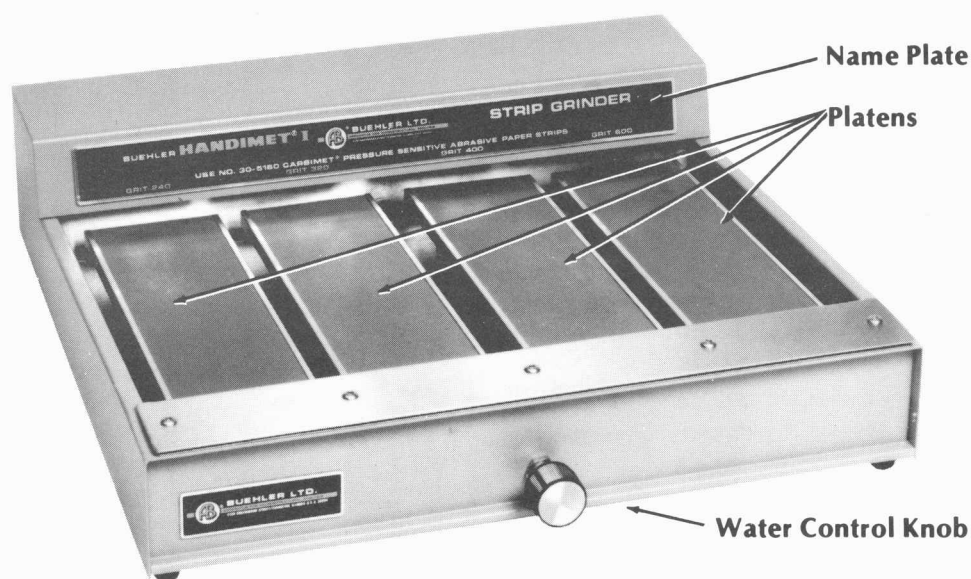


HANDIMET® ABRASIVE GRINDERS



39-1471 HANDIMET® I STRIP GRINDER

UNPACKING:

Carefully unpack and check contents. If any components are missing or damaged, save the packing list and material and advise the carrier and Buehler Ltd. of the discrepancy. For your warranty protection and our permanent file, please complete and return the enclosed Equipment Registration Card.

ASSEMBLY:

The HANDIMET® Grinders are shipped fully assembled with the ¼" Nylon water tubing installed.

INSTALLATION:

Locate the unit near the water supply and drain facilities. Connect the ¼" Nylon water supply tube to the cold water supply. Attach a suitable length, ⅝" ID, plastic or rubber tube to the Pan Drain Tube on the underside of the unit.

PREPARATION FOR FINE GRINDING:

Attaching CARBIMET® Paper Strips

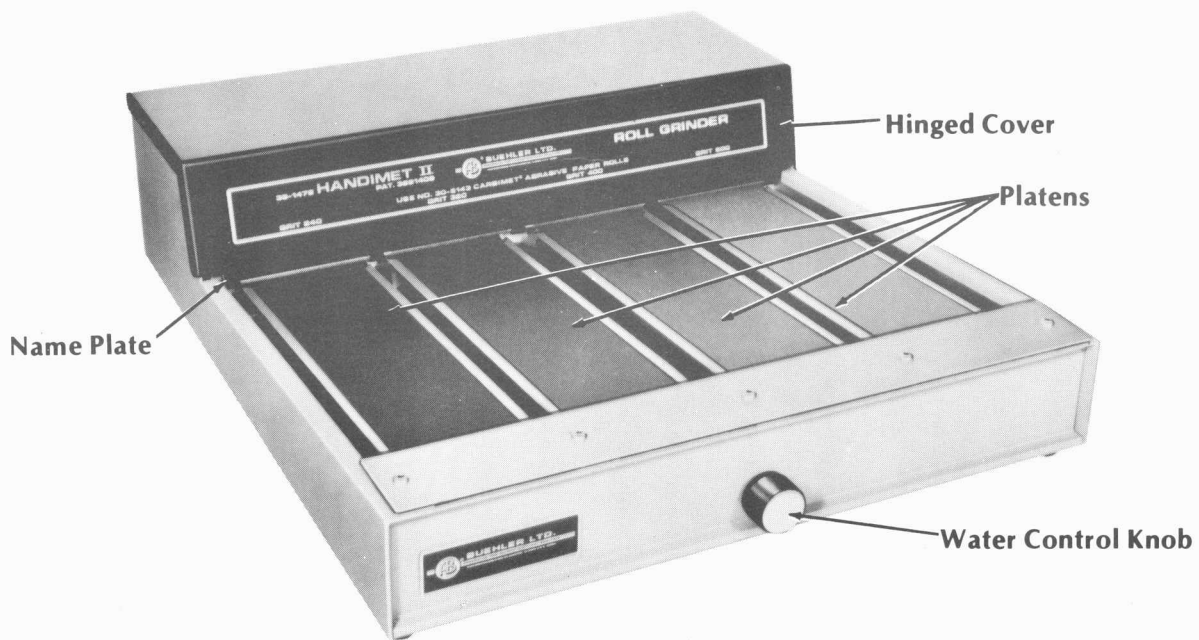
The PVC platen surfaces must be clean and dry before attaching the papers. Peel the paper liner from the CARBIMET® Paper Strips and attach each grit size to the appropriate platen indicated on the name plate data panel. Position the abrasive strip, adhesive side down, onto the platen. Place the removed liner over the abrasive surface to prevent contamination. Using the heel of the hand, smooth the strip to produce uniform contact.

Removing Paper Strips

Pry up one corner of the paper strip, and pull off with a firm, even motion. If pressure sensitive adhesive remains on the HANDIMET® I platen after papers are removed, Trichloroethane or a similar solvent may be used for cleaning. Any roughness remaining may be removed by wiping the platen surface with a scouring pad.

Water Flow

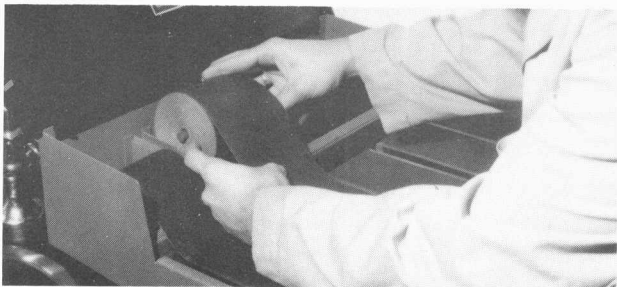
The water control knob controls the flow of water across the platen.



39-1472 HANDIMET® II ROLL GRINDER

Loading CARBIMET® Paper Rolls

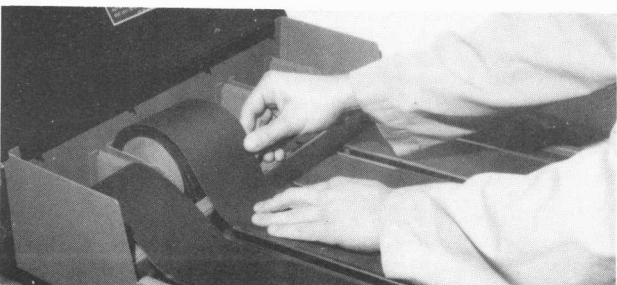
Each of the four different grit size paper rolls should be installed in the appropriate position indicated on the cover data panel. Remove the protective paper cover and install as follows:



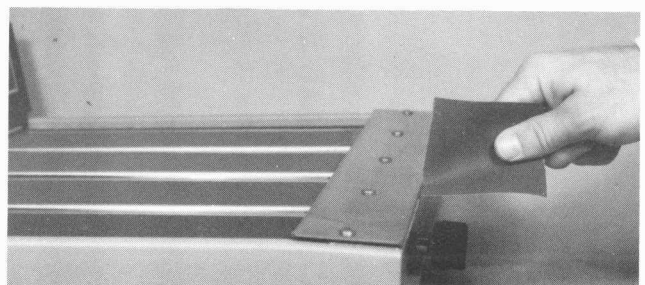
a. Insert axle into roll core. Lower into the slots.



c. Slide the paper across the platen, using the heel of the hand.



b. Thread the paper under the paper guides.



d. Tear off paper at the front of the unit.

Changing Paper

To change paper, the water control must be off. Use the palm of the hand to advance the paper through the trim strip at the front of the unit. Tear off the worn paper and turn the water control to the desired flow. The papers will automatically clamp in place when the water is turned on.

Water Flow

The water control knob controls the flow of water across the platen. It also controls the flow of water through the patented water bag clamping mechanism which holds the abrasive paper in place during grinding.

OPERATION:

Fine grinders are intended to perform the normal fine grinding sequence, 240, 320, 400, and 600 grit. For best results, do not use abrasive papers that are badly worn. Worn papers do not cut effectively and their continued use could result in poorly prepared surfaces. Water flow is controlled by the knob on the front panel and should be adjusted to provide a steady but gentle stream of water. Too little water flow produces excessive build-up of sample material on the abrasive papers which reduces their effectiveness. Excessive water flow will cause the sample to hydroplane on the abrasive surface, also resulting in ineffective cutting. The correct flow rate will allow the abrasive to cut freely while flushing the waste products away. Fine grinding technique varies with the individual operator, but the following suggestions should be particularly helpful to the less experienced.

1. Grasp the sample firmly in the finger tips.
2. Apply a uniform but firm pressure to the specimen against the abrasive surface.

3. Draw the specimen over the abrasive surface, from back to front in a straight, even motion. A back and forth motion usually leads to an undesirable curved surface.
4. Perform as many strokes as required to remove all visible scratches, then continue on for several additional strokes to be certain that the previous scratches have been removed.
5. Fine grinding should proceed from the coarsest (240) grit to the finest (600) grit.
6. Rotate the specimen 90° between each step so that grinding is perpendicular to the previous scratches. This will give a clear indication of how grinding is progressing.
7. Rinse the sample between each step to remove abrasive particles. Clean (ultrasonically) thoroughly after the last (600) grit step.
8. Change paper when it becomes worn or when switching to different material types; i.e., steel to aluminum, etc.

MAINTENANCE:

This unit features a stainless steel pan and corrosion resistant exterior surfaces. For years of trouble-free service, exposed surfaces should be wiped clean with a damp cloth after each use or at the end of the day. This will reduce the possibility of coarse grit abrasive particles contaminating the finer area. If pressure sensitive adhesive remains on the HANDIMET® I platens after papers are removed, Trichloroethane or a similar chlorinated solvent may be used for cleaning. If there is any roughness remaining, a scouring pad should be wiped across the surface to restore its smoothness.

SUPPLIES:

FOR NO. 39-1471 HANDIMET® I STRIP GRINDER CARBIMET® PAPER STRIPS (PSA BACKED)

Grit	11" x 3" (27.9 x 7.6cm)
240	30-5160-240-100
320	30-5160-320-100
400	30-5160-400-100
600	30-5160-600-100

(Packaged 100 Strips per Box)

No. 30-5162 CARBIMET® PAPER STRIPS (PSA Backed), Packaged Ass't. 10 ea, Grits 240, 320, 400, 600, per Box.

FOR NO. 39-1472 HANDIMET® II ROLL GRINDER CARBIMET® PAPER ROLLS

Grit	3 7/16" x 75' (8.8cm x 23m)
240	30-5143-240-001
320	30-5143-320-001
400	30-5143-400-001
600	30-5143-600-001

(Packed 1 Roll per Package)

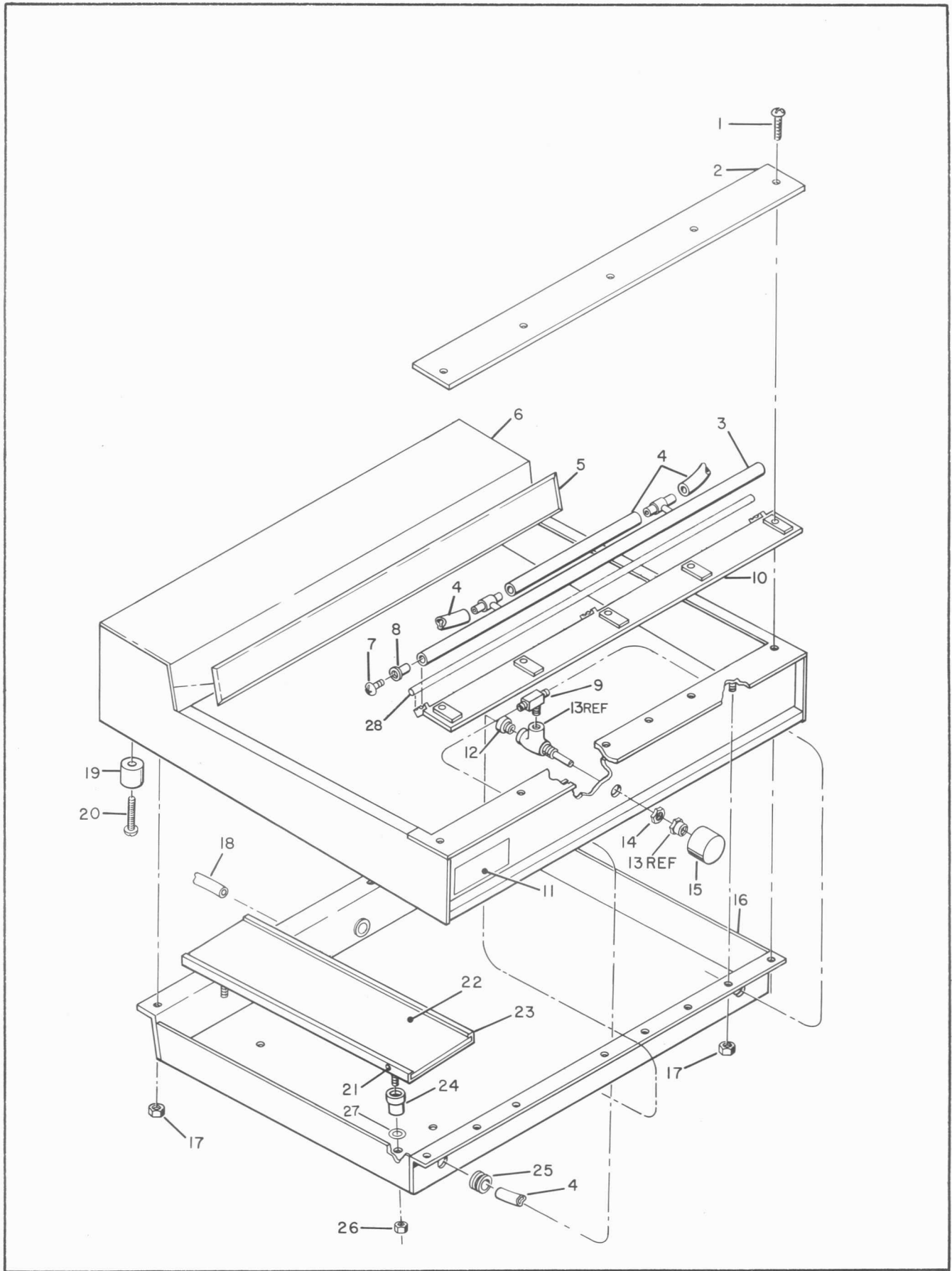


FIGURE 3. HANDIMET® I ASSEMBLY DETAIL

HANDIMET® I PARTS LIST

REF. NO.	PART NO.	NO. REQ'D.	DESCRIPTION
1	R-0851	5	Screw, Skt. Button Hd. 10-32 x 5/8
2	7674-S020-00	1	Trim Strip
3	7674-S030-00	1	Water Tube Assembly
4	R-2879	30-1/8 Inch	Vinyl Tube 1/4 x 3/16
5	1470-S150	1	Nameplate
6	7674-S054-00	1	Housing
7	R-1829	2	Screw, FL-SS, 6-32 x 7/8
8	1472-S064-00	2	Plug
9	R-2821	1	Branch Tee
10	7674-S021-00	1	Guide Plate
11	R-2861	1	Nameplate
12	R-2820	1	Male Connector, 1/8 NPT to 1/4 Tubing
13	1600-S044	1	Valve
14	R-0630	1	Brass Nut 1/2-13 PAL
15	R-2734	1	Knob
16	7674-S017-00	1	Pan
17	R-0608	6	Steel Nut 8-32
18	R-2886	48 Inch	1/4 O.D. Nylon Tube (Pressure)
19	R-2700	4	Bumper Alt. #18
20	R-7650	4	Screw, Truss Hd. 6-32 x 1/2 TD. CT.
	7674-S064-00		Platen Assembly
21	R-2201	Ref*	Screw, St. ML. SS. #4 x 1/4
22	7674-S060-00	Ref*	Platen
23	7674-S062-00	Ref*	Platen Holder
24	7674-S061-00	Ref*	Post
25	R-2766	2	Grommet #2170
26	R-0609	16	Stainless Nut 8-32
27	1180-S064	16	O-Ring
28	7674-S023-00	1	Guide Plate Rod

*Available only as assembly 7674-S064-00

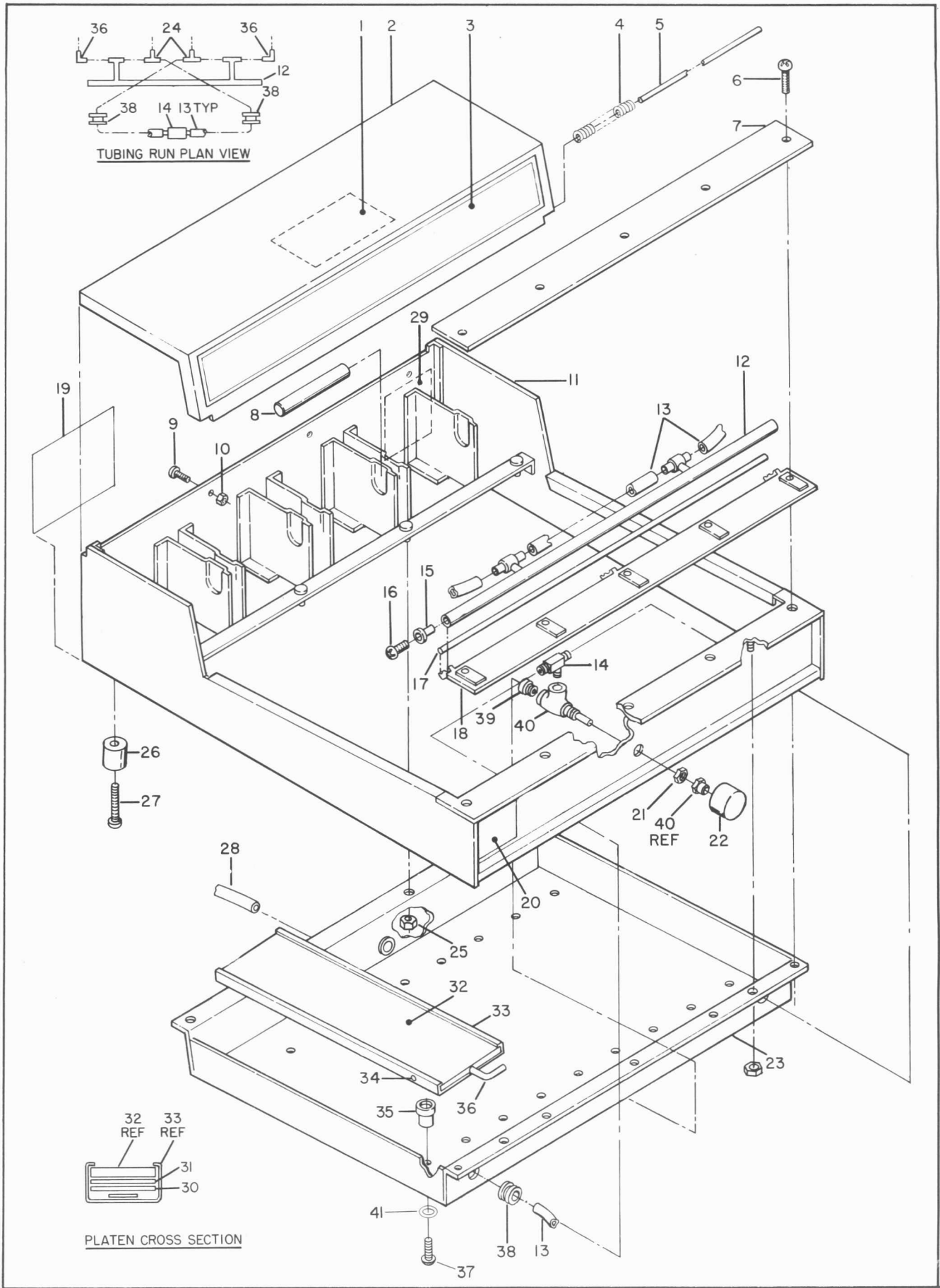


FIGURE 4. HANDIMET® II ASSEMBLY DETAIL

HANDIMET® II PARTS LIST

REF. NO.	PART NO.	NO. REQ'D.	DESCRIPTION
1	1472-S013-00	1	Nameplate
2	7674-S019-00	1	Cover
3	1472-S071	1	Nameplate
4	7674-S026-00	4	Spring
5	7674-S022-00	1	Spring Rod
6	R-0851	5	Screw, Button Hd. 10-32 x 5/8
7	7674-S020-00	1	Trim Strip
8	7674-S024-00	4	Axle
9	R-1623	4	Screw, Rd. Hd. 6-32 x 1/4
10	R-0606	4	Hex Nut 6-32 SS.
11	7674-S049-00	1	Housing
12	7674-S030-00	1	Water Tube Assembly
13	R-2879	44 Inch	Vinyl Tube 1/4 x 3/16
14	R-2821	1	Branch Tee
15	1472-S064-00	2	Plug
16	R-1829	2	Screw, FL. SS. 6-32 x 7/8
17	7674-S023-00	1	Guide Plate Rod
18	7674-S021-00	1	Guide Plate
19	1472-S072	1	Patent Plate
20	R-2861	1	Nameplate
21	R-0630	1	Brass Nut 1/2-13 Pal
22	R-2734	1	Knob
23	7674-S017-00	1	Pan
24	R-2825	2	Tee 1/4 Tube
25	R-0608	6	Steel Nut 8-32
26	R-2700	4	Bumper Alt. #18
27	R-7650	4	Screw, Truss Hd. 6-32 x 1/2 TD. CT.
28	R-2886	48 Inch	1/4" O.D. Nylon Tube (Pressure)
29	R-2858	1	Spec. Plate
30	7674-S027-00	4	Expander (Plastic Bag)
31	7674-S028-00	4	Paper Guides
32	7674-S060-00	4	Platen*
33	1472-S052-00	4	Paper Clamp
34	R-2750	4	Dowel Pin
35	7674-S061-00	16	Post*
36	R-2826	2	90° Elbow 1/4 x 1/4 Tube
37	R-2217 SSTC	16	Screw, Pan Hd. #10 x 3/8 TD. CT.
38	R-2766	2	Grommet #2170
39	R-2820	1	Male Connector, 1/8 NPT to 1/4 Tubing
40	1600-S044	1	Valve
41	1180-S064	16	O-Ring

*Available only as assembly 7674S064-00