

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.



PM575474

	Conta	act Information
	3900 Kelley Ave	
ALLIED	Cleveland, Ohio 44114	
Construction Products, LLC	Tel: 216-431-2600	Fax: 216-431-2601
	Website: www.alliedcp.com	E-mail: sales@alliedcp.com

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Table of Revision History for PM575474

Effective Date	Page	Summary of Change
2014, Sep	10	Table 4.2 Item 31 – new (former) 676159 (B4006450).
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 unchanged.
2011, Sep		Part number change – new (former) 676204 (A2007110), 101781 (B2507190)
2011, Aug	13, 17	Correct hose part number. Revise Table 7.1.
2011, May		Original issue of PM575474_11may

Table of Contents

Section	<u>Page</u>
Contact Information	i
Document Revision History	ii
Table Of Contents	ii
1.0 Introduction	1
1.1 Purpose and Scope of This Manual	1
1.2 How to Order Replacement Manuals	1
1.3 Related Publications	1
2.0 Equipment Identification	2
2.1 Location of the Serial Number	2
2.2 Equipment Identification Tag	2
2.3 Owner's Record of the Equipment	2
3.0 Safety and Identification Labels	3
4.0 Spare Parts Information	7
4.1 Housing and Components	7
4.2 Breaker Assembly	9
4.3 Hydraulic Connections	15
4.4 Tools – Standard and Specialty	16
4.4.1 Standard Tools	16
4.4.2 Specialty Tools	16
4.5 Tool Lubrication - Chisel Paste	17
5.0 Service Kits and Tools	18
5.1 Tune-Up Kit	18
5.2 Seal Kit	19
5.3 Gas N2 Charge Tool Kit	21
6.0 Mounting Information	22
6.1 Mounting Brackets	22
6.2 Connection Plate	22
7.0 How to Order Spare Parts	23

List of Figures	<u>Page</u>
2-1 Location of the Serial Number	2
2-2 Equipment Identification Tag	2
3-1 thru 3-14 Safety & Identification Labels	3
3-15 Label Position on Equipment	5
4-1 Housing Box & Components	6
4-2 Breaker Assembly	8
4-3 Hydraulic Connections	15
4-4 Hydraulic Connections to Carrier – Typical	15
4-5 Standard & Specialty Tools	16
4-6 Tool Working Length	17
5-1 Tune-up Kit	18
5-2 Seal Set	19
5-3 N2 Gas Charge Kit & Back Head	21
5-4 N2 Gas Charge Kit & Accumulator	21
6-1 Bolt Mounting Bracket to Housing	22
6-2 Bolt Hole Mounting Connection Plate	22

List of Tables

<u>Page</u>

1.1 About This Manual	1
3.1 Safety & Information Label - Description	4
3.2 Safety & Information Labels - Ordering	6
4.1 Housing Box and Components	8
4.2 Breaker Assembly	10
4.3 Hydraulic Connections	11
4.4 Tools – Standard Type	13
4.5.2 Tool Lubrication - Chisel Paste	13
5.1 Tune-Up Kit	14
5.2 Seal Kit	16
5.3 Gas N2 Charge Tool Kit	17
6.1 Mounting Family & Hardware	18

1.0 Introduction

1.1 Purpose and Scope of This Manual

Table 1.1 About This Manual

Document ID. PM575474 Spare / Replacement Type Parts List Current Status* See Inside Cover Mounted Hydraulic Product Name: Impact Breaker Series Hy-Ram® Applicable Model[s]: HR330 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 <u>Safety, Operation & Maintenance Manual</u> SOM575469

Applicable Models: Hy-Ram Series HR330-HR390

The <u>Safety, Operation and Maintenance Manual</u> 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 Technical Data (Weight & General Dimensions) 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

1.0 Introduction & Scope

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: <u>aem@aem.org</u> Website: <u>www.aem.org</u>

Ask for FORM CMHB-1004, <u>Hydraulic Mounted</u> <u>Breakers</u>.

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

2.1 Serial Number Location

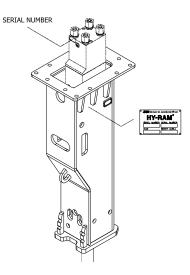


Fig 2-1 Equipment Identification

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

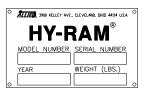


Fig 2-2 Equipment Identification Tag

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:	HR330
Part Number:	575275
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.

Table 3.1 Label Description

Fig. Label Description **Read The Manual** - Safety Alert Symbol with pictogram of open book. 3-1 Gives notice of the importance of reading the manual(s) for information and/or instructions. Keep Clear - Pictogram displays arrow distancing worker safely from recognized hazard which is represented by the box. Breakers, or any 3-2 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. Flying Debris Hazard – Alerts personnel to the hazard of fragments DANGER becoming projectiles. A protective guard to shield the operator must be ERATOR MUST BE FULLY PROTECTED BY TIVE SHIELD BETWEEN THE OPERATOR installed before operation of the breaker. Personnel are directed to the 3-3 2. A PROJECTILE FROM THE HAMMER, WORK AREA AND/OR A SWINGING OR FALLING HAMMER CAN BE FATAL TO THE OPERATOR OR BYSTANDERS. Operator's Manual for safety instructions. NOTE: A smaller sized 3. DO NOT OPERATE HAMMER WHEN BYSTA ARE IN WORK AREA. version of this decal is to be displayed in a conspicuous location ORTANT: SEE OPERATOR'S MANUAL FOR SAFETY INSTRUCTION DETAILS inside the operator's cab. Personal Protection Equipment / Tool Re-sharpening - Alerts dange personnel to provide protective shielding between the operator and In The operator must be fully protected by a protective shield between the operator and hammer. 2. Do not weld, cut with acetylene torch or hard-face this tool. See the Operators Manual for correct resharpening methods. ALLED breaker. It also warns against welding, cutting, or hard-facing the tool. 3-4 Personnel are directed to the Operator's Manual for approved resharpening methods. ALLIED WARNING **Pressurized Nitrogen Accumulator** – Alerts personnel to the presence 6000 of the accumulator, warning of nitrogen gas under pressure. Directs NITROGEN 3-5personnel to the Operation and Maintenance Manual for safe handling service instructions. GAS PRE-CHARGE – Alerts personnel to the presence of gas under pressure inside the back head. Outlines measuring / charging GAS PRE-CHARGE procedures, including -WITH HAMMER HORIZONTAL AAA PSI(BBB BAR) COLD HAMMER (70°F.) CCC PSI(DDD BAR) AT OPERATING TEMP.(150°F.) CHECK EVERY 2 WEEKS RECHARGE AS NECESSARY • Maintenance interval - every 2 weeks 3-6 Proper position when measured / charged • Charge pressure when COLD vs. HOT REFER TO OPERATORS MANUAL • CAUTION: USE NITROGEN GAS ONLY Refers personnel to the Operation and Maintenance Manual • part no. Caution alerts personnel to use nitrogen gas only •

3-7 **REMOVED**

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.

3.0 Safety, Identification & Information Labels

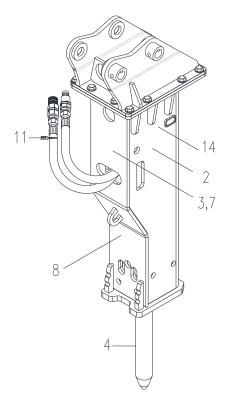
Table 3.1 Label Description - cont'd

Fig.	Label Description – cont d	Description
3-8	IMPORTANT HYDRAULC BREAKER TOOL MUST BE LUBRICATED EVERY 2. HOURS STAND HYDRAULC BREAKER VERTICALLY AND APPLY CONTACT PRESSURE TO THE TOOL ALLED 6733	LUBRICATION – Decal provides re-lubrication frequency. Risk of equipment damage through unapproved methods. Strict attention to all procedures must be followed. Stand breaker upright with contact pressure applied at tool. OK to lube.
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	3	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	ALLIED LOGO – This decal is the Allied brand identifier and is a registered trademark of Allied Construction Products, LLC.
3-13	HR330	MODEL – Decal identifies the series and specific model.
3-14	TITTER 3960 KELLEY AVE., ELEVELAND, DHE ZATIAL USA O HY-RAM® MODEL NUMBER SERIAL NUMBER YEAR WEIGHT (LBS.) 0	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 3.2 Label Set

Item	Description	Part No.	Qty	Remarks / Specifications
	Label Set	575484	1 (Set)	Set includes Items 1 thru 11
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				
6	Decal – Back Head N2 Pressure	676896	1	
7	Removed			Use is 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 HR330	575494	1	
14	Equipment ID Plate	658833	1	Item 14 is not included in Set



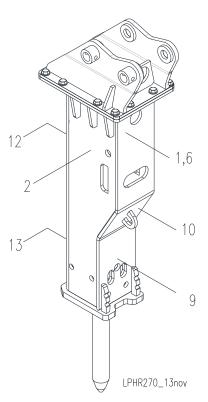
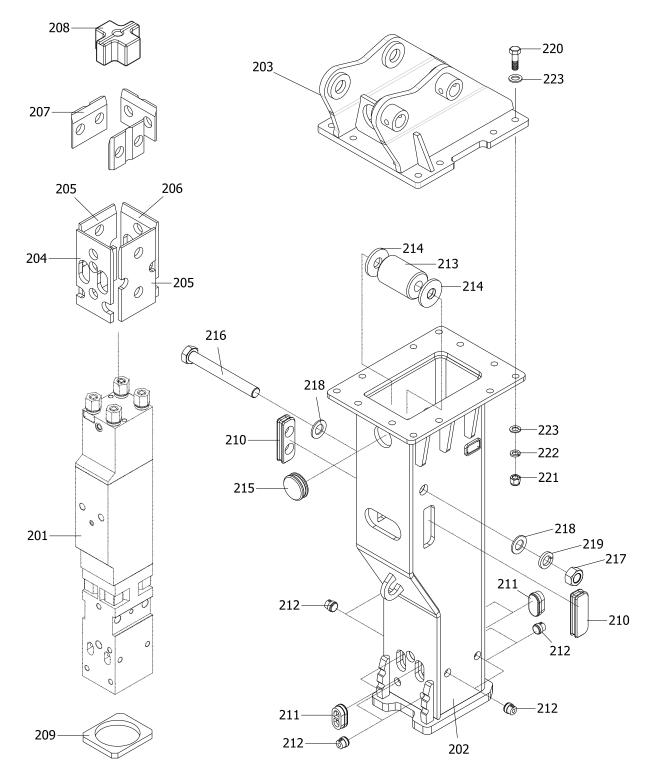


Fig. 3-13 Label Placement

4.1 Housing Box and Components





4.1 Breaker Assembly

Table 4.1 Spare Parts

<u>ltem</u>	<u>Description</u>	Part No.	<u>Qty</u>	Remarks / Specifications
	HYRAM HR330	575275	1	Standard Configuration - SR
201	Breaker Assembly	-	1	
202	Housing Box	575549	1	Standard Configuration - SR
203	Mounting Bracket - SR	Varies		Not Included. Order separately. Section 6
204	Wear Plate	A1004010	1	¹⁾ Dimension change – interchangeable old-to-new
205	Wear Plate	A1004020	2	¹⁾ Dimension change – interchangeable old-to-new
206	Wear Plate	A1004620	1	¹⁾ Dimension change – interchangeable old-to-new
207	Wear Plate	A1004040	3	¹⁾ Dimension change – interchangeable old-to-new
208	Top Buffer	A1006250	1	
209	Base Buffer	A1004050	1	
210	Side Rubber	A0602190	2	
211	Plug	A1201160	4	Rubber
212	Plug	A1201170	8	Rubber
213	Side Buffer	A1004070	1	
214	Side Buffer Washer	A1201310	2	
215	Front Rubber	A0602180	1	
216	Bolt	HB3640300	1	
217	Nut	574814	1	
218	Plane Washer	90521	2	
219	Spring Washer	573028	1	
220	Bolt			Items 220,221,222,223 Refer to Section 6
221	Nut			
222	Washer			
223	Washer			

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

4.2 Breaker Assembly

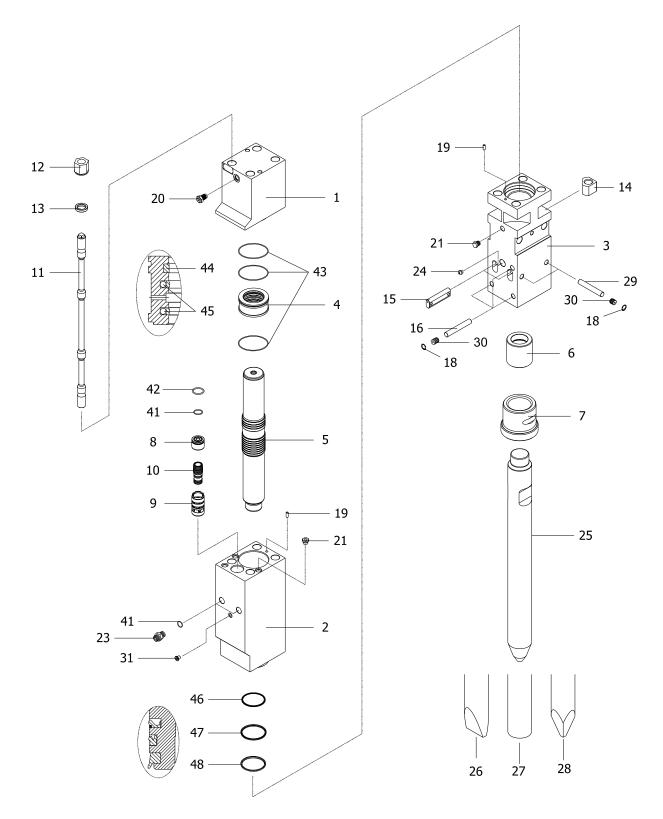


Fig. 4-2 Breaker Assembly

4.2 Breaker Assembly

Table 4.2 Spare Parts

	4.2 Spare Paris			
<u>ltem</u>	Description	Part No.	<u>Qty</u>	Remarks / Specifications
1	Back Head	A1006010	1	
2	Cylinder	A1006020	1	
3	Front Head	A1006030	1	
4	Seal Housing	A1006040	1	
5	Piston	A1006050	1	
6	Upper Bushing	A1006060	1	
7	Tool Bushing (Box)	A1006210-01	1	
8	Oper. Valve Plug	A1006080	1	
9	Oper. Valve Guide	A1006090	1	
10	Oper. Vavle Spool	A1006100-01	1	
11	Side Rod	A1006110	4	
12	Side Rod Nut (Upper)	A1006120	4	
13	Side Rod Washer	A1006130	4	
14	Side Rod Nut (Lower)	A1006140	4	
15	Tool Pin	A1006150-01	2	
16	Bushing Pin	A1006160	3	
18	Snap Ring	B1006440	5	
19	Guide Pin	B4006370	2	
20	Gas Charging Valve	A3006590	1	
21	Socket Plug	B4006530	4	
23	Adapter	A1306320	2	
24	Grease Nipple	816675	1	
25	Tool Selection	Varies	1	Items 25,26,27,28 Refer to Section 4.5
29	Bushing Pin	A1006220	2	
30	Rubber Plug	676243	5	
31	Socket Plug	676159	1	
41	O-Ring	676204	3	
42	O-Ring	101781	1	
43	O-Ring	A1007010	3	
44	Gas Seal	A1007200	1	
45	Step Seal	A1007300	2	
46	Buffer Ring	A1007110	1	
47	U-Packing	A1007120	1	
49	Wiper	A1007130	1	

4.3 Hydraulic Connections

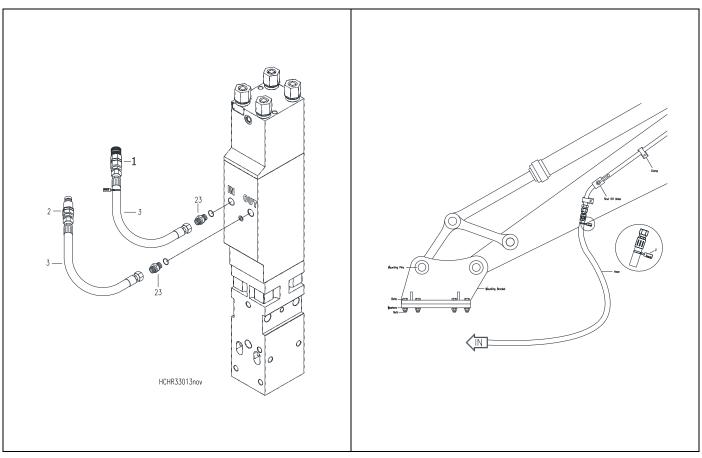


Fig. 4-3 Hydraulic Connections

Fig. 4-4 Carrier Connections - Typical

Table 4.3 Hydraulic Connections

Item	Description	Part No.	Qty	Remarks / Specifications
1	Quick Disconnect - Socket	101571	1	
2	Quick Disconnect - Plug	101570	1	
3	Hose	570368	2	
23	Adapter	667710	2	

4.4 Tools – Standard and Specialty

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.

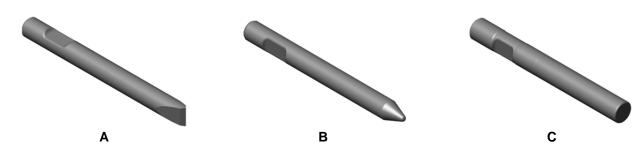


Fig. 4-5 Standard Tool Types A thru C.

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 Tools – Standard and Specialty

Table 4.4

ltem	Description	Part No.	TD^3 in. [mm] x WL^4 in. [mm]	Weight lbs. [kg.]
25-B	Conical Point	575385	3.35 [85] x 21 [533]	79 [36]
25-A ¹	Chisel Cross Cut	575265	3.35 [85] x 21 [533]	79 [36]
	Chisel In-Line	²		
25-C	Blunt End	575395	3.35 [85] x 19 [488]	79 [36]
25 ²	Pyramid (Not Pictured)	²	3.35 [85] x 21 [533]	79 [36]

¹⁾Standard tool supplied with breaker

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

- ³⁾TD Tool Diameter
- ⁴⁾ WL Working Length

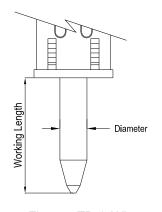


Fig. 4-6 TD & WL

4.5 Lubricant For Bushing and Tool

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.

4.5.2 Chisel Paste Ordering Information

Table 4.5 Chisel Paste

Packaging	Part No.
Qty x 10	574430
Qty x 30	574431
Qty x 1	676698
Qty x 1	679968
	Qty x 10 Qty x 30 Qty x 1

* 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.

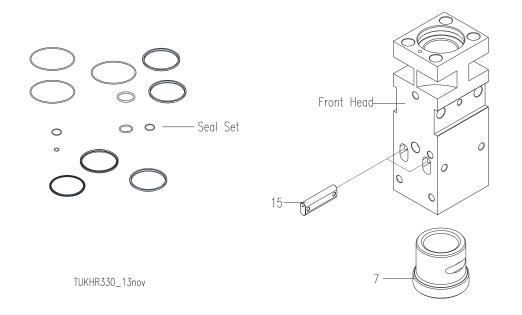
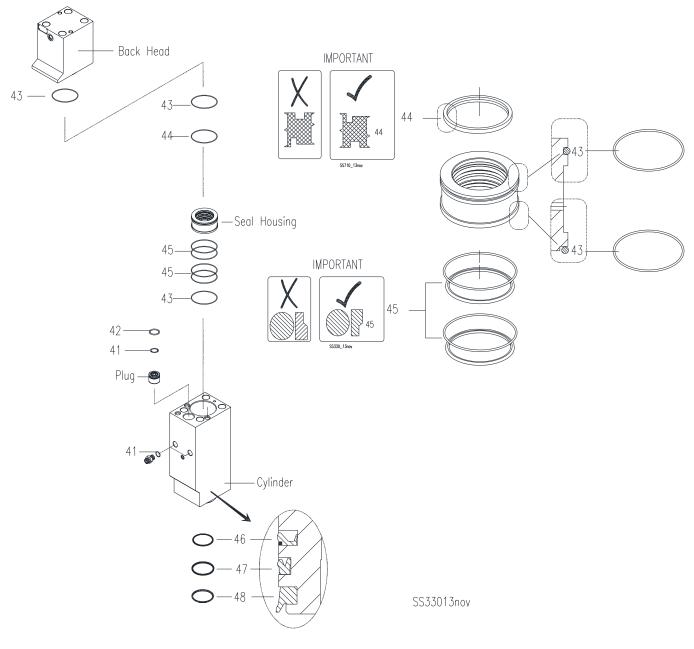




Table 5.1 Tune-up Kit

Item	Description	Part No.	Qty	Remarks / Specifications
	Tune-up Kit	575406	1	Kit includes all items in Table 4.4
	Seal Set	575416	1	
7	Tool Bushing	A1006210-01	1	
15	Tool Pin	A1006150-01	2	

5.2 Seal Kit







5.2 Seal Kit

Table	5.2 Seal Set			
Item	Description	Part No.	Qty	Remarks / Specifications
	Seal Set	575416	1 (Set)	Set includes Items 41 thru 47, 49 & thread lube
41	O-Ring	676204	3	
42	O-Ring	101781	1	
43	O-Ring	A1007010	3	
44	Gas Seal	A1007200	1	
45	Step Seal	A1007300	2 (set)	Set includes O-ring & Step Seal (each 1x)
46	Buffer Ring	A1007110	1	
47	U-Packing	A1007120	1	
49	Wiper	A1007130	1	
	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

Apply thread lube included in seal set to threads of side rods at assembly. *DO NOT apply Thread Lube to seals!*

5.0 Service Kits and Tools

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.

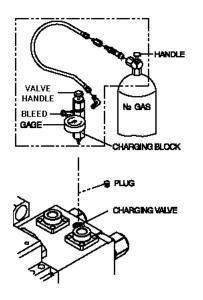


Fig. 5-3 N2 Charge Pressure - Back Head

Table 5.3 N2 Gas Charge Tool

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 in the upper chamber. Reliable operation of the breaker along with optimal membrane life is accomplished through proper filling of the charge pressure.

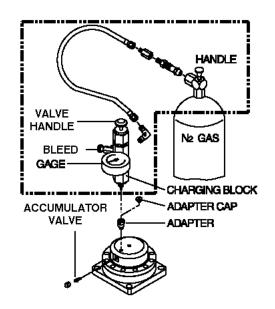


Fig. 5-4 N2 Charge Pressure - Accumulator¹⁾

1 4610 010	The Bab Briange Teel			
<u>ltem</u>	Description	Part No.	<u>Qty</u>	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	Gas Bottle - Nitrogen Gas N2	Not Available		Source Locally



For your safety, read, understand and follow all instructions given in Operation & Maintenance Manual 575582 for the safe and proper use of this tool.

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

6.0 Mounting Information

6.1 Mounting Bracket – Option

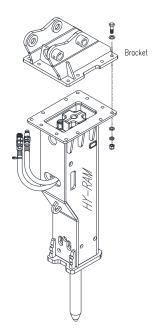


Fig. 6-1 Housing Box, Mounting Bracket & Bolt Set

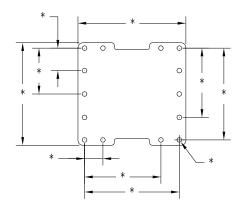
Hy-Ram series breakers come without mounting. Allied offers an array of mounting brackets to fit virtually any carrier, including those equipped with pin-grab or hook style mounting couplers.

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

Table 6.1 Mounting Family & Hardware (QTY)

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.





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.

Family	Model	<u>Bolt</u>	FL Washer	LK Washer	<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 all fasteners. These can be found in the Operation and Maintenance Manual 575469.

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	HR330
Serial No.	

Please fill out completely	Please	fill	out	com	pletely
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Line	Description		Parl	Number	Quantity	Price
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
Your Phon Fax Email		Account Purchas Shipping	Number e order g carrier	*See note bel	ow	
*Note unles Initia	e: All backordered parts will be shipped w as initialed and checked below: als Ship complete order only Ship available parts and contact cu Other – specify below				-	order

NOT	ES
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3900 Kelley Avenue, Cleveland, Ohio 44114 Tel: 216-431-2600 Fax: 216-431-2601 e-mail: Sales@AlliedCP.com website: http://www.AlliedCP.com