



Unscrewing Guide

C R E A T E D B Y



**AVAILABLE EXCLUSIVELY FROM
TEAM PPI 1-800-860-3974**

Round Mate® is a Trademark of Pleasant Precision, Inc.®
U.S. Pat. #4,828,479 4,959,002 5,261,806 5,647,114 5,916,603 6,168,415B1 Europe 666,789 Other Pat. Pending

Internal Master Frame Ring Gear

32 Diametrical Pitch

4.375 Pitch Dia.

140 Teeth

14 1/2° Pressure Angle

Minor Dia. 4.312

Face .312

Hydraulic or
stepper motors
are available.

Idler gear
shown

1.928 to c.l. of
master frame
gear face

4.125

P.D. of idlers or
thread shafts
(Gear 'A')

Center Line =
 $(4.375/2) - (\text{Gear 'A' P.D.}/2)$

ø4.375 P.D.
of internal gear
in master frame

6" UNSCREWING
MASTER FRAME
ADAPTER

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U1

Internal Master Frame Ring Gear

20 Diametrical Pitch

6.400 Pitch Dia.

120 Teeth

14 1/2° Pressure Angle

Minor Dia. 6.300

Face .600

Hydraulic or
stepper motors
are available.

Idler gear
shown

3.150 to c.l. of
master frame
gear face

6.250

P.D. of idlers or
thread shafts
(Gear 'A')

Center Line =
 $(6.400/2) - (\text{Gear 'A' P.D.}/2)$

ø6.400 P.D.
of internal gear
in master frame

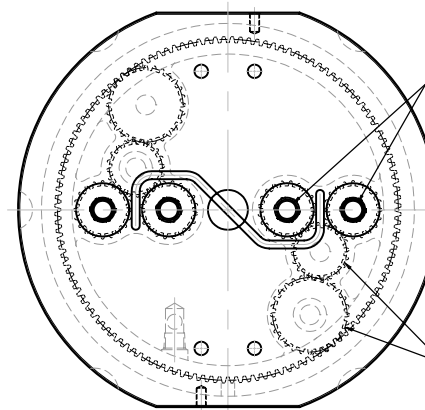
8" UNSCREWING
MASTER FRAME
ADAPTER

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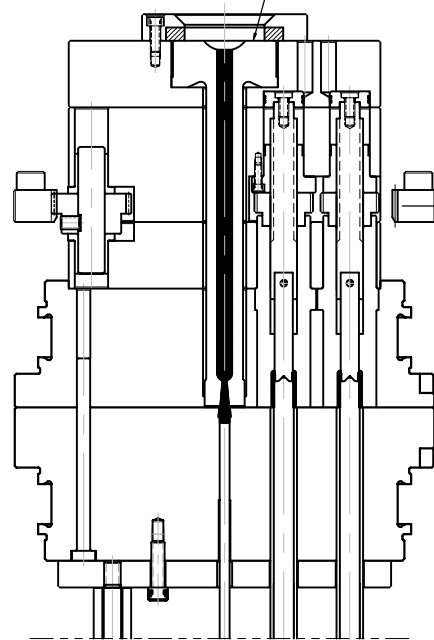
U2



Cavities placed in a straight line

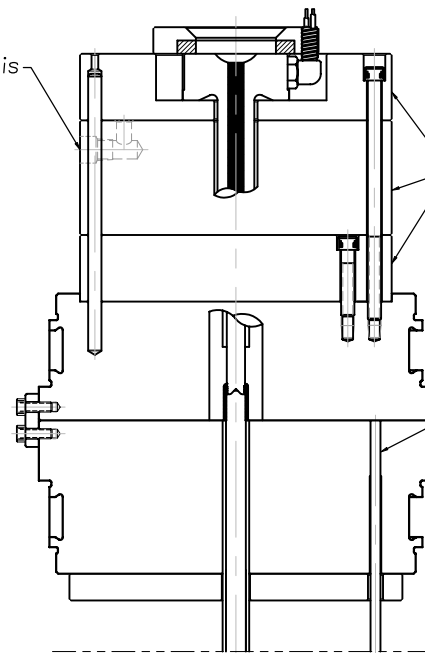
In this case two idlers are used to maintain required Master Frame P.D.

Hot sprue bushings in the Round Mate system is a great way to improve cycle times.



Air inlet which is used to return cores

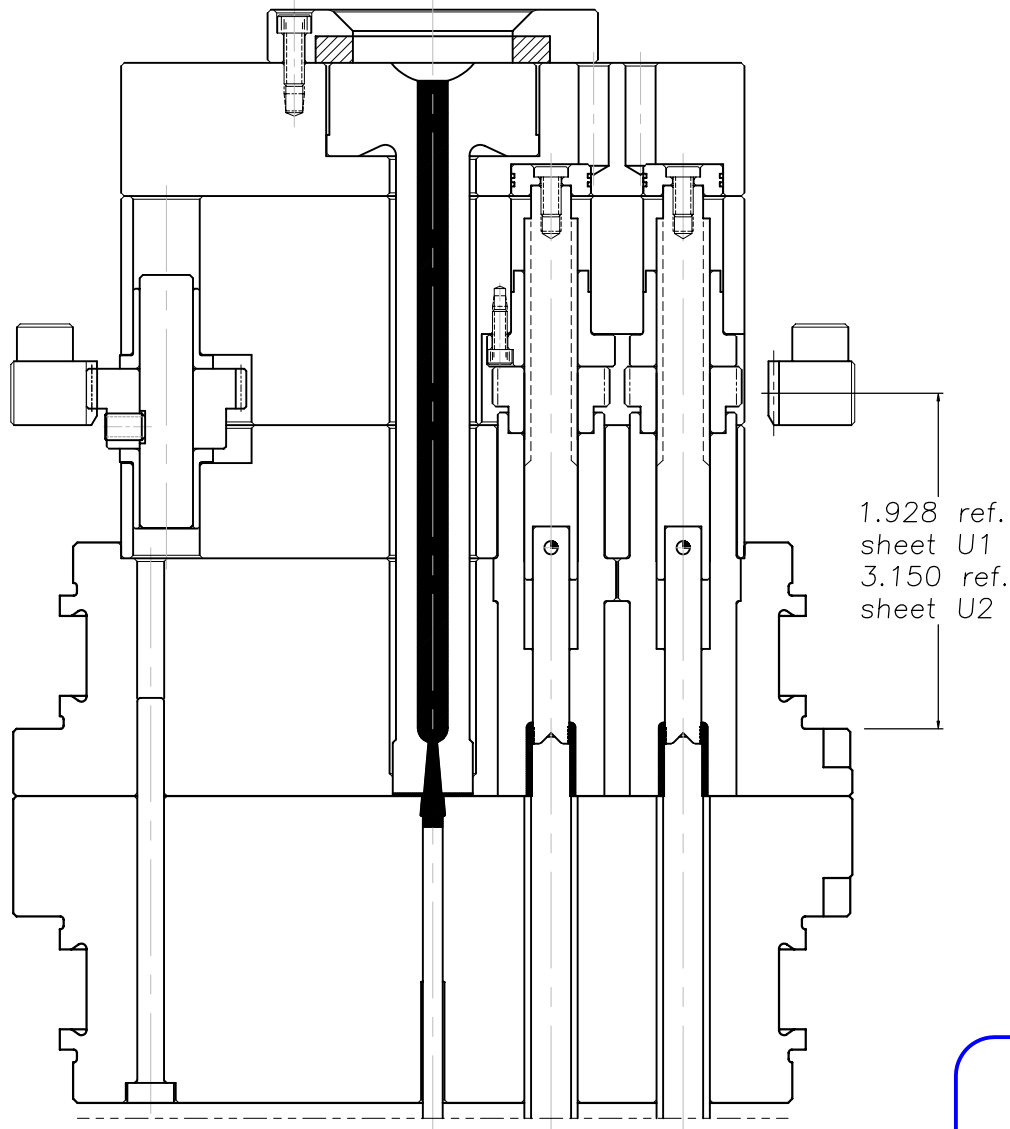
1.928 ref. sheet U1
3.150 ref. sheet U2



Plates are custom made to allow flexibility in mold designs.

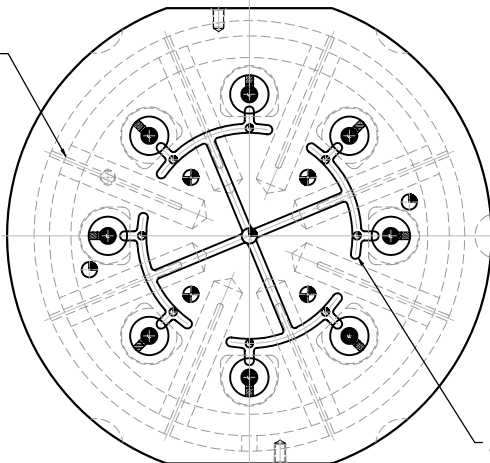
Return pins help protect parting lines while mold is out of Master Frame.

'A' SIDE
ROUND MATE
INSERT SET

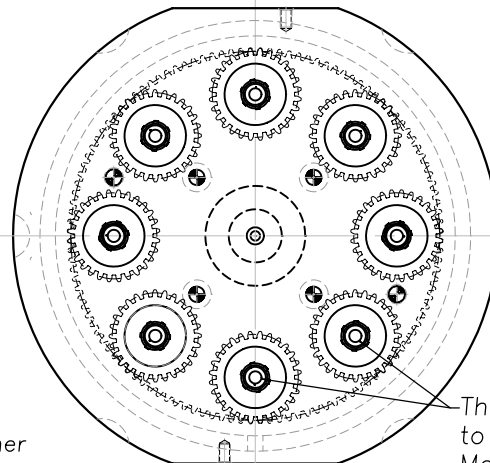


'A' SIDE
ROUND MATE
INSERT SET

Baffles are a great way to add additional cooling to the Round Mate insert. Ref. catalog page #6.03

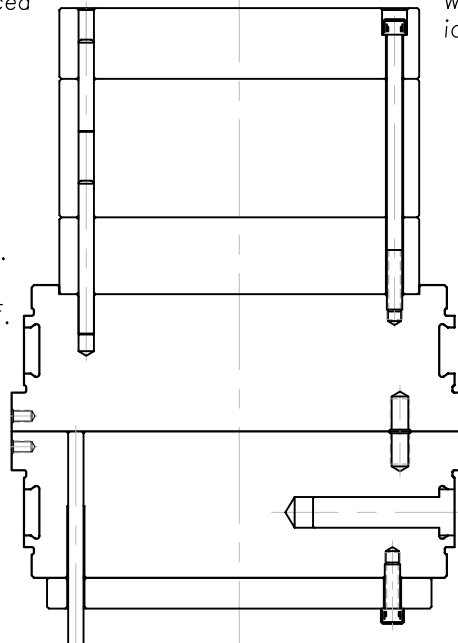
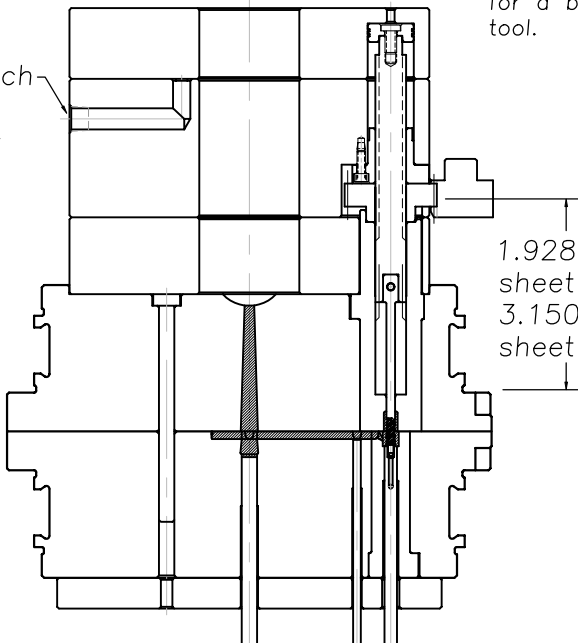


Radial runner pattern allows for a balanced tool.



The cores are spaced to fit the required Master Frame P.D. without the use of idlers.

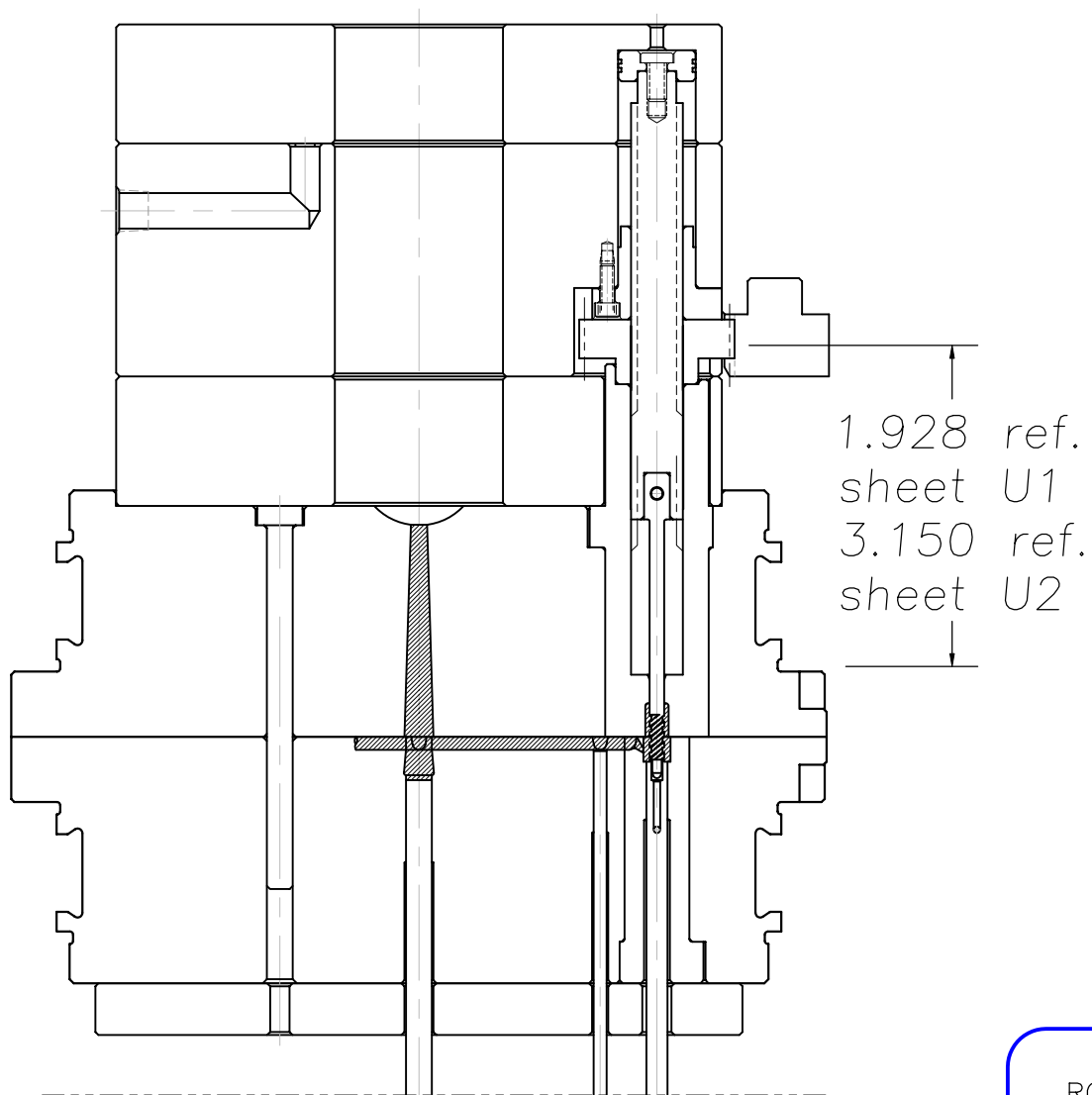
Air inlet which is used to return cores



'A' SIDE
ROUND MATE
INSERT SET

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U4



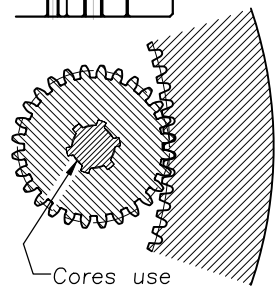
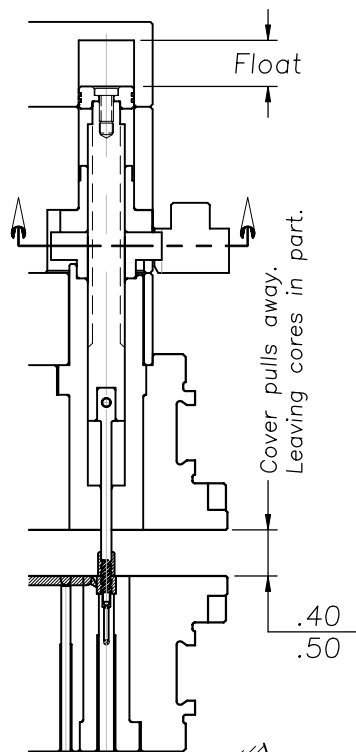
'A' SIDE
ROUND MATE
INSERT SET

PRESS SEQUENCE

- 1.) Break and open the parting line of the mold to a 0.40/0.50 opening (Opening will vary with part length). (Figure A)
- 2.) Activate a timer to start the hydraulic unscrewing motor, and at the same time, activate the air flow to the floating threaded cores. The timer must be set to allow the unscrewing motor to run until the cores are out of the part. Once the cores are out of the part, the air pressure will retract the threaded cores to their home position. Note that the thread pitch and length of thread will determine the duration of the unscrewing cycle. (Figure B)
- 3.) When the unscrewing cycle times out, the unscrewing motor stops and the air flow to the floating cores is shut off. At this point, continue opening the parting line to full open. (Figure C)
- 4.) On full open, activate ejector knock outs. (Figure D)
- 5.) Retract tie-in K.O.'s.
- 6.) Close mold to restart cycle.

MOLD SEQUENCE

Figure A



Cores use
splines to allow
them to float.

Figure B

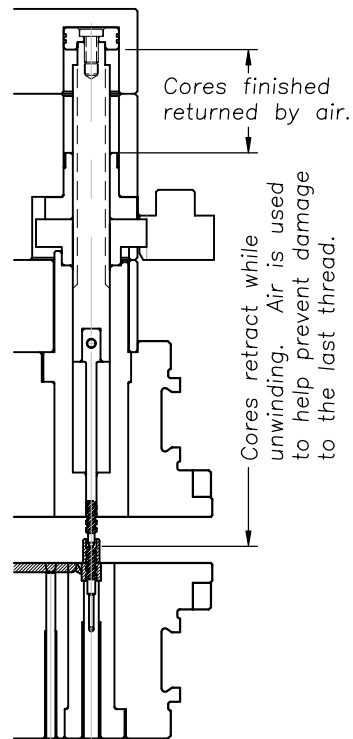


Figure C

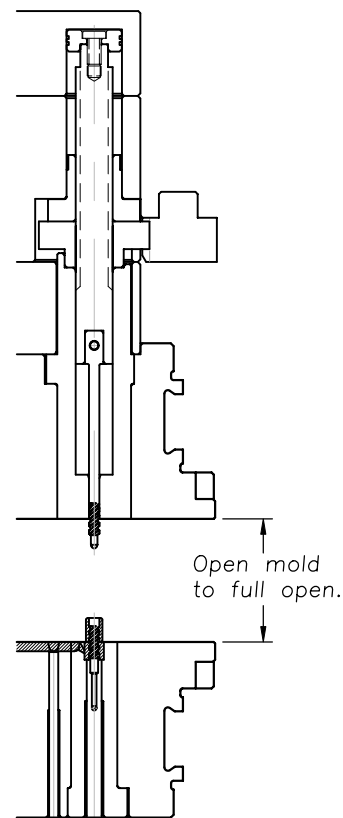
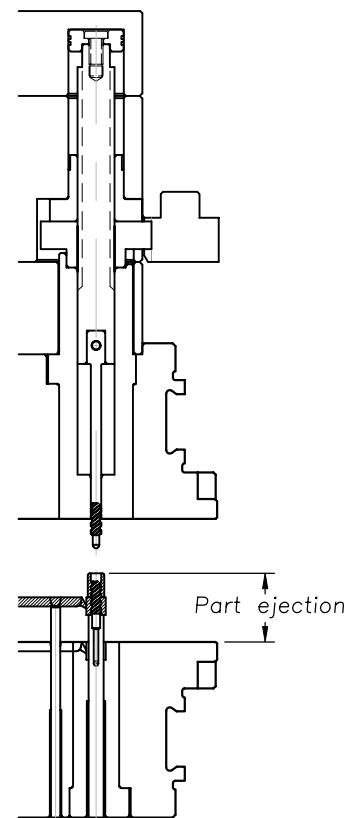
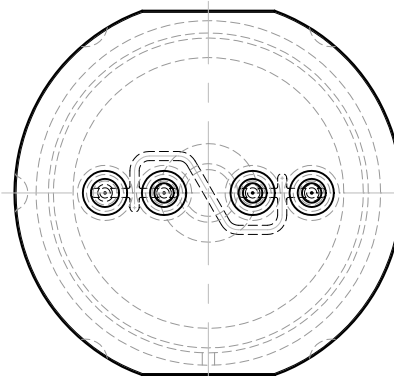
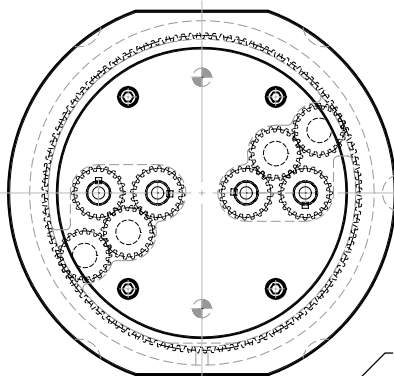


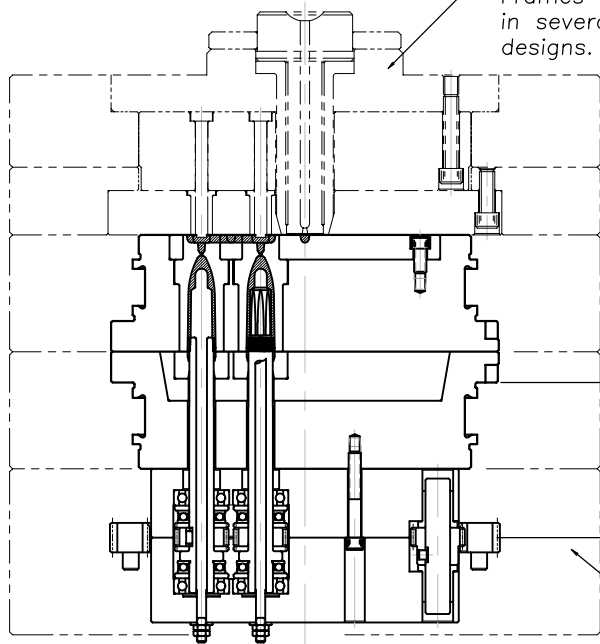
Figure D



MOLD SEQUENCE
ILLUSTRATIONS

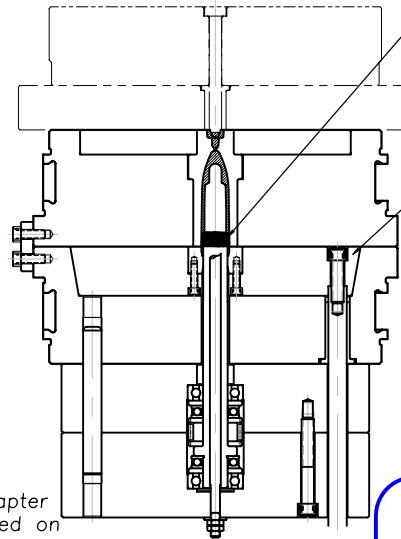


Round Mate Master Frames are available in several 3-Plate designs.



1.928 ref.
sheet U1
3.150 ref.
sheet U2

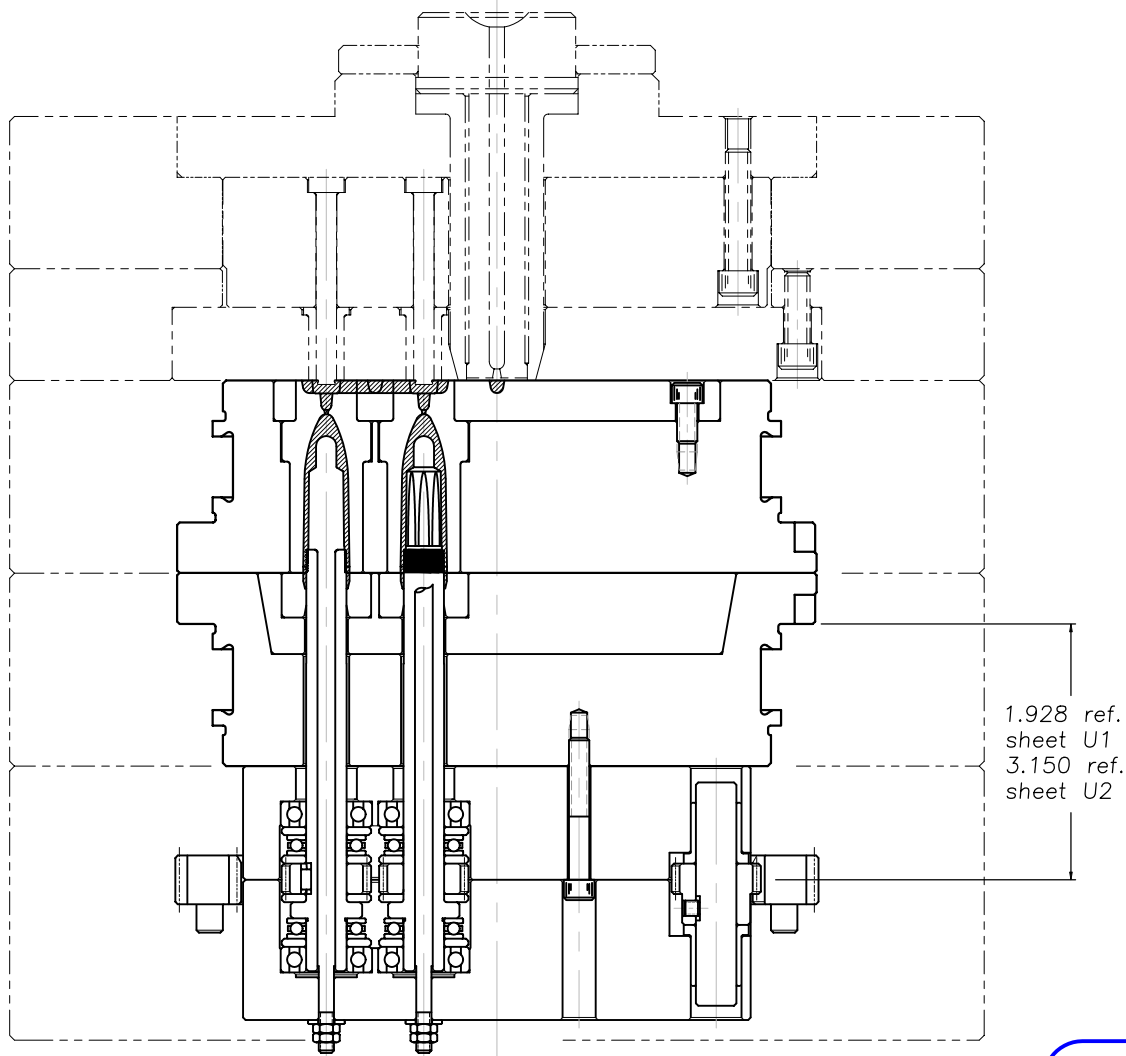
The same unwinder adapter can be used on the 'B' side of the Master Frame.



The Round Mate stepped motor can be used for indexed threads.

In this case a stripper plate is used to eject the molded parts.

'B' SIDE
ROUND MATE
INSERT SET



'B' SIDE
ROUND MATE
INSERT SET