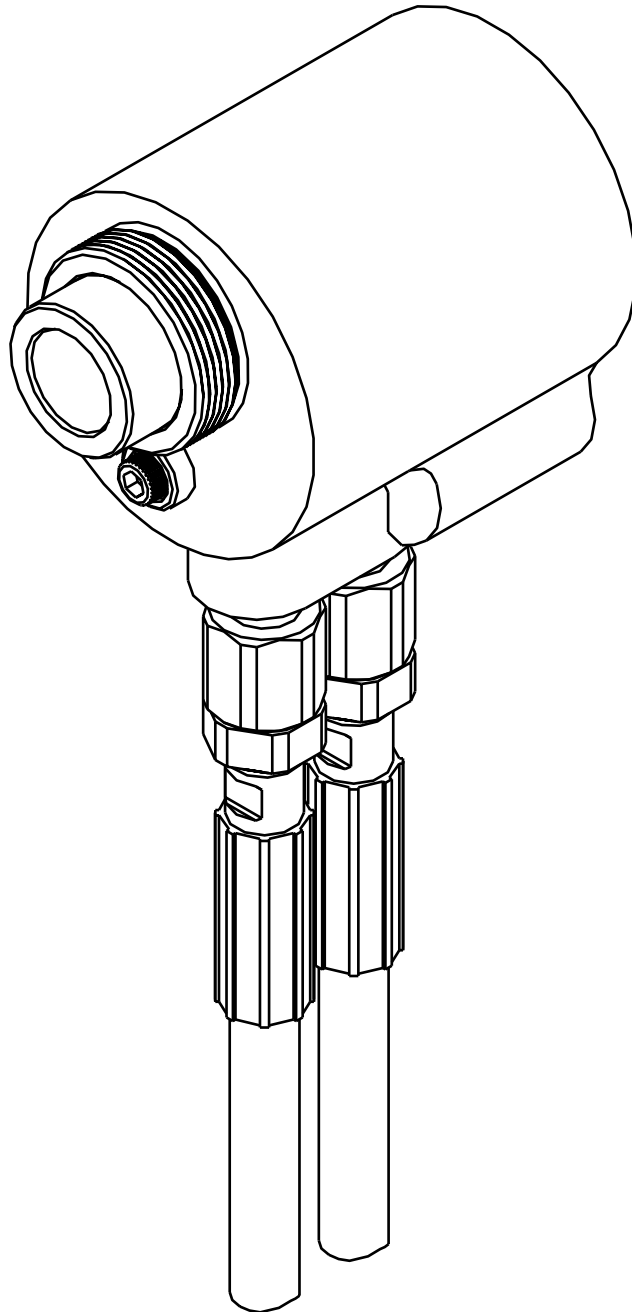


GB205

GB205A

HYDRAULIC INSTALLATION TOOL



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

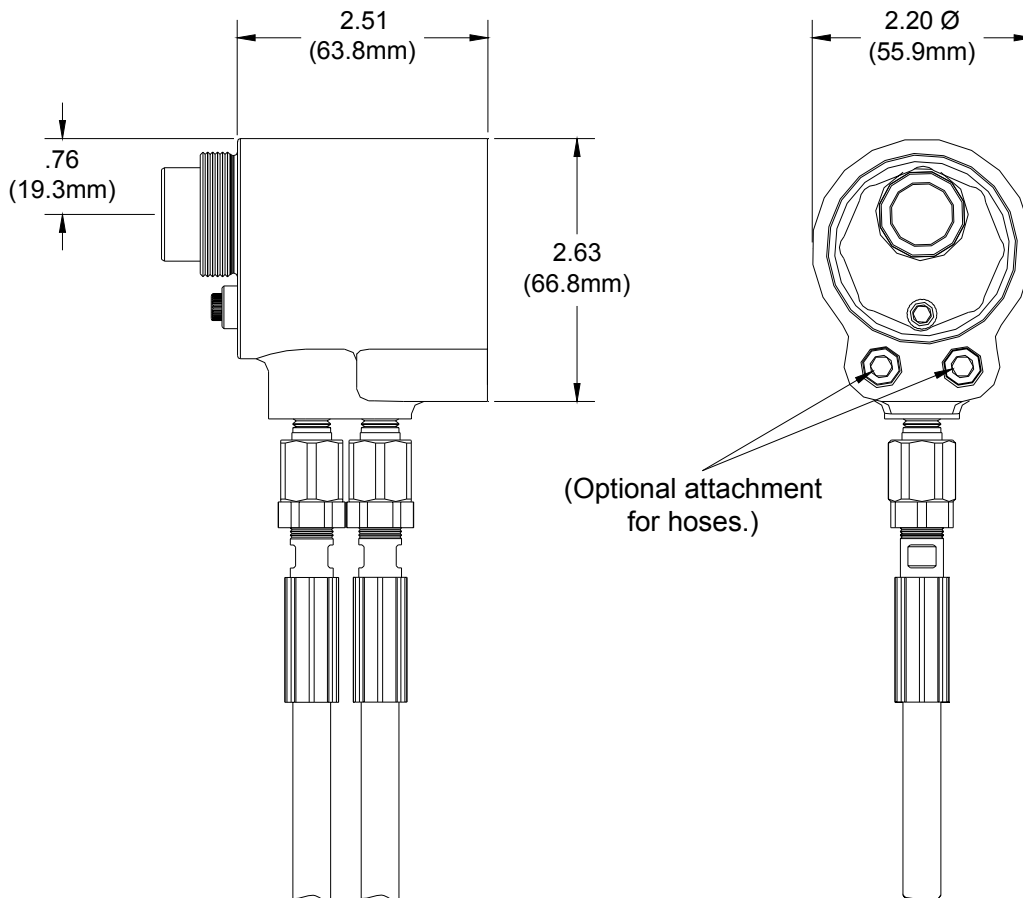
GAGE BILT
MADE IN U.S.A.

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SPECIFICATIONS

Weight	- 4 lbs. (1.81kg)
Hyd. Pressure Req'd.	- 5400 –5600 psi (372-3 - 386.1 bar) PULL 2200 –2400 psi (151.7- 165.5 bar) RETURN
Hyd. Power Source	- GB910 or GB940 Powerunit or equivalent.
Hydraulic Fluid	- Fire resistant hydraulic fluid conforming with OSHA regulation 1926.302.
Setting Stroke	- .750" (19.1mm)
Rated Pull Load	- 10,000 lbs. (44.5 kN)

SAFETY WARNINGS



NOTE:

PLEASE READ THIS MANUAL BEFORE SERVICING OR USING THIS TOOL.
REVIEW ALL WARNINGS AND CAUTIONS TO PREVENT
SEVERE PERSONAL INJURY OR DAMAGE THE TOOL.



WARNING

Do not pull fastener unless it is placed in an assembly, pin will eject forcibly when pintail breaks off. Severe personal injury may result.

WARNING

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

WARNING

Do not operate if deflector, bottle, catcher bag or vacuum tube is removed or damaged, broken pintails may eject forcibly from rear of tool. Severe personal injury may result.

CAUTION

Keep Nose Assemblies clean and free of chips and debris.

CAUTION

Do not use beyond the design intent.

WARNING

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

WARNING

Where prolonged use is foreseen, it is recommended a tool balancer be used. Check suspension device to ensure that it is secure.

WARNING

Do no use tool in explosive atmosphere.

WARNING

Shock:

It is recommended operator wear a suitable glove during operation where prolonged use is expected.

WARNING

Always disconnect tool from power before performing any maintenance to any tool or nose assembly. Ensure that all connections are proper and there are no visible leaks from tool or hoses before connecting to power.

CAUTION

Ensure that nose assembly and tip are properly matched for the fastener being installed.

WARNING

Be sure 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.

WARNING

It is required to use hearing protection. A test was carried out in a simulated work environment where the background level was 73.2 DBA. In this condition the max level was 81.5 DBA. Therefore, it is required where prolonged use, hearing protection be used.

WARNING

Risk of crushing exists if nose assembly is not attached.

WARNING

It is recommended tool be operated 50 out of every 60 minutes, where prolonged use is expected.

CAUTION

Tool is not to be used as a hammer.

DESCRIPTION

WARNING: The balance of this tool is designed for horizontal use and is not ergonomically best suited for all applications. Gage Bilt will be pleased to advise for your specific application.

The GB205 and GB205A are hydraulic installation tools designed specifically for the efficient installation of a wide range of blind rivet, lockbolt fasteners thru 3/8" diameter., and installation of interference fit Hi-Lite® pins. They provide a high power to weight ratio enabling one hand installation at production speed. They weigh just under 4 lbs. (1.81 kg) and can be operated in any position with one hand. They have a .750 (19.1 mm) rivet setting stroke and a rated pull load of 10,000 lbs. (44.5 kN).

The GB205 installation tool operates on hydraulic pressure developed by the GB940 Powerunit set at 5600 psi. (386.1 bar) maximum PULL pressure and 2400 psi (165.5 bar) maximum RETURN pressure. The tool comes equipped with a 12' hydraulic hose with quick disconnects and a electric control cord assembly .

The GB205A installation tool operates on hydraulic pressure developed by the GB910 Powerunit set at 5600 (386.1 bar) psi maximum PULL pressure and 2400 psi (165.5 bar) maximum RETURN pressure. The tool comes equipped with a 12' hydraulic hose with quick disconnects and a air line assembly.

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

PRINCIPLE OF OPERATION

WARNING: OPERATOR **MUST** READ AND UNDERSTAND ALL WARNINGS AND CAUTIONS.

WARNING: IT IS REQUIRED THAT EYE PROTECTION AND HEARING PROTECTION BE WORN DURING OPERATION.

WARNING: DO NOT PULL RIVET IN THE AIR. PERSONAL INJURY FROM FASTENER EJECTING MAY OCCUR.

CAUTION: DO NOT USE BEYOND THE DESIGN INTENT.

WARNING: DO NOT BEND TOOL IF STUCK ON FASTENER.

CAUTION: BE SURE THERE IS ADEQUATE CLEARANCE FOR TOOL AND OPERATOR'S HANDS BEFORE PROCEEDING AS SEVERE PERSONAL INJURY MAY RESULT.

WARNING: DO NOT PULL PIN UNLESS INSERTED IN SHEET. SEVERE PERSONAL INJURY MAY RESULT.

CAUTION: HYDRAULIC POWER UNITS THAT DELIVER HIGH PRESSURE FOR THE "PULL" AND "RETURN" AND ARE NOT EQUIPPED WITH RELIEF VALVES ARE SPECIFICALLY NOT RECOMMENDED AND MAY BE DANGEROUS.

WARNING: BE SURE POWERUNIT IS DISCONNECTED BEFORE CLEANING, OR WHEN REPLACING WORN OR DAMAGED COMPONENTS. SEVERE PERSONAL INJURY MAY OCCUR IF POWER SOURCE IS NOT DISCONNECTED.

When the tool is connected to a powerunit, operation is controlled by a actuator to the hydraulic hoses. The GB205A incorporates an air actuator to send a signal; the GB205 an electric actuator. When the button is depressed, a directional valve in the powerunit directs fluid to the front side of the piston forcing it and the nose assembly collet rearward. This action causes the jaws to clamp on the fastener pintail and pull the sheets together. The anvil is forced over the collar, swaging it into locking grooves of the fastener. Further force breaks the pintail off, approximately flush with the collar.

When the piston nears the end of its stroke it exposes flats on the back of the unloading valve. These flats "dump" fluid back to the powerunit tank. When the button is released the directional valve reverses fluid flow to the back of the piston and pushes the nose assembly off of the swaged fastener. The spent pintail is released and drops out the back of the tool.

- Note: Gage Bilt does not recommend using a pneumatic lubricator or adding pneumatic oil to the air inlet on our tools or powerunits.

MAINTENANCE

WARNING: Excessive contact with hydraulic fluid and lubricants should be avoided.

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

The performance of any tool depends upon the practice of good maintenance.

Following these minimal requirements for service and care will extend the life of your tool.

- *Only use a hydraulic power source equipped with relief valves and pressures set within specified
- *Keep hydraulic system free of dirt. Avoid letting couplers contact a dirty floor.
- *Do not use as a hammer to force fasteners into holes or otherwise abuse tool.
- *Proper care by operators is necessary in maintaining full productivity and reducing down time.
- *Keep nose assemblies, especially jaws, clean and free of chips and debris. Lube jaws and collet surfaces that jaws ride on with light machine oil on a daily basis.
- *All Screwed End Caps, Base Covers, Air Fittings, Actuators, Screws and Nose Assemblies are to be examined at the end of each working shift to check that they are secure.
- *Check daily all Hoses, Couplings, and Tools for damage or air/hydraulic leaks. Tighten or replace (if necessary).

HYDRAULIC THREAD PREPARATION

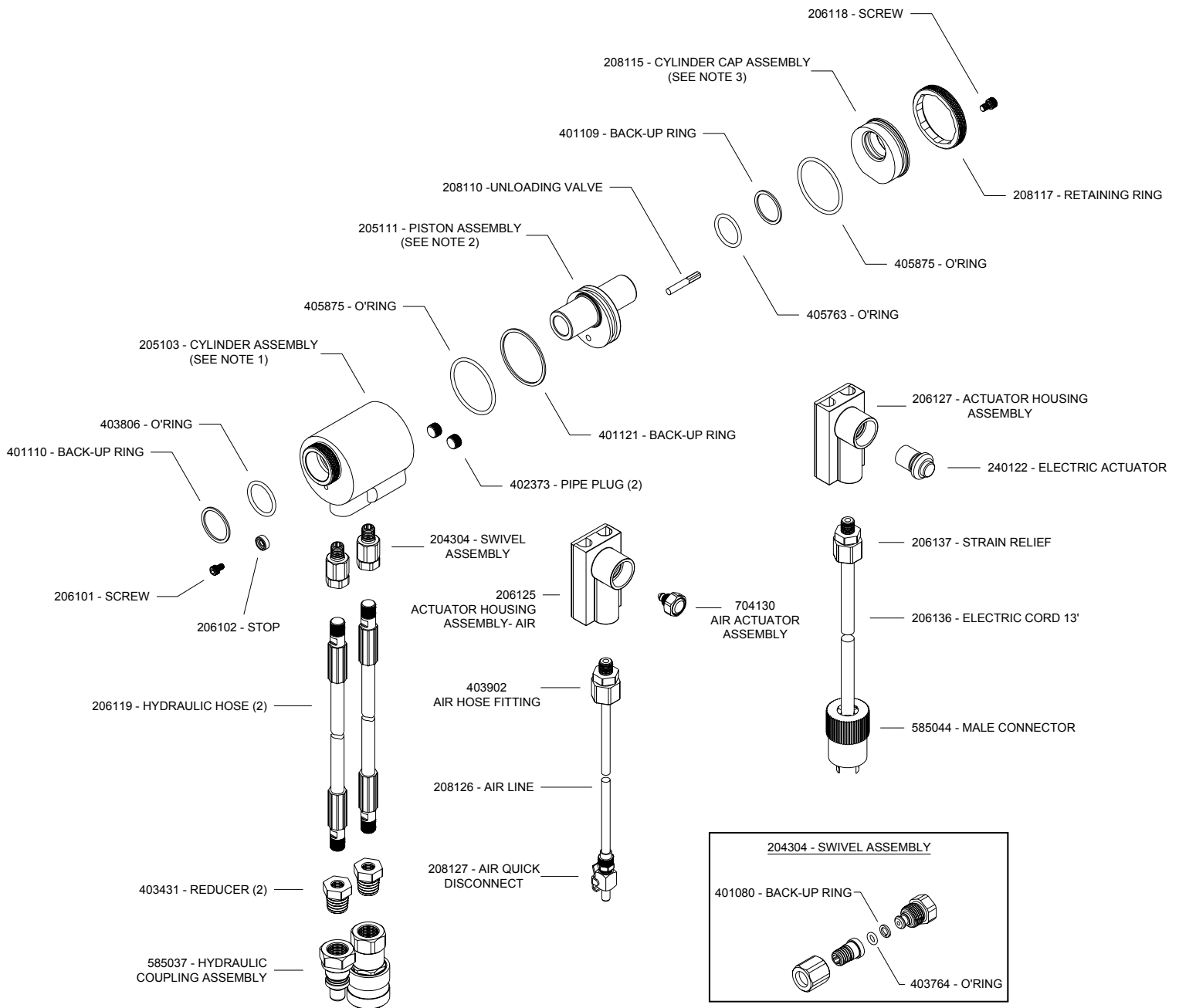
IMPORTANT: Be sure to use thread sealant on all hydraulic fittings, Loctite® 30534 or similar Teflon® infused pipe dope is recommended. **CAUTION:** Teflon tape is an excellent thread sealer. If it not properly applied, however, pieces may enter the hydraulic system and cause malfunction and damage. Use 1 1/2 wraps of tape on each thread. Cut off all loose tape ends. Tighten until fitting feels snug and then go 1/2 to a full turn past that point. **CAUTION:** Over tightening can easily distort the threads.

TROUBLE SHOOTING

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

1. NO OPERATION WHEN ACTUATOR IS DEPRESSED
 - a.) Check powerunit power source.
 - b.) Control cord may be loose or damaged.
 - c.) Faulty actuator. Replace.
 - d.) Check hydraulic couplings; tighten, repair or replace.
2. SLOW OR PARTIAL OPERATION WHEN ACTUATOR IS DEPRESSED
 - a.) Low hydraulic pressure. Check powerunit, adjust.
 - b.) Cylinder Piston O'Ring (7) could be worn or damaged. Replace.
 - c.) Solenoid pin in directional valve on powerunit worn or peened over. Replace.
 - d.) Excessive wear or scoring on moving parts. Check and replace faulty parts.
3. TOOL OPERATES IN REVERSE
 - a.) Tool stops in back position. Hydraulic hoses are reversed. Correct.
4. HYDRAULIC OIL OVERHEATS
 - a.) Powerunit motor rotation reversed. Electrical connections reversed. See powerunit instruction manual.
 - b.) Restrictions in either hydraulic lines, hoses or couplings. Check and tighten, clean or replace.
5. OIL LEAKAGE
 - a.) Hydraulic oil leaks from connections. Tighten threaded connections. Do not use Teflon® tape.
 - b.) Oil leaks from tool. Determine source of leak and replace worn or defective o-rings and back-up rings.
6. PINTAIL GROOVES STRIPPED DURING PULL STROKE
 - a.) Nose Assembly must be pushed onto fastener fully.
 - b.) Chips may have collected in chuck jaws. Disassemble nose assembly, clean jaws in mineral spirits using a sharp pointed object and re-lube surfaces jaws ride on.
 - c.) Chuck jaws may be worn or damaged. Replace.
 - d.) Pintail too short for jaws to properly grip. Select proper grip length fastener.
 - e.) Excessive gap between sheets. Reduce gap before attempting to install fastener.
7. NOSE ASSEMBLY WON'T ACCEPT FASTENER PINTAIL
 - a.) Spent fastener stem may be jammed in pulling head. Disassemble and check for worn or broken parts in nose assembly. Replace defective parts, clean and re-lube before reassembling.

GB205/GB205A PARTS LIST



1. 205103 includes: 401110, 403806 & 402373 (2)

2. 205111 includes: 405875 & 401121

3. 208115 includes: 405763, 401109 & 405875

4. 206120 complete Air Actuator Assembly includes: 206125, 704130, 403902, 208126 & 208127

5. 206131 complete Actuator Assembly includes: 206127, 240122, 206137, 206136 & 585044

6. To reduce stroke to .625" order part numbers 208109 unloading valve & 205112 stroke limiter.

OVERHAUL

If a tool is performing poorly or leaking badly, a complete overhaul may be necessary. Service Kit 208100 contains a complete set of o'rings, back-up rings and screws.

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® (GB part no. 402723) or another lubricant is recommended during reassembly to prevent tearing or distorting of o'rings.

Disconnect hydraulic hoses and electrical cord or air line from powerunit. Remove couplers (585037) from hoses and drain. Push piston (205111) back into cylinder (205103) to empty all fluid from tool. Push piston back to the front of cylinder.

Unscrew socket head cap screw (206118) from retaining ring (208117) using a spanner wrench to remove retaining ring. Push piston back until cylinder cap (208115) falls out of cylinder. Push piston (205111) out the rear of the cylinder. Remove loading valve (208110) from the piston. Using a small blunt object, remove o'rings and back-up rings from components.

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.

Reassembly sequence is opposite of disassembly. Be sure relative positions of o'rings and back-up rings are as shown in exploded view and parts list. Unloading valve must be installed with flats towards the rear of the tool. Coat hose fitting threads with a non-hardening Teflon thread compound such as Loctite 30534. (See hydraulic thread preparation pg.5)

GB205/GB205A SELECTION CHART

FASTENER	DIA.	NOSE ASSEMBLY
PULL-IN HI-LITE®	9/16"	HL18-205B-35
	5/8"	HL20-205B-35
	3/4"	HL24-205B-35
	7/8"	HL28-205B-35
	1"	HL32-205B-35
	1-1/4"	HL36-205B-35
LOCKBOLT, NAS SHEAR PULL TYPE, NAS TENSION PULL TYPE, NASS = SHEAR & GP® NAST = TENSION	1/4"	NAS08-205A-31
	5/16"	NAS10-205C-31
	3/8"	NAS12-205A-31
LGP® Lightweight Groove Proportion LOCKBOLT	1/4"	LGP08-205C-31
	5/16"	LGP10-205A-31
	3/8"	LGP12-205A-31
BLIND BOLT (SINGLE ACTION) WITH OR W/OUT DRIVE WASHER MS90353S & U / MS90354S & U MS21140S & U / MS21141S & U CR7000 SERIES, BACB30YY, YU, & YT	1/4"	SB08-205A-35
	5/16"	SB10-205A-35
	3/8"	SB12-205A-35

HI-LITE® IS A REGISTERED TRADEMARK OF HI-SHEAR CORPORATION. LGP® AND GP® ARE REGISTERED TRADEMARKS OF ALCOA INC.

GAGE BILT CERTIFIES THE GB205 WILL INSTALL THE ABOVE FASTENERS

*TO REDUCE STROKE TO .625" UNLOADING VALVE (208109) AND STROKE LIMITER (208112) ARE AVAILABLE

NOTE: THE LAST 2 DIGITS OF THE NOSE ASSEMBLY REPRESENTS THE LENGTH THE NOSE ASSEMBLY EXTENDS FROM THE TOOL. (i.e. -25 = 2.5 inches)

10/11



GAGE BILT ALSO SUPPLIES PIN & COLLAR SWAGE INSPECTION GAGES TO CERTIFY CORRECT SWAGE INSTALLATION.



DECLARATION OF CONFORMITY

WE DECLARE THAT THE EQUIPMENT SPECIFIED HEREIN
CONFORMS TO THE FOLLOWING STANDARDS AND DIRECTIVES.

EN12100-1 & EN12100-2
EN13849
EN792-1:2000+A1

COUNCIL DIRECTIVE: MACHINE DIRECTIVE 2006/42/EC

EQUIPMENT DESCRIPTION:
GB205 AND GB206-375A FASTENER INSTALLATION TOOLS

MANUFACTURER:
GAGE BILT Inc.

SIGNATURE:



NAME: BRIAN LEIGH
PRODUCT MANAGER
CLINTON TWP., MI U.S.A.
SEPT 2012
(586) 226-1500

WARRANTY

Seller warrants that all goods covered by this catalog will conform to applicable specifications and will replace or repair, F.O.B. our plant, any goods providing defective from faulty workmanship, or material, for 6 months 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 6 months after the receipt of the material by the customer.

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