Item 2) [Figure 161] 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 77.)

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.

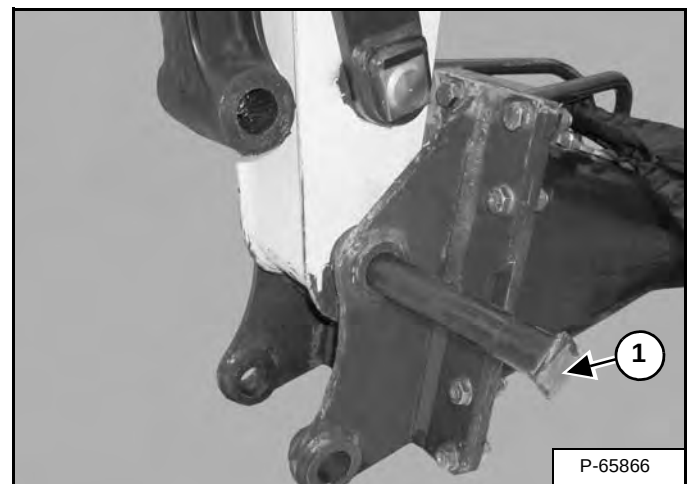
Align the boom into the breaker mounting frame.

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 77.)

Figure 162



Install the pin (Item 1) [Figure 162].

Enter the excavator and start the engine.

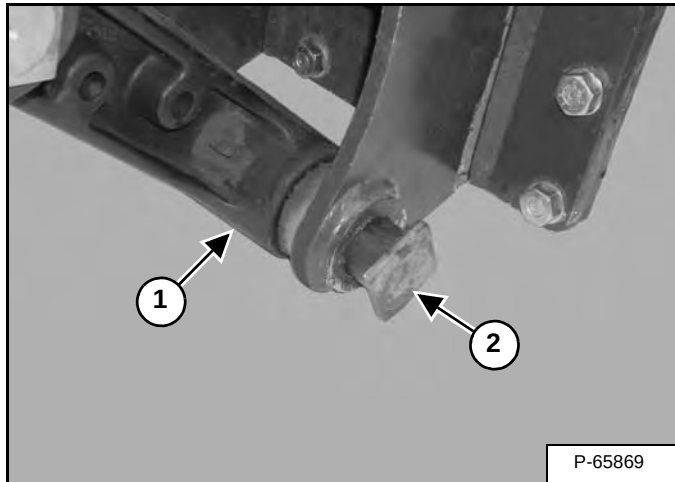
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

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

Figure 163



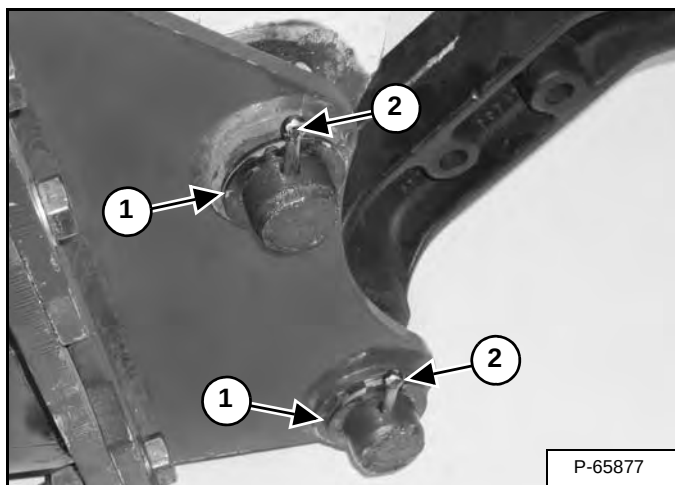
Extend the bucket cylinder until the bucket link (Item 1) [Figure 163] aligns with the bottom hole on the breaker frame.

Stop the engine.

Exit the excavator. (See Entering And Exiting the Excavator on Page 77.)

Install the pin (Item 2) [Figure 163] into the bottom hole of the breaker mounting frame and the bucket link.

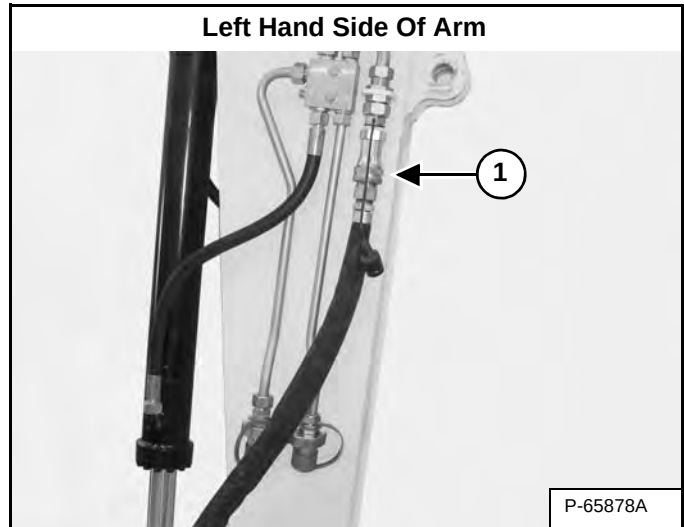
Figure 164



On the opposite side of the pins, install the washers (Item 1) and the retainer pins (Item 2) [Figure 164].

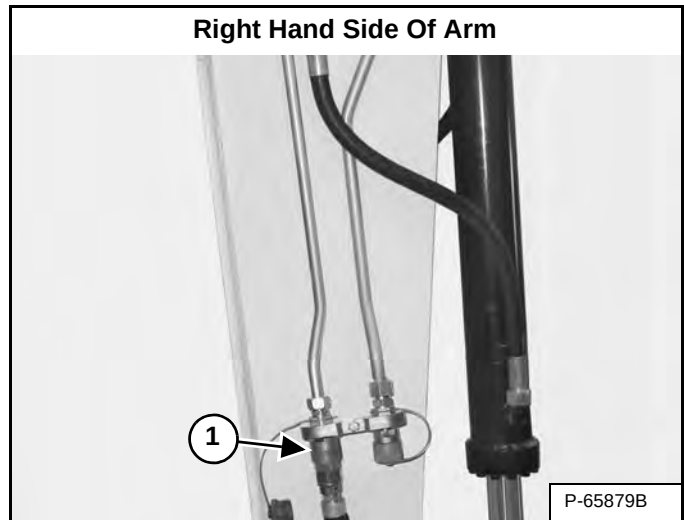
Spread the ends of the two retainer pins (Item 2) [Figure 164] so that they will be retained in the pin.

Figure 165



Route the hoses (from the *HB* port on the breaker) up the arm and connect the auxiliary coupler (Item 1) [Figure 165] to the return to tank coupler.

Figure 166



Route the hose (from the *HP* port on the breaker) up the arm and connect to the auxiliary coupler (Item 1) [Figure 166].

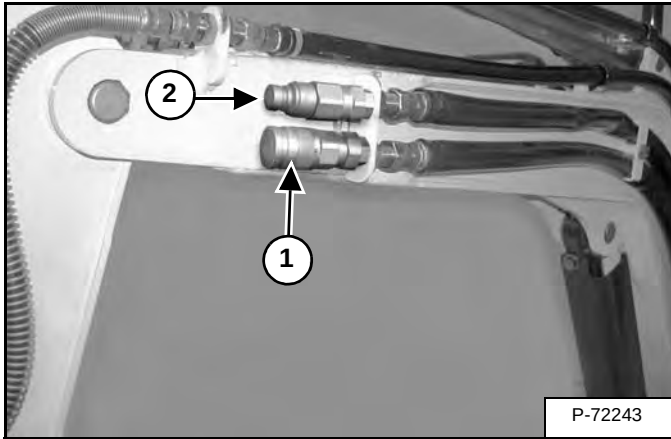
OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

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 167



Install the male quick coupler (Item 1) on the bottom auxiliary hydraulic line and the female quick coupler (Item 2) [Figure 167] on the top hydraulic line.

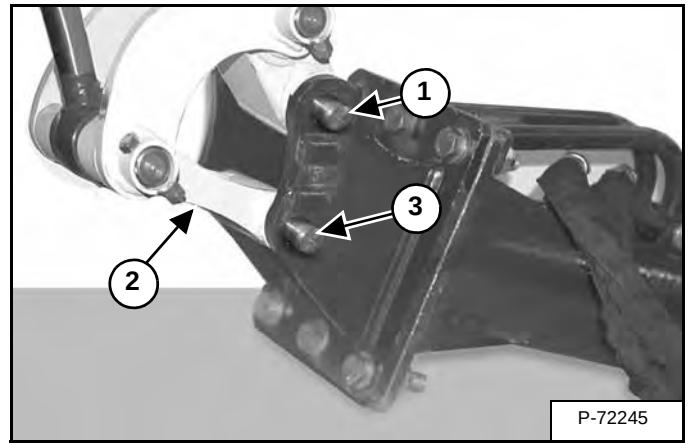
WARNING

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.

Figure 168



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 77.)

Install the pivot pin (Item 1) [Figure 168].

Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

Start the engine.

Extend the bucket cylinder until the link (Item 2) [Figure 168] aligns with the bottom hole on the breaker frame.

Stop the engine and exit the excavator. (See Entering And Exiting the Excavator on Page 77.)

Install the pivot pin (Item 3) [Figure 168].

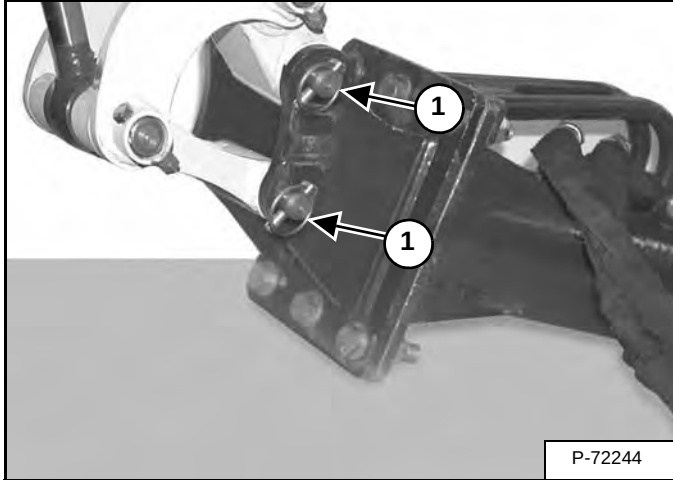
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

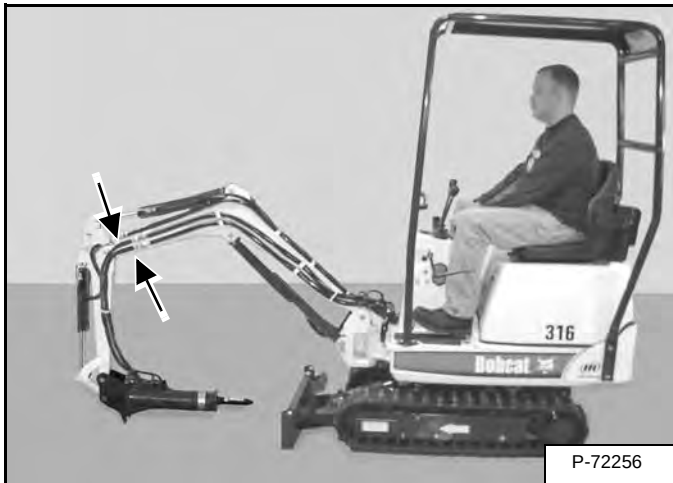
Pin-On Attachment (316, 418, E20, E26, E32, E35, E42, E45, E50 And E55 Excavators) (Cont'd)

Figure 169



Install the retaining clips (Item 1) **[Figure 169]**.

Figure 170



Route the hoses up the arm and connect to the auxiliary couplers **[Figure 170]**. (See Hydraulic Quick Couplers on Page 101.)

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

Dealer Copy -- Not for Resale

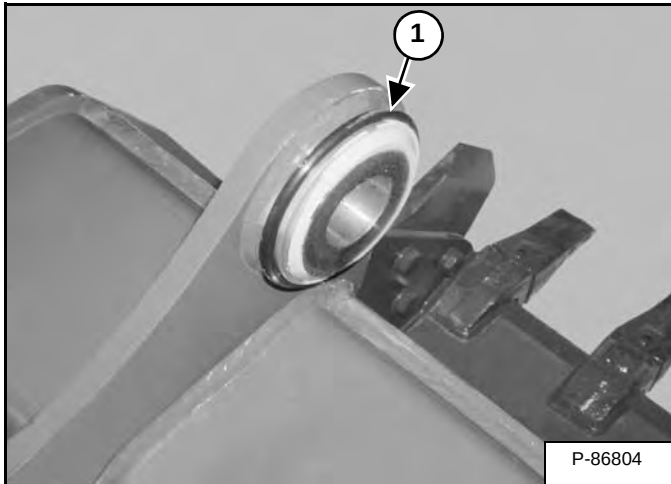
OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Pin-On Attachment (E60, E63, E80 And E85 Excavators)

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

Figure 171

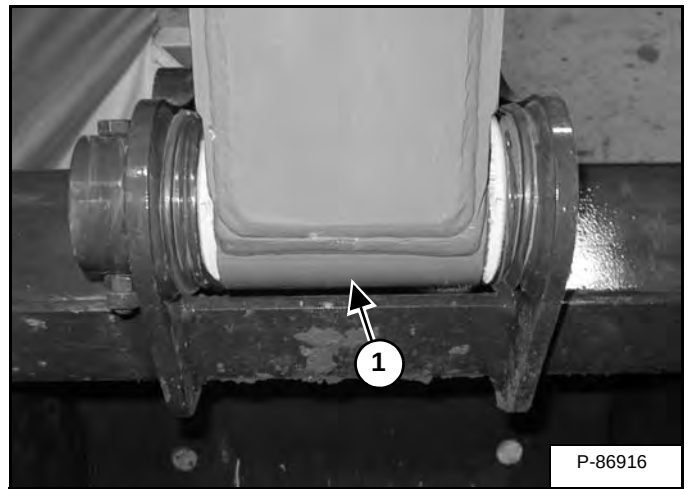


Before installing the attachment, make sure the four O-rings (Item 1) [Figure 171] are positioned over the attachment boss (as shown) so they are not damaged during installation.

Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

Start the engine.

Figure 172

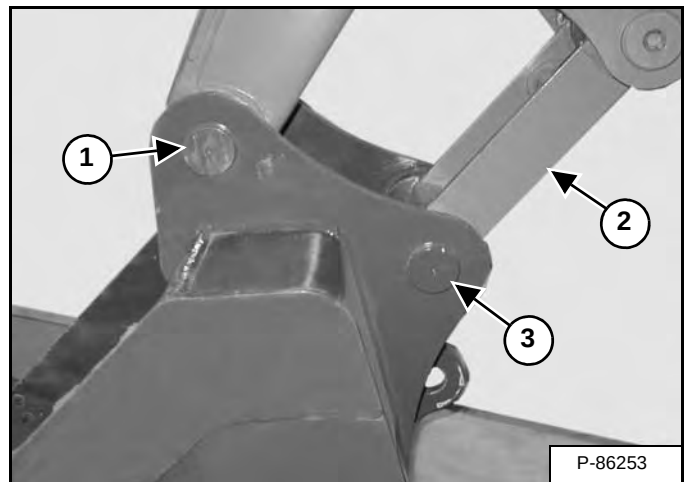


Install the arm (Item 1) [Figure 172] into the attachment.

Stop the engine.

Exit the excavator. (See Entering And Exiting the Excavator on Page 77.)

Figure 173



Align the arm mounting hole with the attachment and install the pin (Item 1) [Figure 173].

Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

Start the engine.

Extend the bucket cylinder until the bucket link (Item 2) aligns with the bottom hole (Item 3) [Figure 173] on the breaker frame.

Stop the engine and exit the excavator. (See Entering And Exiting the Excavator on Page 77.)

Align the bucket link mounting hole with the attachment and install the pin (Item 3) [Figure 173].

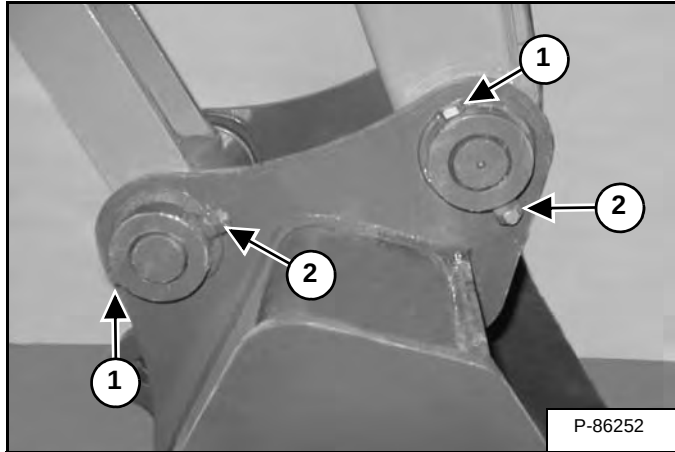
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

*Pin-On Attachment (E60, E63, E80 And E85 Excavators)
(Cont'd)*

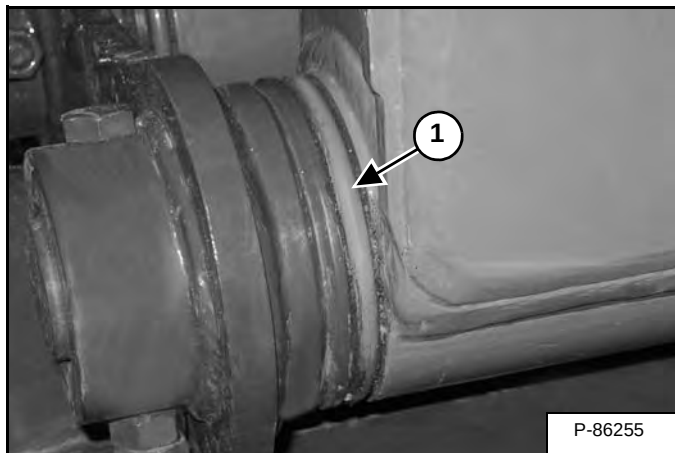
Figure 174



Install the two retainer bolts (Item 1) and jam nuts (Item 2) [Figure 174] and tighten the jam nuts.

NOTE: The two retaining bolts (Item 1) [Figure 174] should rotate after the two jam nuts are installed. Install the first jam nut until the bolt is finger loose on the mount. Install the second jam nut and tighten the second jam nut against the first jam nut.

Figure 175



Reposition the four O-rings (Item 1) [Figure 175] next to the arm.

Install grease in the grease fittings on the arm and bucket link pins.

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

Manual Spring Loaded Coupler (442 Only)

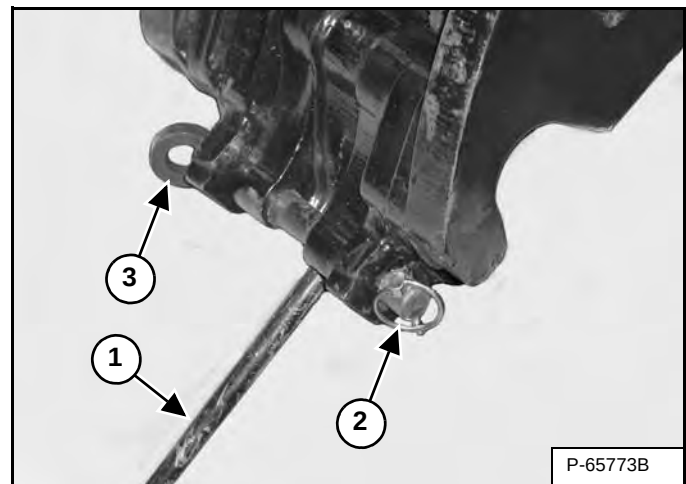
NOTE: Removal and installation of the bucket is shown. The procedure is the same for other attachments. Disconnect any hydraulic lines that are operated by hydraulic power before removing any attachments (breaker, direct drive auger, etc.).

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

Figure 176



Insert the release bar (Item 1) into the manual spring loaded coupler. Remove the retainer pin (Item 2). Rotate the release bar (Item 1) upward slightly and remove the lock pin (Item 3) [Figure 176].

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Pin Grabber Quick Coupler

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

WARNING

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

Start the engine.

WARNING

AVOID INJURY OR DEATH

The quick coupler locking clasps must be fully engaged and locked to the attachment pins. Failure to fully engage the locking clasps can allow attachment to come off.

W-2978-0813

Figure 177

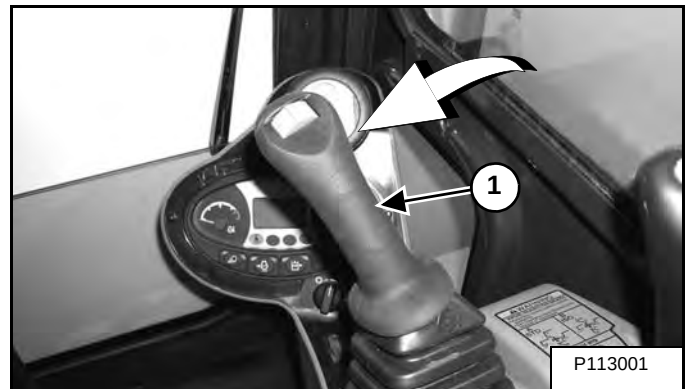
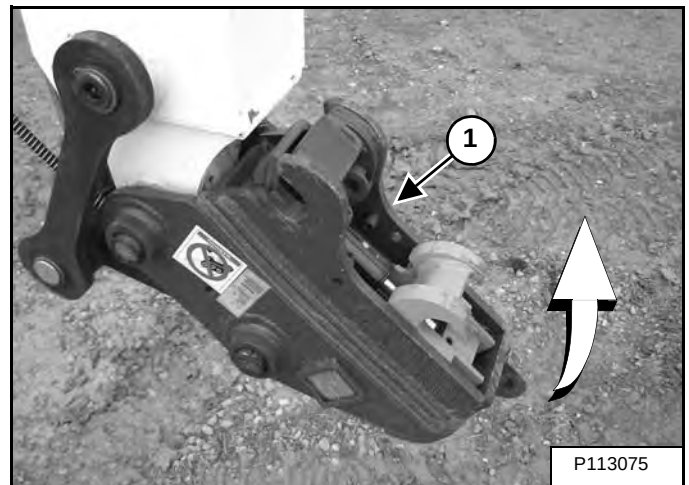


Figure 178



Move the right joystick (Item 1) [Figure 177] to the left (IN) and curl the coupler (Item 1) [Figure 178] toward the cab fully.

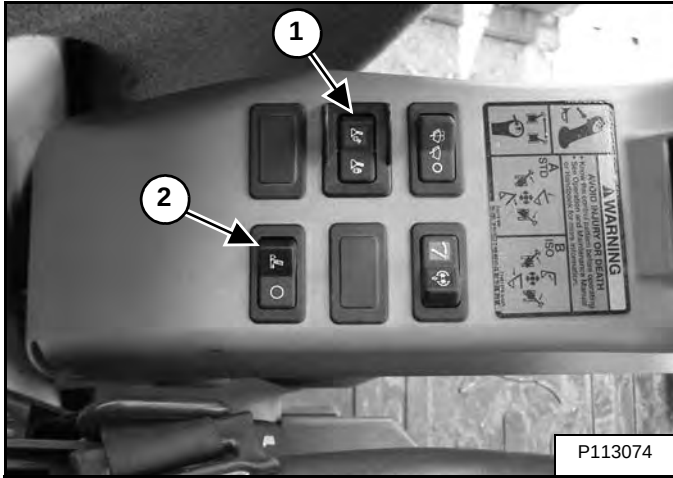
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Pin Grabber Quick Coupler (Cont'd)

Figure 179

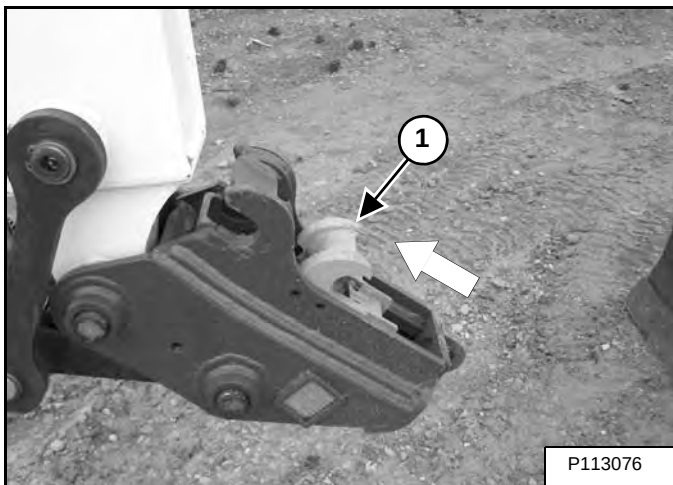


Press the coupler ON / OFF switch (Item 1) [Figure 179] to the left (ON) position to enable the pin grabber quick coupler feature. The switch will illuminate when in the ON position and a buzzer will sound.

Press and release the INTENT switch (Item 2) within five seconds. (The buzzer will continue to sound and the light (Item 1) [Figure 179] will stay ON.)

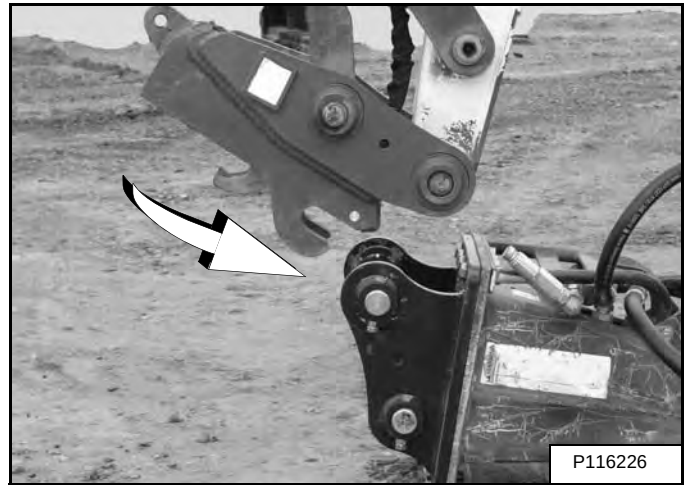
NOTE: If pin grabber quick coupler, the switch and / or the buzzer do not operate correctly, see troubleshooting chart.

Figure 180



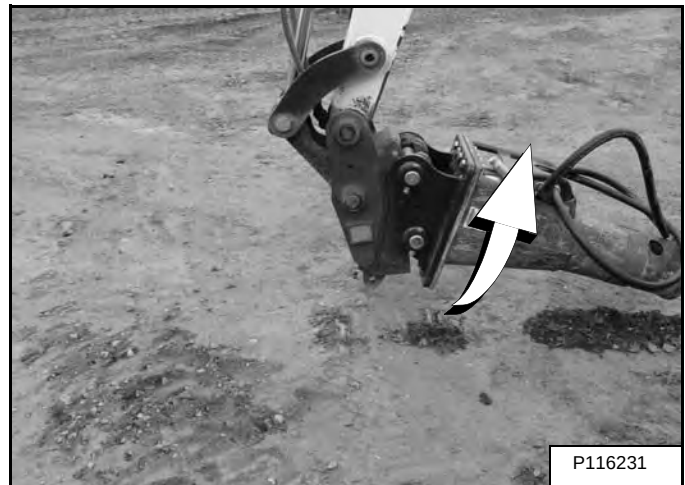
Continue to curl the quick coupler until the locking clasp (Item 1) [Figure 180] moves in fully.

Figure 181



Roll the coupler out. Move the arm toward the attachment. Reposition the boom, arm and coupler until the coupler (Item 1) [Figure 181] is position over the attachment pin. Raise the attachment up slightly.

Figure 182



Curl the quick coupler in fully [Figure 182].

Press the coupler ON / OFF switch (Item 1) [Figure 179] to the right, (OFF) position. The switch light and buzzer will turn OFF.

Continue to curl the attachment in for an additional ten seconds to allow the locking clasp to move and lock to the attachment pins.

With the attachment as low to the ground as possible, curl the attachment out and in several times to ensure the attachment is secured to the coupler.

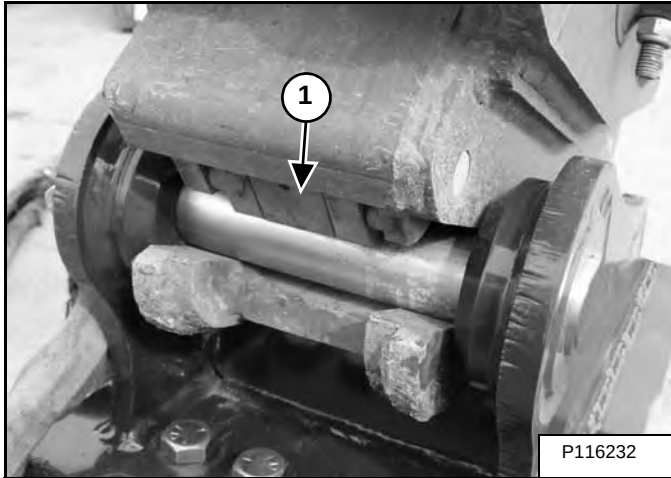
Lower the attachment flat to the ground.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Pin Grabber Quick Coupler (Cont'd)

Figure 183



Visually check that the green locking clasp (Item 1) [Figure 183] is FULLY ENGAGED AND LOCKED.

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

WARNING

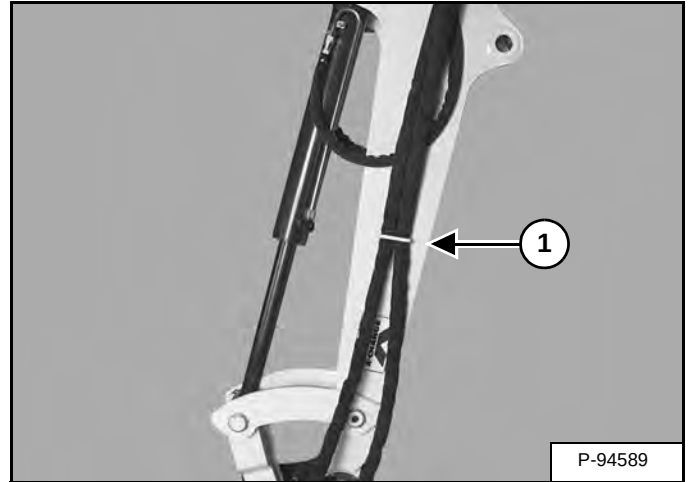
AVOID INJURY OR DEATH

The quick coupler locking clasps must be fully engaged and locked to the attachment pins. Failure to fully engage the locking clasps can allow attachment to come off.

W-2978-0813

Hose Routing

Figure 184



Route the auxiliary hoses through the hose guide (Item 1) [Figure 184] and up to the auxiliary couplers.

Connect hydraulic quick couplers. (See Hydraulic Quick Couplers on Page 101.)

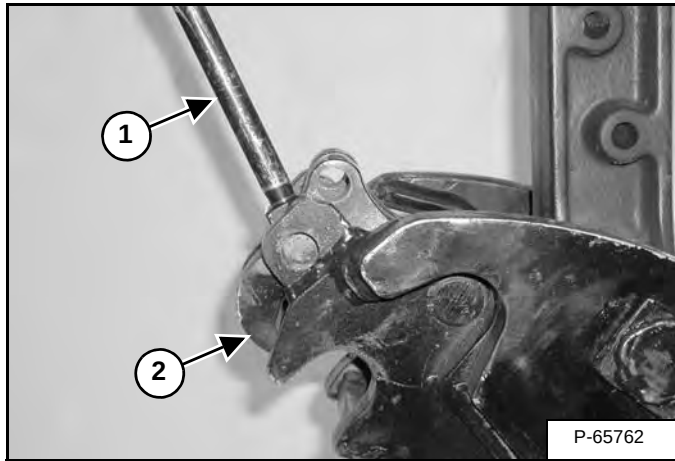
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

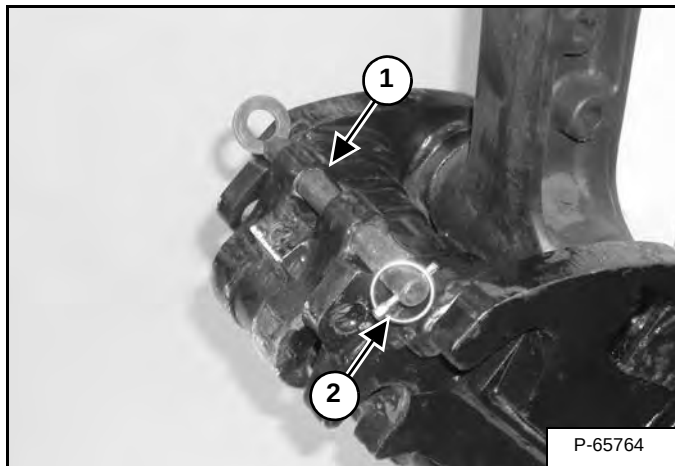
Manual Spring Loaded Coupler (442 Only) (Cont'd)

Figure 185



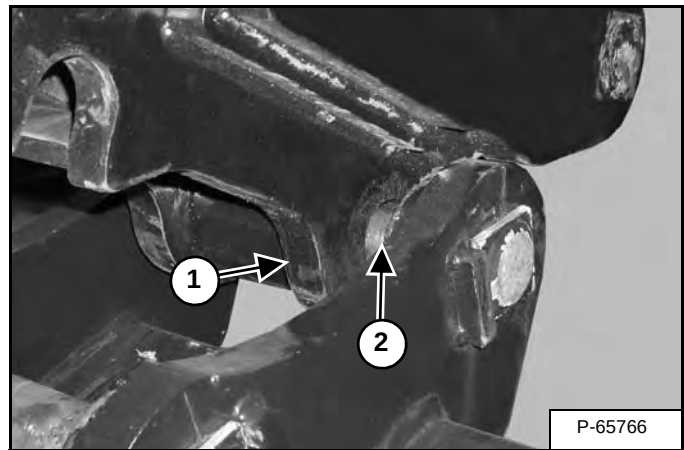
Using the release bar (Item 1), rotate the locking hooks (Item 2) **[Figure 185]** upward to the unlock position.

Figure 186



Install the lock pin (Item 1) and retainer pin (Item 2) **[Figure 186]** to hold the locking hooks in the open position. Remove the release bar.

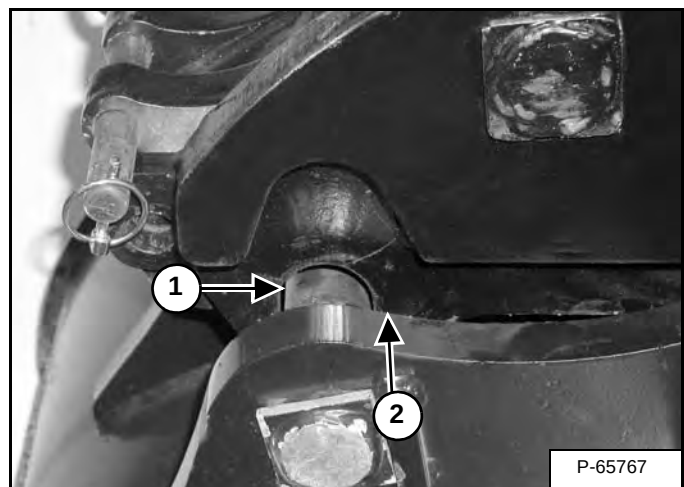
Figure 187



Enter the excavator, fasten the seat belt and start the engine. (See Entering And Exiting the Excavator on Page 77.)

Position the front hooks (Item 1) over the front pin (Item 2) **[Figure 187]** of the attachment.

Figure 188



Extend the bucket cylinder (curl in) the coupler until the rear pin of the attachment (Item 1) is firmly seated in the coupler (Item 2) **[Figure 188]**.

Continue to curl the coupler and attachment until the weight of the attachment is supported by the coupler.

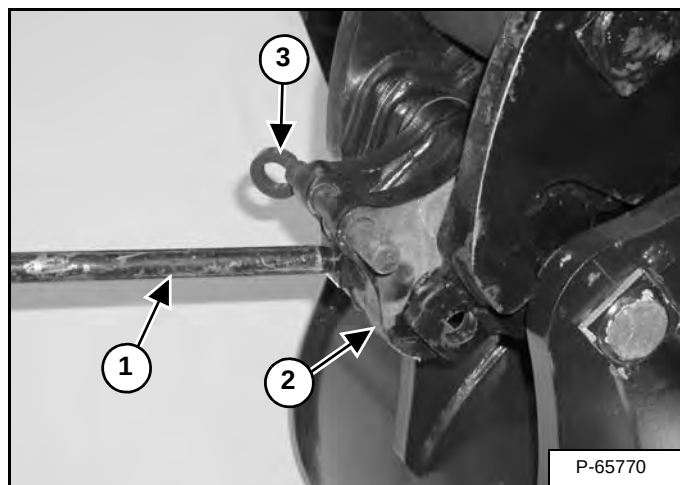
Stop the engine and exit the excavator. (See Entering And Exiting the Excavator on Page 77.)

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Installation (Cont'd)

Manual Spring Loaded Coupler (442 Only) (Cont'd)

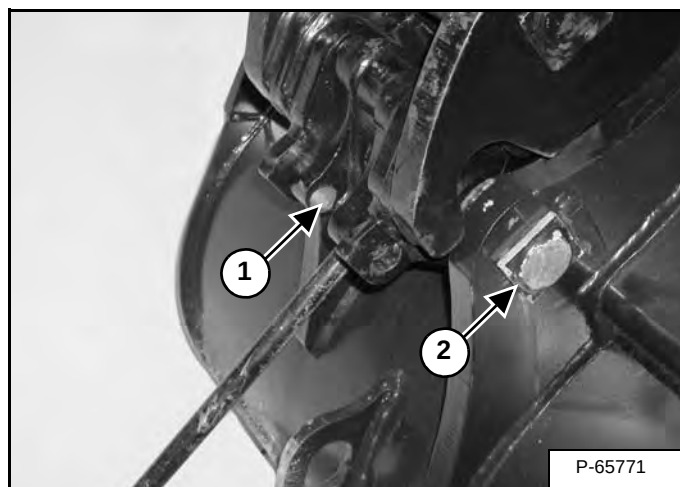
Figure 189



Reinsert the release bar (Item 1) and rotate the locking hooks (Item 2) **[Figure 189]** upward slightly.

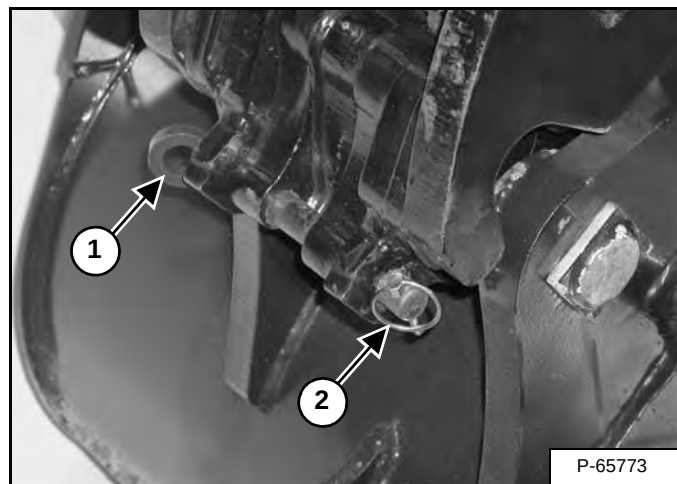
Remove the retainer pin and the locking pin (Item 3) **[Figure 189]**.

Figure 190



Rotate the locking hooks (Item 1) downward, cupping (engaging) the attachment pin (Item 2) **[Figure 190]**.

Figure 191



Install the locking pin (Item 1) and retainer pin (Item 2) **[Figure 191]** and remove the release bar.

Check for secure attachment. **Never operate without retainer pins (Item 2) [Figure 191] installed.**



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

Dealer Copy -- Not for Resale

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 101.)

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 77.)

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.

Dealer Copy -- Not for Resale

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.

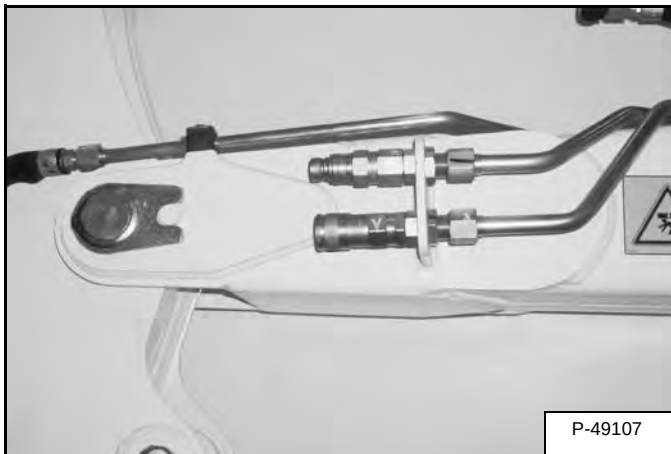
I-2278-0608

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 192



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 192].

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 100.) 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.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

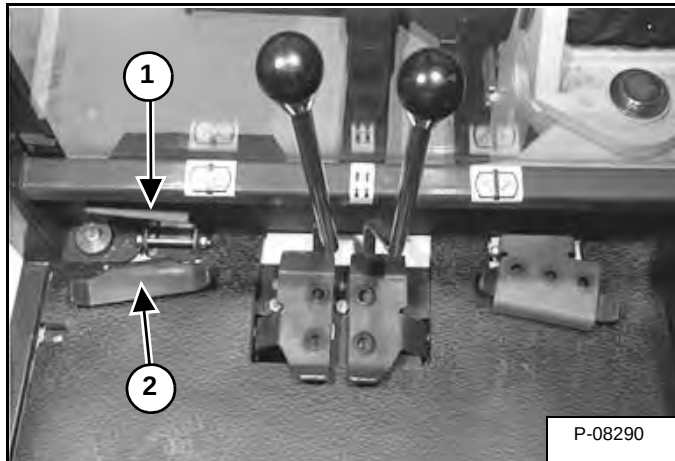
Control Functions

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 193

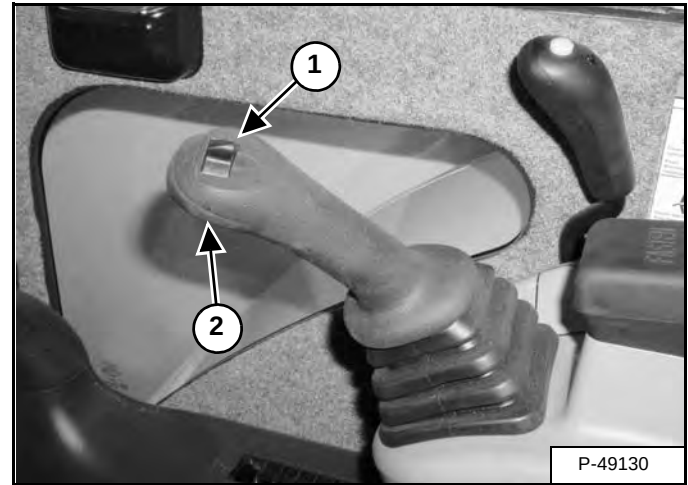


Raise the pedal lock / footrest (Item 1) to operate the auxiliary operation pedal (Item 2) [Figure 193]. Push the pedal to the right to pressurize the female coupler (breaker starts).

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 194



Move the switch (Item 1) [Figure 194] on the right control lever to the right to pressurize the female coupler (breaker starts).

Press the front switch (Item 2) [Figure 194] 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 194] a second time.

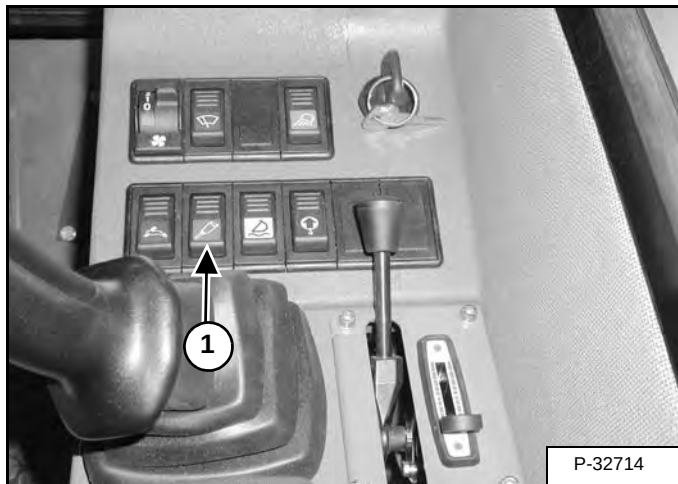
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Control Functions (Cont'd)

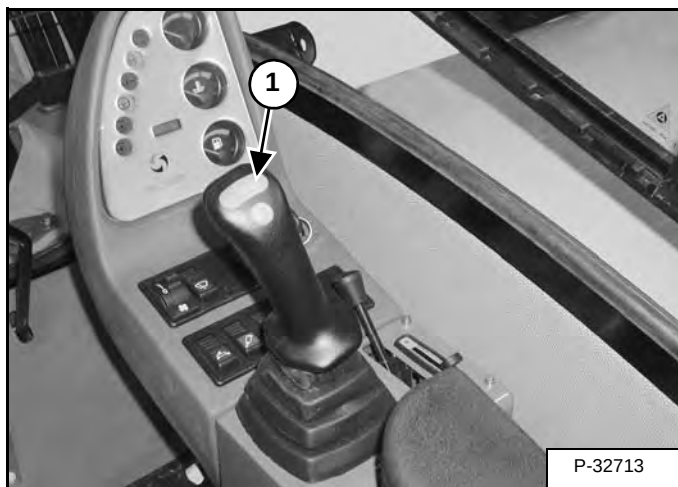
442 Excavator Auxiliary Hydraulics

Figure 195



Press the switch (Item 1) [Figure 195]. The switch will be illuminated.

Figure 196



Press and hold the switch (Item 1) [Figure 196] to provide hydraulic flow to the hydraulic breaker.

Release the switch to stop hydraulic flow.

316 Excavator Auxiliary Hydraulics

Figure 197

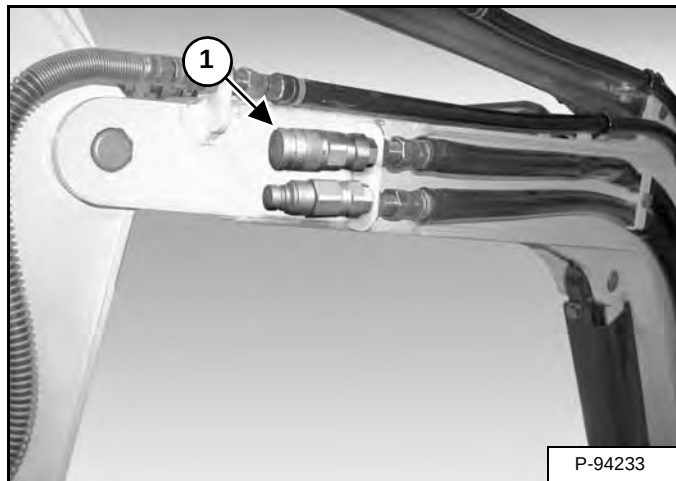
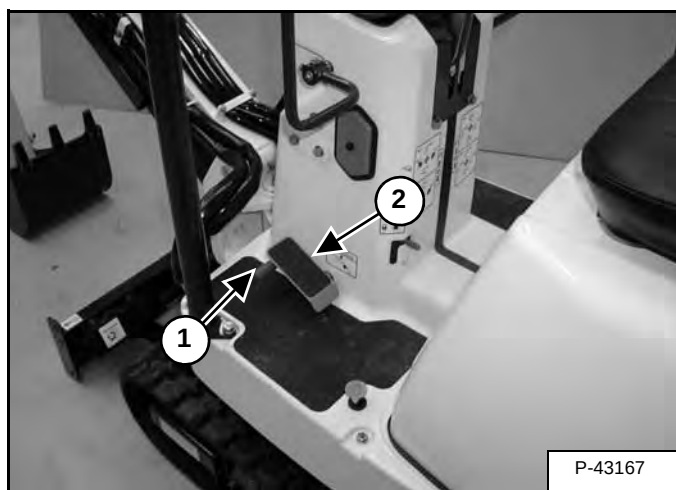


Figure 198



Pull the locking pin out (Item 1) [Figure 198] to allow the pedal to pivot.

Press the auxiliary Hydraulics Pedal (Item 2) [Figure 198] to provide hydraulic pressure to the top hydraulic line (Item 1) [Figure 197]. 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.

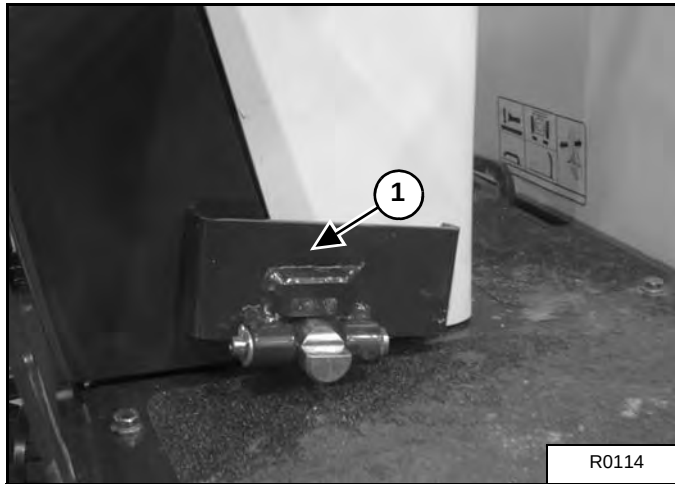
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Control Functions (Cont'd)

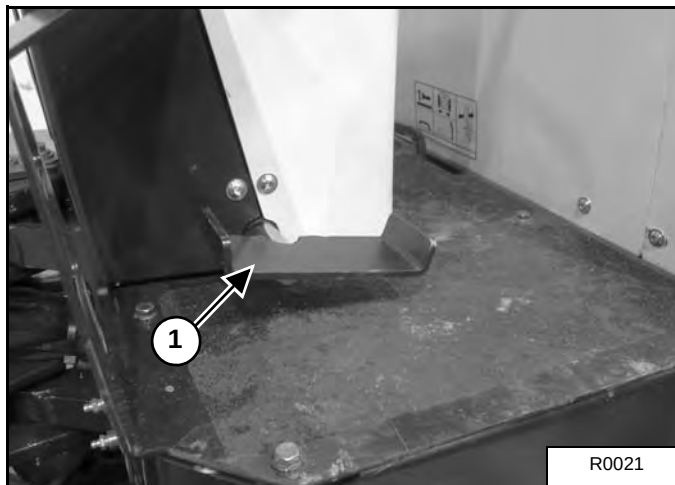
418 Excavator Auxiliary Hydraulics

Figure 199



Rotate the auxiliary pedal (Item 1) **[Figure 199]** down.

Figure 200



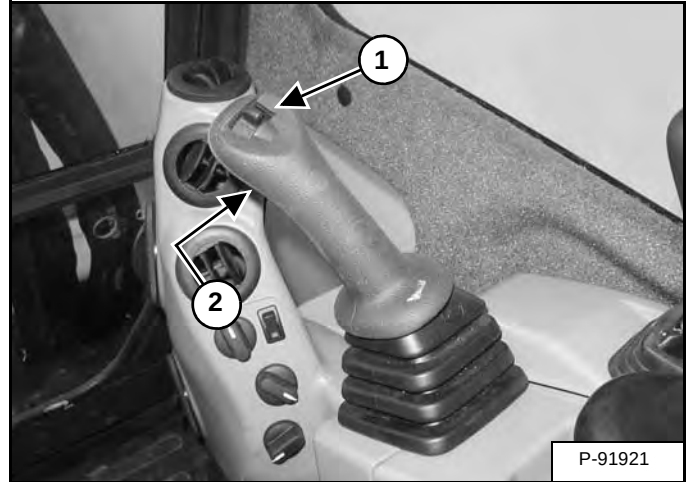
Press the front of the auxiliary Hydraulics Pedal (Item 1) **[Figure 200]** to provide hydraulic pressure to the top hydraulic line (Item 1) **[Figure 197]**. Release the pedal to stop hydraulic flow.

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 201



Move the switch (Item 1) **[Figure 201]** on the right control lever to the right to pressurize the female coupler (breaker starts).

Press the switch (Item 2) **[Figure 201]** on the front of the handle to provide constant flow to the female coupler.

Press the switch (Item 2) **[Figure 201]** a second time to stop auxiliary flow to the quick couplers.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

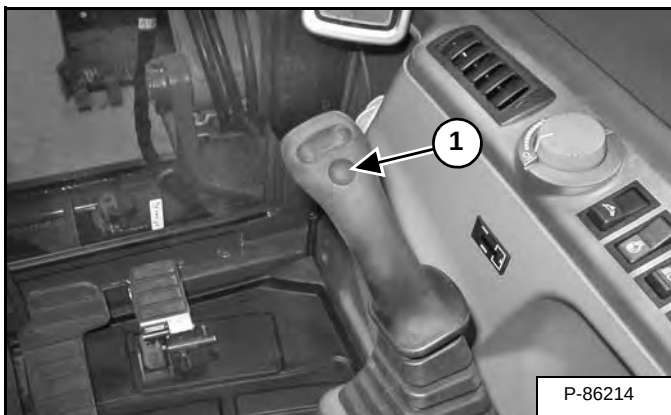
Control Functions (Cont'd)

E60 And E80 Excavator Auxiliary Hydraulics

NOTE: For E80 excavators make sure the direct to tank valve (if equipped) is in the breaker position. (See the excavator's Operation & Maintenance Manual.)

NOTE: For breaker applications, use the one way auxiliary hydraulic switch. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for the correct procedure.)

Figure 202



Press and hold the auxiliary hydraulics button (Item 1) **[Figure 202]** on the right joystick to supply hydraulic flow / pressure to the female coupler.

Release the button (Item 1) **[Figure 202]** to stop hydraulic flow.

E63 And E85 Excavator Auxiliary Hydraulics

NOTE: For E85 excavators make sure the direct to tank valve (if equipped) is in the breaker position. (See the excavator's Operation & Maintenance Manual.)

NOTE: For breaker applications, use the one way auxiliary hydraulic switch. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for the correct procedure.)

Figure 203



Press and hold the auxiliary hydraulics button (Item 1) **[Figure 203]** on the right joystick to supply hydraulic flow / pressure to the female coupler.

Release the button (Item 1) **[Figure 203]** to stop hydraulic flow.

Dealer Copy -- Not for Resale

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

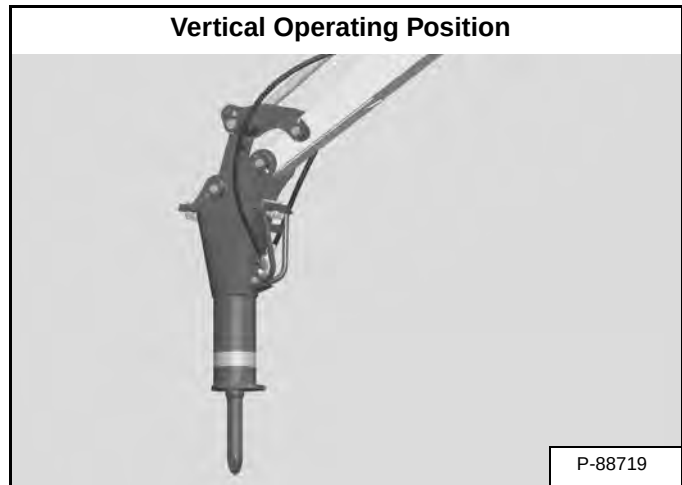
- Operator and bystanders must wear goggles, hard hat and noise protection when the breaker is in operation.
- **DO NOT** demolish overhead materials or ceilings.
- Keep all bystanders 6 m (20 ft) away from equipment when operating.

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.

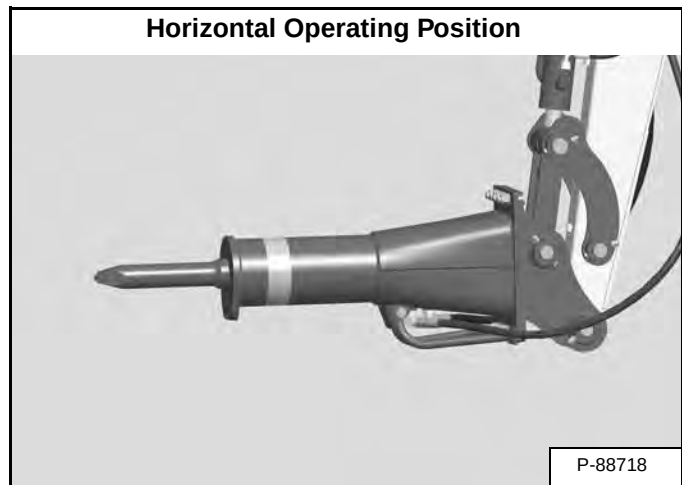
In cold weather conditions, warm the excavator hydraulic fluid to operating temperature before operating the breaker.

Figure 204



When operating in the vertical position [Figure 204], 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 205



When operating in the horizontal position [Figure 205], work near the edge.

Dealer Copy -- Not for Resale

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.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal

Hydraulic X-Change (Earlier Models)

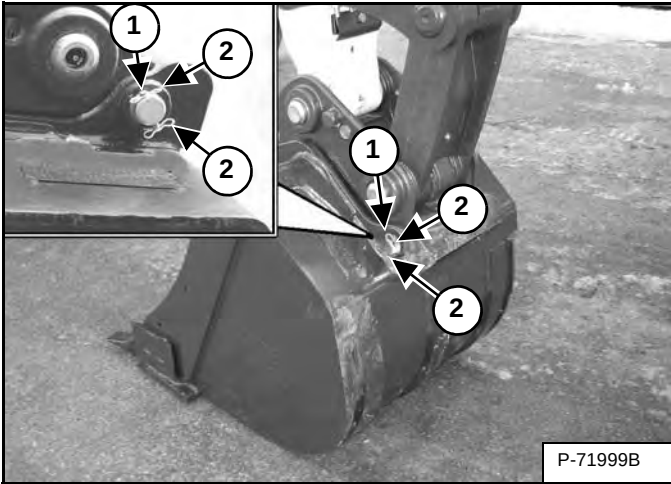
NOTE: Removal and installation of the bucket is shown. The procedure is the same for other attachments. Disconnect any hydraulic lines that are operated by hydraulic power before removing any attachments (breaker, direct drive auger, etc.).

WARNING

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

W-2119-0910

Figure 206



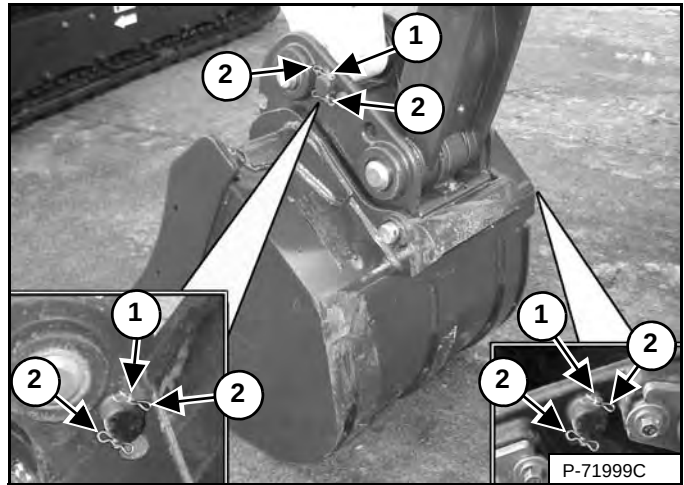
Park the excavator on a flat level surface. Put the attachment on the ground.

Stop the engine.

Exit the excavator. (See Entering And Exiting the Excavator on Page 77.)

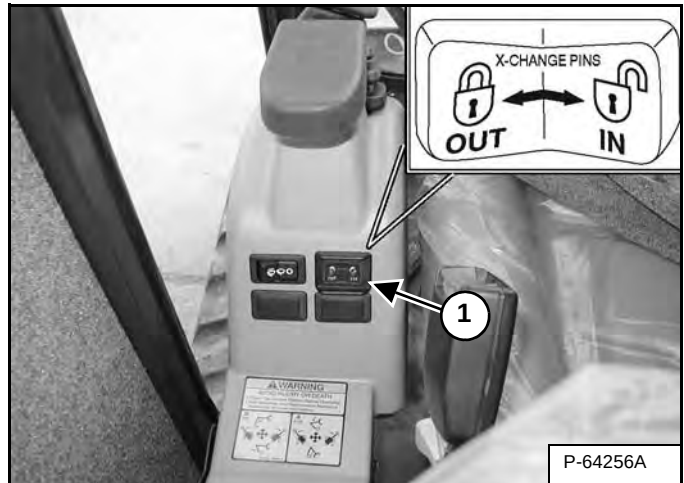
Remove retainer pin (Item 1) and retainer clips (Item 2) [Figure 206] from the hydraulic pin (both sides).

Figure 207



Install both retainer pins (Item 1) and clips (Item 2) [Figure 207] in the storage location.

Figure 208



Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

Start the engine.

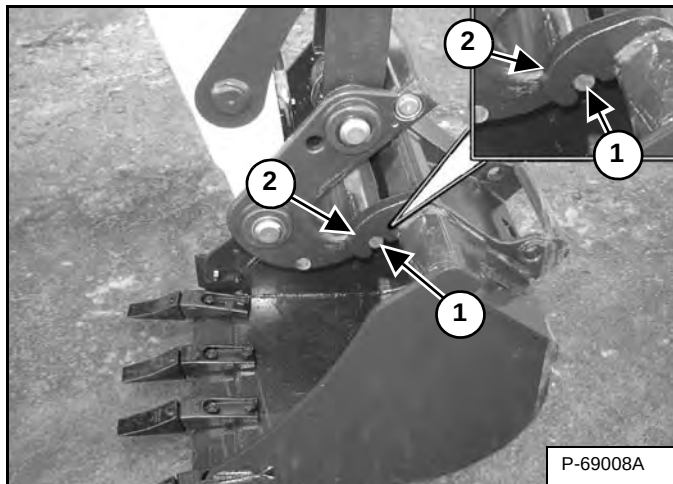
Press and hold the X-Change switch (Item 1) [Figure 208] on the left console to the right to **FULLY RETRACT** the hydraulic pins.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

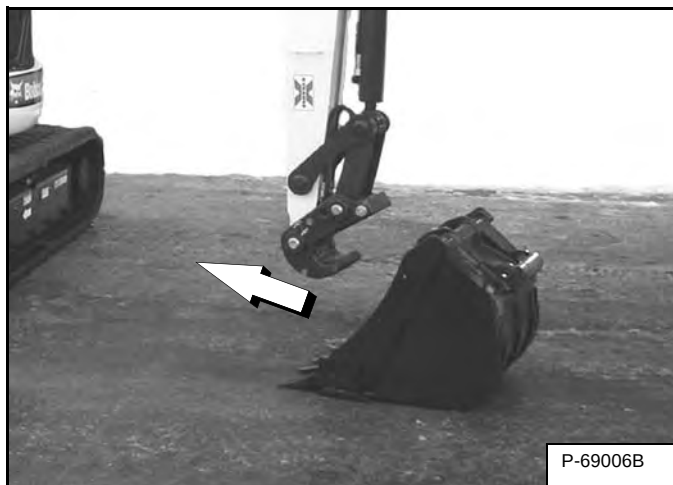
Hydraulic X-Change (Earlier Models) (Cont'd)

Figure 209



Raise the boom and retract the bucket cylinder until the X-Change pins (Item 1) engage the attachment hooks (Item 2) **[Figure 209]** on the attachment.

Figure 210



Fully retract the bucket cylinder (bucket dump).

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

Move the arm toward the excavator until the X-Change pins are clear of the attachment **[Figure 210]**.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

Hydraulic X-Change (Later Models)

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

WARNING

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

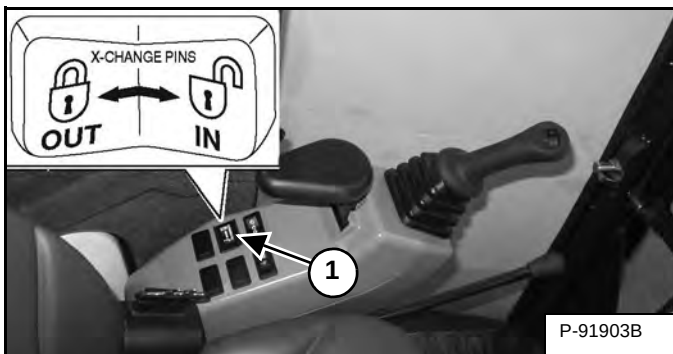
W-2119-0910

Figure 211



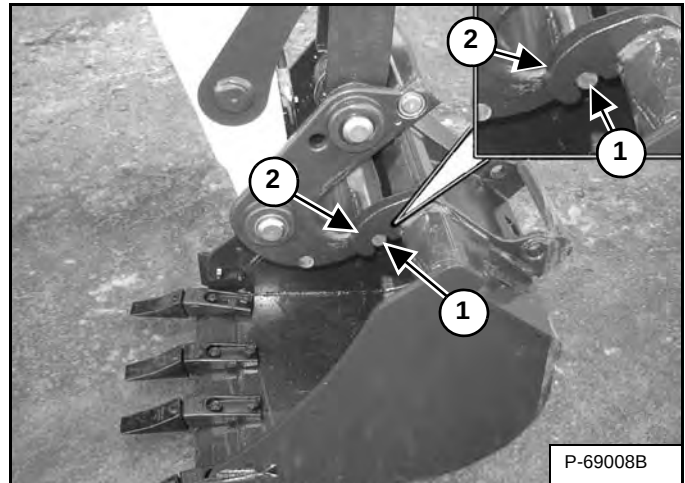
Park the excavator on a flat level surface. Put the attachment on the ground [Figure 211].

Figure 212



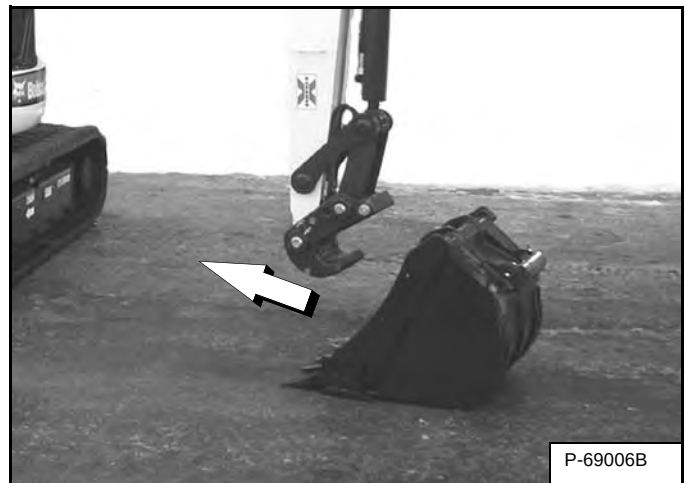
Press and hold the X-Change switch (Item 1) [Figure 212] on the left console to the right (IN) to **FULLY RETRACT** the hydraulic pins.

Figure 213



Raise the boom and retract the bucket cylinder until the X-Change pins (Item 1) engage the attachment hooks (Item 2) [Figure 213] on the bucket.

Figure 214



Fully retract the bucket cylinder (bucket dump).

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

Move the arm toward the excavator until the X-Change pins are clear of the attachment [Figure 214].

Dealer Copy -- Not for Resale

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.

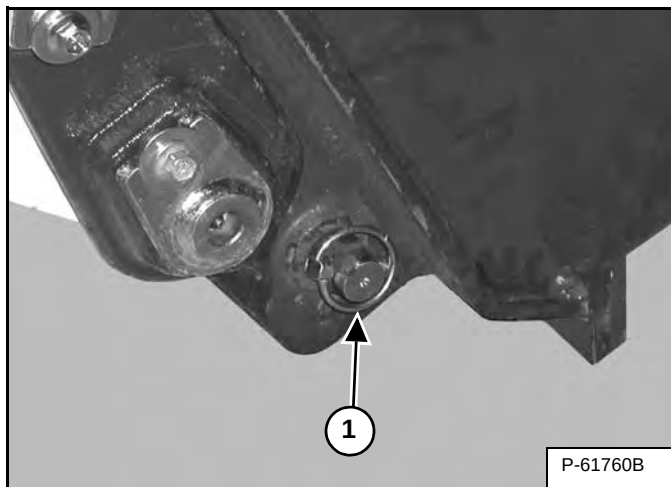
Stop the engine.

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 77.)

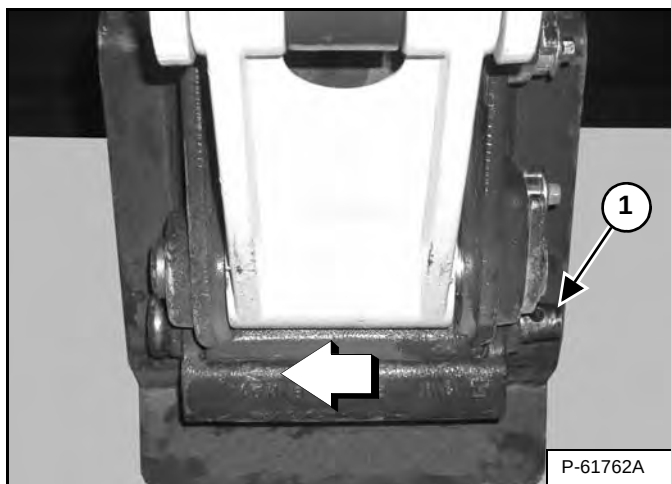
Disconnect the auxiliary couplers. (See Hydraulic Quick Couplers on Page 101.)

Figure 215



Remove the retainer pin (Item 1) [Figure 215].

Figure 216



Drive the pin (Item 1) [Figure 216] out of the breaker and X-Change Mount.

WARNING

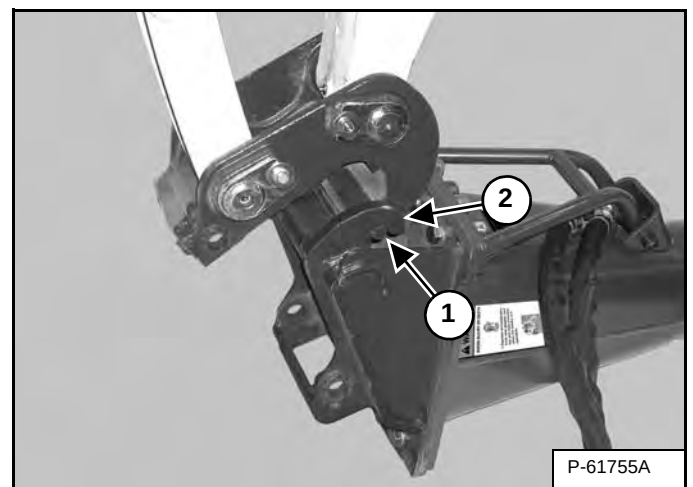
AVOID INJURY OR DEATH

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 217



Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

Start the engine.

Lift the boom approximately 305 mm (12 in) and fully retract the bucket cylinder to disengage the breaker [Figure 217].

Lower the boom until the X-Change pins (Item 1) are clear of the hooks (Item 2) [Figure 217].

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

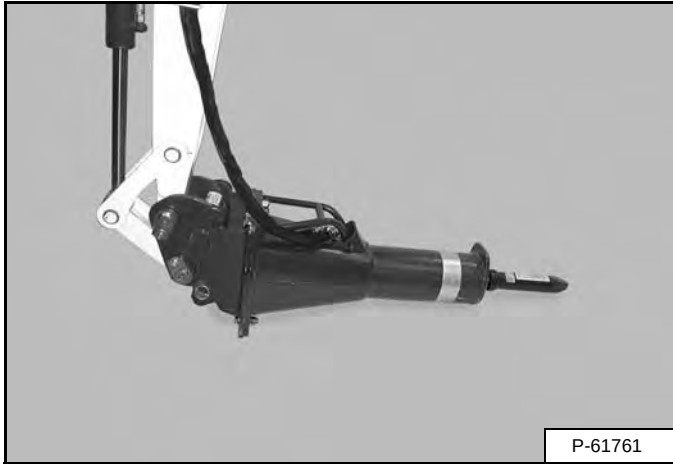
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

Bolt-On X-Change

Figure 218



Select a flat and level surface.

Position the arm vertically and but the breaker on the ground **[Figure 218]**.

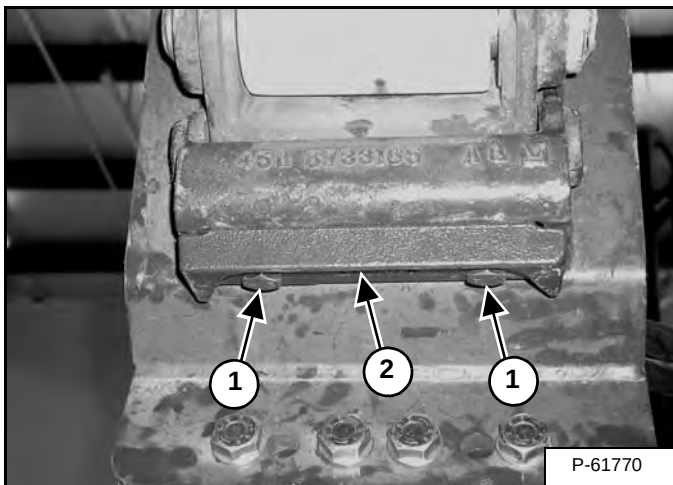
Stop the engine.

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 77.)

Disconnect the auxiliary couplers. (See Hydraulic Quick Couplers on Page 101.)

Figure 219

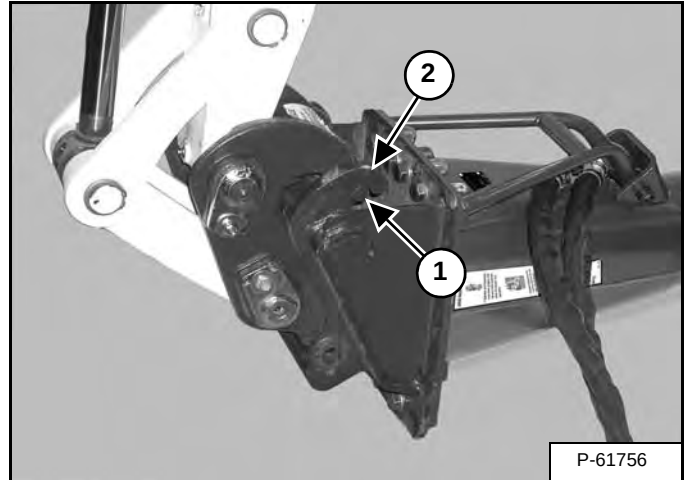


Remove the two bolts (Item 1) and plate (Item 2) **[Figure 219]**.

Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

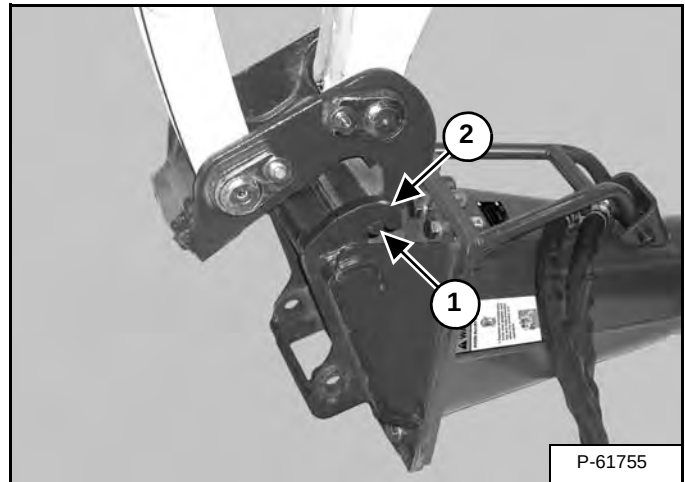
Start the engine.

Figure 220



Raise the boom approximately 305 mm (12 in) until the X-Change pins (Item 1) engage the hooks (Item 2) **[Figure 220]** on the breaker.

Figure 221



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 221]**.

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.

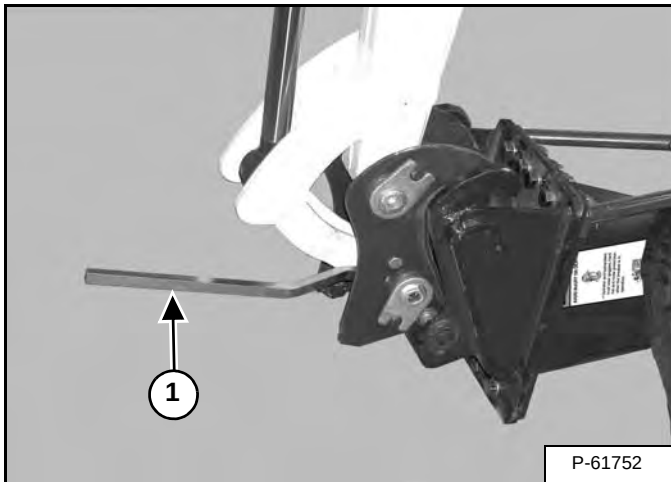
Stop the engine.

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 77.)

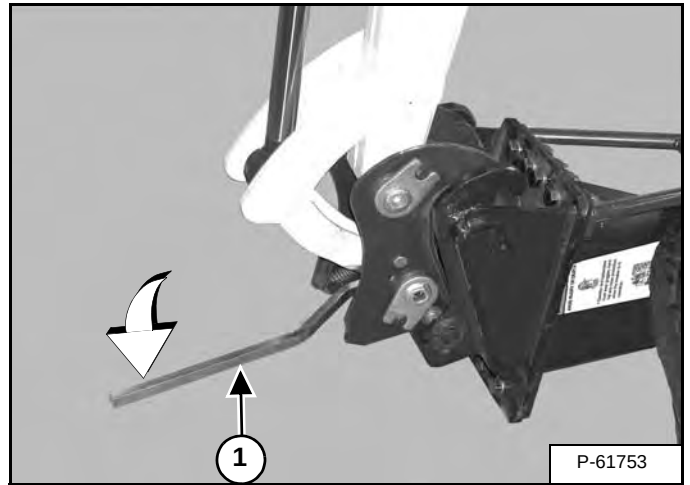
Disconnect the auxiliary couplers. (See Hydraulic Quick Couplers on Page 101.)

Figure 222



Install the X-Change tool (Item 1) **[Figure 222]** in the latch.

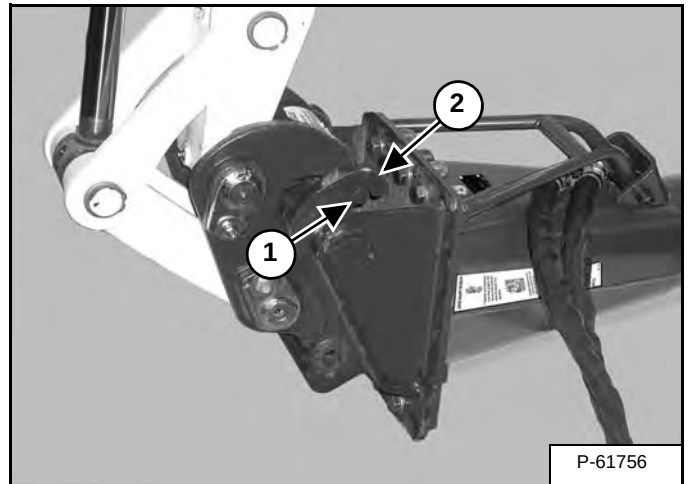
Figure 223



Pull the lever (Item 1) **[Figure 223]** away from the excavator, to unlock the latch. Remove the tool.

Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

Figure 224



Start the engine.

Lift the boom approximately 305 mm (12 in), until the X-Change pins (Item 1) engage the hooks (Item 2) **[Figure 224]** on the breaker.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

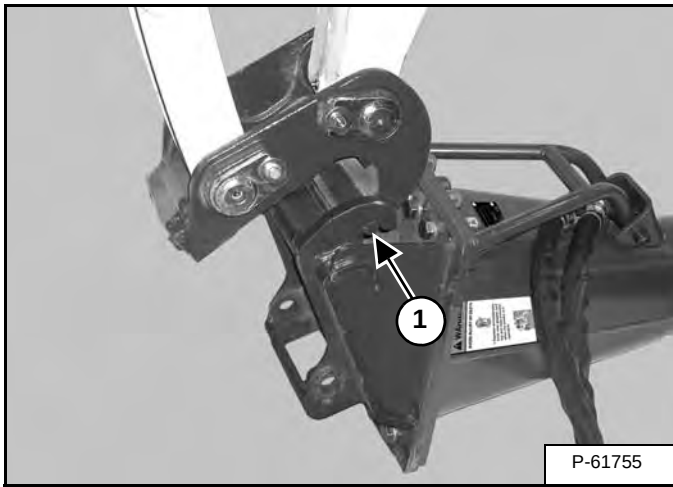
X-Change System

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 225



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 225]** are clear of the breaker.

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

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

Pin-On Attachment (442 Excavators)

Place the breaker flat on the ground.

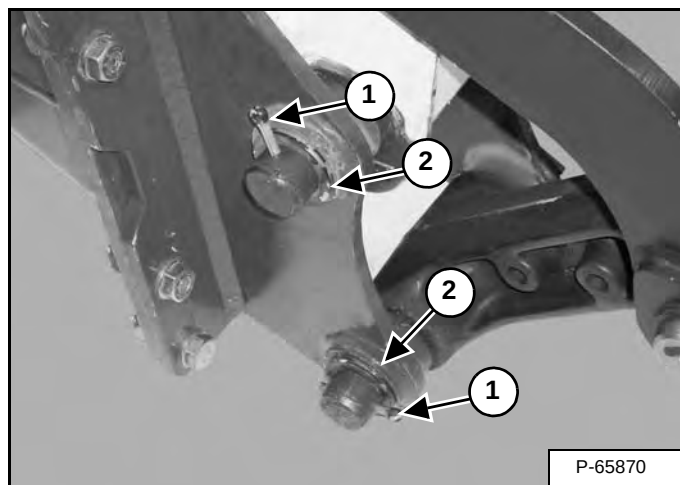
Stop the engine.

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 77.)

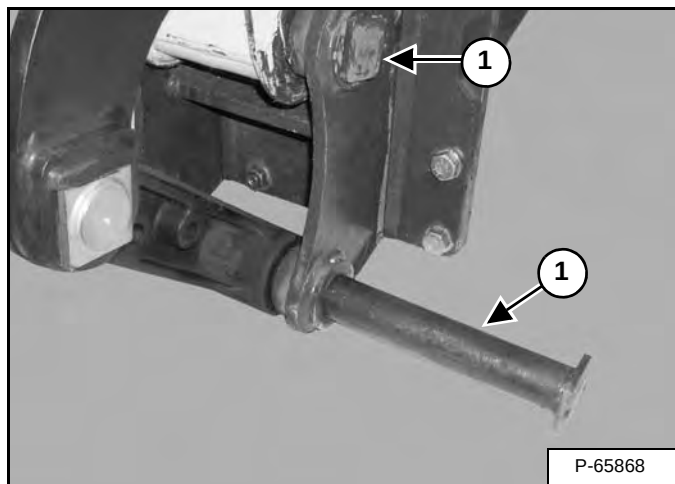
Disconnect the auxiliary couplers. (See Hydraulic Quick Couplers on Page 101.)

Figure 226



Remove the retainer pins (Item 1) and the washers (Item 2) **[Figure 226]**.

Figure 227



Remove the two pins (Item 1) **[Figure 227]**.

Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

Start the engine, raise the boom and retract the bucket cylinder.

Move the arm away from the breaker.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

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

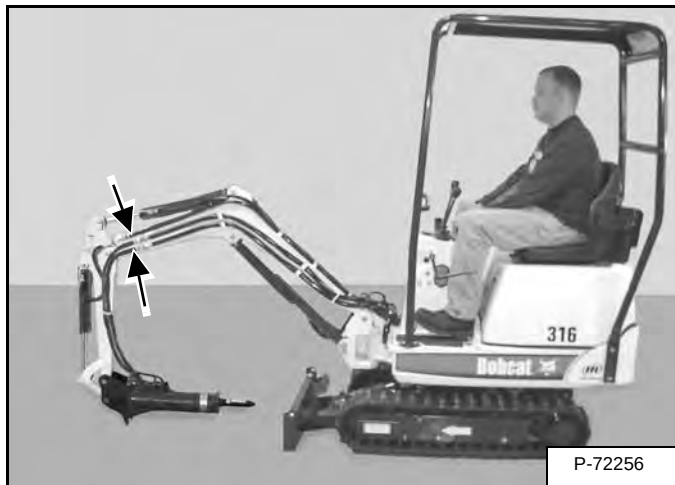
Park the excavator on a flat surface and place the breaker flat on the ground.

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

Stop the engine.

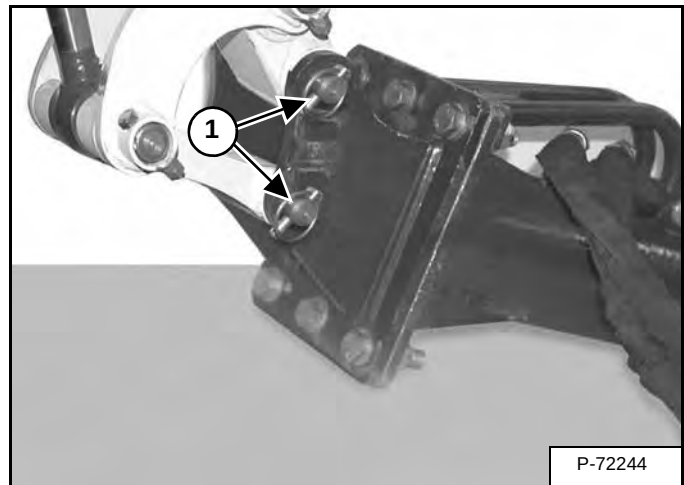
Exit the excavator. (See Entering And Exiting the Excavator on Page 77.)

Figure 228



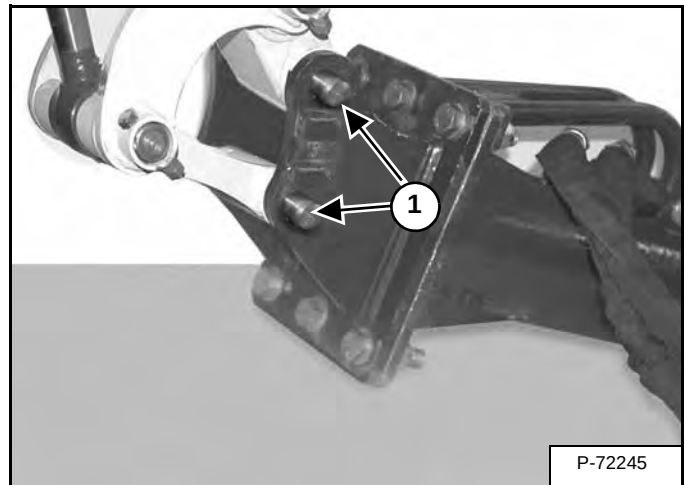
Disconnect the hoses from the auxiliary couplers **[Figure 228]**. (See Hydraulic Quick Couplers on Page 101.)

Figure 229



Remove the retaining clips (Item 1) **[Figure 229]**.

Figure 230



Remove the two pivot pins (Item 1) **[Figure 230]**.

Do not damage the dust seals in the arm.

Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

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

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

Pin-On Attachment (E60, E63, E80 And E85 Excavators)

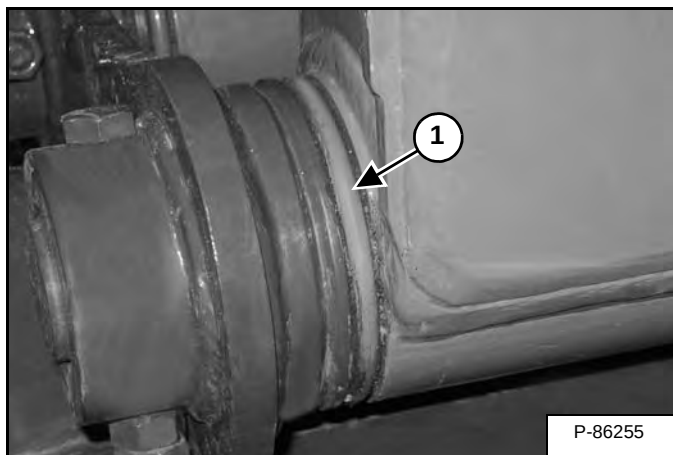
Park the excavator on a flat surface and lower the attachment fully.

Stop the engine.

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

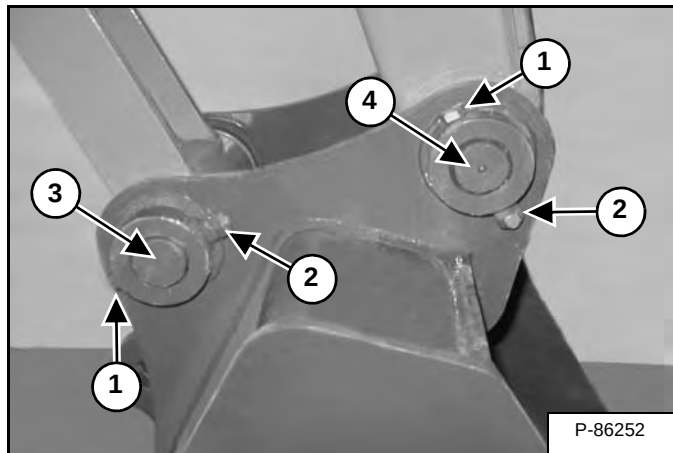
Exit the excavator. (See Entering And Exiting the Excavator on Page 77.)

Figure 231



Position the four O-rings (Item 1) **[Figure 231]** into the storage groove so they do not get damaged during removal of the attachment.

Figure 232



Remove the retainer bolts (Item 1) and nuts (Item 2) **[Figure 232]**.

Remove the pins (Items 3 and 4) **[Figure 232]**.

Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

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

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS
(CONT'D)

Removal (Cont'd)

Pin Grabber Quick Coupler

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



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 233

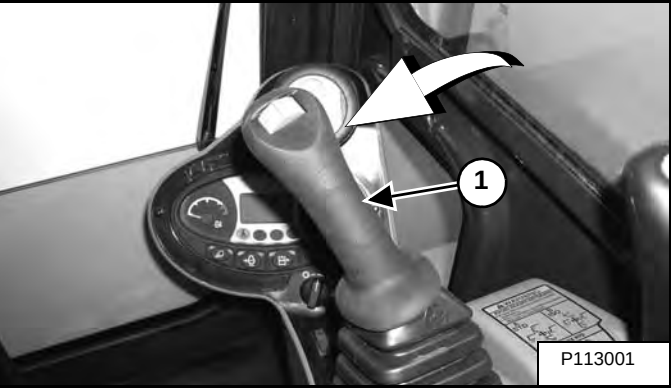
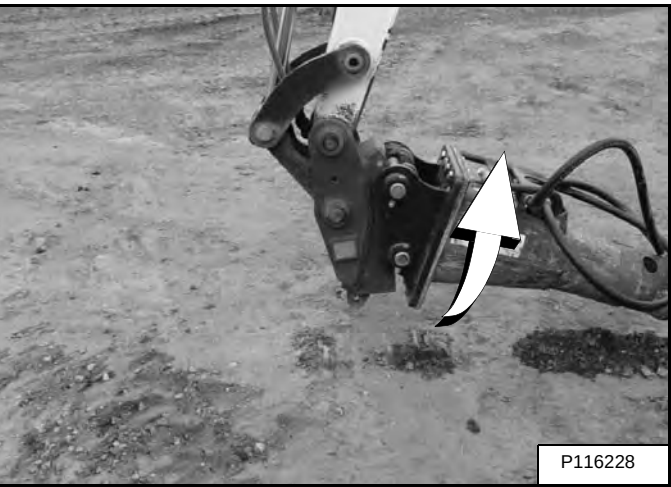
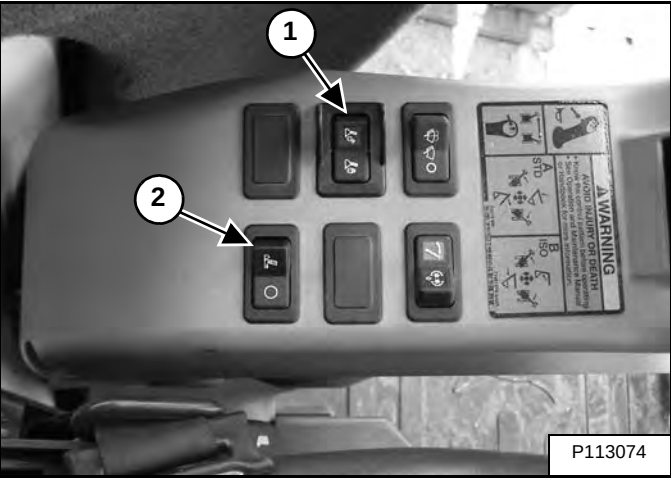


Figure 234



Move the right joystick (Item 1) [Figure 233] to the left (IN) and curl the quick coupler (Item 1) [Figure 234] fully.

Figure 235



Press the coupler ON / OFF switch (Item 1) [Figure 235] to the left (ON) position to enable the pin grabber quick coupler feature. The switch will illuminate when in the ON position and a buzzer will sound.

Press and release the INTENT switch (Item 2) within five seconds. (The buzzer will continue to sound and the light (Item 1) [Figure 235] will stay ON.)

Move the right joystick (Item 1) [Figure 233] to the left (IN) and continue to curl the quick coupler [Figure 234]. The coupler locking clasps will lift fully to unlock the attachment from the quick coupler.

Dealer Copy -- Not for Resale

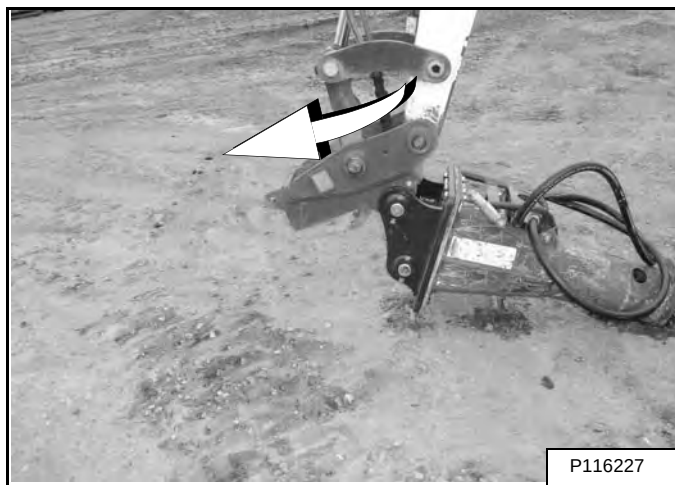
OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

Pin Grabber Quick Coupler (Cont'd)

With the attachment slightly off of the ground, roll the quick coupler back until the coupler starts to disengage from the attachment.

Figure 236

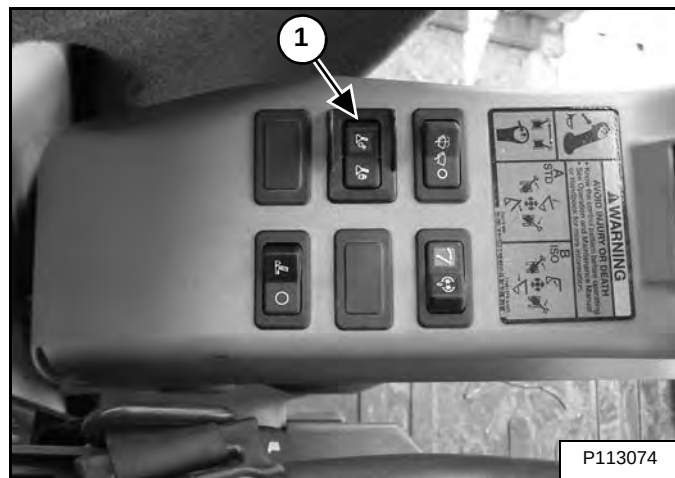


Roll the quick coupler back fully.

Lower the boom and arm until the attachment is on the ground and the quick coupler is disengaged from the attachment pins.

Move the arm away the excavator until the quick coupler is clear of the attachment **[Figure 236]**.

Figure 237



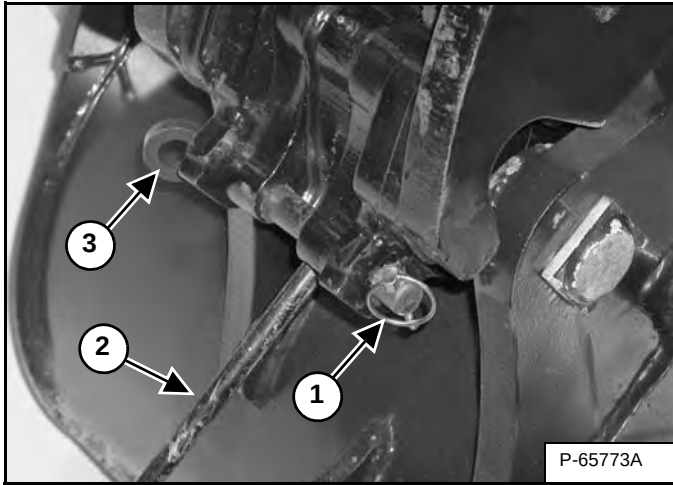
Press the coupler ON / OFF switch (Item 1) **[Figure 237]** to the right, (OFF) position. The switch light and buzzer will turn OFF.

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

Manual Spring Loaded Coupler (442 Only)

Figure 238



Position the attachment flat on the ground.

Stop the engine.

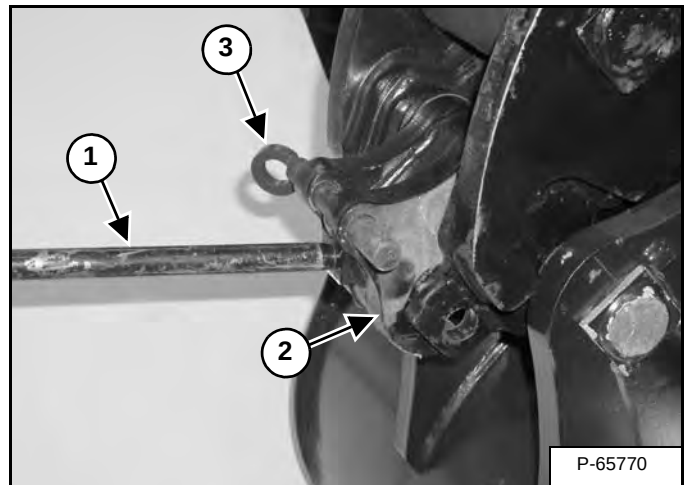
Relieve hydraulic pressure. (See the excavator's Operation & Maintenance Manual and Operator's Handbook for correct procedure.)

Exit the excavator. (See Entering And Exiting the Excavator on Page 77.)

Remove the retainer pin (Item 1) **[Figure 238]**.

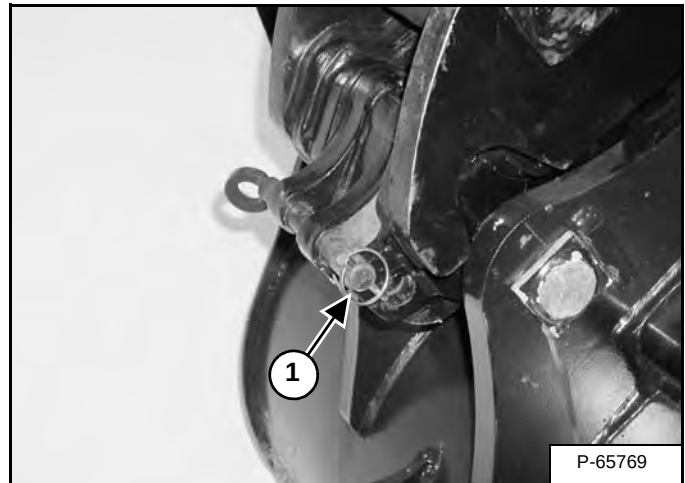
Insert the release bar (Item 2) and rotate the release bar upward slightly and remove the locking pin (Item 3) **[Figure 238]**.

Figure 239



Using the release bar (Item 1), rotate the locking hooks (Item 2) upward to the unlock position and install the locking pin (Item 3) **[Figure 239]**.

Figure 240



Install the retainer pin (Item 1) **[Figure 240]** to hold the locking hooks in the open position. Remove the release bar.

Enter the excavator. (See Entering And Exiting the Excavator on Page 77.)

Start the engine.

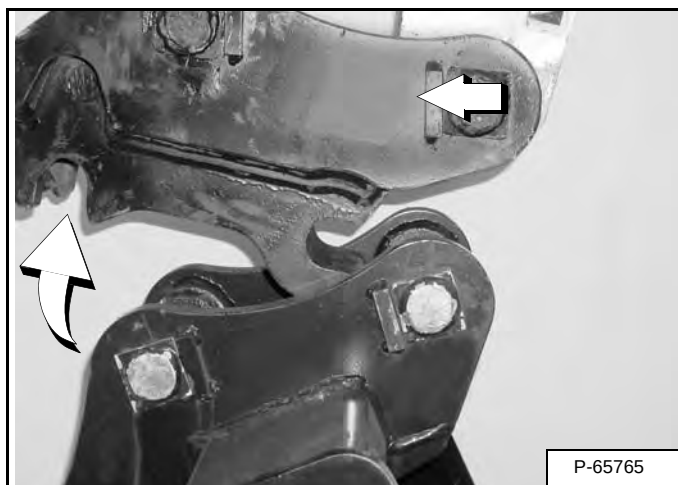
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH EXCAVATORS (CONT'D)

Removal (Cont'd)

Manual Spring Loaded Coupler (442 Only) (Cont'd)

Figure 241



Retract the bucket cylinder and move the arm forward until the manual spring loaded coupler is clear of the attachment **[Figure 241]**.

OPERATING PROCEDURE WITH MINI TRACK LOADERS

Approved Mini Track Loader Models And Requirements

Figure 242

MINI TRACK LOADER MODEL	HB SERIES BREAKER
	HB680
MT 52	X
MT 55	X
MT 85	X

X = Approved

The chart [Figure 242] shows the hydraulic breaker models approved for use with each mini track loader model.

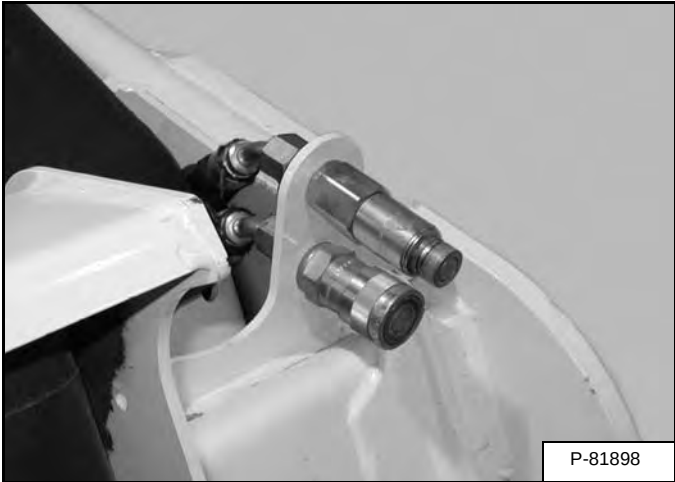
Warranty on this attachment is void if used on a non-approved carrier. See your Bobcat dealer for a current list of approved carriers.

**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

Figure 243



The mini track loader must be equipped with front auxiliary hydraulics [Figure 243].

OPERATING PROCEDURE WITH MINI TRACK LOADERS (CONT'D)

Entering And Leaving The Operator's Position

! WARNING

AVOID INJURY OR DEATH

When operating the machine:

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

W-2407-0801

! WARNING

AVOID INJURY OR DEATH

- Movement of the attachment will occur if the tilt control is NOT in neutral when the engine is started.
- Always check that all levers are in neutral before starting the engine.

W-2482-1003

! WARNING

AVOID INJURY OR DEATH

When using the ride-on platform:

- Operate only with feet on platform and hands on controls or grab handles.
- Always look in the direction of travel.
- Make sure swing area is clear of bystanders and objects.
- Avoid drop-offs and obstacles.

W-2480-1003

Entering

Enter the operator's position at the rear of the mini track loader.

Engage the parking brake and place all controls in NEUTRAL.

See the mini track loader's Operation & Maintenance Manual for detailed information on operating the mini track loader.

Leaving

Figure 244



Stop the mini track loader on level ground.

Lower the lift arms and put the attachment flat on the ground [Figure 244].

Disengage the auxiliary hydraulics.

Engage the parking brake.

Stop the engine.

Remove the key to prevent operation of the mini track loader by unauthorized personnel.

Leave the operator's position.

! WARNING

AVOID INJURY OR DEATH

Before you leave the operator's position:

- Lower the lift arms, put the attachment flat on the ground.
- Stop the engine and engage the parking brake.
- Move all pedals, handles, joysticks, and other controls until they are LOCKED or in the NEUTRAL position.

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

W-2722-0208

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH MINI TRACK 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.

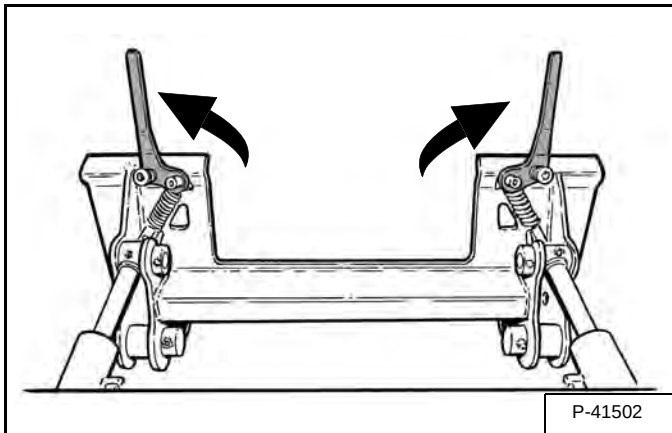
! WARNING

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 mini track loader's Bob-Tach and the attachment mounting frame before installation. See the mini track loader's Operation & Maintenance Manual. (See DAILY INSPECTION on Page 47.)

Figure 245

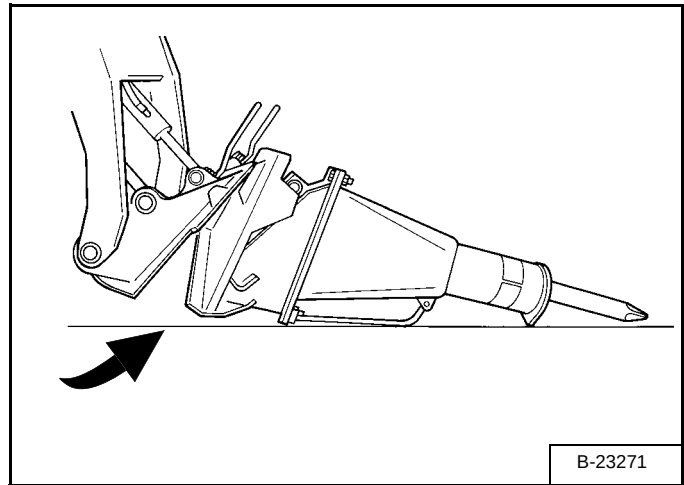


Pull the Bob-Tach levers up until they are fully raised (wedges fully raised) [Figure 245].

Move to the operator's position. (See Entering And Leaving The Operator's Position on Page 123.)

Start the engine and release the parking brake.

Figure 246

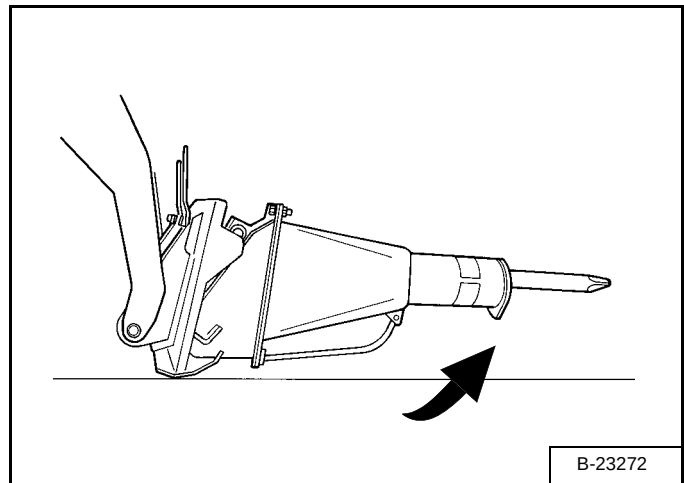


Lower the lift arms and tilt the Bob-Tach forward.

Drive the mini track loader slowly forward until the top edge of the Bob-Tach is completely under the top flange of the attachment [Figure 246].

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

Figure 247



Tilt the Bob-Tach backward until the attachment is slightly off the ground [Figure 247]. This will cause the attachment mounting frame to fit up against the front of the Bob-Tach.

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

Engage the parking brake and stop the engine.

Leave the operator's position. (See Entering And Leaving The Operator's Position on Page 123.)

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH MINI TRACK LOADERS (CONT'D)

Installation (Cont'd)

Hand Lever Bob-Tach (Cont'd)

! WARNING

AVOID INJURY OR DEATH

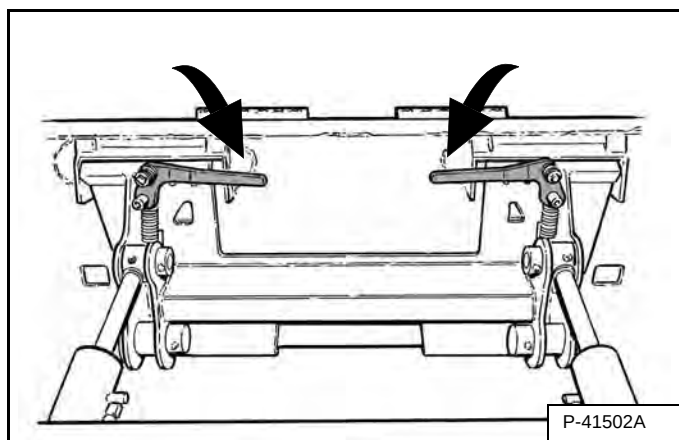
Before you leave the operator's position:

- Lower the lift arms, put the attachment flat on the ground.
- Stop the engine and engage the parking brake.
- Move all pedals, handles, joysticks, and other controls until they are LOCKED or in the NEUTRAL position.

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

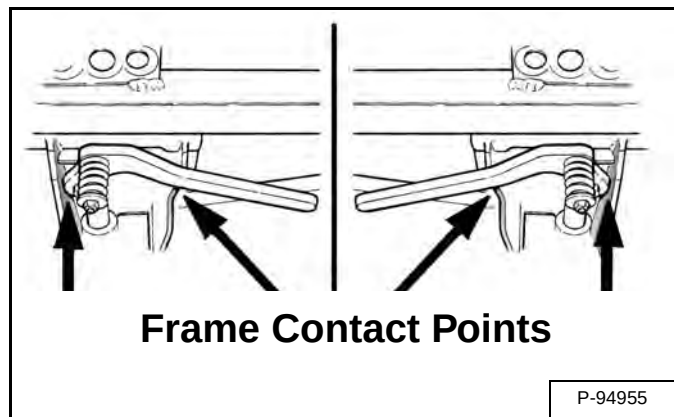
W-2722-0208

Figure 248



Push down on the Bob-Tach levers until they are fully engaged in the locked position [Figure 248] (wedges fully extended through the attachment mounting frame holes).

Figure 249



Both levers must contact the frame as shown when locked [Figure 249].

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

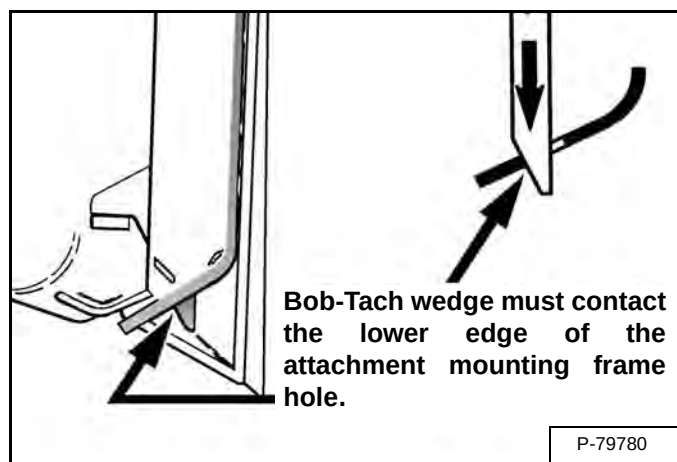
! WARNING

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 250



The wedges must extend through the holes in the attachment mounting frame, securely fastening the attachment to the Bob-Tach [Figure 250].

Connect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 147.)

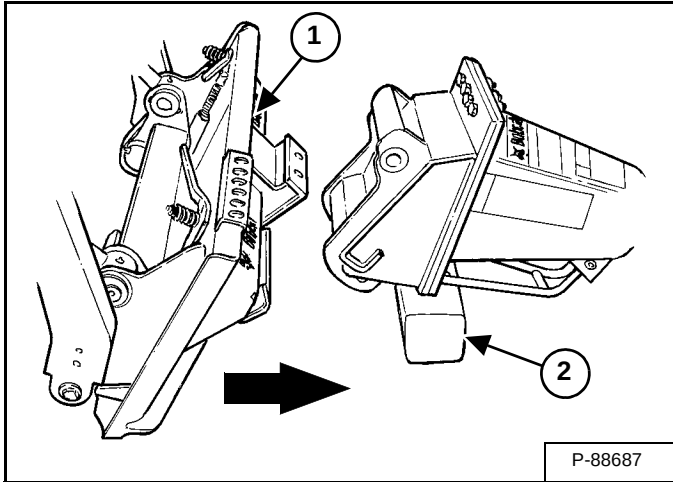
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH MINI TRACK LOADERS (CONT'D)

Installation (Cont'd)

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

Figure 251



Install the breaker mount (Item 1) **[Figure 251]** on the mini track loader.

Place the breaker on a block (Item 2) **[Figure 251]**.

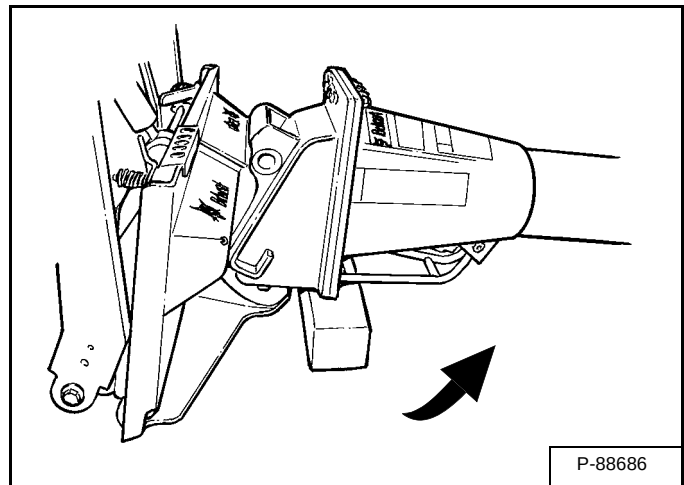
Enter the operator's position. (See Entering And Leaving The Operator's Position on Page 123.)

Start the engine and release the parking brake.

Tilt the Bob-Tach forward.

Drive the mini track loader forward until the breaker mount frame engages the breaker **[Figure 251]**.

Figure 252

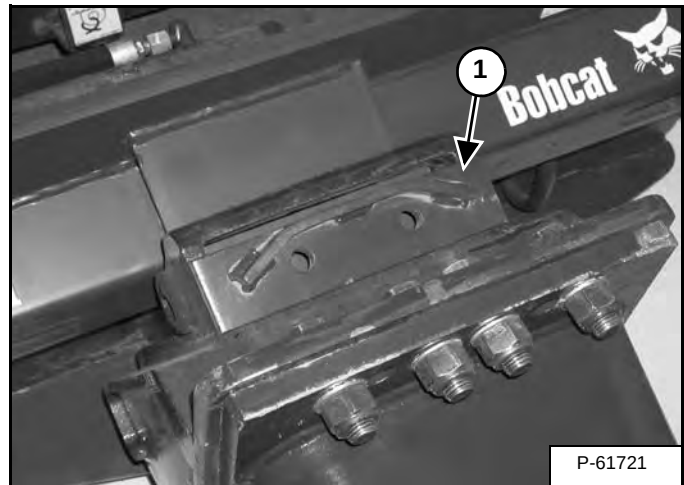


Tilt the Bob-Tach backward until the breaker is slightly off the ground **[Figure 252]**.

Engage the parking brake and stop the engine.

Leave the operator's position. (See Entering And Leaving The Operator's Position on Page 123.)

Figure 253



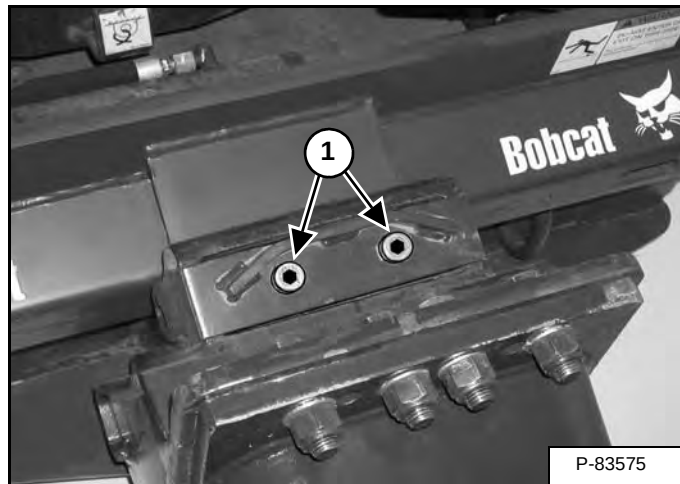
Install the plate (Item 1) **[Figure 253]**.

OPERATING PROCEDURE WITH MINI TRACK LOADERS (CONT'D)

Installation (Cont'd)

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

Figure 254

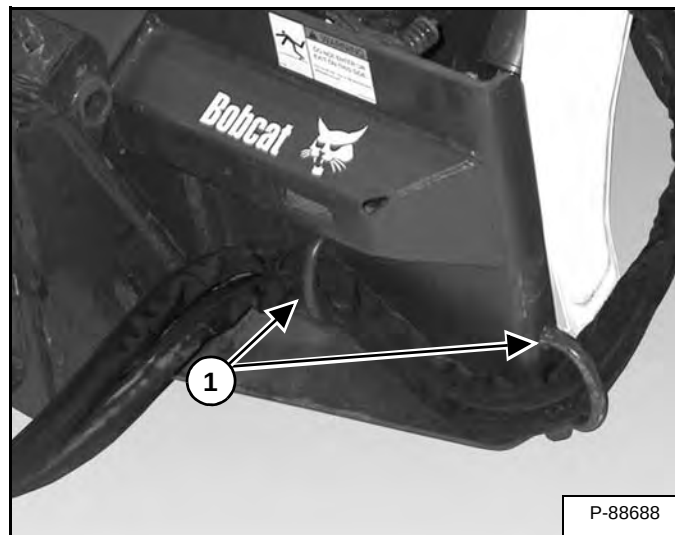


Install the bolts (Item 1) [Figure 254].

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 254]. Over torquing may cause bolt or thread damage or could result in the bolts breaking during operation.

Figure 255



Route the hydraulic hoses through the hose guides (Item 1) on the breaker frame [Figure 255].

Connect the hose couplers to the loader quick couplers. (See Hydraulic Quick Couplers on Page 131.)

Turn the hoses so the hoses are not twisted or kinked.

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

The hoses must not contact the tracks.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH MINI TRACK LOADERS (CONT'D)

Installation

Common Industry Interface (CII)

NOTE: The illustrations and instructions provided explain how to install a bucket attachment on to a loader. Follow these same instructions if you are installing different attachments such as a grapple, tiller, combo bucket, etc.

The attachment mounting frame for the attachment has a top flange that is designed to receive the top edge of the Common Industry Interface and the lower part of the frame is designed to receive the locking pins.

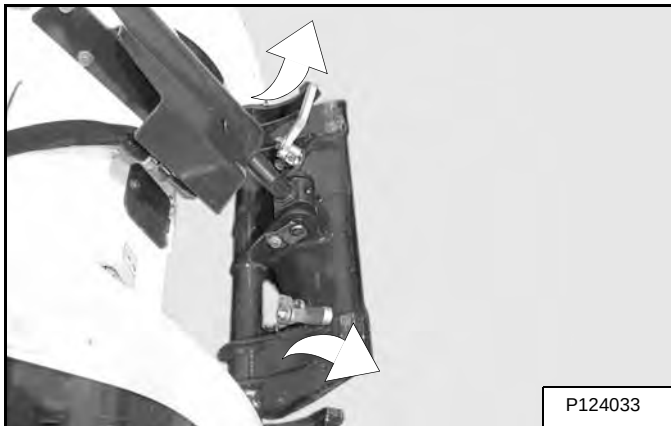
! WARNING

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 Common Industry Interface and the attachment mounting frame before installation. See the loader's Operation & Maintenance Manual. (See DAILY INSPECTION on Page 47.)

Figure 256



Pull the CII locking pin levers up until they are fully raised [Figure 256].

Enter the loader. (See Entering And Leaving The Operator's Position on Page 123.)

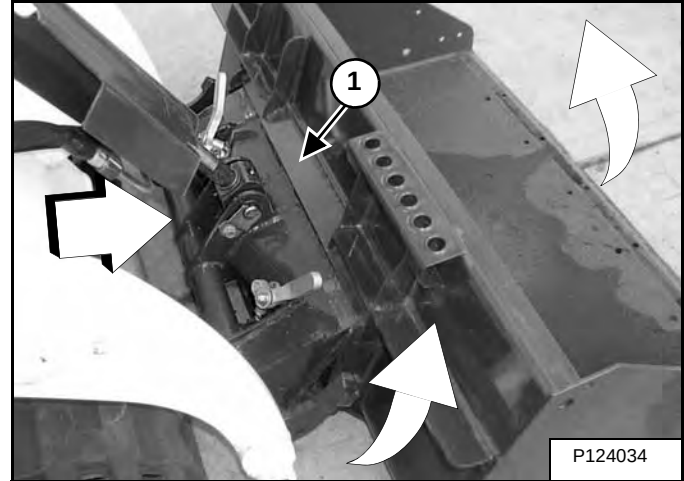
Start the engine, and release the parking brake.

! WARNING

Locking pin levers have spring tension. Hold lever tightly and release slowly. Failure to obey warning can cause injury.

W-2997-1015

Figure 257



Lower the lift arms and tilt the CII forward.

Drive the loader slowly forward until the top edge of the CII is completely under the top flange of the attachment mounting frame (Item 1) [Figure 257].

Tilt the CII backward until the attachment is slightly off the ground [Figure 257]. This will cause the attachment mounting frame to fit up against the front of the CII.

NOTE: Before leaving the operator position to install an attachment, tilt the attachment until it is slightly off the ground.

Stop the engine and exit the operator position.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH MINI TRACK LOADERS (CONT'D)

Installation (Cont'd)

Common Industry Interface (Cont'd)

! WARNING

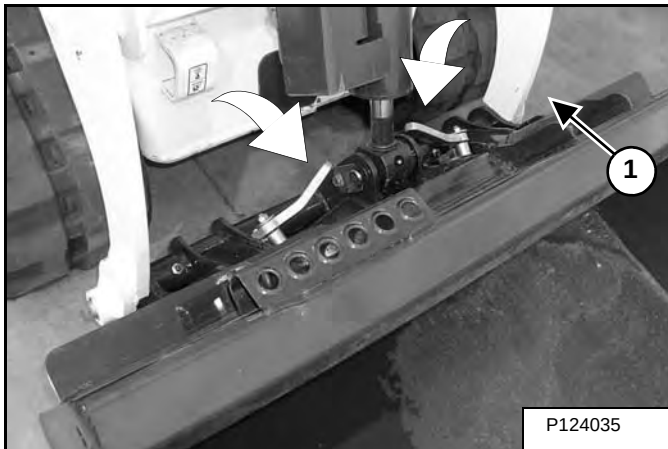
The Neutral Start Interlock, Auxiliary Hydraulic Interlock, and Lift / Tilt Lockouts must function properly.

- The Neutral Start Interlock must prohibit the engine from cranking when the Drive / Steering Joystick is not in the NEUTRAL position.
- The Auxiliary Hydraulic Interlock must prohibit the engine from cranking when the Auxiliary Hydraulic Control Lever is not in the center position.
- The Lift / Tilt Lockouts must deactivate the lift and tilt functions when engine is off.

If any of these do not function properly, contact your dealer for service. **DO NOT** modify system.

W-2998-1015

Figure 258



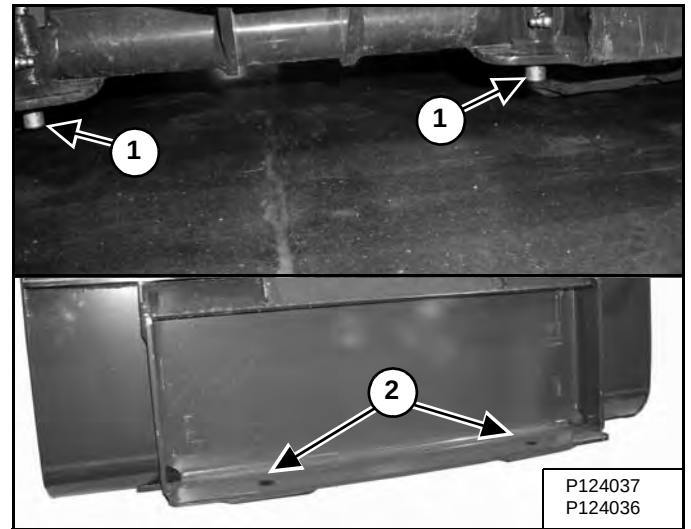
Push down on the CII locking pin levers until they are fully engaged in the locked position [Figure 258] (pins fully extended through the attachment mounting frame holes).

! 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 259



The pins (Item 1) must extend through the holes in the attachment mounting frame (Item 2) [Figure 259], securely fastening the attachment to the interface.

Connect auxiliary hydraulic hoses (if applicable). (See Hydraulic Quick Couplers on Page 131.)

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH MINI TRACK LOADERS (CONT'D)

Installation (Cont'd)

For First Time Installation

New attachments and new mini track 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 mini track 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 mini track loader engine off and using the hose guides (if equipped), route the attachment hydraulic hoses to the mini track loader. Connect the attachment hydraulic quick couplers to the mini track loader couplers. (See Hydraulic Quick Couplers on Page 131.)

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

Enter the operator's position. (See Entering And Leaving The Operator's Position on Page 123.)

Start the engine and release the parking brake.

For the first time use on a new or rebuilt breaker, use low engine rpm, place a load on the breaker, 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.

IMPORTANT

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

I-2205-0800

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.

Dealer Copy -- Not for Resale

Hydraulic Quick Couplers

IMPORTANT

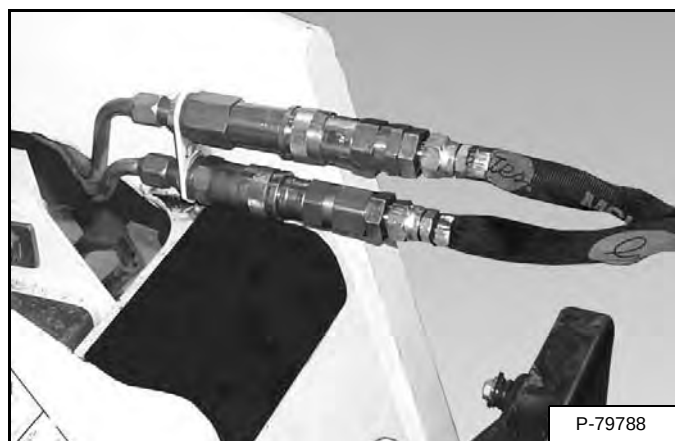
- Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.
- Contain and dispose of any oil leakage in an environmentally safe manner.

I-2278-0608

New attachments and new mini track 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 mini track 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 260



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 260].

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 mini track loader or attachment. (See For First Time Installation on Page 130.) for proper adjustment.

To Disconnect:

Relieve hydraulic pressure. (See the mini track loader's Operation & Maintenance Manual for correct procedure.)

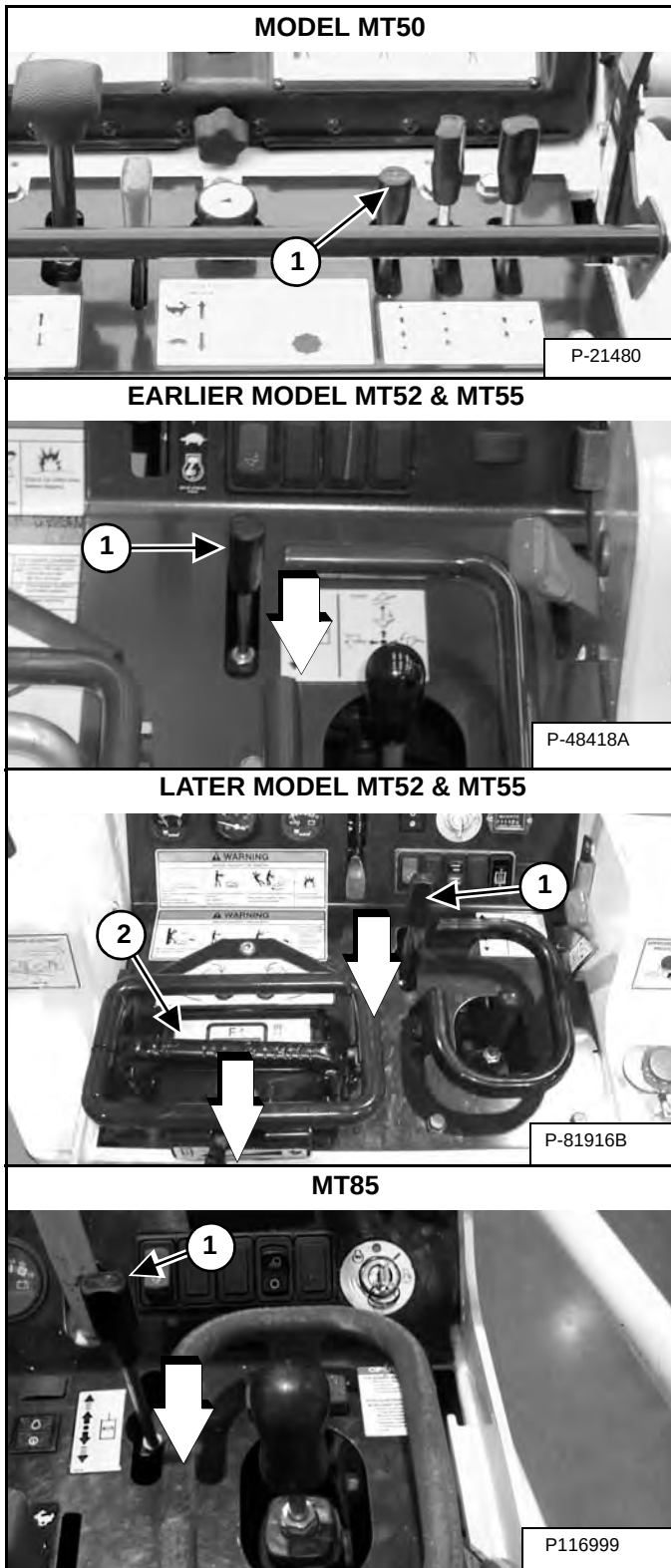
Push the couplers together, retract the sleeve on the female coupler until the couplers disconnect.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH MINI TRACK LOADERS (CONT'D)

Control Functions

Figure 261



NOTE: See the mini track loader Operation & Maintenance Manual for a complete description of the controls.

With the operator at the operator's position at the rear of the mini track loader, start the engine. Move the Auxiliary Hydraulic Control Lever (Item 1) [Figure 261] rearward for auxiliary hydraulic flow to the front female coupler. The hydraulic breaker will start.

Move the Auxiliary Hydraulic Control Lever to the NEUTRAL position to disengage the auxiliary hydraulics. The hydraulic breaker will stop.

Variable Flow

With the operator in the operator position, pull the auxiliary hydraulic control lever (Item 1) [Figure 261] rearward for auxiliary hydraulic oil flow to the front female coupler. The breaker will start.

NOTE: Hydraulic oil flow increases to the coupler as the lever (Item 1) [Figure 261] is pulled rearward.

Continuous Flow For Later Model MT52 & MT55:

While holding the Continuous Flow Shutoff Lever (Item 2) down, pull the Auxiliary Hydraulic Control Lever (Item 1) [Figure 261] all the way rearward until it locks (DETENT position) for continuous hydraulic oil flow to the front female coupler. The breaker will start and continue to [Figure 261] operate.

If the Continuous Flow Shutoff Lever (Item 2) is released while in continuous flow, the Auxiliary Hydraulic Control Lever (Item 1) [Figure 261] will return to NEUTRAL after one to three seconds and auxiliary hydraulic oil flow will stop.

To resume the continuous flow operation, make sure the Auxiliary Hydraulic Control Lever (Item 1) is in NEUTRAL and press down on the Continuous Flow Shutoff Lever. Move the Auxiliary Hydraulic Control Lever (Item 2) [Figure 261] all the way forward or rearward until it locks (DETENT position).

NOTE: The Continuous Flow Shutoff Lever (Item 2) must be in the UP position and the Auxiliary Hydraulic Control Lever (Item 1) [Figure 261] must be in NEUTRAL to start the engine.

NOTE: The Continuous Flow Shutoff Lever (Item 2) [Figure 261] must return to the UP position when released.

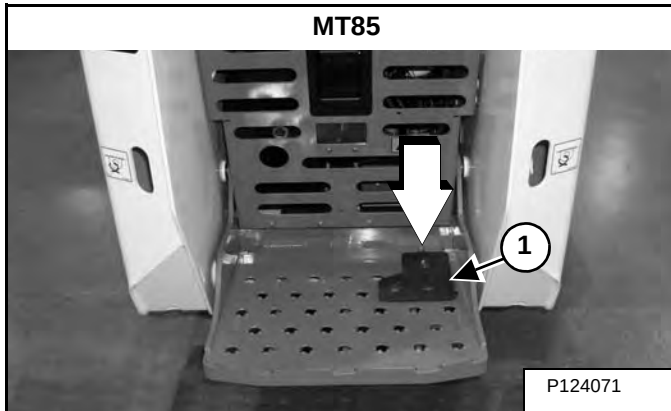
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH MINI TRACK LOADERS (CONT'D)

Control Functions (Cont'd)

Continuous Flow For Model MT85

Figure 262



Operation With The Mini Track Loader

While standing on the operator platform and depressing the Continuous Flow Shutoff Pedal (Item 1) [Figure 262], pull the Auxiliary Hydraulic Control Lever (Item 1) [Figure 261] all the way rearward until it locks (DETENT position) for continuous hydraulic oil flow to the front female coupler. The breaker will start and continue to operate.

If the Continuous Flow Shutoff Pedal (Item 1) [Figure 262] is released while in continuous flow (DETENT), the Auxiliary Hydraulic Control Lever (Item 1) [Figure 261] will return to NEUTRAL after one to three seconds and auxiliary hydraulic oil flow will stop.

To resume the continuous flow operation, make sure the Auxiliary Hydraulic Control Pedal (Item 1) [Figure 262] is in NEUTRAL and depress the Continuous Flow Shutoff Pedal. Move the Auxiliary Hydraulic Control Lever (Item 2) [Figure 261] all the way rearward until it locks (DETENT position).

NOTE: The Continuous Flow Shutoff Pedal (Item 1) [Figure 262] must be in the UP position and the Auxiliary Hydraulic Control Lever (Item 1) [Figure 261] must be in NEUTRAL to start the engine.

NOTE: The Continuous Flow Shutoff Pedal (Item 1) [Figure 262] must return to the UP position when released.

Operation With The Mini Track Loader

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.

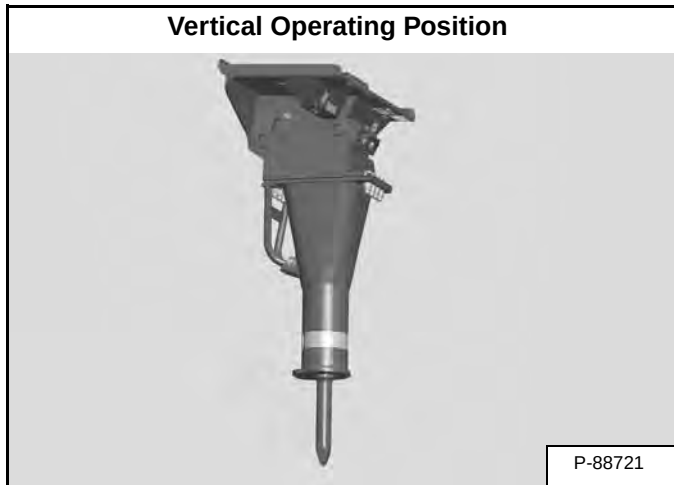
In cold weather conditions, warm the mini track loader hydraulic fluid to operating temperature before operating the breaker.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH MINI TRACK LOADERS (CONT'D)

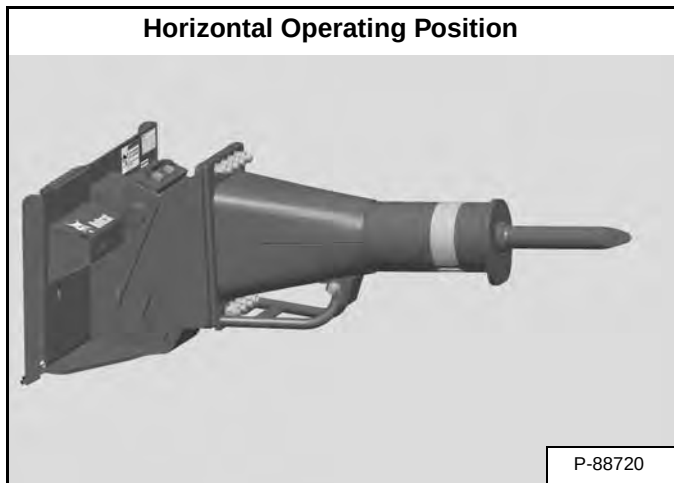
Operation With The Mini Track Loader (Cont'd)

Figure 263



When operating in the vertical position [Figure 263], on flat material, keep the tool vertical or curled back a small amount to direct the impact force downward and slightly toward the mini track loader.

Figure 264



When operating in the horizontal position [Figure 264], work near the edge.

Tips / Recommendations

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 mini track 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.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH MINI TRACK 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 mini track loader.

Engage the parking brake and stop the engine.

Release auxiliary hydraulic pressure (if applicable). (See the mini track loader's Operation & Maintenance Manual for correct procedure.)

Leave the operator's position. (See Entering And Leaving The Operator's Position on Page 123.)

! WARNING

AVOID INJURY OR DEATH

Before you leave the operator's position:

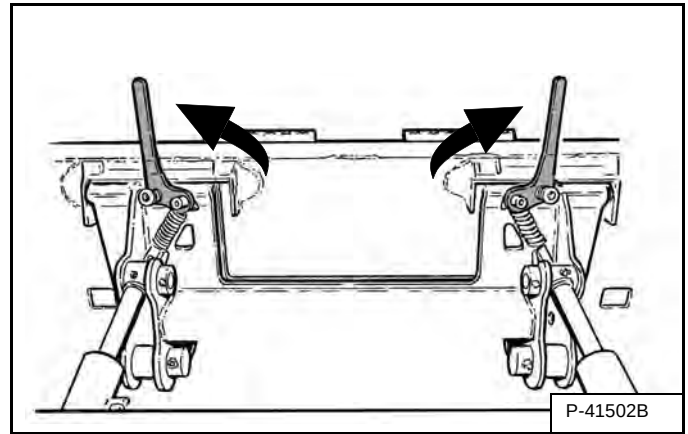
- Lower the lift arms, put the attachment flat on the ground.
- Stop the engine and engage the parking brake.
- Move all pedals, handles, joysticks, and other controls until they are LOCKED or in the NEUTRAL position.

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

W-2722-0208

Disconnect auxiliary hydraulic hoses (if applicable). (See Hydraulic Quick Couplers on Page 131.)

Figure 265



Pull the Bob-Tach levers up until they are fully raised (wedges fully raised) [Figure 265].

! WARNING

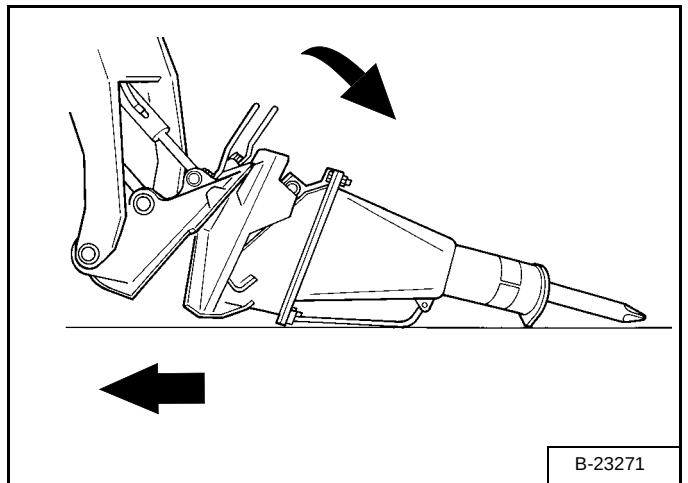
Bob-Tach levers have spring tension. Hold lever tightly and release slowly. Failure to obey warning can cause injury.

W-2054-1285

Enter the operator's position. (See Entering And Leaving The Operator's Position on Page 123.)

Start the engine and release the parking brake.

Figure 266



Tilt the Bob-Tach forward and drive the mini track loader backward, away from the attachment [Figure 266].

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH MINI TRACK 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.

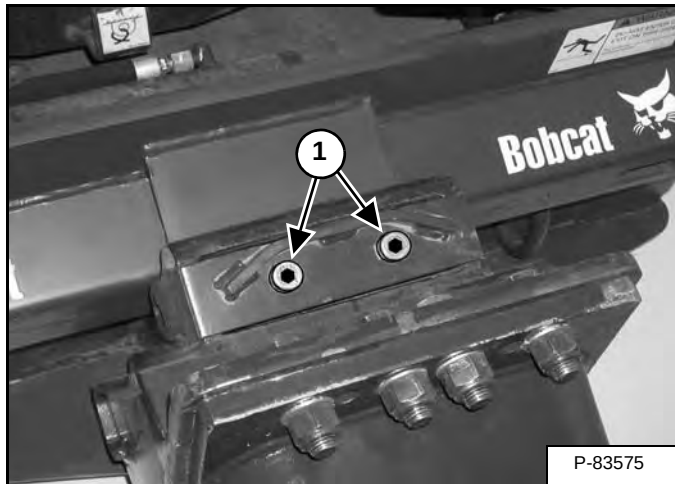
Engage the parking brake and stop the engine.

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

Leave the operator's position. (See Entering And Leaving The Operator's Position on Page 123.)

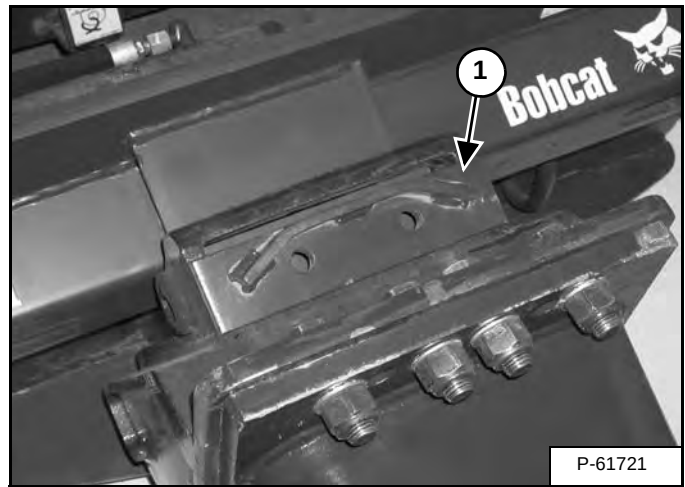
Disconnect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 131.)

Figure 267



Remove the bolts (Item 1) [Figure 267].

Figure 268

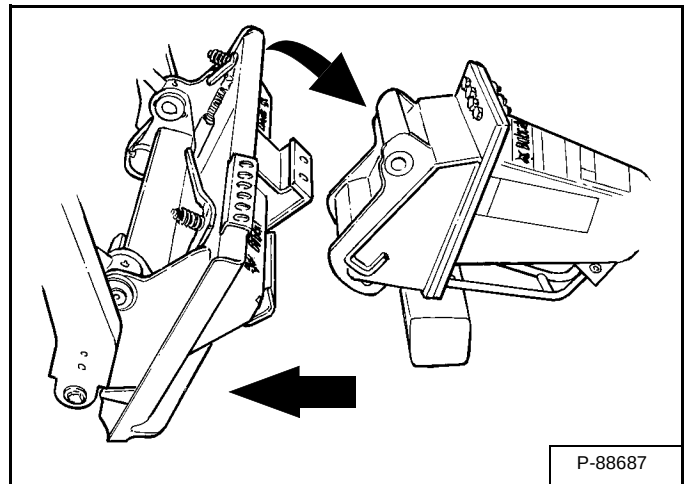


Remove the plate (Item 1) [Figure 268].

Enter the operator's position. (See Entering And Leaving The Operator's Position on Page 123.)

Start the engine and release the parking brake.

Figure 269



Tilt the Bob-Tach forward while backing the mini track loader away from the breaker [Figure 269].

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 mini track loader.

OPERATING PROCEDURE WITH MINI TRACK LOADERS (CONT'D)

Removal

Common Industry Interface (CII)

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 mini track loader.

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

Leave the operator's position. (See Entering And Leaving The Operator's Position on Page 123.)

WARNING

AVOID INJURY OR DEATH

Before you leave the operator's position:

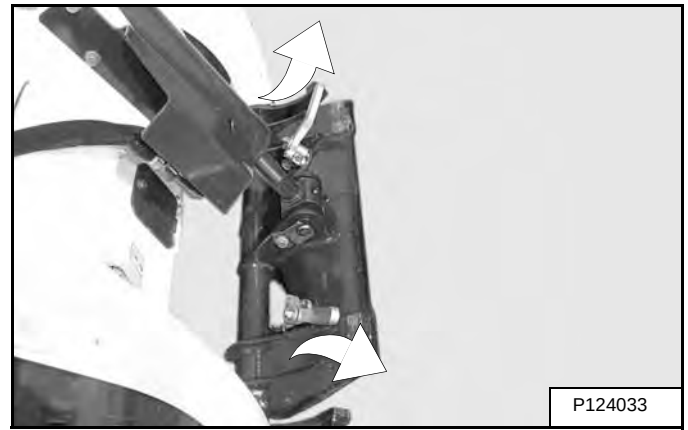
- Lower the lift arms, put the attachment flat on the ground.
- Stop the engine and engage the parking brake.
- Move all pedals, handles, joysticks, and other controls until they are LOCKED or in the NEUTRAL position.

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

W-2722-0208

Disconnect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 131.)

Figure 270



Pull the CII locking pin levers up until they are fully raised (pins fully raised) [Figure 270].

WARNING

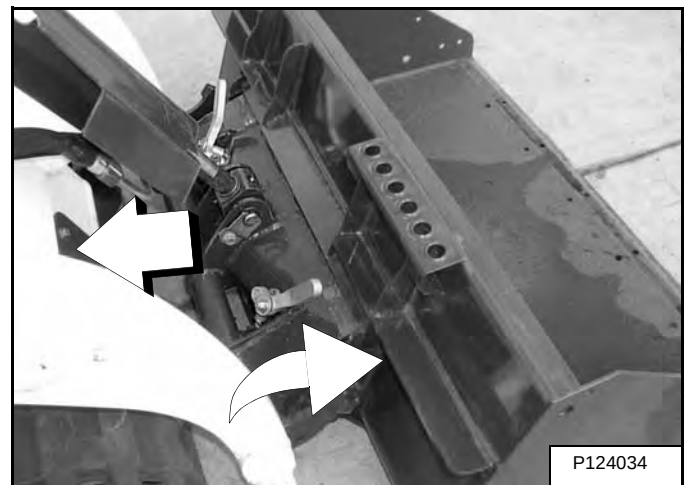
Locking pin levers have spring tension. Hold lever tightly and release slowly. Failure to obey warning can cause injury.

W-2997-1015

Enter the operator's position. (See Entering And Leaving The Operator's Position on Page 123.)

Start the engine and release the parking brake.

Figure 271



Tilt the CII forward and drive the mini track loader backward, away from the attachment [Figure 271].

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES

Approved Loader Backhoe Models And Requirements

Figure 272

LOADER BACKHOE MODEL	HB SERIES BREAKER				
	280	680	880	980	1180
B100		X	X		
B200		X	X		
B250		X	X		
B300			X		
BL-370			X		
BL-570			X	X	

(X = Approved)

The chart [Figure 272] shows the hydraulic breaker models approved for use with each loader backhoe 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.

**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

Figure 273

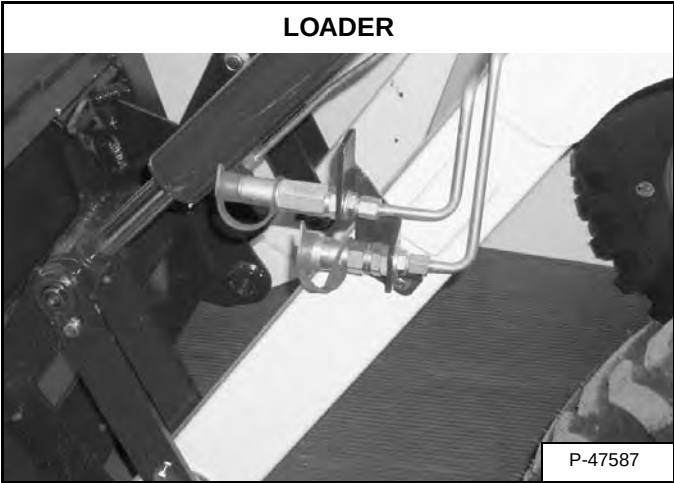
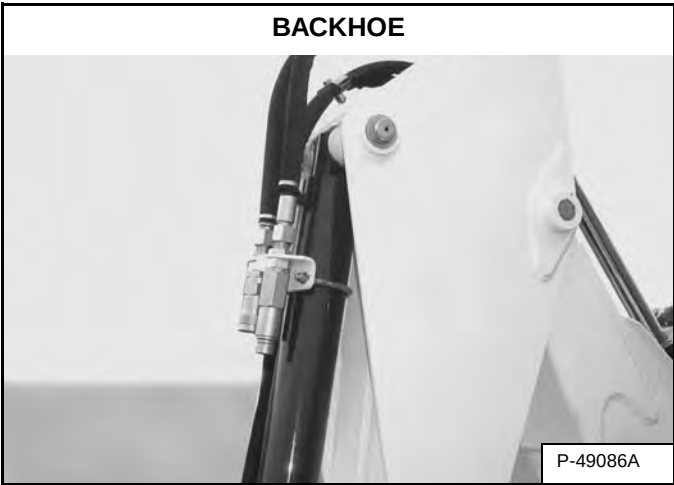


Figure 274



The loader backhoe must be equipped with auxiliary hydraulics [Figure 273] or [Figure 274].

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Entering And Exiting The Loader Backhoe

Entering

Figure 275



Use the steps and grab handle to get on and off the loader backhoe [Figure 275].

NOTE: Maintain three-point contact at all times while entering or exiting the loader backhoe. Do not jump.

Figure 276



Enter the loader backhoe. Fasten the seat belt snugly. Adjust the seat belt so the belt is over the operator's hips [Figure 276].

Put all controls in NEUTRAL position.

See the loader backhoe's Operation & Maintenance Manual for detailed information on operating the loader backhoe.

Exiting

Lower the lift arms, put the attachment on the ground (slightly above ground when installing buckets or attachments).

Make sure all controls are in NEUTRAL.

Engage the parking brake.

Stop the engine.

Exit the loader backhoe.



WARNING

AVOID INJURY OR DEATH

Before you leave the operator's seat:

- Lower the lift arms, put the attachment on the ground (slightly above ground when installing buckets and attachments).
- Make sure all controls are in neutral.
- Engage the parking brake.
- Stop the engine.

W-2467-0803

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES (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

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

! WARNING

Before you leave the operator's position:

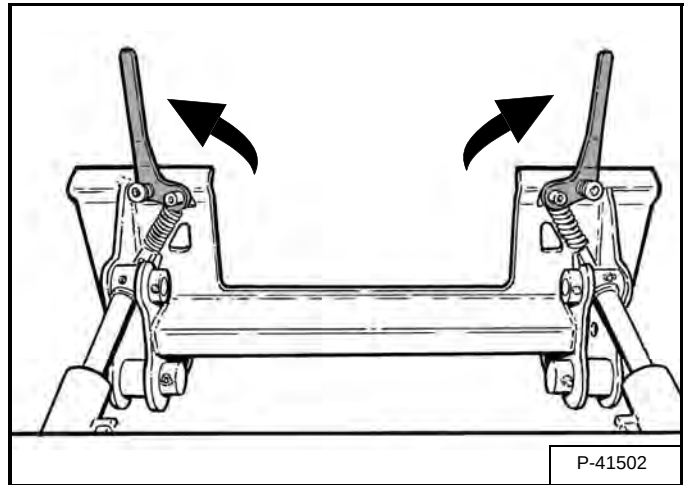
- Lower the lift arm(s) fully.
- Stop the engine and engage the parking brake.
- Move all pedals, handles, joysticks, and other controls until they are **LOCKED** or in the **NEUTRAL** position.

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

W-2500-0404

Always inspect the machines Bob-Tach and the attachment mounting frame before installation. See the machine's Operation & Maintenance Manual. (See Bob-Tach on Page 47.)

Figure 277

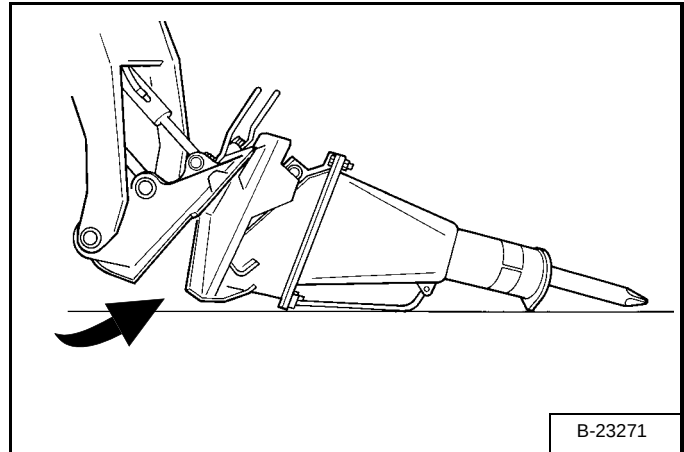


Pull the Bob-Tach levers all the way up [Figure 277].

Enter the loader backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

Start the engine and release the parking brake.

Figure 278



Tilt the Bob-Tach forward. Drive the loader forward until the top edge of the Bob-Tach is completely under the flange of the attachment mounting frame [Figure 278].

Be sure the Bob-Tach levers do not hit the hydraulic breaker.

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Installation (Cont'd)

Hand Lever Bob-Tach (Cont'd)

! WARNING

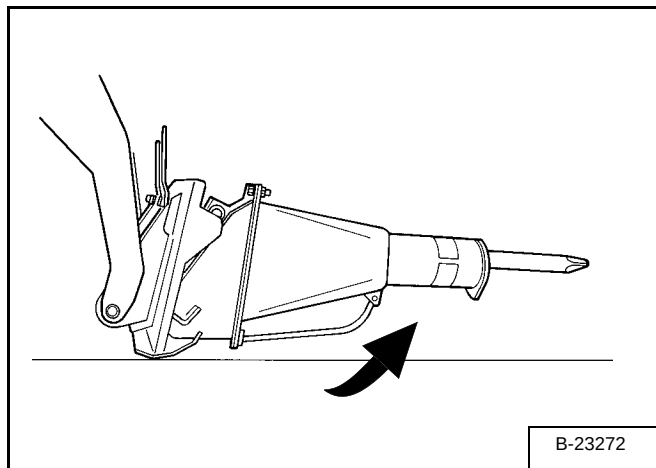
Before you leave the operator's position:

- Lower the lift arm(s) fully.
- Stop the engine and engage the parking brake.
- Move all pedals, handles, joysticks, and other controls until they are **LOCKED** or in the **NEUTRAL** position.

SEE THE MACHINE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION.

W-2500-0404

Figure 279



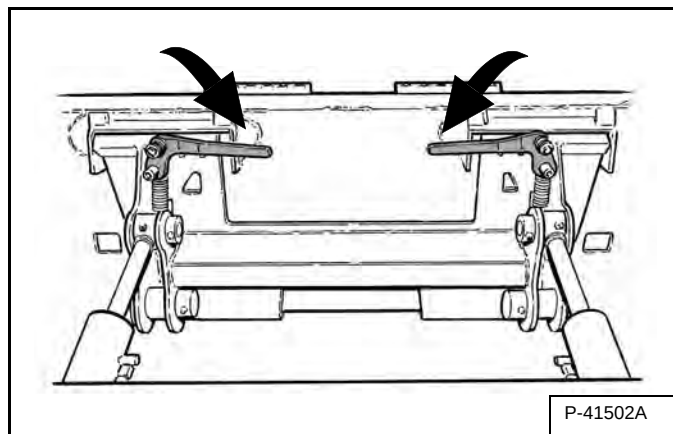
Tilt the Bob-Tach backward until the Bob-Tach is tight against the lower part of the attachment mounting frame [Figure 279].

Do not raise the lift arms. This can cause the attachment mounting frame to move away from the Bob-Tach.

Engage the parking brake and stop the engine.

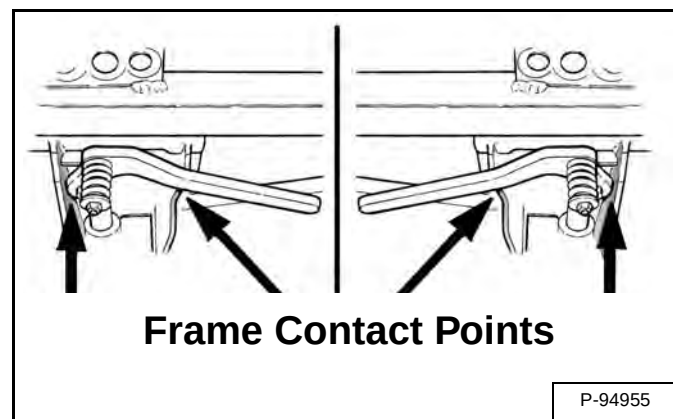
Exit the loader backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

Figure 280



Push down on the Bob-Tach levers until they are fully engaged in the locked position [Figure 280].

Figure 281



The levers must contact the frame as shown when locked [Figure 281].

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

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Installation (Cont'd)

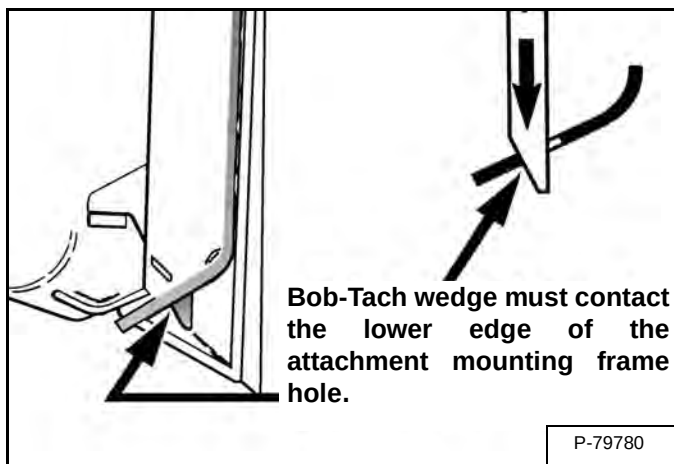
Hand Lever Bob-Tach (Cont'd)

! WARNING

Bob-Tach wedges must extend through the holes in attachment. Lever(s) must be fully down and locked. Failure to secure wedges can allow attachment to come off and cause injury or death.

W-2102-0497

Figure 282



The wedges must extend through the holes in the mounting frame of the attachment, securely fastening the attachment to the Bob-Tach [Figure 282].

Pin-On X-Change

NOTE: An excavator is shown in the pictures, but the procedure is the same for both excavators and loader backhoes.

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

Enter the loader backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

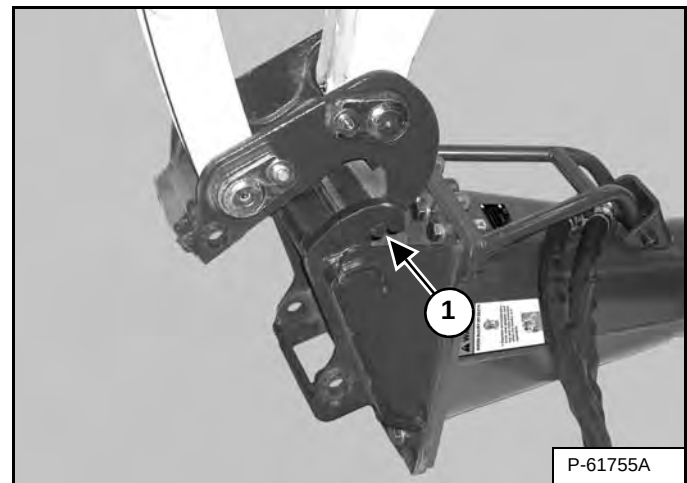
See the loader backhoe's Operation & Maintenance Manual to correctly operate the loader backhoe.

Start the engine and release the parking brake.

Fully retract the bucket cylinder.

Move the arm toward the breaker mounting frame.

Figure 283



Raise the boom until the pins (Item 1) [Figure 283] engage the hooks on the mounting frame.

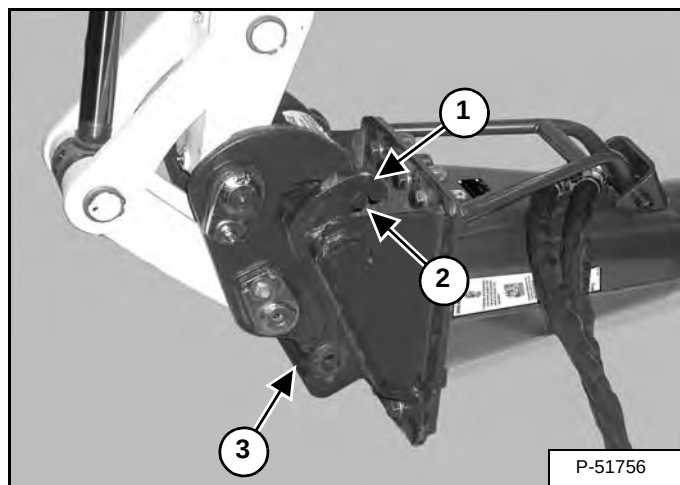
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Installation (Cont'd)

Pin-On X-Change (Cont'd)

Figure 284



Raise the boom and extend the bucket cylinder until the X-Change contacts the attachment back **[Figure 284]**.

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 284]** 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.

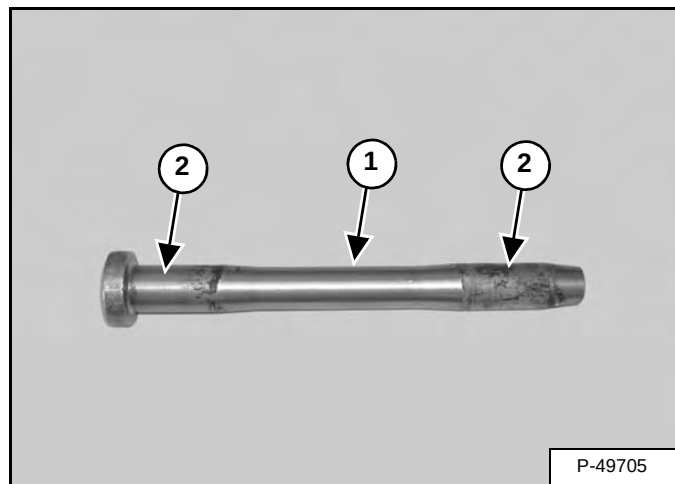
W-2119-0910

Engage the parking brake and stop the engine.

Relieve hydraulic pressure. (See the machine's Operation & Maintenance Manual for correct procedure)

Exit the loader backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

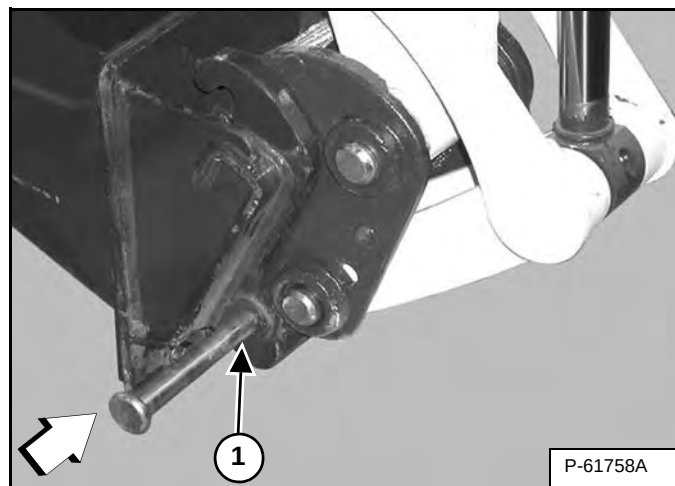
Figure 285



Inspect the pin (Item 1) **[Figure 285]** for wear or damage. Replace the pin as needed.

Apply a light coat of grease to the ends of the pin (Item 2) **[Figure 285]**.

Figure 286



Drive the pin (Item 1) **[Figure 286]** through the breaker mount and X-Change.

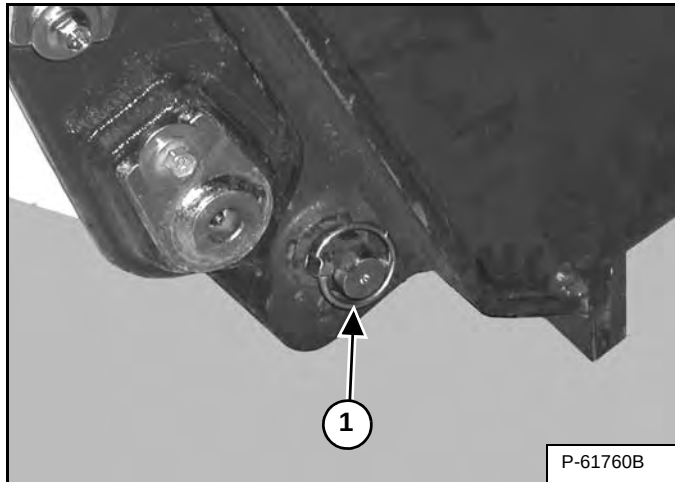
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Installation (Cont'd)

Pin-On X-Change (Cont'd)

Figure 287



Install the retainer pin (Item 1) [Figure 287].

Bolt-On X-Change

WARNING

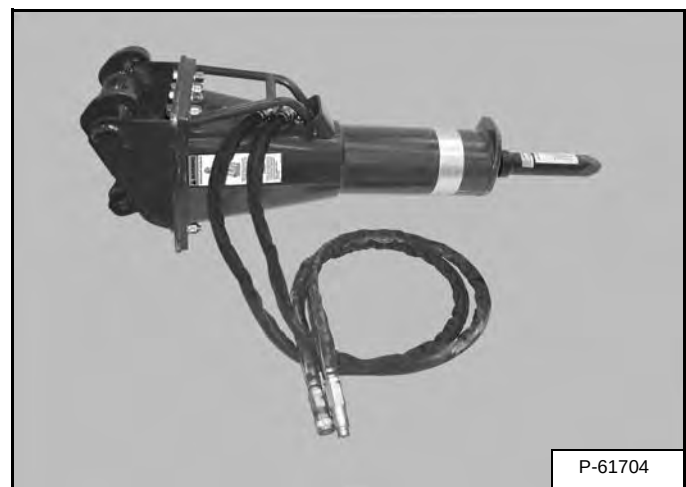
AVOID INJURY OR DEATH

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 288



Position the breaker so the hydraulic hoses will be toward the loader backhoe during operation and are facing up [Figure 288].

Enter the loader backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

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

Start the engine and release the parking brake.

Fully retract the bucket cylinder.

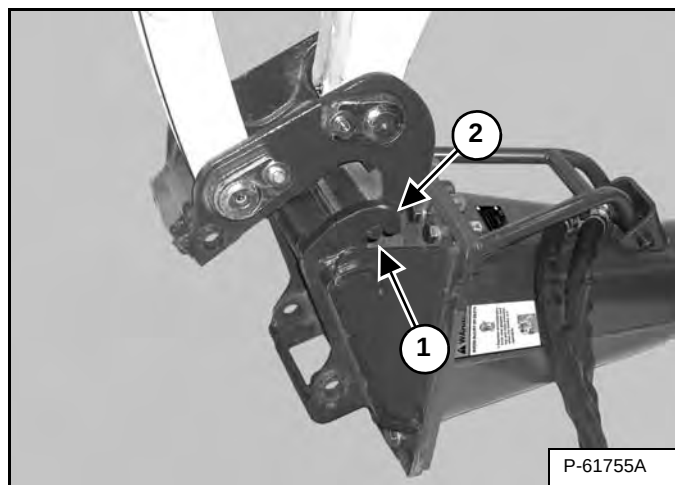
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Installation (Cont'd)

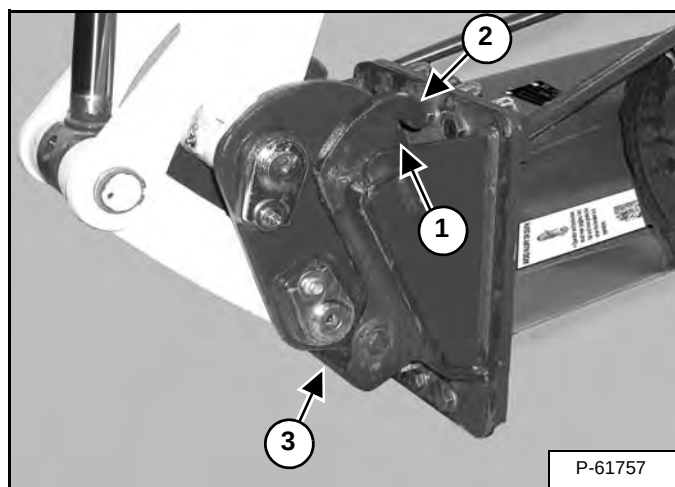
Bolt-On X-Change (Cont'd)

Figure 289



Move the arm toward the breaker. Raise the boom until the pins (Item 1) engage the hooks (Item 2) [Figure 289] on the mount.

Figure 290



Raise the boom, and extend the bucket cylinder until the X-Change contacts the attachment back [Figure 290].

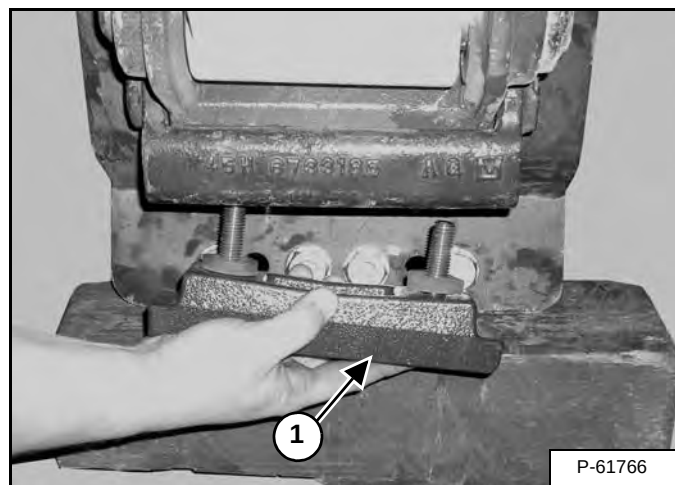
With the arm vertical, lower the boom until the hooks (Item 1) of the breaker disengage the pins (Item 2) of the X-Change and plate (Item 3) [Figure 290] fully engages in the crossmember.

Stop the engine.

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

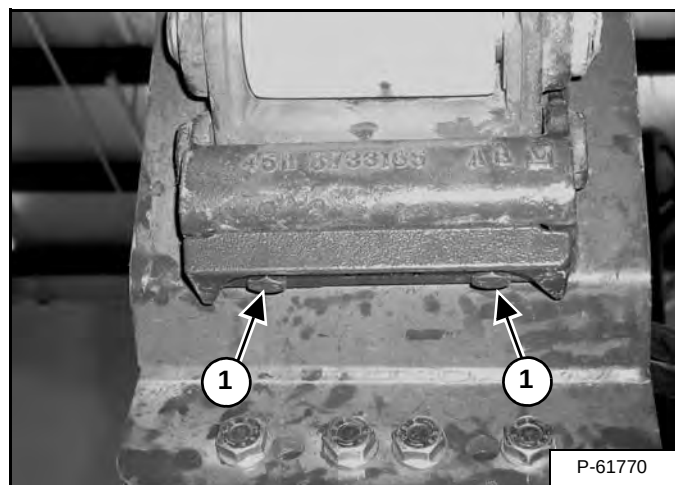
Exit the loader backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

Figure 291



Install the plate (Item 1) [Figure 291].

Figure 292



Install the two bolts (Item 1) [Figure 292]. 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 292]. Over torquing may cause bolt or thread damage or could result in the bolts breaking during operation.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Installation (Cont'd)

X-Change System

Figure 293



Position the breaker so the hydraulic hoses will be toward the loader backhoe during operation and are facing up [Figure 293].

Enter the loader backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

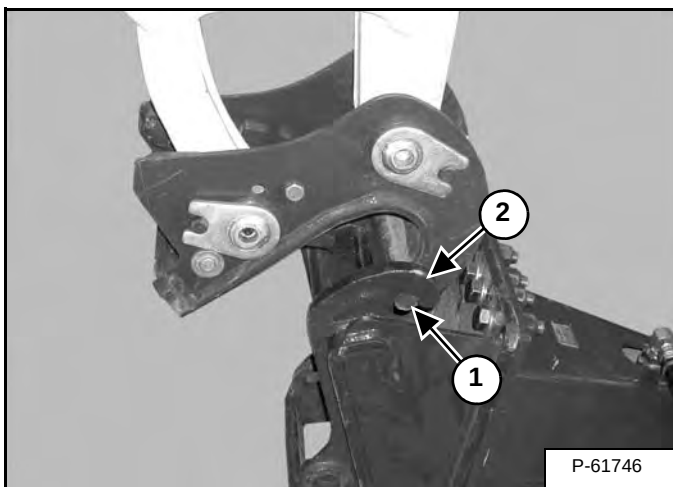
See the loader backhoe's Operation & Maintenance Manual to correctly operate the loader backhoe.

Start the engine and release the parking brake.

Fully retract the bucket cylinder.

Move the arm toward the breaker mounting frame.

Figure 294



Raise the boom until the pins (Item 1) engage the hooks (Item 2) [Figure 294] on the mounting frame.

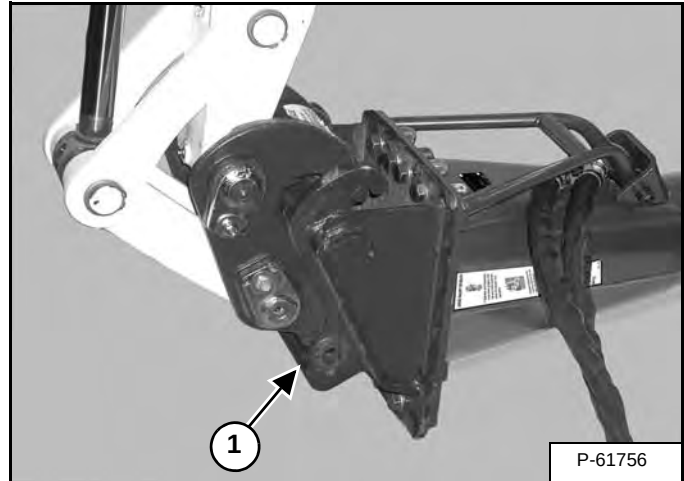
WARNING

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 295



Raise the boom and extend the bucket cylinder until the X-Change seats in the mating area of the mounting frame [Figure 295].

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 crossmember (Item 1) [Figure 295] locking the breaker frame to the X-Change.

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Hydraulic Quick Couplers

IMPORTANT

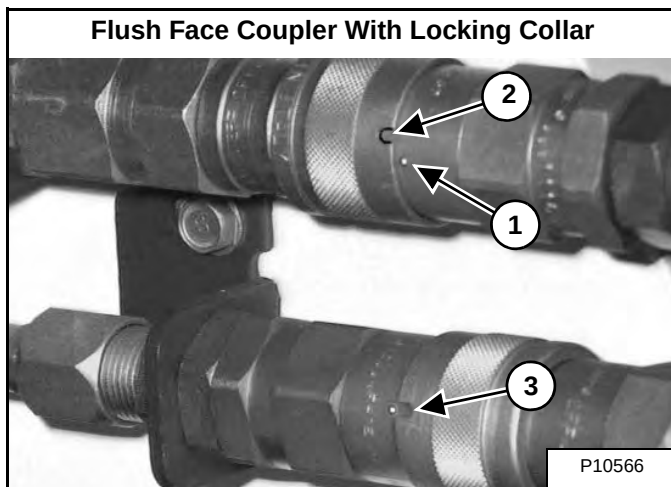
- Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.
- Contain and dispose of any oil leakage in an environmentally safe manner.

I-2278-0608

New attachments and new machines 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 machine. 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 296



To Connect:

Install the male coupler into the female coupler. Full connection is made when the ball release sleeve slides forward on the female coupler and the sleeve is rotated so that the locking pins (Item 1) and the groove (Item 2) [Figure 296] do NOT align (Locked Position). This will prevent accidental disconnection.

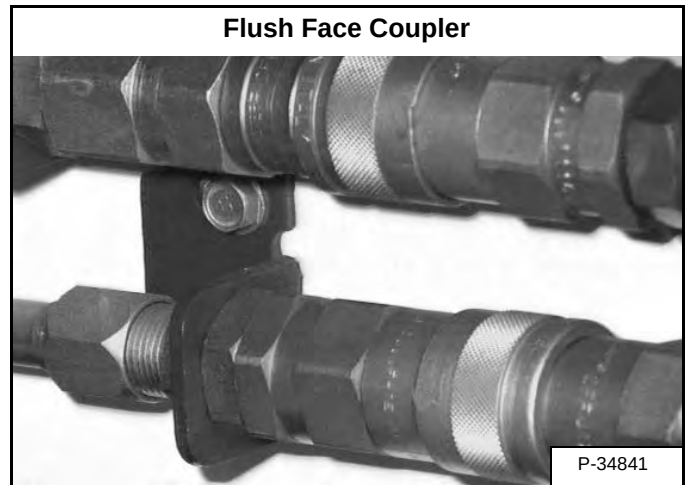
NOTE: If the locking pins and grooves are aligned (Item 3) [Figure 296], accidental disconnection is possible.

To Disconnect:

Relieve hydraulic pressure. (See the loader backhoe's Operation & Maintenance Manual for correct procedure.) Rotate the ball release sleeve so that the grooves (Item 2) are aligned with the pins (Item 1) in the female coupler [Figure 296].

Push the couplers together to relieve any resistance on the sleeve. retract the sleeve on the female coupler until the couplers disconnect.

Figure 297



To Connect:

Install the male coupler into the female coupler. Full connection is made when the ball release sleeve slides forward on the female coupler [Figure 297].

For First Time Installation:

With the machine engine off, connect the attachment couplers to the machine couplers. Check the attachment hoses so the hoses not twisted and they route to the machine without contacting any moving parts. Tighten all connections before starting the loader backhoe.

To Disconnect:

Relieve hydraulic pressure. (See the loader backhoe's Operation & Maintenance Manual for correct procedure.) Push the couplers together to relieve any resistance on the sleeve. retract the sleeve on the female coupler until the couplers disconnect [Figure 297].

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Control Functions

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

NOTE: When using the breaker, pressurize the female coupler only.

Backhoe Auxiliary Hydraulic Controls

Figure 298

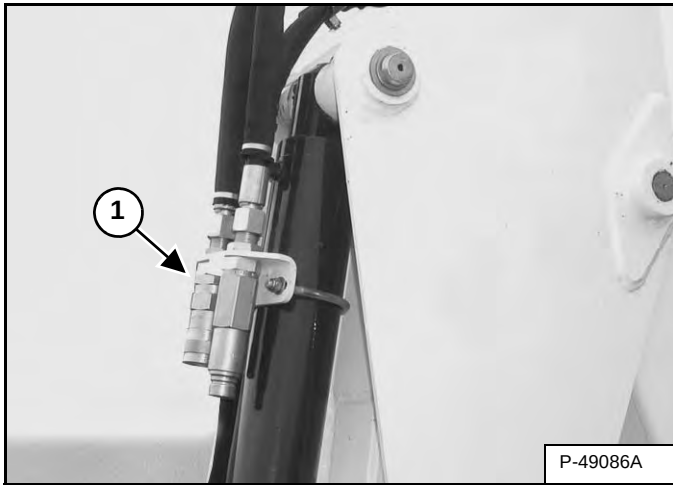
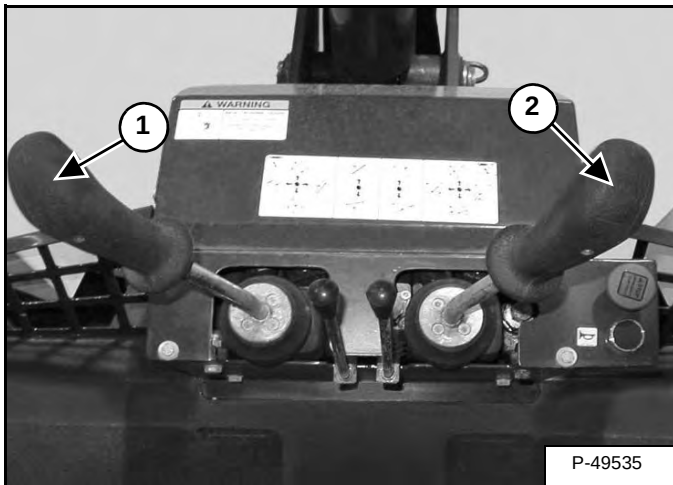


Figure 299



The backhoe auxiliary hydraulic couplers (Item 1) [Figure 298] are controlled by the backhoe auxiliary hydraulic control buttons (Item 1 and Item 2) [Figure 299] on the backhoe control handles.

Press and hold the right button (Item 2) [Figure 299] for hydraulic flow (energizes the female coupler) for breaker operation.

Loader Auxiliary Hydraulic Controls

Figure 300

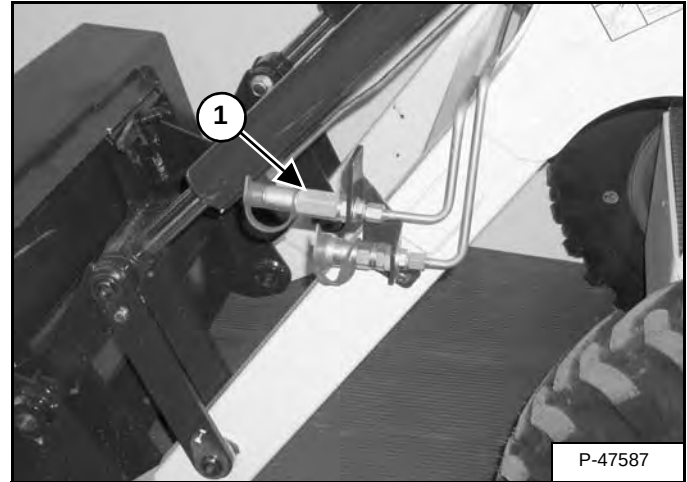
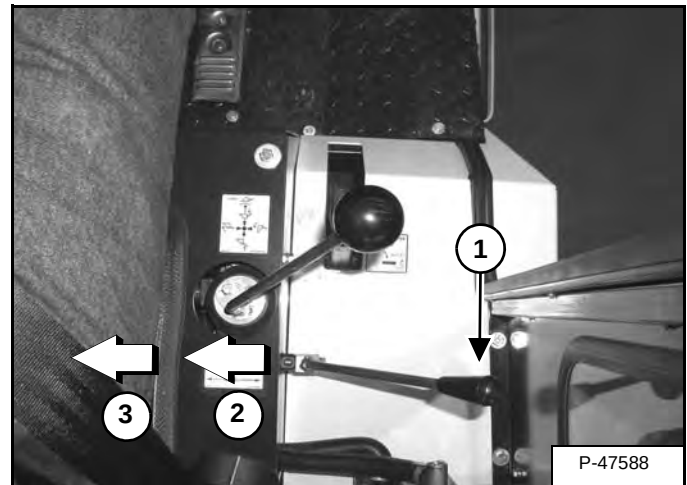


Figure 301



The loader auxiliary hydraulic couplers (Item 1) [Figure 300] are controlled by the loader auxiliary hydraulic control lever (Item 1) [Figure 301] located on the right side of the operator's seat.

Move the lever in slightly (Item 2) [Figure 301] for forward hydraulic flow to the female coupler (pressurizes the female coupler) for breaker operation.

Move the lever all the way in to the DETENT position (Item 3) [Figure 301] to lock the auxiliary hydraulics for continuous hydraulic flow to the front female coupler.

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Operation With The Loader Backhoe

! 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 backhoes hydraulic fluid to operating temperature before operating the breaker.

Figure 302

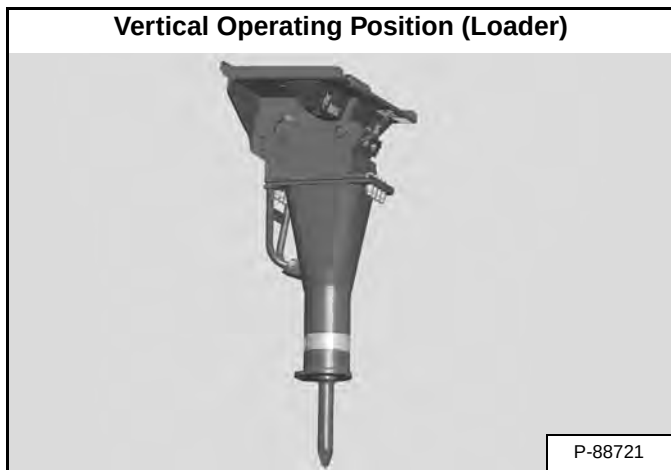
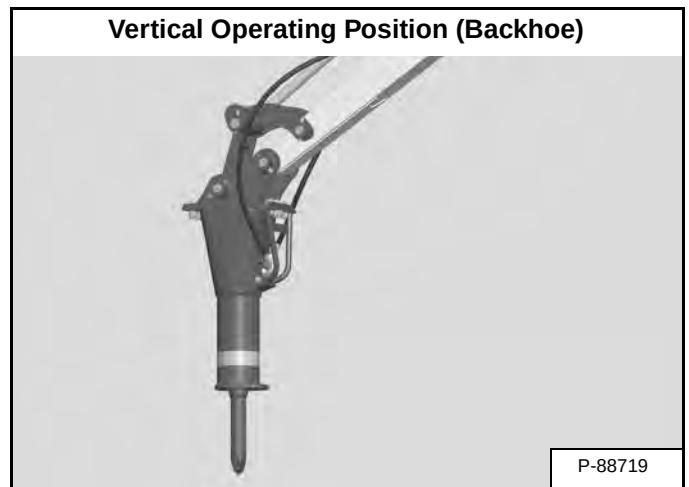


Figure 303



When operating in the vertical position [Figure 302] or [Figure 303], 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 304

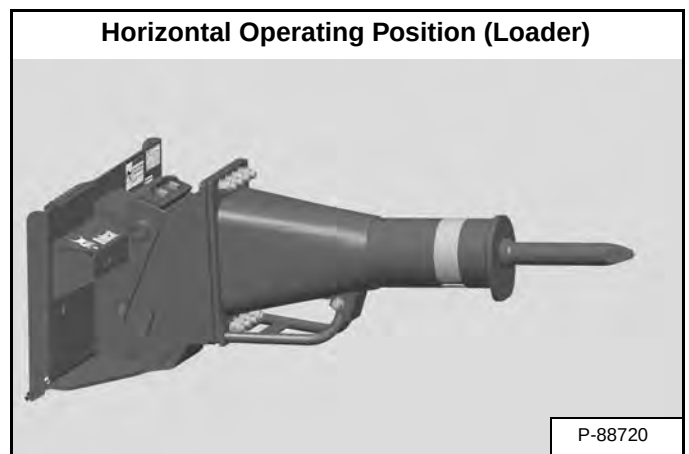
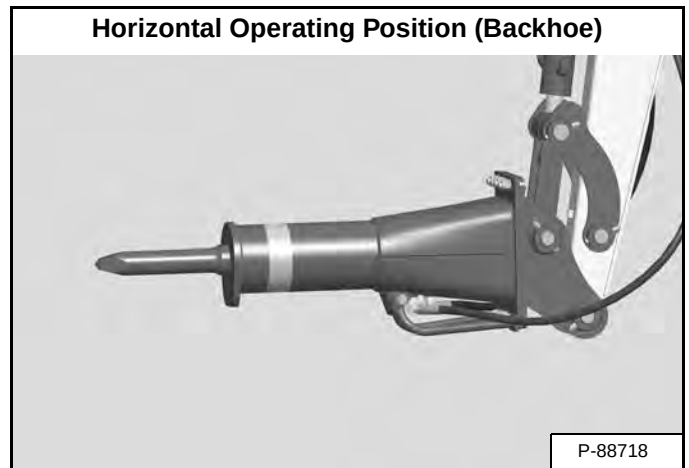


Figure 305



When operating in the horizontal position [Figure 304] or [Figure 305], work near the edge.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Operation With The Loader Backhoe (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 backhoe 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 LOADER BACKHOES (CONT'D)

Removal

! 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.

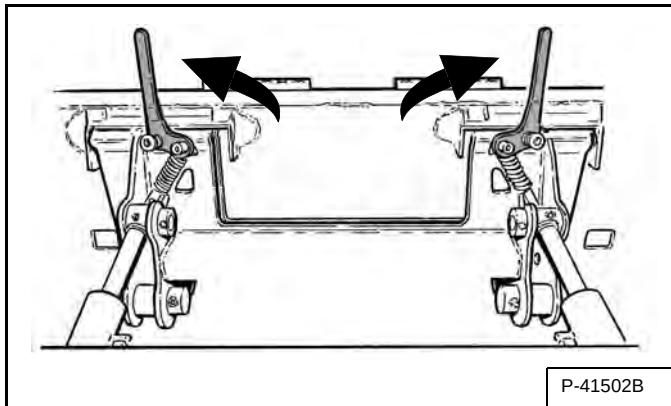
W-2220-0396

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

Disconnect auxiliary hydraulic hoses. (See Hydraulic Quick Couplers on Page 147.)

Hand Lever Bob-Tach

Figure 306

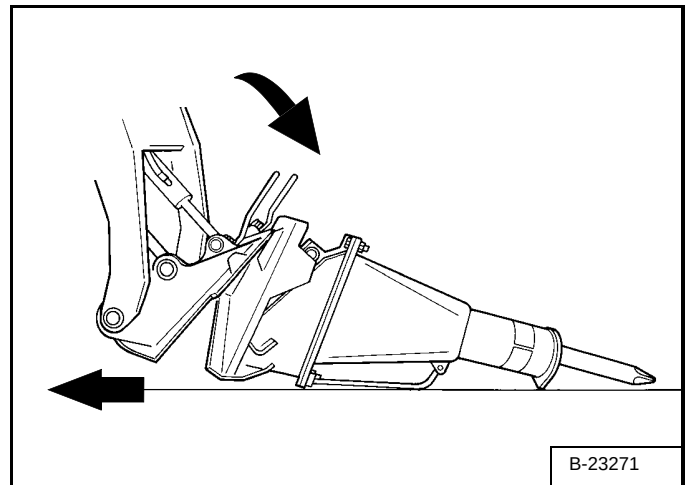


Pull the Bob-Tach levers all the way up [Figure 306].

Enter the loader backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

Start the engine and release the parking brake.

Figure 307



Tilt the Bob-Tach forward while backing the machine away from the attachment [Figure 307].

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 backhoe.

Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Removal (Cont'd)

Pin-On X-Change

Select a flat and level surface.

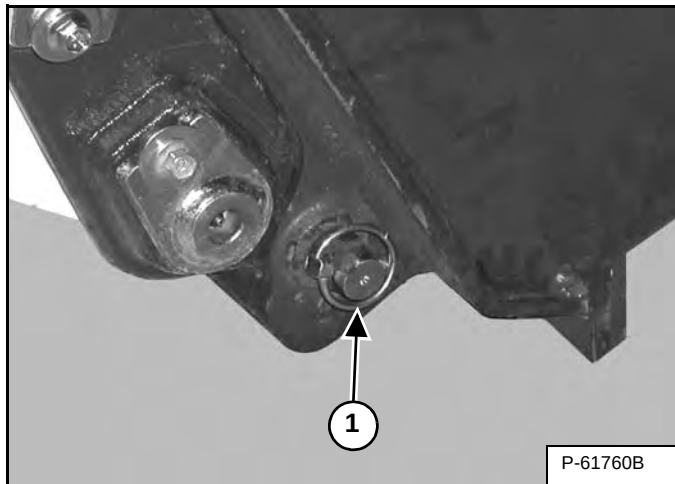
Position the arm vertically, lower the breaker to the ground. Engage the parking brake and stop engine.

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

Exit the loader backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

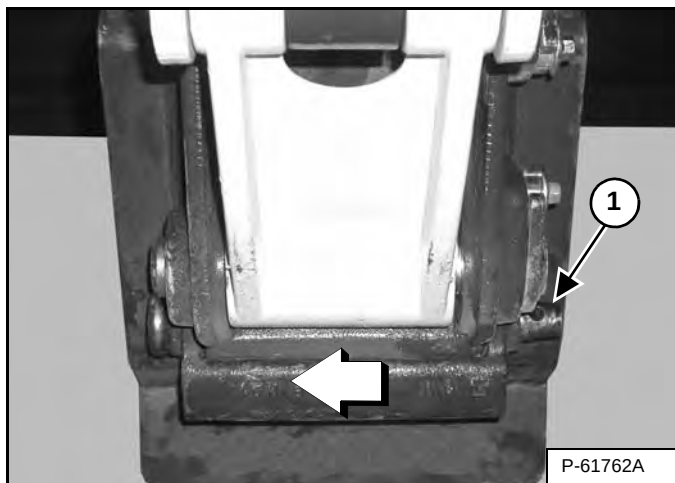
Disconnect the auxiliary couplers. (See Hydraulic Quick Couplers on Page 147.)

Figure 308



Remove the retainer pin (Item 1) [Figure 308].

Figure 309



Drive the pin (Item 1) [Figure 309] out of the breaker and X-Change Mount.

WARNING

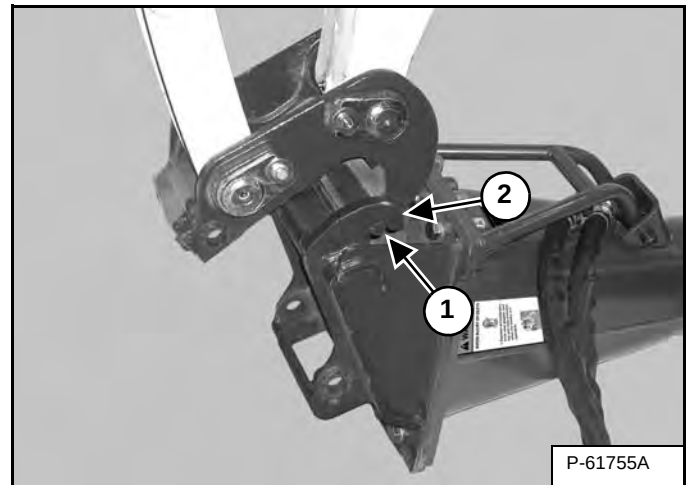
AVOID INJURY OR DEATH

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 310



Enter the loader backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

Start the engine and release the parking brake.

Lift the boom approximately 305 mm (12 in) and fully retract the bucket cylinder to disengage the breaker [Figure 310].

Lower the boom until the X-Change pins (Item 1) are clear of the hooks (Item 2) [Figure 310].

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

IMPORTANT

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

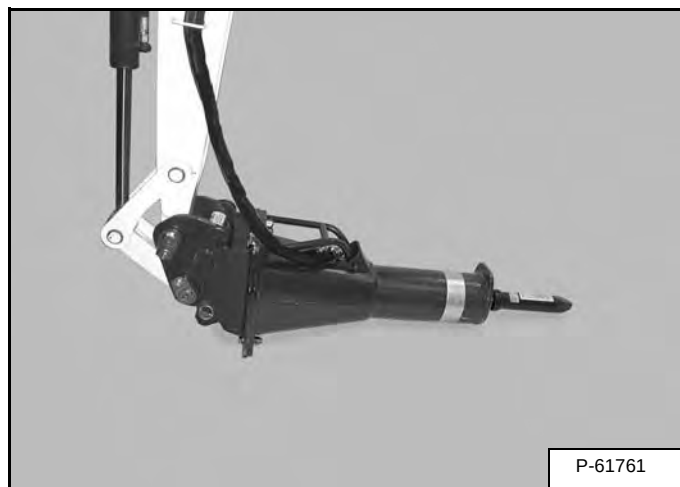
I-2205-0800

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Removal (Cont'd)

Bolt-On X-Change

Figure 311



Select a flat and level surface.

Position the arm vertically and put the breaker on the ground [Figure 311].

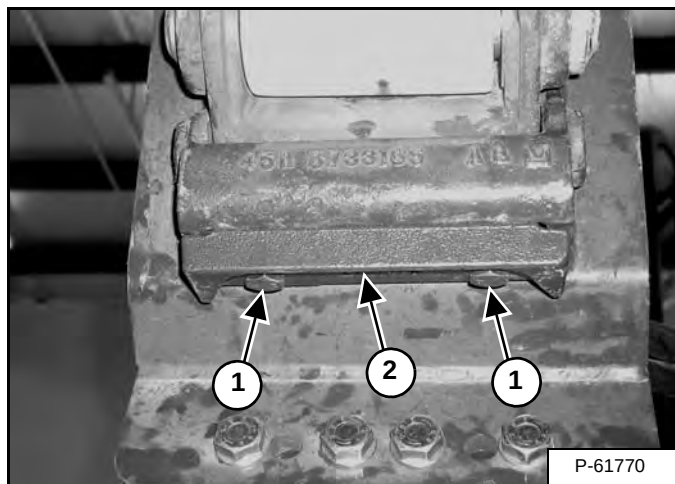
Engage the parking brake and stop the engine.

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

Exit the loader backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

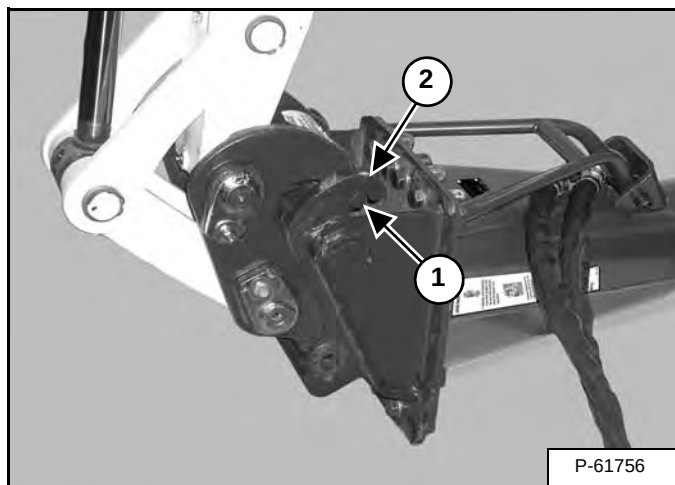
Disconnect the auxiliary couplers. (See Hydraulic Quick Couplers on Page 147.)

Figure 312



Remove the two bolts (Item 1) and plate (Item 2) [Figure 312].

Figure 313



Enter the backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

Start the engine and release the parking brake.

Raise the boom approximately 305 mm (12 in) until the X-Change pins (Item 1) engage the hooks (Item 2) [Figure 313] on the breaker.

IMPORTANT

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

I-2205-0800

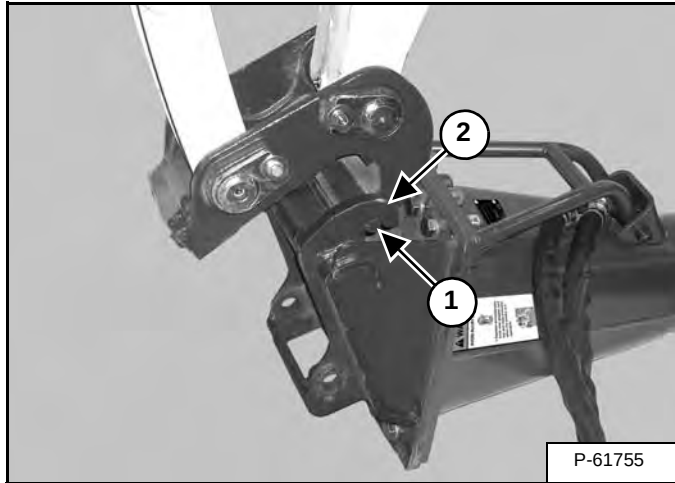
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Removal (Cont'd)

Bolt-On X-Change (Cont'd)

Figure 314



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 314].

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

X-Change System

Select a flat and level surface.

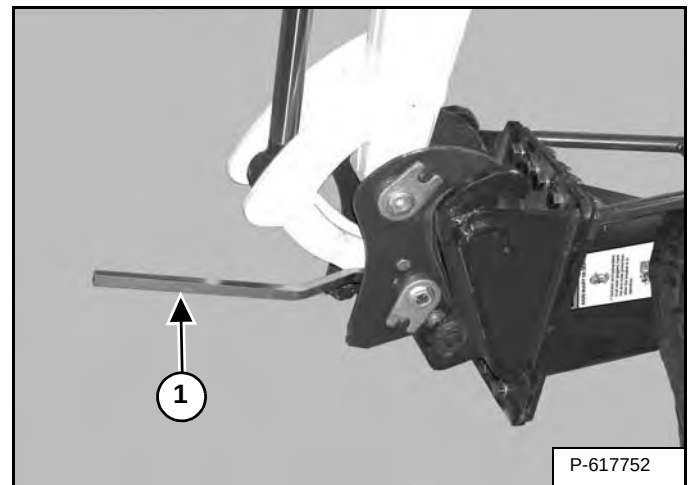
Position the arm vertically, lower the breaker to the ground. Engage the parking brake and stop the engine.

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

Exit the loader backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

Disconnect the auxiliary couplers. (See Hydraulic Quick Couplers on Page 147.)

Figure 315



Install the X-Change tool (Item 1) [Figure 315] in the latch.

IMPORTANT

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

I-2205-0800

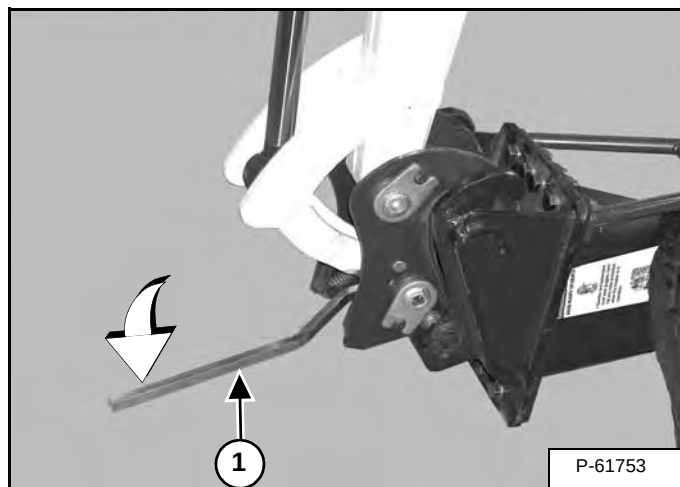
Dealer Copy -- Not for Resale

OPERATING PROCEDURE WITH LOADER BACKHOES (CONT'D)

Removal (Cont'd)

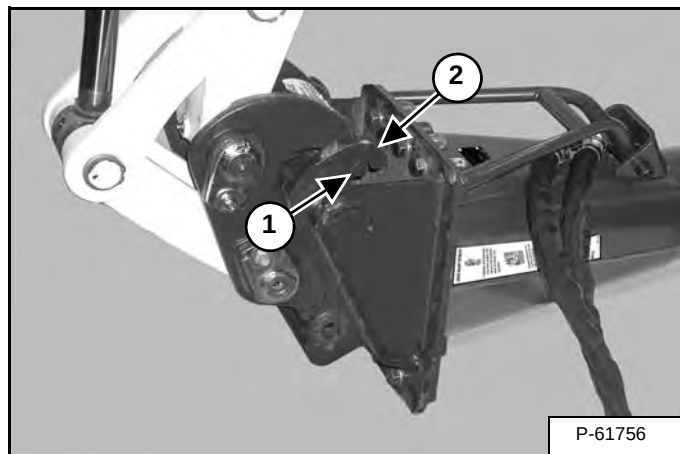
X-Change System (Cont'd)

Figure 316



Pull the lever (Item 1) [Figure 316] away from the machine, to unlock the latch. Remove the tool.

Figure 317



Enter the loader backhoe. (See Entering And Exiting The Loader Backhoe on Page 139.)

Start the engine and release the parking brake.

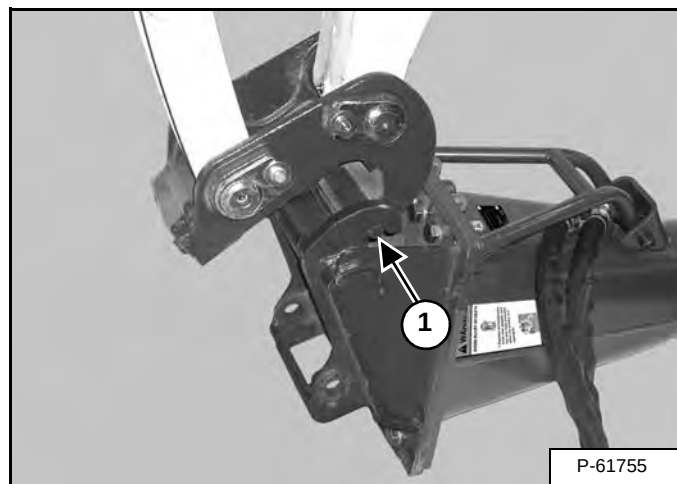
Lift the boom approximately 305 mm (12 in), until the X-Change pins (Item 1) engage the hooks (Item 2) [Figure 317] on the breaker.

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 318



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 318] are clear of the breaker.

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

Dealer Copy -- Not for Resale

LIFTING THE ATTACHMENT

Procedure

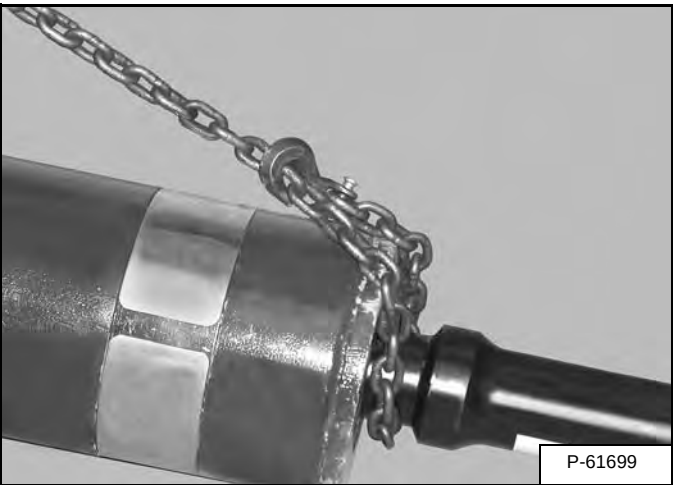
Bob-Tach Mounting Frame

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

Figure 319

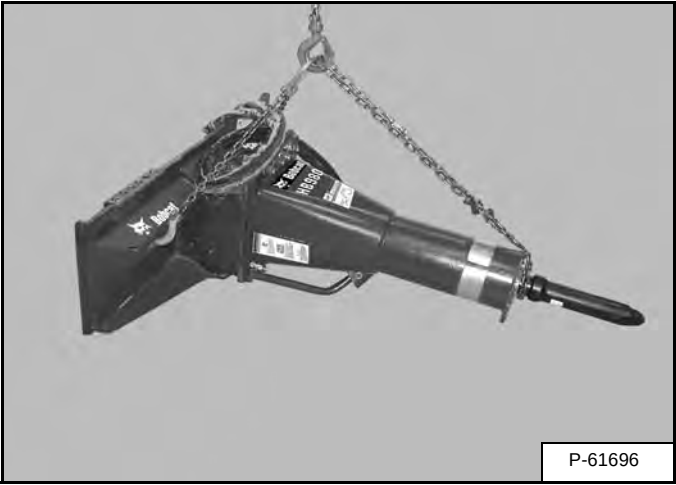


Figure 320



Fasten the chains to the breaker **[Figure 319]** and **[Figure 320]**.

Figure 321



Lift the breaker **[Figure 321]**.

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 322

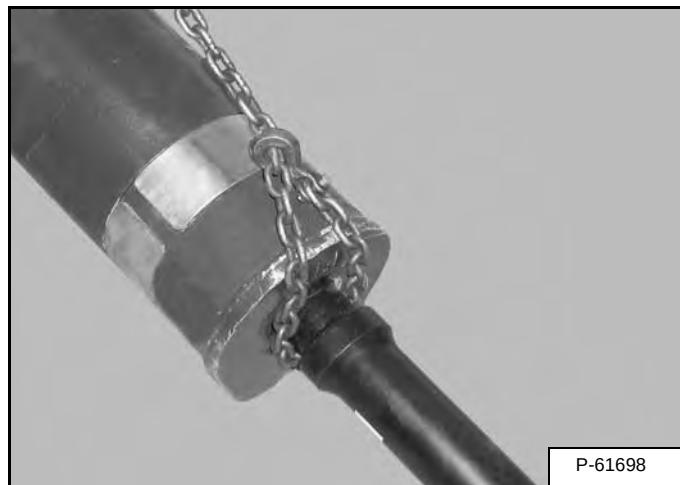


Figure 323



Fasten the chains to the breaker [Figure 322] and [Figure 323].

Figure 324



Lift the breaker [Figure 324].

TRANSPORTING THE ATTACHMENT ON A TRAILER

Fastening

Bob-Tach Mounting Frame

Figure 325



Figure 326

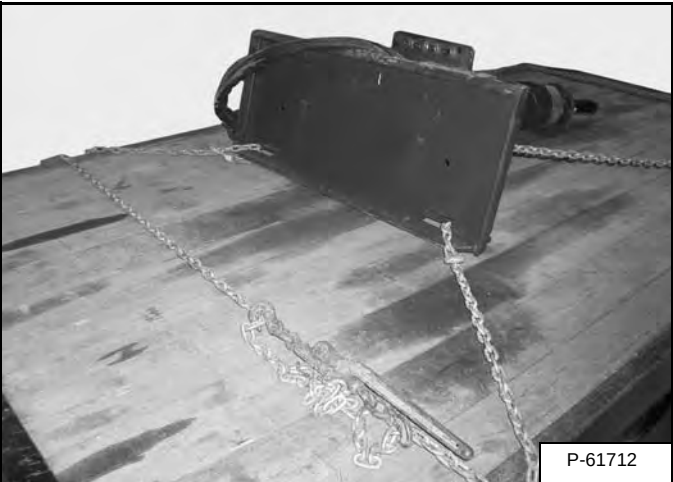


Figure 327



Fasten the chains to the breaker and to the transport vehicle [Figure 325], [Figure 326] and [Figure 327].

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

Secure the hydraulic hoses to the breaker.

Dealer Copy -- Not for Resale

TRANSPORTING THE ATTACHMENT ON A TRAILER (CONT'D)

Fastening (Cont'd)

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

Figure 328



Figure 329

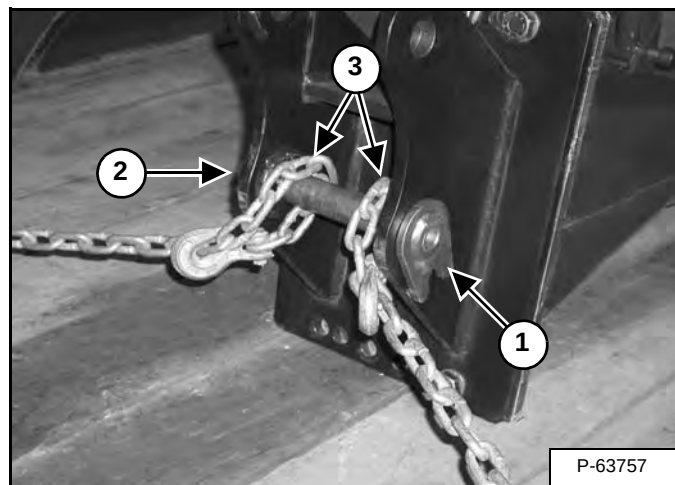


Figure 330



Fasten the chains to the breaker **[Figure 328]**, **[Figure 329]**, and **[Figure 330]** and to the transport vehicle.

Figure 331



For pin on breaker mounting frames, install the pin (Item 1) and retainer (Item 2) **[Figure 331]** in the mounting frame.

Install the chains (Item 3) around the pin (Item 1) **[Figure 331]** and to the transport vehicle.

Fasten the chains to the breaker **[Figure 328]**, **[Figure 329]** and **[Figure 330]** and to the transport vehicle.

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

Secure the hydraulic hoses to the breaker.

Dealer Copy -- Not for Resale

TRANSPORTING THE ATTACHMENT AND MACHINE ON A TRAILER

Loading And Fastening



WARNING

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.

PREVENTIVE MAINTENANCE

MAINTENANCE SAFETY	163
TROUBLESHOOTING	165
Chart	165
SERVICE SCHEDULE	167
Chart	167
REGULAR MAINTENANCE ITEMS	168
Weekly Inspection	168
Retaining Band Replacement	171
Nitrogen Chamber	172
LUBRICATING THE ATTACHMENT	176
Lubrication Locations	176
REMOVAL AND INSTALLATION OF TOOL	178
Procedure (External Retaining Band)	178
Procedure (Internal Retaining Band)	185
ATTACHMENT STORAGE AND RETURN TO SERVICE	189
Storage	189
Return To Service	189

Dealer Copy -- Not for Resale



Bobcat®

MAINTENANCE SAFETY



WARNING

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

W-2003-0807



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

CORRECT



P-90216

-  Never service attachments / implements without instructions. See Operation & Maintenance Manual and Attachment / Implement Service Manual.
-  Cleaning and maintenance are required daily.
-  Never service or adjust attachment / implement with the engine running unless instructed to do so in manual.
-  Always lower the attachment / implement to the ground before lubricating or servicing.
-  Avoid contact with leaking hydraulic fluid or diesel fuel under pressure. It can penetrate skin or eyes.
-  Stop, cool and clean engine of flammable materials before checking fluids.
-  Keep body, loose objects and clothing away from moving parts, electrical contacts, hot parts and exhaust.
-  Safety glasses are needed for eye protection from electrical arcs, battery acid, compressed springs, fluids under pressure and flying debris or when tools are used. Use eye protection approved for type of welding.

Dealer Copy -- Not for Resale

MSW30-0409



Bobcat®

TROUBLESHOOTING

Chart



WARNING

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

W-2003-0807

If the attachment is not working correctly, check the hydraulic system of the machine thoroughly before making any repairs on the attachment. Attachment problems can be affected by a hydraulic system that is not operating to specifications. Connect a flow meter to the machine to check the hydraulic pump output, relief valve setting and tube lines to check flow and pressure. (See the machine's Service Manual for the correct procedure to connect the flow meter.)

Use the following troubleshooting chart to locate and correct problems which most often occur with the attachment.

PROBLEM	CAUSE	CORRECTION
Breaker will not fire.	Machine fluid reservoir is low.	Add hydraulic fluid to the fluid reservoir.
	Hydraulic hoses connected to wrong ports.	Reverse hydraulic hoses.
	Damaged hydraulic couplers.	Replace hydraulic couplers.
	Machine main relief valve set too low.	Adjust main relief valve to correct setting.
	No hydraulic flow to the breaker.	Check the hydraulic flow to the breaker.
	Machine hydraulic pump not working.	Check flow of hydraulic pump. Repair or replace as needed.
	Oil in the air chamber.	Damaged internal seals, replace seals. (See Breaker Service Manual).
	Regulator ring damaged or installed backward.	Replace regulator ring. (See Breaker Service Manual).
	Tool bushing is worn.	Replace bushing.
Breaker stops after three blows.	Regulator ring damaged.	Replace regulator ring. (See Breaker Service Manual).
Breaker runs very slowly or blow per minute reducing.	Machine main relief valve set too low.	Adjust main relief valve to correct setting.
	Not enough hydraulic flow.	Test hydraulics for correct flow and pressure.
	Excessive heat build up.	Check oil cooler for debris and air flow Check relief valve pressure.
	Damaged hydraulic couplers.	Replace hydraulic couplers.
	Internal leakage.	Check seals and O-rings in the breaker. Check piston, sleeve and seal carrier for wear. (See the Breaker Service Manual).
	No breaking force and hoses jumping.	Check diaphragm for damage. (See the Breaker Service Manual).

Dealer Copy -- Not for Resale

Troubleshooting chart continued on next page.

TROUBLESHOOTING (CONT'D)

Chart (Cont'd)

PROBLEM	CAUSE	CORRECTION
Breaker fires erratically.	Machine main relief valve set too low.	Adjust main relief valve to correct setting.
	Excessive back pressure.	Check for plugged or bent return lines.
	Low fluid level.	Add fluid to the reservoir as needed.
	Not enough hydraulic flow.	Test hydraulics for correct flow and pressure.
	Damaged hydraulic couplers.	Replace hydraulic couplers.
	Tool binding.	Add grease to the tool shank fitting.
Breaker runs for twenty minutes then stops. Breaker will restart after thirty minutes of idle time.	Oil overheating.	Clean machine radiator.
		Adjust main relief valve to correct setting.
		Add hydraulic fluid to the fluid reservoir
	Breaker distributor damage from overheating.	Replace distributor. (See Breaker Service Manual).
Breaker lacks striking force.	Regulator ring damaged.	Replace regulator ring. (See Breaker Service Manual).
	Not enough hydraulic flow.	Test hydraulics for correct flow and pressure.
	Accumulator nitrogen pressure low.	Check nitrogen pressure. If oil in accumulator chamber, replace diaphragm. If pressure low, recharge nitrogen. (See Breaker Service Manual).
		Make sure nitrogen fill plug is installed and torque to specifications.
	Tool is broken inside bushing.	Replace tool.
Excessive heat build up.	Blank firing.	Refer to the hydraulic controls section for correct operating procedure.
	Machine fluid reservoir is low.	Add hydraulic fluid to the fluid reservoir.
Hydraulic hoses between breaker and machine are pulsing more than normal.	Nitrogen charge pressure is low.	Check nitrogen pressure. If oil in accumulator chamber, replace diaphragm. If pressure low, recharge nitrogen. (See Breaker Service Manual).
	Accumulator nitrogen pressure is low.	
Hydraulic oil on breaker tool.	Damaged piston seals.	Replace seals. (See Breaker Service Manual).
Tool breakage.	Firing without sufficient down force on the tool.	Apply additional down force with the machine.
	Using the tool as a pry bar.	Only use perpendicular down force on the tool when breaking, do not pry with tool.
	Grinding on the side face of the tool.	Grinding on the side face of the tool may cause fatigue points or stress areas on the tool.
	Tool corrosion.	If the breaker or tool is unused for extended periods of time, retract tool and grease the outside of the tool.
	Cold tool.	If used in cold weather, keep tool in a warm area prior to usage.

See the following troubleshooting chart also.

Dealer Copy -- Not for Resale

TROUBLESHOOTING (CONT'D)

Chart (Cont'd)

CHARGING INFORMATION	AFFECTED ON BREAKER
Accumulator charge is low.	Reduced life of the diaphragm - possibly forcing the diaphragm into the schrader valve inflation hole.
Accumulator charge is too high.	Reduced diaphragm life - possibly forcing the diaphragm into the grid holes.

Figure 332

Pressure Measured	Possible Cause	Solution
0 - 2482 kPa (0 - 25 bar) (0 - 360 psi)	Diaphragm damaged or deflated.	Replace diaphragm. Charge Nitrogen Chamber.
2482 - 3998 kPa (25 - 40 bar) (360 - 580 psi)	OK	
Above 3988 kPa (40 bar) (580 psi)	Diaphragm damaged.	Replace diaphragm.

Charging Information

Correct nitrogen charge pressure is an important factor in the service life of the breaker diaphragm [Figure 332].

When the charge is too low, the breaker will cycle faster than intended reducing the life of the diaphragm. Low charge also causes the breaker to not hit as hard as designed, reducing performance. When the charge is too high, the breaker will cycle slower than intended and build excessive heat affecting the performance and service life of the breaker and carrier. A service interval of every 12 months has been established for checking nitrogen charge.

NOTE: If oil is detected in the nitrogen, the diaphragm is damaged and must be replaced. (See your Bobcat dealer for additional information.)

SERVICE SCHEDULE

Chart



NOTE: Push tool in before greasing.

Apply grease (5 - 6) pumps to the grease fitting every 4 hours of operation.

NOTE: For detailed lubrication information, (See Lubrication Locations on Page 176.)

Dealer Copy -- Not for Resale

REGULAR MAINTENANCE ITEMS

Weekly Inspection

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

WARNING

AVOID BURN INJURY

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

W-2204-0905

Figure 333

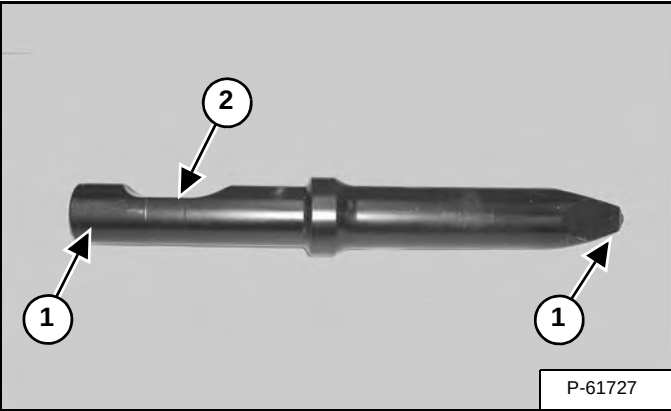
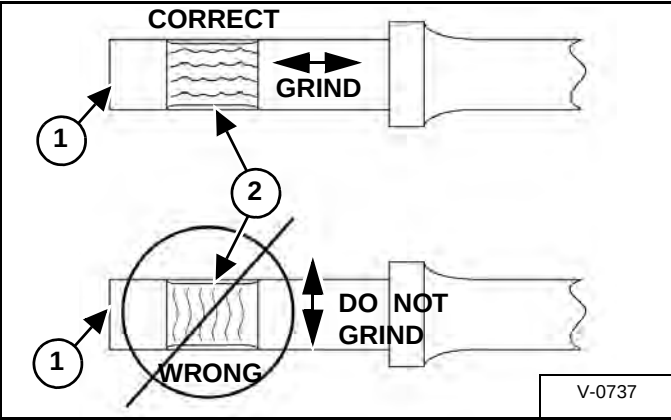


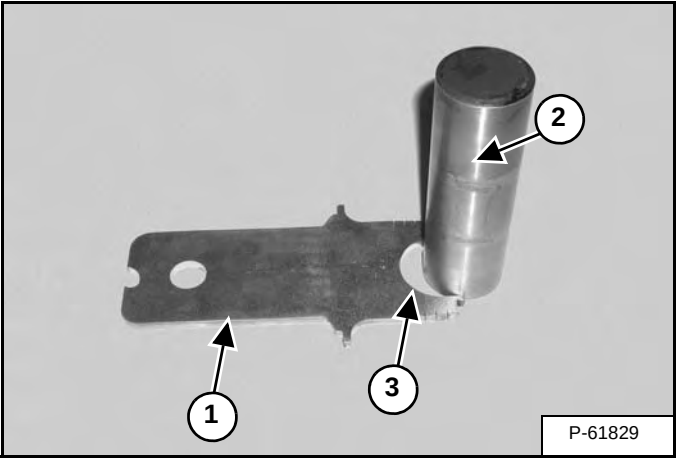
Figure 334



Inspect both ends of the tool (Item 1) [Figure 333] and [Figure 334] for damage and / or cracks. Replace the tool if damaged or worn.

Inspect the side edges of the retaining pin groove (Item 2) [Figure 333] and [Figure 334]. If metal burrs are present on the outer edge, carefully file or grind the burrs. Do not grind on the diameter of the tool. Grind the tool length ways, NOT side ways. Do not weld on the tool.

Figure 335



Use the maintenance tool (Item 1) to inspect the tool retainer pin (Item 2) for wear. Replace the pin if the maintenance tool notch (Item 3) [Figure 335] fits over the pin along the length of the pin. Inspect the pin along the entire length.

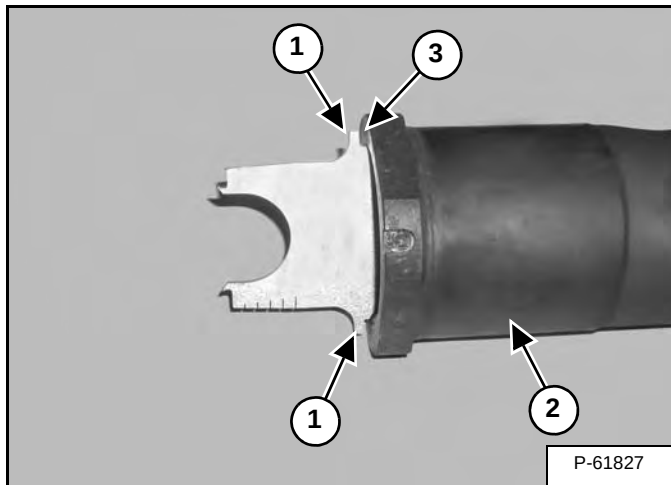
Replace the pin if damaged.

REGULAR MAINTENANCE ITEMS (CONT'D)

Weekly Inspection (Cont'd)

For Models HB280, HB680, HB880, And HB980

Figure 336



Check the end chamfer on the bushing.

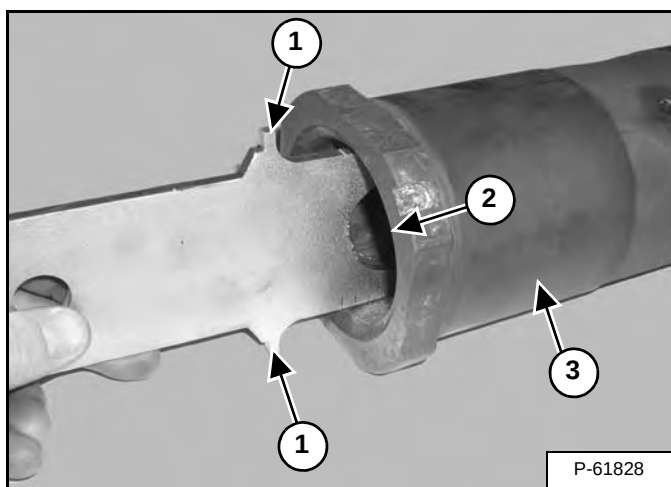
Install the maintenance tool (Item 1) into the bushing (Item 2) [Figure 336] as shown and rotate the tool 180° to check the chamfer.

Replace the bushing if the tabs (Item 1) on the tool contact the end of bushing (Item 3) [Figure 336] at any point.

NOTE: The bushing is shown removed for photo clarity.

NOTE: Failure to replace a worn bushing may result in reduced performance.

Figure 337



For All Models

Check the internal wear on the bushing.

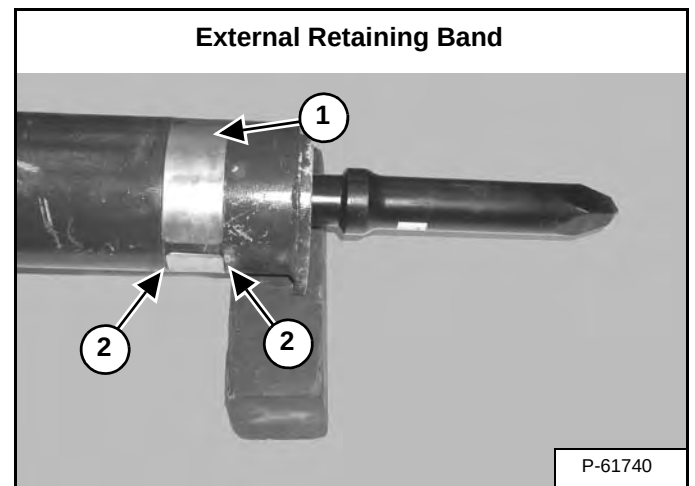
Install the maintenance tool (Item 1) into the bushing (Item 2) [Figure 337] as shown and rotate the tool 180° to check the chamfer.

Replace the bushing if the tabs (Item 1) on the maintenance tool contact the end of the bushing (Item 2) at any point of the diameter of the bushing (Item 3) [Figure 337].

NOTE: The bushing is shown removed for photo clarity.

NOTE: Failure to replace a worn bushing may result in reduced performance.

Figure 338



Inspect the retaining band (Item 1) [Figure 338] for wear or damage.

Replace the retaining band if a gap of more than 2 mm (0.08 in) can be measured at any point between the side of the band and the side of the housing (Item 2) [Figure 338].

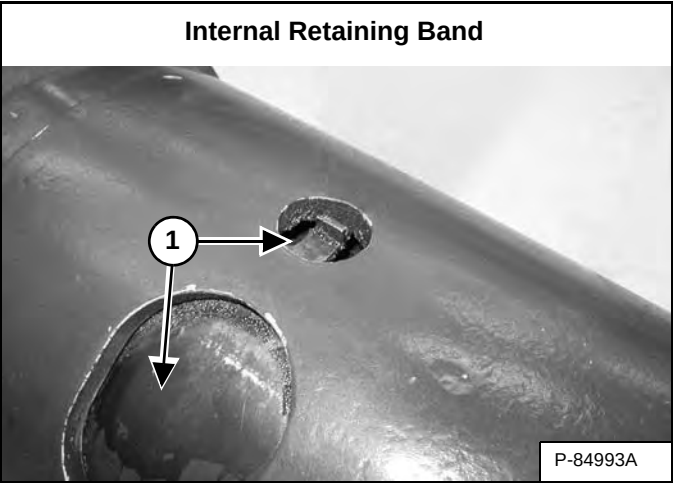
Dealer Copy -- Not for Resale

REGULAR MAINTENANCE ITEMS (CONT'D)

Weekly Inspection (Cont'd)

For All Models (Cont'd)

Figure 339



If the retaining band (Item 1) **[Figure 339]** is damaged, see your Bobcat dealer for replacement information and parts.

The breaker will need to be removed from the mounting frame to service the retaining band (Item 1) **[Figure 339]**.

Dealer Copy -- Not for Resale

REGULAR MAINTENANCE ITEMS (CONT'D)

Retaining Band Replacement

WARNING

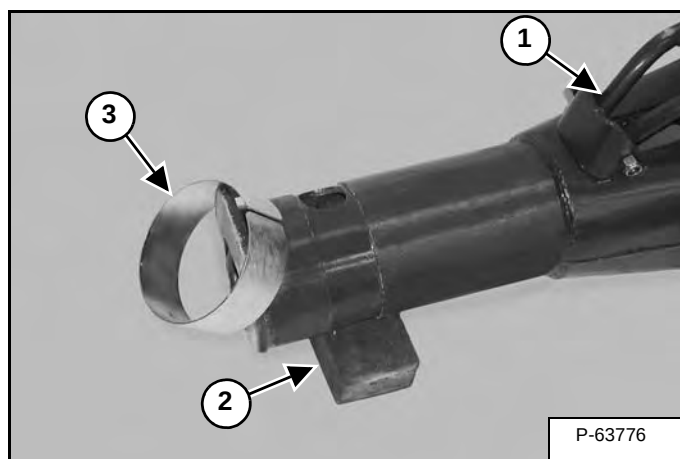
AVOID INJURY OR DEATH

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 340

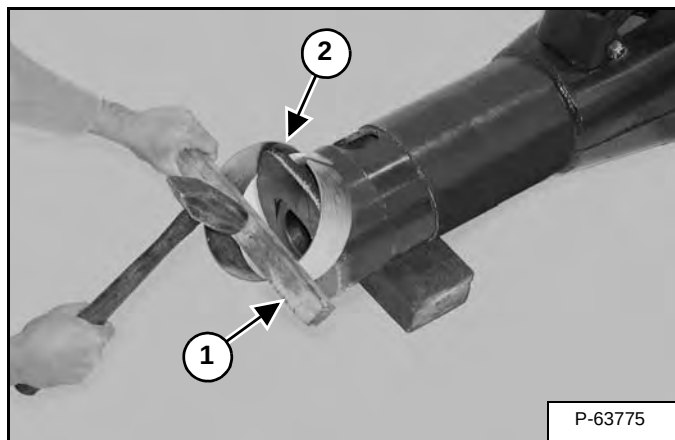


Position the breaker so the hose guard (Item 1) [Figure 340] is facing up.

Install a block of wood (Item 2) [Figure 340] under the breaker.

Position the retaining band (Item 3) [Figure 340] over the end of the breaker with the slot in the retainer band facing up.

Figure 341



Using a second block of wood (Item 1) and a hammer, force the retaining band (Item 2) [Figure 341] over the end of the breaker.

After the retaining band is positioned over the breaker frame, use the gauge tool to reposition the retaining band on the breaker frame.

Dealer Copy -- Not for Resale

REGULAR MAINTENANCE ITEMS (CONT'D)

Nitrogen Chamber

Checking The Nitrogen Chamber Charge Pressure

Use the following procedure to check the nitrogen charge pressure.

NOTE: Hydraulic pressure in the breaker can affect checking the accumulator charge pressure. Before checking the charge pressure, relieve the hydraulic pressure.

The breaker check valve is located under the breaker mounting frame. Remove the breaker mounting frame.

WARNING

AVOID INJURY OR DEATH

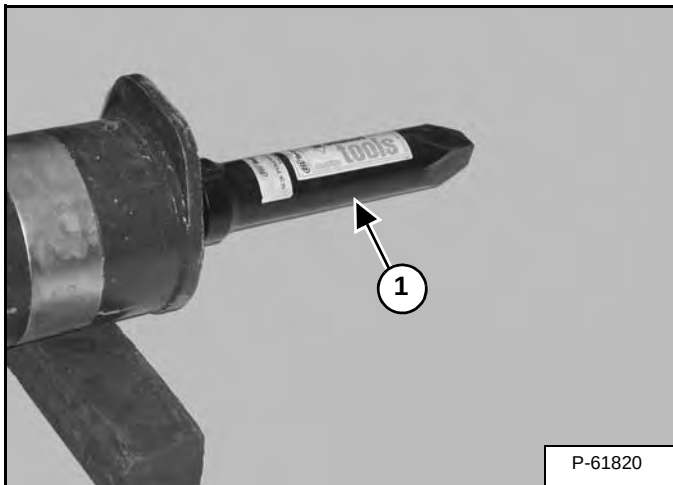
Wear safety glasses to prevent eye injury when any of the following conditions exist:

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

W-2019-0907

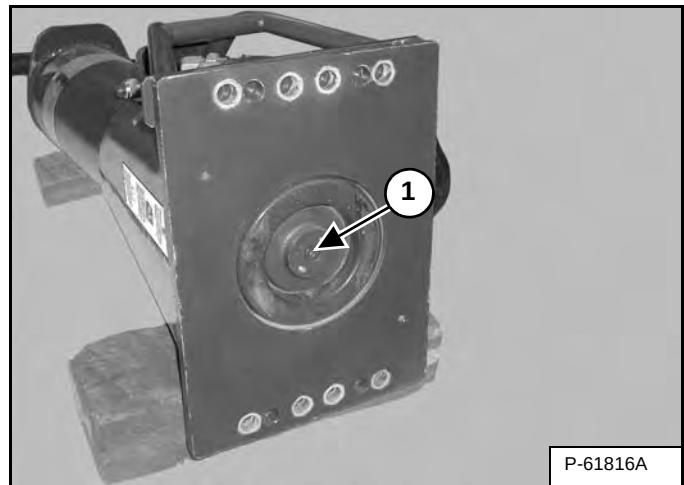
Use the nitrogen accumulator charge pressure gauge MEL1523B to check the pressure.

Figure 342



Block up the breaker so the tool (Item 1) [Figure 342] is not under pressure and is not in contact with the nitrogen chamber.

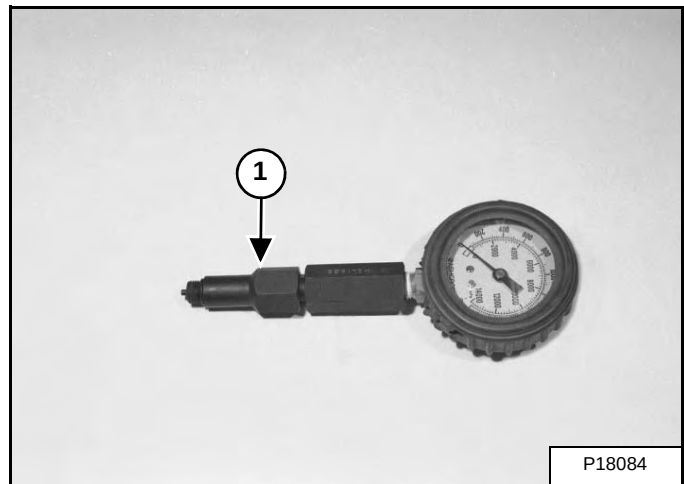
Figure 343



Remove the plug (Item 1) [Figure 343].

NOTE: If the plug (Item 1) [Figure 343] is tight, tap the end of the plug with a hammer before removing.

Figure 344



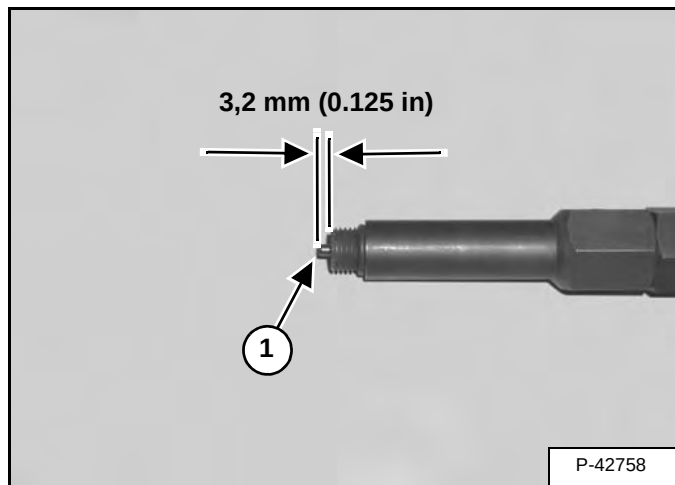
Install the correct adapter (Item 1) [Figure 344] on the gauge.

REGULAR MAINTENANCE ITEMS (CONT'D)

Nitrogen Chamber (Cont'd)

Checking The Nitrogen Chamber Charge Pressure (Cont'd)

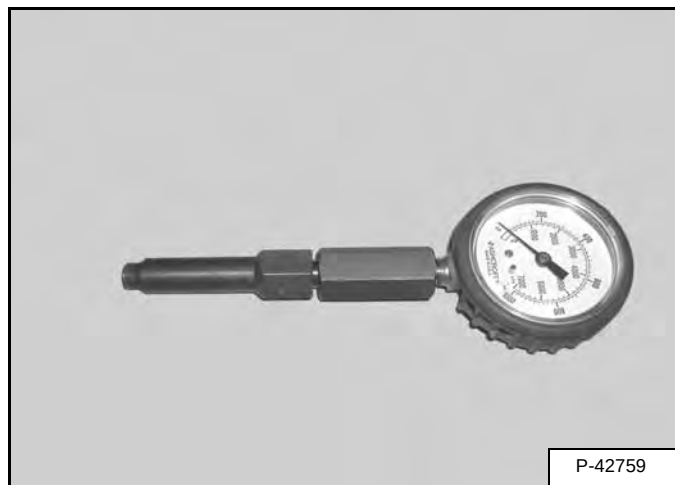
Figure 345



Measure the pin (Item 1) [Figure 345] protrusion.

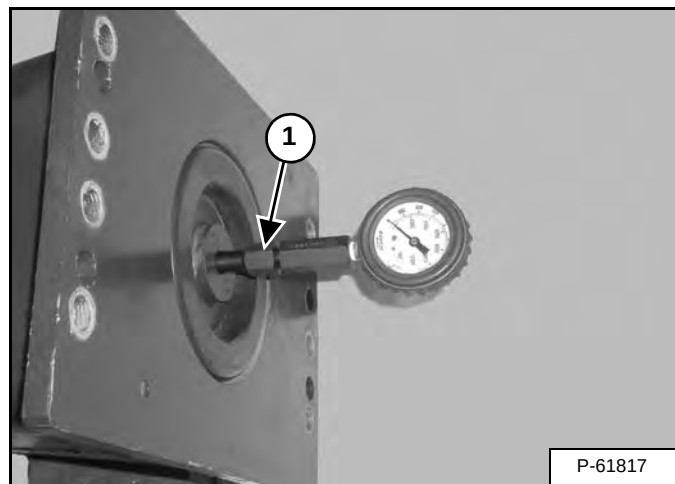
Manually extend or retract the pin until the pin measures 3,2 mm (0.125 in) from pin tip to adapter face [Figure 345].

Figure 346



Loosen the adapter until the pin is flush with the end of the adapter as shown [Figure 346].

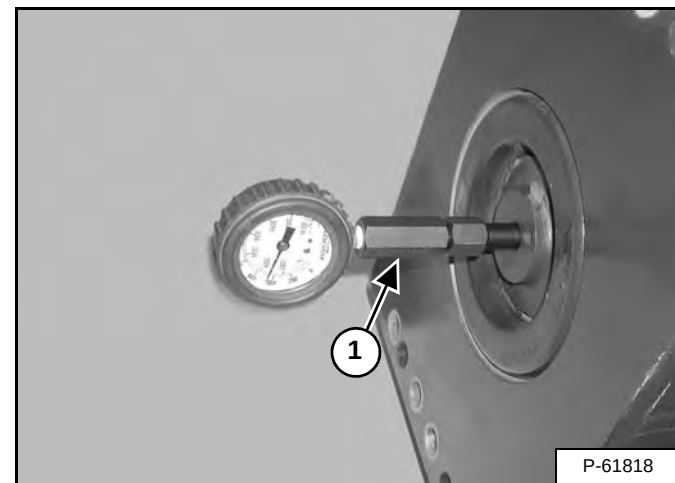
Figure 347



Install the gauge / adapter on the breaker [Figure 347].

Tighten the adapter (Item 1) [Figure 347] on the breaker.

Figure 348



Slowly turn the gauge valve body (Item 1) [Figure 348] clockwise until the gauge shows a reading. If the pressure is low, recharge the breaker. See your Bobcat dealer for available kits.

Dealer Copy -- Not for Resale

REGULAR MAINTENANCE ITEMS (CONT'D)

Nitrogen Chamber (Cont'd)

Discharging The Nitrogen Chamber

WARNING

AVOID INJURY OR DEATH

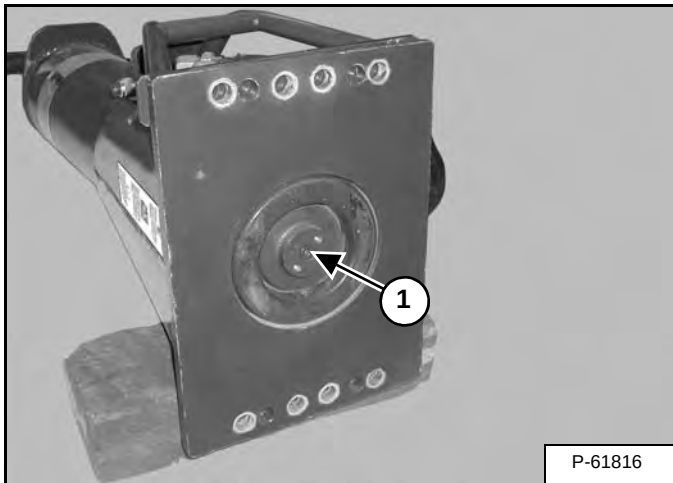
Wear safety glasses to prevent eye injury when any of the following conditions exist:

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

W-2019-0907

The breaker check valve is located under the breaker mounting frame. Remove the breaker mounting frame.

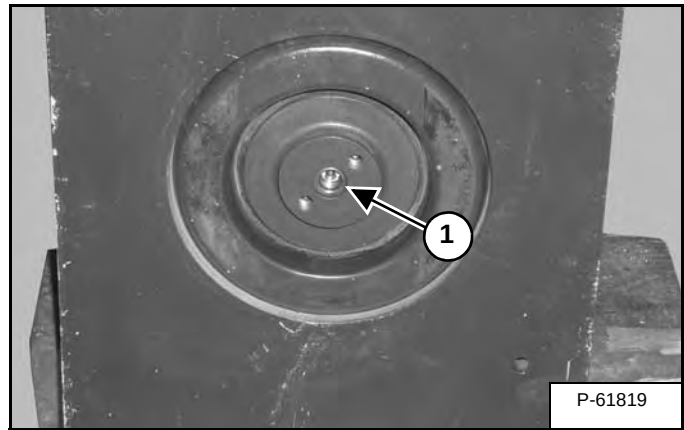
Figure 349



Remove the plug (Item 1) [Figure 349] from the charge valve.

NOTE: If the plug (Item 1) [Figure 349] is tight, tap the end of the plug with a hammer before removing.

Figure 350



Using a small shaft, push the valve (Item 1) [Figure 350] inward to release the gas pressure.

NOTE: If oil is detected in the nitrogen, the diaphragm is damaged and must be replaced. (See your Bobcat dealer for additional information.)

Install the plug in the charge valve.

Tighten the plug to 37 N•m (27 ft-lb) torque.

NOTE: When in doubt of nitrogen charge pressure or when recharging a hot breaker, release the nitrogen pressure completely and recharge the nitrogen chamber.

Dealer Copy -- Not for Resale

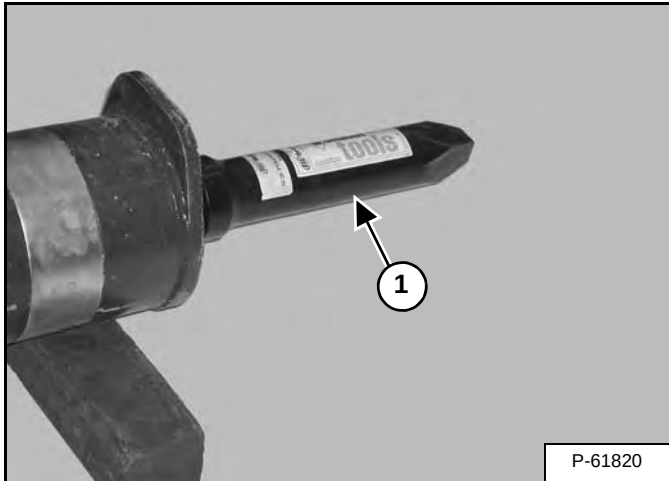
REGULAR MAINTENANCE ITEMS (CONT'D)

Nitrogen Chamber (Cont'd)

Charging The Nitrogen Chamber

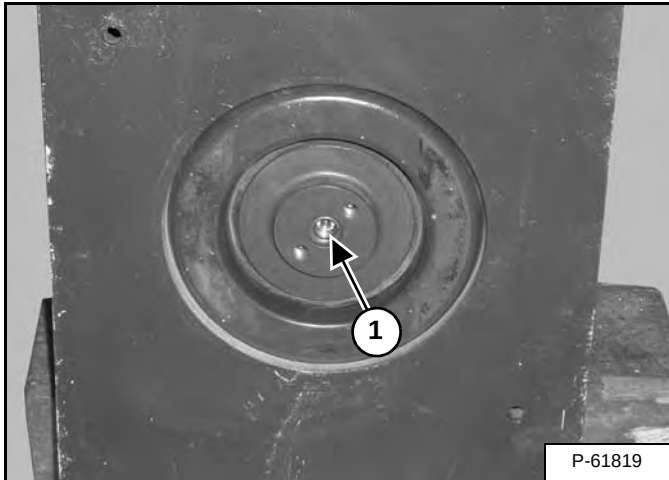
NOTE: When in doubt of nitrogen charge pressure or when recharging a hot breaker, release the nitrogen pressure completely and recharge the nitrogen chamber.

Figure 351



Block up the breaker so the tool (Item 1) [Figure 351] is not under pressure and is not in contact with the nitrogen chamber.

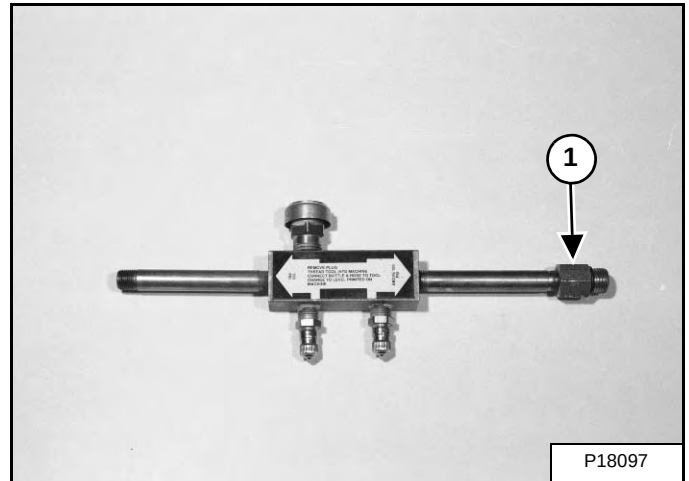
Figure 352



Remove the plug (Item 1) [Figure 352].

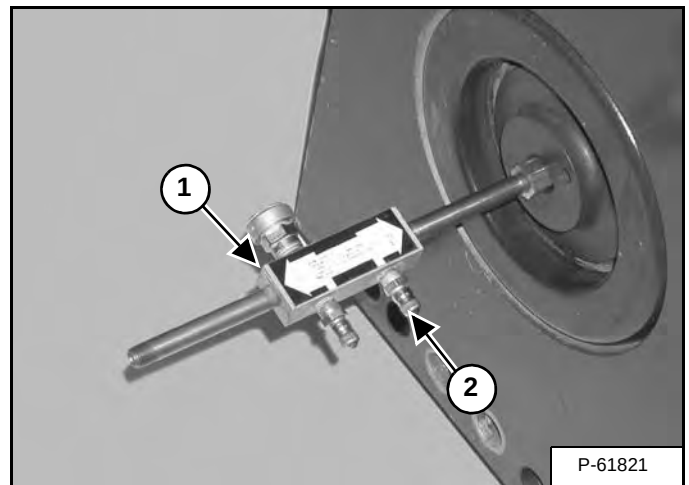
NOTE: If the plug (Item 1) [Figure 352] is tight, tap the end of the plug with a hammer before removing.

Figure 353



Install the adapter (Item 1) [Figure 353] on the "Above 689 kPa (6,89 bar) (100 psi)" side of the charging tool.

Figure 354



Install the charging tool (Item 1) [Figure 354] on the breaker.

Remove the cap (Item 2) [Figure 354] from the charging tool.

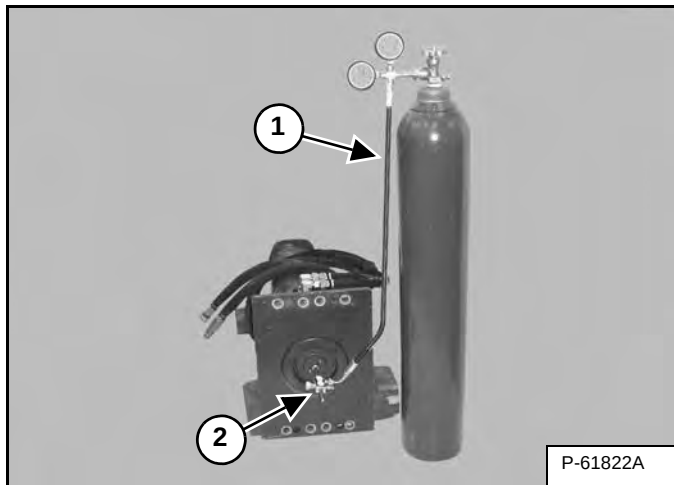
Dealer Copy -- Not for Resale

REGULAR MAINTENANCE ITEMS (CONT'D)

Nitrogen Chamber (Cont'd)

Charging The Nitrogen Chamber (Cont'd)

Figure 355



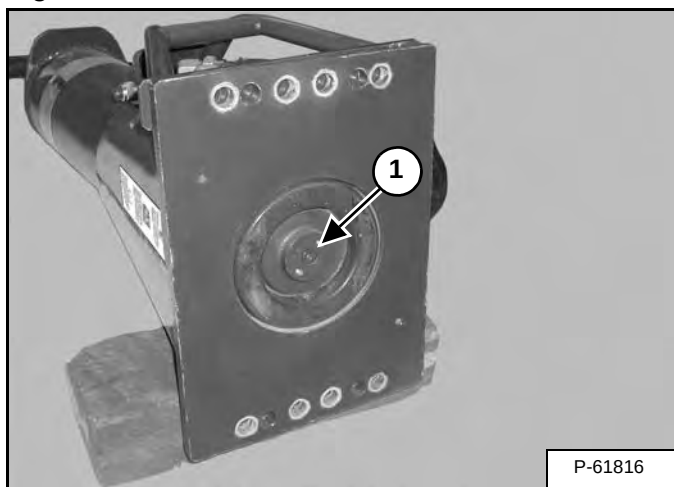
Connect the nitrogen hose (Item 1) to the charging tool (Item 2) [Figure 355].

Using the regulator valve on the nitrogen tank, slowly fill the chamber to the 3199 kPa (32 bar) (464 psi).

Close the valve on the nitrogen tank.

Disconnect the hose and charging tool.

Figure 356



NOTE: Inspect the O-ring on the plug (Item 1) [Figure 356] for damage. Replace if necessary.

Install and tighten the plug (Item 1) [Figure 356].

Tighten the plug to 37 N•m (27 ft-lb) torque.

LUBRICATING THE ATTACHMENT

Lubrication Locations

WARNING

AVOID BURN INJURY

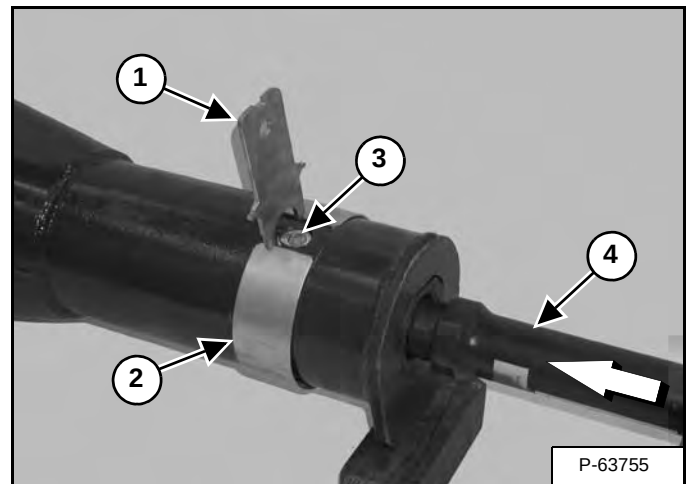
Breaker tool can be hot after use. Let breaker tool cool or use gloves when handling tool.

W-2204-0905

Put the breaker in the horizontal position.

Fully lower the breaker to the ground and stop the engine.

Figure 357



Use the maintenance tool (Item 1) to turn the retainer band (Item 2) until the grease fitting (Item 3) is accessible. Push the tool (Item 4) [Figure 357] fully into the breaker.

NOTE: Do not use an electric or pneumatic grease gun. Over greasing may damage the seal.

NOTE: Failure to push the tool up inside the breaker before greasing may cause seal damage.

Apply grease (5 - 6 pumps) to the upper end of the tool at the grease fitting (Item 3) [Figure 357] every 4 hours of operation or sooner if the tool looks dry.

Dealer Copy -- Not for Resale

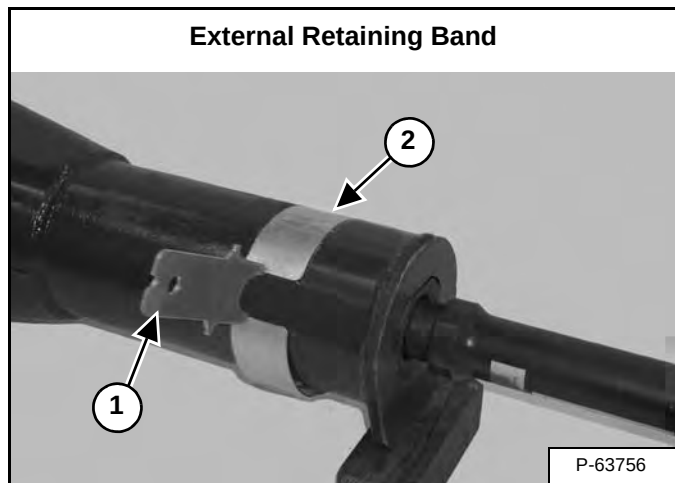
LUBRICATING THE ATTACHMENT (CONT'D)

Lubrication Locations (Cont'd)

Always use a good quality lithium base multipurpose grease when lubricating the attachment.

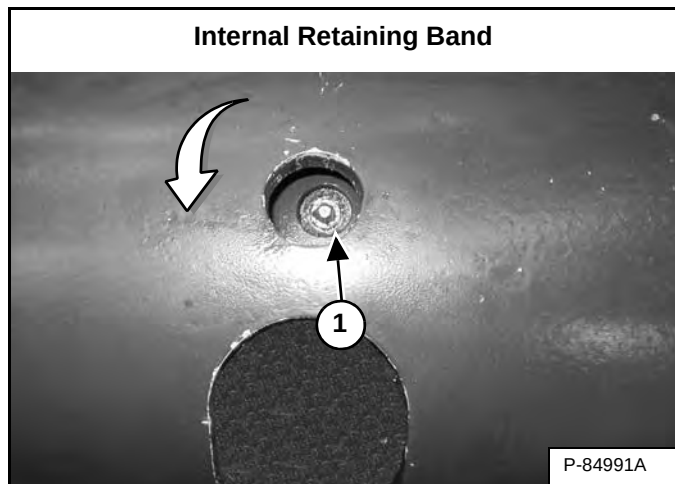
If the tool is not greased at recommended intervals, tool and bushing wear will occur.

Figure 358



Use the maintenance tool (Item 1) to turn the retainer band (Item 2) [Figure 358] until the grease fitting is covered to keep out contamination.

Figure 359



Rotate the tool pin retainer band to access the grease fitting.

Apply grease (5 - 6 pumps) to the grease fitting (Item 1) [Figure 359] every 4 hours of operation or sooner if the tool looks dry.

NOTE: Use a good quality lithium based grease. Lower quality grease may melt when hot and reduce the life of the tool and bushing.

Rotate the retainer band to the closed position after greasing.

IMPORTANT

Underwater use of the breaker will cause internal damage. No portion of the breaker may be submerged.

I-2053-0589

Dealer Copy -- Not for Resale

REMOVAL AND INSTALLATION OF TOOL

Procedure (External Retaining Band)

Tool Removal For Earlier Breaker Models

NOTE: For later breaker models (See Tool Removal For Later Breaker Models on Page 180.)



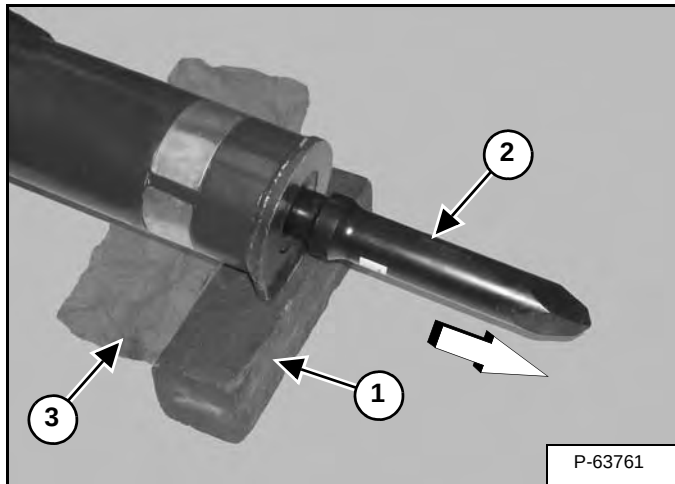
WARNING

AVOID BURN INJURY

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

W-2204-0905

Figure 360

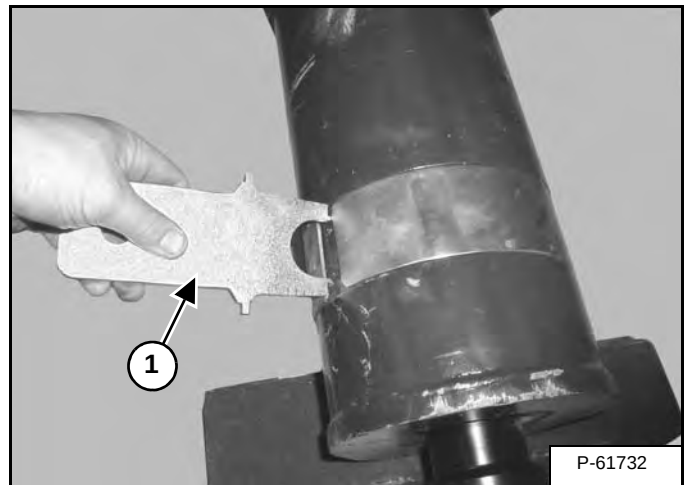


Raise and block (Item 1) [Figure 360] the front of the breaker.

Pull the tool (Item 2) [Figure 360] out as far as possible. (This will help to hold the tool retaining pin in place when the retainer is repositioned.)

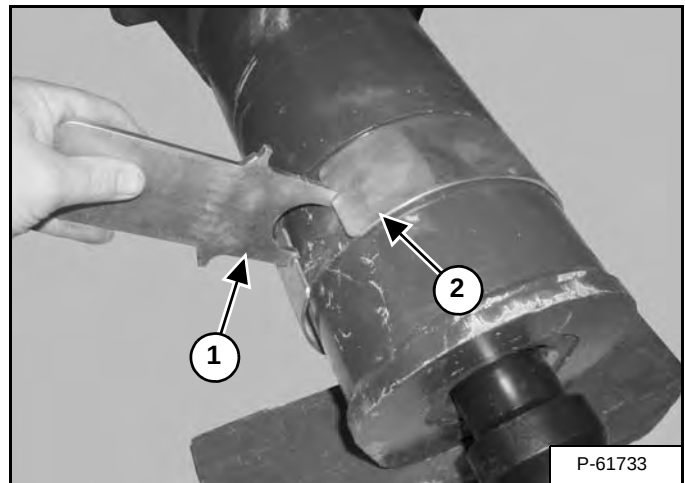
Place a piece of cardboard or a shop towel (Item 3) [Figure 360] under the breaker for the tool retaining pin to land on. This will keep the pin from being contaminated if it falls on the ground.

Figure 361



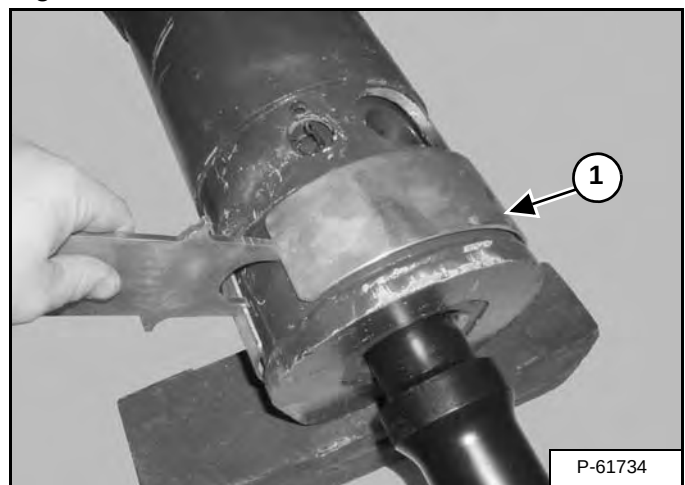
Install the maintenance tool (Item 1) [Figure 361].

Figure 362



Turn the maintenance tool (Item 1) 90° to expand the band (Item 2) [Figure 362].

Figure 363



Move the band (Item 1) [Figure 363] forward as shown.

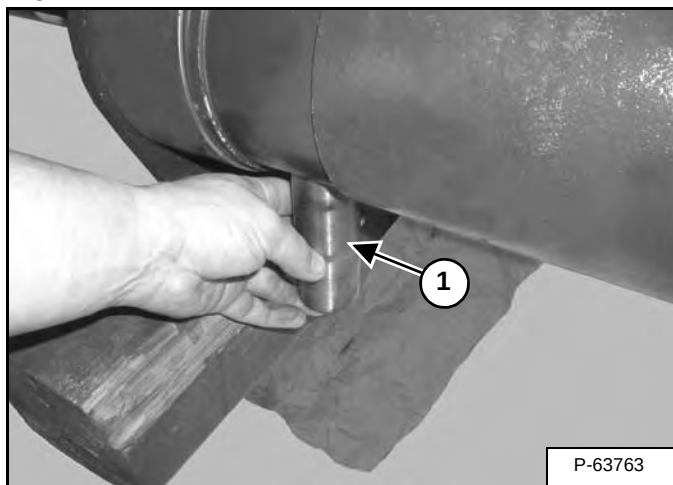
Dealer Copy -- Not for Resale

REMOVAL AND INSTALLATION OF TOOL (CONT'D)

Procedure (External Retaining Band) (Cont'd)

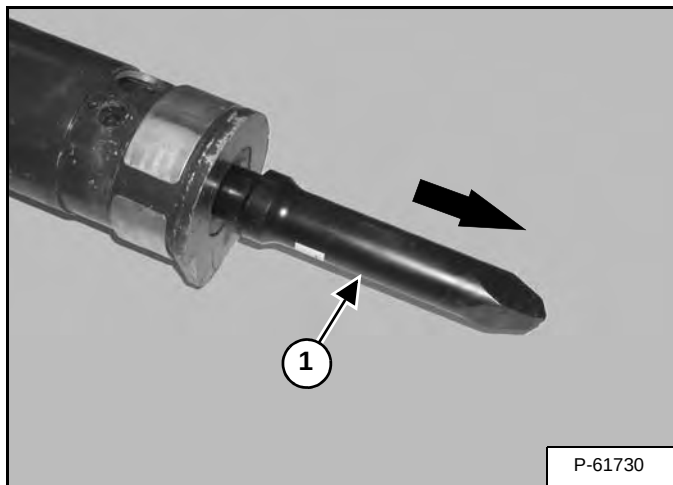
Tool Removal For Earlier Breaker Models (Cont'd)

Figure 364



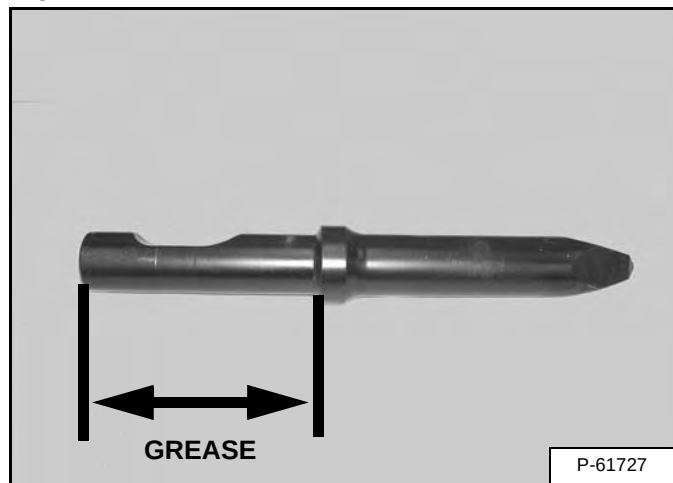
Push the tool toward the breaker and remove the tool retainer pin (Item 1) [Figure 364].

Figure 365



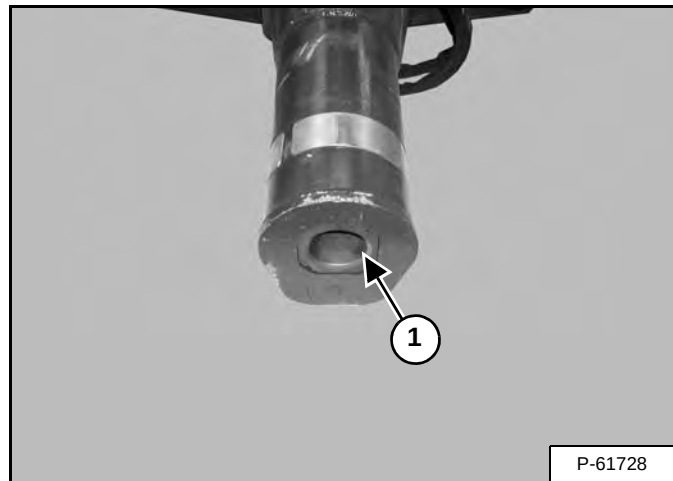
Remove the tool (Item 1) [Figure 365].

Figure 366



Apply grease to the top section of the tool [Figure 366].

Figure 367



Apply grease to the inside diameter of the lower bushing (Item 1) [Figure 367].

NOTE: Use a good quality lithium based grease. Lower quality grease may melt when hot and reduce the life of the tool and bushing.

Dealer Copy -- Not for Resale

REMOVAL AND INSTALLATION OF TOOL (CONT'D)

Procedure (External Retaining Band) (Cont'd)

Tool Removal For Later Breaker Models

NOTE: For early breaker models (See Tool Removal For Earlier Breaker Models on Page 178.)

NOTE: Later breaker models can be identified by the two band retainers that are located on each sides of the band.

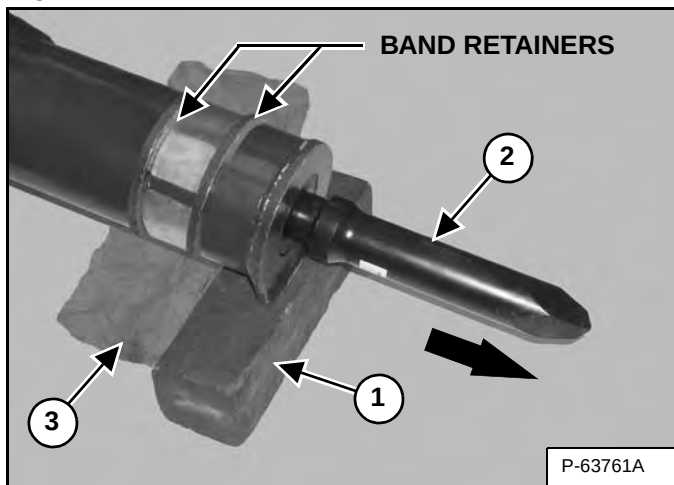
WARNING

AVOID BURN INJURY

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

W-2204-0905

Figure 368

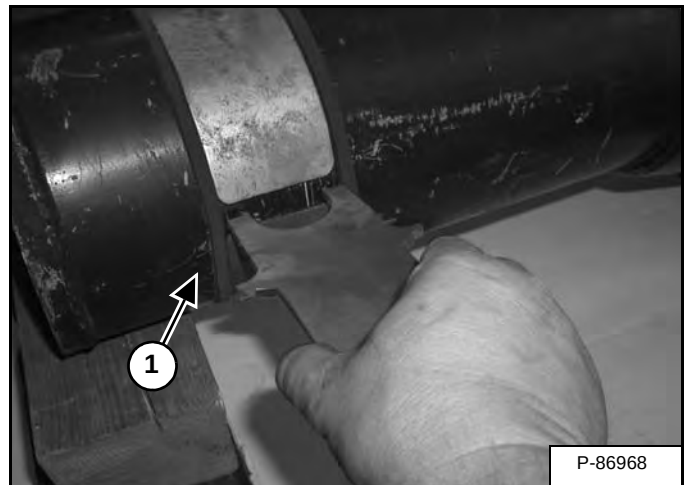


Raise and block (Item 1) [Figure 368] the front of the breaker.

Pull the tool (Item 2) [Figure 368] out as far as possible. (This will help to hold the tool retaining pin in place when the retainer is repositioned.)

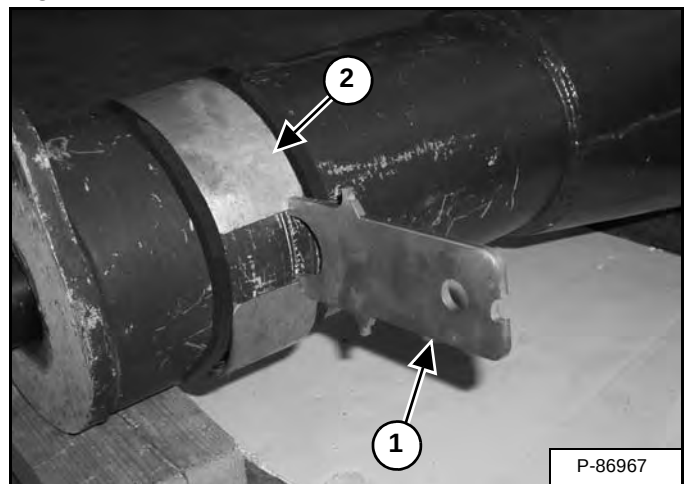
Place a piece of cardboard or a shop towel (Item 3) [Figure 368] under the breaker for the tool retaining pin to land on. This will keep the pin from being contaminated if it falls on the ground.

Figure 369



Install the maintenance tool (Item 1) [Figure 369].

Figure 370



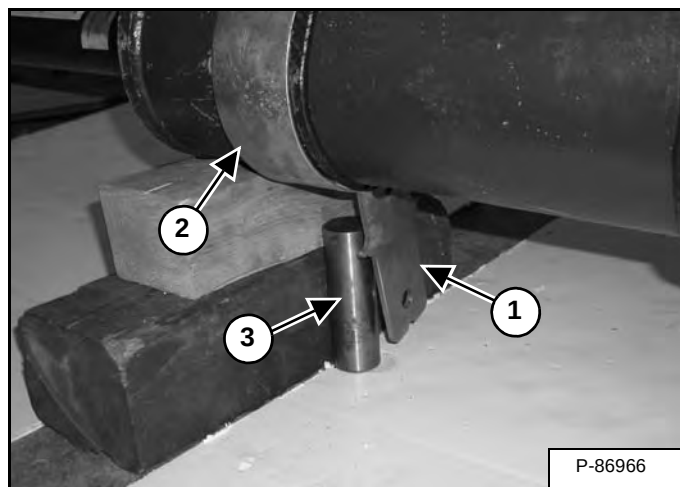
Turn the maintenance tool (Item 1) 90° to expand the band (Item 2) [Figure 370].

REMOVAL AND INSTALLATION OF TOOL (CONT'D)

Procedure (External Retaining Band) (Cont'd)

Tool Removal For Later Breaker Models (Cont'd)

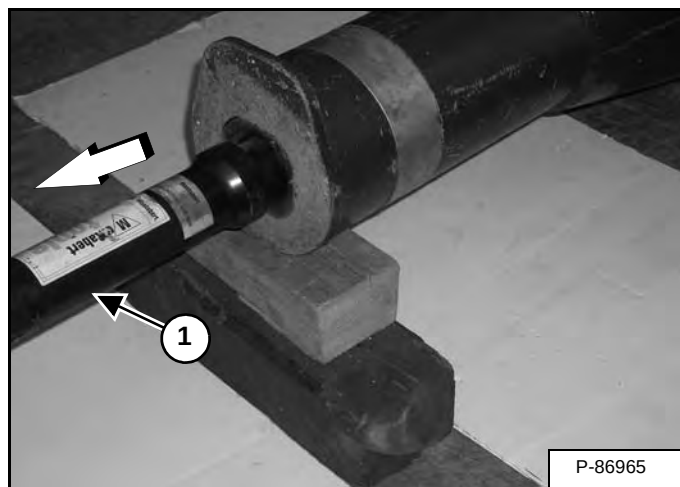
Figure 371



Rotate the maintenance tool (Item 1) and the band (Item 2) until the maintenance tool (Item 1) [Figure 371] is under the breaker.

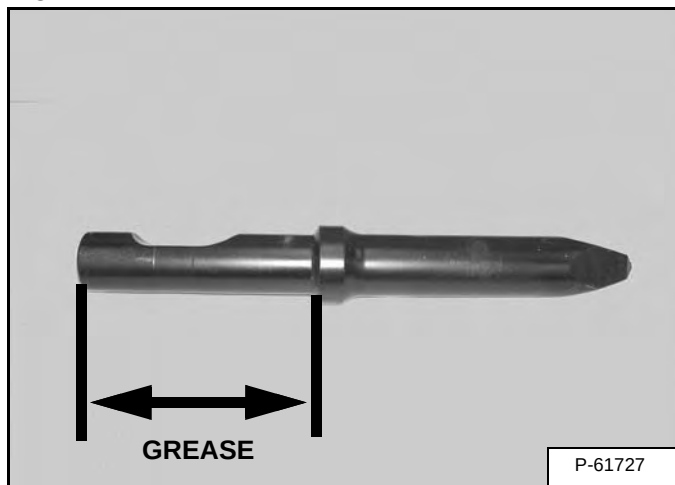
The tool retainer pin (Item 3) [Figure 371] will drop out of the bottom of the breaker.

Figure 372



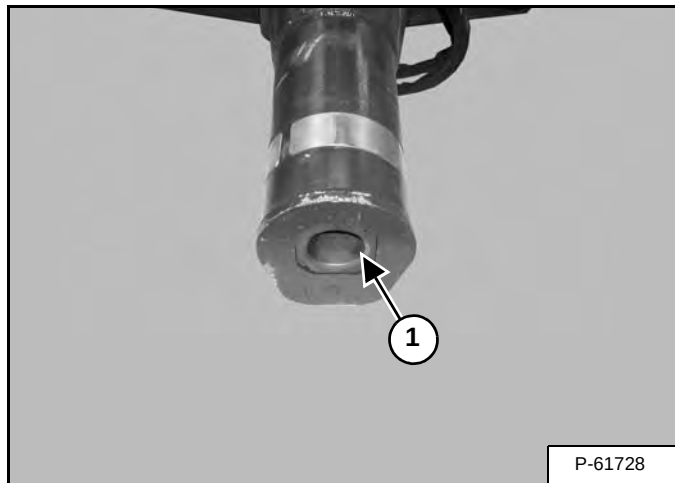
The breaker tool (Item 1) [Figure 372] can now be removed from the breaker by pulling out on the tool.

Figure 373



Apply grease to the top section of the tool [Figure 373].

Figure 374



Apply grease to the inside diameter of the lower bushing (Item 1) [Figure 374].

NOTE: Use a good quality lithium based grease. Lower quality grease may melt when hot and reduce the life of the tool and bushing.

Dealer Copy -- Not for Resale

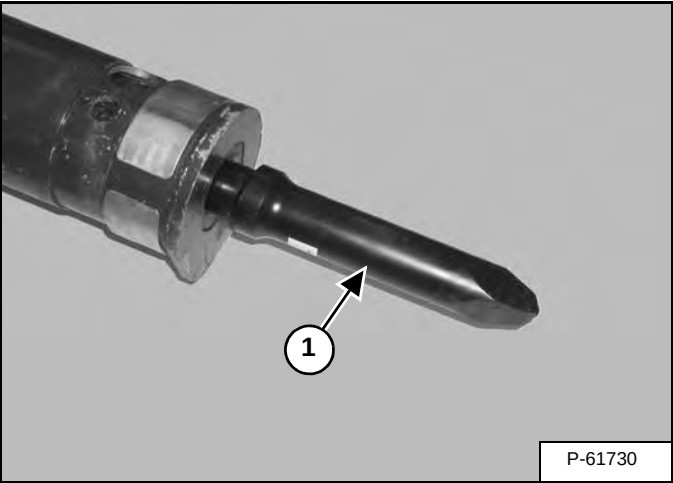
REMOVAL AND INSTALLATION OF TOOL (CONT'D)

Procedure (External Retaining Band) (Cont'd)

Tool Installation For Earlier Breaker Models

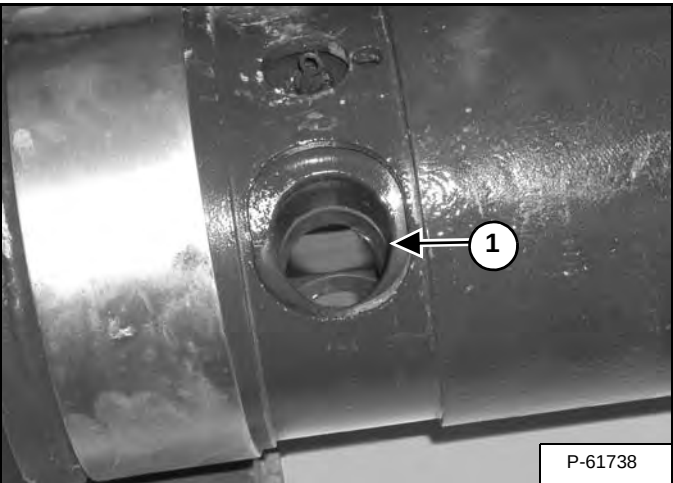
NOTE: For later breaker models (See Tool Installation For Later Breaker Models on Page 183.)

Figure 375



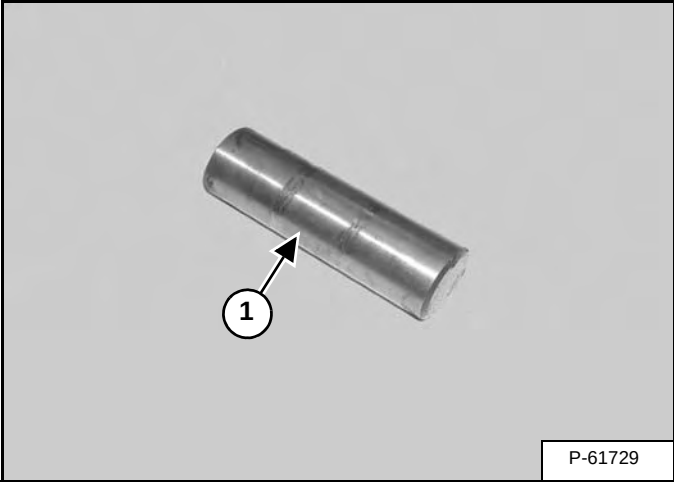
Install the tool (Item 1) [Figure 375] in the breaker.

Figure 376



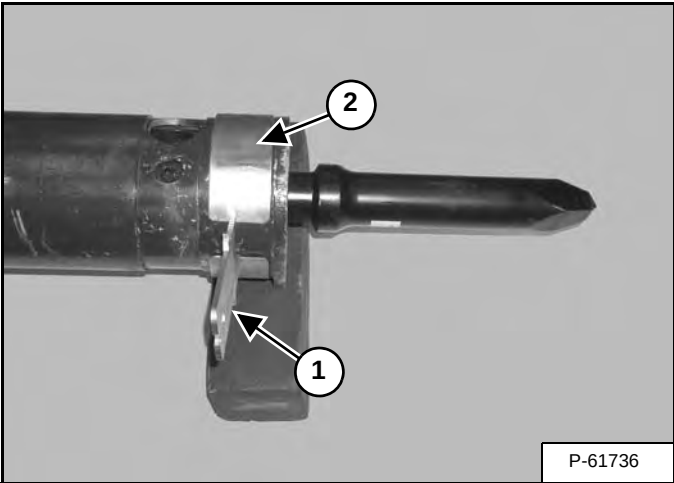
Align the notch in the tool with the hole (Item 1) [Figure 376] in the housing.

Figure 377



Inspect the tool retainer pin (Item 1) [Figure 377] for wear or damage before installation. To inspect pin diameter (See Weekly Inspection on Page 168.)

Figure 378



Install the maintenance tool (Item 1) and turn 90° to expand the band (Item 2) [Figure 378].

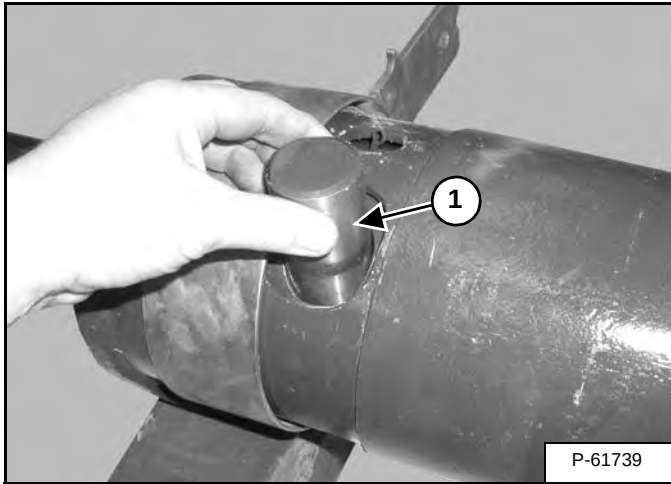
Dealer Copy -- Not for Resale

REMOVAL AND INSTALLATION OF TOOL (CONT'D)

Procedure (External Retaining Band) (Cont'd)

Tool Installation For Earlier Breaker Models (Cont'd)

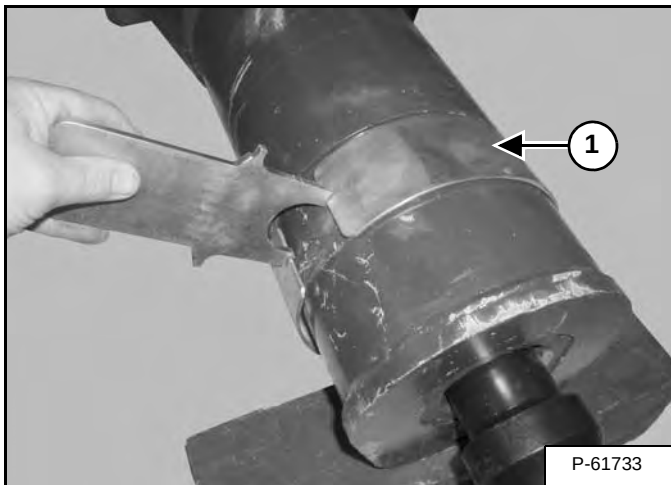
Figure 379



Install the tool retainer pin (Item 1) [Figure 379].

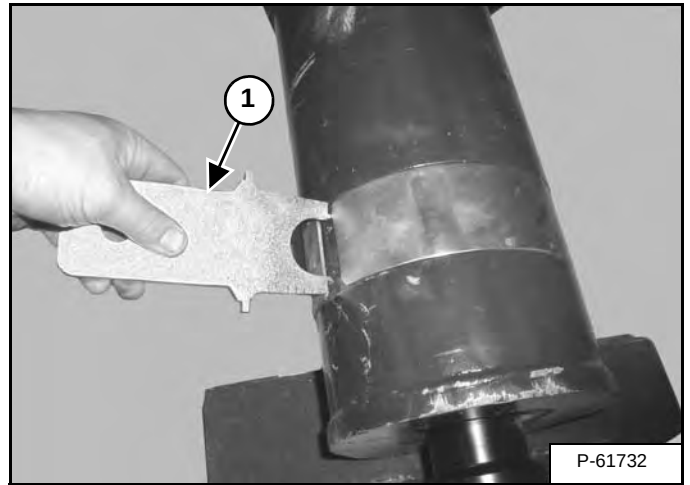
NOTE: Pull the tool outward to help hold the retainer pin in place when reinstalling the band.

Figure 380



Move the band (Item 1) [Figure 380] back over the tool retainer pin.

Figure 381

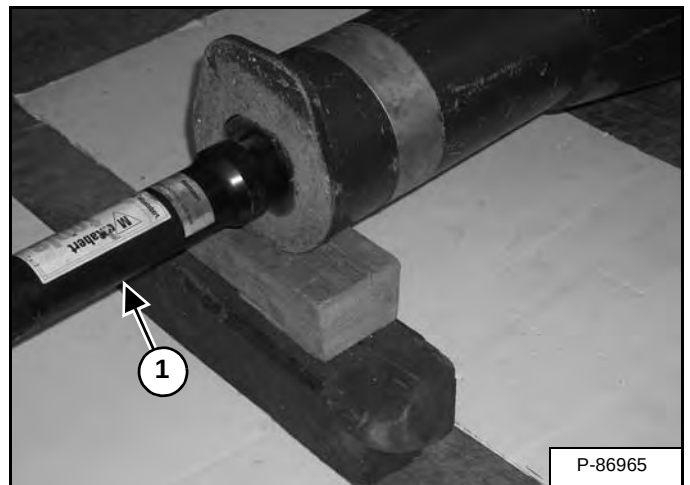


Turn the maintenance tool (Item 1) [Figure 381] 90° and remove the maintenance tool. Turn the band so that the grease fitting and the retainer pin are not exposed.

Tool Installation For Later Breaker Models

NOTE: For earlier breaker models (See Tool Installation For Earlier Breaker Models on Page 182.)

Figure 382



Install the breaker tool (Item 1) [Figure 382] into the breaker.

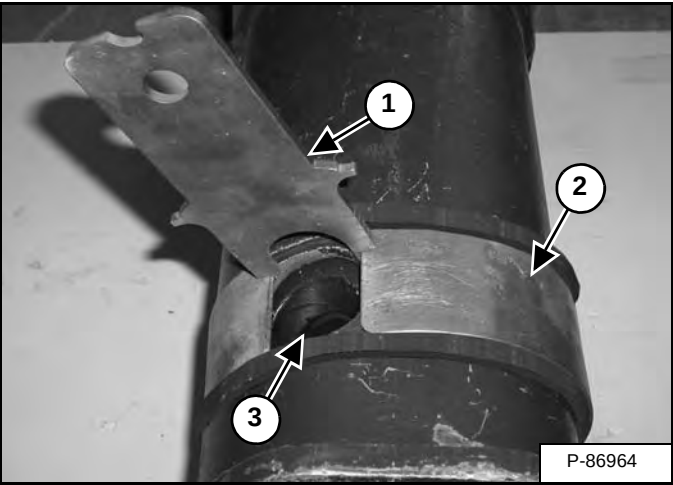
Dealer Copy -- Not for Resale

REMOVAL AND INSTALLATION OF TOOL (CONT'D)

Procedure (External Retaining Band) (Cont'd)

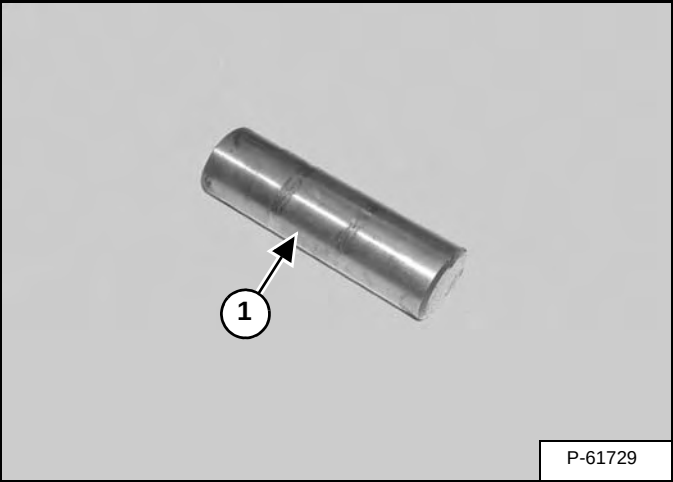
Tool Installation For Later Breaker Models (Cont'd)

Figure 383



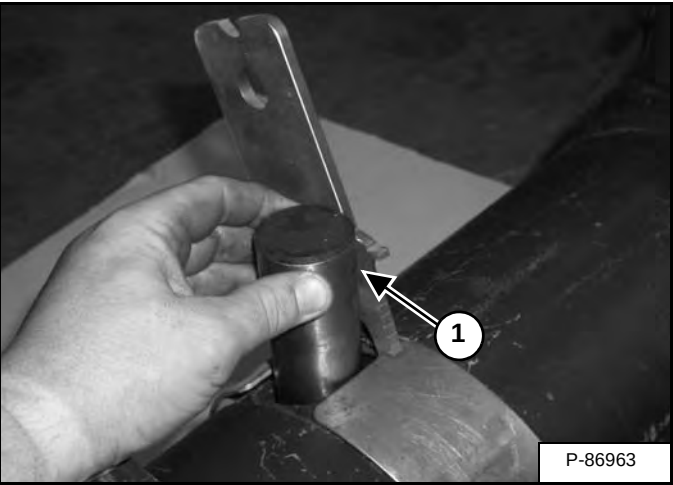
Install the maintenance tool (Item 1) and rotate the band (Item 2) until the tool retainer pin hole (Item 3) [Figure 383] is visible at the top of the breaker.

Figure 384



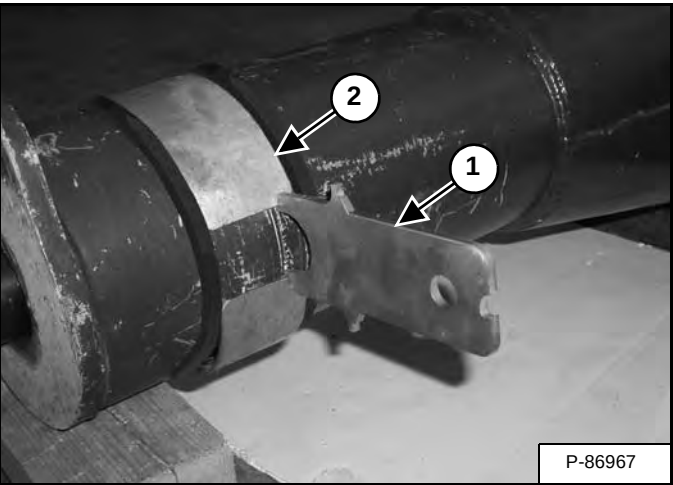
Inspect the tool retainer pin (Item 1) [Figure 384] for wear or damage before installation. To inspect pin diameter (See Weekly Inspection on Page 168.)

Figure 385



Install the tool retainer pin (Item 1) [Figure 385]. The breaker tool may need to be rotated so the retainer pin will install correctly into the breaker and breaker tool.

Figure 386



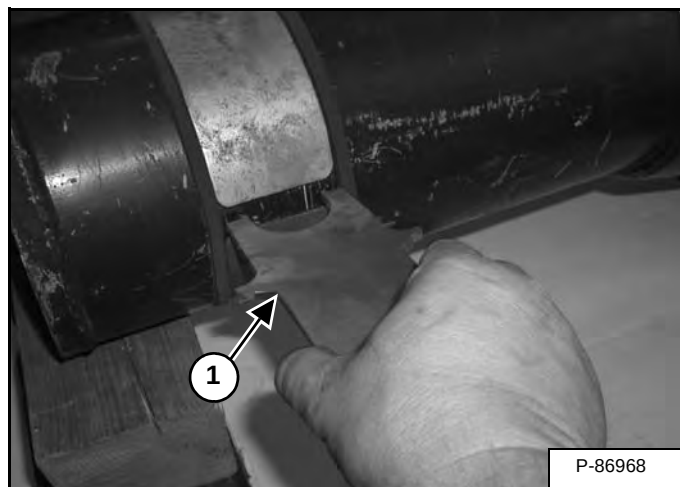
Rotate the maintenance tool (Item 1) and band (Item 2) [Figure 386] so the slot in the band is not directly over the tool retainer pin.

REMOVAL AND INSTALLATION OF TOOL (CONT'D)

Procedure (External Retaining Band) (Cont'd)

Tool Installation For Later Breaker Models (Cont'd)

Figure 387

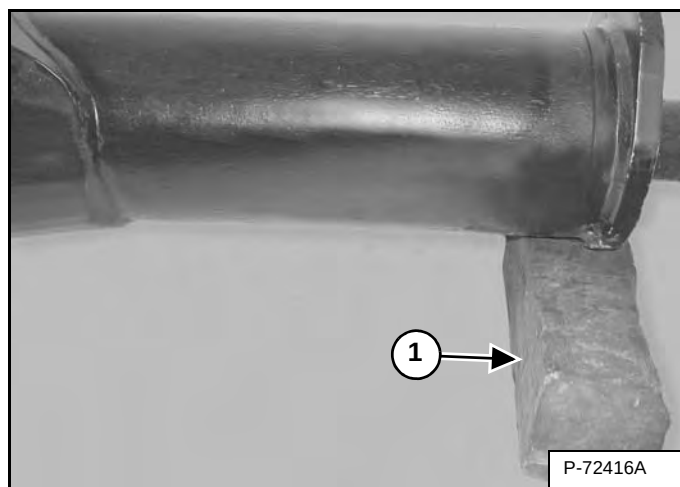


Rotate the maintenance tool (Item 1) [Figure 387] 90° and remove the maintenance tool.

Procedure (Internal Retaining Band)

Removing The Tool

Figure 388



Raise and block (Item 1) [Figure 388] the front of the breaker.



WARNING

AVOID BURN INJURY

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

W-2204-0905



WARNING

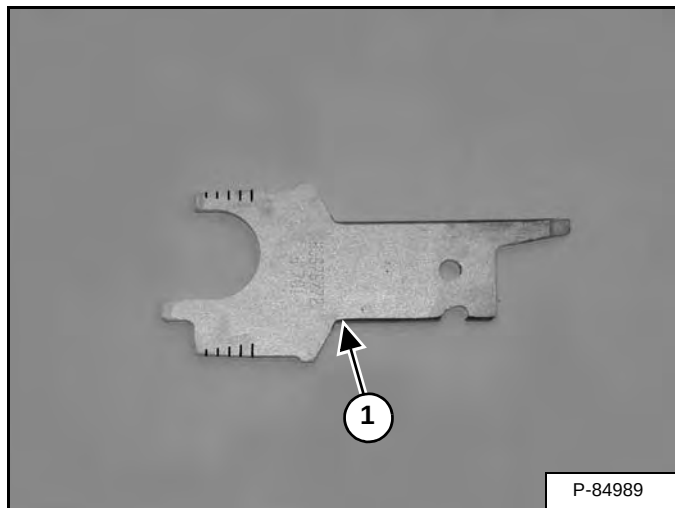
AVOID INJURY OR DEATH

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 389



The maintenance tool (Item 1) [Figure 389] that is supplied with the breaker will be used to remove the tool retainer pin. (If this tool is not available, a flat blade screw driver can be used.)

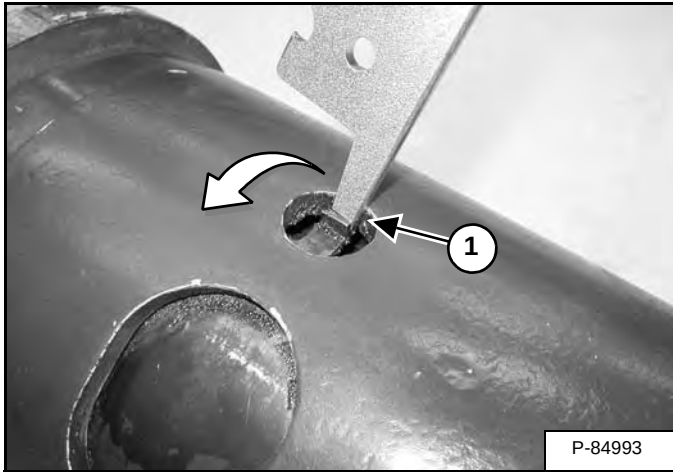
Dealer Copy -- Not for Resale

REMOVAL AND INSTALLATION OF TOOL (CONT'D)

Procedure (Internal Retaining Band) (Cont'd)

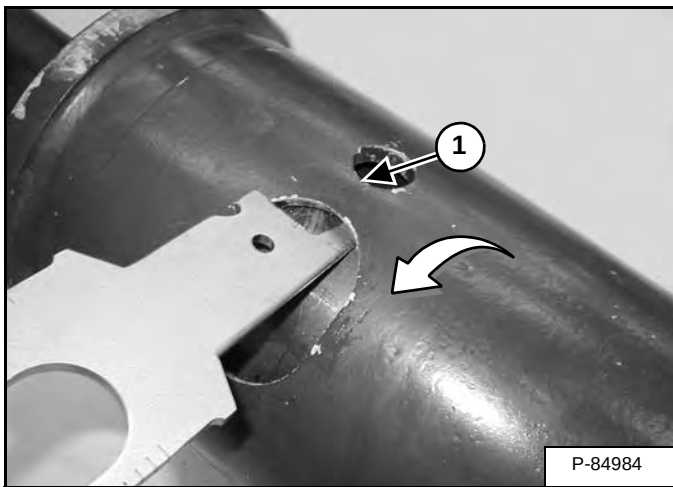
Removing The Tool (Cont'd)

Figure 390



Insert the tip of the tool (Item 1) [Figure 390] between the breaker frame and the tool retainer band. Use the tool to rotate the retainer band inside the breaker frame.

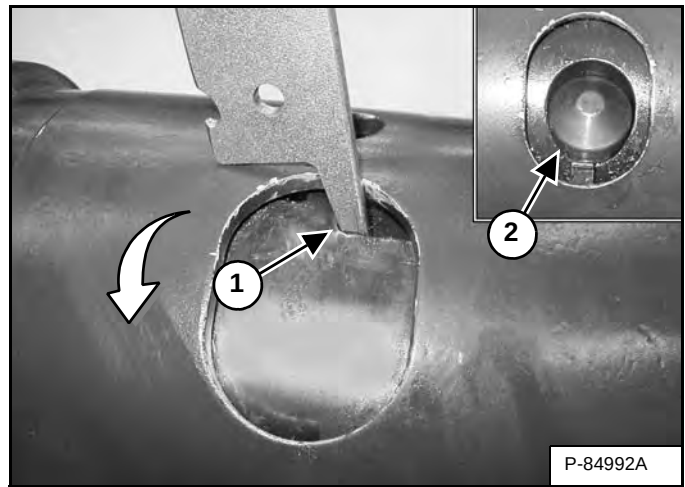
Figure 391



Insert the end of the tool (Item 1) [Figure 391]. Lift up on the tool to allow the tab on the end of the retainer band to go under the frame opening.

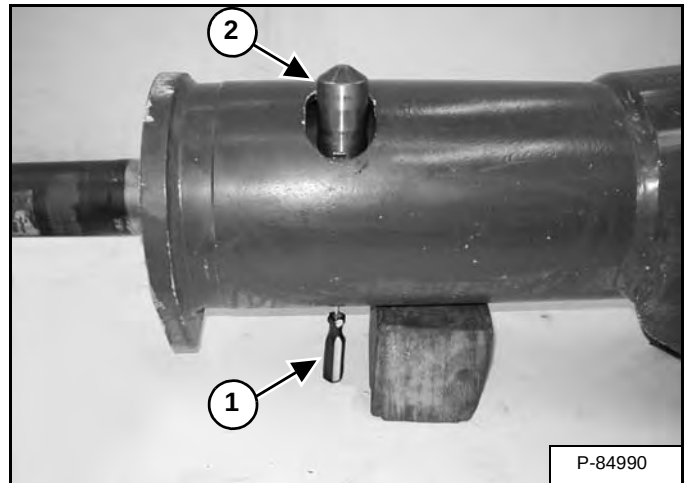
NOTE: Keep tool retaining components and tool bushings free of dirt and debris.

Figure 392



Continue using the maintenance tool (Item 1) to rotate the retainer band until the tool retainer pin (Item 2) [Figure 392] is exposed.

Figure 393



Insert a screw driver or punch (Item 1) through the access hole on the bottom of the frame and push the tool retaining pin (Item 2) [Figure 393] up and remove the retaining pin.

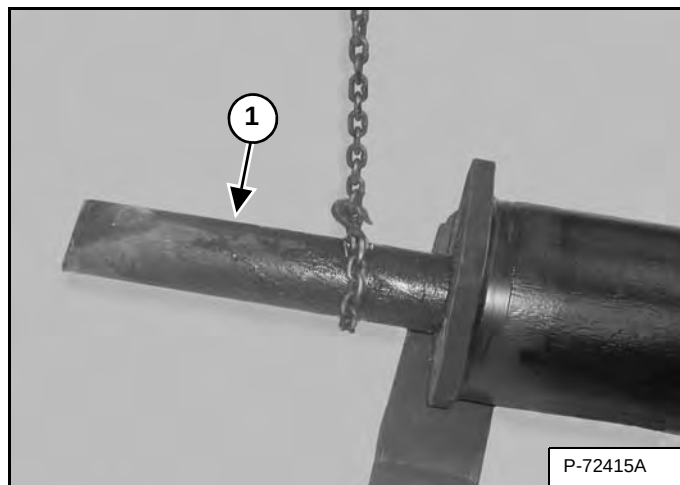
Dealer Copy -- Not for Resale

REMOVAL AND INSTALLATION OF TOOL (CONT'D)

Procedure (Internal Retaining Band) (Cont'd)

Removing The Tool (Cont'd)

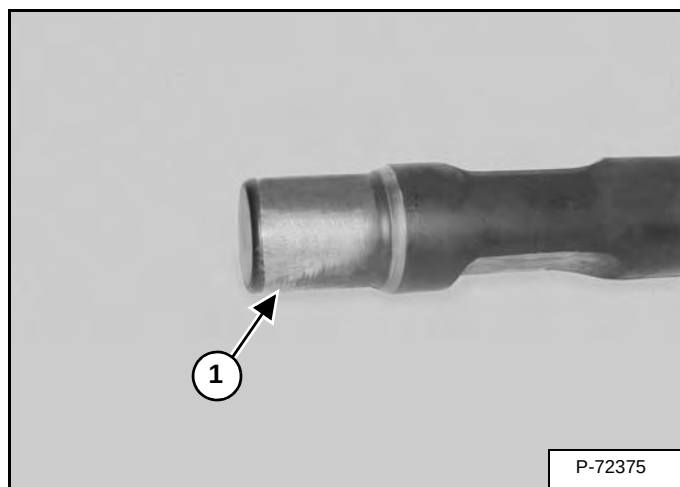
Figure 394



Using a lifting device, remove the tool (Item 1) [Figure 394].

Installing The Tool

Figure 395

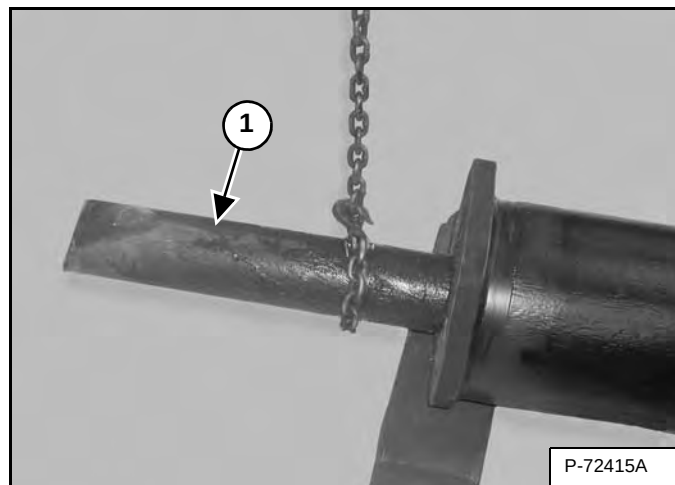


NOTE: Keep tool retaining components and tool bushings free of dirt and debris.

Apply grease to the top section of the tool (Item 1) [Figure 395].

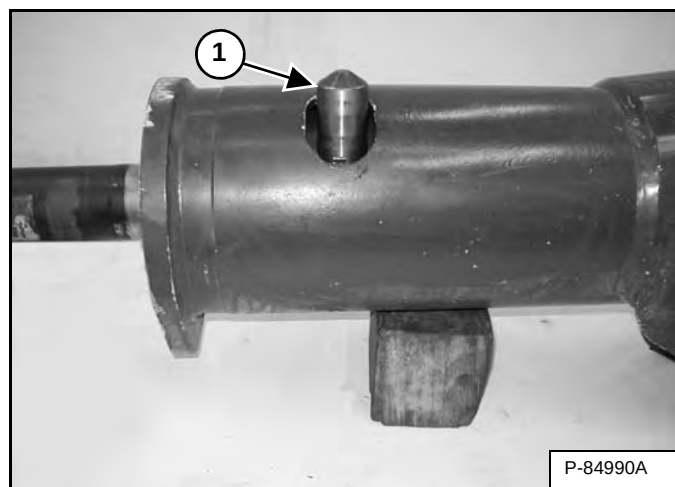
NOTE: Use a good quality lithium based grease. Lower quality grease may melt when hot and reduce the life of the tool and bushing.

Figure 396



Install the tool (Item 1) [Figure 396] in the breaker.

Figure 397



Install the tool retainer pin (Item 1) [Figure 397] in the breaker. The tool may need to be rotated for the pin to fit properly.

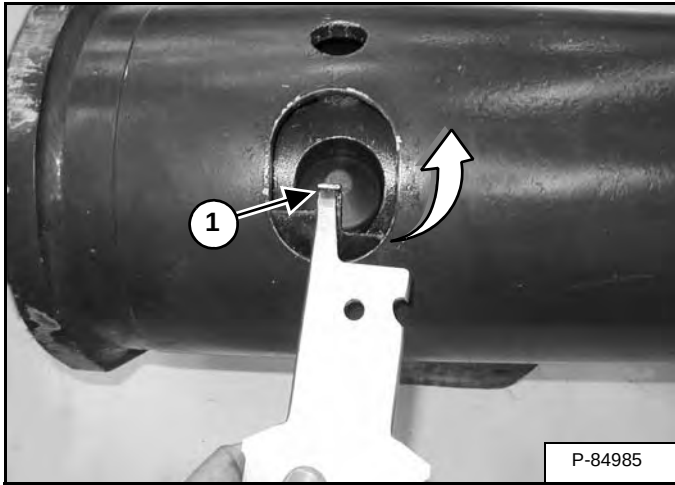
Dealer Copy -- Not for Resale

REMOVAL AND INSTALLATION OF TOOL (CONT'D)

Procedure (Internal Retaining Band) (Cont'd)

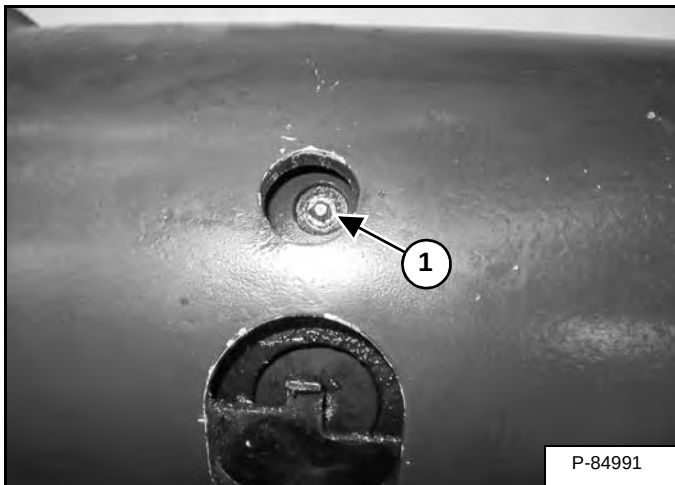
Installing The Tool (Cont'd)

Figure 398



Using the maintenance tool (Item 1) [Figure 398], rotate the retainer band to close the opening.

Figure 399



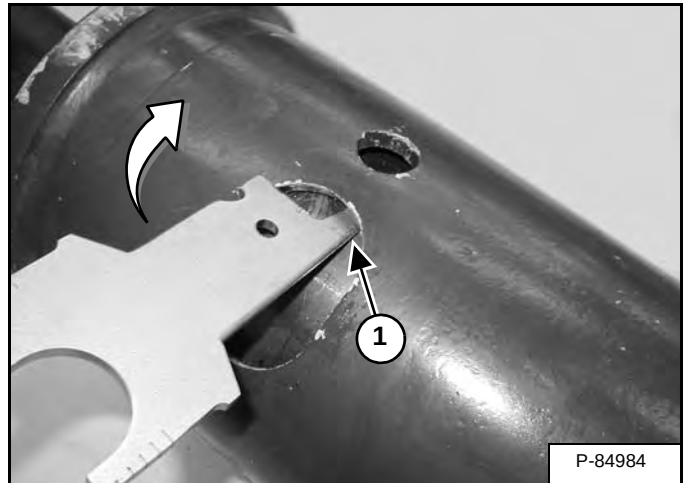
NOTE: Use a good quality lithium based grease. Lower quality grease may melt when hot and reduce the life of the tool and bushing.

NOTE: Do not use an electric or pneumatic grease gun. Over greasing may damage the seal.

NOTE: Failure to push the tool up inside the breaker before greasing may cause seal damage.

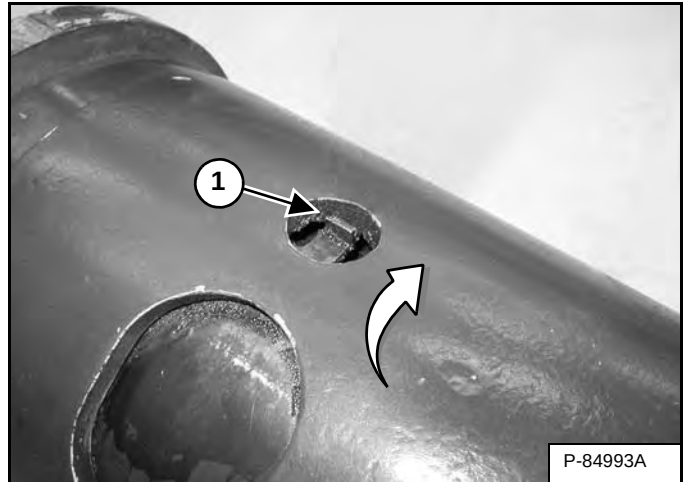
Push the tool in as far as possible. Apply grease (5 - 6 pumps) at the grease fitting (Item 1) [Figure 399].

Figure 400



Using the maintenance tool (Item 1) [Figure 400], press the tang of the retaining band so that it is pushed under the breaker frame.

Figure 401



Continue to rotate the retaining band (Item 1) [Figure 401] until it is in the fully closed position.

ATTACHMENT STORAGE AND RETURN TO SERVICE

Storage

Sometimes it may be necessary to store your Bobcat attachment for an extended period of time. Below is a list of items to perform before storage.

- Thoroughly clean the attachment.
- Lubricate the attachment.
- Inspect the Bob-Tach wedge mounts, mounting flange and all welds on the attachment for wear and damage.
- Check for loose hardware, missing guards, or damaged parts.
- Replace worn or damaged parts.
- Check for damaged or missing decals. Replace if necessary.
- Place the attachment in a dry protected shelter.
- Place the attachment flat on the ground.

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 machine.

Always relieve the hydraulic pressure when disconnecting the breaker from the machine. Plug the breaker hydraulic ports when in storage. If equipped with hoses, install caps on the hoses. If equipped with couplers, connect the couplers together to keep them clean.

If storing for six months or longer, remove the tool and thoroughly grease the piston and lower bushing to prevent corrosion. Reinstall the tool and store the breaker in the vertical position, with the tool installed into a holding fixture. The weight of the breaker on the tool retracts the piston which reduces the possibility of piston corrosion. Storing vertical prevents any side loading of the piston seal and increases the seal service life. Check the nitrogen charge before using the breaker.

If the breaker is stored in a highly corrosive environment, has high humidity or a coastal location, grease and store the breaker as recommended above if the storage period is over thirty days.

If the breaker must be stored in the horizontal position, remove the tool and thoroughly grease the piston and lower bushing to prevent corrosion. Cap or cover the opening. Reinstall the tool only when the breaker is going to be used.

Return To Service

After the Bobcat attachment has been in storage, it is necessary to follow a list of items to return the attachment to service.

- Be sure all shields and guards are in place.
- Lubricate the attachment.
- Install and operate attachment, check for correct function.
- Check for leaks. Repair as needed.



Bobcat®

MACHINE SIGN TRANSLATIONS

MACHINE SIGN TRANSLATIONS	193
Warning (6701391)	193
Warning (7112677)	194
Warning (7112678)	195



Bobcat®

Warning (6701391)

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

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

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

Warning (7112677)

⚠ WARNING

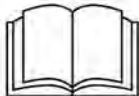
AVOID INJURY OR DEATH



- 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

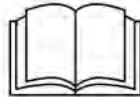
EVITE LESIONES O ACCIDENTES FATALES



- 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

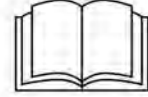
RISQUE DE BLESSURE OU DE MORT



- 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)



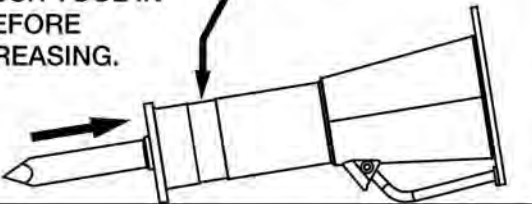
**WARNING**

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

SERVICE SCHEDULE

**GREASE**
5 TO 6 PUMPS
EVERY 4 HOURS.

**PUSH TOOL IN
BEFORE
GREASING.**



61852 SW 7112678



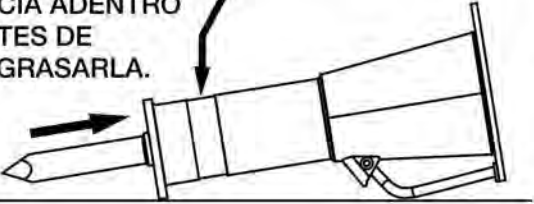
**ADVERTENCIA**

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

**PROGRAMA DE
MANTENIMIENTO**

**ENGRASE**
ENTRE 5 Y 6 BOMBAS
CADA 4 HORAS.

**EMPUJE LA
HERRAMIENTA
HACIA ADENTRO
ANTES DE
ENGRASARLA.**



61852 SW 7112678 esAR



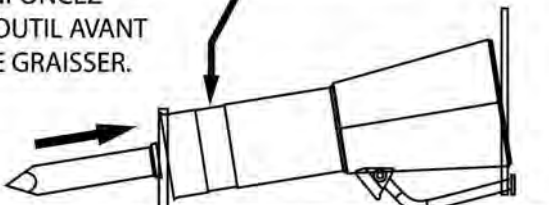
**AVERTISSEMENT**

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



Bobcat®

Dealer Copy -- Not for Resale

SPECIFICATIONS

(HB280) HYDRAULIC BREAKER SPECIFICATIONS	199
Dimensions	199
Performance	199
Hydraulic System	199
(HB680) HYDRAULIC BREAKER SPECIFICATIONS	200
Dimensions	200
Performance	200
Hydraulic System	200
(HB880) HYDRAULIC BREAKER SPECIFICATIONS	201
Dimensions	201
Performance	201
Hydraulic System	201
(HB980) HYDRAULIC BREAKER SPECIFICATIONS	202
Dimensions	202
Performance	202
Hydraulic System	202
(HB1180) HYDRAULIC BREAKER SPECIFICATIONS	203
Dimensions	203
Performance	203
Hydraulic System	203

Dealer Copy -- Not for Resale



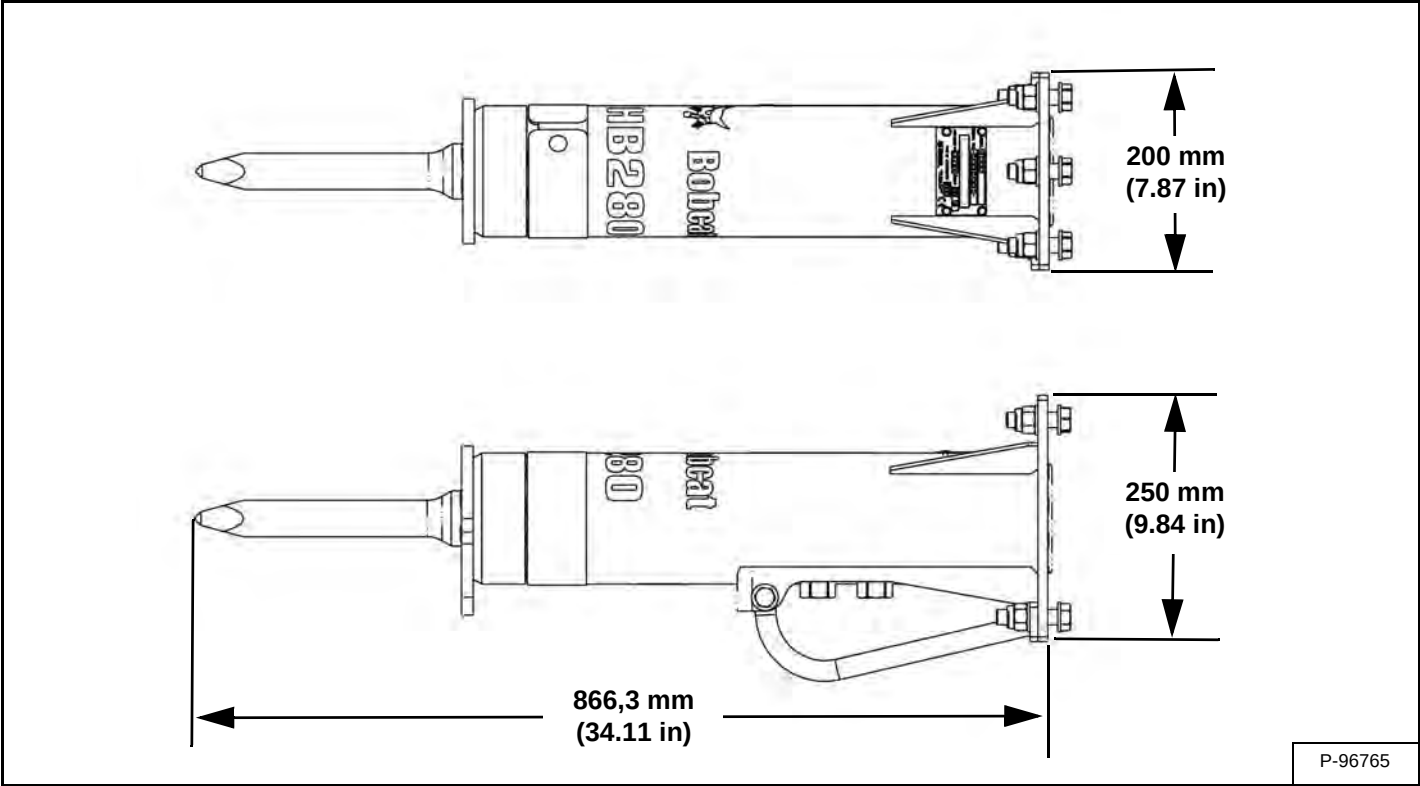
Bobcat®

Dealer Copy -- Not for Resale

(HB280) HYDRAULIC BREAKER SPECIFICATIONS

Dimensions

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



Performance

Breaker Weight	58 kg (127 lb)
Blow Rate	
Soft Ground	1120 bpm
Hard Ground	1290 bpm
Operating Pressure	12065 kPa (120,6 bar) (1750 psi)
System Pressure	14823 kPa (148 bar) (2150 psi)
Impact Class	0,266 kN (60 lbf)
CIMA Energy Rating	0,262 kN (59 lbf)
Nitrogen Charge Pressure	3206 kPa (32 bar) (465 psi)
Bit Diameter	37 mm (1.46 in)
Bit Working Length	269 mm (10.6 in)

Hydraulic System

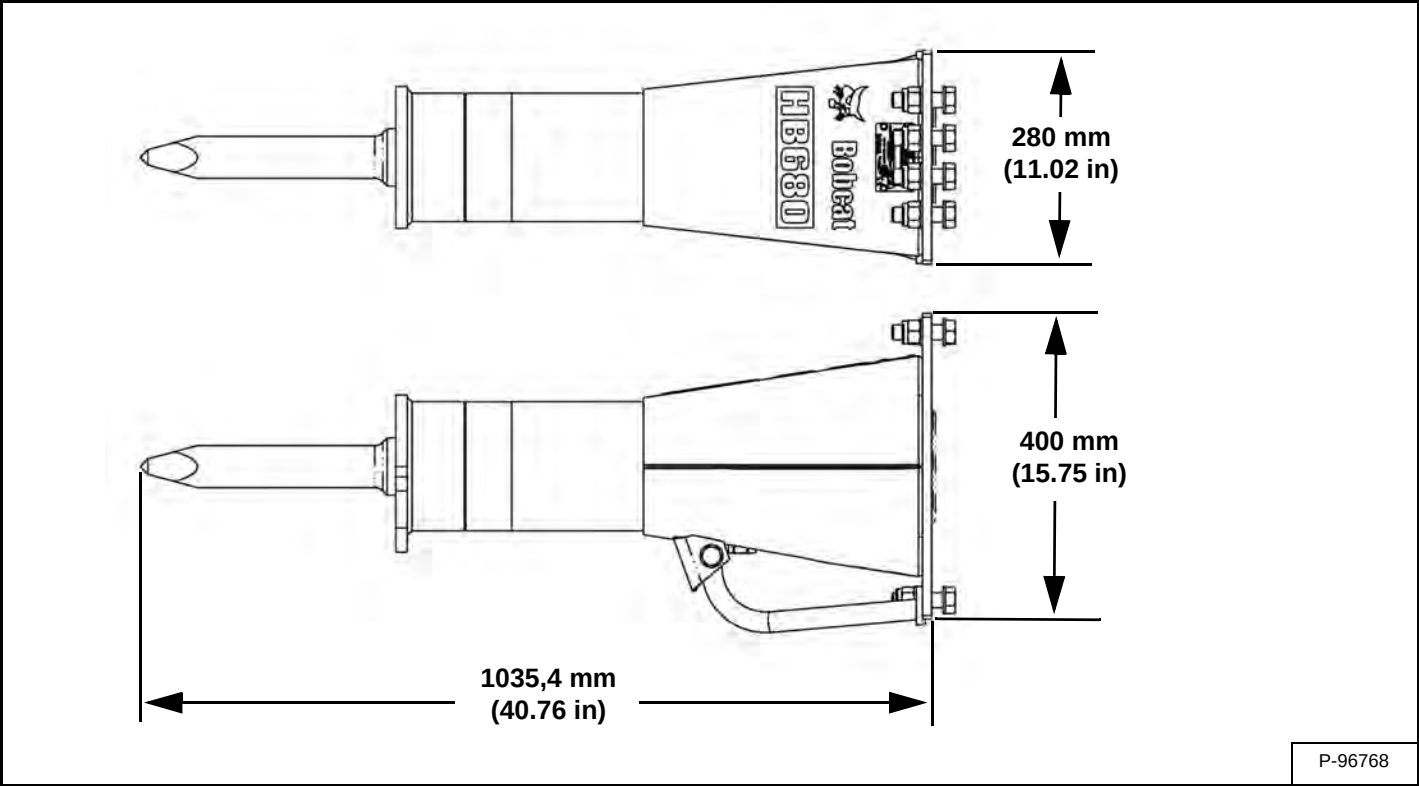
Hydraulic Flow	13 - 23 L/min (3.4 - 6.1 U.S. gpm)
----------------	------------------------------------

Dealer Copy -- Not for Resale

(HB680) HYDRAULIC BREAKER SPECIFICATIONS

Dimensions

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



Performance

Breaker Weight	127 kg (281 lb)
Blow Rate	
Soft Ground	780 - 1220 bpm
Hard Ground	860 - 1340 bpm
Operating Pressure	12065 kPa (120,6 bar) (1750 psi)
System Pressure	14823 kPa (148 bar) (2150 psi)
Impact Class	0,667 kN (150 lbf)
CIMA Energy Rating	0,636 kN (143 lbf)
Nitrogen Charge Pressure	3206 kPa (32 bar) (465 psi)
Bit Diameter	55,1 mm (2.17 in)
Bit Working Length	330 mm (13.0 in)

Hydraulic System

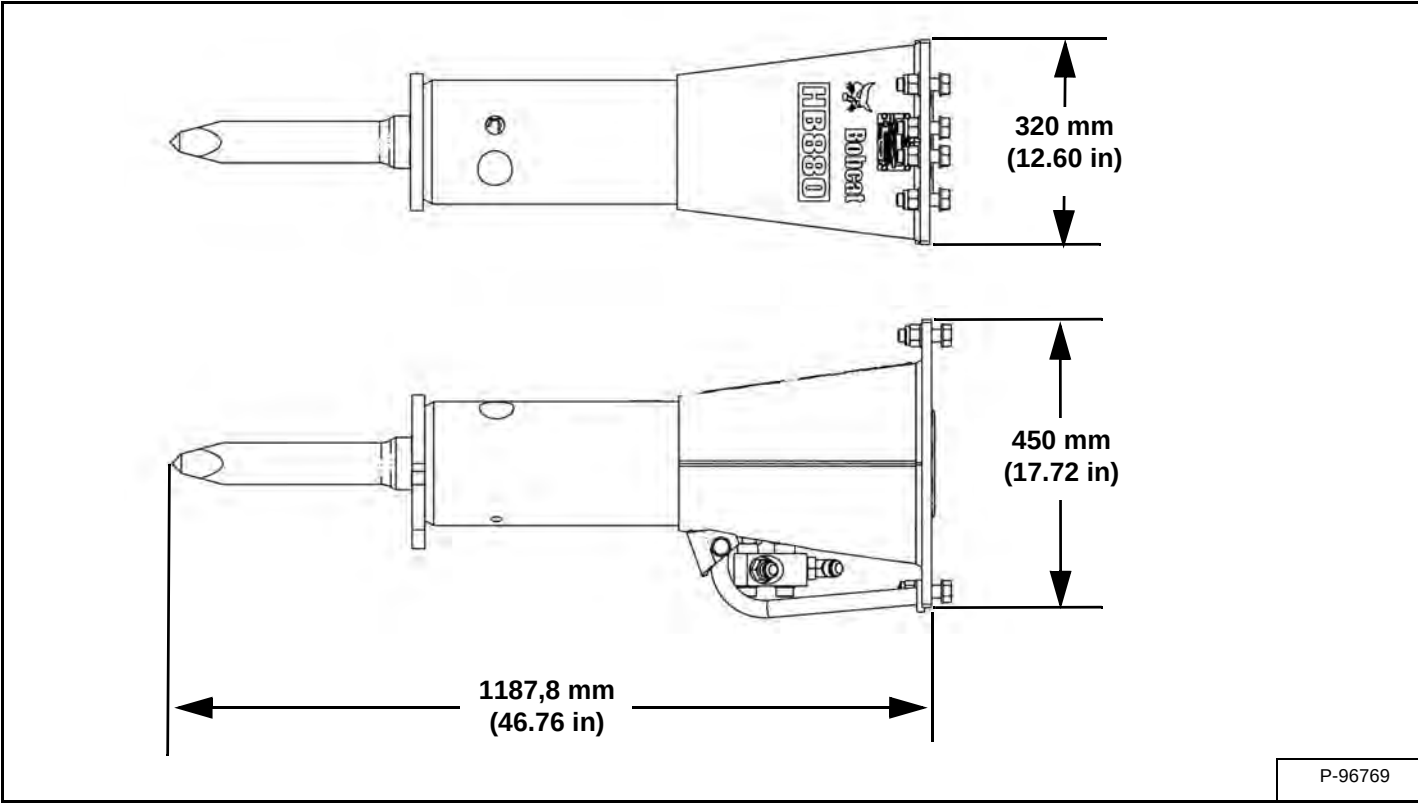
Hydraulic Flow	25 - 50 L/min (6.6 - 13.2 U.S. gpm)
----------------	-------------------------------------

Dealer Copy -- Not for Resale

(HB880) HYDRAULIC BREAKER SPECIFICATIONS

Dimensions

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



P-96769

Performance

Breaker Weight	194 kg (427 lb)
Blow Rate	
Soft Ground	755 - 1150 bpm
Hard Ground	860 - 1310 bpm
Operating Pressure	12065 kPa (120,6 bar) (1750 psi)
System Pressure	14823 kPa (148 bar) (2150 psi)
Impact Class	1,334 kN (300 lbf)
CIMA Energy Rating	0,920 kN (207 lbf)
Nitrogen Charge Pressure	3206 kPa (32 bar) (465 psi)
Bit Diameter	65 mm (2.56 in)
Bit Working Length	330 mm (13.0 in)

Hydraulic System

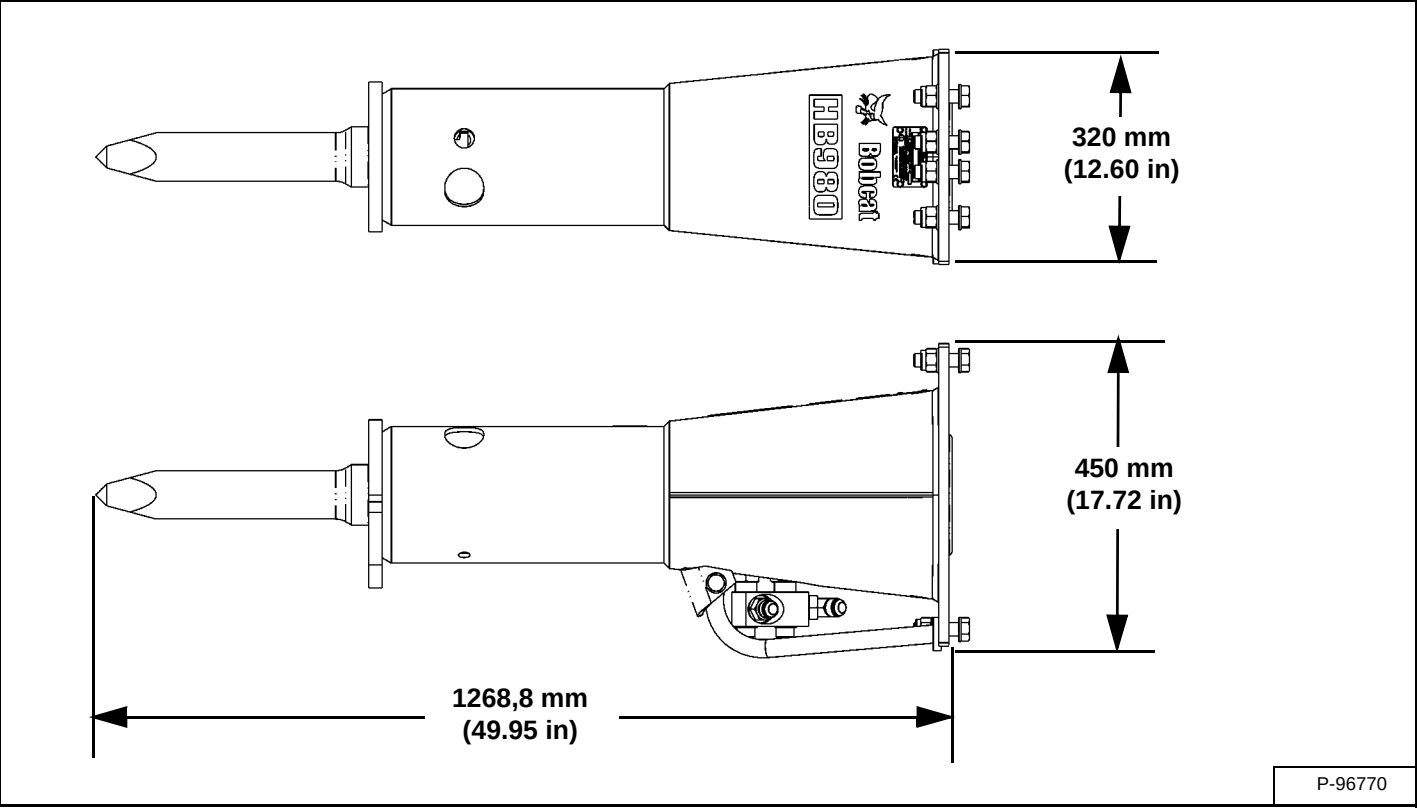
Hydraulic Flow	30 - 65 L/min (7.9 - 17.2 U.S. gpm)
----------------	-------------------------------------

Dealer Copy -- Not for Resale

(HB980) HYDRAULIC BREAKER SPECIFICATIONS

Dimensions

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



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)

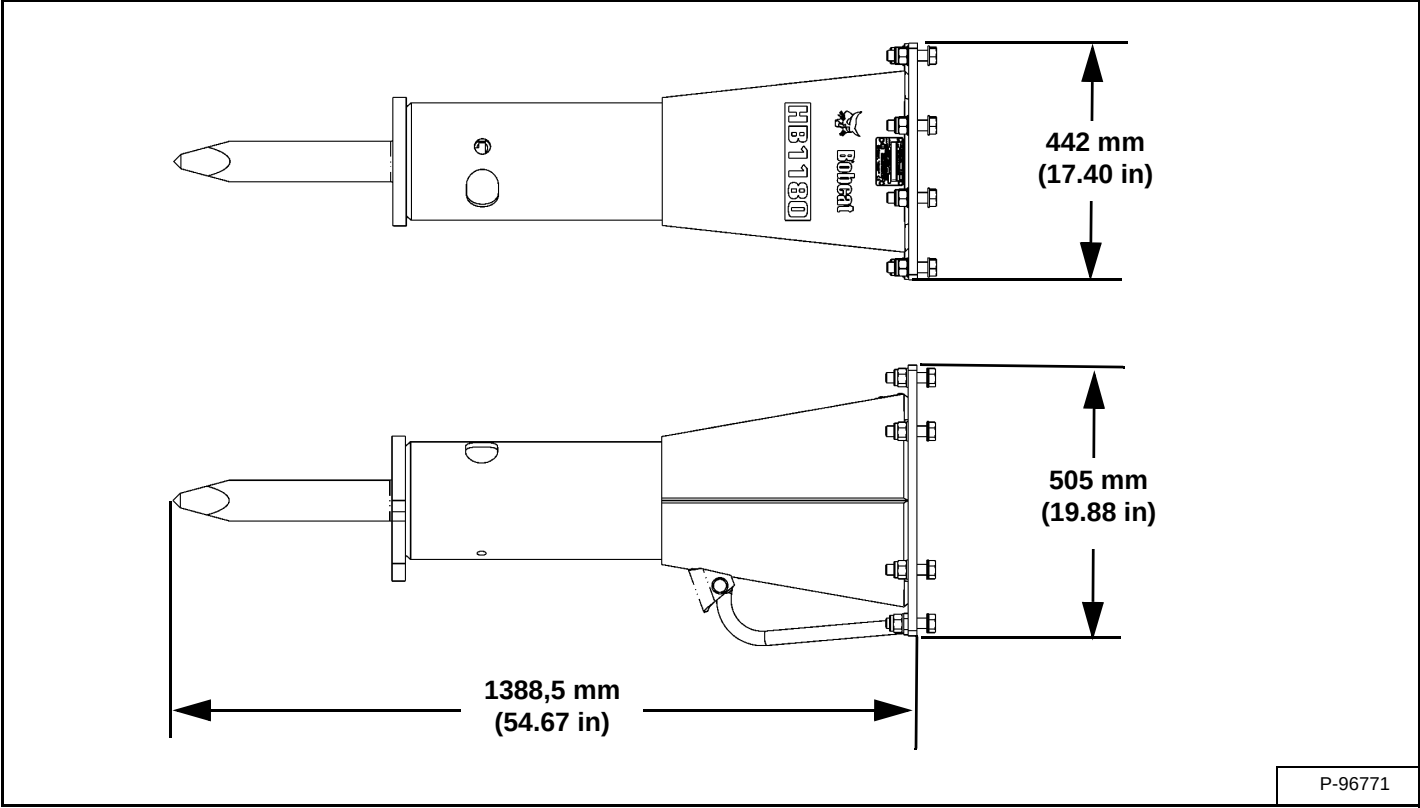
Hydraulic System

Hydraulic Flow	45 - 80 L/min (11.9 - 21.1 U.S. gpm)
----------------	--------------------------------------

(HB1180) HYDRAULIC BREAKER SPECIFICATIONS

Dimensions

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



P-96771

Performance

Breaker Weight	299 kg (659 lb)
Blow Rate	
Soft Ground	680 - 1070 bpm
Hard Ground	820 - 1280 bpm
Operating Pressure	12755 kPa (127,5 bar) (1850 psi)
System Pressure	14823 kPa (148 bar) (2150 psi)
Impact Class	3,336 kN (750 lbf)
CIMA Energy Rating	1,708 kN (384 lbf)
Nitrogen Charge Pressure	3206 kPa (32 bar) (465 psi)
Bit Diameter	85 mm (3.03 in)
Bit Working Length	406 mm (16.0 in)

Hydraulic System

Hydraulic Flow	55 - 100 L/min (14.5 - 26.4 U.S. gpm)
----------------	---------------------------------------

Dealer Copy -- Not for Resale



WARRANTY

WARRANTY 207

Dealer Copy -- Not for Resale



Bobcat®

WARRANTY

Bobcat Attachments

Bobcat Company warrants to its authorized dealers and authorized dealers of Bobcat Equipment Ltd., who in turn warrant to the original owner, that each new Bobcat attachment will be free from proven defects in material and workmanship for twelve (12) months after delivery by the authorized Bobcat dealer to the original buyer.

During the warranty period, the authorized Bobcat dealer shall repair or replace, at Bobcat Company's option, without charge for parts and labor, any part of the Bobcat product which fails because of defects in material or workmanship. The owner shall provide the authorized Bobcat dealer with prompt written notice of the defect and allow reasonable time for replacement or repair. Bobcat Company may, at its option, require failed parts to be returned to the factory. Travel time of mechanics and transportation of the Bobcat product to the authorized Bobcat dealer for warranty work are the responsibility of the owner. The remedies provided in this warranty are exclusive.

This warranty does not cover replacement of scheduled service items and high wear items. The owner shall rely solely on the warranty, if any, of the respective manufacturers thereof. This warranty does not cover damages resulting from abuse, accidents, alterations, use of the Bobcat product as an attachment on any equipment not approved by Bobcat Company, air flow obstructions, or failure to maintain or use the Bobcat product according to the instructions applicable to it.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND CONDITIONS, EXCEPT THE WARRANTY OF TITLE. BOBCAT COMPANY DISCLAIMS ALL OTHER WARRANTIES AND CONDITIONS, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL BOBCAT COMPANY OR THE AUTHORIZED BOBCAT DEALER BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, LOSS OR INTERRUPTION OF BUSINESS, LOST PROFITS, OR LOSS OF MACHINE USE, WHETHER BASED ON CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY, STATUTE OR OTHERWISE, EVEN IF BOBCAT COMPANY OR THE AUTHORIZED BOBCAT DEALER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE TOTAL LIABILITY OF BOBCAT COMPANY AND THE AUTHORIZED BOBCAT DEALERS WITH RESPECT TO THE PRODUCT AND SERVICES FURNISHED HEREUNDER SHALL NOT EXCEED THE PURCHASE PRICE OF THE PRODUCT UPON WHICH SUCH LIABILITY IS BASED.



6570124 (2-09)

Printed in U.S.A.

Dealer Copy -- Not for Resale



Bobcat®

ALPHABETICAL INDEX

(HB1180) HYDRAULIC BREAKER SPECIFICATIONS	203	TRANSPORTING THE ATTACHMENT AND MACHINE ON A TRAILER	160
(HB280) HYDRAULIC BREAKER SPECIFICATIONS	199	TRANSPORTING THE ATTACHMENT ON A TRAILER	158
(HB680) HYDRAULIC BREAKER SPECIFICATIONS	200	TROUBLESHOOTING	165
(HB880) HYDRAULIC BREAKER SPECIFICATIONS	201	WARRANTY	207
(HB980) HYDRAULIC BREAKER SPECIFICATIONS	202		
ATTACHMENT IDENTIFICATION	17		
ATTACHMENT SIGNS (DECALS)	30		
ATTACHMENT STORAGE AND RETURN TO SERVICE	189		
BOBCAT COMPANY IS ISO 9001 CERTIFIED	13		
DAILY INSPECTION	47		
DELIVERY REPORT	16		
FEATURES AND ACCESSORIES	20		
FIRE PREVENTION	27		
INITIAL SETUP	33		
LIFTING THE ATTACHMENT	156		
LUBRICATING THE ATTACHMENT	176		
MACHINE SIGN TRANSLATIONS	193		
MAINTENANCE SAFETY	163		
OPERATING PROCEDURE WITH EXCAVATORS	74		
OPERATING PROCEDURE WITH LOADER BACKHOES	138		
OPERATING PROCEDURE WITH LOADERS	51		
OPERATING PROCEDURE WITH MINI TRACK LOADERS	122		
OPERATOR SAFETY WARNINGS	1		
OPERATOR SAFETY WARNINGS	3		
OPERATOR SAFETY WARNINGS	5		
OPERATOR SAFETY WARNINGS	7		
PUBLICATIONS AND TRAINING RESOURCES	29		
REGULAR MAINTENANCE ITEMS	168		
REMOVAL AND INSTALLATION OF TOOL	178		
SAFETY INSTRUCTIONS	25		
SERIAL NUMBER LOCATION	15		
SERVICE SCHEDULE	167		

Dealer Copy -- Not for Resale



Bobcat®