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 tools 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 pneumatic or pneumatic.
2. Disconnect the assembly power tool from energy source when changing inserted tools or accessories.

Greetings, 

In order to ensure the safety and efficiency of the assembly power tool, it is essential to follow the guidelines provided below:

1. Always ensure that the tool is properly assembled and all components are securely fastened, including the collar.
2. Disconnect the assembly power tool from the energy source before changing any components or performing maintenance.
3. Keep hands and body clear of the tool during operation to avoid injury.
4. Follow the manufacturer's instructions for proper operation and maintenance.
5. Use appropriate personal protective equipment, such as hearing protection and eye protection.

By adhering to these safety guidelines, we can minimize the risk of personal injury and maintain the efficiency of the assembly process.
INTRODUCTION

In addition to visual inspection, installed Huckbolt® Fasteners may be inspected using Huck HG inspection gages. "Pin Position" gages have been designed to inspect the position of the installed pin or stump in relation to the sheet line or work surface. This either (1) verifies that the correct length pin or stump was used or (2) indicates that the incorrect length (too long or too short) was used. "Pin Position and Swage" gages, in addition to determining if the proper length pin or stump was used, also have been designed to inspect the swaged collar to determine if the collar is completely or sufficiently swaged.

The proper HG gage to use for each installed fastener is designated on the applicable page in the Huck Fastener Standards Manual or in NAS 1080. For special applications involving unusual combinations of pins or stumps and collars, consult the Huck representative or Huck Engineering.
Note that the gages for Shear Pull Type and Shear/Tension Pull Type Fasteners are Pin Position Gages only. Therefore, Swaged Collars are visually inspected as follows:

**BEADED COLLARS**

![Diagram of beaded collars]

- **NOT SWAGED**: REJECT
- **PARTIALLY SWAGED**: REJECT
- **FULLY SWAGED**: ACCEPT

**DOUBLE END COLLARS**

![Diagram of double end collars]

- **NOT SWAGED**: REJECT
- **PARTIALLY SWAGED**: REJECT
- **SWAGED .7H MINIMUM**: ACCEPT
The following pages illustrate the use of various “Pin Position” and “Pin Position and Swage Gages”. In each application, the gage is held perpendicular to the work and centered over the installed fastener.

When collars are installed against slopes, use the gage in plane A-A.

**NOTE**

“Pin Position” gages have been designed to inspect installed fasteners only. They are not grip gages for determining the grip or length of pin or stump to be used. Use Huck Grip Gage, P/N 105093 or other measuring tool to determine the thickness of the material to be fastened (grip) and the fastener length (grip dash number) to be used.

GRIP is the total thickness of the material to be fastened or joined.

GRIP DASH NUMBER is the corresponding grip range of the pin or stump as specified on the applicable Product Standards Sheet.
How To Use HUCK Pin Position GAGES*
FOR INSTALLED SHEAR PULL TYPE FASTENERS

POINTS TOUCH PIN. GRIP IS NOT OVER MAXIMUM. ACCEPT

POINTS DO NOT TOUCH PIN. GRIP IS OVER MAXIMUM. REJECT

POINTS DO NOT TOUCH PIN. GRIP IS NOT UNDER MINIMUM. ACCEPT

POINTS TOUCH PIN. GRIP IS UNDER MINIMUM. REJECT

*SHEAR PULL TYPE HG76 & HG90

Note: Both ends of the gage must ACCEPT.
How To Use **HUCK** Pin Position & Swage GAGES*

FOR INSTALLED TENSION PULL TYPE FASTENERS

![Diagram showing measurement points for accepting or rejecting the installation of tension pull type fasteners.](image)

**ACCEPT**

*TENSION PULL TYPE HG85 EXCEPT HG85-10

**REJECT**

POINTS TOUCH PIN. GRIP IS NOT OVER MAXIMUM.

POINTS DO NOT TOUCH PIN. GRIP IS OVER MAXIMUM.

POINTS A DO NOT TOUCH PIN. GRIP IS NOT UNDER MINIMUM.

POINTS B DO NOT TOUCH COLLAR. COLLAR IS SWAGED ENOUGH.

POINTS A TOUCH PIN. GRIP IS UNDER MINIMUM AND/OR POINTS B TOUCH COLLAR. COLLAR NOT SWAGED ENOUGH.

**ACCEPT**

**REJECT**

Note: Both ends of the gage must ACCEPT.
How To Use **HUCK** Pin Position & Swage GAGE HG85-10

**STEP 1a**

- **ACCEPT**
- **REJECT**

**STEP 2a**

- **ACCEPT**
- **REJECT**

**STEP 3a & b**

- **ACCEPT**
- **REJECT**

**STEP 1:** USE START
a. IF COPPER PLATE FINISH TOUCHES THE SHEET, SEE 2 BELOW.
b. IF BLACK TOUCHES THE PIN, SEE 3 BELOW.

**STEP 2:** USE COPPER PLATE FINISH
a. CHECK PIN POSITION (LEGS MUST NOT TOUCH THE SHEET).
b. CHECK SWAGE (LEGS MUST TOUCH THE SHEET).

**STEP 3:** USE BLACK
a. CHECK PIN POSITION (LEGS MUST TOUCH THE SHEET).
b. CHECK SWAGE (LEGS MUST TOUCH THE SHEET).
How To Use **HUCK** Stump Position
And Swage **GAGES** *
FOR INSTALLED SHEAR AND TENSION STUMP TYPE FASTENERS

**ACCEPT**

* SHEAR STUMP TYPE HG75 EXCEPT HG75-6 & HG75-7 AND TENSION STUMP TYPE HG34D.

**REJECT**

Note: Both ends of the gage must ACCEPT.
How To Use HUCK Pin Position & Swage GAGES HG75-6 & HG75-7

STEP 1: POINT TOUCHES STUMP, GRIP IS NOT OVER MAXIMUM. ACCEPT

STEP 2: IF POINT DOES NOT TOUCH PIN, GO TO STEP 3. IF POINT TOUCHES STUMP, GO TO STEP 4.

STEP 3: POINT A DOES NOT TOUCH STUMP, GRIP IS NOT UNDER MINIMUM. POINTS B DO NOT TOUCH COLLAR, COLLAR SWAGED ENOUGH. ACCEPT

POINT A TOUCHES STUMP, GRIP IS UNDER MINIMUM AND/OR POINTS B TOUCH COLLAR, COLLAR NOT SWAGED ENOUGH. REJECT

STEP 4: SAME PROCEDURE AS STEP 3 EXCEPT USE SIDE 4 OF GAGE.

GRIP GREATER THAN NOMINAL ACCEPT

GRIP LESS THAN NOMINAL REJECT

Note: Both Step 1 and Step 3 or Step 4 must ACCEPT.
How To Use **HUCK** Pin Position & Swage **GAGES***

FOR INSTALLED C50L PULL TYPE FASTENERS

POINTS A TOUCH PIN. FACE B DOES NOT TOUCH TOP OF COLLAR. GRIP IS NOT OVER MAXIMUM.

FACE B RESTS ON TOP OF COLLAR. POINTS C DO NOT TOUCH PIN. GRIP IS NOT UNDER MINIMUM AND COLLAR HAS BEEN SWAGED TO THE PROPER DIAMETER AND DEPTH.

*HG95
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.

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 and Rings world-wide locations:

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**Tucson Operations**
3724 East Columbia
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FAX: 520-748-2142

**Carson Operations**
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Carson, CA 90745
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310-830-8200
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