Hydraulic Breakers

Operation and Maintenance Manual

Register your WARRANTY within 30 days of purchase

BD-092

SATISFACTION BLUE DIAMOND® GUARANTEED

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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 in front of the attachment below the lifting hook 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.

Revision Date: 03.25.2025

Table of Contents

1. Introduction

1.1 *Attachment Identification*

1. Introduction

1.2 *About this Attachment*

The Blue Diamond® Hydraulic Breakers are 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.

1.3 *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

*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.

**Available for excavators only. Mount must be specified.

2. Safety

2.1 *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.

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 machine. 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 machine. 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 machine, 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 rotating parts of the machine.
- 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.

2.2 *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.
- 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

- 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.

2.2 *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 [Figure 1, Item 4] and the safe zone [Figure 1, Item 5].

The Operation or Danger Zone is the location where the operator has to work while the equipment is operating normally. The Operator's Zone is considered as a potentially dangerous area. Individuals should not be present in the Operation Zone [Figure 1, 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 [Figure 1, Item 2].

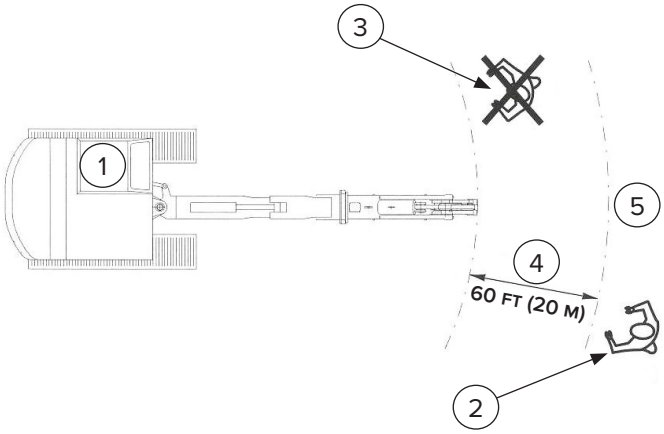


Figure 1

2.3 *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 (if applicable).
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.
- Check that the 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.
- Keep shields and guards in place. Replace if damaged.

2.3 *Safety Guidelines Cont'd*

Operating Safety Cont'd

- DO NOT operate equipment in poor visibility conditions such as fog, darkness, or any conditions that limit clear visibility less than 300 feet (100 m) in front of and to the sides of the equipment.
- When conditions make it necessary to slow ground speed, shift to a lower gear rather than reducing engine speed. The engine will maintain rated speed and keep cutter running at optimum cutting speed.
- 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.
- 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 Cont'd" on page 68.
- 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.

2.3 *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.

3. Operation

3.1 *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.**

- Lubricate the attachment per the schedule outlined in the Maintenance section. See "5.1 Service Schedule" on page 21.
- Check the mount frame for damage or cracks.
- Check that all shields and guards are in place.
- Check for loose bolts 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 Hydraulic Breaker 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.

3.2 *Transporting the Attachment*

CAUTION

The operator in charge of 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 Cont’d” on page 68.

In order to move the breaker safely when not attached to the excavator or skid steer, it is necessary to use a suitable and safe lifting system as seen in Figure 2.

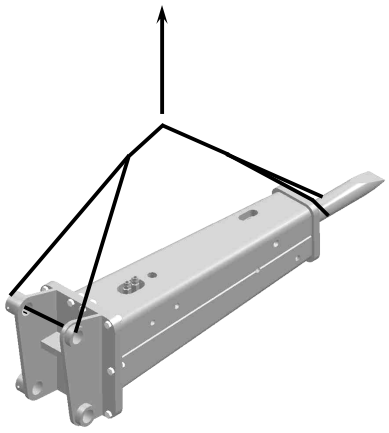


Figure 2

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

WARNING

Always move with care; each inappropriate movement can be very dangerous.
DO NOT pass or stop under the breaker when it is lifted.

3.3 *Entering and 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 attachment safety treads, handles, and steps (on the machine) to enter the operator’s position.

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

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 park brake, stop the engine, and wait for all moving parts to stop. Leave the operator’s position.

3.4 *Attachment Installation with 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 12.

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 12.

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 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

Throughly 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.

Connect the pressure line 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 dependent upon the model.

3.4 *Attachment Installation with Skid Steer Cont'd*

HB50 – HB95

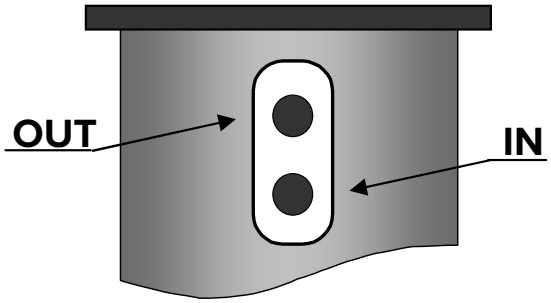


Figure 3

HB165 – HB530

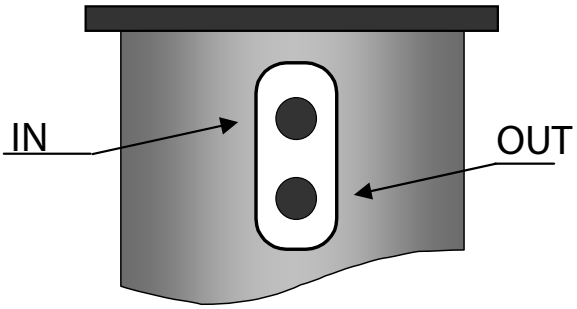


Figure 4

HB950

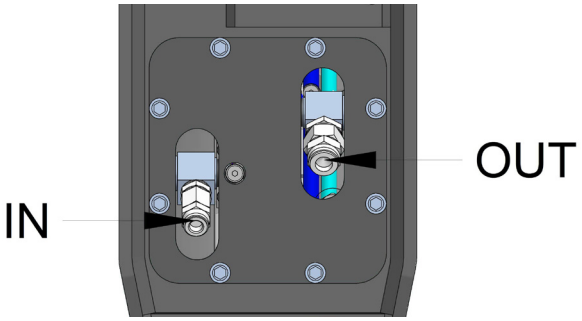


Figure 5

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 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 12.

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 12.

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.

3.5 *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 attachment to come off.

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

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 and install the appropriate hardware.

Torque hardware to the specification detailed in "7.2 Torque Specifications" on page 70.

Position the excavator at the rear of the attachment.

Extend the tool cylinder and paddle until the pin position is aligned.

Leave the operator's position. See "Leaving the Operator's Position" on page 12.

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

Enter the operator's position. See "Entering the Operator's Position" on page 12.

Adjust the height of the dipperstick to align with the pin position.

Leave the operator's position. See "Leaving the Operator's Position" on page 12.

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

Connecting Hydraulic Hoses

IMPORTANT

Throughly 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.

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.

3. Operation

3.6 *Operating the Attachment*

WARNING

Before performing any of the actions in this section, section 2. 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 machine or carry out any maintenance operations. Contact your local dealer or Blue Diamond® Product Support immediately to ensure your safety and that of the machine.

WARNING

- The operator MUST follow all instructions explain 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 breaker to ensure the host machine is delivering the correct oil flow rate to the breaker. 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 breaker.

Usage Instructions

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

WARNING

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 breaker as close to the excavator as possible. Avoid full extension of the boom cylinders [Figure 6, Items 1 and 2].

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

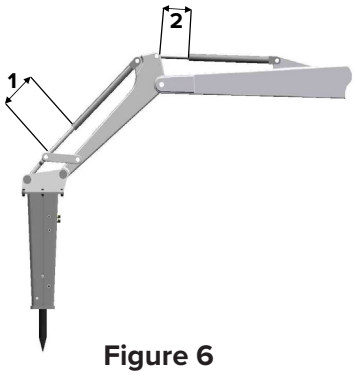


Figure 6

Do not operate the 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 7.

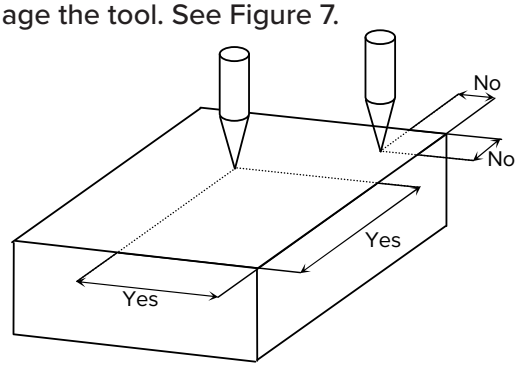


Figure 7

3.6 *Operating the Attachment Cont'd*

Usage Instructions Cont'd

Operation Near/In Water or Wet Conditions

The breaker cannot operate in water if the water level exceeds the tool stroke [Figure 8] unless the breaker 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 the operation up to 50 – 60 ft (15 – 20 meters) underwater.

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

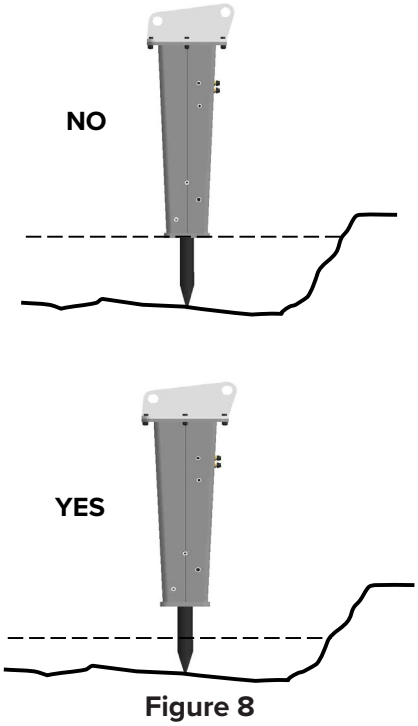


Figure 8

3.7 *Operations to Avoid*

Do Not Use as a Lever

The tool cannot be used as a lever to move rocks or other debris [Figure 9]. This operation can cause the tool to break or seize especially if this is done while the breaker is working [Figure 10].

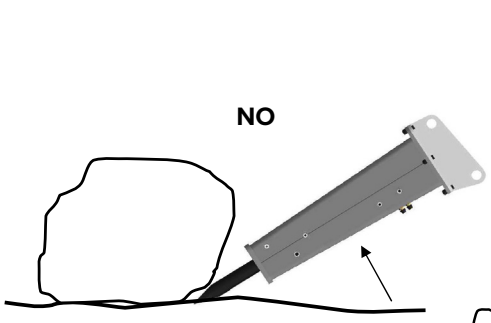


Figure 9

Figure 10

Moving Large Rocks

Do not move or pull large rocks or boulders using the breaker frame or tool to avoid cracking or plate deformation. See Figure 11.

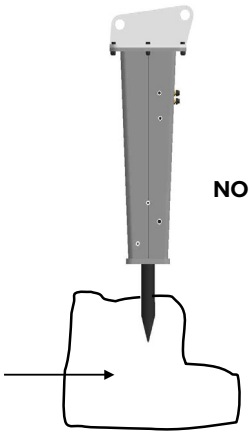


Figure 11

Stationary Hammering

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

WARNING

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

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).

3. Operation

3.7 *How to Install Greasing System (HB950 Only) — 135500*

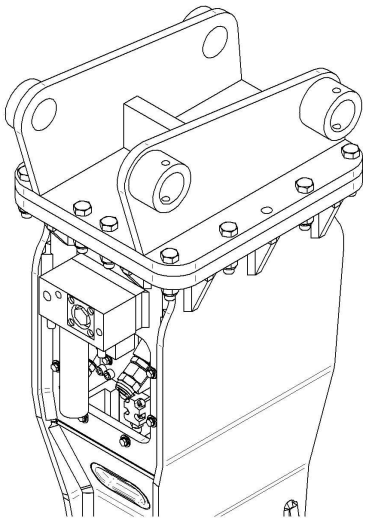
The HB950 Hydraulic Breaker can be equipped with a lubrication system.

For installation, follow Figure 12. The hoses of the grease (input and output) have to the 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



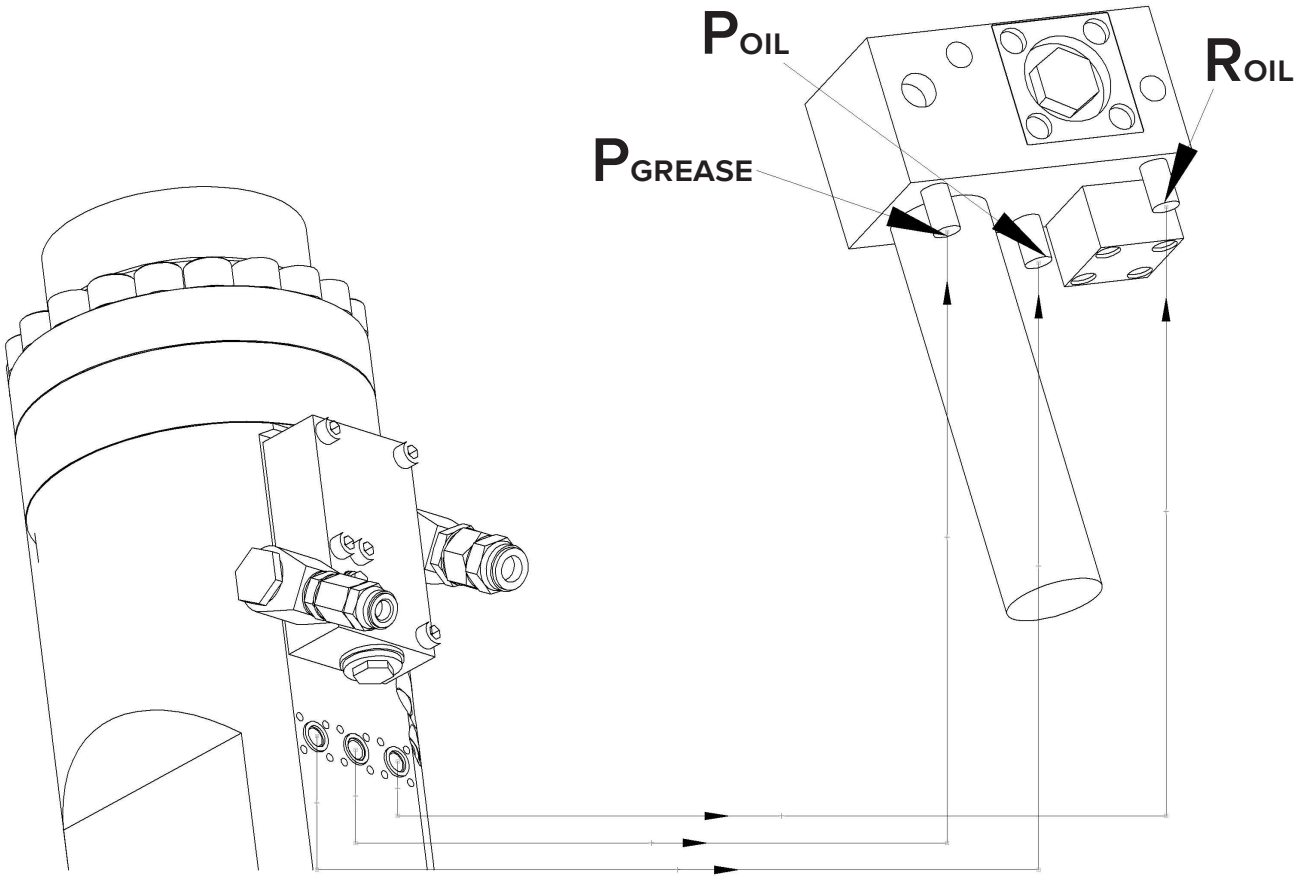


Figure 12

4. Breaker Tool

4.1 *Tool Replacement*

Tool Removal

WARNING

Always wear proper heat resistant work gloves before replacing the tool because the tool overheats during use.

Position the breaker vertically, touching the ground [Figure 13]. Lift the breaker up a few inches off the ground so that the excavator boom supports the breaker's weight, but the tool is still making contact with the ground.

Figure 13

Press the retainer pin with a screwdriver so that the prominent part returns into its seat [Figure 14, Operation 1].

With a second screwdriver, press on the retainer pin for the tool and push it out until it can be removed with gloved hands. [Figure 14, Operation 2].

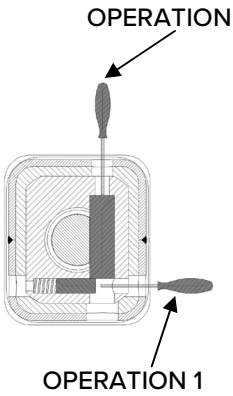


Figure 14

Enter the operator's position (see "Entering the Operator's Position" on page 12) and unblock the hydraulic system.

Lift the breaker vertically until the damaged tool slides out.

Tool Installation

Place the breaker horizontally on the ground with the tool lined up in front of it.

Grease the part that must fit into the guide well.

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 lbs. Check the weight in "7.1 Attachment Specifications Cont'd" on page 68.

Then, push from the other side and fit the tool completely into the guide [Figure 15]. Rotate the tool so that its milled side sets parallel to the pin guide. Insert the tool retainer pin.

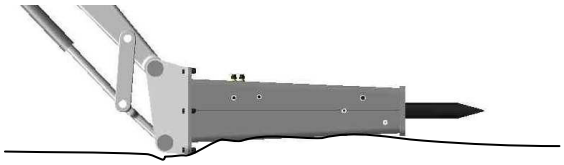


Figure 15

4.2 *Tool Types and Uses*

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

Blunt Tool

The blunt tool [Figure 16, Item A] has a rounded end that is suitable for stone crushing. These are normally used on small and medium sized breakers.

Chisel Tool

The chisel tool [Item B] has 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 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 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 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 diggings. These can be used on small and medium breakers.

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 breakers.

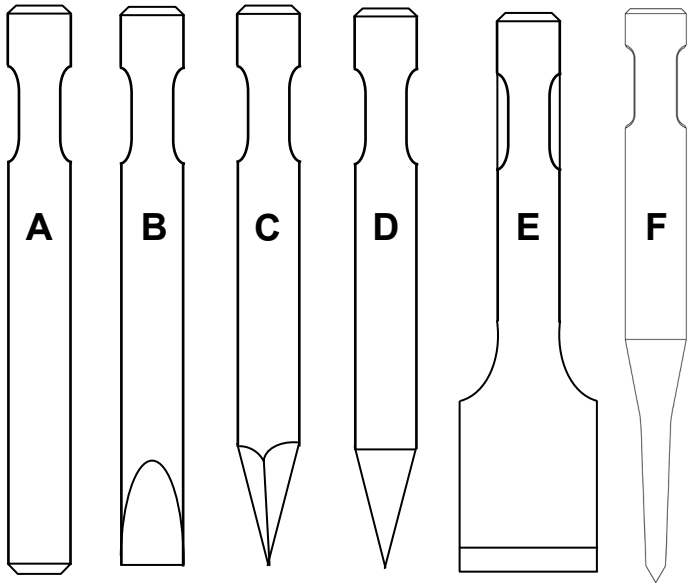


Figure 16

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

WARNING

Never operate on the breaker or on the hydraulic system when they are under pressure or at high temperatures.

It is always essential to remove the connecting hoses between the breaker and the excavator.

5.2 *Maintenance & Inspection*

The hydraulic breaker requires minimal maintenance for a long, operational life.

IMPORTANT

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

Greasing

IMPORTANT

The breaker must be greased at minimum every 2 hours of operation. A proper quantity of grease must be used.

Remember to only use a 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 lifespan 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.

5.3 *Hydraulic System Checks*

Hydraulic Oil Temperature

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

Higher temperature can cause an irregular working condition and the breaker could stop.

Hydraulic Oil Levels

It is absolutely necessary to pay attention to the hydraulic oil level in the (excavator) machine's tank. If there is not enough oil, the breaker can vibrate or work irregularly.

It is important to check the hydraulic hoses in order to find damage, kinks / crushing, or oil leaks.

5.4 *Weekly Maintenance*

Chipping or Cracks on the Tool or Pin

Take the tool out in order to determine possible chipping or cracks in the bushing and on the surface of the tool pin. (See “4.1 Tool Replacement” on page 19 for the removal and reinstallation process.)

Use a sanding disk to polish the trimmings that can be seen on the surface between the tool and the retainer pin for the tool [Figure 17, Items B].

Marks indicate insufficient lubrication, use of unsuitable oil, or improper use of the breaker.

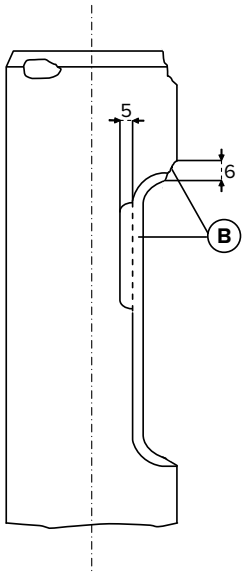


Figure 17

Retainer Pin Wear

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

Tool Bushings Wear

Check the wear on the tool bushings. If the inside diameter is bigger than the value indicated in the 7. Specifications, contact Blue Diamond® Product Support for assistance for changing the bushings.

Loosening Bolts

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

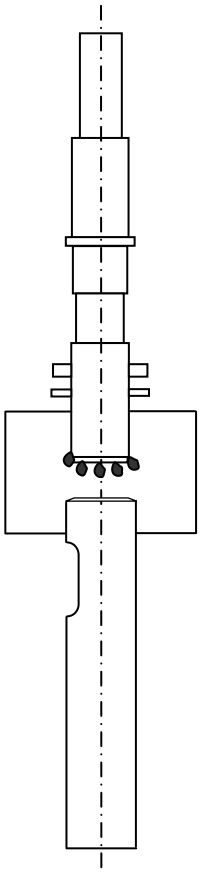
- Screws fixing the head/bracket
- Screws fixing the flanges/hose joints

5.5 *End of Operation*

When ending the work day, the breaker will be hot. Before leaving, drive the breaker vertically in the ground so that the condensed water can be easily emptied through the prominent part of the piston, thus avoiding oxidation.

5.6 *Storage*

When the breaker is disconnected from the excavator boom or skid steer mount and is left in storage for a long time, it is necessary to do the following:



- Remove the tool, push the piston (with a tube) as high as possible, grease abundantly, and reinstall the tool. See Figure 18.
- *This prevents the piston terminal from rusting.*
- The breaker must be stored in an enclosed place sheltered from weather.

Figure 18

5. Maintenance

5.7 *Accumulator*

HB50

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

HB95 and Above

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

IMPORTANT

The Long Screws must be unscrewed in order to remove the accumulator from the monoblock. The following illustrations highlight the long screws, which are marked by an "X".

HB95

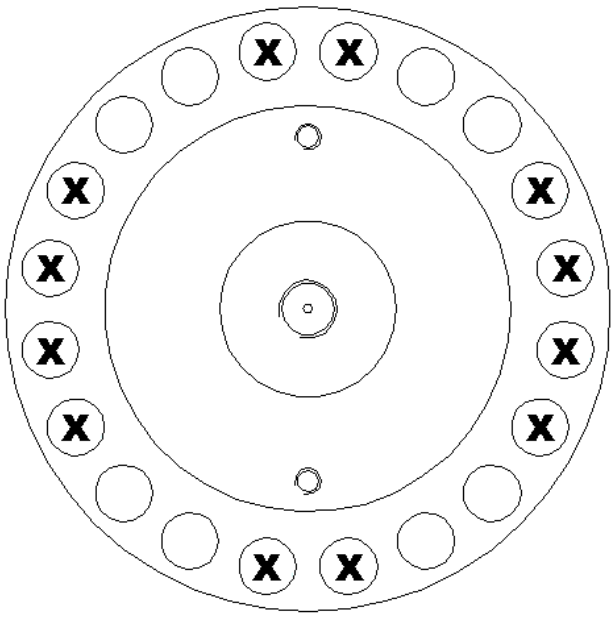


Figure 19

HB165

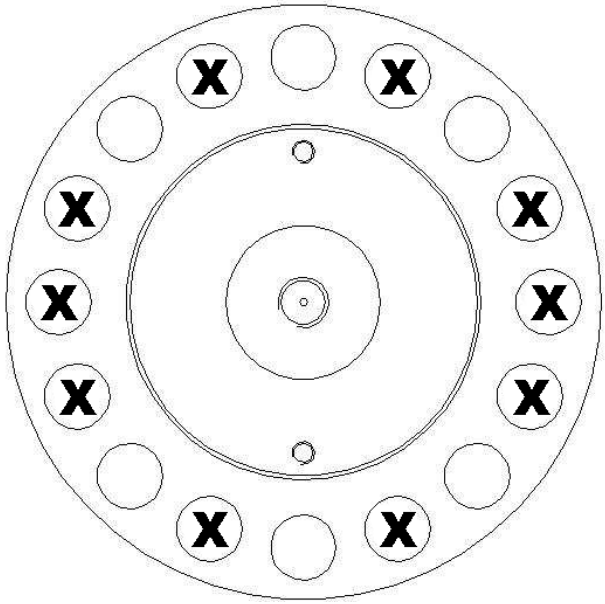


Figure 20

HB210

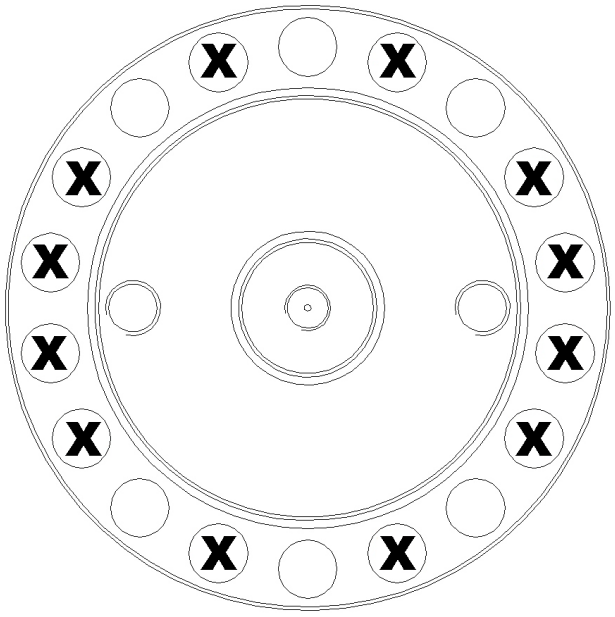


Figure 21

5.7 *Accumulator Cont'd*

HB300 – HB950

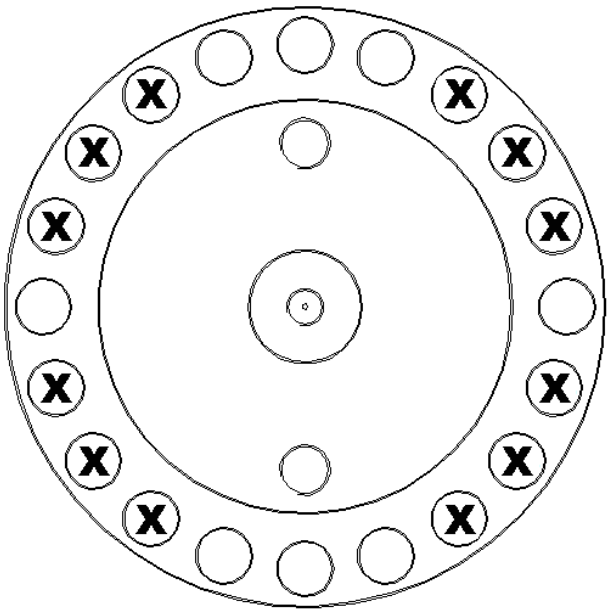


Figure 22

5.8 *Instructions for Scrapping*

The various materials composing the machine must be demolished in appropriate dumping grounds.

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

The main materials composing the 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.

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

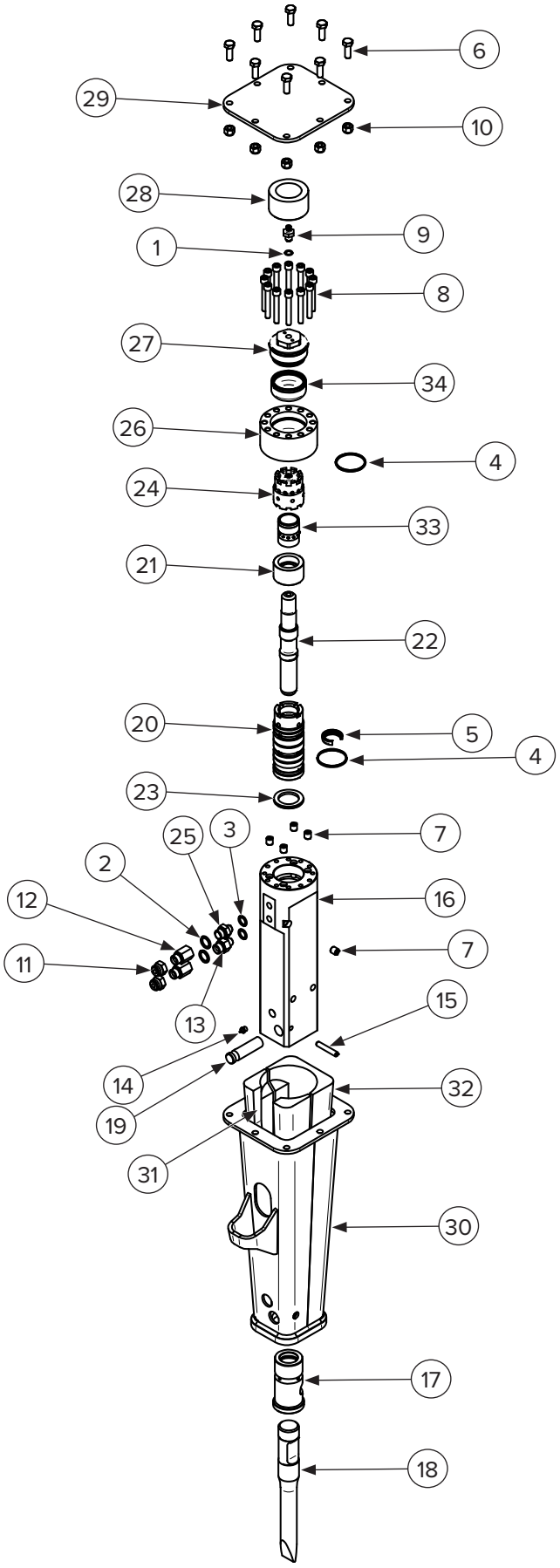
5. Maintenance

5.9 *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 totally blocked. Remove blockage.
		Check if the taps are partially for totally closed. Remove obstacles.
Even though the breaker is lifted up, the tool does not slide downward.	Insufficient greasing or dirt has entered 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.
The breaker suddenly stop after four or five blows just after touching the ground surface.	The piston is at the bottom of the automatic brake, and the tool is completely out.	The material is usually soft. The tool sticks out but does not go in again. The breaker must be reloaded correctly, and the load must be kept constant. Improve operation by keeping the breaker as perpendicular to the surface as possible while operating.
Oil is leaking from the hoses' connection block.	The O–Ring is damaged.	Take down the block, and change the seals.
Oil is leaking from the hoses.	The hose is damaged.	Reinstall and replace the hose.
	The hose is installed incorrectly and not correctly tightened.	Reinstall the hose correctly with proper tightness.
The breaker stop after a few blows even after being reinstalled.	Dirt entered the breaker through the hose connections.	Take down the breaker; clean and replace the damaged components.
Oil is leaking from the tool.	Seals are worn out and the piston surface has marks.	Replace the seals and any other damaged parts.
The breaker beats with a weak penetration force and the high pressure hose has too many vibrations.	The accumulator has lost the pre–charge or the diaphragm is broken.	Restore the correct pressure.
		The diaphragm may need to be replaced before restoring the correct nitrogen pressure.
The breaker increases the number of blows but the power decreases.	The tool support seal (support ring) is worn out. The piston shortens the stroke.	Make sure the tool support seal (supporting ring) is intact. Proceed as follows: 1. Lay the 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 end of the tool is lower or equivalent to the one indicated in "7.1 Attachment Specifications Cont'd" on page 68. If it is longer, replace the support ring immediately.

6. Parts

6.1 *Main Components — HB50*



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	235285	Adapting Plate	1

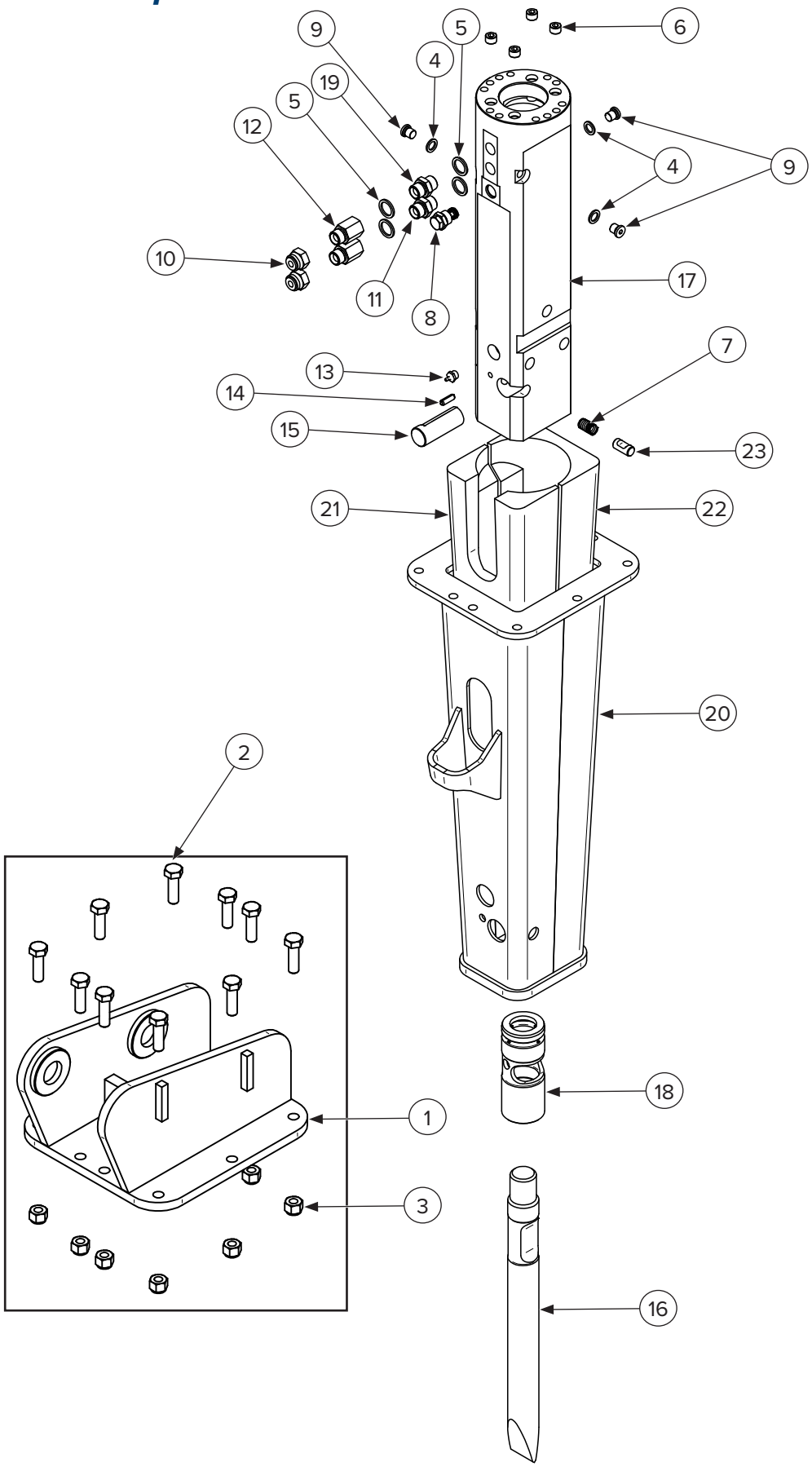
6. Parts

6.1 *Main Components — HB50 Cont'd*

ITEM	PART NUMBER	DESCRIPTION	QTY
30	—	Metal Case	1
31	235286	Front Shell	1
32	235287	Back Shell	1
33	235288	Distributor Valve	1
34	235289	Diaphragm	1
35 (NS)	135405	Hose Kit for Mini Skid Steer & Excavator	1

6. Parts

6.2 *Main Components — HB95*



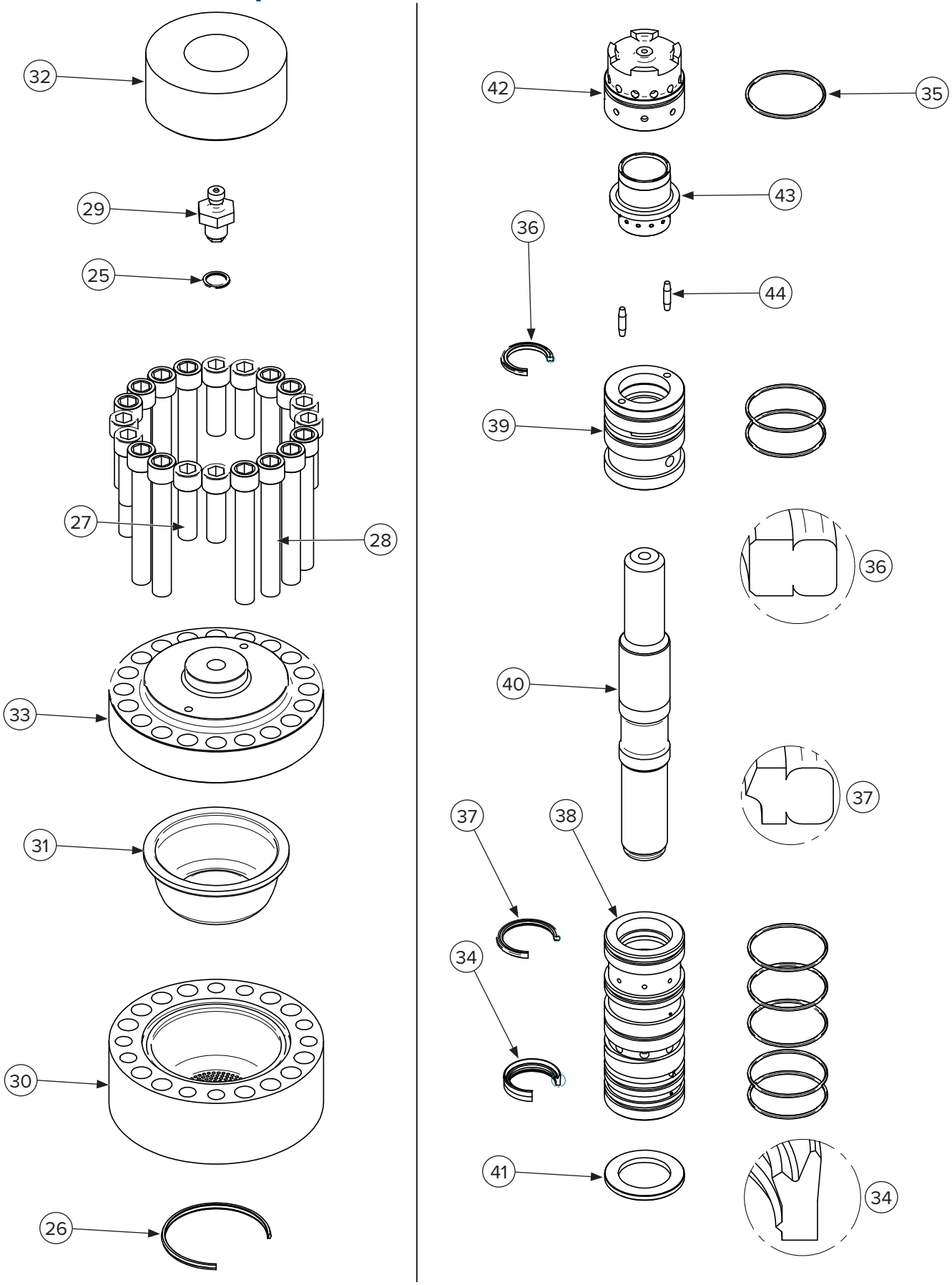
6. Parts

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	—	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	—	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	—	Nipple	1
20	—	Metal Case	1
21	—	Front Shell	1
22	—	Back Shell	1
23	—	Tool Retainer Pin	1
24 (NS)	135425	Hose Kit for Skid Steer	1
	135405	Hose Kit for Excavator	

6. Parts

6.3 *Internal Components — HB95*



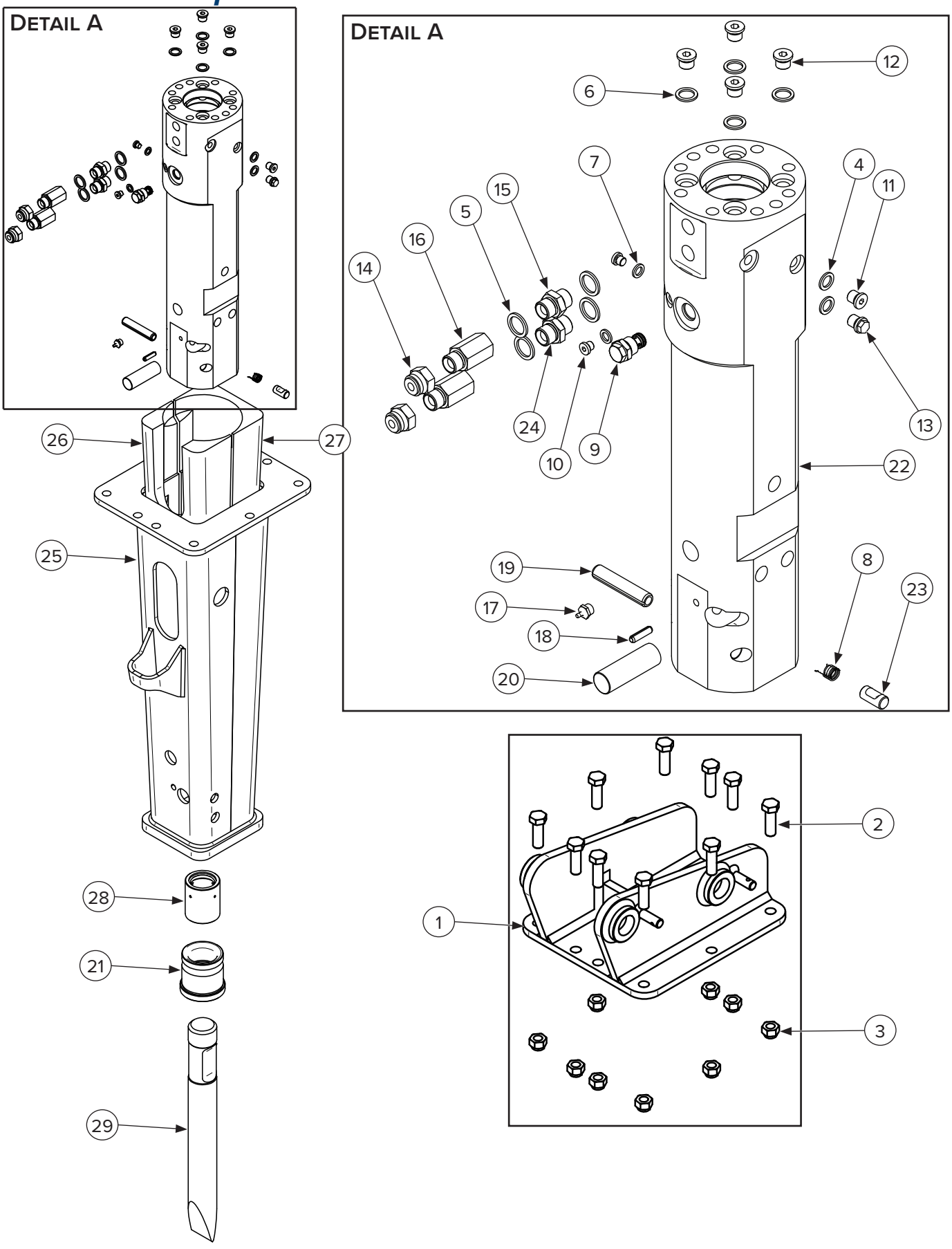
6. Parts

6.3 *Internal Components — HB95 Cont'd*

ITEM	PART NUMBER	DESCRIPTION	QTY
25	236504	O–Ring	1
26	235268	Seal	1
27	—	Screw (Short)	8
28	—	Screw (Long)	12
29	235205	Gas Charging Valve	1
30	—	Accumulator Base	1
31	235262	Diaphragm	1
32	235269	Upper Buffer	1
33	—	Accumulator Cover	1
34	235271	Lower Body Bushing Seal	1
35	235272	Piston O–Ring	8
36	235273	Central Body Bushing Seal	1
37	235274	Lower Body Bushing Upper Seal	1
38	235259	Lower Body Bushing	1
39	—	Upper Body Bushing	1
40	235260	Piston	1
41	—	Body Bushing Ring	1
42	—	Distributor Bushing	1
43	—	Distributor Valve	1
44	—	Piloting Piston	2

6. Parts

6.4 *Main Components — HB165*



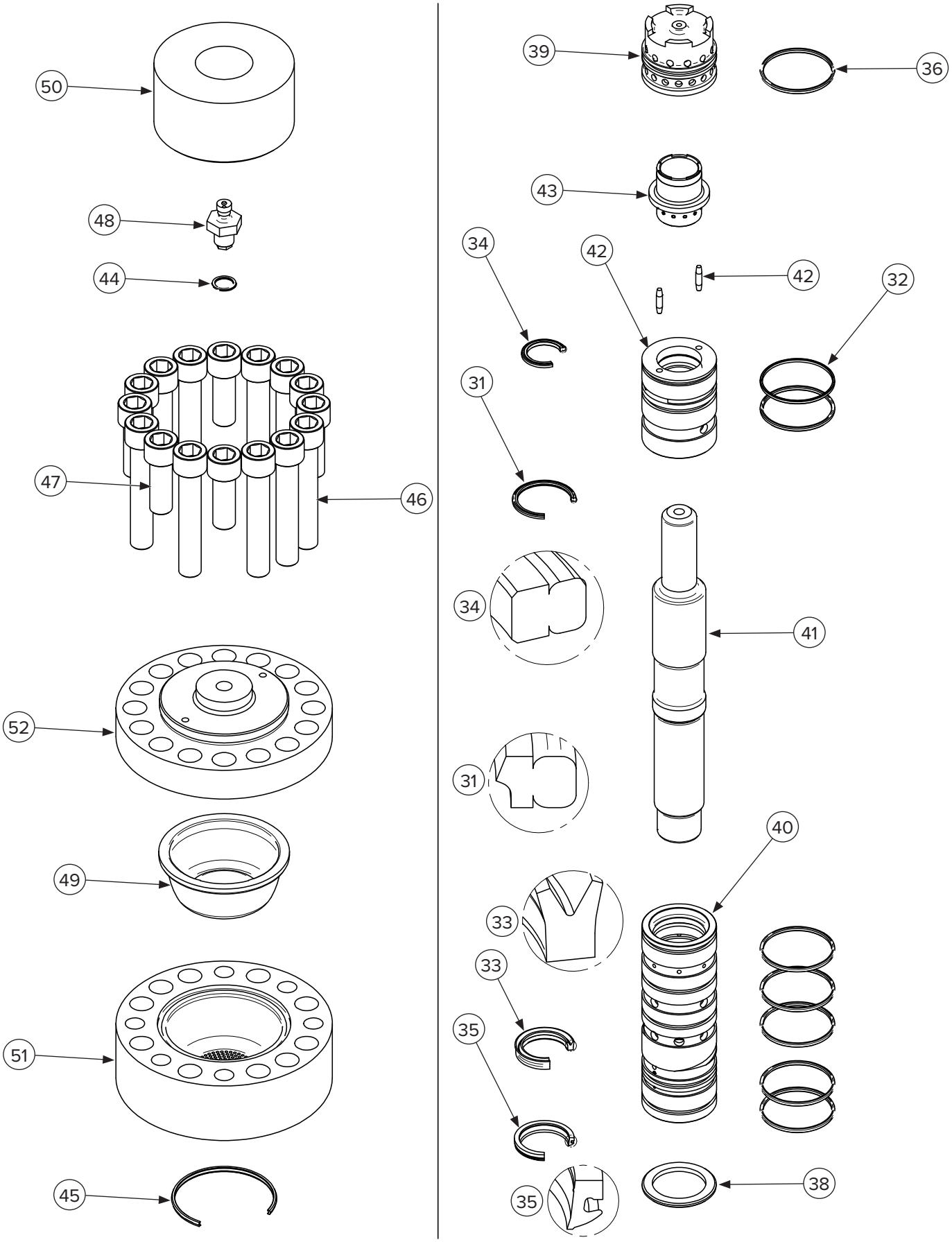
6. Parts

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	—	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)	
30 (NS)	135425	Hose Kit for Skid Steer	1
	135405	Hose Kit for Excavator	

6. Parts

6.5 *Internal Components — HB165*

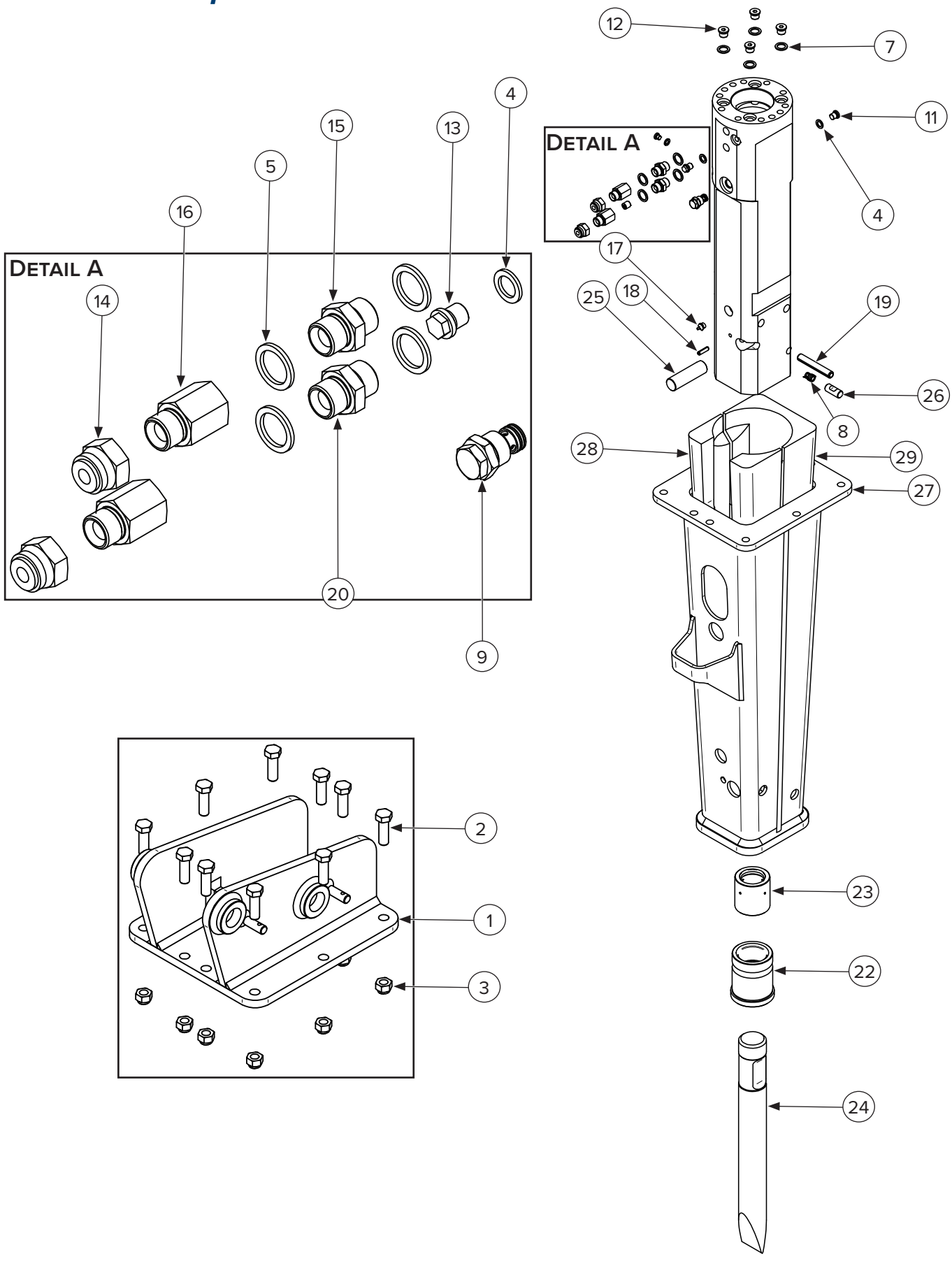


6.5 *Internal Components — HB165 Cont'd*

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

6. Parts

6.6 *Main Components — HB210*

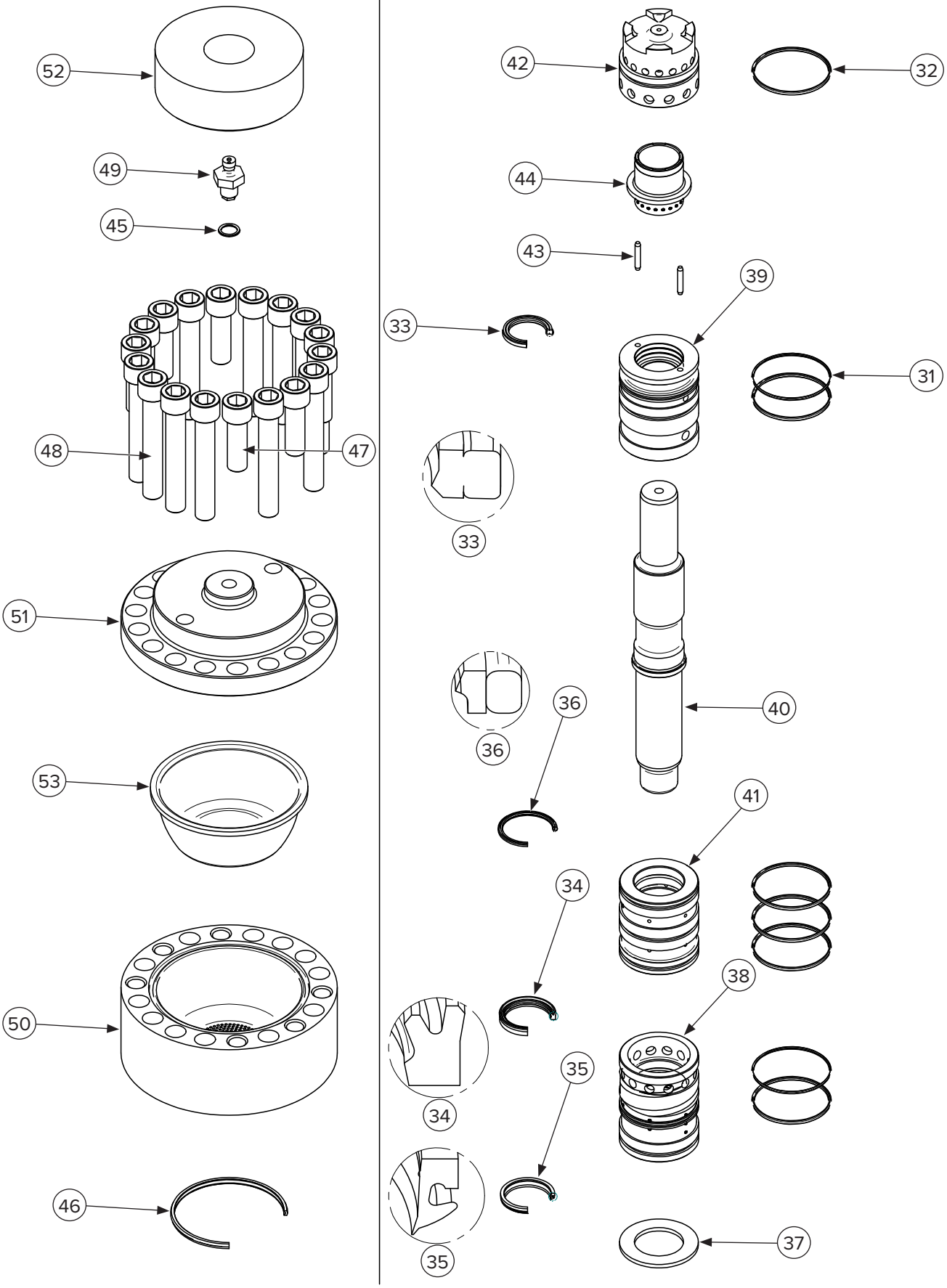


6. Parts

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	—	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
30 (NS)	135425	Hose Kit for Skid Steer	1
	135405	Hose Kit for Excavator	

6.7 *Internal Components — HB210*



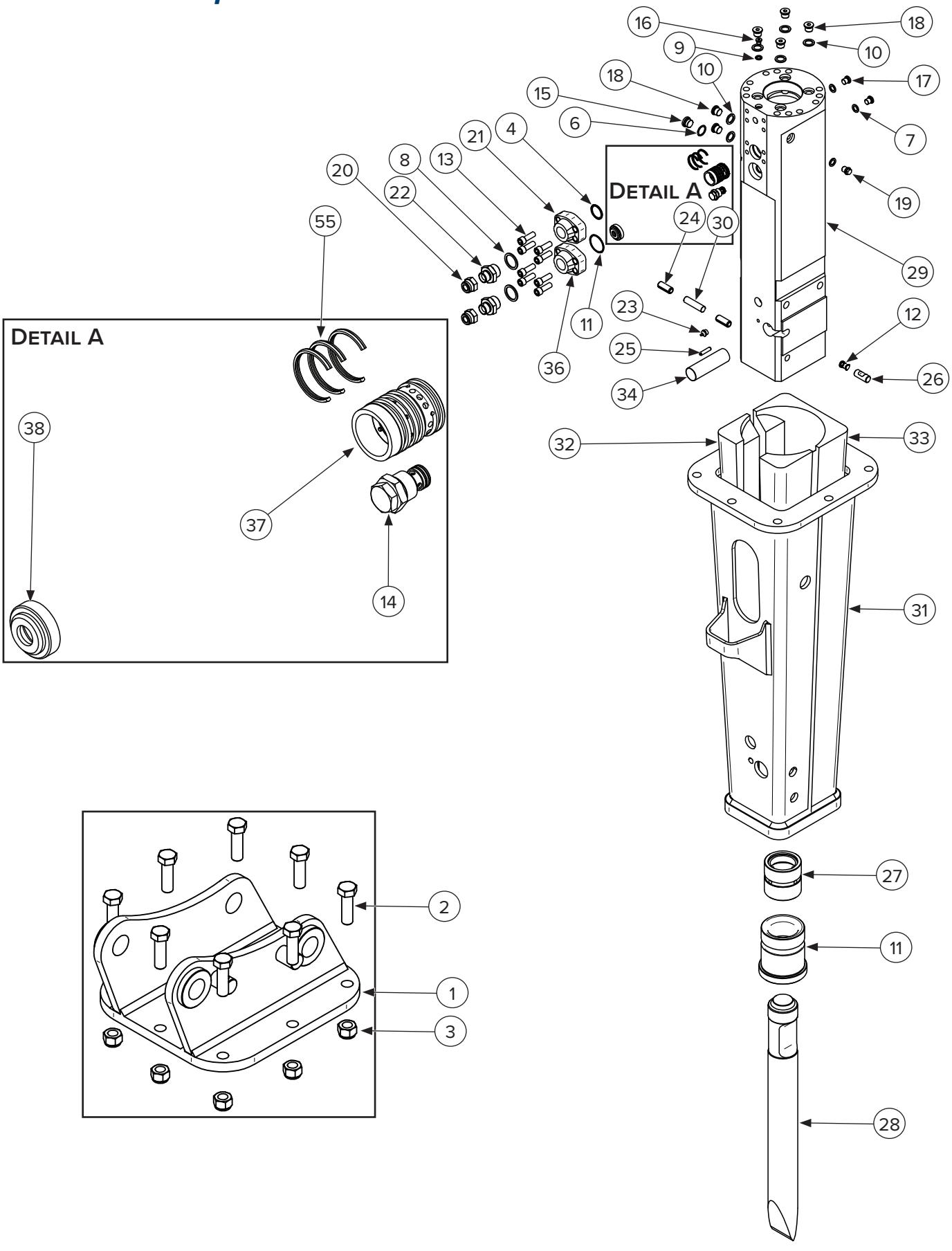
6. Parts

6.7 *Internal Components — HB210 Cont'd*

ITEM	PART NUMBER	DESCRIPTION	QTY
31	235070	Upper Body Bushing O–Ring	2
32	235071	Distributor Bushing O–Ring	6
33	235072	Upper Body Bushing Seal	1
34	235073	Lower Body Bushing Upper Seal	1
35	235074	Lower Body Bushing Lower Seal	1
36	235075	Central Body Bushing Seal	1
37	235077	Body Bushing Ring	1
38	235078	Lower Body Bushing	1
39	—	Upper Body Bushing	1
40	235079	Piston	1
41	235080	Central Body Bushing	1
42	—	Distributor Bushing	1
43	235237	Piloting Piston	2
44	235236	Distributor Valve	1
45	236504	O–Ring	1
46	235076	Accumulator Base Seal	1
47	—	Screw (Short)	6
48	—	Screw (Long)	12
49	235205	Gas Charging Valve	1
50	—	Accumulator Base	1
51	—	Accumulator Cover	1
52	—	Upper Buffer	1
53	235086	Diaphragm	1

6. Parts

6.8 *Main Components — HB300*



6. Parts

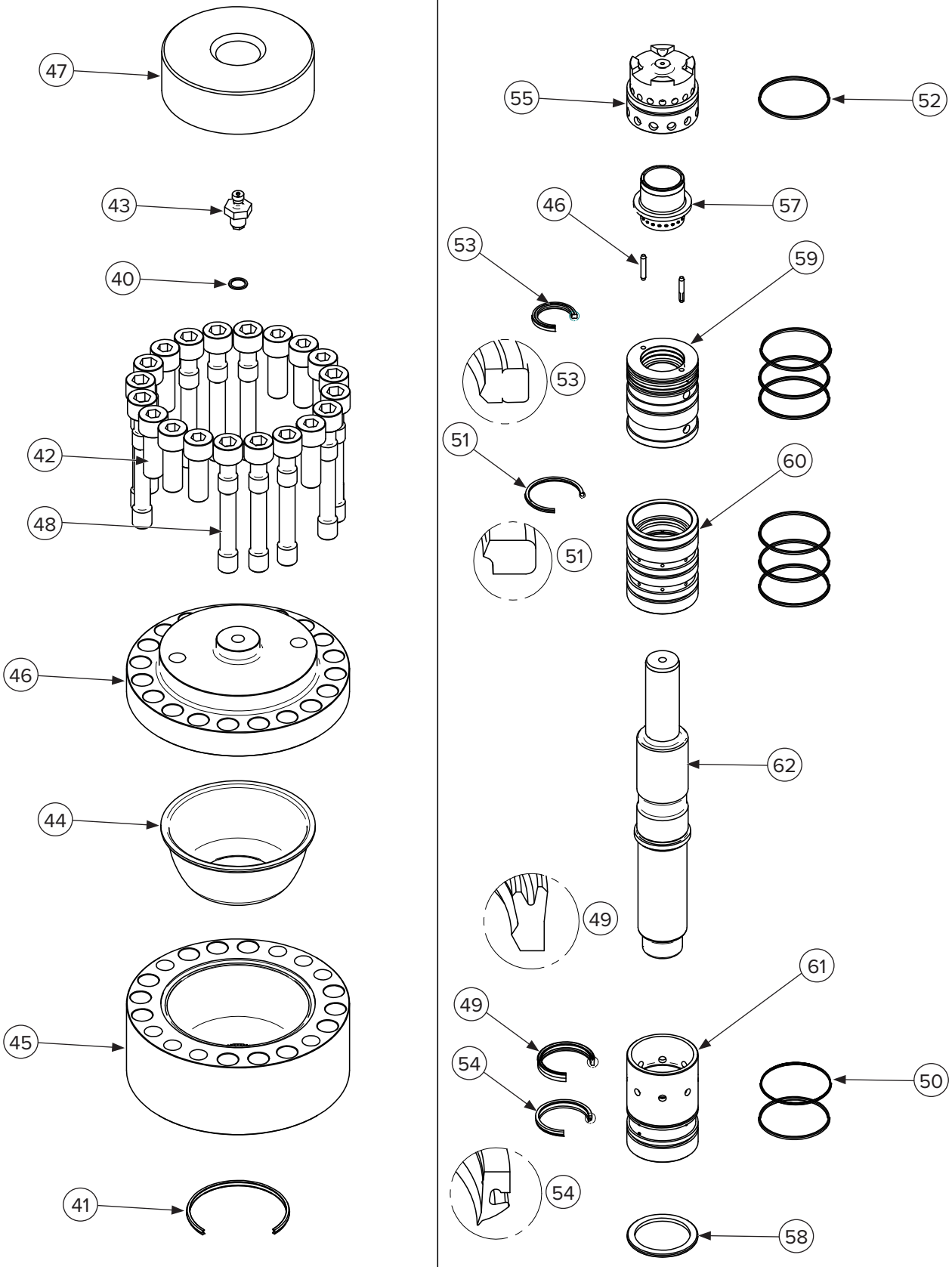
6.8 *Main Components — HB300 Cont'd*

ITEM	PART NUMBER	DESCRIPTION	QTY
1	—	Adapting Plate	1
2	—	Mount Plate Bolt	8
3	—	Mount Plate Nut	8
4	—	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	—	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	—	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	—	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

6.8 *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	235244	Valve Plug	1
39 (NS)	135430	Hose Kit for Skid Steer	1
	135410	Hose Kit for Excavator	

6.9 *Internal Components — HB300*

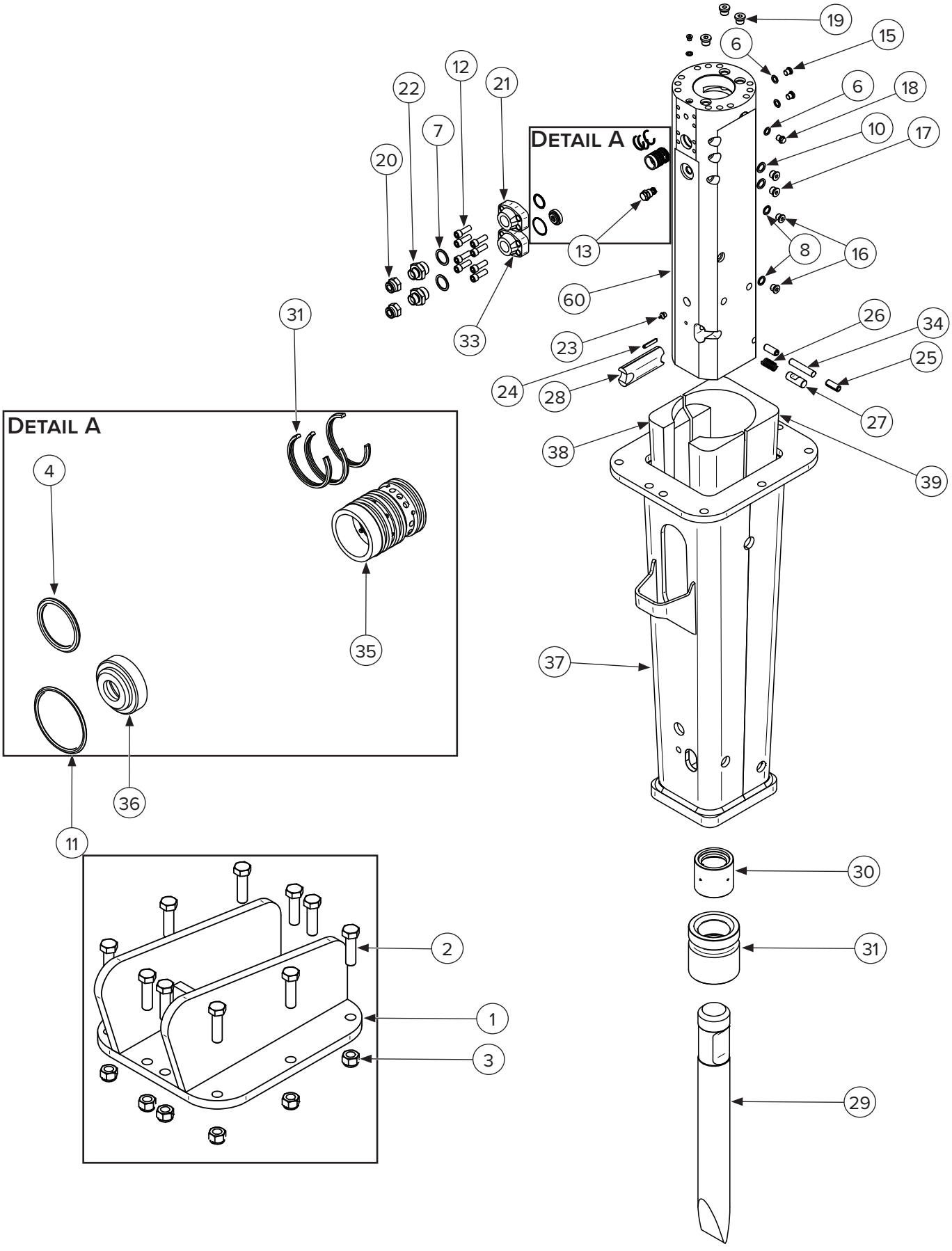


6.9 *Internal Components — HB300 Cont'd*

ITEM	PART NUMBER	DESCRIPTION	QTY
40	236504	O–Ring	1
41	235076	Accumulator Base Seal	1
42	—	Screw (Short)	8
43	235205	Gas Charging Valve	1
44	235210	Diaphragm	1
45	—	Accumulator Base	1
46	—	Accumulator Cover	1
47	—	Upper Buffer	1
48	235313	Accumulator Housing Long Screw	1
49	235314	Lower Body Bushing Top Seal	1
50	235070	Upper Body Bushing O–Ring	1
51	235316	Central Body Bushing Seal	1
52	235071	Distributor Bushing O–Ring	8
53	235072	Upper Body Bushing Seal	1
54	235319	Lower Body Bushing Bottom Seal	1
55	—	Distributor Bushing	1
56	235237	Piloting Piston	2
57	235236	Distributor Valve	1
58	—	Body Bushing Ring	1
59	235241	Upper Body Bushing	1
60	235240	Central Body Bushing	1
61	235235	Lower Body Bushing	1
62	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	—	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

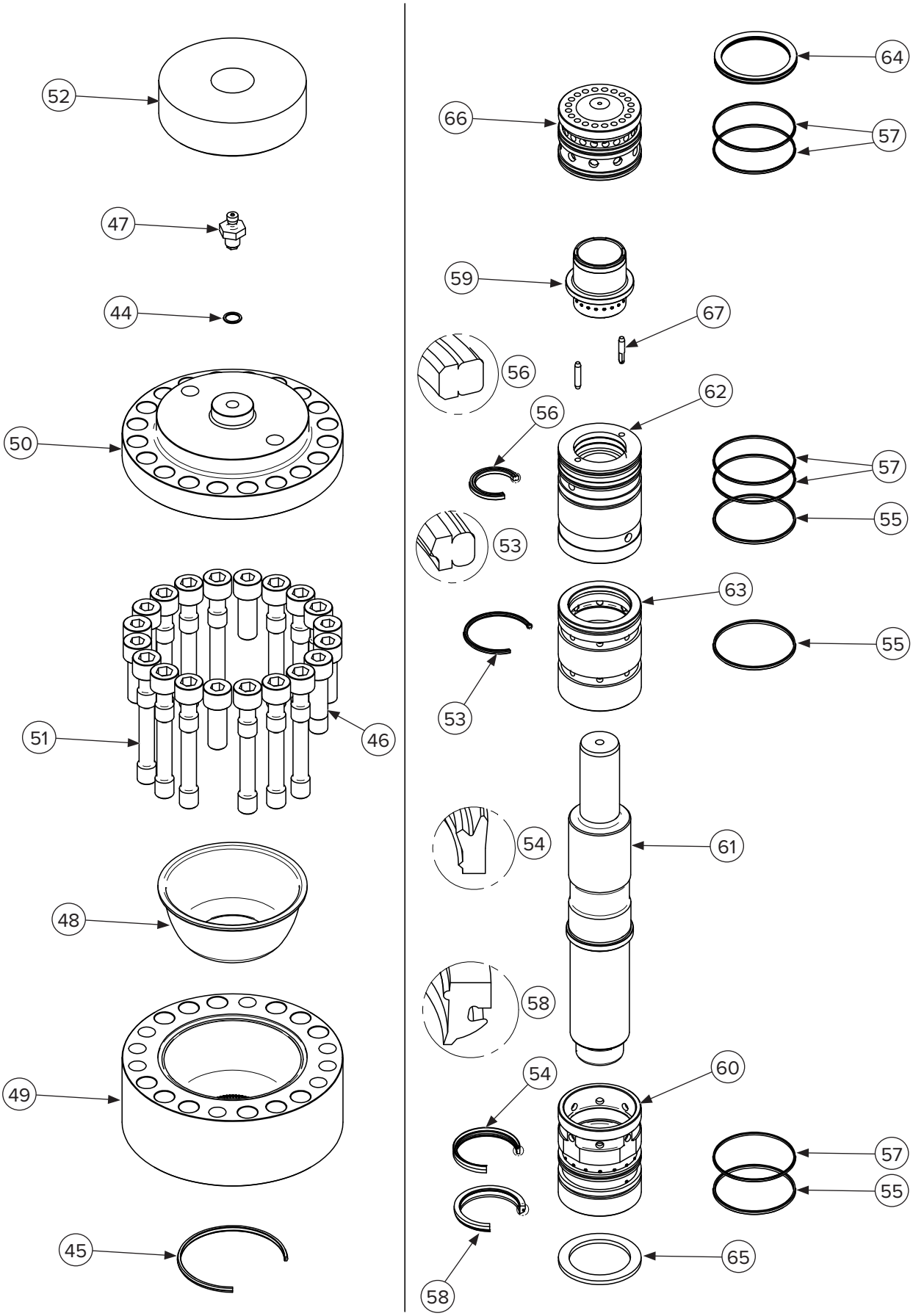
6. Parts

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 (NS)	135435	Hose Kit for Skid Steer	1
	135415	Hose Kit for Excavator	

6. Parts

6.11 *Internal Components — HB400*



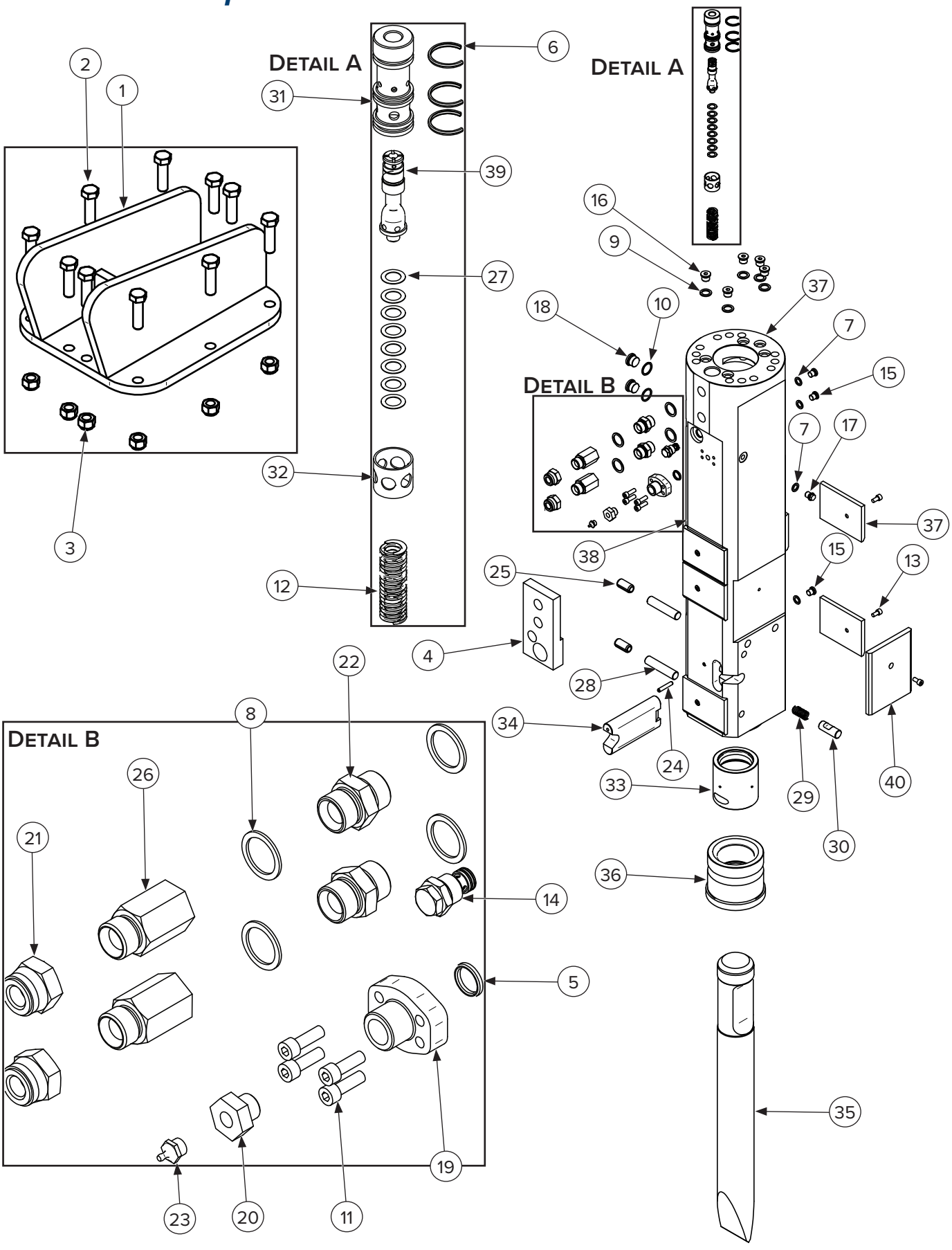
6. Parts

6.11 *Internal Components — HB400 Cont'd*

ITEM	PART NUMBER	DESCRIPTION	QTY
44	236504	O—Ring	1
45	—	Seal	1
46	—	Screw (Short)	8
47	235205	Gas Charging Valve	1
48	235210	Diaphragm	1
49	—	Accumulator Base	1
50	—	Accumulator Cover	1
51	235313	Accumulator Housing Long Screw	12
52	—	Upper Buffer	1
53	—	Seal	1
54	—	Seal	1
55	235430	Body Bushing O–Ring	3
56	—	Seal	1
57	235431	Body Bushing O–Ring	5
58	—	Seal	1
59	—	Distributor Valve	1
60	—	Lower Body Bushing	1
61	—	Piston	1
62	—	Upper Body Bushing	1
63	—	Central Body Bushing	1
64	235217	Cupped Spring Washer	4
65	235214	Body Bushing Ring	1
66	—	Distributor Bushing	1
67	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

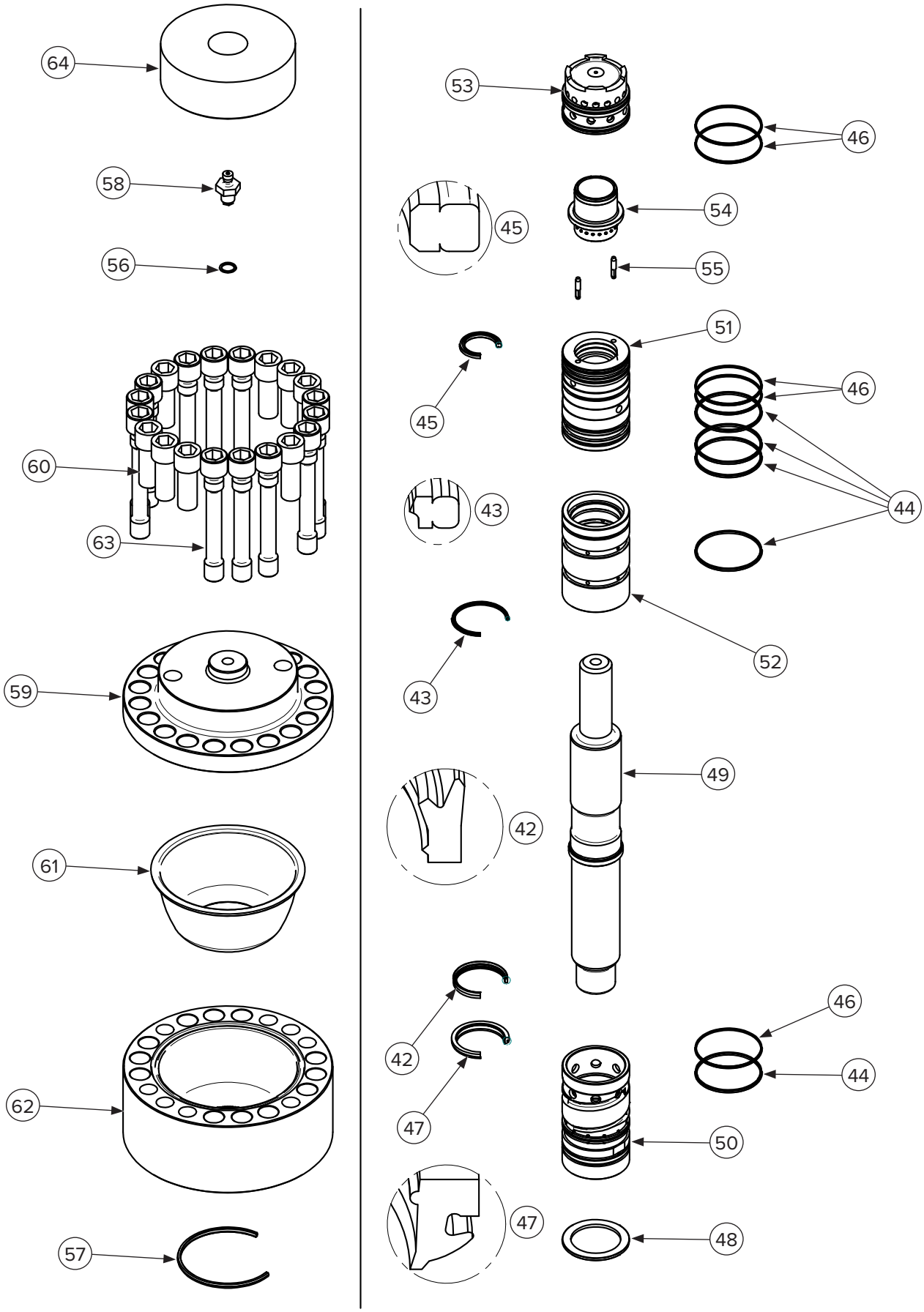
6. Parts

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 (NS)	135435	Hose Kit for Skid Steer	1
	135415	Hose Kit for Excavator	

6. Parts

6.13 *Internal Components — HB530*

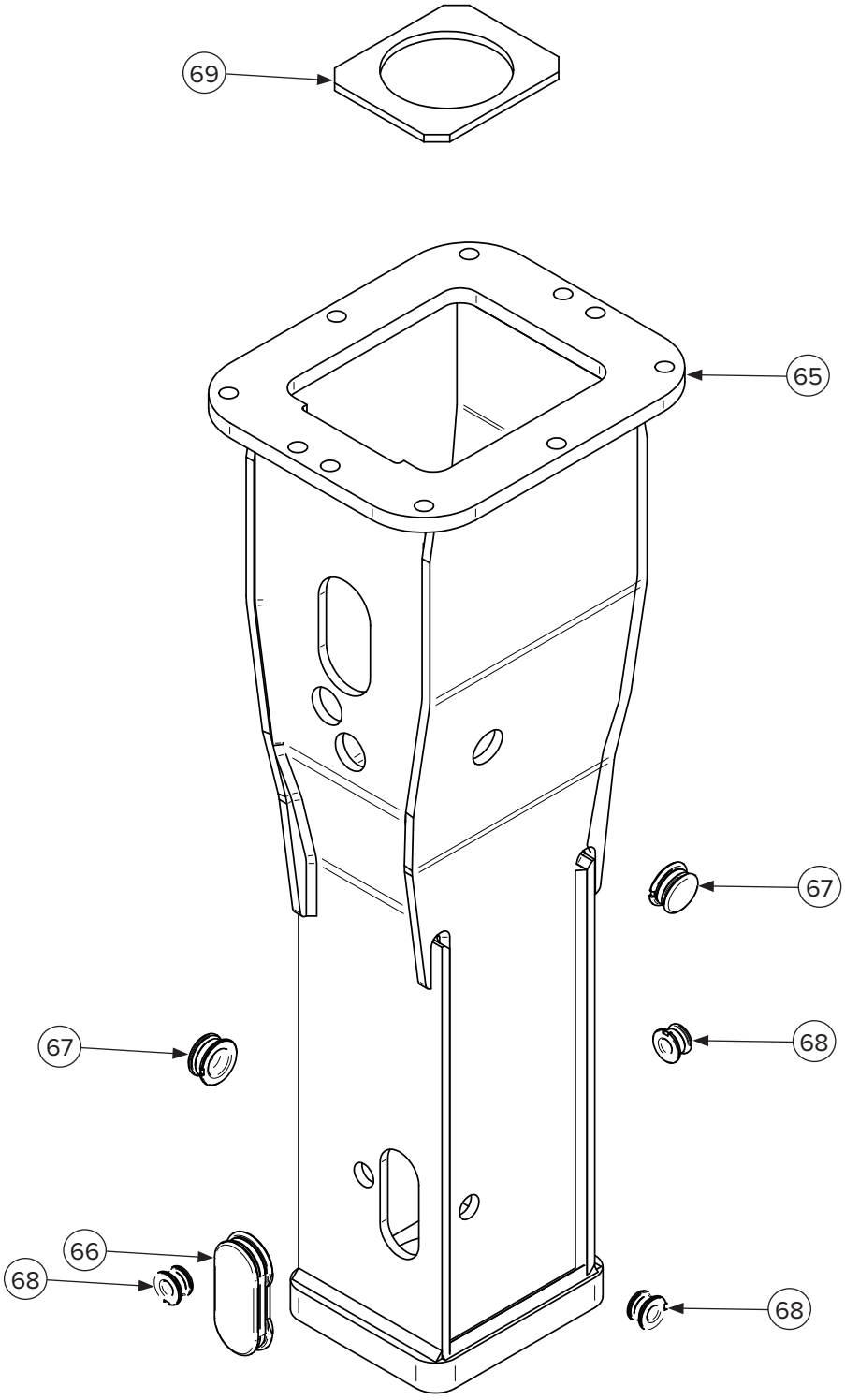


6.13 *Internal Components — HB530 Cont'd*

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

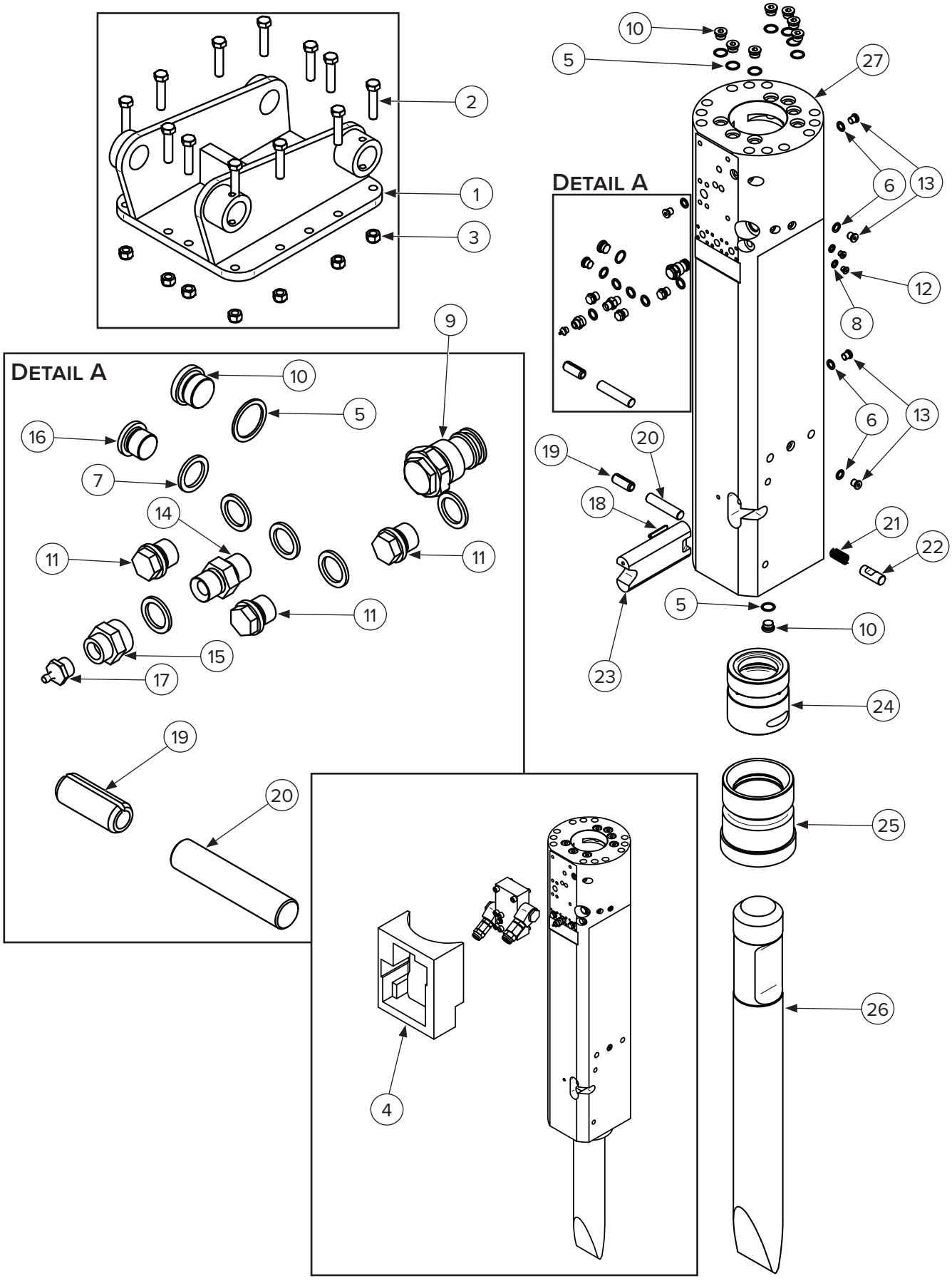
6. Parts

6.14 *Case Components — HB530*



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

6.15 *Main Components — HB950*

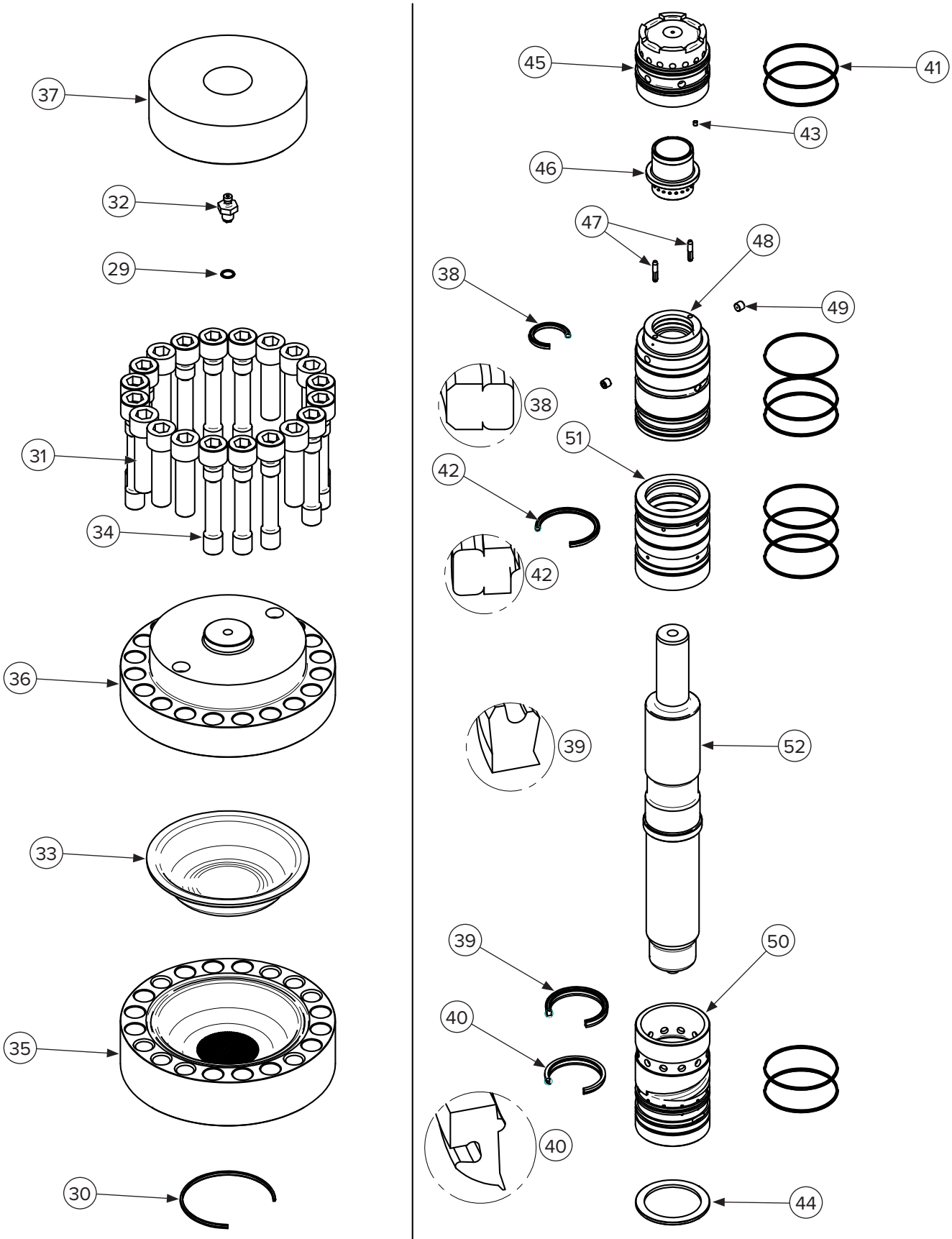


6. Parts

6.15 *Main Components — HB950 Cont'd*

ITEM	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 (NS)	135420	Hose Kit for Excavator	1

6.16 *Internal Components — HB950*



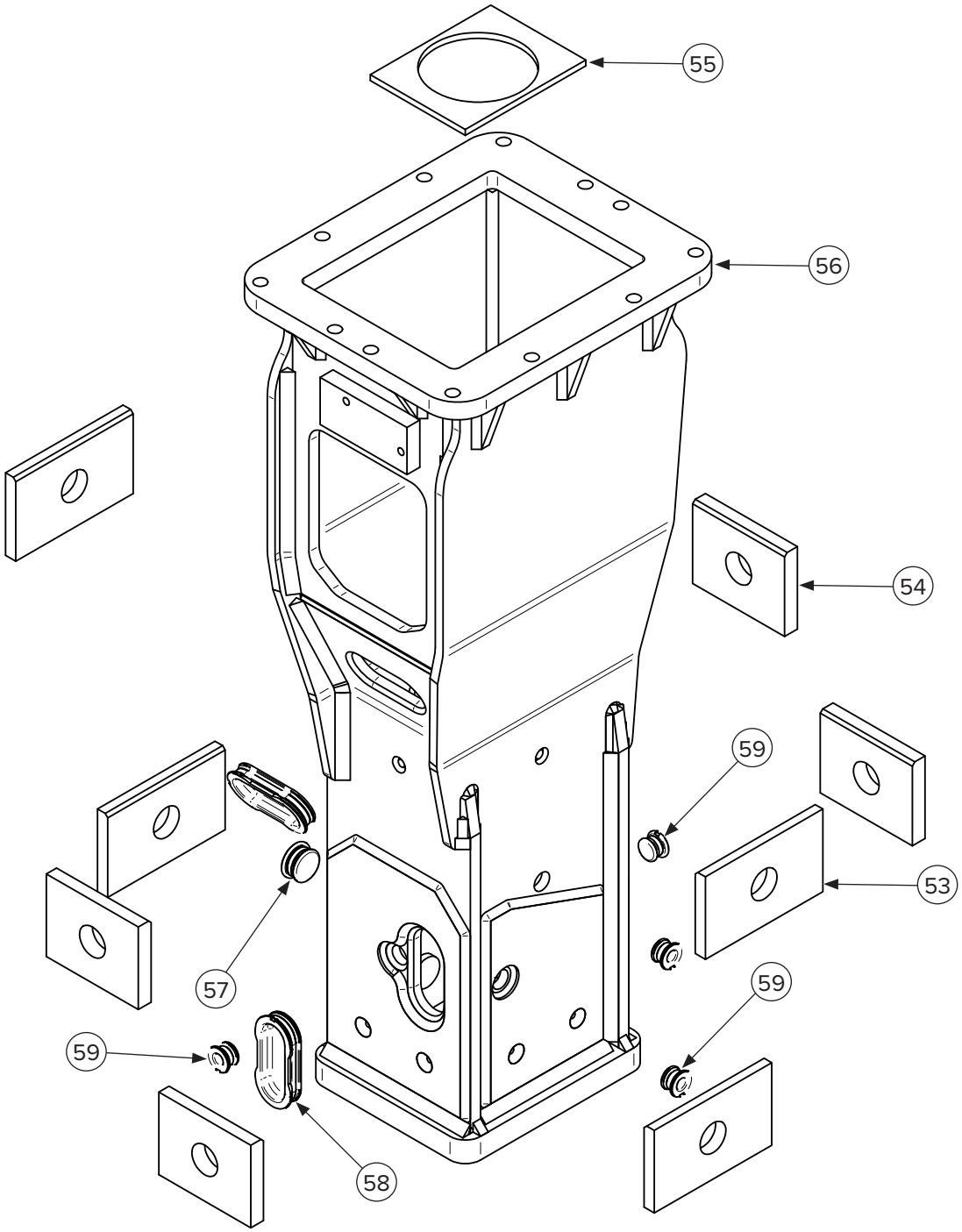
6. Parts

6.16 *Internal Components — HB950 Cont'd*

ITEM	PART NUMBER	DESCRIPTION	QTY
29	236504	O–Ring	1
30	—	Seal	1
31	—	Screw (Short)	8
32	235205	Nitrogen Charging Valve	1
33	—	Diaphragm	1
34	—	Screw (Long)	12
35	—	Accumulator Base	1
36	—	Accumulator Cover	1
37	—	Upper Buffer	1
38	—	Seal	1
39	—	Seal	1
40	—	Seal	1
41	—	O–Ring	10
42	—	Seal	1
43	—	Allen Plug	1
44	—	Body Bushing Ring	1
45	—	Distributor Bushing	1
46	—	Distributor Valve	1
47	235212	Piloting Grinded Piston	2
48	—	Upper Body Bushing	1
49	—	Allen Plug	2
50	—	Lower Body Bushing	1
51	—	Central Body Bushing	1
52	—	Piston	1

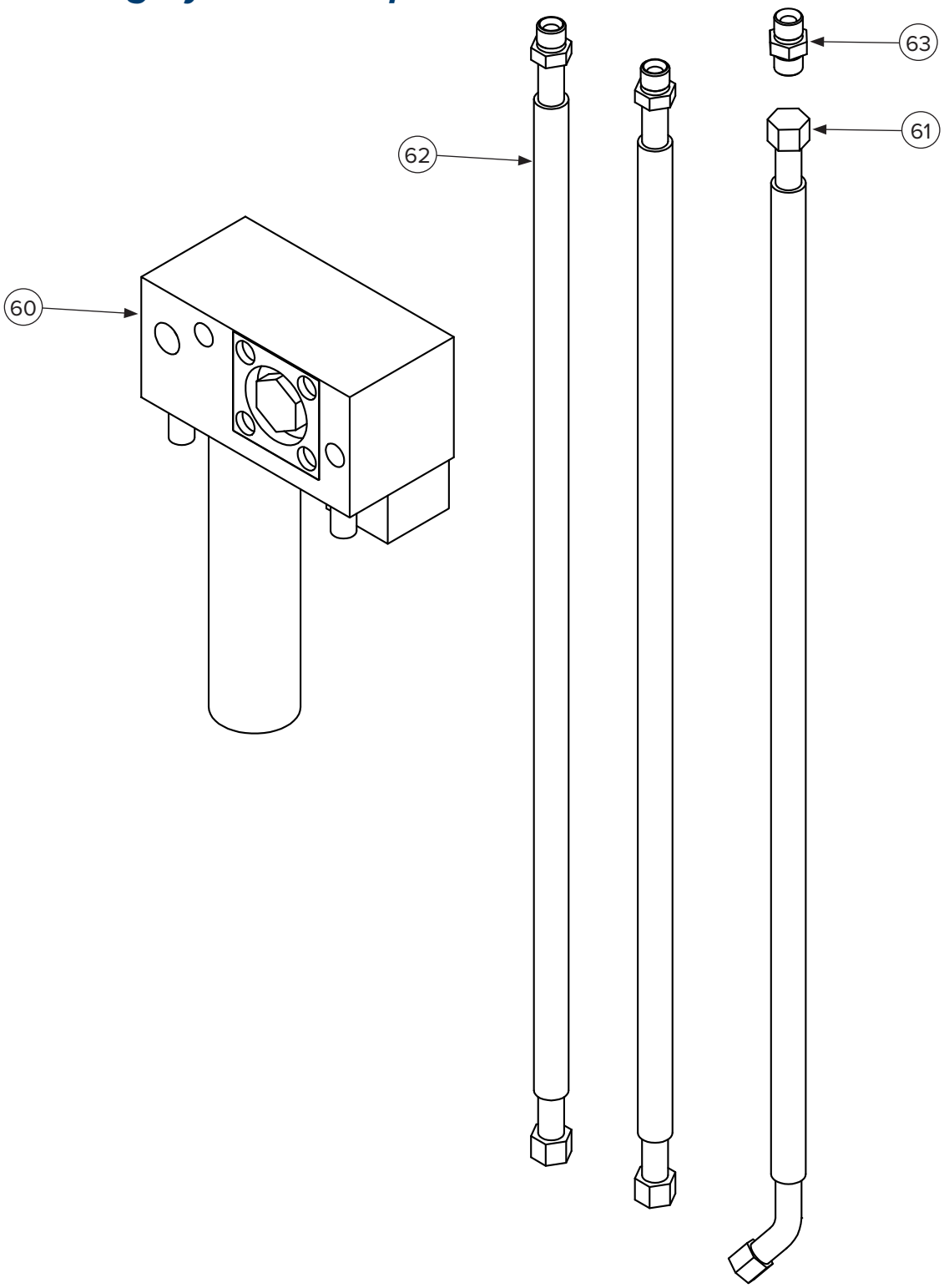
6. Parts

6.17 *Case Components — HB950*



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

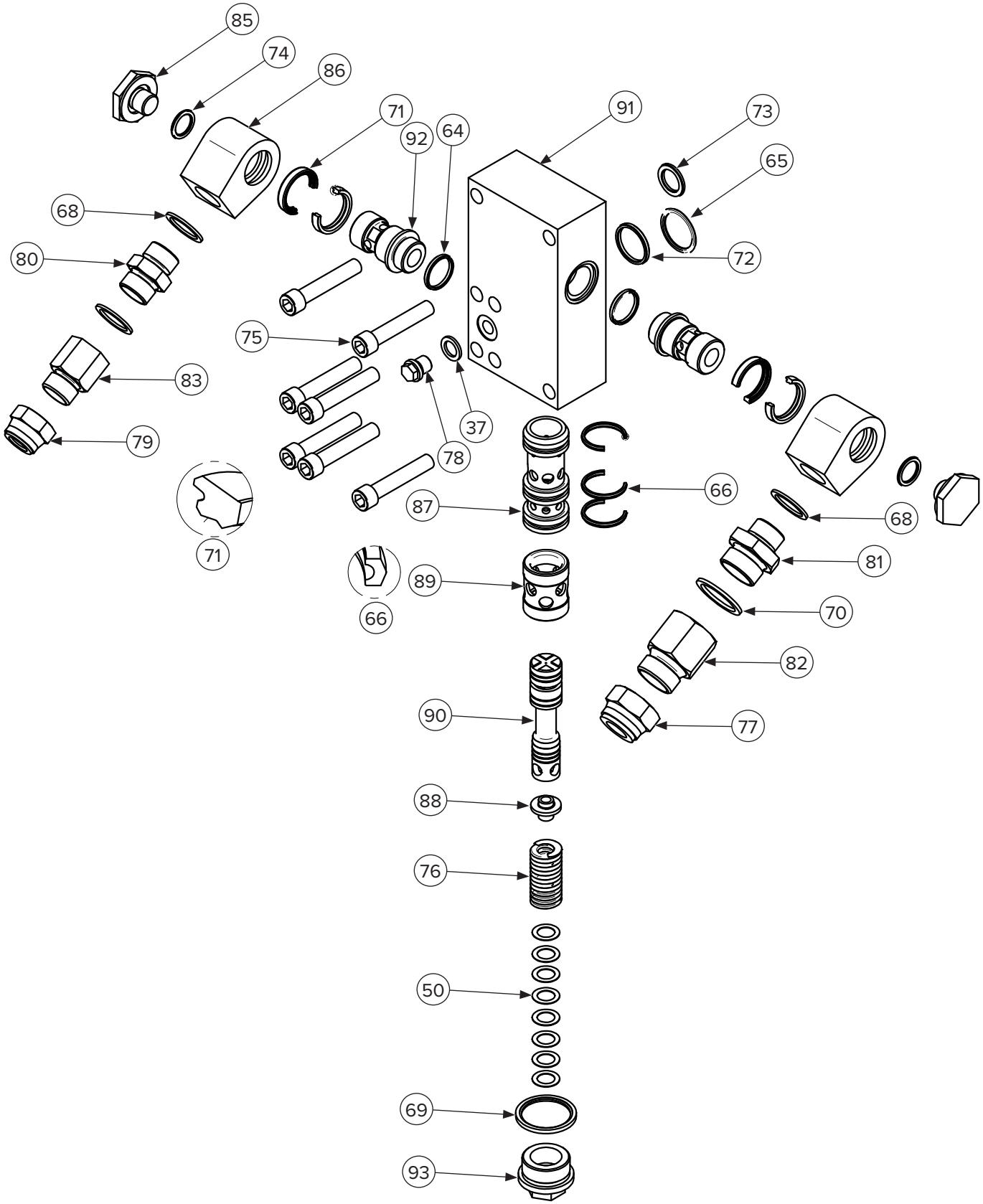
6.18 *Greasing System Components — HB950*



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

6. Parts

6.19 *Block Components — HB950*



6.19 *Block Components — HB950 Cont'd*

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

6. Parts

6.20 *Safety Decals*

1

2

3

4

5

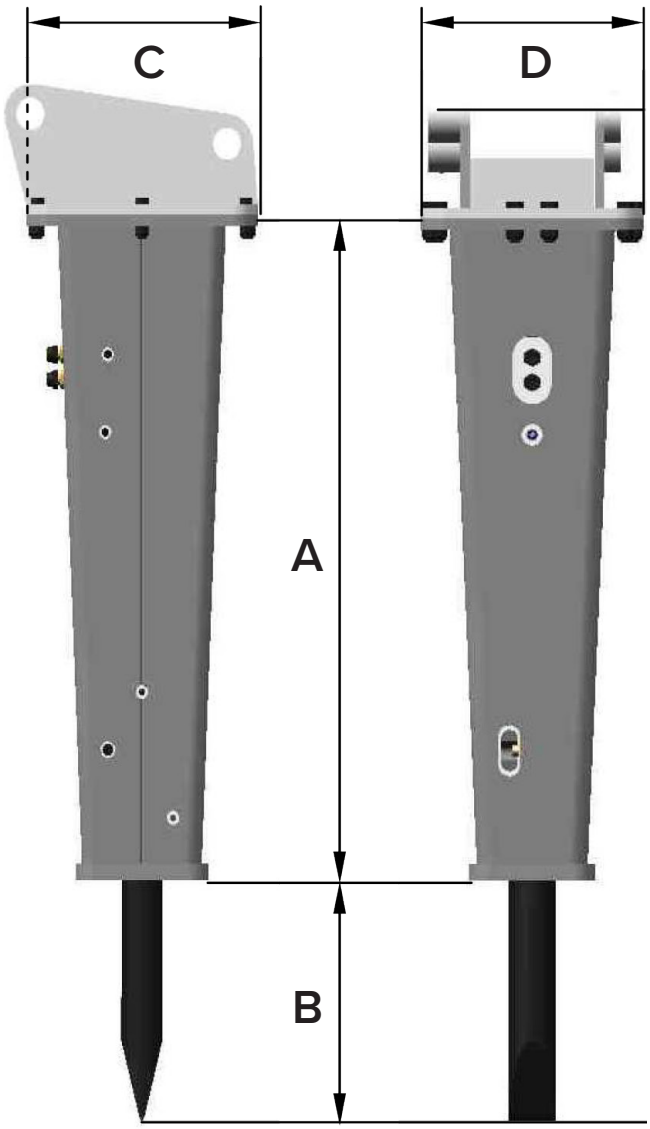
6

ITEM	PART NUMBER	DESCRIPTION	QTY
1	BD-056	2.0” x 12.0” Decal, Blue Diamond	1
2	BD-060	2.4375” x 3.375” Decal, Blue Diamond Attachments	2
3	BD-004	2.0” x 4.0” Decal, Grease All Fitting Every 8 Hours	1
4	BD-123	3.0” x 3.0” Decal, High Pressure Fluid Hazard	1
5	BD-001	3.0” x 3.0” Decal, Read Owner’s Manual	1
6	BD-092	1.5” x 2.0” Decal, Warranty Registration QR	1

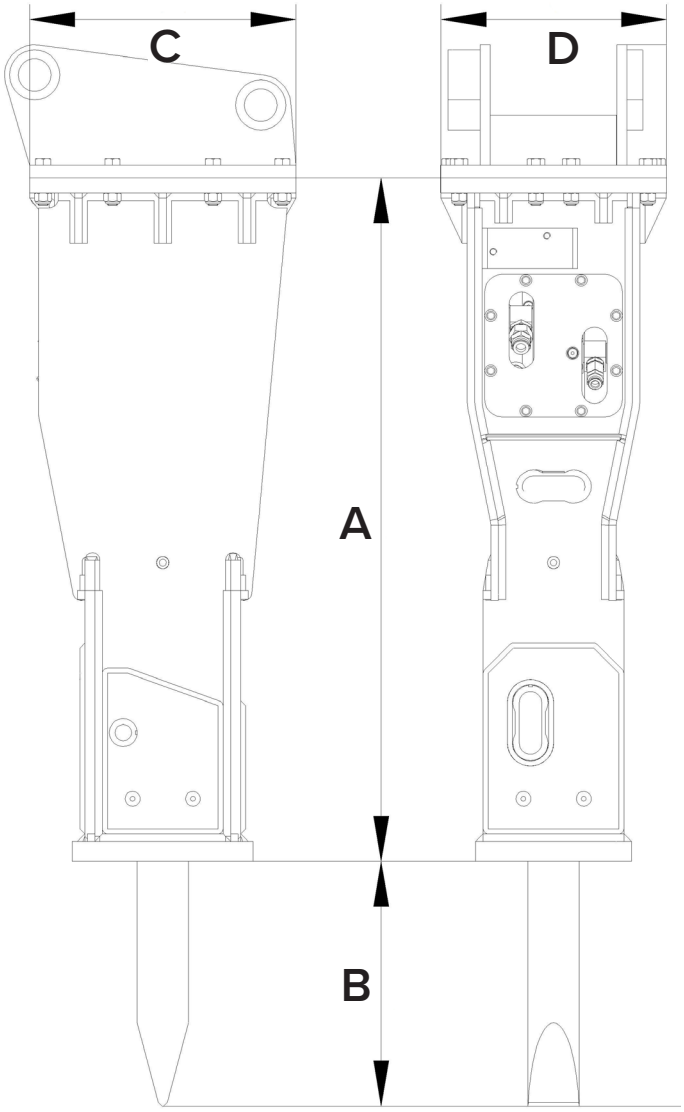
7. Specifications

7.1 *Attachment Specifications*

HB50 – HB400



HB530 – HB950



Overall Dimensions

Dimension	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

7. Specifications

7.1 *Attachment Specifications Cont'd*

DESCRIPTION	HB50	HB95	HB165	HB210
Energy per Stroke	90 ft/lb 120 J	175 ft/lb 240 J	245 ft/lb 330 J	370 ft/lb 500 J
Maximum Frequency (strokes/min)	1200	1200	1200	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	1740 PSI 120 bar	1740 PSI 120 bar	1740 PSI 120 bar
Maximum Exhaust Back Pressure	290 – 435 PSI 20 – 30 bar	290 – 435 PSI 20 – 30 bar	290 – 435 PSI 20 – 30 bar	290 – 435 PSI 20 – 30 bar
Accumulator Charging Pressure	465 PSI 32 bar	510 PSI 35 bar	510 PSI 35 bar	510 PSI 35 bar
Calibration Pressure of the Hydraulic System Maximum Value	2175 PSI 150 bar	2610 PSI 180 bar	2610 PSI 180 bar	2610 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 kg 0.7 kg
Pressure Line Pipe Diameter (EN 856 – 4SP)	0.5 in.	0.5 in.	0.5 in.	0.5 in.
Return Line Pipe Diameter (EN 853 – 2SN)	0.5 in.	0.5 in.	0.5 in.	0.5 in.
Tool Diameter	1.8 in. 45 mm	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. 1000 mm	41.5 in. 1050 mm	47.5 in. 1200 mm
Maximum Length of the Tool Inner Guide [Figure 23, 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 and Back of the Tool Bushings	2 in. 48 mm	2 in. 48 mm	2.3 in. 58 mm	2.5 in. 65 mm
Maximum Oil Temperature in the Tank	176°F 80°C	176°F 80°C	176°F 80°C	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 ft/lb 700 J	665 ft/lb 900 J	800 ft/lb 1080 J	1250 ft/lb 1700 J
Maximum Frequency (strokes/min)	1100	900	900	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	1740 PSI 120 bar	1740 PSI 120 bar	1740 PSI 120 bar	1885 PSI 130 bar
Maximum Exhaust Back Pressure	290 – 435 PSI 20 – 30 bar	360 PSI 25 bar	360 PSI 25 bar	360 PSI 25 bar
Accumulator Charging Pressure	510 PSI 35 bar	510 PSI 35 bar	465 PSI 32 bar	465 PSI 32 bar
Calibration Pressure of the Hydraulic System Maximum Value	2610 PSI 180 bar	2610 PSI 180 bar	2610 PSI 180 bar	2465 PSI 170 bar
Breaker Weight in Working Conditions	600 lbs 300 kg	880 lbs 400 kg	1100 lbs 500 kg	2095 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 lb 1.2 kg	2.9 lb 1.3 kg	6 lb 2.7 kg	8.8 kg 4 kg
Pressure Line Pipe Diameter (EN 856 – 4SP)	0.75 in.	0.75 in.	0.75 in.	0.75 in.
Return Line Pipe Diameter (EN 853 – 2SN)	0.75 in.	0.75 in.	0.75 in.	1.0 in.
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. 1423 mm	57 in. 1455 mm	67 in. 1700 mm	72 in. 1830 mm
Maximum Length of the Tool Inner Guide [Figure 23, 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 and 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	176°F 80°C	176°F 80°C	176°F 80°C
Maximum Absorbed Power	16 Kw	20 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*

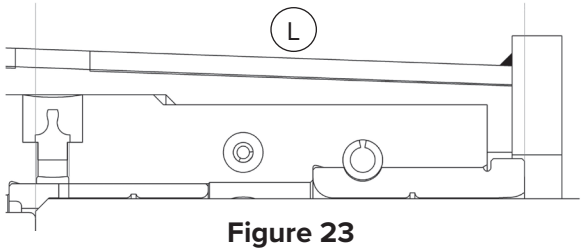


Figure 23

7.2 *Torque Specifications*

Tightening Values

DESCRIPTION	HB50 ONLY
Accumulator Screw	37 ft / lb 50 N•m
Accumulator Cover	369 ft / lb 500 N•m

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

DESCRIPTION	HB300	HB400	HB530
Accumulator Short Screw for Cover	221 ft / lb 300 N•m	221 ft / lb 300 N•m	258 ft / lb 350 N•m
Accumulator Long Screw	184 ft / lb 250 N•m	184 ft / lb 250 N•m	184 ft / lb 250 N•m

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

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

7.2 *Torque Specifications Cont'd*

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

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Warranty

MANUFACTURER'S LIMITED WARRANTY

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

BLUE DIAMOND® ATTACHMENTS liability for any defect with respect to accepted goods shall be limited to repairing the goods at a BLUE DIAMOND® ATTACHMENTS designated location or at an authorized dealer location, or replacing them, as BLUE DIAMOND® ATTACHMENTS shall elect. The above shall be in accordance with BLUE DIAMOND® ATTACHMENTS warranty adjustment policies. BLUE DIAMOND® ATTACHMENTS obligation shall terminate after the time stated below for the Hydraulic Breaker after the delivery of the goods to original purchaser.

- Thirty-six (36) months for non–consumable parts
- Hundred and twenty (120) months for the monoblock

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

WARRANTY CLAIM

To submit a warranty claim, a claim must be filed with BLUE DIAMOND® ATTACHMENTS before work is performed. The BLUE DIAMOND® PRODUCT SUPPORT TEAM will advise repairs and applicable parts exchanges. 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/delivery charges are the customers' responsibility.

EXCLUSIONS OF WARRANTY

Except as otherwise expressly stated herein, BLUE DIAMOND® ATTACHMENTS makes no representation or warranty of any kind, expressed or implied, AND MAKES NO WARRANTY OF MERCHANTABILITY IN RESPECT TO ITS MACHINERY AND/OR ATTACHMENTS ARE FIT FOR ANY PARTICULAR PURPOSE. BLUE DIAMOND® ATTACHMENTS shall not be liable for incidental or consequential damages for any breach or 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 all personal injury and property resulting from the handling, possession, or use of the goods by the buyer.

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

This warranty policy supersedes any previous documents. Please see bluediamondattachments.com/warranty-policies for the most up to date warranty information.

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

QUALITY | DEPENDABILITY | INTEGRITY

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