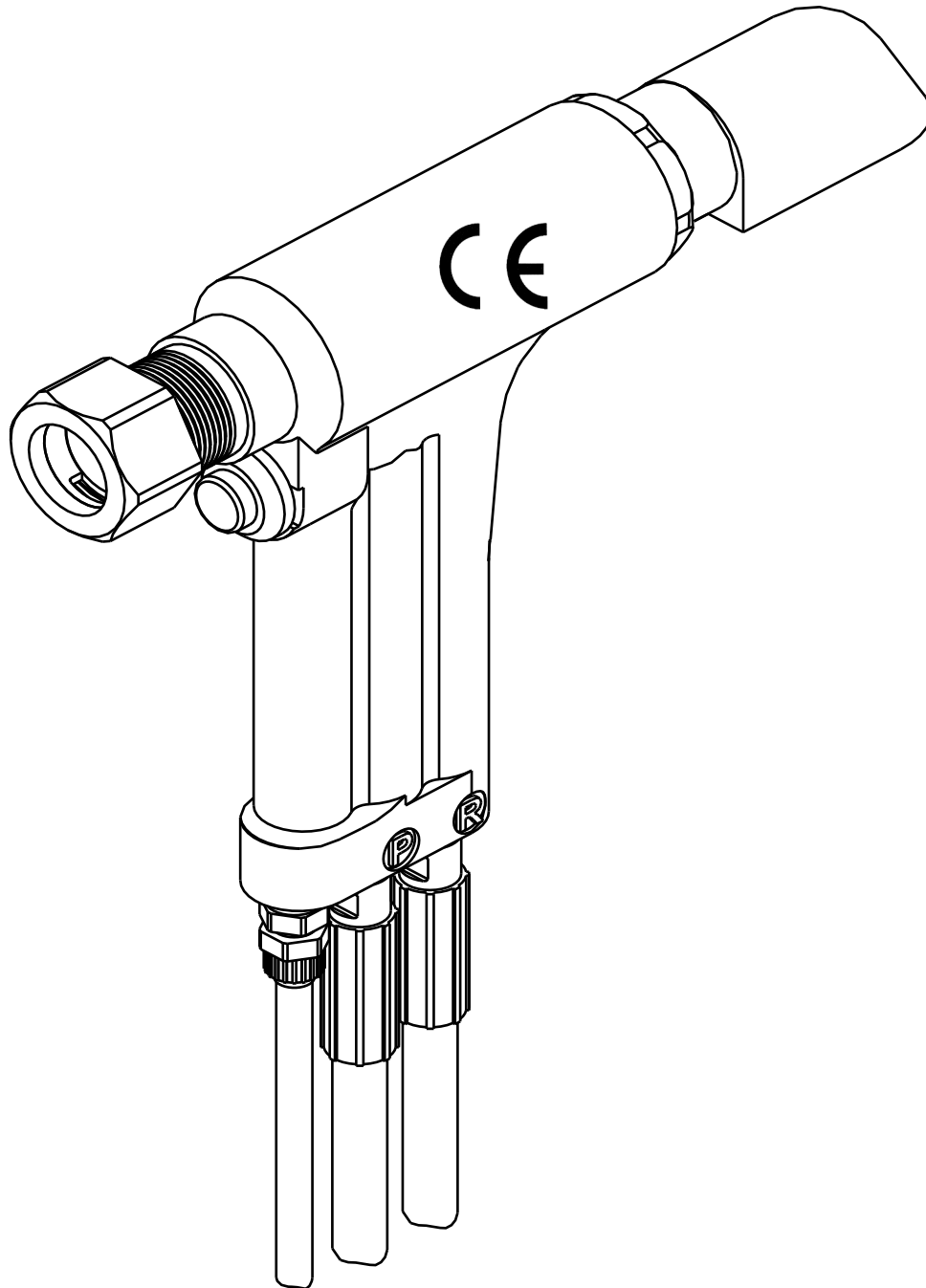


# GB2480 GB2480A

## HYDRAULIC INSTALLATION TOOL



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

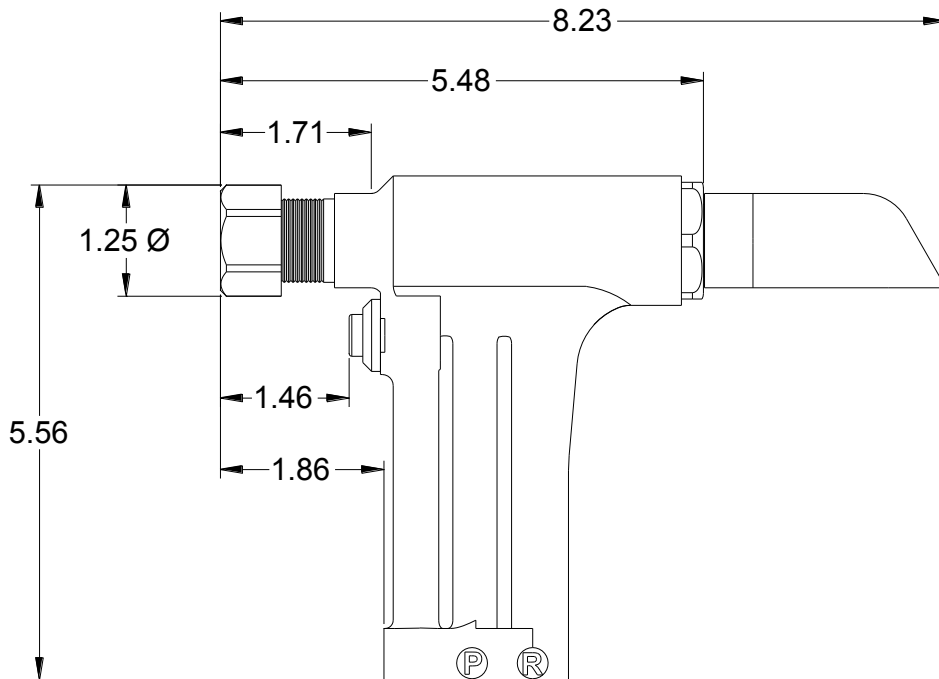
**GAGE BILT**  
MADE IN U.S.A.

**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)

## TABLE OF CONTENTS

<u>Description</u>	<u>Page</u>
Warnings .....	3
Principle of Operation and How to use the GB2480 .....	4
Description and Maintenance .....	5
Troubleshooting .....	6
Overhaul and Disassembly .....	7
Parts List .....	8
Nose Assembly Selection Chart.....	9
EU Conformity and Warranty.....	10



## SPECIFICATIONS

<b>Weight</b>	- 3 1/2 lbs. (1.59 kg)
<b>Hyd. Pressure Req'd</b>	- 8400 psi (579.1 bar) MAX PULL - 3200 psi (220.6 bar) MAX RETURN
<b>Hyd. Power Source</b>	- GB940 or GB910 Powerunit or equivalent.
<b>Hydraulic oil</b>	- See power unit for hydraulic oil specifications
<b>Setting stroke</b>	- .875" (22.23mm)
<b>Rated pull load</b>	- 5,600 lbs. (24.91 kN)
<b>Noise level</b>	- 81.5 dB (A)
<b>Vibration</b>	- Tested– No hazards found.

# 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

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.

### 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 8,400 PSI (579.1 bar) pull 3,200 PSI (220.6 bar) reload.

## PRINCIPLE OF OPERATION

When the tool is connected to a powerunit, operation is controlled by an actuator or switch in the handle. The GB2480A incorporates an air actuator to send a signal; the GB2480 an electric switch. When the button 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 on the fastener pintail and pull the sheets together. The anvil is forced over the collar, swaging it into the 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" oil back to the powerunit tank. When the button is released the directional valve reverses oil 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.

## HOW TO USE THE GB2480

**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, 8,400 psi (579.1 bar) for the pull and 3,200 psi (220.6 bar) for the return.

#2. Connect hydraulic hoses and actuator line to power supply.

**WARNING:** ENSURE HYDRAULIC HOSES ARE SECURELY CONNECTED TO AVOID POSSIBLE HOSE WHIPPING.

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

**WARNING:** ALWAYS DISCONNECT TOOL FROM ITS POWER SOURCE WHEN TOOL IS NOT IN USE TO PREVENT ACCIDENTAL START-UP.

#4. Disconnect from power supply.

#5. Select proper Nose Assembly

#6. Screw collet assembly onto piston.

#7. Slide anvil over collet. Slide retaining nut stop (240102) over anvil, secure nose using retaining nut (211102)

(See proper data sheet for further instructions.)

#8. Re-connect to power supply.

**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:** DO NOT PULL FASTENER UNLESS IT IS PLACED IN AN ASSEMBLY, PIN WILL EJECT WHEN PIN TAIL BREAKS OFF. SEVERE PERSONAL INJURY MAY RESULT.

## DESCRIPTION

**WARNING:** THE BALANCE OF THIS TOOL IS DESIGNED FOR HORIZONTAL USE AND IS NOT SUITED FOR ANY OTHER APPLICATIONS. GAGE BILT WILL BE PLEASED TO ADVISE FOR YOUR SPECIFIC APPLICATION.

The GB2480 is a hydraulic installation tool designed specifically for the efficient installation of a wide range of blind rivets, lockbolts and Multi-Grip fasteners thru 1/4" diameter. It weighs just over 3 lbs. and can be operated in any position with one hand. It has an .875" (22.2mm) rivet setting stroke and rated pull load of 5600 lbs. (24.91 kN).

The GB2480 installation tool operates on hydraulic pressure developed by the GB940 Powerunit set at 8400 psi (579.1 bar) max PULL pressure and 3200 psi (220.6 bar) max RETURN pressure. The tool comes equipped with 12 ft. hydraulic hoses and couplings, actuator and cord (GB2480) or air actuator and tubing (GB2480A).

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 POWERSOURCE 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.

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. Consult Powerunit Manual for procedure to set PULL and RETURN pressures.
- \*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.
- \*Check tool, all hoses and all couplings daily for damage or air/hydraulic leaks. Tighten or replace (if necessary).

## HYDRAULIC THREAD PREPARATION

**WARNING:** WHEN TIGHTENING OR LOOSENING HYDRAULIC HOSES, USE A 9/16" WRENCH TO HOLD THE HYDRAULIC FITTING TO PREVENT THE STEEL TUBE FROM TWISTING. TWISTING THE STEEL TUBE CAN CAUSE PREMATURE FAILURE AT WELDED JOINTS.

**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.

**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.**

## **TROUBLESHOOTING**

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 (2) 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 instructional 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 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.

## OVERHAUL

**WARNING:** DISCONNECT TOOL FROM ITS POWER SOURCE BEFORE PERFORMING OVERHAUL

If a tool is performing sluggish or leaking, a complete overhaul may be necessary. Service Kit 248001 (GB2480) and 248002 (GB2480A) 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 another lubricant is recommended during reassembly to prevent tearing or distorting of o-rings.

Disconnect hydraulic hoses (206119-2) and electrical cord (206136) or air line (240123) from powerunit. Remove couplers (585038 & 585047) from hoses (206119-2) and drain. Push piston (248011) back into handle (248004) to empty all oil from tool. Push piston (248011) back to the front of cylinder. Remove cap (248019) and deflector (756120) from cylinder.

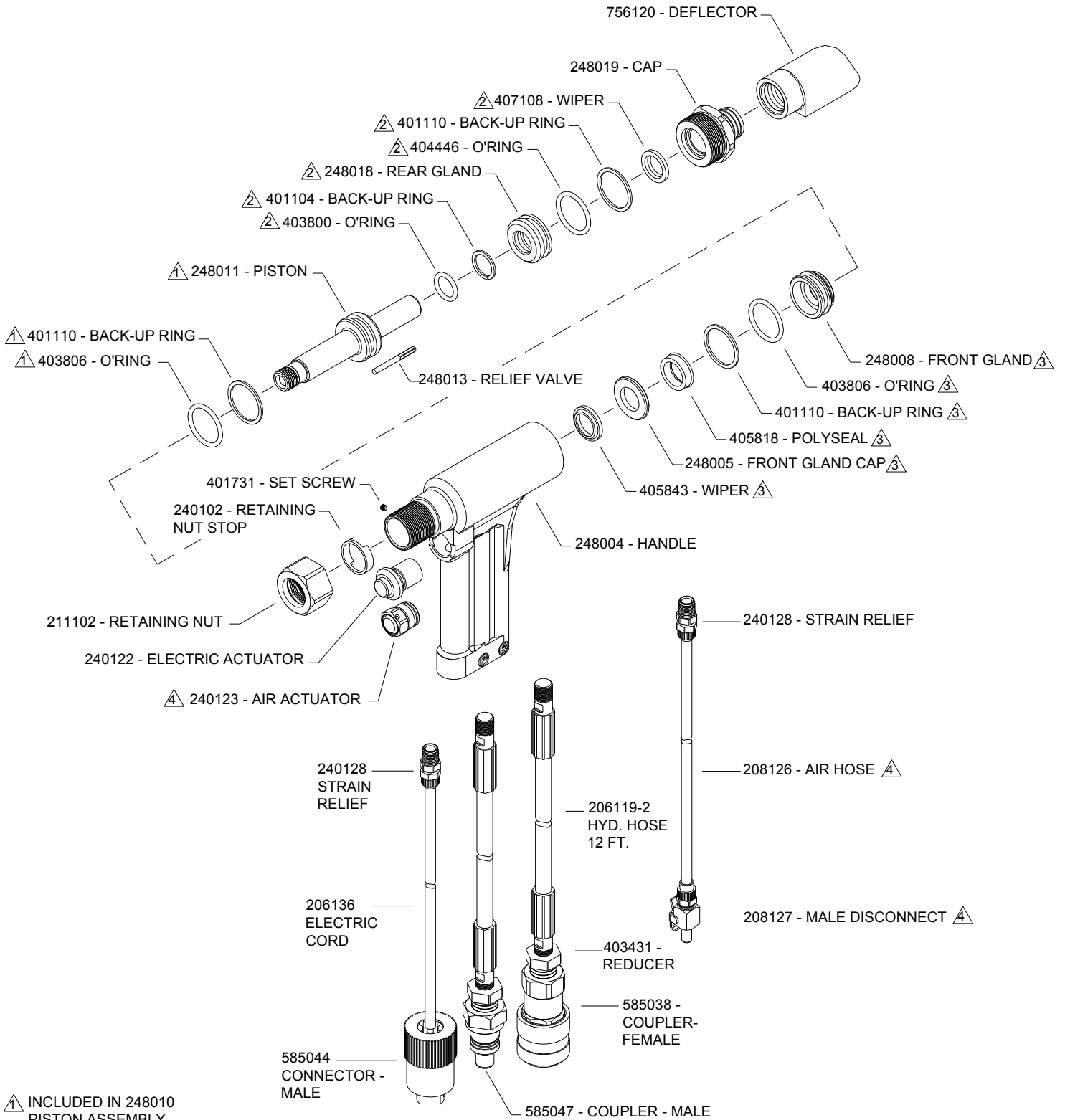
Push piston (248011) back until rear gland assembly (248017) falls out of cylinder. Push piston (248011) further back and guide it out the rear of the cylinder. Slide relief valve (248013) from piston (248011). Use an arbor to push wiper (405843), front gland ass'y (248006) and polyseal (405818) out the rear of the cylinder taking care not to mar cylinder bore. 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. Relief valve (248013) must be installed with four flats towards the rear and must enter notch in the rear of adapter. Coat hose fitting threads with a non-hardening Teflon® thread compound such as Slic-tite® (Gage Bilt part no. 403237). Apply hot glue to wire connections to ensure wires DO NOT contact each other or handle ass'y.

**IMPORTANT:** Be sure to use thread sealant on all hydraulic fittings, Loctite® 30534 or similar Teflon infused pipe dope if recommended. **CAUTION:** Teflon tape is an excellent thread sealer. If it is not properly applied, however, pieces may enter the hydraulic system and cause malfunctions 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.

# GB2480/2480A PARTS LIST



- △ INCLUDED IN 248010 PISTON ASSEMBLY
- △ INCLUDED IN 248017 REAR GLAND ASSEMBLY
- △ INCLUDED IN 248006 FRONT GLAND ASSEMBLY
- △ INCLUDED IN GB2480 (A) ONLY



# SELECTION CHART FOR GB2480/2480A

FASTENER	DIA.	STRAIGHT		*RIGHT ANGLE <sub>1</sub>	OFFSET <sub>3</sub>	
<b>LGP®</b> Light weight Groove Proportion LOCKBOLT	5/32	LGP05-731-10	LGP05-731-20		LGP05-204C-25OS	LGP05-204C-30OS
	3/16	LGP05-731-45	LGP06-731-20		LGP05-204C-34OS	LGP06-204C-30OS
	7/32	LGP06-731-10	LGP07-731-20		LGP06-204C-25OS	LGP07-204C-30OS
	1/4	LGP07-731-45	LGP08-731-20		LGP07-204C-34OS	LGP08-204C-30OS
LOCKBOLT, NAS SHEAR PULL TYPE, NAS TENSION PULL TYPE, NASS = SHEAR & GP® NAST = TENSION	5/32	NASS05-731-10	NAST05-731-10		NASS05-204C-25OS	NAST05-204C-25OS
	3/16	NASS05-731-20	NAST05-731-20		NASS05-204C-30OS	NAST05-204C-30OS
	1/4	NASS05-731-45	NAST05-731-45		NASS05-204C-34OS	NAST05-204C-34OS
COMMERCIAL LOCKBOLTS	3/16	LB06-713-20			NAS06-204C-25OS	
	1/4	LB08-722-20			NAS08-204C-25OS	
MULTIGRIP LOCKBOLTS	3/16	MG06-713-60CN	MG06-722-60			
	1/4	MG08-713-20	MG08-722-60			
<b>BLIND BOLT (SINGLE ACTION) WITH OR W/OUT DRIVE WASHER</b> MS90353S & U / MS90354S & U MS21140S & U / MS21141S & U CR7000 SERIES, BACB30YY, YU, & YT	1/8	SMLS04-752C-20	SMLS04-752C-45			
	5/32	SB05-752C-20	SB05-752C-45	SB05-751B-54RA	SB05-752A-43OS	
	3/16	SB05-752C-80	SB06-752B-45	SB06-751B-54RA	SB06-204D-27OS	
	1/4	SB06-752B-20	SB06-752B-80	SB08-713A-58RA	SB08-204D-27OS	SB08-204D-37OS
EN6122 & UAB130-EU EN6127 & UAB6127-EU EN6128 & UAB100-EU EN6129 & UABP-EU	5/32					
	3/16	UAB568-713-21	UAB568-713-61	UBB06-751B-54RA	UBB06-752A-43OS	
	1/4				UAB08-204D-27OS	UAB08-204D-27OS
<b>BLIND RIVET (SINGLE ACTION) WITH OR W/OUT DRIVE WASHER</b> NAS1900 S & U SERIES	1/8	SMLS04-752C-20	SMLS04-752C-45	SMLS04-751B-54RA	SMLS04-752A-43OS	
	5/32	SMLS05-752C-20	SMLS05-752C-45	SMLS05-751B-54RA	SMLS05-752A-43OS	
	3/16	SMLS06-752B-20	SMLS06-752B-45	SMLS06-751B-54RA	SMLS06-752A-43OS	
	1/4	SMLS08-713-20		SMLS08-713-54RA	SMLS08-752A-43OS	
"A" CODE NAS1398A & NAS1399A	3/32	3A-352B-25		3A-751B-54RA		
	1/8	4A-752C-20	4A-752C-45	4A-751B-54RA	4A-752A-43OS	
	5/32	5A-752C-20	5A-752C-45	5A-751B-54RA	5A-752A-43OS	
	3/16	6A-752B-20	6A-752B-45	6A-751B-54RA	6A-752A-43OS	
T RIVET®	3/16	6T-752A-21	6T-752A-61			
	1/4	8T-752A-21	8T-752A-61			
PROTRUDING HEAD, MULTI-GRIP BLIND RIVETS	3/16	MGL06-752A-21	MGL06-752A-61	MGL06-751C-54RA		
	1/4	MGL08-752A-21	MGL08-752A-61			
MONOBOLT®	3/16	MB06-752A-21	MB06-752A-61	MB06-751B-54RA		
	1/4	MB08-752A-21	MB08-752A-61			
CONTAINER BOLT(R 12) HLPP, HLFPM, HLPE, HLPS HLPSC & HLPSPM	3/8	HT12-713-20				
BOM®-R08	1/4	BOM08-713-20				
TLR® RIVET	1/4	8TLR-352-21	8TLR-352-60			
CHERRYMAX®, CHERRYMAX® 'AB', MBC® LOCK CREATOR BACR15FR/FP, BACR15GF/GK, NAS1900 S & U SERIES BLIND RIVET WITH DRIVE WASHER	1/8	2 456MAX-751-23	2 456MAX-751A-61	2 456MAX-751C-54RA	2 456MAX-731-43OS	
	5/32					
	3/16					
	1/4	08MAX-752B-20	08MAX-752B-45	08MAX-713A-58RA	08MAX-204D-27OS	08MAX-204D-37OS
ASP® ASP 2, ASP PF, ASP 4 FF, ASP 2 F, ASP 2 LC	13/64	ASP06-752B-20	ASP06-752B-45	ASP06-751B-54RA	ASP06-752A-43OS	
	17/64	ASP08-752B-20	ASP08-752B-45		ASP08-752A-43OS	
	21/64	ASP10-713-20	ASP10-730-45		ASP10-204D-27OS	ASP10-204D-37OS
NAS1719, NAS1720 NAS1721	1/8	MBC04-752C-20	MBC04-752C-45	MBC04-751B-54RA	MBC04-752A-43OS	
	5/32	MBC05-752C-20	MBC05-752C-45	MBC05-751B-54RA	MBC05-752A-43OS	
	3/16	MBC06-752B-20	MBC06-752B-45	MBC06-751B-54RA	MBC06-752A-43OS	
GROUND STUD, M83454 & BACS53B <sub>5</sub>	8/32	GS8-752C-20	GS8-752C-45	GS8-751B-54RA	GS8-751A-43OS	
	10/32	GS10-752C-20	GS10-752C-45	GS10-752A-54RA	GS10-751A-43OS	
OPEN END, CLOSED END, C/SUNK, PROTRUDING HEAD COMMERCIAL NAIL RIVETS	3/32	3N-751-23	3N-352-61	3N-751B-54RA	3N-751-43OS	
	1/8	4N-751-23	4N-352-61	45N-751B-54RA	4N-751-43OS	
	5/32	5N-751-23	5N-352-61	45N-751B-54RA	5N-751-43OS	
	3/16	6N-751-23	6N-352-61	6N-751C-54RA	6N-751-43OS	

LGP®, GP®, BOM®, AND ASP® ARE REGISTERED TRADEMARKS OF ALCOA INC. MONOBOLT® AND TLR® ARE REGISTERED TRADEMARKS OF AVDEL UK LIMITED. T RIVET®, CHERRYMAX® AND MBC® ARE REGISTERED TRADEMARKS OF CHERRY AEROSPACE.

## GAGE BILT CERTIFIES THE GB2480/2480A TOOL WILL INSTALL THE ABOVE FASTENERS

*REDUCING POWER UNIT PRESSURE TO 3500PSI IS RECOMMENDED.
1) RIGHT ANGLE NOSES REQUIRE 248153 STROKE LIMITER & 248155 RELIEF VALVE.
2) INSTALLS 1/8", 5/32" AND 3/16" DIAMETERS.
3) OFFSET NOSES REQUIRE 751204 ADAPTER AND 248152 STROKE LIMITER & 248154 RELIEF VALVE.
4) INSTALLS 5/32", 3/16" AND 1/4" DIAMETERS.
5) BACS53B -10 ONLY

NOTE: THE LAST 2 DIGITS OF THE NOSE ASSEMBLY REPRESENTS THE LENGTH THE NOSE  
EXTENDS FROM THE TOOL I.E. -20 = 2.0 INCHES



## 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

EN12100-1 & EN12100-2

EN792-1:2000+A1

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

**EQUIPMENT DESCRIPTION:** GB2480/GB2480A 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.  
MAY 2010  
(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.**