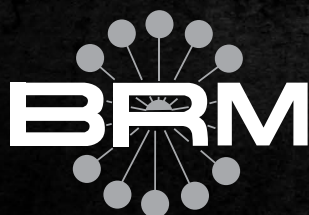
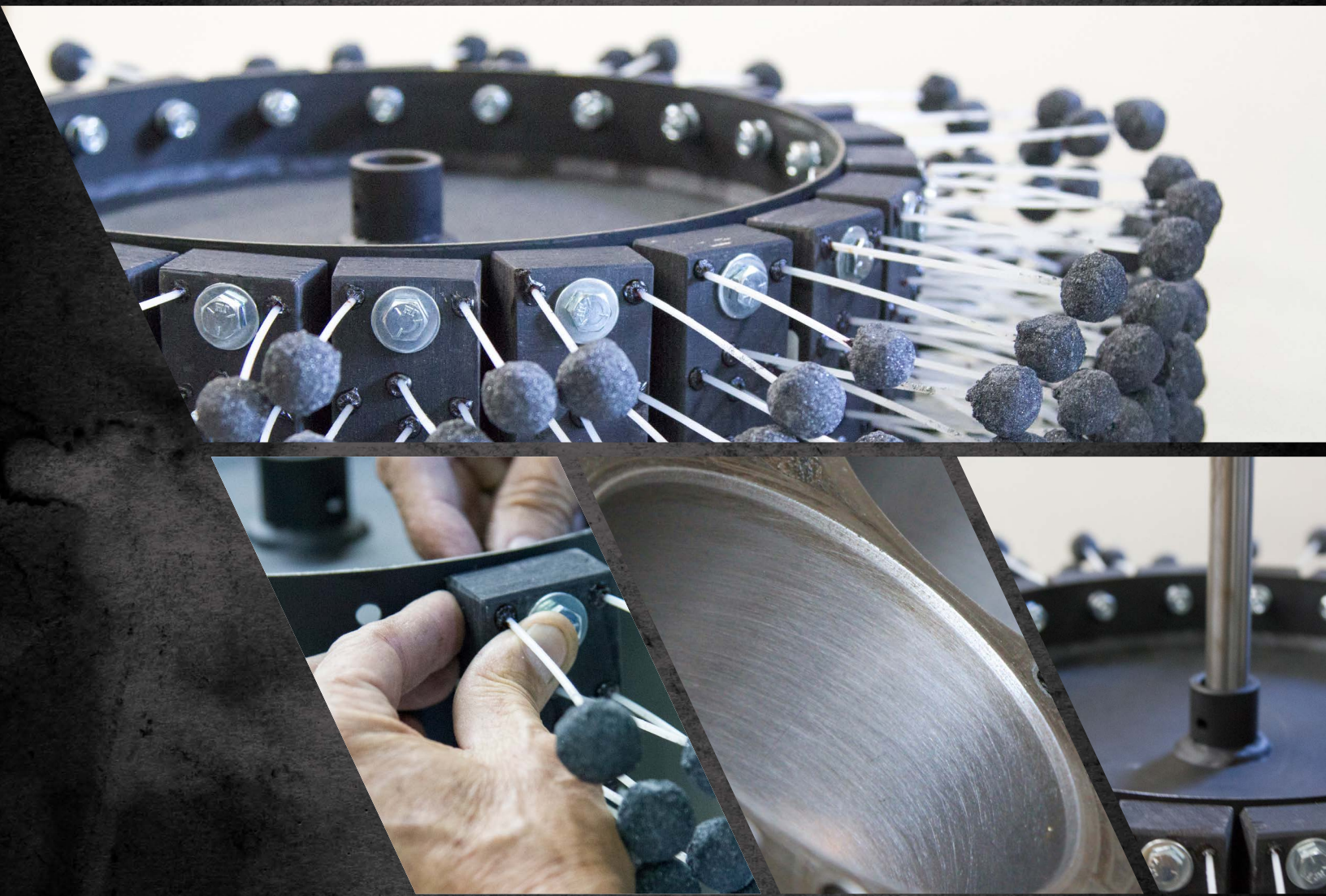


FLEX-HONE®

GBDX HEAVY DUTY HONE ASSEMBLY INSTRUCTIONS

FOR ANY TYPE OR SIZE OF CYLINDER



**BRUSH RESEARCH
MANUFACTURING**

The Flex-Hone® Tool is a resilient, flexible honing tool with a soft cutting action. Whether it's deburring a hole or blending an edge, the Flex-Hone will provide a superior surface finish with a non-directional or crosshatched pattern. This results in increased product performance and longer product life. The Flex-Hone is designed for a variety of automotive, hydraulic, pneumatic and industrial applications in sizes from 4mm- 36".



BRUSHRESEARCH.COM

HARDWARE LIST

FOR GBDX 19" - 22"

PART ID	DESCRIPTION	QUANTITY	KEY
* DRUM1112	11-1/2" DRUM	1	A
* GBDXXXX	GBDX SECTIONS	22	B
HEXBOLT	1/4" HEX BOLT	44	C
HEXNUT14	1/4" HEX NUT	44	D
PIN250	PIN COTTER	2	E
SHAFT750	SHAFT - 3/4" X 28"	1	F
WASHFLAT	1/4" FLAT WASHER	44	G
WASHERLOCK	1/4" LOCK WASHER	44	H

FOR GBDX 27" - 31"

PART ID	DESCRIPTION	QUANTITY	KEY
* DRUM1912	19-1/2" DRUM	1	A
* GBDXXXX	GBDX SECTIONS	36	B
HEXBOLT	1/4" HEX BOLT	72	C
HEXNUT14	1/4" HEX NUT	72	D
PIN250	PIN COTTER	2	E
SHAFT1000	SHAFT - 1" X 32"	1	F
WASHFLAT	1/4" FLAT WASHER	72	G
WASHERLOCK	1/4" LOCK WASHER	72	H

FOR GBDX 23" - 26"

PART ID	DESCRIPTION	QUANTITY	KEY
* DRUM1512	15-1/2" DRUM	1	A
* GBDXXXX	GBDX SECTIONS	29	B
* HEXBOLT	1/4" HEX BOLT	58	C
HEXNUT14	1/4" HEX NUT	58	D
PIN250	PIN COTTER	2	E
SHAFT750	SHAFT - 3/4" X 28"	1	F
WASHFLAT	1/4" FLAT WASHER	58	G
WASHERLOCK	1/4" LOCK WASHER	58	H

FOR GBDX 32" - 36"

PART ID	DESCRIPTION	QUANTITY	KEY
* DRUM2412	24-1/2" DRUM	1	A
* GBDXXXX	GBDX SECTIONS	44	B
HEXBOLT	1/4" HEX BOLT	88	C
HEXNUT14	1/4" HEX NUT	88	D
PIN250	PIN COTTER	2	E
SHAFT1250	SHAFT - 1-1/4" X 36"	1	F
WASHFLAT	1/4" FLAT WASHER	88	G
WASHERLOCK	1/4" LOCK WASHER	88	H

WHAT YOU NEED

PLIERS



7/16 WRENCH



7/16 SOCKET



TORQUE WRENCH

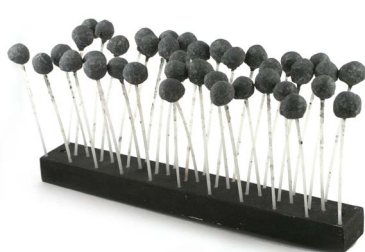


HARDWARE KEY

A



B



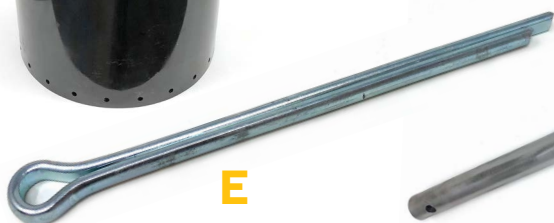
C



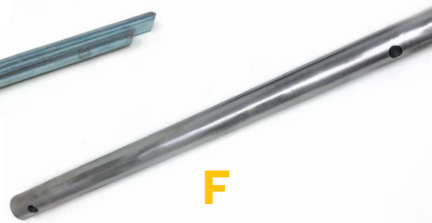
D



E



F



G

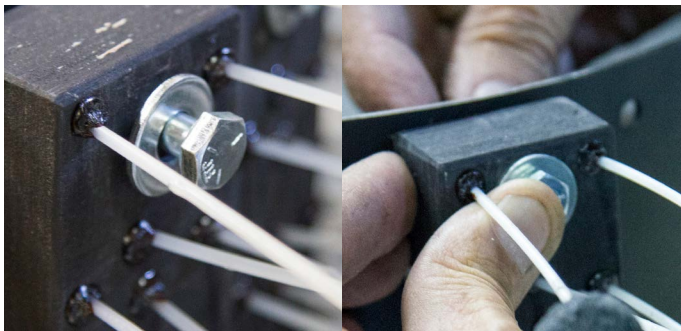


H



ASSEMBLY INSTRUCTIONS

STEP 1



Place the hex bolt (C) through the flat washer (G). Align the section (B) to the drum (A). Slide the hex bolt and washer through the pre-drilled hole on the GBDX section and through the hole on the drum.

STEP 2



On the back side of the drum, slide a lock washer (H) onto the bolt first and secure with the hex nut (D). Finger tighten the nut down enough to secure the section temporarily.

STEP 3



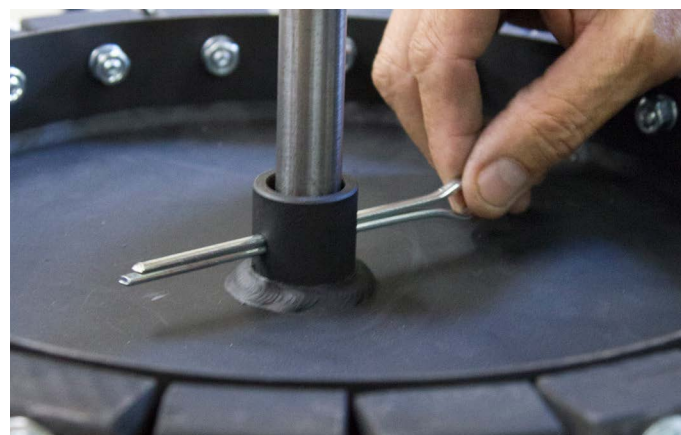
Secure the bolt with the 7/16 wrench and tighten the nut. **We recommend the use of a torque wrench to tighten the nuts to 30 in lbf (3.4 N·m).**

STEP 4



Continue this process all the way around the drum. **Once complete, flip the drum over and repeat the process securing the sections with the bolts, washers and hex nut.** Use a torque wrench to secure the hardware.

STEP 5



Slide the shaft (F) through the center hole of the drum. Align the holes of the drum and shaft. Insert the cotter pin (E).

STEP 6



Using pliers, bend the ends of the cotter pin (E) away from each other so the cotter pin cannot come out of the hole. **Repeat the cotter pin process on the bottom side of the drum to secure the shaft.** Do not reuse the cotter pin.

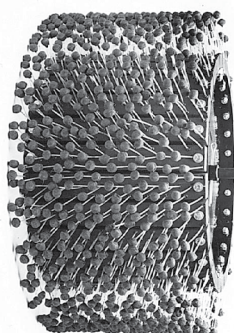
GBDX FLEX-HONE SIZES

PART ID- GBDXINSTRUCTIONS



EXTRA HEAVY DUTY FLEX-HONES

Order by Bore Size



Available with 3/4" - 1 1/4" Shafts. All 120 SC

Catalog Number	Drum Dia.	Section	# of Sections on Drum	Shaft Dia.
GBDX 19" (483mm)	11 1/2"	A	22	3/4"
GBDX 20" (508mm)	11 1/2"	B	22	3/4"
GBDX 21" (533mm)	11 1/2"	C	22	3/4"
GBDX 22" (559mm)	11 1/2"	D	22	3/4"
GBDX 23" (584mm)	15 1/2"	A	29	3/4"
GBDX 24" (610mm)	15 1/2"	B	29	3/4"
GBDX 25" (635mm)	15 1/2"	C	29	3/4"
GBDX 26" (660mm)	15 1/2"	D	29	3/4"
GBDX 27" (686mm)	19 1/2"	A	36	1"
GBDX 28" (711mm)	19 1/2"	B	36	1"
GBDX 29" (737mm)	19 1/2"	C	36	1"
GBDX 30" (762mm)	19 1/2"	D	36	1"
GBDX 31" (787mm)	19 1/2"	E	36	1"
GBDX 32" (813mm)	24 1/2"	A	44	1 1/4"
GBDX 33" (838mm)	24 1/2"	B	44	1 1/4"
GBDX 34" (864mm)	24 1/2"	C	44	1 1/4"
GBDX 35" (889mm)	24 1/2"	D	44	1 1/4"
GBDX 36" (914mm)	24 1/2"	E	44	1 1/4"

GBDX Replacement Sections Available for Above GBDX Flex-Hone*

Catalog Number		Grit Size	Overall Trim
GBDX-A	Section	120SC	4 1/8" (105mm)
GBDX-B	Section	120SC	4 5/8" (118mm)
GBDX-C	Section	120SC	5 1/4" (133mm)
GBDX-D	Section	120SC	5 3/4" (146mm)
GBDX-E	Section	120SC	6 3/8" (162mm)

Note: Sections stocked in 120SC. Other grits and abrasives available.

INSTRUCTIONS FOR USE

The Flex-Hone Tool should be securely held in a collet, chuck, or similar holding device. It is best to use the shortest shank possible for your application. The Flex-Hone Tool should be well coated with lubricant and rotating prior to entry and should continue rotating until fully removed from the part. The GBDX tool can be run from 60 to 120 RPM, depending on tool diameter. The smaller the diameter, the higher the spindle speeds. Start with a spindle speed between 60-80RPM. You may need to experiment to find the optimum speed for your application. Never exceed 120 RPM with these larger hones.

The Flex-Hone Tool must always be used with a good quality cutting

oil or honing fluid to keep heat to a minimum, prevent the tool from loading and to suspend the material being removed. The Flex-Hone Tool should have a continuous stroke rate between 120 to 180 inches per minute. Final stroking may be accelerated to develop a 45° crosshatch finish.

Use the minimum honing time needed to achieve the required finish. Average honing time is 10-25 seconds, (5-15 strokes). Clean the cylinder using hot, soapy water and brush the cylinder wall with a cleaning brush. Dry the cylinder and continue to clean with a lint free cloth coated with a light oil or mineral spirits. Continue to clean until the lint free cloth remains clean.

FLEX-HONE

GBDX ASSEMBLY