Instruction Manual
HUCK® SwageFORWARD™
HSSFT-M10
HSSFT-M12
HSSFT-M16
Hydraulic Installation Tools

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# EC Declaration of Conformity

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

**Description of Machinery:**
Models HS52 and HSSFT-M## family of hydraulic installation tools and specials based on their design (e.g. PR####).  

**Relevant provisions complied with:**
British Standard related to hand held, non-electric power tools (ISO 11148-1:2011)

**European Representative:**
Rob Pattenden, 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: [Signature]

<table>
<thead>
<tr>
<th>Full Name</th>
<th>Robert B. Wilcox</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td>Engineering Manager</td>
</tr>
<tr>
<td>Location</td>
<td>Huck International, LLC d/b/a Arconic Fastening Systems and Rings, Kingston, New York, USA</td>
</tr>
<tr>
<td>Date</td>
<td>01/11/2016 (November 1, 2016)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Declared dual number noise emission values in accordance with ISO 4871</th>
</tr>
</thead>
<tbody>
<tr>
<td>A weighted sound power level, LWA: <strong>80</strong> dB (reference 1 pW) Uncertainty, KWA: 3 dB</td>
</tr>
<tr>
<td>A weighted emission sound pressure level at the work station, LpA: <strong>69</strong> dB (reference 20 μPa) Uncertainty, KpA: 3 dB</td>
</tr>
<tr>
<td>C-weighted peak emission sound pressure level, LPc, peak: <strong>97</strong> dB (reference 20 μPa) Uncertainty, Kpc: 3 dB</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Declared vibration emission values in accordance with EN 12096</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured Vibrations emission value, a:</td>
</tr>
<tr>
<td><strong>.21 m/s²</strong></td>
</tr>
<tr>
<td>Uncertainty, K:</td>
</tr>
<tr>
<td><strong>.20 m/s²</strong></td>
</tr>
</tbody>
</table>

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 and Rings, Kingston Operations, Kingston, NY, USA.
Safety Instructions

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 without 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 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. 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, keep hands clear from the collar. Remote triggers are available for hydraulic tooling if pinch point is unavoidable.
9. Beware of the risk of crushing or pinching if nose equipment or structure.

Continued on next page...
Safety Instructions (continued)

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.
**PRINCIPLE OF OPERATION**

**HUCK® SWAGEFORWARD™ connected to Single Tool Controller 125725**

**INSTALLATION SEQUENCE**

1. Operator positions Huck-Spin collar onto mating Huck-Spin pin threads by hand.

2. Huck-Spin tool thimble threads onto fastener. The air motor turns on and, if only Limit Switch 1 is reached, a snub routine begins in which the collar is partly swaged, then the thimble spins on further until Limit Switch 2 is closed.

3. At full pressure, tool swages collar.

4. After the swage, the anvil is ejected off the collar, and the thimble spins off the fastener. This results in all tool components returning to their home positions.

5. Tool is ready to install the next Huck-Spin fastener.

For installation set-up procedures and pressure settings, see *Set-Up Procedure for Optimal Tool Life* on page 10.
**SPECIFICATIONS**

**MAX INLET PRESSURE:** 7400 psi (510 bar)
**MAX RETURN PRESSURE:** 3200 psi (221 bar)

**PULL CAPACITY:**
- **HSSFT-M10:** 7110 lbs @ 6000 psi (31.6 kN @ 414 bar)
- **HSSFT-M12:** 14,160 lbs @ 6000 psi (63 kN @ 414 bar)
- **HSSFT-M16:** 22,266 lbs @ 6000 psi (99 kN @ 414 bar)

**RETURN CAPACITY:**
- **HSSFT-M10:** 2544 lbs @ 4000 psi (11.3 kN @ 276 bar)
- **HSSFT-M12:** 4880 lbs @ 4000 psi (21.7 kN @ 276 bar)
- **HSSFT-M16:** 8220 lbs @ 4000 psi (36.6 kN @ 276 bar)

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

**MAX FLOW RATE:** 2 gpm (7.6 l/m)

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

**HOSE KITS:** Use only genuine HUCK Hose Kits rated @ 10,000 psi (689.5 bar) 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.

DEXRON is a registered trademark of General Motors Corp.
MERCON is a registered trademark of Ford Motor Corp.
Quintolubric is a registered trademark of Quaker Chemical Corp.

<table>
<thead>
<tr>
<th>MODEL</th>
<th>A (Inches)</th>
<th>B (Inches)</th>
<th>C (Inches)</th>
<th>D (Inches)</th>
<th>WEIGHT (Pounds)</th>
<th>STROKE (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSSFT-M10</td>
<td>1.9 (4.8)</td>
<td>12.7 (32.4)</td>
<td>5.2 (13.3)</td>
<td>7.1 (18.0)</td>
<td>18.0 (8.2)</td>
<td>1.4 (3.5)</td>
</tr>
<tr>
<td>HSSFT-M12</td>
<td>2.8 (7.0)</td>
<td>13.2 (33.5)</td>
<td>6.2 (15.7)</td>
<td>11.4 (28.8)</td>
<td>18.0 (8.2)</td>
<td>1.5 (3.8)</td>
</tr>
<tr>
<td>HSSFT-M16</td>
<td>3.5 (8.9)</td>
<td>13.6 (34.4)</td>
<td>6.2 (15.8)</td>
<td>10.0 (25.4)</td>
<td>23.0 (10.4)</td>
<td>1.5 (3.8)</td>
</tr>
</tbody>
</table>

**Top View - all models**
**PREPARATION FOR USE**

Use a Huck POWERIG® Hydraulic Unit, or equivalent, that has been suitably prepared for operation.

1. Turn OFF the hydraulic unit and then disconnect power supply from Single Tool Controller. Connect tool's hoses to Single Tool Controller.

2. Connect tool's Electric Cable Assembly to the hydraulic unit.

3. Connect the hydraulic unit to the Single Tool Controller. Turn ON the unit. Press the trigger a few times to cycle tool and to circulate hydraulic fluid. Turn OFF the unit.

4. Disconnect the tool's Electric Cable Assembly from hydraulic unit; disconnect unit from power supply. Select the correct nose assembly for the fastener to be installed. Attach the nose assembly to the tool.

5. Re-connect the hydraulic unit to the Single Tool Controller. Reconnect the tool's Electric Cable Assembly to the unit. Check the operation of nose assembly; install fasteners in a test plate of correct thickness with proper size holes. Inspect installed fasteners.

   - If fasteners do not pass inspection, investigate all possible causes.

**WARNING:** Correct PULL and RETURN pressures are required for operator's safety and for the installation tool's function. Huck Pressure Gauge T-124883CE is available for checking pressures. See Specifications and the gauge's instruction manual. Failure to verify pressures may result in severe personal injury.

**CAUTION:** Do not use TEFLOM* tape on pipe threads. Particles of shredded tape cause hydraulic unit valve failure. (SLIC-TITE in stick form, 503237).

**SEALANTS, LUBRICANTS, HYDRAULIC FLUID & SERVICE KITS**

- Rub SLIC-TITE TEFLON thread compound, or equivalent, on pipe threads to prevent leaks and for ease of assembly. **CAUTION:** Do not use TEFLOM tape on pipe threads.

- Smear LUBRIPASTE 130AA, or equivalent, on O-rings and mating surfaces to prevent damaging O-rings on rough or sharp surfaces. Also, increases ease of assembly. (LUBRIPASTE in a tube, 502723).

- Each Service Kit contains perishable parts for your specific tool. As foreseeable use may indicate, keep extra kits (O-rings, Back-up Rings, other standard items) and tool parts in stock. When stock is depleted, you can get kit items from any regular retailer of these items. See kit parts list for: O-ring size (AS568-number); material; durometer. For kit parts lists and related information, see General Notes.

**MAINTENANCE**

**GOOD SERVICE PRACTICES**

- 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 tool is disassembled for any reason. See applicable Service Kit.

- The efficiency and life of your tool depends on proper maintenance. Using the manual will help give a clear understanding of the tool and basic maintenance procedures. Please read this section completely before proceeding with maintenance and repair. Use proper hand tools in a clean and well-lighted area. Only standard hand tools are required in most cases. Where a special tool is required, the description and part number are given.

- While clamping tool 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 vise with soft jaws greatly reduces possibility of damaging tool. Remove components in a straight line without bending, cocking or undue force. Reassemble tool with the same care.

- Keep foreign matter out of the hydraulic system. Keep separated parts away from dirty work surfaces.

- Dirt and debris in hydraulic fluid causes valve failures in tool and POWERIG®.

**WARNING:** Inspect tool for damage or wear before each use. Do not operate if damaged or worn, as severe personal injury may occur.

**WARNING:** Connect the tool's hydraulic hoses to the Single Tool Controller before connecting electrical cable assembly to unit. If not connected in this order, and if disconnected in the reverse order, severe personal injury may occur.

Threadmate is a registered trademark of Parker Intangibles LLC. Loctite is a registered trademark of Henkel Corporation, U.S.A. Slic-Tite is a registered trademark of LA-CO Industries, Inc.

continued...
MAINTENANCE (CONTINUED)

PREVENTIVE MAINTENANCE

SYSTEM INSPECTION

Operating efficiency of the tool is directly related to the performance of the complete system, including the tool with nose assembly, hydraulic hoses, trigger switch and control cord, and POWERIG Hydraulic Unit. Therefore, an effective preventive maintenance program includes scheduled inspections of the system to detect and correct minor troubles.

- Inspect tool and nose assembly for external damage.
- Verify that hydraulic hose fittings, couplings, and electrical connections are secure.
- Inspect hydraulic hoses for damage and deterioration. Do not use hoses to carry tool. Replace hoses if damaged.
- Observe tool, hoses, and hydraulic unit during operation to detect abnormal heating, leaks, or vibration.

POWERIG MAINTENANCE

Maintenance instructions and repair procedures are in the appropriate POWERIG Instruction Manual.

Tool Stickers

All HSSFT tools ship with a Sticker (P/N 590512-2) identifying important SAFETY and WARNING information. If the sticker becomes worn, damaged, or is missing, a new sticker must be ordered and placed in a conspicuous location on the tool.

Assembly of NPTF Threaded Components

AIR FITTINGS

1) Apply TEFLO® stick to male threads which do not have pre-applied sealant per manufacturer’s recommendations. (Proceed to All Fittings step 2)

HYDRAULIC FITTINGS

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

TOOL MAINTENANCE

Whenever disassembled and also at regular intervals (depending on severity and length of use), replace all seals, wipers, and back-up rings in tool. Service Kits, hoses, and extra parts should be kept in stock. Inspect cylinder bore, pistons, and piston rods for scored surfaces and excessive wear or damage. Replace as necessary. Always replace seals, wipers, and back-up rings, and always grease gears whenever the tool is disassembled for any reason.

NOSE ASSEMBLY MAINTENANCE

Clean nose assembly often. Dip in mineral spirits or similar solvent to clean jaws and wash away metal chips and debris. At regular intervals, as experience shows, disassemble nose and use a sharp "pick" to remove imbedded particles from grooves of jaws.

<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>
The following procedure is intended to improve tool life by using the minimum required pressure to obtain proper fastener installations. This procedure starts the pressures and timers low, and works up to the level where proper installations are obtained. To determine if the fasteners are properly installed, use the appropriate Huck HG gauge, or refer to the Huck website for inspection criteria.

1. Connect Tool, Single Tool Controller, Power Supply, Hoses, and POWERIG.
2. Install Nose Assembly on tool.
3. Turn on Controller.
4. Turn on POWERIG.
5. Warm up the POWERIG and tool system using the Hydraulic Warmup feature on the STC.
6. Enter the menu system on the STC and add the appropriate size tool and fastener.
7. Determine Pull and Return pressures for POWERIG from Table 1. These values are for Low Swage Anvils. Use only Low Swage Anvils for optimal tool life.
8. Set Pull and Return pressures on POWERIG using Huck Gauge T-124833CE.
9. Thread a fastener and collar into thimble until Limit Switch 2 light comes on. Put enough washers on the fastener to ensure it is in proper grip.
10. Enter the menu system on the STC, go to Measure Rig Pressure. Press and hold F1 to activate POWERIG. Record pressure reading on STC.
11. Enter the menu system on the STC, go to Pressure Settings, then Swage Pressure. Adjust the Swage Pressure to be 200-300 psi below the POWERIG pressure measured in step 10.
12. Install several fasteners in washers, in proper grip.
13. a) If the fasteners are properly installed and the flanges of the collar are not heavily "ringed" the system is ready for use.
   b) If the fasteners are heavily "ringed", start at step 8 lowering the pressure by 100 psi on the controller and rig.
   c) If the collar is not completely swaged, continue at step 14.
14. Enter the menu system on the STC, go to Timer Change, go to Change Timer 7. This is the timer that holds the POWERIG on after the swage pressure setting is reached. The default is 00.0 seconds. Change the timer to 00.1 seconds.
15. Install several more fasteners and inspect the swage.
16. a) If the fastener is properly installed, set-up is complete.
   b) If the fastener is still not completely swaged add an additional 0.1 second to Timer 7.
17. Install several more fasteners and inspect the swage.
18. a) If the fastener is properly installed, set-up is complete.
   b) If the fastener is still not completely swaged, repeat step 14 up to 0.9 seconds.
   c) If after adding 0.9 seconds of hold time the fasteners are not properly swaged, follow step 19.
19. If the fasteners are not completely swaged, start at step 8 raising the pressure by 100 psi on both the controller and rig.
20. a) If the fastener is properly installed, set-up is complete.
   b) If the fastener is still not completely swaged start procedure at step 14.

These pressures are for Low Swage Anvils, which can be identified by a step on the inside bore. Previous designs of anvils have a straight bore without any steps and will require higher pressures.

These pressure values are a starting point for setting the POWERIG. Many factors will cause pressures to be higher or lower, including tool condition, hose length, oil temperature, and fasteners being installed.

<table>
<thead>
<tr>
<th>Fastener Size</th>
<th>Tool</th>
<th>PULL Pressure psi (bar)</th>
<th>RETURN Pressure psi (bar)</th>
<th>Controller Pressure psi (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10mm</td>
<td>HSSFT-M10</td>
<td>6000 (275.9)</td>
<td>4000 (275.8)</td>
<td>5800 (399.9)</td>
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<tr>
<td>12mm</td>
<td>HSSFT-M12, S</td>
<td>4800 (330.9)</td>
<td>4000 (275.8)</td>
<td>4600 (317.2)</td>
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<tr>
<td>1/2&quot;</td>
<td>HSSFT-M12, S</td>
<td>6800 (468.8)</td>
<td>6000 (275.9)</td>
<td>6600 (455.1)</td>
</tr>
<tr>
<td>14mm</td>
<td>HSSFT-M16, S</td>
<td>4600 (317.2)</td>
<td>4000 (275.8)</td>
<td>4400 (303.4)</td>
</tr>
<tr>
<td>5/8&quot; &amp; 16mm</td>
<td>HSSFT-M16, S</td>
<td>6800 (468.8)</td>
<td>4800 (330.9)</td>
<td>6600 (455.1)</td>
</tr>
</tbody>
</table>
**ADJUSTMENT INSTRUCTIONS**

**BACKLASH ADJUSTMENT**
(see Figure 1 below)

1. Turn Drive Shaft Assembly to the full IN position, and back out until Gears mesh freely with Gears on Bearing Housing Assembly.
2. Turn Drive Shaft Assembly in until nearest timing mark aligns with Screw hole.
3. Install screw. A minimal amount of play with freely turning gears indicates correct adjustment.

**LIMIT SWITCH ADJUSTMENT**
(see Figure 1 below)

1. Install Nose Assembly with correct Actuator Rod, and connect Tool to Controller.
2. Thread a Fastener in the Thimble until it bottoms. The LS2 light should be on both the Controller and the Tool Sensor. If not, hold Cap of Sensor Pin Assy and insert allen wrench in the other end. (See Figure 1 Detail.) Turn the wrench counterclockwise to lengthen the Sensor Pin Assembly the required distance to reach LS2.

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**OPTIONAL EQUIPMENT**

<table>
<thead>
<tr>
<th>TOOL KIT</th>
<th>SEAL KIT (includes O-rings, Back-up Rings, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSSFT-M10</td>
<td>HSSFT-M10 - 127660-M10</td>
</tr>
<tr>
<td>Contains:</td>
<td>HSSFT-M12 &amp; 12S - 127660-M12</td>
</tr>
<tr>
<td>Spanner (End Cap/Drive Shaft) - 127955-M10</td>
<td>HSSFT-M16 &amp; 16S - 127660</td>
</tr>
<tr>
<td>Piston Insertion Tool - 128334-M10</td>
<td>GREASE (for bearings and gears)</td>
</tr>
<tr>
<td>Piston Assembly Tool - 128335-M10</td>
<td>All tool models - 620030</td>
</tr>
<tr>
<td>HSSFT-M12 &amp; 12S - 128340-M12</td>
<td><strong>Loctite® 242</strong></td>
</tr>
<tr>
<td>Contains:</td>
<td>All tool models - 505016</td>
</tr>
<tr>
<td>Spanner (End Cap/Drive Shaft) - 127955-M12</td>
<td></td>
</tr>
</tbody>
</table>
HSSFT-M10 COMPONENTS (FIGURES 2 & 3)

128470 Hydraulic Assembly

500048 Cap Screw (4)

508177 Shoulder Screw (2)

500048 Cap Screw (6)

503450 Shoulder Screw (6)

Apply Loctite® per Mfr. Instructions

500071 Screw (2)

127604 Handle Assy

127649 Hanger Assy

127653 Air Inlet Hose (2)

508176 Reducing Connector (2)

120770-10 Hose Sleeving

506606 Twin Tubing
HSSFT-M10 COMPONENTS (FIGURES 2 & 3)

Figure 3

128662 Drive Shaft
503809 O-Ring
501113 Back-up Ring
507407 Wiper
128473 End Cap
128474 Piston
(Includes Dump Valve)
128659 Rod
128651 Spindle Bolt
501763 Setscrew
128471 Cylinder
(These two plugs are included with Cylinder; not available separately)
127618 Gland Assy (2)
(Includes O-Rings and Back-up Rings)
127614 Plug Assy
127613 Body
501775 Washers
508160 Screw
505724 O-Ring
127612 Washer
120361 Trigger
128302 Gear Pin Assy
127602 Spacer
127601 Drive Gear
127620 Air Motor
127605 Handle
127611 Wiring Cover
121466 Terminal Strip
505344-3 Strain Relief
505879 Screw
505231 Trigger Wire
5058171 Muffler
507575 Air Fitting
503811 O-Ring
501115 Back-up Ring (2)
503803 O-Ring
501107 Back-up Ring
128661 Adjusting Sleeve
502010 Screw
502489 Screw (Apply Loctite 242)
508153 Spring
127590-1 Key
128660 Rod End
127753 Housing Assy
508178 Sensor
127590-1 Key
501778 Setscrew
128245 Miter Gear
501787 Setscrew
502101 Cap Screw (2)
127607 Sensor Cover
127585 Bearing Housing Assy
127589 Spur Gear
128246 Easy-out Shaft
127591 Key
128303 Idler Gear
506493 Washer
Apply Loctite 242
501786 Pin
128278 Sensor Pin Assy
128276 Cap
4 Adjust backlash by turning Drive Shaft Assembly to the full IN position. Back out until gears mesh freely with gears on Bearing Housing Assembly. Turn Drive Shaft Assembly until nearest timing mark aligns with screw hole. Install Screw 502010. A minimal amount of play with free-turning gears indicates correct adjustment.
5 To adjust Limit Switch, install nose with correct Actuator Rod and connect tool to controller. Thread a fastener in thimble until it bottoms. The LS2 light should be on both controller and tool sensor. If not, hold cap of the Sensor Pin Assy 128278 and insert Allen wrench in end of Sensor Pin Assy. Turn Allen wrench counter-clockwise to lengthen Sensor Pin Assy the required distance to reach LS2.

Notes:
1 These items are contained in 128664 Drive Shaft Assembly.
2 These items are contained in 127625 Air Motor Assembly.
3 These items are contained in 128658 Limit Switch Rod Assembly.

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**WIRING DIAGRAM & SCHEMATIC FOR HSSFT-M10**

**Figure 4**

**Wiring Diagram**
AS SHIPPED FROM FACTORY
USE WITH ALL CONTROLLERS
EXCEPT 940HS & 940-220HS

**Wiring Schematic**
AS SHIPPED FROM FACTORY
USE WITH ALL CONTROLLERS
EXCEPT 940HS & 940-220HS
## HSSFT-M12 & HSSFT-M12S Parts Lists

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### NOTES:

1. Drive Shaft Assembly (P/N 127872) is available for purchase. It contains Item numbers 2, 4, 9, 18, 27, & 65.
2. Bearing Housing Assembly (P/N 127585) is available for purchase. It contains Item numbers 13, 17, 19, 21-23, 25, 27, 28, 32, & 33.
3. Apply a small amount of Grease (P/N 620030) to all Gears and Bearings.
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<tr>
<td>21c</td>
<td>Sensor Pin</td>
<td>128277</td>
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<td>62</td>
<td>Hanger Plate</td>
<td>127610</td>
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<td>22</td>
<td>Spring</td>
<td>508153</td>
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<td>1</td>
<td>63</td>
<td>Socket Head Cap Screw</td>
<td>500071</td>
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<td>23</td>
<td>Cap Screw</td>
<td>502489</td>
<td></td>
<td>1</td>
<td>64</td>
<td>Bearing</td>
<td>508150</td>
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<td>24</td>
<td>Gear Cover</td>
<td>127609</td>
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<td>1</td>
<td>65</td>
<td>Retaining Ring</td>
<td>500945</td>
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<td>25</td>
<td>Sensor/Gear Housing Assy</td>
<td>127753</td>
<td></td>
<td>1</td>
<td>66</td>
<td>Plug Assy contains:</td>
<td>127614</td>
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<td>4</td>
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<td>26</td>
<td>Electrical Sensor</td>
<td>508178</td>
<td></td>
<td>2</td>
<td>66a</td>
<td>Plug Body</td>
<td>127613</td>
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<tr>
<td>27</td>
<td>Key</td>
<td>127590-1</td>
<td></td>
<td>2</td>
<td>66b</td>
<td>Back-up Ring</td>
<td>508180</td>
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<td>1</td>
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<tr>
<td>28</td>
<td>Spur Gear, modified</td>
<td>127589</td>
<td></td>
<td>1</td>
<td>66c</td>
<td>O-Ring</td>
<td>500772</td>
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<tr>
<td>29</td>
<td>Black Trigger Wire</td>
<td>505231</td>
<td></td>
<td>2 ft.</td>
<td>66d</td>
<td>Plug Washer</td>
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<tr>
<td>30</td>
<td>Shackle</td>
<td>-----</td>
<td>507040</td>
<td>2</td>
<td>66e</td>
<td>Cap Screw</td>
<td>508160</td>
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**NOTES:**

1. Drive Shaft Assembly (P/N 127592) is available for purchase. It contains Item numbers 2, 4, 9, 17, 18, 27, 64, & 65.
2. Bearing Housing Assembly (P/N 127585) is available for purchase. It contains Item numbers 13, 17, 19, 21-23, 25, 27, 28, 32, & 33.
3. Apply a small amount of Grease (P/N 620030) to all Gears and Bearings.
WIRING DIAGRAM AND SCHEMATIC AS SHIPPED

Below are the wiring diagram and wiring schematic of the HUCK® SwageForward™ tool as it is shipped from the factory. On the following pages, note the specific instructions for wiring requirements when using the new HUCK® SwageForward™ tool with other AFS equipment.

NOTE: When the HUCK® SwageForward™ tool is used with the 940HS or 940-220HS POWERIG, it is imperative that the wiring diagram and schematic be changed as specified on the following page.

**Figure 7**

**WIRING DIAGRAM**
As shipped from factory.
*Use with all except 940HS and 940-220HS*

**WIRING SCHEMATIC**
As shipped from factory.
*Use with all controllers except 940HS and 940-220HS*
**SPECIAL WIRING INSTRUCTIONS**

When using the **HUCK® SwageForward™** tool with a 940HS or 940-220HS POWERIG, be sure the wiring diagram and schematic are set up according to the wiring diagram and wiring schematic below.

![Wiring Diagram](image1)

**WIRING DIAGRAM**

*When used with 940HS and 940-220HS*

**WIRING SCHEMATIC**

*When used with 940HS and 940-220HS*
This is the wiring diagram of Simple Controller 127165 or 127165-2.

When using the HUCK® SWAGEFORWARD™ tool with Simple Controller 127165 or 127165-2, THIS GROUND WIRE (represented by the bold line) MUST BE ADDED.
When using Simple Controller 127165 or 127165-2 with the HUCK® SWAGEFORWARD™, Adapter Cable 127164-1 (shown above) must be used in addition to the Ground Wire shown in Figure 6.
Special Wiring Instructions (continued)

Figure 11

This is the wiring diagram for Single Tool Controller 125725.

If using a Controller with Serial Number 381 through 444, the wire must be moved from J2-2 and Pin 2 on the LEMO connector to J2-6 and Pin 6 on the LEMO, as shown.

Serial Numbers 381 Through 444

This wire must be moved...

...to this location.
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 Powerigs® manufactured after 12/1/2016 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.

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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.
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