ORIGINAL INSTRUCTIONS

GB722/568
INSTALLATION TOOL

GB722-568 Digital Tool Manual

GAGE BILT TOOLS ARE AVAILABLE WORLDWIDE
E-MAIL US FOR A DISTRIBUTOR NEAR YOU.

Registered to
ISO 9001:2015

GAGE BILT
MADE in USA

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WARRANTY

Seller warrants that all goods covered by this catalog will conform to applicable specifications and will replace or repair, EXW our plant, any goods providing defective from faulty workmanship, or material, for 1 year from date of shipment.

Said warranty to remain in effect if, and only if, such goods are used in accordance with all instructions as to maintenance, operation and use, set forth in manuals and instruction sheets furnished by seller.

Sellers obligation under this warranty shall be limited to the repair or rework of the goods supplied or replacement thereof, at Seller's option, and in no case is to exceed the invoice value of said goods. Under no circumstances will the seller be liable for incidental or consequential damages or for damages incurred by the buyer or subsequent user in repairing or replacing defective goods or if the goods covered by this warranty are reworked or subjected to any type of additional processing.

This warranty is void if Seller is not notified in writing of any rejections or defects within 1 year after the receipt of the material by the customer.

THIS WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY.

DESCRIPTION

⚠ **WARNING: Any other use is forbidden.**

The GB722/568 is a pneumatic-hydraulic installation tool designed specifically for the efficient installation of 5/32" & 3/16" only HUCKRIMP® (krimpnuts) with a crimping action that deforms the nut to provide accurate installation loads. It (7.6 mm) fastener setting stroke and a rated pull load of 4,770 lbs. (21.22 kN) with 90 psi (6.2 bar) air pressure at the air inlet.

The GB722/568 installation tool operates on 90 to 100 psi (6.2 - 6.9 bar) of air pressure, with 90 psi. (6.2 bar) providing the maximum efficiency. At 90 psi. (6.2 bar) air pressure, the GB722/568 does not exceed 81.5 dB(A) and consumes .16 SCF/cycle (4.53 L/cycle).

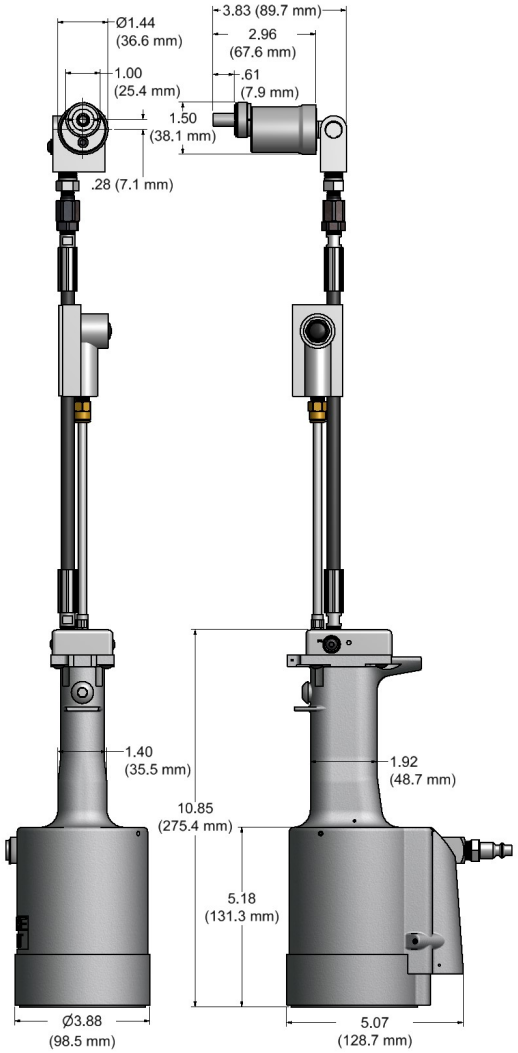
The air inlet is provided with 1/4 - 18 female pipe thread to accept the users air hose fitting.

NOSE ASSEMBLIES ARE NOT FURNISHED WITH TOOL AND MUST BE ORDERED SEPARATELY.

ENVIRONMENTAL USE

⚠ **WARNING: Do not operate in an explosive atmosphere.**

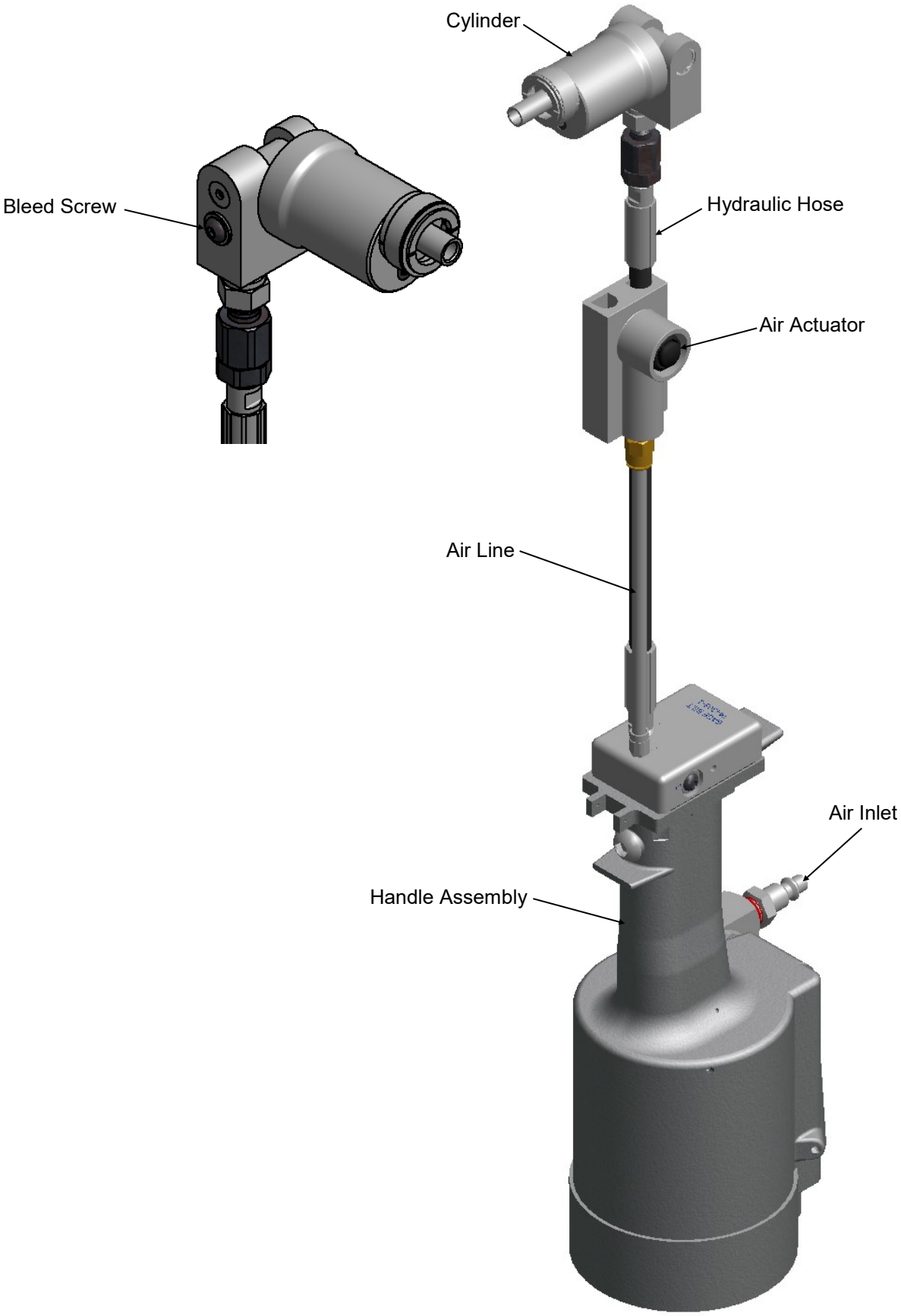
The GB722/568 can be operated between 0ºF - 118ºF (-17.8ºC / 47.8ºC)



SPECIFICATIONS

Weight (hand held)	-	**2.5 lbs. (1.13 kg)**
Air pressure req'd	-	**90 - 100 psi. (6.2 - 6.9 bar)**
Air consumption	-	**.16 SCF/cycle (4.53 L/cycle)**
Hydraulic oil	-	**Automatic Transmission Oil, Dexron III, or equivalent.**
Setting stroke	-	**.300" (7.6 mm)**
Rated pull load	-	**4,770 lbs. (21.22 kN)**
Noise level	-	**81.5 dB(A)**
Vibration	-	**Tested – No Hazards Found.**

DESCRIPTION OF FUNCTIONS



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SAFETY WARNINGS

TERMS AND SYMBOLS

- Product complies with requirements

- Product complies with requirements

- Hearing protection and eye protection

- Read manual prior to using equipment

- Wear safety boots

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.

GENERAL SAFETY RULES:

1. For multiple hazards, read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near the assembly power tool for non-threaded mechanical fasteners.
2. Only qualified and trained operators shall install, adjust or use the assembly power tool for non threaded mechanical fasteners.
3. Do not modify this assembly power tool for non-threaded mechanical fasteners. Modifications can reduce effectiveness of safety measures and increase the risks to the operator.
4. Do not discard safety instructions; give them to the operator.
5. Do not use assembly power tool for non-threaded mechanical fasteners if it has been damaged.
6. Tools shall be inspected monthly to verify all ratings and markings required are legible. The employer/user shall contact the manufacturer to obtain replacement marking labels when necessary.

ADDITIONAL SAFETY RULES FOR PNEUDRAULIC POWER TOOLS:

1. Air under pressure can cause severe injury.
2. Always shut off air supply, drain hose of air pressure and disconnect tool from air supply when not in use, before changing accessories or when making repairs.
3. Never direct air at yourself or anyone else.
4. Whipping hoses can cause severe injury. Always check for damage or loose hoses and fittings.
5. Cold air shall be directed away from hands.
6. Whenever universal twist couplings (claw couplings) are used, lock pins shall be installed and whip check safety cables shall be used to safeguard against possible hose-to-tool or hose-to-hose connection failure.
7. Do not exceed the maximum air pressure stated on the tool or manual.
8. Never carry an air tool by the hose.

PROJECTILE HAZARDS:

1. Disconnect the tool from the energy source when changing inserted tools/nose assemblies or accessories.
2. Be aware that failure of the workpiece, accessories, or the inserted tool/nose assembly itself can generate high-velocity projectiles.
3. Always wear impact resistant eye protection during operation of the tool.
4. Ensure that the workpiece is securely fixed.
5. Check that the means of protection from ejection of fastener and/or stem is in place and operative (such as the deflector, pintail collection bottle or catcher bag).
6. Forcible ejection of the mandrel from the front of the nose assembly is possible.

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; be ready to counteract normal or sudden movements and have both hands available.
4. Maintain a balanced body position and secure footing.
5. Release the start-and-stop device in the case of interruption of energy supply.
6. Use only lubricants recommended by the manufacturer.
7. Avoid unsuitable postures as it is likely for these positions not to allow counteracting of normal or unexpected movement of the tool.
8. If the tool is fixed to a suspension device, make sure that fixation is secure.
9. Beware of the risk of crushing or pinching if nose equipment is not fitted.
10. Due to the tool weight, it is recommended safety shoes be worn during operation.
11. It is recommended tool be operated not more than 50 out of every 60 minutes, where prolonged use is expected.

REPETITIVE MOTIONS HAZARDS:

1. When using the tool, the operator can experience discomfort in the hands, arms, shoulders, neck or other parts of the body.
2. While using the tool, the operator should adopt a comfortable posture while maintaining a secure footing and avoiding awkward or off balanced postures. The operator should change posture during extended tasks; this can help avoid discomfort and fatigue.
3. If the operator experiences symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations or stiffness, these warning signs should not be ignored. The operator should tell the employer and consult a qualified health professional.

ACCESSORY HAZARDS:

1. Disconnect tool from energy supply before changing the nose assembly or accessory.
2. Use only sizes and types of accessories approved by the manufacturer. Do not use other types or sizes of accessories.

WORKPLACE HAZARDS:

1. Slips, trips and falls are major causes of workplace injury. Be aware of slippery surfaces caused by use of tool and also of trip hazards caused by the air line or hydraulic hose.
2. Proceed with care in unfamiliar surroundings. There could be hidden hazards, such as electricity or other utility lines.
3. The tool is not intended for use in potentially explosive atmospheres and is not insulated against contact with electrical power.
4. Ensure that there are no electrical cables, gas pipes, etc., which can cause a hazard if damaged by the tool.

NOISE HAZARDS:

1. Exposure to high noise levels can cause permanent, disabling hearing loss and other problems, such as tinnitus (ringing, buzzing, whistling or humming in the ears). Therefore, risk assessment and the implementation of appropriate controls for these hazards are essential.
2. Appropriate controls to reduce the risk may include actions such as damping materials to prevent workpieces from "ringing".
3. Always use hearing protection.
4. Operate and maintain the assembly power tool for non-threaded mechanical fasteners 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 in the instruction handbook, 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 power tool is being operated.

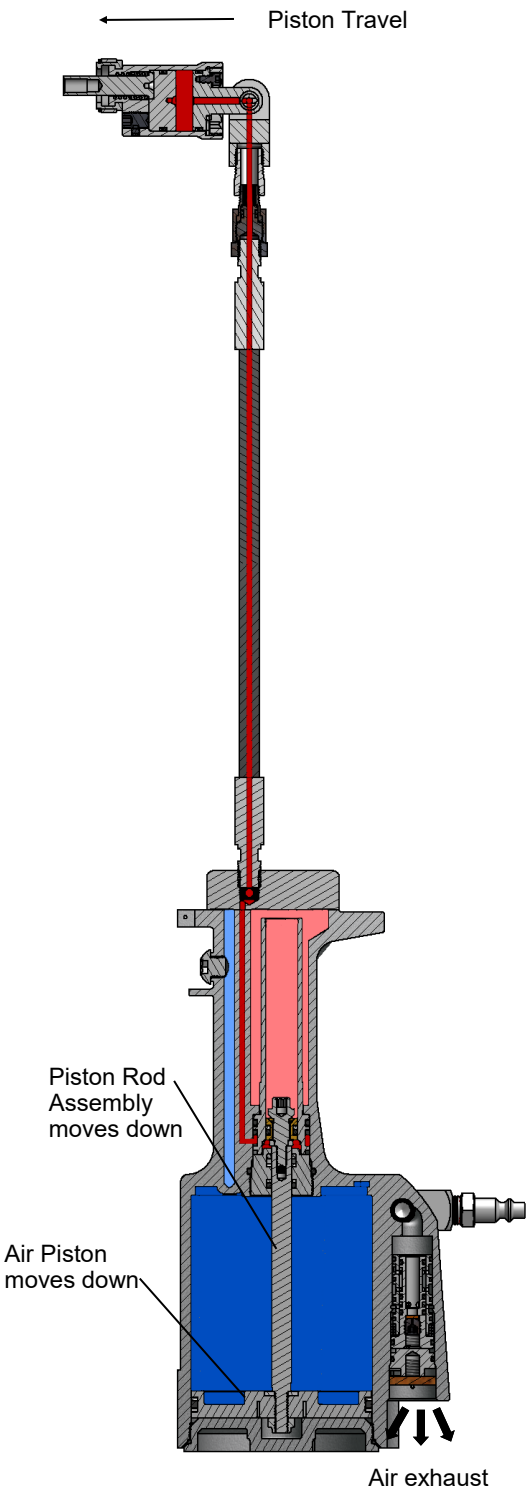
VIBRATION HAZARDS:

1. Exposure to vibration can cause disabling damage to the nerves and blood supply of the hands and arms.
2. Wear warm clothing when working in cold conditions and keep your hands warm and dry.
3. If you experience numbness, tingling, pain or whitening of the skin in your fingers or hands, stop using the assembly power tool for non-threaded mechanical fasteners, tell your employer and consult a physician.
4. Support the weight of the tool in a stand, tensioner or balancer, because a lighter grip can then be used to support the tool.

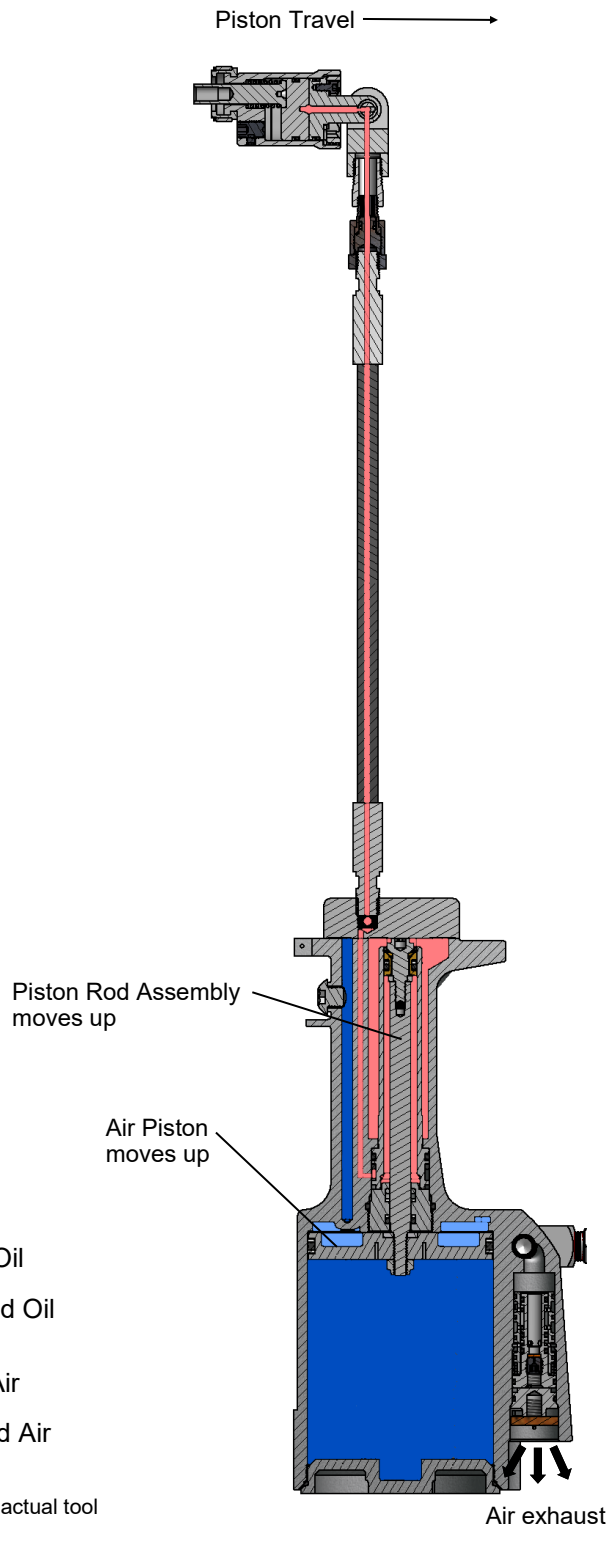
PRINCIPLE OF OPERATION

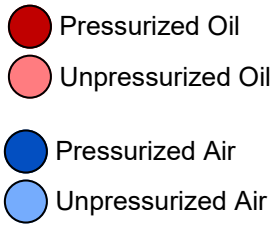
When the actuator lever assembly is depressed, the pressurized air inside of the tool is released allowing spring pressure to move the valve spool assembly causing the air to be redirected. The air is directed to the top of the air piston assembly, moving it in a downward direction. The air below the air piston assembly is then directed through the valve sleeve and exhausted out of the bottom of the tool. Simultaneously, the piston rod assembly connected to the air piston assembly is also moving down, forcing hydraulic oil up and into the back side of the rear of the head piston moving it forward. The internal parts on the nose assembly are also moving forward thus starting the installation process. As the nose assembly encounters resistance from the fastener, the hydraulic pressure builds until the tool reaches its full forward preset position. After maximum pressure is met, the actuator is then released, thus allowing the hydraulic pressure to drop and allowing the spring pressure in the front of the piston to return the piston and the nose assembly to their start position.

PULL Cycle



RETURN Cycle





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HOW TO SET-UP THE GB722/568

WARNING: Only qualified and trained operators shall install, adjust or use the assembly power tool for non-threaded mechanical fasteners.

WARNING: Operator MUST read and understand all warnings and cautions.

WARNING: It is required that eye protection, hearing protection and safety boots be worn at all times while handling this equipment.

WARNING: The users or the user's employer must assess specific risks that could be present as a result after each use based on their application.

- ***Ensure there is adequate clearance for tool and operator's hands before proceeding. Keep fingers clear of any moving parts. Keep fingers clear from fasteners and installed materials. Severe personal injury may result.***
- ***Verify the air lines and/or hydraulic hoses are not a trip hazard.***
- ***Ensure that there are no electrical cables, gas pipes, etc., which can cause a hazard if damaged by the tool.***

WARNING: Do not actuate fastener in the air. Personal injury from fastener ejecting may occur.

WARNING: Air is exhausted from the bottom of the tool. Direct bottom of the tool (exhausted air) away from operator, other persons working in the vicinity, foreign matter and liquid.

WARNING: Do not carry from hoses or use as a hammer.

WARNING: Do not use in explosive atmosphere.

WARNING: Ensure air hose is securely connected to avoid possible hose whipping.

WARNING: Always disconnect air supply when tool is not in use to prevent accidental start-up.

WARNING: Ensure there is adequate clearance for tool and operator hands.

WARNING: Incorrect stroke will damage the nose assembly.

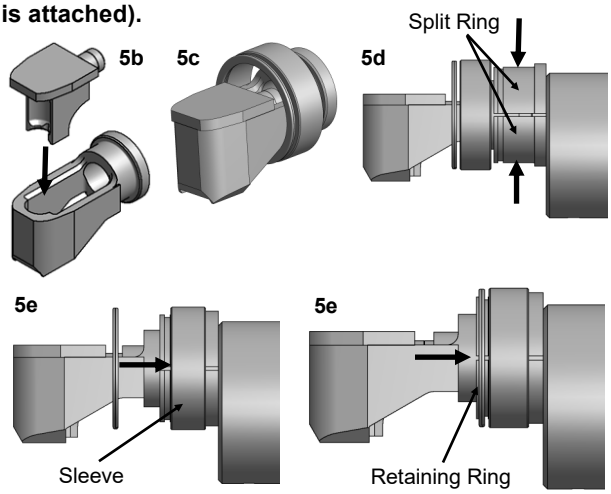
WARNING: Do not dry cycle or actuate tool without fastener in place. Damage to the nose assembly could occur.

CAUTION: Do not use beyond the design intent.

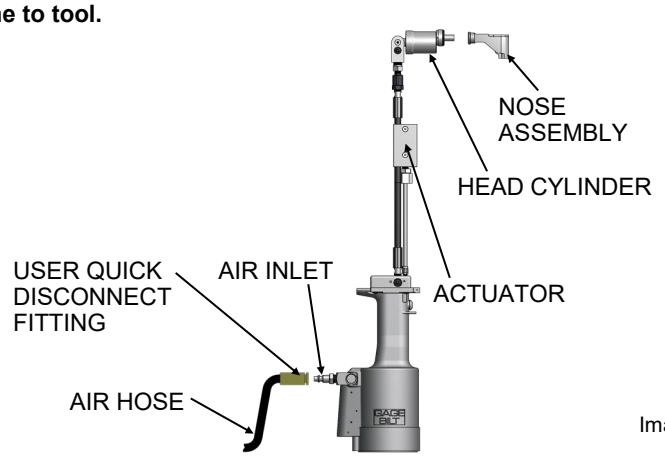
The tool is shipped with a red plastic plug in the air inlet connector. The connector has a 1/4 - 18 female pipe thread to accept user air hose fitting. The tool comes with oil and is ready to use.

1. **Remove red plastic shipping plug from Swivel (A-249) (air inlet) and screw in your quick disconnect (air) fitting.**
2. **Connect tool to air hose with 85 psi. (5.9 bar) min. using clean, dry air. 3/8" (9.52 mm) minimum diameter air line is recommended.**
3. **Set stroke in accordance to nose assembly and fastener. (See checking & adjusting stroke pg. 20). (See WARNINGS listed above regarding incorrect stroke & NOT to dry cycle tool).**
4. **Connect air supply. (Tool must be connected to airline before nose assembly is attached).**
5. **Attach nose assembly. (See WARNING above in red text).**
   - **5a. Remove retaining ring (401493), sleeve (568103) and split-ring (568101). (See pg. 13 for ref.).**
   - **5b. Insert jaw and retainer assembly into stationary jaw.**
   - **5c. Slide retaining ring (401493) first and sleeve (568103) second over the rear side of the stationary jaw. Place assembled nose assembly flush to face of tool while inserting jaw and retainer assembly into piston of tool.**
   - **5d. Place split rings (568101) with the side containing the retaining ring groove around rear of stationary jaw and head cylinder.**
   - **5e. Slide sleeve (568103) over split ring (568101) until it stops, attach retaining ring (401493) into groove of (568101) split ring.**

     (See proper data sheet for further instructions).
6. **Re-connect air line to tool.**



NOTE: The nose assembly must be perpendicular when using as it's important to the life of the nose assembly.



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HOW TO USE THE GB722/568

⚠ WARNING: Only qualified and trained operators shall install, adjust or use the assembly power tool for non-threaded mechanical fasteners.

⚠ WARNING: Operator MUST read and understand all warnings and cautions.

⚠ WARNING: It is required that eye protection, hearing protection and safety boots be worn at all times while handling this equipment.

⚠ WARNING: The users or the user's employer must assess specific risks that could be present as a result after each use based on their application.

- ***Ensure there is adequate clearance for tool and operator's hands before proceeding. Keep fingers clear of any moving parts. Keep fingers clear from fasteners and installed materials. Severe personal injury may result.***
- ***Verify the air lines and/or hydraulic hoses are not a trip hazard.***
- ***Ensure that there are no electrical cables, gas pipes, etc., which can cause a hazard if damaged by the tool.***

⚠ WARNING: Do not actuate fastener in the air. Personal injury from fastener ejecting may occur.

⚠ WARNING: Air is exhausted from the bottom of the tool. Direct bottom of the tool (exhausted air) away from operator, other persons working in the vicinity, foreign matter and liquid.

⚠ WARNING: Do not carry from hoses or use as a hammer.

⚠ WARNING: Do not use in explosive atmosphere.

⚠ WARNING: Ensure air hose is securely connected to avoid possible hose whipping.

⚠ WARNING: Always disconnect air supply when tool is not in use to prevent accidental start-up.

⚠ WARNING: Ensure there is adequate clearance for tool and operator hands.

⚠ WARNING: Incorrect stroke will damage the nose assembly.

⚠ WARNING: Do not dry cycle or actuate tool without fastener in place. Damage to the nose assembly could occur.

⚠ CAUTION: Do not use beyond the design intent.

KRIMPNUTS

1. Insert pin into hole. Mate free-running nut with pin and tighten finger tight to contact material.

   NOTE: If the collar has only one tapered end, that end MUST be out toward tool, not next to sheet.

2. Apply light torque to nut to draw sheets together and remove looseness from joint. (See fastener specs for torque values).

3. Place installation tool on nut. (Internal stop automatically positions crimp jaws).

   NOTE: Hold tool at right angle (90°) to work.

4. Actuate installation tool to press crimp jaws into nut, then release actuator.

5. Remove installation tool from assembled fastener.

6. Use GO-NOGO inspection gages to assure proper crimping. GO-NOGO gages are available to assure proper crimping. Contact Gage Bilt for information.

7. Repeat steps 1 - 6.

DAILY MAINTENANCE

⚠ **WARNING:** Tool must be maintained in a safe working condition at all times and examined on a daily basis for damage or wear. Any repair must be done by qualified personnel trained on Gage Bilt procedures.

⚠ **WARNING:** Excessive contact with hydraulic oil and lubricants must be avoided.

⚠ **WARNING:** Maintenance personnel MUST read and understand all warnings and cautions.

⚠ **WARNING:** Disconnect tool from its power source before performing maintenance, cleaning or when replacing worn or damaged components. Severe personal injury may occur if power source is not disconnected.

⚠ **WARNING:** Read material safety data sheet documents for all applicable materials.

⚠ **WARNING:** Do not dry cycle or actuate tool without fastener in place. Damage to the nose assembly could occur.

⚠ **WARNING:** When attaching nose assembly check that air supply is connected to the tool.

⚠ **WARNING:** Incorrect stroke will damage the nose assembly.

Note:

- Dispose of hydraulic oil in accordance with manufacture safety datasheet.
- All tool materials are recyclable except rubber o'rings, seals and wipers.

The performance of any tool depends upon good maintenance practices. Following these minimal requirements daily will extend the life of your tool.

*** Only use a clean dry air supply set at 90 - 100 p.s.i. (6.2 - 6.9 bar) Max. equipped with a filter-regulator to prevent wear.**

*** Check tool and nose assembly for damage. (Replace/Repair if necessary). See Overhaul pgs. 13 - 15 for tool repair.**

*** Inspect hoses and couplings for wear, damage and leaks. (Replace/Repair if necessary).**

*** Verify that hydraulic hose fittings and couplings, air and electrical connections are secure. Tighten, Replace or Repair if necessary**

*** Cycle the tool several times to assure there are no leaks during use.**

*** Keep hydraulic system free of dirt.**

*** Proper care by operators is necessary in maintaining full productivity and reducing downtime.**

*** Keep nose assemblies, especially jaws, clean and free of chips and debris.**

*** All Screwed End Caps, Base Covers, Air Fittings, Air Actuators, Screws and Nose Assemblies are to be examined at the end of each working shift to check that they are secure.**

*** For a complete overhaul, service tool kit (GB704TK) is recommended. See overhaul pgs. 13 - 15.**

WEEKLY MAINTENANCE

- **Keep the hydraulic system full (only use Dexron® III or equivalent) and free of air by using the air bleeder assembly (704153) on a weekly basis or as needed. (See Filling and bleeding procedure pg. 11).**

SEE TROUBLESHOOTING (PG. 12) AND OVERHAUL (PGS. 13 - 15) FOR FURTHER GUIDANCE.

HYDRAULIC THREAD PREPARATION

IMPORTANT: **Be sure to use thread sealant on all hydraulic fittings, Loctite® 545 or equivalent or a non-hardening Teflon® thread compound such as Slic-tite®. Tighten until fitting feels snug and then continue to tighten 1/2 to 1 full turn.** ***CAUTION:*** **Over tightening can easily distort the threads. DO NOT USE TEFLON® TAPE.** ***CAUTION:*** **Teflon® tape is an excellent thread sealer, however, if it is not properly applied, pieces of Teflon® may enter the hydraulic system and cause a malfunction or damage.**

TORQUE SPECIFICATIONS

Button Head Cap Screws (A-928) = 40 inch lbs. (4.52 Nm).
Packing Plug (704118) = 45 foot lbs. (61 Nm).
Flexlock Nut (400559) = 40 inch lbs. (4.52 Nm).
Button Head Cap Screws (402482) = 35 - 40 inch lbs. (3.95 - 4.52 Nm). ***(Do NOT over-tighten).***

FILLING AND BLEEDING PROCEDURE:

⚠ WARNING: Do not cycle tool without air bleeder assembly (704153), or the screw and stat-o-seal, installed in tool head. Severe personal injury could result.

⚠ WARNING: Use CAUTION when removing screws or the air bleeder assembly (704153). Hydraulic oil may be under pressure.

⚠ CAUTION: Before filling handle assembly (722132), air piston assembly (704121) must be all the way down.

⚠ CAUTION: When forcing piston rod assembly (722133) downward, with head cylinder (568108) removed, hydraulic oil will eject forcibly from tool.

⚠ CAUTION: When bleeding tool, ensure tubing is free from kinks or other obstructions.

Note:

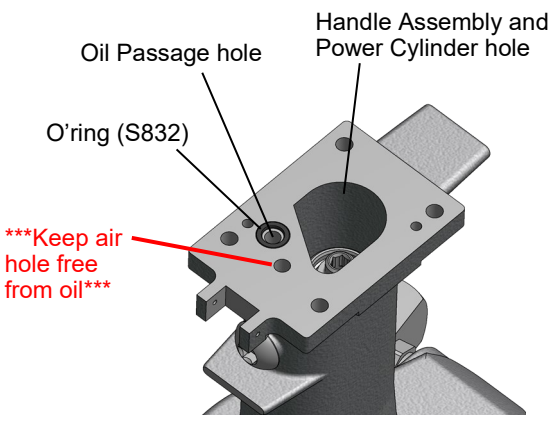
- **Air Bleeder Assembly (704153) (sold separately) is required.**

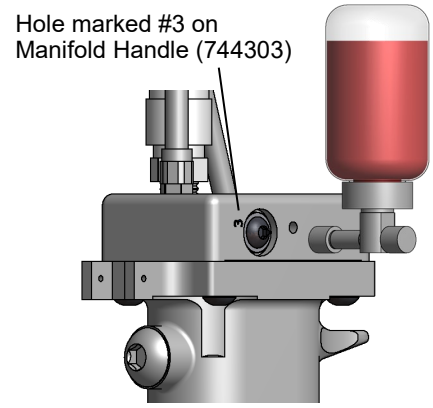
BLEEDING PROCEDURE:

1. **To replace a small amount of oil, DISCONNECT AIR FROM TOOL. Stand handle assembly (722132) on floor, stretch hose and head cylinder (568108) upward and lay flat on a table or bench. When bleeding tool always keep the head cylinder (568108) higher than the handle assembly (722132).**
2. **Remove nose assembly, button head cap screw (402482) and stat-o-seal (S572) from manifold handle (744303-1) hole marked "3".**
3. **Install air bleeder assembly (704153) and connect tool to air line. Cycle ten times holding actuator (704130) down for 2 - 3 seconds between cycles to re-move any air from the tool. DISCONNECT AIR FROM TOOL, remove the air bleeder assembly (704153) and reinstall button head cap screw (402482) and stat-o-seal (S572) on from manifold handle (744303-1). Torque 35 - 40 inch lbs. (3.95 - 4.52 Nm). Do not over tighten.**
4. **Remove button head cap screw (402482) and stat-o-seal (S572) from swivel adapter (568121).**
5. **Install air bleeder assembly (704153) and connect tool to air line. Cycle tool ten times holding actuator (704130) down for 2 - 3 seconds between cycles to re-move any air from the tool. DISCONNECT AIR FROM TOOL, remove the air bleeder assembly (704153) and reinstall button head cap screw (402482) and stat-o-seal (S572) on from manifold handle (744303-1). Torque 35 - 40 inch lbs. (3.95 - 4.52 Nm) Do not over tighten. This will ensure the removal of any air from the hydraulic system and is replaced with oil.**

FILLING PROCEDURE: *(required after tool has been dismantled).*

1. **Place piston rod wrench assembly (704149) in power cylinder (722134) and carefully push piston rod assembly (722133) and air piston assembly (704121) completely down.**
2. **Fill handle assembly (722132), power cylinder (722134) and the oil passage on top of handle assembly (722132) with automatic transmission oil, Dexron® III or equivalent. When looking at the top of the handle assembly (722132), the oil passage is the hole that is counterbored for o'ring (S832). See image below.**
3. **Attach manifold handle (744303-1) to handle assembly (722132) ensuring gasket (704129) and o'ring (S832) are properly installed. Apply Loctite® 242 to button head cap screws (A-928) and torque uniformly to 40 inch lbs. (4.52 Nm) to prevent leakage around gasket (704129).**
4. **Coil tool hoses up on bench and lay handle assembly (722132) down on side so that the hole marked #4 on manifold handle (744303-1) is to the top. Set swivel adapter (568121) over a small bucket or can. Completely fill up fill bottle (745263). Remove button head cap screw (402482) and stat-o-seal (S572) from both swivel adapter (568121) and manifold handle (744303-1) hole marked "4".**
5. **Attach fill bottle (745263) to manifold handle (744303-1) hole marked "4" and in one continuous squeeze force oil into manifold-handle (744303-1) until oil starts to flow from bleeder hole on swivel adapter (568121). While still squeezing the fill bottle (745263), use other hand to replace button head cap screw (402482) and stat-o-seal (S572) on swivel adapter (568121) and torque to 35 - 40 inch lbs. (3.95 - 4.52 Nm). Do not over tighten. This may require two people.**
6. **Proceed to bleeding procedure above to remove any air from hydraulic system.**





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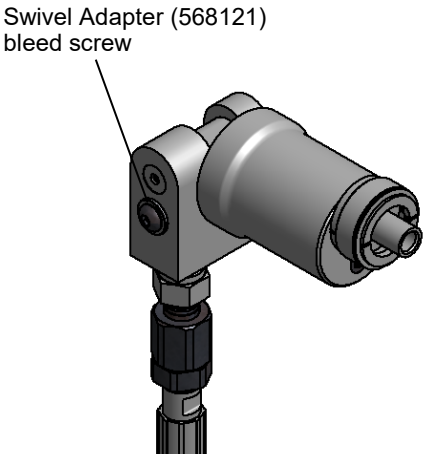


TROUBLESHOOTING

Providing all maintenance conditions have been met, follow this systematic approach to diagnosis.

1. **NO OPERATION WHEN ACTUATOR ASSEMBLY-AIR (704130) IS DEPRESSED.**
   - a) **Air connection may be loose or damaged.**
   - b) **Faulty Actuator. Replace.**
   - c) **Check hydraulic fittings; tighten, repair or replace.**

2. **SLOW OR PARTIAL OPERATION WHEN ACTUATOR ASSEMBLY-AIR (704130) IS DEPRESSED.**
   - a) **Back-up ring (401094) or o'ring (A-262) on the head piston (568109) could be worn or damaged. Replace.**
   - b) **O'rings (A-914) and back-up ring (731134) on piston rod assembly (722133) could be worn or damaged. Replace.**
   - c) **Muffler (704146) or filter inside valve spool assembly (703142) may be plugged with dirt. Clean thoroughly and back-blow with compressed air.**
   - d) **Hole in metering screw in valve spool assembly (703142) may be blocked or damaged. Hole diameter should be .028" (.71 mm). Clear and size or replace.**
   - e) **Excessive wear or scoring on moving parts. Check and replace faulty parts.**

3. **TOOL OPERATES IN REVERSE.**
   - a) **Check that tool is properly connected to pull side of power source.**

4. **NO OPERATION WHEN ACTUATOR ASSEMBLY-AIR (704130) IS DEPRESSED.**
   - a) **Tool seized due to mechanical failure or damaged parts.**

5. **OIL LEAKAGE.**
   - a) **DO NOT OPERATE WITH OIL LEAKING FROM TOOL. HIGH PRESSURE OIL MAY CAUSE SEVERE PERSONAL INJURY.**
   - b) **Oil leaks from tool. Determine source of leak and replace worn or defective o'rings and back-up rings.**

6. **AIR BYPASS FROM VALVE HOUSING.**
   - a) **If the spring (704141) breaks or dislodges, air will flow freely through the muffler (704146). Replace or reset. Valve spring installation tool assembly (704262) is recommended.**
   - b) **Check o'rings on valve sleeve (703139), valve spool assembly (703142), and valve plug (704145). If worn or damaged, replace. Valve sleeve removal tool assembly (704163) is recommended.**

7. **COLLAR OF HUCKRIMP® FASTENER NOT SWAGED COMPLETELY.**
   - a) **Tool operating improperly (see above troubleshooting).**
   - b) **Scored anvil.**
   - c) **Improper stroke. (See setting stroke below).**

8. **TOOL "HANGS UP" ON SWAGED COLLAR OF HUCKRIMP FASTENER.**
   - a) **Tool operating improperly (see above troubleshooting).**
   - b) **Check that tool is returning properly. Spring (568105) may be worn. Replace**

⚠ **WARNING: Never actuate/dry cycle the tool with nose assembly attached unless a fastener is positioned in the nose assembly.**

⚠ **WARNING: Incorrect stroke will damage the nose assembly.**

SETTING AND ADJUSTING STROKE

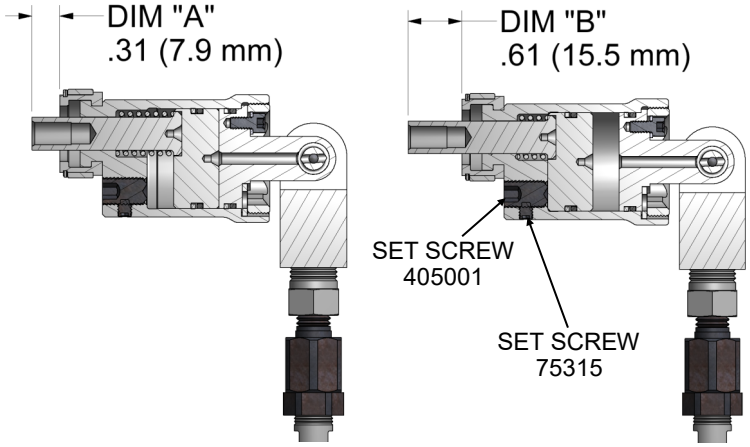
Note: The tool stroke is factory set at .100" (2.54 mm). Recommended stroke point for 5/32", 3/16" and 1/4" is .100" (2.5 mm). When adjusting stroke remove nose assembly.

To adjust stroke: (See WARNINGS above).

1. **Adjust the stroke based on fastener size and manufacturers crimp specifications.**
2. **Loosen the set screw (75315).**
3. **Then turn the set screw (405001) clockwise to decrease the stroke and counter clockwise to increase the stroke.**
4. **After desired stroke is set, tighten set screw (75315) to lock.**
5. **Check crimped fastener with GO/NOGO gage to determine if a fine adjustment is required.**
6. **Fine adjustments should be done by 1/8 to 1/4 turns until desired diameter is achieved.**

To set stroke: (See WARNINGS above).

1. **Using a pair of dial calipers, measure "A" dimension.**
2. **Holding in actuator, measure "B" dimension.**
3. **Subtracting "A" dimension from "B" dimension equals stroke.**



OVERHAUL

⚠ WARNING: Only qualified and trained personnel shall perform overhaul.

⚠ WARNING: Personnel must read and understand all warnings and cautions.

⚠ WARNING: Tool must be maintained in a safe working condition at all times and examined on a daily basis for damage or wear. Any repair must be done by qualified personnel trained on Gage Bilt procedures.

⚠ WARNING: Disconnect tool from its power source before performing overhaul. Severe personal injury may occur if power source is not disconnected.

⚠ WARNING: Excessive contact with hydraulic oil and lubricants must be avoided (See safety data sheet documents for all applicable materials).

⚠ WARNING: When operating, repairing or overhauling tool, wear approved eye protection. Do not look in front of tool or rear of tool when installing fastener.

⚠ WARNING: Ensure air hose is securely connected to avoid possible hose whipping (Air Actuated Tools only).

⚠ WARNING: Depress actuator assembly-air (704130) and disconnect from air, with the piston in the rear position, before overhaul. Severe personal injury may occur if air hose is not disconnected. USE CAUTION when forcing piston rod assembly downward with head cylinder removed. Hydraulic oil will eject forcibly from handle assembly.

⚠ WARNING: Use only Gage Bilt hydraulic hoses and couplings, or equivalent, rated for 10,000 psi. (689.5 bar) working pressure.

⚠ WARNING: Ensure air hose is securely connected to avoid possible hose whipping (Air Actuated Tools only).

⚠ WARNING: Do not dry cycle or actuate tool without fastener in place. Damage to the nose assembly could occur.

⚠ WARNING: Incorrect stroke will damage the nose assembly.

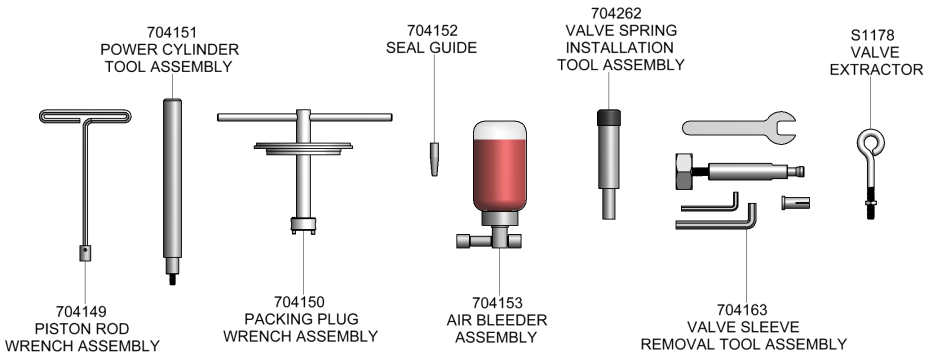
Note:

- **Dispose of hydraulic oil in accordance with manufacture safety datasheet.**
- **All tool materials are recyclable except rubber o'rings, seals and wipers.**
- **It is recommended that service tool kit (GB704TK) (see below) be used to facilitate overhaul.**
- ***Use of SERVICE KIT (722568), which contains a complete set of o'rings, back-up rings, screws, washers and gasket, can achieve a complete overhaul.***

Perform overhaul in a clean, well lit area using care not to scratch or nick any smooth surface that comes in contact with an o'ring. Use of Lubriplate® (Gage Bilt part no. 402723) or other lubricant is recommended during reassembly to prevent tearing or distorting of o'rings.

The disassembly and re-assembly procedure can be accomplished by utilizing the following instructions and parts lists on pgs. 13 - 17. Use extreme care during disassembly and re-assembly not to mar or nick any smooth surface that comes in contact with seals. Before installing seals, always apply a good lubricant, such as Lubriplate, to the surfaces.

Clean parts in mineral spirits or other o'ring compatible solvent being sure to clean o'ring grooves. Inspect components for scoring, excessive wear or damage.



GB704TK Service Tool Kit Includes:

Part No.	Description
704149	Piston Rod Wrench Assembly
704151	Power Cylinder Tool Assembly
704150	Packing Plug Wrench Assembly
704152	Seal Guide
704153	Air Bleeder Assembly
704262	Valve Spring Installation Tool Assembly
704163	Valve Sleeve Removal Tool Assembly
S1178	Valve Extractor

TOOL DISPOSAL

1. **When tool life is met, drain hydraulic oil from tool and dispose of the hydraulic oil in accordance with material safety datasheet.**
2. **Disassemble tool and remove all rubber o'rings, seals, wipers and hydraulic hoses. All tool materials are recyclable except rubber o'rings, seals, wipers and hydraulic hoses. Dispose of rubber materials in accordance with the safety data sheet.**

OVERHAUL

⚠ WARNING: Only qualified and trained personnel shall perform overhaul.

⚠ WARNING: Personnel must read and understand all warnings and cautions.

⚠ WARNING: Tool must be maintained in a safe working condition at all times and examined on a daily basis for damage or wear. Any repair must be done by qualified personnel trained on Gage Bilt procedures.

⚠ WARNING: Disconnect tool from its power source before performing overhaul. Severe personal injury may occur if power source is not disconnected.

⚠ WARNING: Excessive contact with hydraulic oil and lubricants should be avoided. (See safety data sheet documents for all applicable materials).

⚠ WARNING: When operating, repairing or overhauling tool, wear approved eye protection. Do not look in front of tool or rear of tool when installing fastener.

⚠ WARNING: Ensure air hose is securely connected to avoid possible hose whipping. (Air Actuated Tools only).

⚠ WARNING: Depress actuator assembly-air (704130) and disconnect from air, with the piston in the rear position, before overhaul. Severe personal injury may occur if air hose is not disconnected. USE CAUTION when forcing piston rod assembly downward with head cylinder removed. Hydraulic oil will eject forcibly from handle assembly.

⚠ WARNING: Use only Gage Bilt hydraulic hoses and couplings, or equivalent, rated for 10,000 psi. (689.5 bar) working pressure.

⚠ WARNING: Ensure air hose is securely connected to avoid possible hose whipping (Air Actuated Tools only).

⚠ WARNING: Do not dry cycle or actuate tool without fastener in place. Damage to the nose assembly could occur.

⚠ WARNING: Incorrect stroke will damage the nose assembly.

Note:

- **Dispose of hydraulic oil in accordance with manufacture safety datasheet.**
- **All tool materials are recyclable except rubber o'rings, seals and wipers.**
- ***Use of SERVICE KIT (722568), which contains a complete set of o'rings, back-up rings, screws, washers and gasket, can achieve a complete overhaul.***

If a tool is performing poorly or leaking, a complete overhaul may be necessary.

Perform overhaul in a clean, well lit area using care not to scratch or nick any smooth surface that comes in contact with an o'ring. Use Lubriplate® #630-AA (Gage Bilt part no. 402723) or equivalent during reassembly to prevent tearing or distorting of o'rings.

1. **Disconnect airline (704311) from manifold handle (744303-1).**
2. **Disconnect hydraulic hose (206119) from manifold handle (744303-1) and drain into a container.**
3. **Push piston rod (568104) rearward until remaining hydraulic oil is drained. Remove button head cap screw (402482) and stat-o seal (S572). Remove retaining ring (400935) and push pin-swivel assembly (568122) out.**
4. **Unscrew socket head cap screw (401198) from retainer (568119) using a spanner wrench to remove retaining ring.**
5. **Pull cap-cylinder (568112) from rear of head cylinder (568108). Remove nose assembly.**
6. **Push piston rod (568104) rearward until it, spring (568105) and head piston (568109) is out of head cylinder (568108).**
7. **Remove all O'rings and Back-up rings. Clean parts in mineral spirits or other o'ring compatible solvent being sure to clean o'ring grooves. Inspect components for scoring, excessive wear or damage.**
8. **Reassembly sequence is opposite of disassembly. Be sure relative positions of o'rings and back-up rings are as shown in exploded view and part list.**

Coat hose fitting threads with a non-hardening Teflon® thread compound such as Slic-tite®. DO NOT USE TEFLON® TAPE. (*See hydraulic thread preparation pg.10)*.

OVERHAUL

⚠ **WARNING: Disconnect tool from its air source before disassembly.**

HANDLE

To inspect air cylinder bore, remove base cover (704125). Any further disassembly will require removal of the head cylinder assembly (752119) first.

For complete disassembly.

1. **Remove base cover (704125).**
2. **Holding tool upright, remove four button-head cap screws (A-928). Lift head cylinder assembly (752119) from handle assembly (722132) and set aside o'ring (S832) and gasket (704129).**
3. **Empty all hydraulic oil into an approved container and dispose of in accordance with the material safety datasheet.**
4. **Place piston rod wrench assembly (704149) down into top of power cylinder (722134) and into the hex of piston rod assembly (722133). While holding the piston rod wrench assembly (704149), remove flexlock nut (400559) using a 7/16" socket / adjustable wrench. Still holding piston rod wrench assembly (704149), remove air piston assembly (704121) using packing plug wrench assembly (704150), by turning counterclockwise.**
5. **When air piston assembly (704121) is completely free from piston rod assembly (722133), tap or push on the piston rod wrench assembly (704149) to eject air piston assembly (704121) from bottom of handle assembly (722132).**
6. **After removal of air piston assembly (704121), slide piston rod assembly (722133) back up to the end of its travel. Using packing plug wrench assembly (704150) remove packing plug (704118).**
7. **With packing plug (704118) removed, power cylinder (722134) can be removed by pushing on power cylinder tool assembly (704151) when inserted into top of power cylinder (722134).**

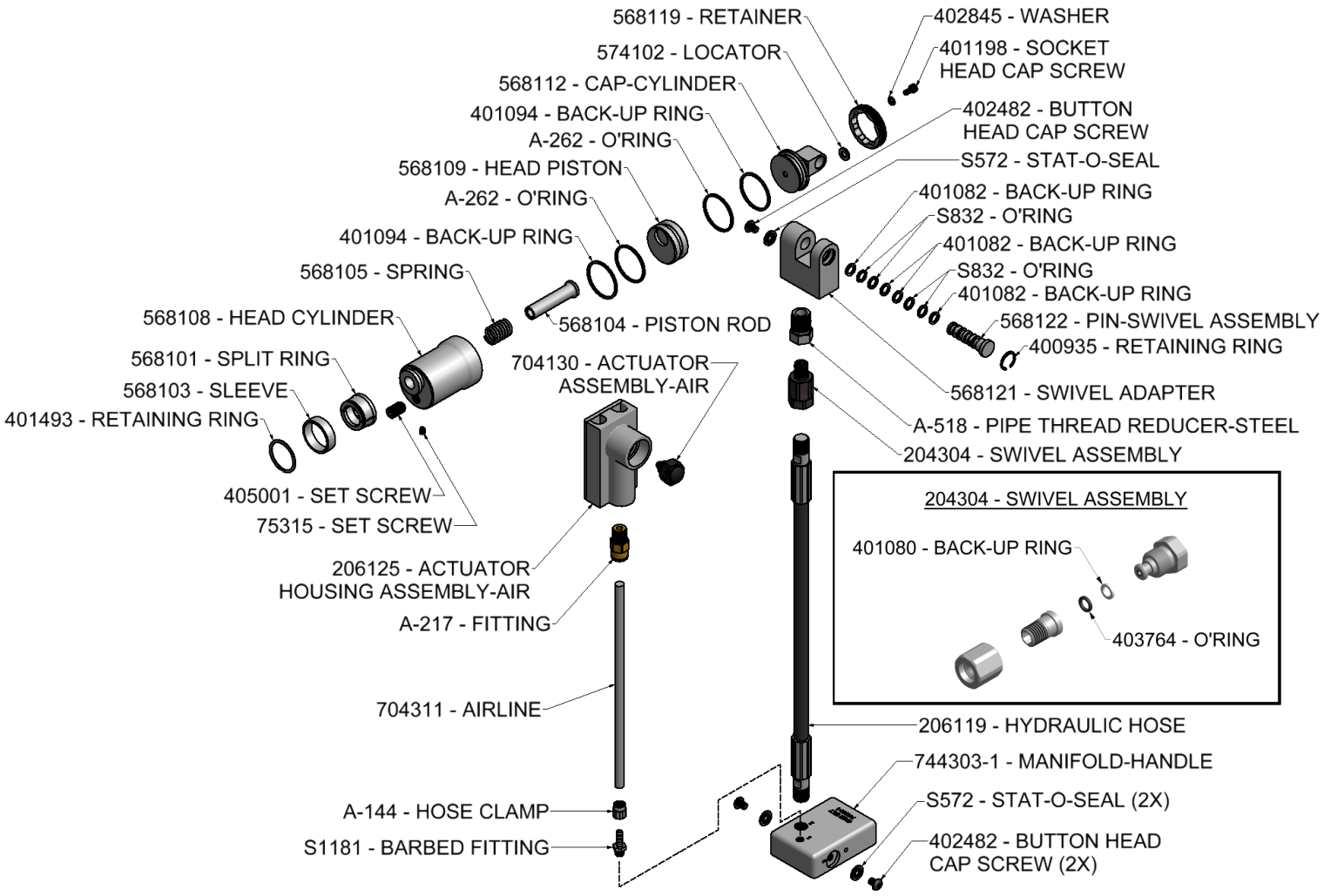
To reassemble the handle assembly (722132).

1. **Reverse the above procedure, being certain that all o'rings are properly lubricated before installation. Torque packing plug (704118) to 45 foot lbs. (61 Nm).**
2. **Attach the seal guide (704152) to the piston rod assembly (722133) and tap the piston rod assembly (722133) through the packing plug (704118).**
3. **Attach air piston assembly (704121) and flexlock nut (400559). Torque flexlock nut to 40 inch lbs. (4.52 Nm).**
4. **Attach air piston assembly (704121) to piston rod assembly (722133).**
5. **With the piston rod in the down position, fill oil passage on top of handle assembly (722132) with automatic transmission oil, Dexron® III or equivalent. When looking at top of handle assembly (722132) the oil passage is the hole that has a counterbore for (S832) o'ring.**
6. **Replace gasket (704129) and o'ring (S832), just prior to replacing head cylinder assembly (752119). Torque all screws to manual specifications. (See Filling and Bleeding procedure pg. 11) & (See torque specifications on pg. #10).**

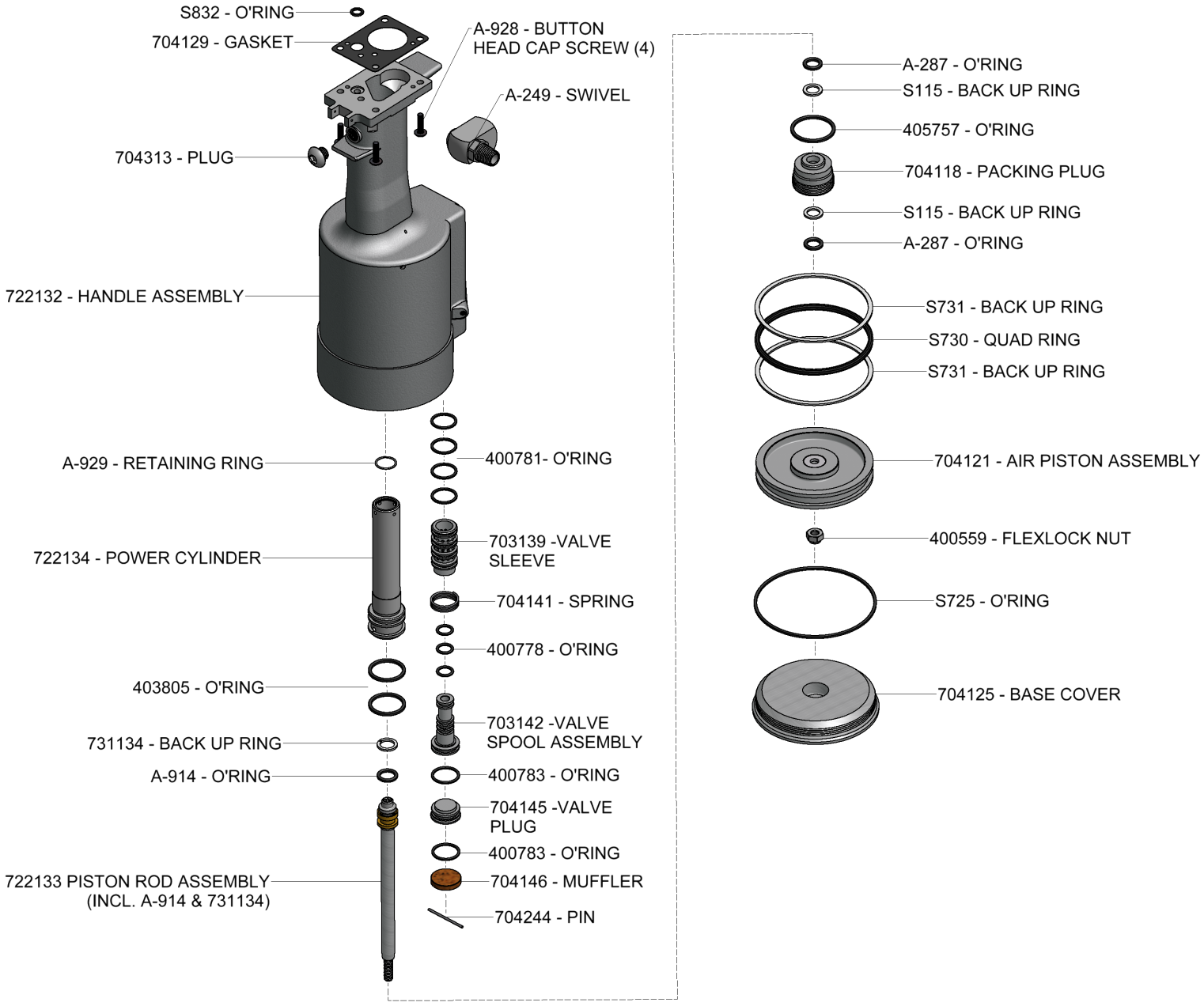
AIR VALVE

1. **Remove pin (704244) and muffler (704146).**
2. **Insert valve extractor (S1178) into end of valve plug (704145) and pull it out.**
3. **Using the same procedure, pull out valve spool assembly (703142).**
4. **It should never be necessary to remove valve sleeve (703139) unless the ports in the valve sleeve (703139) are plugged from contaminated air. If ports are plugged, use needle nose pliers to grasp end of spring (704141), turning clockwise and pulling to dislodge from groove in casting. Valve spring installation tool assembly (704262) will facilitate the proper installation of the spring (704141).**
5. **Valve sleeve (703139) can be pulled out using valve sleeve removal tool assembly (704163).**

PARTS LIST


568119 - RETAINER
402845 - WASHER
574102 - LOCATOR
401198 - SOCKET HEAD CAP SCREW
568112 - CAP-CYLINDER
401094 - BACK-UP RING
402482 - BUTTON HEAD CAP SCREW
A-262 - O'RING
S572 - STAT-O-SEAL
568109 - HEAD PISTON
A-262 - O'RING
401082 - BACK-UP RING
S832 - O'RING
401094 - BACK-UP RING
401082 - BACK-UP RING
568105 - SPRING
S832 - O'RING
401082 - BACK-UP RING
568108 - HEAD CYLINDER
568104 - PISTON ROD
568122 - PIN-SWIVEL ASSEMBLY
400935 - RETAINING RING
568101 - SPLIT RING
704130 - ACTUATOR ASSEMBLY-AIR
568121 - SWIVEL ADAPTER
568103 - SLEEVE
401493 - RETAINING RING
A-518 - PIPE THREAD REDUCER-STEEL
204304 - SWIVEL ASSEMBLY
405001 - SET SCREW
75315 - SET SCREW
204304 - SWIVEL ASSEMBLY
401080 - BACK-UP RING
403764 - O'RING
206125 - ACTUATOR HOUSING ASSEMBLY-AIR
A-217 - FITTING
704311 - AIRLINE
206119 - HYDRAULIC HOSE
744303-1 - MANIFOLD-HANDLE
A-144 - HOSE CLAMP
S572 - STAT-O-SEAL (2X)
S1181 - BARBED FITTING
402482 - BUTTON HEAD CAP SCREW (2X)

PARTS LIST


S832 - O'RING
704129 - GASKET
A-928 - BUTTON HEAD CAP SCREW (4)
A-249 - SWIVEL
704313 - PLUG
722132 - HANDLE ASSEMBLY
A-929 - RETAINING RING
400781- O'RING
722134 - POWER CYLINDER
703139 -VALVE SLEEVE
704141 - SPRING
400778 - O'RING
403805 - O'RING
731134 - BACK UP RING
703142 -VALVE SPOOL ASSEMBLY
A-914 - O'RING
400783 - O'RING
704145 -VALVE PLUG
400783 - O'RING
722133 PISTON ROD ASSEMBLY (INCL. A-914 & 731134)
704146 - MUFFLER
704244 - PIN
A-287 - O'RING
S115 - BACK UP RING
405757 - O'RING
704118 - PACKING PLUG
S115 - BACK UP RING
A-287 - O'RING
S731 - BACK UP RING
S730 - QUAD RING
S731 - BACK UP RING
704121 - AIR PISTON ASSEMBLY
400559 - FLEXLOCK NUT
S725 - O'RING
704125 - BASE COVER

FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.
Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

FIRE

Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (e.g. open flame, pilot lights, sparks, or electric arcs).

FLAMMABLE PROPERTIES:
Flashpoint: (Cleveland Open Cup) 178 °C (352 °F) Minimum

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

ECOLOGICAL INFORMATION

Waste disposal: In accordance with all environmental regulations applicable to your area.

Spillage: Prevent entry into drains, sewers and water course. Soak up with diatomaceous earth or other inert material. Store in appropriate container for disposal.

Ecotoxicity: This material is expected to be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

HANDLING

Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed. Keep out of the reach of children.
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations.

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GB722/568 ACCESSORIES

Approved for use on Gage Bilt CE installation tools and/or other manufacturer's CE approved tools of similar design.
(Sold Separately)

NOSE ASSEMBLY SELECTION CHART

FASTENER	DIAMETER	STRAIGHT
NAS4445	5/32"	KS05-568-11
NAS4450	3/16"	KS06-568-11

GAGE BILT CERTIFIES THE GB722/568 WILL INSTALL THE ABOVE FASTENERS 11/21

The GB722/568 installation tool is suitable for installing only 5/32" & 3/16" HUCKRIMP® (Krimpnuts) with 85 psi (5.9 bar) min. required.

DEXRON® IS A REGISTERED TRADEMARK OF GENERAL MOTORS CORPORATION. LUBRIPLATE® IS A REGISTERED TRADEMARK OF FISKE BROTHERS REFINING CO. LOCTITE® IS A REGISTERED TRADEMARK OF HENKEL CORPORATION. TEFLON® IS REGISTERED TRADEMARK OF E.I. DUPONT DE NEMOURS & CO. SLIC-TITE® IS A REGISTERED TRADEMARK LA-CO INDUSTRIES. HUCK-KRIMP® AND HUCK® ARE REGISTERED TRADMARKS OF HOWMET AEROSPACE.