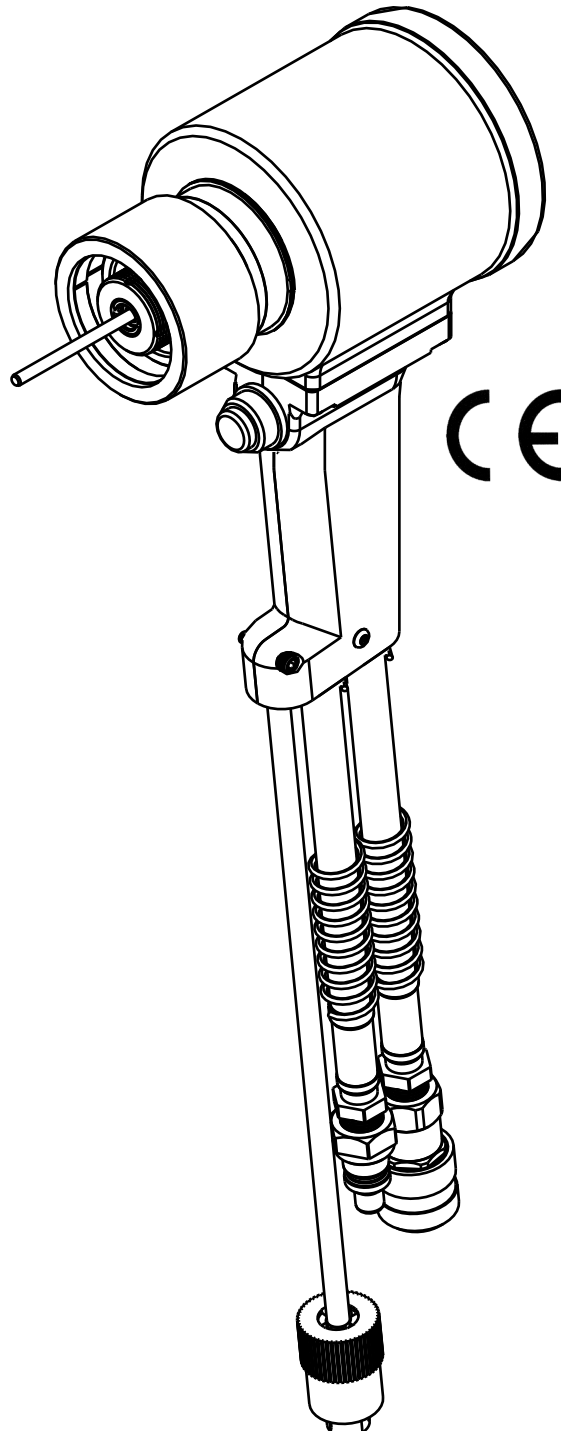


# GB585/GB585A

## INSTALLATION TOOL



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

# GAGE BILT

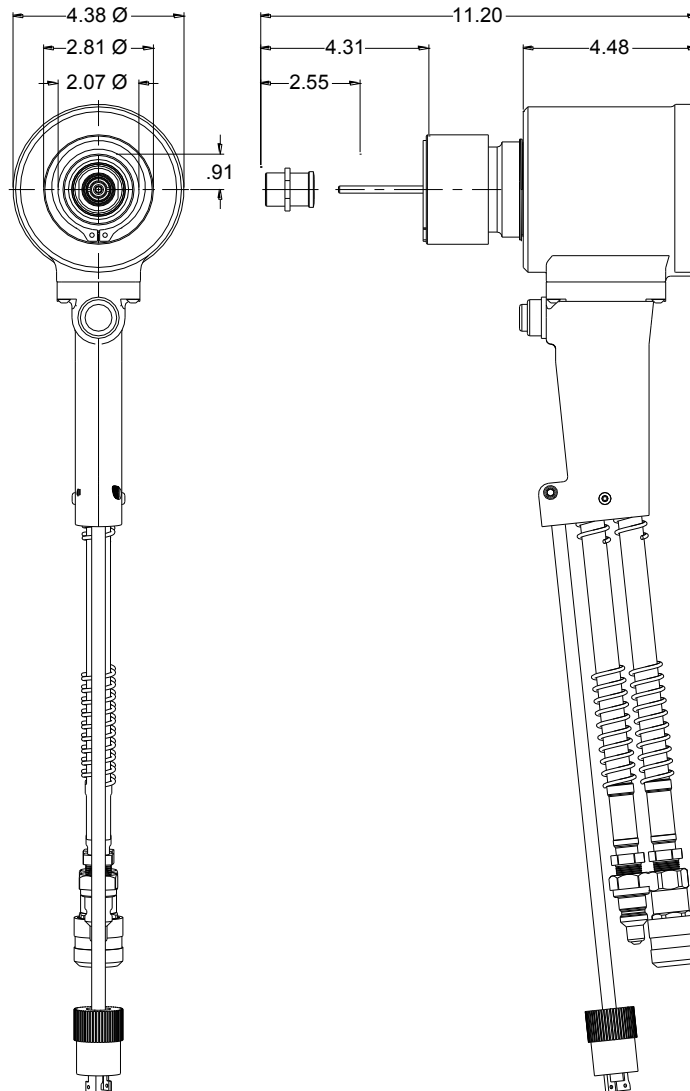
MADE IN U.S.A.

## GAGE BILT Inc.

44766 Centre Court (586) 226-1500  
Clinton Twp. MI 48038 (586) 226-1505 Fax  
e-mail: [solutions@gagebilt.com](mailto:solutions@gagebilt.com) / [www.gagebilt.com](http://www.gagebilt.com)

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## SPECIFICATIONS

<b>Weight</b>	- 20 lbs. (9.07 kg)
<b>Hyd. Pressure Req'd.</b>	- 5400 –5700 psi (372-3 - 393.0 bar) PULL 2200 –2400 psi (151.7- 165.5 bar) RETURN
<b>Hyd. Power Source</b>	- GB940 Powerunit or equivalent.
<b>Hydraulic Oil</b>	- Fire resistant hydraulic oil conforming with OSHA regulation 1926.302.
<b>Setting Stroke</b>	- 1.600" (40.6 mm)
<b>Rated Pull Load</b>	- 40,000 lbs. (177.9 kN)

# SAFETY WARNINGS



## PLEASE READ THIS MANUAL BEFORE SERVICING OR USING THIS TOOL.



### WARNINGS:

MUST BE UNDERSTOOD TO AVOID  
SEVERE PERSONAL INJURY

### CAUTIONS:

SHOW CONDITIONS THAT WILL  
DAMAGE EQUIPMENT OR STRUCTURE

### WARNING

Do not pull fastener unless it is placed in an assembly with collar, 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

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.

### CAUTION

Keep Nose Assemblies clean and free of chips and debris.

### WARNING

Do not use beyond the design intent.

### 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 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 not use tool in explosive atmosphere.

### WARNING

#### Shock:

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

### WARNING

Always disconnect tool from power source before performing any maintenance to any tool or nose assembly.

### WARNING

Ensure that all connections are properly secured 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 dB (A). In this condition the max level was 81.5 dB (A). 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.

### WARNING

Tool is not to be used as a hammer.

### CAUTION

Hydraulic pressure not to exceed 7,400 PSI (510.2 bar) pull, 3,200 PSI (220.6 bar) reload.

## PRINCIPLE OF OPERATION

When the tool is connected to a powerunit, operation is controlled by the switch/actuator in the handle assy. When the switch/actuator is depressed, a directional valve in the powerunit directs oil to the front side of the piston forcing it and the nose assembly collet rearward. This action causes the jaws to clamp onto the fastener pintail and pull the sheets together. The anvil is forced forward, swaging the collar into locking grooves of the fastener. Further force breaks the pintail off, approximately flush with the collar.

When the switch/actuator is released the directional valve reverses oil flow to the back of the piston assy and pushes the nose assembly off of the swaged fastener. The pintail ejector hydraulically pushes the spent pintail out of the nose assembly.

## HOW TO USE THE GB585/GB585A

**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.

#1. Set power supply to the recommended pressure, 5,700 psi (393.0 bar) for the pull and 2,400 psi (165.5 bar) for the return.

#2. Connect hydraulic hose assy's (505034) to supply and control cord assy (585034) to the power supply for GB585.

Connect hydraulic hose assy's (505034) and air quick disconnect (208127) to supply for GB585A.

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

#3. To ensure piston is in the full forward position, Cycle tool.

#4. Disconnect hydraulic hose assy's (505034) and control cord assy (585034) from the power supply for GB585.

Disconnect hydraulic hose assy's (505034) and air quick disconnect (208127) from the supply for GB585A.

#5. Select proper Nose Assembly

#6. Screw collet assembly onto piston until top of collet flat lines up with top of tool.

#7. If Collet Lock is not in Piston groove, continue to turn 1/4 turn, or less until lock engages groove.

#8. Tighten Set Screw.

#9. Slide Anvil over assembled Collet. Install split ring, sleeve and retaining ring (furnished with tool).

(See proper data sheet for further instructions.)

#10. Re-connect hydraulic hose assy's (505034) to supply and control cord assy (585034) to the power supply for GB585.

Re-connect hydraulic hose assy's (505034) and air quick disconnect (208127) to the supply for GB585A.

**Note:** GBP7624B NOSE ASSEMBLY ATTACHMENT video may be viewed as a reference, located on our website, at : [www.gagebilt.com/videos.htm](http://www.gagebilt.com/videos.htm)

**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.

## DESCRIPTION

The GB585 is a hydraulic installation tool capable of installing 5/8" and 3/4" Magna-Grip® or standard lockbolts. It weighs just under 20 lbs. (9.07 kg) and is our most powerful hand tool. It has a 1.600" (40.6 mm) rivet setting stroke and a rated pull load of 40,000 lbs (177.9 kN).

The GB585 installation tool operates on hydraulic pressure powered by the GB940 powerunit, set at 5400-5700 psi (372-3 - 393.0 bar) PULL pressure and 2200-2400 psi (151.7- 165.5 bar) RETURN pressure. The tool comes equipped with 24" hoses complete with quick disconnects.

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

## MAINTENANCE

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

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

**WARNING:** Disconnect tool from its power source before performing maintenance.

**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.

**WARNING:** Read MSDS documents for all applicable materials.


The performance of any tool depends upon good maintenance practices. 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 limits.
- \*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 downtime.
- \*Check tool, all hoses and all couplings daily for damage or air/hydraulic leaks. Tighten or replace (if necessary).  
(See *hydraulic thread preparation pg.5*)

## 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, however, if it is not properly applied, pieces of Teflon may enter the hydraulic system and cause malfunction or 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.

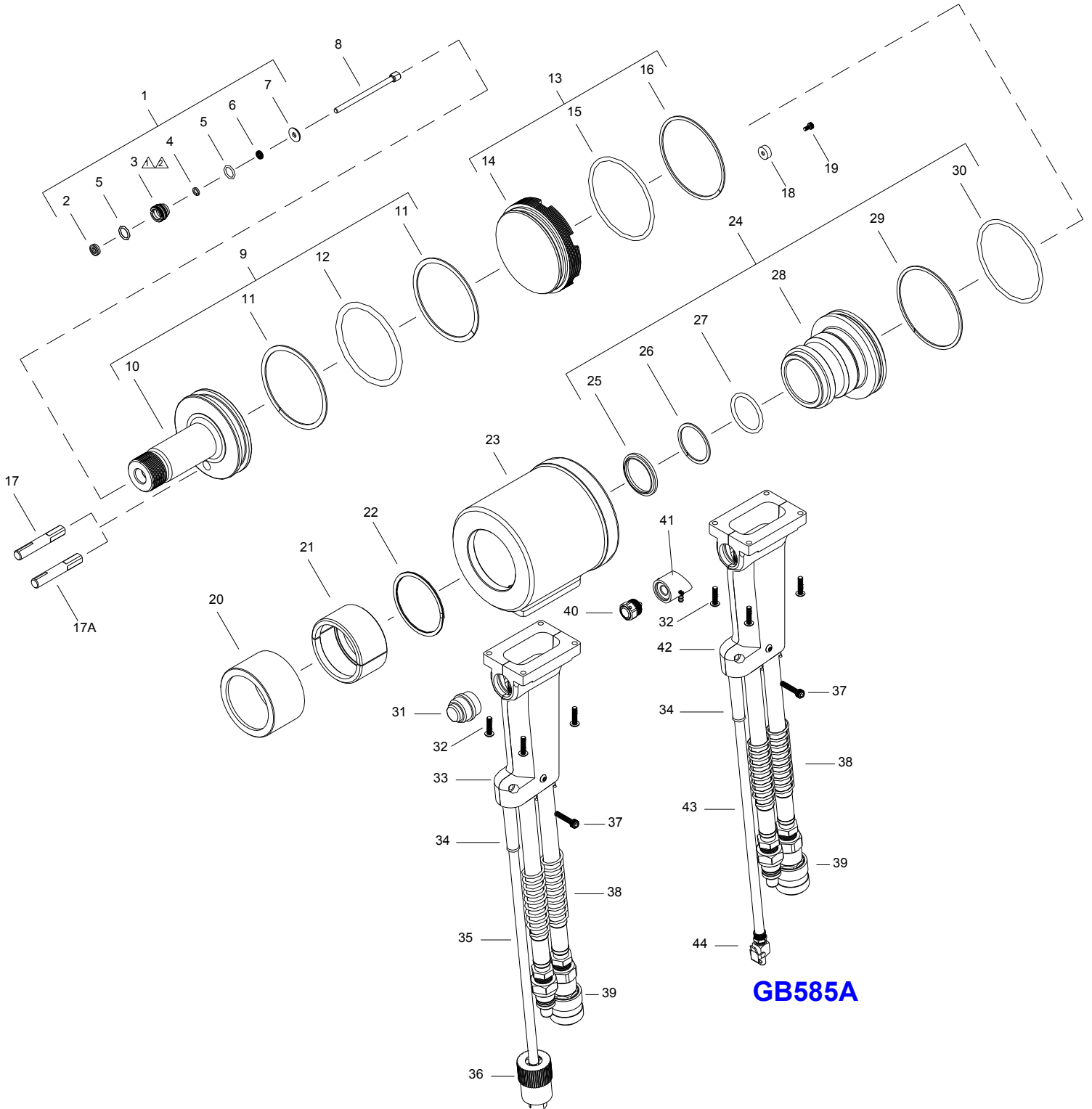
## TORQUE SPECIFICATIONS

Socket Head Cap Screw (400047) = 20 inch lbs.  
Button Head Cap Screws (404128) = 40 inch lbs.  
Socket Head Cap Screw (401218) = 20 inch lbs.  
Ejector Gland (762007) = 25 ft. lbs (see note  on page 6)

# GB585/GB585A PARTS LIST

△ = APPLY REMOVABLE LOCTITE ®  
GAGE BILT P/N A-1006

△ = TORQUE TO 25 FT. LBS. USING  
EJECTOR GLAND WRENCH  
(750038) NOT SHOWN, SOLD  
SEPARATELY.



**GB585**

**GB585A**

# GB585/GB585A PARTS LIST

Ref. No.	Part Number	Description	Qty.
1	762006	Ejector Gland Assy. (Inc. 2- 7)	1
2*	750127	Wiper	1
3	762007	Ejector Gland	1
4*	401080	Back-Up Ring	1
5*	400779	O'Ring	2
6*	401411	Quad Ring	1
7	585117	Washer Ejector	1
8	505022	Pintail Ejector	1
9	585123	Piston Assy (Inc. 10-12)	1
10	-----	Piston	1
11*	403752	Back-Up Ring	2
12*	403881	O'Ring	1
13	585226	Cylinder Cap Assy (14-16)	1
14	-----	Cylinder Cap	1
15*	404498	O'Ring	1
16*	401162	Back-Up Ring	1
17	585022	Relief Valve (GB585)	1
17A	585056	Relief Valve (GB585A)	1
18	586124	Locator	1
19*	400047	Socket Head Cap Screw	1
20	505024	Retaining Sleeve	1
21	585002	Split Ring Set	1
22*	401521	Retaining Ring	1
23	585204	Head Cylinder	1
24	585105	Adapter Assy. (Inc.25-30)	1
25*	406001	Wiper	1
26*	401147	Back-Up Ring	1
27*	404626	O'Ring	1
28	-----	Adapter	1
29*	401162	Back-Up Ring	1
30*	A-1075	O'Ring	1
31	585010	Sw itch	1
32*	404128	Button Head Cap Screw	4
33	480127	Handle Assy (Inc.37)	1
34	585133	Strain Relief Grommet	1
35	585034	Control Cord Assy (Inc. 36)	1
36	585044	Connector - Male	1
37*	401218	Socket Head Cap Screw	1
38	505034	Hydraulic Hose Assy	2
39	585037	Hydraulic Coupling Assy	1
40	480137	Actuator Assy	1
41	480323	Air Actuator Housing Assy	1
42	480126	Handle Assy (Inc.37)	1
43	208126	Air Hose - 13'	1
44	208127	Air Quick Disconnect	1
45**	750038	Ejector Gland Socket	
46**	585150	Cylinder Cap Wrench	

\*Service Kit 585001 contains a complete set of O'Rings, Back-Up Rings and Screw s.  
These items should be kept on hand at all times.

\*\*Ref No. 45-46 is not furnished w ith tool. Sold Separately.

REV. 1/15

## TROUBLESHOOTING

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

1. NO OPERATION WHEN SWITCH (585010)/ACUATOR ASSY (480137) IS DEPRESSED
  - a.) Check Powerunit power source.
  - b.) Control cord may be loose or damaged.
  - c.) Faulty switch; Replace.
  - d.) Check hydraulic couplings; repair or replace.
2. SLOW OR PARTIAL OPERATION WHEN SWITCH (585010)/ACUATOR ASSY (480137) IS DEPRESSED
  - a.) Low hydraulic pressure. Check powerunit, adjust.
  - b.) O’ring (403881) located on the piston assy (585123) could be worn or damaged. Replace.
  - c.) Excessive wear or scoring on moving parts. Check and replace faulty parts.
  - d.) Check hydraulic couplings; repair or replace.
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. ( See *hydraulic thread preparation pg.4*)
5. OIL LEAKAGE
  - a.) Hydraulic oil leaks from connections. Tighten threaded connections. Do not use Teflon® tape.(See *hydraulic thread preparation pg.4*)
  - 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.
  - 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 and clean before reassembling.

## OVERHAUL

**WARNING:** Disconnect tool from its power source before performing overhaul.

**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 should be done by qualified personnel trained on Gage Bilt procedures.

**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.

If a tool is performing poorly or leaking badly, a complete overhaul may be necessary. Service Kit (585001) 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® (Gage Bilt part no. 402723) or other lubricant is recommended during reassembly to prevent tearing or distorting of o’rings.

Disconnect hydraulic hose assy’s (505034) and control cord on GB585 (585034) or air hose on GB585A (208126) from powerunit. Remove hydraulic coupling assy (585037) from hydraulic hose assy’s (505034) and drain. Remove retaining sleeve (505024), split ring set (585002) and nose assembly. Remove button head cap screws (400047) and locator (586124) from cylinder cap assy (585226). Using cylinder cap wrench (585150), remove cylinder cap assy (585226).

Push piston assy (585123) out rear of tool and remove relief valve on GB585 (585022) or GB585A (585056). Remove retaining ring (401521) and push adapter assy (585105) out the rear of head cylinder (585204). Using hex key ejector (750033), unscrew ejector gland assy (762006) from piston assy (585123) and remove pintail ejector (505022). Using a small blunt object, remove o’rings, back-up rings and quad ring 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 part list. Relief valve on GB585 (585022) or GB585A (585056) must be installed with four flats towards the rear of the head cylinder. When installing cylinder cap assy (585226) make sure flats on cylinder cap assy (585226) and flats on head cylinder (585204) line up flush so locator (586124) will sit level between cylinder cap assy (585226) and head cylinder (585204). Coat hose fitting threads with a non-hardening Teflon thread compound such as Slic-tite® (Gage Bilt part no. 403237). **DO NOT USE TEFLON TAPE.**



# GB585/GB585A SELECTION CHART



FASTENER	DIA.	NOSE ASSEMBLY
LOCKBOLT HIGH TENSILE PULL TYPE C50L®	5/8" 3/4"	20-585-41 24-585-46
BLIND OVERSIZE MANDREL	5/8" 3/4"	BOM20-585-41 BOM24-585-46
HP8®	5/8" 3/4"	HP20-585-41 HP24-585-46
MHP 10.9	16mm *20mm <sub>1</sub>	HP20-585-41 HP20MM-585-46

C50L® AND HP8® ARE REGISTERED TRADEMARKS OF ALCOA INC.

\*FOR NON-PRODUCTION APPLICATIONS ONLY.

1) POWER UNIT REQUIRES ADJUSTMENT TO 7,200 PSI FOR PULL AND 4,000 PSI FOR RETURN.

## NOSE ASSEMBLY KEY

20-585-41

A ~The first set of numerical digits represent the diameter of the fastener in 32nds of an inch (20/32)

B ~The second set of digits represent ONE of the tool models which MAY be used with this head (Model 585)

C ~The last set of numerical digits signify the "Gun Line," or reach of the pulling head to the nearest tenth of an inch. (41 is 4.1 inch "Gun Line")

4/11

## DECLARATION OF CONFORMITY

**MANUFACTURER:** Gage Bilt Inc. 44766 Centre Ct. Clinton Twp. Michigan (586-226-1500)

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

Machinery Directive 2006/42/EC

EN ISO 12100:2010

EN ISO 11148-1:2011

**EU REPRESENTATIVE:** Edgar Hausmann GmbH Förster-Busch-Str. 10 D-34346 Hann. Münden Germany

**EQUIPMENT DESCRIPTION:** GB585/GB585A FASTENER INSTALLATION TOOL

This product specified above conforms to the above directives and standards.

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.**