

OWNER'S MANUAL

HG SERIES DEMOLITION GRAPPLE



- INSTALLATION
- OPERATION
- SERVICE
- PARTS

GRAPPLE MODELS:
HG100, HG100Q, HG200,
HG200Q, HG300, HG300Q



**BREAKER
TECHNOLOGY,
INC.**

an Astec company



BREAKER TECHNOLOGY

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Danger, Warning, and Caution are hazard alerts used in this manual and on the grapple decals to identify hazards on or near the carrier and grapple.

DANGER

Danger - Immediate hazards, which WILL result in severe personal injury or death if the proper precautions are not taken.

WARNING

Warning - Hazards or unsafe practices, which COULD result in personal injury or death if the proper precautions are not taken.

CAUTION

Caution - Hazards or unsafe practices, which COULD result in product or property damage if the proper precautions are not taken.

BTI cannot anticipate every possible circumstance that might involve a hazard. The hazard alerts in this publication and on the product are therefore not all inclusive. If a tool, procedure, work method or operating technique not specifically recommended by BTI is used, you must satisfy yourself that it is safe for you and others. You should also ensure that the grapple and carrier will not be damaged or made unsafe by the operation, maintenance or repair procedures you choose.



Head
Protection



Foot
Protection



Eye
Protection



Hearing
Protection

Do not operate or service the grapple unless you are qualified.

Avoid loose fitting clothing, loose or uncovered long hair, jewelry and loose personal articles. These can get caught in moving parts. Jewelry may also ground a live circuit.

Know and use the protective equipment that is to be worn when operating or servicing the carrier. Hard hats, protective glasses, protective shoes, gloves, reflector type vests and ear protection are types of equipment that may be required.

Never drive or operate any carrier while you are under the influence of alcohol or drugs.

Consult your supervisor if you do not understand the Grapple Owner's Manual.

 WARNING

Do not operate the compactor with personnel in the immediate area of the carrier and compactor.

 WARNING

Note and avoid all hazards and obstructions such as overhangs, ledges, slide areas, electrical lines, underground cables, water mains, gas lines, etc. When operating close to electrical lines, underground cables, water mains or gas lines, contact the responsible authority and request assistance.

 WARNING

Do not operate this machine unless you have read and understood the instructions and warnings in the Compactor Owner's Manual. Failure to follow the instructions or heed the warnings could result in injury or death. Proper care is your responsibility. Contact your distributor or BTI for replacement manuals or decals.

 WARNING

Hydraulic fluids are under high pressure. Fluid escaping under pressure can penetrate the skin causing serious injury. Relieve all pressure before disconnecting hoses. Do not use your hand to check for hydraulic leaks. If any fluid is injected into the skin, a doctor must surgically remove it within a few hours or gangrene may set in.

 WARNING

Do not attempt to repair or modify the compactor unless you are a qualified service technician. Read and understand your owner's manuals. Failure to follow the instructions or heed the warnings could result in severe personal injury or death. Proper care is your responsibility. Contact your distributor or BTI for replacement parts.

 CAUTION

Some compactor components are heavy or awkward, plan carefully how you will handle them when installing, removing, or disassembling.

As Breaker Technology Inc. has no direct control over the application or the environment the attachment will be used in, we have established a regular routine maintenance and inspection guideline to help ensure not only the performance of the attachment, but also to ensure safety for all concerned. This guideline should be followed and performed monthly depending on usage (more often during heavy use). It is the responsibility of the owner/operator to ensure the longevity and the safety of your equipment and personal.

INSPECTION AND MAINTENANCE RECOMMENDATIONS

- Inspect attachment for signs of wear of all pins and bushing's
- Factory clearances are minimal, excessive wear could cause failure of the attachment and /or personal and/or property damage.
- BTI attachments have extra thick welded in bushing's, in the event of wear contact a reputable maintenance company to line bore and rebush the attachment or have it returned to our factory for refit.

NOTE: the bushing's were made this way as an initial cost saving measure for you, the customer.

- Some of our attachments feature aluminum bronze bushing's. For replacement follow the bushing maintenance procedure in page 7.
- Inspect the attachment for wear and/or damage to the body and replaceable wear parts.

NOTE: This includes any related parts such as boom, bracket etc.

- Any repairs or replacement of welded parts should be done following the general weld procedures in section 3.
- Areas showing wear of parent materials should be built up with a quality hard surfacing rod such as MG760, STOODY 2110 or equivalent.

NOTE: Hard surfacing will extend the life of your attachment.

- Ensure area to be built up is clean and free of any contaminant's, follow the manufactures instructions.

WARNING

Never move a retainer grapple WITHOUT the main pin, as this could cause severe damage to the bushings.

IMPORTANT: When calling for replacement parts , please have the model number, serial number and manufacturing date available. This will allow us to provide you with the correct size and type of part needed.

While every attempt has been made to help you get the most out of your attachment, it still remains the responsibility of the owner/operator to adhere to regular maintenance and safety guidelines.

To ensure optimum performance from your attachment and for safety reasons we recommend the following procedures.

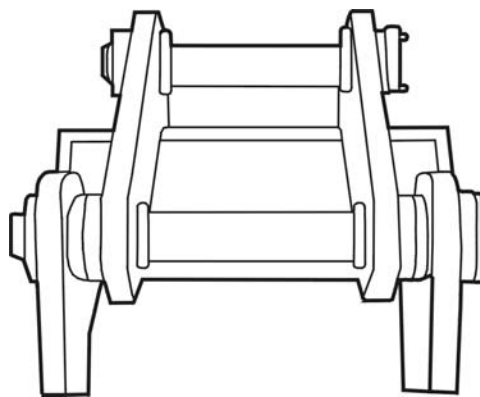
DAILY CHECK LIST

- Grease all bushing's twice (2) daily or more frequently during heavy use.
- Always make sure that all pins and bushing's have been coated with a layer of grease whenever the attachment is being assembled.
- Always ensure that all bolts, nuts washers and fittings are installed and secure.
- Any bolts or fittings that become damaged or lost must be replaced immediately.

IMPORTANT:

Grease your grapple liberally. Regular greasing will ensure your grapple lasts longer..

NOTE: Under certain conditions a removable thread locker such as Loctite™ 242/243 Or equivalent should be used on bolts and nuts. To ensure security follow the manufacturers instructions.



Grease Recommendations: Most farm / industrial extreme pressure greases provide adequate protection against daily wear. For optimum protection we recommend moisture sensitive extreme pressure grease.

Grapples are designed with a minimum of two (2) grease Fittings, located on the bushing's or counter sunk in the ears. You can locate the grease fitting on your attachment by looking for the warning labels

⚠WARNING

These are requirements. It is the responsibility of the owner/operator to make sure the Attachment is serviced on a daily bases. Improper maintenance can cause extensive damage to the attachment and/or your equipment.

All BTI's Products are made from a combination of high-grade impact tested steels. The following procedures cover the repair and/or replacement of wear parts where applicable.

PREPARATION & PROCEDURES

- The area to be reworked must be free from dirt, rust, paint, grease and moisture.
- Use a temperature indicating crayon or suitable instrument for monitoring material temperature.
- If high metal removal is required, air arc gouging is recommended. Do not use oxy-acetylene cutting if possible.
- Gouge and/or Grind out all traces of weld or damaged material (cracks etc.)
- Grind out all traces of carbon and/or slag to ensure a clean weld area.
- If replacement parts are being installed tack weld parts in place.
- Preheat area to be welded to 300° Fahrenheit (protect from cold drafts).

Note: Any strictly structural material cannot be harmed from preheating.

- Do not allow inter-pass temperature to exceed 500° Fahrenheit or fall below 250° Fahrenheit.
- Weld with oven stabilized or fresh new E7018 Electrodes taken from a sealed bag.
- Use several “stringer” beads if required, as opposed to a few wide beads.
- Ensure all slag is removed between passes.
- Ensure all starts, stops and corners are adequately welded.
- After welding allow cooling slowly in still air. Note: If work area is cold or drafts protect with welder blankets.
- Blend all sharp corners and any mismatches in material and/or weld thickness by grinding smooth.

Some of our attachments come with one of two (2) types of Aluminum Bronze Pivot Bushing's. One is a straight sleeve type and the other is designed as a flange retainer type bushing which holds the two (2) halves of the grapple together when the main pin is removed.

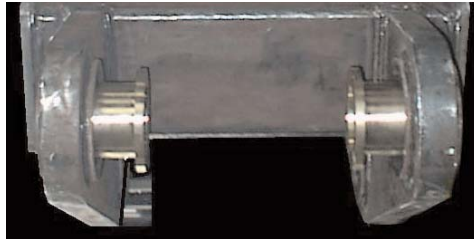
IMPORTANT: Read all instructions before starting to remove the bushing's. Bushing's will be destroyed during removal.

It is important to remember that greasing the bushing on a daily bases will greatly improve the units life span and performance



SLEEVE TYPE BUSHING'S

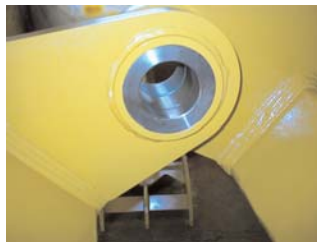
These bushing's can be removed by making a suitable plug and using a hydraulic jack. Press through the boss or carefully using a grinder make a couple of slits through the sleeve so that it can be collapsed. The Sleeve bushing are a standard feature in all Q Model grapples and H Model Grapples.



FLANGE RETAINER TYPE BUSH-

When removing retainer type bushing's, first ensure the grapple is blocked and secured so that during removal the individual halves do not move causing personal injury. These bushing hold both halves of the grapple together. Using a grinder carefully cut a couple of slits through the sleeve so that it can be collapsed.

NOTE: Inside face is a flange.



STANDARD STEEL BUSHING'S

All of our "G" Series Contractors Grapples come with standard steel bushing's, but can be ordered and/or fitted with aluminum bronze sleeves if requested.

Note: The "R" series in the Contactors grapple comes with aluminum bronze retainer pivot bushing's as a standard item.

Please specify the model type and the serial number of the grapple when ordering any replacement parts.

INSTALLING ALUMINUM BRONZE BUSHING'S

To install either the sleeve or flange bushing's you will need the following:

1. A hydraulic jack
2. Two (2) smooth flat plates, larger than the bushing size and spacers depending on the size of the jack and/or unit.
3. A Hammer.
4. A Drill and suitable 1/4 inch drill bit

NOTE: The bushing's need to be pressed from the centre of the unit outwards.

Step 1

Ensure bores and recesses are clean and free from and possible damage caused during the removal process.

Step 2

Lubricate bushing's and install stepped end in bore.

Step 3

Gently, tap using a plate and hammer to start bushing making sure the are square to bore.

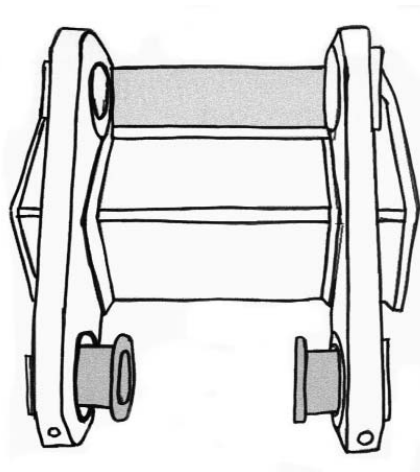
Step 4

Using plates, centre the jack and begin pressing the bushing, occasionally releasing the pressure to ensure the bushing's are going in straight. See illustration below.

Step 5

When installing the retainer bushing's you will need to insert the pin BEFORE you finish pressing the bushing. Insert the main pin and the link pin in each side of the grapple to line up the two (2) halves so that the bushing's engage in the recesses of the fixed half.

NOTE: Sleeve bushing's can be press individually. The retainer bushing must be pressed together as a pair.

**Step 6**

After installing the bushing's, you must remove the grease fitting (see illustration on page 5 for location). Using a suitable drill bit (1/4 inch) drill through the new bushing's.

Step 7

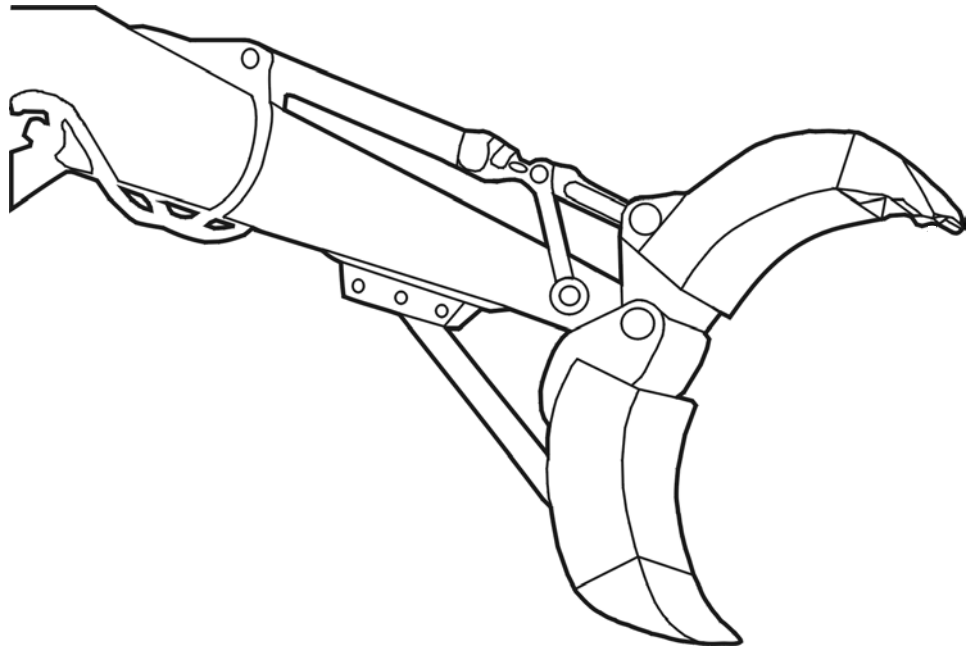
Remove burrs on the inside of the bushing's, thoroughly clean and reinstall working grease fitting.

Step 8

Grease Before Re Assembly

MOUNTING RECOMMENDATIONS

This is a guideline only. How a grapple is mounted depends on the machine, the type of operation and the job you are doing. If you are unsure about placement please contact us.

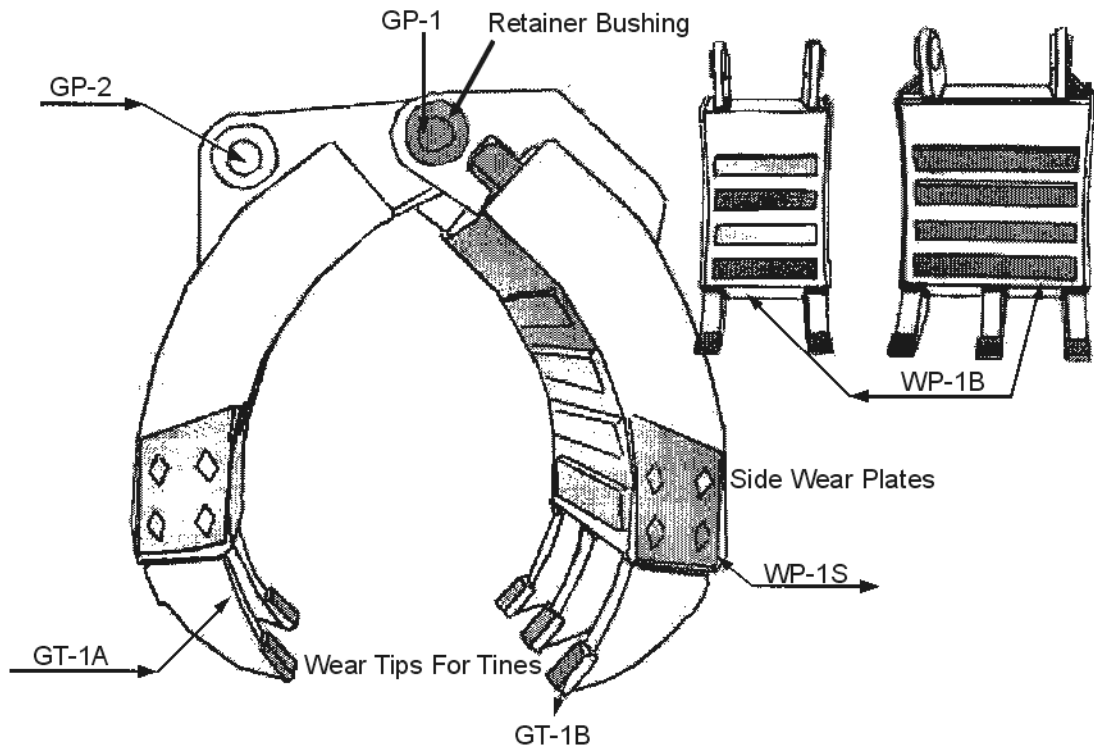


MOUNTING THE BRACKET

1. Determine the type of job or operation the grapple will be doing, example close in or long reach work.
2. With the stick vertical, open the fixed side of the grapple so the boom is approximately at a 30° degree angle. **We recommend you mount the grapple, with the boom in the center pin hole of the bracket.**
3. Tack weld the bracket in place and gently move the grapple through the motions to determine if it opens and closes in the range that you require.

Keep in mind that you have two (2) adjustments, one on either direction to give you more opening and closing.

You may have to move the bracket one way or the other to accommodate the distance and reach of the physical area you are working in.



GRAPPLE PARTS LISTING

Part Number	Description
GP-1	Main Pin With Retainer (s)
GP-2	Link Pin With Retainer (s)
GP-3	Mounting Bracket Pin (not shown)
GP-4	Back Bracket Pin (not shown)
GB-1	Mounting Bracket (not shown)
GB-2	Grapple Boom (not shown)
GT-1A	Solid Tines (refer to pricing chart for sizes)
GT-1B	Wear Pads Set Of 5 (refer to pricing chart for sizes)
WP-1S	Side Wear Plates Set Of 4 (refer to pricing chart for sizes)
WP-1B	Belly Bars Available As A Set Or In Fixed Or Movable Half Only (refer to pricing chart for sizes)
Bushings	Aluminum Bronze Bushings (call for sizing)

Part Number	Description	Qty.
GP-1	Main Pin With Retiner (s)	1
GP-2	Link Pin With Retainer (s)	1
1008749	Mounting Bracket Pin	1
1008750	Back Bracket Pin	1
1008714	Mounting Bracket	1
1008748	Grapple Boom	1
1008751	Solid Tines Model G/H 100 *	1
1008752	Solid Tines Model G/H 200 *	1
1008753	Solid Tines Model G/H 300 *	1
1008754	Solid Tine 21 Inch Long Tines Model H 400 *	1
1008755	Wear Pads Set Of 5	5
1008713	Wear Pads Set Of 7	1
1008756	Wear Pads Set Of 9	9
1008759	Side Wear Plates Model 100 Set Of 4	4
1008760	Side Wear Plates Model 200 Set Of 4	4
1008761	Side Wear Plates Model 300 Set Of 4	4
1008762	Side Wear Plates Model 400 Set Of 4	4
1008763	Belly Wear Bars Model 100 Complete Set	1
1008764	Belly Wear Bars Model 200 Complete Set	1
1008765	Belly Wear Bars Model 300 Complete Set	1
1009766	Belly Wear Bars Model 400 Complete Set	1
Bushing	Aluminum Bronze Replacement Sleeve	1
	Aluminum Bronze Retainer Bushing	1

* Specify Number Required

Breaker Technology, Inc. (BTI) warrants all BTI products, subject to the exceptions listed below, to be free of defects in materials or workmanship for a period of one (1) year or 1000 hours from shipping date.

Breaker Technology, Inc.'s obligations under this limited warranty are limited to the replacement parts and/or repairs, free of charge, during the warranty period at the manufacturer's place of business, of any part or parts found by Breaker Technology to be defective due to manufacturing or material failure.

This limited warranty shall apply only if the product (s) is used in accordance with the recommended maintenance and operations suggested by BTI. This warranty applies to new product (s) only. The repairs or replacement of parts during the warranty period in no way constitutes an extension of the already existing warranty.

This warranty is given in lieu of all other warranties either expressed or implied by Breaker Technology, Inc. or an acting representatives. Breaker Technology, Inc. shall not be liable for any loss or damaged either directly or indirectly arising from the use of performance of the product or for any incident or consequential damages.

EXCEPTIONS FROM WARRANTY

1. Freight and transportation cost: Freight cost for parts shipments or return of attachment (s). Costs incurred to transport attachment (s) to or from BTI and/or their dealers, except when authorized in writing by BTI.
2. Normal Wear: Any failure due to or related to normal daily wear.
3. Alterations and Modifications: Any modifications or alterations to any BTI product (s) or parts not authorized by BTI, shall render this warranty and all implied obligations, to be null and void.
4. Improper Installation, Repairs, Maintenance and/or operations: Any failure of performance either due to or related to the improper installation and/or the failure to maintain the product in good operating conditions are not covered under this warranty.
5. Misuse of attachments: Any failure of performance due to or related to the misuse of a BTI product (s). Misuse is defined as the use of the product other than what it was intended or designed to do.



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