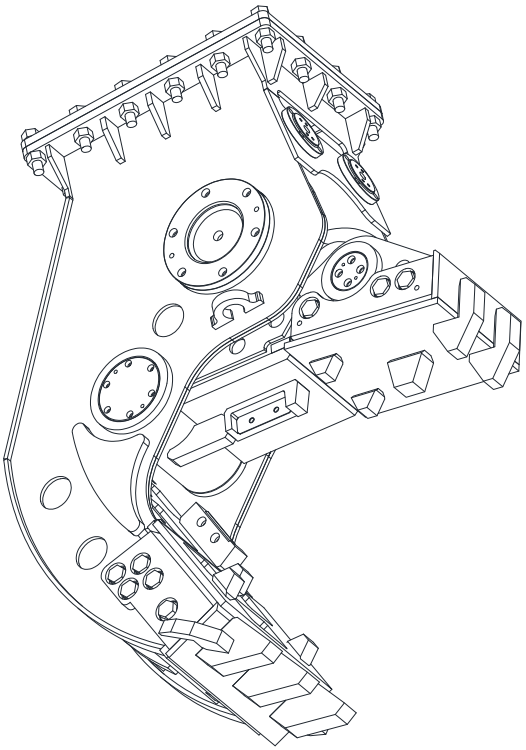
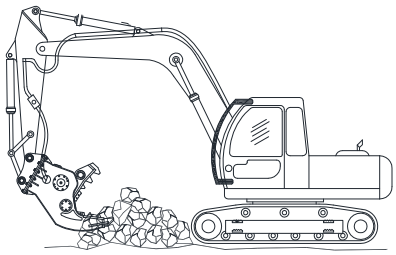


Secondary Pulverizer

ASP2000

ASP3000



ALLIED®
Construction Products, LLC

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 release date shown on inside cover.

SOM577532

Contact Information
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Cleveland, Ohio 44114
Tel: 216-431-2600
E-mail: sales@alliedcp.com
Fax: 216-431-2601

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 SOM577532

Release Date	Page	Summary of Change
2014, Sep	All	Original Issue of SOM577532
2016, Apr	25	Add maximum oil flow

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.

CAUTION

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

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 to workers.

IMPORTANT – Failure to follow these instructions may diminish performance; interrupt reliability and production or cause equipment damage.

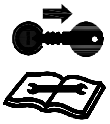
NOTE – Highlight suggestions, which will enhance installation, reliability, service or operation.

Safety Information – [cont'd]

Meaning of Pictograms

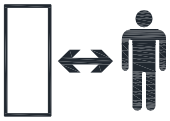
Pictograms are used to rapidly communicate information. For the purposes of this manual and labels affixed to the Allied equipment, pictograms are defined as follows:

Read / Refer to the manual for information

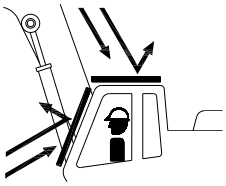


Shut off carrier & remove key before servicing

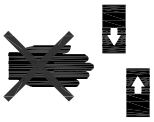
Read / Refer to the Service Manual for information



Stay clear
Maintain a safe distance



Fragments / 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

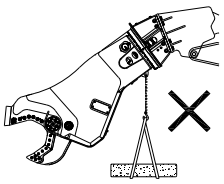
Electric Shock

Personal protection equipment

Hearing protection

Safety eyewear

Gloves



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

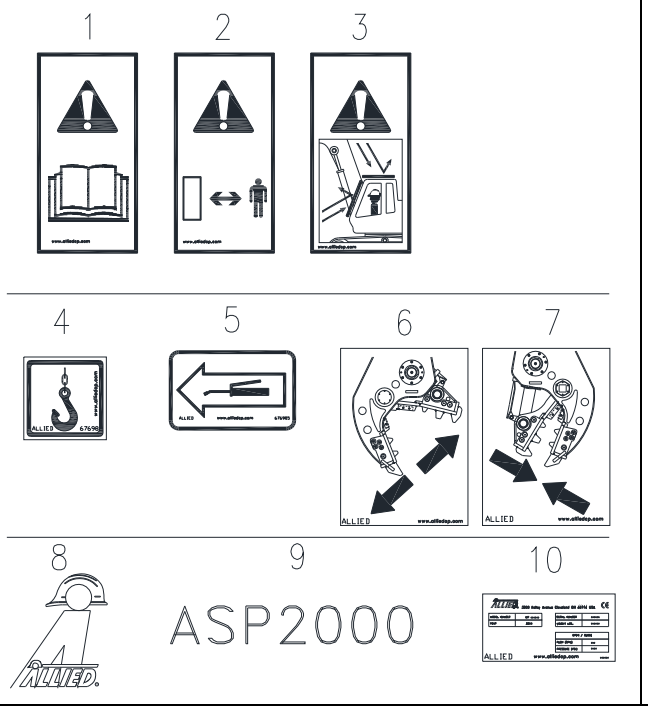
Prohibited actions bare an "X" or a circle with a diagonal slash.

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 section for ordering information. Refer to Figure "S-3" for their position on the equipment.



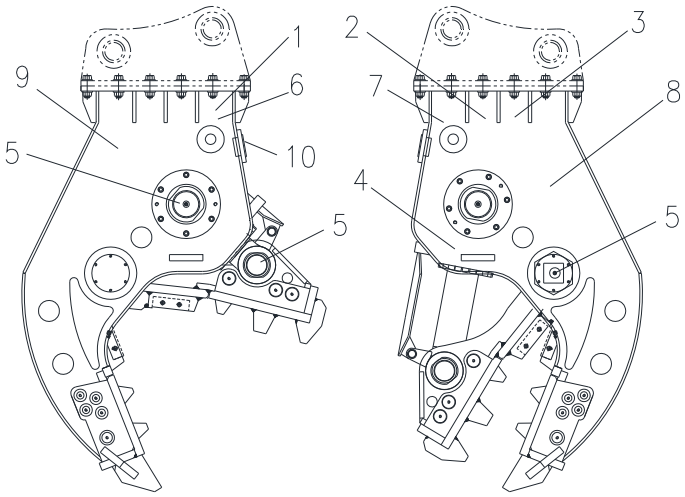


Fig. S-3 Position of Labels

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

Item	Part No.	Description	Qty	Remarks / Specifications
---	**---**	**Decal Set**	**1-Set**	**Set includes 1-9**
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	2	
L5	**---**	Label – Lube Point	4	
L6	**---**	Label – Jaw Open	1	
L7	**---**	Label – Jaw Close	1	
L8	**---**	Label - Allied Logo	2	Display on both sides
L9	**---**	Label - Model	1	
L10	**---**	Label – Equipment ID	1	Item L10 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
- Erecting pedestrian barriers
- Using personnel protection equipment appropriate with current 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

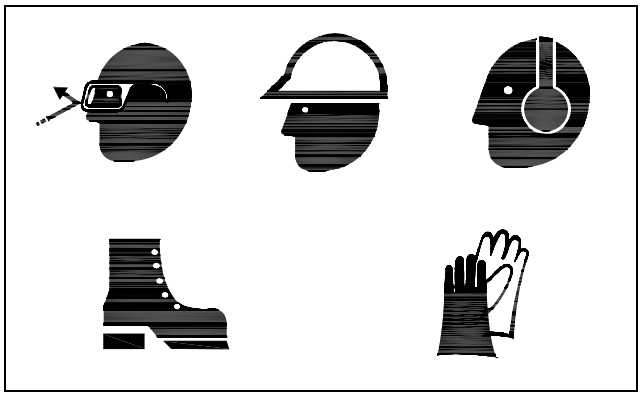
The safe and efficient use of the Allied equipment depends upon proper installation, operation, maintenance and repair. Operational safety programs must encompass all of these elements.

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 other 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.

Table of Contents

Table of Contents - [cont'd]

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.	SOM577532
Type	Safety, Operator's and Maintenance
Current Status	See Inside Cover
Product Name:	Secondary Processor
Series	ASP
Applicable Model[s]:	ASP 2000 / ASP3000
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 – 577533 ASP 2000 /3000
- Safety, Operation and Maintenance – 577532
- Jaw Maintenance and Repair - 577537

2.0 Equipment Identification

2.1 Location of the Serial Number

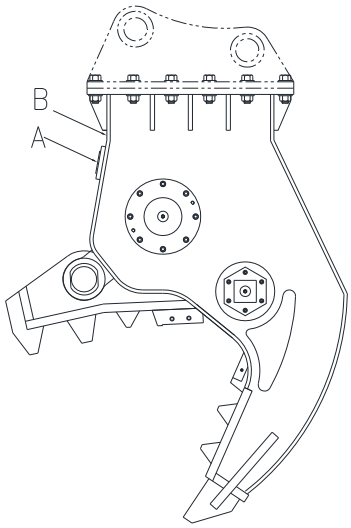


Fig. 2-1 Equipment Identification

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

A: On the Equipment ID Tag

B: Stamped in the Body

2.2 Equipment Identification Tag

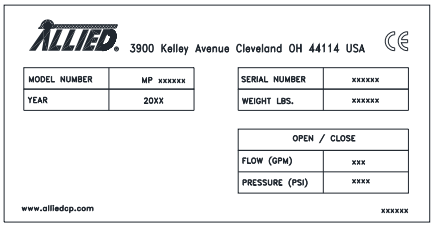


Fig. 2-2 Equipment Identification Tag

Refer to Figure 2-2. The Equipment Identification Tag is affixed to the body. 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: Secondary Processor

Model / Part No.: ASP2000 / 577442

Product Name: Secondary Processor

Model / Part No.: ASP3000 / 577462

Serial Number: _____

In Service Date: _____

Registration Date _____

Model ASP

A	Allied
S	Secondary
P	Processor

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 breaker 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 ASP series are hydraulic powered demolition tools designed for secondary processing of concrete and concrete with steel reinforcement bar. Applications include recycling of demolition debris such as concrete by downsizing slabs and separation of steel reinforcing bar from concrete.

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 jaw. A mounting bracket (sold separately) is bolted to the main housing. With the bucket removed, it is pinned to the stick of the host machine.

4.2 Familiarization of Main Components

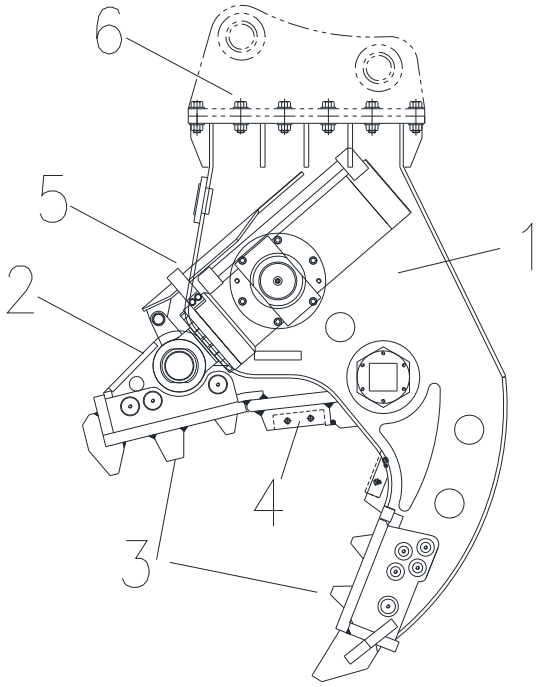


Fig. 4-1 Main Components of ASP

Pos.	Part Name
1	Body / Lower jaw (Stationary)
2	Upper jaw (Moveable)
3	Changeable Teeth - Upper
4	Cutting Blade
5	Hydraulic Cylinder
6	Mounting Bracket (Order separately)

Body – The body includes the lower jaw and serves as the frame that provides the connection point for the mounting bracket, hydraulic cylinder and upper jaw.

Upper Jaw - The upper jaw pivots on a shaft hinge in the direction controlled by the hydraulic cylinder. The force of the jaw will reduce material such as concrete.

Changeable Teeth – Designed to crush and separate rebar from concrete. The teeth on both the upper and lower jaws can be replaced when worn.

Cutting Blade – The blades are used to cut rebar. They can be replaced when worn.

Hydraulic System – The cylinder is hydraulic powered. The balance of the hydraulic components includes the hoses that route oil to the manifold located on the barrel side of the cylinder.

4.3 Principle of Operation

The Allied ASP is not self-powered. The source of the needed hydraulic power comes from a host machine. From the safety of the cab, the machine operator controls the action of the jaw by managing the switch or pedal that actuates the machine's directional valve.

The oil from the directional valve fills a single large bi-direction cylinder. The oil pressure inside the cylinder (trunnion mount design) provides linear movement to the jaw. Protection against hydraulic overload comes from the pressure relief valves located on the directional valve.

Each jaw has a set of changeable teeth that grip and penetrate materials such as concrete until the material is further reduced in size (pulverized) and the steel reinforcement bar has been separated.

A cutting blade located in the throat of the jaws is designed for cutting small reinforcement bar.

5.0 Processor Selection and Application

5.1 Application – Intended Use and Carrier Type

Allied's ASP is a hydraulic powered demolition tool designed to process both concrete and steel. Applications include secondary processing of materials such as concrete and steel structures.

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 jaw. 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 intended 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 processing projects. This works by selecting a processor that is capable of processing 80% of the material, while the remaining 20% will be processed in a different way. This is the preferred method rather than pursuing the largest material in need of processing, 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 the intended use is 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 specifications data from the carrier manufacturer.

5.2 Carrier With Auxiliary Hydraulic Circuit

The Allied ASP is not self-powered. An auxiliary hydraulic circuit is needed to operate the jaw. 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.

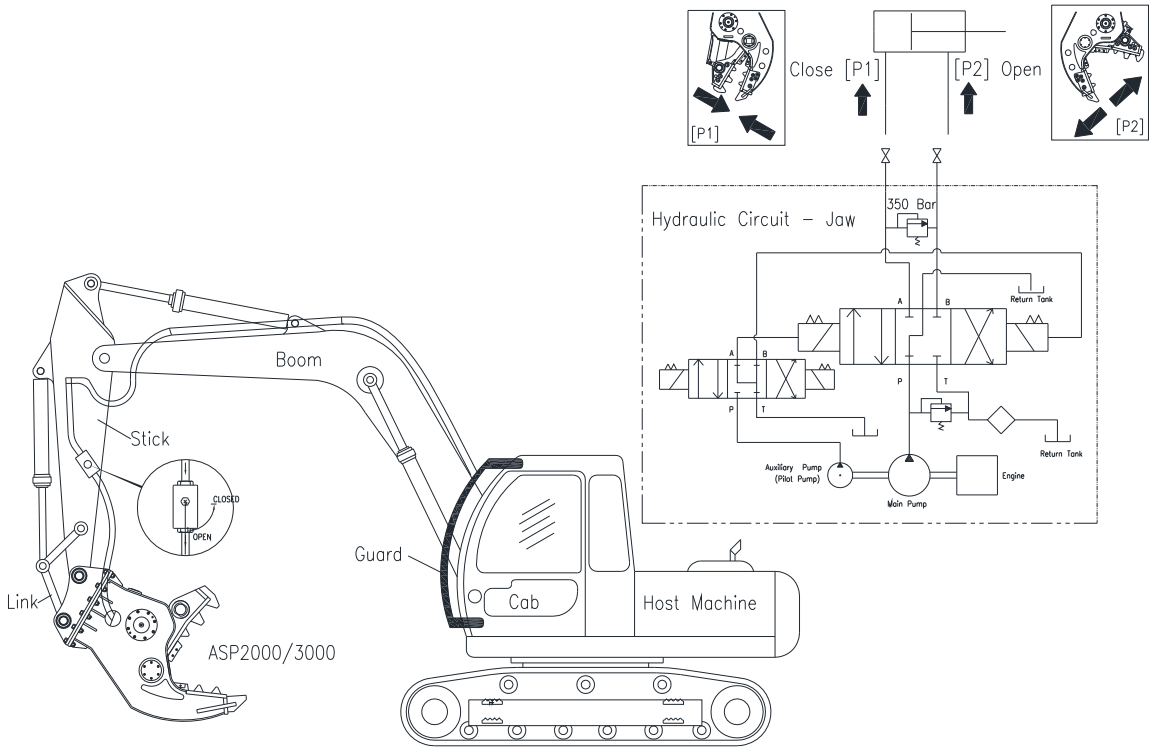


Fig 6-1 Auxiliary Hydraulic Circuit for Jaw

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	Switch for valve / Jaw 'OPEN' and 'CLOSE''	For further details contact Allied
4	Hydraulic Tubing	For further details contact Allied
5	Shut-Off Valve	For further details contact Allied
6	Hose for Jaw 'OPEN' and 'CLOSE''	Refer to Table 12

7.0 Install / Uninstall Processor

7.1 Mounting Bracket

IMPORTANT
The mounting bracket is sold separately from the work tool. 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 the carrier is equipped with a quick coupler, additional information is required.

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. Use the bolt set furnished with the work tool to fasten the bracket.

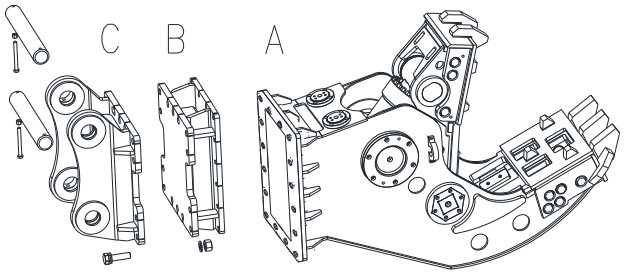


Fig. 7-1 A) ASP, B) Adapter, C) Mounting Bracket

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

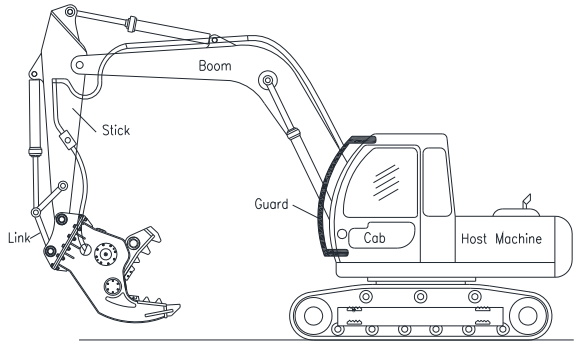


Fig. 7-2 Host Machine Basic Components

The hole pattern used in the top connection plate is identified in the technical data section of this manual. Other work tools from Allied, including hydraulic breakers, share these same mounting families.

CAUTION

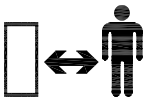
Follow proper tightening procedures and torque when installing mounting bracket.

7.2 Installation of the Allied Work Tool - General

Before the Allied work tool can be installed, make sure it is compatible with the carrier. See the technical data section of this manual.

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

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.

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

7.0 Install / Uninstall Processor

7.3 Attach the Allied Work Tool to the Carrier

IMPORTANT
Check that all mountings parts are on hand. Mounting bracket, hardware, pins and adapters are not included with the work tool. These parts are supplied with the mounting kit (sold separately).

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

Figures 7-1 thru 7-3 illustrate 3rd member mounting of the work tool. Mounting instructions describe a host machine equipped with a typical "pin-on type" mounting arrangement. Use these figures and instructions only if they are deemed suitable to the style of mounting bracket.

Procedures may vary and you should always follow instructions provided by the carrier manufacturer.

For carriers equipped with a quick coupler, refer to the owner's manual furnished by the coupler manufacturer for instructions.

The machine operator and an assistant shall perform the following procedure:

Operator: Move carrier and work tool to a firm level surface. Position the work tool with the jaws facing the excavator. (Fig. 7-2).

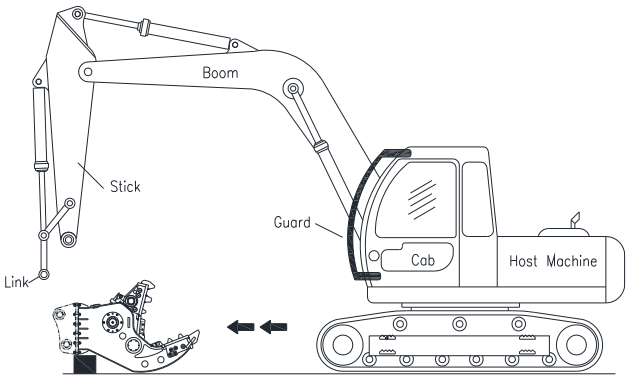


Fig. 7-3 3rd Member Mounting of ASP

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

Operator: Maneuver the stick in between lugging of the mounting bracket. Align the pin bores of stick with the mounting bracket pin bores. (Fig. 7-3).

Assistant: Clean pins of rust and debris before installing into bore. Insert the stick pin and secure with keepers.

Repeat procedure for installing the link pin.

Lubricate pins.

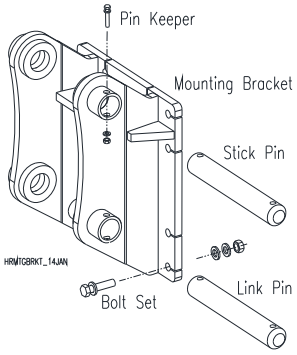


Fig. 7-4 3rd Member Mounting Bracket-Typical

7.3 Connect Hoses

CAUTION

Exercise extreme caution when working with hydraulic systems. 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, service and adjustments.

CAUTION

Hose selection must be suitable for the oil flow and pressures that can occur within the hydraulic system. See the technical data section for flow and pressure specifications.

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

7.0 Install / Uninstall Processor

Connect the hydraulic lines as shown in Fig 7-5.

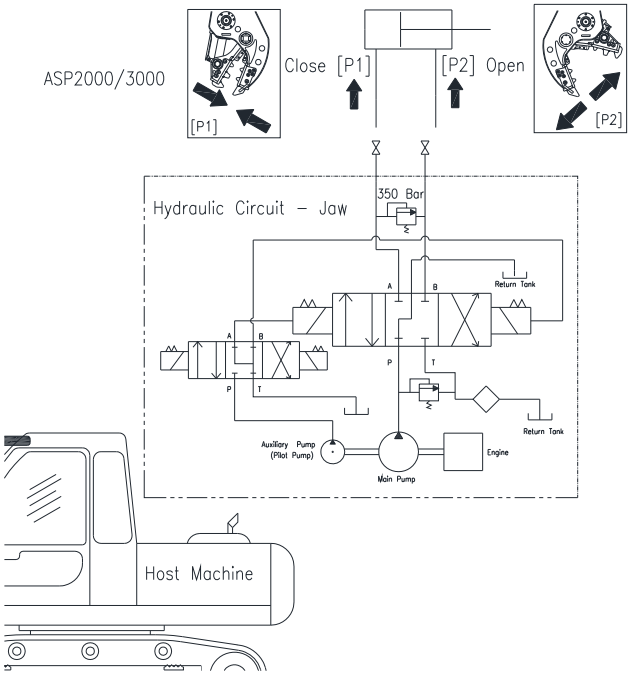


Fig. 7-5 Hydraulic Circuit Jaw [CLOSE] and [OPEN]

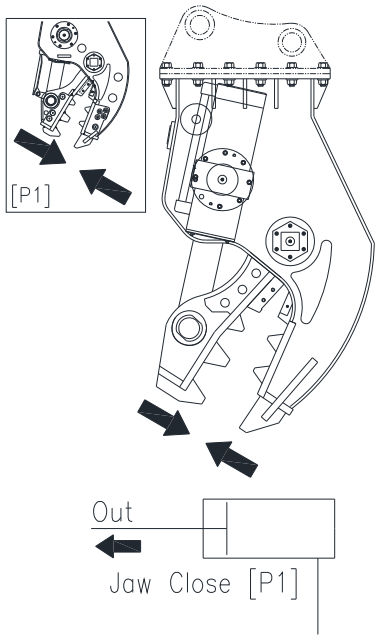


Fig. 7-6 [P1] - Identical for ASP2000 / 3000

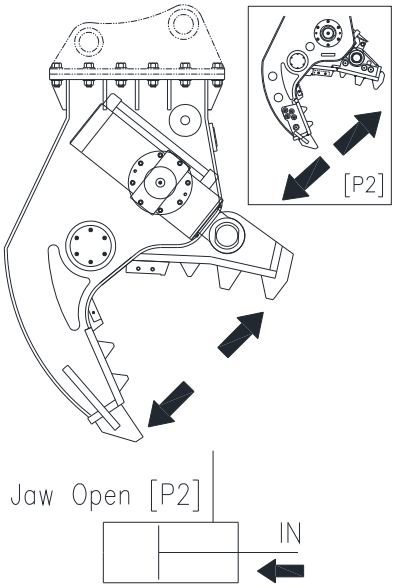
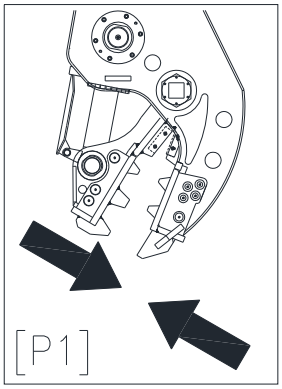
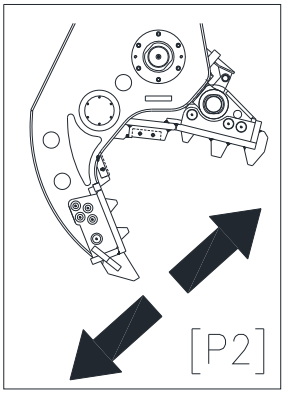


Fig. 7-7 [P2] Identical for ASP2000 / 3000

IMPORTANT
The ASP2000 and ASP3000 have the following hydraulic connection ports. For ease of identification, the ports are labeled:
[P1] – Jaw Close 
[P2] – Jaw Open 

7.0 Install / Uninstall Processor

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

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

IMPORTANT

The work tool can be damaged if hoses are not properly connected. 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.

7.4 Initial Break-in Prior to Operation

Each time the work tool is first attached to a carrier, it is necessary to bleed all air from the cylinder. 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 Instructions to bleed air from the cylinder

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.

7.5 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.

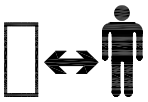
IMPORTANT

Collect fluids in a suitable container. Clean up spilled fluids and dispose of these fluids in accordance with all local regulations.

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.

7.0 Install / Uninstall Processor

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.

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.

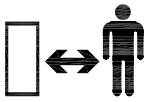
NOTE: Further details for work tool maintenance are located in Section 9 of this manual.

8.2 Operation - Working 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 erect 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. Do not operate the Allied equipment without approved guards installed. 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

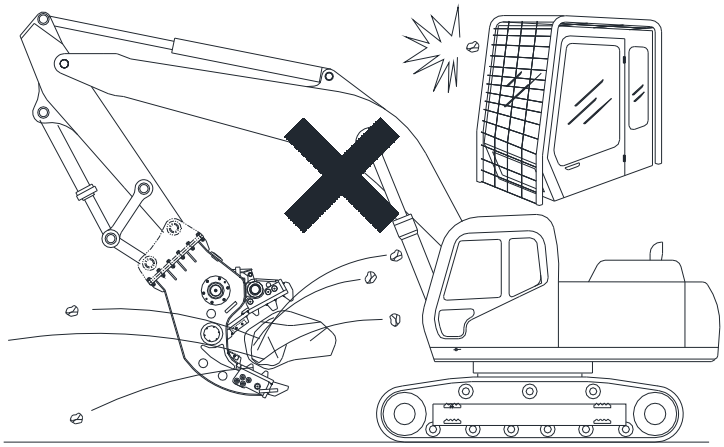
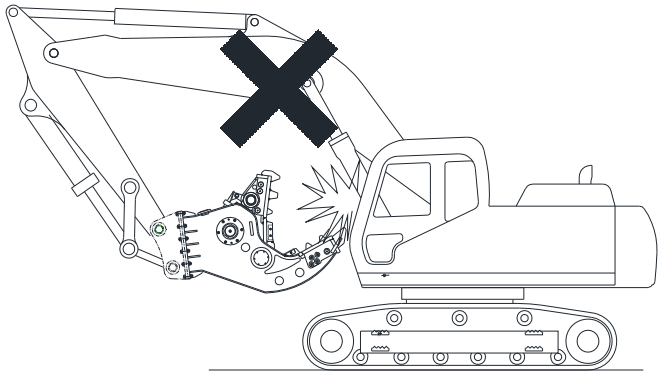
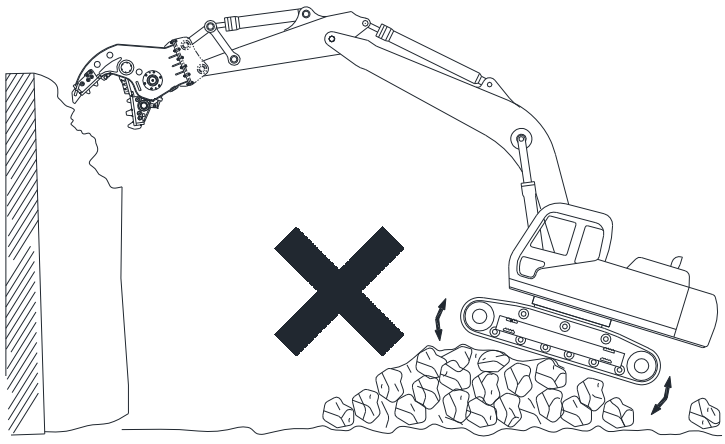
The hydraulic system may not exceed 80 °C. This must be monitored. If a higher temperature is measured, the system and pressure-limiting valve must be checked. Work performed at high ambient temperatures will require hydraulic oil of at least type HLP 68.

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 ASP is available at a temperature of 60 °C.

8.0 Operation

8.2.1 Operation of ASP2000/3000

The ASP may only be used to crush concrete for the purpose of demolition, recycling, downsizing 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.

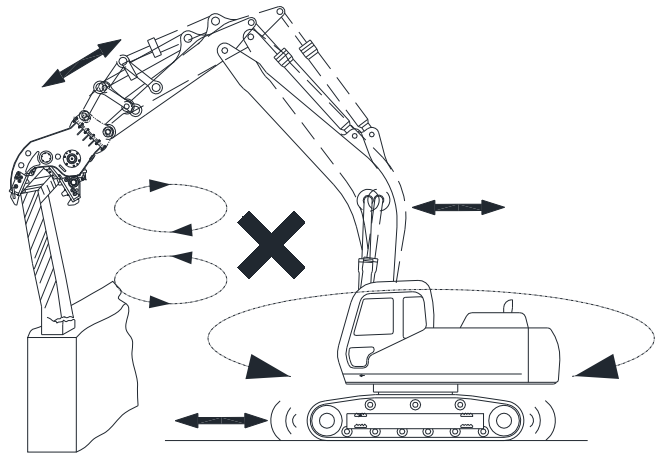
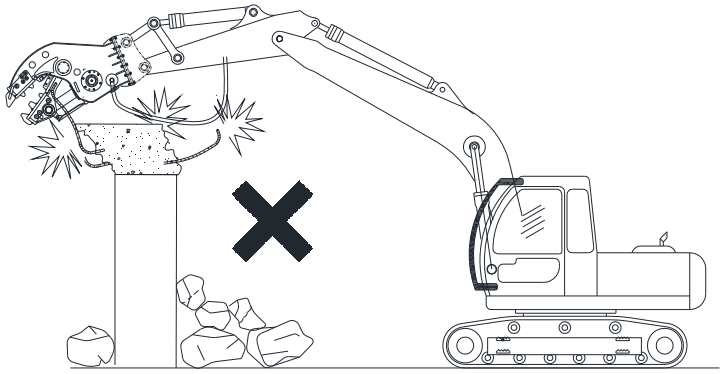
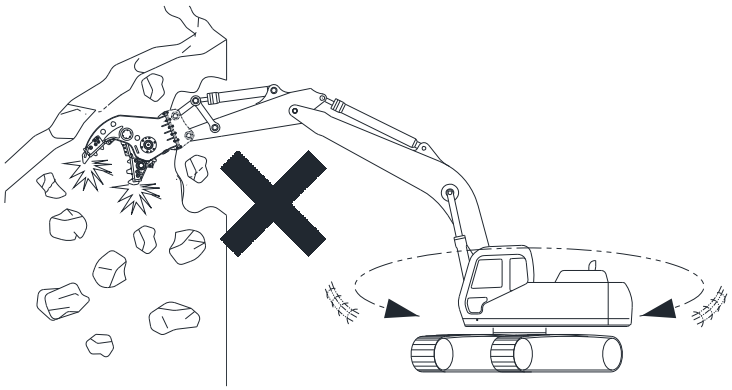
	Fig. 8-1 Approved Protective Structures Must Be Fitted to Machine Cab. Do Not Process Material Near Machine Do Not Process or Cut Material Over the Machine
	Fig. 8-2 Operate With Care and Always Maintain Control. Do Not Strike Machine Cab With Work Tool
	Fig. 8-3 Do Not Operate Machine On Unstable Surface

8.0 Operation – [cont'd]

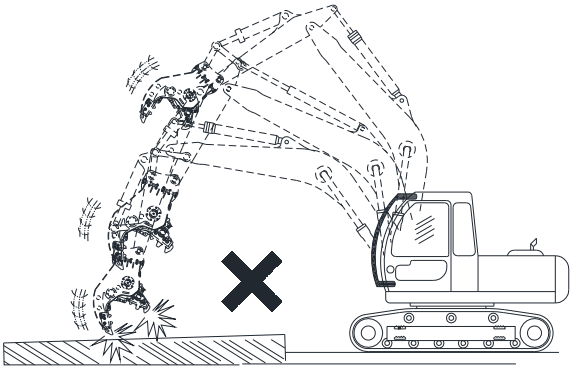
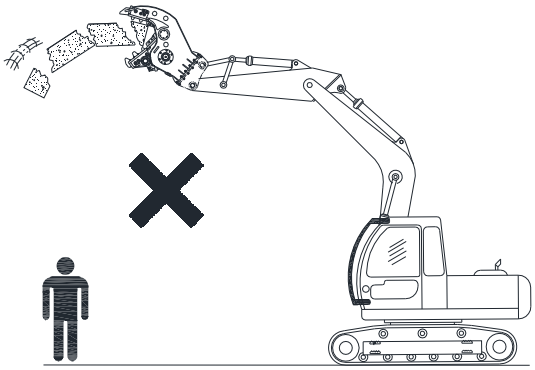
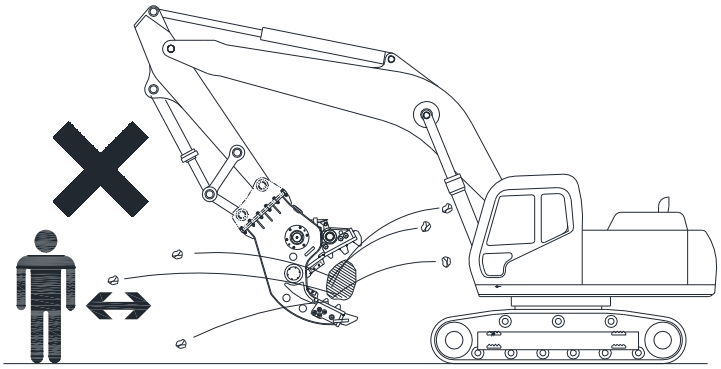
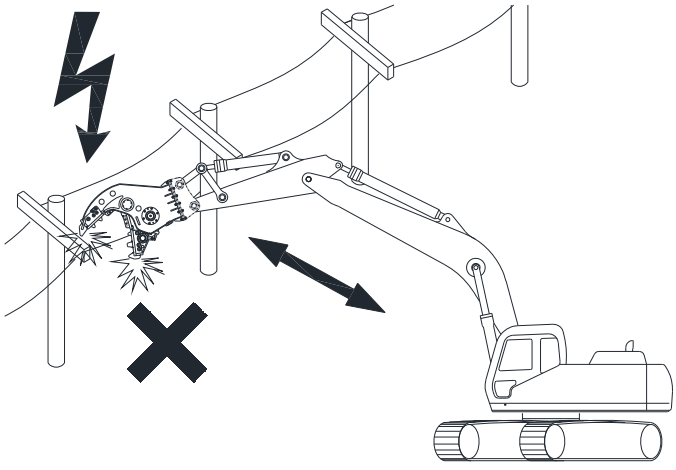
Position the carrier in-line with the direction of work.

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

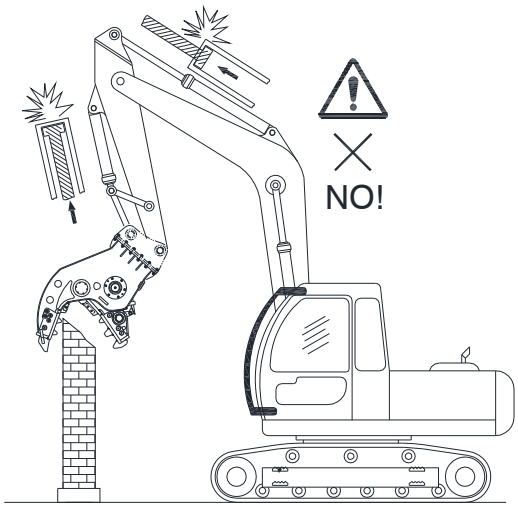
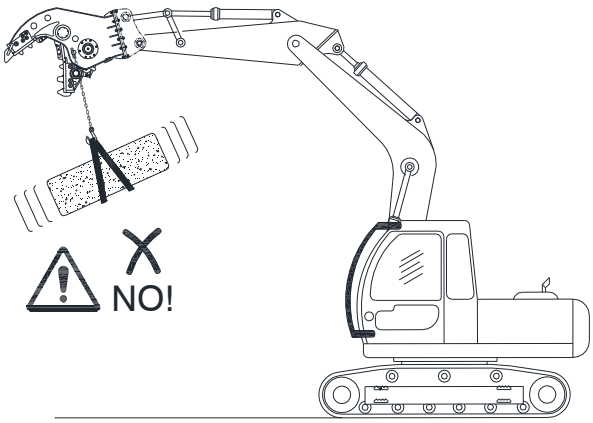
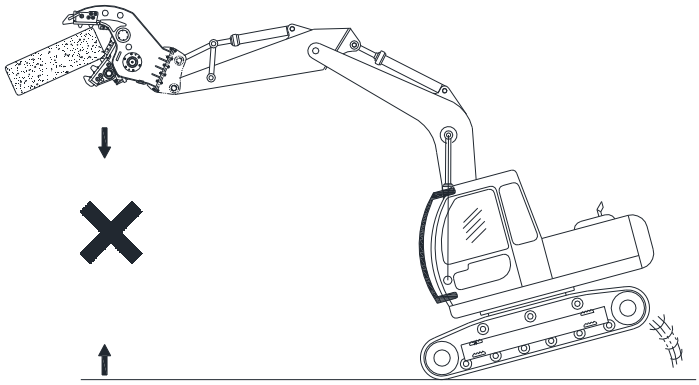
Activate the work tool with the switch located in the operator's cab.

	Fig. 8-4 Do Not Grab and Twist Objects Do Not Pull or Push Objects
	Fig. 8-5 Operate Carefully to Prevent Hose Damage Careless Operation Can Damage the Cylinder Rod Cylinder Rod Has Improved Protection With Jaw Open
	Fig. 8-6 Do Not Strike Objects With Work Tool Do Not Use Carrier to Swing Work Tool Into Objects Do Not Use Work Tool to Rake or Sweep Materials

8.0 Operation – [cont'd]

	Fig. 8-7 Do Not Drop, Hack or Pound Objects With the Work Tool
	Fig. 8-8 Do Not Carry Loads Over Workers Do Not Carry or Swing Loads With the Work Tool
	Fig. 8-9 Keep a Safe Distance From Workers Erect Barriers to Establish Safe Work Zone
	Fig. 8-10 Keep a Safe Distance From Utilities

8.0 Operation – [cont'd]

	Fig. 8-11 Do Not Operate With Hydraulic Cylinders At Stroke End
	Fig. 8-12 Do Not Lift or Carry Objects With Processor. Use the Lift Eyes Only For Handling the Processor
	Fig. 8-13 Do Not Over Load the Machine Carry Work Tool Low to Ground When Traveling

9.0 Care and Maintenance

9.0 Maintenance

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

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

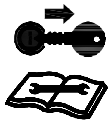
9.1 Safety Precautions

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

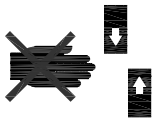
Crush injury. Never rely on the hydraulic cylinders as a means of support when servicing the Allied equipment. Hydraulic cylinders are strictly lifting devices and not a structural support member.

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. Rest the work tool on the ground during maintenance. Make sure that the carrier and work tool cannot fall or make unexpected movements. Follow instructions from the carrier manufacturer on how to depressurize the hydraulic system.

9.2 Importance of Regular Maintenance – General

Regular inspections, adjustments and maintenance are necessary for maximum power and long service life of the work tool.

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

	Hours							
Item	8	40	200	500	1000	2000		Note
Visual inspection - Walk around	X							A, B, D
Re-lubricate All Pin Joints	X							B, D
Re-check Fasteners Torque		X						C, B, D
Visual inspection - Hoses				X				B
Replace Hoses						X		B
Replace cylinder seals						X		B

A) Refer to the list of items to include during the inspection.
B) Normal recommendation (Standard operating conditions).
C) After first 40 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 Items:

- Threaded fasteners. (Missing, loose, damage)
- Mounting components, including pins and hardware. Ensure work tool is secured to carrier.
- Hydraulic 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

9.4 Re-Lubrication

Clean grease nipple. Add grease to all the lubrication points until a new ring of fresh grease is formed.

Use a lithium based grease with EP additives.

Table 9.2 Re-Lubrication

Lube Point	Recommended Lubricants
Fig. 9-1 All pivot points must be lubricated after **every 8 hours of operation**.	ESSO Beacon EP2
	SHELL Retinax EP2
	FUCHS Lubritech, Lagermeister EP2
	MOBIL Mobilux EP2

CAUTION
Do not use grease that is contaminated or has changed consistency over time.

9.4.1 Lubrication Points

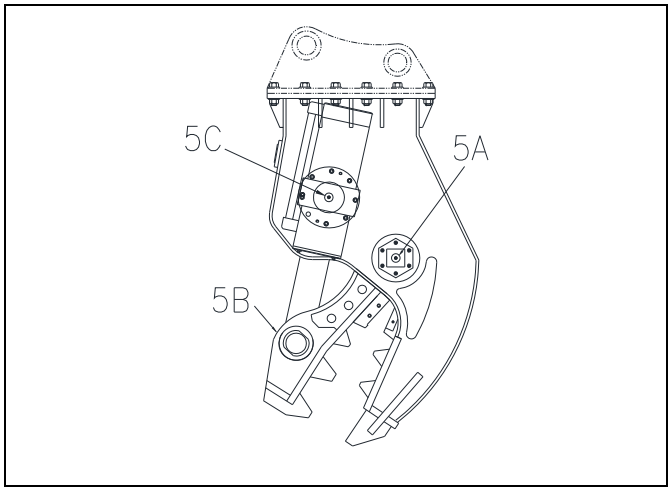


Fig. 9-1 Re-Lubrication points ASP2000 / 3000

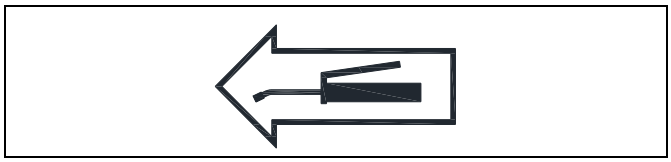


Fig 9-2 Pictogram Indicates Lubrication Points

Table 9.3 Lubrication Points

Point	Part Name	Qty
5A	Shaft, Hinge	1
5B	Cylinder Pin – Rod Eye	1
5C	Cylinder Pin - Trunnion	2

9.0 Care and Maintenance – [cont'd]

9.5 Maintenance of Teeth, Blades and Jaw

Visually inspect the cutting blades, teeth and jaws. Blades that are kept in good condition will contribute to the cutting power of the work tool while reducing jamming of material. Blades have four cutting edges. Rotate blades when edges become dull.

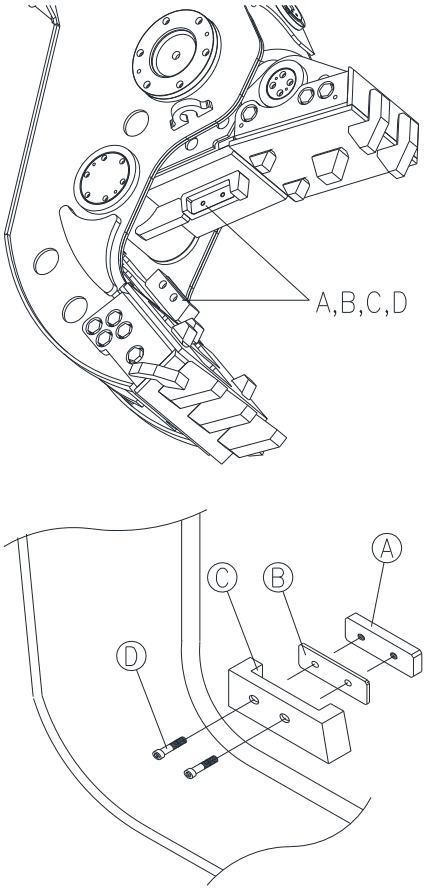


Fig 9-3 Cutting Blade, Shim, Base, Bolts

The permissible gap between the blades is 1 to 2 mm. Use a feeler gauge. Shims (B) are placed between the cutting blade (A) and the base (C) if the gap becomes greater than 2 mm.

Table 9.4 Cutting Blade Gap

		Min.	Max.
A	Gap Between Blades	1 mm	2 mm

9.5.1 Repair Welding and Hardfacing - RM577537

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

9.6 Threaded Fasteners – Bolts and Nuts

Visually inspect the bolts daily. Replace broken bolts with the same type. Do not substitute. 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 bolt (nut) to the specified torque. A higher or lower torque can have serious consequences.

After bolt installation, operate the work tool for a few hours, and then re-check bolt torques. **NOTE: 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.

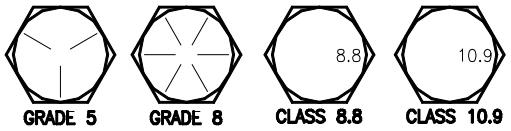


Fig. 9-4 SAE Grade / Metric Class Markings

	CL8.8		CL10.9		CL12.9	
Size	ft-lb	N•m	ft-lb	N•m	ft-lb	N•m
M10	35	48	49	67	59	81
M12	61	83	86	117	103	140
M16	147	200	210	285	250	340
M20	287	390	405	550	486	660
M24	497	675	708	960	840	1140
M30	995	1350	1400	1900	1681	2280
M36	1740	2360	2441	3310	2935	3980

9.0 Care and Maintenance – [cont'd]

9.6.1 Torque Locations

Table 9.6 Fastener Torque Points

Point	Part Name	Size
1	Cover, Cylinder Hinge	M16
2	Cover, Cylinder Hinge	M12
3	Cover, Cylinder Hinge	M10
4	Hex Flange	M12
5	Cutting Blade	M12
6	---	---
7	Mounting Bracket	M24
8*	Tooth Lock Pin (*ASP2000)	M30
9	Tooth Lock Pin	M36

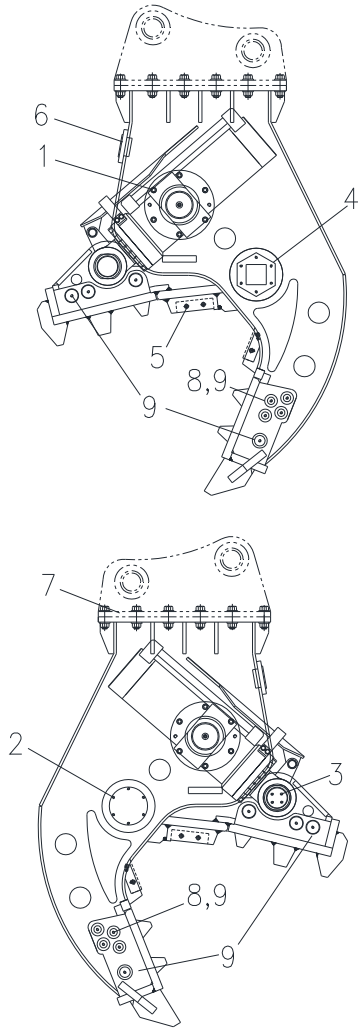


Fig. 9-5 Bolt Torque Locations

9.6.2 Bolts - Proper Preparation, Pre-tensioning and Torque

IMPORTANT
Keep fasteners tight. Do not operate the equipment with missing or broken fasteners. Replace missing or damaged fasteners with new. Replacement fasteners must be the same type and grade /class. Follow proper tightening procedures. Under / over tightening of fasteners can have serious consequences. Refer to Table 9.5 for bolt torque.

- Clean threaded fasteners and surfaces to be bolted.
- Lightly lubricate threads.

IMPORTANT
Do not apply thread lock compound to the bolt threads unless instructed to do so.

- Install all bolts finger tight.
- Follow a crisscross pattern (Fig. 9-3) and partially tighten all bolts to 1/3 of the specified torque.
- Again follow a crisscross pattern and partially tighten all bolts to 2/3 of the specified torque.
- Finish tightening in a crisscross pattern until 100% of the final torque shown in Table 9.5 is reached.

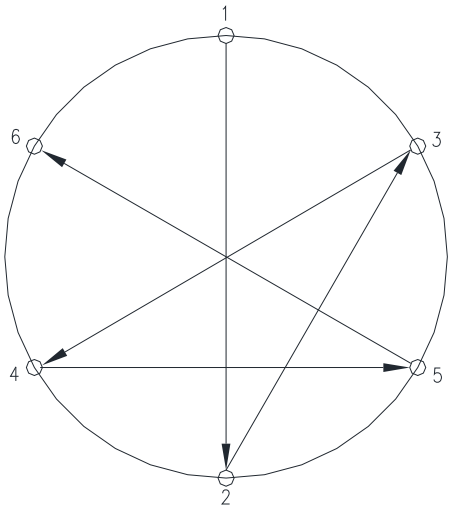


Fig 9-6 Tightening Sequence

10.0 Handling, Transport and Storage

10.1 Lifting & Transport Precautions

WARNING

Crush injury. Stay clear of the danger zone while the work tool is being lifted. Prepare work tool for lifting with proper rigging. Safe lift points are labeled with pictogram of HOOK. Do not lift the work tool by the mounting pins or whip hose. Use only approved lifting devices that are designed to safely carry the loads to which they will be subjected. Lift away from people.

CAUTION

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

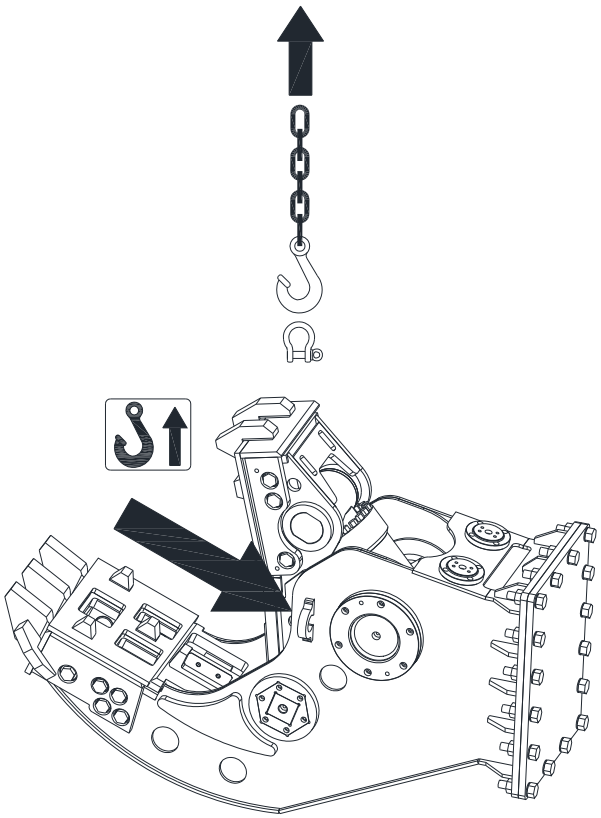


Fig. 10-1 Lift Points Are Labeled

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 approved lift points. Safe locations are labeled with pictogram of "HOOK".

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.

10.3 Storage

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

Retract cylinder rod.

Seal hydraulic connections to protect system against contamination.

Apply coating of rust and corrosion inhibitor to cutter blades, cylinder rod and other unpainted surfaces.

Apply fresh grease to all lube points.

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, we recommend you contact the Allied distributor in your area or contact the Allied Technical Service Department.

Problem	Possible cause	Remedy
Too little power for crushing / cutting	Carrier machine not providing the necessary pressure	Check hydraulic system of carrier
	Internal leakage in cylinder	Replace piston seals
Poor quality cutting	Dimensions of material being cut are larger than cutting capacity of the work tool	Contact Allied
	Cutting blades are worn	See Table 9.2
	Cutting blade gap is too large	See Table 9.2
	Too much back pressure on the rod side of the cylinder	Check the control valve of the carrier
Cut material gets stuck between upper and lower jaw	Gap width between cutting blades too large	See Table 9.2
	Cutting blades are worn	
Takes too long to open or close the jaw	Too much back pressure on the rod side of the cylinder	Check the control valve of the carrier
Jaw remains closed	Problem with seals in cylinder	Check seals

11.2 Knowing the System

Knowing the system is the greatest aid to troubleshooting. Every component has a purpose in the system. The construction and operating characteristics of each one should be understood.

- Know the correct operating specifications of the Allied equipment. Know the capabilities of the machine's system. Each component in the system has a maximum rated speed, torque or pressure.
- Loading the system beyond the specification increases the possibility of failure.
- Know the correct operating pressures. Always set and check pressures with a calibrated gauge. Refer to the Specifications Table for the correct oil flow and pressures.

The Allied work tool is not self-powered. Its performance level is affected by a hydraulic system that is not operating to specification.

The Allied Processor is designed to provide optimum performance with reliable service life at a specific oil flow. Use a flow meter to measure oil delivery and to verify the cracking pressure of the relief valve.

If the machine is equipped with a work mode switch, verify the selector switch is set on the proper attachment setting for operating the Processor.

When troubleshooting, include all associated parts of the attachment circuit to exclude any possibility of a collapsed hose or other fault or malfunction.

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.

11.0 Troubleshooting – [cont'd]

Most troubles encountered with the machine will be quickly recognized by failure of the machine to operate properly.

Analyze the system and develop a logical sequence for setting valves, mechanical stops, interlocks and electrical controls. Develop a cause and effect-troubleshooting guide similar to the tables on the following pages.

Determine if the problem is electrical, hydraulic or mechanical. Unless the trouble is immediately apparent, try the simple things first. For example, if the jaws are moving slowly, take the following approach:

- Check if the pins or bearings are binding. If joints are not properly lubricated the pin and bushing will wear or seize.
- If the fault is not a mechanical, be sure to check one of the most common causes of trouble in a hydraulic system. See if there is enough oil in the hydraulic reservoir.
- Troubleshooting procedures for the hydraulic and electrical system should start with the power supply and work down each circuit until the fault is located.

11.3 Recognizing Trouble Indicators

The ability to recognize trouble indicators in a specific system is usually acquired with experience.

- Observe if the problem affects one or more functions.
- Swap hoses and/or electrical connections with another similar function to try to isolate the problem. Swap only one thing at a time! Be ready with a drain pan to collect oil from the hose.

CAUTION

Burn injury from contact with hot surfaces. Some components of the Allied work tool become hot during operation. Allow parts and fluids to cool before handling.

WARNING

Fluid penetration hazard. Escaping fluid under pressure can cause injury from injection. Always relieve pressure before disconnecting hydraulic lines or other pressurized lines. If any fluid appears to penetrate the skin, seek immediate medical attention.

- Make note of when and under what conditions problems may occur, such as extreme high or low ambient temperature, wet or humid conditions, high oil temperature, or at times of heavy vibration.
- Ask if the problem is reported by one shift or all shifts. If the test can be done safely, ask the operator to create the situation, which will cause problem.
- Check service and maintenance records. Check dates to see when and what types of services were performed last. Check that the correct parts were used. 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.
- A warmer than normal oil line might reveal a relief valve is bypassing oil because of a malfunction or mis-adjustment. If oil was changed, verify correct type. Hydraulic fluids having a low viscosity will increase the internal leakage of components resulting in a heat rise.
- Excessive noise means wear, misalignment, cavitation or air in the fluid. Contaminated fluid can cause a relief valve to stick and chatter. These noises may be the result of dirty fluid or filter, high fluid viscosity, low reservoir level or loose suction lines.

11.4 Know the Correct Operating Specifications

CAUTION

Always use a gage when adjusting pressures. Refer to the equipment's operating parameters shown in the Specifications Tables. Only qualified personnel, having knowledge of the machine's systems, proper test equipment and tools are permitted to adjust and repair the Allied work tool.

12.0 Technical Data

Table 12.1 Technical Data US [Metric]

	ASP2000	ASP3000
Weight [kg.]*	4299 [1950]	6150 [2790]
Opening / Closing (sec)	---	3.7/1.6
Closing force at jaw [m-Tonn]	121.2 [110]	176 [160]
Closing force at cutting blade [m-Tonn]	203.9 [185]	286.6 [260]
Recommended Weight, carrier [m-Tonn]	19.8 [18] – 30.8 [28]	30.8 [28] – 41.8 [38]
Dimension A [mm]	76.3 [1939]	80.5 [2045]
B [mm]	57.2 [1455]	63.3 [1610]
C [mm]	37.5 [955]	41.2 [1049]
D Width [mm]	57.5 [1462]	63.3 [1610]
Cylinder operating pressure, Max (psi)	4551 [320]	4551 [320]
Oil volume, cylinder, Max (gpm)	66 [250]	92 [350]

* Weight excluding adapter and bracket
Specifications are subject to change without prior notice.
The bolt hole pattern for the mounting is serial number specific. Contact Allied with your serial number for further details.

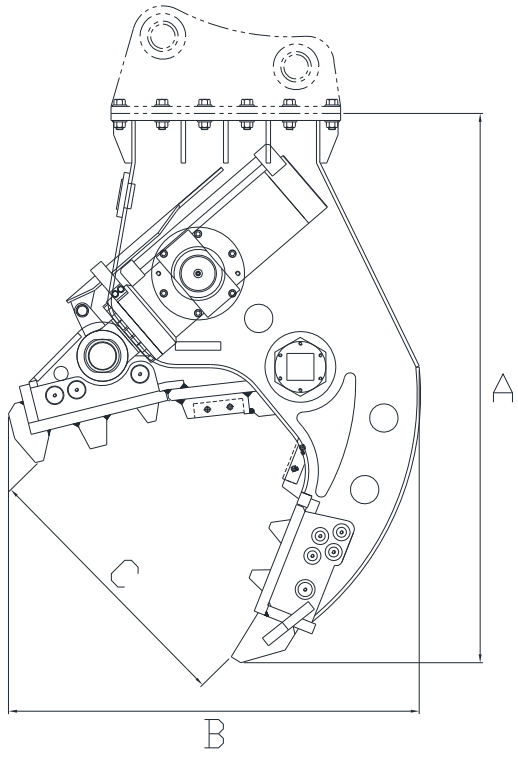
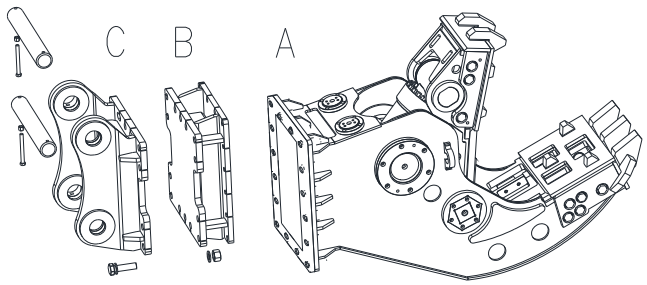


Fig. 12-1 General Dimensions



May use one of the following adapters:
577480, 577481, 577559

Fig. 12-2 3rd Member Mounting Components - Typical

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. Allied recommends pilot controlled types for Allied equipment over direct acting type relief valves.

- **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.

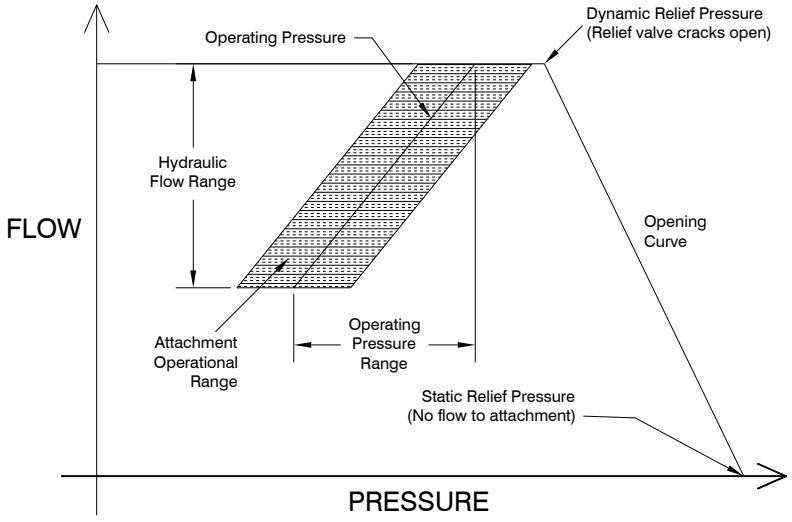


Fig. 12-3: Flow-Pressure Diagram

12.0 Technical Data – [cont'd]

12.2 Testing the Hydraulic Circuit

A performance evaluation of the carrier's hydraulic circuit is neccessary before the work tool is first used. Accurate assessment entails thorough testing 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 [ºF]	Relief Pressure [Crack]	Relief Pressure [Static]	Return Pressure [PSI]
			0				
			1000				
			1500				
			1800				
			2000				
			2200				
			2400				
			2600				
			2800				
			3000				
			3200				
			3400				

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).
Engine RPM – Set to 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

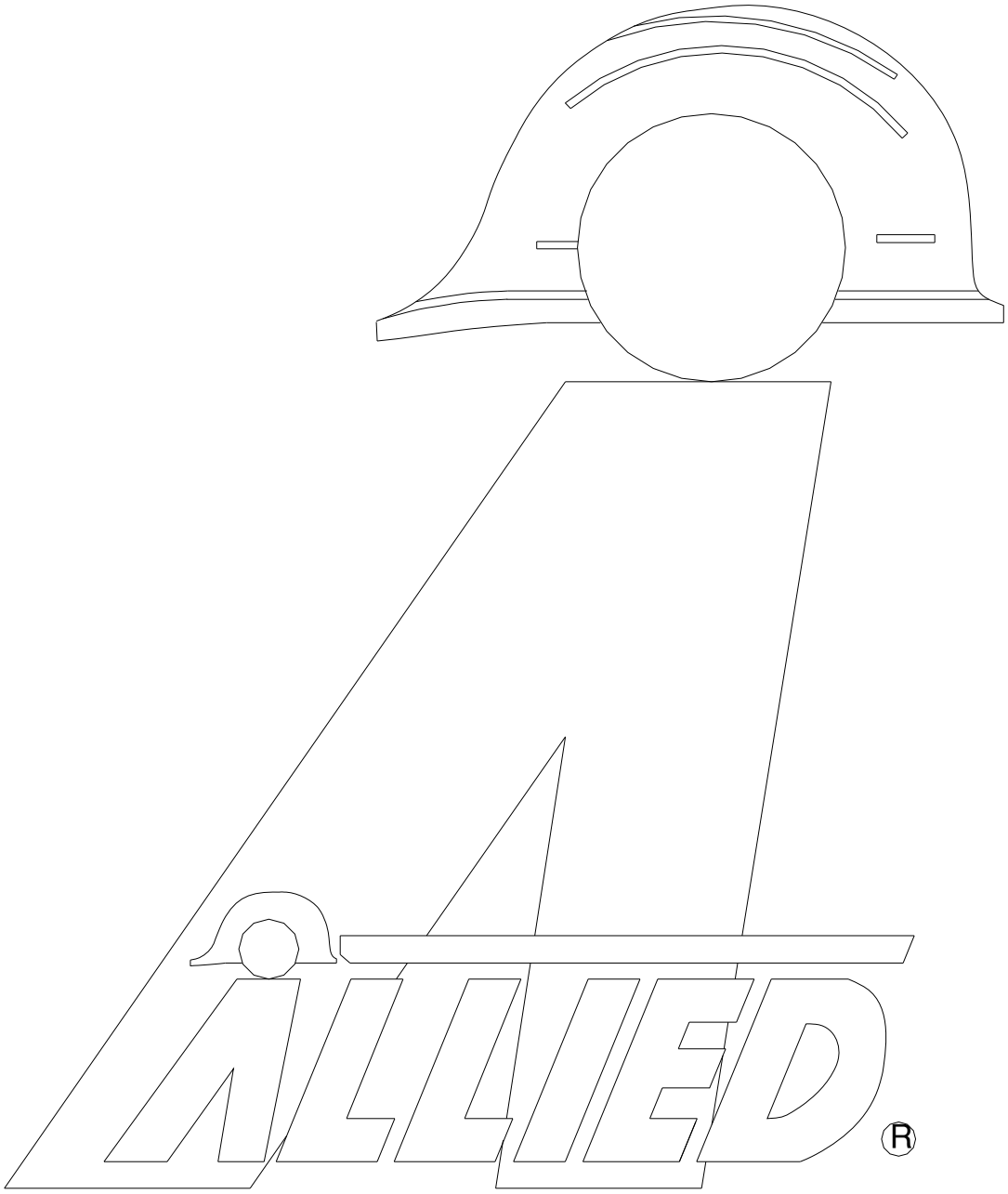
Oil Temperature – Testing must be done while the hydraulic oil temperature is at normal operating temperature. Stop test if temperature exceeds 176° F (80° C)

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 breaker's outlet port.

Notes



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