Instruction Manual

SF42

Hydraulic SwageForward® Installation Tool Series
EC Declaration of Conformity

Manufacturer:
Huck International, LLC, Industrial Products Group, 1 Corporate Drive, Kingston, NY, 12401, USA

Description of Machinery:
Models SFBTT 8, 15, 20, 32, 46 family of hydraulic installation tools and specials based on their design (e.g. PR####, and SF42 Tool Series).

Relevant provisions complied with:
British Standard related to hand held, non-electric power tools (ISO 11148-2:2011)

European Representative:
Andrew Smith, Huck International, Ltd. Unit C Stafford Park 7, Telford Shropshire TF3 3BQ, England, United Kingdom

Authorized Signature/date:
I, the undersigned, do hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

Signature: ______________________
Full Name: Nicholas Gougooutris
Position: Engineering Manager
Location: Huck International, LLC d/b/a Arconic Fastening Systems
          Kingston, New York, USA
Date: 07/09/2018 (September 7, 2018)

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Declared dual number noise emission values in accordance with ISO 4871

A weighted sound power level, LWA: 71 dB (reference 1 pW) Uncertainty, KWA: 3 dB
A weighted emission sound pressure level at the work station, LpA: 60 dB (reference 20 μPa) Uncertainty, KpA: 3 dB
C-weighted peak emission sound pressure level, LpC, peak: 100 dB (reference 20 μPa) Uncertainty, KpC: 3 dB

Values determined according to noise test code ISO 3744. The sum of a measured noise emission value and its associated uncertainty represents an upper boundary of the range of values which is likely to occur in measurements.

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Declared vibration emission values in accordance with EN 12096

Measured Vibrations emission value, a: 0.52 m/s²
Uncertainty, K: 0.08 m/s²

Values measured and determined according to ISO 28662-1, ISO 5349-2, and EN 1033

Test data to support the above information is on file at:
Arconic Fastening Systems, Kingston Operations, Kingston, NY, USA.
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. Tools and hoses 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 installing, 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 ejecting may occur.

14. Where applicable, always clear 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 tooling 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 out 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.

II. PROJECTILE HAZARDS:

1. Risk of whipping compressed air hose if tool is pneumudraulic 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. Avoid unsuitable postures, as it is likely for these not to allow counteracting of normal or unexpected tool movement.

8. If the assembly power tool is fixed to a suspension device, make sure that fixation is secure.

9. Beware of the risk of crushing or pinching if nose equipment is not fitted.

Continued on next page...
Safety Instructions

IV. REPETITIVE 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.

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 handbook to prevent an unnecessary increase in the noise level.
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.

X. HYDRAULIC TOOL SAFETY INSTRUCTIONS:

1. Carry out a daily check for damaged or worn hoses or hydraulic connections and replace if necessary.
2. Wipe all couplers clean before connecting. Failure to do so can result in damage to the quick couplers and cause overheating.
3. Ensure that couplings are clean and correctly engaged before operation.
4. Use only clean oil and filling equipment.
5. 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.
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. Be sure all hose connections are tight.
8. Wipe all couplers clean before connecting. Failure to do so can result in damage to the quick couplers and cause overheating.
Specifications

**POWER SOURCE:** Huck Powerig® Hydraulic Unit

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

**HYDRAULIC FLUID:**
Hydraulic fluid shall meet DEXRON® III, DEXRON VI, MERCON®, Allison C-4 or equivalent Automatic Transmission Fluid (ATF) specifications. Fire-resistant fluid may be used if it is an ester-based fluid such as Quintolubric® HFD or equivalent. Water-based fluid shall NOT be used as serious damage to equipment will occur.

- **Max Operating Temp:** 125° F (51.7 °C)
- **Max Flow Rate:** 2 gpm (7.6 l/m)
- **Max Inlet Pull Pressure:** 8,400 psi (580 bar)
- **Max Inlet Return Pressure:** 7,000 psi (482 bar)
- **Pull Capacity (@8,400 psi):** 42,000 lbf (186.8 KN)
- **Return Capacity (@7,000 psi):** 24,640 lbf (109.6 KN)
- **Stroke:** 2.00 in. (5.08 cm)
- **Weight:** 15.6 lbs (7.1 kg)

Where the following trade names are used in this manual, please note:
- **DEXRON** is a registered trademark of General Motors Corporation.
- **GLYD Ring** is a registered trademark of Trelleborg Sealing Solutions Germany GmbH.
- **Loctite** is a registered trademark of Henkel Corporation, U.S.A.
- **LUBRIPLATE** is a registered trademark of Fiske Brothers Refining Co.
- **MERCON** is a registered trademark of Ford Motor Corp.
- **MOLYKOTE** is a registered trademark of Dow Corning Corporation.
- **Never-Seez** is a registered trademark of Bostik, Inc.
- **Quintolubric** is a registered trademark of Quaker Chemical Corp.
- **Slic-tite** is a registered trademark of LA-CO Industries, Inc.
- **Spirolox** is a registered trademark of Smalley Steel Ring Company.
- **Teflon** is a registered trademark of E. I. du Pont de Nemours and Company.
- **Threadmate** is a registered trademark of Parker Intangibles LLC.
- **TRUARC** is a trademark of TRUARC Co. LLC.
- **Vibra-Tite** is a registered trademark of ND Industries, Inc. USA.
Principle of Operation

Operating Temperature Range: 32-125F (0-51.7C)
The operator pushes the Tool’s Nose over the end of the fastener until the Tool’s Puller bottoms on the fastener. When the Tool’s Limit Switch Rod makes contact with the end of the fastener, the Limit Switch in the back of the Tool is activated. This sends an input signal to the tool control. When the operator presses the Trigger on the Tool an input is sent to the tool control. When both conditions are met, the tool control will trigger on the Tool and an input is sent to the tool control. When the operator presses the Trigger on the Tool an input is sent to the tool control. When both conditions are met, the tool control will turn on the hydraulic pump, PULL pressure, for fastener installation. The Piston moves to start the swaging process.

A Pressure Transmitter sends a signal to the control to indicate the “pressure set point” has been reached and the “hold timer” can start. The “hold timer” will keep the hydraulic pump, PULL pressure, on until the timer times out. A Relief Valve will control the amount of pull pressure that can be reached.

After the “hold timer” times out, the hydraulic pump shifts to RETURN pressure and the Tool’s Anvil is ejected off of the collar and the Tool is released from the fastener.

Program Cycle

NOTES:
- Trigger is the go signal.
- If trigger is released, cycle stops.
- Limit switch may be activated before trigger is depressed, however cycle will not start until trigger is depressed.
- Limit switch must be activated for .1 seconds after cycle starts; then program no longer looks for limit switch during cycle.
- If hydraulic cycle is started/proceeding when trigger is released, the combination valve is de-energized (released output), then continue to back out of cycle. (The Pressure-Not-Reached light will turn on.)
- Exception: If hydraulic pressure set-point is reached and TD-2 is timed out, the operation may release trigger and the program will finish normally.
Optional Equipment

To maintain CE conformity, only CE compatible equipment should be used with these tools. Installation tools and nose assemblies are the only CE components unless otherwise noted. Controls and other hardware shown in the manual are for domestic use only.

Service Kit: SFBTT32KIT
CE compatible Pump/Controller: HK432BT (or equiv.)
Powerig® Hydraulic Power Source:
MP68-002-1008 (USA)
MP68-002-1007 (Europe)

Service Kit: SFBTT32KIT
Swage Gauge: HG-S-MBT20 (20mm)
Pressure Gauge: T-124833CE
TEFLON® Stick: 503237
Loctite® 242: 505016
Anti-seize Lubricant: 508183

Preparation for Use

WARNINGS:
Read full manual before using tool.
A half-hour training session with qualified personnel is recommended before using Huck equipment.
When operating Huck installation equipment, always wear approved eye protection.
Be sure there is adequate clearance for the operator’s hands before proceeding.
Correct PULL and RETURN pressures are required for operator safety and for installation tool function. Gauge T-124833CE is available for checking pressures. See PRESSURE SETTINGS.
Connect Tool’s hydraulic hoses to Powerig® Hydraulic Power Source before connecting Tool’s switch control cord to unit. If not connected in this order, severe personal Injury may occur.
Only use a Huck Powerig® Hydraulic Power Source for Huck installation equipment. Hydraulic power units that deliver high pressure for both PULL and RETURN, and are not equipped with relief valves ARE SPECIFICALLY NOT RECOMMENDED AND MAY BE DANGEROUS.

CAUTIONS:
Do not use TEFLON® tape on pipe threads. Threads may cause tape to shred resulting in tool malfunction. Slic-Tite®, Huck P/N 503237, is available in stick form.
Do not let disconnected hoses and couplers contact a dirty floor. Keep harmful material out of hydraulic fluid. Dirt in hydraulic fluid causes valve failure In Tool and In Powerig Hydraulic Unit.
Hose couplers must be completely joined together to insure that ball checks in both nipple and body are completely open. Improperly assembled couplers will cause overheating and malfunctions in both tool and Powerig. Hand tighten couplers. Do NOT use a pipe wrench.

Assembly of NPTF Threaded Components

AIR FITTINGS
1) Apply TEFLON® stick to male threads that do not already have pre-applied sealant, per manufacturer’s recommendations. (Proceed to All Fittings step 2)

HYDRAULIC FITTINGS
1) Apply Threadmate™ to male and female threads that do not already have pre-applied sealant, per manufacturer’s recommendations. (Proceed to All Fittings step 2)

ALL FITTINGS:
2) Tighten to finger-tight condition.
3) Wrench tighten to 2-3 turns past finger-tight condition.
4) Final thread engagement can be checked (optional) by measuring the dimension from the flange of male fitting to the end of the thread before assembly and subtracting the distance under the flange after assembly.

<table>
<thead>
<tr>
<th>Thread Size</th>
<th>Final thread engagement at full make-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8-27 NPTF</td>
<td>.235 inch (.59 cm)</td>
</tr>
<tr>
<td>1/4-18 NPTF</td>
<td>.339 inch (.86 cm)</td>
</tr>
<tr>
<td>3/8-18 NPTF</td>
<td>.351 inch (.89 cm)</td>
</tr>
</tbody>
</table>
Tool-to-Powerig® Hydraulic Power Source Setup

WARNINGS:
To prevent tripping hazard, suspend tools and route hoses off of floors. Only use compatible equipment with this tool.

1. Set Powerig timers and pressures according to the Powerig setup instructions.
2. Connect the Hydraulic Hoses to the Powerig.
3. Connect the Electrical Cord from the Tool to the Powerig.
4. Once the system is set up, turn on Powerig and install test fastener. Check to be sure that the fastener is installed correctly. This can be checked by using the appropriate swage gauge.

Pressure Settings

Notes:
1. These pressures are a starting point. Pressures may need to be adjusted up or down due to application and tooling setup.
2. Use pressures from this chart for both installation and removal.

<table>
<thead>
<tr>
<th>Inch/Metric</th>
<th>Size</th>
<th>Fastener Grade</th>
<th>Pull psi (bar)</th>
<th>Return psi (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric</td>
<td>20 mm</td>
<td>Grade 10.9</td>
<td>6800 (466)</td>
<td>6100 (425)</td>
</tr>
</tbody>
</table>
Operating Instructions

**WARNINGS:**
Read full manual before using tool.
Only use compatible equipment with this tool.
Inspect tool for damage or wear before each use.
Do not operate if damaged or worn, as severe personal injury may occur.
A half-hour training session with qualified personnel is recommended before using Huck equipment.

When operating Huck installation equipment, always wear approved eye protection.
To avoid pinch point, never place hand between nose assembly and work piece.
Be sure there is adequate clearance for the operator’s hands before proceeding.
To avoid severe personal injury, wear approved eye and ear protection Be sure of adequate clearance for Operator’s hands before proceeding with fastener installation.
Do not pull on a pin without placing fastener/collar in a workpiece. This condition causes fastener to eject with great velocity and force, which may cause severe personal injury.

**CAUTIONS:**
Do not let disconnected hoses and couplers contact a dirty floor. Keep harmful material out of hydraulic fluid. Dirt in hydraulic fluid causes valve failure In Tool and In Powerig Hydraulic Unit.

Do not use TEFLON® tape on pipe threads. Pipe threads may cause tape to shred resulting in tool malfunction. (Threadmate™ is available from Huck in a 4oz. tube as part number 508517.)
Remove excess gap from between the sheets to permit correct fastener installation and prevent jaw damage. ALL puller teeth must engage pintail to avoid damaging teeth. If ALL teeth do not engage properly, puller will be damaged.
To avoid structural and tool damage, be sure enough clearance is allowed for nose assembly at full stroke.
Do not abuse tool by dropping it, using it as a hammer or otherwise causing unnecessary wear and tear.

**WARNINGS:**
Read full manual before using tool.
Only use compatible equipment with this tool.
Inspect tool for damage or wear before each use.
Do not operate if damaged or worn, as severe personal injury may occur.
A half-hour training session with qualified personnel is recommended before using Huck equipment.

When operating Huck installation equipment, always wear approved eye protection.
To avoid pinch point, never place hand between nose assembly and work piece.
Be sure there is adequate clearance for the operator’s hands before proceeding.
To avoid severe personal injury, wear approved eye and ear protection Be sure of adequate clearance for Operator’s hands before proceeding with fastener installation.
Do not pull on a pin without placing fastener/collar in a workpiece. This condition causes fastener to eject with great velocity and force, which may cause severe personal injury.

**BobTail® FASTENER INSTALLATION:**
1. Check work and remove excessive gap. (Gap is the space between the workpieces being fastened together. Gap is excessive if there are not enough grooves of the pintail protruding through the collar for the nose assembly puller to grab).
2. Position the fastener in the hole.
3. Slide BobTail collar over the fastener. (The flanged end of the collar must be toward the pieces being fastened.)
4. Push nose assembly onto the fastener until the nose assembly puller stops against it. Tool and nose assembly must be held at right angles (90 degrees) to the workpiece. The actuator rod will move the limit switch disk over the sensor, and the LED on the back of the tool will light up.
5. Press tool trigger to start installation cycle.
6. When forward motion of the anvil assembly anvil stops, release trigger. The tool will go into its return cycle and push off the installed fastener.
7. The tool and nose assembly are ready for the next installation cycle.
GOOD SERVICE PRACTICES
The efficiency and life of an installation tool depends upon proper maintenance and good service practices. Read this entire page before proceeding with maintenance/repair.

Individual parts must be handled carefully and examined for damage or wear. Replace parts where required. Always replace O-rings and back-up rings when the tool is disassembled for any reason.

Use proper hand tools in a clean well lit area for maintenance and/or repair. Always be careful to keep dirt and debris out of pneumatic and hydraulic systems. Only standard hand tools are required in most cases. Where a special tool is required, the description and part number are given.

While clamping installation tool and/or parts in a vise, and when parts require force, use suitable soft materials to cushion impact. For example, using a half-inch brass drift, wood block and/or vise with soft jaws greatly diminishes the possibility of a damaged tool. Remove components in a straight line without bending, cocking or undue force, and reassemble tool with the same care.

Consult Troubleshooting section of this manual if a malfunction occurs. Where a part number (P/N) is given, HUCK sells that part.

FLUID MAINTENANCE
For fluid maintenance please refer to NAS 1638 class 9 or ISO CODE 18/15 or SAE level 6

STANDARD SEALANTS AND LUBRICANTS
Coat hose fitting threads with a non-hardening TEFLOHM thread compound such as Threadmate™, which is available from HUCK in a 4oz. tube as part number 508517.

Smear LUBRIPLATE 130AA, or equivalent lubricant, on O-rings and mating surfaces this prevents nicking/pinching O-rings on any rough/tight spot and increases ease of assembly. (LUBRIPLATE 130AA is available from HUCK in a tube as part number 502723.)

SERVICE PARTS KIT
Service parts kit 2480KIT contains perishable parts for both the 2480 and 2481 family of tools. For convenience, and as experience indicates, keep extra kits (O-rings, back-up rings, and other standard items) and tool parts on hand. Inspect tool daily. Check hoses, fittings and disconnects for leaks or damage.

Preventive Maintenance
SYSTEM INSPECTION
Operating efficiency of the tool is directly related to performance of the complete system, including tool and nose assembly, hydraulic hoses, control trigger assembly and the Powerig® Hydraulic Unit. An effective preventive maintenance program includes scheduled inspections of the system to detect and correct minor troubles.

1. Inspect tool for external damage.
2. Verify that hoses and fittings, and trigger connections are secure.
3. Inspect hydraulic hoses for signs of damage. Replace if required.
4. Inspect tool, hoses, and Powerig Hydraulic Unit during operation to detect abnormal heating, leaks or vibration.

POWERIG® HYDRAULIC UNIT MAINTENANCE
Maintenance and repair instructions are in applicable Powerig Hydraulic Unit Instruction Manual. Tool and Nose Assembly Maintenance and Precautions Whenever disassembled, and also at regular intervals (depending on severity and length of use), replace all O-rings and back-up rings. Spare Parts Kits should be kept on hand. Inspect cylinder bore, piston and rod/extension, and unloading valve for scored surfaces, excessive wear or damage, and replace parts as necessary. On any assembly with UNITIZED™ Jaws, clean all parts in mineral spirits or isopropyl alcohol only. Under no circumstances should jaws come in contact with other solvents. Also, do not let jaws soak; dry the jaws immediately after cleaning. Dry other parts before assembling. Urethane soaks up other solvents, then swells up and becomes unusable. Use a sharp pointed “pick” to remove embedded particles from the pull grooves of the puller.

Hydraulic Couplings Maintenance

504438 O-ring
501102 Back-up Ring
110439 Female Connector
110438 Male Connector

Use a fine India stone to remove any nicks or burrs from these areas to prevent damage to O-ring of Female
Wiring Diagram

Crimp conductors in positions shown. Eight Pin Connector

<table>
<thead>
<tr>
<th>PIN</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>WHITE</td>
</tr>
<tr>
<td>2</td>
<td>RED</td>
</tr>
<tr>
<td>3</td>
<td>YELLOW</td>
</tr>
<tr>
<td>4</td>
<td>GREEN</td>
</tr>
<tr>
<td>5</td>
<td>BLACK</td>
</tr>
<tr>
<td>6</td>
<td>BROWN</td>
</tr>
<tr>
<td>7</td>
<td>NOT USED</td>
</tr>
<tr>
<td>8</td>
<td>NOT USED</td>
</tr>
</tbody>
</table>
Puller and Anvil Replacement

NOTES:
1. The thread of the Puller is a Left-Hand thread.
2. Applying an anti-seize lubricant to outside of Puller and inside of Anvil may improve Puller and Anvil life.

PULLER REMOVAL
1. Remove 4 Cap Screws from back of Switch Cover.
2. Remove Actuator Rod from rear of tool.
3. From rear of tool, insert a 9/16 Allen wrench into back of Puller, and unscrew Puller, removing it through front of tool.

PULLER INSTALLATION
1. Reverse order of Puller Removal.

ANVIL REMOVAL

1. Using a spanner wrench, unscrew Anvil Assembly from Piston. NOTE: If Piston turns while unscrewing Anvil Assembly, pressurize tool in either the PULL or RETURN position to prevent it from turning.

ANVIL INSTALLATION
1. Reverse order of Anvil Removal.

Limit Switch Adjustment

TOOLS NEEDED: ● Controller or Light Box ● Depth Micrometer ● Allen Wrench

Where a Light Box is mentioned in these instructions, the Controller may be used instead when convenient.

NOTE: It is important to ensure that the face of the micrometer is firmly against the Puller Head, and the micrometer depth pin is in contact with the Actuator Rod when measuring.

1. Check to see where the Limit Switch is set using the Light Box and the Depth Micrometer.
2. Using a hex wrench, remove Screw and Spring.
3. To decrease the switch setting insert hex wrench in Setscrew and turn counterclockwise; to increase it, turn it clockwise.
4. Adjust the switch to the specification of .520"-.530". You will notice the Light Box light will come on once the switch has been made.
5. Replace Screw and Spring. NOTE: After replacing Screw and Spring, verify adjustment again by measuring with the depth micrometer.
6. Once adjusted to the specification of .520"-.530", disconnect the Light Box and reconnect the system. The tool is now ready to drive fasteners.
This tool comes labeled with safety and pressure sticker, part number 590512-17, which contains important safety and pressure settings information. It is necessary that this sticker remain on the tool and is easily read. If the sticker becomes damaged or worn, or if it has been removed from the tool, or when replacing Cylinder, this sticker must be ordered and placed in the location shown. The tool also comes labeled with a Year of Manufacture sticker, which will be placed next to the CE, Caution, and Warning sticker.
Limited Warranties

Limited Lifetime Warranty on BobTail® Tools:

Huck International, Inc. warrants to the original purchaser that its BobTail® installation tools manufactured after 12/1/2016 shall be free from defects in materials and workmanship for its useful lifetime. This warranty does not cover special order / non-standard products, or part failure due to normal wear, tool abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

Two Year Limited Warranty on Installation Tools:

Huck International, Inc. warrants that its installation tools and Powerig® hydraulic power sources manufactured after December 1, 2016 shall be free from defects in materials and workmanship for a period of two years from date of purchase by the end user. This warranty does not cover special order / non-standard products, or part failure due to normal wear, tool abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

90 Day Limited Warranty on Nose Assemblies and Accessories:

Huck International, Inc. warrants that its nose assemblies and accessories shall be free from defects in materials and workmanship for a period of 90 days from date of purchase by the end user. This warranty does not cover special clearance noses, or special order / non-standard product, or part failure due to normal wear, abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

Useful lifetime is defined as the period over which the product is expected to last physically, up to the point when replacement is required due to either normal in-service wear, or as part of a complete overhaul. Determination is made on a case-by case basis upon return of parts to Huck International, Inc. for evaluation.

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.

Huck shall not be liable for any loss or damage resulting from delays or non-fulfillment 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 location (see reverse).

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 Tool Kits and Nose Assemblies. Please contact your Huck Representative or the nearest Huck International location (see reverse) for the ATSC in your area.
Arconic Inc. (NYSE: ARNC) creates breakthrough products that shape industries. Working in close partnership with our customers, we solve complex engineering challenges to transform the way we fly, drive, build and power. Through the ingenuity of our people and cutting-edge advanced manufacturing, we deliver these products at a quality and efficiency that ensures customer success and shareholder value.

## Arconic Fastening Systems Tooling Support Locations

### INDUSTRIAL NORTH AMERICA

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
<th>Tel:</th>
<th>Fax:</th>
<th>Email</th>
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</thead>
<tbody>
<tr>
<td>Kingston Operations</td>
<td>1 Corporate Drive, Kingston, NY 12401</td>
<td>+1-800-278-4825</td>
<td>+1-845-334-7333</td>
<td><a href="mailto:afs.sales.kingston@arconic.com">afs.sales.kingston@arconic.com</a></td>
</tr>
<tr>
<td>Tracy Operations</td>
<td>1925 North MacArthur Drive, Tracy, CA 95376</td>
<td>+1-800-826-2884</td>
<td>+1-800-573-2645</td>
<td><a href="mailto:afs.sales.idg@arconic.com">afs.sales.idg@arconic.com</a></td>
</tr>
<tr>
<td>Waco Operations</td>
<td>PO Box 8117, Waco, TX 76714-8117</td>
<td>+1-800-388-4825</td>
<td>+1-800-798-4825</td>
<td><a href="mailto:afs.sales.waco@arconic.com">afs.sales.waco@arconic.com</a></td>
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### INDUSTRIAL GLOBAL

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<tr>
<td>Kolkata Operations</td>
<td>Unit No. 28, 2nd Floor, 55/1, Chowringhee Road, Kolkata 700071, West Bengal, India</td>
<td>+91-33-40699170</td>
<td>+91-33-40699180</td>
<td><a href="mailto:afs.sales@arconic.com">afs.sales@arconic.com</a></td>
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<tr>
<td>Suzhou Operations</td>
<td>58 Yinsheng Road, SIP Suzhou, Jiangsu 215126, China</td>
<td>+86-512-62863800-8888</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Melbourne Operations</td>
<td>1508 Centre Road, Clayton, Victoria, Australia 3168</td>
<td>+613-8545-3333</td>
<td>+613-8545-3390</td>
<td><a href="mailto:afs.sales@arconic.com">afs.sales@arconic.com</a></td>
</tr>
<tr>
<td>Telford Operations</td>
<td>Unit C, Stafford Park 7, Telford, Shropshire, England TF3 3BQ</td>
<td>+44-1952-290011</td>
<td>+44-1952-207701</td>
<td><a href="mailto:thisales@arconic.com">thisales@arconic.com</a></td>
</tr>
<tr>
<td>Sydney Operations</td>
<td>1013 Hibiya U-1 Bldg., Chiyoda-ku, Tokyo 100-0011, Japan</td>
<td>+81-3-3539-6594</td>
<td>+81-3-3539-6585</td>
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### AEROSPACE NORTH AMERICA

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<tr>
<td>Kingston Operations</td>
<td>1 Corporate Drive, Kingston, NY 12401</td>
<td>+1-800-278-4825</td>
<td>+1-800-527-3600</td>
<td><a href="mailto:afs.sales.kingston@arconic.com">afs.sales.kingston@arconic.com</a></td>
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<tr>
<td>Aichach Operations</td>
<td>Robert-Bosch Str. 4, Aichach 86551, Germany</td>
<td>+49-8251-8757-0</td>
<td>-</td>
<td><a href="mailto:aicafswelcomedl@arconic.com">aicafswelcomedl@arconic.com</a></td>
</tr>
<tr>
<td>Cergy Operations</td>
<td>15 Rue du Petit Albi, F-95611 Cergy Pontoise, France</td>
<td>+33-1-34-33-98-00</td>
<td>+33-1-34-33-97-77</td>
<td>-</td>
</tr>
<tr>
<td>Hong Kong Operations</td>
<td>27th Floor, 88 Hing Fat Street, Causeway Bay, Hong Kong, China</td>
<td>+852-2864-2012</td>
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<td>-</td>
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</tbody>
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