

GRS[®] BenchMate[®]

Instructions for Installing and Using the GRS BenchMate[®]

MOUNTING THE BENCHMARK

The BenchMate locks onto the **Fixed Mounting Plate (I. #004-557)** attached to the front edge of your bench. This offers several advantages. It allows you to remove the BenchMate quickly, without tools, and reinstall it just as easily. Additionally, you can change from the BenchMate to the GRS jeweler's bench pin using this same plate.

First, decide on the placement of the Fixed Mounting Plate (it's designed for most wooden jeweler's benches). The six countersunk holes give you the option to mount the plate higher, lower or parallel with your bench using the 4 wood screws provided (fig. 1). Drill a 1/16" to 3/32" pilot hole for each screw. Note that the mounting plate is tapered two ways. It is the taper that locks the BenchMate onto your bench. You must install the Fixed Mounting Plate EXACTLY as shown in fig. 1. If the edge of your bench is not thick enough you have two options:

1. You can add an extra board to the top or bottom of your bench to make a combined 1 1/2" to 2" thick edge or,
2. You can order an **Optional Mounting Adapter (H. #004-559)** that screws to the top surface of your bench instead of the edge.

USING THE BENCHMARK

INSTALLATION: Once the Fixed Mounting Plate has been fastened to the front edge of your bench, you're ready to use the BenchMate. With the word "TOP" (shown in fig. 2) on top, slide the BenchMate firmly over the Fixed Mounting Plate and pull down sharply to lock it into plate, see fig. 3.

IDEAL POSITION: Fig. 5 shows the BenchMate at an angle from the workbench. This position is ideal to adjust the height of the BenchMate if your workbench is too tall -OR- if a microscope is used. This angle is accomplished by loosening the two hex screws (part A in fig. 5). Next, line up the center point of knob 1 (fig. 4) with the top of the work surface (B in fig. 5). Hold onto the tube of the BenchMate and tighten the hex screws (part A in fig. 5) until the BenchMate is secure again.

JAWS: The clamping jaws have a

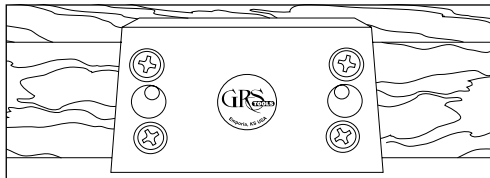


Fig. 1. #004-557 Fixed Mounting Plate

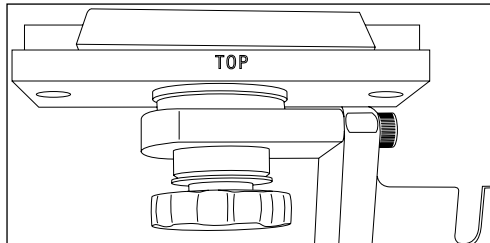


Fig. 2

plastic insert in them to prevent marring of the workpiece. These are replaceable, **Extra Plastic Jaw Inserts for BenchMate Holder (L. #004-090 or #004-558 pkg. of 10)**. You should never solder on any piece that is held in directly by the jaws or you will melt the plastic inserts. Special soldering clamps are available to go between the BenchMate jaws and

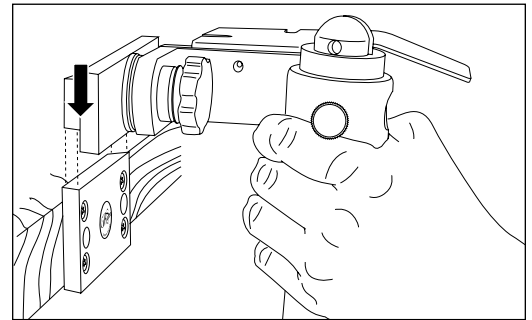


Fig. 3

the work when soldering. To replace the plastic inserts, unscrew knurled knob 3 (fig. 4) and remove the jaw assembly from the tube. Using a small rod, push out the plastic insert from the outside of the jaw into the center. Repeat for other side. Position new inserts into the holes by gently twisting to get them started. Re-insert the jaw assembly into the tube, aligning the **Locating Pin (#002-769)** into the slot in the bottom of the tube and tighten the knurled knob. As the jaw assembly is pulled into the tube, it will press the plastic jaw inserts into position.

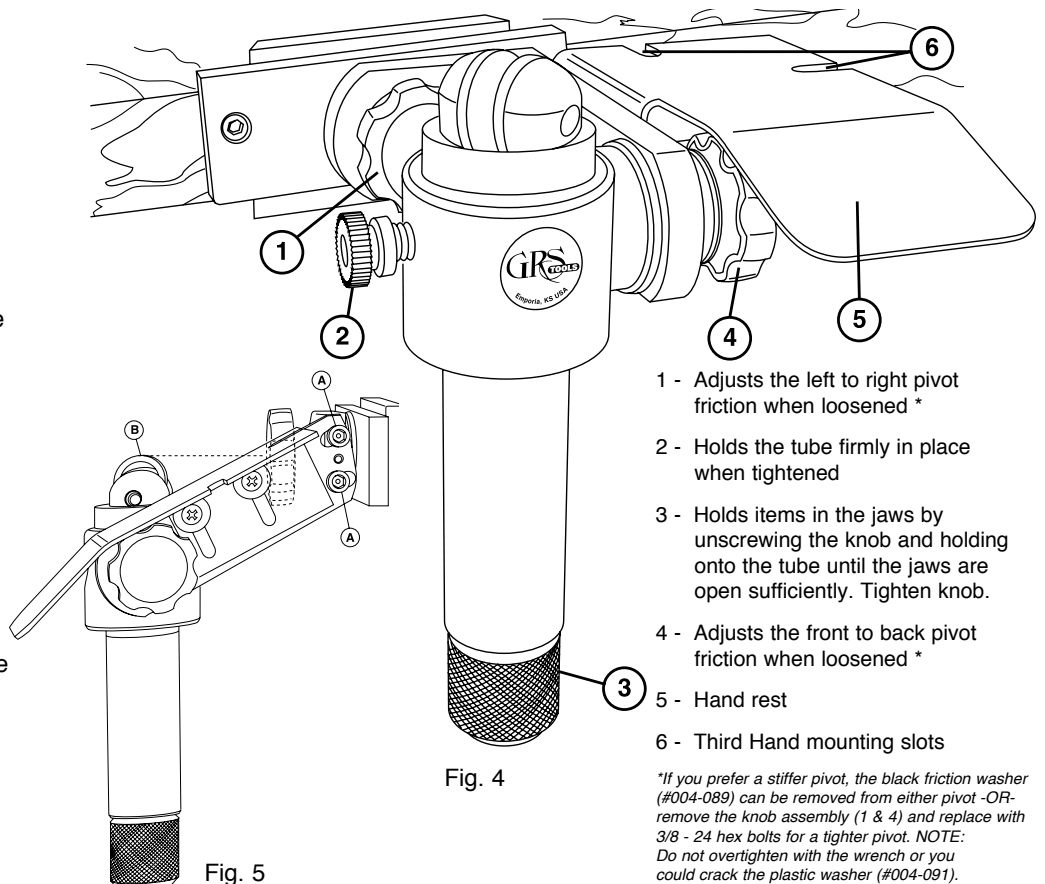


Fig. 4

- 1 - Adjusts the left to right pivot friction when loosened *
- 2 - Holds the tube firmly in place when tightened
- 3 - Holds items in the jaws by unscrewing the knob and holding onto the tube until the jaws are open sufficiently. Tighten knob.
- 4 - Adjusts the front to back pivot friction when loosened *
- 5 - Hand rest
- 6 - Third Hand mounting slots

**If you prefer a stiffer pivot, the black friction washer (#004-089) can be removed from either pivot -OR- remove the knob assembly (1 & 4) and replace with 3/8 - 24 hex bolts for a tighter pivot. NOTE: Do not overtighten with the wrench or you could crack the plastic washer (#004-091).*

Fig. 5

BenchMate[®] Maintenance

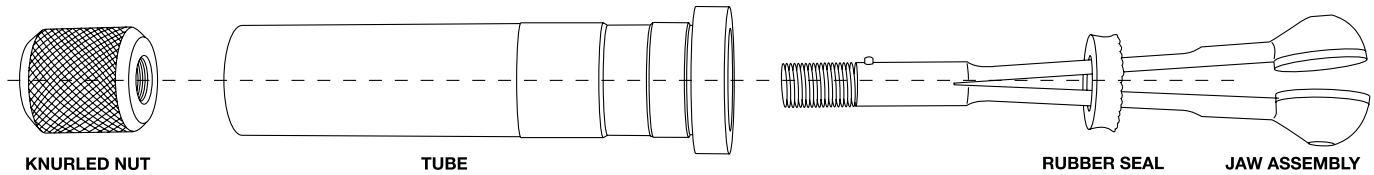


Fig. 6

The BenchMate is a heavy duty tool designed for minimal maintenance. Like all tools, some basic care will help it last longer and maintain its mechanical integrity. Keep acids and other corrosive compounds off the BenchMate. If contact is made with this type of material, wipe it clean and apply a light metal protectant such as WD-40.

FIG. 6: Remove the tube assembly from the mounting collar and unscrew the large knurled nut to disassemble the jaw assembly from the tube. Note the condition of the **Rubber Seal (#004-126)** located on the jaw assembly. This seal keeps chips and debris from entering the threaded area at the bottom of the jaw preventing premature thread wear. If seal appears damaged or torn, it should be replaced.

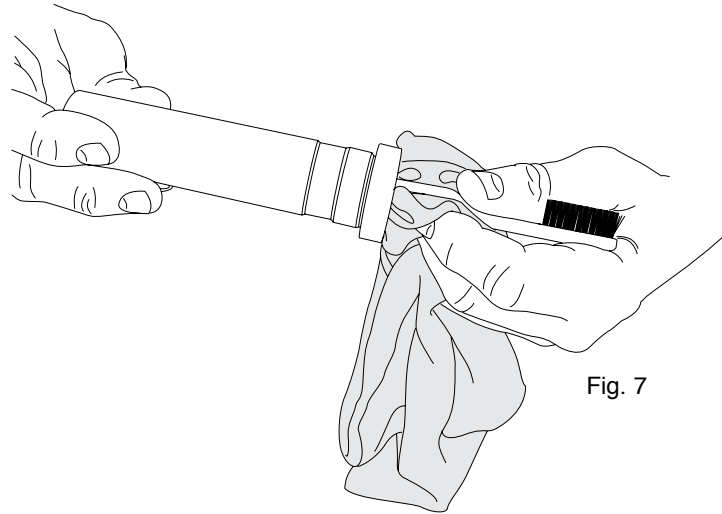


Fig. 7

FIG. 7: Clean the inside of the tube using a cloth and a wood dowel or toothbrush handle. Check that all debris is removed at the bottom of the tube.

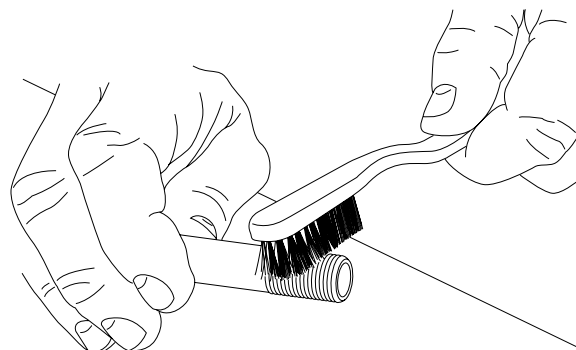


Fig. 8

FIG. 8: Using a soft bristle brush, clean the debris from the threaded area at the bottom of the Jaw assembly. Take time to clean the threads inside the knurled nut as well and check the fit of these 2 pieces by threading them together. Lightly oil the clean threads, re-assemble the jaw into the tube and snug the knurled nut.
Note: When you install the jaw assembly back into the tube be absolutely certain that the locating pin near the screw threads goes back into its mating slot inside the tube. Failure to do this may result in damage to your BenchMate Jaw Assembly.

FIG. 9: Lightly oil the outside of the tube near the top when reinserting into the mounting collar.

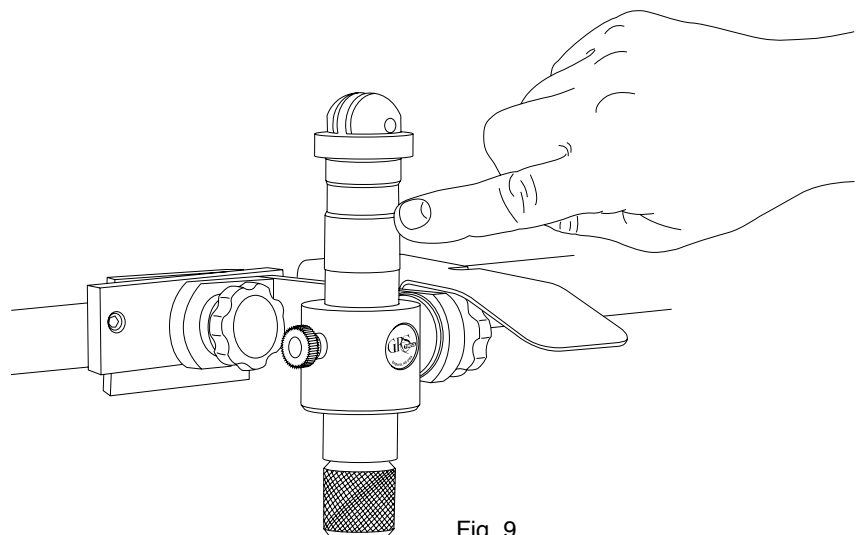


Fig. 9

Depending on the amount of use, these maintenance procedures should be done when you begin to notice more force is needed to clamp the workpiece.

BenchMate® Accessories

Although the BenchMate can be used for a variety of work, it is most often used in jewelry making. Many of the accessories are therefore designed almost exclusively for jewelry work.

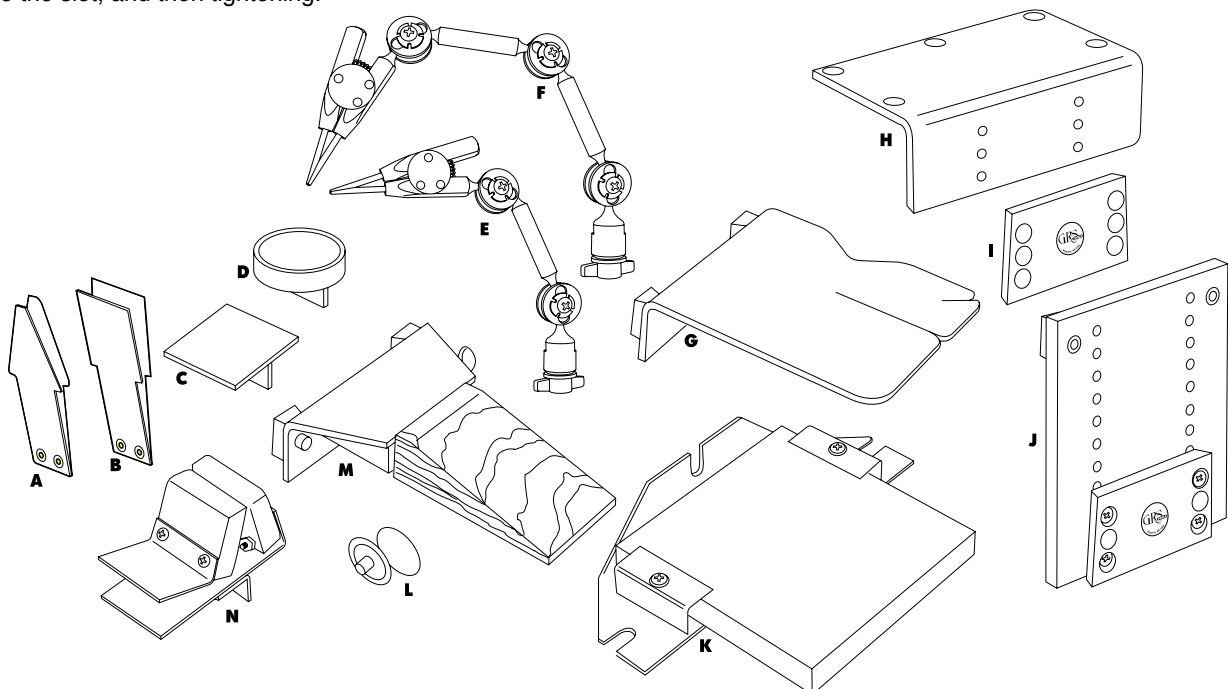
The optional Bench Pin Kit (M. #004-556) allows a jeweler to replace the BenchMate with a traditional bench pin in just a few seconds. It mounts onto the same Fixed Mounting Plate as shown in fig. 1. Because it supports your work better, you will probably use the BenchMate whenever possible instead of the Bench Pin.

Every BenchMate comes with a Shellac Pad (C. #004-106). The bottom leg of this attachment should be firmly clamped in the jaws of the BenchMate for use. Small, irregular, or fragile items are fastened onto the top of the pad with jeweler's shellac, wax, pitch, or various glues. Work can be performed on the small piece that would otherwise be quite difficult.

Especially to a jeweler, soldering is critical. The BenchMate has some very effective attachments especially designed to help a jeweler with soldering. As mentioned earlier, the main BenchMate jaws have a special replaceable plastic insert to minimize marring of the workpiece. You should never solder on any piece that is held directly in the main BenchMate jaws or you may melt these plastic inserts onto the piece. There are two special stainless steel soldering clamps (A. #004-552 and B. #004-553) that fit into the BenchMate jaws. These clamps do two things, they isolate the piece from the main jaws while elevating the work and they provide a stainless steel surface which resists damage due to solder, flux, etc.

One of the best accessories for soldering is the Third Hand Attachment (E. #004-646 and F. #004-546). This product makes precise soldering easy by holding parts in the exact position you want. With unequal flexibility, the Third-Hand can twist, rotate and bend in all directions. They can also mount directly to the hand rest plate by loosening the knob, slipping it into the slot, and then tightening.

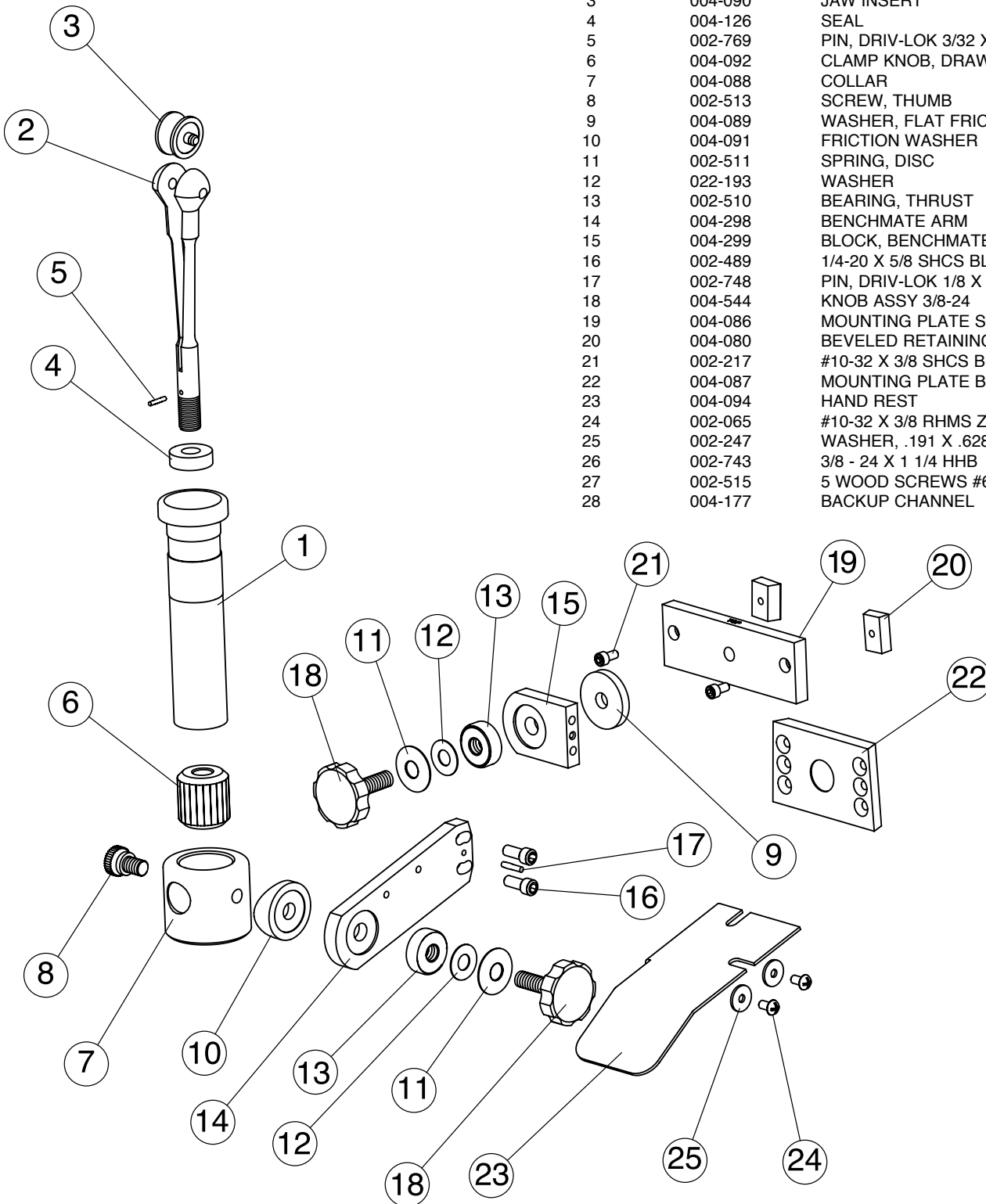
Part No.	DESCRIPTION
#004-552	A. Narrow Solder Clamp
#004-553	B. Wide Solder Clamp
#004-106	C. Shellac Pad
#004-660	D. Pitch Cup <i>Filled with heat meltable material to hold small, irregular or fragile pieces.</i>
#004-646	E. Short Third Hand Attachment
#004-546	F. Third Hand Attachment
#004-680	G. Sawing Plate, Right-Hand
#004-684	G. Sawing Plate, Left-Hand
#004-559	H. Optional Mounting Kit <i>For attaching Fixed Mounting Plate to curved or thin bench tops.</i>
#004-557	I. Extra Mounting Plate <i>2" x 3 1/4" x 3/8", 6 countersunk holes, comes with 5 wood screws.</i>
#004-666	J. Adjustable Height Bracket <i>Includes another fixed mounting plate that can be lowered up to 4" in 1/2" increments.</i>
#004-569	K. 4" (100mm) Soldering Pad Assembly
#004-558	L. Jaw Inserts (pkg of 10)
#004-556	M. Bench Pin Kit
#004-592	N. Insulated Solder Clamp
#004-589	Inside Ring Mandrel <i>Includes holder body, 7 collets, expansion screw and wrench.</i>
#004-628	Multi-Purpose Vise <i>Includes vise assembly and wrench. Fits any BenchMate. Fixed Mounting Plate. Jaws are 2.3" wide, 1.6" tall and open to 1.8".</i>



BenchMate® Parts List

BENCHMATE BASIC PACKAGE PARTS LIST

ITEM NO.	PART NO.	DESCRIPTION
1	004-095	TUBE
2	004-096	CLAMP JAW
3	004-090	JAW INSERT
4	004-126	SEAL
5	002-769	PIN, DRIV-LOK 3/32 X 1/2 TP E
6	004-092	CLAMP KNOB, DRAW DOWN
7	004-088	COLLAR
8	002-513	SCREW, THUMB
9	004-089	WASHER, FLAT FRICTION
10	004-091	FRICTION WASHER
11	002-511	SPRING, DISC
12	022-193	WASHER
13	002-510	BEARING, THRUST
14	004-298	BENCHMATE ARM
15	004-299	BLOCK, BENCHMATE ARM
16	002-489	1/4-20 X 5/8 SHCS BLK
17	002-748	PIN, DRIV-LOK 1/8 X 5/8 N PHA
18	004-544	KNOB ASSY 3/8-24
19	004-086	MOUNTING PLATE STRAIGHT
20	004-080	BEVELED RETAINING BLOCK
21	002-217	#10-32 X 3/8 SHCS BLK
22	004-087	MOUNTING PLATE BEVELED
23	004-094	HAND REST
24	002-065	#10-32 X 3/8 RHMS Z/P
25	002-247	WASHER, .191 X .628 X 16 GA
26	002-743	3/8 - 24 X 1 1/4 HHB
27	002-515	5 WOOD SCREWS #6 X 1 5/8
28	004-177	BACKUP CHANNEL



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 Last Update: 2019-10-03