



Demolition Combi-Cutter

**RDC 25
RDC 32**

Demolition Pulverizer

**RDP 25
RDP 32
RDP 42**



Safety, Operation and Maintenance



Thoroughly read and understand the content of this manual before operating or servicing the Allied equipment.

This manual has been prepared to assist the operator and maintenance personnel with the information necessary for the safe and proper use of the Allied equipment. 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.



SOM577505

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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. When changes become necessary, these will be noted in the table below. Specifications are based on published information at the time of publication. Allied Construction Products, LLC, reserves the right to change, edit, delete or modify the content of this document, including descriptions, illustrations and specifications without prior notification. For document updates go to www.alliedcp.com.

Table of Revision History for SOM577505

<u>Effective Date</u>	<u>Page</u>	<u>Summary of Change</u>
2014, Nov		Add model RDP42
2014, Sep	All	Original Issue of SOM577505

Safety Information

Safety Statements and Hazard Alerts

Safety messages appear throughout this manual and on labels affixed to the Allied equipment. Read and understand the information communicated in safety messages before any attempt to install, operate, service or transport the Allied equipment.

Keep all safety labels clean. Words and illustrations must be legible. Before operating this equipment, replace damaged or missing labels.

Purpose of Safety Messages

Information provided in safety messages is important to your safety. Safety messages communicate the extent, magnitude and likelihood of injury associated with unsafe practices such as misuse or improper handling of the Allied equipment. Safety messages also explain how injury from potential hazards can be avoided.

Safety messages presented throughout this manual communicate the following information:

Alert personnel to potential hazards

Identify the nature of the hazard

Describe the severity of the hazard, if encountered

Instruct how to avoid the hazard

Safety Alert Symbol

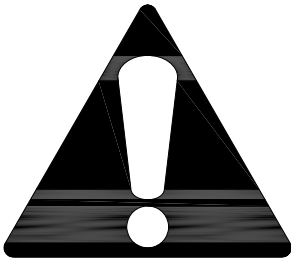


Fig. S-1 ATTENTION, BECOME ALERT, YOUR SAFETY IS INVOLVED.

Fig. S1. The exclamation point within an equilateral triangle is the safety alert symbol. This symbol, either used alone or in conjunction with a signal word, is used to draw attention to the presence of potential hazards.

Signal Words

“DANGER”, “WARNING” and “CAUTION” are signal words used to express severity of consequences should a hazard be encountered.

DANGER - Indicates an imminent hazard, which, if not avoided, **will** result in death or serious injury.

WARNING - Indicates an imminent hazard, which, if not avoided, **can** result in death or serious injury.

CAUTION - Indicates hazards which, if not avoided, **could** result in serious injury or damage to the equipment.

This manual presents safety messages configured in a uniform manner as shown in Fig. S-2.

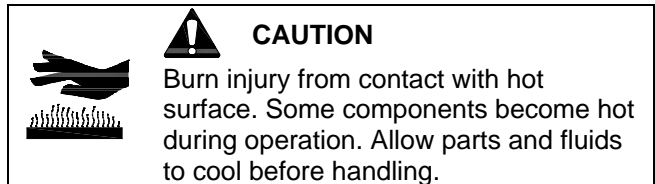


Fig. S-2 Safety Message – Typical Presentation

Signal Words Used for Non-Hazard Messages

Other message types that appear in this manual utilize signal words 'IMPORTANT' and 'NOTE'. These are used only for the purpose of notifying personnel to instructions and suggestions but do not pose a safety hazard.

IMPORTANT – Identify instructions that if not followed, may diminish performance; interrupt reliability and production or cause equipment damage.

NOTE – Highlight suggestions, which will enhance installation, reliability, or operation.

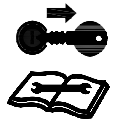
Safety Information – [cont'd]

Meaning of Pictograms

Pictograms are used to rapidly communicate information. For the purposes of this manual and labels affixed to the Allied equipment, pictograms are defined as follows:



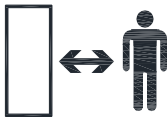
Read / Refer to the manual for information



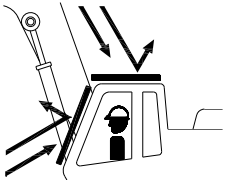
Shut off carrier & remove key before servicing



Read / Refer to the Service Manual for information



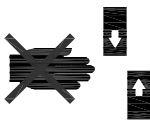
Stay clear
Maintain a safe distance



Debris that become airborne projectiles. Protective guards are required on cab when operating this work tool



Crush / Shear point



Falling object
Unsupported loads



Falling part
Safety shoes



Flying debris



Leaking fluid under pressure - injection



Hot surface



Oil / Gas under pressure



Identifies lift point



Electric Shock



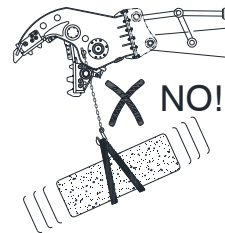
Personal protection equipment
Hearing protection



Safety eyewear



Gloves



Prohibited actions are events that must be avoided to prevent personal injury and/or equipment damage

Prohibited actions bare an "X" or a circle with a diagonal slash.

Safety Information – [cont'd]

Safety, Identification and Information Labels

Information labels affixed to the Allied equipment include safety warnings, identification and instructions important to operation and service.

Keep all safety labels clean. Words and illustrations must be legible. Before operating this equipment, replace damaged or missing labels. Refer to the Parts Manual for ordering information.

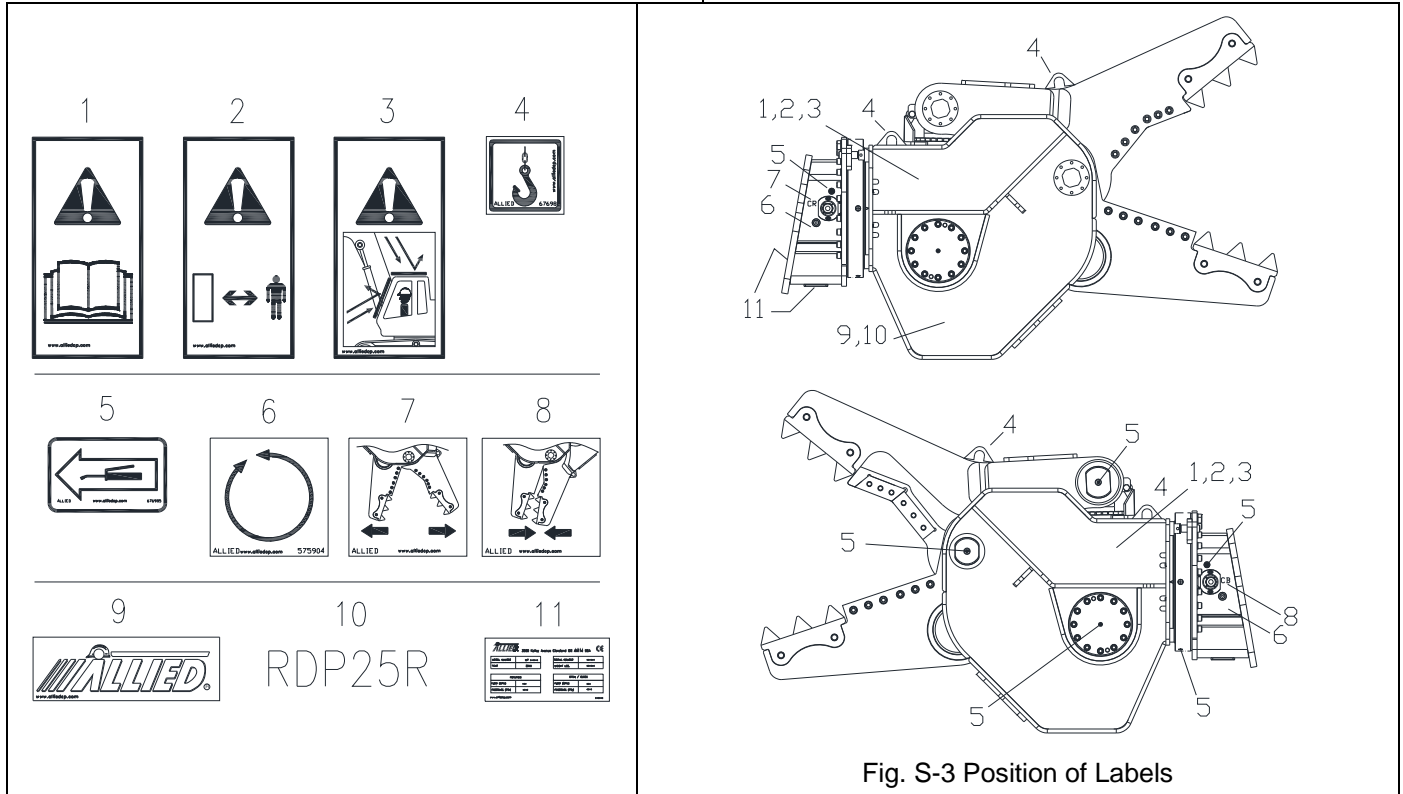


Fig. S-3 Position of Labels

Table S.1 Labels – For Ordering Information See Parts Manual

Item	Part No.	Description	Qty	Remarks / Specifications
---	---	Decal Set	1-Set	Set includes 1-10
L1	---	Label - Read Instructions / Manual	2	See Parts Manual
L2	---	Label - Stay Clear	2	Display on both sides
L3	---	Label - Guards	2	Display on both sides
L4	---	Label - Lift Point	5	
L5	---	Label – Lube Point	10	
L6	---	Label – Rotation	2	Display on both sides
L7	---	Label – Jaw Open	1	
L8	---	Label – Jaw Close	1	
L9	---	Label - Allied Logo	2	Display on both sides
L10	---	Label - Model	1	
L11	---	Label – Equipment ID	1	Item L11 Not included in set

Safety Information – [cont'd]**Attention Read the Manual**

Operators and personnel responsible for maintenance of the Allied work tool should read this manual. Other manuals, such as those published by the machinery used in support of the Allied equipment, should also be read. Improper installation, operation or maintenance of the Allied equipment could result in serious injury or death. Only qualified operators may operate the Allied equipment. Personnel responsible for the maintenance of the Allied equipment or its systems, including inspection, installation or adjustments must also be qualified.

Qualified Person

For the purposes of this manual, a qualified person is an individual that has successfully demonstrated or completed the following:

Has read, fully understands and adheres to all safety statements in this manual.

Is competent to recognize predictable hazardous conditions and possess the authorization, skills and knowledge necessary to take prompt corrective measures to safeguard against personal injury and/or property damage.

Has completed adequate training in safe and proper installation, maintenance and operation of this Allied equipment.

Is authorized to operate, service and transport the Allied equipment identified in Table 1.1.

Safety Information Overview

It's important for all personnel working with the Allied equipment to read this manual in its entirety. It contains important safety information that must be followed so that unsafe situations may be avoided. Safety information described at the beginning of this manual is generic in nature. As you continue reading through later sections of this manual, instructions and safety information become more detailed and operation-specific.

Allied has made every effort to provide information as complete and accurate as possible for this document. Allied cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and labels affixed to the Allied attachment are therefore not all inclusive.

General Construction Safety

Always follow procedures that promote safe conditions for workers and bystanders. The standard safety precautions expected and required of those working in construction shall include, but not limited to:

- Locating and marking existing underground and above ground service and utility lines
- Establishing work zone and erecting pedestrian barriers
- Use of personnel protection equipment that's appropriate to working conditions, etc.

Federal, State, Local and OSHA Construction Guidelines and Regulations

Use the Allied equipment in accordance with all federal, state and local regulations regarding construction practices and public safety. Identification of, and compliance to, governing regulations are the responsibility of the owner and operator.

In the United States, comply with the recommendations of the Occupational Safety and Health Administration standards of the U.S. Department of Labor. For OSHA construction guidelines contact your local federal government office or write:

U.S. Government Printing Office Superintendent of Documents P.O. Box 371954 Pittsburgh, Pa. 15250-7954

Website: www.osha.gov

Ask for Construction Industry OSHA Standards Stock #869-034-00107-6.

Owner's Responsibilities

Ensure that only qualified personnel operate and service the Allied equipment.

Ensure personnel protection equipment is available to personnel and enforce the use of PPE

Ensure equipment is kept in safe operating condition

Ensure safety-related materials such as instructions and including this manual are kept in a convenient location so that they are easily accessible to operators and maintenance personnel.

Safety Information – [cont'd]

Operational Safety Program

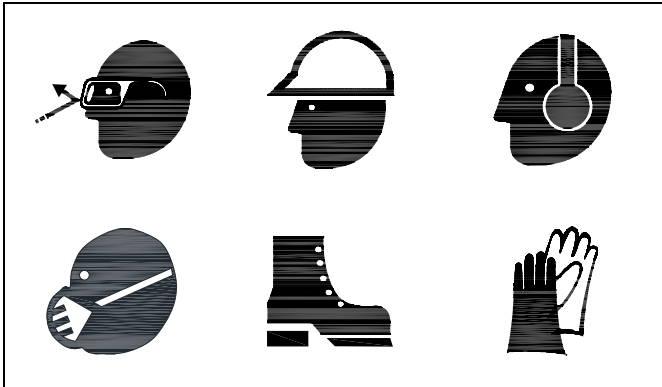
The safe and efficient use of the Allied equipment depends upon proper installation, operation, maintenance and repair. Operational safety programs must encompass all of these elements.

Accident prevention through operational safety programs are most effective when the equipment owner further develops the program by taking into account his own experience in using and maintaining equipment.

Developing such programs will help minimize equipment downtime, while maximizing service life and performance. Most importantly, it will minimize the risk of personal injuries.

Personal Protective Equipment (PPE)

Personnel operating or nearby the equipment that may be exposed to hazards such as falling, flying and splashing objects, or exposed to harmful dusts, fumes, mists, vapors, or gases shall use appropriate personal protection equipment (PPE) necessary to protect them against injury from the hazard. PPE selection, such as safety eyewear, face shield, hearing protection, safety footwear, gloves, dust mask, etc. shall be reviewed to ensure appropriate PPE is made available to all personnel. Personnel are responsible for wearing PPE as directed by the supervisor.



Safety Guards and Protective Barriers

A safety guard is a physical barrier designed to prevent access to danger areas. Guards are fitted to the Allied equipment to protect against unsafe situations that could not be eliminated through design measures. Guards are only effective when properly installed and in place. Guards shall not be removed unless for the purpose of inspection and service of

components. Reinstall all guards after service or adjustments are completed.

Where it was not possible to prevent an unsafe situation by means of a guard, safety messages appear on the equipment, warning personnel of a recognized hazard.

Additional guarding, not included with the Allied equipment, is necessary at the operator's station to protect the operator and other nearby personnel against flying debris from material being cut or demolished. Do not handle, demolish or cut material overhead without proper guards installed.

The control switch shall be located in a protected area that is guarded against accidental operation of the Allied work tool.

Unapproved Use or Modifications

In order to provide and maintain efficient operation with reliable service, while ensuring operator safety, the Allied equipment may not be used for any purpose other than, for which it was intended. Use of the Allied equipment, other than those cited in this manual, may place personnel at risk of injury and/or may subject the equipment to damage.

When making repairs, use only the manufacturer's genuine parts. Substitute parts may not meet the required standards for fit and quality, or may impair function, safety and performance. The Allied equipment shall not be modified or used in unapproved applications unless written consent is received from the Allied Engineering Department.

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1.0 Introduction & Scope

1.1 Purpose of this Manual

This manual has been prepared in support of the product named in Table 1.1 and is intended to assist the operator and maintenance personnel with the information necessary for the safe and proper use of the Allied equipment.

Material presented in this manual may show equipment that is optional. Figures, captions, parts tables and descriptions are intended solely for use with the product identified in Table 1.1 and may not be suitable for other models.

1.2 About This Manual

Table 1.1 About This Manual

Document ID No.	SOM577505
Type	Safety, Operator's and Maintenance
Current Status	See Inside Cover
Product Name:	Demolition Cutter / Pulverizer
Series	RDC / RDP
Applicable Model[s]:	RDC25,32 / RDP25,32,42
Years of Manufacture:	Begin 2014

This document is published 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.

Prior to using, confirm that the information recorded on the Equipment's Identification Tag corresponds with the model information located in Table 1.1.

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 been 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 summary of changes made to the content of this document can be found on the inside cover of this manual.

1.3 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.

Replacement manuals can be ordered by contacting your local Allied dealer or the Allied Customer Support Department. See inside cover for contact information.

1.4 Related Publications

- Parts Manual – 577503 (RDP), 577504 (RDC)
- Safety, Operation and Maintenance – 577505
- Jaw Maintenance and Repair - 577500

2.0 Equipment Identification

2.1 Location of the Serial Number

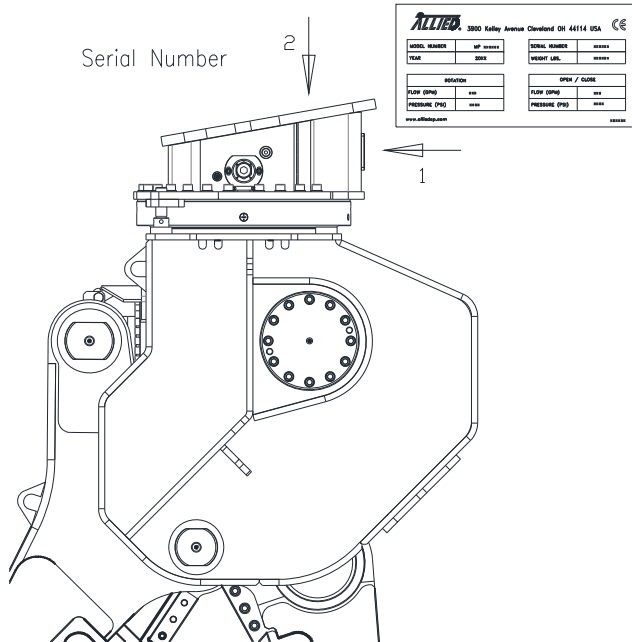


Fig. 2-1 Equipment Identification

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

Equipment ID Tag #1 is located on the 'Long' side of the Subhead.

Equipment Tag #2 is located inside the subhead at the 'OPEN' side

2.2 Equipment Identification Tag

ALLIED		3900 Kelley Avenue Cleveland OH 44114 USA		CE	
MODEL NUMBER	MP xxxxxx	SERIAL NUMBER	xxxxxx		
YEAR	20XX	WEIGHT LBS.	xxxxxx		
ROTATION		OPEN / CLOSE			
FLOW (GPM)	xxx	FLOW (GPM)	xxx		
PRESSURE (PSI)	xxxx	PRESSURE (PSI)	xxxx		
www.alliedcp.com				xxxxxx	

Fig. 2-2 Equipment Identification Tag

Refer to Figure 2-2. The Equipment Identification Tag is affixed to the top mounting frame. It provides the following useful information:

- Name

- Address
- Product name
- Model number
- Serial number
- Year of manufacture
- Mass

Verify that the information contained on the Tag corresponds with the information provided in Section 1 of this manual.

2.3 Owner's Record of the Equipment

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 copied from the Equipment Identification Tag to the space provided below.

Indicate the date in which the Allied equipment was placed into service.

Fill out the Warranty Registration form and return to Allied Construction Products, LLC.

Product Name: Demolition Combi-Cutter

Type / Model: RDC / 25,32

Product Name: Demolition Pulverizer

Type / Model: RDP / 25,32,42

Serial Number: _____

In Service Date: _____

Registration Date _____

Model RDC / RDP

DC	Demolition Combi-Cutter
DP	Demolition Pulverizer

3.0 Warranty Protection Summary

3.1 Overview

The Allied work tool is delivered assembled, lubricated, and factory tested. Upon receipt of the equipment, inspect for possible shipping damage.

For every new Processor, Allied requires that a Warranty Registration form be filled out. The form provides a section for information about the host machine that the work tool will be installed on. Complete all sections of the form and return to Allied.

Use of non-Allied parts, unapproved service methods, modifications to the Allied equipment, or installation, operation and maintenance, not in accordance with the instructions outlined in this manual may cause equipment failure or personal injury.

For details regarding warranty terms and conditions, refer to document 577429.

3.2 Owner's Responsibilities

When properly installed, operated and maintained by qualified personnel, the Allied work tool will remain productive with a minimum of service.

Keep the Allied equipment operating within its performance limits by familiarizing yourself with the specifications provided in the technical data and specifications tables. Improper installation, including failure to calibrate the carrier correctly may result in loss of performance or subject the equipment to conditions beyond their design.

The following outlines general maintenance policies required for all Processor models. The owner is strongly encouraged to adopt these general guidelines and further develop them in order to manage particular applications and operating environments.

Ensure that personnel entrusted with installation, operation, maintenance and transporting of the Allied equipment adhere to the following:

Read and thoroughly understand the information and procedures described in this manual.

Understand proper operating techniques for all recommended applications.

Use the Allied attachment only if it is in sound operating condition. Take prompt action to rectify any faults that, if left uncorrected, could lead to personal injury or further damage.

Use the Allied attachment only for the purpose for which it is intended.

Understand that particular applications, such as working underwater, will require modifications to the standard pulverizer and additional training for operation and service.

Appoint Who Does What. Ensure that all personnel understand what their specific responsibilities include.

Establish maintenance responsibilities to be performed by the OPERATOR.

Establish maintenance responsibilities to be performed by the SERVICE TECHNICIAN.

Recognize problems and know how to take corrective action as detailed in Troubleshooting Section 12.

Conduct regular checks and inspections as scheduled in the Care & Maintenance Section 9.

Allow only qualified operators and Allied trained service technicians to perform maintenance and repair as specified in the care and maintenance schedule.

Use only genuine Allied replacement parts and recommended lubricants to protect total warranty coverage.

Maintain written records of equipment maintenance, service and repair. These records are helpful if warranty coverage is ever in question.

Each record shall include at least:

- Date of service, maintenance or repair.
- Description of the service, maintenance or repair performed. Include part numbers if applicable.
- Copies of purchase order(s) and invoice(s) for repair parts and service.
- The name and signature of the person performing the service, maintenance or repair.

3.0 Warranty Protection Summary [cont'd]

3.3 Allied Product Policies

In this manual, Allied recommends Processor applications, maintenance and service consistent with industry practices.

Allied assumes no responsibility for the results of actions not recommended in this manual and specifically the results of:

Improper Training

Improper Installation

Operation in unapproved applications

Incorrect operation

Inadequate maintenance

Use of non-genuine Allied replacement parts

Unapproved modifications

These exclusions apply to damage to the Allied equipment, associated equipment and injury to personnel.

4.0 Product Information

4.1 Description and Application - Typical

Allied's RDP and RDC are hydraulic powered demolition tools designed to process both concrete and steel. Applications include primary demolition of concrete and steel structures and secondary processing of the same material.

The work tool is designed for mounting on mobile construction equipment such as rubber tired and track-type excavators. The hydraulic power of the host machine is utilized to operate the jaws and rotation. A mounting bracket (sold separately) is bolted to the subhead. With the bucket removed, it is pinned to the stick of the host machine.

4.2 Familiarization of Main Components

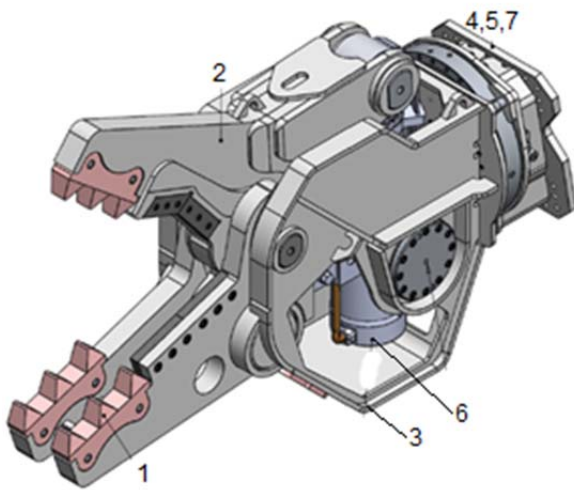


Fig. 4-1 Main Components of RDC

Pos.	Part Name
1	Lower jaw (Stationary)
2	Upper jaw (Moveable)
3	Body
4	Subhead
5	Slew ring
6	Hydraulic cylinder with speed valve
7	Hydraulic swivel and motors

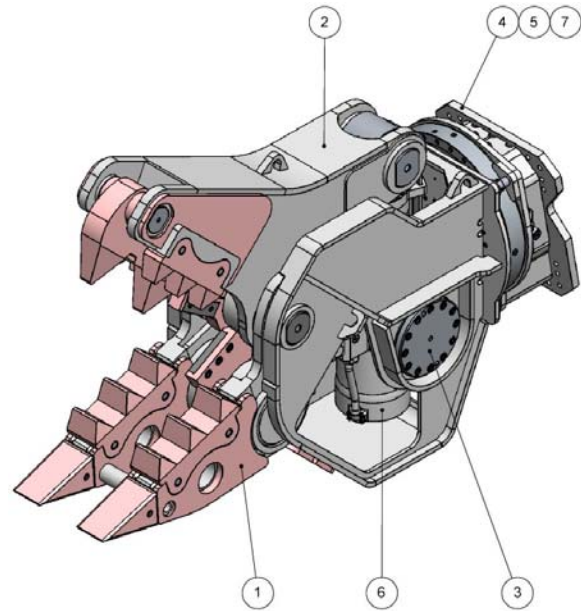


Fig. 4-2 Main Components of RDP

Major components of the Processor include:

Body – The body serves as the frame and is the connection point for the jaws, cylinder and the rotation system.

Rotation System - Rotation is bi-directional and provides a means of 360-degrees of continuous rotation. The assembly includes the slew ring, drive motors, swivel joint and the subhead.

Subhead - The subhead houses the rotation motors, brake valve and flow control valves. Hydraulic connection ports for jaw open/close and rotation motor are located here. The subhead includes the connection plate for the bolt-on mounting bracket.

Hydraulic System – All actuators of the processor, including the cylinder and motors, are hydraulic powered. The balance of hydraulic components includes the swivel, valves and hoses.

Speed Valve – This is a regenerative type valve that optimizes the circulation of oil to and from the jaw cylinder. Cycle times of the jaw open and close are reduced, thereby increasing efficiency.

Flow Control Valve - Prevents over-speeding the drive motors used for rotation.

Brake Valve – Protects the drive motors, pinion and slew bearing against damage from over-load of excessive force.

4.0 Product Information

Pulverizer Jaw – Used to crush and process material such as concrete. Designed to reduce and separate rebar from concrete. It is also equipped with a blade for cutting rebar.

Combi-Cutter Jaw – Used to cut steel structures and crush, process and reduce concrete.

NOTE: The valves are factory pre-set and require no further adjustments.

4.3 Principle of Operation

All movements of the RDP / RDC are controlled by the operator from inside the safety of the cab of the host machine. The machine operator controls the directional valves on the carrier that provide hydraulic power to actuate the jaw cylinder and rotation circuits.

A large bi-direction cylinder (trunnion mount design) powers the jaw open and close. The oil pressure inside the cylinder generates mechanical force to the jaws.

Cycle time (the time measured from jaw open-to close) is determined by how quickly the cylinder fills with oil. The function of speed valve is to increase the closing speed, thereby reducing cycle times and increasing efficiency. It operates only when the cylinder is not under a heavy load. The speed valve re-routes oil out of the rod side of the cylinder [P2] and diverts it into the piston side [P1]. As pressures build inside the cylinder, the speed valve reacts to the increased pressure and shifts out of its operating mode. This permits the oil pressure inside the cylinder to reach maximum system pressure, allowing the jaw to process the material with maximum force.

The rotation feature adds safety and efficiency. The bi-directional rotation system allows the operator to align the jaws to the precise angle needed for processing of the material. The slew ring provides 360-degree of continuous rotation and is driven by a pair of hydraulic motors inside the subhead. The cross-over valve functions as a brake to hold the motors steady and also protects the rotation system from overload.

5.0 Processor Selection and Application

5.1 Application – Intended Use and Carrier Type

Allied's RDP and RDC are hydraulic powered demolition tools designed to process both concrete and steel. Applications include primary demolition of concrete and steel structures and secondary processing of the same material.

The Allied work tool is designed for mounting on mobile construction equipment such as rubber tired and track-type excavators. The hydraulic power of the host machine is utilized to operate the jaws and rotation. A mounting bracket (sold separately) is bolted to the subhead. With the bucket removed, it is pinned to the stick of the host machine.

5.1.2 Size Selection to Match the Application

Allied work tools should be selected based on the application and intent of use. Each job or processing application has its own set of unique requirements when it comes to choosing a mobile processor.

In general, the best way to start is to look at what's being processed and how the final material needs to be finished. In most applications the 80/20 rule can be applied for steel processing in both recycling and demolition projects such as bridges and steel framed block buildings. This works by matching a mobile processor that is capable of cutting 80% of the material that needs to be processed and allowing the remaining 20% to be processed in a different way instead of looking at the largest material that is needed to be cut, which may be only a fraction of the processing work.

In the case of recycling, the above method works very well but with demolition projects there can be more that needs to be considered. Questions to ask for example include;

- Will the work tool be used only for secondary processing of material or will it be a primary take-down machine or both?
- Does the job require the work tool to be mounted as a 3rd member (end of stick) or 2nd member (end of the boom)?

Please refer to Allied's Appetite Guide for the configuration of your processor to understand its capabilities and will also best match your needs.

5.1.3 Carrier Selection

The carrier, or host machine as it's sometimes called, is sized after the application and intent of use has been established.

Carrier sizing must be given careful consideration. Make sure it is suitable to handle the work tool. Refer to Allied's product selection chart. The information will help guide you into the proper carrier and work tool match. Know how your machine is equipped and if any modifications have been made. Factors such as boom type, stick length, undercarriage, tracks, counterweights, etc., all affect the lifting capacity of the carrier. Also take into account any add-ons, such as a quick attach coupler. Consult the carrier manufacturer's manual for specifications.

5.2 Carrier With Auxiliary Hydraulic Circuit

Allied's RDC and RDP are not self-powered. Hydraulic circuits are needed to operate the jaws and the rotation mechanism. Select a carrier that's capable of supplying the flow and pressure required by the work tool. Efficient and reliable performance is reliant upon the ability of the host machine to meet all requirements of the work tool. Unsatisfactory performance will result if the work tool requirements are not met.

Flow and pressure requirements will vary with the model of the work tool. These and other requirements are identified in the specification tables found in the Technical Data Section of this manual.

Generally, most machines will require some degree of conversion to make use of their hydraulic power. Machines already equipped with a factory or dealer installed auxiliary circuit, however, may require little more than minor adjustment of flow and pressure settings.



CAUTION



Hydraulic circuits differ between machines. Improper oil flow or pressure can damage the work tool or carrier.

When making adjustments, carefully follow all instructions including those provided by the machine manufacturer. Only qualified personnel, having knowledge of the machine's systems, proper test equipment and tools should perform conversion set-up and adjustments.

6.0 Hydraulic Conversion

6.1 Conversion Kit for Hydraulic Circuits

Allied conversion kits are available for almost any carrier. Requests for further information or assistance

with the selection of processor or conversion kits should be directed toward your Allied dealer or by contacting Allied Sales or Product Support Departments.

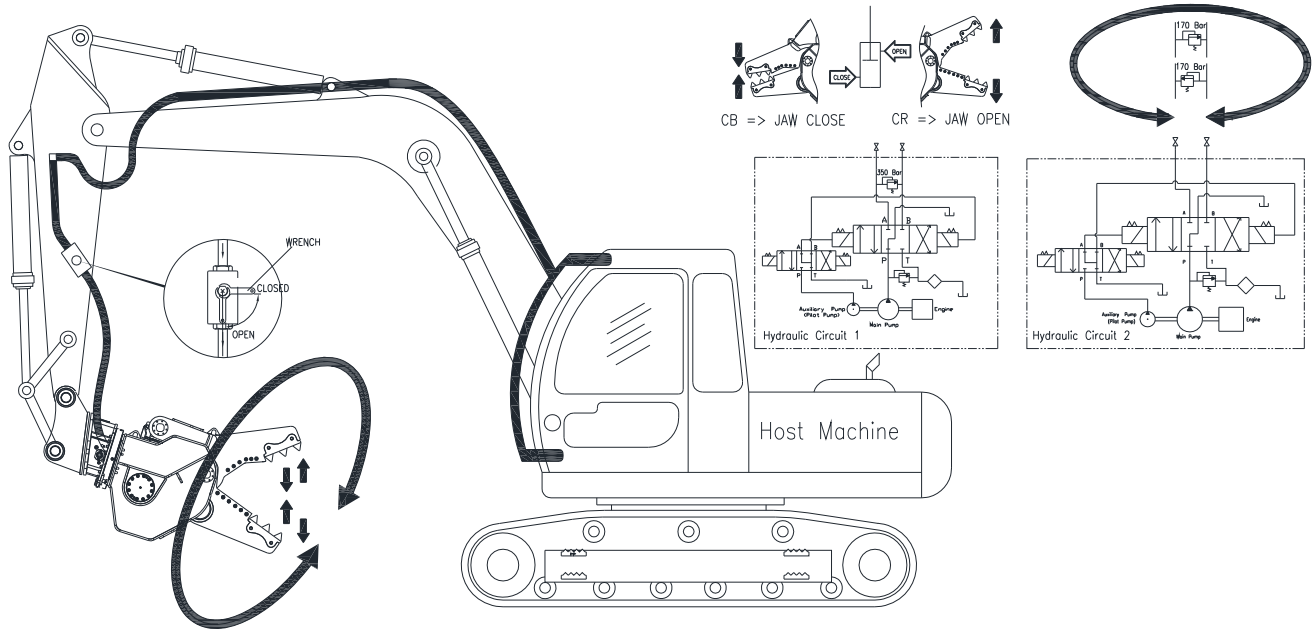


Fig 6-1 Hydraulic Circuit 1 – Jaw. Hydraulic Circuit 2 - Rotation

Table 6.1 Hydraulic Conversion - General

No	Description / Function	Specifications
1	Bi-direction valve / Jaw 'OPEN' and 'CLOSE'	For further details contact Allied
2	Relief Valve / Jaw 'OPEN' and 'CLOSE'	For further details contact Allied
3	Bi-direction valve for 'ROTATION'	For further details contact Allied
4	Switch for valve / Jaw 'OPEN' and 'CLOSE'	For further details contact Allied
5	Switch for valve / ROTATION	For further details contact Allied
6	Hydraulic Tubing	For further details contact Allied
7	Shut-Off Valve	For further details contact Allied
8	Hose for Jaw 'OPEN' and 'CLOSE'	Refer to Table 12
9	Hose for 'ROTATION'	Refer to Table 12

7.0 Install / Uninstall Processor

7.1 Mounting Bracket

The work tool is attached to the host machine by pinning it to the stick (in place of the bucket) as a 3rd member.

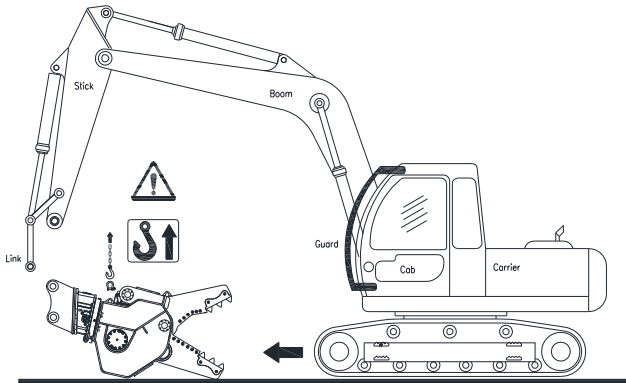


Fig. 7-1 3rd Member Mounting of Work Tool

Allied offers an array of mounting brackets (sold separately) to fit virtually any carrier, including those equipped with pin-grab or hook-type quick mounting couplers. A bolt set is furnished with the work tool to fasten the bracket.

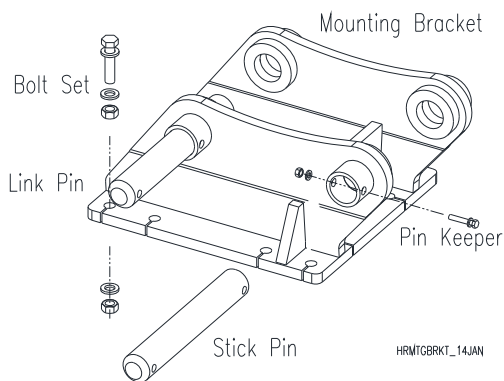


Fig 7-2 3rd Member Mounting Bracket - Typical

IMPORTANT

Fig. 7-2. Mounting brackets are sold separately from the work tool. The stick and link pins are shown only for reference and may not be included with the Allied bracket. Allied brackets are typically designed to utilize the carrier's pins. To order a mounting bracket, complete information about the carrier is required. This includes the make, model, series and serial number. If equipped with a quick coupler, additional information is required.

The top connection plate is part of the subhead assembly. The standard hole pattern for this work tool conforms to the LR9 family. Other work tools from Allied, including the Ho-Pac and hydraulic breakers, share these same mounting families. Dimensions for the LR9 bolt hole pattern can be found in the General Specifications Section of this manual.



CAUTION

Follow proper tightening procedures and torque when installing mounting bracket.

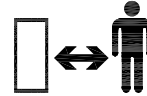
7.2 Installing the Work Tool to Carrier - General

Before installation of the work tool, make sure it is suitable for the carrier. See technical data tables.

The Allied work tool is attached to the carrier in the same manner as mounting a bucket. Use standard mechanic's techniques and tools.



CAUTION



Some procedures, such as attaching the work tool to and from the carrier, will require an assistant. Both the operator and assistant must be qualified in these procedures.

Take all necessary precautions. Throughout the procedure the machine operator shall be seated in the operator's seat and maintain full control of the machine. All directions and signals must be agreed upon in advance. Take signals from only ONE person.



Crush hazard. Use sufficient blocking to avoid accidental or sudden movement of the work tool. Keep hands and feet clear of crush points. Do not touch any moving parts.



Use personal protective equipment when handling the work tool. PPE should include appropriate clothing, gloves, safety eyewear and shoes.

IMPORTANT

Before starting, check that all mountings parts are on hand. Mounting bracket, pins and adapters are not included with the work tool. These parts are sold separately.

7.0 Install / Uninstall Processor

7.2.1 Tools Required to Mount Work Tool On Carrier

No special tools are required, but the following standard tools should be available:

- PPE including Safety eyewear & gloves
- Sledge Hammer
- Drift pin / Alignment bar
- 3/4 drive socket wrench
- 3/4 drive metric sockets
- Standard & Metric open end wrenches
- Grease gun
- Rags
- Suitable container to collect fluids

7.2.3 Attach the RDC / RDC to the Carrier

Procedures for mounting installation can vary. Figures and descriptions represent standard equipment and should be applied as general guidance only.

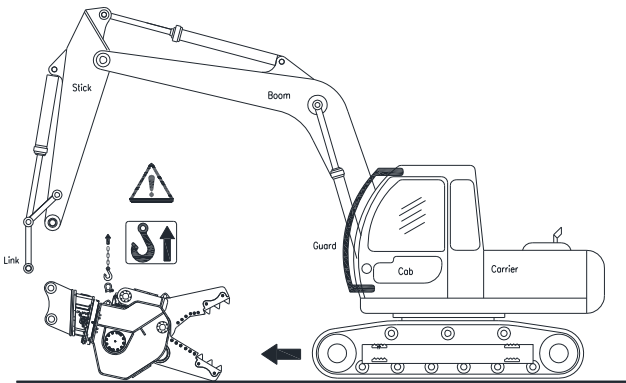


Fig. 7-3 Typical Pin-on Type Mounting to Carrier

The bucket or other work tool must first be removed from the carrier before the Allied work tool is installed. Follow the manufacturer's removal procedure.

The Allied work tool is installed on the carrier in the same manner as mounting a bucket. For carriers equipped with a quick coupler, follow coupler manufacturer's instructions in the owner's manual.

Refer to the instructions in the manual furnished by the carrier manufacturer. The machine operator and an assistant shall perform the following procedure:

Operator: Move carrier and work tool to a firm and level surface. Position the work tool with the jaws facing the excavator. (Fig. 7-3).

Assistant: Check that the work tool is stable and all loads are supported.

Operator: Maneuver stick inside mounting bracket and align the pin bores.

Assistant: Clean pins until free of rust and debris. Insert pin through bores and secure with keepers.

Repeat procedure for installing the link pin.

Lubricate pins.

7.3 Connect Hydraulic Hoses



CAUTION



Hydraulic circuits differ between machines. Improper set up can damage the work tool or carrier. Only qualified personnel, having knowledge of the machine's systems should attempt installation.

Identify the carrier's pressure lines and rotation lines. Do not guess. The work tool can be damaged if hoses are not connected properly.

IMPORTANT

Use care while performing service to hydraulic systems. Safeguard against contaminating the oil. Always clean the area around connections prior to opening the hydraulic system. Cap all open connections. Contamination will diminish service life of components.

IMPORTANT

Exercise extreme care to ensure fluids are collected in a suitable container when opening the hydraulic system. Clean up spilled fluids and obey all local regulations for the disposal of these fluids.

Hose selection must be suitable for the volume of oil and operating pressures that can occur within the hydraulic system. Refer to the technical data section for specifications.

Connect the hoses as shown in figures 7-4 thru 7-7.

Secure hoses to prevent rubbing or being pinched. Carefully route the hoses between the carrier and the work tool. Consider the various movements of the machine to prevent hoses from twisting or exceeding their minimum radius. Raise the work tool off the ground and curl the work tool in and out to ensure hoses will not be pinched or restricted.

7.0 Install / Uninstall Processor

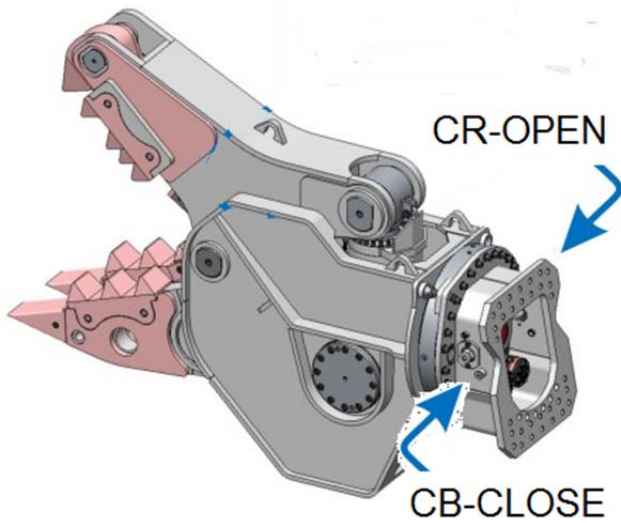


Fig. 7-4 [CB] and [CR] - Identical for RDP / RDC

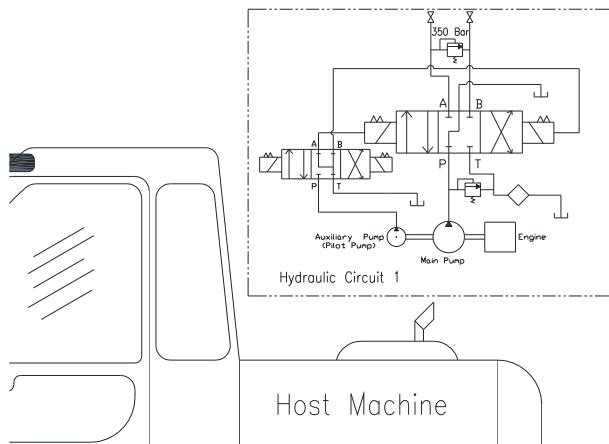
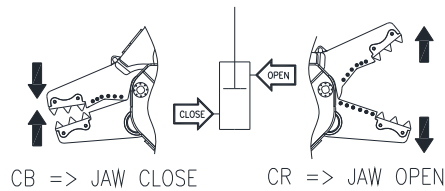


Fig. 7-5 Hydraulic Circuit 1 Jaw [CLOSE] and [OPEN]

IMPORTANT

The work tool has the following hydraulic connection ports. For ease of identification, the ports are marked:

[CB] – Jaw Close
[CR] – Jaw Open

[R] – Rotation CW
[R] – Rotation CCW

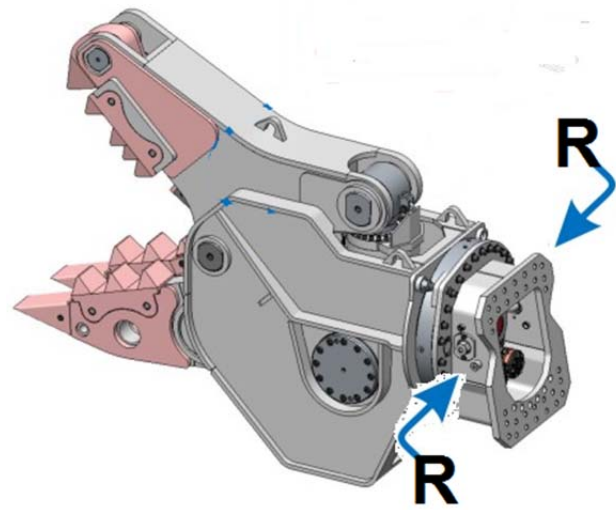


Fig. 7-6 [R1] [R2] - Identical for RDP / RDC

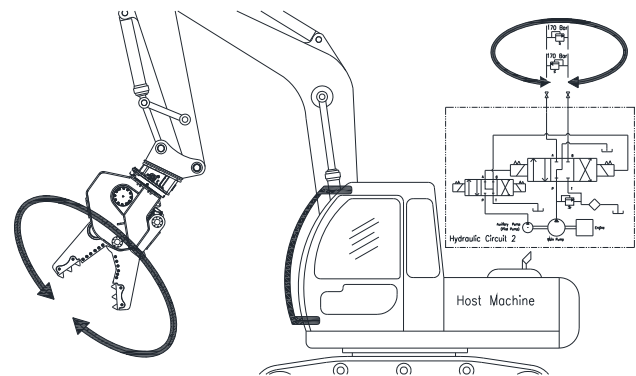


Fig 7-7 Hydraulic Circuit 2 Rotation [ROTATE-CW], [ROTATE-CCW]

Briefly test the work tool without a load for proper operation. Check for hydraulic leaks and tighten hoses and connections as necessary.

IMPORTANT

The installation is not complete until the hydraulic circuit is tested for flow and pressure. Tools required for testing include a flow meter and pressure gages. Test procedures, along with a form to record the results of the flow test, can be found in the Technical Data section of this manual.

7.0 Install / Uninstall Processor

7.4 Initial Break-in Prior to Operation

Each time the work tool is first attached to a carrier, it is necessary to bleed the cylinder of any air. The following steps must also be done after any repairs are made to the hydraulic system. Do not subject the work tool to high oil pressure until air is purged and oil is warm. This prevents damage to the cylinder seals and the carrier's hydraulic system.

7.4.1 Bleed Air from Cylinder Before Use

Step 1. Check the oil level in the hydraulic tank of the carrier.

Step 2. Follow the instructions provided by the carrier manufacturer concerning the method for starting and warming up the hydraulic system of the carrier. Do not operate the work tool during the carrier warm-up period.

Step 3. Reduce the engine to idle speed once the machine has reached operating temperature.

Step 4. Being careful not to fully extend or retract the cylinder, operate the work tool slowly until the jaw is halfway open. Cycle the cylinder for roughly 5 to 6 times while each time gradually increase the stroke until a near-full cylinder stroke has been reached.

Step 5. Shut the carrier down in accordance with proper shut-down procedures from the carrier manufacturer. Re-check the oil level of the carrier's hydraulic system. Add oil if necessary.

7.4.2 Adjusting the Cross-over Valve

The cross-over valve is adjusted at the factory. Normally it is not necessary to readjust the cross-over valve.

7.5 Remove the Work Tool From the Carrier



CAUTION

Injury from fluid penetration. When opening the hydraulic system, exercise extreme care. Release pressure trapped in hoses before disconnecting. Wear appropriate protective equipment including safety eyewear and gloves.

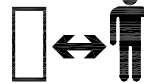
IMPORTANT

Collect fluids in a suitable container. Clean up spilled fluids and obey all local regulations for the disposal of these fluids.



CAUTION

Burn injury from contact with hot fluids and surfaces. Some machine components become hot during operation. Allow surfaces and fluids to cool before handling.



CAUTION

Some procedures, such as attaching the work tool to and from the carrier, will require an assistant. Both the operator and assistant must be qualified in these procedures.

Take all necessary precautions. Throughout the procedure the machine operator shall be seated in the operator's seat and maintain full control of the machine. All directions and signals must be agreed upon in advance. Take signals from only ONE person.



Crush hazard. Use sufficient blocking to avoid accidental or sudden movement of the work tool. Keep hands and feet clear of crush points. Do not touch any moving parts.



Use personal protective equipment when handling the work tool. PPE should include appropriate clothing, gloves, safety eyewear and shoes.

Lower the work tool and position on stable ground.

Disconnect the hydraulic hoses from carrier. Secure hoses to avoid damage. Cap all open connections.

With loads adequately supported, remove mounting pins and hardware.

Keep mounting hardware with the work tool to avoid loss or damage.

IMPORTANT

Contamination will diminish the service life of components. Safeguard against contaminating the oil while servicing hydraulic systems. Clean connections before opening. Cap all open connections.

Refer to Section 10 for storage instructions.

8.0 Operation

8.1 Pre-operation Checks

IMPORTANT

Operating the Allied work tool beyond its designed performance limits will cause equipment damage. It is designed to provide optimum performance with reliable service life at the accepted oil pressure and flow range. Prior to placing it into service, it's important to complete a performance test of the machine's hydraulic circuit. Specifications for this work tool are listed in Technical Data Section of this manual.



CAUTION

Repair or replace any damaged components prior to operation. Do not operate the equipment until all faults are corrected.

Before using, check the general condition of the Allied work tool to ensure safety and reliability.

Daily, before operating:

Check the mounting components, including pins and hardware for wear and damage. Ensure work tool is securely attached to the carrier.

Excessive dirt and debris on the work tool can decrease performance and should be removed.

Check the hydraulic components, including hoses for damage, leaks at connections. Inspect cylinder rod and seals for leaks and damage.

Check for loose or missing fasteners

Check for damaged or missing warning labels. Replace if necessary.

Re-lubricate all pivot joints, slewing bearing and drive pinion.

Check wear parts, including blades, teeth and other parts for wear and damage.

Check the machine's hydraulic tank for proper oil level. Top off if necessary.

Check the controls on the carrier that operate the work tool for proper function.

All the guards must be reinstalled before work tool is returned to service.

NOTE: Further details for work tool maintenance are located in Section 9 of this manual.

8.2 Operation - Work Safely

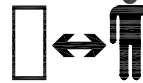


CAUTION

Never activate the work tool unless the operator is seated in the operator's seat and in full control of the machine. Follow instructions in the operator's manual provided with carrier. Only qualified personnel may work with and operate the equipment. Always practice proper operating techniques.



CAUTION



At all times the operator must keep other personnel clear from the machine when the engine is running. Establish work zone and pedestrian barriers. When tests or adjustments are being made, move the machine to a safe location away from the travel of other machines.



Injury from flying debris. Clear all personnel from work area before the operating the work tool.



CAUTION



Injury from flying debris. Personal protection equipment, including safety eyewear, must be worn when operating or servicing this equipment.



Prolonged exposure to high noise levels may risk hearing impairment or loss. Hearing protection must be worn when equipment is in operation.

IMPORTANT

The hydraulic system may not exceed 80 °C. This must be monitored. If a higher temperature is measured, the system and pressure-limiting valve must be checked. Work performed at high ambient temperatures will require hydraulic oil of at least type HLP 68.

The work tool may only be used when the temperature of the hydraulic system is above 0 °C. If the temperature of the hydraulic system is lower than 0 °C, the system must first be warmed up in accordance with the instructions for the carrier machine. The full power of the ADP / ADC is available at a temperature of 60 °C.

8.0 Operation

8.2.1 Operation of RDC and RDP

The RDC may only be used to demolish concrete and steel structures. The RDP may only be used for crushing concrete and the extraction of reinforcing steel. The use of this work tool for any application other than that in which it is specified may pose a danger to the user or the machine itself. Do not use the RDC / RDP under water.

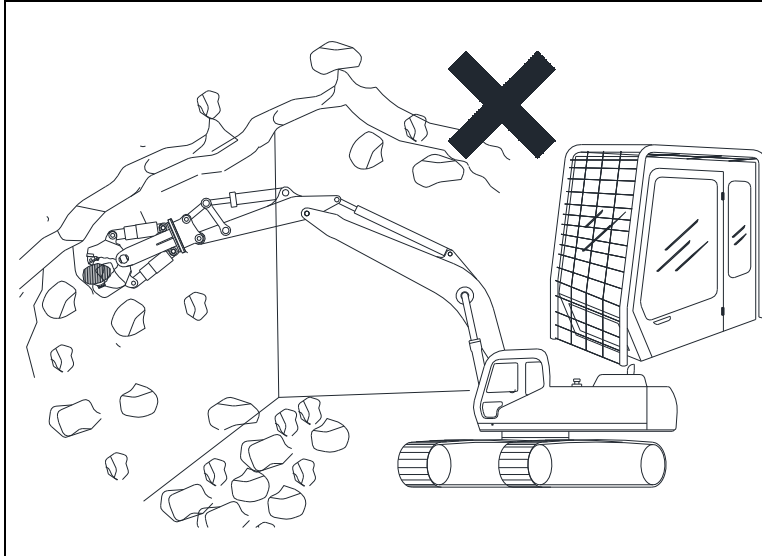


Fig. 8-1
Do Not Use Work Tool If Machine is Not Equipped with Protective Structures, Guarding and Shields

Do Not Process or Cut Material Over the Machine

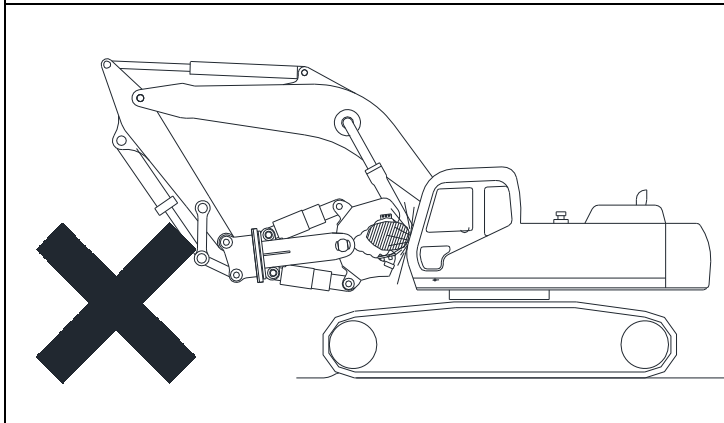


Fig. 8-2
Do Not Process Material Near Machine

Operate With Care and Maintain Control While Positioning to Prevent Contact Between the Work Tool and Machine

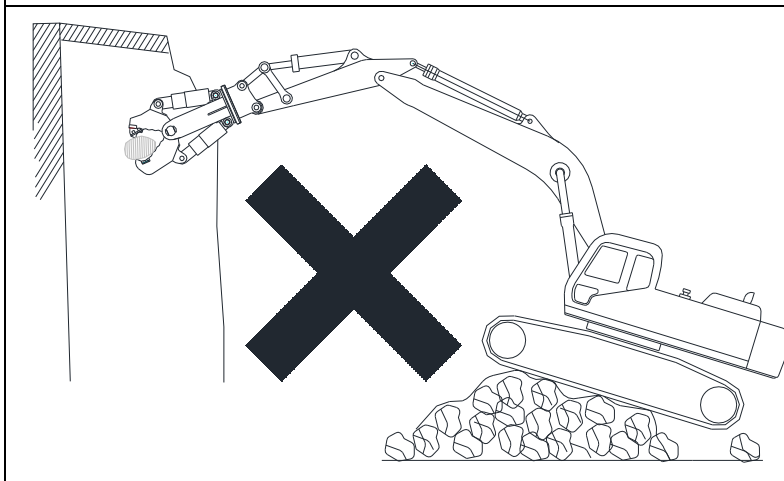


Fig. 8-3
Do Not Operate Machine On Unstable Surface

8.0 Operation

Position the carrier in-line with direction of work.

Position the work tool to the work surface and within full view of the operator.

Activate the work tool with the switch located in the operator's cab.

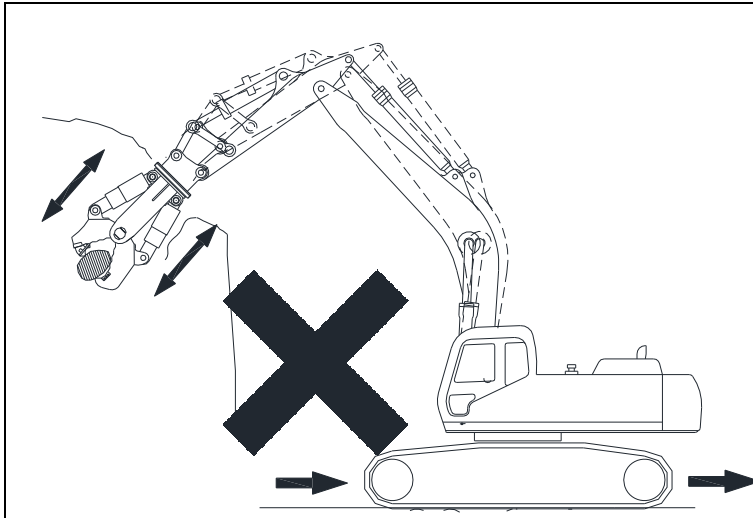


Fig. 8-4
Do Not Pull or Push Objects When Work
Tool Cylinder Is In Motion

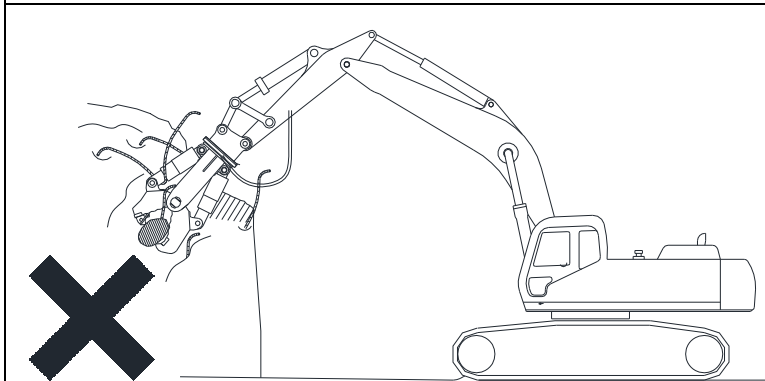


Fig. 8-5
Careless Operation Can Damage the
Cylinder Rods

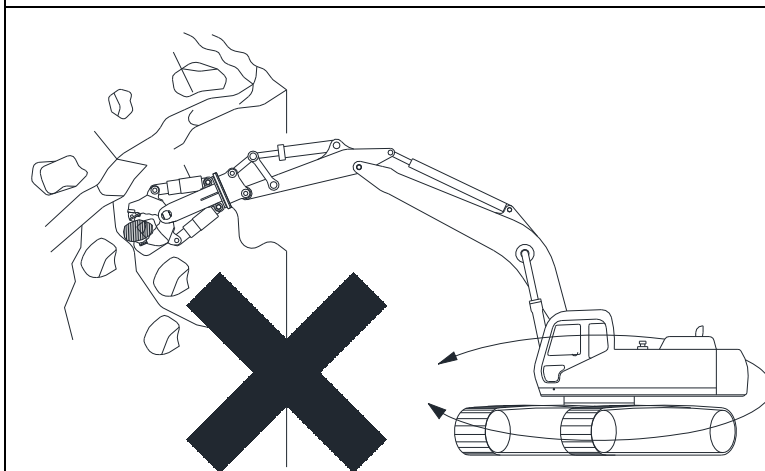


Fig. 8-6
Do Not Strike Objects with work tool

Do Not Use Work Tool to Rake or Sweep
Materials

8.0 Operation

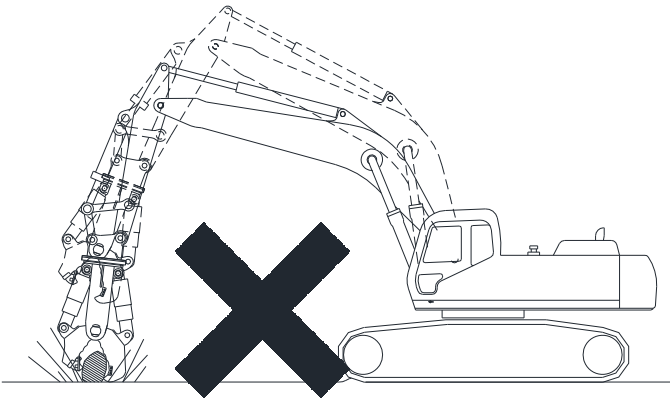


Fig. 8-7
Do Not Drop, Hack or Pound Objects with the Processor

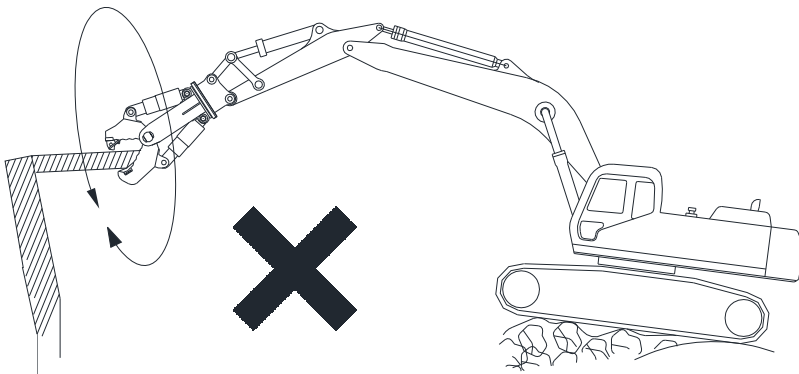


Fig. 8-8
Do Not Twist or Lever Objects Using Rotation

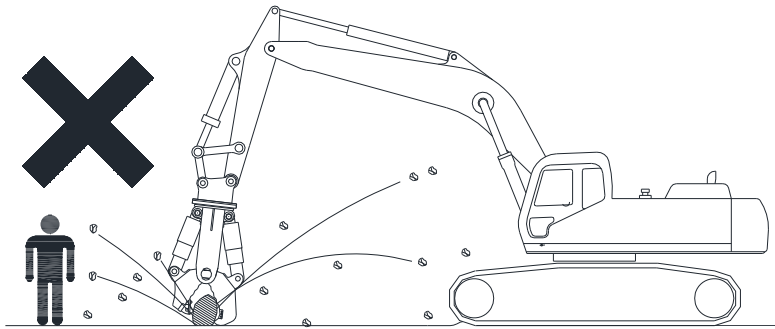


Fig. 8-9
Do Not Operate With Workers Inside Work Zone

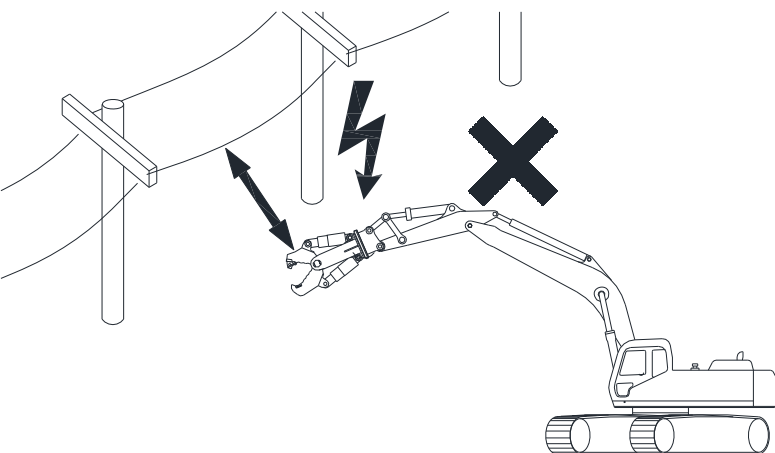



Fig. 8-10
Keep Away From Utilities

9.0 Care and Maintenance

9.0 Maintenance

9.1 Safety Precautions

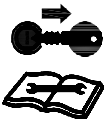
The Allied work tool may only be serviced by qualified personnel who have read this owner's manual and received training for its proper maintenance.



CAUTION


Move the machine to a location away from the travel of other machines. Be sure that other personnel are not near the machine when the engine is running and tests or adjustments are being made.

Only qualified personnel, having knowledge of the machine's systems, proper test equipment and tools should perform conversion set-up and adjustments.



WARNING


Unless otherwise instructed, all maintenance is performed only when the work tool is lowered and supported on stable ground. Shut down the machine, engage interlock and parking brake. Remove ignition key.



WARNING

Crush injury. Never rely on the rotation system or cylinders as a means of support when servicing the Allied equipment. Hydraulic cylinders are strictly lifting devices and not a structural support member.

Prevent sudden or unexpected movement by using proper blocking to support loads.



CAUTION


Crush injury. Do not place hands or fingers between parts during removal.

Ensure all loads are adequately supported before performing any service work.



WARNING


Crush injury. Any guard removed from the equipment for purpose of inspection or maintenance must be reinstalled before returning back to work.



WARNING


Injury from pressurized fluid. Fluid under pressure can penetrate skin. Never use hands to locate leaks. Use cardboard.

Regularly inspect hoses for damage. Replacement hoses must be the same type and pressure rating.



CAUTION

Burn injury from contact with hot fluids and surfaces. Some machine components become hot during operation. Allow surfaces and fluids to cool before handling.



WARNING

Crush injury. When releasing pressure make sure that the boom and work tool cannot fall or make unexpected movements.

Refer to the manuals provided by the carrier manufacturer for instructions on how to depressurize the hydraulic system.

Rest the work tool on the ground during maintenance by placing it on its side. Make sure it cannot fall or make unexpected movements.

Use only Allied spare parts for the RDP / RDC to protect reliability and the warranty.

9.2 Importance of Regular Maintenance – General

All hydraulic work tools require regular inspection and maintenance. The aim of inspection and maintenance programs is to preserve equipment reliability by replacing worn components before they reach the point of failure.

The following includes the minimum requirement for maintaining the equipment in safe operating condition. Service intervals apply only to normal applications. In extreme working environments, service frequency may require adjustment to match the operating conditions or application.

9.0 Care and Maintenance – [cont'd]

Table 9.1 Maintenance Schedule

Item	Hours							Note
	10	50	100	500	2000	2500	N/A	
Visual inspection - Walk around	X							A, B, D
Re-lubricate All Pin Joints	X							B, D
Re-lubricate Slew Bearing		X						B, D
Re-torque Slew Bearing Fasteners	X							C
Re-check Fasteners Torque			X					C, B, D
Visual inspection - Hoses				X				
Replace All Slew Bearing Fasteners					X			
Replace Hoses					X			
Replace cylinder seals						X		
Replace valves in cylinder						X		

A) Refer to the list of parts to include during the inspection.

B) Normal recommendation (Standard operating conditions).

C) After first 50 hours of use

D) Under extreme conditions or if a change in performance is observed, shorten intervals.

N/A – Non-applicable

Every 8 hours - Visual Inspection of These Parts:

- Rotation drive mounting bolts and gearbox bolts* (*Bolts for missing, loose, damage)
- Check mounting components, including pins and hardware. Ensure work tool is secured to carrier.
- Connections/hoses for damage or leaks
- Upper jaw bearing seat for wear
- Steel and welds for cracks
- Jaw teeth and blades for wear or damage

Table 9.2 Gap - Jaw and Cutting Blades

	Min.	Max.
Guide blades	1 mm	2 mm
Cutting blades	1 mm	2 mm
Hardfacing	As required	

9.4 Re-Lubrication

Use multi-purpose grease based on lithium soap MPG-A and KP2N-30 acc. to DIN 51825.

Table 9.3 Re-Lubrication

Lube Point	Recommended Lubricants
Pivot Joints Pins / bushings Every 8 hours	ESSO Beacon EP2 SHELL Retinax EP2 FUCHS Lubritech FUCHS Lagermeister EP2 MOBIL Mobilux EP2
Slewing ring bearing Every 50 hours	ESSO Beacon EP2 SHELL Alvania FUCHS Lubritech, Lagermeister EP2 MOBIL Mobilux EP2
Pinion/Gear Every 8 hours	ESSO Beacon EP2 SHELL Alvania FUCHS Lubritech FUCHS Lagermeister EP2 MOBIL Mobilux EP2

9.0 Care and Maintenance – [cont'd]



CAUTION

Do not use grease that is contaminated or has changed consistency over time. Do not use grease containing additives molybdenum disulphide. Do not use graphite grease.

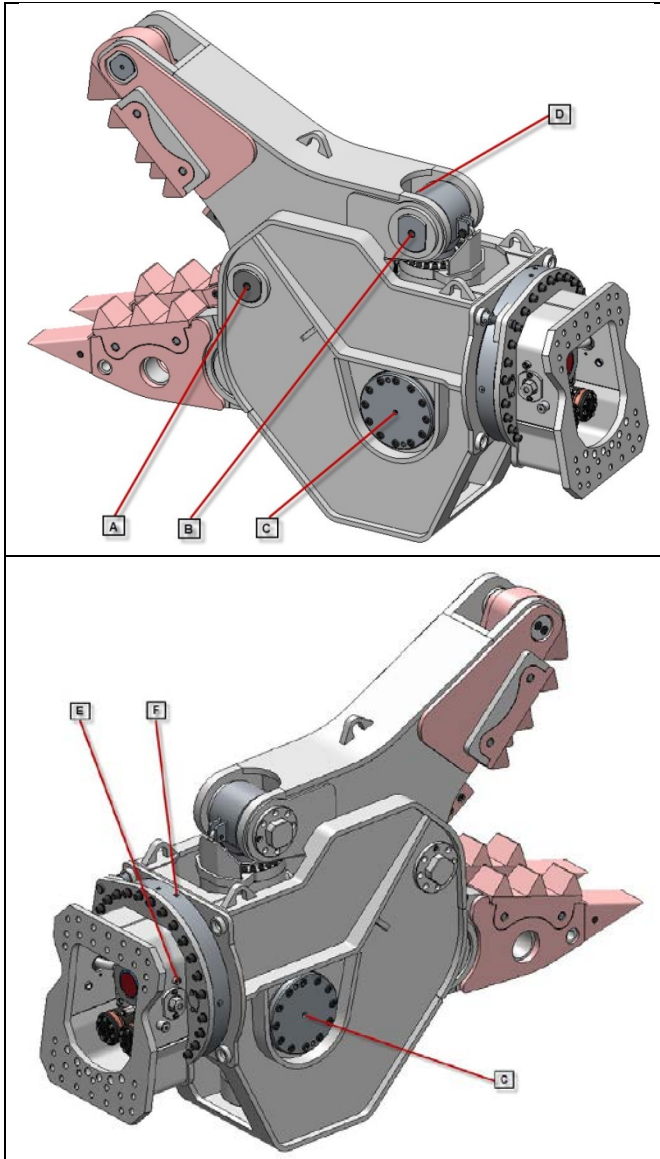


Fig. 9-1 Re-Lubrication points RDP / RDC

9.4.1 Lubrication Points

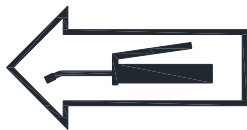


Fig 9-2 Pictogram Indicates Lubrication Points

Table 9.4 Lubrication Points

Point	Part Name	Qty
A	Main pin	1
B	Cylinder pin	1
C	Main bearing housing / cylinder	2
D	Cylinder head	1
E	Gear, slewing ring	1
F	Slewing ring bearing	4

All pivot points must be lubricated after **every 8 hours of operation**.

Note: The jaw must be closed to reach all of the lubrication points on the RDP / RDC.

Add grease to all the lubrication nipples of the slewing ring until a new ring of fresh grease is formed. After grease has been added, perform two complete rotations.

The operator of the carrier must be certain that no one is within the work zone.

9.5 Maintenance of Teeth, Blades and Jaw

By design, the seat is dimensioned to provide slight movement of teeth. The teeth must move slightly during cutting / crushing to attain a position in which they can best withstand the generated forces. Tooth breakage is at a greater risk if not allowed to move slightly in seat.

Regular inspections, adjustments and maintenance are necessary for maximum power and long service life of the work tool. Blades that are kept in good condition will contribute to the cutting power of the work tool. Maintaining the proper gap will increase efficiency while reducing jamming of material.

Use a feeler gauge to check gap between the blades. The permissible gap is 1 to 2 mm. Add shims to compensate if the gap becomes greater than 2 mm. Shims may only be placed between the blades and the seat of the lower jaw.

Visually inspect the blade bolts daily. Replace broken bolts with the same type. Do not substitute. Tighten loose or new bolts to the torque specified in Table 9.5.

9.0 Care and Maintenance – [cont'd]

9.5.1 Refer to RM577500 for instructions

A separate publication from Allied is available upon request and includes important information about maintenance, adjustment, replacement and repair of the Jaw and Teeth.

Repair Welding and Hardfacing (ONLY RDC)

9.6 Performance Check of Cross-over Valves

Procedure to check operation of the cross-over valve:

Step 1. Raise the supply pressure to the rotation valve of the device carrier to 180 bar.

Step 2. Connect the flow meter to both measurement connections of the cross-over valve.

Step 3. Connect the hoses to the rotation motor and secure the shear so it cannot rotate (pos. 2, Figure 8).

Step 4. Operate the 'rotation' valve.

Step 5. Adjust the pressure cartridge of the cross-over valve to 175 bar.

Step 6. Repeat the process for the other rotational direction.

9.7 Bolts Used For Rotating Connection

- The bolts of the rotating connection must be visually inspected every eight hours
- Rotating connection bolts must be replaced **every 2000 hours** of operation. Do reuse.
- If bolts break off, replacement of adjacent bolts is also necessary.
- Apply thread lock compound to the bolt threads in accordance with the manufacturer's instructions.
- Tighten the bolts to the specified torque. A higher or lower torque can have serious consequences.

NOTE: After bolt installation, operate the work tool for a few hours, and then re-check bolt torques. **This cannot be done if thread lock compound was applied.**

Table 9.5 Standard Tightening Torque

Bolt identification markings - SAE Grade and Metric Class. Hex Head Type.

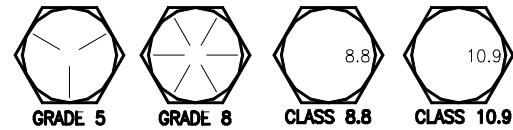




Fig. 9-3 Bolt Markings - SAE Grade / Metric Class

Size	CL8.8		CL10.9		CL12.9	
	ft-lb	N•m	ft-lb	N•m	ft-lb	N•m
M 6	8	11	11	15	13	18
M 8	18	25	27	37	31	43
M10	37	51	55	75	64	87
M12	64	87	95	130	110	150
M14	103	140	151	205	177	240
M16	158	215	228	310	272	370
M18	221	300	317	430	376	510
M20	317	430	457	620	531	720
M22	427	580	612	830	715	970
M24	545	740	781	1060	914	1240
M27	811	1100	1143	1550	1364	1850
M30	1106	1500	1548	2100	1843	2500
M36	1740	2360	2650	3590	2935	3980

10.0 Handling, Transport and Storage


10.1 Lifting & Transport Precautions

⚠ WARNING

Crush injury. Use approved rigging and lifting devices that are designed to safely carry the loads to which they will be subjected. Keep area clear of all personnel when the work tool is hoisted. Lift away from people.

Hoist work tool at designated lift points. These are labeled with pictogram of HOOK. Do not lift the by the mounting pins or whip hose.



⚠ CAUTION

Crush injury. Keep hands and feet clear of crush points. Always use sufficient blocking to avoid accidental or sudden movement of the attachment.

The lock bolt prevents turning of the slewing ring during maintenance and transport. Turn the lock bolt to the extended position as shown in Fig. 10-1.



Fig. 10-1 Lock Bolt - Extended Position



Fig. 10-2 Lock Bolt – Retracted Position

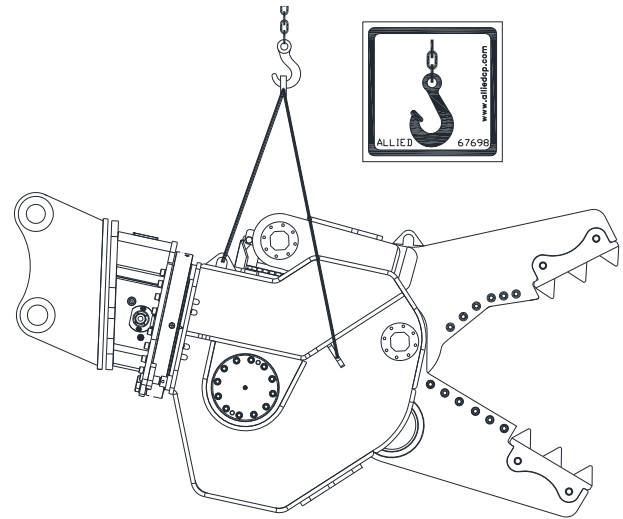


Fig. 10-3 Designated Lift Points Are Labeled

10.2 Transport

10.2.1 When transported independently of the carrier;

Remove all loose debris from attachment.

Follow removal instructions in Section 7.

Secure hoses to unit to avoid damage.

Lift work tool only at designated lift points.

Prepare work tool for transport with sufficient blocking and secure with appropriate hold down devices.

10.2.2 When transported while attached to the carrier:

Remove all loose debris from attachment.

Secure hoses to unit to avoid damage.

Check mounting components, including pins and hardware. Ensure work tool is secured to carrier.

Follow recommendations of carrier manufacturer when transporting.

10.0 Handling, Transport and Storage – [cont'd]

10.3 Storage

Protect against damage during periods of non-use.
Prepare the work tool for storage.

Seal hydraulic connections to protect system against contamination.

Keep the motor full of oil to protect internal components.

Apply coating of rust and corrosion inhibitor to all unpainted surfaces, especially cutter blades and cylinder rods.

Apply fresh grease to all lube points. Include the pins and machined bores of the mounting bracket.

Rotating attachments in storage should be lubricated at least every six months.

If possible, store indoors. Avoid wet or damp conditions to minimize rust.

Block the work tool up off the ground.

Protect rubber components such as hoses from exposure to direct sunlight to reduce aging effects.

Cover with water proof tarp.

11.0 Troubleshooting

11.1 Troubleshooting - General



CAUTION

Only qualified personnel, having knowledge of the machine's systems, proper test equipment and tools should attempt adjustments and repairs.

The table lists various faults, the possible cause and recommended action to correct the fault. For problems not described, Allied recommends contacting the Allied distributor in your area or the Allied Technical Service Department.

Problem	Possible cause	Remedy
Insufficient power for crushing / cutting	Carrier not providing the necessary pressure	Measure hydraulic system of carrier
	Speed valve incorrectly set , dirty or defective	Check speed valve
	Internal leakage in cylinder	Reseal
	Swivel joint bypass	Reseal
Poor quality cutting	Material being cut / crushed is unsuitable with capacity of the RDC / RDP	See appetite chart
	Cutting blades are worn	See Table 9.2
	Cutting blade gap is too large	See Table 9.2
	Back pressure too high at rod side of cylinder	Measure pressure and adjust
Slow cycle time	Speed valve incorrectly set , dirty or defective	Check speed valve
	Back pressure too high at rod side of cylinder	Measure hydraulic system of carrier
Cut material stuck between upper and lower jaw (only RDC)	Cutting blade gap is too large	See Table 9.2
	Cutting blades worn	See Table 9.2
Jaw remains closed	Bypass with seals in shear cylinder	Reseal
	Bypass with seals in swivel joint	Check swivel joint for bypass
	Malfunction in speed valve	Check speed valve
No rotational movement	Pressure incorrectly set	Measure pressures at carrier and cross-over valve
	Missed or improper connections. Coupling components defective, incompatible or dirty	Check couplings and hoses. Check function of control valve, cross-over valve and hydraulic motor
	Lock pin engaged	Retract and secure lock pin
Rotates in one direction	Defective control valve	Measure hydraulic system of carrier
	Defective components	Measure hydraulic system of carrier, cross-over valve and hydraulic motor
Rotating mechanism rattles	Pressure set too high	Measure pressure and adjust
Rotates faster in one direction	Oil flow rate set higher or lower than the other	Measure oil flow rate and adjust
Rotates too fast or too slowly	Oil flow too high or too low	Measure oil flow rate and adjust

12.0 Technical Data

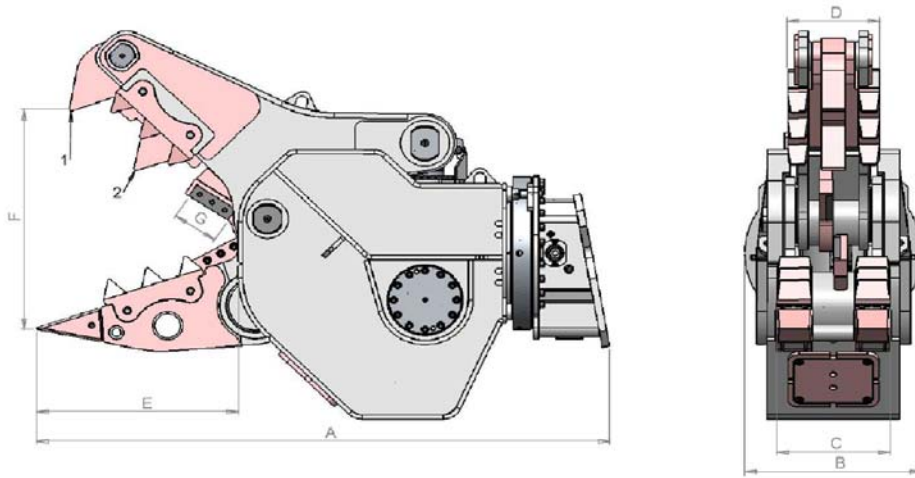


Fig. 12-1 RDP – General Dimensions (US)

Table 12.1 RDP Technical Data (US)

Model	<u>RDP25</u>	<u>RDP32</u>	<u>RDP42</u>	
Weight (lb)*	6095	6834	9920	
Recommended Carrier Weight (T)	24-38	35 - 55	49 - 77	
Oil volume, Cylinder (gpm)	39 - 66	66 - 79	66 - 79	
Cycle time, Jaw Open / Close (sec)	2.2 - 2.4	2.5 - 2.8	2.6 – 2.8	
Operating pressure, Cylinder -Max (psi)	5076	5076	5076	
Closing force, Jaw tip 1 (T)	77	105	115	
Closing force, Jaw tip 2 (T)	117	167	215	
Oil volume, Motor (gpm)	10 - 15	10 - 15	10 - 15	
Operating pressure, Motor -Max (psi)	2465	2465	2465	
Dimension (in)	A	89	96	104
	B	30	30	34
	C	18	19	22
	D	13	15	18
	E	32	34	36
	F	38	39	48
	G	7	7	10

* Weight excluding mounting bracket
 Specifications subject to change without prior notice.

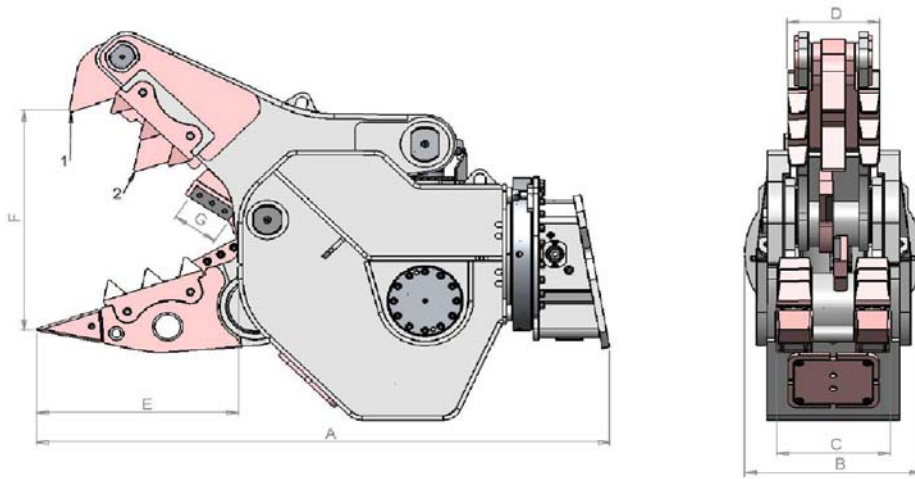
12.0 Technical Data – [cont'd]

Fig. 12-2 RDP – General Dimensions [METRIC]

Table 12.2 RDP Technical Data [METRIC]

Model	RDP25	RDP32	RDP42
Weight [kg]*	2765	3100	4500
Recommended Carrier Weight [T]	22-35	32-50	45-70
Oil volume, Cylinder (l/min)	150 - 250	250 - 300	250 - 300
Cycle time, Jaw Open / Close (sec)	2.2 - 2.4	2.5 - 2.8	2.6 - 2.8
Operating pressure, Cylinder -Max [bar]	350	350	350
Closing force, Jaw tip 1 [T]	70	95	105
Closing force, Jaw tip 2 [T]	107	152	195
Oil volume, Motor (gpm)	40 - 60	40 - 60	40 - 60
Operating pressure, Motor -Max [bar]	170	170	170
Dimension [mm]			
A	2270	2458	2640
B	760	760	880
C	479	495	556
D	350	398	470
E	822	867	930
F	974	1000	1230
G	200	200	250

* Weight excluding mounting bracket

Specifications subject to change without prior notice.

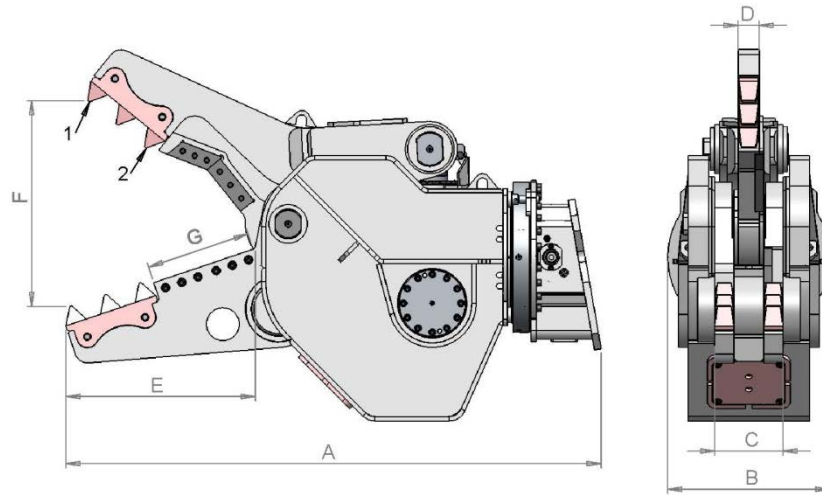
12.0 Technical Data – [cont'd]

Fig. 12-3 RDP – General Dimensions (US)

Table 12.3 RDC Technical Data (US)

Model	RDC25	RDC32	
Weight (lb)*	5886	6834	
Recommended Carrier Weight (T)	24 - 38	33 - 50	
Oil volume, Cylinder (gpm)	39 - 66	66 - 79	
Cycle Time, Jaw Open / Close (sec)	2.2 - 2.4	2.2 - 2.4	
Operating pressure, Cylinder -Max (psi)	5076	5076	
Closing force, Jaw tip 1 (T)	75	94	
Closing force, Jaw tip 2 (T)	110	138	
Oil volume, Motor (gpm)	10 - 15.8	10 - 15	
Operating pressure, Motor -Max (psi)	2465	2465	
Dimension (in)	A	89	98.7
	B	30	30
	C	12	12.5
	D	4	4
	E	30	34
	F	35	37.5
	G	15	19

* Weight excluding mounting bracket
 Specifications subject to change without prior notice.

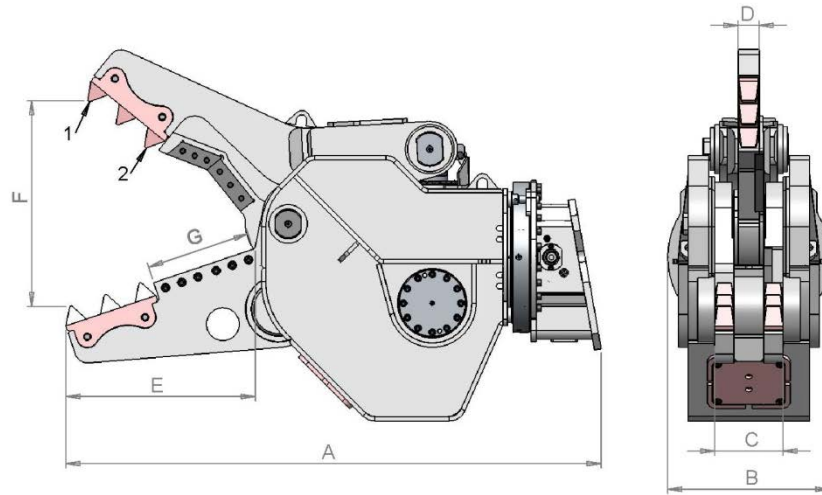
12.0 Technical Data – [cont'd]

Fig. 12-4 RDP – General Dimensions [METRIC]

Table 12.4 RDC Technical Data [METRIC]

Model	RDC25	RDC32
Weight [kg]*	2765	3100
Recommended Carrier Weight [T]	22-35	30-45
Oil volume, Cylinder [l/min]	150 - 250	250 - 300
Cycle Time, Jaw Open / Close (sec)	2.2 - 2.4	2.5 - 2.8
Operating pressure, Cylinder -Max [bar]	350	350
Closing force, Jaw tip 1 [T]	68	85
Closing force, Jaw tip 2 [T]	100	125
Oil volume, Motor (gpm)	40 - 60	40 - 60
Operating pressure, Motor -Max [bar]	170	170
Dimension [mm]		
A	2259	2508
B	760	760
C	320	320
D	100	100
E	775	880
F	900	955
G	400	500

* Weight excluding mounting bracket
 Specifications subject to change without prior notice.

12.0 Technical Data – [cont'd]

Table 12.5 Port Connection Type and Size

Model	<u>RDC/RDP25</u>	<u>RDC/RDP32</u>	<u>RDC/RDP42</u>
Cylinder CR OPEN	G 1 ¼"	G 1 ¼"	
Cylinder CB Close	G 1 ¼"	G 1 ¼"	
Motor Rotation [R1], [R2]	G ½"	G ½"	

Identical for RDP / RDC

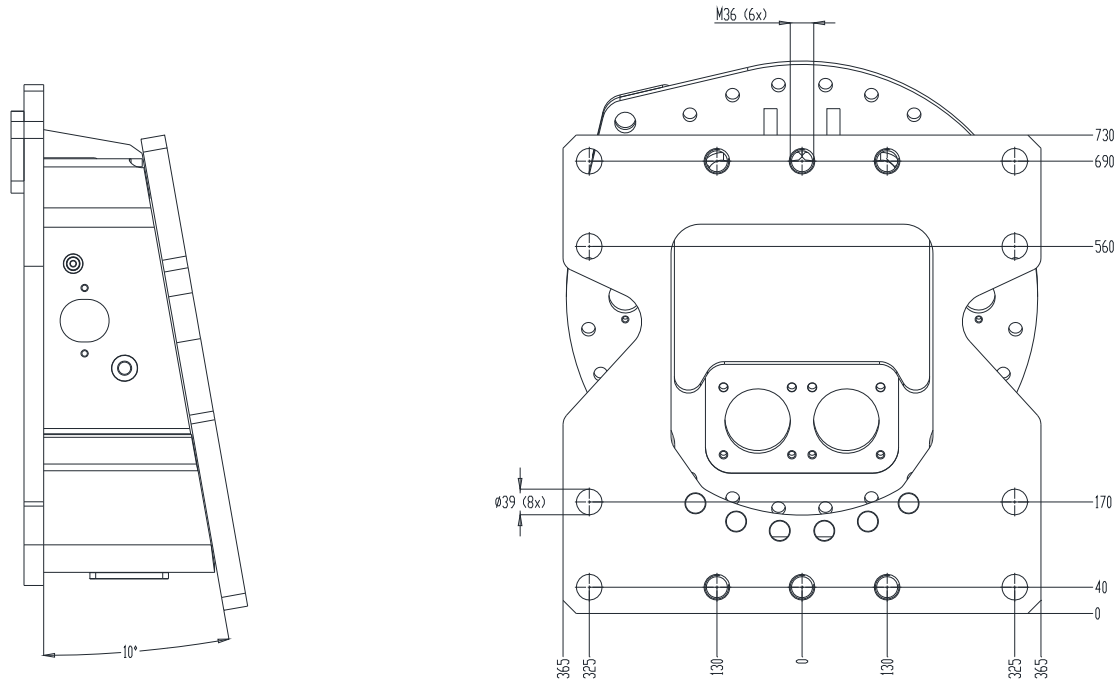


Fig. 12-5 RDP / RDC 25,32 Bolt Hole Mounting Pattern (Allied Family LR9)

12.0 Technical Data – [cont'd]

12.1 Definition of Terms

For the purposes of this manual, Hydraulic Flow, Operating Pressure, Dynamic Relief Pressure and Static Relief Pressure are defined as follows:

- **Range** – A range is represented by two values 'V1 – V2' and generally means the lowest-to-highest limit of a device that will allow it to adequately respond. "Minimum flow" describes the least amount required while permitting continuous operation that is both satisfactory and efficient.
- **Hydraulic Flow** – A measure of the volume of oil (values given in GPM / LPM) necessary for the safe and efficient operation of the Allied attachment. Flow parameters are represented by a minimum-to-maximum range.
- **Operating Pressure** – A measure of the hydraulic oil pressure (values given in PSI / BAR) taken in the work tool's supply line during operation. Pressure parameters are represented by a minimum-to-maximum range.
- **Relief Valve** – An adjustable, spring-loaded valve that opens when a preset pressure value is reached. A relief valve is safety device, used to protect the circuit against hydraulic overload. Relief valves vary in design. Pilot controlled pressure relief valves are designed so that the relief pressure increases very little as the flow through the valve increases. The pilot controlled type is recommended for Allied equipment over the direct acting type.
- **Dynamic Relief Pressure** – Also referred to as "Cracking Pressure". The pressure measured at the moment the oil pressure exceeds the preset value of the relief valve and the spool "cracks" open.
- **Static Relief Pressure** – Also referred to as "Full Relief Pressure". The pressure measured at the moment the relief valve has opened fully and all oil is by-passed.
- **Opening Curve** – The opening curve is the rise of pressure between dynamic (first open) and static (all of the oil flow is bypassed). The dynamic pressure is always less than the static pressure. A relief valve adjusted to a dynamic pressure of 3000 psi (200 Bar) will crack open when the preset point is reached, but fully opens at a higher pressure.

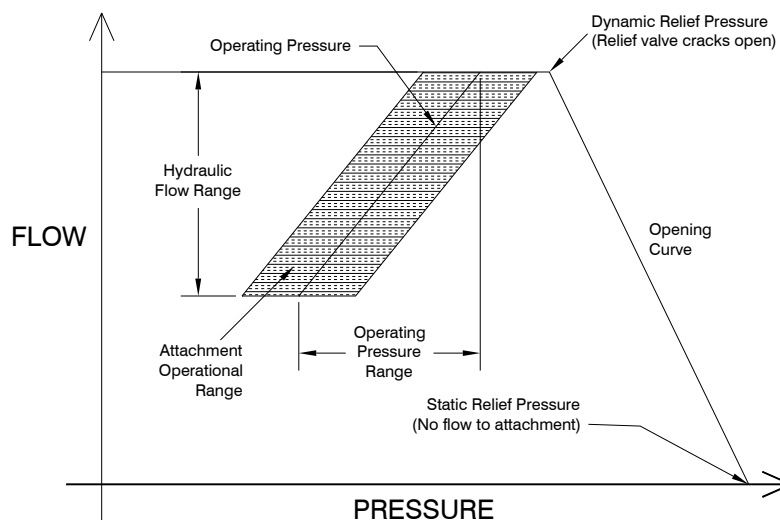


Fig. 12-6: Flow-Pressure Diagram

12.0 Technical Data – [cont'd]

12.2 Testing the Hydraulic Circuit

A performance evaluation of the carrier's hydraulic circuit is important before the work tool is first used. This entails thorough testing of the system under varied conditions, including temperature, work mode, engine speed and load.

Tools required to complete these tests include a flow meter and pressure gages. Record the test measurements in the worksheet provided below. Compare the test results with the Technical Data section of this manual.

The hydraulic work tool is designed to perform efficiently and reliably at the prescribed specifications. Performance is negatively impacted if the hydraulic system is operating at a diminished capacity and/or set outside the permissible range.

If the work tool is not working or underperforming, thoroughly check the hydraulic system of the carrier before disassembly of the work tool. Be sure to include the hoses attached to the work tool to eliminate any possible faults, e.g. collapsed hose.

Mode	Engine RPM	Flow [GPM]	Load Pressure [PSI]	Oil Temp [°F]	Relief Pressure [Crack]	Relief Pressure [Static]	Return Pressure [PSI]
			0				
			1000				
			1500				
			2000				
			2500				
			3000				
			3500				
			4000				
			4500				
			5000				
			5500				



CAUTION

Before starting, make sure the circuit to be tested has a relief valve. Open restrictor valve on flow meter. Procedures can vary depending on specifics of your equipment. Follow the instructions provided by the manufacturer of the carrier and flow meter when testing.

Mode – Set to Bi-directional position (if equipped). Select Single pump flow or Dual pump flow (if equipped). **Engine RPM** – Set at normal operating speed.

Flow [GPM] – Record measured flow at each load pressure

Load Pressure [PSI] – Steadily increase load with restrictor valve on the flow meter

Oil Temperature – Testing must be done while the hydraulic oil temperature is at normal operating temperature. Stop test if temperature exceeds 176° F (80° C)

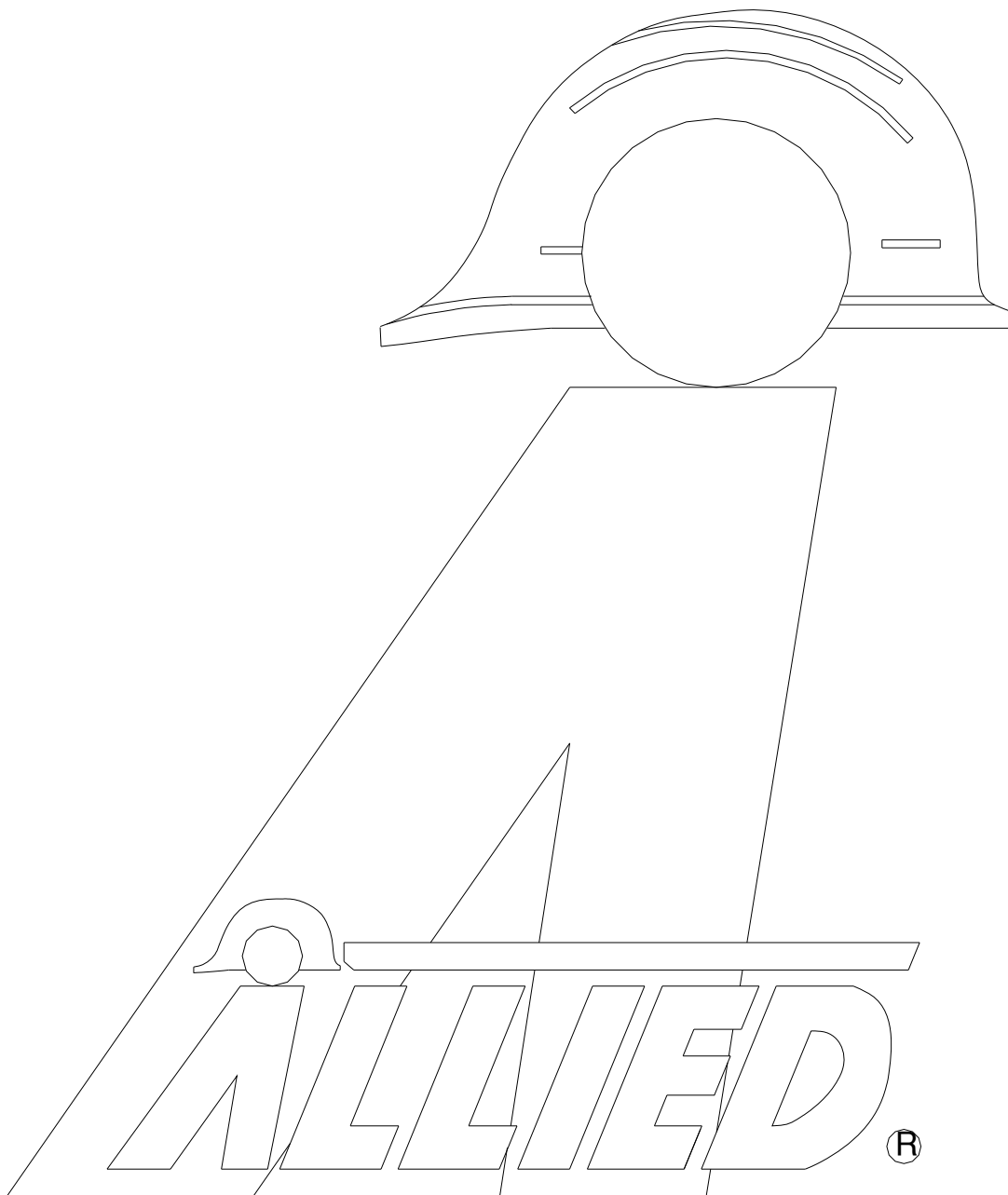
Relief Pressure [Crack] – Slowly close restrictor valve until pressure gage indicates relief valve has cracked open.

Relief Pressure [Static] – After cracking pressure is reached, further adjust restrictor valve until flow gage indicates relief valve is fully open.

Return Pressure [PSI] – Record the pressure measured in the return line. Measuring point for gage must be located near the work tool's outlet port.

Notes

[illegible]



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