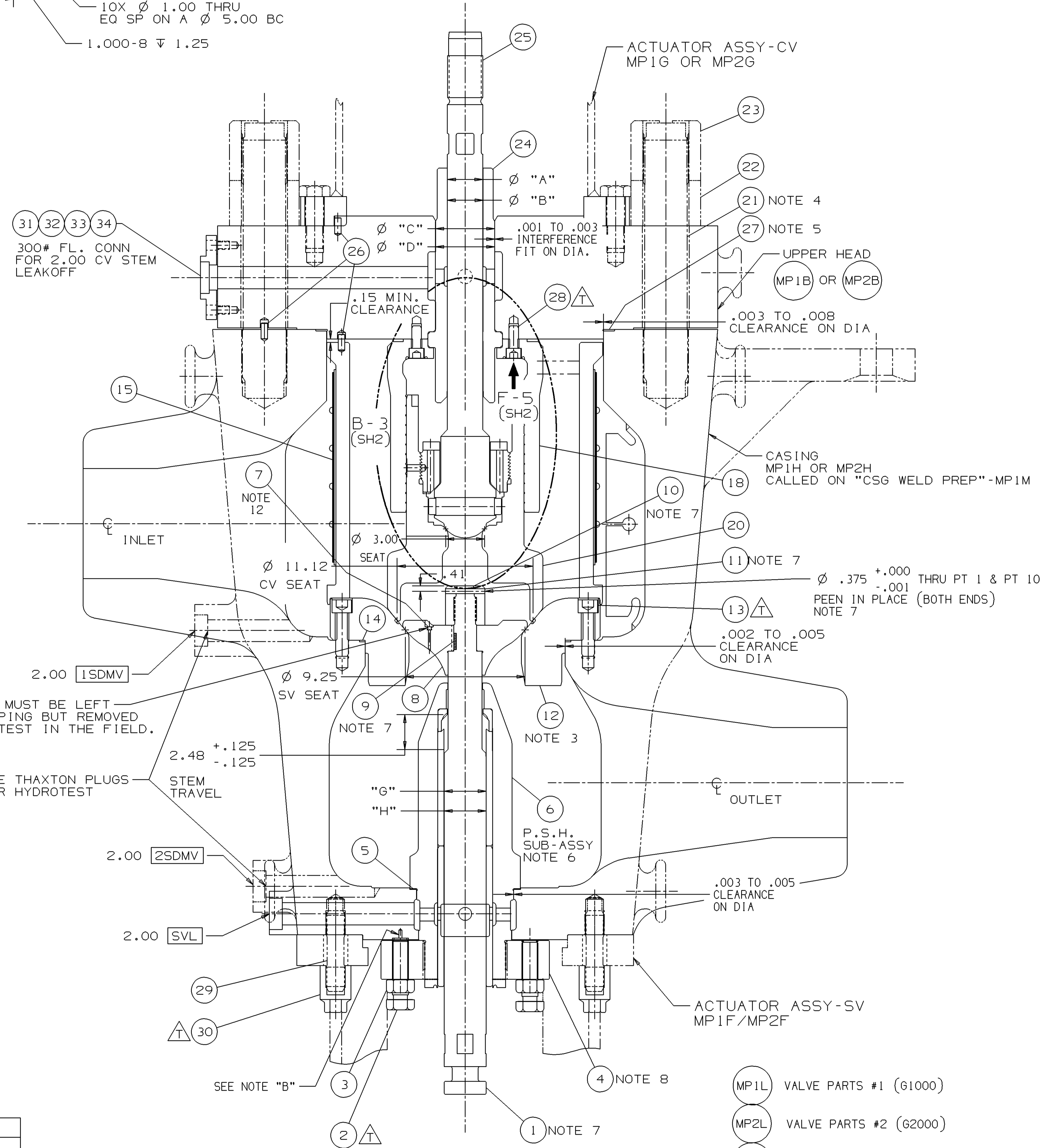
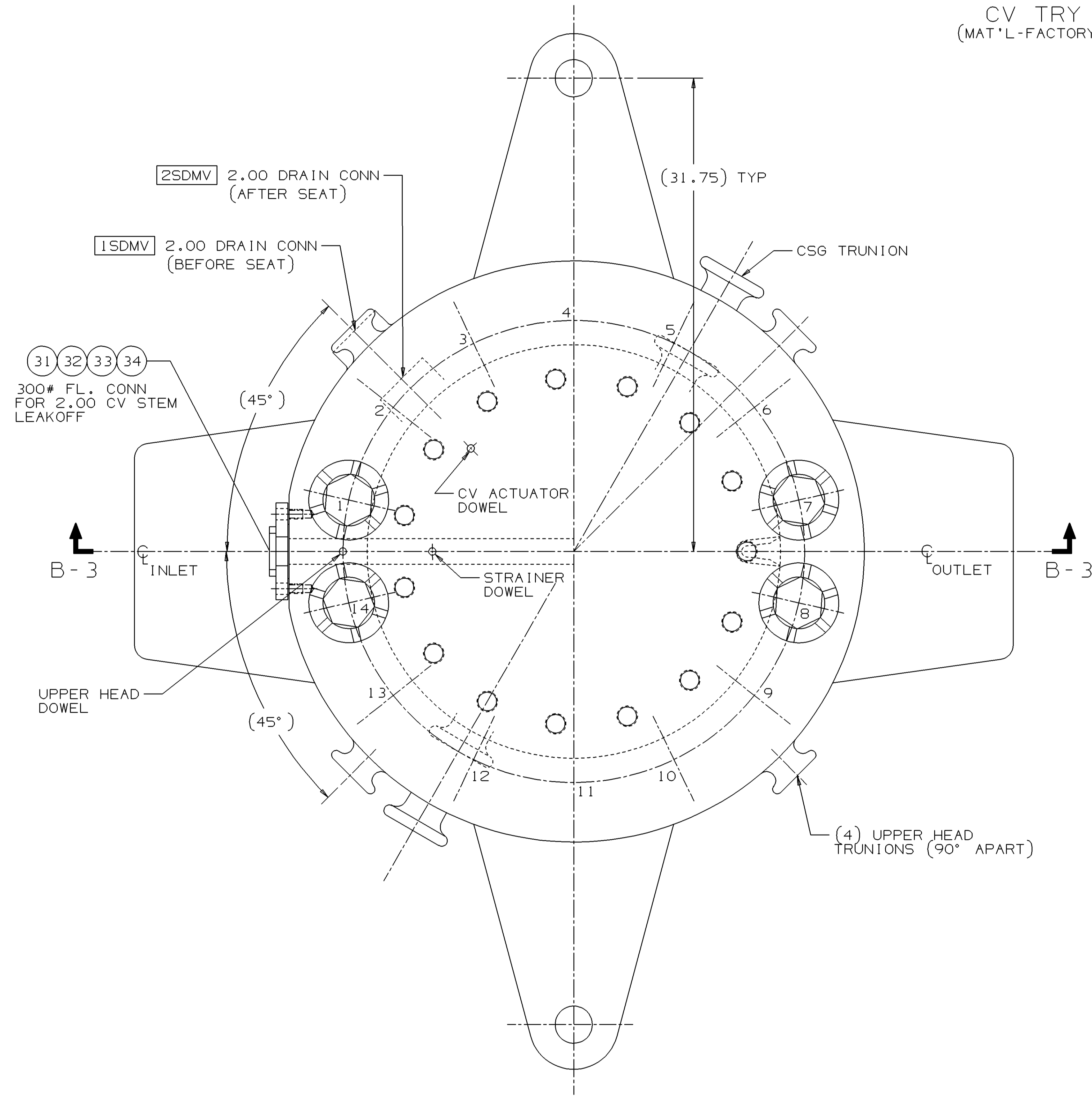
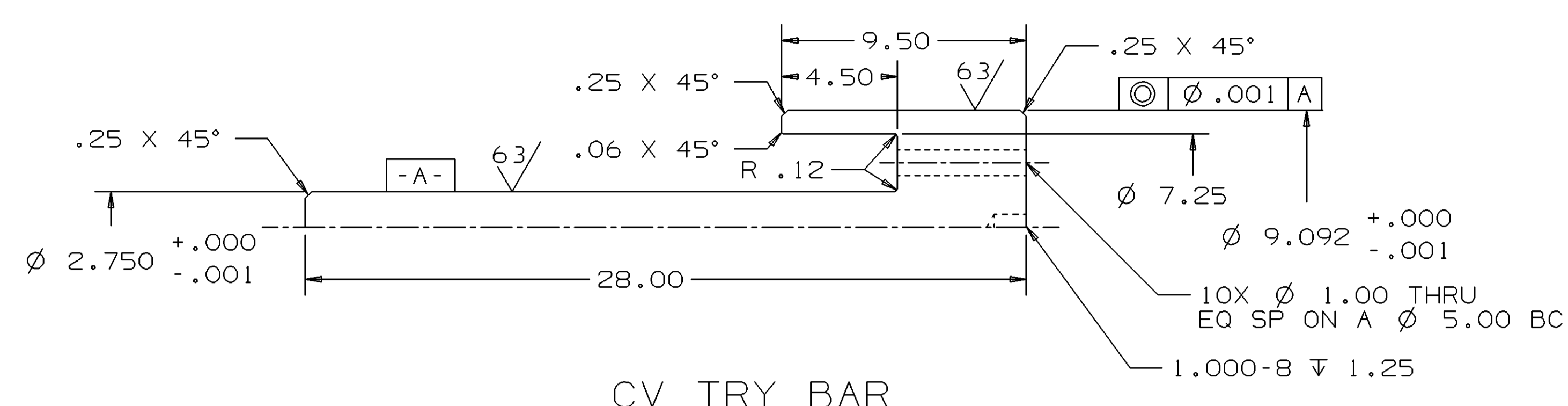


REV	DESCRIPTION	DATE	APPROVED
A	ADDED NOTE 2 UDTD REV STATUS BLOCK AN 04001751 CIAT/Z.HDEZ	04-01-22	CPC
B	UPDATED REV STATUS BLOCK RMV "(BY OTHER)" AT ZN F-4/8 ADDED PT CIRCLES 31, 32, 33 & 34 .15 WAS .25 MIN CLEARANCE AT ZN F-3 AN 04019088 CIAT/L.SOLIS	04-08-04	MJC2

NOTE:
1. FOR ASSEMBLY NOTES SEE SHEET 2.
2. HYDROTEST OF PED CASING (117E2220G0201 & 117E2220G0202) SAME AS NOTE 1 ON SH 2 EXCEPT USE BODY TEST PRESSURE GAGES CALIBRATED PER ISO/IEC 17025. NOTIFIED BODY TO WITNESS 4000 PSI BODY TEST. AFTER NOTIFIED BODY APPROVAL, MOUNT NAMEPLATE HARDWARE (PARTS 200, 201, 202, 203 OF 127E9284G1201).



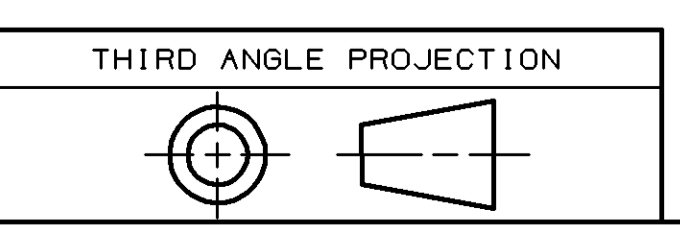
PLUG (PT 7) MUST BE LEFT IN FOR SHIPPING BUT REMOVED AFTER HYDROTEST IN THE FIELD. NOTE 12

USE THAXTON PLUGS FOR HYDROTEST

LETTER	DIMENSION	DESCRIPTION
A	Ø 2.742 +.000/-0.001	CV STEM O.D.
B	Ø 2.752 +.002/-0.000 (INSTALLED)	BUSHING I.D.
C	Ø 4.562 +.000/-0.001	UPPER HEAD I.D.
D	Ø 4.563 +.001/-0.000 (INSTALLED)	BUSHING O.D.
E	Ø 9.094 +.001/-0.000	BALANCE CHAMBER I.D.
F	Ø 9.075 +.000/-0.001	CV DISC O.D.
G	Ø 3.242 +.000/-0.001	SV STEM O.D.
H	Ø 3.256 +.001/-0.000 (INSTALLED)	PSH BUSHING I.D.

TORQUE TABLE (FT/LBS)		
PT.	SIZE	TORQUE
2	1.250-8	250
13	1.000-8	190
28	.750-10	100
30	1.500-8	750

NOTE: THE SPECIFIED TORQUE MUST BE REACHED IN AT LEAST TWO PASSES AND SEQUENTIALLY TIGHTENED.



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BOM ISSUED

SIGNATURES	DATE	GE Power Generation
DRAWN M. PACHECO	03-09-23	GENERAL ELECTRIC COMPANY STEAM TURBINE SHELECTRO@GE.COM
CHECKED V. CAPULA	03-09-24	VALVE PARTS-SV/CV (9 INCH VALVE)
ENGRS P. CHAN	03-09-30	FIRST MADE FOR COMB SV & CV MP1L
ISSUED M. PACHECO	03-10-08	SCALE NONE

APPLIED PRACTICES 348A9200

SHEET 1 OF 1

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

REVISE ON CAD ONLY
UG PART: 127E9284P001

LEGEND

△ SYMBOL FOR NUTS AND BOLTS REQUIRING TORQUE VALUE NOTED IN THE TORQUE TABLE.

ASSEMBLY NOTES - GENERAL

1. HYDROSTATIC TEST PER P24E-AL-1501 CASING TO 4000 PSIG. SV SEAT TO 2000 PSIG. CV SEAT TO 500 PSI. ABOVE CONDITIONS ARE GOOD ONLY WITH CASING & UPPER HEAD STUDS MATERIAL AS SPECIFIED IN G1 & G2 OR SIM. GROUPS WITH SAME MATERIALS.
2. ALL BOLTS, STUDS, NUTS, AND TAPPED HOLES THREADS MUST BE INITIALLY CLEANED AND LUBRICATED WITH LOCTITE PRODUCT #51270 NUCLEAR GRADE OR EQUIVALENT.

ASSEMBLY NOTES - STOP & CONTROL VALVE

3. CASING-SEAT ASSEMBLY:
CASING MP1H/MP2H, SEAT PT 12, GASKET PT 14, BOLTS PT 13.
A. MEASURE SEAT BORE IN CASING AND SEAT O.D. TO CHECK INDICATED FIT. (SH 1 D-3)
B. INSTALL GASKET IN SEALING GROOVE AND INSTALL SEAT IN CASING MAKING SURE SEAT IS BOTTOMED ON LEDGE. BOLTS PT 13 SHOULD BE SEQUENTIALLY TIGHTENED WITH 190 FT/LBS OF TORQUE.
4. UPPER HEAD - CASING ASSEMBLY:
STUDS PT 21 REQUIRE TIGHTENING EXTENSION PER 223A3906. EFFECTIVE STUD LENGTH IS 14.62. STUDS ARE STAMPED: "XD" FOR B50A125E MAT"L. "L" FOR B5F5B3 MAT"L.
5. AFTER TEST AND BEFORE SHIPMENT REPLACE GASKET PT 27.
6. PRESSURE SEAL HEAD SUB-ASSEMBLY: (REF) PRESSURE SEAL HEAD PT 6.
7. S.V. STEM - DISK ASSEMBLY:
STEM PT 1, SV DISK PT 8, KEY PT 9, NUT PT 10, PIN PT 11, PRESSURE SEAL HEAD PT 6.
A. INSERT STEM PT 1 INTO PRESSURE SEAL HEAD PT 6 AND BLUE CHECK 45° STEM SEAL. A 360° CONTINUOUS LINE CONTACT IS REQUIRED. THE SEAL RING MAY BE LAPPED WITH A SEPERATE LAPPING BLOCK AND THE STEM MAY BE LAPPED TO OBTAIN REQUIRED CONTACT.
B. AFTER INSTALLING STEM IN PRESSURE SEAL HEAD, INSTALL KEY PT 9 AND DISK PT 8. INSTALL NUT PT 10 WITH 900 FT/LBS (500 FT/LBS FOR REASSEMBLY) TORQUE AND BLUE CHECK SEAL AT BOTTOM OF NUT. MACHINE NUT IF REQUIRED TO OBTAIN A 360° CONTINUOUS LINE CONTACT. RE-TORQUE NUT TO STEM AND SECURE WITH PIN PT 11 (ZONE D-3, SH 1)
8. S.V. STEM - DISC - PSH ASSY
SV STEM-DISK ASSEMBLY NOTE 7, GASKET PT 5, PULL DOWN RING PT 4, CASING SEAT ASSY NOTE 3, BOLTS PT 2, NUTS PT 3.
A. INSTALL GASKET AND SV-STEM-DISK ASSEMBLY INTO VALVE CASING-SEAT ASSEMBLY. FULLY THREAD PULL DOWN RING PT 4 ONTO PRESSURE SEAL HEAD. BACKOFF PULL DOWN RING TO ALIGN ONE TIGHTENING BOLT WITH SPOTFACE RECESS IN CASING. TIGHTEN BOLTS PT 2 PER TORQUE TABLE TO COMPRESS GASKET. LOCK BOLTS WITH NUTS PT 3.

9. MACHINE THREADED RING (PT 16) ON SURFACE "Z" (\sqrt{V}) TO OBTAIN THE SPECIFIED LIFT BETWEEN STEM (PT 25) AND VALVE DISC (PT 20) WHEN THE THREADED RING IS FIRMLY TIGHTENED INTO PLACE.
10. TO TIGHTEN THREADED RING (PT 16) USE SPANNER WRENCH DWG 120B2918 PT 1, SPANNER WRENCH SOCKET DWG 141B8880 PT 19 AND SPANNER SLEDGING WRENCH DWG 141B8881 PT 4. SHOWN IN DETAIL B-3 (ALSO SEE ISOMETRIC VIEW A-5). THESE ARE ORDERED ON THE SPECIAL WRENCH AND TOOLS BOM (A10 IN SPL-SHIP LOOSE MATL). NONE OF THE OUTER SLIDING FACES OF THE VALVE DISC (PT 20) SHOULD BE CLAMPED. THE THREADS SHOULD BE TREATED AS PER NOTE 2. THE RING IS TO BE TIGHTENED FIRMLY INTO PLACE.
11. ONCE THE LIFT BETWEEN THE STEM AND DISC HAS BEEN ESTABLISHED. DRILL AND REAM $\varnothing .5000 \pm .0005$ $\nabla 1.375 \pm .005$ DEEP FROM SPOT FACE IN DISC (PT 20). SEE DETAIL A-4. ENSURE THREADED RING REMAINS FIRMLY IN PLACE DURING MACHINING. IF DRILL BREAKS THROUGH TO THREADED RING FLOW HOLE ENSURE ALL LOOSE DEBRIS IS REMOVED. INSERT PIN (PT 19). STAKE METAL AROUND PIN IN 3 PLACES. MAKE SURE THAT PEENED METAL IS BELOW O.D. OF DISC SURFACE.

SPECIAL FIELD NOTES:

12. AFTER STEAM BLOW AND MAIN STEAM HYDRO TESTS ARE COMPLETE REMOVE PLUG PT 7.
13. PRESERVATION PROCEDURE PER P23E-AL-0200, ITEM #15

DISASSEMBLY OF THREADED RING (PT 19)

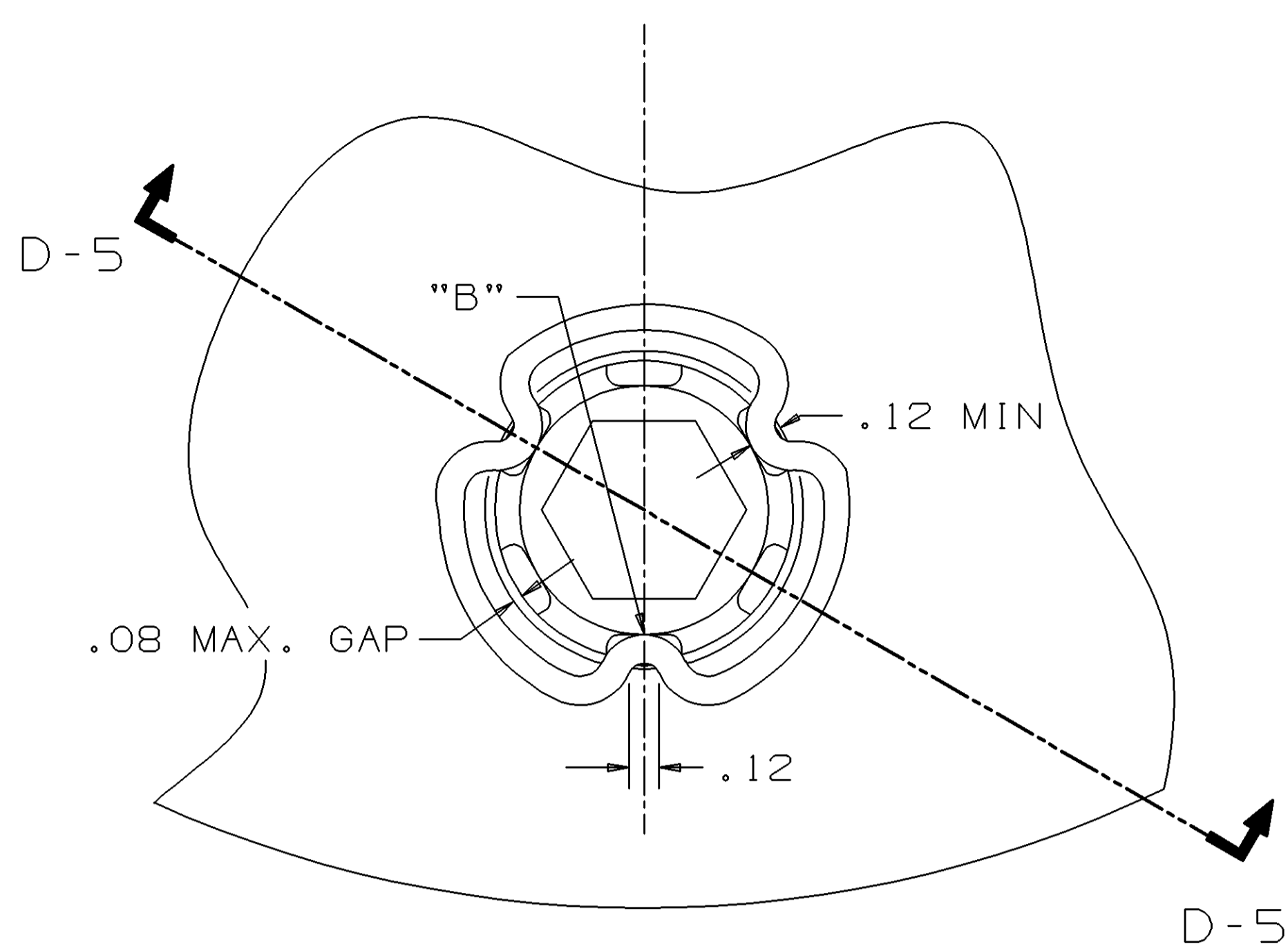
14. DRILL OUT PIN (PT 19). LOOSEN THREADED RING (PT 16) USING SPECIAL TOOL AS PER NOTE 10 AND UNSCREW.

RE-ASSEMBLY OF THREADED RING

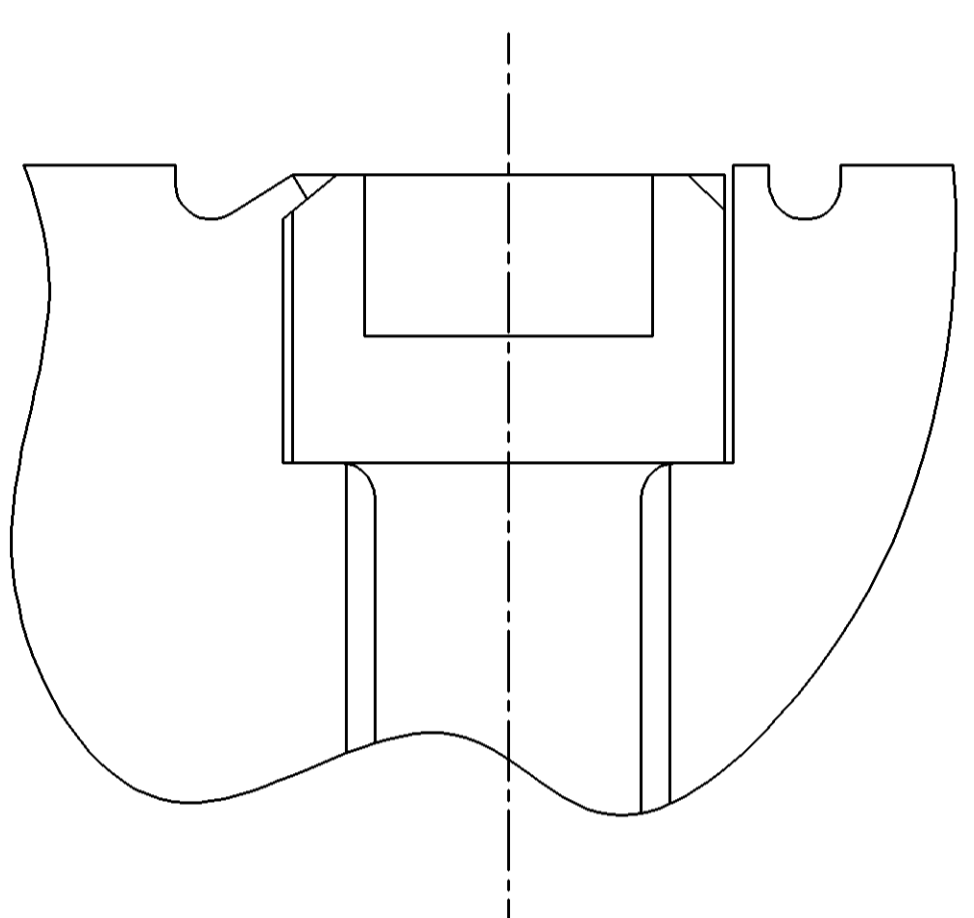
15. ENSURE CORRECT LIFT BETWEEN STEM (PT 25) AND VALVE DISC (PT 20) FOLLOWING NOTES 9 & 10. REAM OVERSIZED PIN HOLE TO DEPTH $1.375 \pm .005$ FROM SPOT FACE USING EXISTING PIN HOLE AND FIT PIN AS PER NOTE 11.

TORQUE & PEENING INSTRUCTIONS

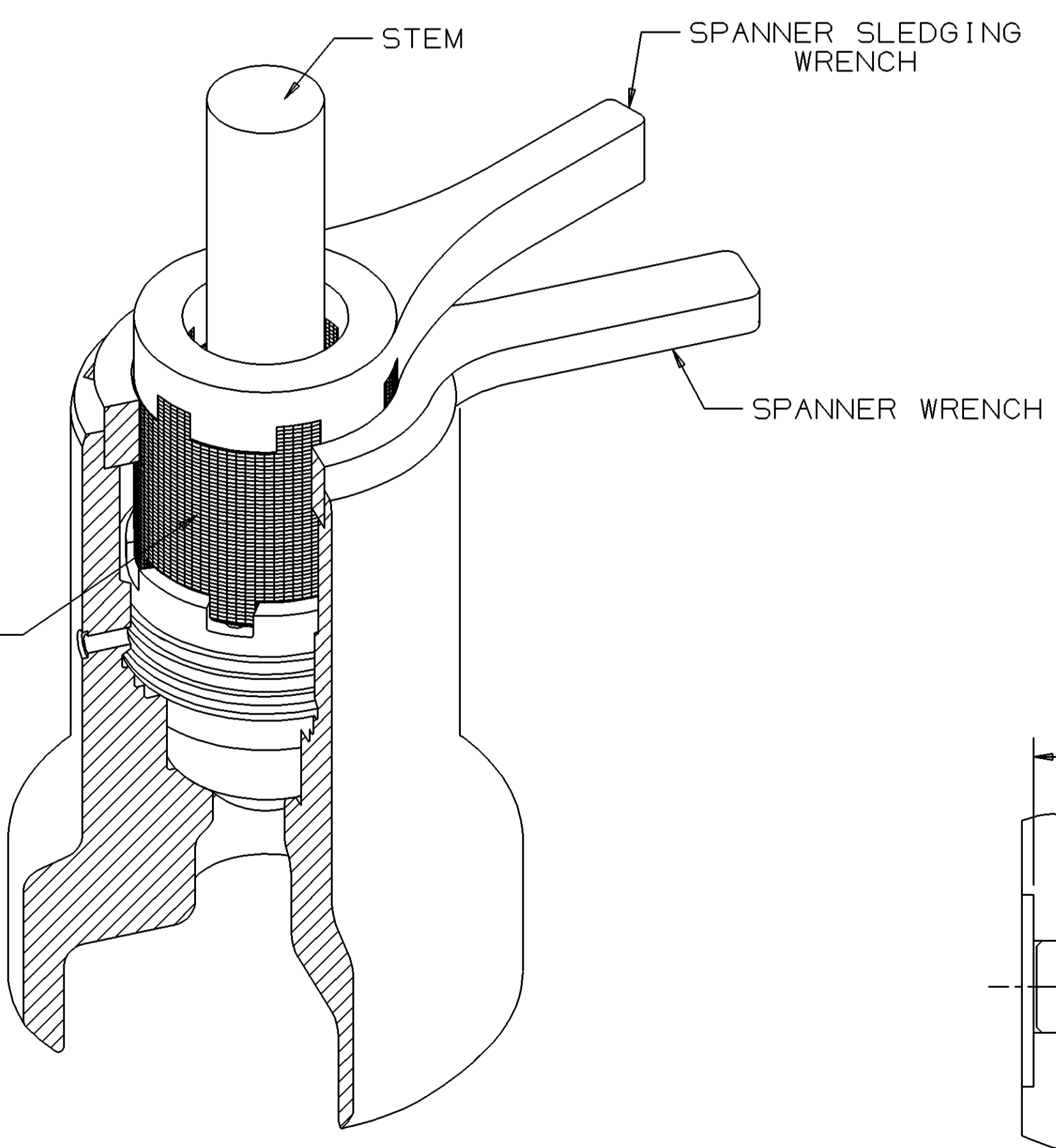
- A. TIGHTEN BOLTS PER TORQUE TABLE (A-7, SH 1).
- B. THE SPECIFIED TORQUE MUST BE REACHED IN AT LEAST TWO PASSES AND SEQUENTIALLY TIGHTENED.
- C. BOLT HEAD MUST BE RECESSED .031 BELOW THE EDGE OF PEENING LIP.
- D. TWO STEPS IN PEENING ARE RECOMMENDED FIRST USING A PEENING TOOL WITH R .38 PEEN UNTIL LIP JUST TOUCHES SHARP EDGES THEN USING R .12 TOOL PEEN LIP INTO CONTACT WITH SLOT AT POINT "B".



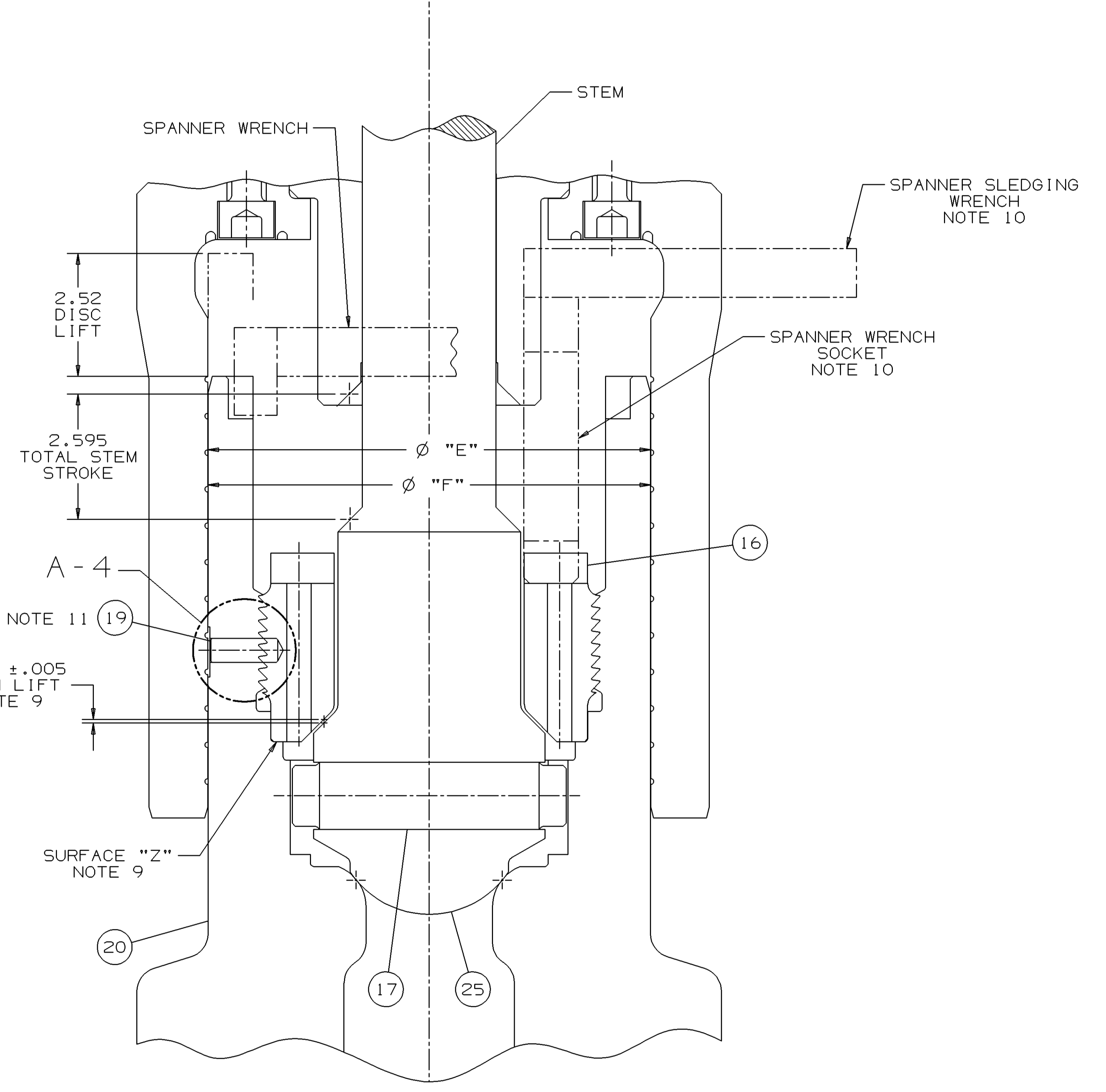
ENLARGED VIEW F-5 (E-3 SH1)



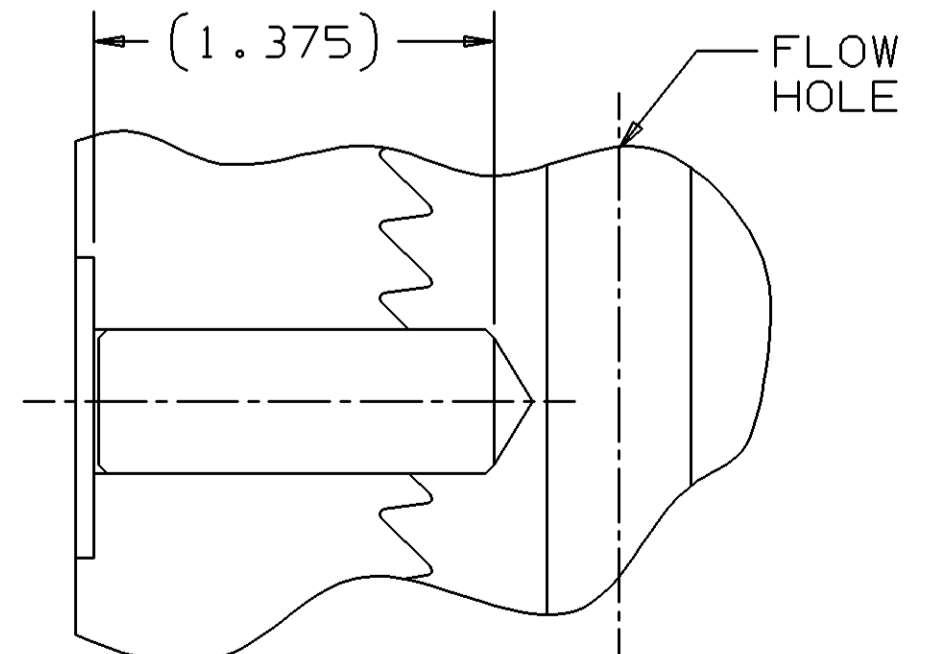
SECTION D-5 (F-5)



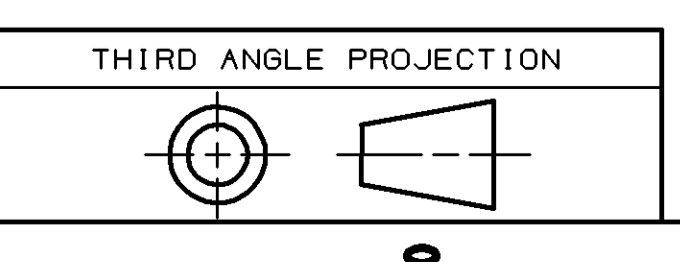
ISOMETRIC VIEW A-5



DETAIL B-3 (E-3 SH1)



DETAIL A-4 (D-4)



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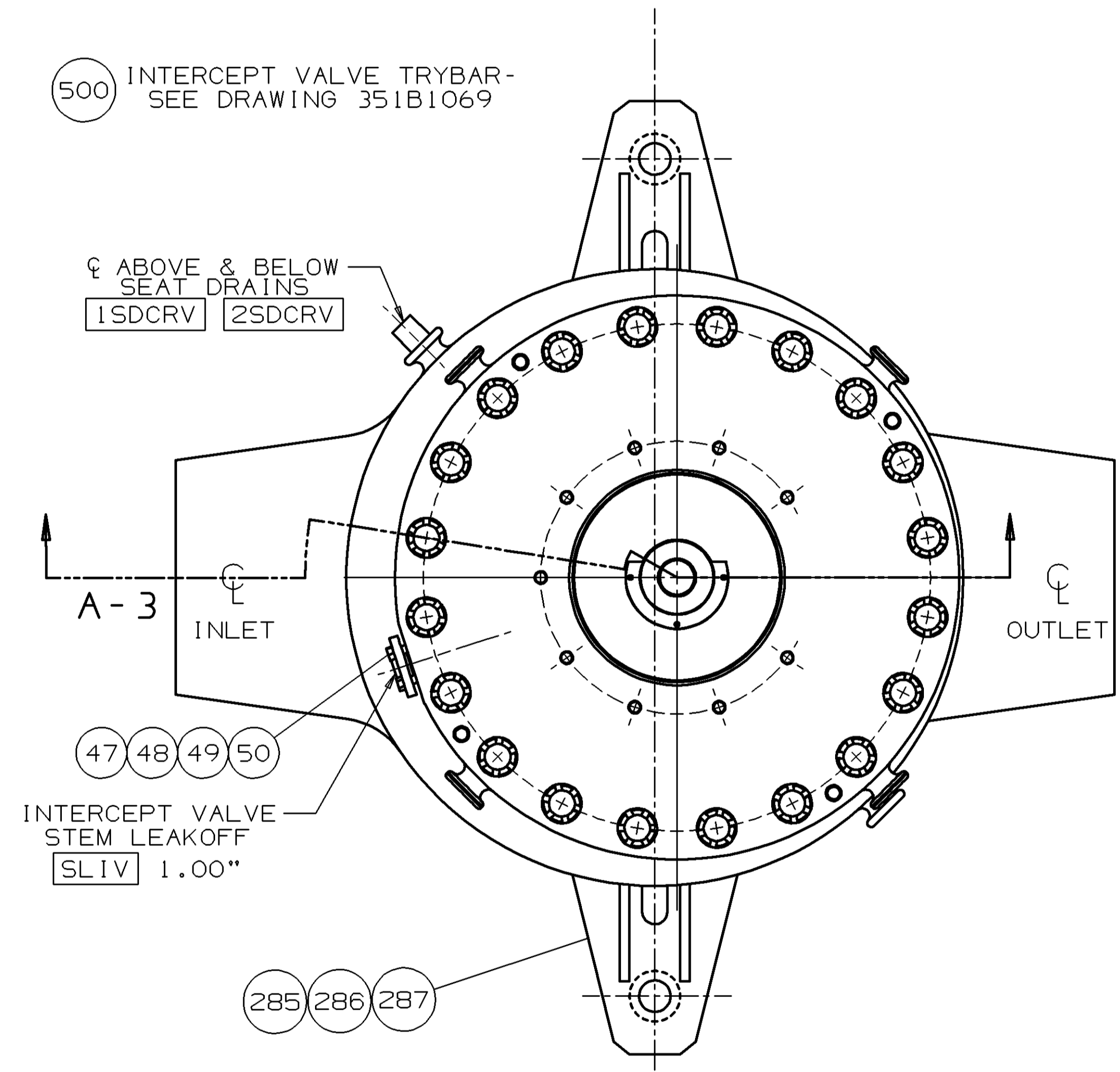
GENERAL ELECTRIC COMPANY GE Power Generation	SIZE E	CAGE CODE	DWG NO 127E9284
DRAWN M. PACHECO ISSUED M. PACHECO	SCALE NONE	SHEET 2	

REV	DESCRIPTION	DATE	APPROVED
A	REV. NOTE 7. TM37901 DFL	98-08-21	DFL
B	ADDED G100 FUT. PROD DFL	99-07-29	DFL
C	REV'D NOTE 4. AN-00007048	00-05-31	DFL
D	ADDED BUBBLE PT 285, 286, 287, G200 AND 284 AT ZONE C/B-7/B FUTPROD CIAT/V.CAPULA	04-04-12	DFL
E	2.486 ± .002 WAS 2.486 ± .001 AT G-5 AN 04012164 CIAT/Z.HDEZ	04-05-18	MS

- NOTES:
- ALL BOLT, NUT, STUD AND TAPPED HOLE THREADS MUST BE INITIALLY CLEANED AND LUBRICATED WITH FELPRO "NEW" N7000 NUCLEAR GRADE OR ENGINEERING APPROVED EQUIVALENT.
 - INSTALL GASKET PT-14 AND SEAT PT-15 INTO CASING, MAKING SURE SEAT IS BOTTOMED ON LEDGE, SEQUENTIALLY TIGHTEN SEAT BOLTS PT-19 TO THE REQUIRED TORQUE VALUE.
 - INSERT REHEAT STOP VALVE STEM PT-1 INTO PRESSURE SEAL HEAD SUBASSEMBLY PT-10 AND BLUE CHECK 45° STEM SEAL. CONTINUOUS 360° CONTACT IS REQUIRED. STEM SEAL RING MAY BE LAPPED OR THE STEM MAY BE LAPPED IF REQUIRED TO OBTAIN PROPER CONTACT.
 - INSERT INTERCEPT VALVE STEM SEAL RING PT-31 INTO UPPER BUSHING PT-39. MAKE SURE SEAL RING IS BOTTOMED IN BUSHING AND PEEN LIP OVER ALL AROUND. INSERT INTERCEPT VALVE STEM PT-40 INTO BUSHING AND BLUE CHECK 45° STEM SEAL. CONTINUOUS 360° CONTACT IS REQUIRED. STEM SEAL RING MAY BE LAPPED OR THE STEM MAY BE LAPPED IF REQUIRED TO OBTAIN PROPER CONTACT. INSTALL BUSHING PT-39 INTO UPPER HEAD PT-38 AND INSTALL RETAINING RING PT-43. TIGHTEN BOLTS PT-41 TO 20 TO 25 FT-LBS. SECURE BOLTS WITH LOCKWIRE PT-42 AS SHOWN ON G.E. DRAWING 264A6835. SOME BUSHINGS (PT.39) HAVE INTEGRAL SEAL RING. TO RENEW SEAL RING (PT.31), IT IS ACCEPTABLE TO MACHINE PT. 39 TO ACCEPT A SEAL RING (PT.31) AS SHOWN.
 - BOLTS PT-29 AND PT-30 REQUIRE TORQUEING AND PEENING PER 196B6793.
 - TORQUE BOLTS PT-18 TO THE REQUIRED TORQUE VALUE AND STAKE IN PLACE 4 PLACES EQ. SPACED.
 - STUDS PT-35 WITH AN EFFECTIVE LENGTH OF 7.75 IN. REQUIRE TIGHTENING EXTENSION OF 9 TO 12 MILS.
 - ASSEMBLE INTERCEPT VALVE STEM PT-40 TO CROSSHEAD-PART OF "ACTUATOR ASSEMBLY-INTERCEPT VALVE" PER 181B6636.
 - AFTER TEST AND BEFORE SHIPMENT REPLACE GASKET PT-33.
 - TIGHTEN PULL-DOWN BOLTS PT-7 TO 125 FT-LBS. TIGHTEN JAM NUTS TO 45 FT-LBS TO LOCK BOLTS IN PLACE.

STEM AND BUSHING DIAMETERS ARE IN ACCORDANCE WITH 1978 CLEARANCE PRACTICE

LTR	DESCRIPTION	DIMENSION
"A"	R.S.V. STEM O.D.	2.994 +.000 -.001
"A"	BUSHING I.D.	3.008 +.001 -.000
"B"	R.S.V. STEM O.D.	2.486 ± .002
"B"	BUSHING I.D.	2.500 +.001 -.000
"C"	I.V. STEM O.D.	3.487 +.000 -.001
"C"	DISC I.D.	3.500 +.001 -.000
"D"	SEAL RING O.D.	17.250 +.000 -.001
"D"	BALANCE CHAMBER I.D.	17.268 +.001 -.000
"E"	I.V. STEM O.D.	2.993 +.000 -.001
"E"	BUSHING I.D.	3.004 +.001 -.000



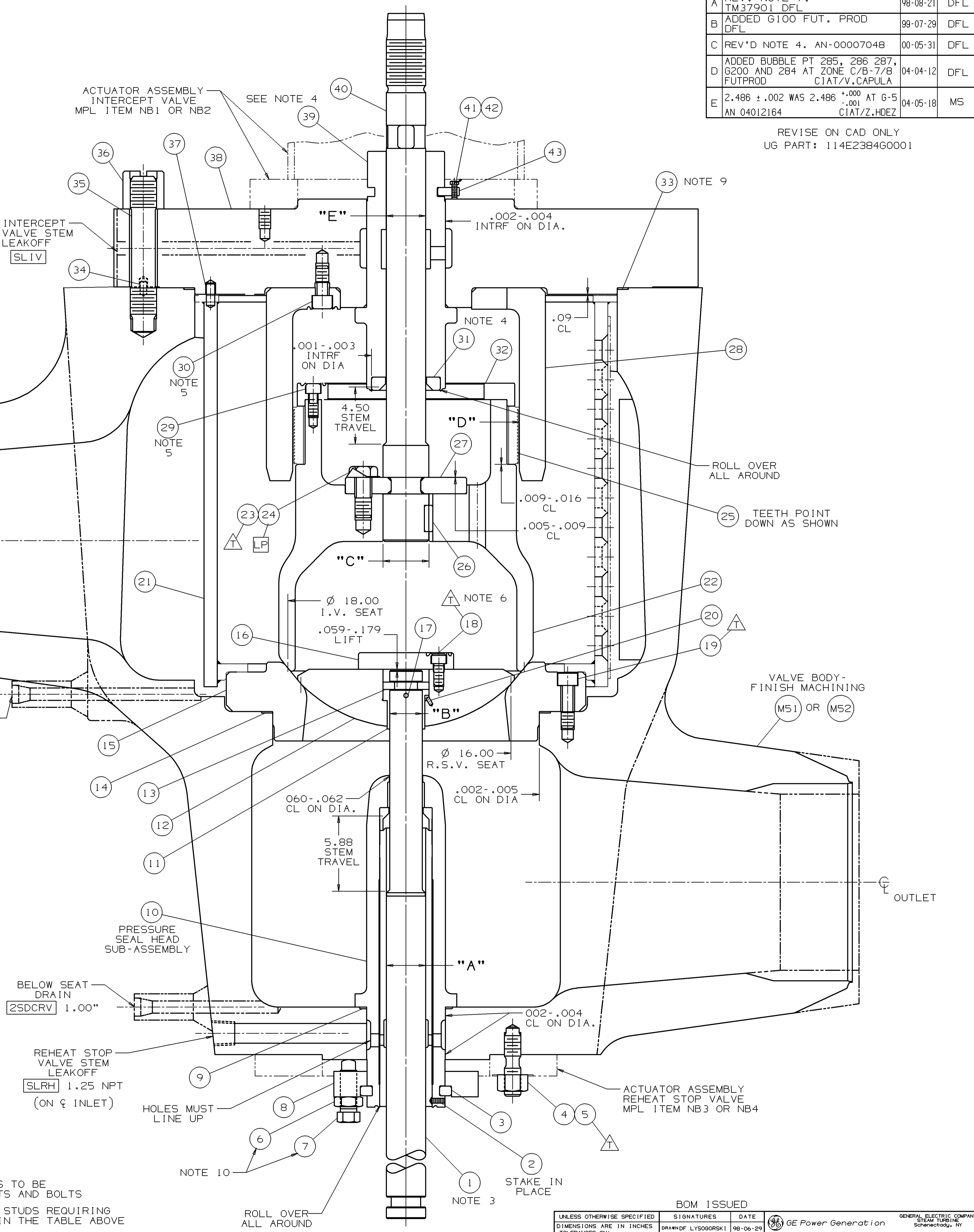
TORQUE REQUIREMENTS
THE SPECIFIED TORQUE MUST BE REACHED IN AT LEAST TWO PASSES AND SEQUENTIALLY TIGHTENED

PT	SIZE	MATERIAL (STUD/BOLT)	TORQUE (FT-LBS)
5	1.250-8	B50A125E	410
18	.750-10	MEDIUM CARBON STEEL	143
19	1.000-8	B50A125E	190
23	1.250-8	B50A125E	410
50	.625-11	B5F5B3	75

- (M49) ASSEMBLY-VALVE
- (M50)
- (G100) PARTS IN KITS
- (G200) PARTS SUPPLIED PER EUROPEAN DIRECTIVE/PED HYDROSTATIC TEST REQUIRES BODY TEST GAUGES CALIBRATED PER ISO/IEC17025, NOTIFIED BODY TO WITNESS 1400 PSI BODY TEST
- (284) MOUNTING CE NAMEPLATES FOR PED UNITS. USE PTS 285, 286 AND 287.

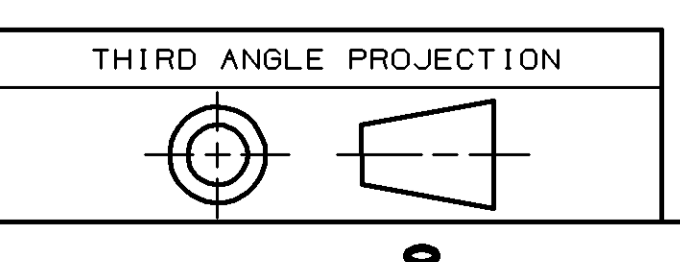
- LEGEND**
- LP SYMBOL FOR LOCKPLATES TO BE BENT UP TO SECURE NUTS AND BOLTS
 - △ SYMBOL FOR BOLTS AND STUDS REQUIRING TORQUE VALUES NOTED IN THE TABLE ABOVE

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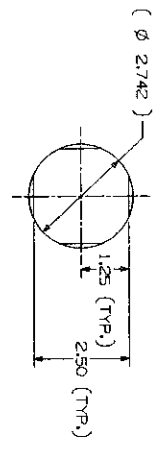


(ENLARGED) SECTION A-3

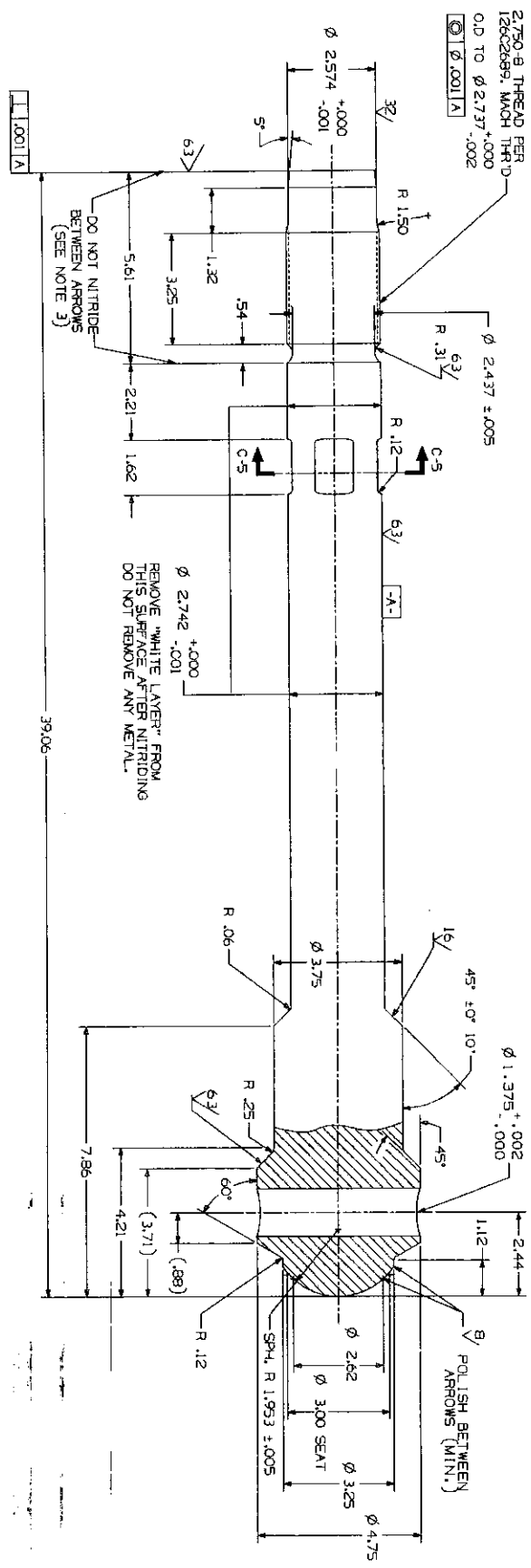
SIGNATURES		DATE	GE Power Generation	
DRAWN BY LYSDORSKI		98-06-29	GENERAL ELECTRIC COMPANY STEAM TURBINE SHEET 0591, NY	
CHECKED BY LYSDORSKI		98-07-13	VALVE BODY PARTS ASSEMBLY	
ENGR BY EJ COOPER		98-07-13	FIRST MADE FOR 16" CRV (1050°F) (M49)	
ISSUED BY LYSDORSKI		98-07-14	DRAWING NO. 114E2384	
APPLIED PRACTICES 348A9200			SHEET 1	
SCALE			270T419	
SHEET			SNVD	



- NOTES:
1. NITRIDE EXCEPT AS NOTED
 2. LPI
 3. DO NOT NITRIDE BETWEEN ARROWS FINISH MACHINE AFTER NITRIDE.



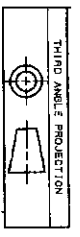
SECTION C-5 (B-6)



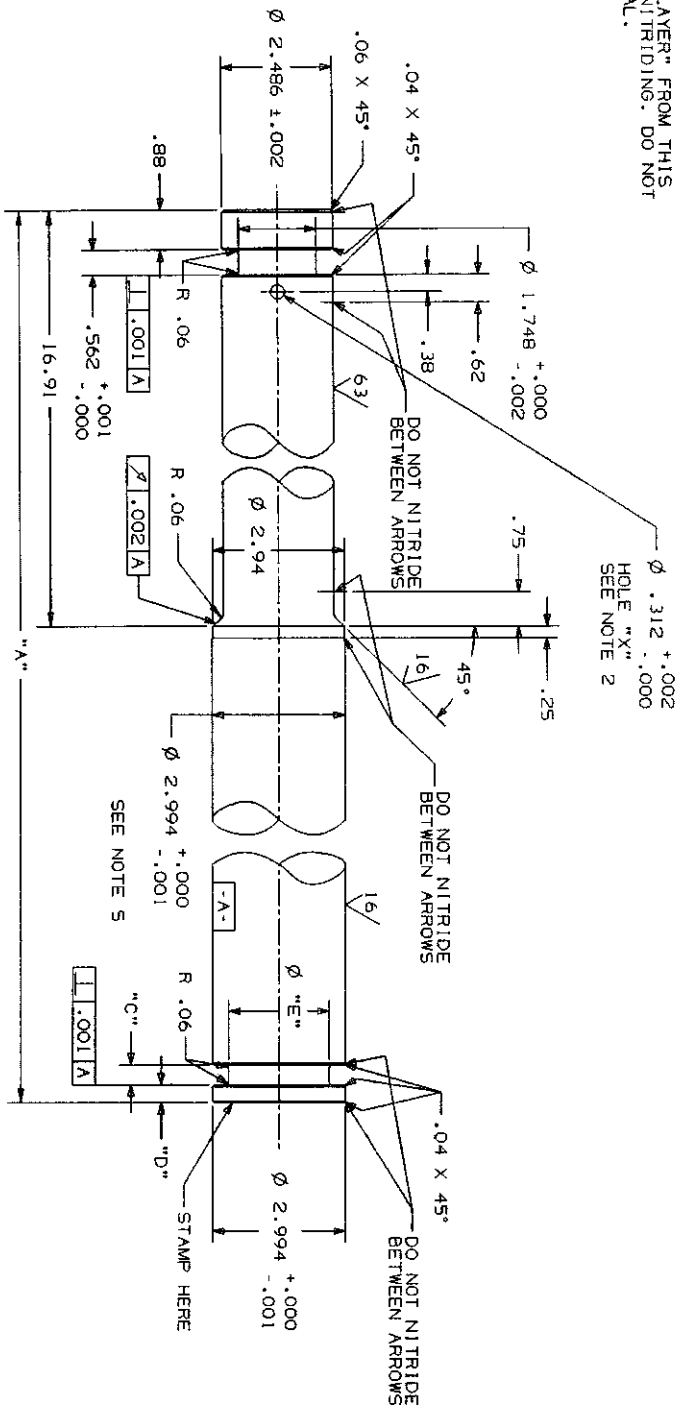
1 MATERIAL: B50A305B

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
FRACTIONS 1/16
DECIMALS 0.0005
ROUNDED UP
TOLERANCES

BAKTIPO ГИЯ ЕАРА 3"
3" SEAT STEM
127E9284-25



- NOTES:
1. CENTERS PERMITTED ON FINISHED PIECE.
 2. ϕ HOLE "X" TO INTERSECT ϕ OF STEM WITHIN .003 TIR.
 3. NITRIDE, EXCEPT AS NOTED.
 4. LPI AND ACCEPTANCE.
 5. REMOVE "WHITE LAYER" FROM THIS SURFACE AFTER NITRIDING. DO NOT REMOVE ANY METAL.



MAT'L B50A305B

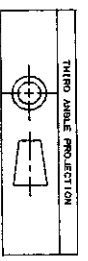
"A"	"C"	"D"	"E"	FIN WEIGHT
59.70	.749 ±.001	.88	2.247 ±.000	106#

UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE IN INCHES
 TOLERANCES ARE:
 2 PL. DECIMALS ±
 3 PL. DECIMALS ±
 FRACTIONS ±

125 ✓

БАКПРО АТМОФПАКТИН МП 16"
 16" IP STOP VALVE STEM

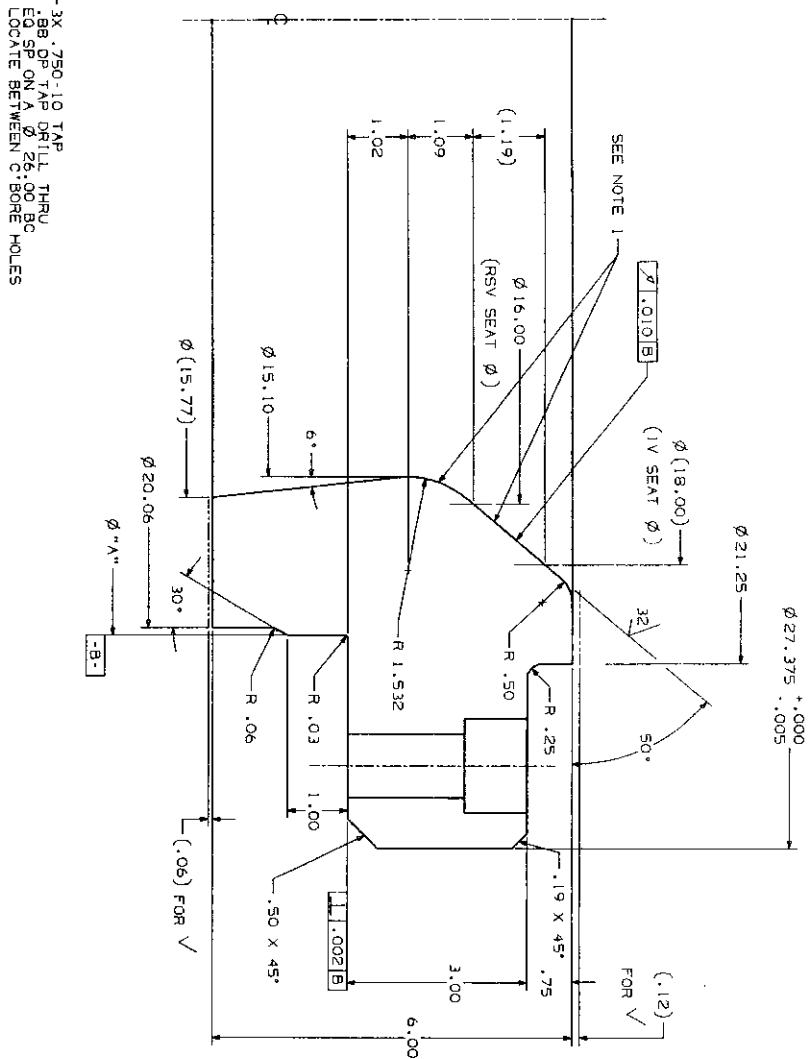
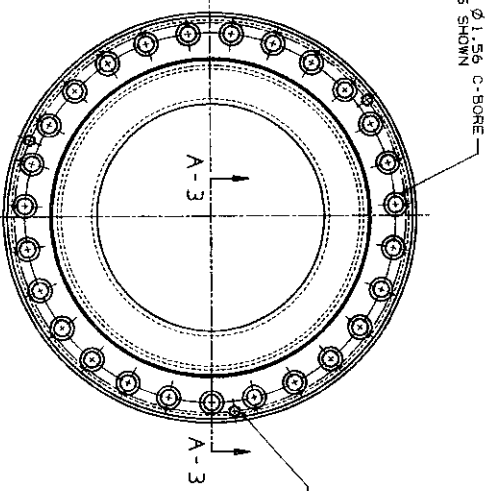
114E2384-1



NOTES:
 1. AFTER MACHINING, MAG TEST SEAT AREA
 & POLISH TO 9/
 MAG TEST REST OF THE SEAT

MAT'L: B50A1648

Ø "A"	+0.000
20.310	-0.001



SECTION A-3 (A-6)
 (ENLARGED)

UNLESS OTHERWISE SPECIFIED

TOLERANCES ARE IN INCHES	
FRACTIONS AND DECIMALS	
3/16" & SMALLER	±.005
3/16" & LARGER	±.0025
ANGLES	±.125°

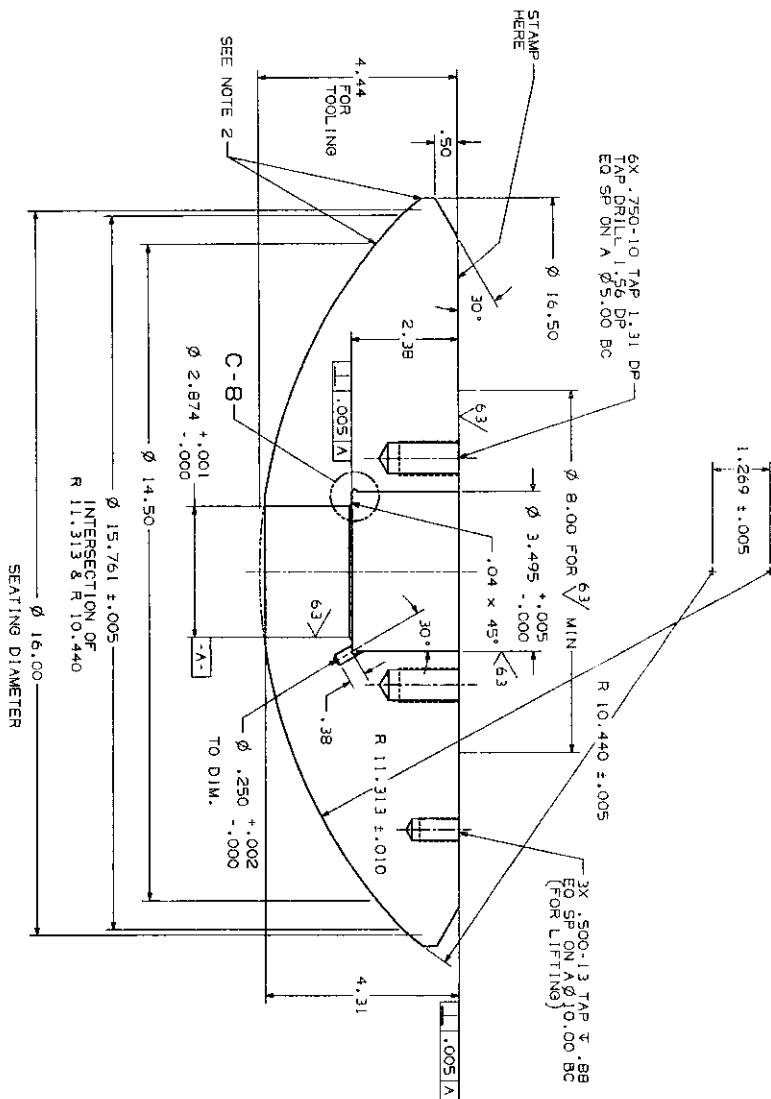
ЕАРА АТМОФРАКТН МП 16"
 16" IP STOP VALVE SEAT

114E2384-15

NOTES:

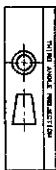
- 1. AFTER MACHINING, MAG TEST SEAT AREA & POLISH TO \sqrt{B}
MAG TEST REST OF THE DISC. \sqrt{B}

DETAIL C-B (B-5)



1 MAT'L: B50A164B

LINEAR DIMENSIONS SPECIFIED
UNLESS OTHERWISE INDICATED
DIMENSIONS ARE IN INCHES
DECIMALS ARE TO BE
SPECIFIED
FRACTIONS ARE TO BE
SPECIFIED AS
1/25



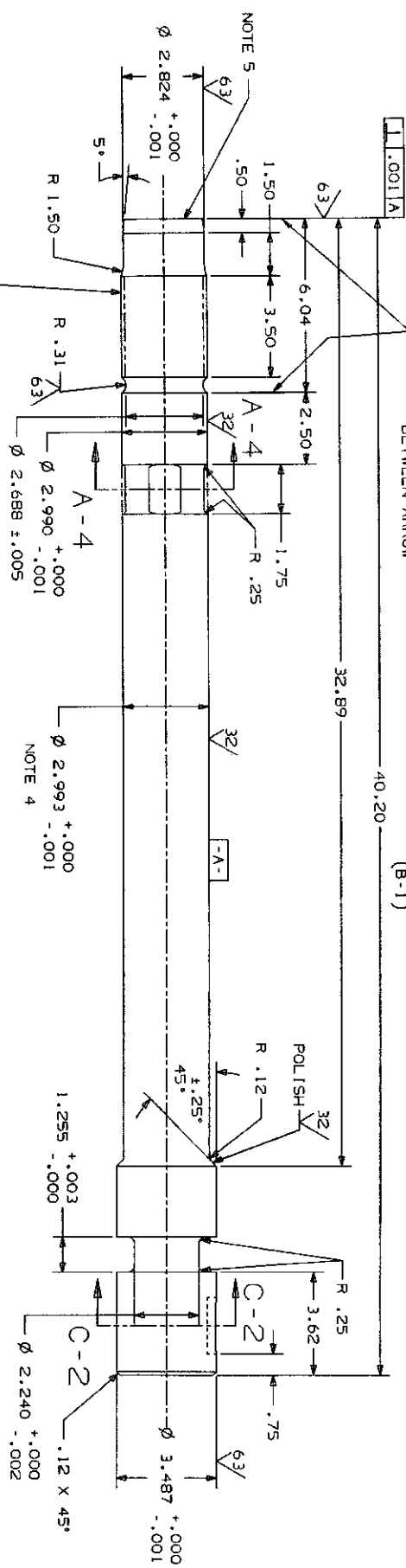
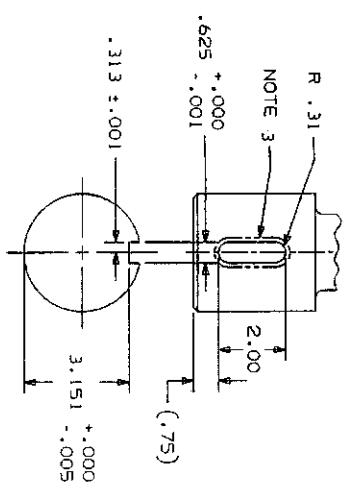
ΔΙΣΚΟΣ ΑΤΜΟΦΡΑΚΤΗ ΜΠ 16"
16" IP STOP VALVE DISC
114E2384-12

NOTES:

1. NITRIDE EXCEPT AS NOTED.
2. LPI.
3. DO NOT HARDEN KEYWAY OR AREA .12" ALL AROUND KEYWAY.
4. REMOVE "WHITE LAYER" FROM THESE SURFACES AFTER NITRIDING. DO NOT REMOVE ANY METAL.
5. NO LATHE CENTER THIS END.
6. STAMP.

DO NOT NITRIDE BETWEEN ARROW

SECTION C-2 (B-1)

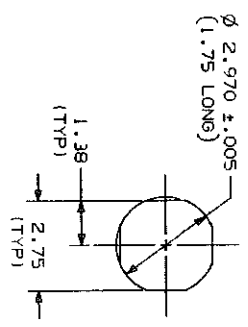


3.000-8 THREAD PER 126C2689
MACHINE OD THDS TO ϕ 2.987 \pm .002

ϕ 2.970 \pm .005
(1.75 LONG)
(TYP)
1.38
(TYP)
2.75

1 MAT'L: B50A305B

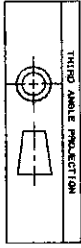
SECTION A-4 (B-3)



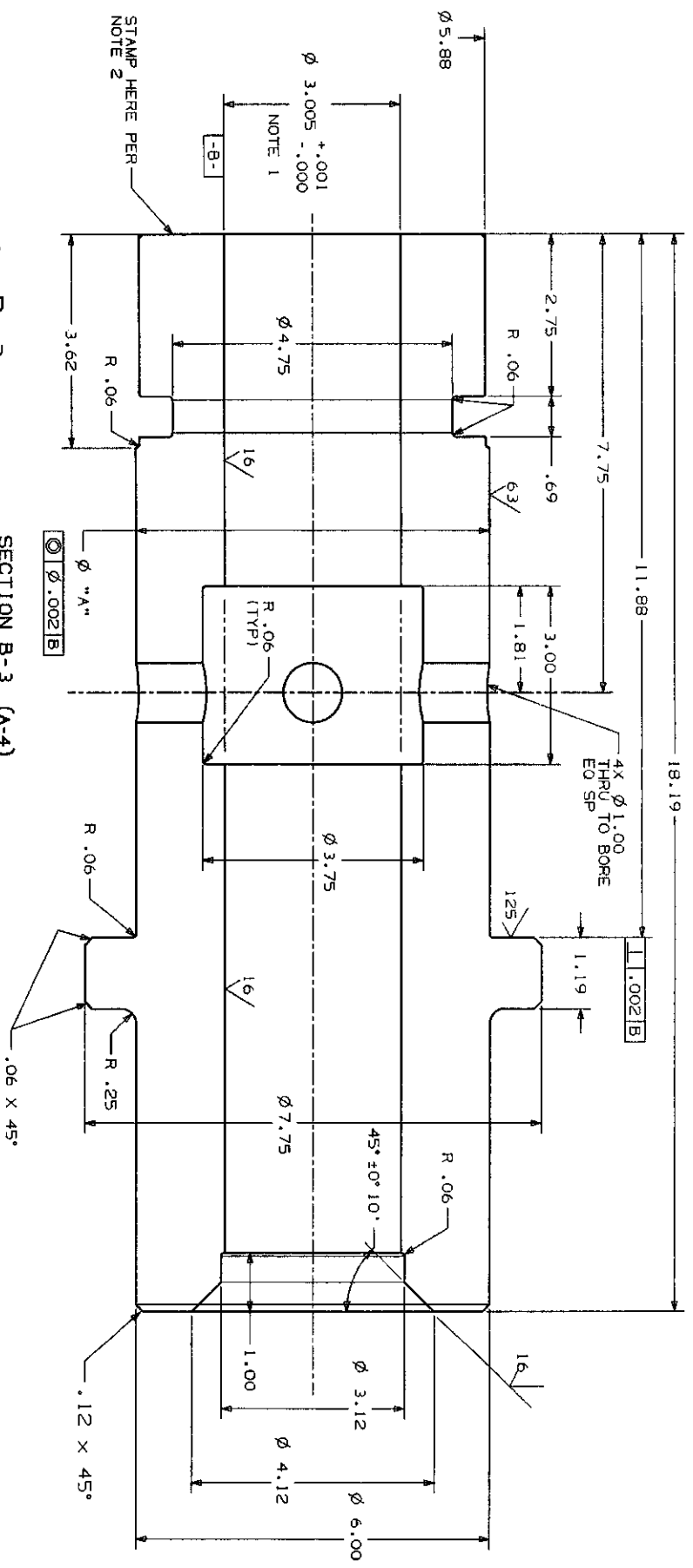
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
2 PL. DECIMALS \pm
3 PL. DECIMALS \pm
ANGLES \pm
FRACTIONS \pm
125

БАКРО ПР0М БАВВ. МП 16"
16" IP CONTROL VALVE STEM

114E2384-40



- NOTES:
1. NITRIDE \varnothing 3.005 BORE AND REMOVE "WHITE LAYER" FROM THIS SURFACE AFTER NITRIDE.
 2. STAMP WHERE INDICATED.

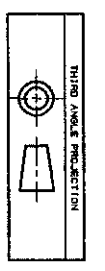


SECTION B-3 (A-4)
(ENLARGED)

MAT'L: B50A305B-NOTE 1

\varnothing "A"	$\pm .001$
\varnothing "B"	$\pm .000$

UNLESS OTHERWISE SPECIFIED	
DIMENSIONS ARE IN INCHES	
1. DIMENSIONS ARE	±
2. DECIMALS ARE	±
3. PL. DECIMALS ±	
ANGLES ±	
FRACTIONS ±	
	250



TOP VIEW
B-3

XITONIQ.PYGM. BAAB. M1 16"
16" IP CRV UPPER BUSHING
114E2384-39