

## MAGNA-GRIP® HUCKBOLT® Fastener Installation

“High-tensile Huckbolt fasteners are designed with the understanding that quality fastening requires the proper **Interaction** between bolt, collar, installation tool and the structure being joined. A fifth factor, the human factor, can be safely ignored in the Huck Fastening System with minimal of operator training.”(1)

The following guidelines are provided to help insure longer installation tool and nose assembly life with maximum operating efficiency and eliminating downtime.

1. Check work and remove excessive gap. (Gap is the space between sheets) Gap is excessive if:

- a. Not enough pintail sticks through collar for nose assembly jaws to fully engage the pintail
- b. Or, when double stroke is required to install fastener. Double stroke fastener installation is not recommended. See Note.

As the fastener is installed, the locking collar is swaged into the locking grooves on the pin during which the pin is subjected to a tensile force. This tensile force causes the pin to elongate, or stretch, on the first stroke—the pin's pull grooves are deformed. Therefore, on the second stroke full pintail/chuck jaw engagement is not attainable. To increase jaw life, avoid using fastener and tool to remove excessive gap and/or when double stroking.

2. Before each operation, insure that full tool stroke (piston travel) is maintained for proper fastener installation. To insure full tool stroke use the following guidelines.

**Hydraulic Installation Tools:** Inspect hydraulic fluid level in reservoir, and add hydraulic fluid as required.

### **Pneudraulic Installation Tools:**

**Model 225/226:** Inspect reservoir sight gage level. Fill when red fluid level line on plunger is below mid-point on sight gage housing.

**Model 210/211:** Measure tool stroke (piston travel)

° 210: If stroke is less than .89 in., fill and bleed hydraulic system.

° 211: If stroke is less than .62 in., fill and bleed hydraulic system.

**Pneumatic Installation Tools:** Inspect air supply. An air supply of 90-100 psi must be available. An air supply of 105-110 psi must be available when using the 3/8" MAGNA-GRIP/226 combination.

3. Nose Assembly parts should be inspected for wear and damage, and replaced as necessary.

An effective preventative maintenance program includes scheduled inspections to detect and correct minor troubles:

1. Disassemble and clean components periodically. Use pick to clean jaw grooves.
2. Inspect chuck jaw pocket finish inside collet. Replace collet when pocket finish becomes scored.
3. Lubriplate outside surface of jaws with molycoat, or equivalent lubricant.
4. MAGNA-GRIP Fastener nose assemblies do not require shims when attaching nose to tool. Before attaching nose to tool remove any shims from tool piston or spindle with small pick.
5. Wash nose assembly components in **mineral spirits or Isopropyl alcohol only**. Do not let urethane jaw assemblies soak, and do not use solvents that will cause urethane to swell. Dry components immediately after cleaning.

4. Inspect fastener grip for material being fastened.

#### **Caution**

**Tool and nose assembly life will be reduced when fasteners are installed below minimum grip or over maximum grip.**

Refer to applicable fastener brochure for grip information.

To install MAGNA-GRIP Fastener:

A. Pin is inserted from one side of work through prepared hole. Collar is placed over pintail. When tool/nose assembly is pushed onto pintail, the jaws must fully engage pull grooves.

#### **WARNING**

**Do not pull on pin without collar, as pin will eject forcibly when pintail breaks off and severe personal injury may result.**

B. Tool/nose assembly pulls on pin. Small amount of remaining gap is removed and sheets are drawn together.

C. As pull on pin increases, nose assembly anvil swages collar into locking grooves forming a permanent lock.

D. Tool continues to pull until pintail breaks—nose assembly releases off swaged collar.

(1) Rodgers-Wilson, P.J. and Butler, L.W., "Swage Lock High-Tensile Fastening Systems for Building Construction, Heavy Manufacturing and Mining Industries", May 1981.