

Hydraulic Breakers

Operation and Maintenance Manual



HB50 – HB950



888-376-7027 | BlueDiamondAttachments.com

Register your
WARRANTY
within 30 days
of purchase



Introduction: Owner Information

Thank you for your decision to purchase a Blue Diamond® Hydraulic Breaker. To ensure maximum performance of your equipment, it is mandatory that you thoroughly study the Operator's Manual and follow the recommendations. Proper operation and maintenance are essential to maximize equipment life and prevent personal injury.

Operate and maintain this equipment in a safe manner and in accordance with all applicable local, state, and federal codes, regulations and/or laws. Follow all on-product labeling and instructions.

Make sure that all personnel have read this Operator's Manual and thoroughly understand safe and correct operating, installation and maintenance procedures.

Blue Diamond® is continually working to improve its products. Blue Diamond® reserves the right to make any improvements or changes as deemed practical and possible without incurring any responsibility or obligation to make any changes or additions to equipment sold previously.

Although great care has been taken to ensure the accuracy of this publication, Blue Diamond® makes no warranty or guarantee of any kind, written or expressed, implied or otherwise with regard to the information contained within this manual. Blue Diamond® assumes no responsibility for any errors that may appear in this manual and shall not be liable under any circumstances for incidental, consequential or punitive damages in connection with, or arising from the use of this manual.

Keep this manual available for frequent reference. All new operators or owners must review the manual before using the equipment and annually thereafter. Contact your Blue Diamond® Attachments Dealer for assistance, information, or additional copies of the manual. Contact www.bluediamondattachments.com or call 888-376-7027 for a complete list of dealers in your area.

Serial Number Location:

Please record attachment information in the space provided for future reference.



Model Number: _____

Serial Number: _____

Dealer Name: _____

Dealer Number: _____

Date of Purchase: _____

The serial number plate is located on the front of the attachment below the hose connection as shown above.

Always use your serial number when requesting information or when ordering parts.

NOTE: The directions left, right, front, and rear, as mentioned throughout this manual, are as viewed from the operator's position.

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1. Pre-Delivery Inspection Instructions

Use this checklist to verify safety, function, and readiness prior to delivery.

END USER'S NAME: _____

DATE: _____

ITEM NUMBER & DESCRIPTION: _____

SERIAL NO.: _____

HOST MACHINE MAKE/MODEL: _____

1.1 Safety & Documentation

- ☐ Operation and Maintenance Manual is included.
- ☐ Safety decals are present and legible.
- ☐ Model and serial number plate is present and intact.
- ☐ Verify required hydraulic flow range for customer's host machine.
- ☐ Fittings are properly tightened; verify no leakage.
- ☐ Quick couplers are correct and clean.
- ☐ Smooth operation; no hydraulic leaks or excessive vibration of attachment.
- ☐ Verify attachment has been connected to the host machine that will be used for operation and tested.
- ☐ Verify the host machine's hydraulic flow with a flow meter.

1.2 Visual Inspection

- ☐ Unit is free of shipping damage, dents, cracked welds, etc.
- ☐ Verify motor and safety covers are in place and secure.
- ☐ Ensure drive system is correctly lubricated.
- ☐ Fasteners are properly torqued.

1.3 Hydraulic System & Operational Test

- ☐ Hydraulic hose routing is appropriate for application.

1.4 Final Delivery

- ☐ Maintenance schedule located in Operation and Maintenance Manual has been reviewed.
- ☐ Grease type and intervals were provided.
- ☐ Tool procedure and maintenance safety have been explained.
- ☐ Register the attachment for warranty by following the instructions below:
 - ☐ Fill out this form and email it to warranty@battachments.com

TECHNICIAN: _____

CUSTOMER: _____

DATE: _____

2. Introduction

2.1 Attachment Identification



2. Introduction

2.2 About this Attachment

The Blue Diamond® Hydraulic Breaker is an essential piece of equipment in the construction industry. This attachment can be used to break down concrete and other hard material.

Our Hydraulic Breaker is designed with the user in mind. This attachment requires minimal maintenance and performs quieter when compared to other breakers on the market, making it easier to perform maintenance in the field and avoid having to acquire work permits for loud machinery in urban areas.

2.3 Attachment Model Numbers

MODEL NUMBER	MODEL	MAX OIL FLOW (GPM)	CARRIER WEIGHT (LBS)
135005	HB50	7	1,400 – 2,400
135009	HB95	11	2,400 – 3,600
135016	HB165	11	3,600 – 6,000
135021	HB210	15	5,600 – 7,600
135030	HB300	18	8,000 – 12,000
135040	HB400	25	12,000 – 17,000
135053	HB530	29	16,000 – 22,000
135095	HB950	34	20,000 – 28,000
135098	HB1400	42	33,000 – 42,000
135100	HB1800	53	42,000 – 55,000
135105	HB2500	61	55,000 – 73,000
135110	HB3000	69	70,000 – 110,000

NOTE: The model numbers are for the breaker only – the mount is not included. Mini skid steer, skid steer, and excavator mounts are available, depending on the model. See “6. Parts” on page 29 for additional information.

NOTE: The model numbers are for the breaker only – the mount is not included. Excavator mounts are only available and must be specified at time of purchase.

3. Safety

3.1 General Safety Information



SAFETY ALERT SYMBOL



This **SAFETY ALERT SYMBOL** identifies important safety messages on the equipment and in the owner's manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.



IMPORTANT



The signal word **IMPORTANT** identifies procedures which must be followed to avoid damage to the machine.



DANGER



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.



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.



CAUTION



The signal word **CAUTION** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTE: Notes are used to indicate important information. This information may be repeated in other areas of the manual.

Terminology

Host Machine, Machine, Prime Mover:

- The Hydraulic Breaker can be attached to many different pieces of equipment; therefore, the terms “host machine”, “machine”, and “prime mover” will be used. Host machine, machine, and prime mover mean any vehicle, excavator, or skid steer providing power to the attachment.

Attachment, Implement, Equipment:

- The Hydraulic Breaker is the tool that is being attached to the host machine; therefore, the terms “attachment”, “implement”, and “equipment” will be used. The attachment, implement, and equipment mean any tool that is being used on any vehicle, excavator, or skid steer being used for different applications.

Operating Safety

- Read and follow instructions in this manual and the machine's Operator's Manual before operating.
- The manual must always remain with the attachment. In case of loss or damage, request a new copy from your dealer or from Blue Diamond®.
- Strictly follow all rules prescribed by the safety pictograms/decals applied to the attachment. Ensure that all safety pictograms/decals are legible. If pictograms/decals are worn, they must be replaced with new ones obtained from Blue Diamond® and placed in the position indicated by this manual.
- Before using the attachment, make sure that all safety devices are installed and in good working condition. In case of damaged or missing shields, replace them immediately.
- It is absolutely forbidden to remove or alter safety devices and/or safety precautions
- Pay maximum attention to avoid any accidental contact with moving parts of the attachment.
- If the use of the machine is required at night or in conditions of reduced visibility, use the lighting system of the prime mover and an auxiliary lighting system if required.

3. Safety

3.2 Operators

Qualified Operators

The operator is a person suited to the work and who is physically and psychologically able to withstand the demands connected with operating the equipment for its intended use. The operator must not allow anyone to approach the machine while it is working and must not allow external personnel to operate the machine or attachment.

The operator is to follow the given instructions in this manual and the machine operator's manual in order to obtain maximum performance, minimal fuel consumption, and maximum safety for himself and for others.

The operator is responsible for scrupulously observing all the instructions given in this manual.



DANGER



AVOID SERIOUS INJURY OR DEATH

Operators must receive instructions before operating the machine. Untrained operators can cause serious injury or death.

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 equipment. For an operator to be qualified, he or she must have read and understood the instructions of this manual, he or she must make adequate preparation for the proper use of the machine, and he or she must hold a driving license.

In case of doubt regarding the use of the machine and/or the interpretation of this manual, the operator must contact either their dealer or Blue Diamond®.

Operator Training

- 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.
- It is the skill, care, common sense, and good judgment of the operator that will determine how efficiently and safely the job is performed.
- The new operator must start in an area without bystanders and use all the controls until he or she can operate the machine safely under all conditions of the work area.

Operator Safety

- Any use of the machine other than the intended use is a non-intended use and is considered to be unauthorized and dangerous. Blue Diamond® is not liable for any damage or injury resulting from non-intended use.
- Before starting, and during operation of the attachment, make sure there are no people or animals in the operation area; the machine can project material from the back with risks of serious injury or death.
- During operation, adjustment, maintenance, repairing, or transportation of the machine, the operator must always use appropriate Personal Protective Equipment (PPE) including but not limited to safety glasses, working gloves, dust mask, safety helmet, and hearing protection.
- Do not operate the attachment or machine while wearing loose fitting clothing that can be entangled or caught in parts of the machine.
- Do not operate the implement when tired, not in good condition, or under the influence of alcohol or drugs.

3. Safety

3.2 Operators Cont'd

Operator Position and Zones

When the machine is running, the operator must pay particular attention to their own position [Figure 1, Item 1] to prevent being a source of danger to themselves or to bystanders. The area surrounding the equipment is divided into the operation or danger zone [Item 4] and the safe zone [Item 5].

The Operation or Danger Zone is the location where the operator has to work while the equipment is operating normally. The Operation Zone is considered as a potentially dangerous area. Individuals should not be present in the Operation Zone [Item 3] while the equipment is running. It is extremely important that all accident prevention standards indicated are strictly applied.

The Safe Zone is where bystanders should remain while the equipment is running [Item 2].

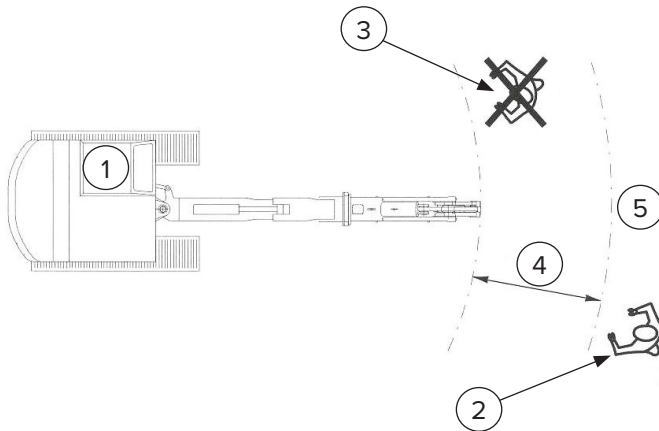


Figure 1

3.3 Safety Guidelines

Operating Safety

- Read and follow instructions in this manual and the machine's Operator's Manual before operating.
- Under no circumstances should young children be allowed to work with this equipment.
- This equipment is dangerous to persons unfamiliar with its operation.
- Check for overhead and/or underground lines before operating equipment.
- 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 attachment is securely fastened to the machine.
- Make sure all the machine controls are in the NEUTRAL before starting the machine.
- Operate the equipment only from the operator's position.
- Operate the equipment according to the Operator's Manual.
- When learning to operate the equipment, 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 equipment.
- The equipment must be used ONLY on approved machines.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Do not make any adjustments or repairs on the equipment while the machine is running.

3. Safety

3.3 Safety Guidelines Cont'd

Operating Safety Cont'd

- Keep shields and guards in place. Replace if damaged.
- DO NOT operate equipment in poor visibility conditions such as fog, darkness, or any conditions that limit clear visibility to less than 300 feet (100 m) in front of and to the sides of the equipment.
- The operator is responsible for the safety of all people in the vicinity of the operating area. If any person enters the operating area, the operator must immediately stop the machine and attachment.
- Make sure everyone on site is accounted for and their location is known.
- DO NOT operate in a work area that has not been inspected for foreign debris and obstacles.
- Remove any foreign objects and clearly mark any objects that cannot be removed.
- Know the capabilities of your equipment and practice its operation to become familiar with the controls, emergency shut down procedures, and the way it handles your machine.
- Wear safety glasses, gloves, hearing protection, and other protective clothing when required.

Machine Requirements and Capabilities

- The machine's operator's cab should be equipped with a thermoplastic polycarbonate or similar material front window, and similar protection on the sides of the operator's cab before operating the equipment.
- Keep bystanders clear of moving parts and the work area. Keep children away.
- Be sure to follow the information in "7.1 Attachment Specifications" on page 71.
- Use caution on slopes and near banks and ditches to prevent overturn.

Fire Prevention Safety

- Flammable debris (leaves, grass, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation.
- 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.

Transporting Safety

- Comply with state and local laws governing highway safety and movement of machinery on public roads.
- Check local laws for all highway lighting and marking requirements.
- Always yield to oncoming traffic and move to the side of the road so any following traffic may pass.
- Never allow riders on either machine or equipment.
- If transporting the equipment on a truck or trailer, make sure the equipment is properly secured to the transport vehicle.

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.

3. Safety

3.3 Safety Guidelines Cont'd

Personal Protective Equipment



Proper Work Clothes: To help ensure your safety as a designated operator wear proper work clothes including tight fitting clothes, protective gloves, and shoes.



Hand Protection: To help ensure your safety as a designated operator wear protective gloves.



Protective Shoes: To help ensure your safety as a designated operator wear protective shoes.



Safety Helmet: To help ensure your safety as a designated operator wear a safety helmet.



Safety Helmet and Eye/Ear Protection: To help ensure your safety as a designated operator wear a safety helmet and eye/ear protection.

4. Operation

4.1 Pre–Operation Inspection

Before operating the Hydraulic Breaker for the first time and each time thereafter, use the following list as a guideline during equipment inspection.



WARNING



AVOID SERIOUS INJURY OR DEATH

- Disengage machine's auxiliary hydraulics, engage the machine's parking brake, stop the engine, and make sure all moving parts are completely stopped before connecting, disconnecting, adjusting, or cleaning equipment.
- Always keep shields and guards in place when using the equipment.
- Disengage machine's auxiliary hydraulics for road travel.
- Keep hands, feet, and clothing away from rotating parts.

- Inspect the attachment for shipping damage. If damage does exist, do not operate until the damaged parts have been replaced or repaired.
- Lubricate the attachment per the schedule outlined in the Maintenance section. See "5.1 Service Schedule" on page 21.
- Check the attachment mounting frame for damage or cracks.
- Check that all shields and guards are in place.
- Check for loose hardware (i.e. nuts, bolts, screws, etc.), and tighten them if necessary.
- Check all welds on the attachment for wear and damage each time the attachment is removed from the machine.
- Check for damaged or missing safety decals. Replace if necessary.
- Inspect the machine's mounting frame. (See the machine's Operator's Manual for inspecting the mounting frame.) Replace any parts that are damaged, bent, or missing. Keep all fasteners tight. Look for cracked welds.

- Verify that the attachment is properly connected to the machine.



WARNING



Leaking fluids under pressure can enter the skin and cause serious injury or death. Immediate medical attention is required.

Wear goggles. Use cardboard to check for leaks.

- Check the condition of all hydraulic components for leaks. Repair as required.

NOTE: Do not operate with hydraulic leaks.

- Check for wear and tear on pins, linkages, tools, etc. Replace any damaged and/or excessively worn parts.
- Use only Blue Diamond® recommended replacement parts. Other parts may be substandard in fit and quality.
- Ensure any damage or excessively worn parts are replaced.
- Always wear safety goggles or glasses when inspecting equipment.

4. Operation

4.2 Transporting the Attachment



CAUTION



The operator in charge of the transportation and installation of the attachment must be acquainted with the following instructions.

Be sure to pay careful attention to the weight of the Hydraulic Breaker.

Determine the total weight of the Hydraulic Breaker, including the adapter plate and mounted tool using “7.1 Attachment Specifications” on page 71.

In order to move the Hydraulic Breaker safely when not attached to the host machine, it is necessary to use a suitable and safe lifting system as seen in Figure 2.

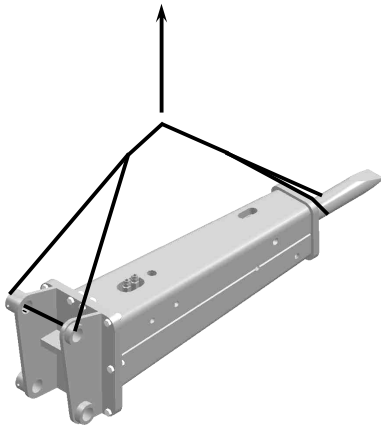


Figure 2

Always use a means of transport and lifting that can accommodate the weight of the Hydraulic Breaker.



WARNING



AVOID SERIOUS INJURY OR DEATH

Always move with care; each inappropriate movement can be very dangerous.

DO NOT pass or stop under the Hydraulic Breaker when it is lifted.

4.3 Entering & Exiting the Prime Mover



IMPORTANT



See the machine's Operator's Manual for detailed information on operating the loader.

Entering the Operator's Position

Use the safety treads, handles, and steps on the attachment and machine to enter the operator's position. Always maintain three (3) points of contact.

Skid Steer

When in the operator's position, secure the seatbelt, lower safety seat bar, start the engine, and release the parking brake.

Mini Skid Steer

When in the operator's position, face forward and grip the handles. Place both feet on the rear operator platform to engage the operator presence system, start the engine, and release the parking brake.

Excavator

When in the operator's position, secure the seatbelt, adjust the seat if necessary, start the engine, and release the parking brake.

4. Operation

4.3 Entering & Exiting the Prime Mover Cont'd

Leaving the Operator's Position



WARNING



AVOID SERIOUS INJURY OR DEATH

- Always park on a flat level surface.
- Lower lift arms and place attachment flat on the ground.
- Place all controls in NEUTRAL.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

SEE MACHINE'S OPERATOR'S MANUAL FOR ADDITIONAL INFORMATION.

Park the machine/attachment on a flat, level surface.

Place all controls in neutral, engage the parking brake, stop the engine, and wait for all moving parts to stop. Leave the operator's position.

4.4 Attachment Installation with Skid Steer & Mini Skid Steer

Connecting Attachment to the Machine



WARNING



CRUSH HAZARD

- Before moving the machine, look in all directions and make sure no bystanders, especially small children are in the work area.
- Do not allow anyone between the machine and attachment when approaching the attachment for connecting.
- Keep fingers and hands out of pinch points when connecting and disconnecting the attachment.

Before connecting to the attachment, inspect the machine's mounting plate. (See the machine's Operator's Manual for inspecting the mounting frame.)

Enter the operator's position. See "Entering the Operator's Position" on page 13.

Drive the machine slowly forward, until the top edge of the machine's mounting plate is under the top flange of the attachment mounting frame.

Slowly tilt the machine's mounting plate back until the attachment mounting frame fully contacts the front of the machine's mounting plate.

Leave the operator's position. See "Leaving the Operator's Position" on page 14.



WARNING



AVOID SERIOUS INJURY OR DEATH

The locking pins/wedges must extend through the holes in the attachment mounting frame. Failure to secure locking pins/wedges can allow the attachment to come off.

SEE MACHINE'S OPERATOR'S MANUAL FOR ADDITIONAL INFORMATION.

Engage attachment locking levers/wedges. (See the machine's Operator's Manual for detailed information.)

Connecting Hydraulic Hoses



IMPORTANT



Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the hydraulic system.

Remove dirt or debris from the male and female couplers. Visually inspect the couplers for corroding, cracking, damage, or excessive wear. Replace as needed.

Connect the attachment hydraulic hoses to the machine. Pull on each hose to verify full connection is made.

4. Operation

4.4 Attachment Installation with Skid Steer & Mini Skid Steer Cont'd

Connecting Hydraulic Hoses Cont'd

Connect the pressure hose to the entry side labeled "IN".

Connect the return line to the exit side labeled "OUT".

See Figure 3, Figure 4, and Figure 5 for the correct pressure and return lines, which vary between models.

HB50 & HB95

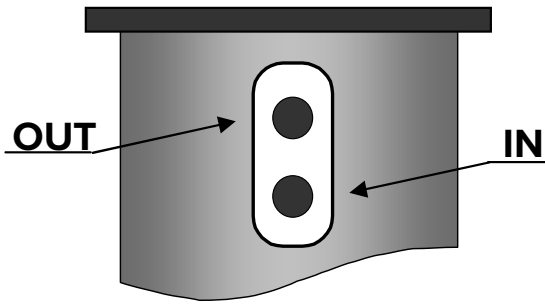


Figure 3

HB165, HB210, HB300, HB400, & HB530

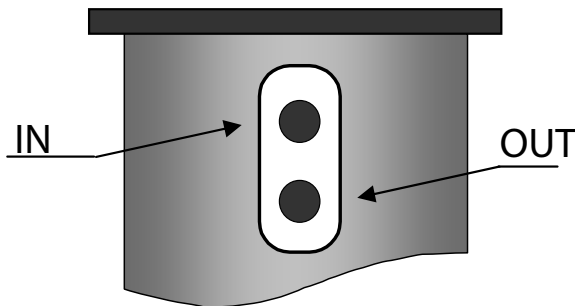


Figure 4

HB950 (Excavator Only)

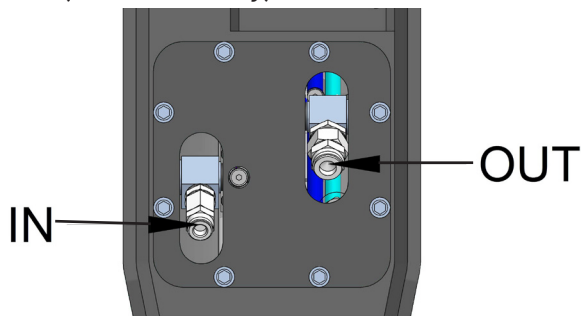


Figure 5

Disconnecting Hydraulic Hoses



WARNING



AVOID SERIOUS INJURY OR DEATH

Hydraulic fluid, tubes, fittings, and quick couplers can get hot during operation. Be careful when connecting and disconnecting hydraulic hoses.



WARNING



Leaking fluids under pressure can enter the skin and cause serious injury or death. Immediate medical attention is required. Wear goggles. Use cardboard to check for leaks.

Relieve auxiliary hydraulic pressure. (See the machine's Operator's Manual for the correct procedure.)

Disconnect the attachment hydraulic hoses from the machine.

Disconnecting Attachment From the Machine

Relieve auxiliary hydraulic pressure. (See the machine's Operator's Manual for correct procedure.)

Park the machine and attachment on a flat, level surface. Lower the attachment flat on the ground.

Leave the operator's position. See "Leaving the Operator's Position" on page 14.

Disconnect attachment hydraulic hoses from the machine.

Disengage locking pins/wedges. (See the machine's Operator's Manual for correct procedure.)

Enter the operator's position. See "Entering the Operator's Position" on page 13.

4. Operation

4.4 Attachment Installation with Skid Steer & Mini Skid Steer Cont'd

Disconnecting Attachment From the Machine Cont'd

Slowly tilt the machine's mounting plate forward until the attachment mounting frame is free from the machine's mounting plate.

Drive the machine slowly backward, away from the attachment.

4.5 Attachment Installation with Excavator

Connecting Attachment to the Machine



WARNING



AVOID SERIOUS INJURY OR DEATH

The locking pins must extend through the holes in the attachment mounting frame. Failure to secure locking pins can allow the attachment to come off.

SEE MACHINE'S OPERATOR'S MANUAL FOR ADDITIONAL INFORMATION.

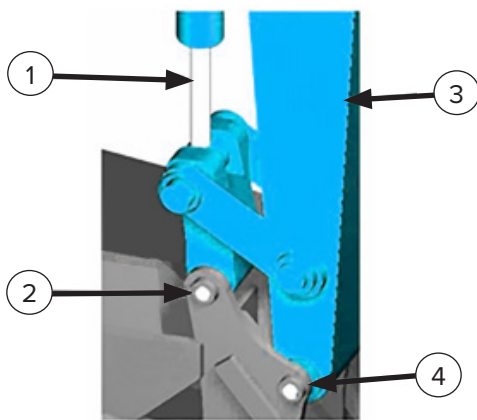


Figure 6

Order the appropriate bracket interchange from your local Blue Diamond® Attachments dealer by supplying the brand and model information of your machine.

The bracket interchange is secured to the attachment with bolts.

Use an appropriate lifting device and slings to place the bracket interchange onto the attachment.

Align the holes between the bracket interchange and deck, then install the appropriate hardware.

Torque hardware to the specification detailed in "7.3 Torque Specifications – Metric" on page 75.

Position the excavator at the rear of the attachment.

Extend the tool cylinder [Figure 6, Item 1] and paddle until the pin position is aligned.

Leave the operator's position. See "Leaving the Operator's Position" on page 14.

Install the pin through the attachment and paddle, and secure it with appropriate hardware.

Enter the operator's position. See "Entering the Operator's Position" on page 13.

Adjust the height of the dipperstick [Item 3] to align with the pin position [Item 4].

Leave the operator's position. See "Leaving the Operator's Position" on page 14.

Install the pin through the attachment and paddle, and secure with appropriate hardware.

NOTE: Some excavators are equipped with hydraulic locking systems, which are operated from the cab of the machine.

Connecting Hydraulic Hoses



IMPORTANT



Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the hydraulic system.

Remove dirt or debris from the male and female couplers. Visually inspect the couplers for corroding, cracking, damage, or excessive wear. Replace as needed.

Connect the attachment hydraulic hoses to the machine. Pull on each hose to verify full connection is made.

See Figure 3, Figure 4, and Figure 5 for the correct pressure and return lines.

4. Operation

4.5 Attachment Installation with Excavator Cont'd

Disconnecting Hydraulic Hoses



WARNING



AVOID SERIOUS INJURY OR DEATH

Hydraulic fluid, tubes, fittings, and quick couplers can get hot during operation. Be careful when connecting and disconnecting hydraulic hoses.



WARNING



Leaking fluids under pressure can enter the skin and cause serious injury or death. Immediate medical attention is required. Wear goggles. Use cardboard to check for leaks.

Relieve auxiliary hydraulic pressure. (See the machine's Operator's Manual for correct procedure.)

Disconnect attachment hydraulic hoses from the machine.

Disconnecting Attachment From the Machine

Relieve auxiliary hydraulic pressure. (See the machine's Operator's Manual for correct procedure.)

Park the machine and attachment on a flat, level surface. Lower the attachment flat on the ground.

Leave the operator's position. See "Leaving the Operator's Position" on page 14.

Disconnect attachment hydraulic hoses from the machine.

Remove hardware securing the pins, and then remove the pins from the paddle and attachment.

Enter the operator's position. See "Entering the Operator's Position" on page 13.

Raise the dipperstick to clear the attachment.

Drive the machine slowly backward, away from the attachment.

4.6 Operating the Attachment



WARNING



Before performing any of the actions in this section, section 3. Safety must be read in its entirety and understood fully to avoid any type of risk or accident. If you do not fully understand this manual, DO NOT connect or operate the attachment or carry out any maintenance operations. Contact your local dealer or Blue Diamond® Product Support immediately to ensure your safety and that of the attachment and machine.



WARNING



AVOID SERIOUS INJURY OR DEATH

- The operator **MUST** follow all instructions explained in this manual.
- **DO NOT** use without the tool retaining pin.
- Use only tools authorized by Blue Diamond®.

The tool contact area must be visible to the operator to ensure full contact.

Engine Speed

Before operating the attachment, test the working pressure inside the Hydraulic Breaker to ensure the host machine is delivering the correct oil flow rate to the attachment. If the pressure is too high or too low, adjust the host machine settings or engine speed to adjust the hydraulic flow rate.



IMPORTANT



Incorrect oil flow rate can cause serious damage to the Hydraulic Breaker.

4. Operation

4.6 Operating the Attachment Cont'd

Usage Instructions

The Hydraulic Breaker can be operated at any angle, provided that the tool is always pressed perpendicular to the working surface.



The tool must be kept perpendicular to the material being hammered for the entire duration of operation.

Excavator Boom Extension

For the easiest and safest operation, keep the Hydraulic Breaker as close to the excavator as possible. Avoid full extension of the boom cylinders [Figure 7, Items 1 and 2].



Figure 7

For the best results, keep the Hydraulic Breaker pressed firmly against the working surface. Use caution to not put too much weight on the Hydraulic Breaker; this is to avoid compromising the frame and/or other parts.

Do not operate the Hydraulic Breaker with the tool too close to the edge of the working surface. If the tool slips from the surface, unnecessary side load can damage the tool. See Figure 8.

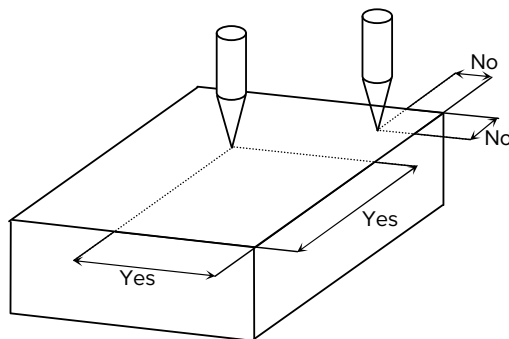


Figure 8

Operation Near/In Water or Wet Conditions

The Hydraulic Breaker cannot operate in water if the water level exceeds the tool stroke [Figure 9] unless the attachment is set up for it.

HB530 and larger models have a port for an air compressor connection. A 20 psi (1.5 bar) charge will allow operation up to 50 – 60 feet (15 – 20 meters) underwater.

Contact Blue Diamond® Product Support for assistance before working at deeper depths.

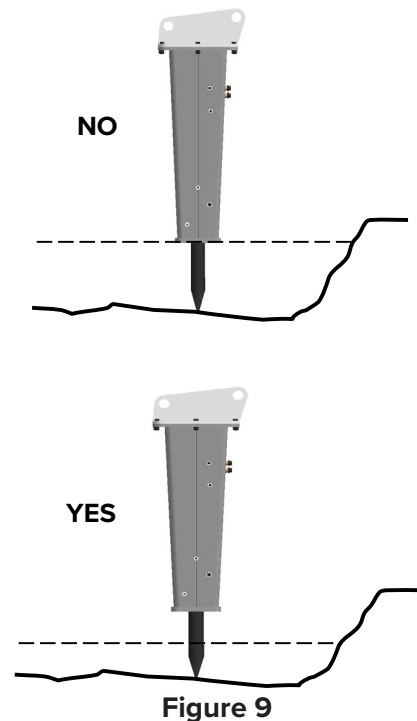


Figure 9

End of Operation

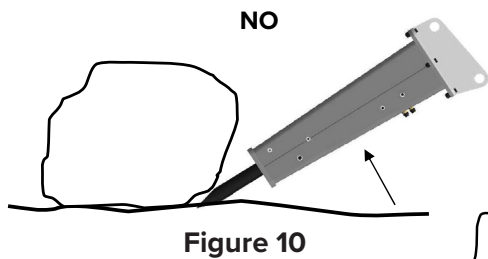
When ending the work day, the Hydraulic Breaker will be hot. Before leaving, drive the Hydraulic Breaker vertically into the ground so that the condensed water can be easily emptied through the prominent part of the piston to avoid potential oxidation.

4. Operation

4.7 Operations to Avoid

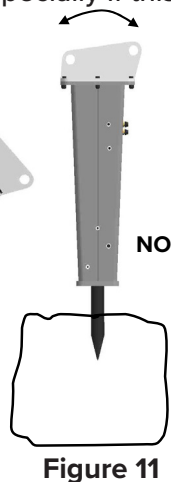
DO NOT Use as a Lever

The tool cannot be used as a lever to move rocks or other debris [Figure 10]. This operation can cause the tool to break or seize, especially if this is done while the Hydraulic Breaker is working [Figure 11].



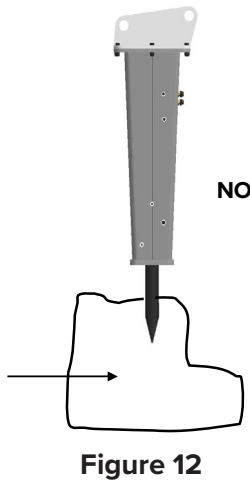
Moving Large Rocks

Do not move or pull large rocks or boulders using the Hydraulic Breaker frame or tool to avoid cracking or plate deformation. See Figure 12.



Stationary Hammering

Do not hammer in the same location without moving for more than thirty (30) seconds. In the event of an extreme hard surface, it will be necessary to change position very often until softer ground is found.



Preheat Oil

Never forget to preheat the oil before beginning operation, especially when there are low outdoor temperatures. It is good practice to cycle the excavator boom and track hydraulic functions until the oil reaches a temperature of 77 – 86°F (20 – 30°C).



WARNING



The drill can swell, the tool can seize, and the oil can overheat when operating in the same location for too long.

4. Operation

4.8 How to Install Lubrication System (HB950) – 135500

The HB950 Hydraulic Breaker can be equipped with a lubrication system.

For installation, follow Figure 13. The hoses of the grease (input and output) must be connected to the greasing pump. For proper installation, please read and follow the manual supplied with the lubrication system.

P_{GREASE} = Grease

P_{OIL} = Pump Pressure

R_{OIL} = Pump Return

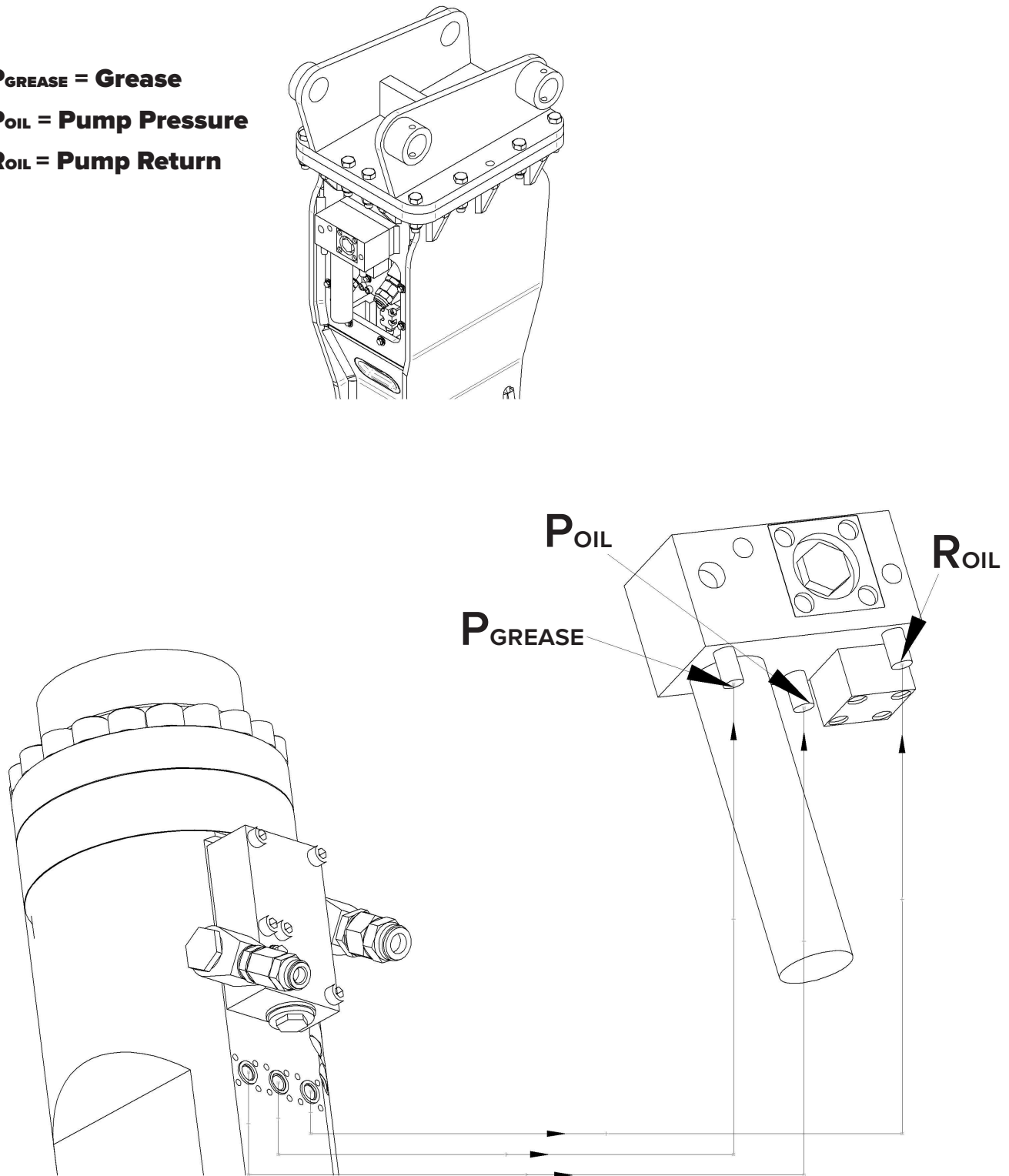


Figure 13

5. Maintenance

5.1 Service Schedule

DESCRIPTION	SERVICE PROCEDURES					
	Check	Clean	Lube	Change	Adjust	Drain
Every 2 Hours						
Tool			•			
Daily Maintenance (or every 8 hours)						
Hydraulic Fittings	•					
Hydraulic Hoses	•					
Hydraulic Oil	•					
Weekly Maintenance (or every 40 hours)						
Tool	•	•				
Tool Retainer Pin	•					
Tool Bushing	•					
All Hardware	•					

5. Maintenance

Proper and regular maintenance ensures a long life of the attachment, avoids failures, and saves time and repair costs.

Periodic inspections and maintenance operations described in this section must be performed by an operator in times and terms prescribed. Failure to comply with maintenance prescriptions can compromise the function and lifetime of the attachment, which will result in the warranty becoming void.

Repairs, maintenance, and modifications other than those mentioned in this manual should NOT be performed without consulting Blue Diamond® Product Support.

Wrong or inappropriate repairs or maintenance may generate abnormal operating conditions, equipment damage, and generate risks for the operator.



WARNING



AVOID SERIOUS INJURY OR DEATH

The following must always be performed prior to any adjustment being made:

- Always park on a flat, level surface.
- Lower lift arms, and place attachment flat on the ground.
- Place all controls in **NEUTRAL**.
- Engage the parking brake.
- Stop the engine, and remove the key.
- Wait for all moving parts to stop.
- Remove the connecting hoses between attachment and host machine.
- Set the parking stand.

SEE MACHINE'S OPERATOR'S MANUAL FOR ADDITIONAL INFORMATION.



WARNING



Never perform any maintenance on the Hydraulic Breaker or the hydraulic system when they are under pressure or at high temperatures.

5.2 Daily Maintenance

Lubrication



IMPORTANT



The Hydraulic Breaker must be lubricated at minimum every two (2) hours of operation. A proper quantity of grease must be used.

Only use grease that meets the following requirements:

- Resistant to high loads
- Water resistant, anti-rust, anti-corrosive
- NLGI-2 penetration
- Dripping point of 392 – 428°F (200 – 220°C)
- Temperature range up to 338 – 356°F (170 – 180°C)

It is recommended to only use grease provided by Blue Diamond® (PN 235610) grease for a longer life span of parts.

Inspection

	ITEMS
✓	Make sure that there are no oil leaks along the tool shank.
✓	Make sure that no cracks are evident on the frame or on the linking bracket.

Hydraulic Oil Temperature

Make sure that the temperature during operation does not exceed 176°F (80°C).

Higher temperature can cause an irregular working condition and the Hydraulic Breaker to stop.

Hydraulic Oil Levels

It is absolutely necessary to pay attention to the hydraulic oil level in the host machine's tank, especially excavators. If there is not enough oil, the Hydraulic Breaker can vibrate or work irregularly.

It is important to check the hydraulic hoses to find potential damage, kinks, crush points, or oil leaks.

5. Maintenance

5.3 Weekly Maintenance

Chipping or Cracks on the Tool or Pin

Take the tool out to determine possible chipping or cracks in the bushing and on the surface of the tool pin. (See “5.4 Tool Replacement” on page 23 for the removal and re-installation process.)

Use a sanding disc to polish the trimmings that can be seen on the surface between the tool and the retainer pin for the tool [Figure 14, Item B].

NOTE: Marks indicate insufficient lubrication, use of unsuitable oil, or improper use of the Hydraulic Breaker.

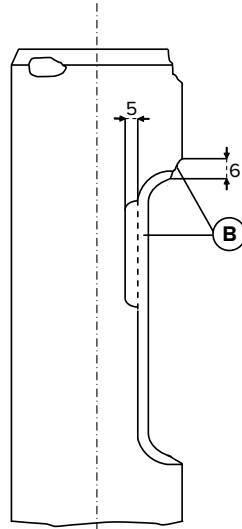


Figure 14

Retainer Pin Wear

Check the wear of the tool retainer pin; in case of excessive wear, invert or replace the pin.

Tool Bushings Wear

Check the wear on the tool bushings. If the inside diameter is bigger than the value indicated in “7.1 Attachment Specifications” on page 71, contact Blue Diamond® Product Support for assistance for changing the bushings.

Loosening Bolts

At regular intervals, check the possible loosening of bolts, particularly:

- Bolts fixing the head/bracket
- Bolts fixing the flanges/hose joints

5.4 Tool Replacement

Tool Removal



WARNING



Always wear proper heat resistant work gloves before replacing the tool. The tool does overheat during use.

1. Position the Hydraulic Breaker vertically, touching the ground [Figure 15]. Lift the Hydraulic Breaker up a few inches off the ground so that the excavator boom/skid steer mount supports the attachment's weight, but the tool is still making contact with the ground.



Figure 15

2. Press the retainer pin with a screwdriver so that the prominent part returns into its seat [Figure 16, Operation 1].
3. With a second screwdriver, press on the retainer pin for the tool and push it out until it can be removed with gloved hands [Operation 2].

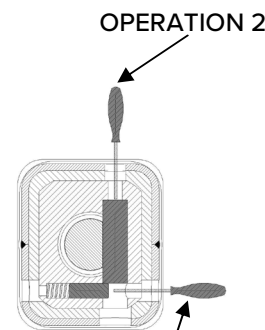


Figure 16

4. Enter the operator's position (see “Entering the Operator's Position” on page 13) and unblock the hydraulic system.

5. Maintenance

5.4 Tool Replacement Cont'd

Tool Removal Cont'd

5. Lift the Hydraulic Breaker vertically until the damaged tool slides out.

Tool Installation

1. Place the Hydraulic Breaker horizontally on the ground with the tool lined up in front of it.
2. Grease the part that must fit into the guide well.
3. Fit the tool end, the one with the retainer flat(s), into the guide manually. Two operators may be necessary if the tool weight exceeds 65 pounds (30 kg). Check the weight in "7.1 Attachment Specifications" on page 71.
4. Push from the other side, and fit the tool completely into the guide [Figure 17]. Rotate the tool so that its milled side sets parallel to the pin guide. Insert the tool retainer pin.

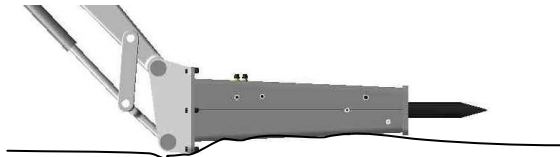


Figure 17

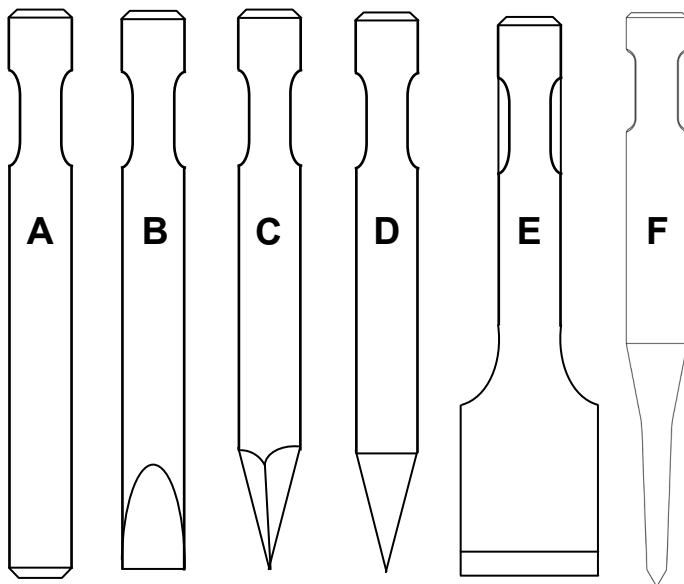


Figure 18

5.5 Tool Types & Uses

The end of the tool determines what type of tool it is. Various types of tools are capable of meeting the requirements for every kind of application.

Blunt Tool

The blunt tool [Figure 18, Item A] has a rounded end that is suitable for stone crushing. These are normally used on small and medium-sized Hydraulic Breakers.

Chisel Tool

The chisel tool [Item B] has a flat-head end that is suitable for general mining purposes. It is essential for demolitions where a high cutting capacity is required, such as walls, floors, reinforced concrete buildings, fixed section diggings, and stone excavations.

This tool is not suitable for crushing. This tool covers most applications on small and large Hydraulic Breakers.

Pyramid Tool

The pyramid tool [Item C] has a pyramid-shaped end that is suitable for purposes similar to the chisel tool. These are to be used on small Hydraulic Breakers.

Moil Tool

The moil tool [Item D] has a cone-shaped end that is suitable for the demolition of wall, non-reinforced concrete structures, stones, and fairly soft materials. These can be used on all Hydraulic Breakers.

Small Spade & Asphalt Cutter Tool

The small spade tool [Item E] and the asphalt cutter tool [Item F] are suitable for marking the limits of excavation areas. These can be used on small and medium Hydraulic Breakers.

5. Maintenance

5.5 Tool Types & Uses Cont'd

Post Driving Adapter (Not Shown)

The post driving adapter has a cupped end suitable for driving posts. It uses a shortened blunt bit to hammer the cup adapter and cables to keep the adapter in place. These can be used on small and medium Hydraulic Breakers.

5.6 Accumulator

The accumulator sits on top of the monoblock, sealing the inner parts of the Hydraulic Breaker. The accumulator is responsible for transmitting the stroke energy to the piston.

The accumulator is made of two (2) components: the cover and the base. The cover is connected to the base by short bolts while the accumulator is connected to the monoblock by long bolts.

The accumulator will need charged with nitrogen from time to time. The long screws will need to be removed in order to charge the accumulator or to remove the bushings and the piston.

Do not remove the short bolts as this will discharge the accumulator.

The following illustrations (Figure 19 – Figure 22) highlight the long screws, which are indicated by an “X”. Be sure to stand in front of the hose connection side to where the center holes, indicated by red circles, are perfectly aligned with the hose connection ports with the exception of the HB210.

For the HB210, the center holes, indicated by red circles, are perpendicular to the hose connection ports. See Figure 21.



IMPORTANT



Do not exceed the charging pressure stated for each model in the following table when filling the accumulator with nitrogen.

MODEL NUMBER	MODEL	CHARGING PRESSURE
135005	HB50	465 psi (32 bar)
135009	HB95	510 psi (35 bar)
135016	HB165	
135021	HB210	
135030	HB300	
135040	HB400	
135053	HB530	465 psi (32 bar)
135095	HB950	

HB50

All twelve (12) bolts have to be removed to take out the accumulator.

HB95 – HB950

The following patterns are viewed from the hose connection side of the Hydraulic Breaker.

HB95

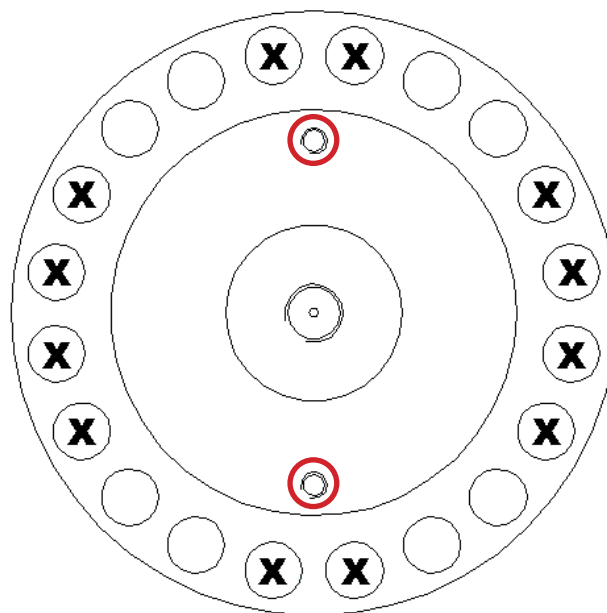


Figure 19

5. Maintenance

5.6 Accumulator Cont'd

HB95 – HB950 Cont'd

HB165

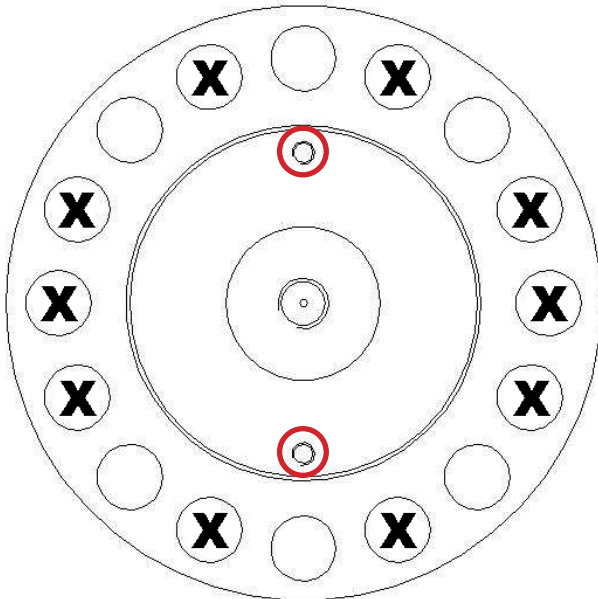


Figure 20

HB210

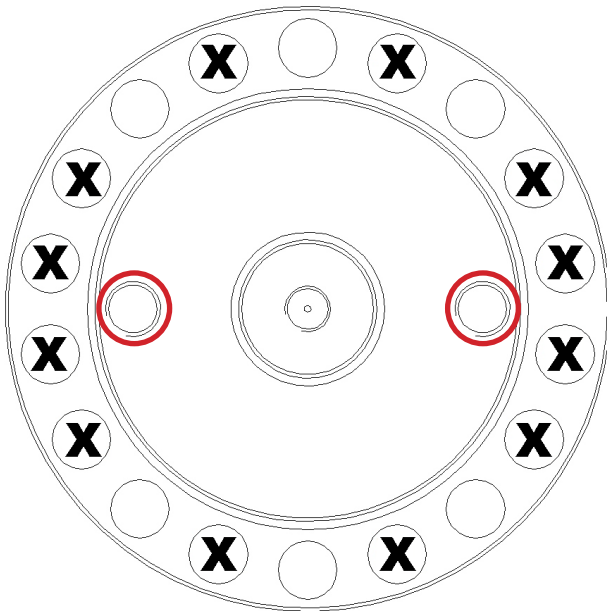


Figure 21

HB300, HB400, HB530, & HB950

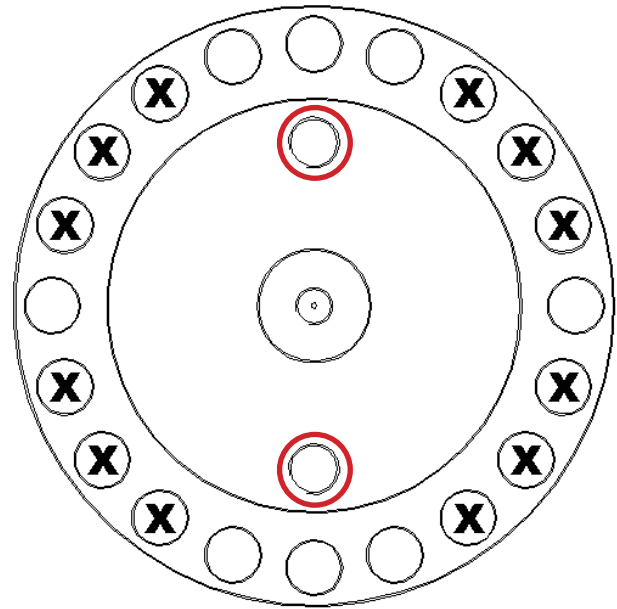


Figure 22

5.7 Spare Parts & Accessories

To maintain safety, performance, and product reliability, Blue Diamond® recommends the use of genuine Blue Diamond® replacement parts for all repairs and service.

Genuine Blue Diamond® parts are specifically designed and tested for your attachment. These components include critical items, such as hydraulic motors, cylinders, and structural weldments.

Use of non-genuine parts for components identified as Blue Diamond® OEM may affect product performance and could void applicable warranty coverage.

To obtain replacement parts, contact Blue Diamond® Product Support with the following information:

- Type of attachment
- Serial number
- Part number and/or description of part(s) needed
- Quantity of part(s) needed

5. Maintenance

5.8 Storage

Storage

Sometimes it may be necessary to store your Hydraulic Breaker for an extended period of time. Below is a list of items to perform before storage.

- Remove the tool, push the piston (with a tube) as high as possible, grease abundantly, and reinstall the tool. See Figure 23.

NOTE: This prevents the piston terminal from rusting.

- Make sure the hydraulic hose couplers are capped, plugged, or connected to each other.
- Thoroughly wash the attachment before storing it for long periods.
- Check for loose hardware, missing guards, or damaged parts.
- Check for damaged or missing decals. Replace if necessary.
- Replace worn or damaged parts.
- Place the attachment flat on the ground in a dry, protected shelter.

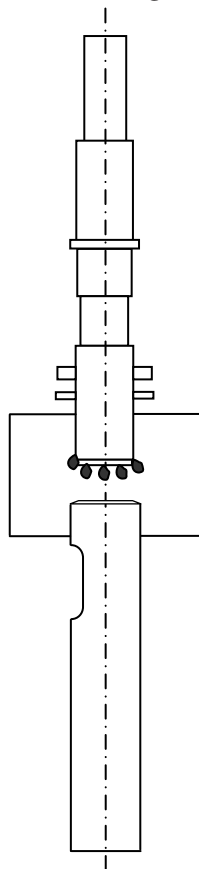


Figure 23

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.

Return to Service

After the Hydraulic Breaker has been in storage, it is necessary to follow a list of items to return the attachment to service.

- Lubricate the attachment.
- Connect and operate the attachment and check for correct function.
- Check for leaks. Repair as needed.

5.9 Instructions for Scrapping

The various materials making up the attachment must be demolished in appropriate dumping grounds.

See local, state, and federal laws where the attachment was used for correct disposal.

The main materials making up the Hydraulic Breaker are listed below:



WARNING



The accumulator contains nitrogen under pressure. Before scrapping, exhaust the nitrogen under pressure, which is in the accumulator, through the charging valve.

PART OF HYDRAULIC BREAKER	MATERIAL PART IS MADE OF
All components of the structure and moving parts	Steel
Accumulator Diaphragm	Rubber
Upper and Lower Stroke—End Stoppers	Synthetic Rubber
Seals & O-Rings	Rubber & Teflon
Soundproofing Materials	Synthetic Rubber

5. Maintenance

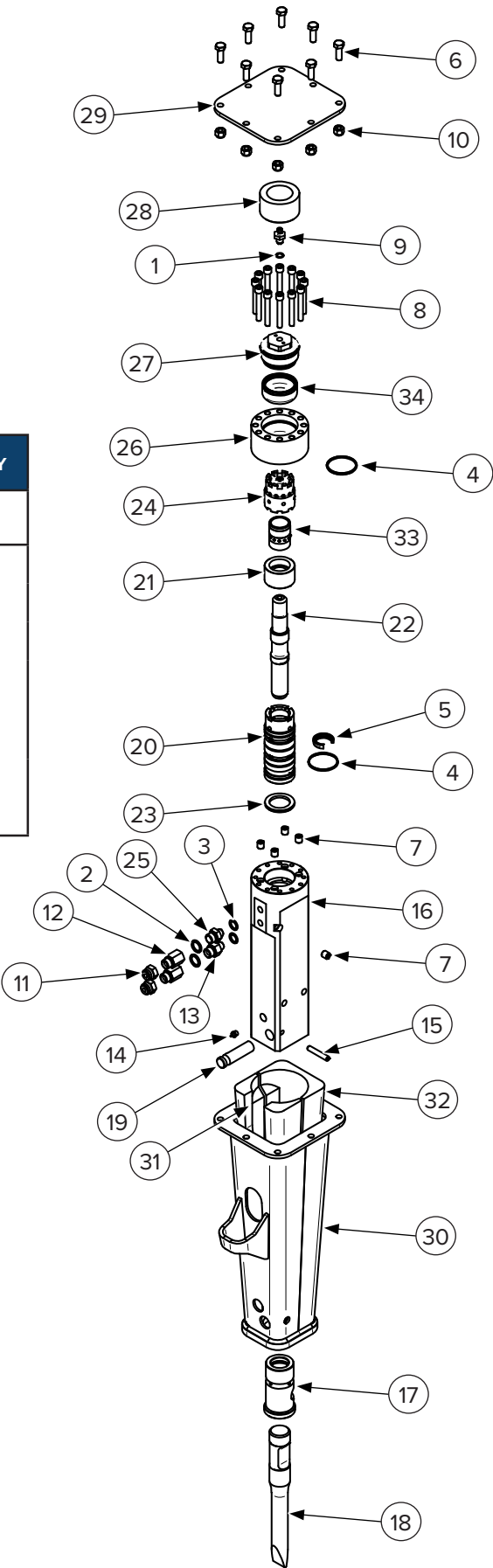
5.10 Troubleshooting

PROBLEM	CAUSE	SOLUTION
Frequency loss with heavy and violent blows.	Very high back pressures on the exhaust line	Check for blockages in the return line. Remove obstacles.
		Check if the filters are partially or completely blocked. Remove blockage.
		Check if the taps are partially or completely closed. Remove obstacles.
Even though Hydraulic Breaker is lifted, tool does not slide downward.	Insufficient greasing or dirt entered area between the bushing guides and the tool.	Take down the tool, check the bushing, and remove any seizing marks. Clean, grease, and reinstall the tool.
Hydraulic Breaker suddenly stops after four or five blows just after touching the ground surface.	Piston is at the bottom of the automatic brake, and tool is completely out	The material is unusually soft. The tool sticks out but does not go in again. The Hydraulic Breaker must be reloaded correctly, and the load must be kept constant. Improve operation by keep the Hydraulic Breaker as perpendicular to the surface as possible while operating.
Oil leaks from the hoses' connection block.	Damaged o-ring	Take down the block, and change the seals.
Oil leaks from the hoses.	Damaged hoses	Reinstall and replace the hose.
	Hose incorrectly installed and incorrectly tightened	Reinstall the hose correctly with proper tightness.
Hydraulic Breaker stops after a few blows even after being reinstalled.	Dirt entered Hydraulic Breaker through hose connections	Take down the Hydraulic Breaker; clean and replace the damaged components.
Oil is leaking from the tool.	Worn out seal and piston surface has marks	Replace the seals and any other damaged parts.
Hydraulic Breaker beats with a weak penetration force and high pressure hose has too many vibrations.	Accumulator lost the pre-charge or diaphragm is broken	Restore the correct pressure by charging the accumulator.
		Diaphragm may need to be replaced before restoring the correct nitrogen pressure.
Hydraulic Breaker increases the number of blows, but power decreases.	Tool support seal (support ring) worn out; piston shortens the stroke	Make sure the tool support seal (supporting ring) is intact. Proceed as follows: 1. Lay the Hydraulic Breaker on the ground, and trace a mark on the tool at the level of the bushing end. 2. Remove the tool, and make sure that the length between the mark and the plate at the end of the tool is lower or equivalent to the one indicated in "7.1 Attachment Specifications" on page 71. If it is longer, immediately replace the support seal (supporting ring).

6. Parts

6.1 Main Components – HB50

ITEM	PARTS NOT SHOWN INDIVIDUALLY	QTY
35	Hose Kit for Mini Skid Steer & Excavator (Includes 1/2" Couplers 224011 & 224012)	1
36	Mini Universal Mount	1
	Bobcat MT Mount	
	Blank Mount Plate	
	Bobcat E26 E32 E35 E42 E45 E48R2 E50 E55 E60 E63 325 328 329 331 334 335 337 341 425 428 430 435 Quick X- Change Mount	
	Bobcat E10 E14 E16 E17 E17Z E19 E20 E20Z 220 319 320 321 322 323 323J 324 418 9007 Pin On Mount	



6. Parts

6.1 Main Components – HB50 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
1	236504	O–Ring	1
2	235305	Bonded Washer for Hose Connection Nipple	2
3	236574	Bonded Washer	2
4	235229	O–Ring	2
5	235275	Seal	1
6	235276	Mounting Plate Bolt	8
7	235277	Plug	5
8	235278	Accumulator Base Bolt	12
9	235205	Gas Charging Valve	1
10	235267	M12 Mounting Plate Nylock Nut	8
11	235320	Hose Connection End Plug	2
12	235254	Coupling for Hose Connections	2
13	235255	Reducer Nipple for Lower Hose Connection	1
14	235279	Grease Nipple	1
15	235232	Tool Retainer Lock Pin	1
16	—	Monoblock	1
17	235280	Support Bushing	1
18	235000	Chisel Tool	1
	235001	Moil Tool	
	235002	Pyramid Tool	
	235003	Asphalt Cutter (Spade) Tool	
	235041	Post Driving Adapter for Posts up to 3.0" Round (Includes Blunt Bit, Cables, and Mounting Hardware)	
19	235234	Tool Retainer	1
20	235281	Lower Body Bushing	1
21	235233	Upper Body Bushing	1
22	235282	Piston	1
23	235231	Body Bushing Ring	1
24	235283	Distributor Bushing	1
25	235228	Reducer	1
26	—	Accumulator Base	1
27	—	Accumulator Cover	1
28	235284	Upper Buffer	1
29	235500	Adapting Plate	1
30	—	Metal Case	1
31	235286	Front Shell	1
32	235287	Back Shell	1
33	235288	Distributor Valve	1
34	235289	Diaphragm	1

6. Parts

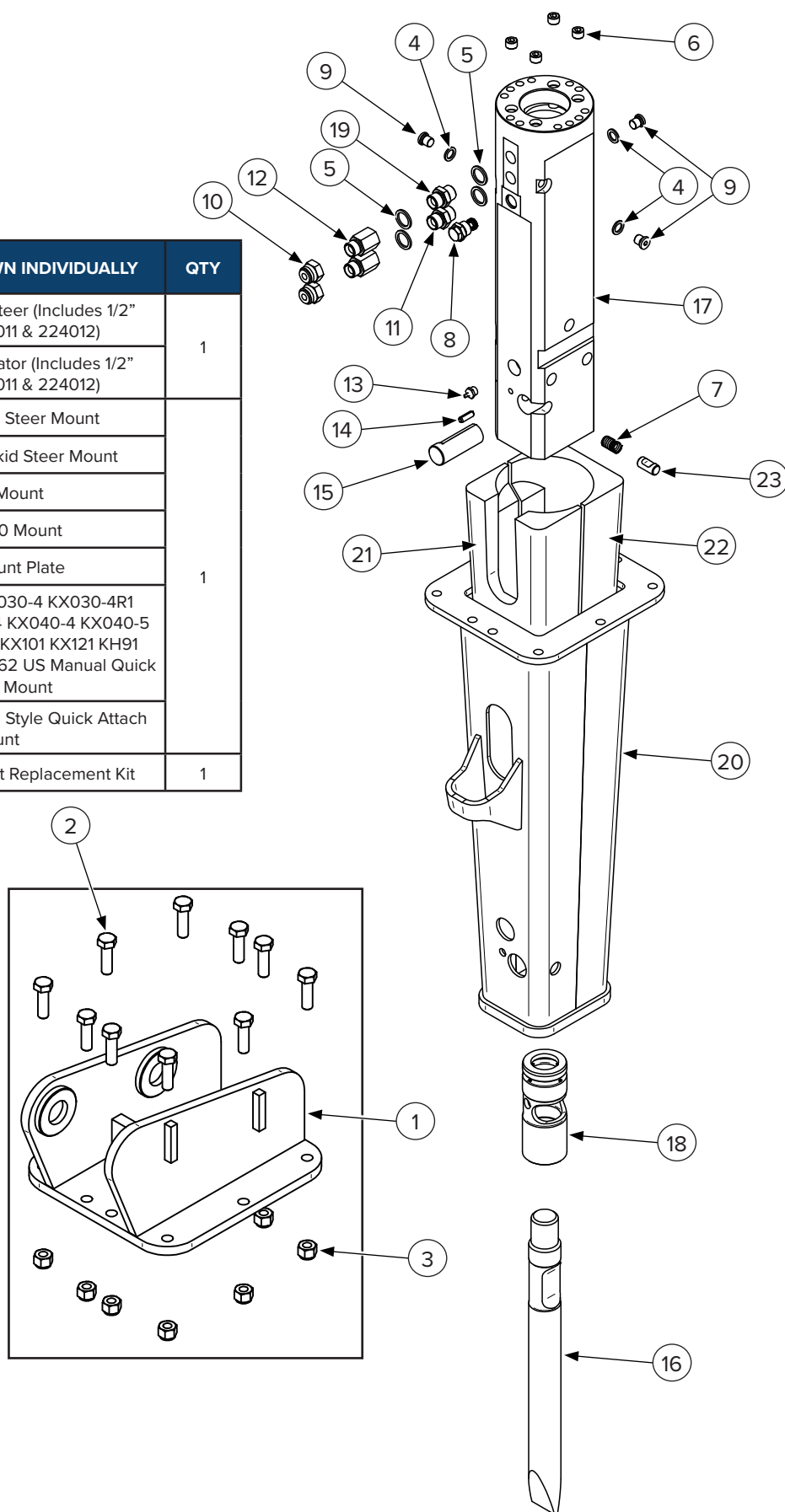
6.1 Main Components – HB50 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
35	135405	Hose Kit for Mini Skid Steer & Excavator (Includes 1/2" Couplers 224011 & 224012)	1
36	135205-25	Mini Universal Skid Steer Mount	1
	135205-26	Bobcat MT Mount	
	235500	Blank Mount Plate	
	800023-HB50	Bobcat E26 E32 E35 E42 E45 E48R2 E50 E55 E60 E63 325 328 329 331 334 335 337 341 425 428 430 435 Quick X-Change Mount	
	800029-HB50	Bobcat E10 E14 E16 E17 E17Z E19 E20 E20Z 220 319 320 321 322 323 323J 324 418 9007 Pin On Mount	

6. Parts

6.2 Main Components – HB95

ITEM	PARTS NOT SHOWN INDIVIDUALLY	QTY
24	Hose Kit for Skid Steer (Includes 1/2" Couplers 224011 & 224012)	1
	Hose Kit for Excavator (Includes 1/2" Couplers 224011 & 224012)	
25	Universal Skid Steer Mount	1
	Mini Universal Skid Steer Mount	
	Avant Mount	
	ASV RC30 Mount	
	Blank Mount Plate	
	Kubota KX030 KX030-4 KX030-4R1 KX030-4R3 KX033-4 KX040-4 KX040-5 KX71-3 KX90 KX91 KX101 KX121 KH91 U35-4R1 U35S L47 M62 US Manual Quick Coupler Mount	
	John Deere 17D ZTS Style Quick Attach Mount	
46	Mount Bolt and Nut Replacement Kit	1



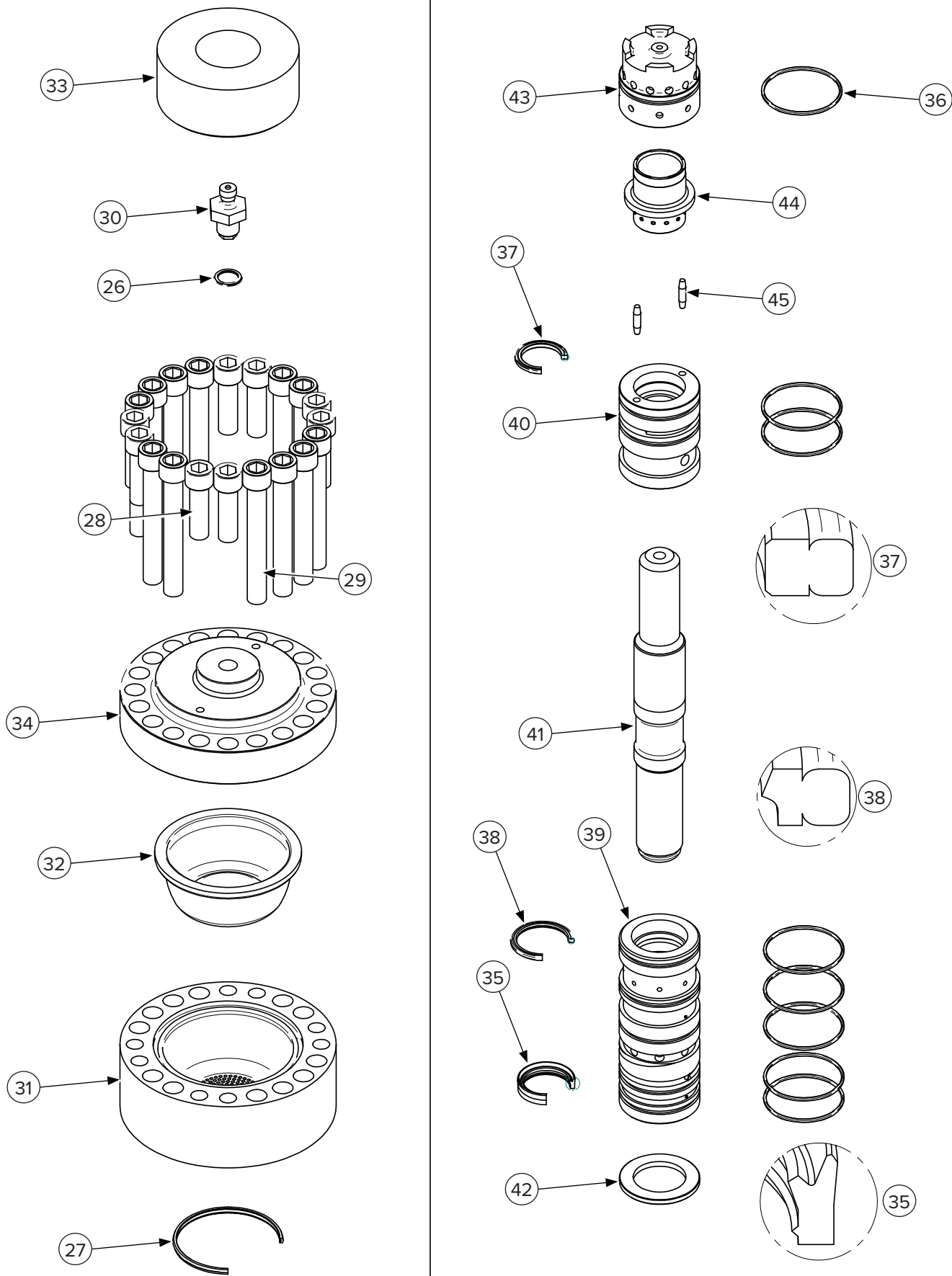
6. Parts

6.2 Main Components – HB95 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
1	—	Adapting Plate	1
2	235266	M12 x 40 Mounting Plate Bolt	10
3	235267	M12 Mounting Plate Nylock Nut	10
4	235252	Bonded Washer for Hose Connection	3
5	235305	Bonded Washer for Hose Connection Nipple	4
6	235263	Allen Plug	4
7	235247	Spring	1
8	235253	Unidirectional Valve	1
9	235257	Plug for Monoblock	3
10	235320	Hose Connection End Plug	2
11	235325	Hose Outlet Base Nipple	1
12	235254	Coupling for Hose Connections	2
13	236591	Grease Nipple	1
14	235248	Elastic Pin	1
15	235256	Tool Retainer	1
16	235004	Blunt Tool	1
	235005	Chisel Tool	
	235006	Moil Tool	
	235007	Pyramid Tool	
	235038	Asphalt Cutter (Spade) Tool	
	235043	Post Driving Adapter for Posts up to 3.6" Round (Includes Blunt Bit, Cables, and Mounting Hardware)	
17	—	Monoblock	1
18	235258	Internal Support Bushing	1
19	235290	Nipple	1
20	—	Metal Case	1
21	235101	Front Shell	1
22	235102	Back Shell	1
23	235249	Tool Retainer Pin	1
24	135425	Hose Kit for Skid Steer (Includes 1/2" Couplers 224011 & 224012)	1
	135405	Hose Kit for Excavator (Includes 1/2" Couplers 224011 & 224012)	
25	135209	Universal Skid Steer Mount	1
	135209-25	Mini Universal Skid Steer Mount	
	135209-35	Avant Mount	
	135209-36	ASV RC30 Mount	
	235505	Blank Mount Plate	
	800045-HB95	Kubota KX030 KX030-4 KX030-4R1 KX030-4R3 KX033-4 KX040-4 KX040-5 KX71-3 KX90 KX91 KX101 KX121 KH91 U35-4R1 U35S L47 M62 US Manual Quick Coupler Mount	
	800618-HB95	John Deere 17D ZTS Style Quick Attach Mount	
46	235265	Mount Bolt and Nut Replacement Kit	1

6. Parts

6.3 Internal Components – HB95



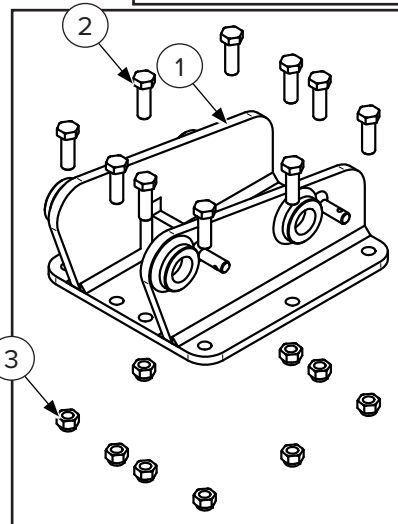
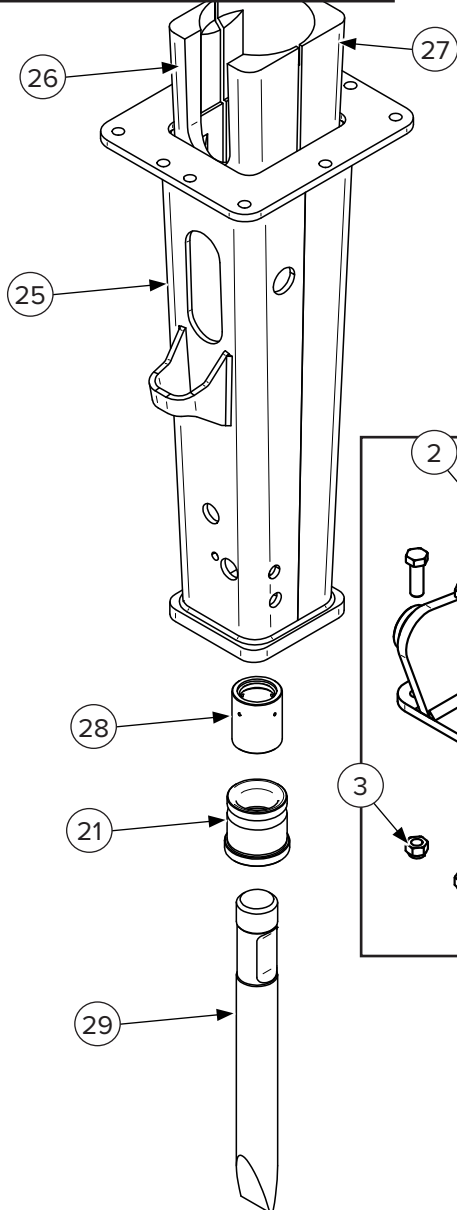
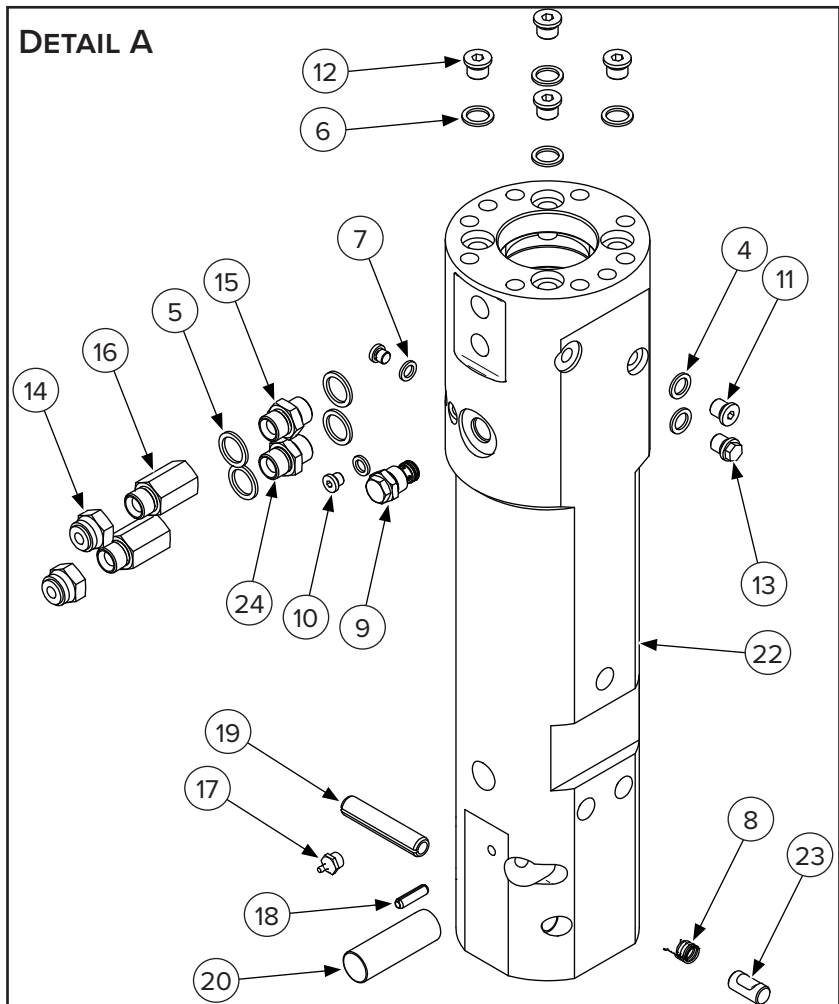
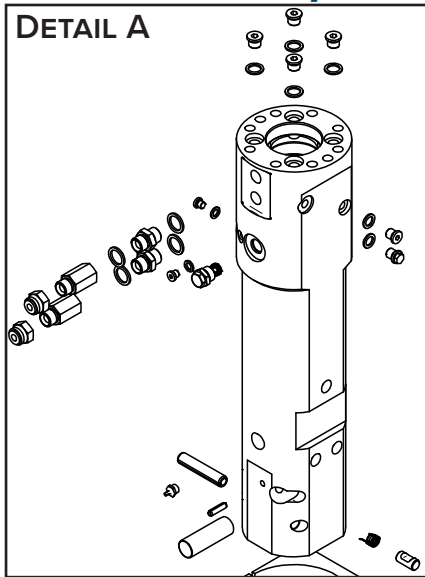
6. Parts

6.3 Internal Components – HB95 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
26	236504	O-Ring	1
27	235268	Seal	1
28	—	Screw (Short)	8
29	—	Screw (Long)	12
30	235205	Gas Charging Valve	1
31	—	Accumulator Base	1
32	235262	Diaphragm	1
33	235269	Upper Buffer	1
34	—	Accumulator Cover	1
35	235271	Lower Body Bushing Seal	1
36	235272	Piston O-Ring	8
37	235273	Central Body Bushing Seal	1
38	235274	Lower Body Bushing Upper Seal	1
39	235259	Lower Body Bushing	1
40	—	Upper Body Bushing	1
41	235260	Piston	1
42	—	Body Bushing Ring	1
43	—	Distributor Bushing	1
44	—	Distributor Valve	1
45	—	Piloting Piston	2

6. Parts

6.4 Main Components – HB165



ITEM	PARTS NOT SHOWN INDIVIDUALLY	QTY
30	Hose Kit for Skid Steer (Includes 1/2" Couplers 224011 & 224012)	1
	Hose Kit for Excavator (Includes 1/2" Couplers 224011 & 224012)	
31	Universal Skid Steer Mount	1
	Mini Universal Skid Steer Mount	
	Bobcat MT Mount	
	ASV RC30 Mount	
	Blank Mount Plate	
	CAT 303CR 303C-CR 303E-CR 303.5 303.5C-CR 303.5D-CR 303.5E-CR 304D-CR 304R-CR 304E2 Mount	
	John Deere 27CTZS 26G 27D 27G 27ZTS 30G 30P 35CZTS 35D 35G 35P 35ZTS Hitachi EX35U ZX36-5 ZX26-6 ZX27U ZX27U-2 ZX27U-3 ZX30-5 ZX35U-2 ZX35U-3 ZX35U-5 ZTS Wedge Style Coupler Mount	
54	John Deere 25D 27ZTS 27CZTS 27D 27G Hitachi ZAXIS27U ZAXIS27U-2 ZAXIS27U-3 Pin On Mount	1
	Mount Bolt and Nut Replacement Kit	

6. Parts

6.4 Main Components – HB165 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
1	—	Adapting Plate	1
2	251163	Mounting Plate Bolt	1
3	251169	Mounting Plate Nut	1
4	235252	Bonded Washer for Hose Connection	2
5	235305	Bonded Washer for Hose Connection Nipple	4
6	236574	Bonded Washer	4
7	236561	Bonded Washer	2
8	235247	Spring	1
9	235253	Unidirectional Valve	1
10	236563	Plug	2
11	235257	Plug for Monoblock	1
12	236585	Plug	4
13	235315	Hose Inlet Base Plug	1
14	235320	Hose Connection End Plug	2
15	235325	Hose Outlet Base Nipple	1
16	235254	Coupling for Hose Connections	2
17	236591	Grease Nipple	1
18	—	Elastic Pin	1
19	—	Elastic Pin	1
20	235085	Tool Retainer	1
21	235379	External Support Bushing	1
22	—	Monoblock	1
23	—	Tool Retainer Pin	1
24	—	Nipple	1
25	—	Metal Case	1
26	235374	Front Shell	1
27	235375	Back Shell	1
28	235378	Internal Bushing	1
29	235010	Chisel Tool	1
	235011	Moil Tool	
	235012	Pyramid Tool	
	235013	Blunt Tool	
	235048	Post Driving Adapter for Posts up to 4.4" Round (Includes Blunt Bit, Cables, and Mounting Hardware)	

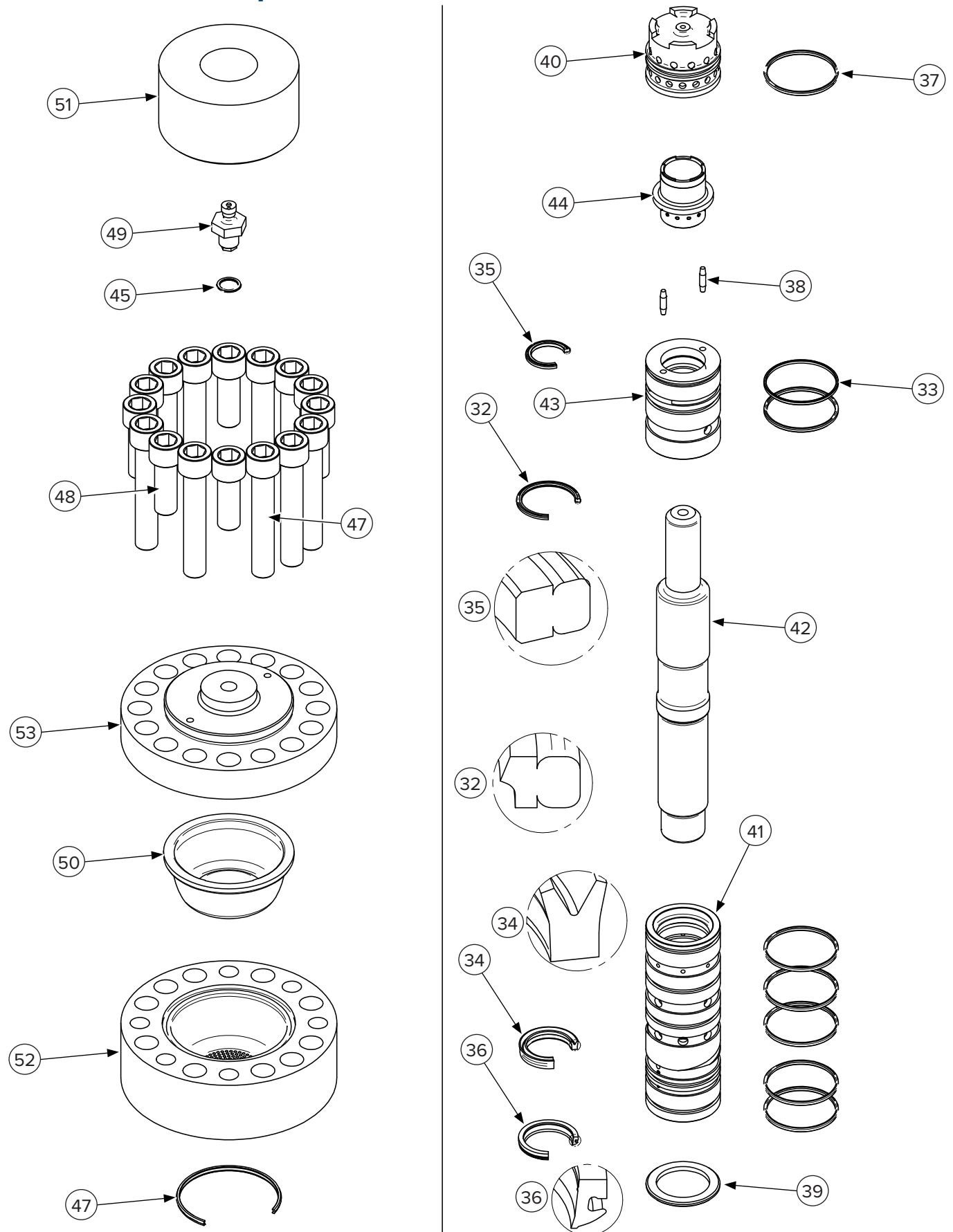
6. Parts

6.4 Main Components – HB165 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
30	135425	Hose Kit for Skid Steer (Includes 1/2" Couplers 224011 & 224012)	1
	135405	Hose Kit for Excavator (Includes 1/2" Couplers 224011 & 224012)	
31	135212	Universal Skid Steer Mount	1
	135212-25	Mini Universal Skid Steer Mount	
	135212-26	Bobcat MT Mount	
	135212-36	ASV RC30 Mount	
	235510	Blank Mount Plate	
	800039-HB165	CAT 303CR 303C-CR 303E-CR 303.5 303.5C-CR 303.5D-CR 303.5E-CR 304D-CR 304R-CR 304E2 Mount	
	800617-HB165	John Deere 27CTZS 26G 27D 27G 27ZTS 30G 30P 35CZTS 35D 35G 35P 35ZTS Hitachi EX35U ZX36-5 ZX26-6 ZX27U ZX27U-2 ZX27U-3 ZX30-5 ZX35U-2 ZX35U-3 ZX35U-5 ZTS Wedge Style Coupler Mount	
	800619-HB165	John Deere 25D 27ZTS 27CZTS 27D 27G Hitachi ZAXIS27U ZAXIS27U-2 ZAXIS27U-3 Pin On Mount	
54	235373	Mount Bolt and Nut Replacement Kit	1

6. Parts

6.5 Internal Components – HB165



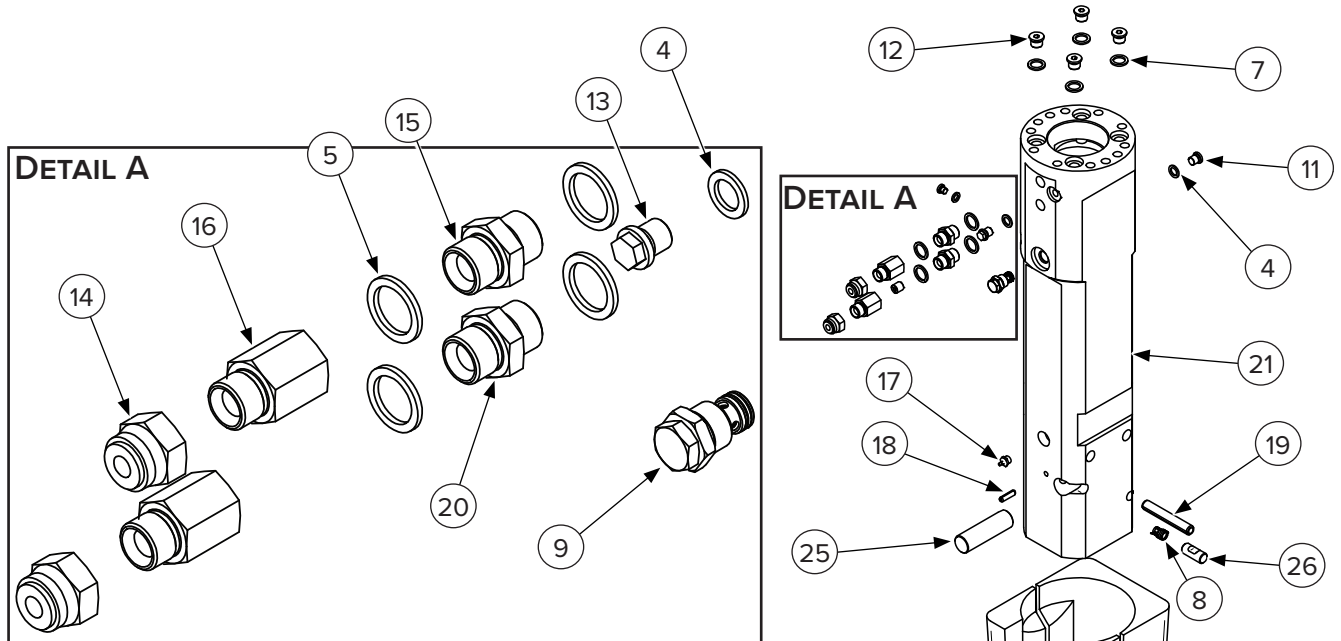
6. Parts

6.5 Internal Components – HB165 Cont'd

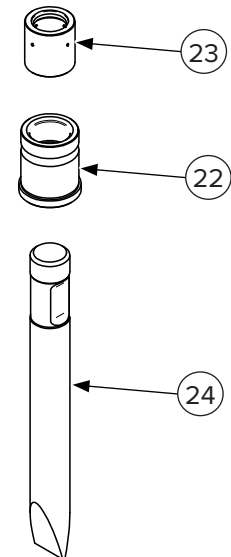
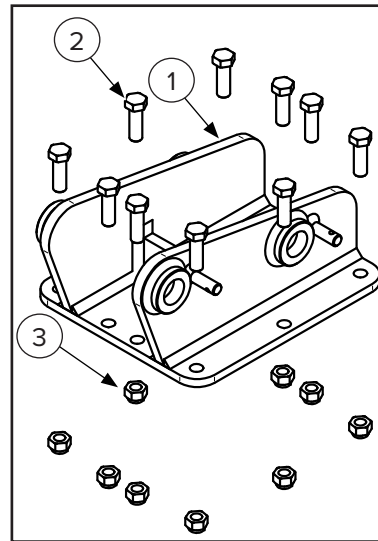
ITEM	PART NUMBER	DESCRIPTION	QTY
32	—	Seal	1
33	—	O-Ring	1
34	—	Seal	1
35	235273	Central Body Bushing Seal	1
36	—	Seal	1
37	—	O-Ring	7
38	—	Piloting Piston	2
39	—	Body Bushing Ring	1
40	—	Distributor Bushing	1
41	235371	Lower Body Bushing	1
42	235372	Piston	1
43	—	Upper Body Bushing	1
44	—	Distributor Valve	1
45	236504	O-Ring	1
46	—	Seal	1
47	—	Screw (Long)	10
48	—	Screw (Short)	6
49	235205	Gas Charging Valve	1
50	235262	Diaphragm	1
51	—	Upper Buffer	1
52	—	Accumulator Base	1
53	—	Accumulator Cover	1

6. Parts

6.6 Main Components – HB210



ITEM	PARTS NOT SHOWN INDIVIDUALLY	QTY
30	Hose Kit for Skid Steer (Includes 1/2" Couplers 224011 & 224012)	1
	Hose Kit for Excavator (Includes 1/2" Couplers 224011 & 224012)	
31	Universal Skid Steer Mount	1
	Mini Universal Skid Steer Mount	
	Blank Mount Plate	
	John Deere 50G 50P 60G 60P QC ZTS Hitachi ZX50U Mount for Quick Coupler	
	Bobcat E26 E32 E35 E42 E45 E48R2 E50 E55 E60 E63 325 328 329 331 334 335 337 341 425 428 430 435 Quick X- Change Mount	
31	CAT 303CR 303C-CR 303E-CR 303.5 303.5C-CR 303.5D-CR 303.5E-CR 304D- CR 304E-CR 304E2-CR 304 Mount with Pins and Skid Steer Adapter	1
	Kubota KX030 KX030-4 KX030-4R1 KX030-4R3 KX033-4 KX040-4 KX040-5 KX71-3 KX90 KX91 KX101 KX121 KH91 U35-4R1 U35S L47 M62 US Manual Quick Coupler Mount	
	Wacker Neuson 28Z3 38Z3 3003 3503 3503VDS 3703 EZ20 EZ26 EZ28 EZ36 EZ38 Gehl 283Z 303 353 373 383Z 3003 3503 ME3003 Mustang 2803ZT 3803ZT ME3003 ME3503 ME3503B ME3703 Pin On Mount	
	John Deere 27CZTS 26G 27D 27G 27ZTS 30G 30P 35CZTS 35D 35G 35P 35ZTS Hitachi EX35U ZX26-5 ZX26-6 ZX27U ZX27U-3 ZX30-5 ZX35U-2 ZX35U-3 ZX35U-5 ZTS Wedge Style Coupler Mount	
55	Mount Bolt and Nut Replacement Kit	1



6. Parts

6.6 Main Components – HB210 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
1	—	Adapting Plate	1
2	251163	Mount Plate Bolt	10
3	251169	Mount Plate Nut	10
4	235252	Bonded Washer for Hose Connection	2
5	235305	Bonded Washer Hose Connection Nipple	4
6	236561	Bonded Washer	1
7	235353	Bonded Washer	4
8	235247	Spring	1
9	235253	Unidirectional Valve	1
10	236563	Plug	1
11	235257	Plug for Monoblock	1
12	235376	Plug	4
13	235315	Hose Inlet Base Plug	1
14	235320	Hose Connection End Plug	2
15	235325	Hose Outlet Base Nipple	1
16	235254	Coupling for Hose Connections	2
17	236591	Grease Nipple	1
18	—	Elastic Pin	1
19	235081	Elastic Pin	1
20	—	Nipple	1
21	—	Monoblock	1
22	235087	External Support Bushing	1
23	235088	Internal Support Bushing	1
24	235015	Chisel Tool	1
	235016	Moil Tool	
	235017	Pyramid Tool	
	235018	Blunt Tool	
	235019	Post Driving Adapter for Posts up to 5.5" Round (Includes Blunt Bit, Cables, and Mounting Hardware)	
25	235082	Tool Retainer	1
26	—	Elastic Pin	1
27	—	Metal Case	1
28	235089	Front Shell	1
29	235090	Back Shell	1

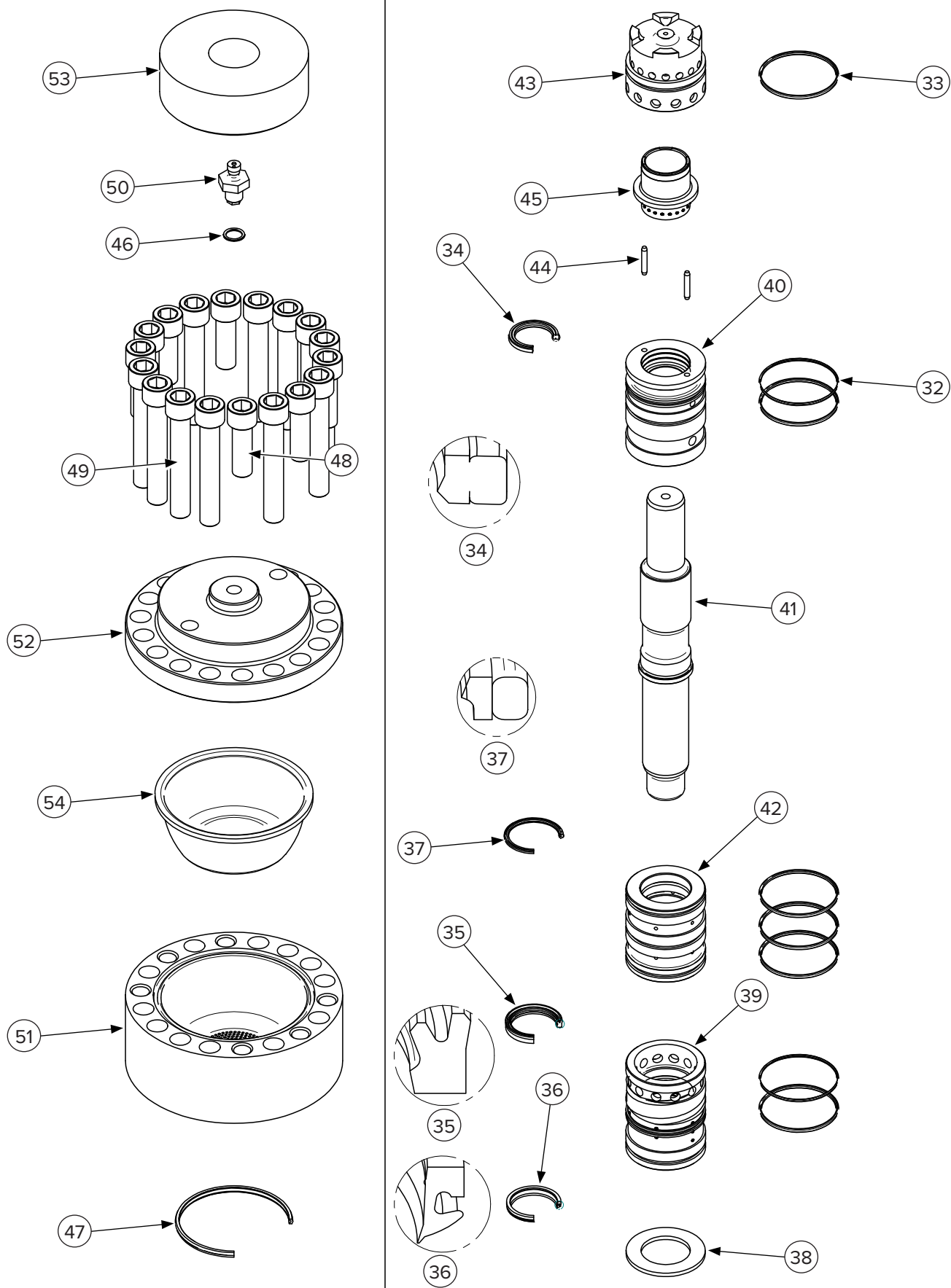
6. Parts

6.6 Main Components – HB210 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
30	135425	Hose Kit for Skid Steer (Includes 1/2" Couplers 224011 & 224012)	1
	135405	Hose Kit for Excavator (Includes 1/2" Couplers 224011 & 224012)	
31	135220	Universal Skid Steer Mount	1
	135220-25	Mini Universal Skid Steer Mount	
	235515	Blank Mount Plate	
	800008-HB210	John Deere 50G 50P 60G 60P QC ZTS Hitachi ZX50U Mount for Quick Coupler	
	800023-HB210	Bobcat E26 E32 E35 E42 E45 E48R2 E50 E55 E60 E63 325 328 329 331 334 335 337 341 425 428 430 435 Quick X-Change Mount	
	800039-HB210-SS	CAT 303CR 303C-CR 303E-CR 303.5 303.5C-CR 303.5D-CR 303.5E-CR 304D-CR 304E-CR 304E2-CR 304 Mount with Pins and Skid Steer Adapter	
	800045-HB210	Kubota KX030 KX030-4 KX030-4R1 KX030-4R3 KX033-4 KX040-4 KX040-5 KX71-3 KX90 KX91 KX101 KX121 KH91 U35-4R1 U35S L47 M62 US Manual Quick Coupler Mount	
	800150-HB210	Wacker Neuson 28Z3 38Z3 3003 3503 3503VDS 3703 EZ20 EZ26 EZ28 EZ36 EZ38 Gehl 283Z 303 353 373 383Z 3003 3503 ME3003 Mustang 2803ZT 3803ZT ME3003 ME3503 ME3503B ME3703 Pin On Mount	
	800617-HB210	John Deere 27CZTS 26G 27D 27G 27ZTS 30G 30P 35CZTS 35D 35G 35P 35ZTS Hitachi EX35U ZX26-5 ZX26-6 ZX27U ZX27U-3 ZX30-5 ZX35U-2 ZX35U-3 ZX35U-5 ZTS Wedge Style Coupler Mount	
55	235373	Mount Bolt and Nut Replacement Kit	1

6. Parts

6.7 Internal Components – HB210



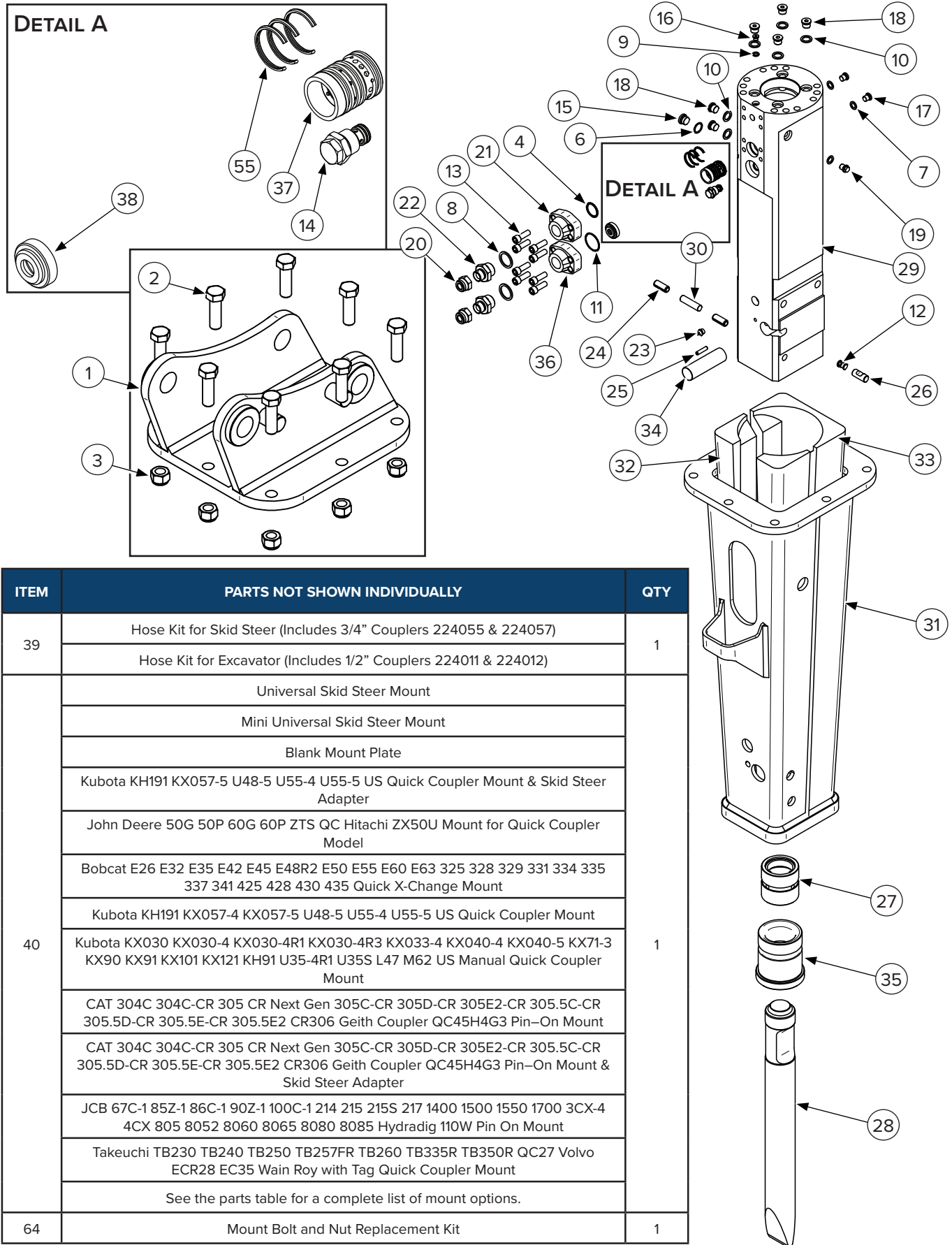
6. Parts

6.7 Internal Components – HB210 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
32	235070	Upper Body Bushing O–Ring	2
33	235071	Distributor Bushing O–Ring	6
34	235072	Upper Body Bushing Seal	1
35	235073	Lower Body Bushing Upper Seal	1
36	235074	Lower Body Bushing Lower Seal	1
37	235075	Central Body Bushing Seal	1
38	235077	Body Bushing Ring	1
39	235078	Lower Body Bushing	1
40	—	Upper Body Bushing	1
41	235079	Piston	1
42	235080	Central Body Bushing	1
43	—	Distributor Bushing	1
44	235237	Piloting Piston	2
45	235236	Distributor Valve	1
46	236504	O–Ring	1
47	235076	Accumulator Base Seal	1
48	—	Screw (Short)	6
49	—	Screw (Long)	12
50	235205	Gas Charging Valve	1
51	—	Accumulator Base	1
52	—	Accumulator Cover	1
53	—	Upper Buffer	1
54	235086	Diaphragm	1

6. Parts

6.8 Main Components – HB300



6. Parts

6.8 Main Components – HB300 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
1	—	Adapting Plate	1
2	—	Mount Plate Bolt	8
3	—	Mount Plate Nut	8
4	235071	O—Ring	1
5	—	Seal	3
6	236570	Bonded Washer	1
7	235252	Bonded Washer for Hose Connection	3
8	236534	1.0" Bonded Washer	2
9	236561	Bonded Washer	1
10	235353	Bonded Washer	6
11	—	Seal	1
12	235247	Spring	1
13	—	Screw	8
14	235253	Unidirectional Valve	1
15	236582	Plug	1
16	236563	Plug	1
17	235257	Plug for Monoblock	2
18	235376	Plug	6
19	235315	Hose Inlet Base Plug	1
20	235362	Plug	2
21	235220	Flange	1
22	235238	Breaker to Hose Adapter Fitting	2
23	236591	Grease Nipple	1
24	235122	Elastic Pin	2
25	—	Elastic Pin	1
26	235116	Tool Retainer Pin	1
27	235367	Internal Support Bushing	1
28	235020	Chisel Tool	1
	235021	Moil Tool	
	235022	Pyramid Tool	
	235023	Blunt Tool	
	235024	Parallel Asphalt Cutter (Spade) Tool	
	235014	Post Driving Adapter for Posts up to 5.9" Round (Includes Blunt Bit, Cables, and Mounting Hardware)	
29	—	Monoblock	1
30	235242	Stopper (Locking Pin)	1
31	—	Metal Case	1
32	—	Front Shell	1
33	—	Back Shell	1

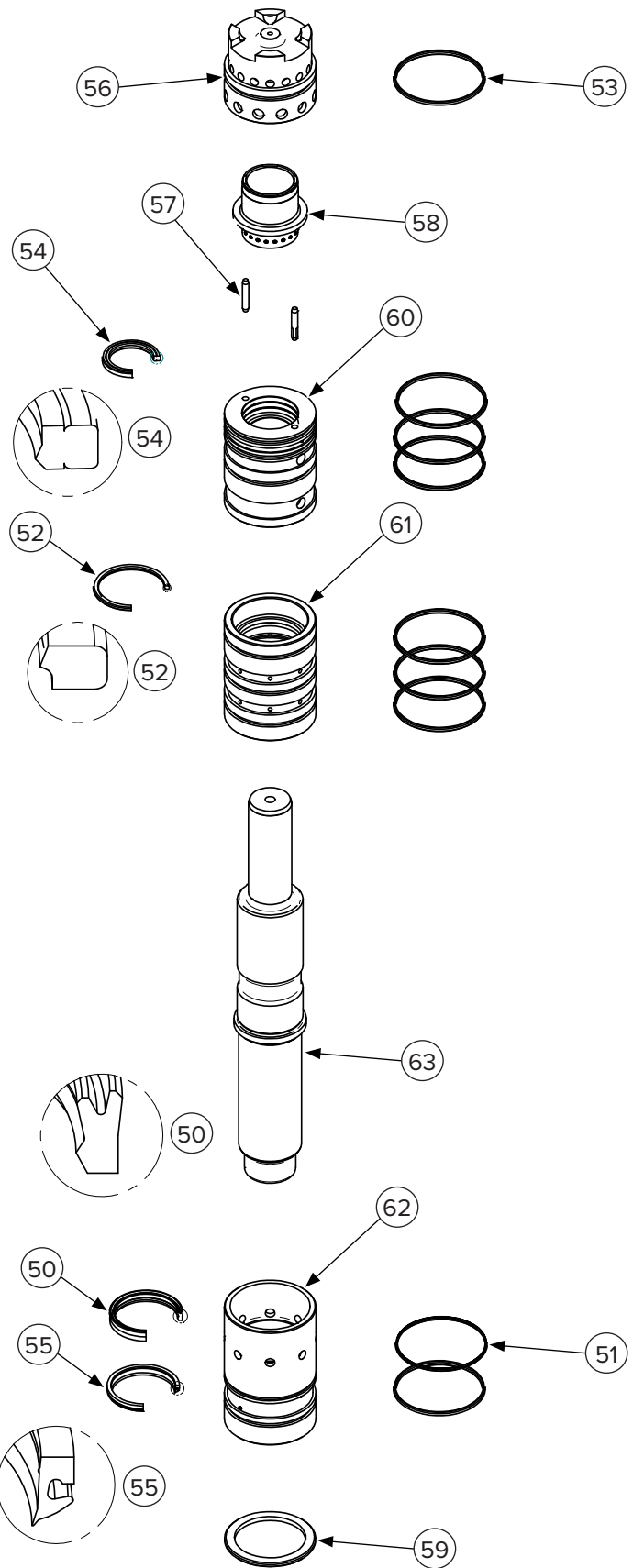
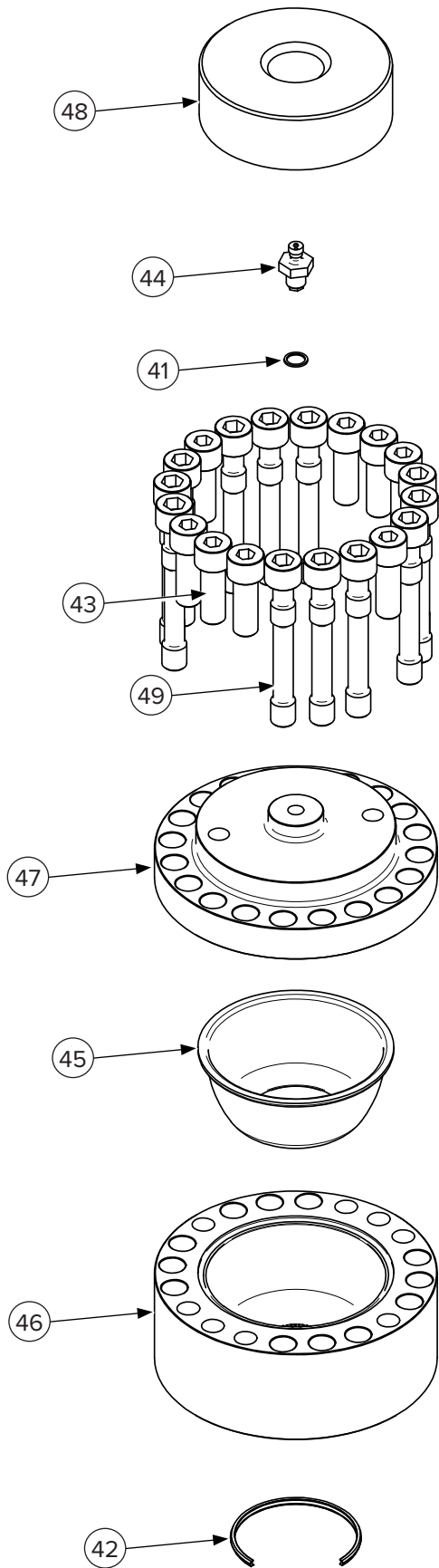
6. Parts

6.8 Main Components – HB300 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
34	235115	Tool Retainer	1
35	235377	External Support Bushing	1
36	—	Flange	1
37	235245	Valve Bushing	1
38	235246	Valve Plug	1
39	135430	Hose Kit for Skid Steer (Includes 3/4" Couplers 224055 & 224057)	1
	135410	Hose Kit for Excavator (Includes 1/2" Couplers 224011 & 224012)	
40	135230	Universal Skid Steer Mount	1
	135232	Mini Universal Skid Steer Mount	
	235525	Blank Mount Plate	
	800035-HB300-SS	Kubota KH191 KX057-5 U48-5 U55-4 U55-5 US Quick Coupler Mount & Skid Steer Adapter	
	800008-HB300	John Deere 50G 50P 60G 60P ZTS QC Hitachi ZX50U Mount for Quick Coupler Model	
	800023-HB300	Bobcat E26 E32 E35 E42 E45 E48R2 E50 E55 E60 E63 325 328 329 331 334 335 337 341 425 428 430 435 Quick X-Change Mount	
	800035-HB300	Kubota KH191 KX057-4 KX057-5 U48-5 U55-4 U55-5 US Quick Coupler Mount	
	800045-HB300	Kubota KX030 KX030-4 KX030-4R1 KX030-4R3 KX033-4 KX040-4 KX040-5 KX71-3 KX90 KX91 KX101 KX121 KH91 U35-4R1 U35S L47 M62 US Manual Quick Coupler Mount	
	800050-HB300	CAT 304C 304C-CR 305 CR Next Gen 305C-CR 305D-CR 305E2-CR 305.5C-CR 305.5D-CR 305.5E-CR 305.5E2 CR306 Geith Coupler QC45H4G3 Pin-On Mount	
	800050-HB300-SS	CAT 304C 304C-CR 305 CR Next Gen 305C-CR 305D-CR 305E2-CR 305.5C-CR 305.5D-CR 305.5E-CR 305.5E2 CR306 Geith Coupler QC45H4G3 Pin-On Mount & Skid Steer Adapter	
	800093-HB300	JCB 67C-1 85Z-1 86C-1 90Z-1 100C-1 214 215 215S 217 1400 1500 1550 1700 3CX-4 4CX 805 8052 8060 8065 8080 8085 Hydradig 110W Pin On Mount	
	800107-HB300	Takeuchi TB230 TB240 TB250 TB257FR TB260 TB335R TB350R QC27 Volvo ECR28 EC35 Wain Roy with Tag Quick Coupler Mount	
	800160-HB300	Gehl Z45 Z55 Yanmar B5 B6 SV60 VIO40 VIO40-2 VIO45 VIO45-5 VIO45-5B VIO50 VIO50-2 VIO50-6A VIO55 VIO55-5 VIO55-5B VIO55-6A John Deere 50 Mustang 450Z Pin On Mount	
	800603-HB300	John Deere 50C ZTS 50D 50G Pin On 50ZTS Hitachi EX40-2 EX45-2 EX50U U50-3 ZAXIS 50 ZAXIS 50U-3 ZAXIS 50U-2 Pin On Mount	
	800805-HB300	Hyundai 60-9S 60W-9S HW60 HX60 R55-7 R55-7A R55-9 R55-9A R55W-7 R55W-7A R55W-9 R60CR-9 R60CR-9A Case CX57C CX60C New Holland E57C E60C Pin On Mount	
64	235239	Mount Bolt and Nut Replacement Kit	1

6. Parts

6.9 Internal Components – HB300



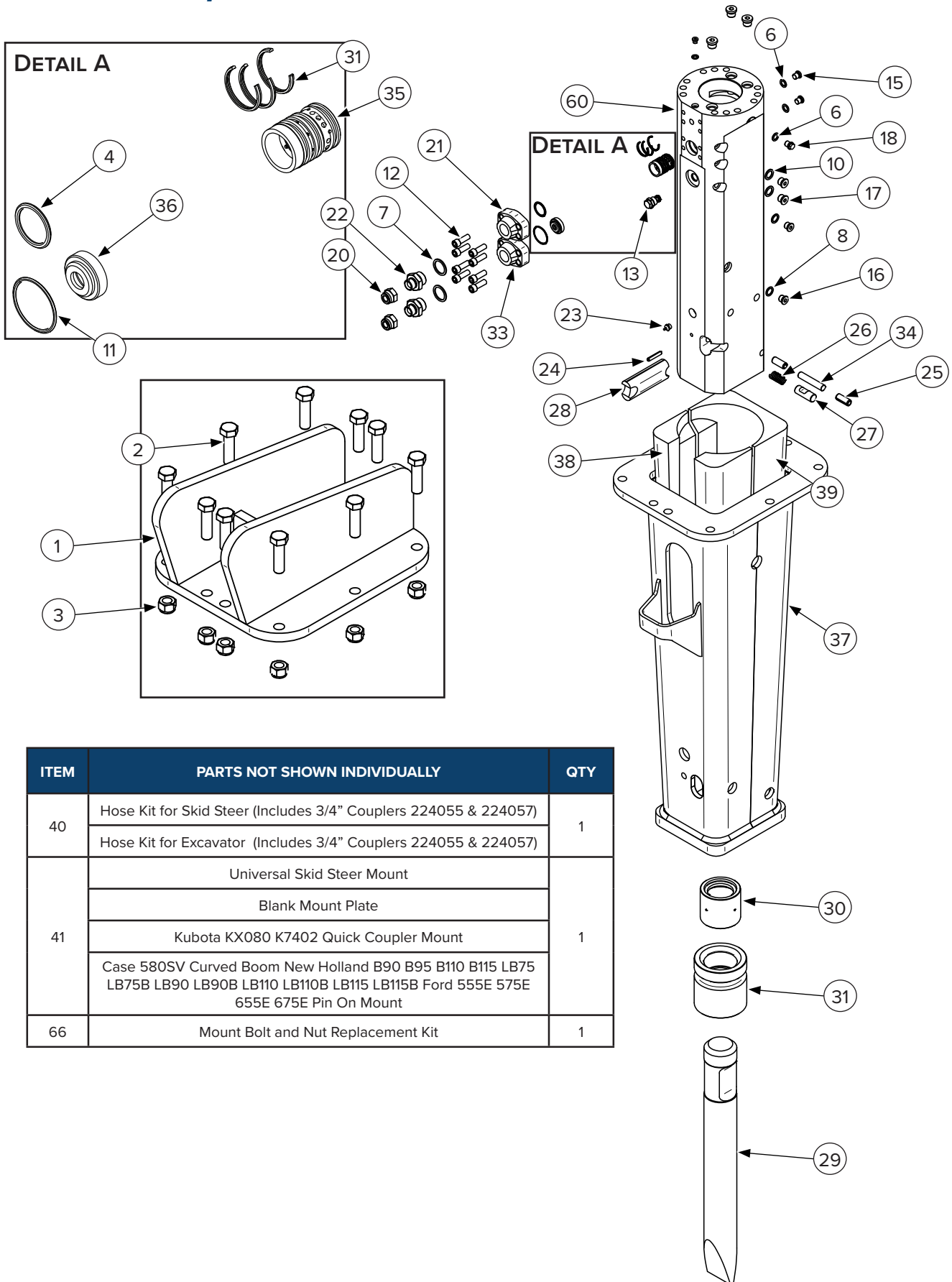
6. Parts

6.9 Internal Components – HB300 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
41	236504	O-Ring	1
42	235076	Accumulator Base Seal	1
43	235100	Screw (Short)	8
44	235205	Gas Charging Valve	1
45	235210	Diaphragm	1
46	—	Accumulator Base	1
47	—	Accumulator Cover	1
48	—	Upper Buffer	1
49	235313	Accumulator Housing Long Screw	1
50	235314	Lower Body Bushing Top Seal	1
51	235070	Upper Body Bushing O-Ring	1
52	235316	Central Body Bushing Seal	1
53	235071	Distributor Bushing O-Ring	8
54	235072	Upper Body Bushing Seal	1
55	235319	Lower Body Bushing Bottom Seal	1
56	—	Distributor Bushing	1
57	235237	Piloting Piston	2
58	235236	Distributor Valve	1
59	—	Body Bushing Ring	1
60	235241	Upper Body Bushing	1
61	235240	Central Body Bushing	1
62	235235	Lower Body Bushing	1
63	235230	Piston	1

6. Parts

6.10 Main Components – HB400



6. Parts

6.10 Main Components – HB400 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
1	—	Adapting Plate	1
2	251175	Mounting Plate Bolt	10
3	—	Mounting Plate Nut	10
4	—	O–Ring	1
5	—	Seal	3
6	235252	Bonded Washer for Hose Connection	3
7	236534	1.0" Bonded Washer	2
8	236574	Bonded Washer	2
9	236561	Bonded Washer	1
10	235353	Bonded Washer	2
11	—	Seal	1
12	—	Screw	8
13	235253	Unidirectional Valve	1
14	236563	Plug	1
15	235257	Plug for Monoblock	2
16	236585	Plug	2
17	235376	Plug	2
18	235315	Plug	1
19	236588	Plug	3
20	235362	Plug	2
21	235220	Flange	1
22	235238	Breaker to Hose Adapter Fitting	2
23	236591	Grease Nipple	1
24	235125	Elastic Pin	1
25	235122	Elastic Pin	2
26	235126	Spring	1
27	235121	Tool Retainer Pin	1
28	235120	Tool Retainer	1
29	235025	Chisel Tool	1
	235026	Moil Tool	
	235027	Pyramid Tool	
	235028	Blunt Tool	
	235033	4.0" Wide Spade Tool	
	235032	Post Driving Adapter for Posts up to 6.2"	
30	—	Internal Support Bushing	1
31	—	External Support Bushing	1
32	—	Monoblock	1
33	—	Flange	1

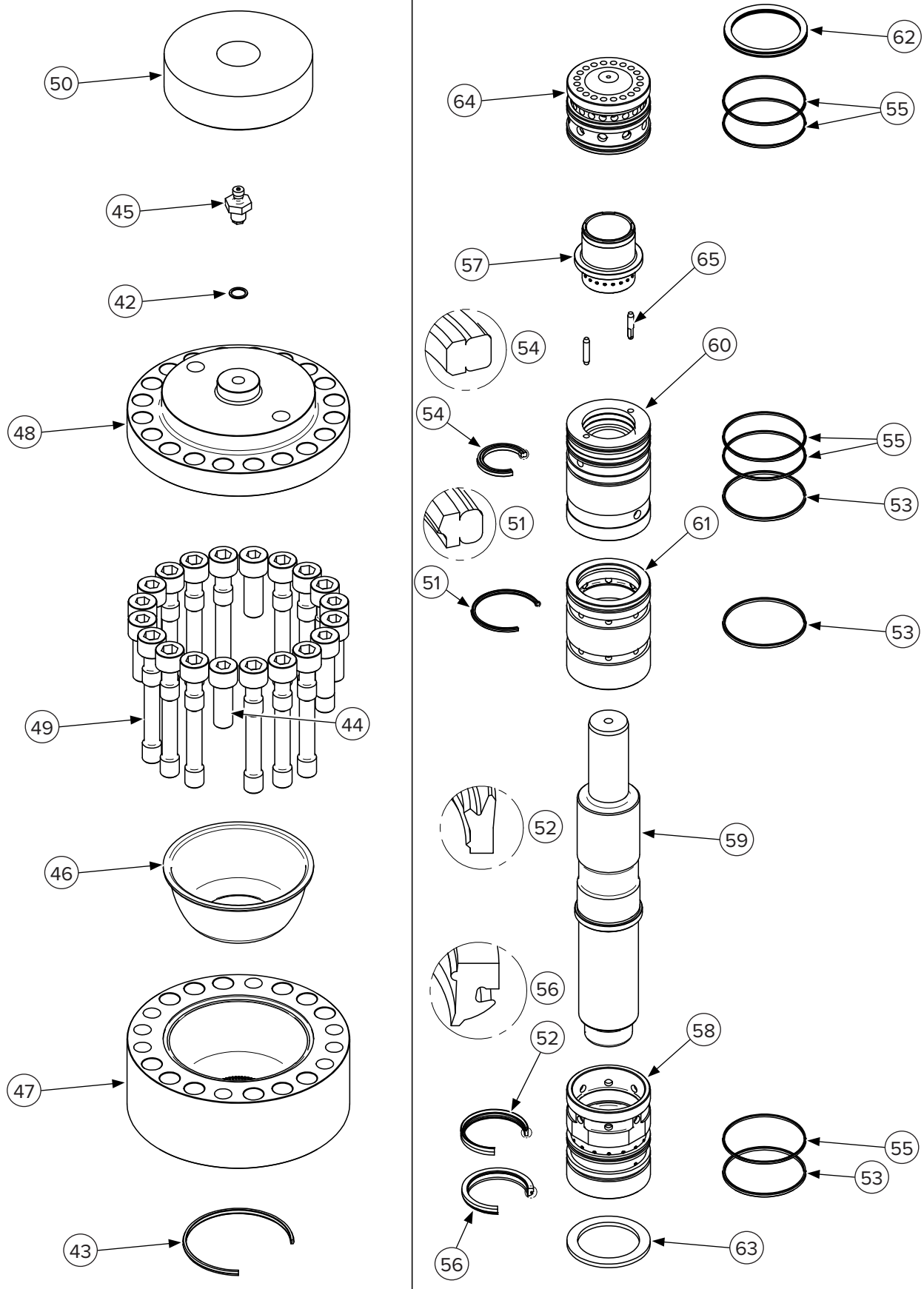
6. Parts

6.10 Main Components – HB400 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
34	235123	Locking Pin	1
35	235245	Valve Bushing	1
36	235244	Valve Plug	1
37	—	Metal Case	1
38	—	Front Shell	1
39	—	Back Shell	1
40	135435	Hose Kit for Skid Steer (Includes 3/4" Couplers 224055 & 224057)	1
	135415	Hose Kit for Excavator (Includes 3/4" Couplers 224055 & 224057)	
41	135240	Universal Skid Steer Mount	1
	235530	Blank Mount Plate	
	800038-HB400	Kubota KX080 K7402 Quick Coupler Mount	
	800730-HB400	Case 580SV Curved Boom New Holland B90 B95 B110 B115 LB75 LB75B LB90 LB90B LB110 LB110B LB115 LB115B Ford 555E 575E 655E 675E Pin On Mount	
66	235211	Mount Bolt and Nut Replacement Kit	1

6. Parts

6.11 Internal Components – HB400



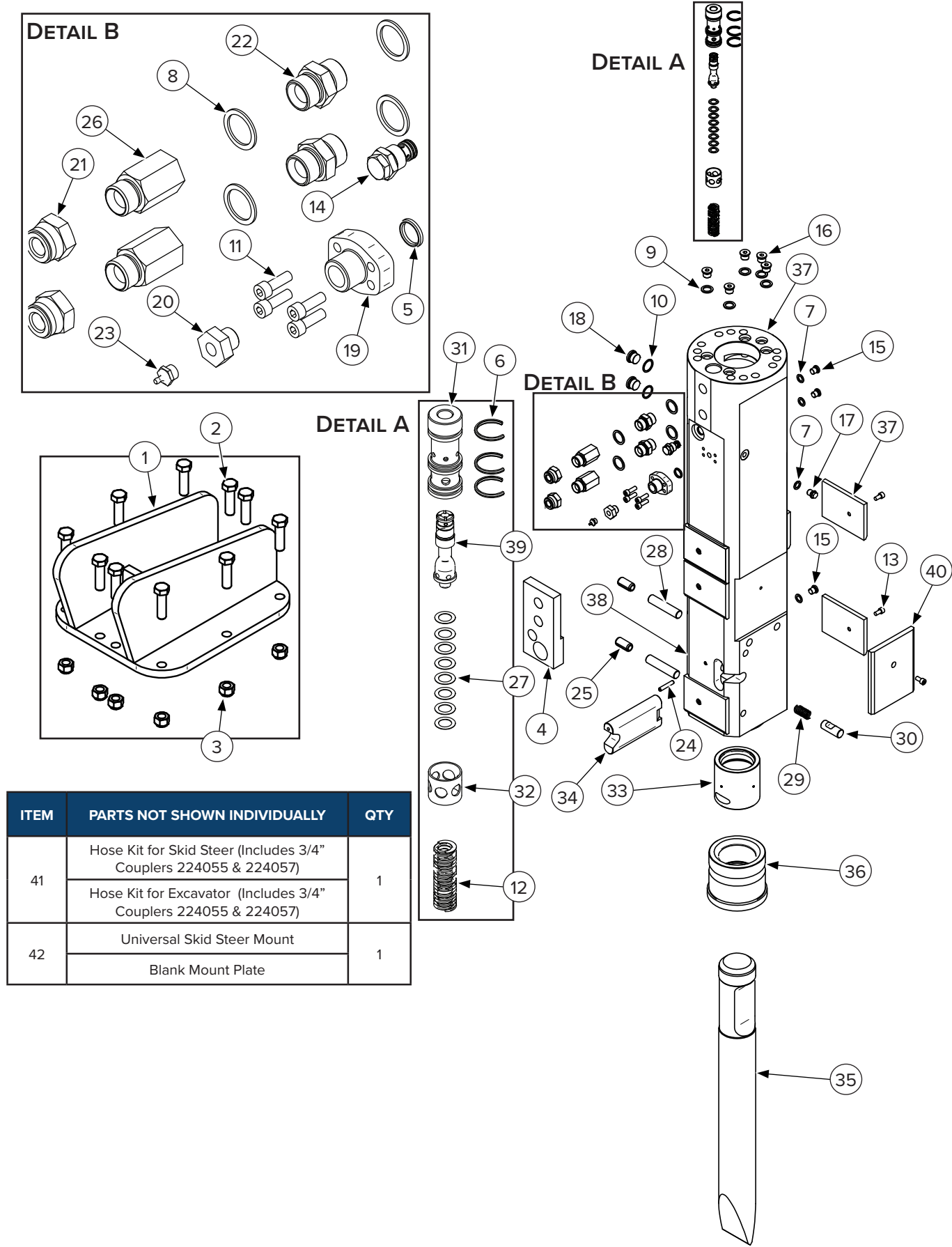
6. Parts

6.11 Internal Components – HB400 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
42	236504	O—Ring	1
43	—	Seal	1
44	235100	Screw (Short)	8
45	235205	Gas Charging Valve	1
46	235210	Diaphragm	1
47	—	Accumulator Base	1
48	—	Accumulator Cover	1
49	235313	Accumulator Housing Long Screw	12
50	—	Upper Buffer	1
51	—	Seal	1
52	—	Seal	1
53	235430	Body Bushing O—Ring	3
54	—	Seal	1
55	235431	Body Bushing O—Ring	5
56	—	Seal	1
57	—	Distributor Valve	1
58	—	Lower Body Bushing	1
59	—	Piston	1
60	—	Upper Body Bushing	1
61	—	Central Body Bushing	1
62	235217	Cupped Spring Washer	4
63	235214	Body Bushing Ring	1
64	—	Distributor Bushing	1
65	235212	Piloting Piston	1

6. Parts

6.12 Main Components – HB530



6. Parts

6.12 Main Components – HB530 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
1	—	Adapting Plate	1
2	251175	Mounting Plate Bolt	10
3	—	Mounting Plate Nut	10
4	—	Plug	1
5	—	O-Ring	1
6	—	Seal	3
7	235252	Bonded Washer	4
8	235352	Bonded Washer	4
9	235353	Bonded Washer	5
10	—	Bonded Washer	2
11	251166	Screw	4
12	—	Spring	1
13	—	Screw	8
14	235253	Unidirectional Valve	1
15	235257	Plug	3
16	235376	Plug	5
17	235315	Plug	1
18	—	Plug	2
19	—	Flange	1
20	—	Reduction	1
21	235362	Plug	2
22	235124	Nipple	2
23	236591	Grease Nipple	1
24	235125	Elastic Pin	1
25	—	Elastic Pin	2
26	235366	Coupling	2
27	236547	Washer	8
28	—	Pin	2
29	235126	Spring	1
30	235121	Tool Retainer Pin	1
31	—	Pressure Valve Upper Bushing	1
32	—	Spacer	1
33	—	Internal Support Bushing	1
34	—	Tool Retainer	1

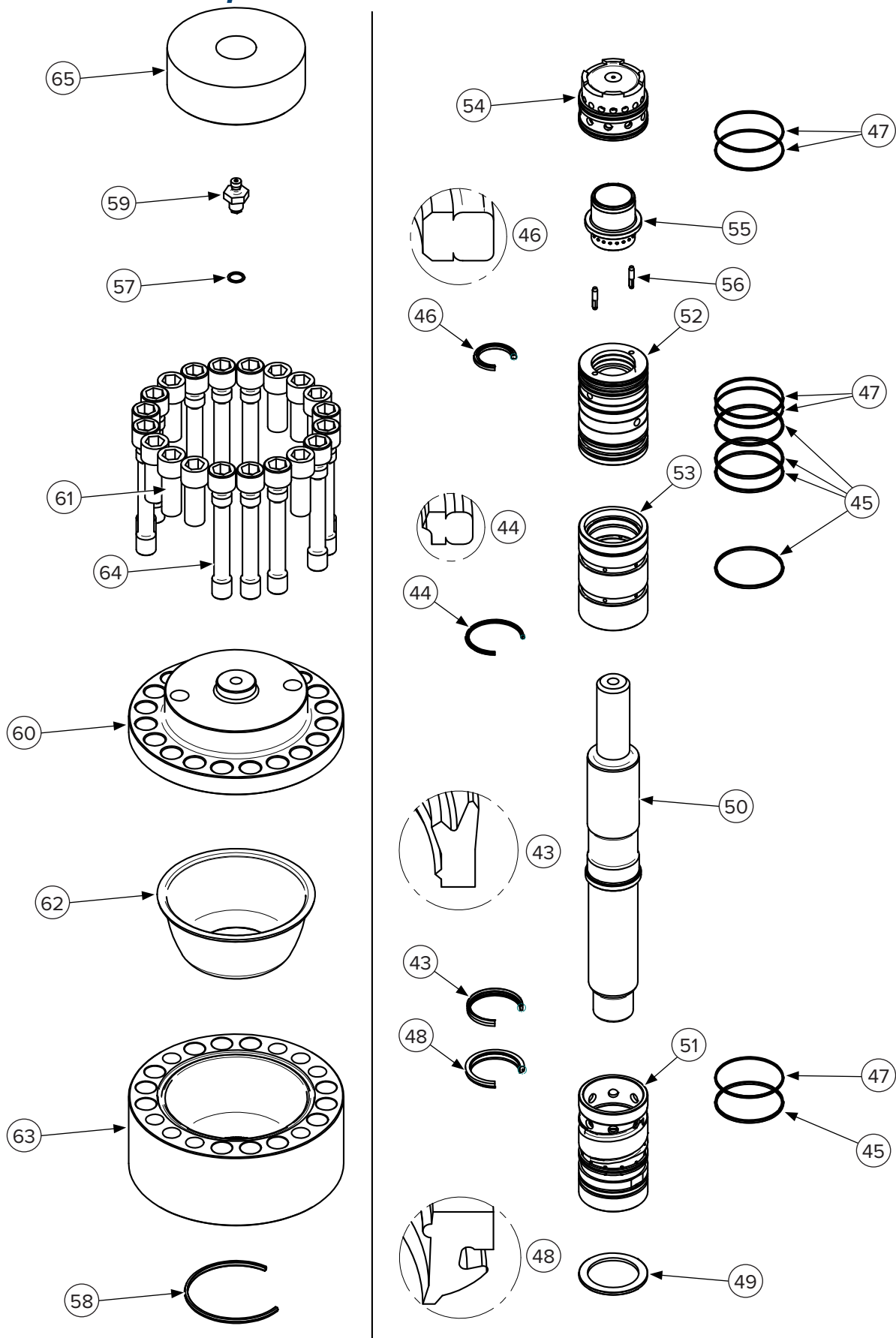
6. Parts

6.12 Main Components – HB530 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
35	235030	Chisel Tool	1
	235031	Moil Tool	
	235034	Pyramid Tool	
	235065	Blunt Tool	
	235049	Post Driving Adapter for Posts up to 6.7" Round (Includes Blunt Bit, Cables, and Mounting Hardware)	
36	—	External Support Bushing	1
37	—	Guide	6
38	—	Monoblock	1
39	—	Control Piston	1
40	—	Guide	2
41	135435	Hose Kit for Skid Steer (Includes 3/4" Couplers 224055 & 224057)	1
	135415	Hose Kit for Excavator (Includes 3/4" Couplers 224055 & 224057)	
42	135240	Universal Skid Steer Mount	1
	235535	Blank Mount Plate	

6. Parts

6.13 Internal Components – HB530 Cont'd



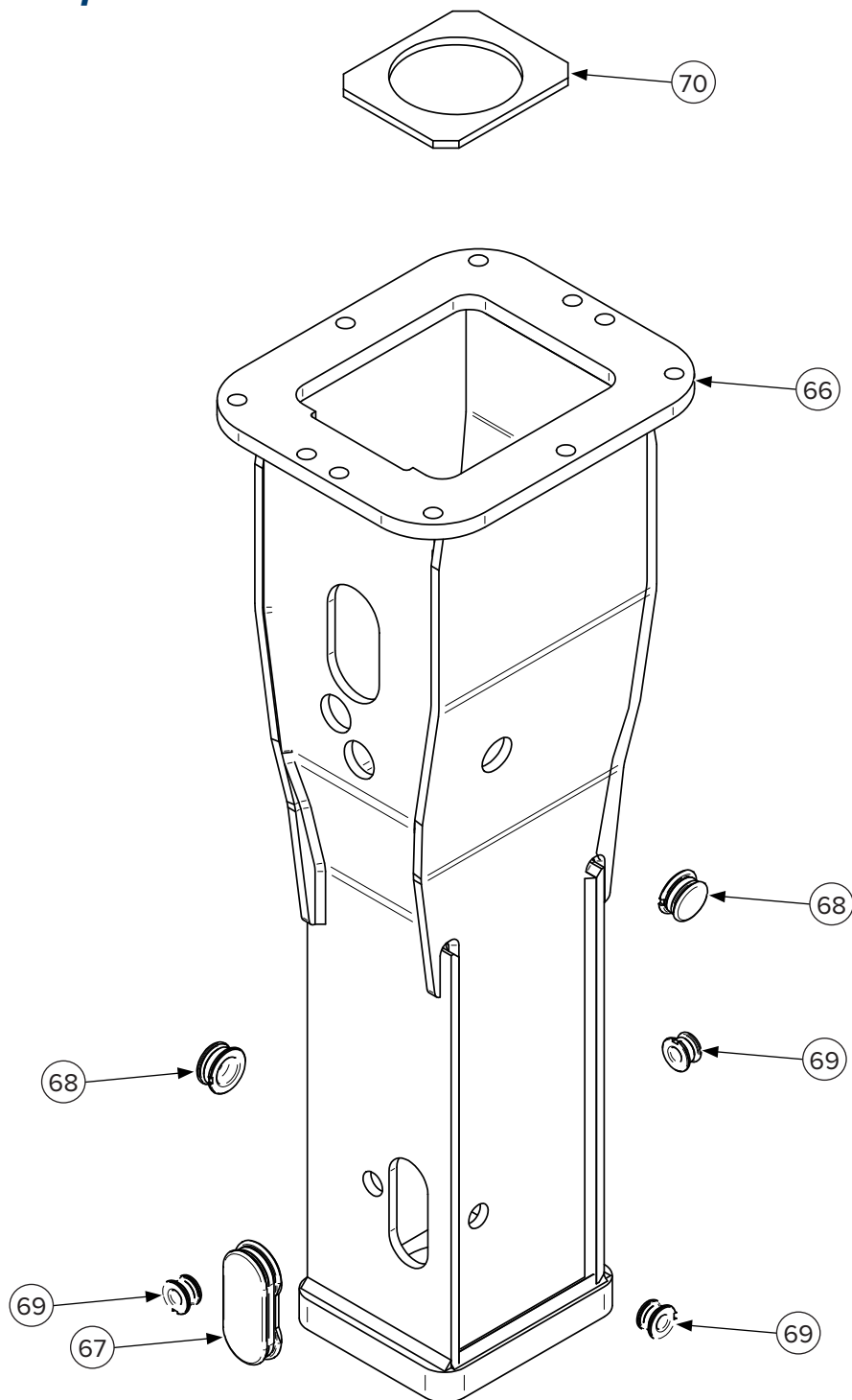
6. Parts

6.13 Internal Components – HB530 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
43	—	Seal	1
44	—	Seal	1
45	235430	Body Bushing O–Ring	5
46	—	Seal	1
47	235431	Body Bushing O–Ring	5
48	—	Seal	1
49	—	Body Bushing Ring	1
50	—	Piston	1
51	—	Lower Body Bushing	1
52	—	Upper Body Bushing	1
53	—	Central Body Bushing	1
54	—	Distributor Bushing	1
55	—	Distributor Valve	1
56	235212	Piloting Piston	2
57	236504	O–Ring	1
58	—	Seal	1
59	235205	Gas Charging Valve	1
60	—	Accumulator Cover	1
61	—	Screw (Short)	8
62	—	Diaphragm	1
63	—	Accumulator Base	1
64	—	Screw (Long)	12
65	—	Upper Buffer	1

6. Parts

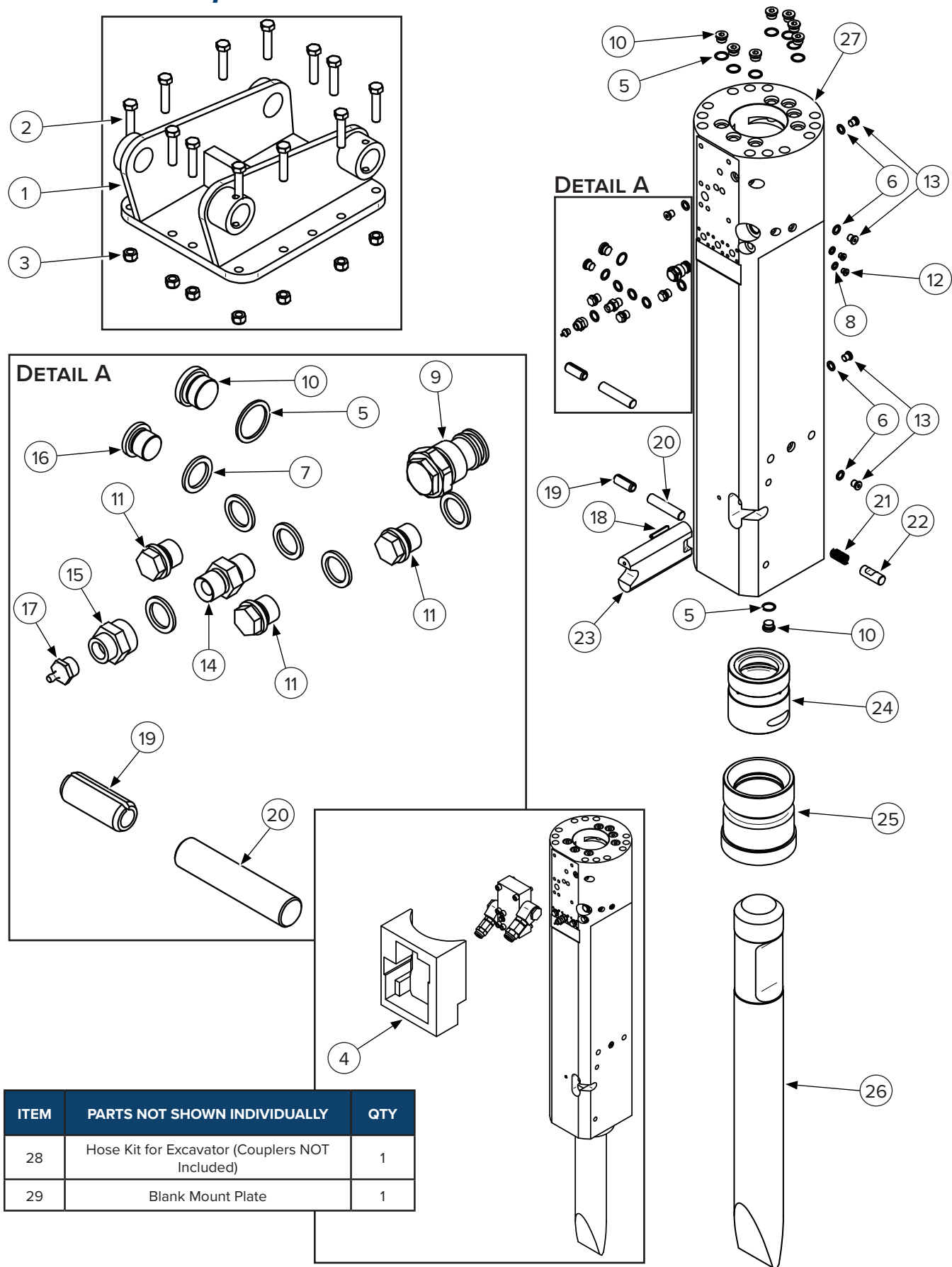
6.14 Case Components – HB530



ITEM	PART NUMBER	DESCRIPTION	QTY
66	—	Case	1
67	236610	Retainer Hole Plug	1
68	236609	Plug	2
69	236612	Plug	3
70	—	Lower Pad	1

6. Parts

6.15 Main Components – HB950

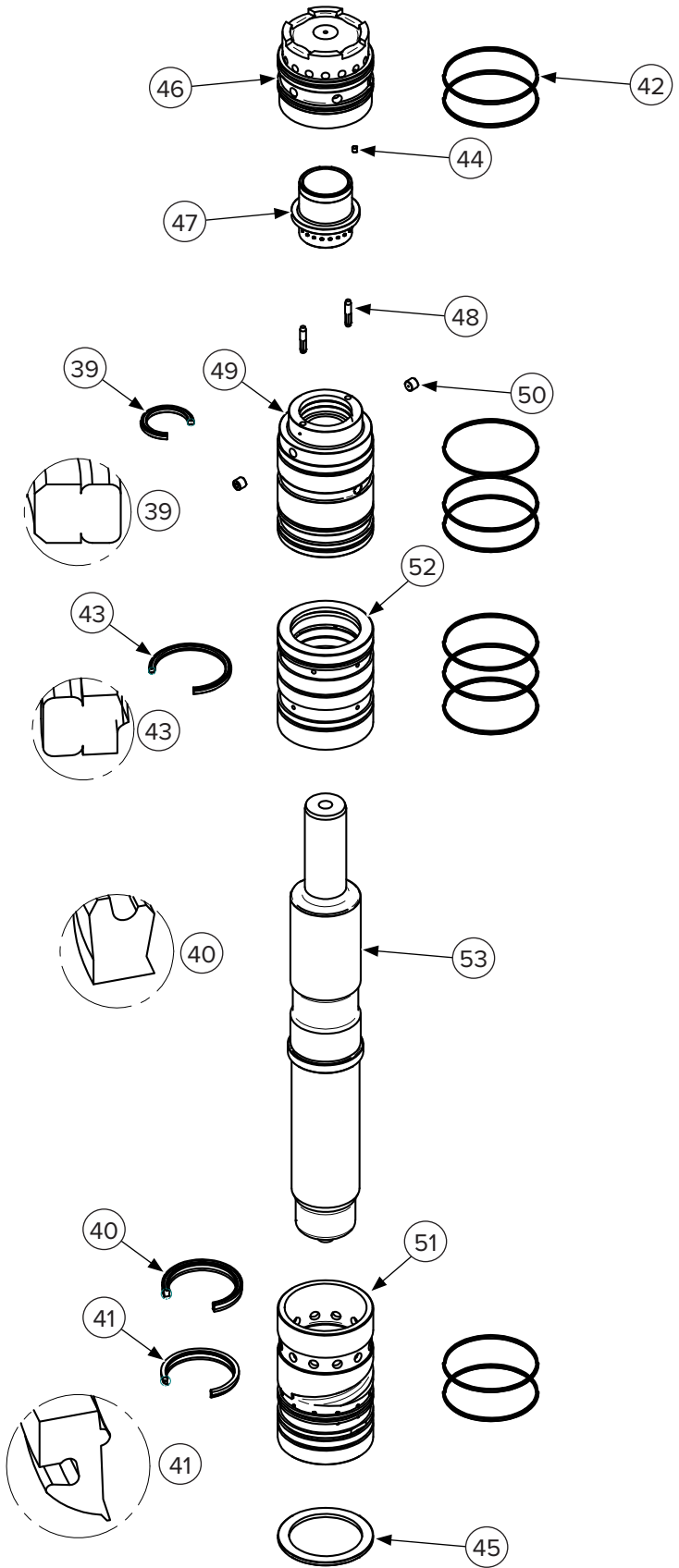


6. Parts

6.15 Main Components – HB950 Cont'd

	PART NUMBER	DESCRIPTION	QTY
1	—	Adapting Plate	1
2	—	Mounting Plate Bolt	12
3	—	Mounting Plate Nut	12
4	—	Shell	1
5	236570	Bonded Washer	9
6	235252	Bonded Washer	5
7	236535	Bonded Washer	6
8	236561	Bonded Washer	2
9	236579	Unidirectional Valve	1
10	236582	Plug	9
11	236543	Plug	3
12	236563	Plug	2
13	235257	Plug	5
14	236622	Nipple	1
15	—	Reduction	1
16	236590	Plug	1
17	236591	Grease Nipple	1
18	—	Elastic Pin	1
19	—	Elastic Pin	2
20	—	Pin	2
21	235126	Spring	1
22	235121	Tool Retainer Pin	1
23	—	Tool Retainer	1
24	—	Internal Support Bushing	1
25	—	External Support Bushing	1
26	235035	Chisel Tool	1
	235036	Moil Tool	
	235037	Pyramid Tool	
	235059	Post Driving Adapter for Posts up to 8.0" Round (Includes Blunt Bit, Cables, and Mounting Hardware)	
27	—	Monoblock	1
28	135420	Hose Kit for Excavator (Couplers NOT Included)	1
29	235540	Blank Mount Plate	1

6.16 Internal Components – HB950



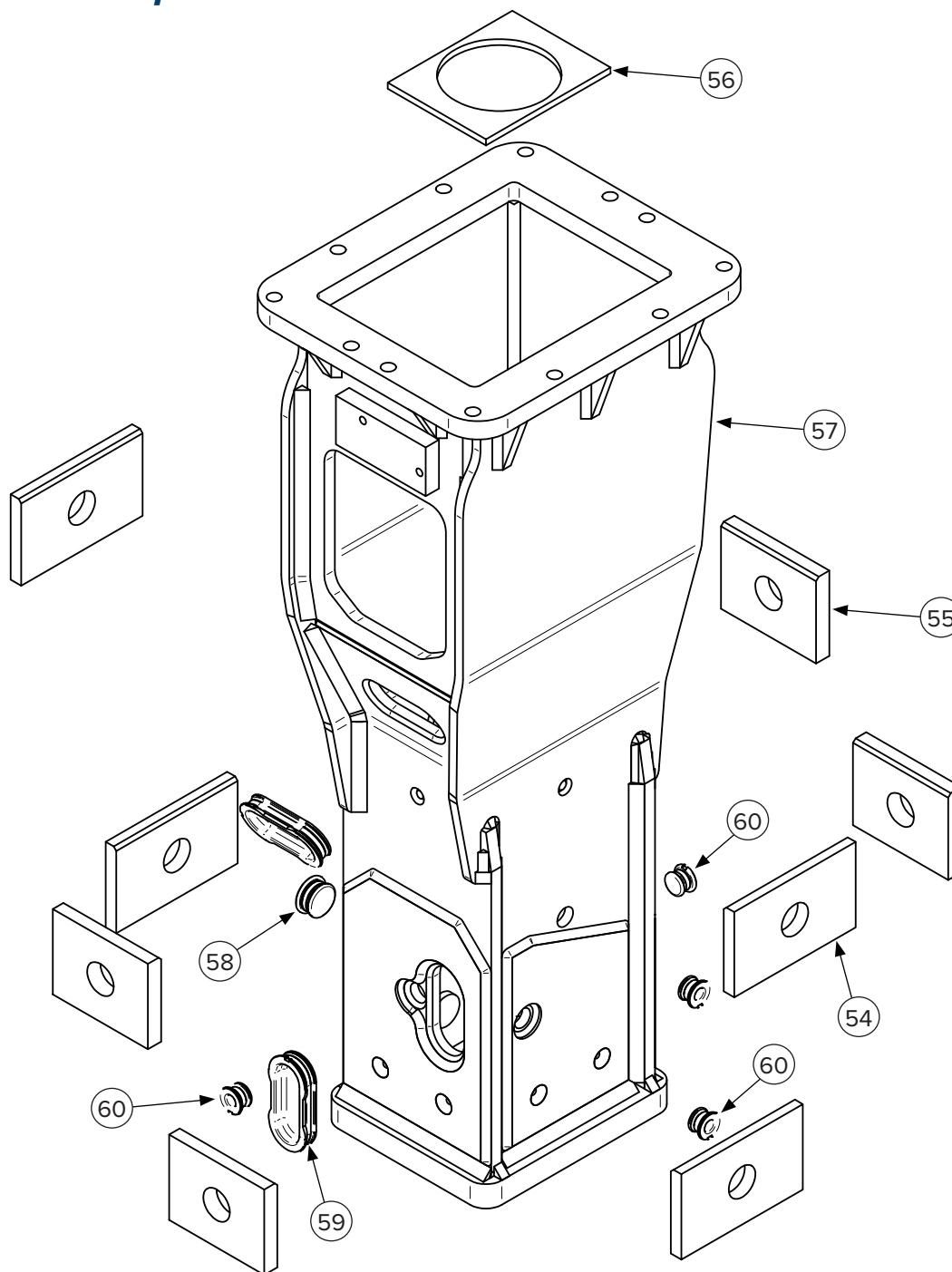
6. Parts

6.16 Internal Components – HB950 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
30	236504	O-Ring	1
31	—	Seal	1
32	—	Screw (Short)	8
33	235205	Nitrogen Charging Valve	1
34	—	Diaphragm	1
35	—	Screw (Long)	12
36	—	Accumulator Base	1
37	—	Accumulator Cover	1
38	—	Upper Buffer	1
39	—	Seal	1
40	—	Seal	1
41	—	Seal	1
42	—	O-Ring	10
43	—	Seal	1
44	—	Allen Plug	1
45	—	Body Bushing Ring	1
46	—	Distributor Bushing	1
47	—	Distributor Valve	1
48	235212	Piloting Grinded Piston	2
49	—	Upper Body Bushing	1
50	—	Allen Plug	2
51	—	Lower Body Bushing	1
52	—	Central Body Bushing	1
53	—	Piston	1

6. Parts

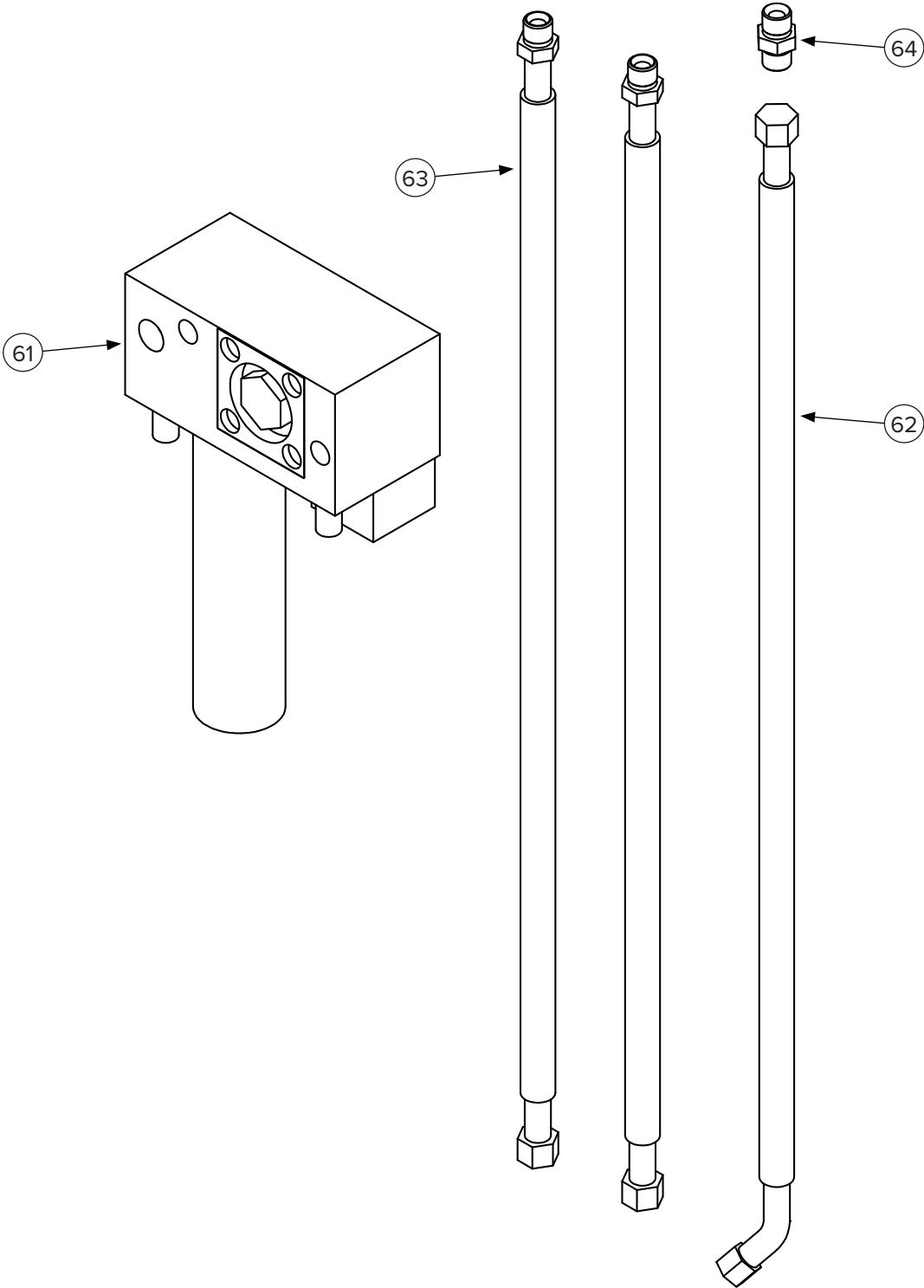
6.17 Case Components – HB950



ITEM	PART NUMBER	DESCRIPTION	QTY
54	—	Side Guide	4
55	—	Front-Back Guide	4
56	—	Lower Pad	1
57	—	Metal Case	1
58	236609	Plug	1
59	236610	Retainer Hole Plug	2
60	236612	Plug	4

6. Parts

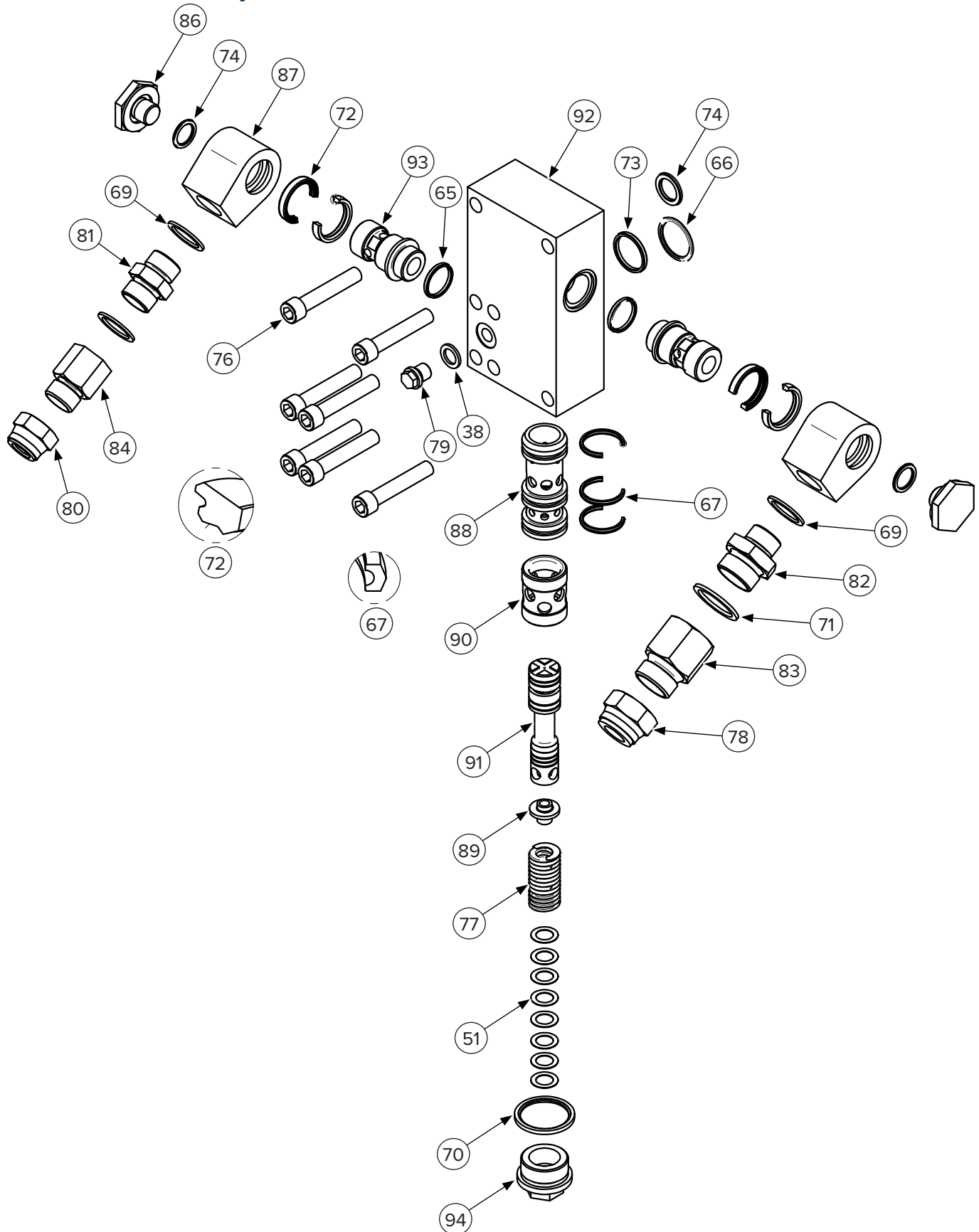
6.18 Lubrication System Components – HB950



ITEM	PART NUMBER	DESCRIPTION	QTY
61	—	Greasing Pump	1
62	—	Hose	1
63	—	Hose	2
64	236622	Nipple	1

6. Parts

6.19 Block Components – HB950



6. Parts

6.19 Block Components – HB950 Cont'd

ITEM	PART NUMBER	DESCRIPTION	QTY
65	—	O-Ring	2
66	—	O-Ring	1
67	—	Seal	3
68	235252	Bonded Washer	1
69	235352	Bonded Washer	3
70	236572	Bonded Washer	1
71	236534	Bonded Washer	1
72	—	Seal	4
73	—	O-Ring	1
74	—	O-Ring	1
75	—	O-Ring	2
76	—	Screw	7
77	—	Spring	1
78	236542	Plug	1
79	235315	Plug	1
80	235362	Plug	1
81	235124	Nipple	1
82	235238	Reduction	1
83	—	Coupling	1
84	—	Coupling	1
85	236547	Washer	8
86	—	Joint Plug	2
87	—	Ogive	2
88	—	Bushing	1
89	—	Spring Guide	1
90	—	Spacer	1
91	—	Sliding Spool	1
92	—	Hoses Connection Block	1
93	—	Ogive Seat	2
94	—	Plug	1

6.20 Additional Options – All Models

PART NUMBER	DESCRIPTION
235610	Chisel/Tool Paste 14 oz. Grease Tube, Qty 1
235610-KIT	Case of Chisel/Tool Paste 14 oz. Grease Tube, Qty 10
135500	Auto Lubrication System (Grease Sold Separately)
235605	Chisel/Tool Paste for Auto Lubrication System, Qty 1
235605-KIT	Case of Chisel/Tool Paste for Auto Lubrication System, Qty 21

6. Parts

6.21 Safety Decals – All Models



*ITEM 95 IS
ALSO PLACED
ON THE
OTHER SIDE.

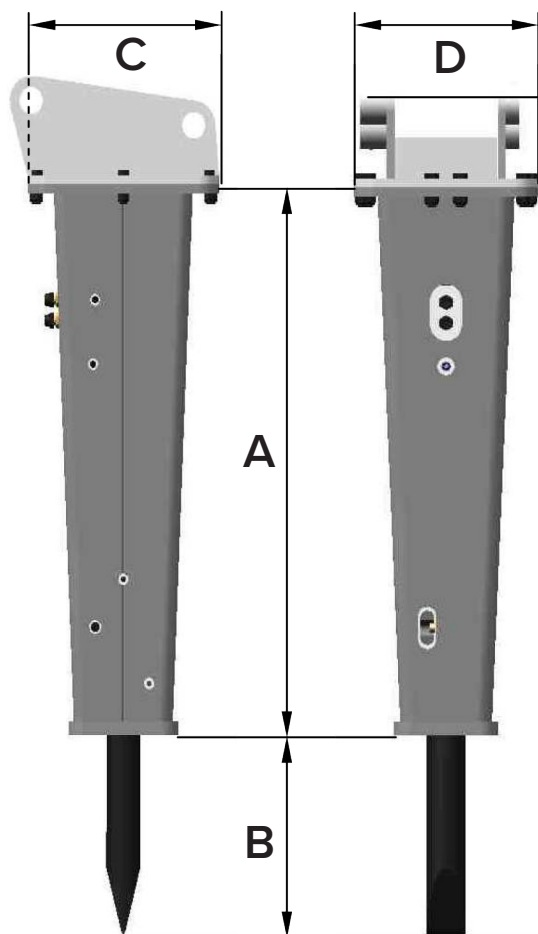


ITEM	PART NUMBER	DESCRIPTION	QTY
95	BD-056	2.0" x 12.0" Decal, Blue Diamond	2
96	BD-060	2.4375" x 3.375" Decal, Blue Diamond Attachments	1
97	BD-092	1.5" x 2.0" Decal, Warranty Registration QR	1

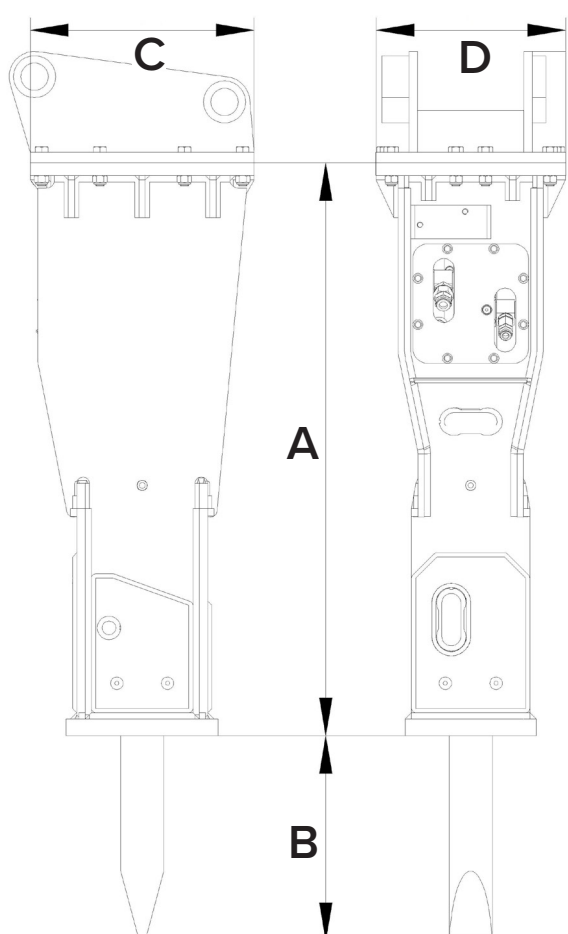
7. Specifications

7.1 Attachment Specifications

HB50 – HB400



HB530 – HB950



Overall Dimensions

DESCRIPTION	HB50	HB95	HB165	HB210	HB300	HB400	HB530	HB950
Height, without Mount & Tool (A)	22 in. 555 mm	27.5 in. 700 mm	31.5 in. 800 mm	36 in. 915 mm	37 in. 940 mm	41 in. 1040 mm	48.5 in. 1230 mm	53.5 in. 1361 mm
Exposed Tool Length (B)	7.8 in. 197 mm	11.8 in. 300 mm	12.1 in. 308 mm	12.8 in. 326 mm	18.4 in. 467 mm	16.3 in. 415 mm	17.2 in. 438 mm	19.2 in. 487 mm
Width (C)	8.5 in. 216 mm	9.7 in. 246 mm	11.4 in. 290 mm	12.2 in. 310 mm	14 in. 356 mm	15 in. 380 mm	15 in. 380 mm	17.7 in. 450 mm
Depth (D)	9 in. 228 mm	10.7 in. 272 mm	13.2 in. 335 mm	13.8 in. 350 mm	15.4 in. 392 mm	17.7 in. 450 mm	17.7 in. 450 mm	20.9 in. 530 mm

Optimal Environmental Working Conditions

DESCRIPTION	ALL MODELS
Temperature Range for Safe Operation	23 – 113°F -5 – 45°C
Humidity Range for Safe Operation	40 – 90%

7. Specifications

7.1 Attachment Specifications Cont'd

DESCRIPTION	HB50	HB95	HB165	HB210
Energy per Stroke	90 lbf·ft 120 J	175 lbf·ft 240 J	245 lbf·ft 330 J	370 lbf·ft 500 J
Maximum Frequency (strokes/min)	1200			
Maximum Oil Flow	4 – 7 GPM 17 – 25 L/min	7 – 11 GPM 27 – 40 L/min	8 – 11 GPM 30 – 40 L/min	11 – 15 GPM 40 – 55 L/min
Maximum Working Pressure	1740 psi 120 bar			
Maximum Exhaust Back Pressure	290 – 435 psi 20 – 30 bar			
Accumulator Charging Pressure	465 psi 32 bar	510 psi 35 bar		
Calibration Pressure of the Hydraulic System Maximum Value	2,175 psi 150 bar	2,610 psi 180 bar		
Breaker Weight in Working Conditions	130 lbs 60 kg	210 lbs 95 kg	330 lbs 150 kg	465 lbs 210 kg
Tool Weight (Varies by Type)	6 lbs 3 kg	13 lbs 6 kg	20 lbs 9 kg	27 lbs 12 kg
Weight of the Tool Retainer	0.66 lb 0.3 kg	0.84 lb 0.38 kg	0.77 lb 0.35 kg	1.54 lbs 0.7 kg
Pressure Line Pipe Diameter (EN 856 – 4SP)	0.5 in. 12 mm			
Return Line Pipe Diameter (EN 853 – 2SN)	0.5 in. 12 mm			
Tool Diameter	1.8 in. 45 mm		2.2 in. 55 mm	2.5 in. 62 mm
Breaker Height with Tool without Adapting Plate	29.5 in. 750 mm	39.5 in. 1,000 mm	41.5 in. 1,050 mm	47.5 in. 1,200 mm
Maximum Length of the Tool Inner Guide [Figure 24, Item L]	4.7 in. 119 mm	5.7 in. 145 mm	7.8 in. 199 mm	9.25 in. 235 mm
Maximum Diameter in Front & Back of the Tool Bushings	2 in. 48 mm		2.3 in. 58 mm	2.5 in. 65 mm
Maximum Oil temperature in the Tank	176°F 80°C			
Maximum Absorbed Power	5 Kw	7 Kw	7.5 Kw	12 Kw
Excavator Weight	1,600 – 2,600 lbs 0.8 – 1.3 t	2,600 – 4,000 lbs 1.3 – 2.0 t	4,000 – 6,600 lbs 2.0 – 3.3 t	6,200 – 8,400 lbs 3.1 – 4.2 t

7. Specifications

7.1 Attachment Specifications Cont'd

DESCRIPTION	HB300	HB400	HB530	HB950
Energy per Stroke	515 lbf·ft 700 J	665 lbf·ft 900 J	800 lbf·ft 1,080 J	1,250 lbf·ft 1,700 J
Maximum Frequency (strokes/min)	1100	900		
Maximum Oil Flow	13 – 18 GPM 50 – 70 L/min	18 – 25 GPM 70 – 95 L/min	21 – 29 GPM 80 – 110 L/min	26 – 34 GPM 100 – 130 L/min
Maximum Working Pressure	1,740 psi 120 bar			
Maximum Exhaust Back Pressure	290 – 435 psi 20 – 30 bar	360 psi 25 bar		
Accumulator Charging Pressure	510 psi 35 bar		465 psi 32 bar	
Calibration Pressure of the Hydraulic System Maximum Value	2,610 psi 180 bar			2,465 psi 170 bar
Breaker Weight in Working Conditions	600 lbs 300 kg	880 lbs 400 kg	1,100 lbs 500 kg	2,095 lbs 950 kg
Tool Weight (Varies by Type)	45 lbs 20 kg	55 lbs 25 kg	68 lbs 31 kg	115 lbs 52 kg
Weight of the Tool Retainer	2.6 lbs 1.2 kg	2.9 lbs 1.3 kg	6 lbs 2.7 kg	8.8 lbs 4 kg
Pressure Line Pipe Diameter (EN 856 – 4SP)	0.75 in. 19 mm			
Return Line Pipe Diameter (EN 853 – 2SN)	0.75 in. 19 mm			1 in. 25 mm
Tool Diameter	2.8 in. 72 mm	3.2 in. 80 mm	3.4 in. 85 mm	4.0 in. 102 mm
Breaker Height with Tool without Adapting Plate	56 in. 1,423 mm	57 in. 1,455 mm	67 in. 1,700 mm	72 in. 1,830 mm
Maximum Length of the Tool Inner Guide [Figure 24, Item L]	10.4 in. 263 mm	10.8 in. 273 mm	12.4 in. 314 mm	15.5 in. 393 mm
Maximum Diameter in Front & Back of the Tool Bushings	3 in. 77.3 mm	3.4 in. 84 mm	3.5 in. 89 mm	3.9 in. 99 mm
Maximum Oil temperature in the Tank	176°F 80°C			
Maximum Absorbed Power	16 Kw	20 Kw		27.7 Kw
Excavator Weight	8,800 – 13,200 lbs 4.4 – 6.6 t	13,200 – 18,800 lbs 6.6 – 9.4 t	17,600 – 24,200 lbs 8.8 – 12.1 t	22,000 – 30,800 lbs 11.0 – 15.4 t

7. Specifications

7.1 Attachment Specifications Cont'd

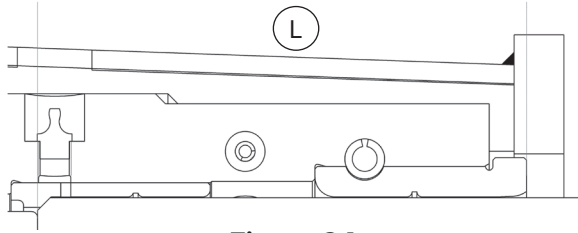


Figure 24

7.2 Torque Specifications

Tightening Values

DESCRIPTION	HB50 ONLY
Accumulator Screw	37 lbf·ft 50 N·m
Accumulator Cover	369 lbf·ft 500 N·m

DESCRIPTION	HB95	HB165	HB210
Accumulator Short Screw for Cover	59 lbf·ft 80 N·m	148 lbf·ft 200 N·m	162 lbf·ft 220 N·m
Accumulator Long Screw			221 lbf·ft 300 N·m

DESCRIPTION	HB300	HB400	HB530
Accumulator Short Screw for Cover	221 lbf·ft 300 N·m		258 lbf·ft 350 N·m
Accumulator Long Screw	184 lbf·ft 250 N·m		

DESCRIPTION	HB950 ONLY
Accumulator Short Screw for Cover	479 lbf·ft 650 N·m
Accumulator Long Screw	258 lbf·ft 350 N·m
Articulation Flange Screw	111 lbf·ft 150 N·m
Block Screw	59 lbf·ft 80 N·m

7. Specifications

7.3 Torque Specifications – Metric

Standard Hardware and Lock Nuts

BOLT TYPE	CLASS 4.8		CLASS 8.8 OR 9.8		CLASS 10.9		CLASS 12.9	
Size	Lubricated	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated	Dry
M6	4.8 N•m	6 N•m	9 N•m	11 N•m	13 N•m	17 N•m	15 N•m	19 N•m
	3.5 lbf•ft	4.5 lbf•ft	6.5 lbf•ft	8.5 lbf•ft	9.5 lbf•ft	12 lbf•ft	11.5 lbf•ft	14.5 lbf•ft
M8	12 N•m	15 N•m	22 N•m	28 N•m	32 N•m	40 N•m	37 N•m	47 N•m
	8.5 lbf•ft	11 lbf•ft	16 lbf•ft	20 lbf•ft	24 lbf•ft	30 lbf•ft	28 lbf•ft	35 lbf•ft
M10	23 N•m	29 N•m	43 N•m	55 N•m	63 N•m	80 N•m	75 N•m	95 N•m
	17 lbf•ft	21 lbf•ft	32 lbf•ft	40 lbf•ft	47 lbf•ft	60 lbf•ft	55 lbf•ft	70 lbf•ft
M12	40 N•m	50 N•m	75 N•m	95 N•m	110 N•m	140 N•m	130 N•m	165 N•m
	29 lbf•ft	37 lbf•ft	55 lbf•ft	70 lbf•ft	80 lbf•ft	105 lbf•ft	95 lbf•ft	120 lbf•ft
M14	63 N•m	80 N•m	120 N•m	150 N•m	175 N•m	225 N•m	205 N•m	260 N•m
	47 lbf•ft	60 lbf•ft	88 lbf•ft	110 lbf•ft	130 lbf•ft	165 lbf•ft	150 lbf•ft	190 lbf•ft
M16	135 N•m	175 N•m	260 N•m	330 N•m	375 N•m	475 N•m	440 N•m	560 N•m
	100 lbf•ft	125 lbf•ft	195 lbf•ft	250 lbf•ft	275 lbf•ft	350 lbf•ft	325 lbf•ft	410 lbf•ft
M18	135 N•m	175 N•m	260 N•m	330 N•m	375 N•m	475 N•m	440 N•m	560 N•m
	100 lbf•ft	125 lbf•ft	195 lbf•ft	250 lbf•ft	275 lbf•ft	350 lbf•ft	325 lbf•ft	410 lbf•ft
M20	190 N•m	240 N•m	375 N•m	475 N•m	530 N•m	675 N•m	625 N•m	800 N•m
	140 lbf•ft	180 lbf•ft	275 lbf•ft	350 lbf•ft	400 lbf•ft	500 lbf•ft	460 lbf•ft	580 lbf•ft
M22	260 N•m	330 N•m	510 N•m	650 N•m	725 N•m	925 N•m	850 N•m	1075 N•m
	190 lbf•ft	250 lbf•ft	375 lbf•ft	475 lbf•ft	540 lbf•ft	675 lbf•ft	625 lbf•ft	800 lbf•ft
M24	330 N•m	425 N•m	650 N•m	825 N•m	925 N•m	1150 N•m	1075 N•m	1350 N•m
	250 lbf•ft	310 lbf•ft	475 lbf•ft	600 lbf•ft	675 lbf•ft	850 lbf•ft	800 lbf•ft	1000 lbf•ft
M27	490 N•m	625 N•m	950 N•m	1200 N•m	1350 N•m	1700 N•m	1600 N•m	2000 N•m
	360 lbf•ft	450 lbf•ft	700 lbf•ft	875 lbf•ft	1000 lbf•ft	1250 lbf•ft	1150 lbf•ft	1500 lbf•ft
M30	675 N•m	850 N•m	1300 N•m	1650 N•m	1850 N•m	2300 N•m	2150 N•m	2700 N•m
	490 lbf•ft	625 lbf•ft	950 lbf•ft	1200 lbf•ft	1350 lbf•ft	1700 lbf•ft	1600 lbf•ft	2000 lbf•ft
M33	900 N•m	1150 N•m	1750 N•m	2200 N•m	2500 N•m	3150 N•m	2900 N•m	3700 N•m
	675 lbf•ft	850 lbf•ft	1300 lbf•ft	1650 lbf•ft	1850 lbf•ft	2350 lbf•ft	2150 lbf•ft	2750 lbf•ft
M36	1150 N•m	1450 N•m	2250 N•m	2850 N•m	3200 N•m	4050 N•m	3750 N•m	4750 N•m
	850 lbf•ft	1075 lbf•ft	1650 lbf•ft	2100 lbf•ft	2350 lbf•ft	3000 lbf•ft	2750 lbf•ft	3500 lbf•ft



Warranty Policies

OUR WARRANTY PROMISE

At Blue Diamond® Attachments, we stand by our products. Our warranty ensures you can depend on our attachments for your toughest jobs. We are committed to your satisfaction and peace of mind, offering reliable support for continued productivity.

MANUFACTURER'S LIMITED WARRANTY

BLUE DIAMOND® ATTACHMENTS, LLC ("BDA"), a manufacturer of quality attachments, warrants new BDA products and/or attachments at the time of delivery to the original purchaser, to be free from the defects in material and workmanship when properly set up and operated in accordance with the recommendations set forth by BDA.

BDA's liability for any defect with respect to accepted goods shall be limited to repairing the goods at a BDA designated location or at an authorized dealer location, or replacing them, as BDA shall elect. The above shall be in accordance with BDA warranty adjustment policies.

WARRANTY TERM

BDA's warranty obligation is subject to the following terms, whichever occurs first:

- The warranty terminates thirty-six (36) months after the date of delivery of the attachment from the dealer to the end user (original purchaser). The first twelve (12) months cover parts and labor in full, and the following months, thirteen through thirty-six (13 – 36), cover parts only. The warranty for only the monoblock terminates one hundred and twenty (120 months) after the date of delivery; or
- The warranty terminates thirty-six (36) months after the date of BDA's invoice to the dealer, regardless of whether the attachment has been sold to an end user.

For the purposes of this warranty, "delivery" means the date on which the authorized dealer delivers the attachment to the end user.

WARRANTY ELIGIBILITY AND REGISTRATION

BDA warrants its products to the original purchaser only. Warranty coverage is not transferable.

Product registration is strongly encouraged and assists BDA in processing warranty claims efficiently. Registration may be completed at any time prior to filing a warranty claim at bluediamondattachments.com/warranty-registration. If registration has not been completed at the time a claim is filed, BDA may request a valid bill of sale or other proof of original purchase to verify eligibility.

This warranty shall not apply to any machine or attachment which has been repaired or altered in any way outside the BDA factory or an authorized BDA dealership in any way so as to, in BDA's judgment, affect its stability or reliability, nor which has been subject to misuse, negligence, or accident beyond the company-recommended machine rated capacity.

USED AND SECONDARY MARKET EQUIPMENT

Attachments sold through used equipment channels, dealer-to-dealer transactions, auctions, or any source other than the original authorized sale to an end user do not carry BDA warranty coverage unless BDA has explicitly granted warranty coverage for that specific attachment by serial number in writing. No implied warranty coverage applies to used or secondary market purchases.



Warranty Policies Cont'd

HOW TO SUBMIT A WARRANTY CLAIM

At Blue Diamond® Attachments, streamlining your warranty claim is a priority. Contact the Product Support Team at the first sign of equipment issues for efficient management of your claim.

SUBMITTING A WARRANTY CLAIM ONLINE

To file a warranty claim, complete the online form at www.bluediamondattachments.com/warranty-claim. Before starting, gather the information below to ensure your claim can be processed without delay:

- Contact and shipping information, including your name, company, phone, email, and billing and shipping addresses.
- Attachment details, including the model number, attachment type, attachment name, and serial number.
- Purchase information, including the purchase invoice date, invoice number, and the name and city of the selling dealer.
- Failure information, including the failure date, the host machine make and model, and a description of the issue.
- Photos of the failure, including detailed images of the failed component and overall images showing the condition of the attachment.

When completing the form, provide a clear response in each of the following fields:

- Complaint, describing what is not functioning correctly.
- Cause, describing what you believe led to the failure.
- Correction, describing any corrective action taken or proposed.
- Key Part, providing the part number of the components that caused the failure.

Upload all supporting photos, accept the warranty policies, and click Submit. A member of the BDA Product Support Team will follow up to advise on next steps. Do not perform any repairs or disassembly until your claim has been reviewed and approved by BDA.

GENERAL CLAIM TERMS

A claim must be filed with BDA and approved before any work is performed.

BDA will advise on repairs and applicable parts exchanges.

Submit detailed photos of the issue and images of overall condition of the attachment to warranty@bdattachments.com. Photos are required for processing.

Tampering with the failed part may void the warranty.

This warranty does not include freight or delivery charges incurred when returning machinery for servicing. Dealer mileage, service calls, and pickup and delivery charges are the customer's responsibility and will not be paid by BDA.

BDA covers standard Less-Than-Truckload (LTL) freight and UPS ground shipping on warranty parts and attachments sent from the factory to the dealer or end user. Next Day Air (NDA) or any other special freight services are not covered under warranty but can be arranged at the dealer and/or end user's expense.

Labor, where covered, is typically credited to your account at \$105 per hour. When more than four (4) hours are needed for repair, BDA requires an estimate before work is performed.

Coverage of travel time, host machine service and repairs, diagnostics, and business downtime are neither expressed or implied.



Warranty Policies Cont'd

EXCLUSIONS OF WARRANTY

Except as otherwise expressly stated herein, BDA makes no representation or warranty of any kind, expressed or implied, AND MAKES NO WARRANTY MERCHANTABILITY IN RESPECT TO ITS MACHINERY AND/OR ATTACHMENTS OR THAT THEY ARE FIT FOR ANY PARTICULAR PURPOSE.

BDA shall not be liable for incidental or consequential damages for any breach of warranty, including but not limited to inconvenience, rental of replacement equipment, loss of profits, or other commercial loss. Upon purchase, the buyer assumes all liability for personal injury and property damage resulting from handling, possession, or use of goods by the buyers.

No agent, employee, or representative of BDA has any authority to bind BDA to any affirmation, representation, or warranty concerning its machinery and/or attachments except as specifically set forth herein.

PLEASE NOTE: Replacing genuine OEM parts with aftermarket parts may void the warranty.

HOSES, COUPLERS, HOSE ROUTING, AND CONNECTIONS

BDA supplies attachments with hoses that are universal in length, but hose configuration may vary by machine manufacturer. BDA cannot guarantee that the hose length will be correct on every machine or for every routing.

It is the responsibility of the end user to adjust hose length to fit their specific machine and to ensure that hose routing does not result in hoses becoming tangled, caught, pinched, crushed, or run over during operation.

- It is the end user's responsibility to ensure that hose routing clears pinch points and allows the attachment to move properly.
- BDA will not cover hose or coupler damage due to poor hose routing. Hose extenders and hose keeps are available at additional cost.

BDA supplies most attachments with standard size quick couplers; some attachments may have couplers sold separately. Coupler configuration varies by machine manufacturer, and BDA cannot guarantee that the standard coupler will be correct for every application. Coupler changes can be made before the attachment leaves the BDA facility if noted on the sales order. BDA is not responsible for coupler compatibility after the attachment has left the facility unless a specific configuration was requested at the time of order.

HYDRAULIC MOTORS

Do not disassemble any hydraulic motor. Disassembly of the motor voids the warranty.

BDA products equipped with hydraulic motors or gearbox assemblies carry a one (1) year warranty on parts and labor. A warranty claim must be submitted and reviewed by an authorized BDA representative before any action is taken.

Under no circumstances should a hydraulic motor or gearbox be disassembled by the customer. Disassembled units cannot be returned to the original manufacturer and will void the warranty. BDA will replace motors or gearboxes found to be defective under warranty. There are no user-serviceable internal parts in these components while under warranty.

CYLINDERS

Defective cylinders are covered for one (1) year. Disassembly of the cylinder will void the cylinder warranty. In any event of cylinder, submit a warranty claim prior to disassembly or repair. Cylinders under warranty are exchanged if found to be defective. For a cylinder claim to be granted, the defective cylinder must be returned to BDA.



Warranty Policies Cont'd

FREIGHT DAMAGE AND CONCEALED FREIGHT DAMAGE

Blue Diamond Attachments, LLC ("BDA") is not responsible for damage that occurs during shipment once the product has been released to the carrier. It is the responsibility of the receiving dealer or end user ("Receiver") to inspect all shipments immediately upon delivery, regardless of shipping method, including small package carriers (e.g. UPS, FedEx) and Less-Than-Truckload (LTL) freight.

VISIBLE FREIGHT DAMAGE

All shipments must be inspected at the time of delivery prior to signing the Bill of Lading (BOL) or delivery receipt. Any visible damage, shortage, or indication of mishandling must be clearly noted on the BOL or delivery receipt at the time of delivery and acknowledged by the carrier. The Receiver must retain a copy of the signed BOL with damage notation and submit clear photographic evidence of the damage and packing to BDA.

If the BOL or delivery receipt is signed without notation of damage or shortage, the shipment will be deemed received in good condition. No freight damage claim may be made in such cases, and responsibility for any damage rests solely with the Receiver.

CONCEALED FREIGHT DAMAGE

Concealed damage is damage that is not reasonably apparent at the time of delivery and is discovered only after unpacking. The Receiver must notify BDA of any concealed damage within five (5) business days of receipt. Notification must include written notice and clear photographic documentation of the damage and all original packaging materials.

Failure to notify BDA and provide required documentation within five (5) business days will result in the concealed damage being deemed the responsibility of the Receiver, and BDA will have no obligation or liability for such damage.

GENERAL CONDITIONS

- All original packaging must be retained until any freight damage claim is resolved.
- BDA reserves the right to request additional documentation or inspection as required by the carrier.
- Freight damage claims are separate from and not covered under BDA's product warranty.
- BDA's determination regarding freight damage claims shall be final.

WARRANTY MAY BE VOIDED IF ATTACHMENT IS ALTERED IN ANY WAY.

This warranty policy supersedes any previous documents.

For the most current information, visit bluediamondattachments.com/warranty-policies.

NOTE: Blue Diamond® Attachments is a trademark of BLUE DIAMOND® ATTACHMENTS, LLC.



QUALITY | DEPENDABILITY | INTEGRITY

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