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PROCUNIER SAFETY CHUCK CO.

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**Style L
Super Sensitive
Lead Screw
Tapping
Attachments
Series 20000**

INSTRUCTION MANUAL

Introduction

PROCUNIER's Super Sensitive Lead Screw Tapping Attachment is precision made for extended machining life **when used within rated capacity limits.**

Capacity: #6 (M3.5) Mild Steel
#8 (M4.5) Aluminum

Standard and Optional Equipment

Style L Lead Screw Heads include three (3) piece quill clamping cover, two (2) collets #6 and #8 and wrenches. The following options are available: Collet adapter for external threading, button (Style TRC) Series 57490 dies and additional Procunier TRU-GRIP or Quick Change tap collets to fit all standard inch or metric taps.

Mounting

This Lead Screw Tapper is equipped with a quill clamping type cover consisting of: 1) the basic cover casting (mounted to the unit); 2) flange (drill as required to attach drill press stop rod); and 3) collar (reducing cover bore to the diameter of the drill press quill). When the quill diameter and cover bore are equal, no collar is necessary.

Attaching the L head to a drill press should be done in the following steps:

1. Remove drill press chuck and stop rod assembly.
2. Assemble the 3-piece cover on the tapping head.
3. If spindle is not Morse taper type, mount the separate drive adaptor furnished to drill press chuck taper.
4. Slide the tapping head over spindle onto quill (if M.T. type, engage taper completely — if C.T. type, line up slot with driving dogs and engage), then tighten flange screw to secure complete head to drill press with trigger lever arm in proper position.
5. Lock quill to prevent head movement.

Set-Up and Operating Procedure

Once mounted, the Tapping Head is ready for production, using the following procedures:

Speed: Select the proper speed for the tap and adjust the drill press pulleys accordingly. **Speeds in excess of 2,000 RPM are not recommended.** Speed ratios are 1:1 drive, 1:2 reverse. The drill press spindle **must** be rotating right to left when tapping a standard hole. For left-hand tapping, see left-hand operation.

Lubrication: Tapping Heads should be lubricated with 6 drops of light grade machine oil (SAE 10W) every 4 hours of operation in oiler at top of housing. **Do not flood since glazing of the clutch will reduce drive capacity.** Use liberal amounts of lubricant on lead screw nut at bottom of housing and on the shoes (KK) between the trigger lever and splined spindle.

Lead Screw Assembly: Select the proper lead screw assembly pitch to match the pitch of the tap being used. This assembly is mounted at the bottom of the housing by two (2) screws (WW). Insert the lead screw into the splined spindle; align the hole of the lead screw with the slot in the spindle (EE) and the hole in the drive collar (SS), then insert the drive pin (TT) through all three units and lock in place with the snap ring in the groove of the collar. Reverse this procedure for disassembly.

PROCUNIER's lead screw assembly is wear-adjustable simply by opening or closing the three (3) set screws located on the black cap. Adjustment should be made when separated from tapper. Adjust each set screw until the lead screw turns freely without float or runout.

Depth Adjustment: Tap feed is accomplished in the head itself, with stroke adjustable from 3/16" to 1-1/8" (4.76 to 28.56 mm). To change the stroke, loosen the depth stop lock nut (MM) and adjust the depth nut (NN) up or down; then relock the nut.

Tapping: The one-piece Lead Screw and Tru-Grip tap chuck accommodate the collet which holds the tap. Insert the tap completely, making certain that the square of the tap is totally engaged in the collet. Insert the entire assembly into the chuck and lock in place.

Once the drill press is started, a slight pressure on the trigger lever **without hesitation** up or down will drive the tap in reverse or forward, respectively. Be sure the tap is of the correct G.H. number to produce the desired class of fit. Accurate alignment of tap and hole is essential for best results. A good grade oil base coolant flowed on the tap will assure longer tap life, provide a better finish and reduce downtime. **Water soluble without oil is not recommended because it will increase torque and reduce tapping capacity.**

Left-Hand Operation: When using left-hand taps, reverse the rotation of the drill press (left to right rotation); modify the cover assembly of the tapper (pin shank, drive shell and internal ring gear) **and use left-hand pitch Lead Screw assemblies only.**

Disassembly: Periodic inspection and maintenance of the tapper will assure longer machining life. Use the following simple procedures:

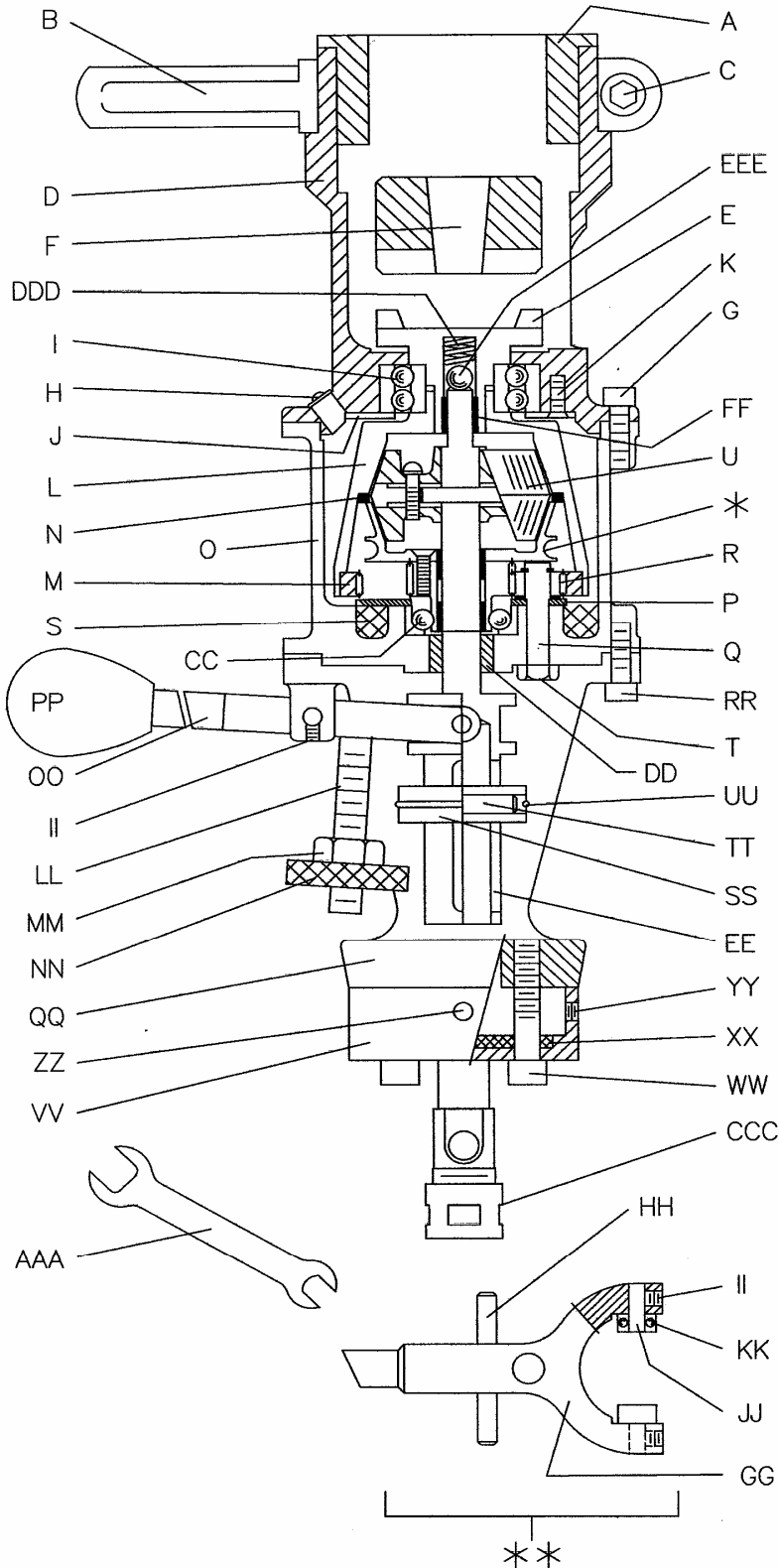
1. Remove the tapper from the drill press and detach the Lead Screw assembly as previously described.
2. Remove all four (4) socket head cap screws (G).
3. Remove the cover assembly from the body and clean the inside of the drive shell (L).
4. Remove the clutch (U) by first removing the two screws (W), then holding the trigger lever (OO) down so that the clutch disengages from the reverse shell, use a bent wire and push the clutch pin (V) to one side, freeing it from the spindle. Once free, it is easily lifted out of the body, as is the reverse shell assembly (*) below it.

Clean the cork clutch by wiping with a cloth dipped in a good non-residue cleaning solution, such as alcohol or acetone. (Do not use paint thinner.) If the cork is swollen, out of shape or will not clean thoroughly, replace the clutch. **Cork surface should never be sanded, filed or roughed up.**

Clean the reverse shell assembly, removing the excess oil and dirt in the body. At reassembly, place a drop of oil on each of the three (3) pinion gears (R) and grease the ball bearing (CC) on the assembly. Also, grease between two reverse gear bushings (AA). When reassembling the tapper, slide the clutch pin (V) into the clutch partially, then slip the clutch onto the spindle until both tops are evenly aligned. Push the clutch pin into final position and lock in with the two (2) screws (W).

NOTE: Alteration or Modification to unit will void warranty.

1L / 2000 Series Parts List



Code	Item	Qty.	Part No.
A	Split Collar	1	SEE UNIT LIST
B	Flange	1	42400
C	Screw	1	42401
D	Cover	1	SEE UNIT LIST
E	Shank	1	SEE UNIT LIST
F	Drive Adapter	1	SEE UNIT LIST
G	Cover Screw	4	11223
H	Oiler	1	11224
I	Cover Ball Bearing	1	11221
J	Cover Bearing Retainer	1	11228
K	Retainer Screw	4	11229
L	Drive Shell	1	11231
M	Ring Gear	1	11233
N	Separator Ring	1	11234
O	Body	1	20219
P	Stud plate	1	11248
Q	Stud	3	11249
R	Pinion Gear	3	11254
S	Oil Felt	1	11247
T	Stud Nut	3	11252
U	Clutch Assembly (Includes V & W)	1	11256
V	Clutch Pin	1	11257
W	Clutch Screw	2	11257
*	Reverse Shell Assembly (Includes Y thru BB)	1	11266
Y	Reverse Shell	1	11267
Z	Reverse Gear w/ Bushing	1	11268
AA	Reverse Gear Bushing	2	11270
BB	Reverse Gear Screw	4	16272
CC	Body Ball Bearing	1	11273
DD	Body Bushing	1	11246
EE	Splined Spindle Yoke Assembly (Includes GG thru PP)	1	20232
**	Yoke	1	20221
GG	Yoke	1	20222
HH	Yoke Pin	1	12260
II	Yoke Pin Screw	2	20226
JJ	Yoke Bearing Pin	2	20228
KK	Yoke Bearing	2	20227
LL	Depth Stop	1	20229
MM	Depth Stop Lock Nut	1	12252
NN	Depth Stop Nut	1	21245
OO	Trigger Lever	1	20224
PP	Lever Ball	1	20223
QQ	Tapered Housing	1	20235
RR	Screw	4	14223
SS	Drive Collar	1	21249
TT	Drive Collar Pin	1	12260
UU	Drive Collar Snap Ring	1	21248
VV	Lead Screw Cap	1	21280
WW	Screw	2	21284
XX	Oiler Felt (Lead Screw)	1	21283
YY	Cup Point Screw	2	21281
ZZ	Cone Point Screw	1	21282
AAA	Wrench 7/16 x 11/16	1	11288
CCC	TG Nut	1	11287
DDD	Spring	1	20211
EEE	Ball	1	20212

Unit List

Unit No.	Cover	Collar	Shank	Drive Adapter
20035	11140	42424	11207	42531
20036	11140	42425	11207	42531
20037	11140	42423	11207	42531
20038	11140	42427	11207	42540
20039	11140	42421	11207	42531
20041	11140	42426	11207	42531
20042	11140	42423	11207	42520
20043	11140	42429	11207	42524
20044	11140	42421	11207	42526
20045	11140	42423	11207	42526
20046	11146	—	11207	42520
20047	11140	42434	11207	42540
20048	11140	42429	11207	42540
20049	11140	42435	11207	42531
20050	11140	42423	11207	42516
20051	11151	42433	11207	42522
20052	11140	42435	11207	42522
20053	11140	42435	11207	42520
20056	11156	—	11207	—
20061	11140	42424	11207	42516
20063	11162	—	11202	—
20064	11162	42427	11202	—
20065	11165	—	11202	—
20067	11167	—	11202	—
20068	11162	42434	11202	—
20069	11162	42435	11202	—
20070	11162	42424	11202	—

Lead Screw Assemblies ...

...are available in Tru-Grip or Quick Change style in pitches from 32 thru 120 and from .25mm thru .80mm. See our Catalog Series 21400 and 21500, for order number.

Tru-Grip and Quick Change Tap Collets ...

... to fit Series 21400 chucks are available in a variety of sizes from #00 through #8 tap (M1 to M4.5). See our Catalog Series 51800 and 58800 for part numbers.

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