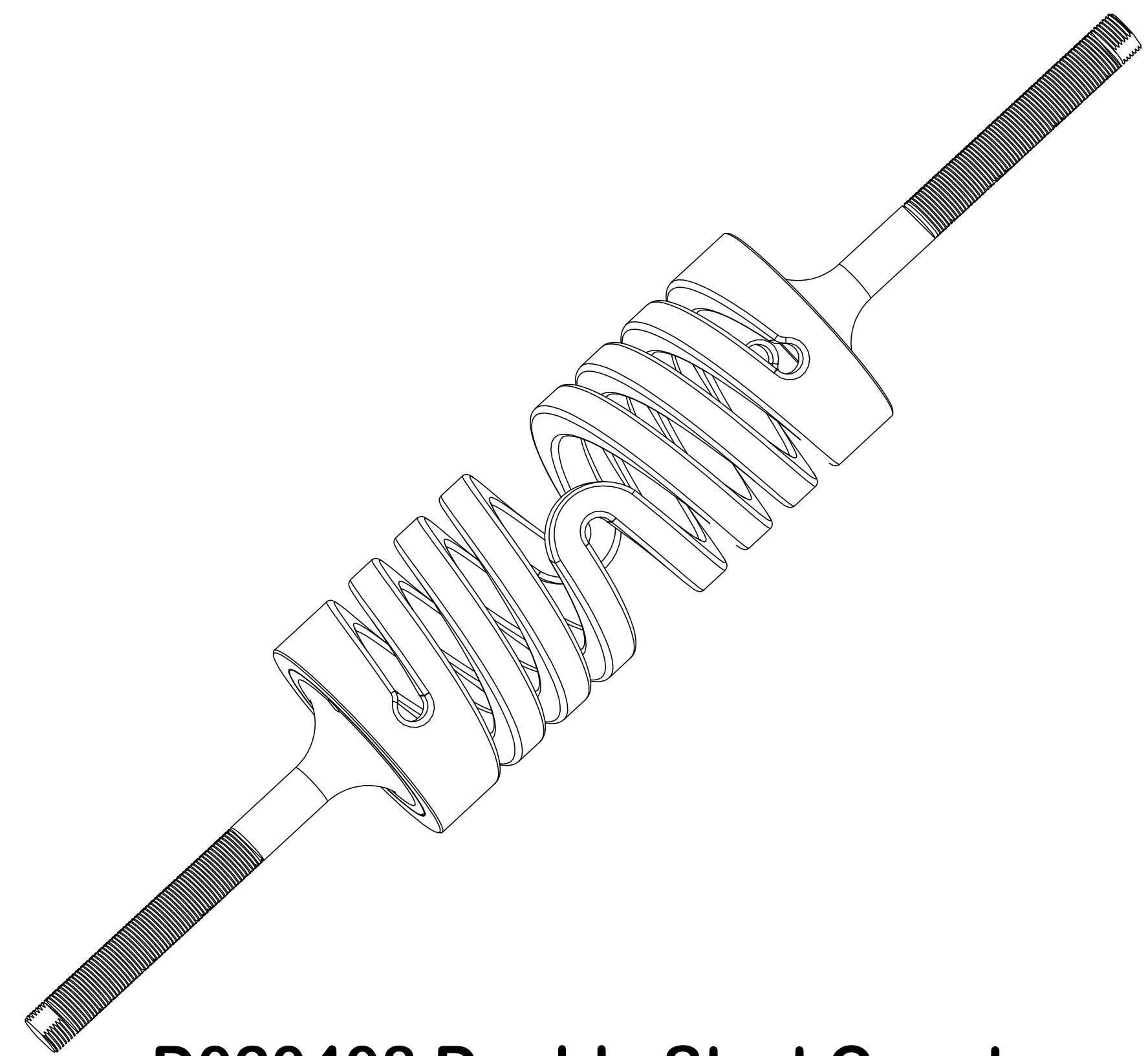
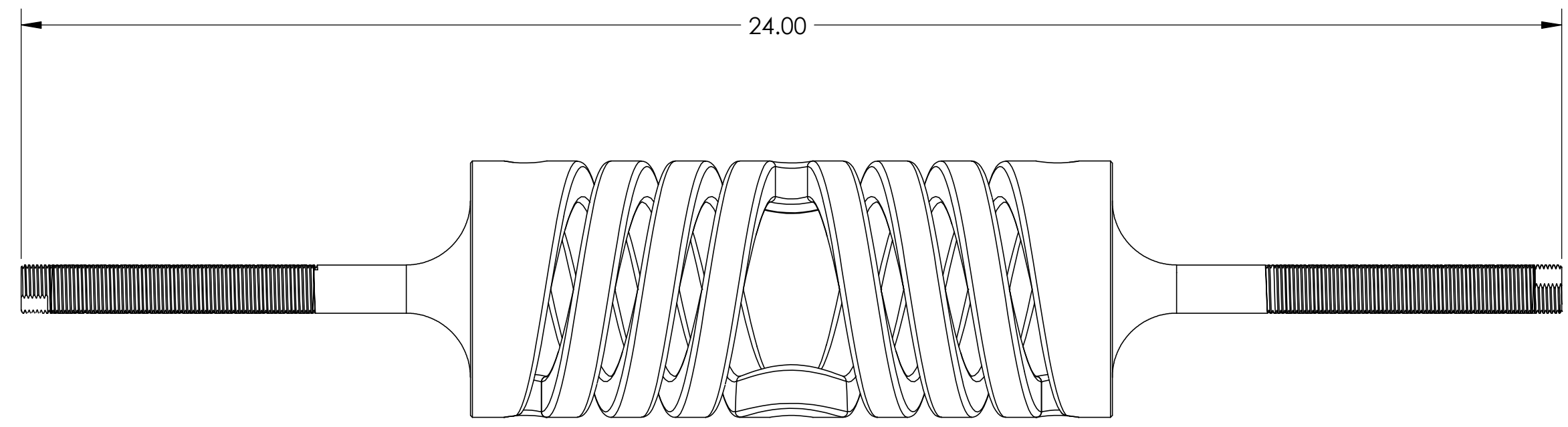


REV.	DATE	DCN #	DRAWING TREE #
B	6/2/03	E030308-00-E	
C	8/15/03	E030418-00-E	



D020408 Double Start Counterwound Spring Assembly

4) Electroless Nickel Plate per the following procedure:

Recommended Surface Prep:
 Cathodic Alkaline Clean 75 asf, 1 min.
 Pumice Scrub and rinse.
 Cathodic alkaline clean, 75 asf, 15 sec
 Water Rinse
 Anodic in 25% sulfuric acid, 200 asf, 2 min at room temperature
 Dip in chromium-sulfuric acid 1 min.
 Water Rinse hot
 Water rinse Cold

Electroless Nickel Plating
 Protect 3/4-20 threads on D020407 per best shop practice.
 Immerse 1 minute and plate one minute at 30 asf in acid nickel chloride bath at room temperature. Transfer w/out rinsing to regular nickel plating bath.

3) Join assembly per the following procedure:

Wire brush threads on mating parts.
 Solvent clean to remove oils.
 Apply silver solder paste (All-State Silver Solder or equivalent) to the mating threads of the cleaned and dry parts.
 Assemble parts together. Assure that Connectors (D020407) seat entirely to obtain 24" overall length.
 Bake at 400 degrees for 4 hours.
 Remove parts and allow cooling to 120 degrees.
 Wire brush to remove excess flux.

2) Age C-300 for 6 hours @ 925 F.
 Air Cool. Certificate of Heat treat required.
 Test for Rockwell Hardness (1 only). Certificate required.


1) Break all sharp edges

Notes

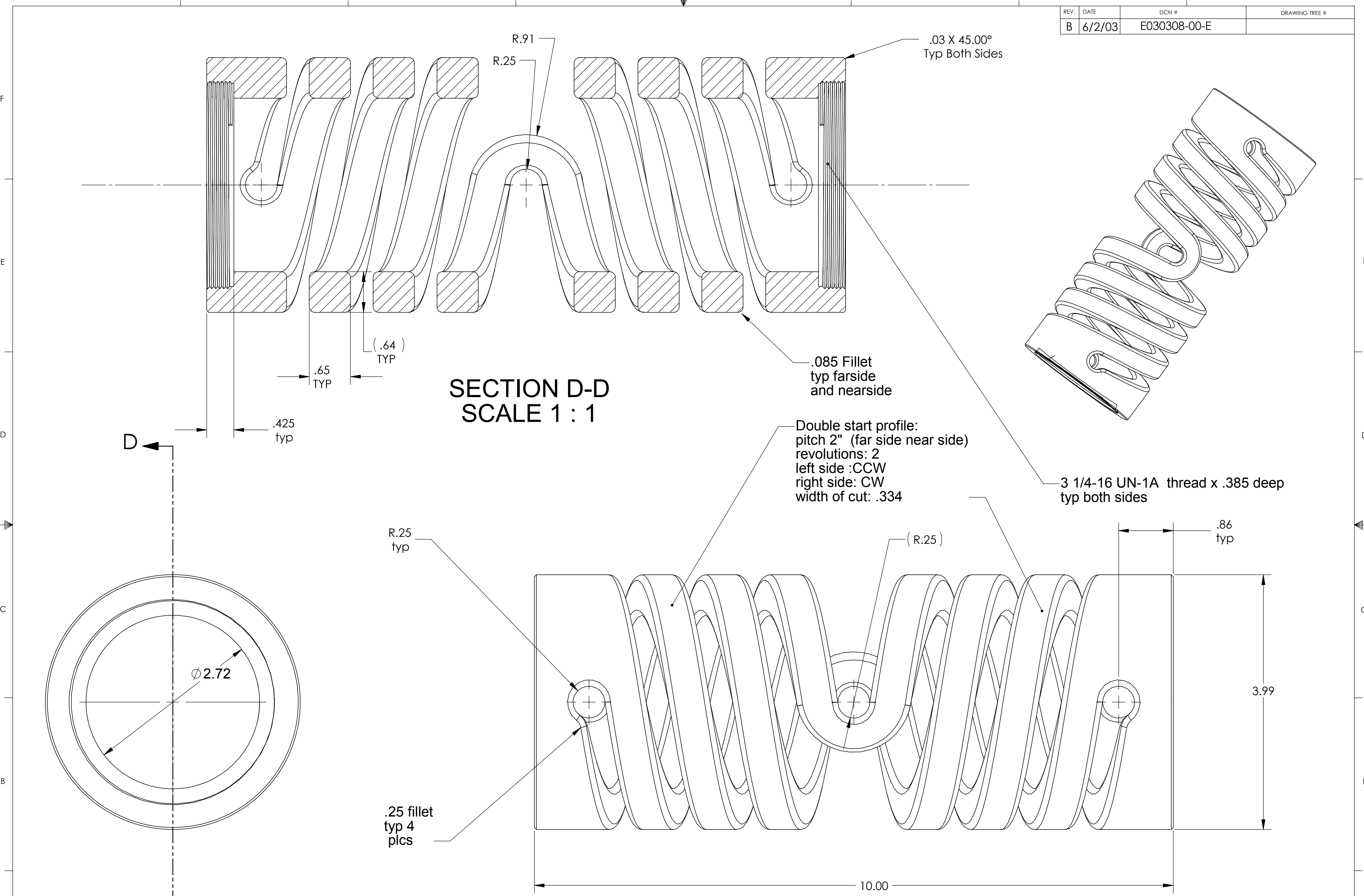
1

1


ITEM NO.	QTY.	PART NO.	MATERIAL	DESCRIPTION
2	2	D020407	4340 Steel 4" x 8" bar stock	Connector, Spring, DSCW
1	1	D020406	C300 Maraging Steel 4" x 14" bar stock	Spring, Double Start, Counterwound, BSC

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES		DATE	NAME	 CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY
TOLERANCES: .XX + 0.020" .XXX ± 0.005" ANGULAR ± 30'	Drawn	5/14/03	M. Hammond	
	Stress	5/14/03	M. Hammond	
	Checked		J. Kern	
MATERIAL		COMMENTS:		SYSTEM LASTI SUB-SYSTEM External Pre-Isolation NEXT ASSY PART NAME BSC Double Start Counterwound Spring SIZE DWG. NO. C D020408-C-E SCALE:
FINISH				REV C SHEET 1 OF 3

REV.	DATE	DCN #	DRAWING TREE #
B	6/2/03	E030308-00-E	

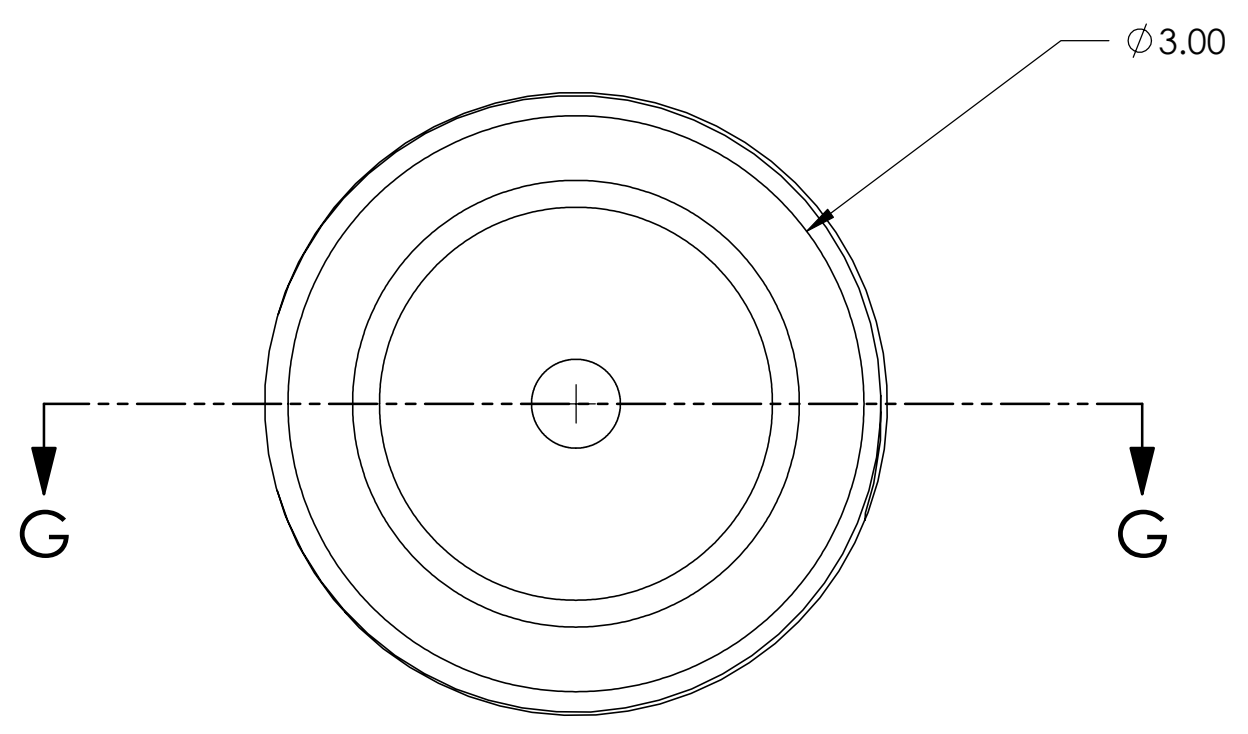
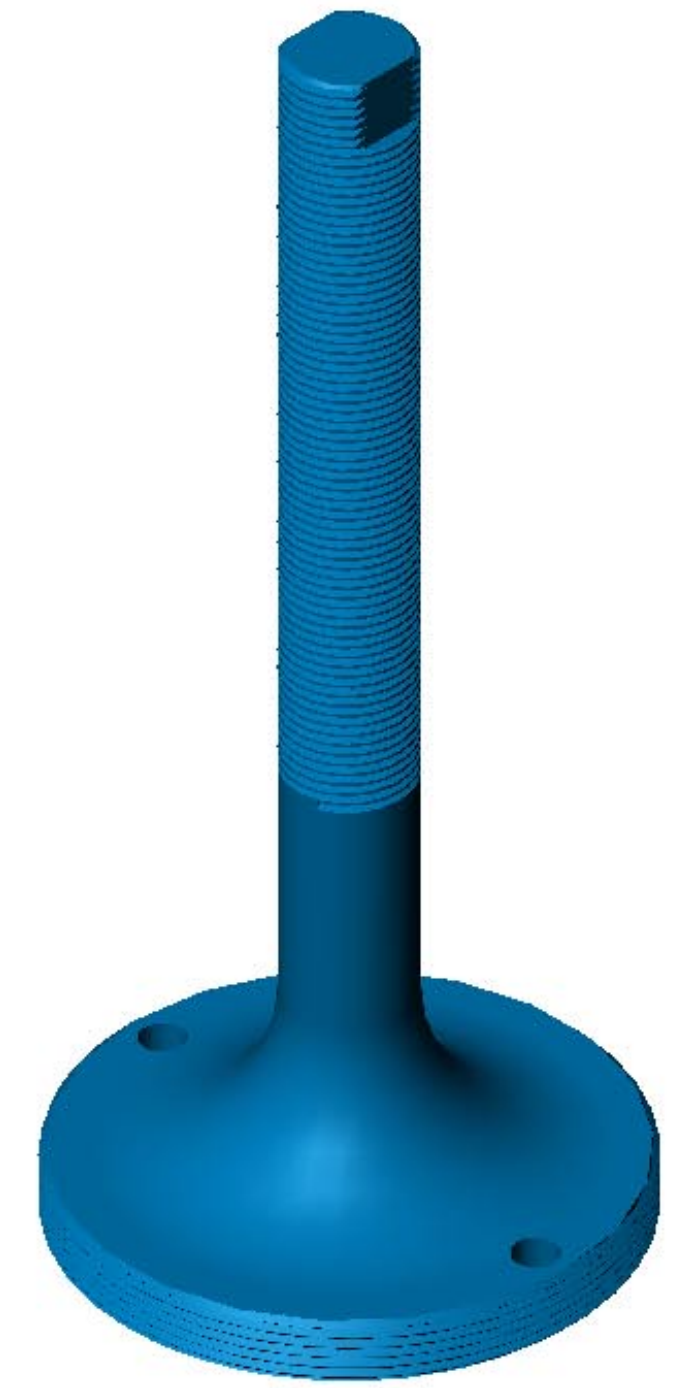
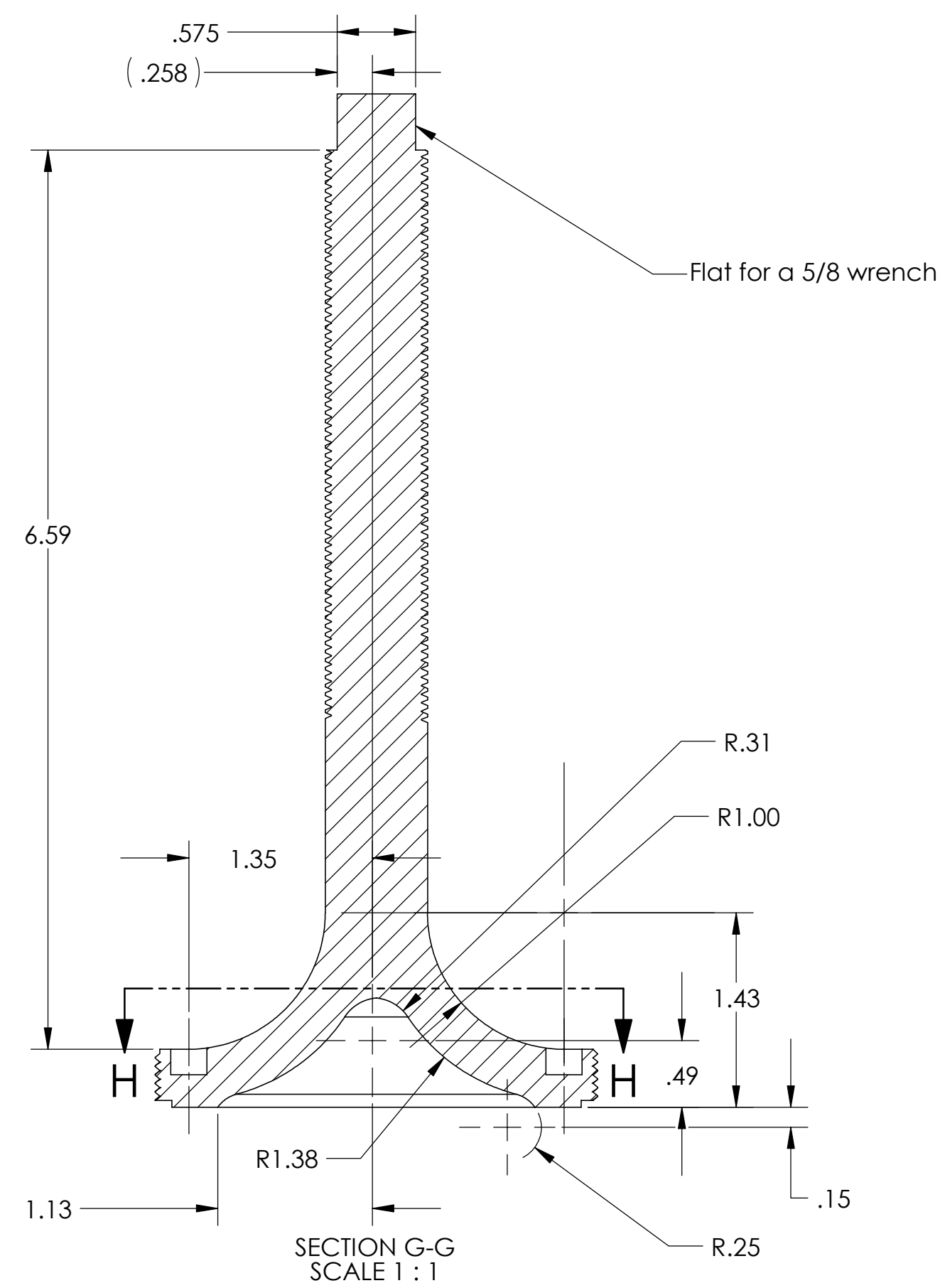
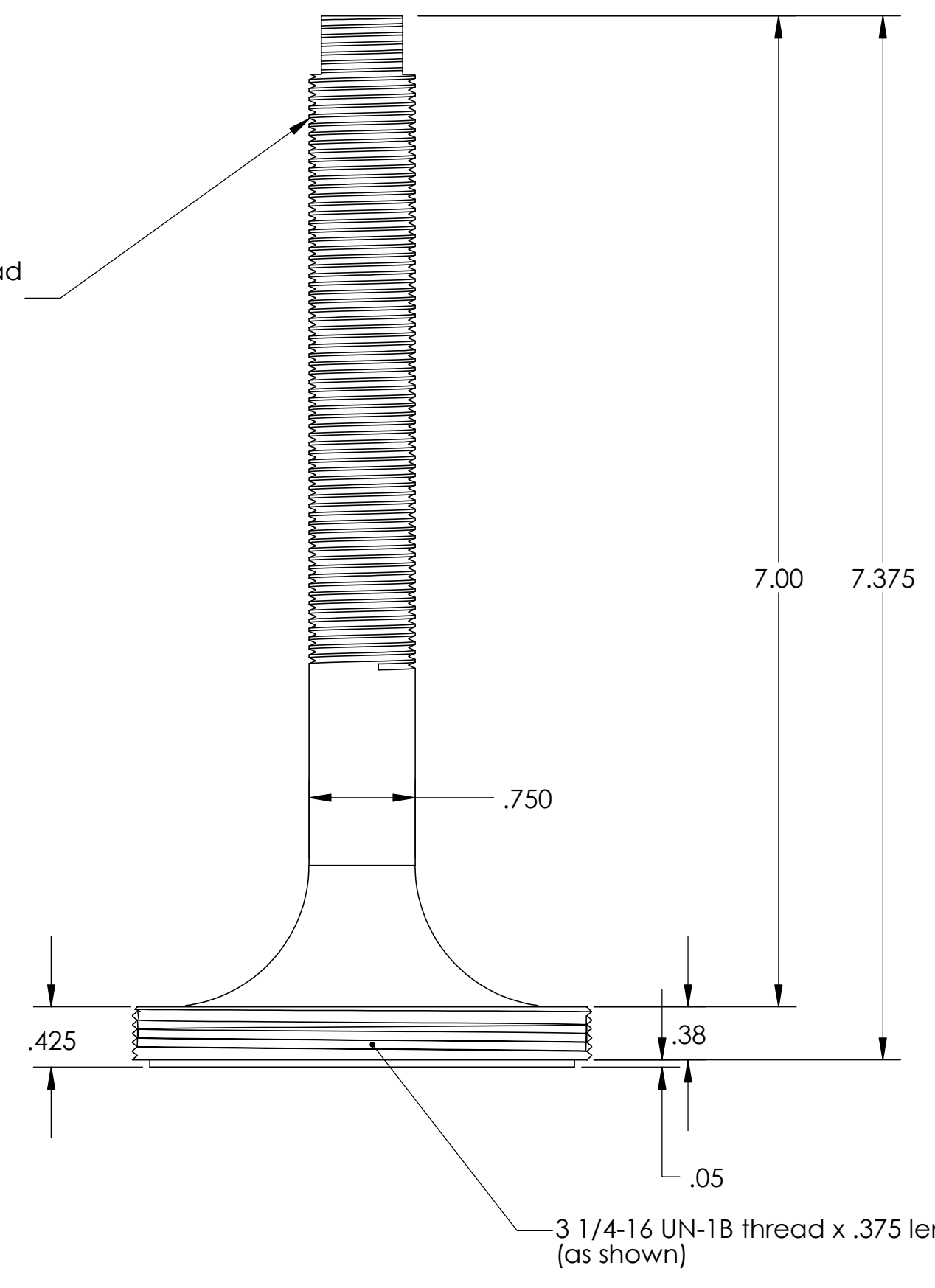


**SECTION D-D
SCALE 1 : 1**

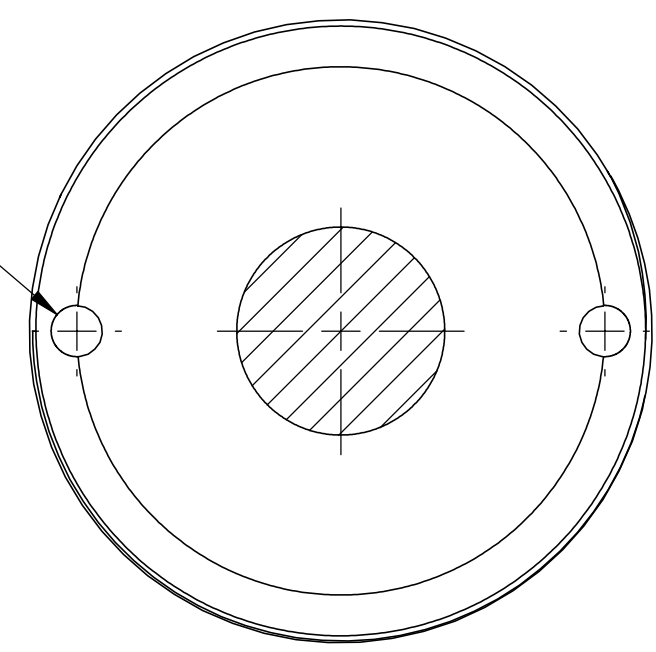
UNLESS OTHERWISE SPECIFIED:		DATE	NAME	 CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY
DIMENSIONS ARE IN INCHES		Drawn	5/14/03 M. Hammond	
TOLERANCES: .XX ± 0.020"		Stress	5/14/03 M. Hammond	
.XXX ± 0.005"		Checked	J. Kern	
ANGULAR ± 30'				NEXT ASSY
MATERIAL: C300 Maraging Steel		COMMENTS:		PART NAME
FINISH				BSC Double Start Counterwound Spring
		SIZE	DWG. NO.	REV
		C	D020406-C-E	C
		SCALE:		SHEET 2 OF 3

REV.	DATE	DCN #	DRAWING TREE #
B	6/2/03	E030308-00-E	
C	8/15/03	E030418-00-E	

3/4-20 UNEF thread
x 5.0 length
ground thread
(as shown)



ϕ 17/64"
x 3/16 deep
(2) req'd
180° apart



SECTION H-H
SCALE 1 : 1

UNLESS OTHERWISE SPECIFIED:		DATE	NAME	CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
DIMENSIONS ARE IN INCHES		5/14/03	M. Hammond	SYSTEM	LASTI
TOLERANCES:		5/14/03	M. Hammond	SUB-SYSTEM	External Pre- Isolation
.XX ± 0.020"			J. Kern	NEXT ASSY	
.XXX ± 0.005"				PART NAME Double Start Counterwound Spring Connector	
ANGULAR ± 30'				SIZE	DWG. NO.
MATERIAL	COMMENTS:			C	D020407-C-E
4340 Steel				REV	C
FINISH				SCALE:	SHEET 3 OF 3