

ABG Grapple

Demolition Grapple

ABG Series-C

Model 30C

40C

50C

70C

100C

140C



Safety, Operation, Maintenance and Parts

Thoroughly read and understand the content of this manual before using the Allied Grapple. The safe and efficient use of the Allied equipment depends upon proper installation, operation, maintenance and training.

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.



TM575805

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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 product or document updates go to www.alliedcp.com.

Table of Revision History for TM575805

<u>Effective Date</u>	<u>Page</u>	<u>Summary of Change</u>
15, Apr	25	Revise Table 11.6 & 11.7
15, Feb	22,23,24,25	Tables 11.1, 11.3, 11.4, 11.5 revised for ABG140. Add Tables 11.6 & 11.7 and Fig. 11-5.
2014, Dec	26, 28	Update sections to current standards. Corrections to Parts Table 11.1, Item 2. Parts Table 11.2 Item 17.
2014, Mar		Design changes to mounting pad and stiff arm. Add ABG140. Revise Fig. 11-1 and Table 11.1. Add Table 11.2.
2013, Jan		Original Issue

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

The safety alert symbol is represented by the exclamation point within an equilateral triangle. This symbol means - **ATTENTION, BECOME ALERT, YOUR SAFETY IS INVOLVED.**



Fig. S1 Safety Alert Symbol

The Safety Alert Symbol (Fig. S1), either used alone or in conjunction with a signal word, is used to draw attention to the presence of potential safety 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.

Pictograms

Safety messages may also include a pictogram in addition to the safety alert symbol and signal word. Pictograms provide another component of information that will further enhance the effectiveness of the hazard communication.



Fig. S-2 Components of a Safety Message - Typical

Signal Words Used for Non-Hazard Messages

Other message types appearing in this manual utilize signal words 'IMPORTANT' and 'NOTE'. These contain messages that describe instructions and suggestions, but are not safety-related.

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.

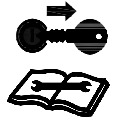
Safety Information – [cont'd]

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:



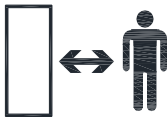
Read / Refer to the manual for information



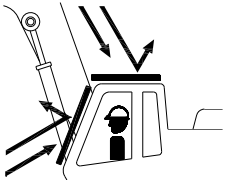
Shut off carrier & remove key before servicing



Read / Refer to the Service Manual for information



Stay clear
Maintain a safe distance



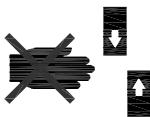
Debris that become airborne projectiles. Protective guards are required on cab when operating this work tool



Flying debris



Crush / Moving Parts



Hot surface



Leaking fluid under pressure
- injection



Falling object
Unsupported loads



Identifies lift point



Personal protection
equipment



Hearing protection

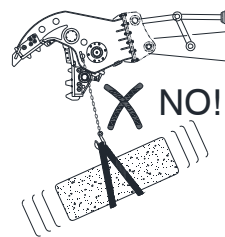


Safety eyewear



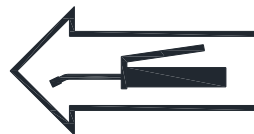
Falling / Unsecured part
Safety shoes

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.



Identifies Lubrication Point

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 table below for ordering information.

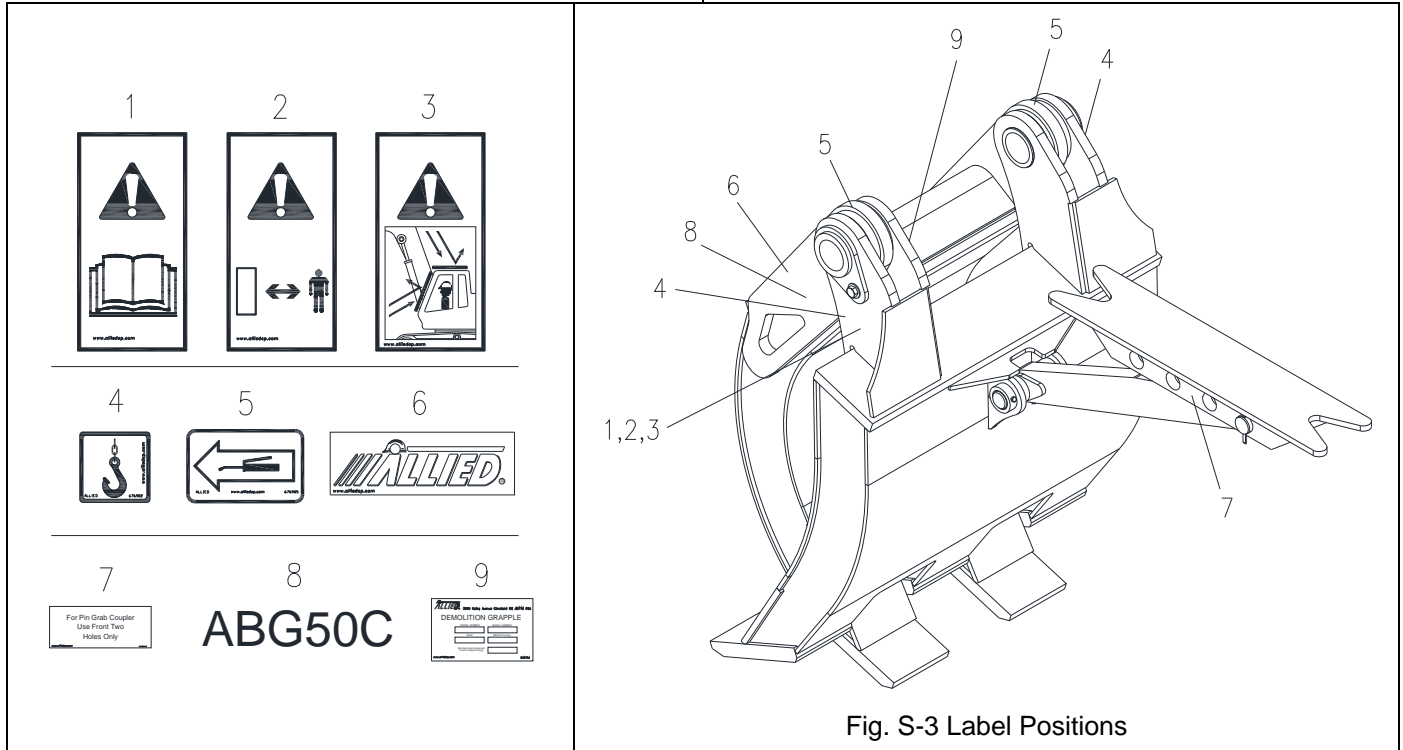


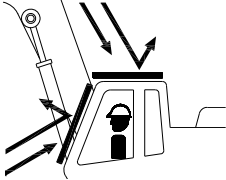




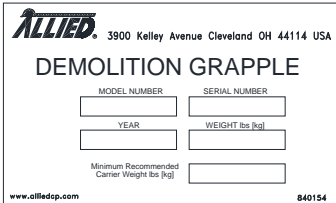


Table S.1 Labels – Ordering Information

Pos	Type	Part No.	Description	Qty	Remarks / Specifications
---		573275	Decal Set	1-Set	Set includes 1-7*
L1	Safety	676984	Label - Read Manual / Instructions	2	Display on both sides
L2	Safety	840156	Label - Stay Clear	2	Display on both sides
L3	Safety	575948	Label - Guards	2	Display on both sides
L4	Safety	676982	Label - Lift Point	5	
L5	Info	A101725	Label – Lube Point	10	
L6	ID	676651	Label - Allied Logo	2	Display on both sides
L7	Info	577510	Label – Pin Grab QC	1	*For Use With ABG C Series II Only
L8	ID	576193	Label - Model	1	Varies - Specify Model At Time of Order
L9	ID	840154	Label – Equipment ID	1	Item L9 Not included in set

Safety Information – [cont'd]

Figure	Label	Description
L-1		Read The Manual - Safety Alert Symbol and pictogram. An outline of open book gives notice to personnel to read the manual(s) for important information and/or instructions.
L-2		Keep Clear – Safety Alert Symbol and pictograms. A potential hazard is represented by the outline of a box. The box and worker are separated by an arrow. The worker must not contact the hazard. The worker must keep clear and always remain at a safe distance from the work tool when in use. Workers must not enter established work zones.
L-3		Install Protective Guards – Pictogram of operator's cab with protective guards that shield the machine operator from fly debris.
L-4		Lift Point – Pictogram of hook identifies approved lift points for safe handling.
L-5		Lubrication Point – Pictogram of open book and grease gun is used to identify lubrication points. Read the manual(s) for application instructions, grease type and re-lubrication schedule.
L-6		ALLIED Logo – This decal is the Allied brand identifier and is a registered trademark of Allied Construction Products, LLC.
L-7		Stiff Arm Position – Instructions identify selection of connection points at the mounting pad. Multiple connection points allow use of same stiff arm if pin grab type coupler is attached.
L-8	ABG50C-2	Model – Decal identifies the series and specific model.
L-9		Equipment ID Tag - contains the following information: Manufacturer's name and address Product Name Model Number Serial Number.

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

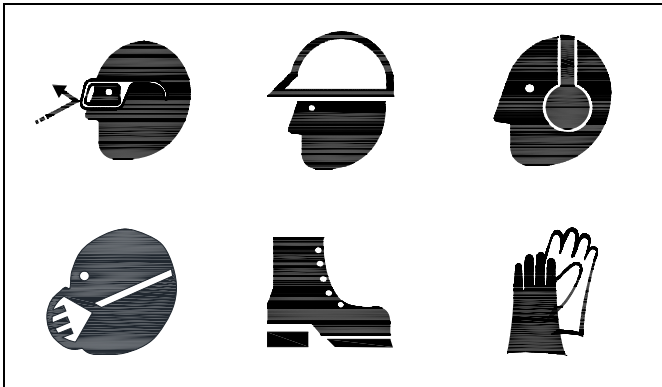
The safe and efficient use of the Allied equipment depends upon proper installation, operation, maintenance and repair. Operational safety programs must encompass all of these elements.

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 help minimize the risk of personal injuries.

Personal Protection Equipment (PPE)

Personal protection equipment (PPE) must be available to any personnel operating or nearby the equipment that may be exposed to hazards such as falling, flying and splashing objects, or harmful dusts, fumes, mists, vapors, or gases. Approved PPE, when used correctly, helps protect against certain harmful effects from exposure with the identified hazard.



Examples of PPE include safety eyewear, safety hat, hearing protection, dust mask, safety footwear, and gloves. (Shown Pictograms of PPE is not all-inclusive).

Those responsible for administering PPE shall train personnel with the proper selection and use of PPE to protect against misuse.

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 and 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 use with other models.

1.2 About This Manual

Table 1.1 About This Manual

Document ID No.	TM575805
Type	Safety, Operation, Maintenance and Parts
Current Status	See Inside Cover
Product Name:	Demolition Grapple
Series	ABG C Series I and II
Applicable Model[s]:	ABG30C,40C,50C,70C,100 C,ABG140
Years of Manufacture:	Begin 2012

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

- Jaw Maintenance and Repair – Contact Allied Technical Support Department for assistance.

2.0 Equipment Identification

2.1 Location of the Serial Number

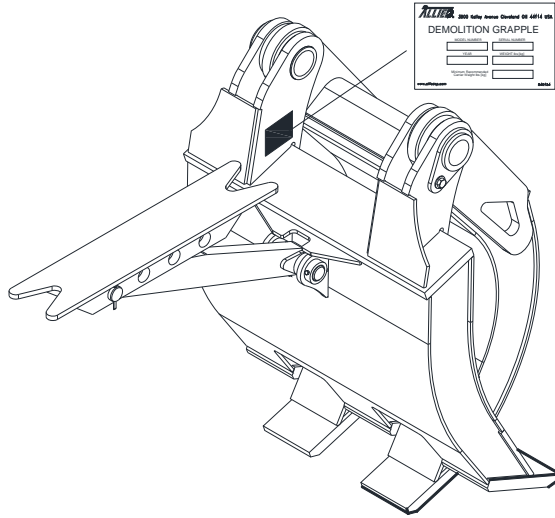


Fig. 2-1 Equipment Identification

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

- Equipment ID Tag is located on the inside face of the lower jaw lugging.

2.2 Equipment Identification Tag

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
- Weight
- Minimum Recommended Carrier Weight

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 Grapple

Model: ABG

Series C

Part Number _____

In Service Date: _____

Registration Date _____

Allied grapples are all assigned a Model Number that identifies specifics about their construction, size and design series.

Example: ABG 70C-2

A	Allied
B	Box Type Construction
G	Grapple
70	70,000 Lb. Carrier Class
C	C-Series
2	Number of tines on upper jaw

2.0 Equipment Identification

1	2	3	4
<p>Work Sheet Grapple Series A, B and C, 14nov</p> <p>Dimensions Are Required For Proper Identification</p>			
<p>1.) Lower Jaw Height Dim. = _____</p> <p>2.) Upper Jaw Height Dim. = _____</p> <p>3.) Stick Pin Bore Dia. = _____</p> <p>4.) Link Pin Bore Dia. = _____</p> <p>5.) Upper Jaw Width Dim. = _____</p> <p>6.) Lower Jaw Width Dim. = _____</p> <p>7.) Mounting Pad Dim. = _____</p> <p>8.) SHFT Arm Dim. = _____</p> <p>9.) Time Tips Dim. = _____</p>			
<p>Carrier Information</p> <p>Make _____</p> <p>Model _____</p> <p>Serial Number _____</p> <p>Arm / Boom _____</p>			
<p>Quick Coupler Information</p> <p>Make _____</p> <p>Model _____</p> <p>Serial Number _____</p> <p>Series _____</p>			
<p>Grapple Information</p> <p>Model _____</p> <p>Serial Number _____</p> <p>Series A, B or C _____</p> <p>Universal Mounting Kit Series A, B _____</p>			
<p>A, B Series</p> <p>Flange _____</p> <p>Sleeve _____</p> <p>Keyway _____</p>			
<p>C-Series</p> <p>Link Pin _____</p> <p>Stick Pin _____</p> <p>Pivot Sleeve _____</p> <p>Stiff Arm Pin _____</p> <p>3-Hole Mounting Pad _____</p> <p>SHFT Arm - Curved Design _____</p> <p>SHFT Arm - Standard Length For Weld Base _____</p> <p>SHFT Arm - Standard Length For Cast With Weld Base _____</p>			
<p>Grapple Diagrams</p> <p>Upper Jaw _____</p> <p>Lower Jaw _____</p> <p>Link Pin _____</p> <p>Stick Pin _____</p> <p>Pivot Sleeve _____</p> <p>Stiff Arm Pin _____</p> <p>3-Hole Mounting Pad _____</p> <p>SHFT Arm - Curved Design _____</p> <p>SHFT Arm - Standard Length For Weld Base _____</p> <p>SHFT Arm - Standard Length For Cast With Weld Base _____</p>			

Fig 2-3 Work Sheet for Grapple Identification

3.0 Warranty Protection Summary

3.1 Overview

The Allied work tool is factory assembled, lubricated, and tested. To facilitate shipping, it is delivered partially disassembled. Upon receipt of the Allied equipment, ensure all parts are received and inspect its condition for possible shipping damage.

For every new work tool, 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.

The terms of the product warranty are subject to compliance with specific installation requirements and maintenance. Equipment damage, resulting from improper installation, accident, misuse, neglect, unapproved service methods, modifications, or use of non-Allied parts may void the warranty.

Details regarding warranty terms and conditions can be found in Allied document id number 100665.

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 Grapple 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 work tool 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 work tool only for the purpose for which it is intended.

Understand that particular applications may require modifications to the standard work tool 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 of this manual.

Conduct regular checks and inspections as scheduled in the Care & Maintenance Section of this manual.

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

3.3 Allied Product Policies

In this manual, Allied recommends Grapple 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 Available Models

Allied offers six different size grapples to match excavators ranging in weight from 25,000 to 110,000 pounds. The Allied ABG C-Series Grapple is available in the following models:

ABG 30C-2, ABG 40C-2, ABG 50C-2, ABG 70C-2, ABG100C-2 and ABG140-2

Product specifications, general dimension views and recommended carrier weight information for each model can be found in the Technical Data Section of this manual.

4.2 Application and Installation Overview

The ABG Grapple is designed for mounting on medium-to-large class mobile construction vehicles such as rubber tired or track type excavators. Once installed, the grapple tool becomes an extension of the carrier and has the capability of ripping and tearing down structures as well as grabbing and placing, sorting, raking, loading and unloading material with a positive gripping action provided by the jaws and tine set.

With the bucket removed from the carrier, the supplied connecting pins are used to attach the grapple to the carrier's stick and link. The supplied mounting pad is then welded to the underside of the

carrier's stick. The grapple is ready for use once the lower jaw is connected to the mounting pad.

Once installed, the upper jaw is mechanically opened and closed through the assistance of the bucket cylinder. The installation and operation of the grapple does not involve additional hydraulic requirements.

4.3 General Construction and Main Components

The ABG C-Series is a demolition grapple that consists primarily of a pair of jaws hinged together. The adjustable lower jaw is set manually to a fixed position. It can be repositioned, as needed, by pinning the stiff arm to a different set of holes located in the mounting pad. The upper jaw is movable and will pivot open and close with the mechanical assistance of the carrier's bucket cylinder.

Refer to Figure 4-1. The main components of the Allied ABG grapple include:

- Upper Jaw (Movable)
- Lower Jaw (Fixed Position - Stationary)
- Pivot Sleeve
- Mounting Lugging (Not shown in Fig. 4-1)
- Connecting Pins for Stick and Link (Not Shown)
- Mounting Pad
- Stiff Arm
- Connecting Pins for Stiff Arm
- Weld-in Tine Tips

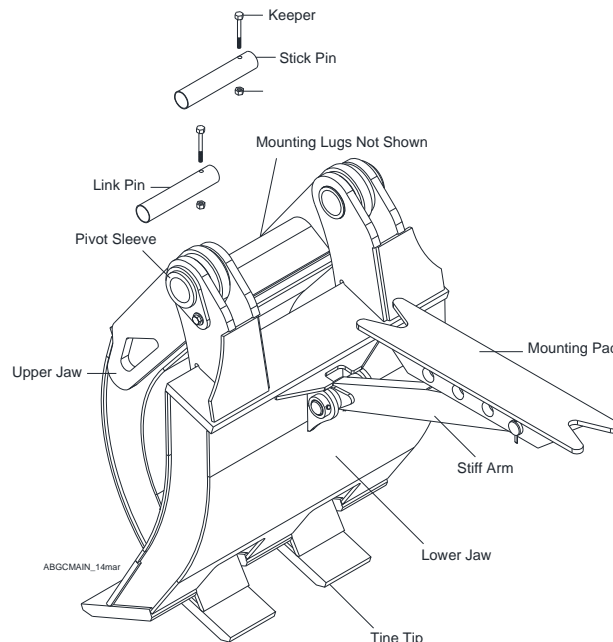


Fig. 4-1 Main Components of Grapple

5.0 Product Selection

5.1 Application and Selection Criteria

The design of Allied work tool is intended for use on mobile construction equipment such as rubber tired and track-type excavators. The demolition grapple is mechanically powered by the host machine and works well in applications which require ripping and tearing down of non-concrete structures. They are also well suited for the secondary processing of various materials by grabbing and placing, sorting, raking, loading and unloading loose materials including wood, steel, brick and stone.

Road Construction: Large concrete slabs can be loosened and raised from the roadbed while the positive grip action of the grapple eliminates the need for slinging.

Scrap / Solid Waste Handling: The grabbing action of the jaws can move more scrap with greater efficiency than with other methods. In the closed position, the grapple jaws are used to pack down the material to maximize the payload for transport.

Demolition: Residential, commercial and industrial dismantling can be accomplished easily and efficiently. The grapple can also break up and compact debris.

Rock Handling: The design of the grapple allows for easy grabbing and placement of large rocks.

Land Clearing: Grapples easily rip or tear tree stumps from the ground. They can also shake excess dirt off stumps to reduce load weight.

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 grapple.

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 in both recycling and demolition projects. This works by matching a grapple that is capable of processing 80% of the material that needs to be processed and allowing the remaining 20% to be processed or handled in a different way instead of looking at the largest material, 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?

Please refer to Allied's Appetite Guide for the configuration of your grapple to understand its capabilities. It will also provide specifications that will help you select the best carrier match.

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 deserves careful consideration. Too small a grapple can be damaged by too large of a carrier. Likewise, a carrier that is sized too small can be damaged or become unstable if too large of grapple is installed.

Make sure the carrier is suitable to handle the work tool. Refer to Allied's product selection chart. It provides information to help guide you into the proper match between the carrier and work tool.

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.

The carrier must have adequate lift capacity to properly and safely handle the grapple. Refer to the Technical Data Section of this manual for product specifications including the recommended carrier weights.

Procedures used for mounting the Allied work tool are similar to installing a digging bucket. Once the bucket is removed, the Allied work tool can be installed. The fixed mounting lug is integrated with the upper jaw and made to match a specific make and model carrier.

5.2 Carrier With Auxiliary Hydraulic Circuit

Once connected, the bucket cylinder is utilized to mechanically open and close the upper jaw. Installation and operation of the grapple does not involve additional hydraulic requirements.

6.0 Install / Uninstall

6.1 Equipment Safety

The following includes the minimum required safety precautions for typical installations of the Allied grapple.

6.1.1 General Safety Summary

The safe and effective use of any heavy construction equipment depends upon proper installation, training, operation, regular maintenance and repair. The risk of preventable personnel injuries can be reduced when the equipment owner implements safety programs. Added benefits from safety programs include better protection of the equipment against damage from misuse. Safety programs help protect workers and promote equipment availability, maximize equipment life cycle and performance.

6.1.2 Personnel Precautions - PPE

Always use personal protection equipment when operating or handling the Allied work tool.

6.2 Mounting Information – General

The Allied grapple is mounted in place of the digging bucket, and utilizes the bucket cylinder to mechanically open and close the upper jaw. The mounting lugs for both the stick and link connections are part of the upper jaw assembly. Mounting lugs are made to match the dimensions of the specified carrier. The grapple is furnished with pins that connect it to the stick and link. Additional components may be required to facilitate the grapple mounting if the application or carrier is unique.

IMPORTANT

Jaw assemblies and parts for mounting the grapple are a matched combination between the grapple and a specified carrier. The serial number of the grapple must accompany inquiries for jaw replacement or mounting pins.

6.3 Installation – What's Needed

IMPORTANT

Read through all instructions and figures prior to starting. Check that all mountings parts are on hand. Mounting pad, stiff arm and pins are included with the ABG C- Series Grapple.

6.3.1 Tools Required

- For stick welding use AWS E7018 low-hydrogen rod
- For semi-automatic gas shielding arc welding use AWS E-70T-1.
- Hammer
- PPE – Eye and hearing protection, gloves, dust mask
- Grease gun
- Angle grinder

6.4 Installation - Safety Precautions



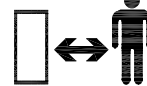
CAUTION



Before the grapple is installed, determine if the carrier has adequate lift capacity. Review the technical data tables for the weight of grapple. Refer to the manuals provided by the carrier manufacturer for specifications about lift capacity.



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.



CAUTION

Crush hazard. Do not remove pivot sleeves. These hold the grapple jaws together.

6.0 Install / Uninstall – [cont'd]

6.5 Connect Grapple Jaws to Carrier

The Allied ABG C-Series grapple is available in two basic configurations; Direct Pin-on and Pin Grab Coupler mounting. Instructions for installing the jaws, mounting pad and stiff arm are different between pin-on mounting and carriers equipped with pin-grab quick coupler. Refer to Fig. 6-4 and Fig. 6-6.

6.5.1 Connection for Direct Pin-on to Carrier

The Allied grapple is mounted to the carrier in place of the digging bucket. The bucket cylinder is utilized to mechanically open and close the upper jaw. The mounting lugs for both the stick and link connections is part of the upper jaw assembly. The fixed mounting lugs match with the dimensions of the specified carrier. Stick and link pins are furnished with the grapple for connecting to the carrier. Additional components may be required to facilitate grapple mounting if the carrier or application is unique.

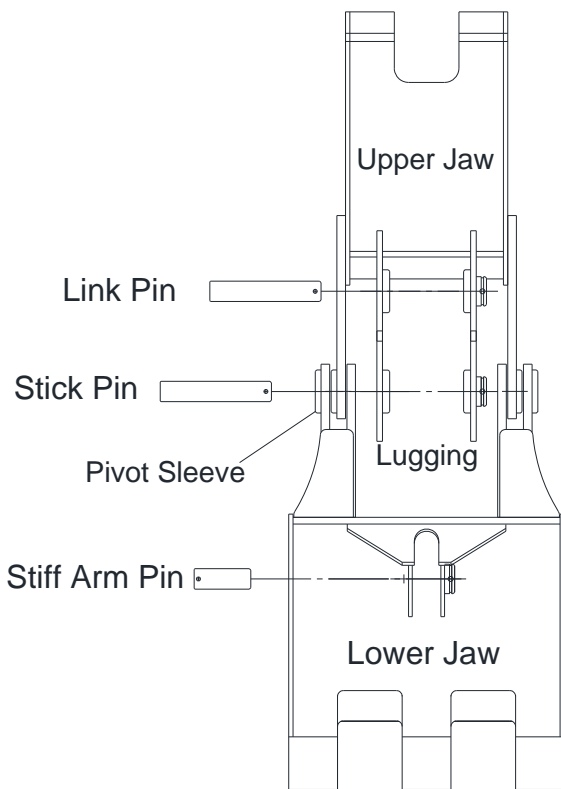


Fig. 6-1 Positions of Link, Stick and Stiff Arm Pins

1. Move carrier and grapple to firm level work surface. Both must be settled on stable ground. Use blocking to support loads and prevent movement.
2. Maneuver carrier stick in between mounting lugs.

3. With pin bores aligned, insert the supplied stick pin and secure with pin keeper.

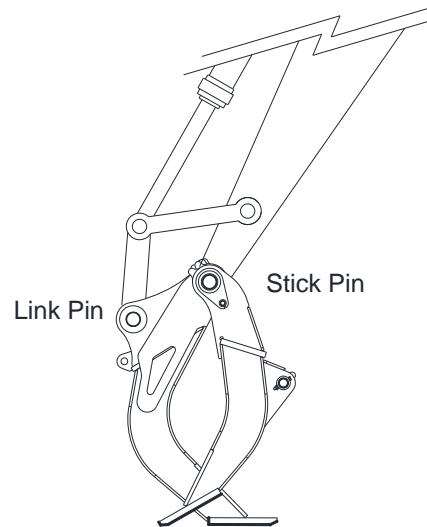


Fig 6-2 Pin the Grapple to the Stick and Link

4. Position the link in between mounting lugs.
5. With pin bores aligned, insert supplied link pin and secure with pin keeper.
6. Extend the bucket cylinder until jaw is fully closed.
7. Carefully maneuver the stick into the position shown in Fig. 6.4.
8. Attach stiff arm to lower jaw using supplied pin.
9. Lay the mounting pad on the stick and attach stiff arm as directed for either:
 - Direct Pin-on or
 - Pin-grab Coupler Mounting

Direct Pin-on Mounting. Refer to Fig. 6-4 and Fig. 6-5. With the upper and lower jaws in contact, pin the stiff arm to the back hole set in (furthest away from lower jaw). This creates a mechanical stop for the bucket cylinder when it is fully extended.

Pin-grab Coupler Mounting. The upper jaw should contact the lower jaw with the stiff arm pinned in the middle front hole (2nd nearest to lower jaw) as shown in Fig. 6.6. This creates a mechanical stop for the bucket cylinder when it is fully extended.

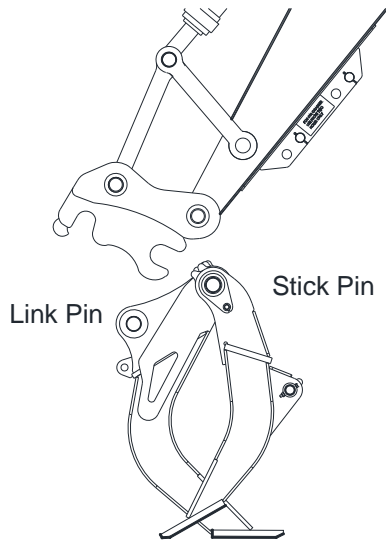
6.0 Install / Uninstall – [cont'd]

Fig. 6-3 Grab the Grapple Pins with Quick Coupler

IMPORTANT

Fig. 6-5 is for reference only and indicates a suitable location for the mounting pad for most general-purpose usage. It may not indicate the best mounting pad position for specific job applications. The location may be adjusted to best suit the application.

10. Center the mounting pad on the stick.
11. Insure that the holes in the stiff arm pad are parallel with the stick pin.
12. Mark the location and remove mounting pad.
13. Prepare the surface for welding by removing any dirt, oil, paint and moisture.

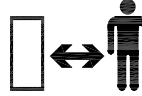
**CAUTION**

Hazardous dust and fumes are generated when paint is sanded and heated. Do all work in a well-ventilated area. Remove paint before heating and welding. Wear a respirator approved for dust and fumes. If solvent or paint stripper is used, remove residual liquids with soap and water prior to heating/welding. Dispose of paint and solvent properly. Remove solvent/stripper container and other flammable materials from the area. Have an approved fire extinguisher nearby during any cutting and welding operations.

IMPORTANT

Protect non-work surfaces and surrounding areas from sparks.

14. Return the mounting pad to the area previously marked. Tack-weld the mounting pad sufficiently in place.
15. Read and understand the Warning before next step

**WARNING**

Before attempting the next step, clear all personnel away of the grapple. The mounting pad is held only by tack welds. Injury may result if it should break loose.

16. Open and close the jaw through one complete working cycle to confirm that the links are unobstructed. Ensure that the mounting pad is located in the correct position for the job requirements before final welding.
17. After all adjustments are made, finish welding the mounting pad to the stick.

6.6 Final Welding and Weld Quality

Attention to detail can significantly benefit the weld quality. Only certified welders familiar with this type of welding shall perform this work.

IMPORTANT

Weld consumables and base materials must be clean, dry and free of grease, paint, dirt and other foreign substances that may affect the weld quality. Moisture can cause cracks or porosity in the weld or base metal beneath the weld.

IMPORTANT

Before final welding, cycle the grapple without a payload. Check jaw and linkage for full range of movement. Make all necessary adjustments to eliminate any misalignment, binding, interference or obstruction.

1. Preheat the welding zone to remove moisture to 200-300° F [93-149°C].
2. Stick welding use AWS E7018 low-hydrogen rod. For semi-automatic gas shielding arc weld use AWS E-70T-1. Apply a 1/2" [1.27 mm] fillet all around the mounting pad periodically alternating from side to side to control warping and cracking.
3. Grease pins and bushings before using grapple.

6.0 Install / Uninstall – [cont'd]

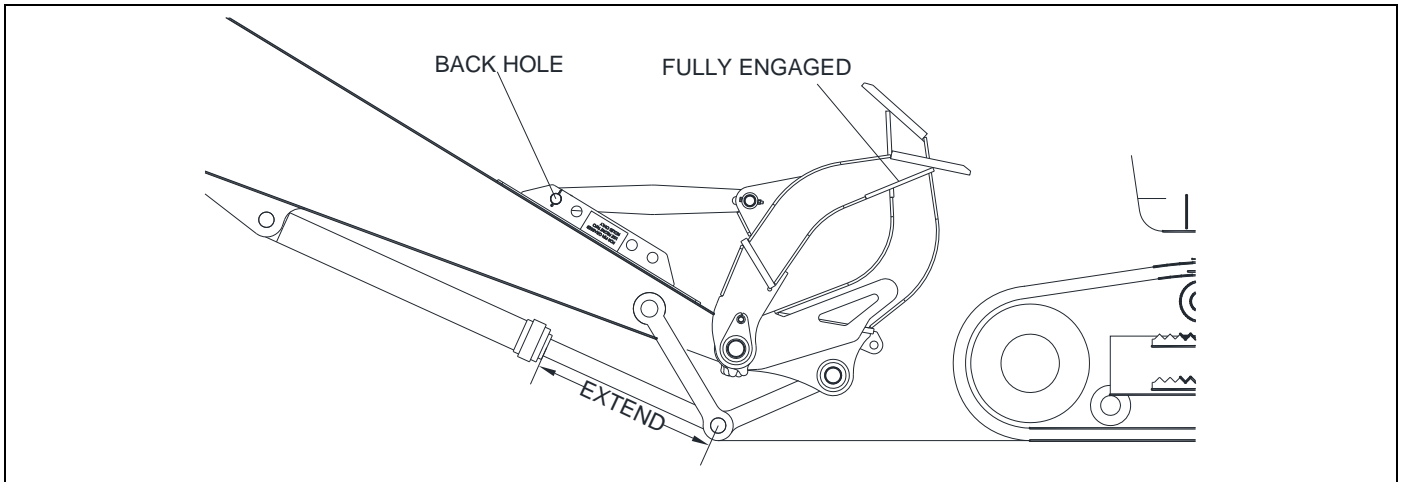


Fig 6-4 Direct Pin-on Mount. Position Stick As shown. Pin the Stiff Arm to Mounting Pad

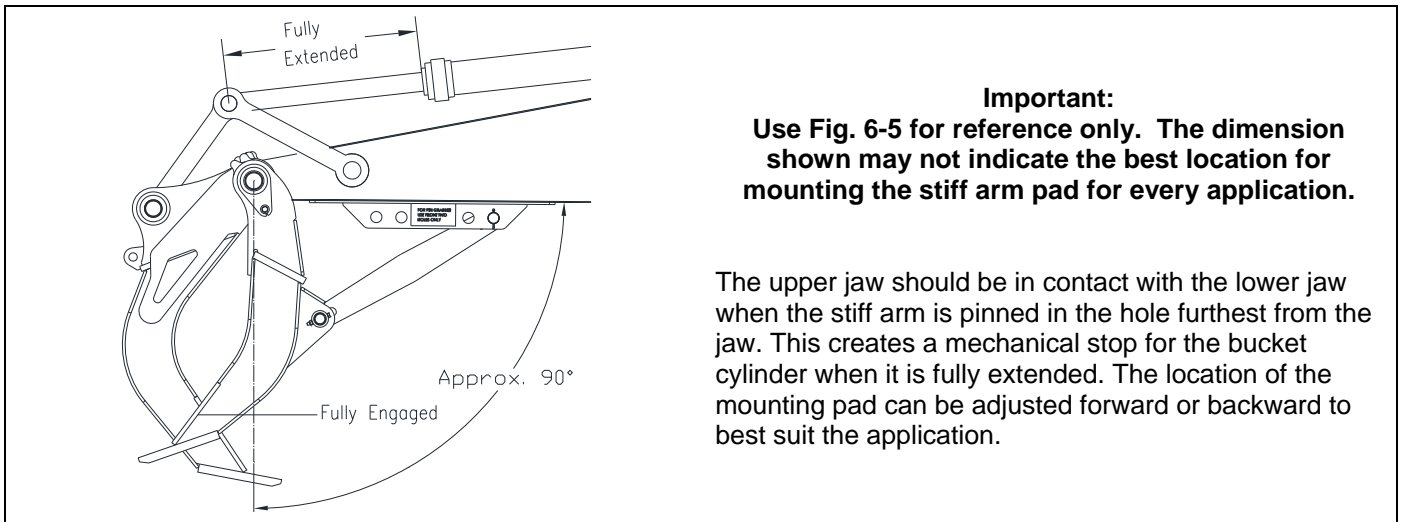


Fig 6-5 Location of the Mounting Pad - Typical

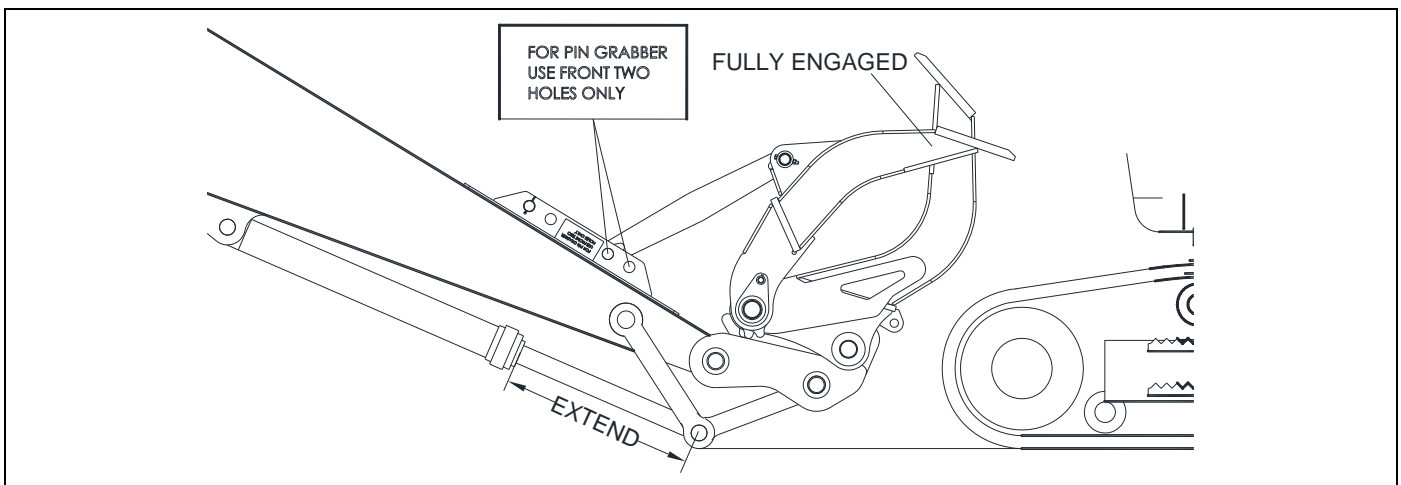


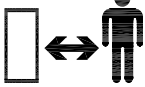
Fig 6-6 Stiff Arm and Mounting Pad Position With Carrier Equipped With Pin Grab Coupler

6.0 Install / Uninstall – [cont'd]

6.7 Remove Grapple from Carrier



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.



CAUTION

Crush hazard. Do not remove pivot sleeves. These hold the grapple jaws together.



CAUTION

Some components of the work tool are heavy. Use proper lifting devices and follow instructions provided by the equipment manufacturer for its safe use.

1. Lower grapple to ground on firm level surface.
2. Ensure unit is stable prior to removal.
3. Remove pin keepers from the Stick Pin and Link Pin.
4. Remove pin keepers from pins attached at the stiff arm.
5. With load removed from the stiff arm, remove pin.
6. Remove the stiff arm pins and remove stiff arm.
7. Operate the bucket cylinder to remove the load off the link pin. Drive out the link pin.

8. Position the stick to remove the load off the stick pin. Drive out the stick Pin.

9. Reinstall mounting pins and hardware on the grapple to avoid loss or damage.

Refer to the preparation for storage instructions found in this manual.

7.0 Operation

7.1 Operation

Read, understand and follow all safety precautions before any attempt to operate the equipment.

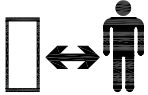


CAUTION

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.

Move the machine to a safe location away from the travel of other machines when tests, adjustments or repairs are being made.



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.

The Allied work tool is intended for use on mobile construction equipment such as rubber tired and track-type excavators. The use of this work tool for any application other than which it is intended may pose a danger to the user or damage to the machine and work tool.

The ABG Grapple is designed to operate over a wide range of applications and is useful with clearing, sorting, loading and extraction of loose materials such as general debris and other site waste. It may also be used to demolish non-concrete structures.

The stiff arm position should be adjusted to optimize gripping power. The best position for the stiff arm is

determined by the size of the material and whether the material is on the ground or being loaded on a truck etc.

Position the carrier in-line with direction of work.

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

Use the bucket cylinder to activate the jaw of the work tool.

Avoid the prohibited actions shown on the following pages.

7.0 Operation – [cont'd]

7.2 Operation – Prohibited Actions

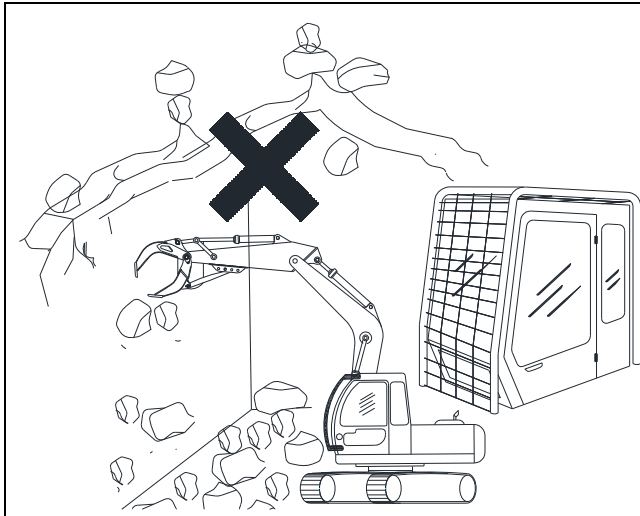


Fig. 7-1

Protect Against Falling and Flying Debris.

Do Not Use This Work Tool If Machine is Not Equipped with Approved Protective Structures, Guarding and Shields

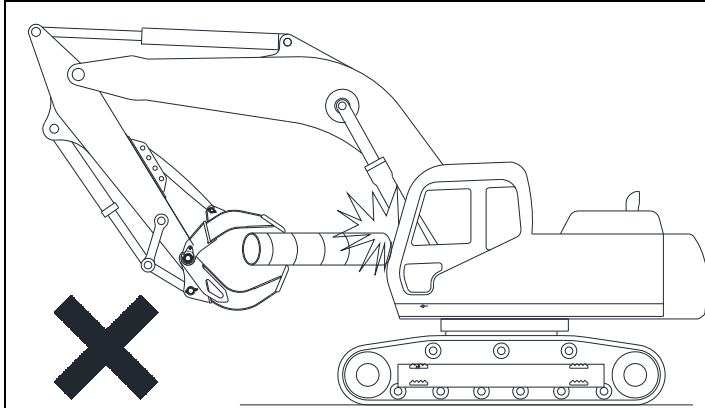


Fig. 7-2

Do Not Strike Machine With Material

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

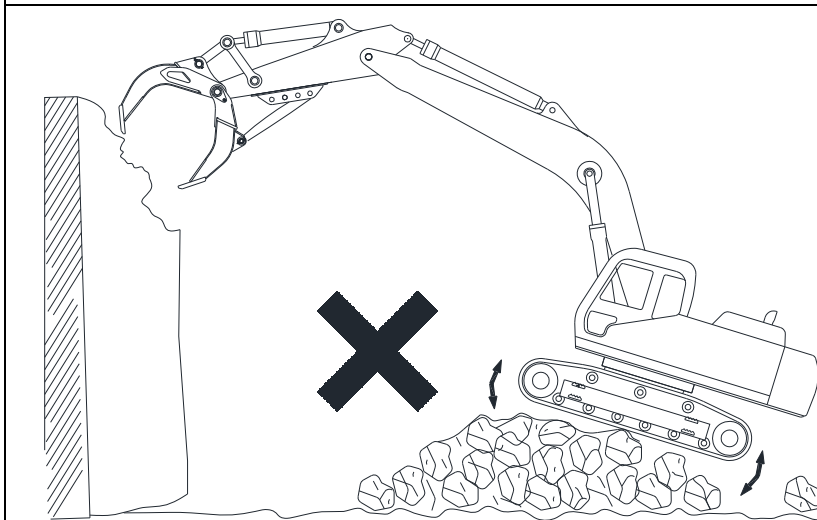


Fig. 7-3

Do Not Operate Machine On Unstable Surface

7.0 Operation – [cont'd]

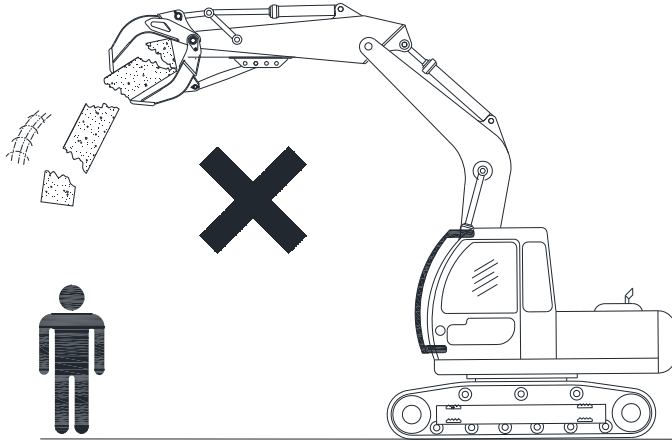


Fig. 7-4
Do Not Carry Loads Over the Machine or Over Workers

Do Not Operate With Workers Inside Work Zone

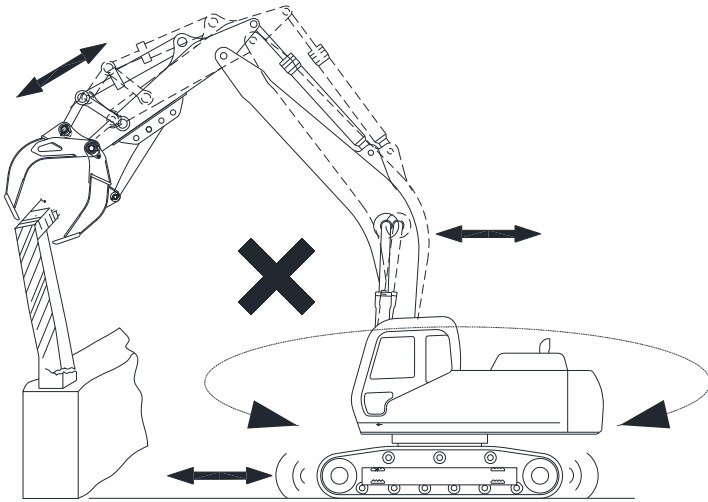


Fig. 7-5
Do Not Use Machine to Twist or Lever Objects

Do Not Overload the Grapple Jaws. Keep Load Centered Evenly Across Jaws

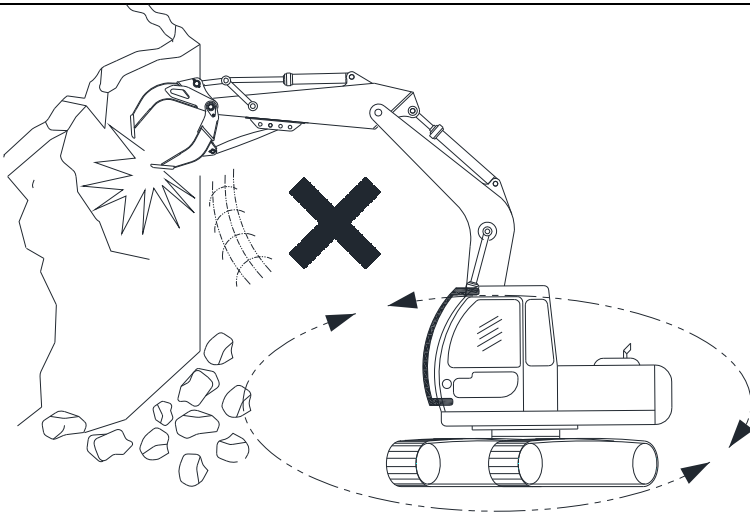


Fig. 7-6
Do Not Drop, Strike, Hack or Pound Objects With the Grapple

Do Not Swing Into Structures

7.0 Operation – [cont'd]

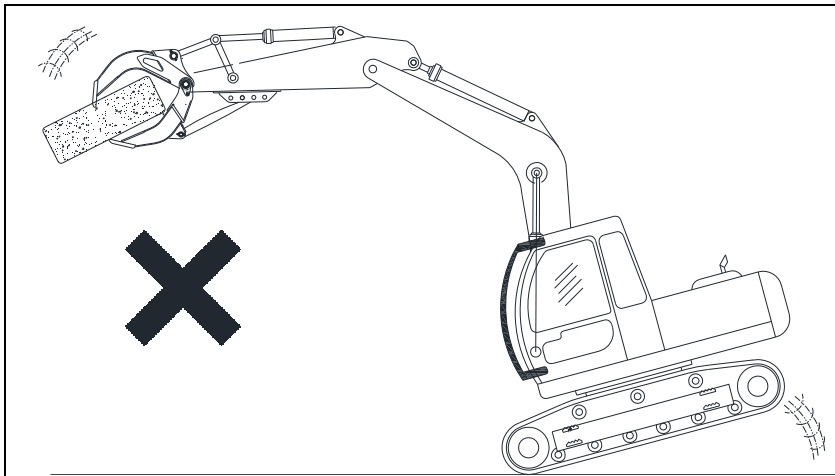


Fig. 7-7

Do Not Overload Beyond Capacity Which Could Lead to Tipping.

Carry Loads Close to Ground Level
Avoid Operating / Travelling Across Slope
Clear All Obstacles In Path of Machine

Keep a Safe Distance from Excavations,
Cliff, or Overhang

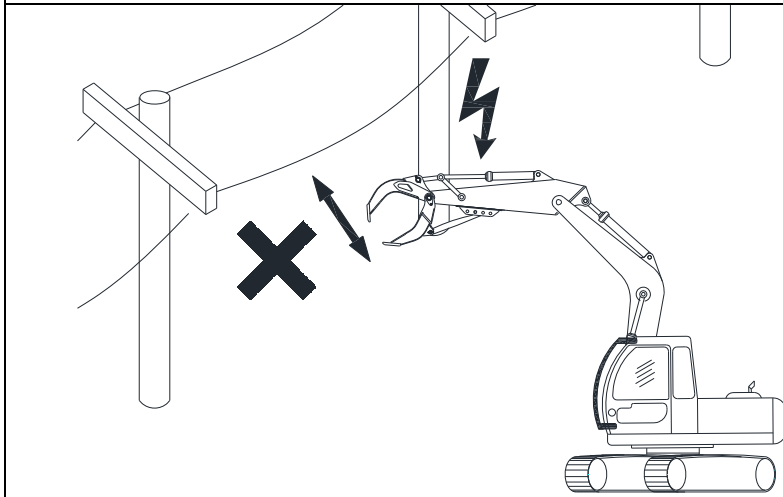


Fig. 7-8

Be Aware of Your Surroundings.

Erect Barriers and Signs That Will Keep
Machines At a Safe Distance From
Hazards Such as Utilities.

8.0 Maintenance

8.1 General Safety Precautions

In order to preserve efficient operation and reliable service, while ensuring operator safety, the Allied work tool must be regularly serviced by qualified personnel.

Read, understand and follow all safety precautions before any attempt to service the equipment.



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, adjustments or repairs 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.



CAUTION



Some components of the work tool are heavy. Use proper lifting devices and follow instructions provided by the equipment manufacturer for its safe use.

IMPORTANT

Regularly inspect the welds and surfaces for cracks. Make repairs immediately. Repairs are easier when cracks are smaller. Left unattended, cracks will further expand, creating an unsafe operating condition and higher cost of repairs.

8.2 Importance of Inspection, Maintenance and Records

All work tools require frequent inspection and regular maintenance. The aim of inspection and maintenance programs is to preserve the integrity of system components. Inspections help avert unplanned down time by identifying worn components that may be reaching 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. Do not modify the Allied work tool unless written consent is received from the Allied Engineering Department.

The following includes the minimum requirement for maintaining the equipment in safe operating condition. **The service intervals indicated are to be used as a guide. Service should be performed more frequently as determined by operating conditions.** Use regular component inspection to determine if interval adjustment is warranted.

Maintain written records of maintenance service and repair. These records will be helpful if warranty coverage of Allied work tool is ever in question. Each record shall include:

- The date of service maintenance or repair.
- A 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.

8.0 Maintenance – [cont'd]

8.2.1 Visual Inspection of Equipment

The type of inspection noted in Table 8.2 is described as a "walk around". Perform a 360° view of all external components for wear, damage, cracks, loose, missing or unsecured fasteners, and in welds.

Clean the work tool if view is impaired from debris.

8.3 Pivot Sleeve and Bushing Lubrication

Regular re-lubrication of the pivot sleeve and bushings will help preserve parts in like-new condition. Frequent re-lubrication will flush foreign debris and help prevent parts from binding and seizing.

Under normal operating conditions, lubricate the pivot sleeve and bushing every 5 hours of use. More frequent re-lubrication is required if low quality lubricants are used.

Table 8.1 Recommended Grease

For pivot sleeve and bushing re-lubrication, select premium-quality multi-purpose EP grease. Minimum oil viscosity shall be 14.5 cSt at 212° F (100° C).

Approved Brands

Shell Oil - Alvania EP2

Mobile Oil Co. - Mobilux EP2

Texaco Inc. - RB2



CAUTION

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

Refer to Figure 8-1 for grapple lubrication points. The pivot sleeve and main pivot bushing receive their lubrication through standard type grease fittings located on the upper jaw.

1. Position the Allied grapple for easy access to lubrication fittings.

2. Clean lubrication fittings.

3. Using a standard hand operated manual or power assisted grease gun, dispense grease until a ring of clean grease is visible from the bushing.

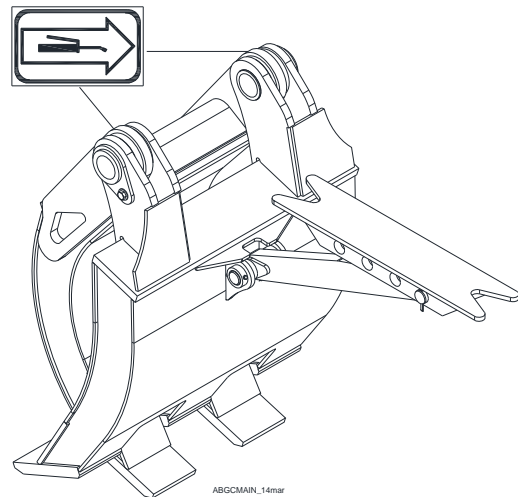


Fig. 8-1 Lubrication Points

Note: There are additional lubrication points on the carrier's power link and stick. These must be lubricated as well.

The service intervals indicated are to be used as a guide. Service should be performed more frequently as determined by operating conditions.

Table 8.2 Maintenance Schedule	Daily	Weekly	Monthly	3-Months	6-Months	
Item	10 hrs	50 hrs	250 hrs	500 hrs	1000 hrs	Note
Visual inspection - Walk around		X				A, B, D
Re-lubricate All Pin Joints	X2					B, D, E
Check Fasteners / Keepers		X				C, B, D

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

B) Recommendation for Normal (Standard) operating conditions.

C) After first 50 hours of use

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

E) Twice Daily. At Long Term Storage.

8.0 Maintenance – [cont'd]

8.4 Replacement Tine Tips

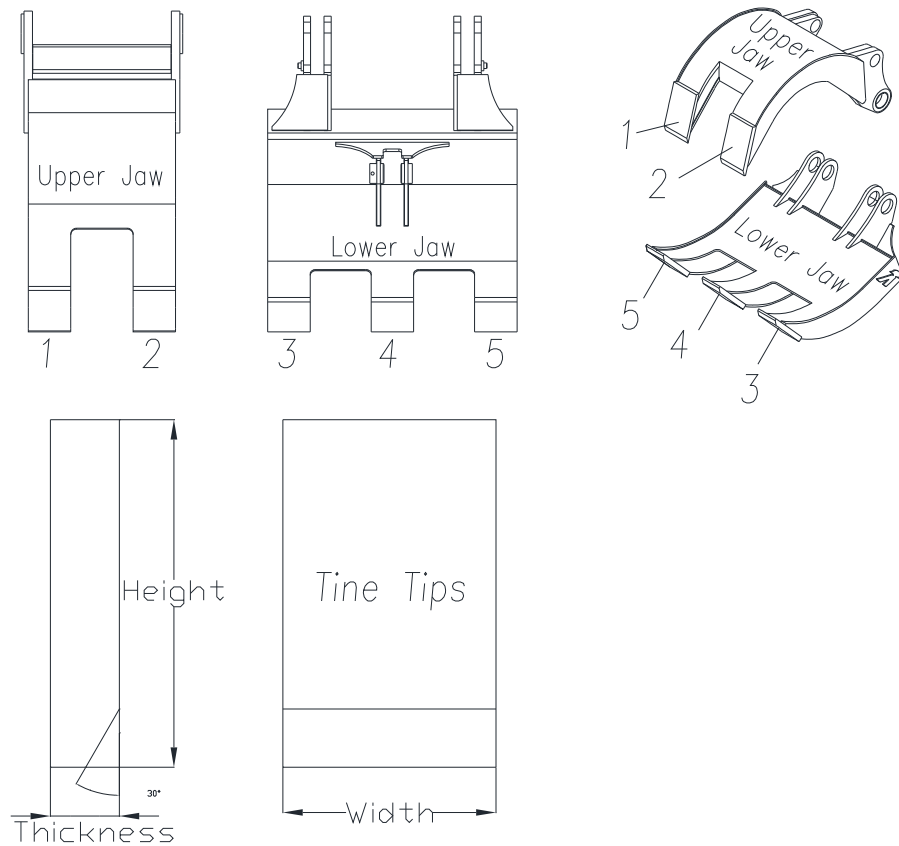


Fig 8-2 Tine Tips

Part Number	Thickness	Width	Height	Position	Qty	Notes
				1		
				2		
				3		
				4		
				5		

Use a method such as grinding, carbon arc or plasma to remove old tine tip.

After the tine tip is removed, prepare the surface by grinding all remaining weld.

Tack weld replacement tine tip in place.

Pre-heat the tine tip and surrounding area to 300° F.

Use E7018 welding rod.

Maintain temperature of 300° to 450° F. Do not overheat area.



Allow to cool before grapple is used. If colder than 50° F, cover with welding blanket.


9.0 Lifting, Transport and Storage

9.1 General Safety Precautions

Read, understand and follow all safety precautions before any attempt to lift or transport the work tool.

9.2 Lifting & Transport

	<p>WARNING</p> <p>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.</p>
	<p>Hoist work tool at designated lift points. These are labeled with pictogram of HOOK. Do not lift without first securing parts to prevent from falling or moving.</p>

	<p>WARNING</p> <p>Injury from falling object/debris. Hoisted items can be hazardous to bystanders or to the machine itself. Remove all unsecured items including loose parts, service tools and debris before item is hoisted.</p>
--	---

9.2.1 If the Allied grapple is to be transported independent of the carrier:

- Remove all loose debris from the Allied work tool.
- Read, understand and follow removal instructions.
- Lift Allied work tool only with appropriate lifting equipment and at approved lift points.
- Adequately stabilize and secure Allied work tool for transport.

9.2.2 If the Allied work tool is transported while installed on the carrier:

- Remove all loose debris from Allied work tool.
- Inspect the mounting pins and hardware for damage and integrity.
- Transport carrier in accordance with carrier manufacturer's recommendations.

9.3 Storage

In order to preserve its condition, the Allied work tool must be properly prepared before placed into storage. Follow these instructions for storage.

- Lubricate pins, bushings and sleeves. Protect all unpainted surfaces against rust.
- Secure all loose parts to prevent loss or damage.
- Avoid wet or damp conditions to minimize rust.

10.0 Troubleshooting

10.0 Troubleshooting



CAUTION

Understand all procedures before doing work. Do not attempt any repairs unless you have proper training, skills and tools to perform these functions properly.

Listed below are several operating problems and their recommended corrective action.

For conditions other than these contact the Allied Technical Service Department.

<u>Fault</u>	<u>Cause</u>	<u>Remedy</u>
Grapple doesn't fit carrier	Wrong mounting. Pin-on, OEM, pin-grab coupler	Verify carrier, make, model and serial number. Modifications made to carrier. Measure width of carrier's stick and diameter of pins. Non-OEM parts. Pin grab coupler installed. Make, model and serial number. Order correct grapple.
	Debris, galling or burrs on pins and/or bushing.	Clean. Remove burrs. Replace damaged parts.
	Lugs distorted due to overload.	Record measurements, take pictures; Contact Allied
Jaws don't close evenly and/or completely. One side closes first.	Jaws distorted due to over-load.	Record measurements, take pictures; Contact Allied
Jaw or lugs appear to be twisted.	Pulverizer is distorted due to over-load.	Record measurements, take pictures; Contact Allied
Jaws squeak when operated.	Pivot bearings not lubricated.	Lube pivot points with approved grease.
	Mounting components are galled.	Repair / replace parts that are severely galled.
Stiff Arm does not line up with Mounting Pad.	Lower Jaw is distorted due to over-load.	Record measurements, take pictures; Contact Allied
	Mounting pad installed on an angle	Remove and re-install.

11.0 Technical Data

11.1 General Dimensions

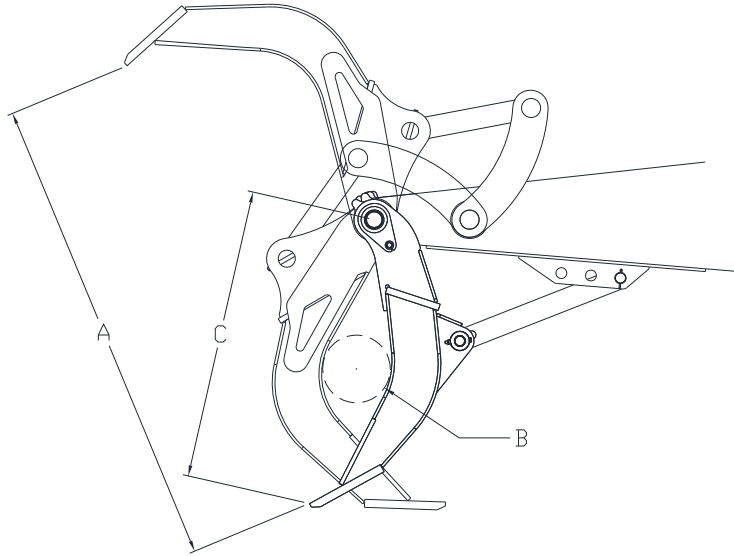


Fig 11-1 General Dimensions

Table 11.1 General Dimensions - Grapple ABG C-Series

Inch [mm]	Model	30C-2	40C-2	50C-2	70C-2	100C-2	140C-2
A - Jaw Opening ¹⁾		80 [2032]	94 [2134]	94 [3124]	116 [2946]	130 [3302]	155 [3937]
B - Jaw Closed		12 [305]	16 [406]	16 [406]	20 [508]	22 [559]	18.5 [470]
C – Height		48 [1219]	54 [1372]	54 [1372]	67 [1702]	72 [1829]	83 [2108]

Assembly Weight Lb. [kg]		2000 [907]	2700 [1225]	3600 [1633]	5000 [2269]	7000 [3176]	8338 [3782]
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Recommended Carrier Weight Ton [tonne]	Min	12.5 [11.3]	17.5 [15.9]	23.0 [20.9]	32.5 [29.5]	44.0 [39.9]	50.5 [5.0]
	Max	17.5 [15.9]	23.0 [20.9]	32.5 [29.5]	44.0 [39.9]	55.0 [49.9]	77.5 [70]

1) Full jaw opening is carrier linkage geometry dependent.

11.0 Technical Data

11.1 General Dimensions (continued)

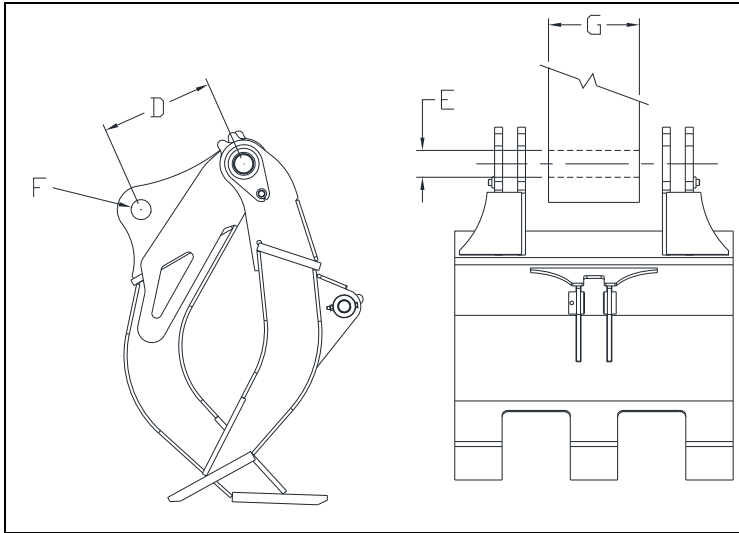


Fig 11-2 Mounting Lug Dimensions

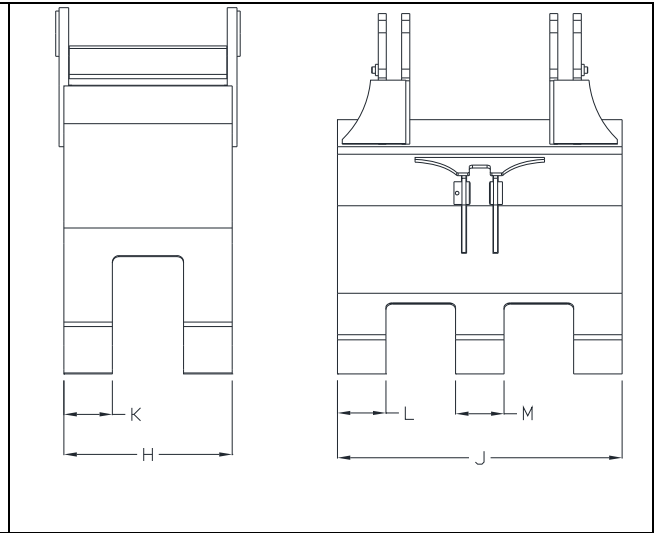


Fig. 11-3 Upper & Lower Jaw Dimensions

Table 11.2 Mounting Lug Dimensions ABG C-Series

Inch [mm]	Model	30C-2	40C-2	50C-2	70C-2	100C-2	140C-2
D - Pin C-C	<p>Positions D through H represent mounting lug dimensions. With the introduction of the C-series, lugging for both the stick and link are integrated with the upper jaw.</p> <p>Mounting lugs are a precise fit to a specific make and model carrier. The serial number of the grapple must accompany all orders for jaw assemblies. Contact Allied for further information.</p> <p>*If width of Link G2 is different from Stick 'G1'</p>						
E - Stick Pin Dia.							
F - Link Pin Dia.							
G1 - Lug Width Stick							
G2 - Lug Width Link*							

Table 11.3 Upper & Lower Jaw Dimensions ABG C-Series

Inch [mm]	Model	30C-2	40C-2	50C-2	70C-2	100C-2	140C-2
H – Jaw, Upper		26 [660]		32 [813]	34 [864]	36 [914]	37.8 [960]
J – Jaw, Lower		44 [1118]		51 [1295]	56 [1422]	61.5 [1549]	63.5 [1613]
K – Tine, Upper Jaw				9.5 [241]			
L – Tine, Lower Jaw Outer		7.5 [190]		8.25 [210]	10.0 [254]	11.0 [279]	12.1 [307]
M – Tine, Lower Jaw Inner							

11.0 Technical Data

11.1 General Dimensions (continued)

Table 11.4 Stiff Arm (For use with 3-hole mounting pad)

Inch [mm]	Model	30C-2	40C-2	50C-2	70C-2	100C-2	140C-2
N - Pin C-C ¹⁾		32.00 / 42.00 [813] / [1067]		39.25 / 48.00 [997] / [1219]	46.75 / 52.00 [1187] / [1321]	46.75 / 60.00 [1187] / [1524]	
P - Pin Dia.		2.00 [50.8]			2.50 [63.5]		
R - Width		2.75 [70]		3.50 [89]	4.00 [102]		

1) Standard stiff arm / Extended length stiff arm for quick coupler

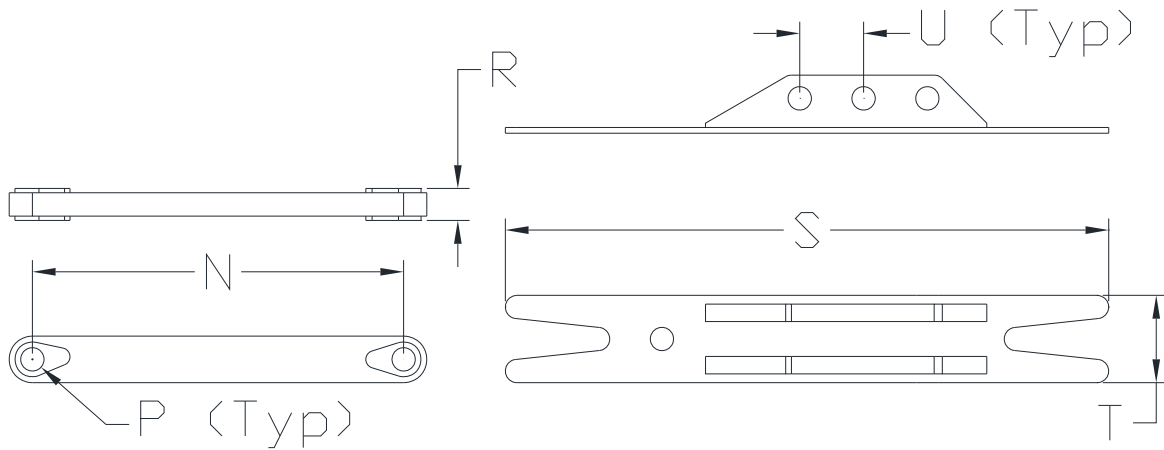


Fig 11-4 Stiff Arm & Mounting Pad Dimensions

Table 11.5 Mounting Pad (3-Hole Configuration)

inch [mm]	Model	30C-2	40C-2	50C-2	70C-2	100C-2	140C-2
S - Overall Length		52.0 [1321]		59.6 [1514]	72.0 [1829]	82.0 [1829]	60 [1524]
T - Overall Width		7.5 [190]		10.0 [254]		11.5 [292]	12.25 [311]
U - Position Center		5.5 [140]		6.0 [152]	7.0 [178]		8.0 [203]

11.0 Technical Data

11.1 General Dimensions (continued)

Table 11.6 Stiff Arm – Standard Length (For use with 4-hole mounting pad)

Inch mm]	Model	30C-2	40C-2	50C-2	70C-2	100C-2	140C-2
N - Pin C-C		36 [914]		36 [914]	49 [1244]	52 [1320]	55 [1397]
P - Pin Dia.		2.00 [50.8]			2.50 [63.5]		3 [76]
R - Width		2.75 [70]		3.50 [89]	4.00 [102]		4.5 [114]

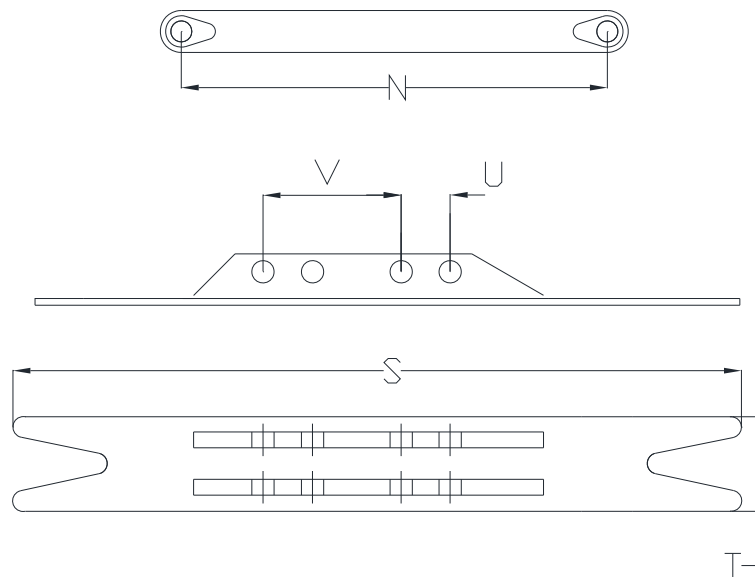


Fig 11-5 Stiff Arm & Mounting Pad (4-Hole Configuration)

Table 11.7 Mounting Pad (4-hole configuration)

inch [mm]	Model	30C-2	40C-2	50C-2	70C-2	100C-2	140C-2
S - Overall Length		45 [1143]		49 [1244.5]	56 [1422]	60 [1524]	60 [1524]
T - Overall Width		7.5 [190.5]		10 [254]		11.5 [292]	12.25 [311]
U - Position Center		4.5 [114]			6 [152]	7 [178]	8 [203]
V – Position Spread		16.5 [419]			18 [457]	19 [482.5]	16 [406.5]

12.0 Parts Information

Important Notice: The following figures and parts lists represent typical models of the Allied ABG C-Series grapple. Configuration of certain components, including the jaw assemblies and mounting, are serial number specific. Contact Allied with the serial number of your grapple for jaw replacement and mounting parts information.

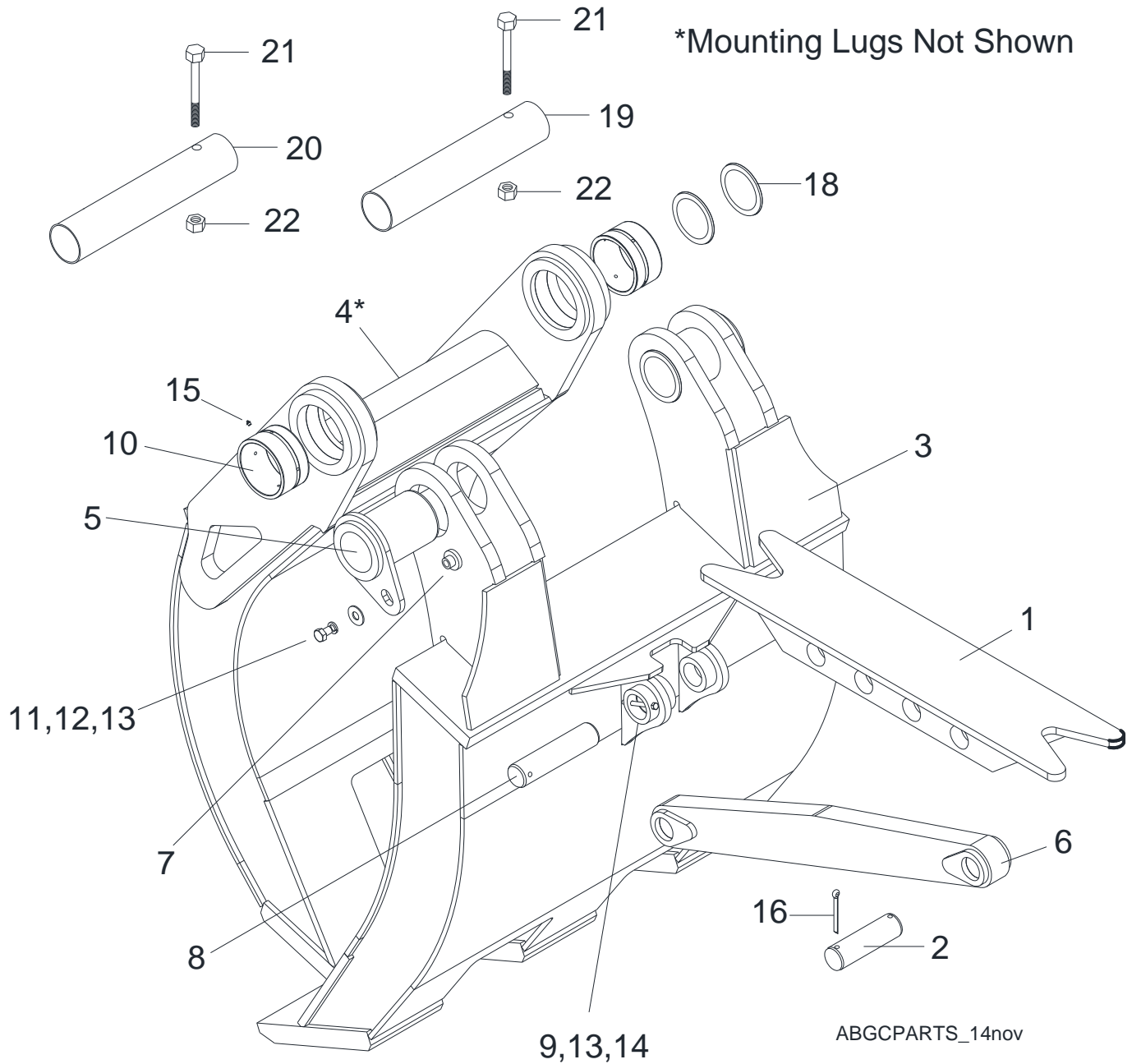


Fig 12-1 Grapple ABG C-Series Parts Identification (Use with Table 12.1)

12.0 Parts Information

IMPORTANT

Jaw assemblies and parts for mounting the grapple are a matched combination between the grapple and the specified carrier. The serial number of the grapple must accompany inquiries for jaw replacement or mounting parts.

Figure 12-2 and Table 12.1 depict early grapple units. Configuration of jaw assemblies (includes the mounting lugs) are specific to serial number. NOTE: Items 1 and 2 are earlier combination of stiff arm (standard or extended) and mounting pad with 3 sets of holes.

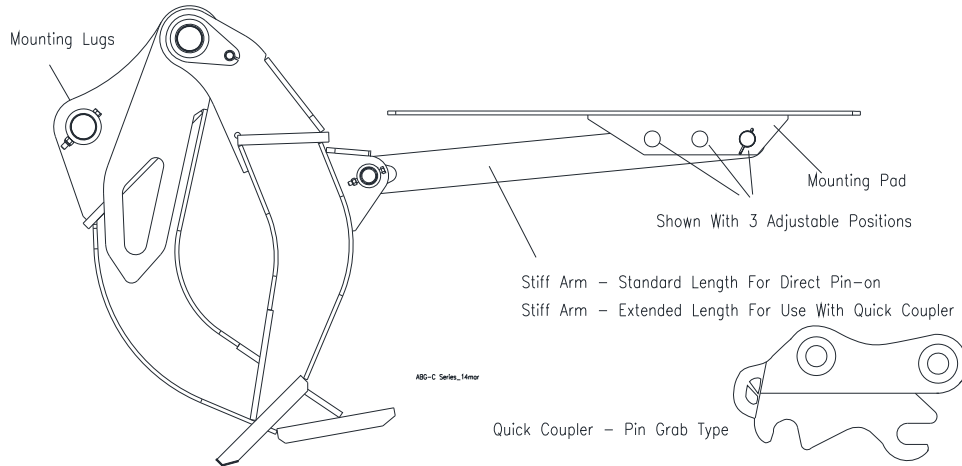


Fig. 12-2 Stiff Arm – Standard / Extended with 3-Hole Mounting Pad

Table 12.1 Part List ABG

Item	Description	Qty	30C-2	40C-2	50C-2	70C-2	100C-2
---	ABG Assembly Number	---	Varies		Varies	Varies	Varies
1	Mounting Pad	1	BN2842		BN2853	BN2863	BN2872
2	Pin - Stiff Arm to Pad	1	840168		840583	A1742-12	
3	Lower Jaw	1	The mounting lugs are part of the jaw assembly and are a precise fit for a specific carrier make and model. The serial number of the grapple must accompany inquiries for jaw assemblies.				
4	Upper Jaw	1					
5	Pivot Sleeve	2	BN1673			BN2834	
6.1	Stiff Arm – Standard	1	840300		840586	840587	
6.2	Stiff Arm – Extended		576190		BN2852	BN2684	BN2873
8	Pin - Stiff Arm to Lower Jaw	1	840169		BN2854	A0065-231	
16	Cotter Pin	2	563629			576412	576413
10	Bushing - Main Pivot	2	840161			BN2866-12	BN2874-12
19,20	Mounting Pin		The mounting lugs are part of the jaw assembly and are a precise fit for a specific carrier make and model. The serial number of the grapple must accompany inquiries for the mounting pins.				
---	Tine Tip- Lower Jaw	3	BN2869-7		BN2850-11	BN2861-13	BN2874-6
---	Tine Tip- Upper Jaw	2	BN2877-7	BN2869-7	BN2856-6	BN2866-6	BN2874-6

12.0 Parts Information

Important Notice: Figures and parts lists represent typical models of the Allied grapple ABG C-Series. Configuration of certain components, including the jaw assemblies and mounting, are serial number specific. Contact Allied with the serial number of your grapple for jaw replacement and mounting parts information.

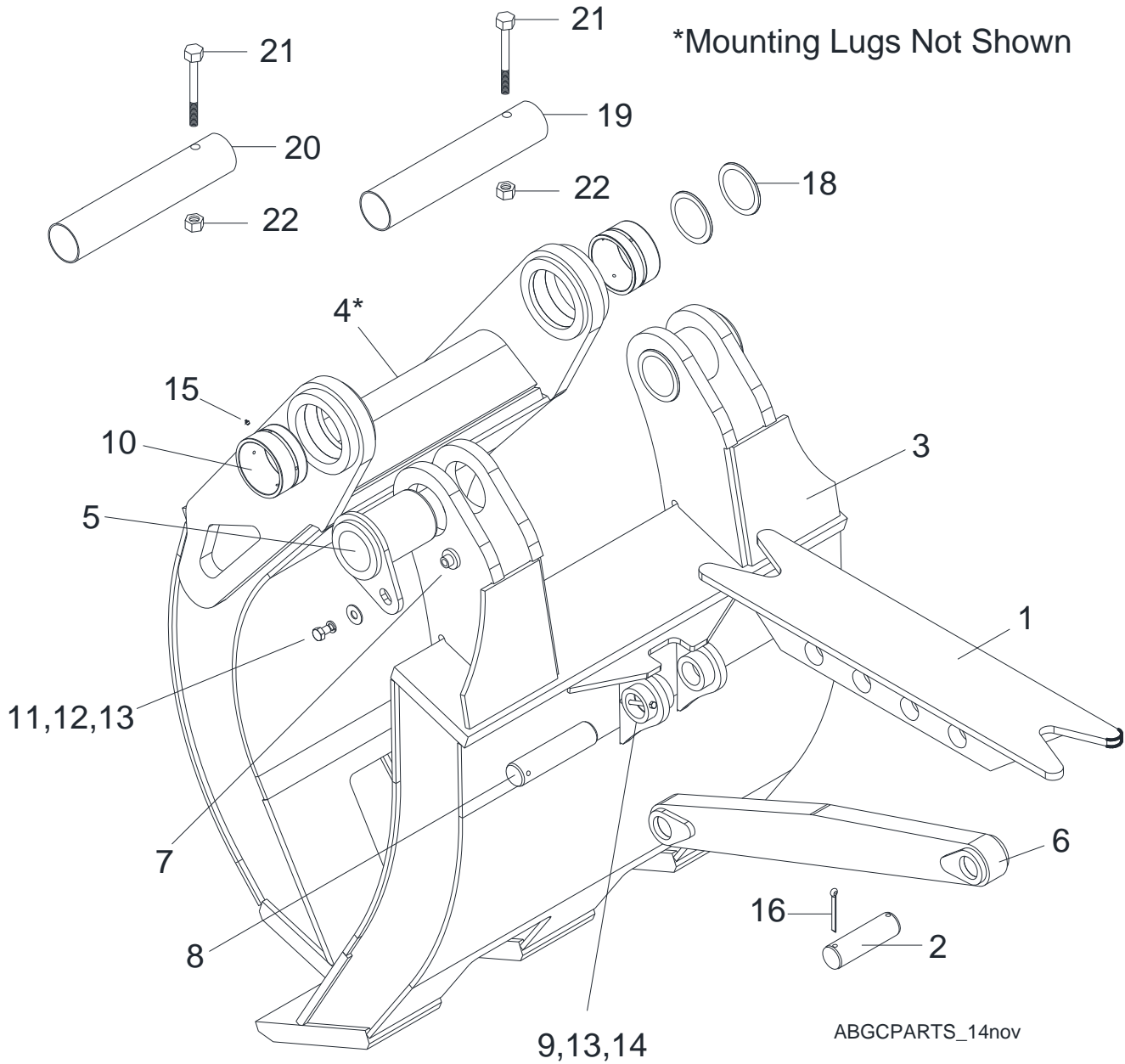


Fig. 12-3 Grapple ABG C-Series Parts Identification (Use with Table 12.2)

12.0 Parts Information

Important Notice: Figures and parts lists represent typical models of the Allied grapple ABG C-Series. Configuration of certain components, including the jaw assemblies and mounting, are serial number specific. Contact Allied with the serial number of your grapple for jaw replacement and mounting parts information.

NOTE: Newer combination of 4-hole mounting pad (item 1) with standard length stiff arm (item 6).

Table 12.2 Parts List ABG

Item	Description	Qty	30C	40C	50C	70C	100C	140C
---	ABG Assembly Number	---	Varies		Varies	Varies	Varies	Varies
1	Mounting Pad	1	BN2842B		BN2853B	BN2863B	BN2872B	BN20468
2	Pin – Stiff Arm to Mounting Pad	1	840168		840583	A1742-12		BN20417-3
3	Lower Jaw	1	The mounting lugs are part of the jaw assembly and are a precise fit for a specific carrier make and model. The serial number of the grapple must accompany inquiries for jaw assemblies.					
4	Upper Jaw	1						
5	Pivot Sleeve	2	BN1673			BN2834		
6	Stiff Arm - Standard	1	BN2843B		BN2852B	BN2864B	BN2873B	BN20469
7	Pin Lock	2	BN2112			BN1771		
8	Pin – Stiff Arm to Lower Jaw	1	BN2876-3	BN2841-3	BN2850-13	A0065-231		BN20417-4
9	Boss	1	BN2875-11		BN2850-13	BN20396-11	BN2870-12	BN20417-2
10	Pivot Bushing	2	840161			BN20395-12	BN2866-12	
11	Washer	2	563609			677346		
12	Bolt	2	574334			577245		
13	Lock Washer	2	617032			845337		
14	Nut	1	813289					
15	Bolt	1	719237			832023	659223	
16	Grease Fitting	2	798197					
17	Cotter Pin	2	563629			576412	576413	819889
18	Shim	8*	BN1788			BN20156		
19	Pin - Stick	1	The mounting lugs are part of the jaw assembly and are a precise fit for a specific carrier make and model. The serial number of the grapple must accompany inquiries for the mounting pins.					
20	Pin - Link	1						
21	Hex Head Bolt	2						
22	Hex Nut	2						

Item 18 *Quantity as required

12.0 Parts Order Form

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

Product Demolition Grapple
Model ABG C- Series
Serial No. _____

Please fill out completely

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

Your contact information

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

*See note below

Billing Address _____ Shipping Address _____

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

Initials

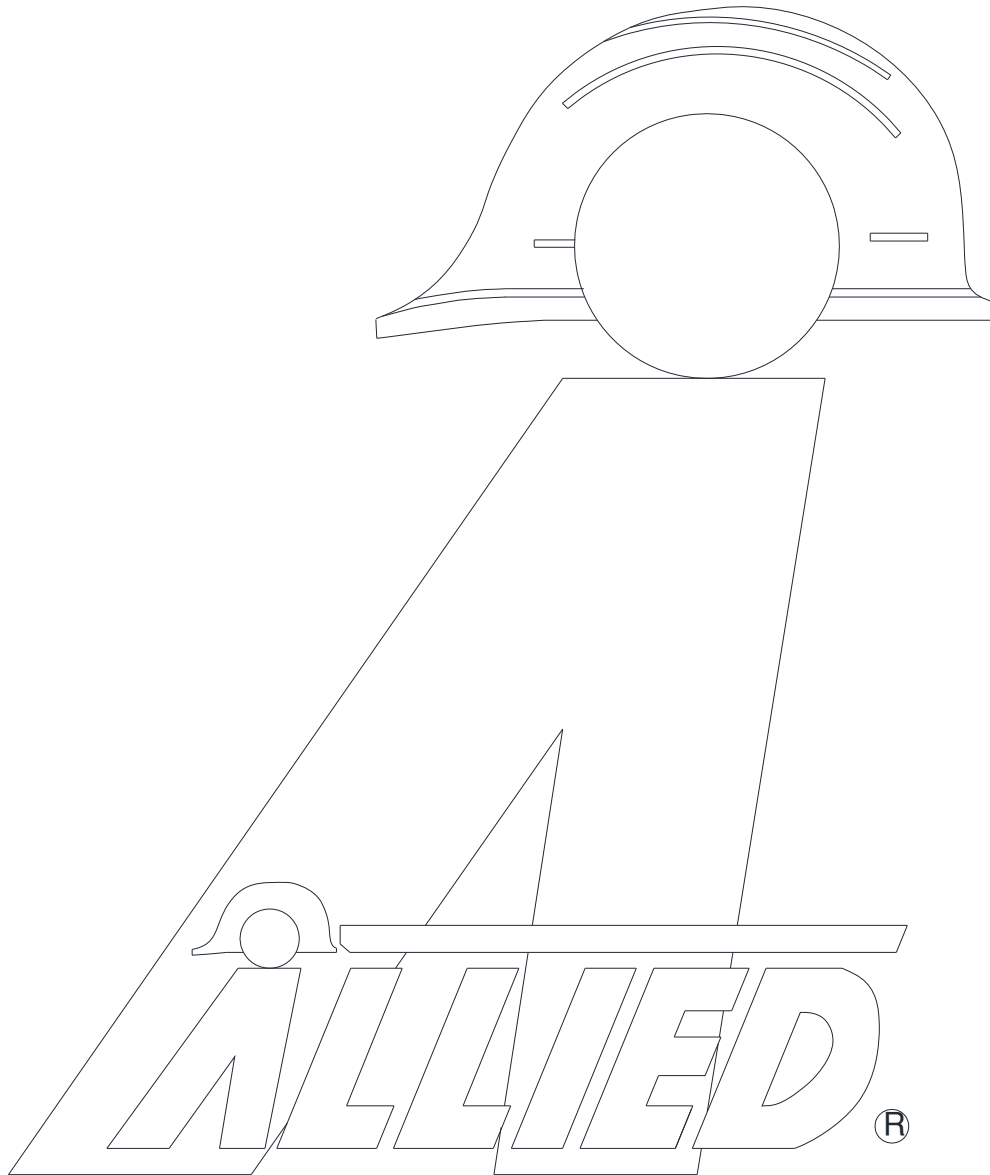
_____ ☐ Ship complete order only
 _____ ☐ Ship available parts and contact customer on disposition of backordered parts
 _____ ☐ Other – specify below

Notes

Description

Name

Date



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