

Hy-Ram

**Hydraulic
Impact
Breaker**

**Model
HR230**



ALLIED

Parts Manual - HY-RAM Series

Keep this manual in a convenient location so that it is easily accessible for future reference. Contact your Allied Dealer or the Allied Customer Service Department for replacement manuals. Inquiries regarding the content of this manual must include effective date shown on inside cover.



PM575471

Contact Information



3900 Kelley Ave

Cleveland, Ohio 44114

Tel: 216-431-2600

Website: www.alliedcp.com

Fax: 216-431-2601

E-mail: sales@alliedcp.com

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Table of Revision History for Parts Manual PM575471

<u>Release Date</u>	<u>Page</u>	<u>Summary of Change</u>
2014, Sep		Revise Table 3.2 Item 7 removed-use is discontinued. Table 6.1 XR bolt change to 577485 (was 90566).
2013, Nov	8,15	Fig. 5-2 Clarify seal profile to help ensure correct orientation at assembly. Table 4.1 Dimension change to wear plates – Full interchangeability old-to-new is preserved. Part numbers remain unchanged.
2013, Sep	9,11	Revise part number 676248 (was B4007240), 100097 (was A0207070)
2011, Aug	17	Revise Table 17
2011, Jul	10,11	Revise Fig 4-3, Table 4.3 & Seal Set part number. Item 31 qty 2 (was 3) & Item 33 qty 1 (was qty-2)
2011, Jun	---	Original Issue of Parts Manual PM575471

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1.0 Introduction

1.1 Purpose and Scope of This Manual

Table 1.1 About This Manual



Document ID.	PM575471
Type	Spare / Replacement Parts List
Current Status*	See Inside Cover
Product Name:	Mounted Hydraulic Impact Breaker
Series	Hy-Ram®
Applicable Model[s]:	HR230
Years of Manufacture:	Begin 2011
*Inquiries regarding this manual must include effective date shown on inside cover	

The material presented in this manual has been prepared in support of the product named in Table 1.1. It's intended solely for use with expressed model(s) and may be unsuitable with models unnamed.

The publication identified in Table 1.1 was created solely for information purposes and should not be considered all-inclusive. If further information is required, contact your local Allied dealer or the Allied Customer Service Department.

Parts Manuals do not include safety precautions or operating procedures. Figures depict views that are intended for parts identification and not for purposes of repair or service of the product. Material presented in this manual, including tables, figures, descriptions and captions, may show equipment that is optional.

How to use this Manual:

The Allied work tool consists of separate components and partial assemblies. Components are identified with the aid of figures, captions, item key, part name and quantity. If needed, 'remarks' and 'specifications' will further clarify the part's description or denote assignment with select unit(s) by serial number.

An order form is provided at the back of this manual. Prior to ordering parts, confirm that the information recorded on the equipment's identification label corresponds with Table 1.1. For the location of this label, refer to Section 2.0 of this manual.

The content of this document has been reviewed for accuracy. Allied Construction Products, LLC has endeavored to deliver the highest degree of accuracy and every effort has made to provide information as complete as possible. However, continuous improvement of our products is an Allied policy. The material in this publication, including figures, captions, descriptions, remarks and specifications, describe the product at the time of its printing, and may not reflect the product in the future. A table of revision history for this document is found on the inside cover.

1.2 How To Order Replacement Publications

This manual is an integral part of this product. Keep it in a convenient location so that it is easily accessible for future reference. If replacement manuals are required, they may be ordered by contacting your Allied dealer service center. Manuals may also be viewed and downloaded at: www.alliedcp.com

1.3 Related Publications

Allied Construction Products, LLC offers the following publications for the product identified in Table 1.1.

1.3.1 Safety, Operation & Maintenance Manual

SOM575469

Applicable Models: Hy-Ram Series HR175-HR230

The Safety, Operation and Maintenance Manual has been prepared to assist the operator and maintenance personnel with the information necessary for the safe and proper use of the Allied work tool.

Content in the Safety, Operation & Maintenance Manual includes:

- Safety Information
- Equipment Serial Number and Model Identification
- Basic Guidelines for Installation and Set-up
- Pre-Operation Inspection
- How to Operate the Allied Work Tool
- Maintenance Schedule
- N2 Gas Charging Instructions
- Tool and Guide Bushing – Lubrication, Inspection, Wear Limits and Replacement
- Troubleshooting
- Removal From Carrier, Transporting, Lifting & Storage
- Technical Data (Weight & General Dimensions)

1.0 Introduction – [cont'd]

1.3.2 AEM Safety Manual for Hydraulic Breakers

AEM Safety Manual for Hydraulic Breakers
The Association of Equipment Manufacturers offers a safety manual designed for operators and maintenance personnel of hydraulic mounted breakers. The manual is available in Spanish, French and English. It is published in an illustrated format of sensible do's and don'ts, featuring typical daily situations on the job site. Content includes safety tips concerning the workplace and equipment, start up and shut down guidelines and special operating and maintenance precautions.

This publication is available by contacting:
Association of Equipment Manufacturers
Toll free 1-866-AEM-0442
E-mail: aem@aem.org
Website: www.aem.org

Ask for FORM CMHB-1004, Hydraulic Mounted Breakers.

This publication is also available through Allied under part number 953076 (English). To order a copy, contact the Allied Customer Service Department.

2.0 Equipment Identification

1.1 Serial Number Location

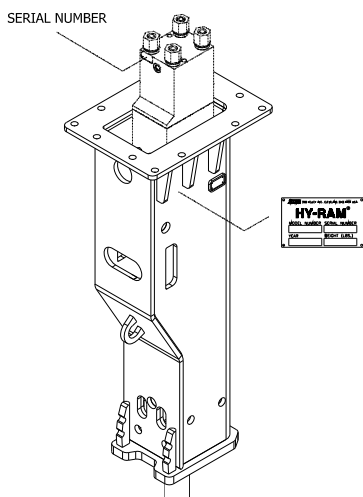


Fig 2-1 Equipment Identification

Refer to Figure 2-1. The Serial Number assigned to this equipment can be found in the following locations:

1. Stamped on the Equipment Identification Tag
2. Stamped on the back head near the N2 gas valve.

2.2 Equipment Identification Tag

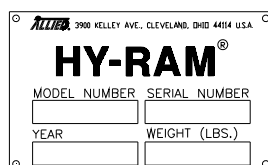


Fig 2-2 Equipment Identification Tag

The Equipment Identification Tag is affixed to the housing. It provides the following information:

- Manufacturer's name
- Address
- Product name
- Model number
- Serial number
- Year of manufacture
- Weight

Confirm that the information contained on the Tag corresponds with the information provided in Section 1, Table 1.1.

2.3 Owner's Record of the Equipment

Your local Allied dealer requires complete information about the equipment to better assist you with questions regarding parts, warranty, operation, maintenance, or repair.

- Record the equipment's serial number to the space provided below. This information may be obtained from the Equipment Identification Tag. Refer to Fig 2-1 for the location of the tag.
- Indicate the date in which the Allied equipment was placed into service.
- Indicate the date in which the Warranty Registration form was completed and returned to Allied.

Product Name: Hydraulic Breaker

Series: Hy-Ram

Model: HR230

Part Number: 575272

Serial Number: _____

In Service Date: _____

Registration Date: _____



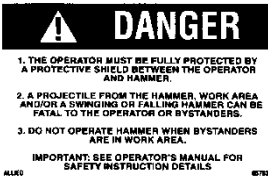
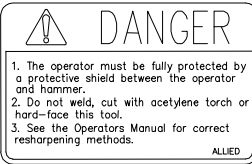

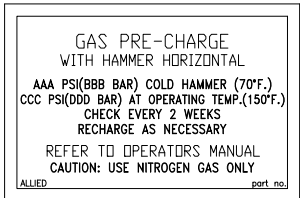
3.0 Safety, Identification & Information Labels

3.1 Label Description and Location On Equipment

Labels affixed to the Allied equipment communicate important information. Safety warnings alert of potential hazards, while other labels provide equipment identification and instructions important to operation and service.

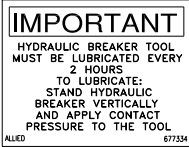




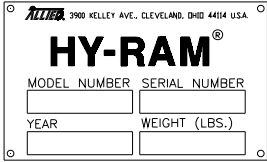
Keep safety labels clean. Words and illustrations must be legible. Replace damaged or missing labels before operating this equipment. Refer to Figure 3-15 for their placement on the equipment. The part numbers for labels are found in Table 3.2.

Table 3.1 Label Description

Figure	Label	Description
3-1		Read The Manual - Safety Alert Symbol with pictogram of open book. Gives notice of the importance of reading the manual(s) for information and/or instructions.
3-2		Keep Clear - Pictogram displays arrow distancing worker safely from recognized hazard which is represented by the box. Breakers, or any other work tool, pose risk of injury to workers if they are not kept at a safe distance. Never operate the work tool with workers inside the work zone.
3-3		Flying Debris Hazard – Alerts personnel to the hazard of fragments becoming projectiles. A protective guard to shield the operator must be installed before operation of the breaker. Personnel are directed to the Operator’s Manual for safety instructions. NOTE: A smaller sized version of this decal is to be displayed in a conspicuous location inside the operator’s cab.
3-4		Personal Protection Equipment / Tool Re-sharping – Alerts personnel to provide protective shielding between the operator and breaker. It also warns against welding, cutting, or hard-facing the tool. Personnel are directed to the Operator’s Manual for approved re-sharping methods.
3-5		Pressurized Nitrogen Accumulator – Alerts personnel to the presence of the accumulator, warning of nitrogen gas under pressure. Directs personnel to the Operation and Maintenance Manual for safe handling service instructions.
3-6		GAS PRE-CHARGE – Alerts personnel to the presence of gas under pressure inside the back head. Outlines measuring / charging procedures, including – <ul style="list-style-type: none"> • Maintenance interval – every 2 weeks • Proper position when measured / charged • Charge pressure when COLD vs. HOT • Refers personnel to the Operation and Maintenance Manual • Caution alerts personnel to use nitrogen gas only
3-7	REMOVED	

3.0 Safety, Identification & Information Labels

Table 3.1 Label Description – cont'd

<u>Fig.</u>	<u>Label</u>	<u>Description</u>
3-8		LUBRICATION – Provides re-lubrication frequency. Stand breaker upright with contact pressure applied at tool.
3-9		Lubrication Point – Pictogram of instruction manual and grease gun is used to identify lubrication points. Read the manual(s) for application instructions, grease type and re-lubrication schedule.
3-10		Lift Point – Pictogram of hook identifies approved lift points for safe handling.
3-11		OIL SUPPLY LINE "PRESSURE" I.D. TAG – A red colored cable tie marked "PRESSURE LINE" is attached to the supply hose for ease of identification between hoses.
3-12		ALLIED LOGO – This decal is the Allied brand identifier and is a registered trademark of Allied Construction Products, LLC.
3-13	<p>HR230</p>	MODEL – Decal identifies the series and specific model.
3-14		EQUIPMENT ID TAG - Contains identifying information about the equipment, including: Manufacturer's name, address, product name, model number, serial number, year of manufacture, and weight.

3.0 Safety, Identification & Information Labels

Table 3.1 Label Set

Item	Description	Part No.	Qty	Remarks / Specifications
---	Label Set	575481	1 (Set)	Set includes Items 1 thru 13
1	Decal – Read Instructions	676984	1	
2	Decal – Stay Clear	840156	2	
3	Decal – Danger (Large)	657840	1	
---	Decal – Danger (Small)	657839	1	Display in conspicuous location inside cab
4	Decal – Tool Sharpening	657838	1	
5	N/A	---	---	Not Equipped
6	Decal – Back Head N2 Pressure	575509	1	
7	Removed	---	---	Use Discontinued
8	Decal – Lube w/ Tool In	677334	1	
9	Lubrication Point	A101725	1	
10	Decal – Lift Point	676982	1	
11	Pressure ID Tag	818676	1	Identifies oil supply line [IN]
12	Decal – Allied	676655	1	
13	Decal – Model HR230	575491	1	
14	Equipment ID Plate	658833	1	Item 14 is not included in Set

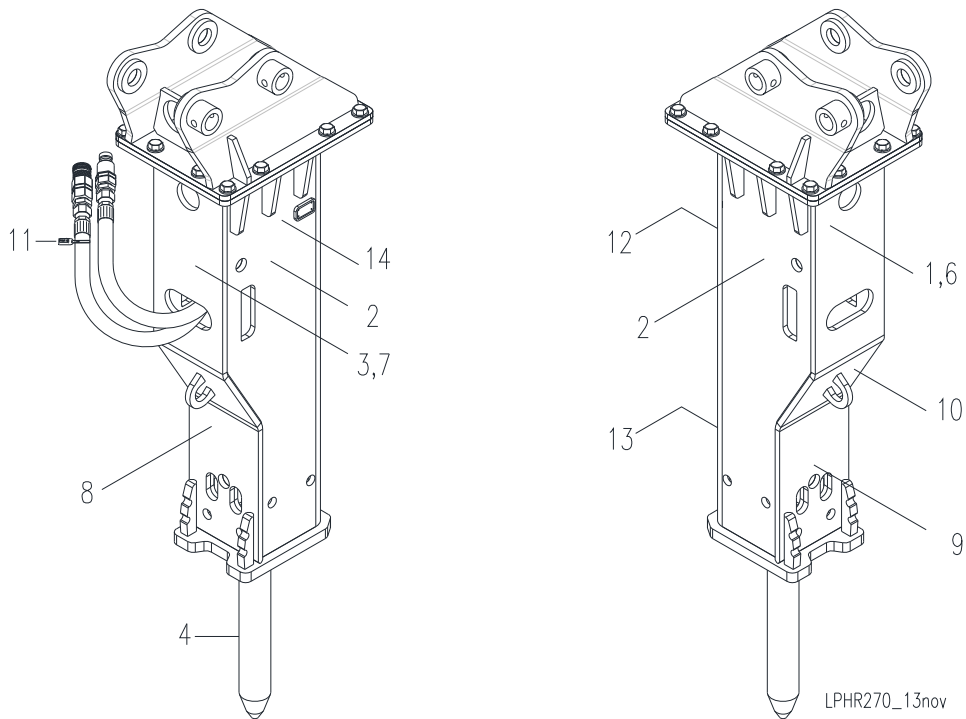


Fig. 3-13 Label Placement

4.1 Housing Components

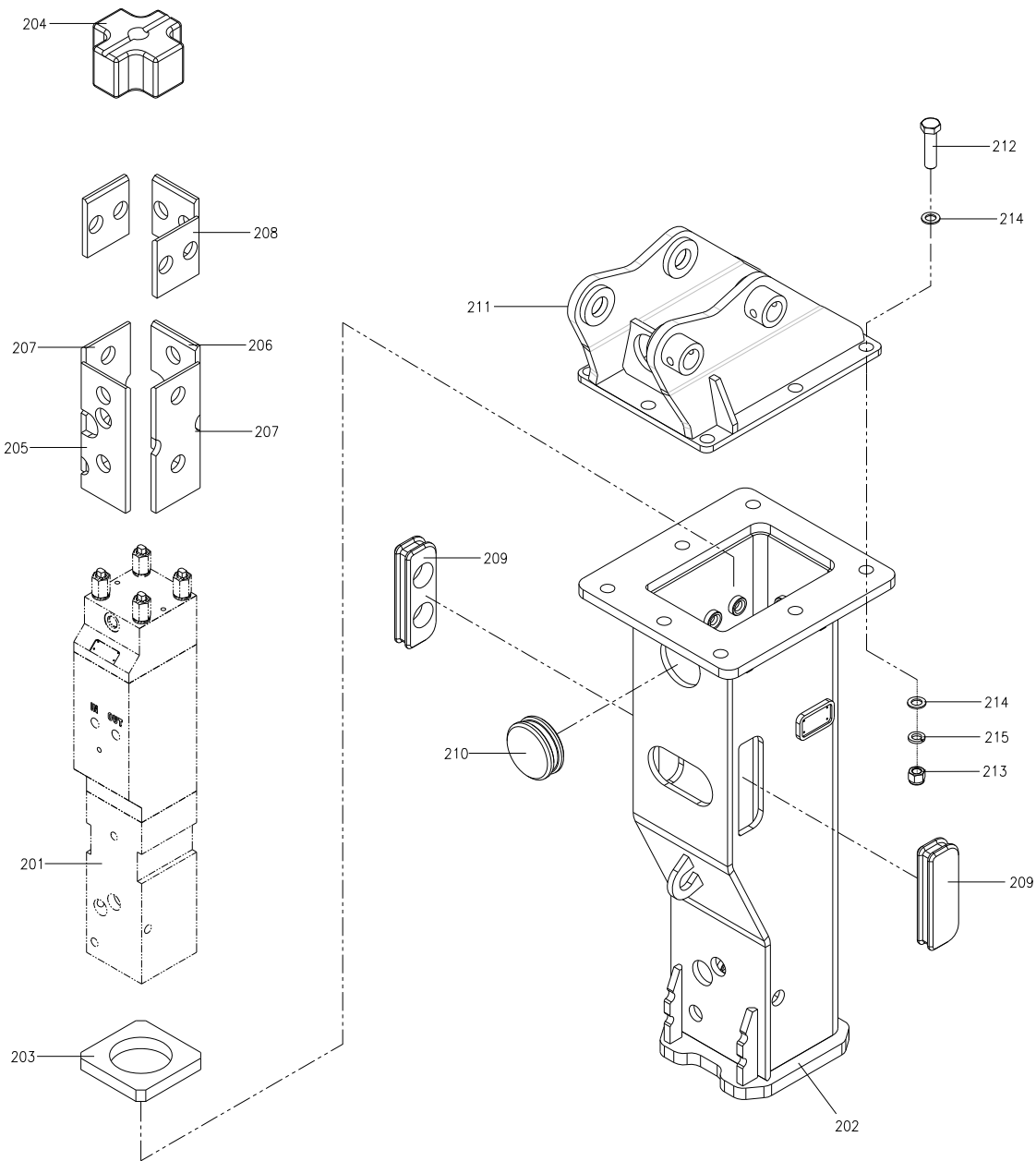


Fig. 4-1

4.1 Housing and Components

Table 4.1

<u>Item</u>	<u>Description</u>	<u>Part No.</u>	<u>Qty</u>	<u>Remarks / Specifications</u>
---	HYRAM HR230	575272	1	Standard Configuration - XR
201	Breaker Assembly	-	1	Refer to Fig. 4-2
202	Housing Box	575546	1	Standard Configuration - XR
203	Base Buffer	A0402130	1	
204	Top Buffer	A0602150	1	
205	Wear Plate	A0402100	1	¹⁾ Dimension change – interchangeable old-to-new
206	Wear Plate	A0402110	1	¹⁾ Dimension change – interchangeable old-to-new
207	Wear Plate	A0402120	2	¹⁾ Dimension change – interchangeable old-to-new
208	Wear Plate	A0302140	3	¹⁾ Dimension change – interchangeable old-to-new
209	Side Rubber	A0602190	2	
210	Front Rubber	A0602180	1	
211	Mounting Bracket - XR	Varies	---	Not Included. Order separately. See Section 6
212	Bolt	---	---	Items 211,212,213,214,215 Refer to Section 6
213	Nut	---	---	
214	Washer	---	---	
215	Washer	---	---	

¹⁾ Dimension change to wear plates – Full interchangeability old-to-new is preserved. Part numbers unchanged.

4.2 Breaker Assembly

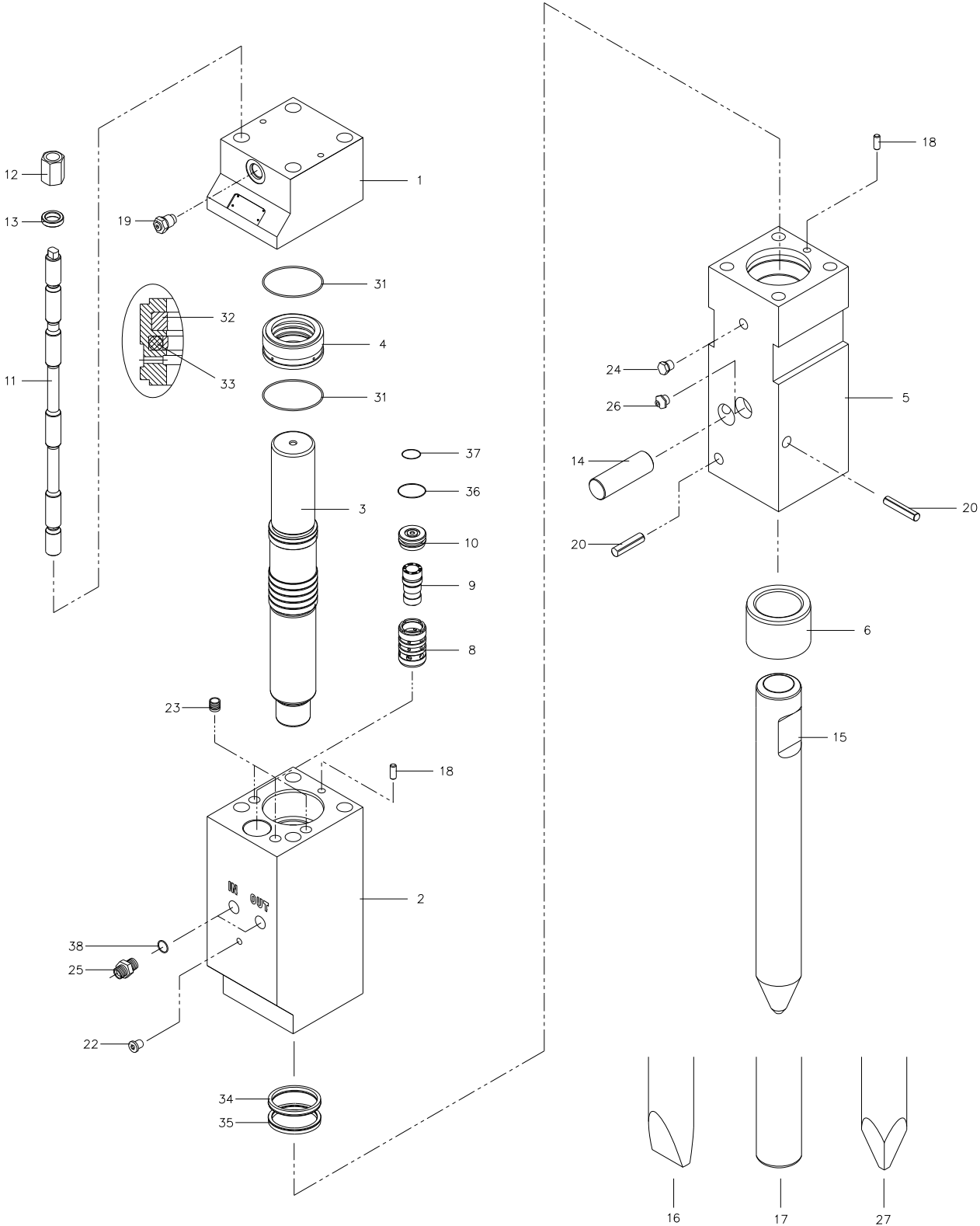


Fig. 4-2

4.2 Breaker Assembly

Table 4.2

<u>Item</u>	<u>Description</u>	<u>Part No.</u>	<u>Qty</u>	<u>Remarks / Specifications</u>
1	Back Head	A0406010	1	
2	Cylinder	A0406230	1	
3	Piston	A0406030	1	
4	Seal Housing	A0406040	1	
5	Front Head	A0406050	1	
6	Tool Bushing	A0406060	1	
8	Oper. Valve Guide	A0406220	1	
9	Oper. Valve Spool	A0406080	1	
10	Valve Plug	A0406090	1	
11	Side Rod	A0406100	4	
12	Side Rod Nut	A0406110	4	
13	Side Rod Washer	A0406120	4	
14	Tool Pin	A0406130	1	
---	Tool Selection	---	---	Items 15, 16, 17, 27 Refer to Section 4.4
18	Guide Pin	676183	2	
19	Gas Charging Valve	A3006590	1	
20	Spring Pin	SP160000	2	
22	Socket Plug	676159	4	
24	Socket Plug	102241	1	
25	Adapter	865313	2	
26	Grease Nipple	816675	1	
31	O-Ring	676248	3	
32	Gas Seal	A0407020	1	
33	Seal Set	A0407030	1 Set	Includes O-ring & Step Seal (each 1x)
34	U - Packing	A0407040	1	
35	Wiper	A0407050	1	
36	O-Ring	A0407060	1	
37	O-Ring	571004	1	
38	O-Ring	100097	2	

4.3 Hydraulic Connections

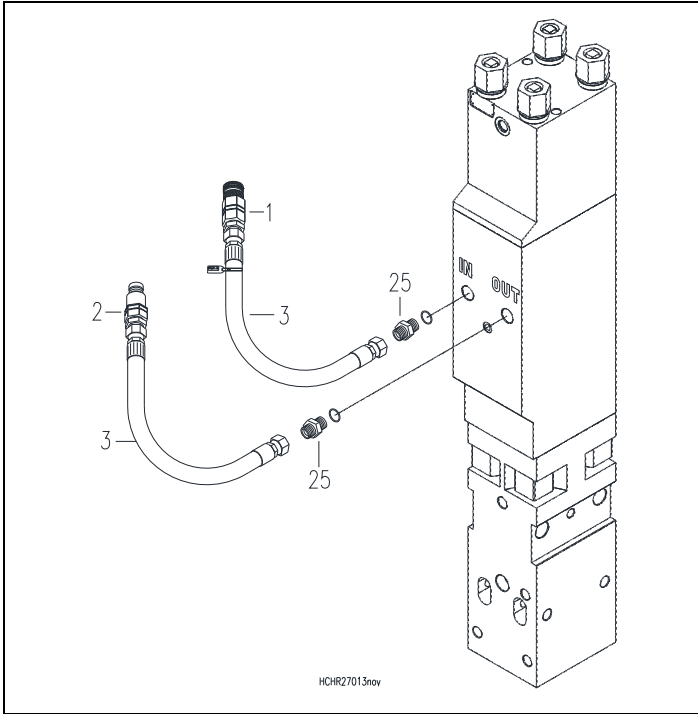


Fig. 4-3

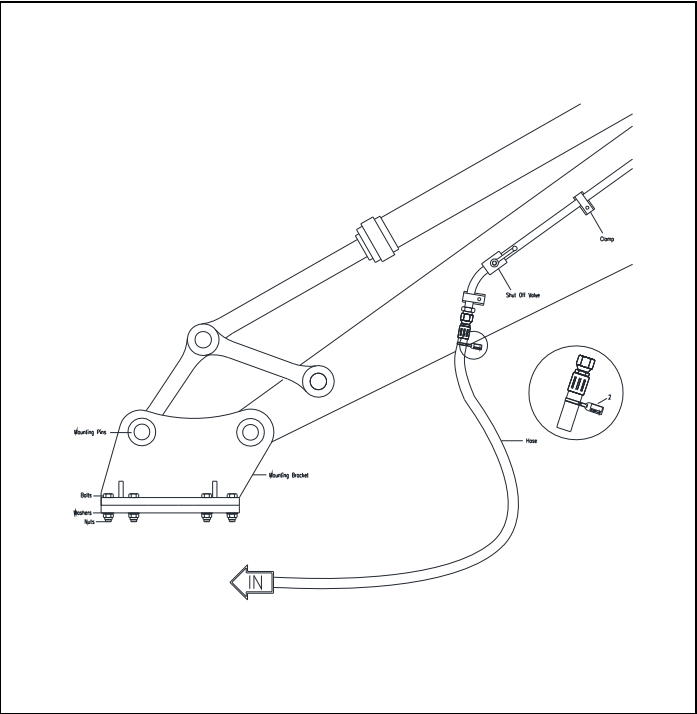


Fig. 4-4

Table 4.3

<u>Item</u>	<u>Description</u>	<u>Part No.</u>	<u>Qty</u>	<u>Remarks / Specifications</u>
1	Quick Disconnect - Socket	101571	1	
2	Quick Disconnect - Plug	101570	1	
3	Hose	575533	2	
25	Adapter	865313	2	

4.4 Tool Selection Guide

4.4.1 Standard Tools

The three most commonly used tool points for concrete demolition rock cutting and boulder reduction are the Chisel, Conical and Blunt.

A. Chisel (Wedge – Cross Cut or In-Line) – Suitable applications include soft rock and general demolition of concrete. The tool penetrates into the material, forcing it to

separate. Useful when cutting action is required, e.g. benching and trenching.

- B. Conical Point** - The conical point penetrates the material and its shape makes it less prone to twisting which can lead to burring of the tool's retainer pin.
- C. Blunt Tool** – Designed for impact breaking. The blunt tool is effective in secondary breaking of oversize rock or boulder reduction.

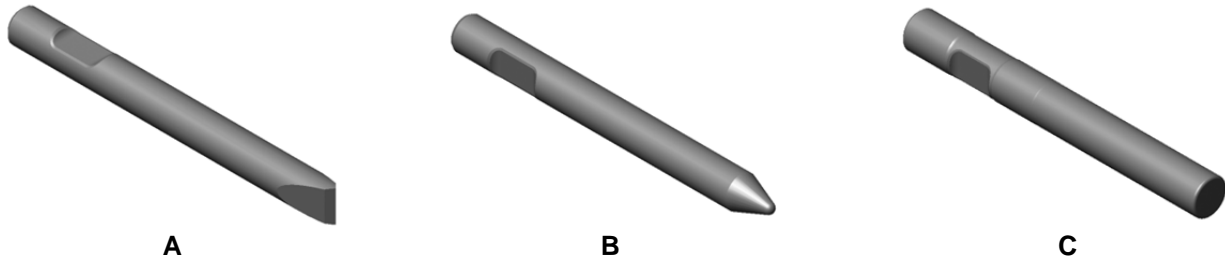


Fig. 4-5 Standard Tool Types A thru C.

4.4.2 Specialty Tools

Specialty tools have a specific purpose or function designed into each tool. These tools can extend the versatility of a breaker, thus increasing productivity and eliminating the need for additional equipment. For availability of tool types not listed, contact Allied.

- D. Post Driver** – For driving posts, pipes, etc.
- E. Tamper** – Designed to compact loose material.
- F. Frost Cutter** – For cutting into frozen ground.
- G. Asphalt Cutter** – Designed to cut seams in asphalt for removal. Useful when removing asphalt to dig a trench. Available in Cross-Cut and In-Line configurations.

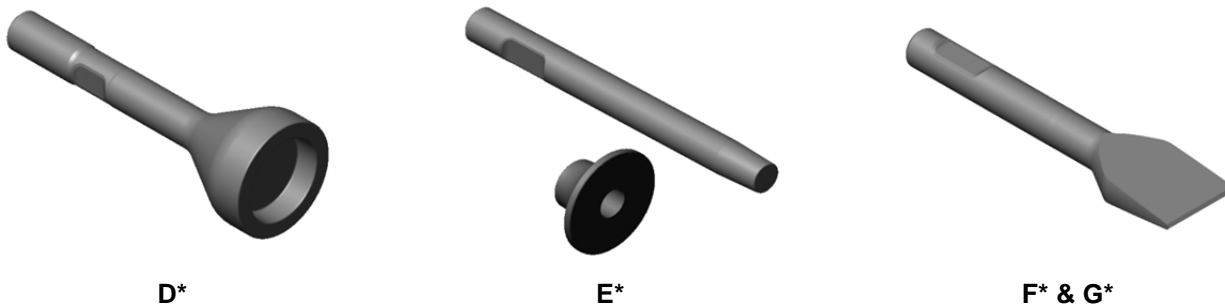


Fig 4-6 Specialty Tool Types D thru G.

General illustrations are shown. Actual tool design may vary.
*Not available for all models.

4.4 Tool Selection Guide – [cont'd]

Table 4.4

Item	Description	Part No.	TD in. [mm] x WL in. [mm]	Weight lbs. [kg.]
15-B¹	Conical Point	575382	2.36 [60] x 12.2 (310)	24 (11)
16-A	Chisel Cross Cut	575262	2.36 [60] x 12.2 (310)	25 (11.3)
---	Chisel In-Line	---	---	---
17-C	Blunt End	575392	2.36 [60] x 12.2 (310)	26 (11.8)
27 ²	Pyramid (Not Pictured)	---	2.36 [60] x 12.2 (310)	23 (10.5)

¹) **Standard tool supplied with Breaker in Bold**

²) For availability of tool types not listed, contact Allied

³) TD - Tool Diameter

⁴) WL - Working Length

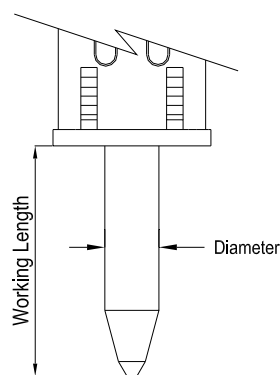


Fig. 4-6 Tool Working Length

4.5 Tool Lubrication

4.5.1 Allied Chisel Paste

Wear costs money, sometimes lots of money. Without lubrication to prevent metal-to-metal contact, bushings and tools will quickly wear from friction related damage.

A key element in managing wear of the bushing and tool is through the regular use of a high-quality lubricant. Formulated as a 'specialty' lubricant, Allied Chisel Paste is ideally suited for use in applications requiring long-lasting protection against damage from heavy loaded, sliding motion and high heat.

Allied Chisel Paste performs exceptionally well in this application due to its 'unique blend' of liquid and dry film lubricants. Dry film lubricants, which include solids of molybdenum, graphite and copper, combine to form a highly effective layer that resists being squeezed out during periods of heavy loading (extreme pressure).

Grease labeled 'General / Multi-Purpose' will typically contain only modest amounts of solid lubricants or none at all. When the tool is loaded against the bushing, the liquid lubricant is squeezed out, leaving metal surfaces unprotected.

Chisel Paste Packaging & Ordering Information

Table 4.5

Container	Packaging	Part No.
14.5 oz Tubes*	Qty x 10	574430
14.5 oz Tubes*	Qty x 30	574431
35 lb Bucket	Qty x 1	676698
120 lb Drum	Qty x 1	679968

* 14 oz. cartridge fits standard grease gun

5.0 Service Kits and Tools

5.1 Tune-up Kit

All breakers require regular maintenance and periodic parts replacement. Follow the recommended service schedule to maintain reliable service.

Tune-up kits can help restore performance by replacing common wear parts. Tune-up kits offer the convenience of combining parts that usually need to be replaced at the same time into a single package.

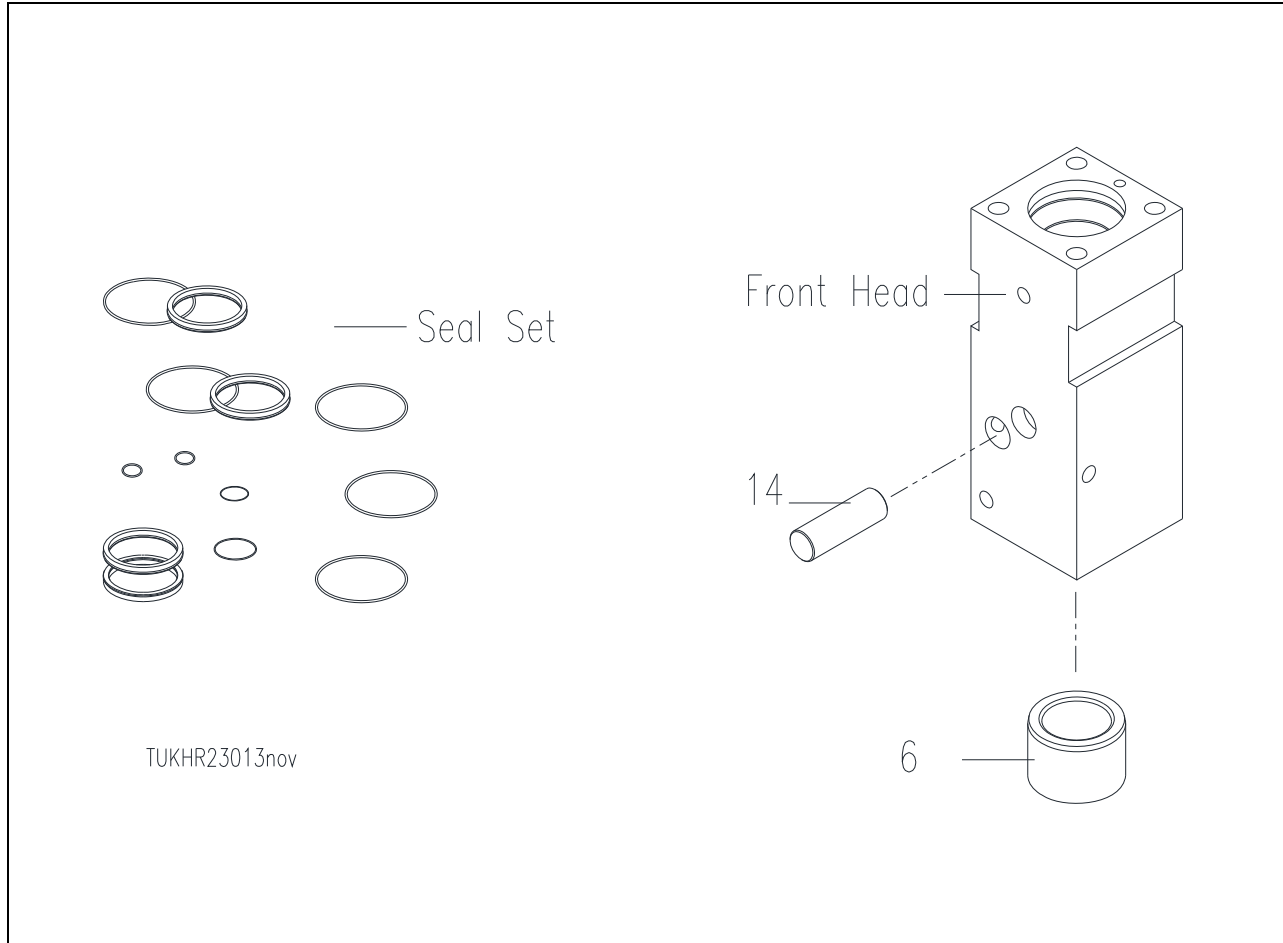


Fig. 5-1 Tune-up Kit

Table 5.1

Item	Description	Part No.	Qty	Remarks / Specifications
---	Tune-up Kit	575403	1	Kit includes all items in Table 5.1
---	Seal Set	575413	1	
6	Tool Bushing	A0406060	1	
14	Tool Pin	A0406130	1	

5.1 Service Kits and Tools – [cont'd]

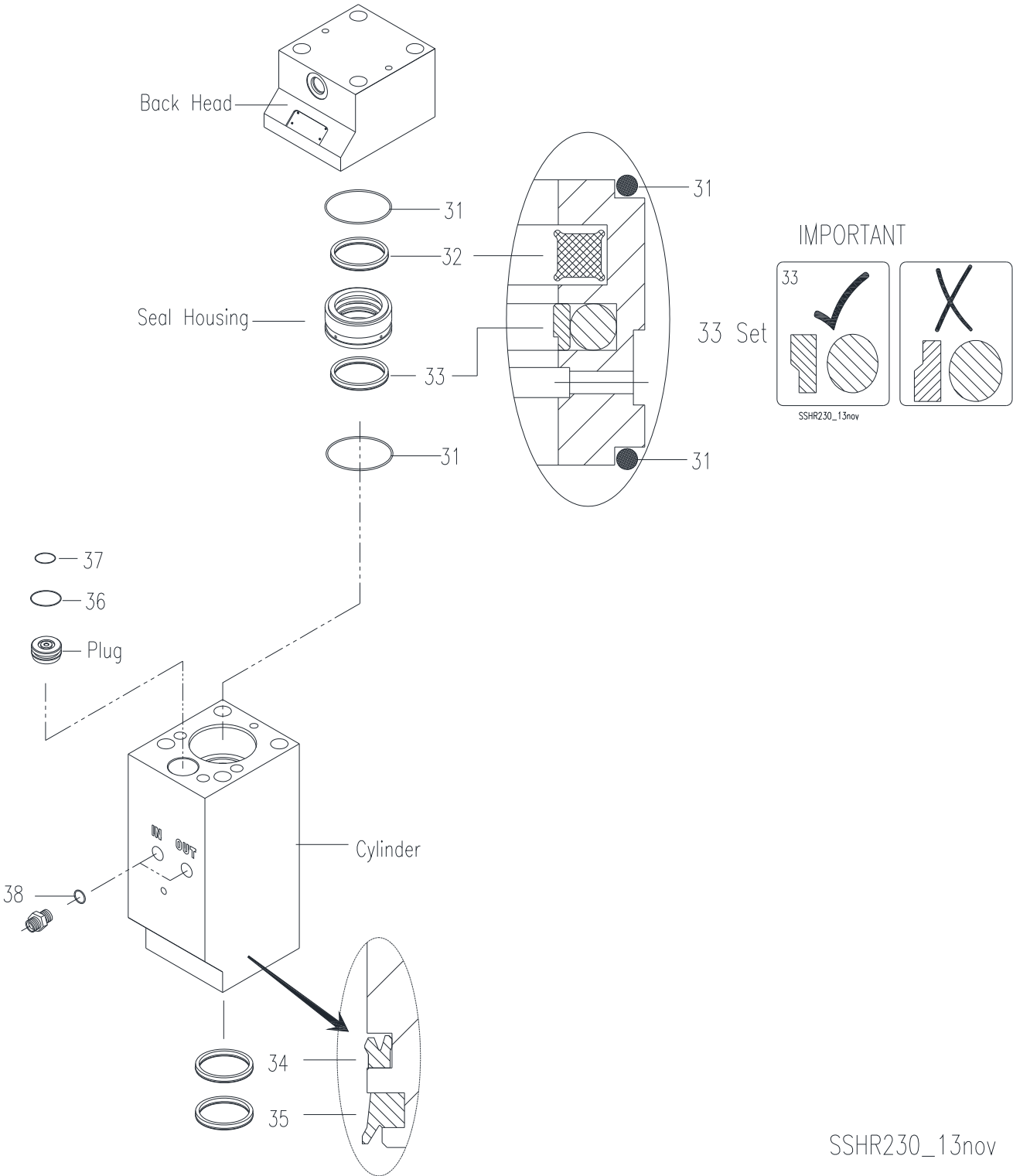


Fig. 5-2 Seal Positions – Seal Set 575413

SSHR230_13nov



Follow Assembly Instructions

5.1 Service Kits and Tools – [cont'd]

Table 5.2

Item	Description	Part No.	Qty	Remarks / Specifications
---	Seal Set	575413	1 Set	Set includes items 31-38 & Thread Lube
31	O-Ring	B4007240	2	
32	Gas Seal	A0407020	1	
33	Step Seal	A0407030	1 Set	Set Includes O-ring & Step Seal (each 1x)
34	U - Packing	A0407040	1	
35	Wiper	A0407050	1	
36	O-Ring	A0407060	1	
37	O-Ring	571004	1	
38	O-Ring	100097	2	
---	Thread Lube	676927	1	Follow application instructions

IMPORTANT
Contamination interferes with reliable operation and will shorten component life. Prevent dirt and debris from entering the hydraulic system. Always work in a clean area. Keep seals properly stored in their original, sealed package until ready for use.

IMPORTANT
Seal Set includes packet of Thread Lube. Apply thread lube to side rods at assembly. DO NOT apply Thread Lube to seals!

5.1 Service Kits and Tools – [cont'd]

5.3 N2 Gas Charge Tool - General Description

Designed for use with all Hy-Ram models, the charge kit adapts to both the back head and accumulator¹⁾. Periodic checking of the back head pressure will detect whether it is sufficiently charged. Proper function of the breaker is accomplished through accurate charging.

The accumulator¹⁾ is a self-contained pressure vessel with an elastic membrane dividing the inner chamber. The lower chamber is used to receive, store and discharge pressurized oil. Pressurized gas is stored inside the upper chamber. Reliable operation of the breaker along with optimal membrane life is accomplished through proper filling of the gas charge pressure.

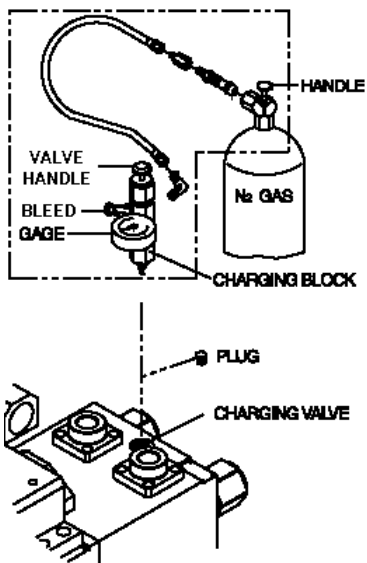


Fig. 5-3 N2 Gas Charge - Back Head

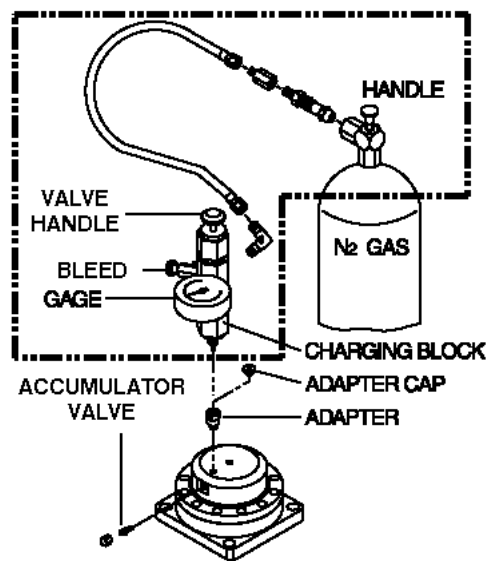


Fig. 5-4 N2 Gas Charge - Accumulator¹⁾.

Table 5.3 N2 Gas Charge Kit

Item	Description	Part No.	Qty	Remarks / Specifications
1	N2 Gas Charge Kit	575427	1-Kit	Kit includes items 2,3,4,5
2	Charge Valve with Gauge	---	1	"Charging Block"
3	Extension	---	1	"Adapter"
4	Hose	---	1	
5	Adapter - Gas Bottle	---	1	
6	N2 Gas Bottle	N/A	---	Source the nitrogen bottle locally.



For the safe and proper use of this tool, read, understand and follow all instructions provided in the Operation & Maintenance Manual 577202.

¹⁾ Not all Hy-Ram models are equipped with an accumulator

6.0 Mounting Information

6.1 Mounting Bracket – Not Included

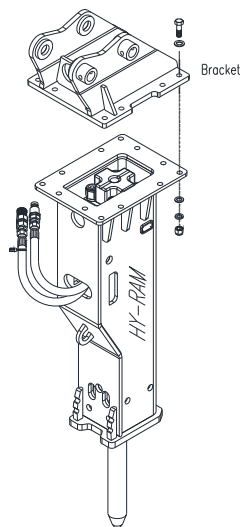


Fig. 6-1 Housing Box, Mounting Bracket & Bolt Set

Hy-Ram series breakers come without mounting. Allied offers an array of mounting brackets to fit virtually any carrier, including those equipped with pin-grab or hook style mounting couplers.

To order a mounting bracket, complete information about the carrier (and coupler) is required: including the make, model, series and serial number.

6.2 Connection Plate

The mounting bracket is bolted to the connection plate located at the upper end of the housing box. Dimensions of the connection plate, including thickness, spacing, quantity and diameter of the bolt holes, will vary between small, medium and large size breakers. Dimensions for the connection plate can be found in Operation & Maintenance Manual.

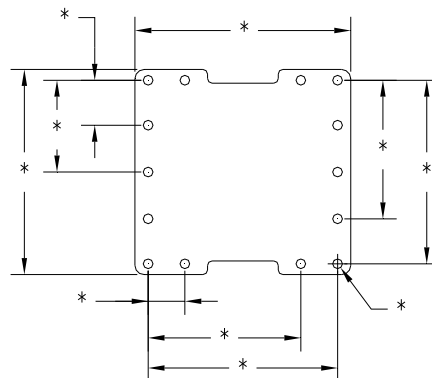


Fig. 6-2 Connection Plate – Dimensions Vary

In Table 6.1, 'Family' identifies the connection plate that's been appointed to the standard housing box. Other work tools from Allied, including the Ho-Pac[®], share the same Family types.

Table 6.1 Mounting Family & Hardware (QTY)

<u>Family</u>	<u>Model</u>	<u>Bolt</u>	<u>FL Washer</u>	<u>LK Washer</u>	<u>Nut</u>
XR	HR175	575555 (7)	667628 (7)	100088 (7)	575652 (7)
XR	HR230	901382 (7)	667628 (7)	100088 (7)	575652 (7)
BR	HR270	577485 (12)	921825 (24)	056245 (12)	90548 (12)
BR	HR290	577485 (12)	921825 (24)	056245 (12)	90548 (12)
SR	HR330	575556 (12)	798064 (24)	100088 (12)	575652 (12)
SR	HR390	951390 (12)	798064 (24)	100088 (12)	575652 (12)
MR	HR470	575557 (12)	901291 (24)	658529 (12)	90507 (12)
MR	HR560	575557 (12)	901291 (24)	658529 (12)	90507 (12)
LR9	HR600	90520 (12)	573029 (24)	573028 (12)	90519 (12)
LR10	HR710	573167 (12)	573029 (24)	573028 (12)	90519 (12)



Always follow the recommended tightening torque of fasteners. These can be found in the Operation and Maintenance Manual 577202.

7.0 How To Order Spare Parts

Your local Allied dealer requires the Product Name, Model and Serial Number to better assist you with questions regarding parts, warranty, operation, maintenance, or repair. This information should be noted in Section 2.3 of this manual.

Product Hy-Ram Series Breaker
 Model HR230
 Serial No. _____

Please fill out completely

Line	Description	Part Number	Quantity	Price
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Your contact information

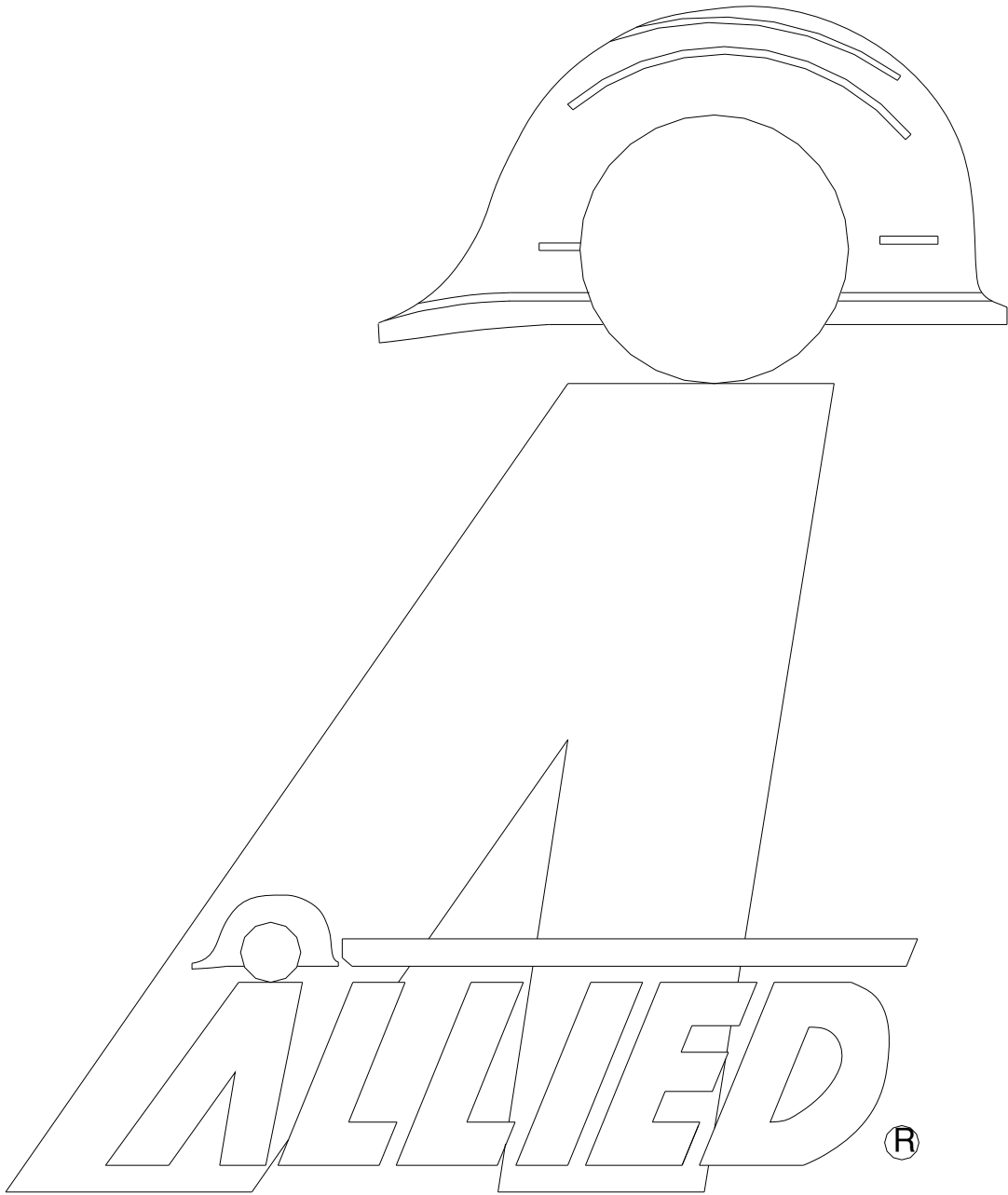
Your Name _____ Company Name _____
 Phone _____ Account Number _____
 Fax _____ Purchase order _____
 Email _____ Shipping carrier _____

*See note below

Billing Address _____ Shipping Address _____

***Note: All backordered parts will be shipped when available via the same method as the original order unless initialed and checked below:**

Initials _____
 Ship complete order only
 Ship available parts and contact customer on disposition of backordered parts
 Other – specify below



ALLIED[®]
Construction Products, LLC

3900 Kelley Avenue, Cleveland, Ohio 44114
Tel: 216-431-2600 Fax: 216-431-2601
e-mail: Sales@AlliedCP.com
website: <http://www.AlliedCP.com>