

Photo 1

INSTRUCTIONS

For operating Gorton 3-E Signature and 3-Q
General Purpose Portable Engravers
[Patents applied for and pending]

The new light portable machines for Department and Mail Order Stores, Stationers, Pen Shops, Dealers in Advertising Novelties, etc., for the engraving of lettering and designs on wood, fibre, hard rubber, celluloid, Bakelite and similar plastic molded articles, also zinc-base and aluminum die-castings (not for soft brass or copper)—including

FOUNTAIN PENS	COMBS
PENCILS	MANICURE SETS
KEY TAGS	NAME PLATES
CIGARETTE HOLDERS	TOOTH BRUSHES
PIPE STEMS	THERMOMETER CASES
KNIFE HANDLES	SHELL SPECTACLES
CIGARETTE LIGHTERS	SOAP CASES
ADVERTISING NOVELTIES	

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712 Oak St. Chicago, Ill.

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GEORGE GORTON MACHINE CO.
RACINE, WISCONSIN, U. S. A.

Photo 2

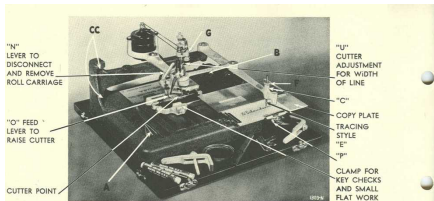


FIG. 1 — 3-E SIGNATURE ENGRAVER

Gorton Engravers are made in two models, the 3-E Signature Engraver, and the 3-Q General Purpose Engraver. The 3-E reproduces 2 to 1 or half size of original copy only. The 3-Q reproduces either 2 to 1 (half size) or 4 to 1 (quarter size) and is equipped to reproduce printed letters from brass type included with machine. Otherwise the machines are exactly alike. The equipment which comes with each is different as noted on page 6.

UNPACKING and SETTING UP NO. 3-E

References are to Fig. 1 above unless otherwise indicated. The machines come packed in their own carrying cases. When the cover has been removed the bottom of the case serves as a base for the machine, to which it is bolted.

1. With largest pin wrench A screw lock stud B down as far as it will go.
2. Remove long screw (flat blade furnished to fit slot) that fastens tracing arm C to bushing on copy plate, then remove bushing.
3. Screw tracing style E (with point down) into tracing arm to just clear copy plate, and fasten by screwing down lock nut F found on style.
4. Cut string fastening cutter head G, lift cutter sleeve to up position as shown in Fig. 2, and remove block under cutter point.
5. Examine the machine now and make sure of the following: a, knurled clamp screw on right side of roll carriage must be loose so as not to hind roll slides; b, rubber belt should be in pulley groove; c, coil spring I (Fig. 2) should be snapped on pin J; e, knurled cap M (Fig. 2) must be tight on bottom of cutter sleeve with its hinge grooved side down (Fig. 4); f, guide lever N (Fig. 2) should engage flange at rear of roller carriage.

The machine is now ready to use for engraving pens, pencils, or other round objects.

Photo 3

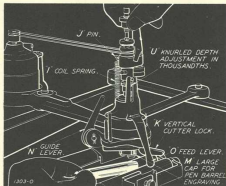


FIG. 2—LIFTING CUTTER HEAD TO PLACE PEN BARREL ON ROLLERS

ENGRAVING on PENS and OTHER ROUND OBJECTS

Make the first few trials on an old or broken pen barrel till you see what size to write the signature for copying on the pen and how to locate it. With the machine before you ready for use and connected to a light socket:

1. See that feed lever O is over to right as far as it will go, then lift cutter sleeve till it locks in the raised position with vertical cutter lock K (Fig. 2).
2. Place pen on rollers as Fig. 2.
3. Clip signature which has been written on a piece of stiff paper to the copy plate (Fig. 1).
4. Start motor.
5. While holding the cutter sleeve at top release the lock K and lower cutter easily on pen as Fig. 2.
6. Place tracing style at beginning of signature on copy plate.
7. Push feed lever O to left or "down" position and start to trace (as on cover illustration). Watch the copy, not the cutter, and try to follow signature closely with the tracer style, using a smooth, steady motion, not rapid or jerky.
8. Be sure to lift cutter point by pushing feed lever to right to dot i's, cross t's, make punctuation marks, and to begin new words. Then let down as before.
9. Lift cutter point at end of signature. Having made sure that signature on pen is complete, lift the cutter sleeve to raised position again.
10. The upper copy plate with rectangular opening shows maximum size of copy for engraving key tags when the roller carriage is used as stationary fixture.

Caution: a. Make sure that you have sufficient clear space on the pen for signature so it will not run over maker's imprint, into a hole, or off the end. b. The cutter point should never be left down on the work particularly when the motor is not running as any accidental jar on the tracing arm may then break off the fine point of the cutter, besides marring the work. The cutter point is made of extremely hard but somewhat brittle tungsten-carbide, and must not be subjected to sudden blows.

- c. Do not try to place pen on rollers when cutter is down.
- d. Do not let cutter drop on work by releasing catch without holding cutter sleeve.
- e. If pen or pencil has a clip on it, this should be removed or the pen must be placed so the clip is clear of the rollers at the up and down limits of the engraving.

Photo 4

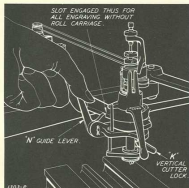


FIG. 3—ARRANGING MACHINE FOR FLAT WORK



FIG. 4—CAPS FOR FLAT SURFACE AND PEN BARREL ENGRAVING

Depth of Cut: The depth of cut or width of line is regulated by turning the *knurled nut U* (Fig. 2) to the right for a deeper cut and heavier line, or to the left for a lighter line. Each graduation of the nut represents one thousandth inch depth of cut.

Engraving at an Angle: If the signature lies straight across the copy plate the pen will be engraved straight along the barrel. Any deviation of the signature from the horizontal will cause a corresponding deviation in the engraving on the pen. To engrave at a given angle, loosen the clamp P (Fig. 1) and swing copy plate to desired angle. To engrave signature completely around the barrel, swing copy plate 90 degrees.

ENGRAVING KEY CHECKS, NAME PLATES, ETC.

(With 3-E, or with 3-Q when fitted with roll carriage)—

1. Raise cutter as in 1, page 3.
2. Secure the key check or name plate in the little holder on the front of the roller, by the screw.
3. Disengage the guide at back of roller carriage with lever N (Fig. 3). This automatically engages the opposite end of lever casting with pantograph to keep cutter head from turning.
4. Remove cap M with hinge and replace with cap T, fitting cap over spindle nose with pin W in slot of cap, all as Fig. 4.
5. Readjust cutter for proper depth of cut as "Depth of Cut," above.
6. Place the tracing style at beginning of signature.
7. Move roller carriage along the ways till the work is in right position for starting to engrave.
8. Clamp roller carriage in this position with knurled lock screw at right side of carriage.
9. Proceed as in 7, page 3, under "Engraving on Pens and Other Round Objects."

ENGRAVING LARGE FLAT or CURVED WORK on 3-E

Work that is too large to be placed between the rollers or in key check holder may be engraved on the 3-E machine by removing the roll carriage.

1. Disengage guide at back of roll carriage with guide lever N (Figs. 2 and 3).
2. Push roll carriage back off the machine.
3. The knurled cap T (Fig. 4) is used on the lower end of the cutter spindle instead of the cap M. Fit slot in cap over the small pin (all as Fig. 4).
4. Adjust cutter for depth of cut—see under "Depth of Cut," page 4.

Photo 5

5. Lay work on roll carriage ways and fasten down with large clamps furnished, the screws of which fit tapped holes in base.
6. If the work is not too thick it can be laid directly on the rubber rolls of the roll carriage and held with clamps, with the carriage locked in place with set screw at right hand side, and with lever N connecting with pantograph as Fig. 5.

FILLING with CRAYON

The engraved lettering must be cleaned thoroughly of chips and burrs with the brush that comes with the machine. For filling in, gold and silver crayons are furnished with the machine. Rub the end of a crayon well into the engraving and wipe off the surplus with a clean rag. If periods or 1's, etc., do not stand out properly, touch them up with crayon. This filling will resist water and last indefinitely.

CHANGING CUTTERS

(Fig. 2): When a cutter becomes dull, recognized by its failure to engrave a clean cut line, it can be replaced as follows: Swing bracket X to right and withdraw cutter. Measure distance of pulley from cutter point. Then with one pin wrench in hole of cutter pulley Y and the other in lock nut Z, loosen nut and remove pulley. Place pulley on new cutter at approximately same distance from point, tighten lock nut on pulley, and replace cutter in the machine. Swing bracket over top of cutter and adjust end thrust R (Fig. 4) so it just clears by a tissue paper thickness, taking care to tighten the lock nut L. Adjust for depth of cut as under "Depth of Cut," page 4.

OILING

Fill the motor grease cups every month with a light motor grease such as Standard Oil Co.'s Superia X-2 or any vacuum cleaner motor grease. Wipe with an oily rag occasionally, the narrow center guide beneath roll carriage and guide at upper rear of carriage. Roller shaft bearings on roll carriage, and rear bearings CC (Fig. 1) carrying pantograph assembly, should be oiled every month. Use a toothpick or broom straw for a dropper so as not to get too much oil. Any light oil is satisfactory.

DO NOT oil cutter bearings or other pantograph bearings.

RESHARPENING CUTTERS

When a cutter raises a burr and will not cut a clean line, it should be returned to the factory for re-sharpening. On pens and celluloid or bakelite key checks, a cutter should be good for 500 signatures before resharpening, unless the point has been chipped or broken by careless handling. Do not attempt to sharpen cutters on an ordinary stone, as they are of special material, as hard as a diamond, and must be sharpened on a special diamond impregnated wheel.

OTHER GORTON PRODUCTS

We also make larger engraving machines, including a complete line of Die, Mold and Tool Making machines in 30 styles and sizes. Several thousand of these machines are in use, effecting tremendous savings in the production of plastic, rubber and glass molds, die-casting dies, stamps and roll dies, rolls, small accurate tool and production work, high speed profiling and in the engraving of lettering and designs in any material.

40 YEARS *The Mark of* FINE MACHINE TOOLS



Photo 6

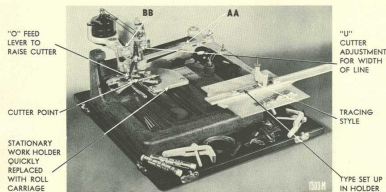


FIG. 5—3-Q GENERAL PURPOSE ENGRAVER

INSTRUCTIONS FOR NO. 3-Q [Fig. 5]

The 3-Q is shipped with pantograph set for 2 to 1 reduction and stationary work holder instead of roll carriage as on 3-E, in place. With this exception noted the directions given on previous pages for unpacking and setting up the 3-E apply to the 3-Q machine.

To change the reduction from 2 to 1, as shipped, to 4 to 1 (as Fig. 5) unscrew, with pin wrench, nut AA and nut BB and lift off the pantograph assembly. Replace pantograph and fit on the pins as in Fig. 5. Then screw down nuts as before. The work holder must also be shifted with change of reduction so that cutter will come over the work. Take out the screws which fasten the work holder to the base and move the work holder back till the holes at its front are in the same position. Fasten the work holder to the base in its new position. The stationary work holder is fitted for engraving pens (without rotation) and thin flat objects. The pen supports may be moved back and forth for different lengths of pens or pencils by loosening screws with pin wrench. For engraving small block letters on pens from brass type furnished, the pen may be held stationary, exactly like illustration Fig. 5. For engraving large signatures on pens the roll carriage may be substituted for the stationary work holder. Large flat or curved work is mounted for engraving by removing the stationary work holder and clamping work to the base of the machine as described on previous pages.

ACCESSORIES FURNISHED with No. 3-E, COMPLETE as in PHOTO, PAGE 2

1—3-E machine in carrying case with motor as specified, complete with cord and switch, depth regulator 663-1 for pen bbbs, etc., depth regulator 8297-A for flat work, tags, etc., 2 hard alloy tipped cutters 8272-A, 1 cutter pulley 8222-A, with nut 8223-A, 5 endless rubber belts, 3 copy holding clips, 2 large flat work clamps with bolts, 1 copy locating template 8756-A, 1 cleaning brush, 1 ea. gold and silver crayon, 3 pin wrenches, 1 tracing style 8219-A with nut 8220-A, 1 roll holder 662-1, 1 instruction book Form 1312-A.

ACCESSORIES FURNISHED with No. 3-Q, COMPLETE as in PHOTO ABOVE

1—3-Q machine in carrying case with motor as specified, complete with cord and switch, depth regulator 8279-A for flat work, 2 hard alloy tipped cutters 8272-A, 1 cutter pulley 8222-A with nut 8223-A, 5 endless rubber belts, 3 copy holding clips, 1 copy locating template 8756-A, 1 cleaning brush, 1 ea. gold and silver crayon, 3 pin wrenches, 1 tracing style 8219-A with nut 8220-A, 1 stationary work holder 475-1, 1 type holder 474-1, 1 set Gorton type 475-1, 2 large flat work clamps with bolts, 1 instruction book Form 1312-A.

SUPPLIES

Motor, A.C. and D.C., 110 Volts	\$ 7.00—TRASHOGAIS
Motor, A.C. and D.C., 220 Volts	7.00—TRASLAPAD
Roll Holder 662-1	10.00—TRAPICHEAR
Stationary Holder 473-1	15.00—TRAPISONDA
Cutter Pulley 8222-A and Nut 8223-A	2.50—TRASDOBLEAR
Type Holder 474-1, single $\frac{1}{4}$ " groove	10.00—TRAPINERO
(Special Holders of any size and number of grooves can be furnished)	
Std. Gorton type set 475-1 ($\frac{1}{4}$ " characters on $\frac{3}{8}$ " beveled blanks)	26.00—CUSPATED
(Many other styles and sizes can be furnished to special order)	
Depth Regulator 663-1 for Pen bits	3.50—TRASFUMATE
Depth Regulator 8297-A for flat work	4.00—TRAPUNGEVA
Hard Alloy tipped cutter ($\frac{1}{4}$ " dia.) 8272-A	2.95—TRAQUENARD
Steel cutter ($\frac{1}{8}$ " dia.) 8719-A	1.10—TRARUPATE
Diamond Cutter 664-1	15.00—TRASFILGAR
Endless rubber belts (lots of five only)	1.00—TRASABOLO
Copy locating template 8756-A	1.25—TRASLOARON
Clips for holding copy (for 2 clips)20—TRASALTARE
Cleaning brush25—TRANSANDATO
Gold crayon	1.50—TRASAPEVA
Silver crayon	1.50—TRASCIGLIO
Tracing style 8219-A and nut 8220-A75—TRASCIENDO
Work Holding clamps 8242-A with bolts and washers (for 2 complete)50—TRASCOLARE
Rheostat for adjusting motor to any voltage, either A.C. or D.C.	3.50—TRASCORRAL
Celluloid key check blanks (as illustrated in samples page 2)	per 100 3.00—TRASEGARON
(Send for samples of colors)	

SHARPENING CUTTERS

Hard Alloy Tipped	1.50
Hard Alloy Tipped (in lots of five)	1.00
Steel	1.00
Steel (in lots of five)75

TERMS: Cash with order or sight draft attached to bill of lading. Minimum order filled,—fifty cents.

GUARANTY

These machines receive the same painstaking care in machining and assembly as our largest expensive machines. Every one is carefully tested before leaving the factory and we guarantee it to be in perfect working order and free from defects in material and workmanship.

Photo 8

