



STAKING TOOLS

and how to use them . . .

K & D
since
1876

K&D MANUFACTURING CORPORATION
POST OFFICE BOX 521 • 250 BANK STREET
LEBANON, NEW HAMPSHIRE 03766

Since 1876, K & D Manufacturing Corporation has specialized in designing and manufacturing high quality, precision instrument tools. Initially, these found use largely by watchmakers and jewelers, but with the advent of miniaturization, the demand for K & D tools grew tremendously. Today, K & D Manufacturing Corporation is constantly developing new tools and refining the existing line to fulfill application requirements for virtually every type of precision mechanical and electrical/electronic assembly and service work.

Thanks to the company's many years of experience in tool design and manufacture, plus a rigid policy of quality control, K & D tools have earned a reputation for being durable, dependable . . . and a pleasure to own and to use.



STAKING TOOL



... like any other precision product, must be given proper care and attention in order for you to attain complete satisfaction and produce quality workmanship. Years of technical "know-how" have enabled K & D Manufacturing Corporation, manufacturers of watchmakers' tools since 1876, to produce the best Staking Tool at the most reasonable price.



Staking Tools



No. 43-119
18-R DELUXE STAKING TOOL SET

Set contains:

- No. 43-355 & 43-360 Balance Staff Removers
- No. 43-401-130 Cone Miller
- No. 43-118-01 Frame complete with Die Plate,
Micrometer Stop, and Lever
- No. 43-118-03 Hardwood Box
- No. 43-305B & 43-305C Adjustable Roller Remover Stumps
- No. 43-316 10 Sub-Punches & Holder
- No. 43-321 7 Jewel Pushers & Holder
- No. 43-322B 18 Jeweling Reamers & Holder
- No. 43-323 & 43-323B Cannon Pinion Closing Punches
& Stumps
- No. 43-324 6 Friction Jeweling Stumps
- 100 Selected Punches & 20 selected Stumps



18-B Frame and Die Plate
without Micrometer
Stop and Lever



No. 43-118
18-B STAKING TOOL SET

Set contains:

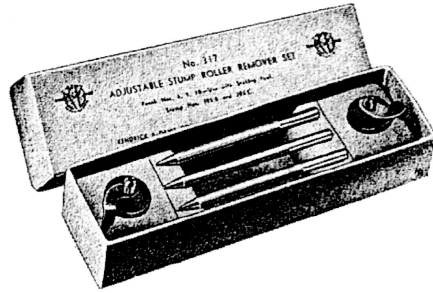
- No. 43-116-01 (18-B) Frame
- No. 43-118-03 Hardwood Box
- No. 43-305 B & 43-305C Adjustable Roller Remover Stumps
- No. 43-316 10 Sub Punches & Holder
- 100 Selected Punches & 20 Selected Stumps

The following sets consist of the 18-B Frame & Hardwood Box:

- No. 43-099A 30 Punches & 10 Stumps
- No. 43-100A 60 Punches & 20 Stumps
- No. 43-101A 80 Punches & 20 Stumps
- No. 43-102A 100 Punches & 20 Stumps

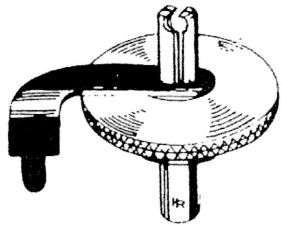


STAKING TOOL ACCESSORIES



No. 43-317 ADJUSTABLE ROLLER REMOVER SET

Contains 3 cross hole punches (K & D Punches 7, 8, and 9) and 2 adjustable stumps with discs and locking arms. In use, the tool fits in the die plate of the staking tool arms. The bent arm or locking lever fits into one of the die plate holes or center hole of the die bolt. The balance with the roller attached should be inverted and slipped in between the jaws, so the jaws come between the balance hub and the top of the roller table. The gap in the jaws is adjusted by turning the knurled collet or disc. Using the corresponding roller remover punches, tap the balance lightly, and the roller will slip off the balance shoulder.

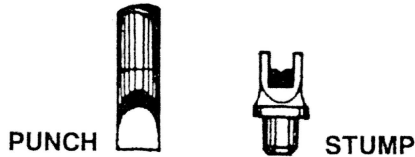


No. 43-305-B and 43-305-C ADJUSTABLE ROLLER REMOVER STUMPS

Each is furnished with adjusting disc and locking lever as in the No. 43-317 set. The stumps are made of tool steel and are hardened and tempered. The discs and locking levers are satin chromium plated.

No. 43-305-B for baguette and bracelet watches

No. 43-305-C for pocket watches



**No. 43-323
CANNON PINION CLOSING PUNCH AND STUMP**

The stump is slotted to hold the cannon pinion, and the punch is wedge shaped. To use this tool, fit the stump to a hole in the die plate and center it. Place the cannon pinion in the stump slot, and pass the punch through the staking tool frame bushing over the cannon pinion. Light taps will then dent the cannon pinion, tightening it on the center wheel staff.

No. 43-323 Punch and Stump for Pocket Watches

No. 43-323-B Punch and Stump for Bracelet and Baguette Watches

No. 43-350 BALANCE STAFF REMOVERS

A valuable tool for extracting staffs quickly and efficiently. The balance arms are protected against distortion and splitting. All parts except the punch are satin chromium plated.

To use: Select a hole in the staking tool frame die plate which fits closely over the hub of the staff. Center the hole with the centering punch and place the staff in the hole so the balance arms rest on the die plate.

Place the remover over the balance as illustrated. The hole in the bottom of the remover fits over the hairspring shoulder of the staff. Pass the extracting punch through the staking tool frame and remover so that it rests on the pivot of the staff.

Now turn the upper knurled sleeve counter-clockwise so it moves upward against the staking tool arm. The stop arm of the tool will swing against the body of the staking tool frame and prevent the body of the tool from turning. Tighten the sleeve just enough so the remover sits firmly in the staking tool frame.

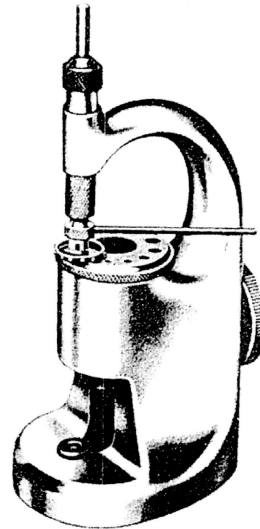
Strike the Punch with a sharp blow using a brass hammer (K & D No. 26-491) and the staff will come through the hole in the die plate. The removers are made in two sizes, $\frac{7}{8}$ " for the old 600 series frames (as illustrated) and $1\frac{1}{8}$ " for the 18 series frames.

No.	For	Size
43-353	Pocket Watches	$\frac{7}{8}$ "
43-355	Pocket Watches	$1\frac{1}{8}$ "
43-558	Bracelet Watches	$\frac{7}{8}$ "
43-360	Bracelet Watches	$1\frac{1}{8}$ "

(When ordering, specify size: $\frac{7}{8}$ " or $1\frac{1}{8}$ ".)

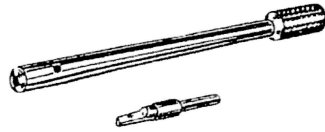
Replacement Punches

43-350-11	—	Pocket Watches
43-350-B11	—	Bracelet Watches





FRICTION JEWELING ACCESSORIES



No. 43-322-B JEWELING REAMERS AND HOLDER

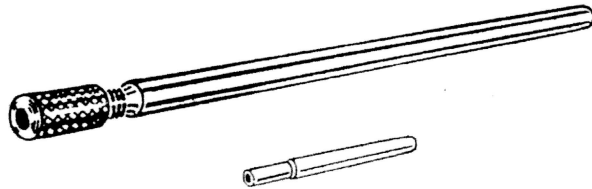
The set contains 18 jewelry reamers and holder that fits all K & D staking tool frames. Each reamer is numbered to correspond with the jewel size, but has been precision ground .01 mm. smaller, so that the jewel will fit snugly. As an example, a No. 6 reamer actually measures .59 mm. Reamer sizes are: .59, .69, .79, .89, .99, 1.09, 1.19, 1.29, 1.39, 1.49, 1.59, 1.69, 1.79, 1.89, 1.99, 2.29, 2.59, 2.99.



No. 43-324 FRICTION JEWELING STUMPS

The set consists of 6 hollow friction jewelry stumps graduated in size to accommodate the jewelry reamers.

Stump No.	13-F	14-F	16-F	17-F	19-F	20-F
Hole Diam. in mm.	3.05	2.05	1.77	1.48	1.15	.85



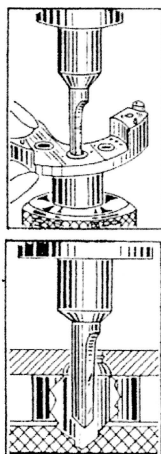
No. 43-321 JEWELING PUSHERS AND HOLDER

Set contains 7 jewelry pushers and holder. The pushers are concave and graduated in size to cover the full range of standard jewels. They are made of steel and hardened and tempered. The handle or holder fits all K & D staking tool frames.

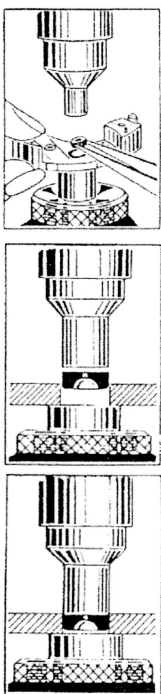
STEPS IN FRICTION JEWELING



How To Use The Reamers



How To Set Friction Jewels



1—Select a jewel stump that has a hole larger than the diameter of the jewel to be replaced. Place the stump in the dieplate of the staking tool frame and center.

2—Select a pusher that is slightly smaller than the diameter of the jewel to be replaced. Place in holder and pass through staking tool head.

3—Except when setting balance jewels, place watch plate or bridge on stump with inside of plate facing up. When setting balance jewels, outside of plate or bridge faces up. Rest pusher on old jewel, and adjust micrometer stop so that this will be the limit of the movement of the pusher. This is done so that the new jewel will be pressed to the same depth as the old one.

Note reading on micrometer stop.

4—Lower micrometer stop, and press out old jewel.

5—If the old jewel was a friction jewel, and side of hole is in good condition, steps 6 and 7 may be eliminated. Simply measure hole by using reamer, and proceed to step 8.

6—If hole is to be refinished, select a reamer that is slightly larger than the old hole, put in holder, and pass through staking tool head.

7—Turn reamer holder and ream out new hole, running reamer through plate or setting and beyond, so that approximately .5 to 1.0 mm. of the shoulder of the reamer enters the hole. Withdraw reamer and holder from staking tool frame.

8—The cone miller is then used to remove burrs from around the edges of the hole.

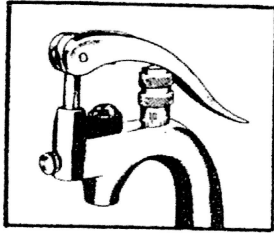
9—Place jewel in reamed out hole with oil cup facing down.

10—Put pusher and holder back in staking tool head, reset micrometer stop to reading noted in step 3, and rest pusher on new jewel.

11—Press lever gently but firmly to force the jewel into the hole. Micrometer stop will prevent lever from pressing jewel further than necessary.

12—If, after checking end shake, the jewel needs to be reset higher or lower in the plate, adjust micrometer stop, and press jewel.

13—When friction fit jewel settings are loose in plates or bridges, tighten before attempting to set jewels. See instructions on use of Taper Mouth Closing Punches.

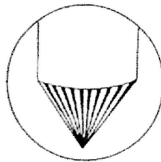
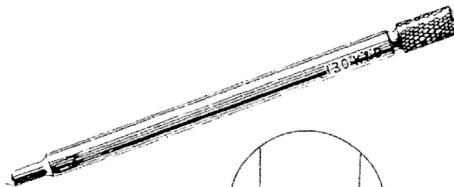


No. 43-18-X JEWELING CONVERSION KIT

To convert the 18-B Set or 18-B Frame for Friction Jeweling Set contains:

- No. 43-401-130 Cone Miller
- No. 43-321 Jewel Pushers and Holder
- No. 43-322-B Jeweling Reamers and Holder
- No. 43-324 Set of Friction Jeweling Stumps
- No. 43-504-S Micrometer Stop and Lever

For older style 18-B sets having a smaller wooden box, purchase additional larger No. 43-118-03 Box.



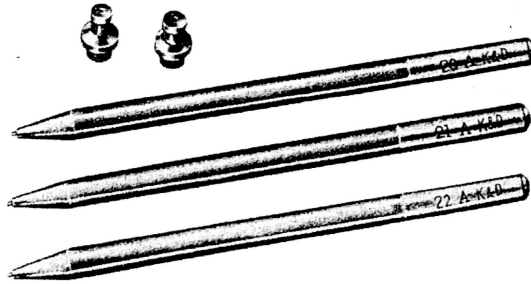
No. 43-401-130 CONE MILLER

Used to remove any burrs from jewel settings or similar counter-sinking operations. Knurled top is satin chromium plated. Miller fits all K & D staking tool frames.



No. 43-316 SUBPUNCHES AND HOLDER

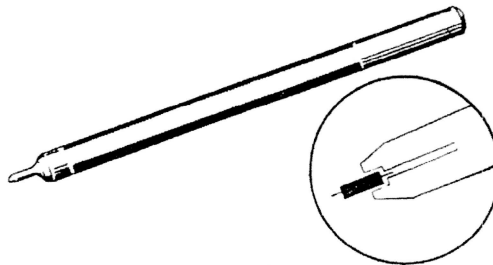
The set consists of 10 subpunches and a holder that fits K & D staking tool frames. The subpunches range in size from .010" to .055" diameter by graduations of .005". They are made of tool steel and are hardened and tempered.



No. 43-329-A

PUNCHES AND STUMPS FOR INCABLOC ROLLERS

This set contains K & D Punches Nos. 20-A, 21-A, and 22-A; and Stumps Nos. 62 and 67. The punches are shaped to fit the groove in the bottom of the incabloc rollers.



No. 43-331 PALLET ARBOR PUNCHES

This set contains K & D punches Nos. 131, 132, and 133. They are provided with a double shoulder hole to support both the pivot and part of the body of the pallet arbor. A drop of oil in the hole will prevent the pallet arbor from falling out of the punches.



No. 26-491 BRASS HAMMER

Especially designed for staking tools. Brass head will not mar punches. Just the right amount of spring in the handle. Head is 2" long, weight 1½ oz. Handle is polished, clear lacquered hardwood.



TABLE OF PUNCHES

All Measurements in mm

Punch No.		Hole Dia.	Punch No.		End Dia.	Hole Dia.
1	Set Punch		26B	Staking Rollers		.51
7	Cross Hole Punch	.16	26C	Staking Rollers		.41
8	Cross Hole Punch	.18	27	Closing Collets		1.40
9	Cross Hole Punch	.21	28	Closing Collets		1.18
10	Cross Hole Punch	.25	31	Taper Mouth Closing	3.53	1.09
12	Triangular Punch		32	Taper Mouth Closing	2.90	.91
13	Prick Punch		33	Taper Mouth Closing	2.68	.84
14	Peening Punch		34	Taper Mouth Closing	2.15	.79
15	Stretching and Peening		35	Taper Mouth Closing	2.01	.66
16	Center Wheel Punch	1.94	36	Taper Mouth Closing	1.61	.61
17	Center Wheel Punch	1.51	37	Taper Mouth Closing	1.40	.53
18	Center Wheel Punch	1.18	38	Taper Mouth Closing	1.15	.46
20A	Staking Double Rollers Incabloc		38A	Taper Mouth Closing	.99	.31
21A	Staking Double Rollers Incabloc		39	For Waltham Detachable Staffs (Driving Out)	.71	.21
22A	Staking Double Rollers Incabloc		40	For Waltham Detachable Staffs (Driving In)	1.14	.63
25	Staking Rollers	.79	41	For Waltham Detachable Staffs (Driving In)	.94	.61
26	Staking Rollers	.63	42	For Waltham Detachable Staffs (Driving In)	.76	.45

FLAT FACE HOLE PUNCHES

Punch No.	Hole Dia.	Punch No.	Hole Dia.	Punch No.	Hole Dia.
44	2.38	59A	.81	64	.50
50	1.45	60	.79	69	.45
51	1.40	61	.75	70	.40
52	1.25	62	.74	71	.37
53	1.09	63	.71	71A	.25
54	1.04	63A	.66	72	.34
55	.97	64	.63	72A	.21
56	.95	65	.60	73	.31
58	.90	66	.56	73A	.16
59	.85	67	.53		

ROUND FACE HOLE PUNCHES

Punch No.	Hole Dia.	Punch No.	Hole Dia.	Punch No.	Hole Dia.
74	2.38	89A	.81	98	.50
80	1.45	90	.79	99	.45
81	1.40	91	.75	100	.40
82	1.25	92	.74	101	.37
83	1.09	93	.71	101A	.25
84	1.04	93A	.66	102	.34
85	.97	94	.63	102A	.21
86	.95	95	.60	103	.31
88	.90	96	.56	103A	.16
89	.85	97	.53		