

# TECHNICAL MANUAL

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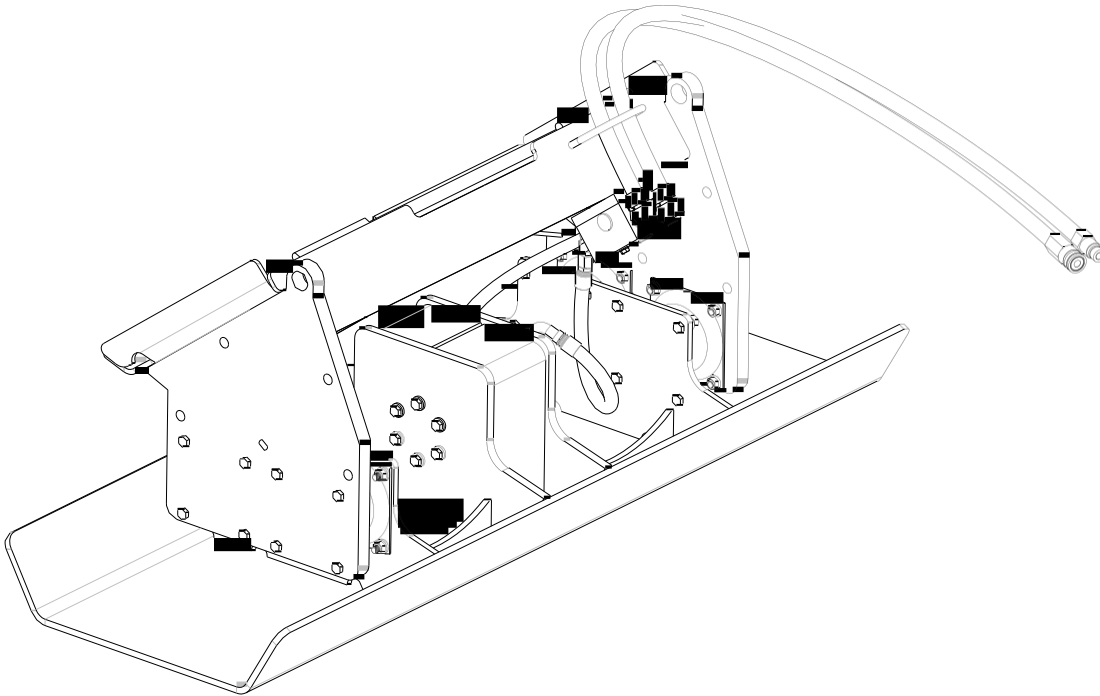


## SKID-PAC™

1000

&

1000B



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Technical  
Manual  
573936  
Rev 09nov



### **READ THIS MANUAL BEFORE OPERATING**

Read, understand and follow carefully the operating and safety instructions in this manual to ensure safe and efficient operation of the Spartan Equipment.



## SAFETY MESSAGES

### Be Alert to Safety Messages

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

All safety messages affixed to the Spartan Equipment must be legible. Replace damaged or missing decals.

### 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 Spartan 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 Message Overview

In this manual, safety messages will precede any task that may involve a potentially hazardous condition. The following is a sampling of potential hazards that can arise during installation, operation, maintenance and transport of the Spartan Equipment attachment. It is not intended to be all- inclusive.



 <b>CAUTION</b>	
	Read, understand and follow the instructions provided by the manufacturer of the associated equipment used to power this Spartan Equipment for any additional safety precautions.



 <b>CAUTION</b>	
	Keep personnel away from the equipment while in operation. Never operate the Skid-Pac with workers in close proximity to the compactor.

 <b>CAUTION</b>	
	Noise Hazard. Exposure to high noise levels may cause hearing loss. Wear hearing protection when operating the Skid-Pac.



 <b>CAUTION</b>	
	Risk of eye injury from flying debris. Wear eye protection when operating or servicing the Skid-Pac.



 <b>CAUTION</b>	
	Burn hazard. Hydraulic components, including the motor, hoses and valve become hot during operation. Avoid contact with hot parts.




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

 <b>CAUTION</b>	
	Fluid penetration hazard. Pressurized oil can penetrate skin. Never use hands to locate leaks. Use cardboard. Regularly inspect hoses for cuts and other signs of damage. Replacement hoses must be the same type and pressure rating.

 <b>CAUTION</b>	
	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.

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

	<b>WARNING</b>
	Shock or explosion hazard. Cutting a utility line could cause serious injury. Use extreme caution when working around electric and gas lines. Locate existing underground service and utility lines, before starting operation.

	<b>WARNING</b>
 	Crush hazard. Injury may result if the Skid-Pac shifts or falls. Do not lift the Skid-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 compactor is being lifted.

## SAFETY and RESPONSIBILITY

### Before Operating Any Equipment



#### Read the Manual

This manual contains important information for the safe and proper use of the Spartan Equipment attachment. Read and understand thoroughly all instructions and safety precautions described in this manual before installing, operating or servicing the Spartan Equipment.

AND

Read and follow the instructions provided by the manufacturer of the associated equipment used to power this Spartan Equipment attachment for any additional safety precautions.

### 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 able to recognize the possible dangers of potential hazards and take appropriate measures to safeguard against personal injury and property damage.

Has received adequate training in safe and proper installation, maintenance and operation for this Spartan Equipment.

Is authorized to operate, service and transport the Spartan Equipment.

Spartan Equipment cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and labels affixed to the Spartan Equipment attachment are therefore not all inclusive.

### Owner's Responsibilities

The equipment owner is responsible to ensure that only qualified personnel operate and service the Spartan Equipment 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 Spartan 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)

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

**Operational Safety Program**

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

Accident prevention through operational safety programs must be further developed by the equipment owner and tailored to meet specific site conditions and applications.

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.

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**Document Change Notice for  
Spartan Equipment Skid-  
Pac™ Model 1000**

<u>Date</u>	<u>Page</u>	<u>Change</u>
Nov. 30, 2005	---	Original Issue of Technical Manual 571834
Jan. 4, 2006	3	Revise text
May 1, 2006	Throughout	Revise parts list & figures
May 10, 2006	27 & 28	Revise Fig 14.1 & Table 14.2
Sep. 29, 2006	20	Revise oil capacity
Jun. 27, 2007	Cover, 7,9,27,29 & 30	Revise parts list & figures
May 1, 2008	27 & 29	Revise figures
Feb 3, 2009	Page 26	Table 14.1 revise Part No. 102651 now 102516

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**Document Change Notice for  
Skid-Pac™ Model 1000B**

<u>Date</u>	<u>Page</u>	<u>Change</u>
Nov. 2009	---	Original Issue of Technical Manual 573936. This  Manual supersedes Technical Manual 571834.

## SECTION 1.0 INTRODUCTION

### 1.1 About this Manual

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

**Table 1.1**

Technical Manual No. 573936	
This Technical Manual is applicable to the following Spartan Equipment product(s):	
<b>Product Name:</b>	<b>Ho-Pac</b>
<b>Model(s):</b>	<b>Skid-Pac 1000 &amp; Skid-Pac 1000B</b>
<b>Serial Numbers:</b>	<b>1000: 1014 thru 1058 1000B: 1059 &amp; above</b>
<b>Years of Manufacture:</b>	<b>2005 – 2009 2009 and above</b>

Prior to performing any adjustments or repairs and before ordering parts, confirm that the information contained on your equipment's ID Plate corresponds with the above information. For the location of the I.D. Plate, refer to Section 2.0.

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.

The illustrations and parts descriptions contained in this manual are typical of the model identified above. Note that this manual covers two models and parts such as the dynamic assembly are different. Also note that for both models, the motor is available in various sizes. Be sure to match your equipment to the proper configuration.

### 1.2 Additional Publications

Further information about the Spartan Equipment Skid-Pac and optional accessories can be found in the following manuals:

**Table 1.2**  
Related Publications

Manual	Model	Part No.
<b>Technical Manual</b>	Skid-Pac™ 1000 & 1000B	573936
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>Skid-Pac Swivels</b>	All Models (Except Skid-Pac)	103467
This manual provides information about the Allied Skid-Pac Swivel. The optional swivel allows the Skid-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 boom-mounted vibratory compactors/drivers, as well as performance data for Skid-Pac models derived from field tests.		
Notice: Material presented in these manuals, including descriptions, illustrations, specifications and designs, are subject to change without prior notice.		

## SECTION 2.0 EQUIPMENT IDENTIFICATION

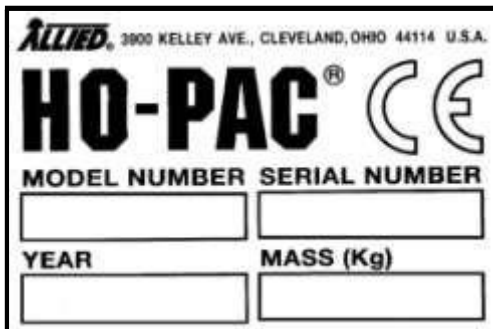
### 2.1 Serial Number Location

The equipment serial number can be found in two locations. The serial number is stamped into the eccentric housing, near the motor, as shown in Figure 2-2. The serial number is also located on the metal ID Plate affixed to the mounting frame. Check that the information on your equipment's ID Plate correspond to the information given in Table 1.1 of this manual.

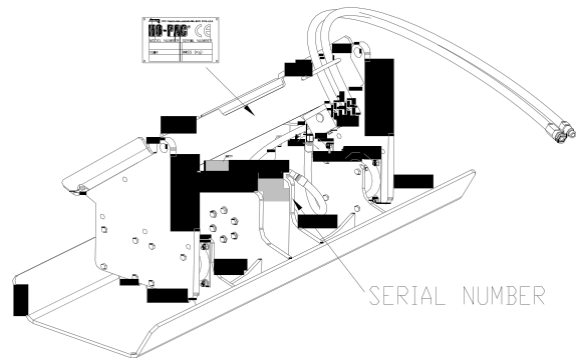
### 2.2 Equipment Identification Plate

The equipment identification plate contains the following useful information:

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



**Figure 2-1**  
Equipment Identification Plate



**Figure 2-2**  
Locations of Equipment Identification

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

Copy the Model and Serial Number from the equipment identification plate to the space provided below.

Indicate the date in which the Spartan Equipment was placed into service.

Return the completed warranty registration form to Spartan Equipment.

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

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

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

Provide this information when contacting your local dealer about this Spartan Equipment. The dealer requires this information to better assist you with questions regarding parts, warranty, operation, maintenance, or repair service.

## SECTION 3.0 WARRANTY PROTECTION SUMMARY

### 3.1 Overview

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

Improper installation of the Spartan Equipment attachment, including machine set-up, operation, service or use of non-Spartan Equipment parts may result in loss of performance or subject the equipment to conditions beyond their design. Unapproved 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 form A100668.

### 3.2 Owner's Responsibilities

The following outlines the minimum maintenance policies required for all Spartan Equipment Skid-Pac models. The equipment owner is strongly encouraged to expand upon these general instructions to adapt them to particular applications.

When properly installed, operated and maintained by qualified personnel, the Spartan Equipment attachment requires a minimum of service.

Ensure that personnel entrusted with installation, operation, maintenance and transporting of the Spartan 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 Spartan Equipment 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 Spartan Equipment attachment only for the purpose for which it is intended.

Adhere to the specifications listed in this manual and operate the Spartan Equipment within its performance limits.

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

1. Establish equipment maintenance to be performed by the OPERATOR.
2. Establish equipment maintenance to be performed by the SERVICE TECHNICIAN.

Recognize problems and know how to take corrective action as detailed in Operator Troubleshooting Section 10.0.

Conduct regular checks and inspections as scheduled in the Care and Maintenance Section 11.0.

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

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

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

Each record shall include at least:

1. The date of the service, maintenance or repair.
2. A description of the service, maintenance or repair performed. Include part numbers if applicable.
3. Copies of purchase order(s) and invoice(s) for repair parts and service.
4. The name and signature of the person performing the service, maintenance or repair.

### **3.3 Spartan Equipment Product Policies**

In this manual, Spartan Equipment recommends Skid-Pac applications, maintenance and service consistent with industry practices.

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

Improper Training

Improper Installation

Operation in non-recommended applications

Incorrect operation

Improper maintenance

Use of non-genuine Spartan Equipment replacement parts

Non-approved modifications

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

## SECTION 4.0 EQUIPMENT OVERVIEW

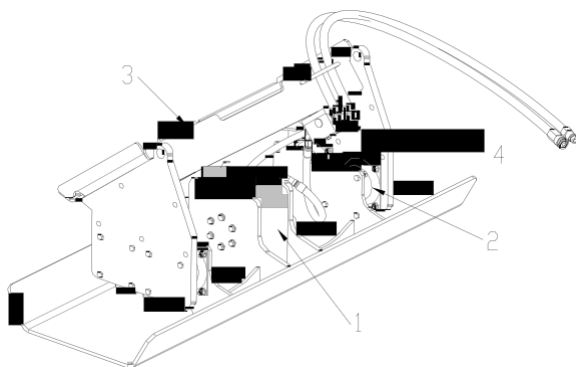
### 4.1 Product Description and Application

The Spartan Equipment Skid-Pac is a skid-steer-mounted, hydraulic powered, vibrating plate compactor. It is used for soil compaction. Applications include backfill compaction, base course preparation, finish surface treatment and embankment buildup.

Specifically designed for skid-steers, installation of the Skid-Pac requires no additional mounting or hydraulic kits. It's attached to the skid-steer in the same manner as mounting a bucket. Power to operate the Skid-Pac is provided by the skid-steer's auxiliary hydraulic circuit.

Suitable Skid-steers must have adequate lift and hydraulic capacities to properly and safely operate the Skid-Pac. Refer to the specifications in Section 4.1 for operating specifications and carrier requirements. Contact your dealer or Spartan Equipment if you have any questions regarding the installation of this equipment.

### 4.2 Major Subassemblies



**Figure 4-1 Major Subassemblies**

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

The Spartan Equipment Skid-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 Skid-Pac to the loader arms.

**Control Valve** – A standard feature on all models is the multi-function, hydraulic control valve. The 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.

## SECTION 5.0 PRINCIPLE OF OPERATION

### 5.1 Skid-Pac

The Spartan Equipment Skid-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 Skid-Pac repositioning to achieve a finished surface. Refer to the Compaction Manual for further details.

### 5.2 Definition of Hydraulic Installation Terms

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

**Hydraulic Flow** – The quantity of oil flow (measured in GPM / LPM), necessary for the safe and efficient operation of the Spartan Equipment attachment.

The hydraulic motor performs in a narrow range of flow. While it is permissible to supply the Skid-Pac with a lesser flow of oil, it is important to

realize that the vibrations generated by the dynamic assembly are developed by the speed of the hydraulic motor.

Therefore, reduced compaction performance can be expected due to a drop in motor speed. Typically, optimal compaction performance cannot be achieved unless the oil flow is at, or slightly above, the specified flow requirement of the motor. It is important, however, not to exceed the specified flow beyond 10%, as this will over-speed the motor and shorten component life.

Hydraulic circuit designs can differ from machine to machine. Damage to the Skid-Pac or skid steer may result if installed improperly. The motor must be sized according to the hydraulic output of the skid-steer. Using a flow meter, measure the auxiliary hydraulic circuit. Select the motor that best matches by comparing the measured flow to the available motor options listed in the Specifications Table.

#### IMPORTANT

Never use a relief valve as a means to reduce the hydraulic oil flow to the Spartan Equipment attachment. Oil bypassed over the relief valve will cause significant heat generation and result in damage to the attachment and/or carrier.

**Operating Pressure** – The average hydraulic oil pressure measured in the supply line during normal operation (under a load). Compaction performance is reduced when the minimum operating pressure is not reached. If, however, the compactor is regularly operated at pressures that exceed the design limits of critical components, a decrease in service life can be expected.



**IMPORTANT**

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

**Dynamic Relief Pressure** - The pressure when the relief valve first “cracks” open and allows a small amount of oil to by-pass through the valve.

**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.

**Static Relief Pressure** - The pressure when the relief valve is fully open and the entire oil flow is by-passed through the valve. At no time is it permissible to subject the Spartan Equipment attachment to Static Pressures that exceed the values listed in Section 6.

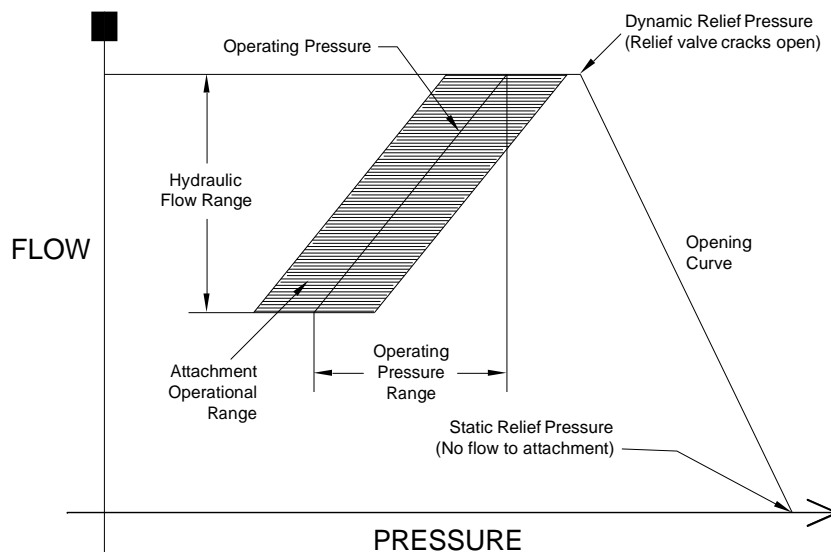
**IMPORTANT**

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

When selecting a relief valve for Spartan Equipment attachments, the pilot controlled relief valve is better suited for high flow applications. Pilot controlled relief valves generally exhibit shorter opening curves, compared to direct acting relief valves.

**Opening Curve** – The range or stroke of the relief valve from the point that it first cracks open (Dynamic) to when it has reached the fully open position (Static). Several factors influence the opening curve, including spring rate, volume and viscosity of the fluid passing through the valve.

The cracking pressure (dynamic) is always less than the static pressure. A relief valve set to a dynamic pressure of 3000 psi (200 Bar) will crack open when this pressure is reached, but fully opens at a higher pressure.



**Figure 5-1**  
**Flow-Pressure Diagram**

## SECTION 6.0 TECHNICAL INFORMATION

### 6.1 SPECIFICATIONS

<b>Table 6.1 General Specifications</b>				
		1000	1000B	
<b>Impulse Force</b>		8,000 [35,586]		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	12 [45]	gpm [lpm]
		2	18 [68]	
		3	21 [79]	
<b>Max Operating Pressure</b>	Motor Option	1	2800 [193]	psi [bar]
		2	2000 [138]	
		3	2000 [138]	
<b>Oil Pressure @ No Load</b>		300-1000 [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>		18 x 72 [457 x 1829]		Inch [cm]
<b>Compaction Area</b>		9.0 [0.84]		Ft <sup>2</sup> [m <sup>2</sup> ]
<b>Hose Size</b>	Pressure		3/4 [16]	Inch [mm]
	Return		3/4 [16]	
<b>Weight <sup>(c)</sup></b>	Standard		1110 [499]	Lbs [kg]
	With Optional Weight Kit		1310 [90.7]	
<b>Carrier Weight <sup>(d)</sup></b>	Skid Steer		4000 [1800] Minimum	Lbs (1,000) [kg] (1,000)

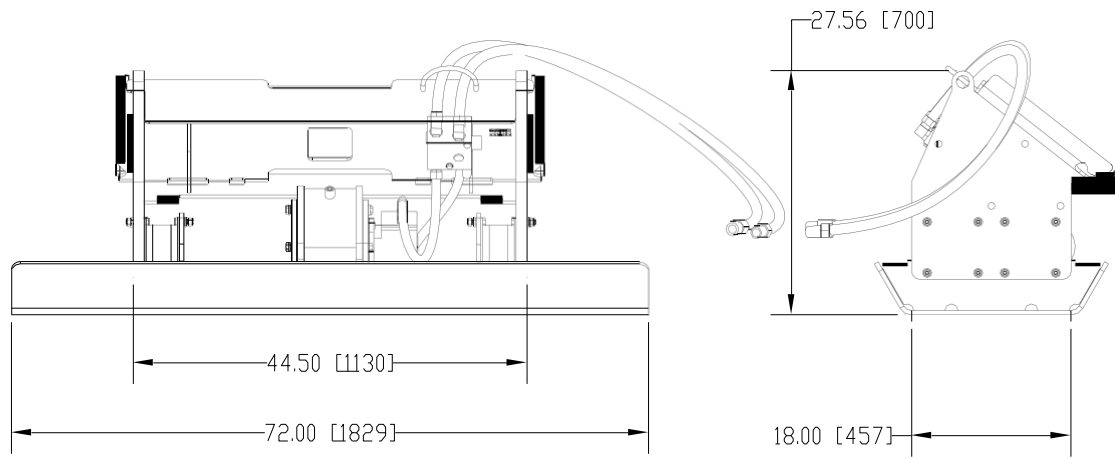
<sup>(a)</sup> For efficient machine operation, proper selection of the Motor & Valve Package is critical. The auxiliary circuit must be capable of delivering the specified oil flow at a pressure equal to at least the dynamic relief pressure.

<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> Working weight with and without optional weight kit (part number 572366).

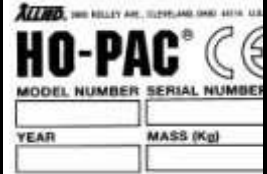





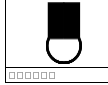
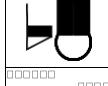

<sup>(d)</sup> Mount only to Skid Steers having adequate load-carrying capabilities. The Skid Steer should weigh a minimum of 4000 lbs. If the Skid Steer cannot provide sufficient down force, install the optional weight kit, part number 572366, for added ballast.

### 6.2 DIMENSION DIAGRAMS



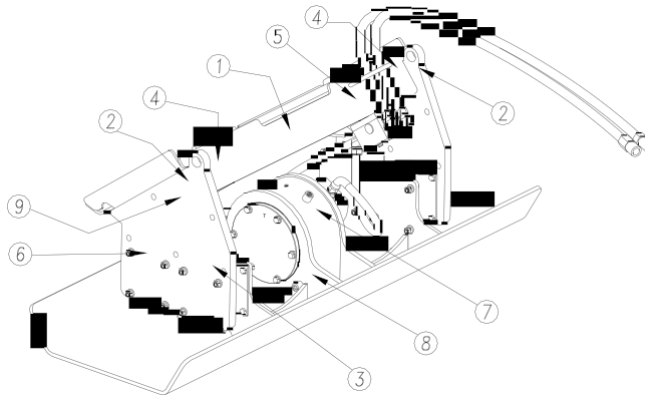
**Figure 6-1**  
**Skid-Pac 1000 & 1000B**

## 6.3 IDENTIFICATION and SAFETY LABELS

1		The ID PLATE (Identification Plate) contains the following information: Manufacturer's name and address, Product Name, CE compliance marking, Model Number, Serial Number, Year of Manufacture, and Mass
2		The LIFT POINT decal identifies the location of the recommended lifting points of the Skid-Pac.
3		The STAY CLEAR decal indicates that personnel and by-standers are to maintain a safe distance from the Skid-Pac during operation.
4		The READ INSTRUCTION decal indicates that it is important to read the manual for detailed explanations and instructions
5		The HOT SURFACE 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		The SPARTAN EQUIPMENT LOGO decal is the Spartan Equipment brand identifier and is a registered trademark of Spartan
7		The OIL FILL decal identifies the location to add oil to fill the oil reservoir. Refer to Section 11.7 for more information.
8		The OIL LEVEL decal identifies the location to check the oil level. Refer to Section 11.7 for more information.
9	<p style="text-align: center;"><b>1000, 1000B</b></p>	The MODEL NUMBER decal indicates the Skid-Pac model number.
10		The PRESSURE I.D. tag is attached to the pressure hose for ease of identification between hoses.

### 6.3 IDENTIFICATION and SAFETY LABELS (cont'd)

<b>IMPORTANT</b>
Safety messages appear on labels affixed to the Spartan Equipment. Keep all safety decals clean. Immediately replace any label if words or illustrations are unreadable or if label is damaged or missing.



**Figure 6-2**  
**Decal Locations**

<b>Table 6.3</b> <b>Decal Parts List</b>			
<b>ITEM</b>	<b>QTY</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
2-10	1	103377	Decal Package for 1000
2-6, 9 & 10	1	573937	Decal Package for 1000B
1	1	676980	ID Plate
2	4	676982	Lift Point
3	2	676981	Stay Clear
4	2	676984	Read Instructions
5	1	676983	Hot Surface
6	2	676651	Spartan Equipment Logo
7	1	102728	Oil Fill (1000 only)
8	1	A102729	Oil Level (1000 only)
9	2	103378	Model 1000
		573932	Model 1000B
10	1	818676	Pressure I.D. Tag (Located on Pressure Hose)

## **SECTION 7.0 MOUNTING INFORMATION**

### **7.1 Skid-Pac Mounting**

Spartan Equipment's Skid-Pac is designed to easily mount to most skid-steers without additional mounting hardware. The Skid-Pac is furnished with hoses equipped with hydraulic quick disconnects to make the hydraulic connection quick and easy. Follow carefully the instructions from the carrier manufacturer.

## SECTION 8.0 INSTALLATION & REMOVAL

### 8.1 Carrier Compatibility

Spartan Equipment's Skid-Pac is designed for use and installation on most skid steers and is attached in the same manner as mounting a bucket. No additional mounting or hydraulic kits are required to install the Skid-Pac. However, the skid steer must have adequate lift and hydraulic capacities to properly and safely operate this equipment. Attach the compactor only to machines having adequate load-carrying capabilities. The Carrier Weight shown in the Specifications Table is intended as a reference only. Always adhere to the safe working load established by the carrier manufacturer to assure stable carrier operation. Modifications made to the skid-steer or Skid-Pac that affect the carrier's lifting capacity must be taken into consideration prior to mounting the Skid-Pac.

Hydraulic circuit designs can differ from machine to machine. Damage to the compactor or skid steer may result if installed improperly. The motor must be sized according to the hydraulic output of the skid-steer. Using a flow meter, measure the auxiliary hydraulic circuit. Select the motor that best matches by comparing the measured flow to the available motor options listed in the Specifications Table.

### 8.2 Testing and Adjusting

#### IMPORTANT

Damage to the Skid-Pac or carrier may result if the hydraulic kit is improperly installed. 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. For questions regarding testing the auxiliary circuit, contact Spartan Equipment's

Technical Service for assistance.

#### IMPORTANT

Do not operate the Skid-Pac beyond its performance limits. Exceeding the specifications listed in Section 6.1 can be dangerous to the operator and result in expensive repair costs.

#### IMPORTANT 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 Table 6.1 Specifications, "Carrier Static Relief Pressure".

#### IMPORTANT

Oil pressure in the return line, (measured at the Skid-Pac), shall not exceed 150 psi [10 bar] maximum. Operating this equipment at pressures above maximum will decrease the service life of the motor.


Before the Skid-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 Skid-Pac will provide efficient operation, production rates and dependable service life.


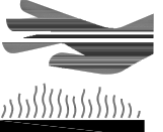
Use a flow meter to test the carrier's auxiliary hydraulic circuit. Keep a record of the flow and pressure measurements. Copy these measurements to the Warranty Registration Form.


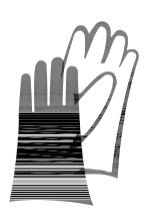
Compare your test results with the Specifications Table 6.1.

Before any adjustments are made, identify which motor and valve package option is installed on the Skid-Pac. Use the information provided in Section 13 to identify the motor and valve. Efficient operation is achieved only with the correct motor and valve installed.

### 8.3 Installation on to Carrier

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

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

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


1. Prior to mounting the Skid-Pac, carefully inspect the following for wear or damage:

Spring mounts

Hoses and fittings

Threaded fasteners

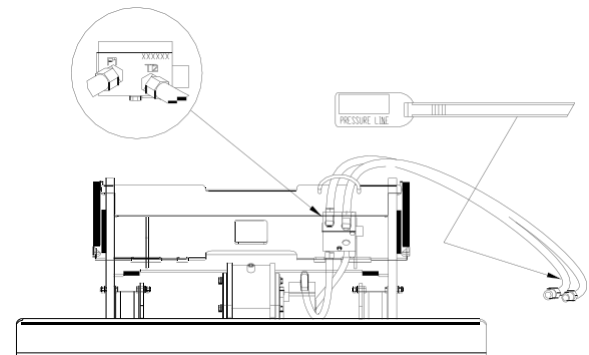
Mounting Frame

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

2. Position Skid-Pac on flat stable ground. With bucket removed, install Skid-Pac to carrier in same manner as mounting a bucket. Follow carefully the instructions from the carrier manufacturer.

<b>IMPORTANT</b>
<p>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.</p>

3. Connect Pressure and Return hoses. Follow carefully the instructions from the carrier manufacturer.


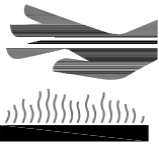




**Figure 8-1 Valve & Hose Connections**  
 Pressure ID Tag Located on Pressure Line,  
 Control Valve Port Markings P1 & T2



4. Raise the Skid-Pac off the ground. Stroke the Tilt Cylinder to ensure the hoses will not be pinched or restricted.
5. Briefly test Skid-Pac for proper operation. Stop and check for hydraulic leaks. Tighten hoses and connections as necessary.



## 8.4 Removal from the Carrier

	<b>CAUTION</b>
	Burn hazard. Hydraulic components, including the hoses, motor and valve are hot during operation. Avoid contact.

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

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

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

1. Position Skid-Pac on flat stable ground. Shut down engine and secure the parking brake.
2. Relieve residual hydraulic pressure in auxiliary circuit. Follow carefully the instructions from the carrier manufacturer. Disconnect hydraulic connections from skid-steer.

**NOTE:** *Connect hose ends together to avoid contamination or damage.*

3. Remove Skid-Pac from skid-steer in same manner as uncoupling a bucket. Follow carefully the instructions from the carrier manufacturer.


## SECTION 9.0 OPERATION

### 9.1 Pre-operation Checks

Daily, before operating:


1. Ensure Skid-Pac is securely attached to the carrier. Check for wear or damage.
2. Remove excessive dirt off Skid-Pac, which can decrease performance.
3. Check the following:
  - Spring mounts for cracks in rubber
  - Hoses and fittings for oil leaks
  - Motor and valve for oil leaks
  - Threaded fasteners for tightness



**NOTE:** Refer to Section 11 for further maintenance details.

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

<b>IMPORTANT</b>
Do not operate Skid-Pac beyond its performance limits. Adhere to the specifications listed in Section 6 of this manual.



### 9.2 Operation

 <b>CAUTION</b>
Never activate the Skid-Pac unless the operator is seated in the operator's seat and in full control of the machine. Follow carefully the instructions from the carrier manufacturer.

 <b>CAUTION</b>
<div style="display: flex; align-items: center;">  <div>                     Keep personnel away from Skid-Pac while in operation. Never operate Skid-Pac with workers in close proximity.                 </div> </div>

 <b>CAUTION</b>
<div style="display: flex; align-items: center;">  <div>                     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.                 </div> </div>

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

 <b>CAUTION</b>
<div style="display: flex; align-items: center;">  <div>                     Noise hazard. Exposure to high noise levels may cause hearing loss. Hearing protection must be worn when operating this equipment.                 </div> </div>

**IMPORTANT**

Do not operate Skid-Pac with hydraulic oil temperature above 180°F (80°C)

At temperatures below 32°F (0°C), warm the spring mounts before use by operating the Skid-Pac for a few minutes at a reduced speed and without down force on springs.

Do not allow mounting frame to contact base plate. Spring mount and frame damage may result.

Do not use the Skid-Pac to lift or push materials. Damage to spring mounts and other components may result.

Do not operate the Skid-Pac underwater. Bearing damage may result.

Do not operate the Skid-Pac without base plate. A dynamic imbalance and equipment damage may result.

**NOTE:** For efficient machine operation and service life, follow carefully the correct working methods.

1. Clear all personnel from the work area.
2. Position skid-steer in-line with direction of work.
3. Position the Skid-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 Skid-Pac with the switch located in the operator's cab.
5. Use the weight of the skid-steer to apply down force on the springs. **NOTE:** Overstretching the rubber springs will shorten their service life. Do not stretch springs beyond one-half (1/2) their width.

6. As the material compacts, maintain a constant down force with the carrier. For larger areas, decrease down-force and slide the compactor over the material with a repetitive, back and forth motion.
7. The initial pass is continued until compaction is no longer apparent, typically 10 to 15 seconds\*. Repeat compacted lifts as necessary to achieve finished grade. **NOTE:** *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 Skid-Pac repositioning to achieve finished grade.*
8. After compaction is complete, reposition the Skid-Pac and/or carrier to continue working.

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. 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 Spartan Equipment's Customer Service. Ask for part number 103392.

## SECTION 10.0 TROUBLESHOOTING



### CAUTION

Improper service methods may cause personal injury. Do not attempt any repairs unless you have proper knowledge, equipment and tools.

The Troubleshooting guide is designed to help diagnose possible causes of several commonly encountered conditions. For conditions other than these, contact Spartan Equipment's Technical Service for further assistance.

Fault	Cause	Remedy
Unit does not run	Supply & return hoses reversed.	Verify hydraulic connections.
	Insufficient oil pressure or flow.	Conduct flow and pressure check of hydraulic supply system. Adjust as required.
	Failed bearings.	Inspect / Replace bearings.
	Broken motor shaft or key.	Inspect / Replace damaged parts.
Unit runs erratically	Erratic oil pressure or flow.	Check hydraulic supply system. Correct as required.
	Failed spring mount.	Inspect / Replace failed mount.
Unit runs with excessive noise or vibration	Flow too high.	Incorrect combination of motor or flow regulator valve. Verify motor and valve are properly matched.
	Low bearing oil level.	Inspect / Fill as necessary.
	Failed bearing.	Inspect / Replace bearings.
	Loose bolts or mounting hardware.	Inspect / Tighten bolts. Verify mounting hardware is secure.
Unit runs, but stalls under a load	Pressure relief too low.	Check hydraulic supply system. Correct as required.
	Failed bearing.	Inspect / Replace bearings.
	Motor worn. Excessive oil bypass.	Inspect / Replace motor.
Unit runs smoothly, but at reduced speed (reduced power)	Flow too low.	Conduct flow and pressure check of hydraulic supply system. Adjust as required.
		Incorrect combination of motor or flow regulator valve. Verify motor and valve are properly matched.

## SECTION 11.0 SERVICE AND MAINTENANCE

### 11.1 General Guidelines

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

When properly installed, operated and maintained by qualified personnel, the Spartan Equipment Skid-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 Spartan Equipment attachment. Use only genuine Spartan Equipment replacement parts to protect total warranty coverage. Do not make alterations to the Skid-Pac without written authorization from the Spartan Equipment Engineering Department.

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

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

### 11.2 Daily Maintenance

	<b>CAUTION</b>
	<p>Risk of eye injury from flying debris. Wear eye protection when operating or servicing equipment.</p>

Remove excess dirt and debris from Skid-Pac. Excessive dirt on the Skid-Pac can decrease performance.

Check for loose or missing fasteners.

Visually check for oil leaks.

	<b>CAUTION</b>
	<p>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.</p>

#### **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

### 11.3 Preventative Maintenance

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

Check oil level (Model 1000 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 11.12 for bolt torques.

After every 1000\* hours of Skid-Pac operation, replace the oil (1000 only)

\* For additional maintenance considerations, refer to Section 11.5.

### 11.4 Threaded Fasteners

<b>IMPORTANT</b>
Keep fasteners tight. Replacement fasteners must be the same type and grade.

Tighten the fasteners according to Table 11.1.

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

### 11.5 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 Skid-Pac working surfaces under the following conditions:

Extremely humid weather conditions.

Muddy or extremely wet soils.

If reduced performance is observed.

### 11.6 Pressure Relief Plug (Model 1000)

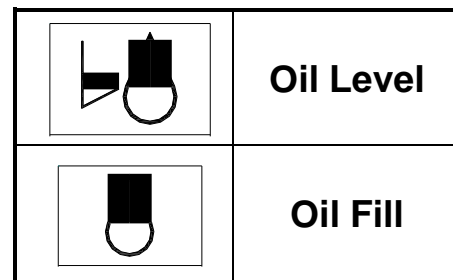
The eccentric housing is equipped with a pressure relief check valve. This check valve is located near the top of the eccentric housing and relieves pressure from the eccentric housing. A slight amount of oil residue in this area is normal.

### 11.7 Lubrication (1000B)

Bearings used in the 1000B model are lubricated for life and sealed. Sealed bearings eliminate daily greasing and protect against contamination related failures.

#### 11.7.1 Lubrication (Model 1000 only)

During operation, the bearings used in the model 1000 are continuously lubricated from an oil bath within the eccentric housing.

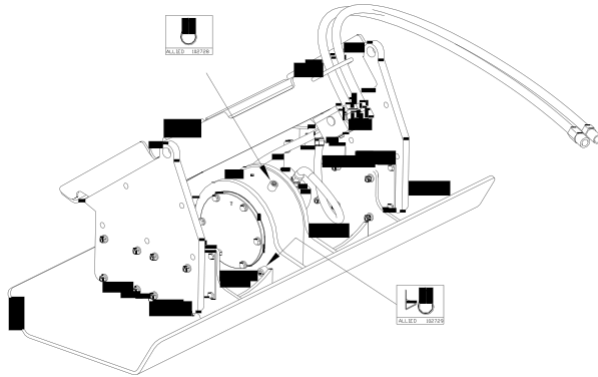


**Figure 11-1** These decals identify the location of the oil level check and oil fill plugs.

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.

<b>Oil Type &amp; Capacity</b>
Use a premium quality, 10W hydraulic oil (minimum 30 cSt at 155° F). Oil capacity is 2.2 quarts (approximate). <b>Do not overfill.</b> Over-filling will cause oil to spray out of the pressure relief plug.

### 11.7.2 How To Check and Add Oil

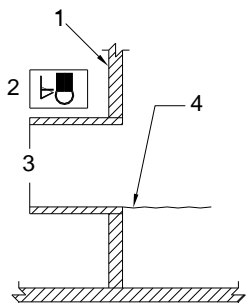


**Figure 11-2**  
Oil Fill Plug & Oil Level Plug

#### IMPORTANT

Contamination can shorten bearing life. Avoid contaminating the oil by cleaning the area around the oil level and fill plugs prior to their removal.

1. Position Skid-Pac on flat stable ground with easy access to both the oil fill and oil level plugs. Shut down engine and secure the parking brake. Relieve residual hydraulic pressure in auxiliary circuit. Follow carefully the instructions from the carrier manufacturer.
2. Remove 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.



**Figure 11-3 Proper Oil Level** 1-Eccentric Frame, 2-Oil Level Decal, 3-Oil Level Plug, 4-Proper Oil Level

4. If oil is required:

Remove the oil fill plug.

Add oil until the level reaches the bottom of the oil level opening. **Do not overfill!**

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

### 11.7.3 How To Drain Oil

1. Position Skid-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. Properly dispose of used oil. Obey all local regulations for the disposal of these fluids.
5. Add new oil.

### 11.8 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.

#### 11.8.1 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 Spartan Equipment replacement parts to protect total warranty coverage.

**11.8.2 Bearing Removal**

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

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.

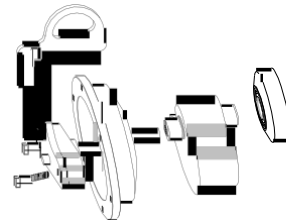
**NOTE:** Do not pry out the outer bearing race if it remains in the housing. Place a small weld bead, 1/8 inch (3 mm) along the inside diameter. Allow it to cool, then remove the outer race.

**11.8.3 Bearing Installation****IMPORTANT**

Handle new bearings with care to prevent the grease seal from becoming dislodged. (1000B model)

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 and apply a light coating of oil. 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. Tighten bolts to proper torque.



**Figure 11-4**  
**Bearings & Eccentric - TD1615\_5**

7. Install hydraulic motor. Tighten bolts to proper torque.

**IMPORTANT**

Torque bolts according to Table 11.1. Follow special assembly instructions noted in Section 11.12.

8. Install hydraulic hoses.



**11.9 Spring Mounts - Replacement**

The rubber spring mounts are subject to wear and aging, thus requiring frequent inspections and periodic replacement. Service life depends primarily on use. Other factors, including over-stretching and extreme environmental conditions, can shorten mount life.

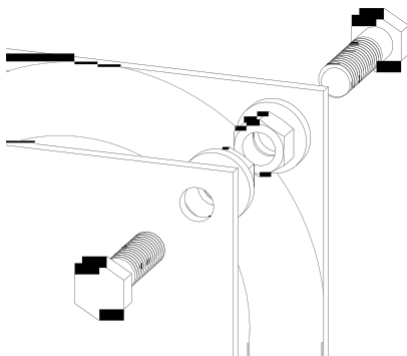
**CAUTION**

Avoid injury. Some components of the Skid-Pac are heavy. Use proper lifting and support equipment.



	<b>CAUTION</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.

1. Position Skid-Pac on flat, stable surface.
2. Support top mounting frame to remove load off mounts.
3. **NOTE:** Replace one mount at a time.
4. Loosen and remove all nuts and washers.
5. Remove the eight (8) bolts. The mount can now be removed.
6. Install new mount. Install bolts, washers and nuts. **NOTE:** Always use new bolts, washers and nuts.
7. Tighten to proper torque.
8. Repeat steps 1 - 7 if any other mounts will be replaced.



**Figure 11-5**  
Always install Flat Washer against “rubber side” of Mount

## 11.10 Hydraulic Motor

### IMPORTANT

Incorrect combination of motor and flow regulator valve will result in poor performance or damage.

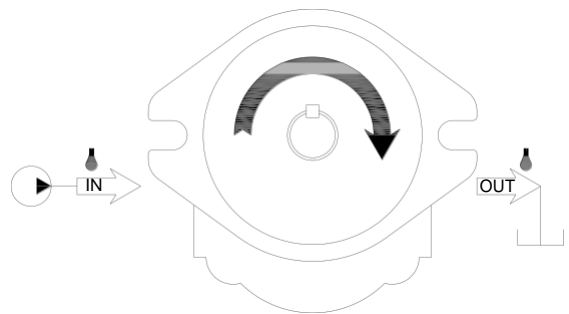
### 11.10.1 Hydraulic Motor Service

The hydraulic motor has no user-serviceable parts. Contact Spartan Equipment’s Technical Service for further information.

### 11.10.2 Motor Rotation

### 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.



**Figure 11-6 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.

## 11.11 Flow Regulator Valve

### IMPORTANT

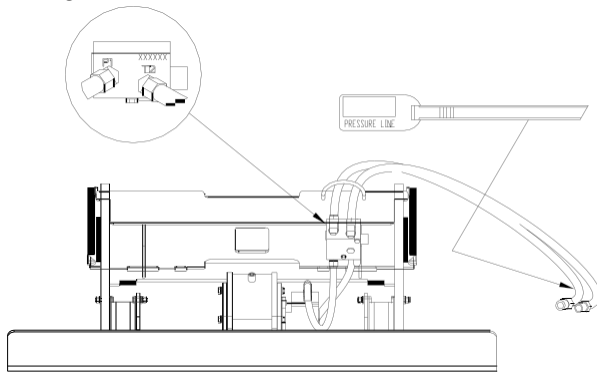
Incorrect combination of motor and flow regulator valve will result in poor performance or damage. Locate the part number stamped on the manifold to correctly identify the flow regulator valve.

### 11.11.1 Flow Regulator Valve Service

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

### 11.11.2 Valve Port Identification

The valve has a total of four (4) connection ports. Pressure ports are stamped P1 & P2. Tank ports are stamped T1 & T2. The part number of the valve is stamped above port T2. Refer to Section 13 to identify the flow rating of the valve.



**Figure 11-7 Valve & Hose Connections,** Pressure Line I.D. Tag, Pressure Line to Port (P1), Return Line to Port (T2)

**IMPORTANT**

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

**P1:** (Pressure Line) Oil supplied from the carrier's auxiliary hydraulic circuit.

**P2:** Regulated flow to motor's **IN** port.

**T1:** Oil flow from motor's **OUT** port.

**T2:** (Return Line) Oil flow returned back to the carrier's auxiliary hydraulic circuit (Tank).

### 11.12 Tightening Torque

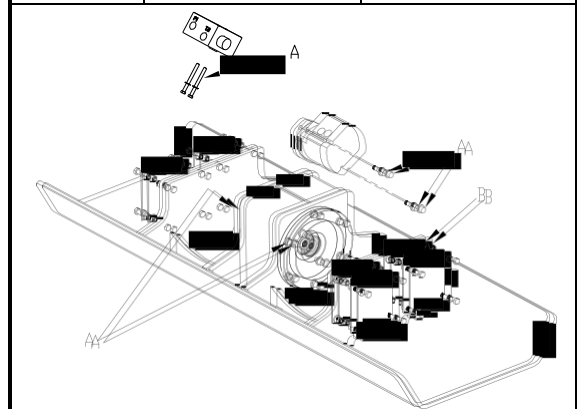
**IMPORTANT**

Replacement fasteners must be the same type and grade. Adhere to proper torque.

1. Clean threaded fasteners and surfaces to be bolted.
2. Apply light coat of grease to threads and washer faces. Fasteners that require thread locker are identified in Figure 11-8.

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

Dia.	Pre-torque Ft-lbs [N·m]	Final Torque Ft-lbs [N·m]
3/8"	Tighten all bolts evenly and to the specified torque.	35 [47]
1/2"		80 [108]
5/8"		170 [230]
7/8"		400 [542]
1"		650 [880]


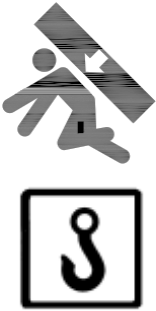




**Figure 11-8**

Item	Special Assembly Instructions
A	Apply Loctite 242 <sup>(a)</sup>
B	Refer to Figure 11-5

<sup>(a)</sup> Or equivalent. Follow manufacturer's directions for use.

## SECTION 12.0 LIFTING, TRANSPORT & STORAGE

	<b>WARNING</b>
	<p>Crush hazard. Injury may result if the Skid-Pac shifts or falls. Do not lift the Skid-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>

### 12.1 Lifting & Transport

#### 12.1.1 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 8.3.
4. Secure hoses to unit to avoid accidental damage.

5. Lift attachment only at approved lift points. See diagram in Section 6.3.
6. Adequately stabilize and secure attachment for transport.

#### 12.1.2 If the Skid-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.

### 12.2 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 13.0 PARTS INFORMATION

### IMPORTANT

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

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

### 13.1 General

This section contains spare parts information for the Spartan Equipment Skid-Pac model described in Section 1. When ordering parts, it is important to note that components used in the assembly of the Skid-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 model description and serial number of the assembly is correct for your Skid-Pac.

To order replacement parts, Spartan Equipment 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-

Product name - **Ho-Pac**

Model number – **Skid-Pac 1000, 1000B**

Serial number – **See Section 2**

Description of the part

Part number

Quantity

### 13.2 Spare Parts for Motor and Valve

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

### 13.3 Motor and Valve Identification

**IMPORTANT**

Incorrect combination of motor and valve will result in poor performance or damage.

#### 13.3.1 Motor Identification

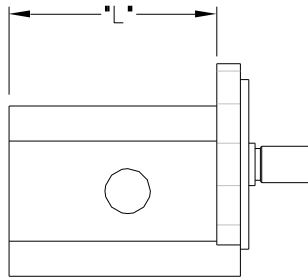


Figure 13-1  
Motor Identification

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 13-1. 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 13.1 to determine the part number.

#### 13.3.2 Valve Identification

The part number of the valve is stamped on the manifold above port T2. Locate the part number and use Table 13 to determine the flow specifications of your valve.

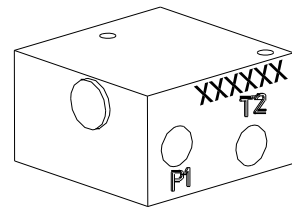
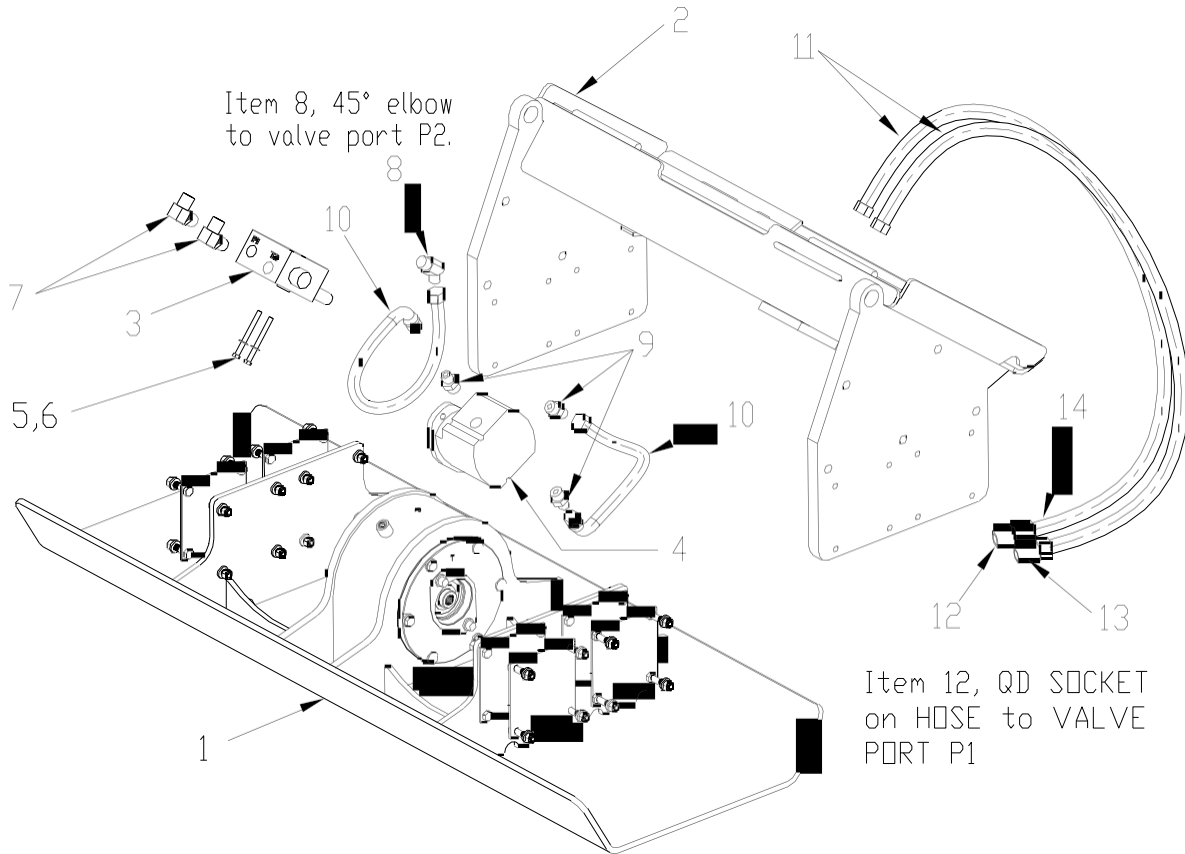


Figure 13-2  
Valve Identification

<b>Table 13.1 Motor &amp; Valve Identification</b>					
Option	Length - "L" Inch [mm]	Flow gpm [lpm]	Part Number		
			Motor	Valve	Motor & Valve Package <sup>(a)</sup>
1	3-13/16 [97]	12 [45]	101346	102650	103006
2	4-1/2 [114]	18 [68]	A102668	102516	103007
3	4-3/4 [121]	21 [79]	102867	102652	A103008

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

### PARTS INFORMATION - 1000



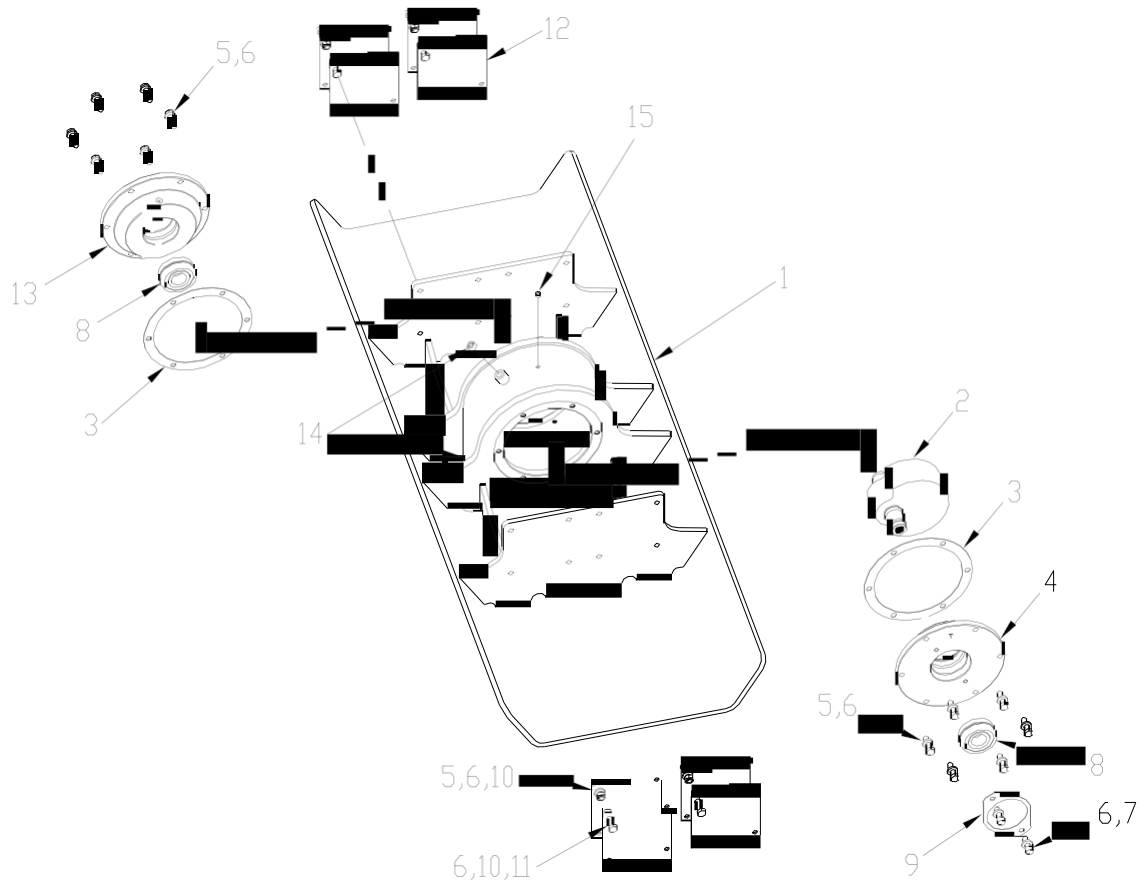
**Figure 13-3**  
**SSU Mounting Frame & Hydraulic Components - Skid-Pac 1000**

## PARTS INFORMATION - 1000

<b>SSU Frame &amp; Hydraulic Components - Skid-Pac 1000</b>			
<b>ITEM</b>	<b>QTY</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>
---	---	<b>571430</b>	<b>Skid-Pac 1000 (Complete Assembly)</b>
1	1	571428 <sup>(a)</sup>	Dynamic Assembly
2	1	571432	SSU Mounting Frame
3	1	Varies <sup>(a)</sup>	Valve – (Must match motor)
4	1	Varies <sup>(a)</sup>	Motor – (Must match valve)
5	2	813290	HHCS
6	2	653339	Flat Washer
7	2	656531	90 Elbow
8	1	102699	45 Elbow
9	3	677119	Adapter
10	2	571856	Hose – 22”
11	2	102865	Hose – 64”
---	1	670006	QD Coupler Set (Includes items 12 & 13)
12	1	670007	QD Coupler Socket
13	1	670008	QD Coupler Plug
14	1	818676	Pressure ID Tag (Located on pressure hose)

<sup>(a)</sup> See separate Figure and Parts Table

### PARTS INFORMATION - 1000



**Figure 13-4**  
**Dynamic Assembly & Suspension Components - Skid-Pac 1000**

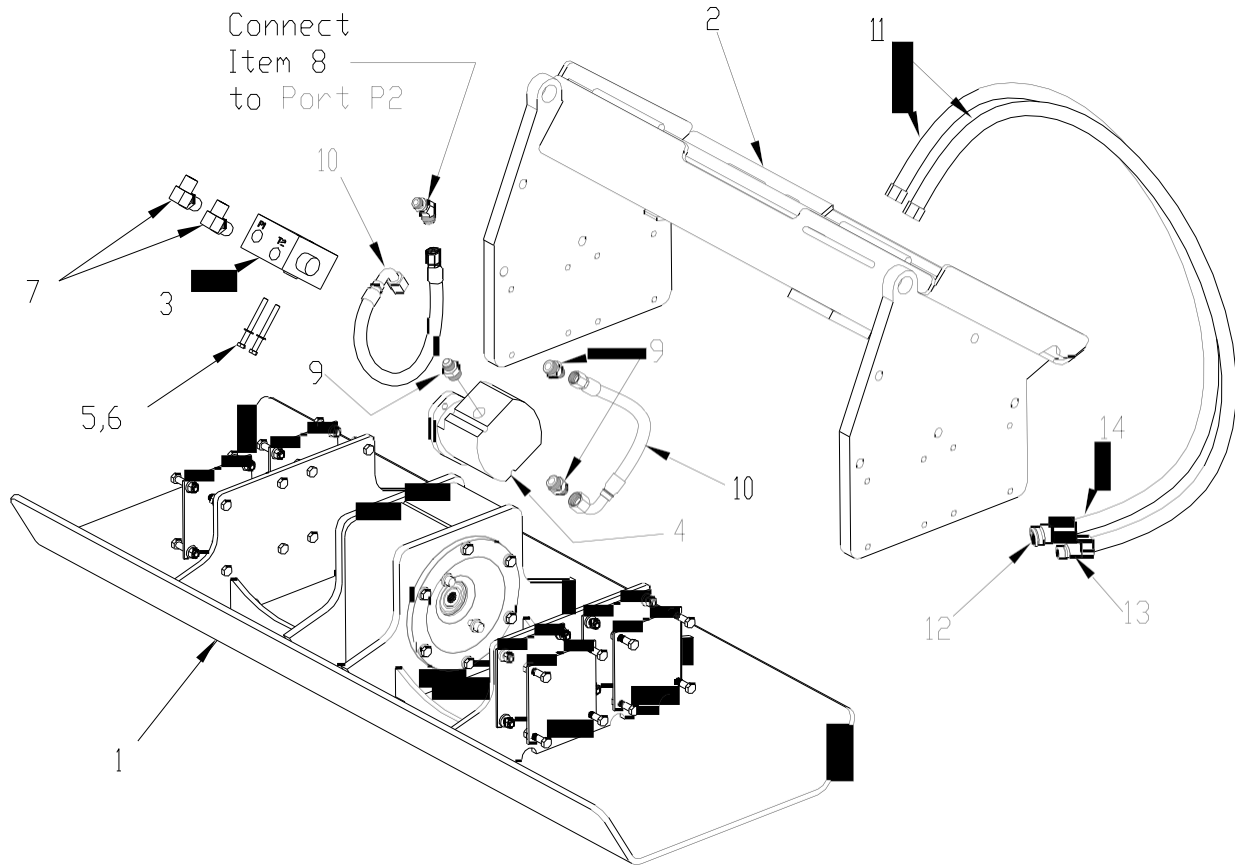


## PARTS INFORMATION - 1000

<b>Table 13.2 Dynamic Assembly &amp; Suspension - Skid-Pac 1000</b>			
<b>ITEM</b>	<b>QTY</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>
---	---	<b>571430</b>	<b>Skid-Pac 1000 (Complete Assembly)</b>
1-15	1	571428	Dynamic Assembly
1	1	571429	Eccentric Frame with Plate
2	1	572584	Eccentric Assembly
3	2	103362	Gasket - Housing
4	1	571550	Bearing Housing (Motor Side)
5	44	708791	HHCS - 1 ½" Lg.
6	46	708512	Flat Washer
7	2	103369	Socket Head Cap Screw
8	2	708507	Bearing
9	1	103367	Gasket
10	32	708787	Torque Nut
11	16	883675	HHCS - 2 ¼" Lg.
12	4	719749	Rubber Spring Mount
13	1	571549	Bearing Housing Cover
14	2	656775	Threaded Plug - Socket Head
15	1	A102780	Pressure Relief Plug
---	1	Varies <sup>(a)</sup>	Motor

<sup>(a)</sup> See separate diagram and Parts Table

### PARTS INFORMATION – 1000B



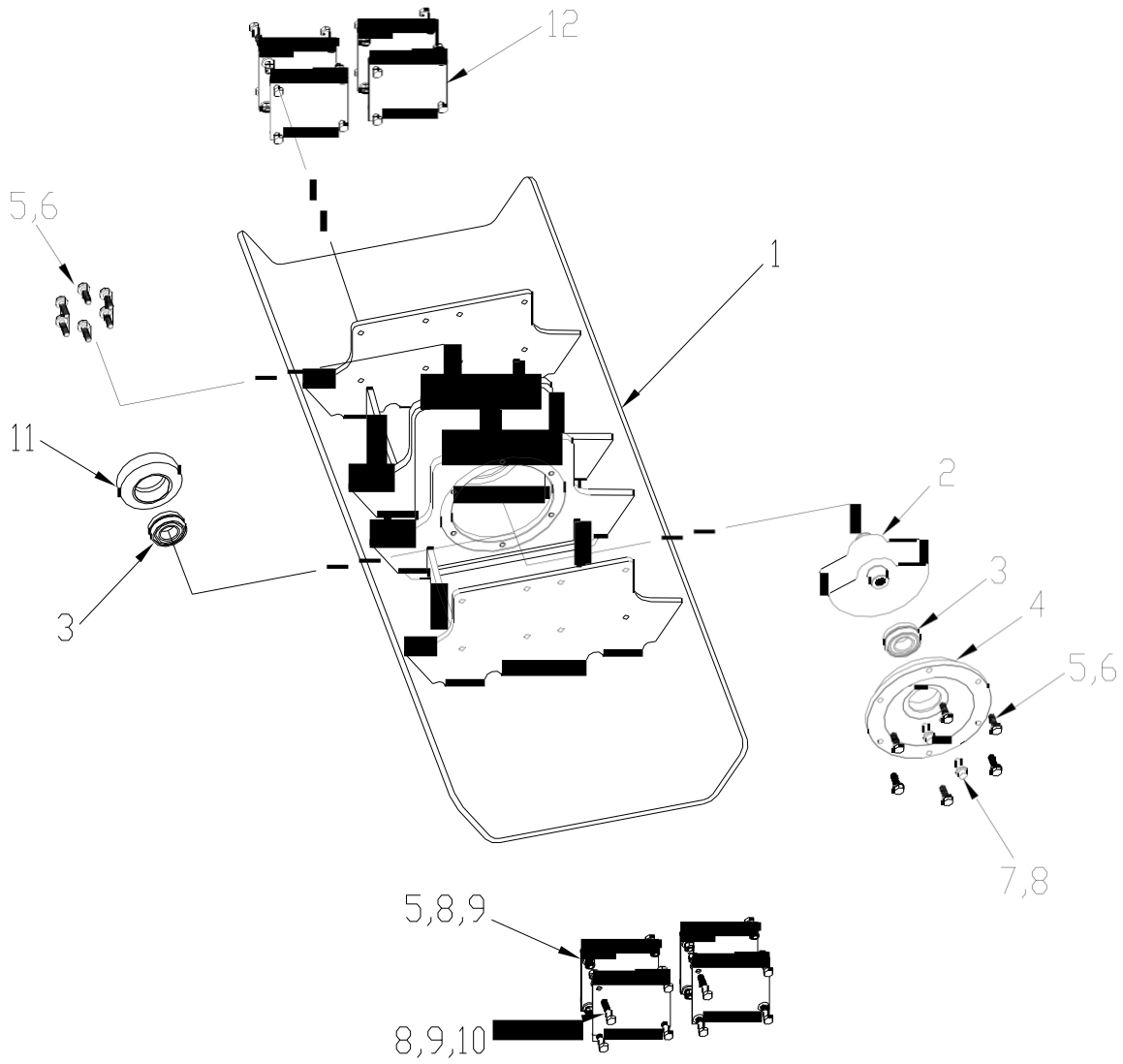
**Figure 13-5**  
**SSU Mounting Frame & Hydraulic Components - Skid-Pac 1000B**

## PARTS INFORMATION – 1000B

<b>SSU Frame &amp; Hydraulic Components - Skid-Pac 1000B</b>			
<b>ITEM</b>	<b>QTY</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>
---	---	<b>573790</b>	<b>Skid-Pac 1000B (Complete Assembly)</b>
1	1	573791 <sup>(a)</sup>	Dynamic Assembly
2	1	571432	SSU Mounting Frame
3	1	Varies <sup>(a)</sup>	Valve – (Must match motor)
4	1	Varies <sup>(a)</sup>	Motor – (Must match valve)
5	2	813290	HHCS
6	2	653339	Flat Washer
7	2	656531	90 Elbow
8	1	102699	45 Elbow
9	3	677119	Adapter
10	2	571856	Hose – 22”
11	2	102865	Hose – 64”
---	1	670006	QD Coupler Set (Includes items 12 & 13)
12	1	670007	QD Coupler Socket
13	1	670008	QD Coupler Plug
14	1	818676	Pressure ID Tag (Located on pressure hose)

<sup>(a)</sup> See separate diagram and Parts Table

### PARTS INFORMATION – 1000B



**Figure 13-6**  
**Dynamic Assembly & Suspension Components - Skid-Pac 1000B**

## PARTS INFORMATION – 1000B

<b>Table 13.4</b>			
<b>Dynamic Assembly &amp; Suspension - Skid-Pac 1000B</b>			
<b>ITEM</b>	<b>QTY</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>
---	---	573790	Skid-Pac 1000B (Complete Assembly)
1-12	---	573791	Dynamic Assembly & Suspension
1	1	573792	Eccentric Frame with Plate
2	1	573780	Eccentric Assembly
3	2	573374	Bearing
4	1	573783	Bearing Housing – Motor side
5	28	708791	HHCS - 1 ½" Lg.
6	12	719238	Lockwasher
7	2	103369	SHCS
8	34	708512	Flat washer
9	32	708787	Torque nut
10	16	883675	HHCS – 2 ¼" Lg.
11	1	573784	Bearing Housing Inner
12	4	719749	Rubber Spring Mount
---	1	Varies <sup>(a)</sup>	Motor

<sup>(a)</sup> See separate diagram and Parts Table





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