INSTRUCTION MANUAL

PR3335

U-Spin™

USER SETUP GUIDE

Alcoa Fastening Systems

Makers of Huck®, Marson®, Recoil®
Brand Fasteners, Tools & Accessories

04-10-2013
HK1070
Contents

Safety ................................................................................................................. 4
Unit Outline Dimensions ................................................................................. 5
918 Powerig® Specifications ............................................................................. 6-7
General Guidelines ........................................................................................... 8
Installation and Setup ....................................................................................... 8-9
Facilities Drawing ............................................................................................. 9
System Operation
   Key .............................................................................................................. 10
   Warm-Up Routine ........................................................................................ 10
   Purge Routine .............................................................................................. 10
   Run Routine .................................................................................................. 11
Touchscreen Controls and Operation
   Key Pad ........................................................................................................ 12
   Login .......................................................................................................... 12
   Main ............................................................................................................ 13
   System Setup .............................................................................................. 13
SETUP SCREENS
   HS52 Setup ................................................................................................. 14
   Timers ....................................................................................................... 14
   Tool Serviced .............................................................................................. 15
   New Tool Added .......................................................................................... 15
   Pressure Settings ....................................................................................... 15
   History ....................................................................................................... 16
RUN MODE .................................................................................................... 17
I. GENERAL SAFETY RULES:
1. A half hour long hands-on training session with qualified personnel is recommended before using Huck equipment.
2. Huck equipment must be maintained in a safe working condition at all times. This analysis should be inspected at the beginning of each shift/day for damage or wear. Any repair should be done by a qualified repairman trained on Huck procedures.
3. For multiple hazards, read and understand the safety instructions before foregoing, operating, repairing, maintaining, changing accessories on, or working near the assembly power tool. Failure to do so can result in serious bodily injury.
4. Only qualified and trained operators should install, adjust or use the assembly power tool.
5. Do not modify this assembly power tool. This can reduce effectiveness of safety measures and increase operator risk.
6. Do not discard safety instructions; give them to the operator.
7. Do not use assembly power tool if it has been damaged.
8. Tools shall be inspected periodically to verify all ratings and markings required, and listed in the manual, are legibly marked on the tool. The employer/operator shall contact the manufacturer to obtain replacement marking labels when necessary. Refer to assembly drawing and parts list for replacement.
9. Tool is only to be used as stated in this manual. Any other use is prohibited.
10. Read MSDS Specifications before servicing the tool. MSDS specifications are available from the product manufacturer or your Huck representative.
11. Only genuine Huck parts shall be used for replacements or spares. Use of any other parts can result in tooling damage or personal injury.
12. Never remove any safety guards or pintail deflectors.
13. Never install a fastener in free air. Personal injury from fastener ejectors.
14. Where applicable, always clean spent pintail out of nose assembly before installing the next fastener.
15. Check clearance between trigger and work piece to ensure there is no pinch point when tool is activated. Remote triggers are available for hydraulic tool if pinch point is unavoidable.
16. Do not abuse tool by dropping or using it as a hammer. Never use hydraulic or air lines as a handle or to bend or pry the tool. Reasonable care of installation tools by operators is an important factor in maintaining tool efficiency, eliminating downtime, and preventing an accident which may cause severe personal injury.
17. Never place hands between nose assembly and work piece. Keep hands clear from front of tool.
18. Tools with ejector rods should never be cycled with nose assembly installed.
19. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet for correct positioning.
20. Be sure all hose connections are tight.
21. Tools are to be used only for the purpose intended for the tool.
22. Use of any other parts can result in tooling damage or personal injury.
23. Use of any other sizes and types of accessories and consumables that are not recommended. Do not use other types or sizes of accessories or consumables.
24. The assembly power tool is not intended for use in potentially explosive environments.
25. Tool is not insulated against contact with electrical power.
26. GLOASSARY OF TERMS AND SYMBOLS:
- Product complies with requirements set forth by the relevant European directives.
- Read manual prior to using this equipment.
- Eye protection is required while using this equipment.
- Hearing protection is required while using this equipment.

Notes: are reminders of required procedures. **Bold, Italic type and underlining:** emphasizes a specific instruction.

**WARNINGS: Must be understood to avoid severe personal injury.**

**CAUTIONS: Show conditions that will damage equipment or structure.**

II. PROJECTILE HAZARDS:
1. Risk of whipping compressed air hose if tool is pneumatic or pneumatic.
2. Disconnect the assembly power tool from energy source when changing inserted tools or accessories.
3. Be aware that failure of the workpiece, accessories, or the inserted tool itself can generate high velocity projectiles.
4. Always wear impact resistant eye protection during tool operation. The grade of protection required should be assessed for each use.
5. The risk of others should also be assessed at this time.
6. Ensure that the workpiece is securely fixed.
7. Check that the means of protection from ejection of fastener or pintail is in place and operative.
8. There is possibility of forcible ejection of pintails or spent mandrels from front of tool.

III. OPERATING HAZARDS:
1. Use of tool can expose the operator’s hands to hazards including: crushing, impacts, cuts, abrasions and heat. Wear suitable gloves to protect hands.
2. Operators and maintenance personnel shall be physically able to handle the bulk, weight and power of the tool.
3. Hold the tool correctly and be ready to counteract normal or sudden movements with both hands available.
4. Maintain a balanced body position and secure footing.
5. Release trigger or stop start device in case of interruption of energy supply.
6. Use only fluids and lubricants recommended by the manufacturer.
7. Do not unsuitable postures, as it is likely for these not to allow counter-acting of normal or unexpected tool movement.
8. If the assembly power tool is fixed to a suspension device, make sure that fixing is secure.
9. Beware of the risk of crushing or pinching if nose equipment is not fitted.

IV. REPEETITIVE MOTION HAZARDS:
1. When using assembly power tool, the operator can experience discomfort in the hands, arms, shoulders, neck or other parts of the body.
2. When using tool, the operator should adopt a comfortable posture while maintaining a secure footing and avoid awkward or off balanced postures.
3. The operator should change posture during extended tasks to help avoid discomfort and fatigue.
4. If the operator experiences symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations or stiffness, these warnings should not be ignored. The operator should tell the employer and consult a qualified health professional.

V. ACCESSORIES HAZARDS:
1. Disconnect tool from energy supply before changing inserted tool or accessory.
2. Use only sizes and types of accessories and consumables that are recommended. Do not use other types or sizes of accessories or consumables.
3. The assembly power tool is not intended for use in potentially explosive environments.
4. Tool is not insulated against contact with electrical power.
5. Ensure there are no electrical cables, gas pipes, etc., which can cause a hazard if damaged by use of the tool.

VI. WORKPLACE HAZARDS:
1. Be aware of slippery surfaces caused by use of the tool and of trip hazards caused by the air line or hydraulic hose.
2. Proceed with caution while in unfamiliar surroundings; there could be hidden hazards such as electricity or other utility lines.
3. The assembly power tool is not intended for use in potentially explosive environments.
4. Tool is not insulated against contact with electrical power.
5. Ensure there are no electrical cables, gas pipes, etc., which can cause a hazard if damaged by use of the tool.

VII. NOISE HAZARDS:
1. Exposure to high noise levels can cause permanent, disabling hearing loss and other problems such as tinnitus, therefore risk assessment and the implementation of proper controls is essential.
2. Appropriate controls to reduce the risk may include actions such as damping materials to prevent workpiece from ringing.
3. Use hearing protection in accordance with employer’s instructions and as required by occupational health and safety regulations.
4. Operate and maintain tool as recommended in the instruction handling to prevent an unnecessary increase in noise.
5. Select, maintain and replace the consumable / inserted tool as recommended to prevent an unnecessary increase in noise.
6. If the power tool has a silencer, always ensure that it is in place and in good working order when the tool is being operated.

VIII. VIBRATION HAZARDS:
1. Exposure to vibration can cause disabling damage to the nerves and blood supply to the hands and arms.
2. Wear warm clothing when working in cold conditions and keep hands warm and dry.
3. If numbness, tingling, pain or whitening of the skin in the fingers or hands, stop using the tool, tell your employer and consult a physician.
4. Support the weight of the tool in a stand, tensioner or balancer in order to have a lighter grip on the tool.

IX. HYDRAULIC TOOL SAFETY INSTRUCTIONS:
1. Do not exceed maximum pressure setting stated on tool.
2. Carry out a daily check for damaged or worn hoses or hydraulic connections and replace if necessary.
3. Use only clean oil and filling equipment.
4. Power units require a free flow of air for cooling purposes and should therefore be positioned in a well ventilated area free from hazardous fumes.
5. Ensure that couplings are clean and correctly engaged before operation.
6. Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
7. Keep hands on all hose connections at all times.
8. Wipe all couplers clean before connecting. Failure to do so can result in damage to the quick couplers and cause overheating.
# 918 Powering® Specifications

<table>
<thead>
<tr>
<th></th>
<th>918</th>
<th>918-5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WIDTH</strong></td>
<td>25 in. (63.5 mm)</td>
<td>29 in. (73.7 mm)</td>
</tr>
<tr>
<td><strong>LENGTH</strong></td>
<td>44 in. (111.8 mm)</td>
<td>44 in. (111.8 mm)</td>
</tr>
<tr>
<td><strong>HEIGHT</strong></td>
<td>30 in. (76.2 mm)</td>
<td>30 in. (76.2 mm)</td>
</tr>
<tr>
<td><strong>WEIGHT</strong></td>
<td>585 lbs. (265 kg)</td>
<td>601 lbs. (272 kg)</td>
</tr>
<tr>
<td>(Operational)</td>
<td>708 lbs. (321 kg)</td>
<td>724 lbs. (328 kg)</td>
</tr>
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</table>

**MODEL 918 SYSTEM**
Two open center circuits with 8,400 psi max. (582 BAR) operating pressure.

**MODEL 918-5 SYSTEM**
Three open center circuits with 8,400 psi max. operating pressure.

**PUMP**
Dynex/Rivet constant displacement hydraulic piston pump direct mounted to motor. Pump has six axial pistons. Flow is split; three pistons per circuit in the 918, and two pistons per circuit in the 918-5.

**OIL CONTROL**
Four way solenoid operated directional valve, pressure, relief valve, and idler valve on each circuit.

**RESERVOIR CAPACITY**
22 gallons (83.28 liters) - Center of sight gauge.

**COOLER**
Fan and radiator air/oil heat exchanger.

**REMOTE CONTROL**
24 volt AC control circuit.

**POWER SOURCE**
10 HP (7.46 kw) Reuland electric motor 220 VAC (27.6A), 440 VAC (13.8A), or 550 VAC (10.8A), 3 phase; 60 Hertz, or 8.3 HP (6.19 kw) Reuland electric motor 380 VAC (13A), 3 phase; 50 hertz.
FOR OTHER VOLTAGES AND FREQUENCIES: Contact Alcoa Fastening Systems, Industrial Products, Kingston Operations.

**HOSE KITS**
Use only genuine HUCK Hose Kits rated @ 10,000 psi working pressure.

**HYDRAULIC FLUID**
ATF meeting DEXRON III, DEXRON IV, MERCON, Allison C-4 or equivalent specifications.
Fire resistant hydraulic fluid may also be used, and is required to comply with OSHA regulation 1926.302 paragraph (d): “the fluid used in hydraulic power tools shall be fire resistant fluid approved under schedule 30 of the US Bureau of Mines, Department of Interior, and shall retain its operating characteristics at the most extreme temperatures to which it will be exposed.”

**OUTPUT PRESSURE**
PULL range: 5,800 psi (400 bar) - 8,400 psi (648 bar).
RETURN range: 800 psi (55 bar) - 7,000 psi (482 bar).

**MAX OPERATING TEMP**
125° F (51.7° C)

**MAX FLOW RATE**
918 2 gpm per circuit (7.57 l/m)
918-5 1.33 gpm per circuit (5.03 l/m)
GENERAL
The Models 918 and 918-5 POWERIG® Hydraulic Units are electrically operated hydraulic power sources designed to operate Huck Installation Equipment. Model 918 is designed to operate two pieces of equipment simultaneously and independently of each other. The units are semi-portable and can be moved with a fork-lift truck. Note: The units are shipped WITHOUT hydraulic fluid.

Model 918-5 operates three tools simultaneously and independently of each other. The Model 918-5 is the basic Model 918 with an additional combination valve bracket assembly mounted to the reservoir.

Hydraulic pressure is developed by an axial piston pump driven by an electric motor. Hydraulic pressure from the pump is directed to PULL and RETURN ports by combination valves controlled from the installation equipment by relays and solenoids.

Hydraulic fluid is stored in the 22 gallon reservoir which serves as a base for motor and pump. A 70 micron strainer in the suction line, and a 10 micron filter in the RETURN line, assure clean, filtered hydraulic fluid for the hydraulic system. A filler-strainer is provided for adding hydraulic fluid. However, any hydraulic fluid which is added to the reservoir must be filtered by a 10 micron (or better) filter.

Before returning to reservoir, circulating hydraulic fluid passes through the cooler where temperature of fluid is lowered to proper operating level. Fan attached to the rear shaft extension of the electric motor aids in dissipating heat from the cooler.

ELECTRICAL CONTROL PANEL
The electrical control panel contains two compartments: The Disconnect Compartment and the Control/Transformer Compartment.

The Disconnect Compartment contains a three-pole main disconnect switch, three main line fuses, two transformer fuses, and terminals for power cable connection. The Control/Transformer Compartment contains two transformers (one is to convert to 110 and the other is to convert to 24 volt current), motor contactor with three overload relays (heaters), multi-contact relays for control circuit, START and STOP buttons, 24 volt and 110 volt circuit breakers, bases (sockets) for plugging in the tool control cords, and power cable entrance connector.

INPUT POWER CABLE
A four-conductor power cable, including ground conductor, is used to connect the POWERIG® Hydraulic Unit to the electrical power source. The cable is NOT shipped with unit. User must furnish power cable in accordance with his particular requirements. Only a qualified electrician should install power cable. See First Time Start-up procedure in the Preparation for Use section of the 918 Instruction Manual (HK786). The 440 volt standard unit may be converted to 220 volt operation. (Use conversion kit, 918-220KIT). Also, the 220 volt unit may be converted to 440 volt operation (use conversion kit. 918-440KIT).

COMBINATION VALVE
Each combination valve contains a Four-way solenoid operated directional valve, Pressure Relief Valve and Idler Valve. The Four-way Valve, which is controlled by a tool trigger through a relay and solenoid, directs hydraulic fluid under pressure to PULL or RETURN hoses connected to installation tool, or other equipment. The Pressure Relief Valve is designed to protect POWERIG Hydraulic Unit and installation tools from excessive pressure during the pull cycle. Valve is factory preset to 5400psi (372 bar). The Idler Valve is designed to protect unit and installation tools from excessive pressure during the return cycle. Idler valve is preset at factory to provide 2800 psi (193 bar) return pressure and approximately 200 psi (14 bar) idling pressure. Various systems require different output pressures. See Checking & Adjusting Pressures before using the POWERIG Hydraulic Unit.

* DEXRON is a registered trademark of General Motors Corp.
Quintolubric is a registered trademark of Quaker Chemical Corp.
Slic-Tite is a registered trademark of LA-CO Industries, Inc.
TEFLON is a registered trademark of DuPont Corp.
LUBRIPLATE is a registered trademark of Fiske Brothers Refining Co.
This is a general guide for the requirements to set up the PR3335 U-Spin™ tool with a 918 Powerig®.

**System Components**
- 918 Powerig
- 125926-52 Hose Kit
- PR3335 U-Spin unit (includes PR3335-3 power supply)
- 127726 Male hydraulic two-port coupler
- 127727 Female hydraulic two-port coupler
- 127728 Power Cord Adapter (Y-harness)
- PR2697-21 Cable for power supply
- 118308 Control cord

**Installation and Setup**

1. Locate the 918 close to the work area to limit hose length. If the Powerig is to be located overhead, a drip pan with 22 gallon capacity is recommended.

2. Fill the Powerig with Dexron III (22 gallons), prime the pump, and start the Powerig. Check that the motor is rotating in the proper direction. (See 918 instruction manual for procedure.)

3. Adjust PULL pressure to 5800psi and RETURN pressure to 3800psi on both valves. (Refer to 918 instruction manual for proper procedure.) *Note: Pull and Return pressure on both valves must be set identical.*

4. Attach the two-port couplings to the Powerig.

5. Locate the power supply within 8 feet of Powerig.

6. Hang the U-Spin tool from the counter-balancer.

7. Attach the hydraulic hoses to the to the Powerig.

8. Turn on the Powerig.

9. Install the Y-harness to the Powerig. *Note: If the combination valves energize, reverse one plug.*

10. Turn Powerig OFF.

11. Connect the control cord to the Y-harness at the Powerig and the top plate of the U-Spin tool.

12. Connect the Power Supply cable to the top plate of the U-Spin tool and to the power supply.

13. Connect the hydraulic hose kit to the U-Spin top plate.

14. With the hydraulic hoses and electrical cables attached to the top plate and power supply, bundle the hoses and cable together.

15. Connect the air line to the top plate of the U-Spin tool hoses and bundle with hydraulic hoses, connect to overhead rail as required.

16. Check to insure that all the hydraulics and electrical connections are made.

**Setup**

1. Pull the Emergency STOP button next to the touchscreen to turn the unit on. It may take up to one minute to get the menus to load and display.

2. Press the LOG IN button and type in “huck” for the USER ID and “4825” for the PASSWORD and then ← Enter.

3. Press the SYSTEM SETUP button to enter the system setup screen.

4. Press the NEW TOOL ADDED button to add a new tool.

5. Press the button for the fastener size to be installed. Example: 20 mm. This will load the pressure and timer defaults for that fastener. Adjustments may be necessary from the factory defaults to have properly installed fasteners.

6. Press the MAIN button to go to the main menu screen.

7. Press the LOG OUT button so no additional changes can be made without logging in.

8. Turn on the Powerig.

9. Press the START HYDRAULIC WARM-UP button. This will warm the hydraulic pump fluid to operating temperature.

10. Press the RUN MODE button to view the run mode screen.

11. Move the Selector Switch on the front panel of the unit to the position for spacing of fasteners being installed.
CHECKING SETUP AND INSTALLING FIRST SET OF U-BOLTS:

1. Verify that all components are in good working order and are properly connected.

2. Align the U-Spin tool to the U-Bolts, and bring the tool down so that the thimbles are touching the end of the U-Bolt.

3. Depress and hold the triggers to swage the collars. Do not release the triggers until the unit has completed the installation cycle.

4. The tools should spin on to the fasteners, swage the collars and spin off to disengage.

5. If the tool fails to start the swaging process, look at the RUN MODE screen. If the four LS2 lights do not change to green, increase the SPIN ON TO LS2 timer.

6. If the tool fails to completely swage the collar, check and adjust the Powerig pressure, controller HYDRAULIC PRESSURE, and TIME TO HOLD AT PRESSURE settings. The Powerig pressure should always be 200-300 psi above the controller setting. To improve tool life, the lowest possible pressure to consistently swage collars should be used.

7. During the installation, as the tools are backing off the collars, watch to make sure that the anvils are completely off the collars before the air motors start in reverse. If not, increase the SPIN OFF DELAY timer.

8. At the end of the installation cycle, check to see if the thimbles spin completely off of the U-Bolts. If not, increase the SPIN OFF timer.

9. Install the next set of U-Bolts and recheck the pressure and timer settings. Adjust as required. NOTE: If U-Bolts are not completely swaged, they can be re-swaged.
**KEY**

- **NOTE**
- **BUTTON ON OPERATOR INTERFACE**
- **CONFIGURABLE VIA TOUCHSCREEN**
- **INTERNAL CHECK FOR CONDITION/STATUS**
- **PLC ACTION**
- **PLC OUTPUT ON**
- **PLC OUTPUT OFF**
- **FINAL STATUS/Routine COMPLETE**
- **ALARM TRIGGERED (Routine STOPPED)**
- **REQUIRED ACTION/STATUS**
- **ABORT/PAUSE Routine CONDITIONS**

**WARM-UP ROUTINE**

1. **START WARM-UP**
2. **PURGE REQUIRED**
   - **NO**
   - **HYDRAULIC PUMP**
   - **HYDRAULIC WARM-UP ON TIMER**
     - **TIME-OUT**
       - **HYDRAULIC PUMP**
       - **HYDRAULIC WARM-UP OFF TIMER**
         - **TIME-OUT**
           - **INCREMENT CYCLE COUNTER**
             - **NO**
               - **10 CYCLES COMPLETE**
                 - **YES**
                   - **WARM-UP COMPLETE**
     - **YES**
      - **PURGE REQUIRED**

**PURGE ROUTINE**

1. **PURGE REQUIRED**
2. **HYDRAULIC PUMP**
3. **1 MINUTE TIMER**
   - **TIME-OUT**
   - **HYDRAULIC PUMP**
   - **PURGE COMPLETE**
Push and hold triggers, air motors will turn in the clockwise direction. When all 4 Limit switch 2 lights are on, the air motors will stop and the hydraulic power rig will start the swage cycle. When the rig reaches the full swage pressure the valve will reverse and push the collars out of the anvils. Once the anvils are off the collars the air motors will start counter clock wise and thread off the bolts completing the cycle. Note: If the operator releases the triggers at any point in the cycle the tools will reverse.
**Touch Screen Controls and Operation**

**Setup Screens**

**KEY PAD**

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<td>4</td>
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<tr>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>.</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>ESC</td>
<td>←</td>
<td>←</td>
</tr>
</tbody>
</table>

???: Current value in numeric register.

***************: Newly entered value.

0 ~ 999: Valid range that may be entered.

789 456 123 .0-: Numeric entry buttons.

ESC: Closes the key pad. The current value will remain unchanged.

: Backspace.

: Enter - will update the register with the value entered.

**LOGIN**

User (F2): Opens the keyboard for the user to enter their ID. *(User ID = huck)*

Password (F3): Opens the keyboard for the user to enter their password. *(Password = 4825)*

: Enter button will complete the login process (if the correct User ID and Password were entered).

ESC: Will cancel the Login process.
**RUN MODE:** Navigation button to the RUN MODE screen.

**SYSTEM SETUP:** Navigation button to the SYSTEM SETUP screen. Note: To get to SYSTEM SETUP screen, user must first LOG IN. Access to this button is password protected.

**START WARM-UP:** Push button to start the warm-up routine. When the warm-up routine is active, the button color will change to green, and the text will read “WARM-UP ACTIVE” to indicate the status.

**STOP WARM-UP:** Push button to stop the warm-up routine.

**LOG IN:** Brings up the LOG IN screen so that active security level may be changed to access password-protected screens.

**LOG OUT:** Cancels the active security level to prevent unauthorized access to password-protected screens.

**SYSTEM SETUP**

*NOTE: Each button on this initial SYSTEM SETUP Screen takes the user to a new screen. Each of those screens are explained in detail on the following pages.*

**HS52 SETUP:** Navigation button to the HS52 SETUP screen. From here, pressure set points may be entered for use during a run.

**TIMERS:** Navigation button to the TIMERS screen, where cycle times may be manually adjusted.

**TOOL SERVICED:** Navigation button to the TOOL SERVICED screen, where tool counts may be reset and count alarms may be set up.

**NEW TOOL ADDED:** Navigation button to the NEW TOOL ADDED screen, where fastener size may be selected.

**PRESSURE SETTINGS:** Navigation button to the PRESSURE SETTINGS screen, where pressure settings may be manually adjusted.

**HISTORY:** Navigation button to the HISTORY screen, where the user may investigate why and when a run was halted or unsuccessfully completed.

**MAIN:** Navigation button to return to the MAIN screen.
**HS52 SETUP**

**HYDRAULIC PRESSURE**: Hydraulic Pressures shown indicate the pressures at which the different size fasteners have been set. *(These settings are controlled from the NEW TOOL ADDED and PRESSURE SETTINGS screens shown on the following pages.)*

**MAIN**: Navigation button to return to the MAIN screen.

**SYSTEM SETUP**: Navigation button to return to the SYSTEM SETUP screen.

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**TIMERS**

**HYDRAULIC WARM-UP TIMERS**:

- **ON TIME**: Amount of time the hydraulic pump will remain on during a warm-up cycle.
- **OFF TIME**: Amount of time the hydraulic pump will remain off during a warm-up cycle.
- **SPIN ON TO LS2**: The time allowed to reach limit switch 2 during a run. If limit switch 2 is not met in this time, the run will fail.
- **LOW PRESSURE**: At the start of the swage cycle, if the low pressure is not reached during the allotted time, the run will fail.
- **TIME TO HOLD TOOL AT PRESSURE**: Once the hydraulic pressure reaches set-point, it will hold there for this amount of time.
- **SPIN OFF**: Controls the time that the air motors spin in reverse during the spin off cycle.
- **SPIN OFF DELAY**: This timer allows the anvils to clear the collars before the air motors start the spin off cycle.

**MAIN**: Navigation button to return to the MAIN screen.

**SYSTEM SETUP**: Navigation button to return to the SYSTEM SETUP screen.
TOOL SERVICED

- CURRENT COUNT: Shows the current number of counts.
- CURRENT COUNT: Pressing the red CURRENT COUNT RESET button will store the value to the left of the button, overwriting the CURRENT COUNT value.
- ALARM SETPOINT: When the CURRENT COUNT is equal to or greater than the value shown here, the system will indicate that maintenance is required.
- COUNT ALARMS: This button is used to turn maintenance alarms on and off.

MAIN: Navigation button to return to the MAIN screen.

SYSTEM SETUP: Navigation button to return to the SYSTEM SETUP screen.

NEW TOOL ADDED

- SELECT FASTENER SIZE: When the size button for the fastener to be installed is pressed, the selection will appear on the RUN screen and determine which pressure setting the system will use during the run.
- MAIN: Navigation button to return to the MAIN screen.
- SYSTEM SETUP: Navigation button to return to the SYSTEM SETUP screen.

PRESSURE SETTINGS

- HYDRAULIC LOW PRESSURE SETPOINT: At start of swage cycle, if this pressure is not reached during allotted time, the run will fail.
- PRESSURE SETPOINT: This +/- value will correct the actual pressure reading and be applied to the scaled reading.
- HYDRAULIC PRESSURE ZERO: This multiplier value will correct the actual pressure reading and be applied to the scaled reading.
- HYDRAULIC PRESSURE: Actual uncorrected system pressure. (Ref.)
- CORRECTED HYDRAULIC PRESSURE: Corrected system pressure. (Ref.)

MAIN: Navigation button to return to MAIN screen.

SYSTEM SETUP: Navigation button to return to the SYSTEM SETUP screen.
NOTE: The HISTORY screen will show a message for each time a run fails. The message will detail the reason for and, when, and what the failure occurred. Below are the messages the screen may display.

**LS2 NOT TRIPPED - TOOL 1:** If LS Tool 1 is not tripped within the allotted time, the system will go straight into the spin-off cycle.

**LS2 NOT TRIPPED - TOOL 2:** If LS Tool 2 is not tripped within the allotted time, the system will go straight into the spin-off cycle.

**LS2 NOT TRIPPED TOOL - 3:** If LS Tool 3 is not tripped within the allotted time, the system will go straight into the spin-off cycle.

**LS2 NOT TRIPPED TOOL - 4:** If LS Tool 4 is not tripped within the allotted time, the system will go straight into the spin-off cycle.

**HYDRAULIC PRESSURE LOW:** The hydraulic low pressure setpoint is not achieved within the allotted time. The hydraulic pump will shut down, and the system will go into the spin-off cycle.

**FAILED TO REACH PRESS:** The system failed to reach the fastener’s hydraulic pressure setpoint during the run. The hydraulic pump will shut down, and the system will go into the spin-off cycle.

**LEFT BUTTON RELEASED:** The operator released the left trigger button. Depending upon what portion of the run is active, the hydraulic pump will shut down, and the system will go into the spin-off cycle.

**RIGHT BUTTON RELEASED:** The operator released the right trigger button. Depending upon what portion of the run is active, the hydraulic pump will shut down, and the system will go into the spin-off cycle.

**RUN STARTED - LS ENGAGED:** The trigger buttons are pressed to start a run, but one or more of the limit switches are already engaged. The system will go straight into the spin-off cycle.

**MAIN:** Navigation button to return to the MAIN screen.

**SYSTEM SETUP:** Navigation button to return to the SYSTEM SETUP screen.
**RUN MODE**

**FASTNER (FASTENER):** Shows fastener size selected in setup.

**SWAGE PRESSURE:** Shows the hydraulic pressure during the run. This value will remain at its peak pressure after the swage cycle.

**TOOL POSITION:** Allows the operator to select which tool position will be used. Pressing POS A or POS B will select that position. Once selected, the corresponding button color will change to green.

**PURGE STATUS/PURGE REQUIRED:** After two hours of non-use, the PURGE REQUIRED lens will flash and the text will change from “PURGE STATUS” to “PURGE REQUIRED”. A purge must be performed before another run can be started. When the purge is activated, the indicator light at the top right corner of the button will change color from red to green to indicate that a purge is active. When the purge routine is complete, the indicator color will return to red.

**INCOMPLETE SWAGE:** This notification indicates that the run was aborted because of an incomplete swage. The required swage pressure was not achieved during the run.

**MAINTENANCE NEEDED:** This notification indicates that maintenance is required. When the tool count is greater than or equal to the alarm setpoint, this indicator will flash, provided that the alarms are turned ON in setup.

**LS STATUS:** Shows the status of the 8 limit switches. A tripped switch is indicated by a green light. Otherwise the indicator light will be red.

**MAIN:** Navigation button to return to the MAIN screen.
Use this page for user/operator notes.
**Tooling Warranty:**
Huck warrants that tooling and other items (excluding fasteners, and hereinafter referred as “other items”) manufactured by Huck shall be free from defects in workmanship and materials for a period of ninety (90) days from the date of original purchase.

**Warranty on “Non-standard or Custom Manufactured Products”:**
With regard to non-standard products or custom manufactured products to customer’s specifications, Huck warrants for a period of ninety (90) days from the date of purchase that such products shall meet Buyer’s specifications, be free of defects in workmanship and materials. Such warranty shall not be effective with respect to non-standard or custom products manufactured using buyer-supplied molds, material, tooling and fixtures that are not in good condition or repair and suitable for their intended purpose.

**There Are No Warranties Which Extend Beyond the Description on the Face Hereof. Huck Makes No Other Warranties and Expressly DISCLAIMS ANY OTHER WARRANTIES, INCLUDING IMPLIED WARRANTIES AS TO MERCHANTABILITY OR AS TO THE FITNESS OF THE TOOLING, OTHER ITEMS, NON-STANDARD OR CUSTOM MANUFACTURED PRODUCTS FOR ANY PARTICULAR PURPOSE AND HUCK SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECTLY OR INDIRECTLY, ARISING FROM THE USE OF SUCH TOOLING, OTHER ITEMS, NON-STANDARD OR CUSTOM MANUFACTURED PRODUCTS OR BREACH OF WARRANTY OR FOR ANY CLAIM FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

Huck’s sole liability and Buyer’s exclusive remedy for any breach of warranty shall be limited, at Huck’s option, to replacement or repair, at FOB Huck’s plant, of Huck manufactured tooling, other items, nonstandard or custom products found to be defective in specifications, workmanship and materials not otherwise the direct or indirect cause of Buyer supplied molds, material, tooling or fixtures. Buyer shall give Huck written notice of claims for defects within the ninety (90) day warranty period for tooling, other items, nonstandard or custom products described above and Huck shall inspect products for which such claim is made.

**Tooling, Part(s) and Other Items Not Manufactured by Huck:**
HUCK MAKES NO WARRANTY WITH RESPECT TO THE TOOLING, PART(S) OR OTHER ITEMS MANUFACTURED BY THIRD PARTIES. HUCK EXPRESSLY DISCLAIMS ANY WARRANTY EXPRESSED OR IMPLIED, AS TO THE CONDITION, DESIGN, OPERATION, MERCHANTABILITY OR FITNESS FOR USE OF ANY TOOL, PART(S), OR OTHER ITEMS THEREOF NOT MANUFACTURED BY HUCK. HUCK SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECTLY OR INDIRECTLY, ARISING FROM THE USE OF SUCH TOOLING, PART(S) OR OTHER ITEMS OR BREACH OF WARRANTY OR FOR ANY CLAIM FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

The only warranties made with respect to such tool, part(s) or other items thereof are those made by the manufacturer thereof and Huck agrees to cooperate with Buyer in enforcing such warranties when such action is necessary.

Huck shall not be liable for any loss or damage resulting from delays or nonfulfillment of orders owing to strikes, fires, accidents, transportation companies or for any reason or reasons beyond the control of the Huck or its suppliers.

**Huck Installation Equipment:**
Huck International, Inc. reserves the right to make changes in specifications and design and to discontinue models without notice.

Huck Installation Equipment should be serviced by trained service technicians only.

Always give the Serial Number of the equipment when corresponding or ordering service parts.

Complete repair facilities are maintained by Huck International, Inc. Please contact one of the offices listed below.

**Eastern**
One Corporate Drive Kingston, New York 12401-0250
Telephone (845) 331-7300 FAX (845) 334-7333

**Outside USA and Canada**
Contact your nearest Huck International Office, see back cover.

In addition to the above repair facilities, there are Authorized Tool Service Centers (ATSC’s) located throughout the United States. These service centers offer repair services, spare parts, Service Parts Kits, Service Tools Kits and Nose Assemblies. Please contact your Huck Representative or the nearest Huck office listed on the back cover for the ATSC in your area.
A Global Organization

Alcoa Fastening Systems (AFS) maintains company of offices throughout the United States and Canada, with subsidiary offices in many other countries. Authorized AFS distributors are also located in many of the world’s Industrial and Aerospace centers, where they provide a ready source of AFS fasteners, installation tools, tool parts, and application assistance.

Alcoa Fastening Systems world-wide locations:

**Americas**

**Alcoa Fastening Systems**
**Aerospace Products**
**Tucson Operations**
3724 East Columbia
Tucson, AZ 85714
800-234-4825
520-747-9898
FAX: 520-748-2142

**Alcoa Fastening Systems**
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**Carson Operations**
PO Box 5268
900 Watson Center Rd.
Carson, CA 90749
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FAX: 310-830-1436

**Alcoa Fastening Systems**
**Industrial Products**
**Kingston Operations**
1 Corporate Drive
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Please visit our Tooling Resource Center for other valuable information about our products.