Instruction Manual

MODEL 110606
BLIND FASTENER
INSTALLATION KIT

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

07-01-2004
Form HK483
SAFETY

This instruction manual must be read with particular attention to the following safety guidelines, by any person servicing or operating this tool.

1. Safety 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.

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

   **CAUTIONS** - show conditions that will damage equipment and or structure.
   **Notes** - are reminders of required procedures.
   **Bold, Italic type and underlining** - emphasizes a specific instruction.

2. Huck equipment must be maintained in a safe working condition at all times and inspected on a regular basis for damage or wear. Any repair should be done by a qualified repairman trained on Huck procedures.

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

4. See MSDS Specifications before servicing the tool. MSDS Specifications are available from you Huck representative or on-line at www.huck.com. Click on Installation Systems Division.

5. When repairing or operating Huck installation equipment, always wear approved eye protection. Where applicable, refer to ANSI Z87.1 - 1989

6. Disconnect primary power source before doing maintenance on Huck equipment.

7. If any equipment shows signs of damage, wear, or leakage, do not connect it to the primary power supply.

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

9. Never remove any safety guards or pintail deflector.

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

11. When using an offset nose always clear spent pintail out of nose assembly before installing the next fastener.

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

13. Do not abuse tool by dropping or using it as a hammer. Never use hydraulic or air lines as a handle. 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.

14. Never place hands between nose assembly and work piece.

15. Tools with ejector rods should never be cycled with out nose assembly installed.

16. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet of correct positioning.
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Covered by U.S. Patent No. 2,870,566.


INTRODUCTION

Blind Fastener Installation Kit 110606 consists of (a) Installation Tool, (b) Nose Assemblies for installing 1/8, 5/32 and 3/16 diameters Huck MLS Blind Rivets and 5/32 and 3/16 diameters Huck Blind Bolts, (c) Preset Shift Valve Cartridges, and (d) accessories, in a carrying case. (See Table 5 for contents of Kit 110606)

This manual contains instructions for the preparation, operation, use and maintenance of the Tool and Nose Assemblies, and a SELECTION CHART for Nose Assemblies and Shift Valve Cartridges.

DESCRIPTION

The 200 Huck Installation Tool (HIT) is a multi-purpose tool for high speed installation of Huck Fasteners. Broad versatility permits its use for installation of fasteners requiring a double action tool. Power, speed and accuracy are obtained through the use of a pneumatic-hydraulic intensifier system.

The tool consists of three basic assemblies; i.e. hydraulic power head, handle assembly, and pneumatic cylinder assembly. (See Figure 1)

The power head includes the pull spindle to which the nose assembly is attached to install a specific fastener.

The piston and piston rod sub-assembly and trigger mechanism are included in the handle assembly. A hydraulic shift valve is controlled by the Shift Cartridge Assembly.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>110633 HUCK INSTALLATION TOOL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Length, without Nose, inches</td>
<td>7</td>
</tr>
<tr>
<td>Height, inches</td>
<td>13 3/4</td>
</tr>
<tr>
<td>Weight, with standard Nose, pounds</td>
<td>10</td>
</tr>
<tr>
<td>Stroke, inches</td>
<td>1 1/4</td>
</tr>
<tr>
<td>Air Pressure Required, psi</td>
<td>90-100</td>
</tr>
<tr>
<td>Hydraulic Fluid</td>
<td>Type A Transmission Oil</td>
</tr>
</tbody>
</table>
PREPARATION AND OPERATION

PREPARATION FOR USE

The 200 Huck Installation Tool is shipped from the factory with a polyethylene plug in the swivel air inlet connector.

A clean supply of air (90-100 psi) must be available. It is recommended that a filter, regulator and lubricator assembly, 3/8" inside diameter hose and quick disconnect fitting be used. The air inlet of the tool has 1/4" NPTF (female dryseal threads). An air relief valve has been built into the tool to prevent damage from excessive air pressure. This relief valve exhausts at 100-110 psi.

Read the following before using the Tool.

1. Remove polyethylene plug and pour a small quantity of clean, light oil (SAE 10W) into the air inlet connector.

2. Set air line pressure to 90-100 psi.

3. Select proper shift cartridge and install in Tool per Figure 1.

4. Blow out air line to remove foreign matter and connect to the Tool.

5. Invert the Tool and cycle in the inverted position 8 or 10 times.

6. Select proper nose assembly. See selection chart to determine proper nose assembly for fastener to be installed.

7. Assemble nose assembly to the Tool. See Figure 4.

8. Test drive a few fasteners. Observe the general operation of the Tool, the bulbing of the sleeve and driving of the lock collar.

9. The Tool is now ready for use.
OPERATION SEQUENCE AS A DOUBLE ACTION TOOL

With the Tool connected to a 90-100 psi air supply, depressing the trigger allows air pressure to act on the air piston and move it forward. This causes the small hydraulic piston to act on a volume of hydraulic fluid in the handle assembly. Pressurized fluid is forced into the head assembly to move the spindle in conjunction with the nose assembly to pull the fastener and bulb sleeve. High pressure hydraulic fluid is acting on the shift valve, whose shift force is controlled by the shift-spring, and the selection of the shift cartridge. As the fluid pressure increases, the shift valve opens and allows the fluid resisting the movement of the shift piston to exhaust. The shift piston moves forward and acts on the thrust bushing and inner anvil of the nose assembly to drive the lock of the MLS and Blind Bolt fastener. Continued travel of the air piston increases the hydraulic pressure causing the pull spindle to continue its travel. The pintail of the fastener finally breaks, completing the installation.

INSTALLATION CYCLE

STEP 1
NOSE
ASSEMBLY
ENGAGED

STEP 2
SLEEVE
BULBED

STEP 3
LOCK COLLAR
DRIVEN

STEP 4
PINTAIL
BREAKS

FIGURE 2
Table 1. SELECTION CHART
Nose Assembly and Shift Valve Cartridge

<table>
<thead>
<tr>
<th>SIZE</th>
<th>TYPE</th>
<th>MATERIAL</th>
<th>NOSE ASSEMBLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8</td>
<td>MLS</td>
<td>Aluminum</td>
<td>99-1013</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monel</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stainless Steel</td>
<td></td>
</tr>
<tr>
<td>5/32</td>
<td>MLS</td>
<td>Aluminum</td>
<td>99-458</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monel</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stainless Steel</td>
<td></td>
</tr>
<tr>
<td>3/16</td>
<td>MLS</td>
<td>Aluminum</td>
<td>99-459</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monel</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stainless Steel</td>
<td></td>
</tr>
<tr>
<td>5/32</td>
<td>BB</td>
<td>Steel</td>
<td>99-600</td>
</tr>
<tr>
<td>3/16</td>
<td>BB</td>
<td>Steel</td>
<td>99-589</td>
</tr>
</tbody>
</table>

COLOR | PART NUMBER
YELLOW | 111454-8

SHIFT VALVE CARTRIDGE

FIGURE 3

CAUTION
FOR THE PROPER INSTALLATION OF HUCK MLS BLIND RIVETS AND HUCK BLIND BOLTS, THE PROPER NOSE ASSEMBLY AND SHIFT VALVE CARTRIDGE MUST BE USED.
ATTACHING NOSE ASSEMBLIES

1. Insert PINTAIL TUBE into spindle of Tool.

2. Screw COLLET SUB-ASSEMBLY onto spindle of Tool. Tighten COLLET against shoulder of Tool Spindle. The Tool Spindle can be prevented from turning by using the spanner wrench 100559 in the slots in the rear end of the spindle.

3. Place INNER ANVIL on pointed end of a pencil. Hold OUTER ANVIL with open end down. Push pencil and INNER ANVIL up inside OUTER ANVIL until INNER ANVIL is in small hole in front end of OUTER ANVIL. Turn this sub-assembly over with open end up, remove pencil and drop in THRUST BUSHING and SPACER.

4. Hold OUTER ANVIL, THRUST BUSHING and SPACER so that INNER ANVIL does not fall out and slide over COLLET SUB-ASSEMBLY until OUTER ANVIL enters nose gland. Notice that OUTER ANVIL and THRUST BUSHING are keyed to keep flats together.

5. Slide RETAINING NUT over OUTER ANVIL and screw (hand tight) against shoulder of OUTER ANVIL.

6. Connect tool to air supply and install a fastener in a test plate which is the proper thickness and has the proper size hole. Inspect installed fastener.

7. An o-ring can be removed if there is too much pressure on jaws making it difficult to engage fastener pintail. However, enough pressure must be maintained to keep jaws in step. (If jaws and internal parts rattle when tool and nose assembly are shaken, one or more o-rings should be added)
PREVENTIVE MAINTENANCE

The 200 Huck Installation Tool is a production tool requiring a minimum amount of maintenance. Adherence to the preventive maintenance chart below, however, will help insure longer life and maximum operating efficiency, and eliminate unnecessary breakdowns. Also refer to trouble shooting.

Table 2.
PREVENTIVE MAINTENANCE CHART

<table>
<thead>
<tr>
<th>CHECK</th>
<th>DAILY</th>
<th>WEEKLY</th>
<th>MONTHLY</th>
<th>AS REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Supply System:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air line pressure (90-100 psi)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moisture traps and filters</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lubricator</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Air hose (Blow out dirt and moisture)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air hose and fittings (deterioration)</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Model 110633 Tool</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air leaks</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hydraulic leaks</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Screws, head to handle (tightness)</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Screws, handle to cylinder (tightness)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nose Assembly:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chuck jaws (clean with oleum spirits, using small piston brush.)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjustment</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Mineral spirits are recommended for general cleaning of tool components. Do not use chlorinated solvents, because strong solvents may damage O-ring and seal materials.

TROUBLESHOOTING

GENERAL

This trouble shooting check list is for use in determining the cause of various malfunctions which could be encountered.

Properly used, this check list will be useful in determining whether the malfunction has been caused by:

1. IMPROPER TOOL FUNCTION
2. INCORRECT HOLE PREPARATION
3. INCORRECT FASTENER SELECTION
4. INSTALLER ERROR
EVIDENCE OF MALFUNCTION

Malfunctions may be recognized by and are identified as:

1. HEAD NOT SEATED
2. HIGH PIN
3. LOW PIN
4. HIGH LOCK COLLAR
5. LOW LOCK COLLAR

HEAD NOT SEATED

PROBABLE CAUSE

1. HOLE SLANTED OR MISALIGNED
2. INSTALLER COCKED TOOL AND RIVET HEAD DURING INSTALLATION
3. BLIND SIDE ANGLE OVER 5 degrees
4. HOLE TOO SMALL EXTRUDING SLEEVE

HIGH PIN

If the pin protrusion is in excess of the allowable, the probable causes are:

1. OVERSIZE HOLE
2. UNDER GRIP
3. BROKEN OR WORN DRIVING/INNER ANVIL
4. INNER ANVIL MISSING
5. SHIFT PRESSURE TOO HIGH (WRONG CARTRIDGE)
6. NO SHIFT
7. FASTENER DAMAGED BY FORCING INTO UNDERSIZED, OUT OF ROUND OR EXCESSIVELY BURRED HOLE

LOW PIN

If the pin position is below the allowable, the probable causes are:

1. FASTENER NOT INSERTED COMPLETELY INTO THE HOLE
2. OVER MAXIMUM GRIP
3. EXCESSIVE SHEET GAP
4. MISALIGNED HOLES
5. COUNTERSINK FOR FLUSH HEAD NOT DEEP ENOUGH
6. LOW SHIFT PRESSURE (WRONG CARTRIDGE)
7. INNER ANVIL NOT RETRACTING
8. BLIND SIDE ANGLE OVER 5 degrees
HIGH COLLAR

If the collar protrusion is more than the allowable, the probable causes are:

1. INSTALLATION TOOL BEING TIPPED DURING DRIVING CYCLE

2. INTERFERENCE BETWEEN INSTALLATION TOOL AND SOME ADJOINING MEMBER FORCING TOOL OUT OF SQUARE

3. INNER ANVIL MISSING

4. SHIFT PRESSURE TOO HIGH (WRONG CARTRIDGE)

5. BROKEN OR WORN INNER ANVIL

6. BLIND SIDE ANGLE OVER 5 DEGREES

LOW COLLAR

If the collar position is below the allowable, the probable causes are:

1. EXCESSIVE SHEET GAP

2. OVER MAXIMUM GRIP

3. COUNTERSINK NOT DEEP ENOUGH

4. SHIFT PRESSURE LOW (WRONG CARTRIDGE)
# Table 3.
REPLACEMENT PARTS FOR MLS BLIND RIVET NOSE ASSEMBLIES

<table>
<thead>
<tr>
<th>REF.</th>
<th>DESCRIPTION</th>
<th>99-1013 (-04)</th>
<th>99-458 (-05)</th>
<th>99-459 (-06)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>REQ.</td>
<td>PART NO.</td>
<td>REQ.</td>
</tr>
<tr>
<td>1</td>
<td>Outer Anvil</td>
<td>1</td>
<td>110639</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Inner Anvil</td>
<td>1</td>
<td>104271</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Inner Anvil Thrust Bushing</td>
<td>1</td>
<td>110647</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Thrust Bushing Spacer</td>
<td>1</td>
<td>100798</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Collet</td>
<td>1</td>
<td>100795</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Chuck Jaws (incl 500776 O-ring)</td>
<td>1set</td>
<td>110640</td>
<td>1set</td>
</tr>
<tr>
<td>7</td>
<td>Follower</td>
<td>1</td>
<td>108426</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Spacer</td>
<td>1</td>
<td>94118</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>O-ring (ARP568-011)</td>
<td>12</td>
<td>500777</td>
<td>12</td>
</tr>
<tr>
<td>10</td>
<td>Sleeve</td>
<td>1</td>
<td>100796</td>
<td>1</td>
</tr>
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</table>

110640 Jaws are identified "AU"
100818 Jaws are identified "X"
100957 Jaws are identified "Y"
<table>
<thead>
<tr>
<th>REF.</th>
<th>DESCRIPTION</th>
<th>99-600 (-5)</th>
<th>99-589 (-6)</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>REQ.</td>
<td>PART NO.</td>
</tr>
<tr>
<td>1</td>
<td>Outer Anvil</td>
<td>1</td>
<td>102420</td>
</tr>
<tr>
<td>2</td>
<td>Inner Anvil</td>
<td>1</td>
<td>102422</td>
</tr>
<tr>
<td>3</td>
<td>Inner Anvil Thrust Bushing</td>
<td>1</td>
<td>108903</td>
</tr>
<tr>
<td>4</td>
<td>Thrust Bushing Spacer</td>
<td>1</td>
<td>100798</td>
</tr>
<tr>
<td>5</td>
<td>Collet</td>
<td>1</td>
<td>108907</td>
</tr>
<tr>
<td>6</td>
<td>Chuck Jaws (incl. 500776 O-ring)</td>
<td>1 Set</td>
<td>108901</td>
</tr>
<tr>
<td>7</td>
<td>Follower</td>
<td>1</td>
<td>108904</td>
</tr>
<tr>
<td>8</td>
<td>O-ring (ARP 568-011)</td>
<td>13</td>
<td>500777</td>
</tr>
<tr>
<td>9</td>
<td>Sleeve</td>
<td>1</td>
<td>100798</td>
</tr>
<tr>
<td>10</td>
<td>O-ring (ARP 568-013) (Use in collet threads)</td>
<td>1</td>
<td>504149</td>
</tr>
<tr>
<td></td>
<td>Collet Assem. (includes ref. nos. 5 thru 10)</td>
<td>1</td>
<td>108950</td>
</tr>
</tbody>
</table>

108901  Jaws are identified "AJ"
108902  Jaws are identified "AK"
### Table 5
Blind Fastener Installation Kit No. 110606

**PARTS LIST**

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>REQ</th>
<th>PART NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>1</td>
<td>Installation Tool</td>
</tr>
<tr>
<td>100530</td>
<td>1</td>
<td>Retaining Nut</td>
</tr>
<tr>
<td>100534</td>
<td>1</td>
<td>Pintail Tube</td>
</tr>
<tr>
<td>99-1013</td>
<td>1</td>
<td>Nose Assembly (1/8) MLS-04</td>
</tr>
<tr>
<td>99-458</td>
<td>1</td>
<td>Nose Assembly (5/32) MLS-05</td>
</tr>
<tr>
<td>99-459</td>
<td>1</td>
<td>Nose Assembly (3/16) MLS-06</td>
</tr>
<tr>
<td>99-600</td>
<td>1</td>
<td>Nose Assembly (5/32) B-05</td>
</tr>
<tr>
<td>99-589</td>
<td>1</td>
<td>Nose Assembly (3/16) B-06</td>
</tr>
<tr>
<td>110634-1</td>
<td>1</td>
<td>Preset Cartridge MLS-B04</td>
</tr>
<tr>
<td>-2</td>
<td>1</td>
<td>MLS-B05</td>
</tr>
<tr>
<td>-3</td>
<td>1</td>
<td>MLS-B06 &amp; MLS-M04</td>
</tr>
<tr>
<td>-4</td>
<td>1</td>
<td>MLS-EU04</td>
</tr>
<tr>
<td>-5</td>
<td>1</td>
<td>MLS-M05 &amp; MLS-EU05</td>
</tr>
<tr>
<td>-6</td>
<td>1</td>
<td>B-T05</td>
</tr>
<tr>
<td>-7</td>
<td>1</td>
<td>MLS-M06 &amp; MLS-EU06</td>
</tr>
<tr>
<td>-8</td>
<td>1</td>
<td>B-T06</td>
</tr>
<tr>
<td>100556</td>
<td>1</td>
<td>Rear Gland Wrench</td>
</tr>
<tr>
<td>100559</td>
<td>1</td>
<td>Face Spanner Wrench</td>
</tr>
<tr>
<td>100878</td>
<td>1</td>
<td>Shift Cartridge Wrench</td>
</tr>
<tr>
<td>Form 483</td>
<td>1</td>
<td>Instruction Manual</td>
</tr>
<tr>
<td>110607</td>
<td>1</td>
<td>Carrying Case</td>
</tr>
<tr>
<td>100536</td>
<td>1</td>
<td>Spacer</td>
</tr>
<tr>
<td>101280</td>
<td>1</td>
<td>Stop-Retaining Nut</td>
</tr>
</tbody>
</table>
1. Push SPACER into nose adapter of tool.

2. Assemble COLLET SUB-ASSEMBLY per Nose Assembly Data Sheet. (Note: Lockcollar and Shim furnished with 99-895 are not used.)

3. Screw COLLET SUB-ASSEMBLY onto spindle of tool. Tighten, with wrench, against shoulder of spindle. Use Spanner Wrench 100559 in slots in rear end of spindle to prevent spindle from turning.

4. Slide OUTER ANVIL over COLLET and into SPACER.

5. Slide STOP over ANVIL and against anvil ears.

6. Slide RETAINING NUT over ANVIL against STOP. Screw, hand tight, onto nose adapter of tool.

7. Install SHIFT CARTRIDGE 110634-8 (yellow) in tool.

8. Connect tool to 90-100 psi air supply and install a fastener in a test plate which is the proper thickness and has the proper hole size. Inspect installed fastener. Tool is now ready to install 3/16 Asp® Fasteners.
**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, MERCHANTABILITY OR FITNESS FOR USE OF ANY TOOL, PART(S), OR OTHER ITEMS THEREOF NOT MANUFACTURED BY HUCK. HUCK SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECTLY OR INDIRECTLY, ARISING FROM THE USE OF SUCH TOOLING, PART(S) OR OTHER ITEMS OR BREACH OF WARRANTY OR FOR ANY CLAIM FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

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

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

**Huck Installation Equipment**

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

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

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

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

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

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

Alcoa Fastening Systems world-wide locations:

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

Alcoa Fastening Systems
Aerospace Products
Carson Operations
PO Box 5268
900 Watson Center Rd.
Carson, CA 90749
800-421-1459
310-830-8200
FAX: 310-830-1436

Alcoa Fastening Systems
Commercial Products
Waco Operations
PO Box 8117
8001 Imperial Drive
Waco, TX 76714-8117
800-388-4825
254-776-2000
FAX: 254-751-5259

Alcoa Fastening Systems
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Kingston Operations
1 Corporate Drive
Kingston, NY 12401
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845-331-7300
FAX: 845-334-7333
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6150 Kennedy Road, Unit 10
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905-564-4825
FAX: 905-564-1963

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Avenida Parque Lira, 79-402
Tacubaya Mexico, D.F.
C.P. 11850
FAX: 525-515-1776
TELEX: 1173530 LUKSME

**Europe**
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Commercial Products
United Kingdom Operations
Unit C, Stafford Park 7
Telford, Shropshire
England TF3 3BQ
01952-290011
FAX: 0952-290459

Alcoa Fastening Systems
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33-1-30-27-9500
FAX: 33-1-34-66-0600


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