EC Declaration of Conformity

Manufacturer:
Alcoa Fastening Systems, Industrial Products Group, 1 Corporate Drive, Kingston, NY, 12401, USA

Description of Machinery:
SFBTT20-DT fastener installation tool

Relevant provisions complied with:
British Standard related to hand held, non-electric power tools (EN 792-1)

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]

Full Name: Larry M. Krieg

Position: Product Engineer
           Installation Systems Division

Place: Kingston, New York, USA

Date: December, 2009

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Declared dual number noise emission values in accordance with ISO 4871

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A weighted sound power level, LWA:</td>
<td>89.5</td>
</tr>
<tr>
<td>Uncertainty, KWA:</td>
<td>3 dB</td>
</tr>
<tr>
<td>A weighted emission sound pressure level at the</td>
<td>78.5</td>
</tr>
<tr>
<td>work station, LpA:</td>
<td>dB</td>
</tr>
<tr>
<td>Uncertainty, KpA:</td>
<td>3 dB</td>
</tr>
<tr>
<td>C-weighted peak emission sound pressure level,</td>
<td>93.6</td>
</tr>
<tr>
<td>LpC, peak:</td>
<td>dB</td>
</tr>
<tr>
<td>Uncertainty, KpC:</td>
<td>3 dB</td>
</tr>
</tbody>
</table>

Values determined according to noise test code ISO 15744, using as basic standards ISO 3744 and ISO 11203. 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.

Declared vibration emission values in accordance with EN 12096

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured Vibration emission value, a:</td>
<td>.45 m/s²</td>
</tr>
<tr>
<td>Uncertainty, K:</td>
<td>.11 m/s²</td>
</tr>
</tbody>
</table>

Values measured and determined according to ISO 8662-1, ISO 5349-2, and EN 1033

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Test data to support the above information is on file at Alcoa Fastening Systems, Industrial Products Group, Kingston Operations, Kingston, NY, USA.
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This instruction manual must be read, with particular attention to the following safety guidelines, by any person servicing or operating this tool.

1. Glossary
   - Product complies with requirements set forth by the relevant European directives.
   - Read manual prior to using equipment.
   - Eye protection required while using this equipment.
   - Hearing protection required while using this equipment.

2. A half hour long hands-on training session with qualified personnel is recommended before using Huck equipment.

3. 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.

4. Repairman and Operator must read manual prior to using equipment. Warning and Caution stickers/labels supplied with equipment must be understood before connecting equipment to any primary power supply. As applicable, each of the sections in this manual have specific safety and other information.

5. Read MSDS Specifications before servicing the tool. MSDS Specifications are available from the product manufacturer or your Huck representative.


7. Disconnect primary power source before performing maintenance on Huck equipment or changing Nose Assembly.

8. Tools and hoses should be inspected for leaks at the beginning of each shift/day. If any equipment shows signs of damage, wear, or leakage, do not connect it to the primary power supply.

9. Mounting hardware should be checked at the beginning of each shift/day.

10. Make sure proper power source is used at all times.

11. Release tool trigger if power supply is interrupted.

12. Tools are not to be used in an explosive environment unless specifically designed to do so.

13. Never remove any safety guards or pintail deflectors.

14. Ensure deflector or pintail collector is installed and operating prior to use.

15. Never install a fastener in free air. Personal injury from fastener ejecting may occur.

16. Always clear spent pintail out of nose assembly before installing the next fastener.

17. There is possibility of forcible ejection of pintails or spent mandrels from front of tool.

18. If there is a pinch point between trigger and work piece, use remote trigger. (Remote triggers are available for all tooling).

19. Unsuitable postures may not allow counteracting of normal expected movement of tool.

20. 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 in preventing an accident which may cause severe personal injury.


22. There is a risk of crushing if tool is cycled without Nose Assembly installed.

23. Tools with ejector rods should never be cycled without nose assembly installed.

24. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet of correct positioning.

25. Tool is only to be used as stated in this manual. Any other use is prohibited.
**PRINCIPLE OF OPERATION**

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. When the trigger is pressed, the rig receives a signal to swage the fastener. The Piston moves back to start the swaging process. After the fastener is fully swaged, the operator must release the trigger, at which point the Tool’s Anvil is ejected off of the collar and the Tool is released from the fastener.

**SPECIFICATIONS**

**Power Source:** Huck POWERIG Hydraulic Unit

**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.”

**Max Operating Temp:** 125 °F (51.7 °C)

**Max Flow Rate:** 2 gpm (7.6 l/m)

**Max Inlet Pull Pressure:** 7,000 psi, (483 bar)

**Max Inlet Return Pressure:** 5,000 psi, (345 bar)

**Pull Capacity:** 20,650 lbf (92 KN)

**Return Capacity:** 9,500 lbf (42 KN)

**Stroke:** 2.00 inches (5.08 cm)

**Weight:** 8.5 lbs (3.85 kg)
**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.

**CAUTION:** 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.

**POWER SOURCE CONNECTIONS**
Coat hose fitting threads with a non-hardening Teflon™ thread compound such as Slic-tite™ (Slic-tite is available from Huck as part number 503237.)

**CAUTION:** Do not use TEFLO®* tape on pipe threads. Pipe threads may cause tape to shred resulting in tool malfunction. (Slic-Tite is available in stick form as Huck P/N 503237.)

**CAUTION:** Hose couplers must be completely screwed 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.

**WARNING:** Correct PULL and RETURN pressures are required for operator's safety and for Installation Tool's function. Gauge Set-Up, T-124833 and T-124833CE, is available for checking pressures. See Tool SPECIFICATIONS and Gauge Instruction Manual. Failure to verify pressures may result in severe personal injury.

**WARNING:** Be sure to connect Tool's hydraulic hoses to POWERIG Hydraulic Unit before connecting Tool's switch control cord to unit. If not connected in this order, severe personal injury may occur.

2. Use only a Huck POWERIG 918, 940, or equivalent that has been prepared for operation per applicable instruction manual. Check both PULL and RETURN pressures and adjust as necessary to match installation tool. Gage part number T-124833(new), for checking POWERIG pressures is available from Huck.

3. Turn POWERIG to “OFF” and couple tool hoses to POWERIG hoses.

5. Turn POWERIG to “ON” and depress and release trigger a few times to circulate hydraulic fluid. Observe action of tool. Check for fluid leaks.

6. Attach the proper Nose Assembly to the tool.
**TOOL TO POWERIG SETUP**

**WARNING:** To prevent tripping hazard, suspend tools and route hoses off of floors.

**WARNING:** Only use compatible equipment with this tool.

**NOTE:** To decrease Relief Valve pressure, turn the Relief Valve handle gradually counterclockwise; turn clockwise to increase pressure.

1. With the Nose Assembly in place on the Installation Tool, begin setup. First connect the Hydraulic Hoses to the Powerig.

2. Connect Relief Valve 128904 to the other end of the Powerig Hydraulic Hoses.

3. Connect 118309- Hose Assy to the Relief Valve (Tool Side).

4. Connect the other end of the 118309- Hose Assy to the installation tool.

5. Connect the Power Cord from the Tool to the 118309- Hose Assembly.

6. Connect the Power Cord from the Hose Assembly to the Powerig.

7. Set Pull and Return pressures on Powerig and Relief Valve using Huck Gage P/N: T-124833CE and **Table 1**.

8. Once the system is set up, install test fastener. Check to be sure that the fastener is installed correctly. This can be checked by inspecting the dimples on the collar flange. At least one dimple should be marked by the anvil.

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**Table 1 - Pressure Settings**

<table>
<thead>
<tr>
<th>Fastener Size</th>
<th>Fastener Grade</th>
<th>Powerig Pull Pressure Setting, psi</th>
<th>Powerig Return Pressure Setting, psi</th>
<th>128904 Relief Valve Setting, psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>12mm</td>
<td>8</td>
<td>7500</td>
<td>4500</td>
<td>4400</td>
</tr>
<tr>
<td>14mm</td>
<td>8</td>
<td>7500</td>
<td>4500</td>
<td>5900</td>
</tr>
<tr>
<td>5/8&quot; / 16mm</td>
<td>8</td>
<td>7500</td>
<td>4500</td>
<td>6100</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>5</td>
<td>7500</td>
<td>2600</td>
<td>2900</td>
</tr>
</tbody>
</table>

* Two digit number after dash indicates hose length in feet. (Example: 118309-12 is 12 foot hose assembly.)

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**Nose Assembly**

**118309- Hose Assembly**

**128904 Relief Valve**

**SFBTT20-DT**

**918 Powerig Shown**

**To primary power source**
**Operating Instructions:**

1. Push the tool’s nose over the end of the fastener until it bottoms out.

2. Press the trigger and hold until the collar is swaged and the tool’s Anvil is ejected off the collar and the tool is released from the fastener.

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**Wrenching-up of Pipe Threads**

The following table pertains to 1/8, 1/4, and 3/8 NPTF joints in this product. All turn counts listed are beyond hand-tight. Teflon stick or equivalent (NOT tape) must be used without exception.

<table>
<thead>
<tr>
<th>Pipe Thread Size</th>
<th>Number of Turns</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8 NPTF</td>
<td>2 - 2 1/4</td>
</tr>
<tr>
<td>1/4 NPTF</td>
<td>1 1/2 - 1 3/4</td>
</tr>
<tr>
<td>3/8 NPTF</td>
<td>1 1/2 - 1 3/4</td>
</tr>
</tbody>
</table>
MAINTENANCE

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 and control cord, and POWERIG. Therefore, an effective preventive maintenance program includes scheduled inspections of the system to detect and correct minor troubles. At the beginning of each shift/day:

• 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.
• Max hydraulic fluid contamination level: NAS 1638 class 9, or ISO CODE 18/15, or SAE level 6.

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

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.

CAUTION: Always replace seals, wipers, and back-up rings when tool is disassembled for any reason.

Nose Assembly Maintenance
Clean nose assembly often. Dip in mineral spirits or similar solvent to clean puller 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 puller.

• 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.
• TEFILON is a registered trademark of DuPont Corp.
• LUBRIPLATE is a registered trademark of Fiske Brothers Refining Co.
# Tool Assembly Parts List

*(Figure AA)*

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>SFBTT20-DT</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Handle Assembly</td>
<td>129081</td>
<td>1</td>
</tr>
<tr>
<td>1a</td>
<td>Trigger Switch Assy</td>
<td>120361</td>
<td>1</td>
</tr>
<tr>
<td>1a1</td>
<td>Trigger Switch</td>
<td>128743</td>
<td>1</td>
</tr>
<tr>
<td>1a2</td>
<td>O-Ring</td>
<td>500779</td>
<td>1</td>
</tr>
<tr>
<td>1b</td>
<td>Handle</td>
<td>129017</td>
<td>1</td>
</tr>
<tr>
<td>1c</td>
<td>Button Head Screw</td>
<td>502489</td>
<td>4</td>
</tr>
<tr>
<td>1d</td>
<td>Clamp Guide</td>
<td>128838</td>
<td>1</td>
</tr>
<tr>
<td>1e</td>
<td>Strain Relief Assy</td>
<td>505344</td>
<td>1</td>
</tr>
<tr>
<td>1f</td>
<td>Cord Assembly</td>
<td>128938</td>
<td>1</td>
</tr>
<tr>
<td>2 *</td>
<td>Piston Assembly</td>
<td>128837</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Wiper</td>
<td>506067</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Back-up Ring</td>
<td>501151</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>O-Ring</td>
<td>506089</td>
<td>1</td>
</tr>
<tr>
<td>6 *</td>
<td>Cylinder Assembly</td>
<td>128978</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Back-up Ring</td>
<td>501154</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>O-Ring</td>
<td>503850</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>End Cap</td>
<td>128976</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>O-Ring</td>
<td>506619</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Back-up Ring</td>
<td>501147</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>Set Screw</td>
<td>501780</td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td>Hydraulic Hose</td>
<td>118944-2</td>
<td>2</td>
</tr>
<tr>
<td>14</td>
<td>Hex Reducing Bushing</td>
<td>503431</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>Female Coupler</td>
<td>110439</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>Male Coupler</td>
<td>110438</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>Cap Screw</td>
<td>500062</td>
<td>2</td>
</tr>
<tr>
<td>18</td>
<td>Locking Disc</td>
<td>122764</td>
<td>1</td>
</tr>
<tr>
<td>19</td>
<td>Locking Disc Cover</td>
<td>128979</td>
<td>1</td>
</tr>
<tr>
<td>20</td>
<td>Cap Screw</td>
<td>500061</td>
<td>8</td>
</tr>
<tr>
<td>21</td>
<td>End Cap Cover</td>
<td>128977</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>Cap Screw</td>
<td>500065</td>
<td>4</td>
</tr>
</tbody>
</table>

✓ These parts are also included in the tool Service Kit (see Kits and Accessories) for each tool.

* When replacing these parts, the assembly must be ordered. The individual sub-components are not sold separately.
# 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.

<table>
<thead>
<tr>
<th>Service Kit</th>
<th>BTT20SFKIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teflon Stick</td>
<td>503237</td>
</tr>
<tr>
<td>Loctite 242</td>
<td>505016</td>
</tr>
<tr>
<td>Anti-seize Lubricant</td>
<td>508183</td>
</tr>
<tr>
<td>Hose Cable</td>
<td>128461-(length)</td>
</tr>
</tbody>
</table>

*Loctite is a trademark of Henkel Corporation, U.S.A.*
LIMITED WARRANTIES

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, NONSTANDARD 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, NONSTANDARD 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, MER-CHANTABILITY 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

Canada
6150 Kennedy Road Unit 10, Mississauga, Ontario, L5T2J4, Canada. Telephone (905) 564-4825 FAX (905) 564-1963

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.