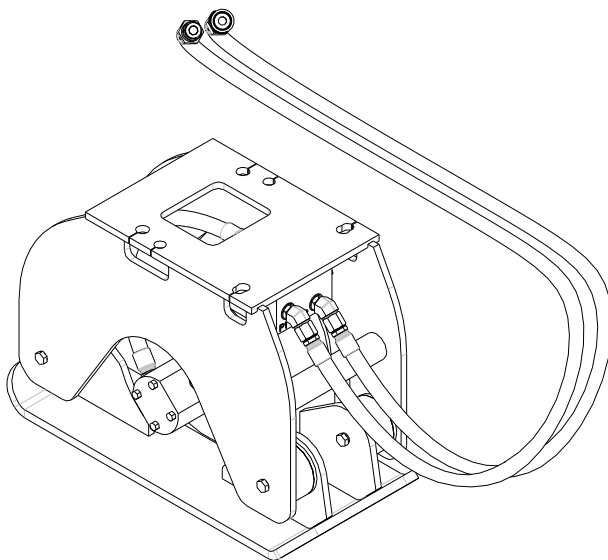


# **HO-PAC**

## **HYDRAULIC VIBRATORY PLATE COMPACTOR**



**MODEL**

**300**

**300B**

**500**

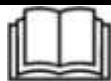
**500B**



---

## **OPERATION, MAINTENANCE and PARTS**

---



Do not operate or service this equipment unless you have carefully read and understand all instructions and warnings contained in this manual.



### Change Notice for Document 100926 (Model 500)

<u>Date</u>	<u>Page</u>	<u>Description of Change</u>
Nov 2002		Initial Issue
Apr 04, 2003	43	18 gpm correction
May 06, 2003	36	Identify hoses
Jul 21, 2004	Throughout	Added text & drawings
Aug 24, 2004		Re-issue new format
Sep 29, 2006	24	Revise oil capacity
April 9, 2007	8, 12, 34-43	New Figure and BOM
October 1, 2007	36-43	Add Old Compaction Plate P/N's
Jul, 20, 2010	---	Add model 500 to 573043 manual. Terminate document 100926.

### Change Notice for Document 573043

Please note that material presented in this manual, including descriptions, illustrations and specifications, is subject to change without prior notice. Go to [www.alliedcp.com](http://www.alliedcp.com) for product or document updates.

<u>Date</u>	<u>Page</u>	<u>Description of Change</u>
Aug 06, 2007	---	Original Issue
Apr 04, 2008	Throughout	Add model 300B and 500B
Apr 17, 2008	36,37,38,39	Update parts list
May 2, 2008	37, 39	Change Motor Valve Hoses
Jun 19, 2009	Throughout	Revise Safety Information, Parts Tables
Jul 20, 2010	Throughout	Add model 500 to this manual, note discontinuation of 714721 rubber spring – show replaced by 574574. Revise figures of spring & hardware.
Aug 26, 2010	46, 48, 50*	Create new spring kit, 574885, for model 500. *Correct item numbers 1a, 1b & 2 to reflect correct figure.

## SAFETY INFORMATION

### Be Alert to Safety Messages

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

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

### Purpose of Safety Messages

The information provided in the safety message is important for your safety. These messages provide instructions on how to avoid injury from potential hazards associated with improper use, operation or handling of the Allied equipment. Read and follow the instructions of each safety message and be aware the consequence if these instructions are not followed.

Safety messages are arranged to provide the following information:

- Alert personnel to potential hazards
- Describe the severity of the hazard, if encountered
- Identify the nature of the hazard
- Instruct how to avoid the hazard

### Safety Alert Symbol



ATTENTION, BECOME ALERT, YOUR SAFETY IS INVOLVED.

The exclamation point within an equilateral triangle is the safety alert symbol. The symbol is used to draw attention to the presence of potential hazards.

### Signal Words

“DANGER”, “WARNING” and “CAUTION” are signal words used to express the different degrees of hazard seriousness. Learn to recognize and understand the severity and consequence associated with each of these signal words should a potentially hazardous condition be encountered.

“**DANGER**” identifies the highest degree of hazard seriousness. Its use is limited to the most extreme situations.

**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.

### Additional Precautionary Messages and Instructions

Additional precautionary messages and instructions found in this manual are preceded with – “**IMPORTANT**” and “**NOTE**”.

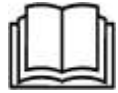
**IMPORTANT** - indicates instructions that if not followed, may cause damage to the equipment.

**NOTE** – Indicates instructions that highlight suggestions, which will result in enhanced installation, reliability, or operation.

## SAFETY INFORMATION (cont'd)

### Overview of Safety Messages Used in This Manual

For the purposes of this manual, pictographs displayed in safety messages are defined as follows.



- Read the manual
- Refer to the manual for this information
- Details are explained in the manual



See the Service Manual For Additional Information



- Moving part
- Crush point



- Pinch point



Moving part (in direction indicated by arrow)

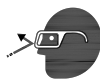


- Falling object
- Unsupported loads



Personal protection equipment

- Hearing protection



- Safety eyewear



- Gloves



- Safety shoes
- Falling part



- Safety Alert Symbol
- Stay clear
- Maintain safe distance



Flying projectiles



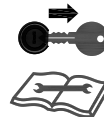
Fluid injection



Hot surface



Pressurized gas



Shut off carrier & remove key before servicing



Identifies lift point



- Shock
- Explosion



- Falls into open excavations
- Trench collapse

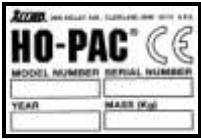








## SAFETY INFORMATION (cont'd)

### Label Description and Location

This section reviews the safety and identification labels affixed to the Allied equipment. Part numbers for labels and

their location on the equipment are found on the following page.

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

Location	Label	Description
1		<b>ID PLATE</b> (Identification Plate) - contains identifying information about the equipment including: Manufacturer's Name and Address, Product Name, CE compliance marking, Model Number, Serial Number, Year of Manufacture, and Mass
2		<b>LIFT POINT</b> - Decal identifies approved lift points of the Ho-Pac.
3		<b>STAY CLEAR</b> - Decal alerts personnel and by-standers to maintain a safe distance from the Ho-Pac during operation.
4		<b>READ INSTRUCTION</b> - Decal indicates that it is important to read the manual for detailed explanations and instructions
5		<b>HOT SURFACE</b> - Decal indicates hydraulic components that become hot during operation. These include the quick disconnect couplings, hoses, hose fittings, valve and motor. Avoid contact with hot parts.
6		<b>ALLIED LOGO</b> – This decal is the Allied brand identifier and is a registered trademark of Allied Construction Products, LLC.
7		<b>OIL FILL</b> - Decal identifies the location to add oil to fill the oil reservoir.
8		<b>OIL LEVEL</b> - Decal identifies the location to check the oil level.
9	<b>300, 300B, 500 or 500B</b>	<b>MODEL NUMBER</b> - Decal indicates the Ho-Pac model number.
10		<b>PRESSURE I.D.</b> – A red colored cable tie marked “PRESSURE IN” is attached to the pressure hose for ease of identification between hoses.

### SAFETY INFORMATION (cont'd)

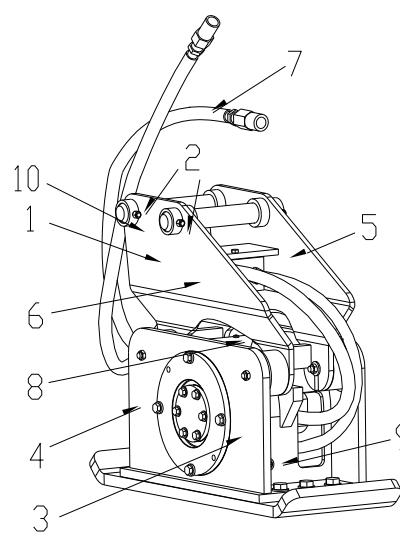
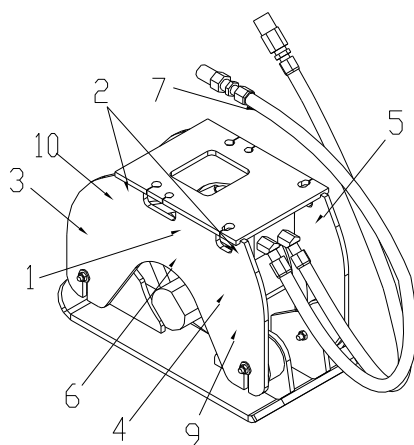
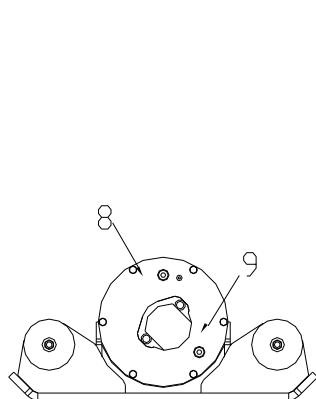


Figure on left is the label locations for 300, 300B & 500B (IN1 & IN2 / XR Flat Top Mounting Frame Shown. Same for XSF Mounting Frame)



Figure on right is the label locations for 500 (BSF Mounting Frame Shown. Same for XSF, XR, XCS / BCS Mounting Frames)

#### Label Information

Item	Part No.	Description	Qty	Notes
---	573049	Decal Set for 300	1(Set)	Set Includes 1-10
---	573222	Decal Set for 300B	1(Set)	Set Includes 1-7
---	100940	Decal Set for 500	1(Set)	Set Includes 1-10
---	573219	Decal Set for 500B	1(Set)	Set Includes 1-7
1	573051	Model 300	2	Located on both sides
	573216	Model 300B		Located on both sides
	102730	Model 500B		Located on both sides
	573217	Model 500B		Located on both sides
2	676982	Lift Point	4	Located on both sides
3	676981	Stay Clear	2	Located on both sides
4	676984	Read Instructions	2	Located on both sides
5	676983	Hot Surface	1	Located near valve
6	676651	Allied Logo	2	Located on both sides
7	818676	Pressure I.D. Tag	1	Located on Pressure Hose
8	102728	Oil Fill	1	Used on Model 300
9	A102729	Oil Level	1	Used on Model 300
10	676980	ID Plate	1	Not included in set – order separately

## SAFETY INFORMATION (cont'd)

### Before Operating Any Equipment

  <b>Read the Manual</b>
<p>This manual contains important information for the safe and proper use of the Allied attachment. Read, understand and follow all safety instructions described in this manual before installing, operating or servicing the Allied equipment.</p> <p>Read and understand all safety precautions and operating instructions found in the manuals provided by the carrier manufacturer. Do not operate the carrier, or perform any inspection, maintenance or service to its systems unless you are qualified.</p>

### Qualified Person

For the purposes of this manual and product labels, a qualified person is one who:

- Has read, understands and adheres to the safety messages in this manual.
- Is competent in recognizing potential hazards and possess the knowledge and skills necessary to make prompt decisions resulting in appropriate actions to safeguard against personal injury and property damage.
- Has received adequate training in safe and proper installation, maintenance and operation for this Allied equipment.
- Is authorized to operate, service and transport the Allied equipment.

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.

### Owner's Responsibilities

The equipment owner is responsible to ensure that only qualified personnel operate and service the Allied attachment.

Qualified personnel must adhere to the procedures explained in this manual, especially regarding personnel safety.

If necessary, the owner or safety/training personnel must expand upon these general instructions and adapt them to particular applications.

### 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 existing underground service and utility lines, establishing pedestrian barriers and using personnel protection equipment, 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  
[www.osha.gov](http://www.osha.gov)



## SAFETY INFORMATION (cont'd)

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

### **Operational Safety Program**

The safe and effective use of the Allied attachment depends upon proper installation, operation, maintenance and repair. Operational safety must encompass all of these factors.

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 result in improved equipment life, performance and reduced downtime. Most importantly, it will minimize the risk of personal injuries and equipment damage.

**TABLE OF CONTENTS**

<b><u>SECTION</u></b>	<b><u>Pg.</u></b>	<b><u>SECTION</u></b>	<b><u>Pg.</u></b>
<b>DOCUMENT CHANGE NOTICE....</b>	i	3.3 Allied Product Policies.....	4
<b>SAFETY INFORMATION.....</b>	ii	<b>4.0 OVERVIEW.....</b>	5
Be Alert to Safety Messages.....	ii	4.1 Product Description and Application.....	5
Purpose of Safety Messages.....	ii	4.2 Major Subassemblies.....	5
Safety Alert Symbol .....	ii	4.3 Principle of Operation.....	6
Signal Words – “DANGER”, “WARNING” and “CAUTION”.....	ii	4.4 Definition of Hydraulic Installation Terms.....	6
Additional Precautionary Messages....	ii	<b>5.0 Technical Information....</b>	8
Overview of Pictographs.....	iii	5.1 Specifications.....	8
Label Description & Location.....	iv	5.2 Dimension Diagrams.....	10
Before Operating Any Equipment.....	vi	<b>6.0 Mounting Information.....</b>	17
Qualified Person.....	vi	6.1 Types of Mounting Frames.....	17
Owner’s Responsibilities.....	vi	6.1.1 Flat Top Mounting Frame.....	17
General Construction Safety.....	vi	6.1.2 Excavator Side Frame (XSF).....	18
Federal, State, Local and OSHA Construction Guidelines and Regulations.....	vi	6.1.3 Mounting Kits for Excavator Side Frame (XSF).....	18
Operational Safety Program.....	vii	<b>7.0 Installation &amp; Removal.....</b>	19
<b>TABLE of CONTENTS.....</b>	viii	7.1 Carrier Compatibility.....	19
<b>LIST of FIGURES.....</b>	ix	7.2 Testing and Adjusting.....	19
<b>1.0 INTRODUCTION.....</b>	1	7.3 Installation on to Carrier.....	19
1.1 About This Manual.....	1	7.4 Removal from Carrier.....	21
1.2 Additional Documentation.....	1	<b>8.0 Operation.....</b>	22
<b>2.0 PRODUCT IDENTIFICATION</b>	2	8.1 Pre-operation Checks.....	22
2.1 Serial Number Location.....	2	8.2 Operation.....	22
2.2 Identification Plate.....	2	<b>9.0 Troubleshooting.....</b>	24
2.3 Record the Serial Number.....	2	9.1 Testing the Hydraulic Circuit.....	25
<b>3.0 WARRANTY PROTECTION SUMMARY.....</b>	3	<b>10.0 Service and Maintenance....</b>	26
3.1 Overview.....	3	10.1 General Guidelines.....	26
3.2 Owner’s Responsibilities.....	3	10.2 Daily Maintenance.....	26
		10.3 Preventative Maintenance.....	27

## TABLE OF CONTENTS (cont'd)

<u>SECTION</u>	<u>Pg.</u>	<u>SECTION</u>	<u>Pg.</u>
10.4 Threaded Fasteners.....	27	Table 12.4 Dynamic Assembly 300B....	40
10.5 Conditional Maintenance.....	27	Table 12.5 Mounting Frame & Hydraulics – 500.....	42
10.6 Pressure Relief Plug.....	27	Table 12.6 Dynamic Assembly – 500....	46
10.7 Lubrication (300B & 500B).....	27	Table 12.7 Dynamic Assembly – 500....	48
10.7.1 Lubrication (300 Only).....	27	Table 12.8 Mounting Frame & Hydraulics – 500B.....	50
10.7.2 How to Check & Add Oil.....	28	Table 12.9 Dynamic Assembly – 500B	52
10.7.3 How to Drain Oil.....	28		
10.8 How to Check Bearings.....	28	<b>List of Figures</b>	<b><u>Pg.</u></b>
10.8.1 Bearing Replacement.....	29	Pictographs.....	iii
10.8.2 Bearing Removal.....	29	Labels.....	iv
10.8.3 Bearing Installation.....	29	Label Locations.....	v
10.9 Spring Mount Replacement.....	29	2-1 Identification Plate.....	2
10.10 Hydraulic Motor.....	30	2-2 Location of ID Plate.....	2
10.10.1 Hydraulic Motor Service.....	30	4-1 Major Subassemblies.....	5
10.10.2 Motor Flow & Rotation.....	30	4-1 Flow-Pressure Diagram.....	7
10.11 Flow Regulator Valve.....	30	5-1 300, 300B with “XSF” Top Frame.....	10
10.11.1 Flow Regulator Valve Service	30	5-2 300, 300B with Flat Top Frame.....	11
10.11.2 Valve Port Identification.....	31	5-3 500 with “XR” Top Frame.....	12
10.12 Tightening Torque.....	31	5-4 500 with “XCS” / “BCS” Top Frame.....	13
		5-5 500 with “BSF” Top Frame.....	14
<b>11.0 Lifting, Transport &amp; Storage</b>	<b>32</b>	5-6 500 with “XSF” Top Frame.....	14
11.1 Lifting & Transport.....	32	5-7 500B with “XSF” Top Frame.....	15
11.1.1 Transported Independently of Carrier.....	32	5-8 500B with “IN” 1 & 2 / XR Top Frame... 6-1 Flat Top Mounting Frame.....	16 17
11.1.2 Transported Attached to Carrier	32	6-2 Top Mounting Bracket.....	17
11.2 Storage.....	32	6-3 “XSF” Top Mounting Frame.....	18
		6-4 “XSF” Mounting Kit.....	18
<b>12.0 Parts Information.....</b>	<b>33</b>	7-1 Configured with “XSF” Mounting Frame	21
12.1 General.....	33	7-2 Hose Connections.....	21
12.2 Spare Parts for Motor and Valve...	32	10-1 Labels for Oil Level & Oil Fill.....	27
12.3.1 Motor Identification.....	32	10-2 Location of Oil Level & Fill Labels.....	27
12.3.2 Valve Identification.....	33	10-3 Proper Oil Level.....	28
Table 12.1 Motor & Valve Package.....	34	10-4 Proper Motor Rotation.....	30
Table 12.2 300,B Mounting & Hydraulics.....	36	10-5 Control Valve Connections.....	31
Table 12.3 Dynamic Assembly – 300...	38	10-6 Special Tightening Instructions.....	31
		12-1 Motor Identification.....	34
		12-2 Control Valve Identification.....	34
		12-3 Mounting Frame & Hydraulics – 300, 300B.....	35
		12-4 Dynamic Assembly – 300.....	37
		12-5 Dynamic Assembly – 300B.....	39
		12-6 Mounting Frame & Hydraulics – 500	41
		12-7 Dynamic Assembly – 500.....	45
		12-8 Dynamic Assembly – 500.....	44
		12-9 Mounting Frame & Hydraulics – 500B	46
		12-10 Dynamic Assembly – 500B.....	51

## SECTION 1.0 INTRODUCTION

### 1.1 About this Manual

The Technical Manual outlines important information for the safe and proper use of the Allied attachment. Information includes:

- Safety Messages
- Technical specifications
- Inspection & Maintenance
- Troubleshooting
- Lifting, transporting & storage
- Mounting Information
- Spare parts information

This manual is an integral part of this product. Keep it in a convenient location so that it is easily accessible for future reference.

<b>Table 1.1</b> Technical Manual No. 573043	
This Technical Manual is applicable to the following Allied product(s):	
<b>Product Name:</b>	Ho-Pac®
<b>Model(s):</b>	300, 300B, 500 & 500B
<b>Serial Numbers:</b>	300: 00001 - 01030 300B: 01031 & above 500: 6000 - 500B: 00001 & above
<b>Years of Manufacture:</b>	2007- 2007 & above 2002- 2008 & above
Material presented in this manual, including illustrations and descriptions, is intended solely for use with the equipment identified in this table and may not be suitable for other models. Prior to use, confirm that the information recorded on the Equipment Identification Plate corresponds with the above. For the location of the ID Plate, refer to Section 2.0.	

Material presented in this manual, including descriptions, illustrations and specifications, is subject to change without prior notice. Amendments to this manual are described at the beginning of this manual under "Change Notice".

### 1.2 Additional Documentation

Further information about the Allied Ho-Pac and optional accessories can be found in the following manuals:

<b>Table 1.2</b> Additional Documentation		
Manual	Model	Part No.
<b>Technical Manual</b>	300, 300B, 500, 500B	573043
The Technical Manual provides safety precautions, specifications, service, maintenance, warranty information, product policies, troubleshooting, installation / removal, storage, lifting and transporting information. A section for replacement parts is also included.		
<b>Ho-Pac Swivels</b>	All Models	103467
This manual provides information about the Allied Ho-Pac Swivel. The optional swivel allows the Ho-Pac to turn at either a 45° or a 90° angle to the boom.		
<b>Compaction Handbook</b>	All Models	103392
The Compaction Handbook contains background information about soil, soil compaction and basic soil compaction equipment. It also contains general information about the operation of Allied's boom-mounted vibratory compactors/drivers, as well as performance data for Ho-Pac models derived from field tests.		

## SECTION 2.0 EQUIPMENT IDENTIFICATION PLATE

### 2.1 Serial Number Location

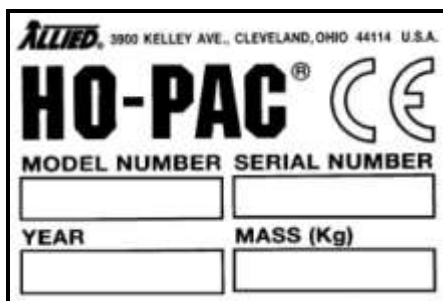
Refer to Figure 2-2. The Serial Number assigned to this equipment can be found in the following locations:

1. Stamped in to the metal ID Plate located on the top mounting frame
2. Stamped on eccentric housing.

### 2.2 Equipment Identification Tag

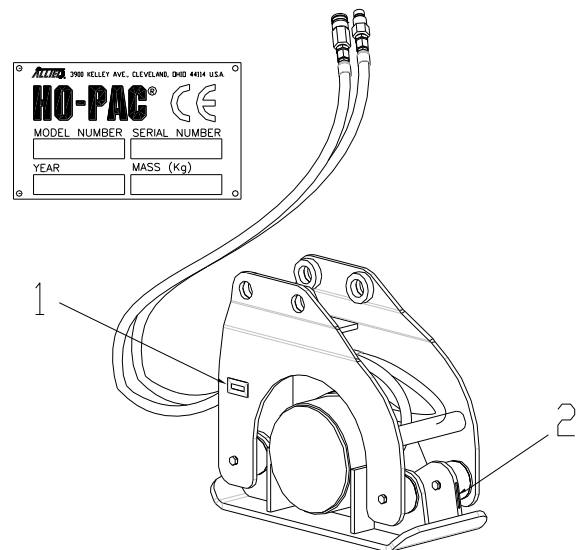
Refer to Figure 2-2. The Equipment Identification Tag is affixed to the top mounting frame. It provides the following useful information:

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



**Fig. 2-1  
Identification Plate**

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



**Fig. 2-2**

**1) Equipment Identification Tag, 2) Serial Number Stamped on Dynamic Assembly**

### 2.3 Record Equipment I.D. Information for Future Reference

- Copy the Model and Serial Number from the Equipment Identification Tag to the space provided below.
- Indicate the date in which the Allied equipment was placed into service.

Model: \_\_\_\_\_

Serial Number: \_\_\_\_\_

In service date: \_\_\_\_\_

- Your local Allied dealer requires this information to better assist you with questions regarding parts, warranty, operation, maintenance, or repair.
- Register this equipment by returning the completed warranty registration form to Allied.

## SECTION 3.0 WARRANTY PROTECTION SUMMARY

### 3.1 Overview

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

For every new Ho-Pac, Allied requires that a Warranty Registration form be completed and returned to Allied. The form has a section to record information about the carrier on which the attachment is being installed.

To keep the Allied equipment operating within its performance limits, familiarize yourself with the technical specifications section of this manual. Follow the specifications when calibrating the carrier. Improper installation, including failure to calibrate the carrier correctly may result in loss of performance or subject the equipment to conditions beyond their design. Use of non-Allied parts, unapproved service methods, modifications to the attachment, 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 A100668.

### 3.2 Owner's Responsibilities

When properly installed, operated and maintained by qualified personnel, the Allied attachment will remain productive with a minimum of service. The following outlines general maintenance policies required for all Ho-Pac models. The equipment owner is strongly encouraged to further develop these general guidelines and adapt 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 detailed in this manual.
- Understand proper operating techniques for all recommended applications.
- Use the Allied attachment only if it is in sound operating condition. Immediately 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.
- Adhere to the specifications listed in this manual and operate the Allied equipment within its performance limits.
- Appoint Who Does What. Ensure that all personnel understand what their specific responsibilities include.
  1. Establish maintenance responsibilities to be performed by the OPERATOR.
  2. Establish maintenance responsibilities to be performed by the SERVICE TECHNICIAN.
- Recognize problems and know how to take corrective action as detailed in the Troubleshooting Section of this manual.
- Conduct regular checks and inspections as scheduled in the Care and 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 Ho-Pac maintenance, service and repair. These records are helpful if warranty coverage is ever in question.

Each record shall include at least:

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

### 3.3 Allied Product Policies

In this manual, Allied recommends Ho-Pac 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 (Failure to properly calibrate the host machine)
- Operation in unapproved applications
- Incorrect operation
- Improper 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.

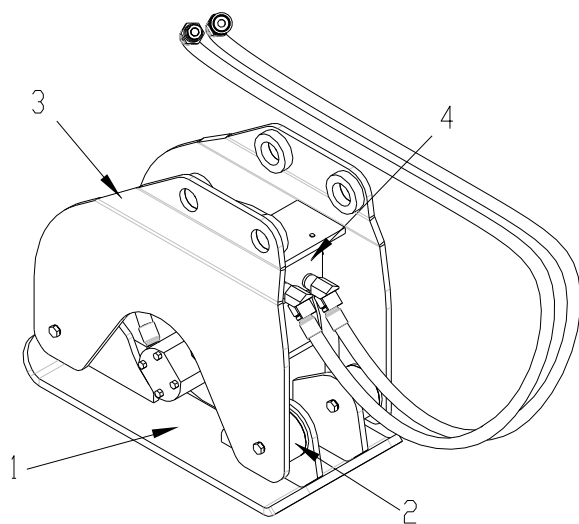
## SECTION 4.0 OVERVIEW

### 4.1 Product Description and Application

The Allied Ho-Pac is a boom-mounted, hydraulic powered, vibrating plate compactor and driver. It is used for soil compaction and sheet/pile installation. The Ho-Pac is designed for mounting on mobile equipment with hydraulic booms, such as rubber tired or track-type construction vehicles and is attached to the carrier in the same manner as mounting a bucket. The Ho-Pac utilizes the hydraulic power system of the host machine to supply power to the dynamic assembly and generate vibrations.

Applications include backfill compaction, base course preparation, finish surface treatment and embankment buildup. It is also used for sheet/pile installation.

### 4.2 Major Subassemblies



**Fig. 4-1**

#### Major Subassemblies

1-Dynamic Assembly, 2-Suspension System, 3-Mounting Frame, 4-Control Valve

The Allied Ho-Pac consists of the following major subassemblies:

**Dynamic Assembly** - Generates and transfers the vibratory energy to the soil. The assembly includes the hydraulic motor, eccentric mass, bearings, housing and compaction plate.

**Suspension System** – Rubber Spring Mounts suspend and isolate the Mounting Frame from the Dynamic Assembly.

**Mounting Frame** – Connected to the Suspension System, the Mounting Frame provides hook up points for attaching the Ho-Pac to the stick / linkage of the carrier.

**Control Valve** – A standard feature on all models is the hydraulic control valve. This multi-function valve is designed to optimize operation and provide reliability of critical components, such as the hydraulic motor and bearings. **NOTE:** *The valve is factory pre-set and requires no further adjustments.*

The valve offers the following protection:

**Flow regulator** - Prevents over-speeding the hydraulic motor by limiting the flow.

**Pressure control** - Prevents over-pressuring the motor and other hydraulic components. This is factory pre-set at the maximum operating pressure plus 200 psi (14 bar).

**Anti-cavitation circuit** - Controls deceleration of the hydraulic motor and eccentric mass. Also protects motor from damage on circuits not set up with an open return.

**Return line check valve** - Prevents reverse flow to the hydraulic motor. Also provides a nominal back-pressure to ensure the proper operation of auxiliary valves, such as Allied's AC40 and AC75 priority flow control valves.



### 4.3 Principle of Operation

The Allied Ho-Pac is a high-energy compaction tool utilizing three compaction techniques:

- The **Impulse Force** generated by the rotating eccentric mass vibrates the soil near the base plate to eliminate voids between material particles.
- The **Vibration Frequency** of 2000 r.p.m. provides maximum effectiveness for the consolidation and compaction of granular soil materials.
- The **Down Force** of the carrier provides a preload force to effectively transfer the vibrating energy and to compress the material.

Optimum compaction is usually obtained with two passes. The duration of the initial pass is dependent on depth and material. The second pass may require additional fill material and Ho-Pac repositioning to achieve a finished surface.

The Ho-Pac can also be an effective sheet or pile driver. Vibration energy is transferred through the sheet or pile to the soil. Soils with 50% or more granular content are “liquefied” by the vibration, which breaks the skin friction, allowing the sheet or pile to penetrate more easily. Refer to the [Compaction Manual](#) for further details.

### 4.4 Definition of Hydraulic Installation Terms

**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. When used in this application, the hydraulic motor performs in a narrow flow range. For attachments, such as the Ho-Pac, the ideal speed of the motor is 2000 RPM. Not enough flow will result in poor performance.

Too much flow can cause equipment damage.

#### IMPORTANT

**Never use a relief valve, as a means to reduce the hydraulic oil flow to the Ho-Pac. Oil by-passed over the relief valve will cause significant heat generation and result in damage to the equipment.**

**Operating Pressure** – A measure of the hydraulic oil pressure (values given in PSI / BAR) taken in the attachment’s supply line during operation. For attachments such as the Ho-Pac, the pressure value is represented as a maximum value and a no load value. While the Ho-Pac is operating, the operating pressure will rise and fall as conditions such as down pressure and soil resistance change.

#### IMPORTANT

**The Operating Pressure is not to be used as a relief valve pressure setting. Poor performance and significant heat generation will occur.**

**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. For Ho-Pac applications, they are recommended over direct acting type relief valves.

#### IMPORTANT

**The relief valve is a safety device, used to protect the circuit against hydraulic overload. It is a required component.**

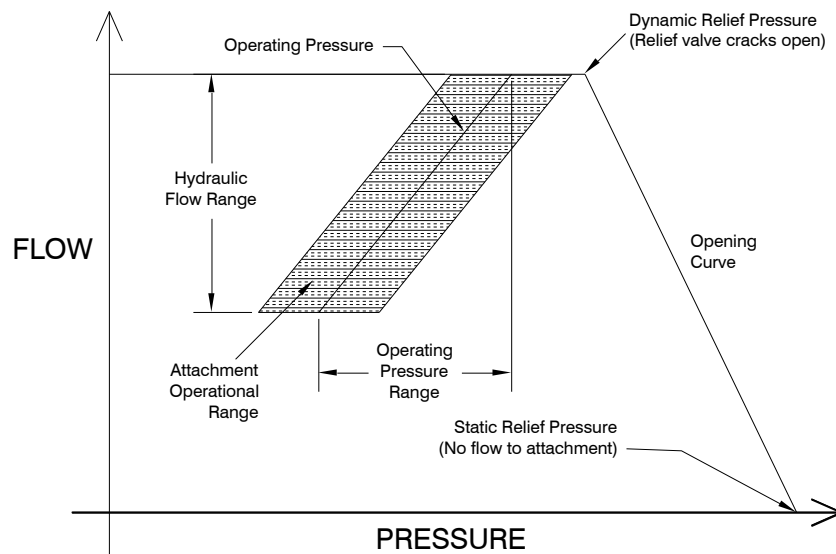
**Dynamic Relief Pressure** – Also referred to as “Cracking Pressure”. The pressure measured at the moment the oil pressure exceeds the preset value of the relief valve and the spool “cracks” open.

**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 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. The opening curve is the rise of pressure between dynamic and static.

**IMPORTANT**

The carrier's hydraulic system shall be capable of providing the desired oil flow at a pressure equal to at least the dynamic relief pressure.



**Fig. 4-1**  
**Flow-Pressure Diagram**

## SECTION 5.0 TECHNICAL INFORMATION

### 5.1 SPECIFICATIONS

<b>Table 5.1 General Specifications</b>					
<b>Model</b>		<b>300, 300B</b>	<b>500B</b>		
<b>Impulse Force</b>		3,000 [13,340]	5,000 [22,240]	Lbs [N]	
<b>Cycles Per Minute</b>		2000		1/min	
<b>Sound Power Level</b>		105 [Est'd]	105 [Est'd]	DBA [LWA]	
<b>Hydraulic Flow <sup>(a)</sup></b>	Motor Option	1	6 [23]	gpm [lpm]	
		2	9 [34]		
		3	14 [53]		
		4	18 [68]		
<b>Max Operating Pressure</b>	Motor Option	1	2800 [193]	psi [bar]	
		2	2800 [193]		
		3	2500 [172]		
		4	2000 [138]		
<b>Oil Pressure @ No Load</b>		300-500 [20-35]			
<b>Auxiliary Circuit Relief Pressure</b>	Dynamic <sup>(b)</sup>		Max Operating + 400 [28]		
	Static		Max Operating + 650 [45]		
<b>Compaction Plate Dimensions</b>		12 x 22 [305 x 559]	13 x 27 [330 x 685]	Inch [cm]	
<b>Compaction Area</b>		1.8 [0.17]	2.4 [0.23]	Ft <sup>2</sup> [m <sup>2</sup> ]	
<b>Hose Size</b>	Pressure		5/8 [16]		Inch [mm]
	Return <sup>(c)</sup>		5/8 [16]		
<b>Weight <sup>(d)</sup></b>	Flat-Top		400 [181]	485 [220]	Lbs [kg]
	XSF		310 [141]	410 [186]	
<b>Carrier Weight <sup>(e)</sup></b>	Excavator		3-12 [1.4-5.5]		Lbs (1,000) [kg] (1,000)

<sup>(a)</sup> For optimal Ho-Pac operation, the carrier's auxiliary hydraulic circuit must be capable of providing the specified oil flow at a pressure equal to at least the dynamic relief pressure. Proper selection of the Motor & Valve Package is critical to ensure efficient machine operation.

<sup>(b)</sup> Verify the carrier's main relief is set to the manufacturer's specifications and that this value is equal or greater than the dynamic relief setting.

<sup>(c)</sup> Return line pressure (measured at the Ho-Pac) in excess of 150 psi [10 bar] will decrease service life of motor.

<sup>(d)</sup> Working weight with typical mounting kit/bracket.

<sup>(e)</sup> Mount only to carriers having adequate load-carrying capabilities.

## SECTION 5.0 TECHNICAL INFORMATION

### 5.1 SPECIFICATIONS

<b>Table 5.2 General Specifications</b>					
<b>Model</b>		<b>500</b>			
<b>Impulse Force</b>		3,940 [17,530]		Lbs [N]	
<b>Cycles Per Minute</b>		2000		1/min	
<b>Sound Power Level</b>		105 [Est'd]		DBA [LWA]	
<b>Hydraulic Flow <sup>(a)</sup></b>	Motor Option	1	9 [34]		
		2	14 [53]		
		3	18 [68]		
<b>Max Operating Pressure</b>	Motor Option	1	2800 [193]		
		2	2500 [172]		
		3	2000 [138]		
<b>Oil Pressure @ No Load</b>		300-500 [20-35]		psi [bar]	
<b>Auxiliary Circuit Relief Pressure</b>	Dynamic <sup>(b)</sup>		Max Operating + 400 [28]		
	Static		Max Operating + 650 [45]		
<b>Compaction Plate Dimensions (Std)</b>		12 x 27 [305 x 686]		Inch [cm]	
<b>Compaction Area (Std)</b>		2.3 [0.21]		Ft <sup>2</sup> [m <sup>2</sup> ]	
<b>Compaction Plate Dimensions (Opt)</b>		18 x 22 [457 x 559]		Inch [cm]	
<b>Compaction Area (Opt)</b>		2.8 [0.26]		Ft <sup>2</sup> [m <sup>2</sup> ]	
<b>Hose Size</b>	Pressure		5/8 [16]		Inch [mm]
	Return <sup>(c)</sup>		5/8 [16]		
<b>Weight <sup>(d)</sup></b>	XSF 513 [233]		BSF 513 [233]		Lbs [kg]
	Flat-Top XR 498 [226]		XCS / BCS 491 [223]		
<b>Carrier Weight <sup>(e)</sup></b>	Excavator		3-12 [1.4-5.5]		Lbs (1,000) [kg] (1,000)

<sup>(a)</sup> For optimal Ho-Pac operation, the carrier's auxiliary hydraulic circuit must be capable of providing the specified oil flow at a pressure equal to at least the dynamic relief pressure. Proper selection of the Motor & Valve Package is critical to ensure efficient machine operation.

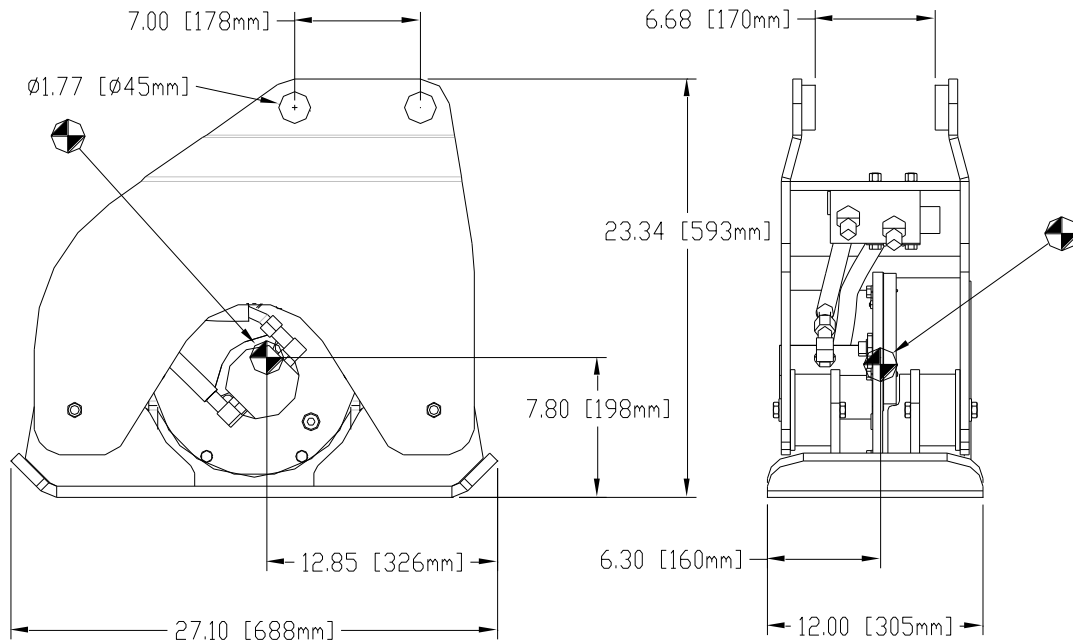
<sup>(b)</sup> Verify the carrier's main relief is set to the manufacturer's specifications and that this value is equal or greater than the dynamic relief setting.

<sup>(c)</sup> Return line pressure (measured at the Ho-Pac) in excess of 150 psi [10 bar] will decrease service life of motor.

<sup>(d)</sup> Working weight with typical mounting kit/bracket.

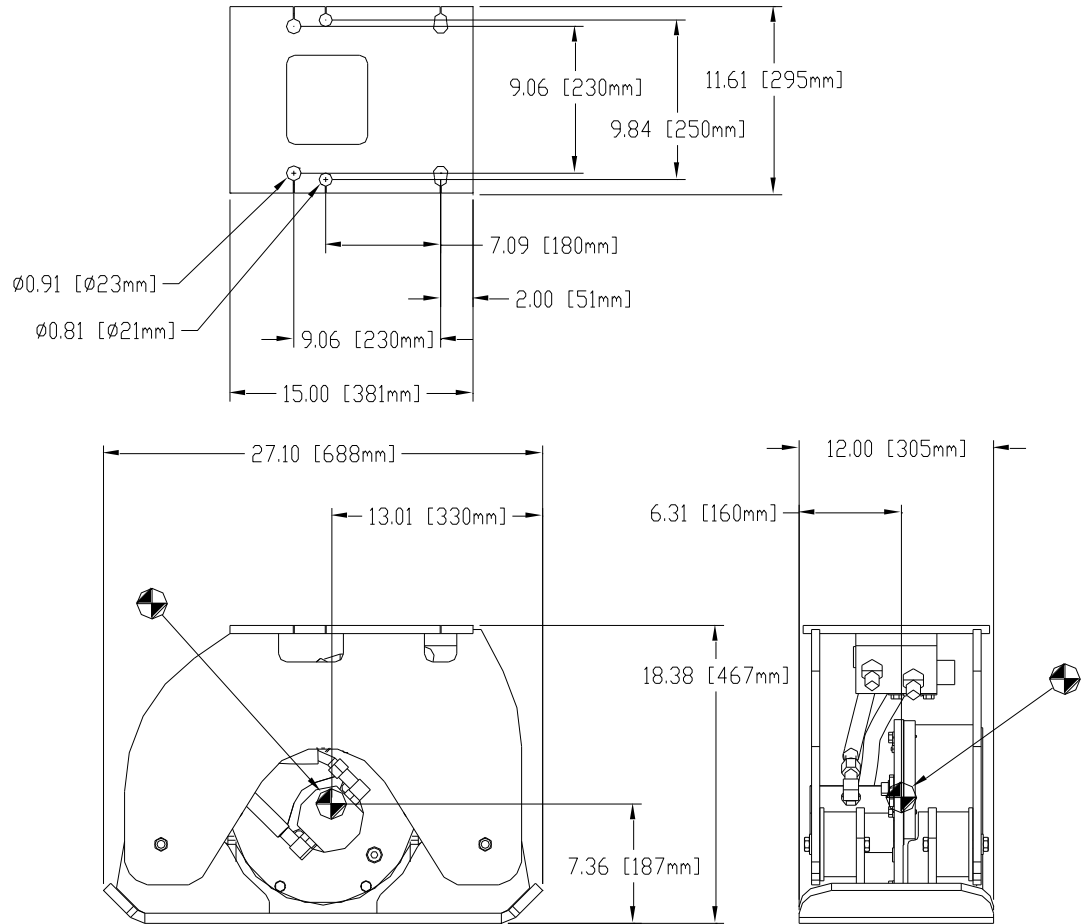
<sup>(e)</sup> Mount only to carriers having adequate load-carrying capabilities.

### 5.2 DIMENSION DIAGRAMS



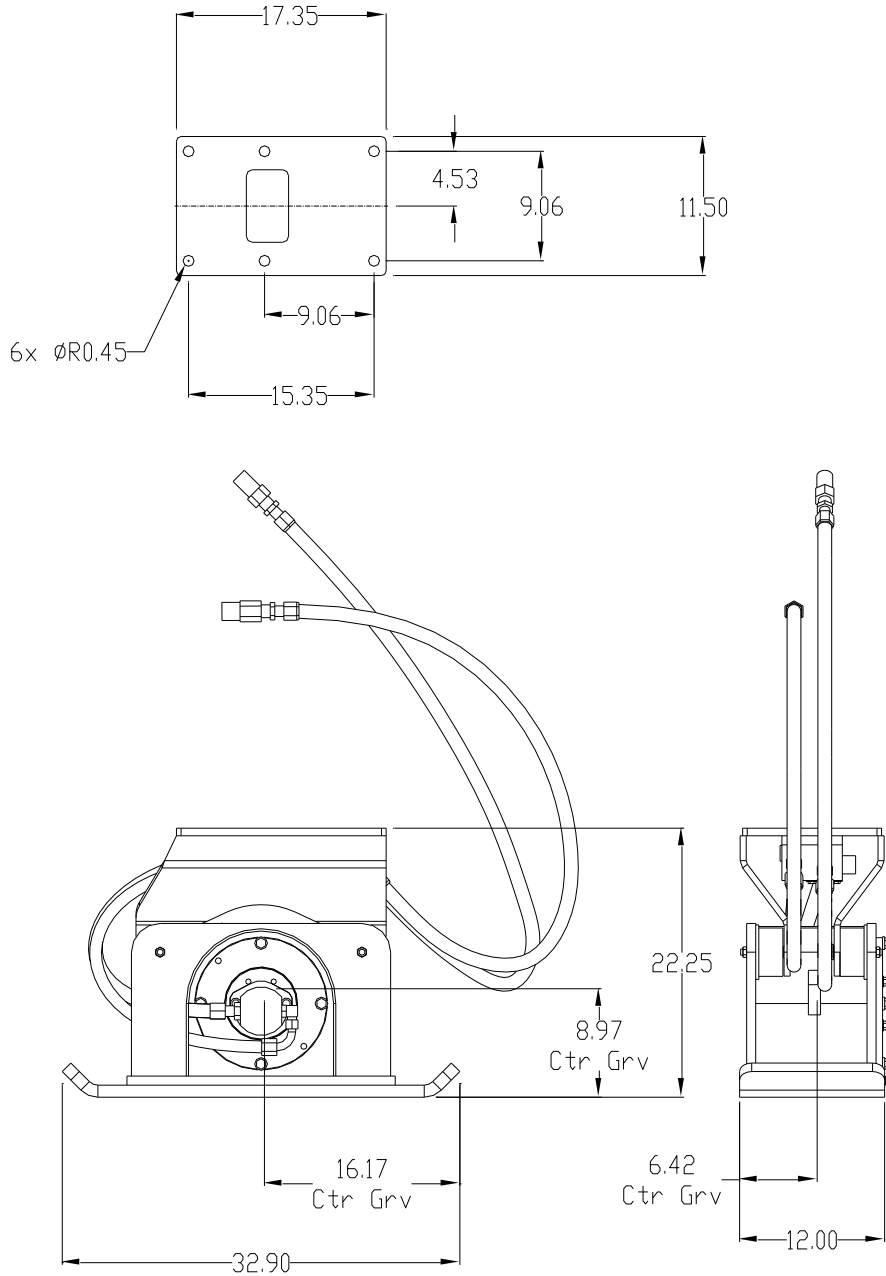
**Fig. 5-1**  
**Model 300 & 300B Configured with "XSF" Top Mounting Frame**  
**(Use "XSF" Mounting Kits)**  
 $\oplus$  Center of Gravity

### 5.2 DIMENSION DIAGRAMS (cont'd)



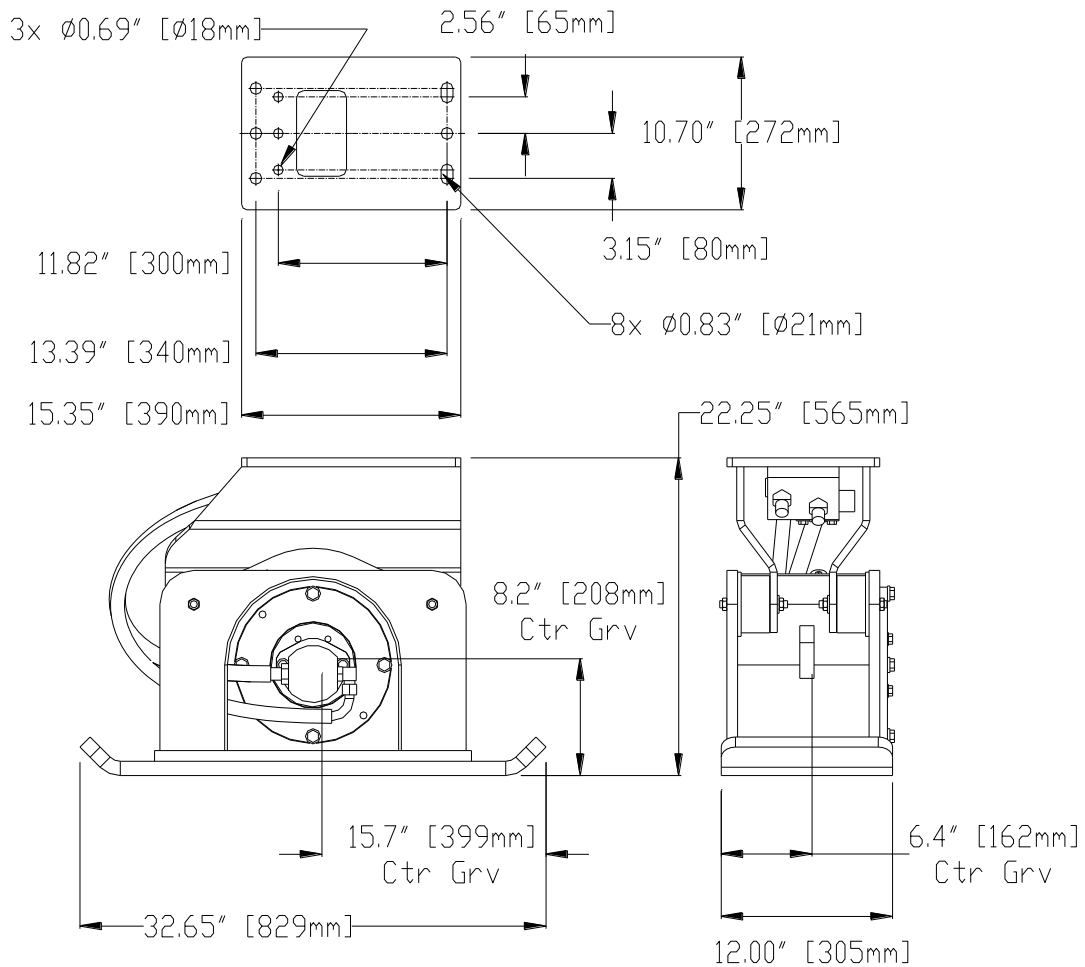
**Fig. 5-2**  
**Model 300 & 300B Configured with Flat Top Mounting Frame**  
**(Mounting holes accept IN1 & IN2 / XR mounting brackets)**  
 $\oplus$  Center of Gravity

### 5.2 DIMENSION DIAGRAMS (cont'd)



**Fig. 5-3**  
**Model 500 Configured with "XR" Mounting Frame**

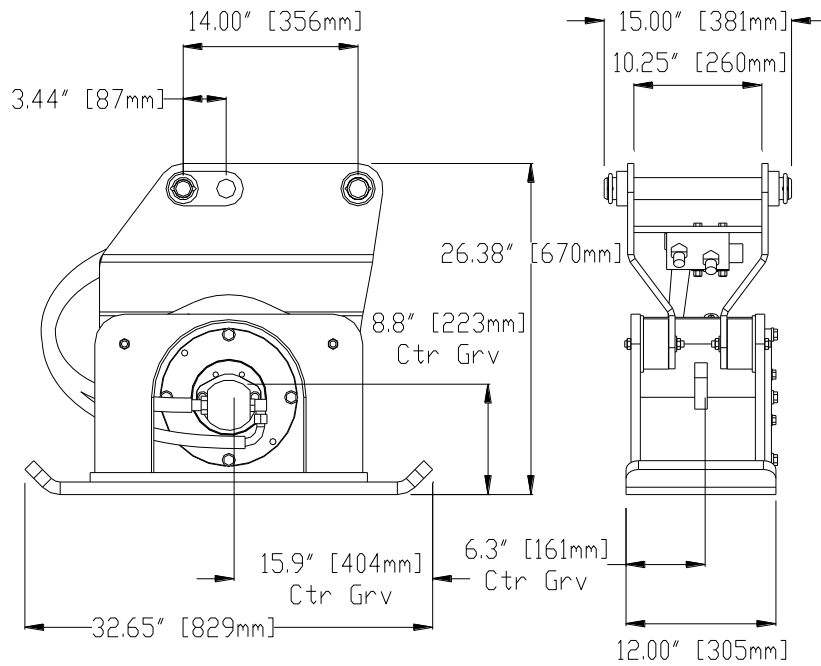
### 5.2 DIMENSION DIAGRAMS (cont'd)



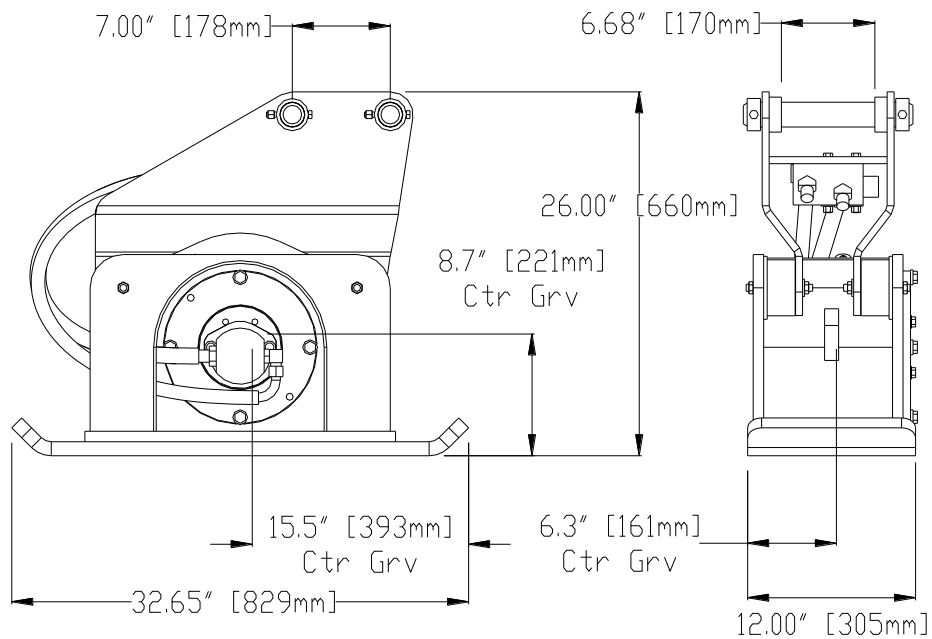
**Fig. 5-4**  
**Model 500 Configured with "XCS" / "BCS" Top Mounting Frame**



### 5.2 DIMENSION DIAGRAMS (cont'd)

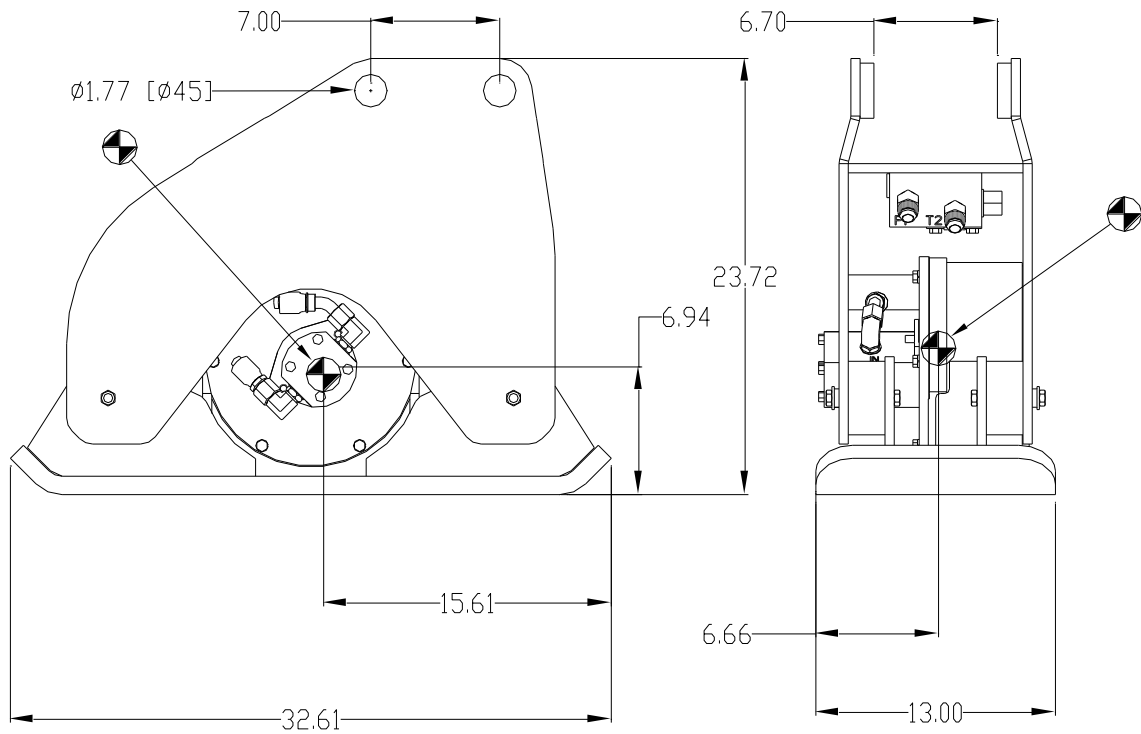


**Fig. 5-5**  
**Model 500 Configured with "BSF" Mounting Frame**



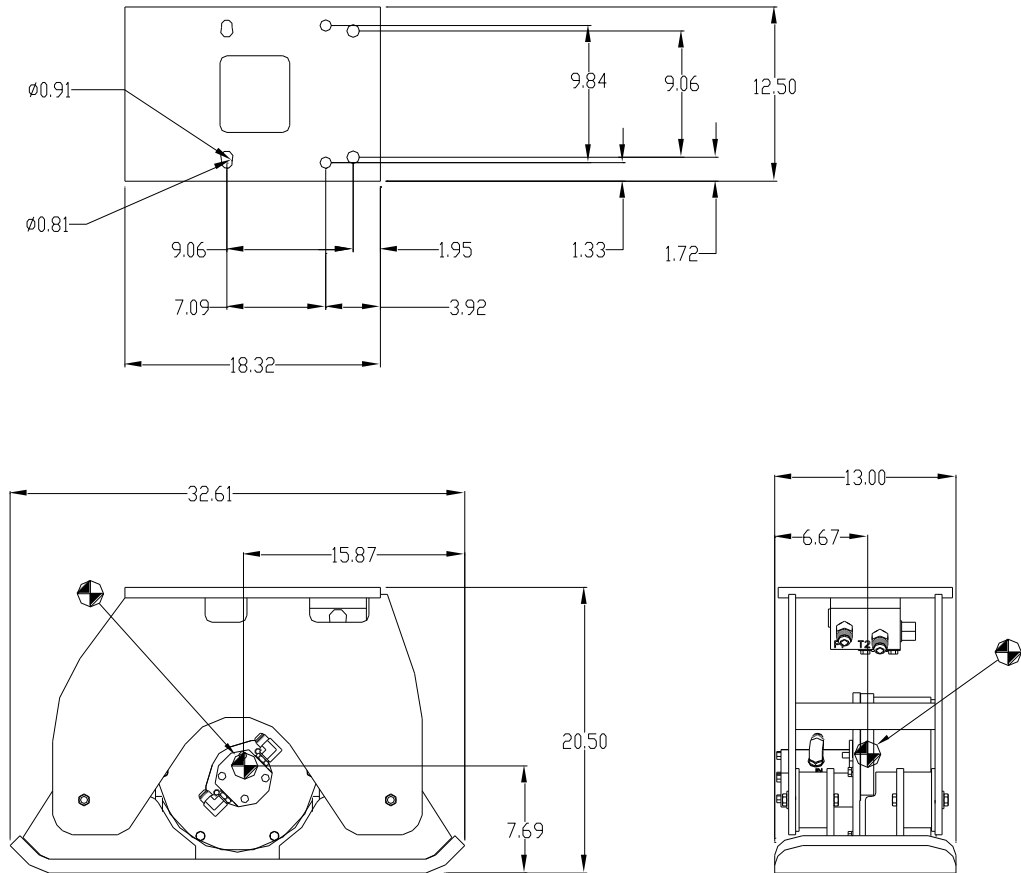
**Fig. 5-6**  
**Model 500 Configured with "XSF" Mounting Frame**

### 5.2 DIMENSION DIAGRAMS (cont'd)



**Fig. 5-7**  
**Model 500B shown with XSF Top Mounting Frame**  
**(Use "XSF" Mounting Kits)**  
 ⊕ Center of Gravity

### 5.2 DIMENSION DIAGRAMS (cont'd)



**Fig. 5-8**  
**Model 500B shown with Flat Top Mounting Frame**  
**(Mounting holes accept IN1 & IN2 / XR Mounting Brackets)**  
 ⊕ Center of Gravity

## SECTION 6.0 MOUNTING INFORMATION

<b>Table 6.1</b> Ho-Pac Mounting Specifications				
<b>Mounting Frame</b>	<b>Flat-Top</b> Fig. 6-1			<b>XSF</b> Fig. 6-3
Mounting Series	IN1	IN2	XR	XSF
Mounting Pin Diameter Inch [mm]	Varies with mounting bracket			0.98 - 1.97* [25 - 50]      *Varies with Pin Kit (See Table 6.2)
Mounting Pin C-C Inch [mm]	Varies with mounting bracket			7.00 [178]
Maximum Stick Width Inch [mm]	Varies with mounting bracket			6.68 [170]

### 6.1 Types of Mounting Frames

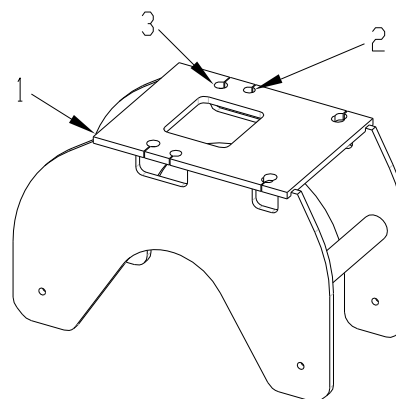
Ho-Pac models 300, 300B, 500 & 500B, are light-weight and compact, which make them ideal for use on small excavators. The Top Mounting Frame provides attachment points for connecting the Ho-Pac to the stick of the carrier.

A variety of mounting frame options are available to attach the compactor to the carrier. Available Top Mounting Frames include:

- Flat-Top (Configured with IN1 & IN2, XR Hole Pattern)
- Excavator Side Frame - XSF

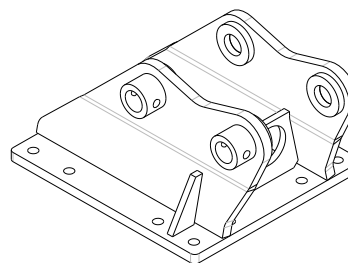
#### 6.1.1 Flat Top Mounting Frame

Refer to Figure 7-1. When configured with the Flat-Top mounting frame, the Ho-Pac is attached to the desired carrier through the use of a bolt-on mounting bracket. The Ho-Pac models 300, 300B & 500B utilize the "IN1" and "IN2" and "XR" bolt hole pattern. Refer to Figures 6-1 (300, 300B) and 6-3 (500B) for dimensions.



**Fig. 6-1**

1) Flat Top Mounting Frame, 2) "IN1" Mounting Holes, 3) "IN2" & "XR" Mounting Holes



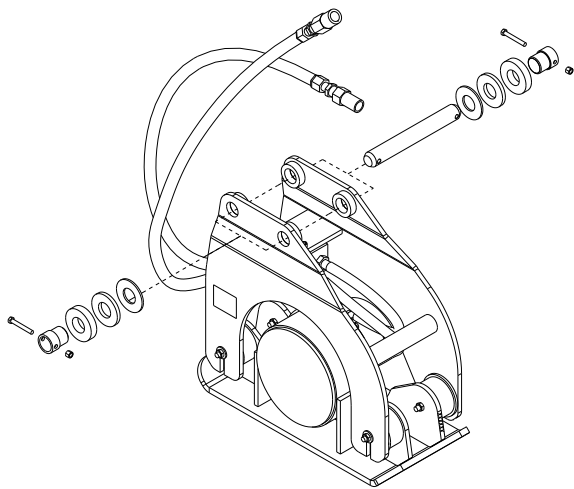
**Fig. 6-2**  
**Top Mounting Bracket**

Allied offers an array of mounting brackets to fit virtually any carrier, including carriers

equipped with quick mounting couplers. A standardized bolt hole pattern allows interchangeability with other Allied attachments, including hydraulic hammers. Typically, these mounting brackets are designed to utilize the carrier's pins during installation.

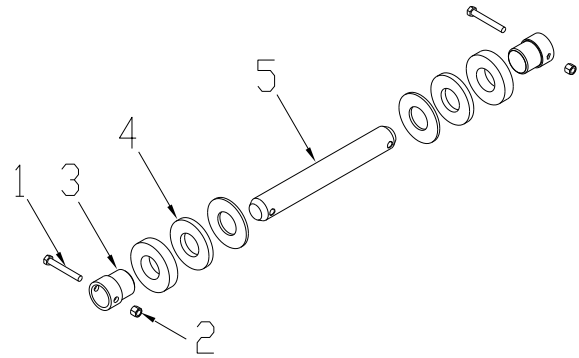
### 6.1.2 Excavator Side Frame Mounting – (XSF)

Another top mounting frame option is the Excavator Side Frame “XSF”. The XSF configuration is easily adapted to fit most small excavators with the use of a XSF mounting kit. Each kit includes the necessary adapters to attach the Ho-Pac to the desired carrier. Install as shown in Figure 6-3. (NOTE: The XSF frame has limited fit-up with carriers equipped with quick mounting couplers).



**Fig. 6-3**  
Ho-Pac shown with “XSF” Top Mounting Frame

1. Insert bushings into pin bores of top mounting frame.
2. Spacers are supplied in various thicknesses. Combine as required to limit side-to-side movement.
3. Secure pins with nut and bolt.



**Fig. 6-4**  
**Mounting Kit for “XSF” Top Frame – Typical Components Include:**  
1- Bolt, 2- Nut, 3- Flange Bushing, 4-Spacer, 5-mounting Pin

### 6.1.3 Mounting Kits for Excavator Side Frame Mounting – (XSF)

Mounting kits are determined by the carrier's pin diameter. Spacers are supplied in various thicknesses to meet width requirements.

Part No.	Pin Ø
A101735	25 mm
100207	30 mm
100283	35 mm
100364	38 mm
100204	40 mm
100324	45 mm
101808	50 mm
100208	1.00"
100209	1.25"
A100210	1.50"

## SECTION 7.0 INSTALLATION & REMOVAL

### 7.1 Carrier Compatibility

Ho-Pac models 300, 300B, 500 & 500B, are designed to fit small excavators. Attach the compactor only to carriers having adequate load-carrying capabilities. Carrier weight ranges, listed in Section 5.1, are intended as a guideline. Factors such as stick length, counterweights, undercarriage, etc., affect the carrier's lifting capacity and must be taken into consideration prior to mounting the compactor. Always adhere to the safe working load established by the carrier manufacturer to assure stable carrier operation.

The hydraulic power needed to operate the Ho-Pac is provided by the carrier's hydraulic system. If the carrier is not equipped with an auxiliary circuit, contact Allied for an installation kit. Follow the installation instructions provided with the hydraulic kit.

### 7.2 Testing and Adjusting

<b>IMPORTANT</b>
<b>Do not operate the Ho-Pac beyond its performance limits. Exceeding the specifications listed in Section 5.1 can be dangerous to the operator and result in expensive repair costs.</b>

Precautions must be taken before using the Ho-Pac to ensure the compactor is not damaged. Before the Ho-Pac is used on a carrier for the first time, the auxiliary circuit must be tested and, if necessary, adjusted. By following these steps, the Ho-Pac will provide efficient operation, production rates and dependable service life.

- Prior to mounting the Ho-Pac, test the carrier's hydraulic circuit. Measure the oil flow and pressure.

- Use a flow meter that has been calibrated to obtain accurate flow measurements of the carrier's auxiliary circuit.
- Compare your test results with the specifications in Section 5.1.
- Optimal performance is achieved only when the oil flow from the carrier is properly matched to the size of the motor installed on the compactor.
- Identify which motor and valve package option is installed on the Ho-Pac before any adjustments are made. Refer to Section 12 for information on motor and valve identification.
- Record the results of your flow and pressure measurements in the spaces provided on the Warranty Registration Form.

### 7.3 Installation on to Carrier

#### 7.3.1 Tools Required to Attach the Ho-Pac


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


- Safety eyewear & gloves
- Sledge Hammer
- Drift pin
- 3/4 drive socket wrench
- 3/4 drive metric sockets
- Grease gun
- Standard & Metric open end wrenches
- Pry bar
- Rags

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


to attach Ho-Pac to the carrier. The installation described is for a typical pin on type. Procedures may vary and you should follow the instructions in the manual provided by the carrier manufacturer.



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

	<b>CAUTION</b>
<p>Some procedures, such as attaching the Ho-Pac to and from the carrier will require an assistant. Both the operator and assistant must be qualified in these procedures. All directions and signals must be agreed upon in advance.</p>	

	<b>CAUTION</b>
<p>The weight of the Ho-Pac cannot exceed the maximum lifting capacity of the carrier in any position. Consult lift data provided by carrier manufacturer to assure stable carrier operation.</p>	

	<b>CAUTION</b>
	<p>To avoid the risk of injury, wear personal protective equipment, including appropriate clothing, gloves, safety eyewear and shoes when handling the Ho-Pac.</p>

	<b>CAUTION</b>
	<p>Crush hazard. Instruct operator to move controls only when directed by the Ho-Pac installer. Keep hands and fingers clear of moving parts and pinch points while equipment is being positioned.</p>

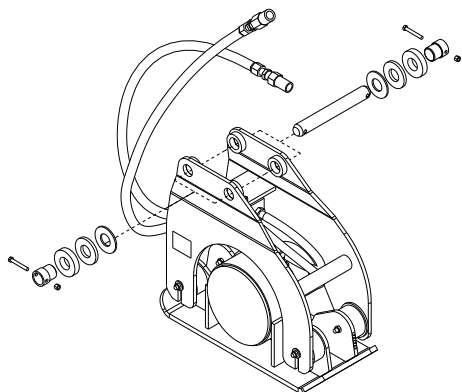
	<b>CAUTION</b>
	<p>Burn and fluid penetration hazard. Never install hydraulic hoses inside the operator’s cab.</p>

<b>IMPORTANT</b>
<p>Damage to motor or other hydraulic components may result if maximum pressure is exceeded. Oil pressure in the supply line must never exceed the value stated in Section 5.1, “Carrier Static Relief Pressure”.</p>

<b>IMPORTANT</b>
<p>Improper installation can damage the Ho-Pac or carrier. Read, understand and follow the instructions included with the installation kit. The installation is not complete until the auxiliary circuit is tested for flow and pressure. Refer to Section 9.1. For questions regarding testing the auxiliary circuit, contact Allied’s Technical Service for assistance.</p>

<b>IMPORTANT</b>
<p>Oil pressure in the return line, (measured at the Ho-Pac), shall not exceed 150 psi [10 bar] maximum. Pressures above maximum will decrease service life of motor.</p>

1. Prior to mounting the Ho-Pac, carefully inspect the following for wear or damage:
  - Spring mounts
  - Hoses and fittings
  - Threaded fasteners
  - Mounting pins and hardware
2. Do not operate the Ho-Pac until all faults are corrected.
3. Position the Ho-Pac on flat stable ground. With the bucket removed, install the Ho-Pac to the carrier in same manner as mounting a bucket. Use pins and hardware furnished with the Ho-Pac or supplied in mounting kit.

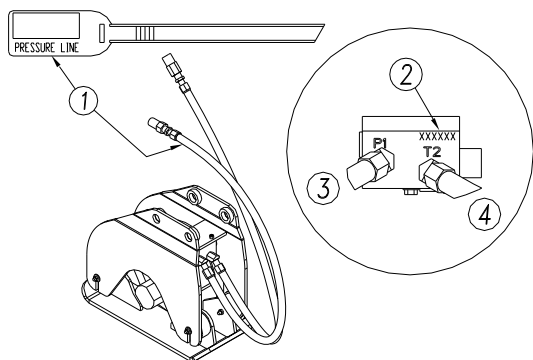


**Fig. 7-1**  
**Configured with “XSF” Top Frame**  
 Typical Mounting Components Include: 1- Bolt, 2- Nut, 3- Flange Bushing, 4- Spacer, 5- mounting Pin (See Table 6.2)

**IMPORTANT**

The motor is assembled for clockwise rotation. Pressurizing the outlet port will damage the motor’s internal components. Verify correct installation before pressurizing the hydraulic circuit.

4. Connect Pressure and Return hoses.




**Fig. 7-2**  
**Hose Connections**  
 1-Pressure ID Tag, 2-Control Valve, 3-Supply Line (P1), 4-Return Line (T2)

5. Raise the Ho-Pac off the ground. Tilt the compactor with the bucket cylinder to assure the hoses will not be pinched or restricted.
6. Briefly test Ho-Pac for proper operation. Stop and check for hydraulic leaks.

Tighten hoses and connections as necessary.

#### 7.4 Removal from the Carrier


**CAUTION**

 Crush hazard. Instruct operator to move controls only when directed by the Ho-Pac installer. Keep hands and fingers clear of moving parts and pinch points while equipment is being positioned.


**CAUTION**

 Burn hazard. Hydraulic components, including the hoses, motor and valve are hot during operation. Avoid contact.

**CAUTION**

 To avoid the risk of injury, wear personal protective equipment, including appropriate clothing, gloves, safety eyewear and shoes when handling the Ho-Pac.

**CAUTION**

 Fluid penetration hazard. Release pressure trapped in hoses before disconnecting. Wear appropriate protective equipment including safety eyewear and gloves.


1. Position attachment on stable ground.
2. Disconnect hydraulic connections.
3. Ensure all loads are adequately supported before removing mounting pins and hardware.
4. Remove attachment from carrier.

**NOTE:** Reinstall mounting pins and hardware on attachment to avoid loss or damage.



## SECTION 8.0 OPERATION

### 8.1 Pre-operation Checks

	<b>CAUTION</b>
<p>Repair or replace any damaged components prior to operation. Do not operate Ho-Pac until all faults are corrected.</p>	

For safe and proper operation, perform a thorough daily inspection of the equipment before use.

Daily, before operating:



1. Ensure Ho-Pac is securely attached to the carrier. Check mounting pins and hardware for wear or damage.
2. Remove excess dirt and debris from Ho-Pac. Excessive dirt on the Ho-Pac can decrease performance.
3. Carefully inspect the following for damage:
  - Check Spring mounts for cracks in rubber or separation from end plate
  - Check Hoses and fittings for oil leaks
  - Check Motor and valve for oil leaks
  - Check Threaded fasteners for tightness

**NOTE:** See Section 10 for further maintenance details.

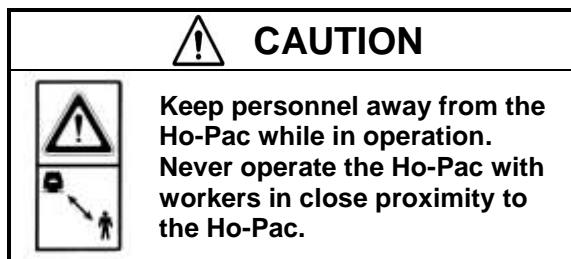
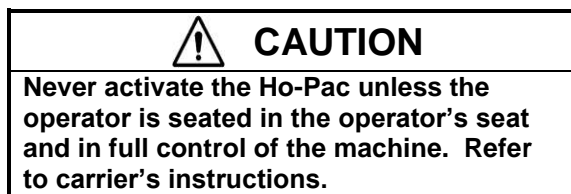
### 8.2 Operation

**NOTE:** To increase the equipment's service life, pay particular attention to correct working methods.

IMPORTANT
<ul style="list-style-type: none"> <li>• Do not operate Ho-Pac with hydraulic oil temperature above 180°F (80°C)</li> <li>• At temperatures below 32°F (0°C), operate the Ho-Pac for a few minutes without down force to allow the spring mounts to warm.</li> <li>• Do not allow mounting frame to contact base plate. Spring mount and frame damage may result.</li> <li>• Do not use the Ho-Pac to lift or push materials. Damage to spring mounts and other components may result.</li> <li>• Do not operate the Ho-Pac underwater. Bearing damage may result.</li> <li>• Do not operate the Ho-Pac without base plate. A dynamic imbalance and equipment damage may result.</li> </ul>

	<b>CAUTION</b>
	<p>Falls into open excavations can cause serious injury. Establish pedestrian barriers. Ground vibrations may collapse trench walls. Excavations must be shored to meet federal, state and local guidelines.</p>

IMPORTANT
<p>Do not operate Ho-Pac beyond its performance limits. Adhere to the specifications listed in Section 5 of this manual.</p>



1. Clear all personnel from the work area.
2. Position carrier in-line with direction of work.
3. Position the Ho-Pac parallel to the work surface and within view of the operator. The compaction plate must be in full contact with the work surface for maximum effectiveness.
4. Activate the Ho-Pac with the switch located in the operator's cab.
5. Apply boom down force with the carrier to stretch spring mounts approximately one-half (1/2) their width. **NOTE:** *Overstretching the rubber springs causes premature failure.*
6. As the material compacts, maintain a constant down force with the carrier. For

larger areas, decrease boom down-force and slide the compactor over the material with a repetitive, back and forth motion. The initial pass is continued until compaction is no longer apparent, typically 10 to 15 seconds.

7. Repeat compacted lifts as necessary to achieve finished grade. Optimum compaction is usually obtained with two passes. The duration of the initial pass is dependent on depth and material. The second pass may require additional fill material and Ho-Pac repositioning to achieve finished grade.
8. After compaction is complete, re-position the Ho-Pac and/or carrier to continue working.

**NOTE:** *It is not necessary to stop the Ho-Pac for minor carrier boom re-positioning.*

Optimum lift height depends on soil content, compaction desired, and vibration time. Many factors, including variations in operator technique can produce different results. Other factors include -

- Compacted densities are reduced at the bottom of excessively high lifts. It may be necessary to try different lift heights to determine the most effective lift to achieve the desired level of compaction.
- Compaction is affected by material type. Soils with 50% or more granular content are the most responsive to vibration compaction.
- Optimum moisture content is also critical to achieving maximum compacted densities of fill material. Fill materials may need conditioning prior to compaction.

**NOTE:** *Further information is available in the "Compaction Manual". For a copy, contact your local dealer or Allied's Customer Service. Ask for part number 103392.*

## SECTION 9.0 TROUBLESHOOTING

This guide identifies several commonly encountered conditions and the recommended course of action. For conditions other than these, contact the Allied Technical Service Department.



### CAUTION

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

Fault	Cause	Remedy
<b>Unit does not run</b>	Insufficient oil pressure or flow.	Check hydraulic supply system. Correct as required.
	Failed bearings.	Inspect and replace bearings.
	Broken motor shaft or worn splines.	Inspect and replace worn parts.
<b>Unit runs erratically</b>	Erratic oil pressure or flow.	Check hydraulic supply system. Correct as required.
	Failed spring mount.	Inspect and replace failed mount.
<b>Unit runs with excessive noise or vibration</b>	Failed bearing.	Inspect and replace bearings.
	Loose bolts or mounting hardware.	Inspect and tighten bolts.
<b>Unit runs, but stalls under load</b>	Pressure relief too low	Check hydraulic supply system. Correct as required.
	Failed bearing.	Inspect and replace bearings.
	Motor worn or motor seals failed.	Inspect and replace motor.
<b>Unit runs smoothly, but at reduced speed</b>	Flow too low.	Check carrier output.
		If motor or flow regulator valve was replaced, check that the motor and valve are properly matched.
<b>Oil discharge from pressure relief vent</b>	Oil level too high	Check oil level

**Note:** The performance of the attachment is affected by a hydraulic system that is not operating to specifications. If the attachment is not working correctly, make a thorough check of the carrier's hydraulic system.

Using a flow meter, measure the oil flow and determine the cracking pressure of the relief valve. Include the hoses from the attachment as part of the test. This will eliminate the possibility of a collapsed hose. Compare the results of your test with the specifications in section 5.1.

### 9.1 Testing the Hydraulic Circuit

The hydraulic system of the host machine is utilized to supply power to the Ho-Pac. It's important to evaluate the hydraulic circuit of the machine with a flow meter.

Before starting a flow test, make sure the circuit to be tested has a relief valve. After the tests are completed, compare the results with the specifications in Section 5.1.

Never attempt to operate the Ho-Pac until the results recorded below are in accordance with the specifications listed for your model.

In order to get an accurate assessment of the hydraulic circuit, conduct the test over a range of conditions, including temperatures, mode, engine speed and load. Use the space provided to record your results.

Mode	Engine RPM	Flow [GPM]	Load Pressure [PSI]	Oil Temp [°F]	Relief Pressure [Crack]	Relief Pressure [Dynamic]	Return Pressure [PSI]
			0				
			1000				
			1500				
			1800				
			2000				
			2200				
			2400				
			2600				
			2800				
			3000				
			3200				
			3400				

**Mode** – Set the mode selector to Breaker position (if equipped).

**Engine RPM** – Set to normal operating speed

**Flow [GPM]** – Record flow meter readings according to the given load increments

**Load Pressure [PSI]** – Increase load on hydraulic circuit by slowly closing restrictor valve on flow meter.

**Oil Temperature** – Testing must be done while the hydraulic oil temperature is at normal operating temperature. [130-170° F]

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


**Relief Pressure [Dynamic]** – Adjust restrictor valve until pressure gage indicates relief valve has reached full open and all oil is bypassed through relief valve.

**Return Pressure [PSI]** – Record the pressure measured in the return line pressure.

Procedures described are for typical carriers and flow meters. Procedures may vary and you should always consult the manual provided by the manufacturer of the flow meter for specific installation and operating details. Follow all safety precautions.

## SECTION 10.0 SERVICE AND MAINTENANCE

### 10.1 General Guidelines

 <b>CAUTION</b>
<p><b>Never service the Ho-Pac while it is operating. Ensure all loads are adequately supported before performing any service work. Service in safe work areas. Never service the Ho-Pac in the trench.</b></p>

When properly installed, operated and maintained by qualified personnel, the Allied Ho-Pac requires a minimum of service.

Maintain clean oil in the carrier. Follow the recommendations from the carrier manufacturer for approved hydraulic oils and hydraulic system maintenance.



Care must be taken to ensure that fluids are contained while performing maintenance and service. Use a suitable container to collect fluids before any component containing fluids is disassembled. Clean up any spilled oil. Obey all local regulations for the disposal of these fluids.

Non-approved parts may cause loss of performance or damage the Allied attachment. Use only genuine Allied replacement parts to protect total warranty coverage. Do not make alterations to the Ho-Pac without written authorization from the Allied Engineering Department.



Use standard mechanic's techniques and tools to disassemble and assemble the Ho-Pac.

Contact Allied's Technical Service with questions regarding maintenance, repair or operation. For replacement parts, contact Allied's Customer Service.

### 10.2 Daily Maintenance

 <b>CAUTION</b>
<div style="display: flex; align-items: center;">  <p><b>Risk of eye injury from flying debris. Wear eye protection when operating or servicing equipment.</b></p> </div>

- Remove excess dirt and debris from Ho-Pac. Excessive dirt on the Ho-Pac can decrease performance.
- Check for loose or missing fasteners.
- Visually check for oil leaks.

 <b>CAUTION</b>
<div style="display: flex; align-items: center;">  <p><b>Fluid penetration hazard. Pressurized oil 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.</b></p> </div>

**Replace hoses if any of the following conditions are present:**

- End fittings are damaged or leaking
- Outer coverings are chafed or cut.
- Wires are exposed
- Outer coverings are ballooning
- Flexible part of the hoses are kinked
- Outer covers have embedded armoring
- End fittings are displaced

### 10.3 Preventative Maintenance

After every 100\* hours of Ho-Pac operation, inspect the following:

- Check oil level (Model 300 only)
- Check components for excessive wear.
- Check spring mounts for cracks in rubber.
- Check threaded fasteners. Replace any that are missing or damaged. Check fasteners for tightness. Refer to Section 10.12 for bolt torques.
- After every 1000\* hours of Ho-Pac operation, replace the oil (300, 500 only)

\*The frequency of maintenance depends upon the operating environments and conditions of operation. For additional maintenance considerations, refer to Section 10.5.

### 10.4 Threaded Fasteners

#### IMPORTANT

**Keep fasteners tight. Replacement fasteners must be the same type and grade.**

- Tighten the fasteners according to Table 10.1.

**NOTE:** After bolt installation, operate the Ho-Pac for a few hours, then re-check bolt torques.

### 10.5 Conditional Maintenance

While the frequency of inspections and maintenance depend primarily on use, other factors such as extreme environmental conditions require additional measures. Clean all Ho-Pac working surfaces under the following conditions:

- Extremely humid weather conditions.
- Muddy or extremely wet soils.
- If reduced performance is observed.

### 10.6 Pressure Relief Plug (300 & 500)

The eccentric housing is equipped with a pressure relief check valve. This check valve is located near the top of the eccentric housing and relieves pressure from the eccentric housing. A slight amount of oil residue in this area is normal.

### 10.7 Lubrication (300B & 500B)

Bearings used in the 300B & 500B models are lubricated for life and sealed. Sealed bearings eliminate daily greasing and protect against contamination related failures.

#### 10.7.1 Lubrication (300 & 500)

During operation, the bearings used in the models 300 & 500 are continuously lubricated from an oil bath within the eccentric housing.

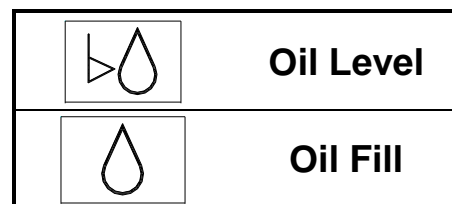


Fig. 10-1

Labels identify Oil level check & oil fill plug

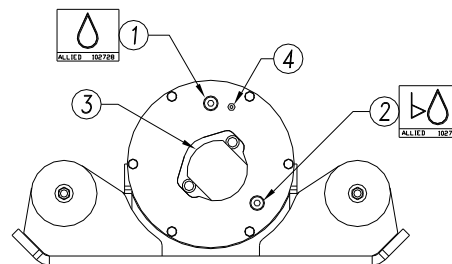


Fig. 10-2

1-Oil Fill Plug, 2-Oil Check Plug, 3-Motor, 4-Pressure Relief Plug

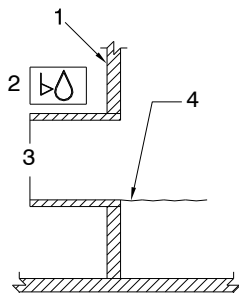
- Visually check for oil leaks. If leaks are detected, check oil level and fill as required. Determine cause of leak, (e.g. loose bolts, faulty gasket) and make necessary repair. Check the oil quality for contamination. Replace oil as required.

### 10.7.2 How To Check and Add Oil

#### IMPORTANT

Contamination can shorten bearing life. Prevent dirt and debris from contaminating the oil. Always clean the area around the oil level and fill plugs prior to removal.

1. Position Ho-Pac on a level surface with easy access to both the oil fill and oil level plugs.
2. To prevent contamination, clean area around plug before removing the oil level plug.
3. Check the oil level. When properly filled, the oil level is visible at the bottom of the oil level opening.



**Fig. 10-3**  
**Proper Oil Level**

1-Bearing Housing, 2-Oil Level Decal, 3-Oil Level Plug, 4-Proper Oil Level

4. If oil is required:
  - Clean the area around the oil fill plug. Remove plug.
  - Add oil until the level reaches the bottom of the oil level opening.

5. Install and tighten both the oil fill and oil level plugs.

#### Oil Capacity

Allied recommends a premium quality, 10W hydraulic oil (minimum 30 cSt at 155° F). **Do not overfill.** Over filling (excessive oil) will cause oil to blow out of the pressure relief plug.

#### Model 300

Approximate oil capacity is 0.5 qt (0.47 l).

#### Model 500

Approximate oil capacity is 1.4 qt (1.4 l).

### 10.7.3 How To Drain Oil

1. Position Ho-Pac with the oil level plug pointed downward so that oil will drain.
2. Remove oil level plug and drain oil.
3. If the oil is contaminated with water or dirt, flush the eccentric housing with clean oil prior to oil replacement.
4. Add new oil. Refer to Section 10.7.1.
5. Properly dispose of used oil. Obey all local regulations for the disposal of these fluids.

### 10.8 How To Check Bearings

Because of the high loads and rotational speeds, bearing failure is usually sudden. A scraping or rattling sound is an indication of imminent bearing failure.

Visually inspect the bearings for broken or damaged components to determine if replacement is necessary.

### 10.8.1 Bearing Replacement


Bearing service shall be performed in a properly equipped workshop. Use of a manual arbor press is recommended.

**NOTE:** Bearings are interference press fit. Apply contact pressure to the outer race only. Do not hammer on the bearing rings.

#### IMPORTANT

Non-approved parts may cause loss of performance or damage. Use only genuine Allied replacement parts to protect total warranty coverage.

### 10.8.2 Bearing Removal

	<b>CAUTION</b>
	<b>Crush hazard. Be careful that eccentric mass does not fall and injure hands or fingers.</b>

1. Remove hydraulic hoses from motor. Properly dispose of any spilled oil as required by governing regulations.
2. Remove the hydraulic motor.
3. Remove the motor side bearing housing from the eccentric housing.
4. Remove the eccentric mass.
5. Remove the other bearing housing.
6. With the bearing housing properly supported, press out bearing. Press only against the bearing's inner race.

**NOTE:** Do not pry out the outer bearing race if it remains in the housing. Place a small weld bead, 1/8 inch (3 mm) along the inside diameter. Allow it to cool, then remove the outer race.

### 10.8.3 Bearing Installation

#### IMPORTANT

Handle new bearings with care to prevent the grease seal from becoming dislodged. (300B & 500B models)



1. Clean the bearing housing.
2. Apply a light coating of oil to the bearing's outer race.
3. Slowly press bearing into housing.  
**NOTE:** Interference press fit. Press only against the outer race.
4. Clean the eccentric shaft. Slip bearing/housing onto shaft. **NOTE:** Close tolerance slip fit.
5. Repeat steps 1-4 with other bearing /housing.
6. Install the bearings and eccentric in to the eccentric housing. Install bolts.
7. Install hydraulic motor and bolts.

#### IMPORTANT

Refer to Table 10.1 for bolt torque. Follow special assembly instructions noted in Section 10.12.

8. Install hydraulic hoses.

### 10.9 Spring Mounts - Replacement

	<b>CAUTION</b>
	<b>Crush hazard. Do not place hands or fingers between mounting frame and compaction plate during removal of spring mounts. Ensure all loads are adequately supported before performing any service work.</b>



**CAUTION**

Some components of the Ho-Pac are heavy. Use proper lifting and support equipment.

The spring mounts are subject to aging and require periodic replacement. While spring life depends primarily on use, extreme environmental conditions and other factors can shorten mount life.

1. Position Ho-Pac on flat, stable surface.
2. Support top mounting frame to remove weight from mounts.
3. Loosen and remove bolt that secures the spring mount to the top frame. Repeat until bolt is removed on all four (4) spring mounts.
4. Remove the four (4) bushings.
5. Lift the top mounting frame off.
6. To replace spring mount, loosen and remove bolt that secures spring to lower assembly. Remove spring mount.
7. To install new spring mount, slide washer over bolt. Align spring with hole located in lower assembly and insert bolt. Tighten bolt to 80 ft/lbs [108 N·m].
8. With all four (4) springs installed on lower assembly, position the top mounting frame over the spring mounts and align bolt holes.
9. Install bushings.
10. Install bolts and tighten to 80 ft/lbs [108 N·m].

## 10.10 Hydraulic Motor

### 10.10.1 Hydraulic Motor Service

The hydraulic motor has no user-serviceable parts. Contact Allied's Technical Service for further information.

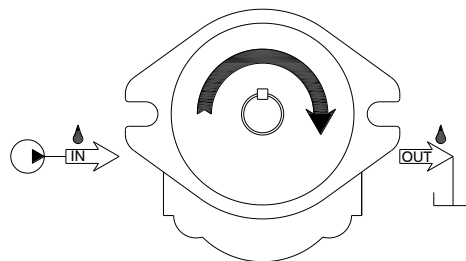
### 10.10.2 Motor Flow & Rotation

#### IMPORTANT

Incorrect combination of motor and flow regulator valve will result in poor performance or damage. Refer to Sections 12.3.1 & 12.3.2 for help with verifying the identity of the motor and flow regulator valve.

#### IMPORTANT

The motor is assembled for clockwise rotation. Pressurizing the outlet port will damage the motor's internal components. Verify correct installation before pressurizing the hydraulic circuit.



**Fig. 10-4**  
**Proper Motor Rotation**

Motor rotation is clockwise when viewed from the shaft end. With the large portion of the motor downward, the motor's inlet port (IN) is located on the left-hand side.

## 10.11 Flow Regulator Valve

### 10.11.1 Flow Regulator Valve Service

The flow regulator valve has no user-serviceable parts. Contact Allied's Technical Service for further information.

### 10.11.2 Valve Port Identification

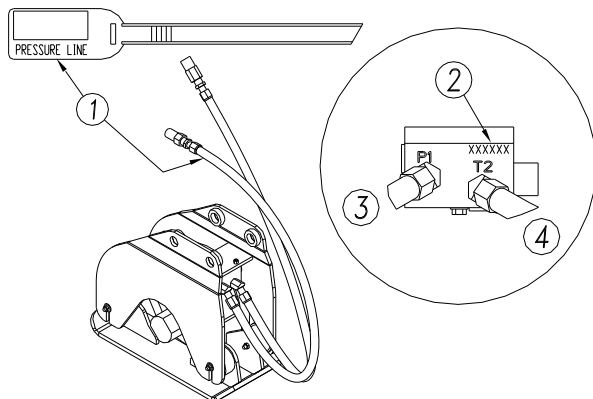
**IMPORTANT**

Incorrect combination of motor and flow regulator valve will result in poor performance, accelerated wear or damage. Refer to Sections 12.3.1 & 12.3.2 for help with verifying the identity of the motor and flow regulator valve.

The flow regulator valve has a total of four (4) connection ports. Ports are stamped P1, P2, T1 and T2.

**IMPORTANT**

If the motor or flow regulator valve was replaced, verify correct installation before pressurizing the hydraulic circuit.



**Fig. 10-5**

**Control Valve Connections**

1-Pressure Line I.D. Tag, 2-Valve Part Number, 3-Supply Line (P1) , 4-Return Line (T2)

**P1:** Supply oil flow from carrier.

**P2:** Regulated oil flow to motor's inlet port.

**T1:** Return oil flow from motor's outlet port.

**T2:** Return oil flow to the carrier (Tank).

### 10.12 Tightening Torque

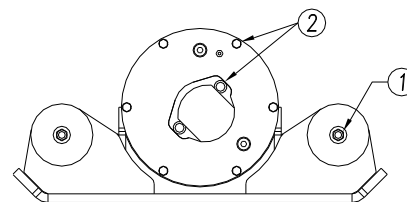
**IMPORTANT**

Keep fasteners tight. Replacement fasteners must be the same type and grade.

1. Clean threaded fasteners and surfaces.
2. Lubricate threads and washer faces with light coat of grease. Refer to "Additional Assembly Instructions" in Table 10.1. for fasteners requiring thread locker.

**NOTE:** After bolt installation, operate the Ho-Pac for a few hours, then re-check bolt torques.




<b>Table 10.1</b>		
<b>Tightening Torque</b>		
Dia.	Pre-torque Ft-lbs [N·m]	Final Torque Ft-lbs [N·m]
3/8"	Install all bolts and tighten evenly.	35 [47]
1/2"		80 [108]
5/8"		170 [230]
7/8"		400 [542]
1"		650 [880]
Item	<b>Additional Tightening and Assembly Instructions</b>	
1	Spring Mount (Stud type) Torque 35 Ft-lbs [47 N·m]	
2	Apply Loctite 242 <sup>(a)</sup>	
<sup>(a)</sup> Or equivalent. Follow manufacturer's directions for use.		



**Fig. 10-6**

**Special Tightening Instructions**

## SECTION 11.0 LIFTING, TRANSPORT & STORAGE

	<b>WARNING</b>
 	<p>Crush hazard. Injury may result if the Ho-Pac shifts or falls. Do not lift the Ho-Pac by the mounting pins or whip hose. The LIFT POINT decal identifies the recommended lifting points. Lifting devices must safely carry the loads to which they will be subjected. Lift away from people. Do not enter the danger zone while the attachment is being lifted.</p>

	<b>CAUTION</b>
	<p>Crush hazard. Keep hands and feet clear of crush points. Always use sufficient blocking to avoid accidental or sudden movement of the attachment.</p>

### 11.1 Lifting & Transport

#### 11.1.1 If the attachment is to be transported independently of the carrier;

1. Remove all loose debris from attachment.
2. If the swivel assembly is installed, lock swivel position with bolt.
3. Follow removal instructions in Section 7.4.
4. Secure hoses to unit to avoid accidental damage.
5. Lift attachment only at approved lift points. Refer to the Safety Section of this manual for the location.
6. Adequately stabilize and secure attachment for transport.

#### 11.1.2 If the Ho-Pac is transported while installed on the carrier:

1. Remove all loose debris from attachment.
2. If the swivel assembly is installed, lock swivel position with bolt.
3. Secure hoses to unit to avoid accidental damage.
4. Inspect the mounting pins and hardware for damage and integrity.
5. Transport carrier in accordance with carrier manufacturer's recommendations.

### 11.2 Storage

Observe the following storage precautions.

- Store in upright position
- Avoid wet or damp conditions to minimize rust
- Seal hydraulic connections to protect against contamination
- Keep the motor full of oil to protect internal components
- Protect rubber components such as spring mounts and hoses from exposure to direct sunlight to reduce aging effects
- Support the mounting frame with blocks to minimize permanent sag in spring mounts.

## SECTION 12.0 PARTS INFORMATION

### IMPORTANT

**Non-approved parts may cause loss of performance or Ho-Pac damage. Use only genuine Allied replacement parts to protect total warranty coverage.**

**NOTE:** Check that the model number of your Ho-Pac corresponds to the one given in Section 1 of this manual.

### 12.1 General

This section contains spare parts information for the Allied Ho-Pac model described in Section 1. When ordering parts, it is important to note that components used in the assembly of the Ho-Pac, such as the top mounting frame, dynamic assembly, compaction plate, motor and flow regulator valve, can vary.

The illustrations and parts descriptions contained in this manual are typical of the model identified in Section 1 of this manual. When viewing the parts illustrations and descriptions, verify that the description and serial number of the assembly is correct for your Ho-Pac.

To order replacement parts, Allied recommends contacting the dealer from which the equipment was purchased. Components, such as the top mounting frame, eccentric housing, compaction plate, motor and valve, are available in optional configurations. Therefore, the model and serial number must accompany all inquiries pertaining to installation, service, maintenance and spare parts.

To expedite the ordering process and ensure accuracy, please provide your dealer with the following information-

- Manufacturer – Allied
- Product name - Ho-Pac

- Model number
- Serial number
- Description of the part
- Part number
- Quantity

### 12.2 Spare Parts for Motor and Valve

There are no user-serviceable parts in the hydraulic motor or the flow regulator valve. Contact Allied's Technical Service for further information.

### 12.3 Motor and Valve Identification

#### IMPORTANT

**Incorrect combination of motor and flow regulator valve will result in poor performance or damage. Refer to Sections 12.3.1 & 12.3.2 for help with verifying the identity of the motor and flow regulator valve.**

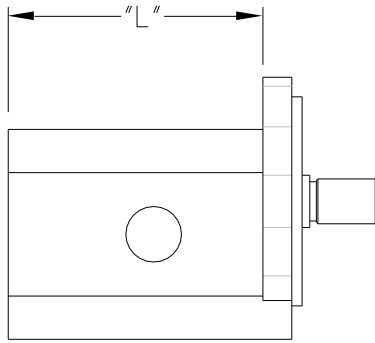
#### IMPORTANT

**Pressurizing the outlet port will damage the motor's internal components. Verify installation before pressurizing the hydraulic circuit.**

#### 12.3.1 Motor Identification

When the part number of the motor is not known, the motor's body length is used to determine its correct identity.

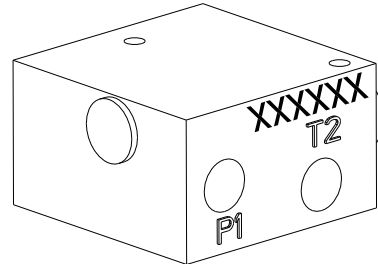
Refer to Figure 12-1. Measure the distance ("L") from the back surface of the mounting flange to the rear of the motor body (not including bolts). Use the dimensions in Table 12.1 to determine the part number.



**Fig. 12-1**  
Measure ("L") to identify the motor's part number

### 12.3.2 Valve Identification

Locate the part number stamped on the manifold to correctly identify the flow regulator valve.



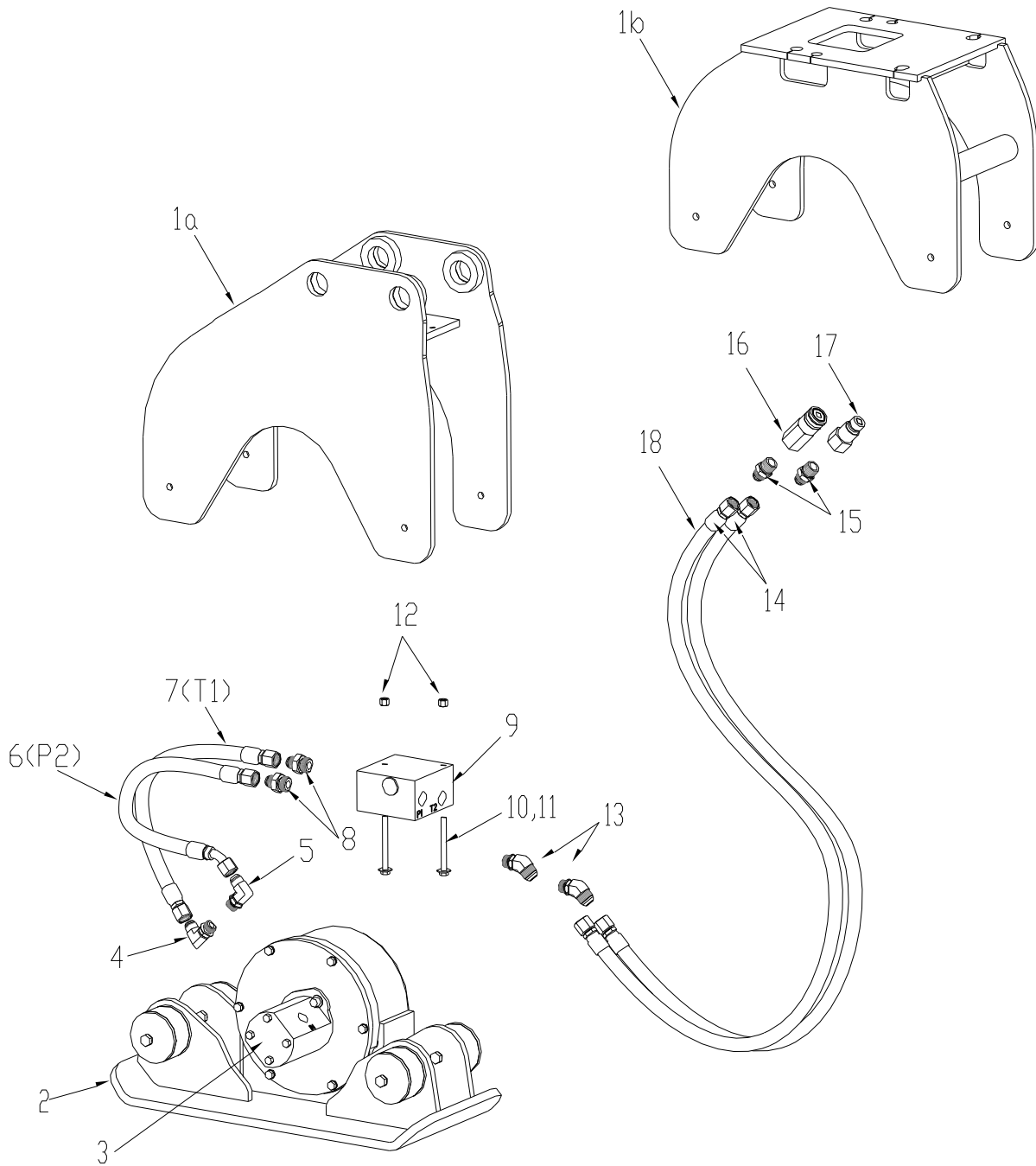
**Fig. 12-2**  
Flow Regulator Valve - Part Number Location  
XXXXXX

<b>Table 12.1</b>					
Motor & Valve Package (6, 9, 14 or 18 gpm)					
Option	"L" - Length Inch [mm]	Flow gpm [lpm]	Part Number		
			Motor [Elbow] <sup>(a)</sup>	Valve	Motor & Valve Package <sup>(b)</sup>
1	3-1/8 [80]	6 [23]	572886 [102698]	572887	573050
2	4-1/2 [114]	9 [34]	100469 [679306]	102514	100875
3	4-1/8 [105]	14 [53]	101445 [679306]	102515	100876
4	4-9/16 [116]	18 [68]	101323 [679306]	102516	100877

<sup>a)</sup> The size of the elbow varies due to motor's port size. [Part Number of Elbow].

<sup>b)</sup> Package includes the following: 1-Motor, 1-Elbow<sup>(a)</sup> & 1-Flow Regulator Valve

### PARTS INFORMATION – 300, 300B



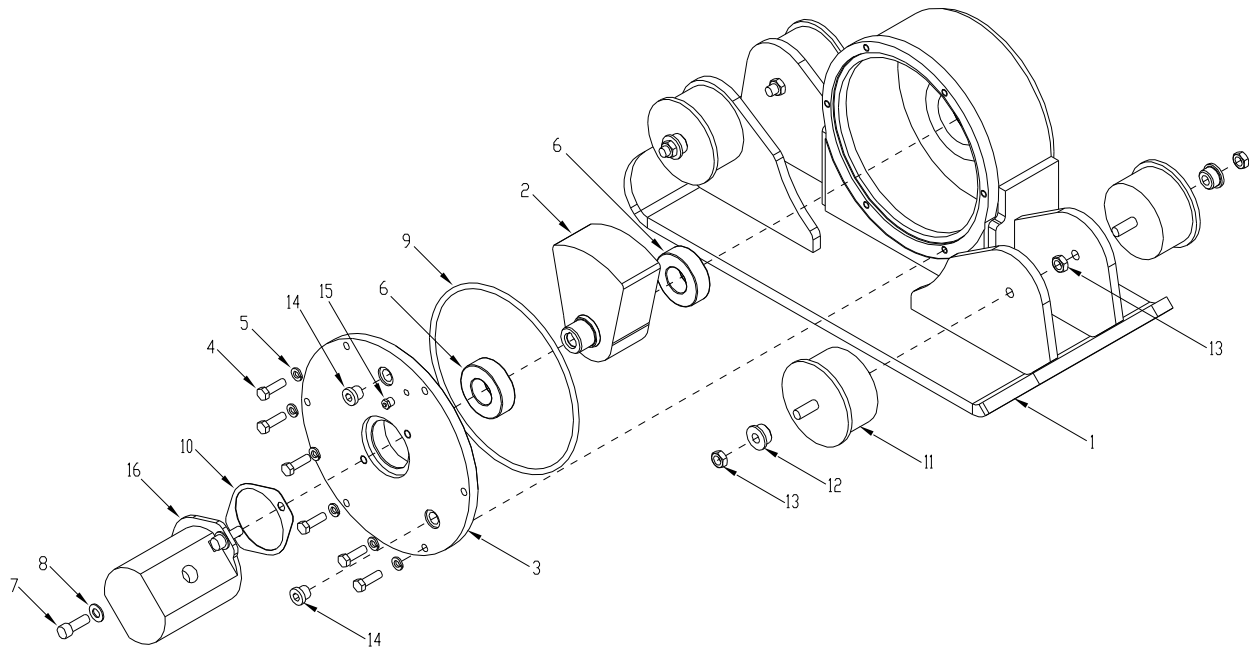
**Fig. 12-3**  
**Model 300 & 300B Mounting Frame & Hydraulics**

**PARTS INFORMATION – 300, 300B (cont'd)**

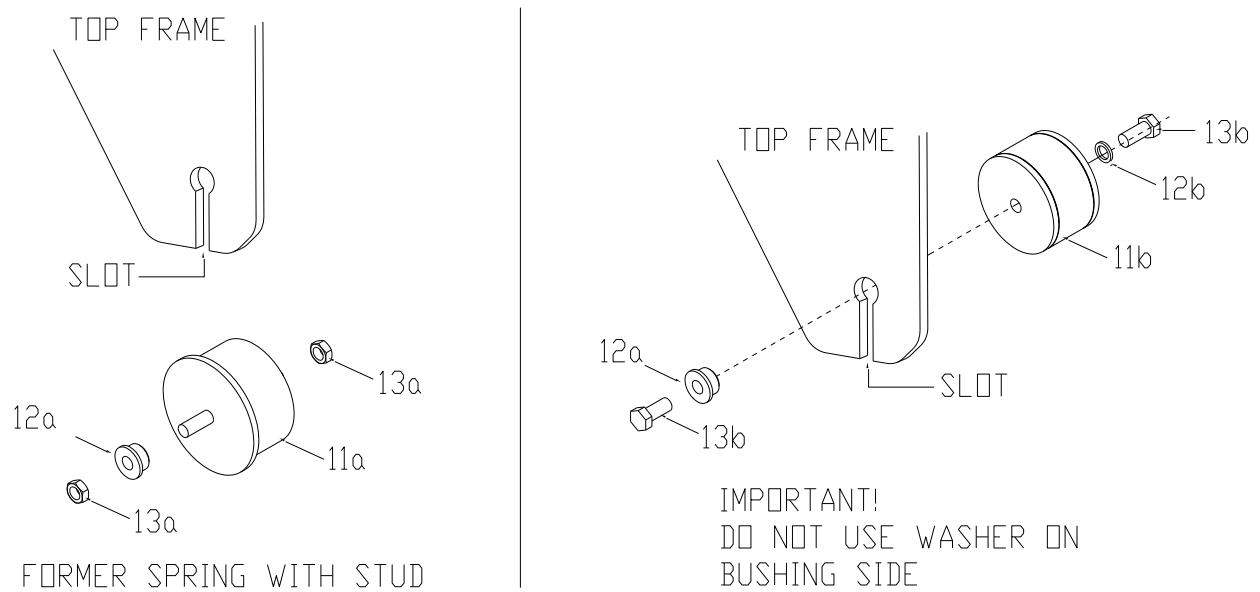
**Table 12.2**  
**Model 300 & 300B - Mounting Frame & Hydraulics**

Item	Part No.	Description	Qty	Remarks / Specifications
---	572740C	Ho-Pac 300 (Fig. 5-1)	---	Configured with XSF Mounting Frame
---	572730C	Ho-Pac 300 (Fig. 5-2)	---	Configured with IN1 & IN2 / XR Mounting Frame
---	573453C	Ho-Pac 300B (Fig. 5-1)	---	Configured with XSF Mounting Frame
---	573220C	Ho-Pac 300B (Fig. 5-2)	---	Configured with IN1 & IN2 / XR Mounting Frame
1a	572830	Top Mounting Frame	1	XSF Mounting Family
1b	572829	Top Mounting Frame	1	Flat Top IN1 & IN2 / XR Mounting Family
2a	572736	300 Dynamic Assembly	1	See separate figure and parts list
2b	573223	300B Dynamic Assembly	1	
3	Varies	Motor	1	See Table 12.1 for GPM options
4	Varies	Elbow	1	See Table 12.1 for Elbow
5	Varies	Elbow	1	See Table 12.1 for Elbow
6	572831	Hose Assembly	1	Pressure Line (P2)
7	573534	Hose Assembly	1	Return Line (T1)
8	677119	Adapter	2	
9	Varies	Valve	1	See Table 12.1 for options
10	813290	Hex Head Cap Screw	2	3/8"
11	813292	Flat Washer	2	3/8"
12	759808	Elastic Nut	2	3/8"
13	102699	Elbow	2	45°
14	101418	Hose Assembly	2	72"
15	677179	Adapter	2	
---	670006	Q.D. Coupler Set	1 (Set)	Set includes 16, 17
16	670007	Quick Disconnect	1	Socket
17	670008	Quick Disconnect	1	Plug
18	818676	Pressure ID Tag	1	Located on pressure hose
---	Varies	Mounting Pins (not shown)	---	See Table 6.2 for separate figure and parts list.

**PARTS INFORMATION - 300**



**Fig. 12-4a**  
**Model 300 - Dynamic Assembly & Suspension**



**Fig. 12-4b**  
**Model 300 - Spring & Hardware**



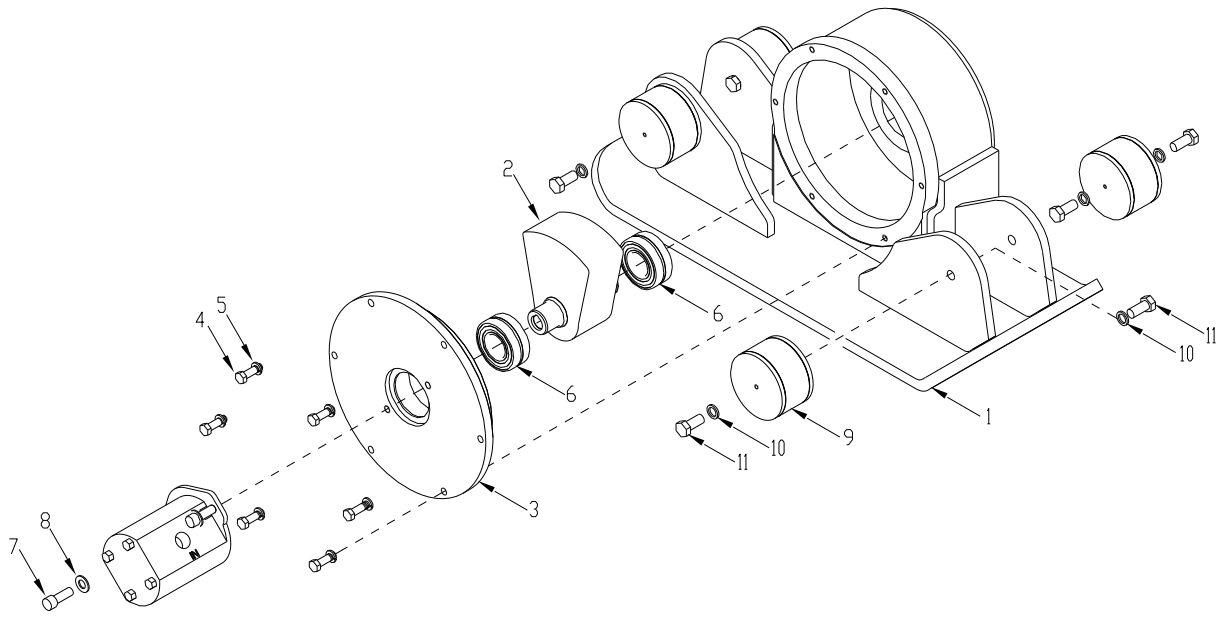
## PARTS INFORMATION - 300

**Table 12.3**  
**Model 300 Dynamic Assembly**

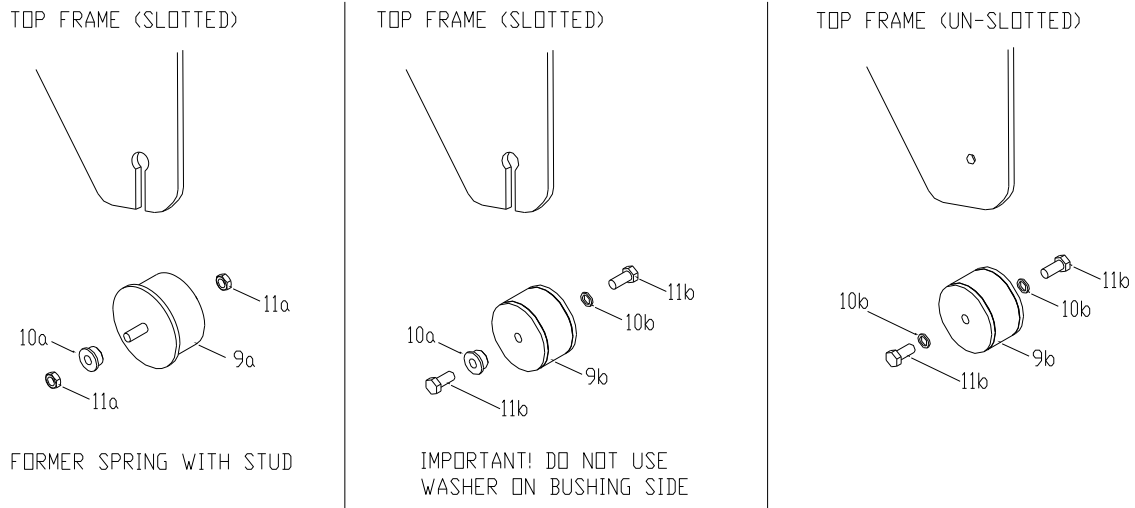
Item	Part No.	Description	Qty	Remarks / Specifications
---	<b>572736</b>	<b>Dynamic Assembly &amp; Suspension - Model 300</b>		
1	572737	Lower Assembly	1	
2	572739	Eccentric Assembly	1	
3	572828	Bearing Housing	1	
4	902538	Hex Head Cap Screw	6	
5	798190	Lock Washer	6	
6	572738	Bearing	2	
7	572719	Socket Head Cap Screw	2	
8	708514	Flat Washer	2	
9	572827	O-Ring	1	
10	102694	Gasket	1	
11a	714721	Rubber Spring Mount	4	Former spring 714721 is discontinued. Replaced by spring kit part no. 574582 <sup>(a)</sup>
11b	574574			Follow Figure 12-4b for proper arrangement of hardware
12a	102490	Bushing	4	Required on slotted frames
12b	572080	Lock Washer	4*	1/2" (* Pair). Slotted frames require only 4 pair.
13a	102491	Hex Nut	8	Not used with newer spring
13b	574341	Hex Head Cap Screw	8	Torque to 80 ft/lbs [108 N·m]
14	90444	Flange Plug	2	
15	A102780	Relief Plug	1	
16	Varies	Motor	1	See Table 12.1 for GPM options

<sup>a)</sup> Spring mount kit, 574582 includes 1-Spring 574574, 2-HHCS 574341, 2 (Pair) Washers 572080

### PARTS INFORMATION – 300B



**Fig. 12-5a**  
**Model 300B - Dynamic Assembly & Suspension**



**Fig. 12-5b**  
**Model 300B – Spring & Hardware Arrangement**

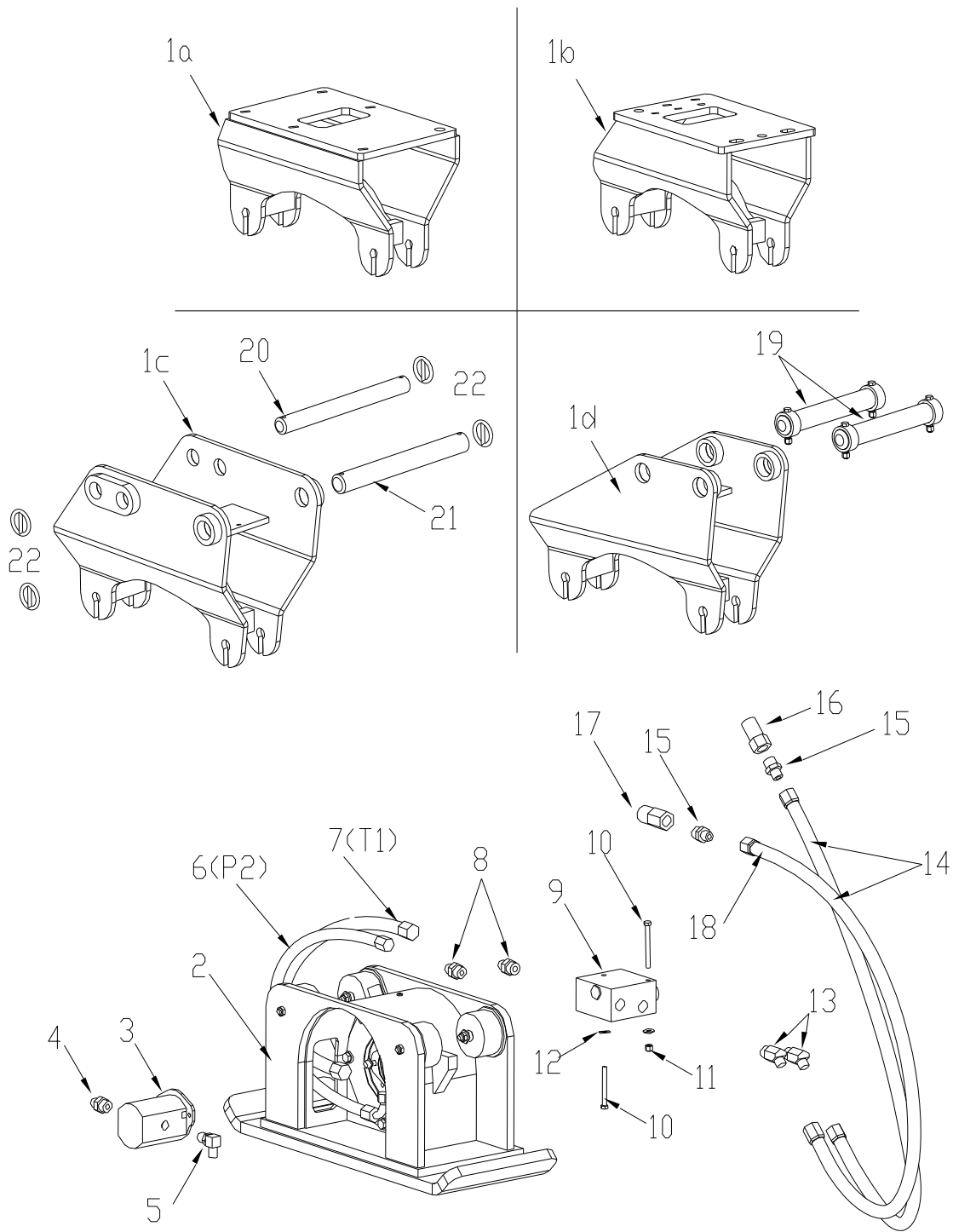
**PARTS INFORMATION – 300B (cont'd)**

**Table 12.4**  
**Model 300B Dynamic Assembly**

Item	Part No.	Description	Qty	Remarks / Specifications
<b>1-13</b>	<b>573223</b>	<b>Dynamic Assembly &amp; Suspension - Model 300B</b>		
1	573224	Lower Assembly	1	
2	573225	Eccentric Assembly	1	
3	573312	Bearing Housing	1	
4	902538	Hex Head Cap Screw	6	
5	798190	Lock Washer	6	
6	573260	Bearing	2	
7	572719	Socket Head Cap Screw	2	
8	708514	Flat Washer	2	
9a	714721	Rubber Spring Mount	4	Former spring 714721 is discontinued. Replaced by spring kit part no. 574582 <sup>(a)</sup>
9b	574574			Follow Figure 12-5b for proper arrangement of these parts
10a	102490	Bushing	4	Required on slotted frames
10b	572080	Lock Washer	8*	1/2" (* Pair). Slotted frames require only 4 pair.
11a	102491	Hex Nut	8	Not used with newer spring
11b	574341	Hex Head Cap Screw	8	Torque to 80 ft/lbs [108 N·m]
---	Varies	Motor	1	See Table 12.1 for GPM options

<sup>a)</sup> Spring mount kit, 574582 includes 1-Spring 574574, 2-HHCS 574341, 2 (Pair) Washers 572080

**PARTS INFORMATION - 500**



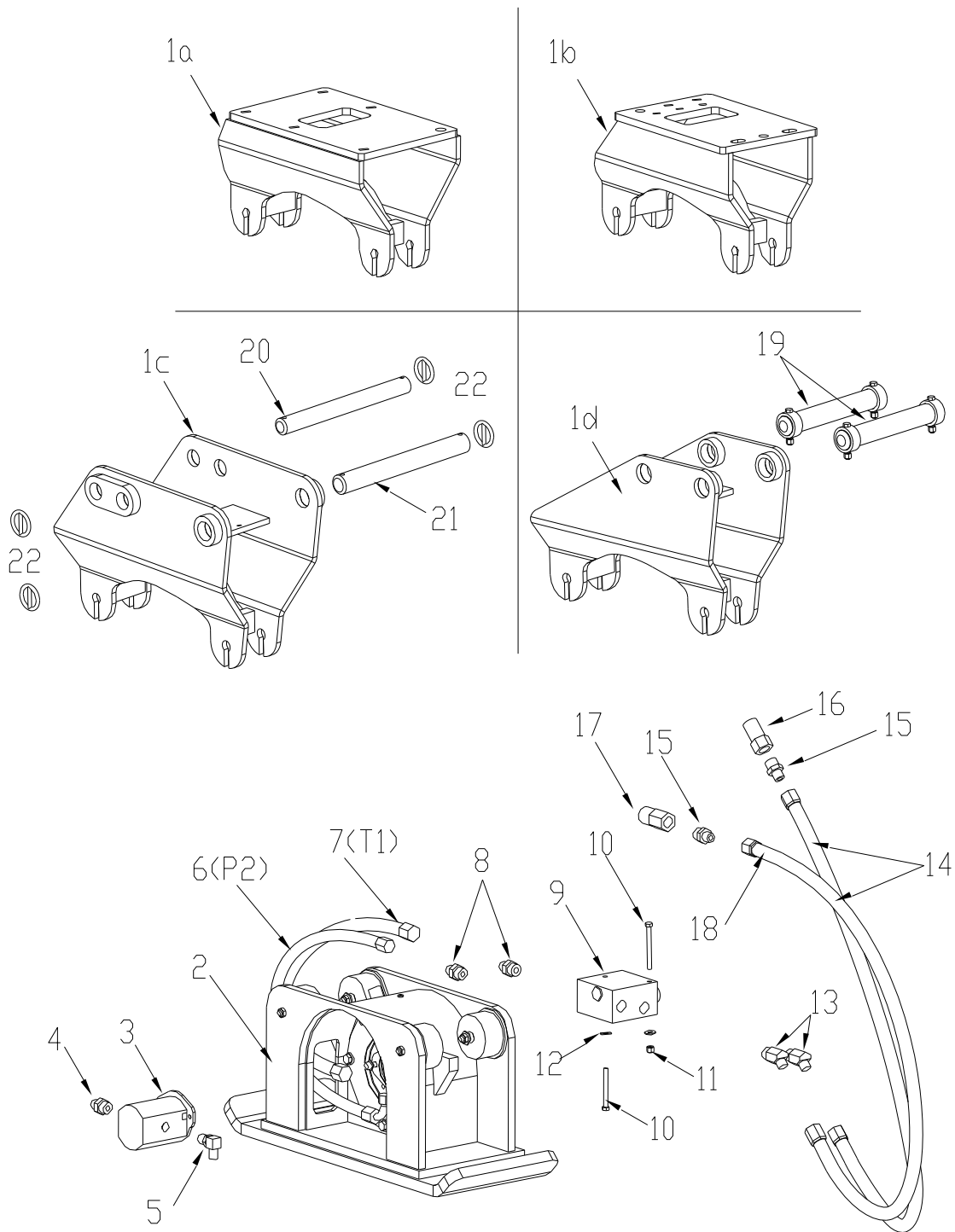
**Fig. 12-6  
Model 500 Mounting Frame & Hydraulics**

## PARTS INFORMATION - 500

**Table 12.5**  
**Model 500 - Mounting Frame & Hydraulics**

Item	Part No.	Description	Qty	Remarks / Specifications
---	570317C	500 Ho-Pac (Fig. 5-3)	---	Configured with XR Mounting Frame
---	102684C	500 Ho-Pac (Fig. 5-4)	---	Configured with XCS / BCS Mounting Frame
---	100924C	500 Ho-Pac (Fig. 5-5)	---	Configured with BSF Mounting Frame
---	102685C	500 Ho-Pac (Fig. 5-6)	---	Configured with XSF Mounting Frame
1a	570312	Top Mounting Frame	1	"XR" Mounting Family
1b	A102686	Top Mounting Frame	1	"XCS / BCS" Mounting Family
1c	102811	Top Mounting Frame	1	"BSF" Mounting Family
1d	102687	Top Mounting Frame	1	"XSF" Mounting Family
2	102693	Dynamic Assembly	1	See separate figure & parts diagram
3	Varies	Motor	1	See Table 12.1 for GPM options
4	Varies	Adapter	1	See Table 12.1 for adapter
5	Varies	Elbow	1	See Table 12.1 for elbow
6	102700	Hose Assembly	1	Pressure Line (P2)
7	102701	Hose Assembly	1	Return Line (T1)
8	677119	Adapter	2	
9	Varies	Valve	1	See Table 12.1 for options
10a	814213	Hex Head Cap Screw	2	3/8" x 3 1/2" XR & XCS/BCS Frames
10b	813290			3/8" x 4" XSF & BSF Frames
11	759808	Hex Nut	2	For use on XSF & BSF Frames
12	813292	Flat Washer	2	
13	102699	Elbow	2	45°
14	101418	Hose Assembly	2	72°
15	677179	Adapter	2	

### PARTS INFORMATION



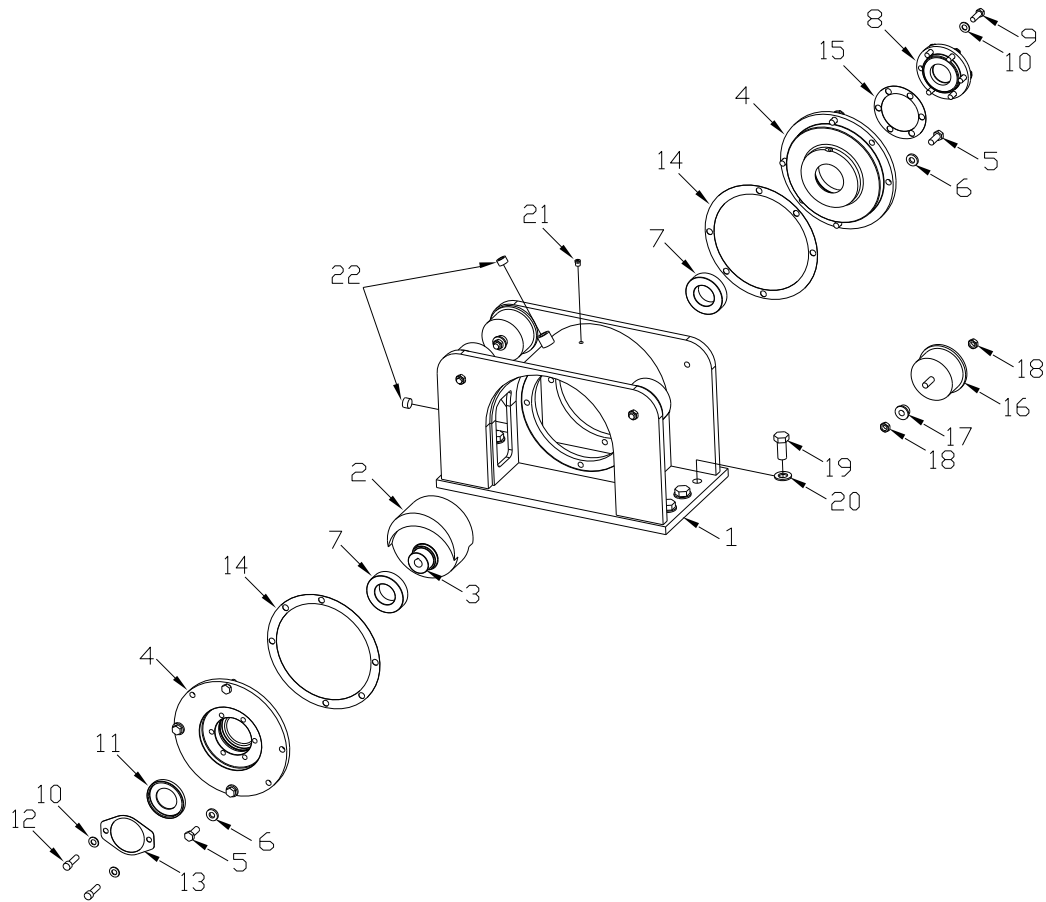
**Fig. 12-6**  
**Model 500 Mounting Frame & Hydraulics**

**PARTS INFORMATION – 500 (cont'd)**

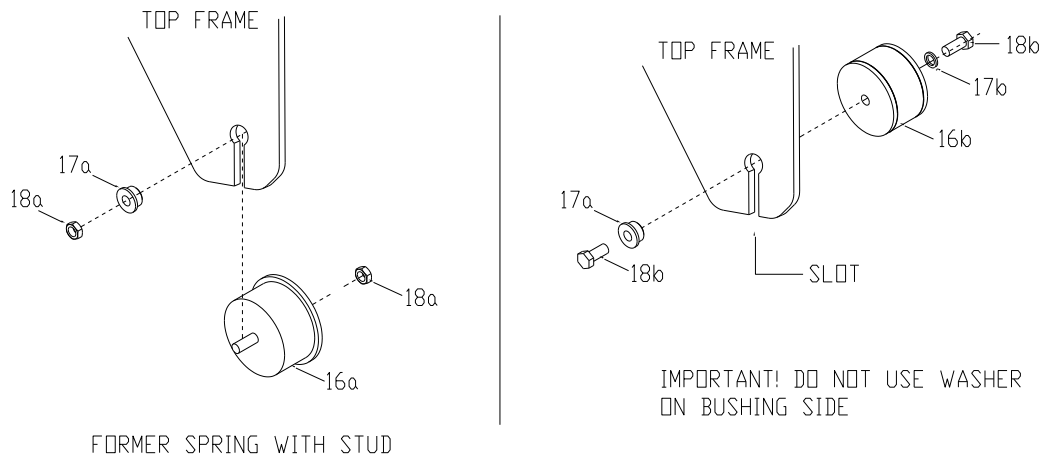
<b>Table 12.5</b> <b>Model 500 - Mounting Frame &amp; Hydraulics</b>
---

Item	Part No.	Description	Qty	Remarks / Specifications
---	670006	Q.D. Coupler Set	1(Set)	Set Includes Items 16 & 17
16	670008	Quick Disconnect	1	Plug
17	670007	Quick Disconnect	1	Socket
18	818676	Pressure ID Tag	1	Located on supply hose
19	Varies	XSF Mounting Kit	1	See Table 6.2 for list of mounting kits
20	617080	Mounting Pin	1	Ø 1.5"
21	653378	Mounting Pin	1	Ø 1.75"
22	617104	Klik Pin	4	

**PARTS INFORMATION – 500**



**Fig 12-7a**  
**Model 500 Dynamic Assembly & Suspension System (Configured with bolt-on compaction plate)**



**Fig 12-7b**  
**Model 500 Spring & Hardware Arrangement**



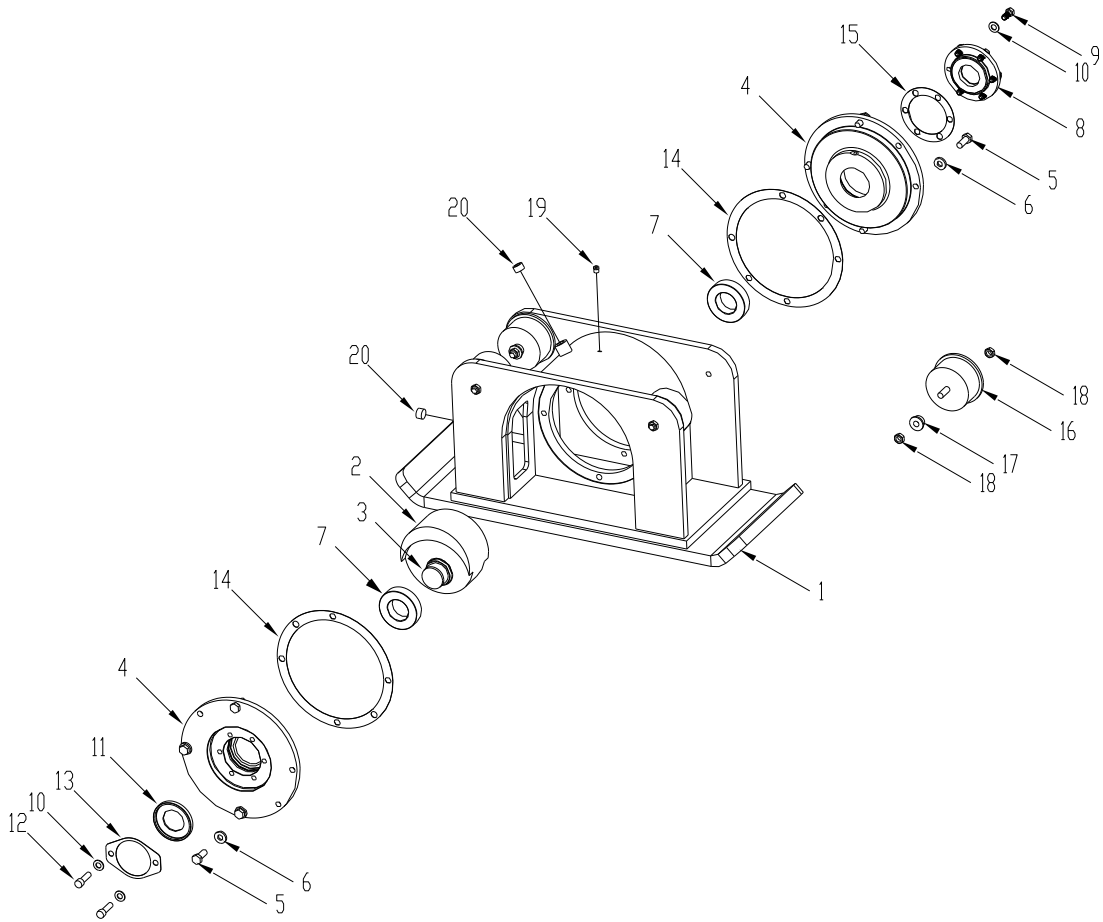
## PARTS INFORMATION - 500

**Table 12.6**  
**Model 500 Dynamic Assembly & Suspension**

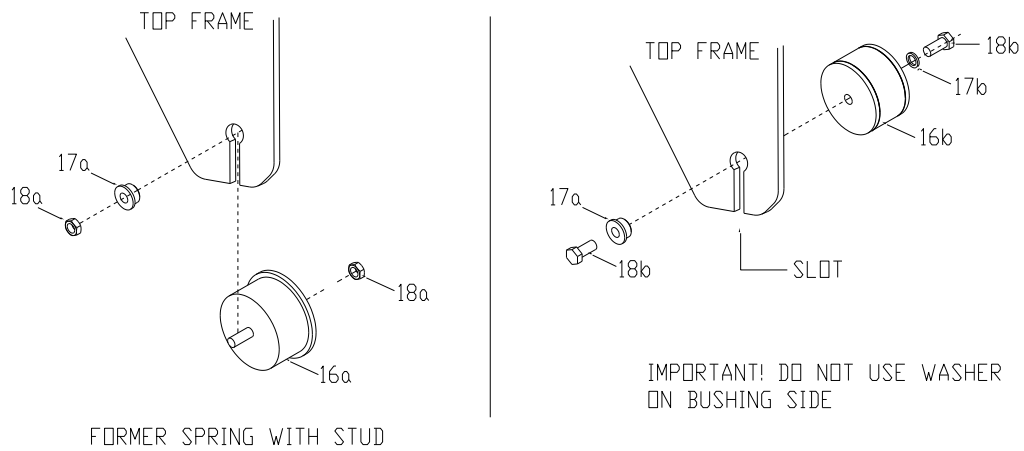
Item	Part No.	Description	Qty	Remarks / Specifications
---	<b>102693</b>	<b>Dynamic Assembly &amp; Suspension</b>		
1	102689	Eccentric Housing	1	Configured with Bolt-on Compaction Plate
2	102690	Eccentric	1	
3	102691	Eccentric Shaft	1	
4	102692	Bearing Housing	2	
5	708621	Hex Head Cap Screw	8	1/2" – 1 1/4"
6	708512	Flat Washer	8	
7	714714	Bearing	2	
8	714715	Cover Plate	1	1/2"
9	708513	Hex Head Cap Screw	6	7/16" – 1 1/4"
10	708514	Flat Washer	8	7/16"
11	714717	Spacer	1	
12	563446	Socket Head Cap Screw	2	
13	102694	Gasket	1	Motor
14	102695	Gasket	2	Bearing Housing
15	A102697	Gasket	1	Bearing Cover
16a	714721	Rubber Spring Mount	4	Former spring 714721 is discontinued. Replaced by spring kit part no. 574885 <sup>(a)</sup>
16b	574885			Follow Figure 12-7b for proper arrangement of hardware
17a	102490	Bushing	4	Required on slotted frames
17b	572080	Lock Washer	4*	1/2" (* Pair) Not used on busing side
18a	102491	Hex Nut	8	Not used with newer spring
18b	574341	Hex Head Cap Screw		1/2" – 1 1/8" Torque to 80 ft/lbs [108 N-m]
19	714719	Hex Head Cap Screw	6	For use with bolt-on compaction plates
20	816359	Flat Washer	6	For use with bolt-on compaction plates
21	A102780	Relief Plug	1	
22	656775	Socket Head Plug	2	
---	102688	Compaction Plate (STD)	1	Standard size 12"x27"
---	102748	Compaction Plate (OPT)		Optional size 18"x22"

<sup>a)</sup> Spring mount kit, 574885 includes 1-Spring 574574, 2-HHCS 574884, 1-(Pair) Washer 572080

### PARTS INFORMATION – 500



**Fig 12-8a**  
**Model 500 Dynamic Assembly & Suspension System**  
**(Configured with Weld-on Compaction Plate)**



**Fig 12-8b**  
**Model 500 Spring & Hardware Arrangement**

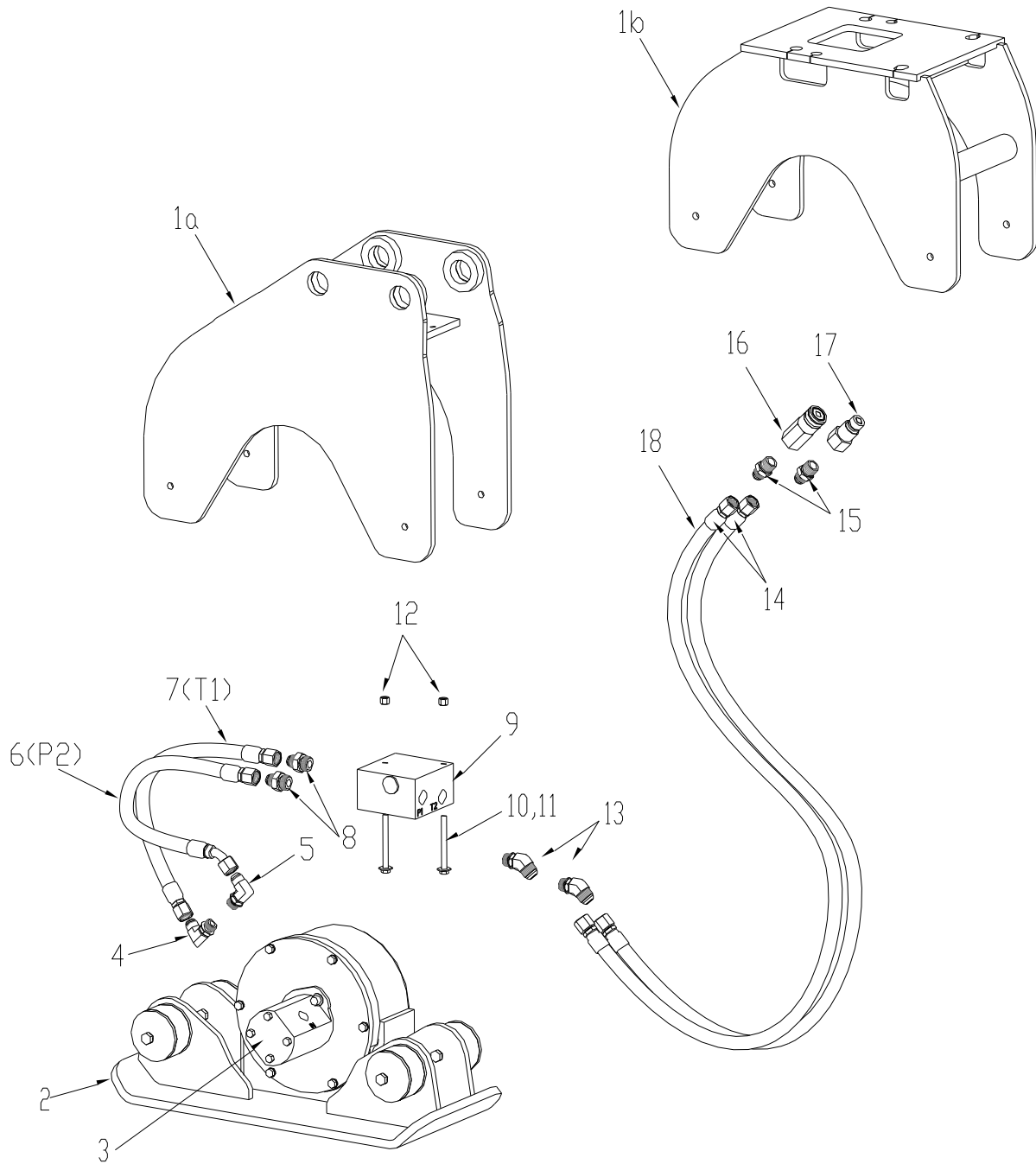
## PARTS INFORMATION - 500

**Table 12.7**  
**Model 500 Dynamic Assembly & Suspension**

Item	Part No.	Description	Qty	Remarks / Specifications
---	<b>102693</b>	<b>Dynamic Assembly &amp; Suspension</b>		
1	572572	Eccentric Housing	1	Configured with Weld-on Compaction Plate
2	102690	Eccentric	1	
3	102691	Eccentric Shaft	1	
4	102692	Bearing Housing	2	
5	708621	Hex Head Cap Screw	8	
6	708512	Flat Washer	8	
7	714714	Bearing	2	
8	714715	Cover Plate	1	
9	708513	Hex Head Cap Screw	6	
10	708514	Flat Washer	8	
11	714717	Spacer	1	
12	563446	Socket Head Cap Screw	2	
13	102694	Gasket	1	Motor
14	102695	Gasket	2	Bearing Housing
15	A102697	Gasket	1	Bearing Cover
16a	714721	Rubber Spring Mount	4	Former spring 714721 is discontinued. Replaced by spring kit part no. 574885 <sup>(a)</sup>
16b	574885			Follow Figure 12-8b for proper arrangement of hardware
17a	102490	Spring Mount Bushing	4	Used with slotted frames
17b	572080	Lock Washer	4*	(* Pair) Not used on busing side
18a	102491	Hex Nut	8	Used with former spring
18b	573341	Hex Head Cap Screw	8	Torque to 80 ft/lbs [108 N-m]
19	A102780	Pressure Relief Plug	1	
20	656775	Socket Head Plug	2	

<sup>a)</sup> Spring mount kit, 574885 includes 1-Spring 574574, 2-HHCS 574884, 1-(Pair) Washer 572080

### PARTS INFORMATION – 500B



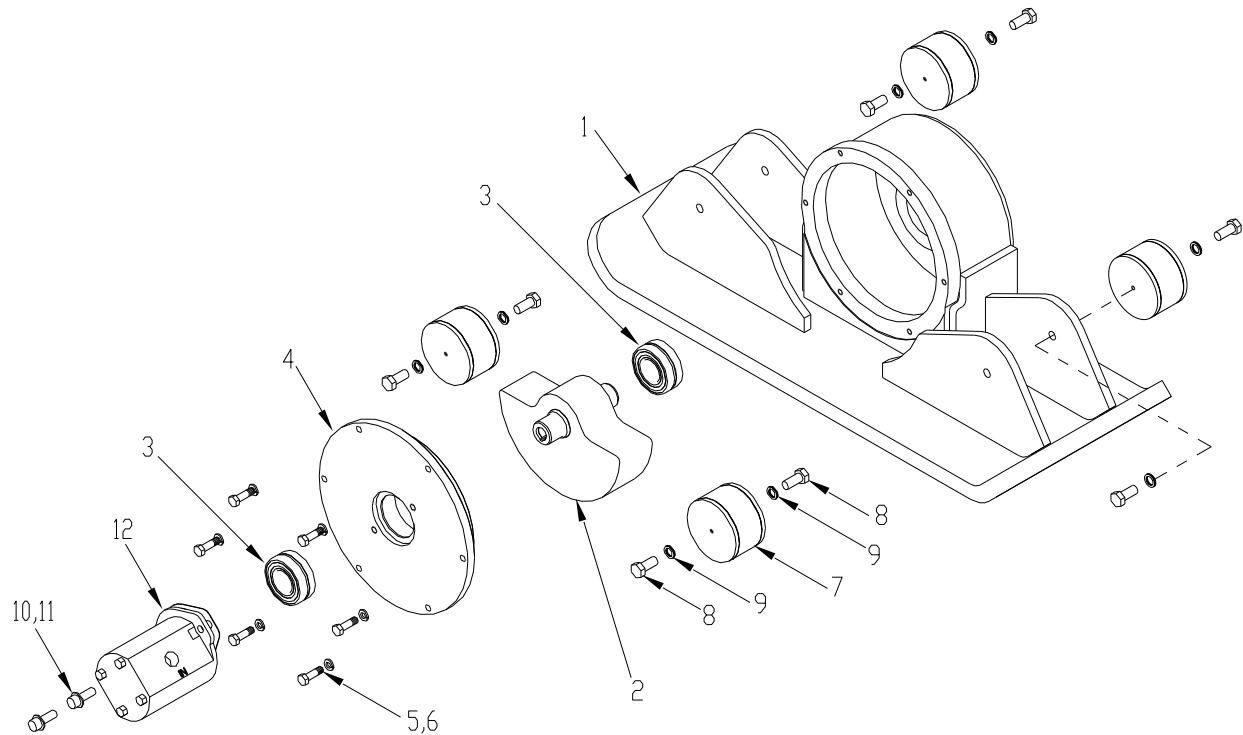
**Fig. 12-9**  
**Model 500B Mounting Frame & Hydraulics**

## PARTS INFORMATION

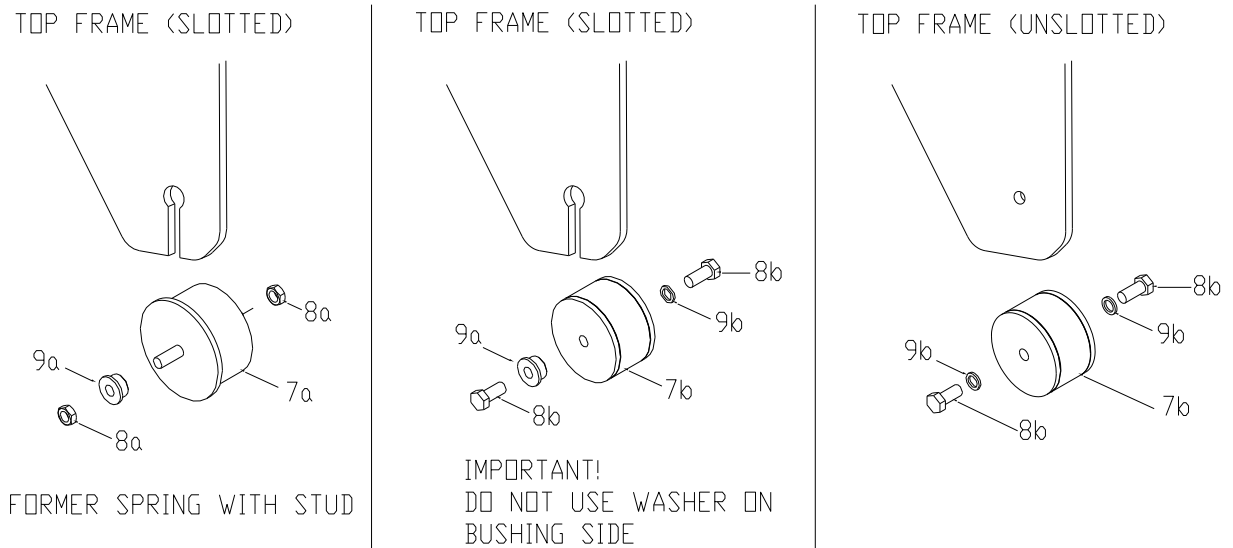
**Table 12.8**  
**Model 500B Mounting Frame & Hydraulics**

Item	Part No.	DESCRIPTION	Qty	Remarks / Specifications
---	<b>573440C</b>	<b>500B Ho-Pac (Fig. 5-7)</b>	<b>1</b>	<b>Configured with XSF Mounting Frame</b>
---	<b>573320C</b>	<b>500B Ho-Pac (Fig. 5-8)</b>	<b>1</b>	<b>Configured with Flat Mounting Frame</b>
1a	573441	Top Mounting Frame	1	Mounting Family "XSF"
1b	573316	Top Mounting Frame	1	Mounting Family IN1 & IN2 / XR
2	573317	Dynamic Assembly	1	See separate figure and parts list
3	Varies	Motor	1	See Table 12.1 for GPM options
4	Varies	Elbow	1	See Table 12.1 for part number
5	Varies	Elbow	1	See Table 12.1 for part number
6	573646	Hose Assembly	1	Pressure Line
7	573645	Hose Assembly	1	Return Line
8	677119	Adapter	2	
9	Varies	Valve	1	
10	813290	Hex Head Cap Screw	2	3/8"
11	813292	Flat Washer	2	3/8"
12	759808	Hex Nut	2	3/8"
13	102699	45° Elbow	2	45°
14	101418	Hose Assembly	2	72"
15	677179	Adapter	2	
---	670006	Q.D. Coupler Set	1(Set)	Set includes 16, 17
16	670007	Quick Disconnect	1	Socket
17	670008	Quick Disconnect	1	Plug
18	818676	Pressure ID Tag	1	Located on Supply Hose
---	Varies	XSF Mounting Kit	1	See Table 6.2 for list of mounting kits

### PARTS INFORMATION



**Fig. 12-10a**  
**Model 500B - Dynamic Assembly**



**Fig. 12-10b**  
**Model 500B - Spring & Hardware Arrangement**

## PARTS INFORMATION

**Table 12.9**  
**Model 500B Dynamic Assembly & Suspension**

Item	Part No.	Description	Qty	Remarks / Specifications
1-12	573317	Dynamic Assembly & Suspension	1	
1	573318	Lower Assembly	1	
2	573315	Eccentric Assembly	1	
3	573260	Bearing	2	
4	573312	Bearing Housing	1	
5	902538	Hex Head Cap Screw	6	
6	798190	Lock Washer	6	
7a	714721	Rubber Spring Mount	4	Former spring 714721 is discontinued. Replaced by spring kit part no. 574582 <sup>(a)</sup>
7b	574574			Follow Figure 12-10b for proper arrangement of hardware
8a	102491	Hex Nut	8	Not used with spring 574574
8b	574341	Hex Head Cap Screw	8	Torque to 80 ft/lbs [108 N·m]
9a	102490	Bushing	4	Required on slotted frames
9b	572080	Lock Washer	8*	1/2" (* Pair) Slotted frames require only 4 pair.
10	572719	Socket Head Cap Screw	2	
11	708514	Flat Washer	2	
12	Varies	Motor	1	See Table 12.1 for GPM options

<sup>a)</sup> Spring mount kit, 574582 includes 1-Spring 574574, 2-HHCS 574341, 2 (Pair) Washers 572080









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