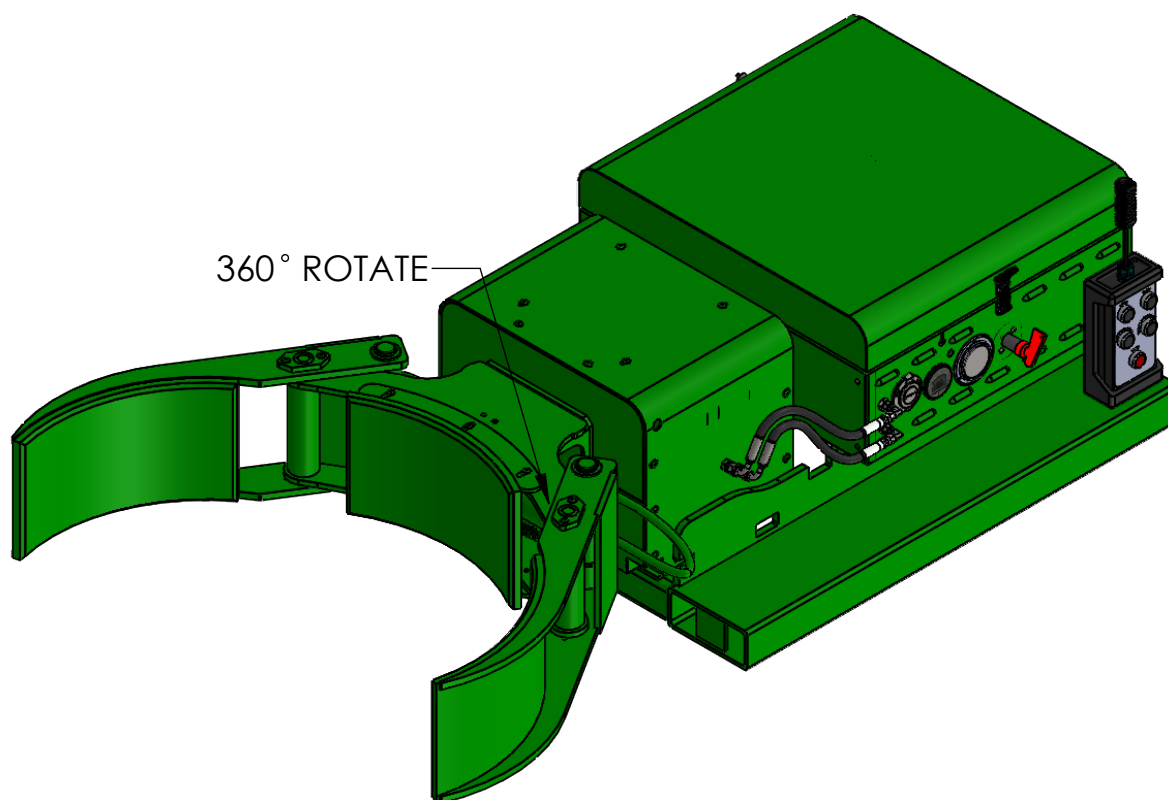




## HYDRA-GRIP SELF POWERED CLAMP & ROTATE F89703



## **Notice to Purchaser**

All statements, technical information, and recommendations related to Valley Craft's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must determine if it is suitable for your intended application or situation. You assume all risks and liability associated with such use or implementation.

## **Product Testing**

We perform vigorous in-house safety and durability testing to ensure that the performance of our products meets the demands of the workplace. We also expect the same from manufacturers who supply components for our products. We do this to ensure that Valley Craft is a name that our customers trust and associate with quality.

## **Publication Revision Notice**

Following is a history of changes to this publication, including the current revision.

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### Safety

*Read and understand all safety information and become familiar with all safety symbols contained in this section before moving, operating or performing maintenance on this equipment.*

#### ■ Safety Overview

The following general safety precautions must be observed during all phases of operation, service, and repair of this equipment. Failure to comply with these precautions or with specific safety messages elsewhere in this manual may impair the protection provided by the equipment. Such noncompliance would also violate safety standards of design, manufacture, and intended use of the instrument.

- Observe all safety signs posted in your facility.
- Observe warnings, cautions, handling information, storage requirements and other information on all container labels.
- Wear safety glasses with side shields.
- Wear the proper protective clothing, gloves and other protective equipment before handling any chemicals.
- Group the containers for the move by Hazard Class. Do not move acids with toxics, or oxidizers.
- Use maximum care and good judgment in preventing accidents and injuries and seeking first aid.
- Report unsafe conditions, equipment, practices, and on-job injuries.
- Understand your supervisor's instructions. Ask questions if you do not know how to do the job safely.
- Do not engage in tasks which you believe might be unsafe without consulting your supervisor.
- Clean up the work area and equipment upon job completion.
- Before you start work on any electrical system or circuit, check all power sources to ensure that the system or circuit is de-energized.
- Know the hazardous or potentially hazardous substances you work with or are present in your work area. Review Safety Data Sheets (SDS) on these substances, or contact your supervisor.
- **Please review more detailed safety information on page 13.**

## ■ **Safety Message Conventions**

Three types of safety notices may be contained in this manual: **Danger**, **Warning** and **Caution** notices. These notices precede the procedural step or portion of text that presents the safety hazard.



### **DANGER**

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- **DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.
- 



### **WARNING**

---

- **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
- 



### **CAUTION**

---

- **CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices
-

### Safety

*Read and understand all safety information and become familiar with all safety symbols contained in this section before moving, operating or performing maintenance on this equipment.*



#### **CAUTION**

---

- It is recommended that all operators practice operation of the Rotate & Clamp and its controls with an empty drum before using it on full drums to familiarize themselves with the machine and to develop safe working habits.
- Too much pressure applied to the drum will cause crushing.
- Never activate the clamping function while the forklift is in motion.
- When dumping drums, rotate slowly, watching for drum distortion as contents are dumped. The dumping capacity is limited by the strength of the container being dumped (an open top drum must be capable of retaining its original cylindrical shape). A distorted drum may fall out of the grip.
- Maximum lifting capacity is 2000 lbs. Actual capacity may be limited by the size of the lift truck. Always follow lift truck manufacturer's specifications.

### ■ **Safety Data Sheets (SDS)**

A Safety Data Sheet (SDS) provides information on the safe use, handling and potential hazards of a product. This information assists with the proper response in the event of an emergency.

Valley Craft maintains safety data sheets (SDSs) on all our products. You are urged to obtain copies of the relevant SDSs before using our products to protect yourself and others against any known health or safety hazards described in these SDSs. Valley Craft strives to make safety a top priority. Do not hesitate to contact us to discuss any safety aspects of our products.

**The relevant SDS codes for Valley Craft products are listed below.**

- [www.conocophillips.com](http://www.conocophillips.com)  
Super ATF Transmission Oil, SDS Code 778846  
Super-Sta Grease, SDS Code 775440
- [www.batteriesplus.com](http://www.batteriesplus.com)  
Sealed Lead Acid Battery  
SLA for English version  
SLA Sp for the Spanish version
- [Paint](#)  
Contact Valley Craft Customer Service at 1-800-328-1480 or on the Web at [customerservice@valleycraft.com](mailto:customerservice@valleycraft.com)

### ■ **Additional Safety Information**

As with any mechanical device, care must be taken during the installation, operation, and maintenance of the device in order to realize the maximum benefit from its ownership.

**Note:** All personnel involved in the use and maintenance of this device should be thoroughly familiar with the information contained in this manual. Furthermore, it is recommended that all personnel be given adequate instruction and a sufficient period of training in its actual use to insure safety of personnel and proper care of the equipment. It is suggested that the units be initially operated empty until becoming familiar with operation of this unit.

## Product Description

The Rotate & Clamp is a self-powered lift truck attachment which allows the operator to manipulate drums from most lift trucks without any additional equipment. It offers the ability to clamp and rotate 360° most sizes and types of drums.

## ■ Specifications

The Rotate & Clamp specifications are shown in Table 1.

*Table 1. Specifications*

|                      |                       |
|----------------------|-----------------------|
| <b>Dimensions</b>    | <b>34"Wx66"Lx19"H</b> |
| <b>Weight</b>        | <b>775 lbs</b>        |
| <b>Load Capacity</b> | <b>2000 lbs</b>       |

## ■ Features

The Rotate & Clamp offers state-of-the-art design with many advanced features.

- 360° rotation
- Rugged, light plastic, pendant control
- Key Switch disconnects main power
- System pressure gage
- Battery discharge indicator (BDI)
- On board charging system
- Clamping system that clamps steel, fiber, and plastic drum

### ■ **Receiving and Inspecting**

When unpacking the Rotate & Clamp, inspect the equipment for damage or mishandling. If damage is noted, file a damage claim with the carrier within 24 hours and call Valley Craft at 1-800-328-1480. Do not attempt to use the equipment.

Compare the contents of the shipment with the bill of lading. Report any missing items to the carrier and to Valley Craft immediately.

### ■ **Operating Procedures**

Only authorized personnel are permitted to use the Rotate & Clamp. Every load and every situation is different. Every load must be evaluated and planned. Observe the following procedures when using this equipment.

All personnel should be given adequate instruction and a sufficient period of training in actual use of the attachment to insure safety and proper care. The Rotate & Clamp is intended for use with sealed containers.

**(Please note:** There is a spacer block located inside the end of each fork tube. The purpose of these spacers is to provide a tighter fit for standard thickness forks. For forks that are too thick to fit, the spacers can be knocked out and removed.)

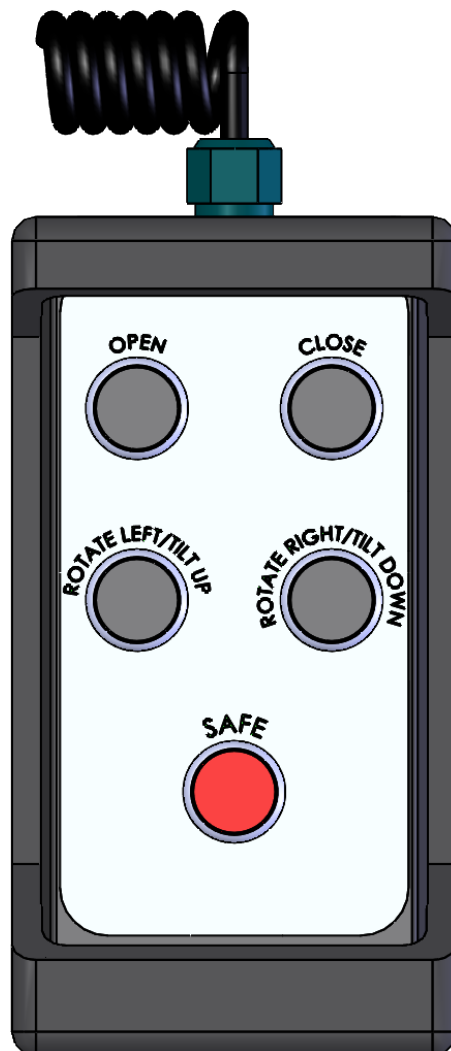
1. Insert forks of lift truck into fork tube of drum grip.
2. Attach safety chain to clevis on rear of frame and wrap chain around forklift carriage and clip the safety hook.
3. Turn attachment on.
4. Secure control box near the forklift drivers seat.
5. Advance lift truck until jaws of drum grip center around the drum.
6. Grip drum in center at all times.
7. Activate clamping pressure by depressing the clamp button. To unclamp press safe button and unclamp button at same time. Two handed control helps prevent accidental operations.
8. To rotate drums, depress the appropriate button.
9. If drum grip needs to be removed from forklift, set unit down, remove safety chain from around carriage, replace control box unit, and back away from the drum grip.

## HYDRA GRIP 2K# SP, CLAMP & ROTATE

### ■ Operating Procedures Wired Pendant

Only authorized personnel are permitted to use the Rotate & Clamp. Every load and every situation is different. Every load must be evaluated and planned. Observe the following procedures when using this equipment. The following describes how to operate the unit with the cabled pendant.

|              | CLAMP<br>BUTTON | ROTATE<br>BUTTON | TILT/LIFT<br>BUTTON | SAFE<br>BUTTON |
|--------------|-----------------|------------------|---------------------|----------------|
| CLAMP OPEN   | X               |                  |                     | X              |
| CLAMP CLOSE  | X               |                  |                     |                |
| ROTATE RIGHT |                 | X                |                     |                |
| ROTATE LEFT  |                 | X                |                     |                |



## HYDRA GRIP 2K# SP, CLAMP & ROTATE

### ■ Operating Procedures Z20836A7 GAUGE-BATTERY DISCHARGE



#### Configuring Your Gauge

Access to these operations is sequential in this order. Adjustments of the following functions can be performed in the configuration mode.

1. Time-of-Day Clock

During configuration, the right button is used to increment. The left button is used to

1. Enter a selection
2. Advance to the next configurable item

If no change is desired to a specific gauge function, continue to press the left button until the next desired function is reached. The time-of-day clock is entered by setting the hours digits between 01 and 12, then 'minutes' digits between 00 and 59.

#### Setting the Time-of-Day Clock

The display will flash the two 'hours' digits. Press the right button to increment by one hour, or hold the button to increment continuously. When the desired number of hours is reached, press the left button once. The display will flash the two 'minutes' digits. Press the right button to increment by one minute or hold the button to increment continuously. When the desired number of minutes is reached, press the left button once.

#### Configuration Notes

The gauge remains in configuration mode for 30 seconds without input from the user. When configuring each function you must enter in all data for that function for it to be saved. If incomplete data is entered for a function and the programming mode is timed out (after 30 seconds of no input received by the gauge), the gauge will revert back to what was previously stored for that item.

#### Exiting Configuration Mode

The configuration mode can be exited in three ways?

1. Press and hold the left button for three seconds.
2. Leave buttons untouched for 30 seconds.
3. Press the left button after selecting the last (right) digit of the last function available.

#### Toggling Display Functions

Press the left button to sequentially toggle between the three numeric gauge functions (time-of-day clock, maintenance hours, total hours).

#### LCD Icons

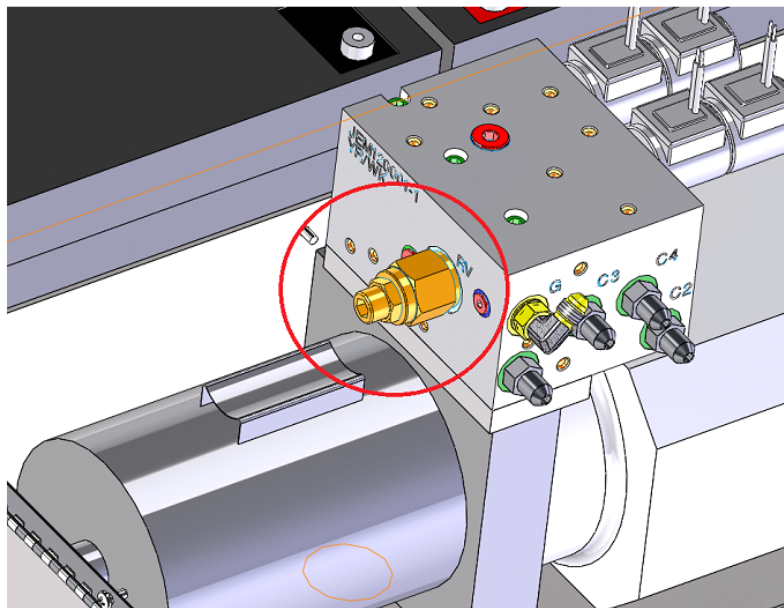
1. Hourglass Icon – Turned on (not blinking) to indicate that an hour meter is displayed in the numeric display. Flashes to indicate hour meter accumulation.
2. Battery Icon – Turned on (not blinking) to indicate function. It flashes when a low condition is detected.
3. Colon – Flashes to indicate that the time-of-day clock is being displayed in the numeric display and that time is counting-up.
4. Decimal Point – To indicate 1/10 of a volt for the BDI profile.
5. Percent – Indicates remaining percentage of interval or level.

#### Troubleshooting

| Problem                 | Possible Causes                                                                                                           |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------|
| No display              | Terminals not connected<br>Improper voltage                                                                               |
| Stays at full           | Instrument voltage does not match battery voltage<br>V+ connected to wrong terminal                                       |
| Will not reset          | Instrument voltage does not match battery voltage<br>Battery not fully charged<br>Defective battery                       |
| Resets without charging | Not connected to battery terminal                                                                                         |
| Empty too soon          | V+ connected to wrong terminal<br>Instrument voltage does not match battery voltage<br>Terminals not connected to battery |
| Cannot configure        | No power to the setup enable pin                                                                                          |
|                         |                                                                                                                           |

## HYDRA GRIP 2K# SP, CLAMP & ROTATE

### ■ Operating Procedures for Pressure Relief Adjustment for Clamp



### ■ Function

#### Adjusting Pressure Relief

Access to your pressure relief valve is found in the main control box. Once the valve has been located adjustments can be made by loosening the jam nut. Adjusting the valve CW (clock wise) increase pressure while adjusting the valve CCW (counter clock wise) decrease the pressure.

Each load requires different pressure setting dependant on the items listed below

1. Barrel Material (steel, plastic, fiber)
2. Weight of barrel
3. Rigidity of barrel (open or closed)

Valley Craft has done testing on different loads and offer some guidelines below.

| Barrel Material | Weight of barrel | Rigidity of barrel | Pressure Setting PSI |
|-----------------|------------------|--------------------|----------------------|
| Steel           | 2000             | Closed             | 1400                 |
| Plastic         | 800              | Closed             | 1000                 |
| Fiber           | 500              | Closed             | 1000                 |

The Hydra Grip comes standard with the clamp pressure set at 1200 psi, each end user should verify this is the correct setting for their load.

#### Troubleshooting

| Problem       | Possible Causes                                                   |
|---------------|-------------------------------------------------------------------|
| Drum Slipping | Pressure to low<br>Drum not against back jaw saddle when clamping |
| Drum Crushing | Pressure to high                                                  |
|               |                                                                   |
|               |                                                                   |

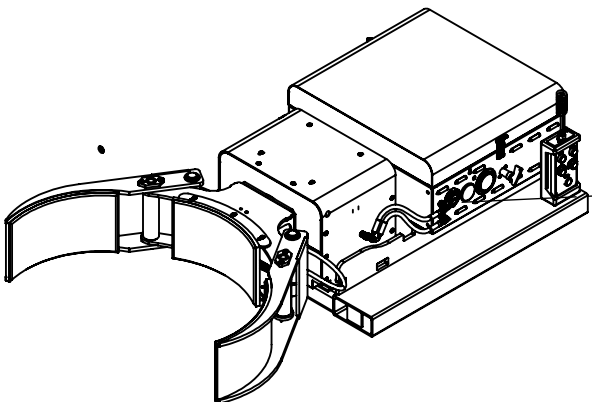
## ■ Charging Batteries

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1. Always turn the key to the “off” position when unit is not in use.
2. To charge your battery, plug a grounded extension cord into the built-in receptacle in the Control Box and an outlet (see below).
3. The battery will charge automatically after the charger is plugged in and can be left unattended.
  - Batteries will generally require equal charging to work time.
4. Keep the charger plugged in to maintain a full battery level when the unit is not being used.

### NOTES:

- See charger **MANUAL** for **SAFETY PRECAUTIONS** and charger **TROUBLESHOOTING**.
- **DO NOT USE BATTERIES UNTIL THEY ARE TOTALLY DISCHARGED.**
  - i. Doing so may damage your battery.
  - ii. For maximum battery life, your unit is equipped with a charger that collects information from the battery and adjusts the current and voltage accordingly. If your battery voltage drops below a certain threshold the charger will not charge the battery.
- If the battery becomes discharged and won't charge by ordinary means, a suggested solution is to “trick” the charger into reading a higher voltage from the battery. To do this connect a second, well-charged battery (12.4 volts or greater) in parallel with the dead battery-positive to positive, negative to negative. Then plug in your charger and charge the combination until the dead battery has enough voltage to enable being charged by itself.



## Maintenance and Adjustments

### ■ Maintenance and Adjustment Procedures

To keep the Rotate & Clamp operating properly, timely maintenance and adjustments are required. These procedures should be performed only by qualified personnel who are familiar with the equipment.

#### **Important:**

- **Always disconnect and remove the batteries from the attachment before beginning an inspection or repair.**

#### **Before each use:**

1. Be sure the batteries are fully charged and free from damage.
2. Inspect safety chain and verify it is in good condition. Replace if necessary.
3. Inspect attachment for sharp edges or burrs.
4. Inspect hydraulic hoses for any leaks or punctures.

#### **Every 6 months:**

1. Inspect and grease pivot points.
2. Check hydraulic fluid. Correct fluid level is 1 to 2 inches from top of fluid fill/breather cap. Do not overfill. Use automatic transmission fluid only.
3. Oil rotate chain.
4. Check rotate chain tension. Correct chain tension is attained when the chain can be deflected 1/8" at midpoint between motor sprocket and rotator sprocket.
5. Inspect wiring harness for pinched wires or loose connections.
6. Inspect all fasteners and tighten if necessary.
7. Inspect battery charger and connections. Tighten if necessary.

## Troubleshooting

### ■ Troubleshooting Procedures

The Rotate & Clamp is a quality product that is designed and manufactured to provide prolonged service under normal operating conditions. If troubleshooting is required, it should be performed only by qualified personnel who are familiar with the equipment.

| <b>Problem</b>                 | <b>Possible Cause</b>   | <b>Solution</b>                                              |
|--------------------------------|-------------------------|--------------------------------------------------------------|
| Batteries will not charge      | Faulty batteries        | Load test batteries to ensure they are good. If bad replace. |
|                                | Faulty Charger          | Verify if charger is outputting amperage. If bad replace.    |
| Unit not functioning           | Low/Dead batteries      | Recharge batteries                                           |
|                                | Improper grounding      | Check motor & battery wire connections.                      |
|                                | Damaged or loose wiring | Check wiring to switches in control box.                     |
| Only certain functions operate | Damaged or loose wiring | Check wiring to switches in control box                      |
|                                | Bad switches            | Replace                                                      |
|                                | Bad solenoids           | Replace                                                      |
| Unit is crushing drums         | Too much pressure       | Grip drum just to the point that the drum starts to distort  |
| Cylinder leaking               | Worn/old o-rings        | Replace seals in cylinder                                    |

# Replacement

## ■ Replacement Procedures

Occasionally, it will be necessary to replace a part that has been Damaged or worn. Many parts on this Rotate & Clamp are replaceable. If replacement of a part is required, it should be performed only by qualified personnel who are familiar with the equipment.

See page 16 for available replacement parts. Identify the part number you need. Contact Valley Craft Customer Service at 1-800-328-1480 or on the Web at [customerservice@valleycraft.com](mailto:customerservice@valleycraft.com).

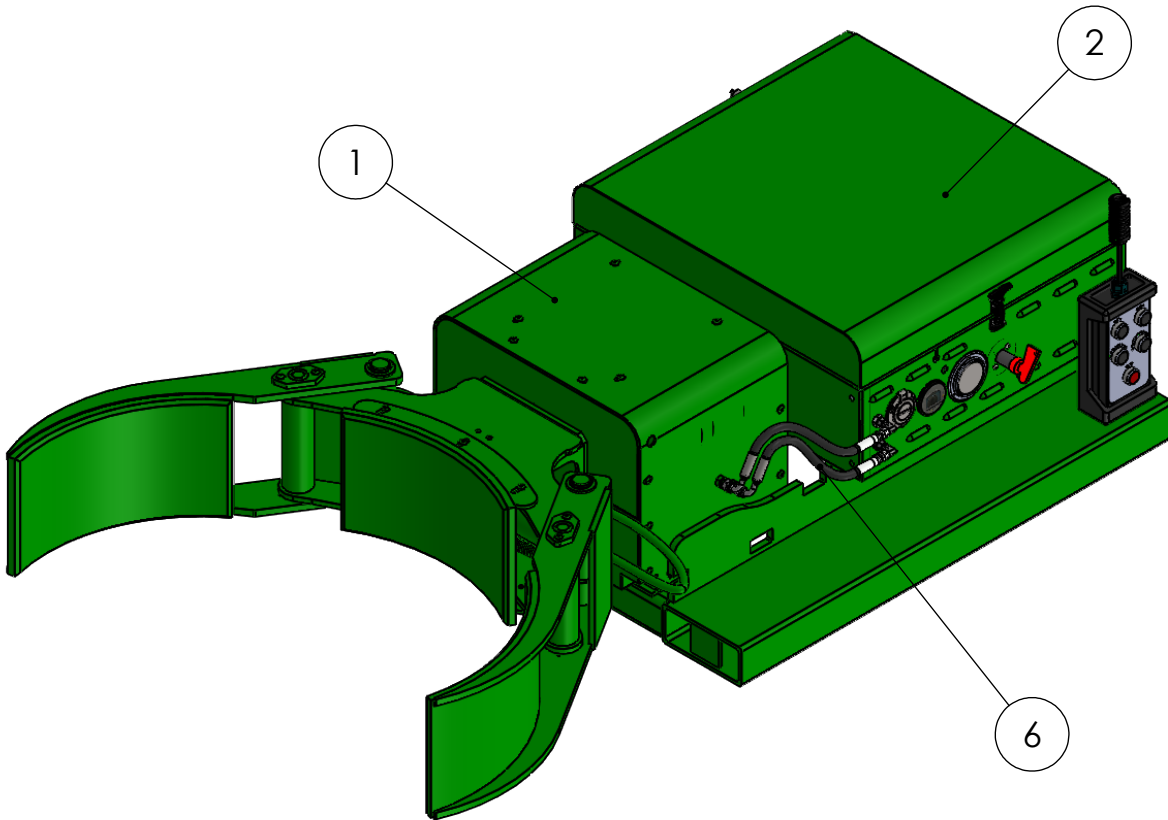
Information required when contacting Valley Craft:

- A. Company name and address
- B. Contact persons name
- C. Telephone number
- D. E-Mail address
- E. Model Number
- F. Date of manufacture
- G. Part number(s) of part(s) to be ordered

The model number and date of manufacture is stamped on a metal tag located on the control box.

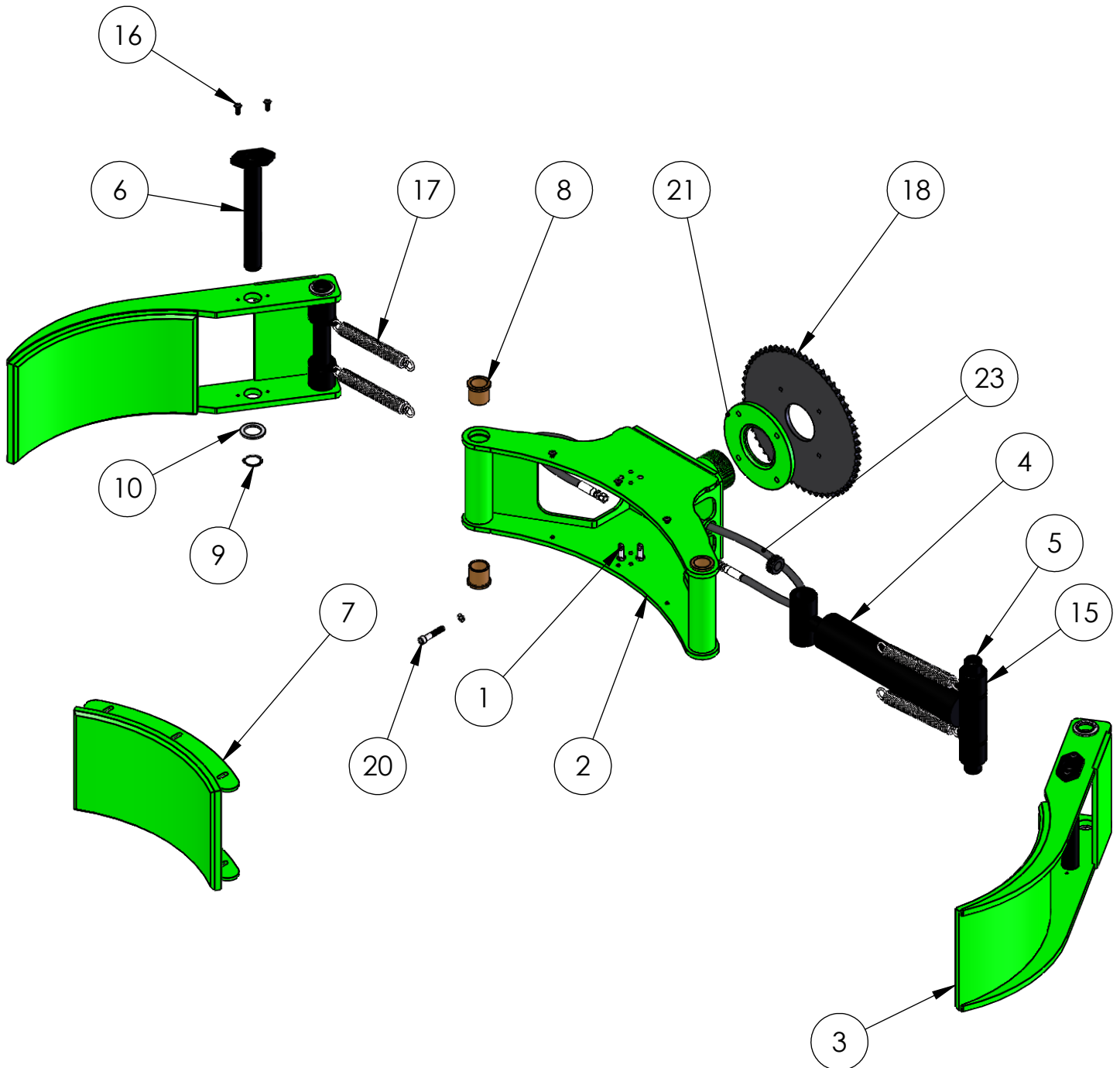
## HYDRA GRIP 2K# SP, CLAMP & ROTATE

### F89703 UGIII-2K# SP ROT&CLAMP ISO View and Bill of Materials



| ITEM NO. | PART NUMBER | DESCRIPTION                 | QTY. |
|----------|-------------|-----------------------------|------|
| 1        | F69012A2    | FRT SECT ASSY SAE/UG3 PL PD | 1    |
| 2        | F60574A5    | VERSA-CNRLBOX-ASSY          | 1    |
| 3        | Z10045A5    | NUT-NYL NE 5/16-18          | 4    |
| 4        | Z10125A8    | S-HHC 5/16-18X1-1/2         | 4    |
| 5        | Z10200A6    | WASHER-1/4 FLAT USS         | 8    |
| 6        | Z20854A7    | HOSE-11.00/613/648          | 4    |

**F60550A1 UG-JAW ASSY 15-30 PL PD  
EXPLODED VIEW**



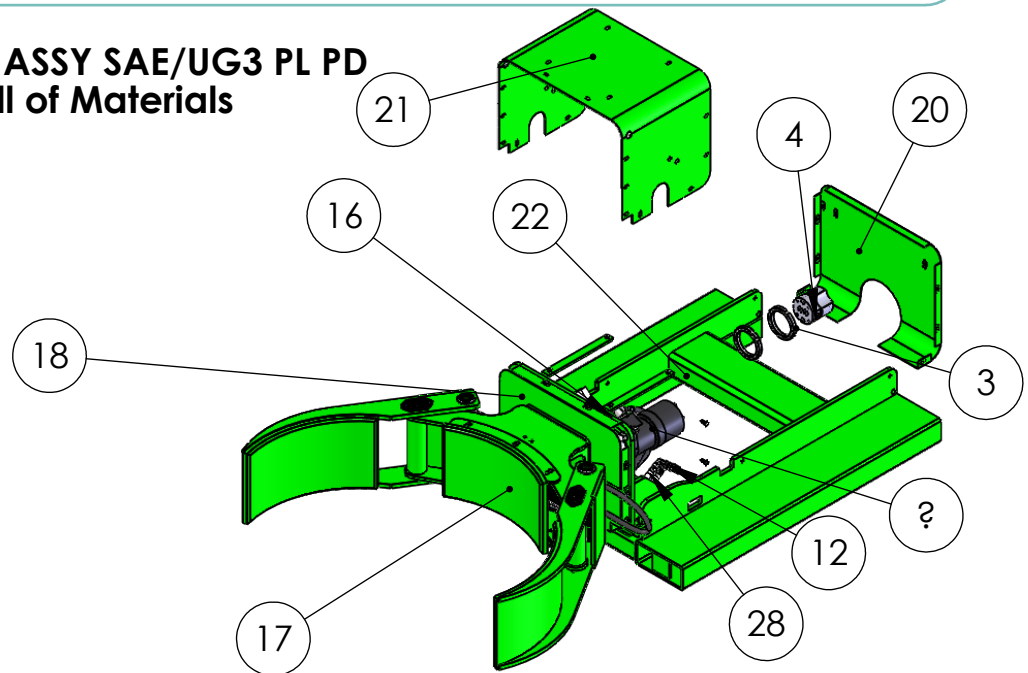
## F60550A1 UG-JAW ASSY 15-30 PL PD

### Bill of Materials

| ITEM NO. | PART NUMBER | DESCRIPTION                    | QTY. |
|----------|-------------|--------------------------------|------|
| 1        | Z11484A3    | CONNECTOR 3/8-16 SPRING        | 4    |
| 2        | F60449A0    | ARM WLDMT UG PL PD UG3         | 1    |
| 3        | F68825A3    | UG-JAW-WLDMT-18-28 (9")        | 2    |
| 4        | Z20845A8    | CYL ASSY-UG3 CLAMP 1.13ROD     | 1    |
| 5        | F50401      | CYL PIN 1.25 UG3 FRT SECT      | 2    |
| 6        | F68832A0    | UG-JAW-PIN WLDMT-20-35         | 2    |
| 7        | F68824A2    | UG-JAW-SADDLE WLDMT-15-30 (9") | 1    |
| 8        | Z20830A3    | BRG-BRZ-FLG 1.25X1.50X1.50     | 4    |
| 9        | Z10534A4    | RING-RTNG 1-1/4                | 6    |
| 10       | Z10592A2    | BUSH-MACH 1-1/4X10GA ZP        | 6    |
| 11       | Z20813A0    | GROMMET-.75IDX1.06HOLEX.25TH   | 2    |
| 12       | Z20616A6    | FTG 90 6801-4-4 NWO            | 2    |
| 13       | Z10026A8    | NUT-HEX JAM 3/8-16ZP           | 4    |
| 14       | F50438      | SHT-.19/UG3 JAW ASSY SPRG CLIP | 4    |
| 15       | F50435      | RD-2.00/UG3 JAW ASSY CYL SPCR  | 4    |
| 16       | Z10438A0    | S-BHCS 1/4-20X3/4 BLK          | 10   |
| 17       | Z11485A2    | SPRING-EXTENSION 1.00X.14X8.00 | 4    |
| 18       | F51281      | SPROCKET-LRG BORE UG3 PL PD    | 1    |
| 19       | Z10214A0    | WASHER-3/8 LOCK MD             | 4    |
| 20       | Z11562A7    | S-SHC 3/8-16X2 ZP              | 4    |
| 21       | F51279      | SPCR PLATE RD UG3 PL PD        | 1    |
| 22       | Z10201A5    | WASHER-5/16 FLAT USS           | 4    |
| 23       | F61313A6    | HOSE-24.00/613                 | 2    |

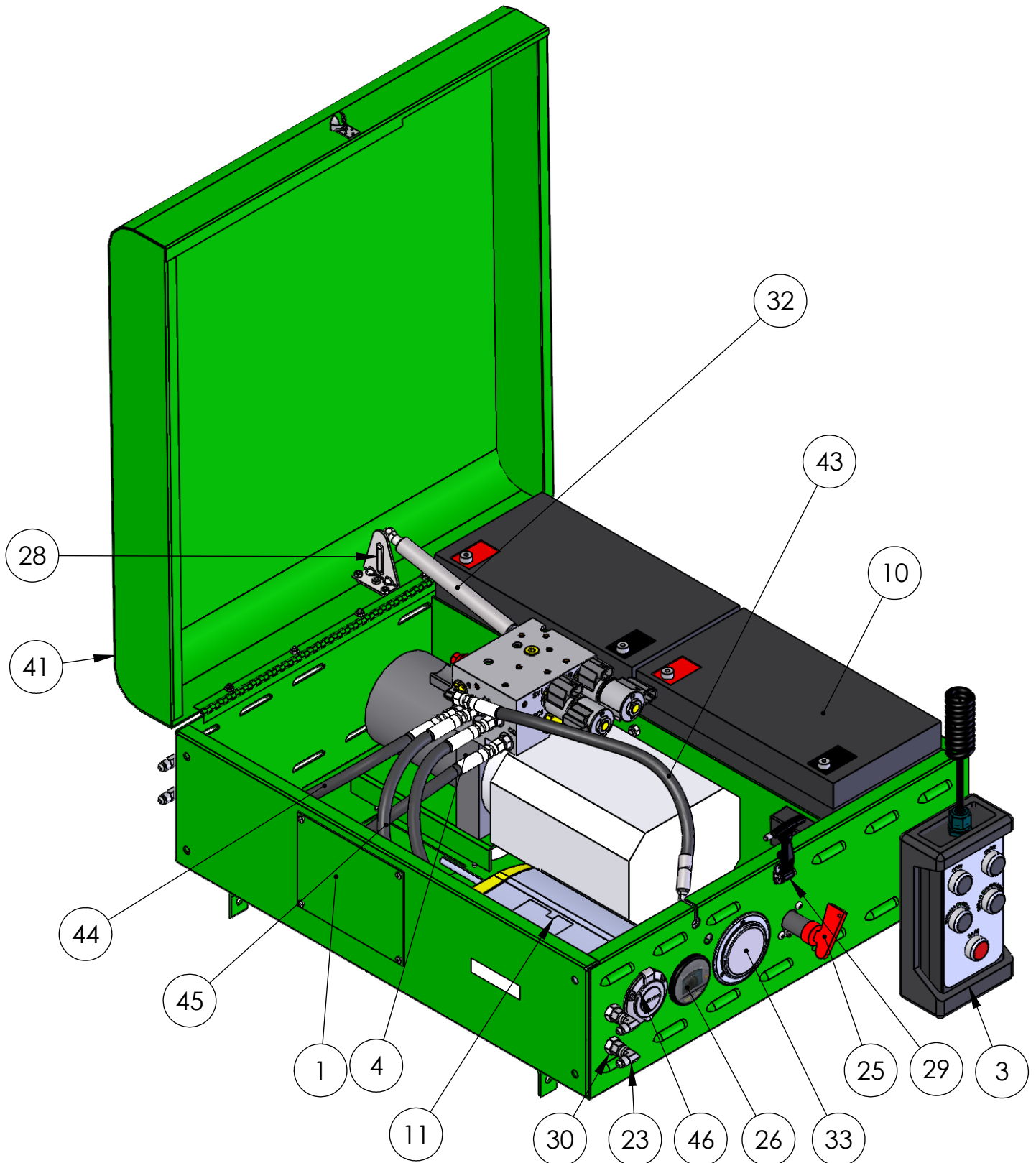
## HYDRA GRIP 2K# SP, CLAMP & ROTATE

### F69012A2 FRONT SECT ASSY SAE/UG3 PL PD Exploded View and Bill of Materials



| ITEM NO. | PART NUMBER | DESCRIPTION                    | QTY. |
|----------|-------------|--------------------------------|------|
| 1        | F51291      | NYLON SPACER 3IDX4.5ODX.125    | 2    |
| 2        | F51484      | WASHER-4-1/2ODX3IDX3/16 (STK)  | 1    |
| 3        | F51292      | ROTATE JAM NUT (KAN BAN)       | 2    |
| 4        | Z20869A2    | VEKTEK ROTATOR 32-2242-03      | 1    |
| 5        | Z11690A5    | S-SHC 1/4-20X1-1/2 ASTM A574   | 2    |
| 6        | Z20615A7    | FTG STR 6400-4-4-O             | 4    |
| 7        | Z20656A6    | MOTOR-HYD/SAE                  | 1    |
| 8        | Z30400A2    | SPROCKET-SM W/SHS              | 1    |
| 9        | Z11550A9    | S-BHCS 1/4-20X1-1/4 ZINC       | 2    |
| 10       | Z11572A7    | S-BHCS 1/4-20X3/4 ZINC         | 18   |
| 11       | Z20704A0    | FTG 90 6500-4-4 SWL            | 2    |
| 12       | Z84897A3    | FTG STR 2700-4-4-LN            | 4    |
| 13       | Z10048A2    | NUT-NYL NE 1/2-13              | 2    |
| 14       | Z10331A8    | WASHER-1/2 FLAT SAE            | 2    |
| 15       | Z10620A4    | S-HHC 1/2-13X2 GR 5            | 2    |
| 16       | Z20701A3    | FTG 90 6801-6-10 NWO           | 2    |
| 17       | F60550A1    | UG-JAW ASSY 15-30 PL PD        | 1    |
| 18       | F69011A1    | SPROCKET TOP COVER WLDMT       | 1    |
| 19       | F69010A0    | SPROCKET BOTTOM COVER WLDMT    | 1    |
| 20       | F69003A3    | VERSA BACK COVER WLDMT         | 1    |
| 21       | F51725      | UGIII COVER (KAN BAN)          | 1    |
| 22       | F69009A9    | HYDRA-RTB-WELDMENT SP          | 1    |
| 23       | Z10036A6    | NUT-HEX KEPS 5/16-18           | 1    |
| 24       | Z19998A9    | S-HHC 5/16-18X2-1/2 Z5 FULL TH | 1    |
| 25       | Z10026A8    | NUT-HEX JAM 3/8-16ZP           | 4    |
| 26       | Z10602A2    | WASHER-1/4 FLAT SAE            | 20   |
| 27       | F61318A1    | HOSE-11.00/613                 | 2    |
| 28       | F65143A6    | HOSE-16.00/613/682             | 2    |

**F60574A5 VERSA-CNRLBOX-ASSY  
EXPLODED VIEW**



**HYDRA GRIP 2K# SP, CLAMP & ROTATE**

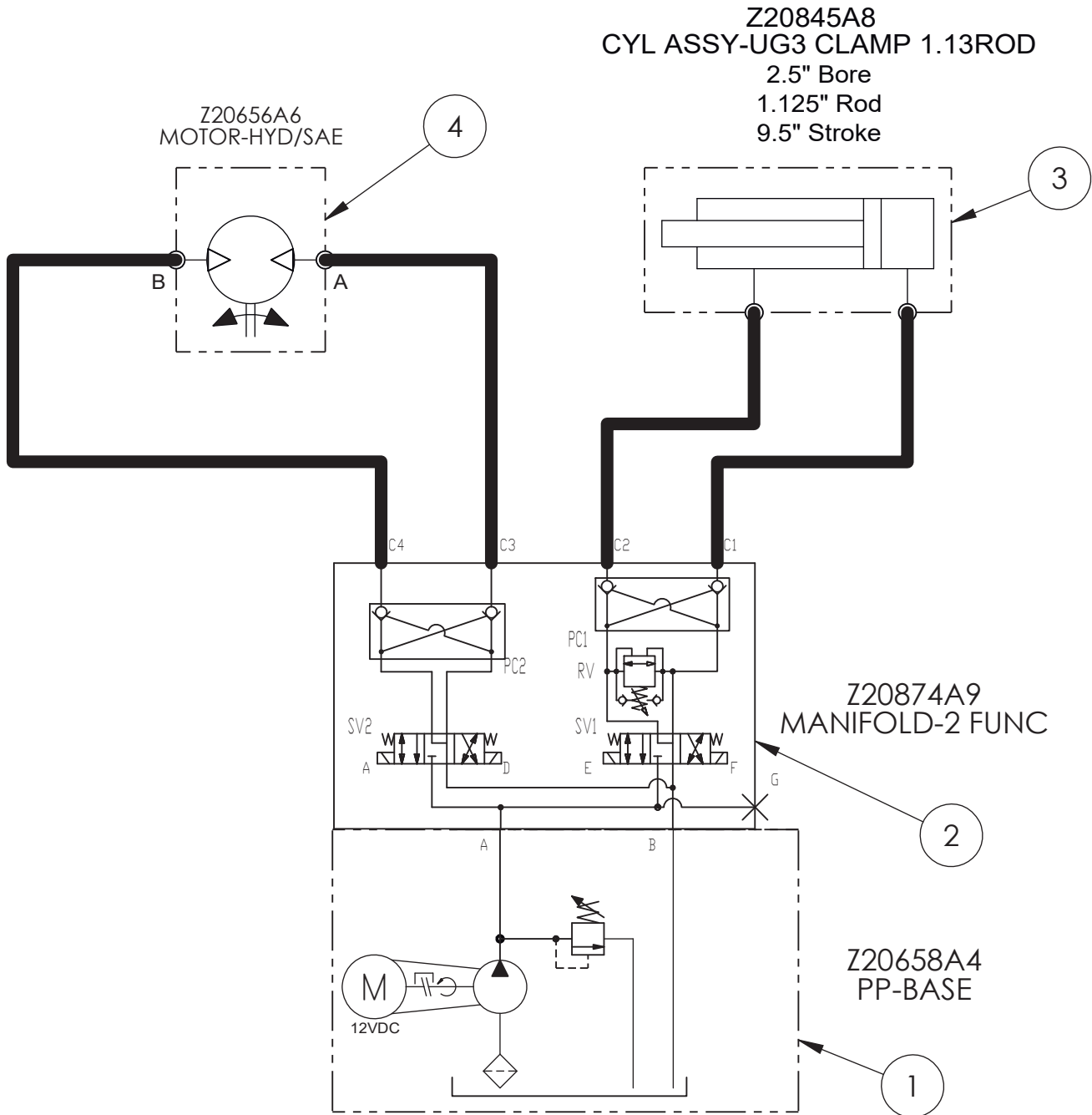
**F60574A5 VERSA-CNRLBOX-ASSY  
Bill of Materials**

| ITEM NO. | PART NUMBER | DESCRIPTION                                                     | QTY. |
|----------|-------------|-----------------------------------------------------------------|------|
| 1        | F50432      | UG-CNRLBOX-ACCESS PANEL (KAN BAN)                               | 2    |
| 2        | F50804      | FELT PAD UG3 BTM BAT 2.50X50"                                   | 1    |
| 3        | F60473A1    | PENDANT ASSY/FORK ATTACH (KAN BAN)                              | 1    |
| 4        | F60575A6    | PP-2FUNC 12V                                                    | 1    |
| 5        | F68840A8    | UG-CNRLBOX- BASE WLDMT                                          | 1    |
| 6        | Z00008A1    | CIRCUIT BRKR SLA-150                                            | 1    |
| 7        | Z00111A5    | CABLE-BAT BLK 6LG                                               | 1    |
| 8        | Z00113A3    | CABLE-BAT RED 15.5LG                                            | 1    |
| 9        | Z00114A2    | CABLE-BAT BLK 15.5LG                                            | 3    |
| 10       | Z00171A6    | BATTERY-12V 100AH SEALED LEAD                                   | 2    |
| 11       | Z20362A2    | CHRGR-BATTERY 12/24 120VAC                                      | 1    |
| 12       | Z00547A3    | CABLE-BAT 12V-27" RED 7/16X1/4                                  | 1    |
| 13       | Z00548A2    | CABLE-BAT 12V-6" RED 7/16X1/4                                   | 1    |
| 14       | Z10003A5    | NUT-HEX KEPS #4-40                                              | 3    |
| 15       | Z10035A7    | NUT-HEX KEPS 1/4-20                                             | 3    |
| 16       | Z10176A6    | S-RHM #10-24X1/2                                                | 6    |
| 17       | Z10335A4    | S-CRG 1/4-20x3/4 ZP                                             | 2    |
| 18       | Z10382A6    | NUT-HEX KEPS #8-32 ZP                                           | 11   |
| 19       | Z10391A5    | NUT-HEX KEPS #10-24                                             | 6    |
| 20       | Z10463A8    | S-PTHM #8-32x3/8                                                | 11   |
| 21       | Z10595A9    | RIVET-POP 1/8x1/8 ST                                            | 3    |
| 22       | Z11548A1    | S-FHM #4-40X3/8 ZP                                              | 3    |
| 23       | Z20704A0    | FTG 90 6500-4-4 SWL                                             | 4    |
| 24       | Z20814A9    | GROMMET-.75IDX1.13HOLEX.09TH                                    | 2    |
| 25       | Z20818A5    | SWITCH-BATTERY DISCONN/PD                                       | 1    |
| 26       | Z20836A7    | GAUGE-BATTERY DISCHARGE                                         | 1    |
| 27       | Z20849A3    | FTG 90 2502-4-4                                                 | 1    |
| 28       | Z84866A4    | BALL-10MM - MOUNT PLATE TALL                                    | 1    |
| 29       | Z84869A1    | LATCH-DRAW RUBBER                                               | 1    |
| 30       | Z84897A3    | FTG STR 2700-4-4-LN                                             | 4    |
| 31       | Z84905A5    | GAS SPRING MOUNT STR                                            | 1    |
| 32       | Z84906A4    | GAS SPRING 60 LB 4" STROKE                                      | 1    |
| 33       | Z84909A1    | GAUGE-PRESSURE 0-3K PSIG CF1P-210E**3000PSI 2.5 GLY FLG/PNL MNT | 1    |
| 34       | Default     | S-CRG 1/4-20x1/2                                                | 1    |
| 35       | Z10122A1    | S-HHC 5/16-18X3/4                                               | 1    |
| 36       | Z10213A1    | WASHER-5/16 LOCK MD                                             | 1    |
| 37       | Z10602A2    | WASHER-1/4 FLAT SAE                                             | 3    |
| 38       | Z10500A7    | NUT-HEX KEPS 3/8-16                                             | 2    |
| 39       | Z10337A2    | S-PTHM #8x1/4 PL                                                | 8    |
| 40       | Z40473A3    | TAG/SERIAL NUMBER/PRINT 2 COLORS                                | 1    |
| 41       | F61932A0    | UG-CTL-LID WLDMT                                                | 1    |
| 42       | Z20364A4    | BATTERY TERMINAL COVER - RED (LARGE)                            | 2    |
| 43       | F61016A7    | HOSE-17.50/613/648                                              | 1    |
| 44       | F61297A2    | HOSE-16.50/613                                                  | 2    |
| 45       | Z20736A8    | HOSE-20.00/613                                                  | 2    |
| 46       | Z00614A0    | PLUG HOLDER 120V                                                | 1    |

# HYDRA GRIP 2K# SP, CLAMP & ROTATE

## HYDRAULIC SCHEMATIC

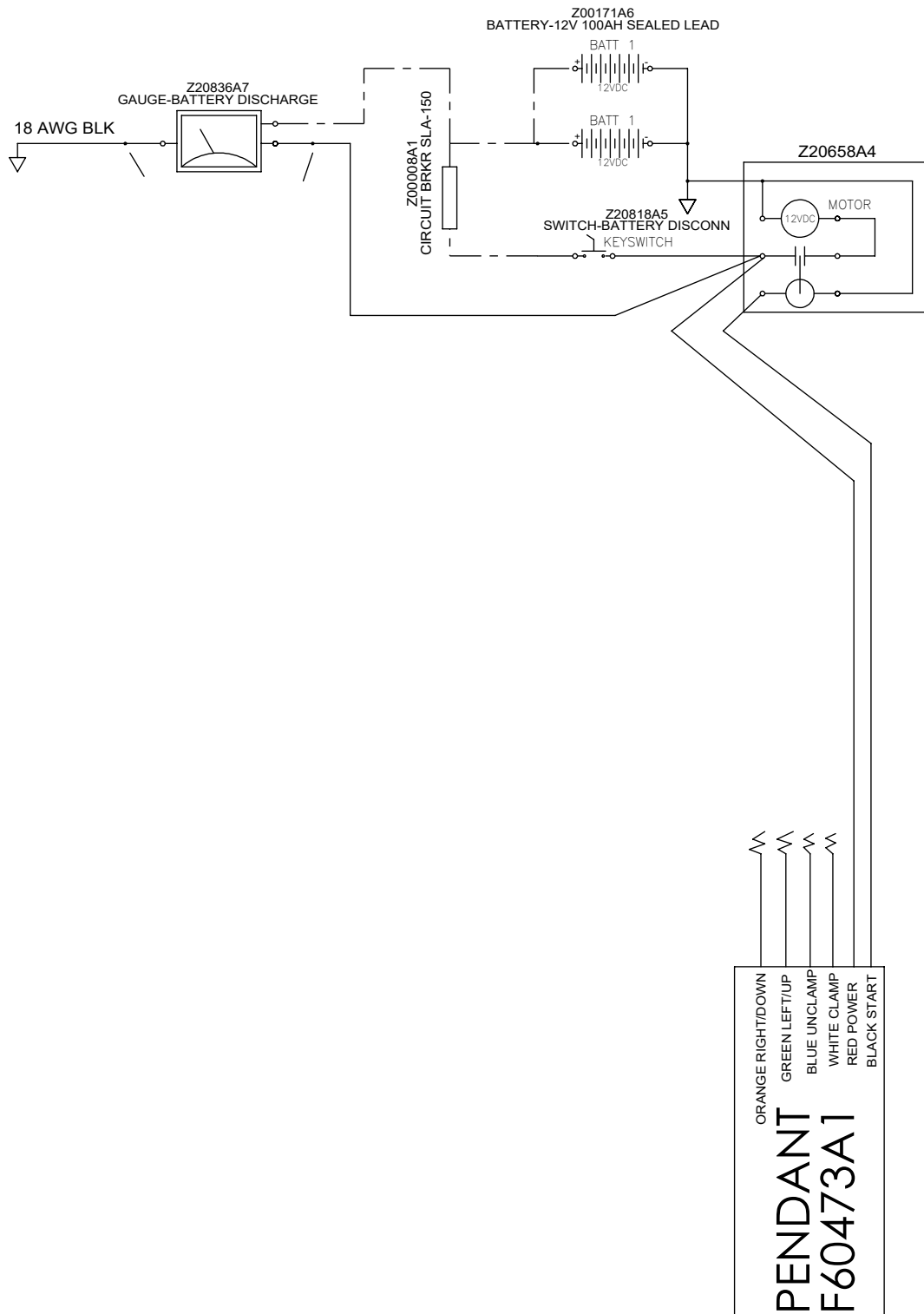
Z84900A0 PPAC-3 FUNC TILT/CLAMP/ROT



| General Table |          |                              |     |
|---------------|----------|------------------------------|-----|
| ITEM          | PART NO. | DESCRIPTION                  | QTY |
| 1             | Z20658A4 | PP-BASE                      | 1   |
| 2             | Z20874A9 | MANIFOLD-2 FUNC PRES REL     | 1   |
| 3             | Z20845A8 | CYL ASSY-UG3 CLAMP 1.13 ROD  | 1   |
| 3A            | 783-104  | KIT-SEAL 2.5" SCREW IN GLAND | 1   |
| 3B            | 783-119  | KIT-SEAL 2.5" PISTON         | 1   |
| 4             | Z20656A6 | MOTOR-HYD/SAE                | 1   |

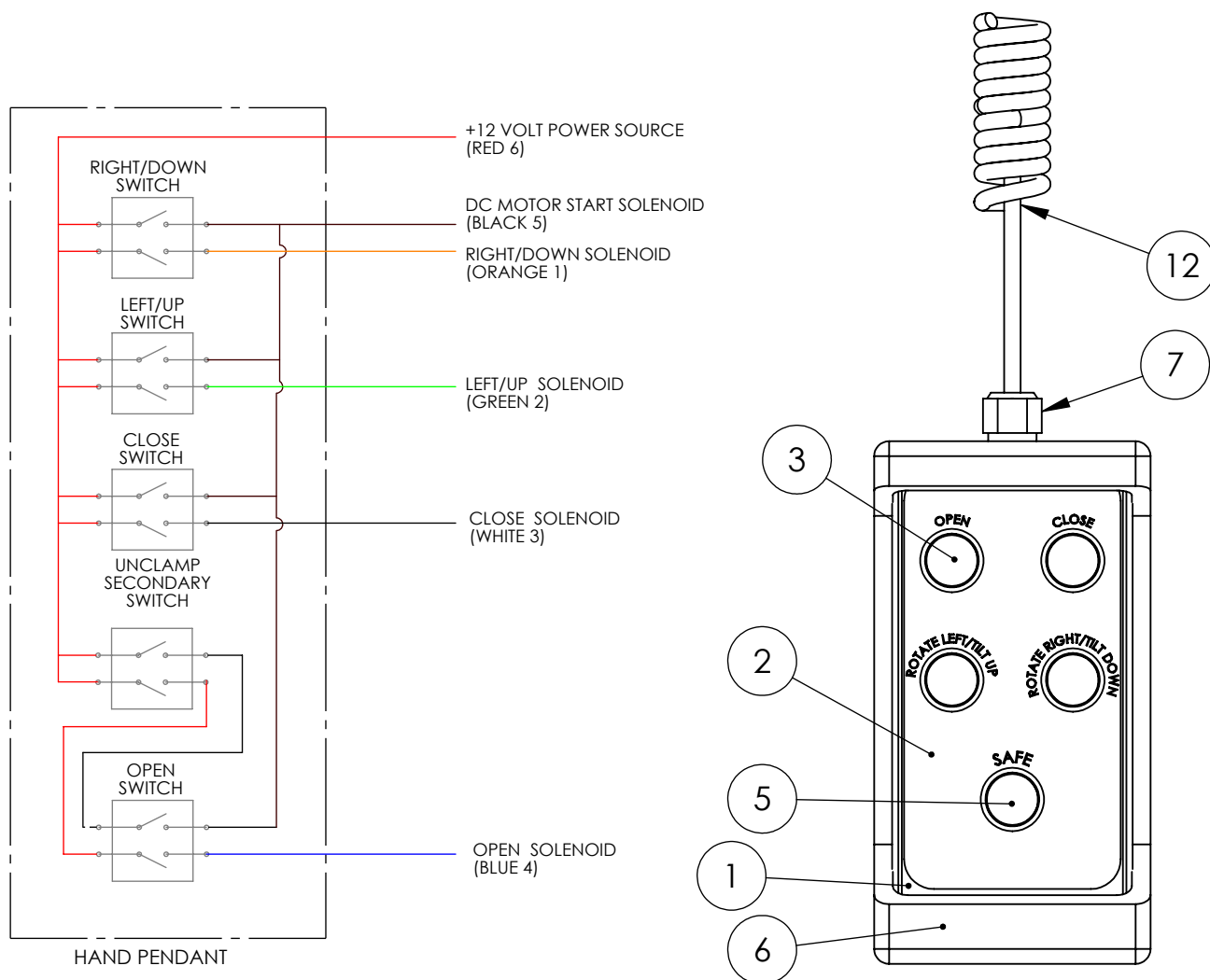
## HYDRA GRIP 2K# SP, CLAMP & ROTATE

### ELECTRICAL SCHEMATIC



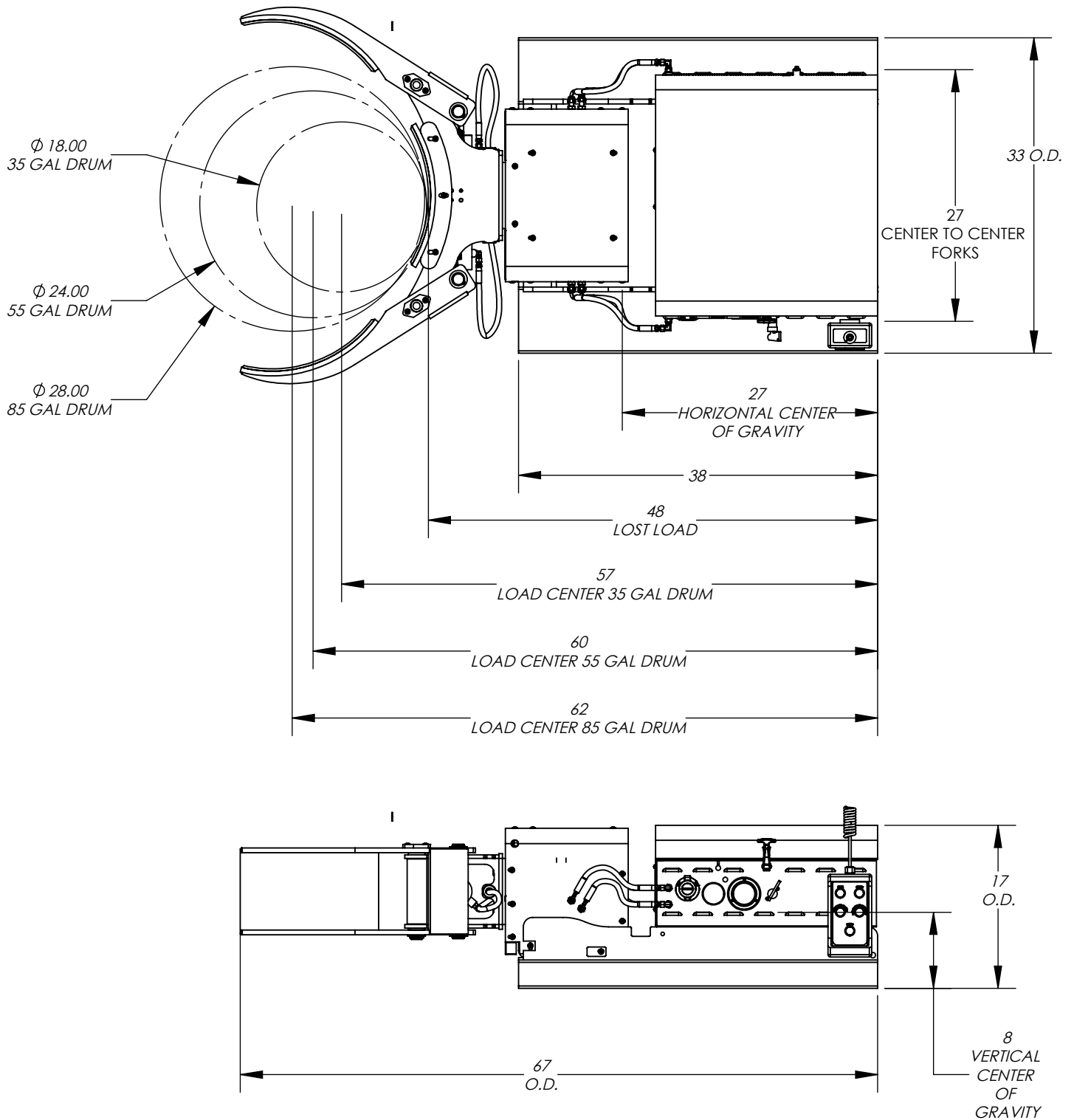
## HYDRA GRIP 2K# SP, CLAMP & ROTATE

### **WIRED PENDANT** **F60473A1 PENDANT ASSY/FORK ATTACH**



| ITEM NO. | PART NUMBER | DESCRIPTION               | QTY. |
|----------|-------------|---------------------------|------|
| 1        | F51476      | ENC-BOX PLST BLK DRLD     | 1    |
| 2        | Z41281A8    | DECAL-PENDANT FORK ATTACH | 1    |
| 3        | Z00555A5    | PB-22MM MOM BLK           | 4    |
| 4        | Z00524A6    | CONTACT BLOCK N/O         | 10   |
| 5        | Z00522A8    | PB-22MM MOM RED           | 1    |
| 6        | Z00557A3    | ENC-BOOT RUBBER BLK       | 1    |
| 7        | Z00407A5    | CORD GRIP FOR 18/3        | 1    |
| 8        | Z00462A0    | NUT-LOCK ELEC 1/2-14      | 1    |
| 9        | F61971A2    | MAGNETIC PLT ASSY         | 1    |
| 10       | Z11668A3    | MAGNET-RND PENDANT        | 1    |
| 11       | Z10382A6    | NUT-HEX KEPS #8-32 ZP     | 1    |
| 12       | Z20894A9    | CORD-PENDANT              | 1    |

## HYDRA GRIP 2K# SP, CLAMP & ROTATE



### NOTES:

△ A : LOAD CAPACITY 2000LBS

△ B : WEIGHT 850

△ C : CONTACT LIFT TRUCK MANUFACTURER FOR DOWNRATED CAPACITY

## Warranty and Limitation of Liability

Valley Craft products are warranted for a period of one (1) year from date of shipment from Valley Craft's plant to be free from defects in material and workmanship under correct use, normal operation and proper application. However, parts of other than Valley Craft manufacture are subject ONLY to the original manufacturer's warranty. Valley Craft's obligation under warranty shall be limited to repair or exchange, at Valley Craft's option, FOB origin factory, of any Valley Craft product or part which proves to be defective as provided herein. Valley Craft reserves the right to either inspect the product at Buyer's location, or require it to be returned to the factory for inspection. The warranty contained herein does not extend to goods damaged, or subject to accident, abuse or misuse after shipment from Valley Craft's factory, nor to goods altered or repaired by anyone other than an authorized Valley Craft representative.

Buyer or user shall not alter, modify or use a Valley Craft product for anything other than its intended function. Valley Craft shall not in any way be responsible for the consequences of any such alteration, modification or misuse.

VALLEY CRAFT MAKES NO EXPRESS WARRANTIES OTHER THAN THOSE WHICH ARE SPECIFICALLY DESCRIBED HEREIN. Any description of the goods sold hereunder, including any references to Buyer's specifications and any descriptions in catalogs, circulars and other written material published by Valley Craft, is for the sole purpose of identifying such goods and shall not create an express warranty that the goods shall conform to such descriptions.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY STATES VALLEY CRAFT'S ENTIRE AND EXCLUSIVE LIABILITY AND BUYER'S EXCLUSIVE REMEDY FOR ANY CLAIM OR DAMAGES IN CONNECTION WITH VALLEY CRAFT PRODUCTS, THEIR DESIGN, SUITABILITY FOR USE, INSTALLATION OR OPERATION OR FOR ANY CLAIMED DEFECTS. VALLEY CRAFT WILL IN NO EVENT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER, NOR FOR ANY SUM IN EXCESS OF THE PRICE RECEIVED FOR THE GOODS FOR WHICH LIABILITY IS CLAIMED.

## Technical Assistance/Warranty Procedure

### What's Covered:

- Parts and Labor to correct manufacturer's defect within one year of purchase.
- Freight Cost

### What's Not:

- Normal wear items (seal kits, bearings, tires, etc.)

### What Voids the Warranty:

- Dirt/Grime that directly causes malfunction of product
  - Abuse (i.e. Overloading, damaged, not properly maintained, etc.)
  - Product altered by customer
- \*See "Items not Under Warranty" below for items that have the warranty voided.

### Items Under Warranty (less than one year old):

- Warranty replacement parts are provided only when the problem can be identified with near certainty. If not, the customer will return item to Valley Craft, freight collect, for troubleshooting and/or repair. When repaired, product will be returned to customer,



Valley Craft is a family-owned company based in Minnesota. Founded in 1953 with the introduction of the first hand truck with a brake, Valley Craft has grown to be a world class manufacturer known for producing material handling, storage, and safety solutions that truly stand the test of time.

Our commitment to building only the most rugged and reliable products - together with a relentless and uncompromising dedication to customer satisfaction is what sets Valley Craft apart.

Through thoughtful and intelligent design, we have helped transform the way people work. Over the years, we have helped solve some of the most complex material handling challenges. We help our customers to become better organized and to work smarter, safer, and more efficiently. As our breadth of products continues to evolve with every new innovation, our core values stay the same:

Professional Grade Quality.... Built to Last.... Made in the U.S.A.

**Valley Craft, Inc.**

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