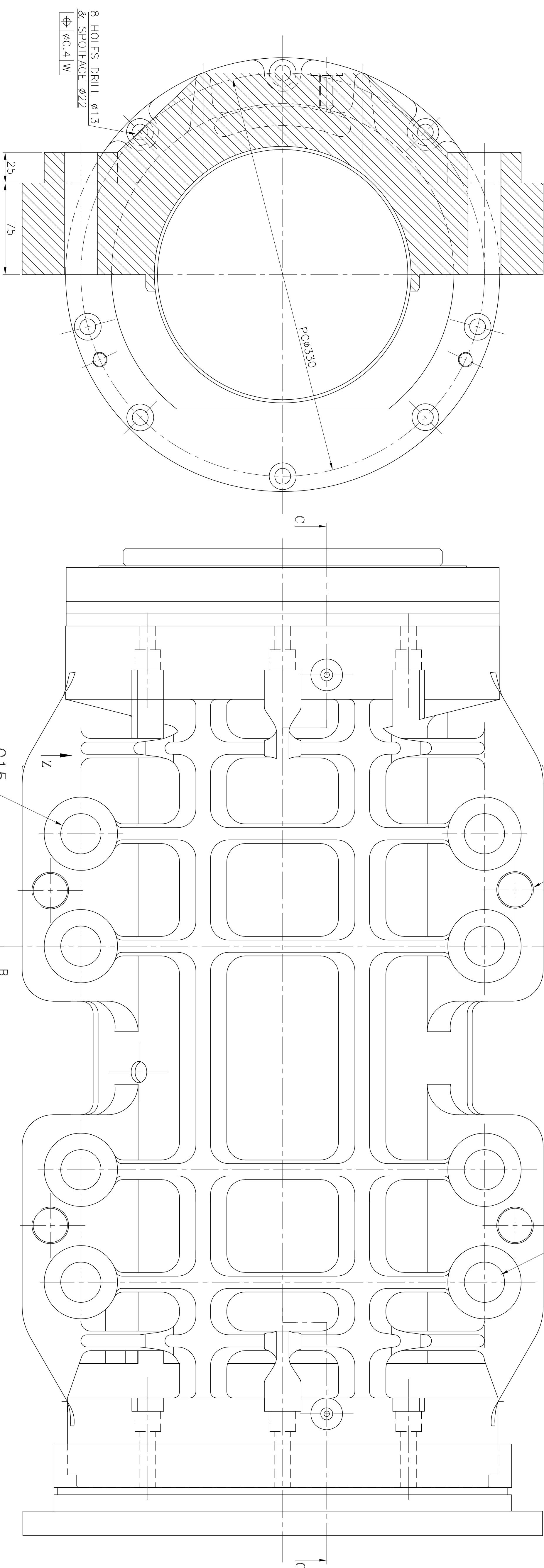
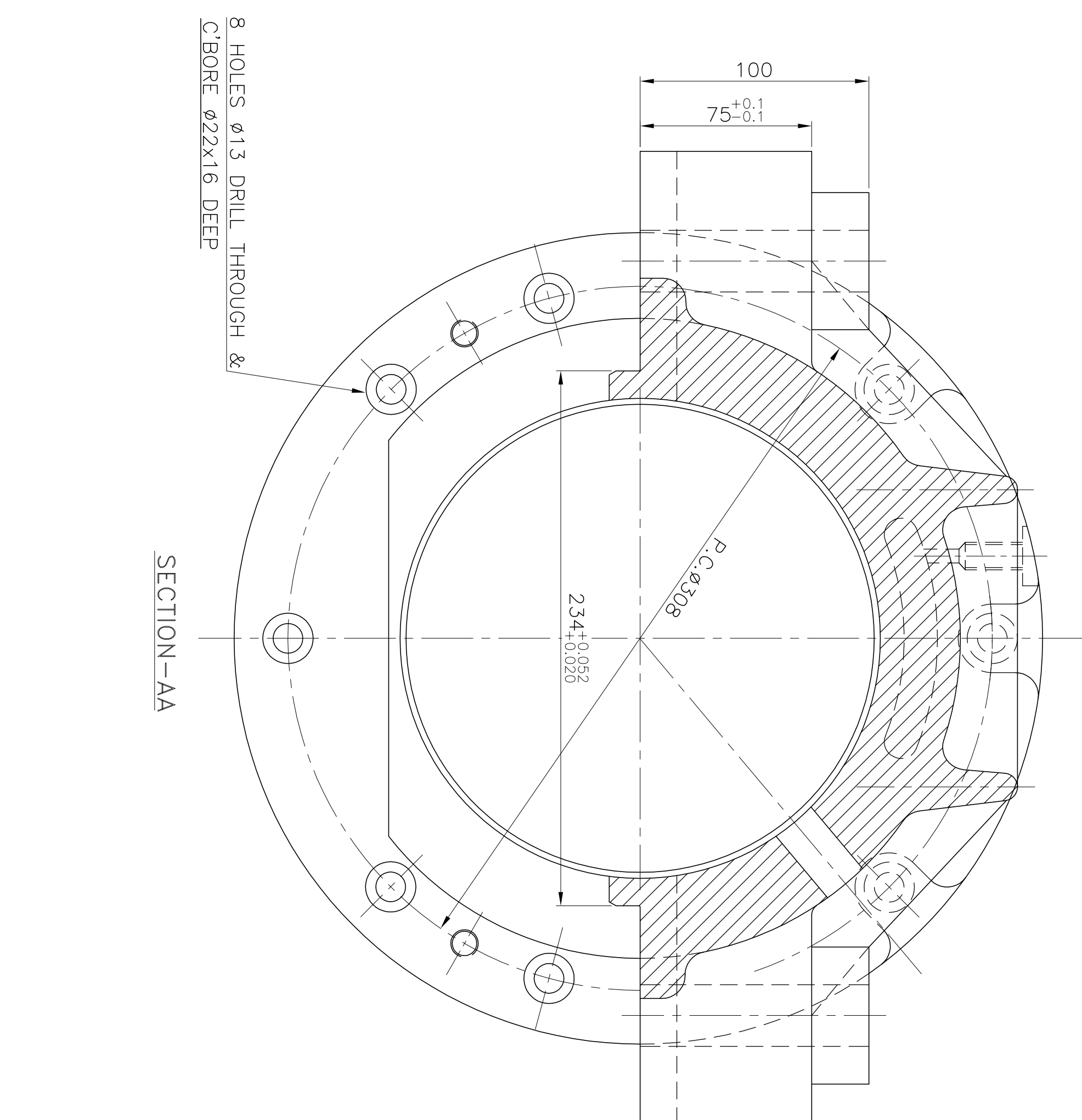


DRG. NO. 1 445 15 91 076

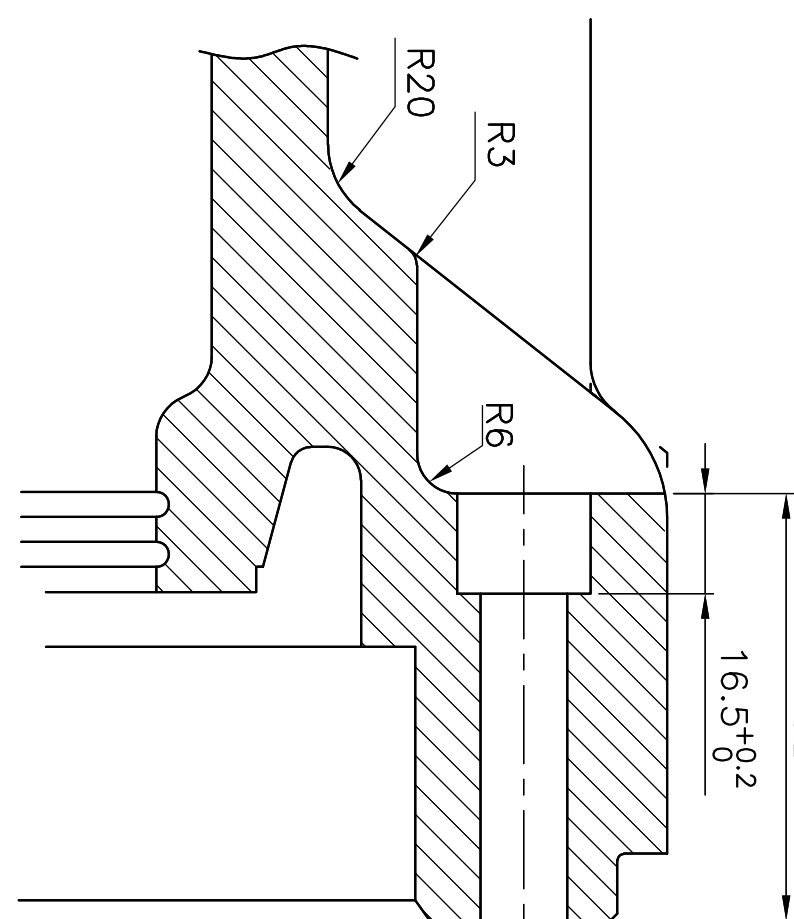


- NOTES:-**
1. GRASE TO BE USED SHELL GADUS RAIL S2 (FARLIER SHELL CYPHRA RA) ALTERNATIVELY SEVOPELEX TM-3 OF TOOL CAN BE USED.  
TAPER ROLLER BRG. N.D/E=1000GMS  
TAPER ROLLER BRG. D/E=1000GMS
  2. BOLT SIZE - TORQUE VALUES IN KG CM.  
M30 - 5300-5800 KGCM  
M12 - 418-503 KGCM  
M10 - 245-295 KGCM
  3. AT THE TIME OF ASSY. APPLY THREE BOND-SOREV  
LOOK SUPER NO. 1303 OR LOCKTITE 270 OR EQUIVALENT  
GRADE COMPOUND ON SOCKET HEAD SCREW (ITS.010 & 011)
  4. IT 005 TO BE MACHINED AS PER REQUIREMENT DURING ASSY.
  5. IT. 013 & 014 SHALL BE AS PER S.L. NO. 007 & 002 RESPECTIVELY OF  
TABLE 1 OF DRG. NO. 3429180001.
  6. VAK-00 IS FOR IM4504KZ & VAK-01 IS FOR IM4504BY.

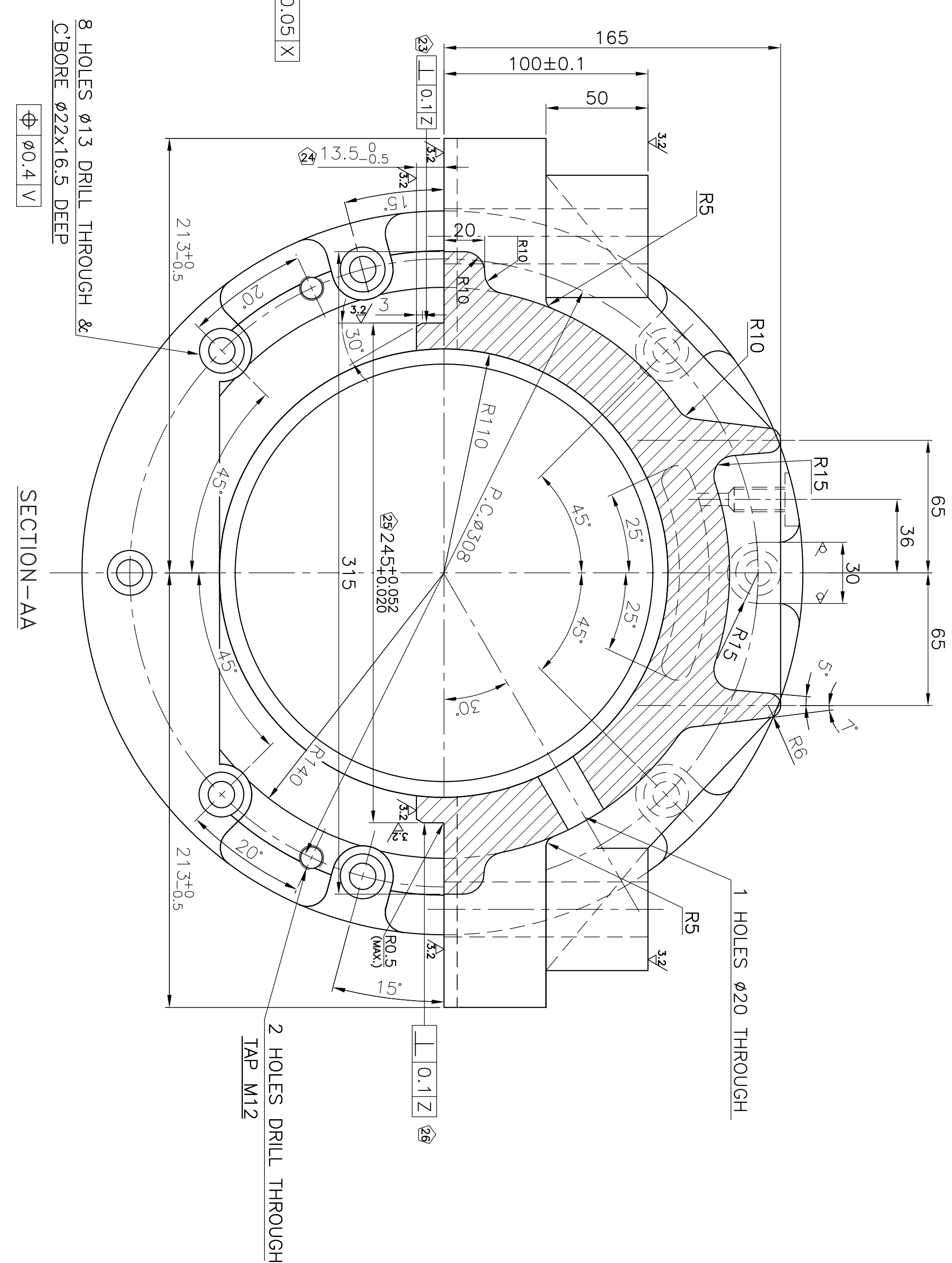
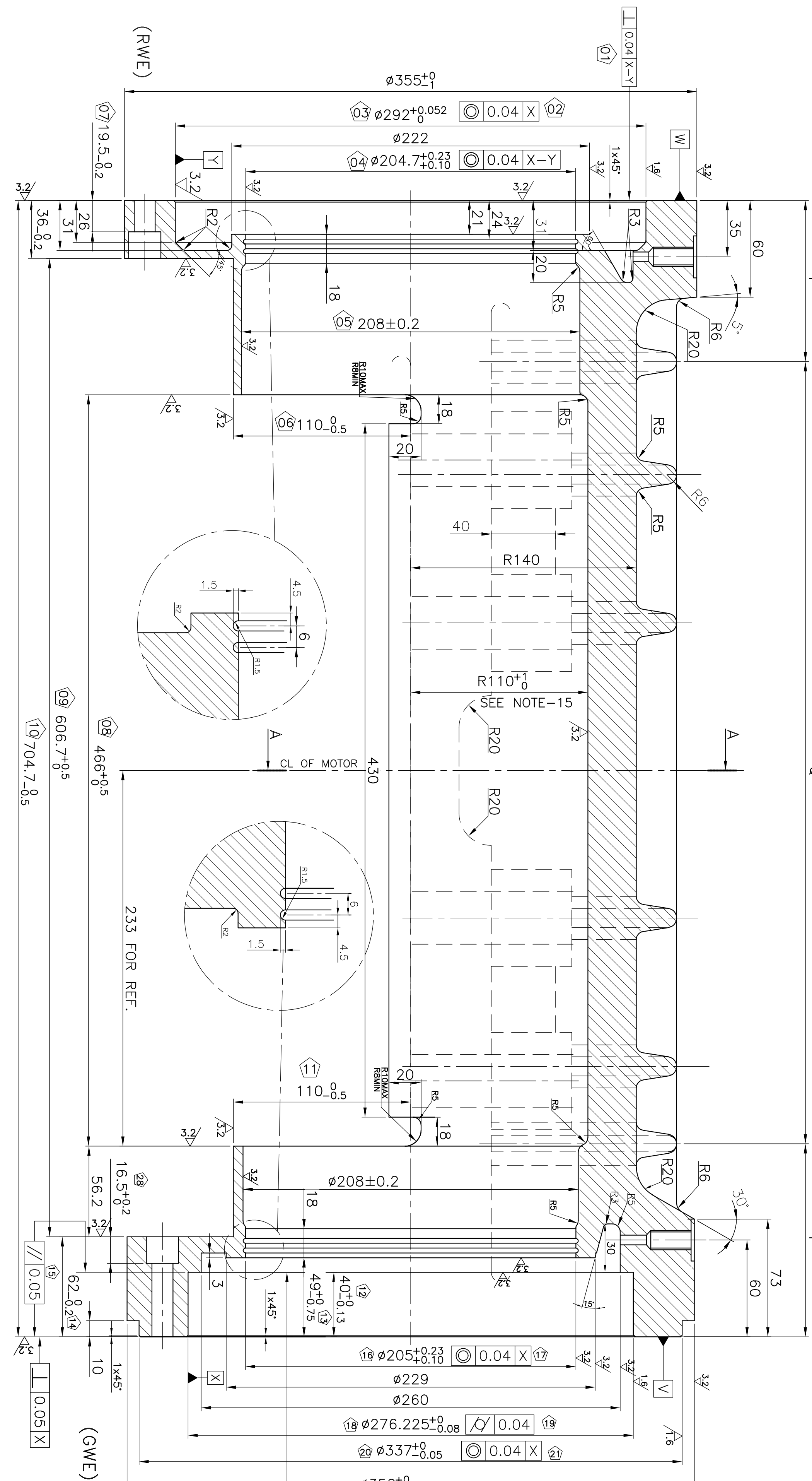
QTY VAR 01	QTY VAR 00	REMARKS	WAS NO.	ITEM NO.	DESCRIPTION	DRAWING NO.	MATL. CODE	UNIT WT.	ZONE
001	001		017		SPACER	44451591076	001	2.9	
001	—	SEE NOTE-6	016		SUSPENSION TUBE	14451591101	001	165.0	
008	008		015		BOLT FOR SUSPENSION TUBE	44453109001	00		
016	016	SEE NOTE-5	014		SEPARATED LOCK WASHER (M12)	34391560001 TABLE 1-SLN.002	001		
006	006	SEE NOTE-5	013		SEPARATED LOCK WASHER (M10)	34391560001 TABLE 1-SLN.007	001		
002	002		012		GREASE NIPPLE 1/4" BSP	44451503007	00	0.04	
016	016		011		SOCKET HEAD CAP SCREW M12x70 P12.9	44391560003	001	0.08	
006	006		010		SOCKET HEAD CAP SCREW M10x30 P12.9	44451503005	00	0.034	
001	001		009		ENCLOSURE	24451591081	01	15.9	
001	001		008		END COVER (RWE)	24451591080	00	9.35	
001	001		007		ABUTMENT PIECE	24451591079	001	6.54	
001	001		006		END COVER (RWE)	24451591078	001	7.9	
001	001		005		ADJUSTMENT WASHER	24451591077	001	2.35	
001	001		004		BEARING HOUSING	24451591076	001	7.4	
001	001		003		TAPER ROLLER BRG. (RWE)	34391553002	001	3.64	
001	001		002		TAPER ROLLER BRG. (RWE)	34391553001	001	7.09	
—	001	SEE NOTE-6	001		SUSPENSION TUBE	14451591077	001	165.0	

INVENTORY NO. SIGN. & DATE										H	
<p>5. 013 &amp; 014 SHALL BE AS PER SL. NO. 007 &amp; 002 RESPECTIVELY OF TABLE 1 OF DRG. NO. 34391/560001.</p> <p>6. VAR.00 IS FOR IM4504AZ &amp; VAR.01 IS FOR IM4504BY.</p>											
<p>DISTRIBUTION OF PRINTS</p> <p>TIME-1, TXW-3, TNX-1,</p>											
<p><b>भारत भारती</b> BHARAT HEAVY ELECTRICALS LTD. BHOVAL</p>											
NAME		SIGN		DATE		NO. OF					
DR. A. JHARIA		[Signature]		08.02.20		VAR.					
CHD. MOHIT P.		[Signature]		08.02.20		VAR.					
APPR. A.S.				08.02.20		00					
<p>REV. DATE ALTERED DATE</p> <p>01 07.01.20 APPROVED MOHIT P. VAR.00</p> <p>02 07.12.21 APPROVED MOHIT P. VAR.00</p> <p>03 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>04 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>05 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>06 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>07 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>08 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>09 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>10 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>11 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>12 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>13 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>14 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>15 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>16 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>17 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>18 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>19 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>20 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>21 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>22 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>23 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>24 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>25 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>26 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>27 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>28 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>29 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>30 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>31 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>32 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>33 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>34 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>35 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>36 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>37 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>38 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>39 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>40 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>41 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>42 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>43 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>44 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>45 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>46 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>47 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>48 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>49 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>50 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>51 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>52 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>53 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>54 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>55 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>56 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>57 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>58 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>59 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>60 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>61 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>62 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>63 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>64 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>65 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>66 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>67 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>68 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>69 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>70 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>71 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>72 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>73 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>74 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>75 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>76 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>77 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>78 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>79 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>80 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>81 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>82 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>83 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>84 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>85 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>86 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>87 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>88 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>89 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>90 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>91 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>92 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>93 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>94 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>95 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>96 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>97 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>98 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>99 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>100 08.12.21 APPROVED MOHIT P. VAR.00</p>											
<p>REV. DATE ALTERED DATE</p> <p>01 07.01.20 APPROVED MOHIT P. VAR.00</p> <p>02 07.12.21 APPROVED MOHIT P. VAR.00</p> <p>03 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>04 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>05 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>06 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>07 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>08 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>09 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>10 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>11 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>12 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>13 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>14 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>15 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>16 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>17 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>18 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>19 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>20 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>21 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>22 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>23 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>24 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>25 08.12.21 APPROVED MOHIT P. VAR.00</p> <p>26 08.12.21 APPROVED MOHIT P. VAR.</p>											





3D VIEW (FOR REF. ONLY)



450

CASILING:-

**TES:**—

1. CASTING FOR SUSPENSION TUBE SHALL BE PERFORMED USING A FOUNDRY CLASS 100 FOUNDRY SAND.
2. CASTING FOR SUSPENSION TUBE SHALL BE PERFORMED IN ONE PART TO THE OTHER TWO PARTS OF 100% DRY MIXTURE.
3. MACHINING ALLOWANCES TO BE MAINTAINED AS 1-7MM PER TOOL POINT IN CASE CASTING IS SUPPLIED & 3-.5MM PER TOOL POINT IN CASE ROUGH MACHINED CASTING IS SUPPLIED AS PER BH&L.
4. CASTING TO BE SAND/SHOT BLASTED.
5. CASTING TO BE SAND/SHOT BLASTED SURFACE TO BE AS PER IS:3073.
6. CASTING TO BE STRESS RELIEVED.
7. IDENTIFICATION MARKING OF SUSPENSION TUBE CASTING TO BE DONE AS PER IM12546 AT THE LOCATION SHOWN.

MACHINING:-

8. LIMITS ON MACHINED DIMENSIONS ±0.25 UNLESS OTHERWISE STATED.
9. LIMITS ON UNTOLERANCED ANGLES 4:07–3:01
10. REMOVE ALL SHARP CORNERS.
11. SUSPENSION TUBE TO BE LIGHT GREY PAINTED WITH POLYURETHANE FINISHING PANTONE#6644-27A2\*PERFORMANCESPECIFICATION#44271QUNL(C)O).
12. ALL 28 NOS. OF \* MARKED DIMENSIONS ARE CRITICAL TO QUALITY(CR) & SLNO. OF CUT DIMENSIONS ARE INSCRIBED IN @e.g. 29;
13. IDENTIFICATION MARKING OF SUSPENSION TUBE MACHINING TO BE DONE AS PER TM12548 AT THE LOCATION SHOWN.
14. TEMPORARY RUST PREVENTIVE (TRP) TO BE APPLIED ON MACHINED SURFACES AS PER AG5152.
15. EXCESSIVE MATERIAL IN THE INSIDE DIAMETER OF SUSPENSION TUBE (LESS THAN DIMENSIONS R110±0) IF OBTAINED IN THE CASTING IS TO BE REMOVED BY MACHINING THE INSIDE DIAMETER TO DRAWING DIMENSIONS R110±0.

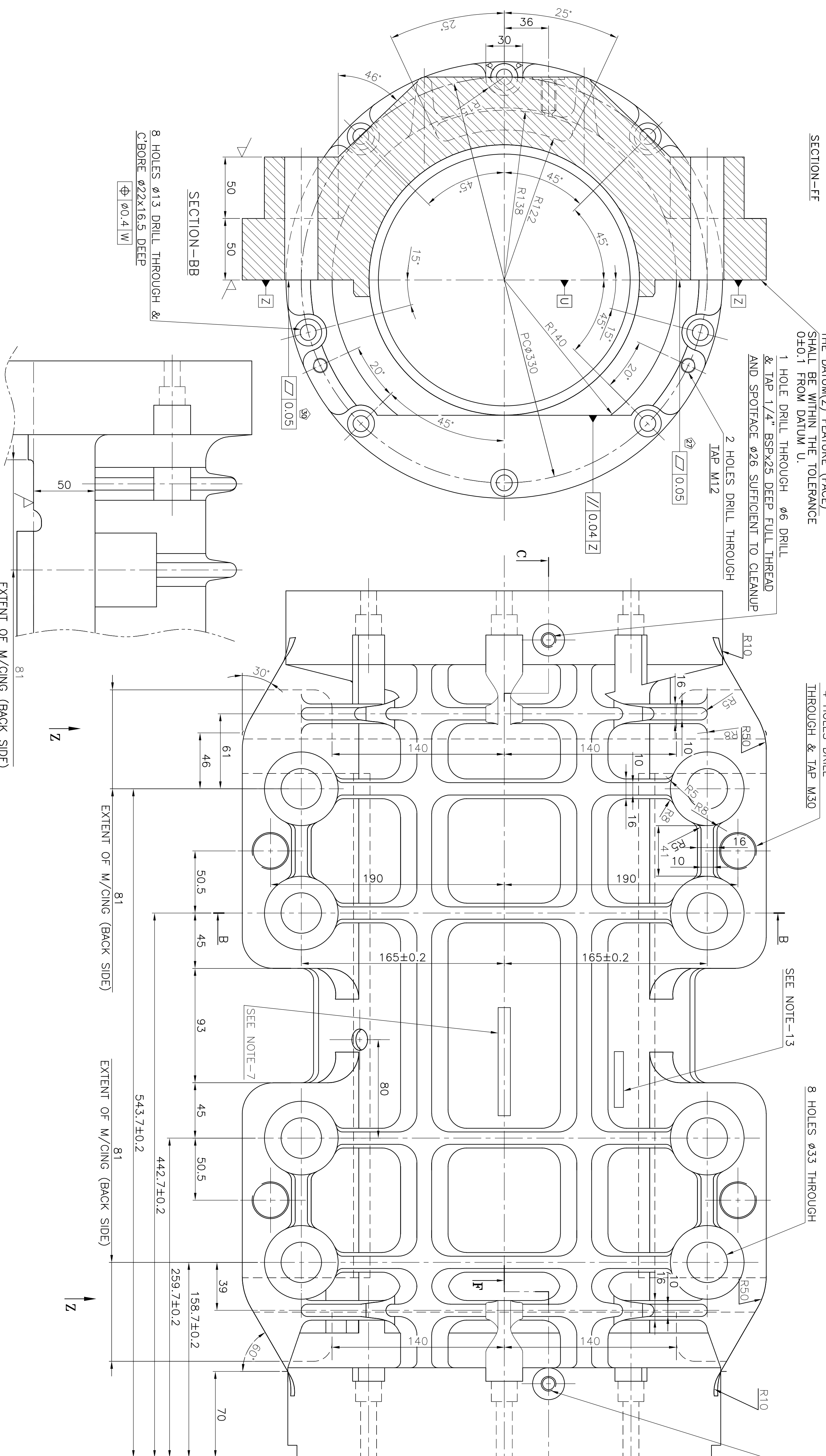
166 SUBSEDITIONON TUBER (AA66 13) SPAREPARTS SPECIFICATION NO.8800FTATBEL-HII(d)ODI5BSEC.  
AAB66442337(PHASEDIN 2220B500) B8T5B8PHERENT.

17. NDT TESTING REQUIREMENT OF SUSPENSION TUBE IS AS PER THE FOLLOWING TABLE:

S/L NO.	TEST	SPECIFICATION	ACCEPTANCE CRITERIA
1.	ULTRASONIC TESTING ON ALL POSSIBLE AREA	AA0850104	LEVEL-II
2.	MPT TESTING ON COMPLETE AREA	AA0850133	LEVEL-II
3.	RADIOGRAPHY ON COMPLETE AREA	ASTM-E 446	A. LEVEL-2 AT PORTION OF 25% B. CRACKS, NOT TEARS, UNFUSED OR UNFUSED WELDS ARE NOT ACCEPTABLE.

18. QUALITY CHECKING OF SUSPENSION TUBE TO BE DONE AS PER TM12545 & QUALITY CHECKING OF SUSPENSION TUBE CASTING TO BE DONE AS PER QTM/QAP/VENDOR/13-14/001 (LATEST REVISION).

19. ALTERNATIVELY, SUSPENSION TUBE CAN BE MANUFACTURED FROM GR. 400/18 OF IS:1865 (LATEST VERSION)



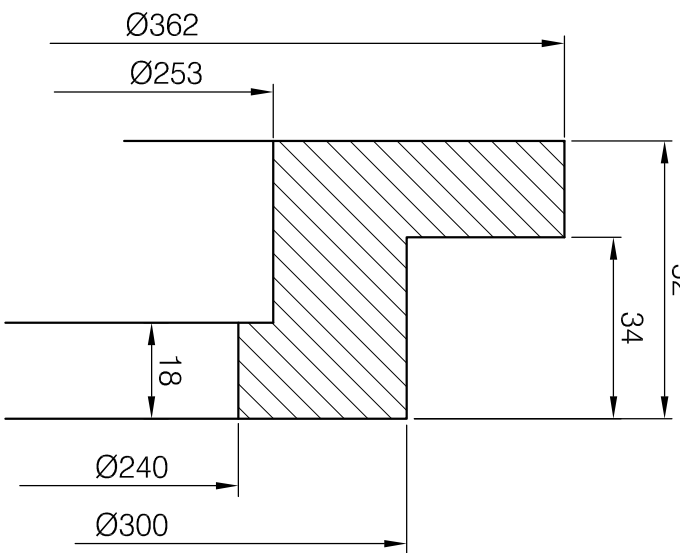
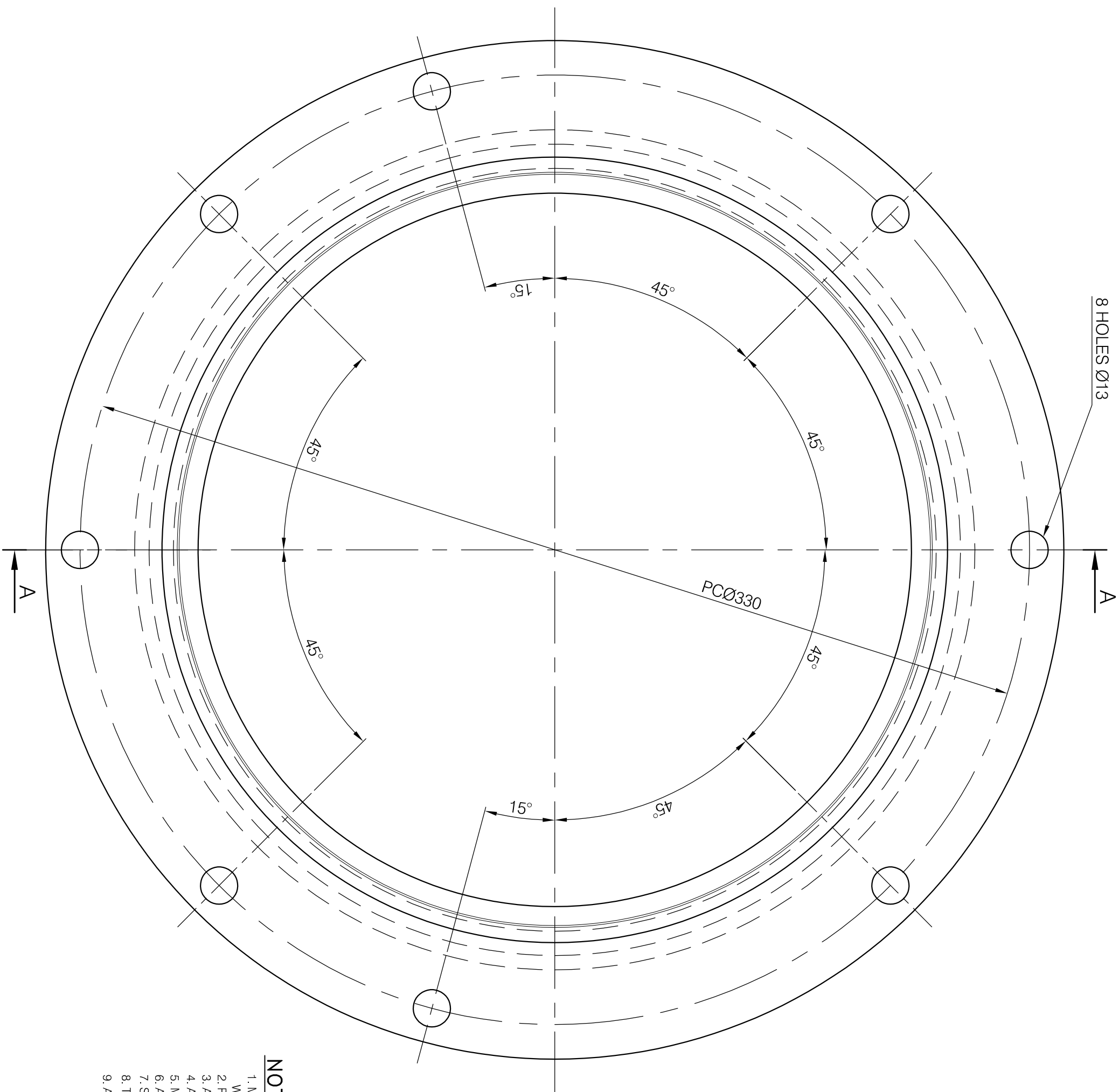
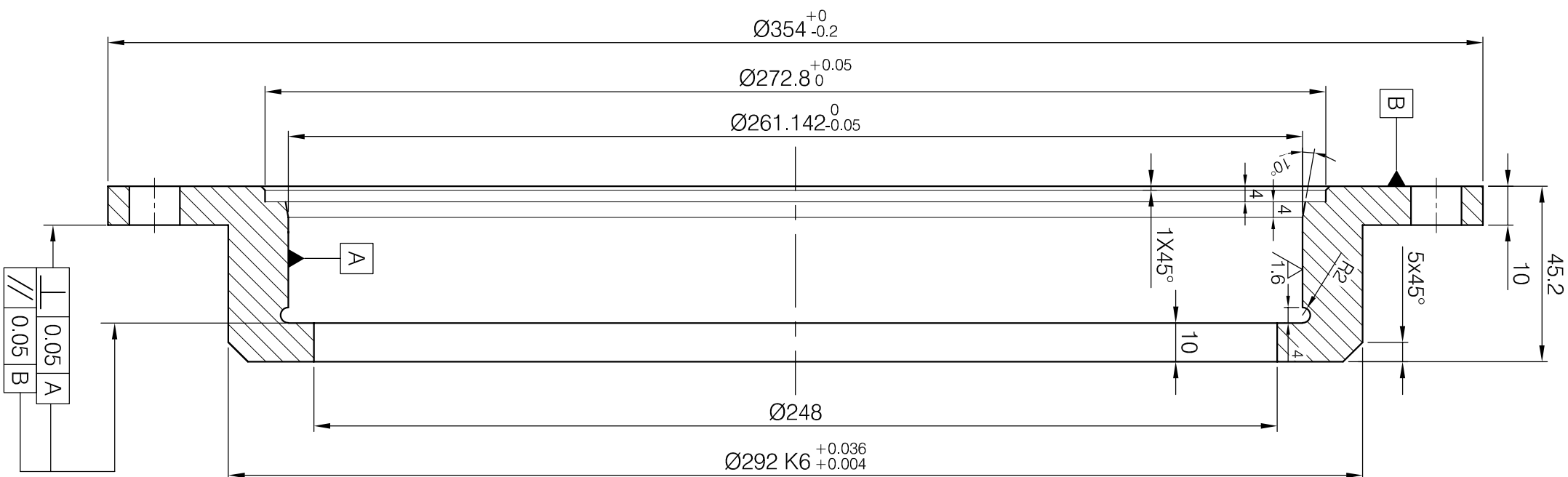
VIEW-Z

REV.	DATE	ALTERED	A.I.	REVIEWED	DATE	ALTERED	A.I.	REVIEWED	DATE	ALTERED	S.O.B.	REVIEWED	DATE	ALTERED	A.I.	REVIEWED	DATE	ALTERED	A.I.	REVIEWED									
07	19.03.24	CHECKED	M.P. <i>Wicks</i>	06	16.12.24	CHECKED	M.P. <i>Wicks</i>	05	2.11.20	CHECKED	M.P. <i>Wicks</i>	04	21.10.20	CHECKED	M.P. <i>Wicks</i>	03	22.08.20	CHECKED	M.P. <i>Wicks</i>	02	10.08.20								
ZONE	NOTE -19 ADDED.				ZONE	0205.03.03 was 0205.03.03. TOLERANCES ADDED TO DIMS. 543.7, 442.7, 393.7 & 158.7				ZONE	IN MACHINING NOTE, -16 ADDED & ACCORDING INSPECTION NOTES NUMBERING CHANGE. C/O 19 DIM. 0205.03.03 was 0205.03.03.				ZONE	UNDECKER DIMS. BOTH SIDE 18, B/4 R100MX, 8MM, WERE 28, & R18MX, B/7 16MM, DIM. 20 SHIFTED.				ZONE	IN SECTION-B8 & SECTION-A4 DIMS. 50, 50 WERE 25.5 & 50 WAS 25 R88 ADDED BETWEEN MOUNTING HOLES (GANG WIDTH & GROOVE WIDTH DIMS. 410 & 28 ADDED).				ZONE	MOUNTING HOLES DIMS. 158.7 & 154.3 WERE 167.7 & 154.7 IN SEC.-44, DIM. 248 WAS 234 HOLE ANGLE 30 WAS 40.			

[illegible]



TOOL LIST		
IT.NO.	TOOL NO.	DESCRIPTION
001	1607660	DRILL JIG FOR 8 X Ø13 @ PCD 330
001	1607630	ID GROOVING TOOL FULL ROUND R2, AP= 4MM AR=2MM INDEXABLE
001	1408585	PIN GAUGE 261.142-0.05/0
001	1408586	SNAP GAUGE 292 +0.004/+0.036
001	1408587	OFFSET PIN GAUGE 273.1+0.05/0
001	1408588	PIN GAUGE 260.7/260.8



VIEW FOR ROUGH MACHINED FORGING





NOTES:-

1. MATERIAL, ITEM#001 TO IS:AI9333 EXCEPT FOR THE MECHANICAL PROPERTIES WITH SHALL CONFORM TO IS:2004 CLASS 4 TABLE-2
2. REMOVE ALL SHARP CORNERS
3. ALL UNTOLEERATED DIMENSIONS TO BE ±0.25
4. ALL UNTOLEERATED ANGLES TO BE ±0°-30°
5. MACHINE ALL OVER  $\nabla$  EXCEPT WHERE SHOWN.
6. ALL CORNERS RADI SHALL BE  $0.5R_{10}$  TO AVOID SHARPNESS EXCEPT WHEREVER STATED.
7. SAMPLE 025X600 LONG AS PER 11.0 OF AI9333 TO BE SUPPLIED FOR TESTING OF ITEM 001.
8. TEMPORARY RUST PREVENTIVE (TRP) TO BE APPLIED ALL OVER AS PER A455152.
9. ALTERNATIVE MATERIAL TO BE USED FOR IT. 001 IS AA10108 (SIZE 56TK, X 0362).

[illegible]

## SECTION-AA


ADDITIONAL INFORMATION REF. DRG. NO.-14391553006
STATUS OF DRAWING
DISTRIBUTION OF PRINTS TME-1, TMM-3, TNX-1

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT					IM4504AZ	
<div><div><div><div>भारत भारी</div><div>भारत भारी इलेक्ट्रिकल्स लि.</div><div>BHARAT HEAVY ELECTRICALS LTD.</div><div>भोपाल</div><div>BHOPAL</div></div></div></div>						
	NAME	SIGN	DATE	NO. OF VAR.		
DRN.	A.J.HARIA		12.12.19			
GHD.	MOHIT P.		12.12.19			
APPD.	MOHIT P		12.12.19	01		

REV.	DATE	ALTERED	APPROVED	REV.	DATE	ALTERED	APPROVED
		AS-BUILT	AS-BUILT			AS-BUILT	AS-BUILT
03	16.12.20	CHECKED M.P. Maid	CHECKED M.P. Maid	02	26.11.20	CHECKED M.P. Maid	CHECKED M.P. Maid
DIM. Ø272.8 <sup>+0.05</sup> WAS Ø273.1 <sup>-0.05</sup> .				IN TOOL LIST. TOOL NOS. 1408586 TO 1408588 ADDED. (TOM-356)			

REV.	DATE	ALTERED	BY
01	29.05.20	CHECKED	ASHMANA <i>[Signature]</i>
		APPROVED	ASHMANA <i>[Signature]</i>

TOOL LIST ADDED. (TCM356)

DEPT. TIME	UNTOOL DMS. GR		SCALE	WEIGHT (K.G.)	REF. TO ASSY. DMS.	ITEM NO.	NO. OF ITEM
	405						
DRAWING NO.							
2 445 15 91 076							
REV.							
03							
SHT. NO.		01		NO. OF SHT.		01	

INVENTORY NO.	SIGN. & DATE	REF. DRG. NO.
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THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED.  
IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

TOOL LIST		
IT. NO.	TOOL NO.	DESCRIPTION
001	16076653	DRILL JIG FOR 8 X Ø13 @ PCD 330







001			001	ADJUSTMENT WASHER 16THICKX370 SQ.		AA1011808102	KG.		
QTY VAR.00	REMARKS	VAR. NO.	ITEM NO.	DESCRIPTION	DRAWING NO.	IT. NO.	MATL. CODE	UNIT	UNIT WT.
64		75	27			32	46	A	58
59		76	28	STD		33	54	C	65
		77	29			34			72

A) SCOPE OF SUPPLIER:

1. MACHINE A. OVER.
2. WASHER NOT TO BE SPLIT INTO 2 HALVES BY THE SUPPLIER.
3. REMOVE ALL SHARP CORNERS.
4. ALL UNTOLERATED DIMENSIONS TO BE  $\pm 0.25$
5. ALL UNTOLERATED ANGLES TO BE  $0^{\circ}$ - $30^{\circ}$

B) AT SITE:

1. WIDTH TO BE FINALLY ADJUSTED TO GIVE CORRECT ENDPLAY IN BEARINGS WHEN ASSEMBLED ON TUBE.
2. WASHER TO BE SPLIT INTO 2 HALVES AS FINAL OPERATION AFTER CORRECT WIDTH HAS BEEN DETERMINED.
3. REMOVE SHARP EDGES/BURRS AFTER SPLITTING.
4. CHAMFERS TO BE MACHINED AFTER FINAL ADJUSTMENT.
5. IT.001 TO BE GRIND AFTER ASSEMBLY.

ADDITIONAL INFORMATION REF: DRG. NO.-14391553011		TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT  <b>IM4504AZ</b>	
STATUS OF DRAWING			
DISTRIBUTION OF PRINTS TIME-1, TXM-3, TXM-1			
			
<b>BHARAT HEAVY ELECTRICALS LTD.</b> <b>BHOPAL</b>			
DRN	NAME	SIGN	DATE
A.J.HARIA		12.12.19	
CHD	MOHT P.		12.12.19
APPD.	MOHT P.		12.12.19
			NO. OF VAR.
			01



HEAVY ELE  
BHOPAL

NAME	SIGN	DATE
DRN. AJHARIA	<i>[Signature]</i>	12.12.19
CHD. MOHIT P.	<i>[Signature]</i>	12.12.19

REV.	DATE	ALTERED CHECKED	REV.	DATE	ALTERED CHECKED	A. J. MOORE MAY 7	REV.	DATE	ALTERED CHECKED	A. J. MOORE MAY 7	DEPT. TIME	UNITO. DIMS. GR. IN'		SCALE N.T.S.	WEIGHT (K.G.) 2.35	REF. TO ASSY. DRG. 1 445 15 91 076	ITEM NO. 005	NO. OF ITEM	
		APPROVED	02	16.12.20	APPROVED	MAY 8	01	29.05.20	APPROVED	S. GARDNER									
ZONE			ZONE	DIM. 10 +0.1 +0.2 WAS 10 0 .			ZONE				TITLE	ADJUSTMENT WASHER							
												405							
												DRAWING NO.							
												2 445 15 91 077	REV. 02						
												SHT. NO. 01	NO. OF SHIT. 01						

## ADJUSTMENT WASHER

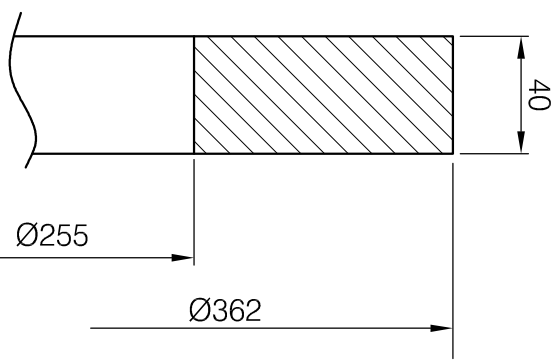
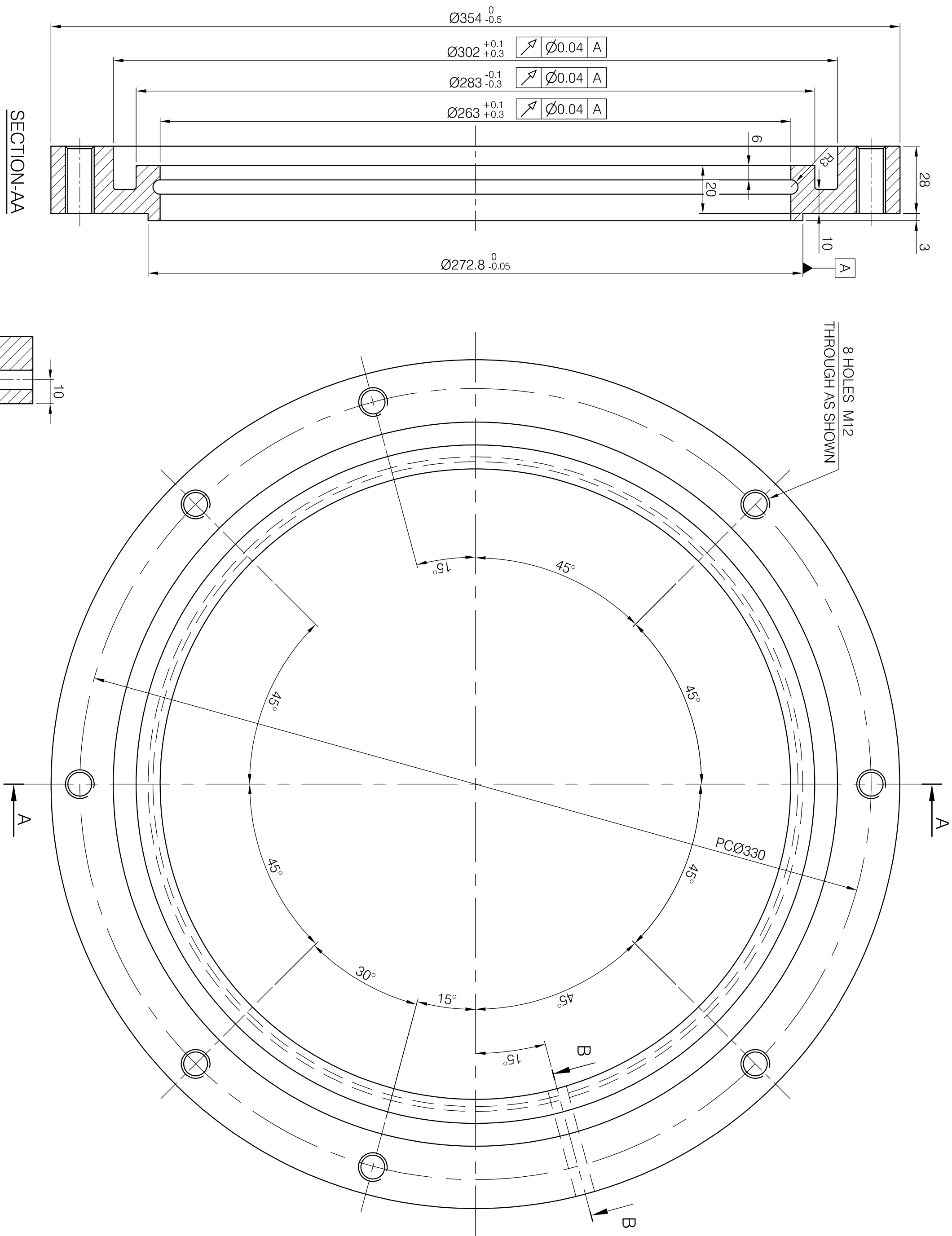
2	445	15	91	077	02
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File No. HEP-TPTN0GMO(Misc)/224/2025-HEP-TXM20500 (Computer No. 162077)

# SIZE A2

Generated from eOffice by Arun Kumar, SE(AK)-MNX35408-HEP, SE, HEP-HEAVY ELECTRICALS PLANT (HEP) on 25/03/2025 01:49 pm

TOOL LIST		
IT. NO.	TOOL NO.	DESCRIPTION
001	16076651	DRILL JIG FOR 8 X M12 @ PCD 330
001	16076631	GROOVE GAUGE 9.5 X 18
001	16076632	ID GROOVING TOOL LH & RH FULL POUND R3, AP = 6MM AR=3MM INDEXABLE
001	16076633	FACE GROOVING TOOL INDEXABLE FIG- 3 & 4 OF SK-745 AP = 0.9-5, AR ≥ 18
001	14085666	PIN GAUGE 263 = 1/1+0.3
001	14085667	SNAP GAUGE 273-0.05/0
001	14085688	SNAP GAUGE 283+0.1/-+0.3







FOR ROUGH M/C FORGING

NOTES:-

1. MATERIAL OF ITEM-001 TO BE AA19333 EXCEPT FOR THE MECHANICAL PROPERTIES WITH SHALL CONFORM TO IS 2004 CLASS 4 TABLE-2
2. REMOVE ALL SHARP CORNERS.
3. ALL UNTOLERATED DIMENSIONS TO BE  $\pm 0.25$
4. ALL UNTOLERATED ANGLES TO BE  $\pm 0^{\circ}-30^{\circ}$
5. MACHINE ALL OVER "VEEGEPT" WHEREVER SHOWN.
6. ALL CORNERS RADIUS SHALL BE  $0.5 \times R$  TO AVOID SHARPNESS EXCEPT WHEREVER STATED.
7. SAMPLE 025X600 LONG AS PER 11.1 OF AA19333 TO BE SUPPLIED FOR TESTING OF ITEM 001
8. TEMPORARY RUST PREVENTIVE (TRP) TO BE APPLIED ALL OVER AS PER AAS5152.
9. ALTERNATIVE MATERIAL TO BE USED FOR IT. 001 IS AA10106 (SIZE 40XxX 0362).


[illegible]

ADDITIONAL INFORMATION REF. DRG. NO.-14391553008	TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT  <b>IM4504AZ</b>				
STATUS OF DRAWING					
DISTRIBUTION OF PRINTS					
TME-1, TMM-3, NNX-1	<div><div></div><div><b>भारत भारी बि. ई. लि.</b> <b>भारत HEAVY ELECTRICALS LTD.</b> <b>BHOPAL</b></div></div>				
	NAME	SIGN	DATE	NO. OF VAF.	
	DRN. A.JIJIARIA		12.12.19		
	CHD. MOHIT P.		12.12.19		
	MOHT P.		12.12.19	01	
	AJEN				



**BHARAT HEAVY ELE  
BHOPAL**


NO. OF VAR.	NAME	SIGN	DATE
	D.N. AJJARIJA	<del>Sign</del>	12.12.19
	C.H.D. MOHIT P.	<del>Moist</del>	12.12.19
01	APPD. MOHIT P.	<del>Moist</del>	12.12.19

DEPT	UNIT	SCALE	WEIGHT	REF. TO ASSY. DRG.	ITEM NO.	NO. OF
TIME	DIMS. GR.		(K.G)			ITEM
405	M	N.T.S.	7.9	1 445 15 91 076	002	001
AA02303208						
DRAWING NO.						
TITLE						
END COVER (RWE)						
(CNC MACHINED)						
SHT. NO.		01		NO. OF SHT.		01
2 445 15 91 078						03

REV.	DATE	ALTERED	APPROVED	REV.	DATE	ALTERED	APPROVED
03	16.12.20	CHECKED	W.P.	02	26.11.20	CHECKED	A.S. (MMA)
		APPROVED	M.P.				
			Mohd				
			Mohd				
ZONE	DIM. 02727.8 - 0.05 WAS 02730.0						
				ZONE	IN TOOL LIST, TOOL NOS. 1408566 TO 1408568 ADDED. (TCMA-356)		

REV.	DATE	ALTERED	CHECKED	APPROVED
01	29.05.20	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
TOOL LIST ADDED. (TCM356)				

--	--

DEPT	UNIT	SCALE	WEIGHT	REF. TO ASSY. DRG.	ITEM NO.	NO. OF
TIME	DIMS, GR.		(K.G)			ITEM
405	'M AA02303208		N.T.S. 7.9	1 445 15 91 076	002	001
TITLE				DRAWING NO.		REV.
<u>END COVER (RWE)</u> <u>(CNC MACHINED)</u>				2 445 15 91 078	03	
SHT. NO.		01		NO. OF SHT.		01

REV.	DATE	ALTERED	CHECKED	APPROVED
01	29.05.20	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
TOOL LIST ADDED. (TCM356)				

REV.	DATE	ALTERED	APPROVED	REV.	DATE	ALTERED	APPROVED
03	16.12.20	CHECKED	W.P.	02	26.11.20	CHECKED	A.S. (MMA)
		APPROVED	M.P.				
			Mohd				
			Mohd				
ZONE	DIM. 02727.8 - 0.05 WAS 02730.0						
				ZONE	IN TOOL LIST, TOOL NOS. 1408566 TO 1408568 ADDED. (TCMA-356)		

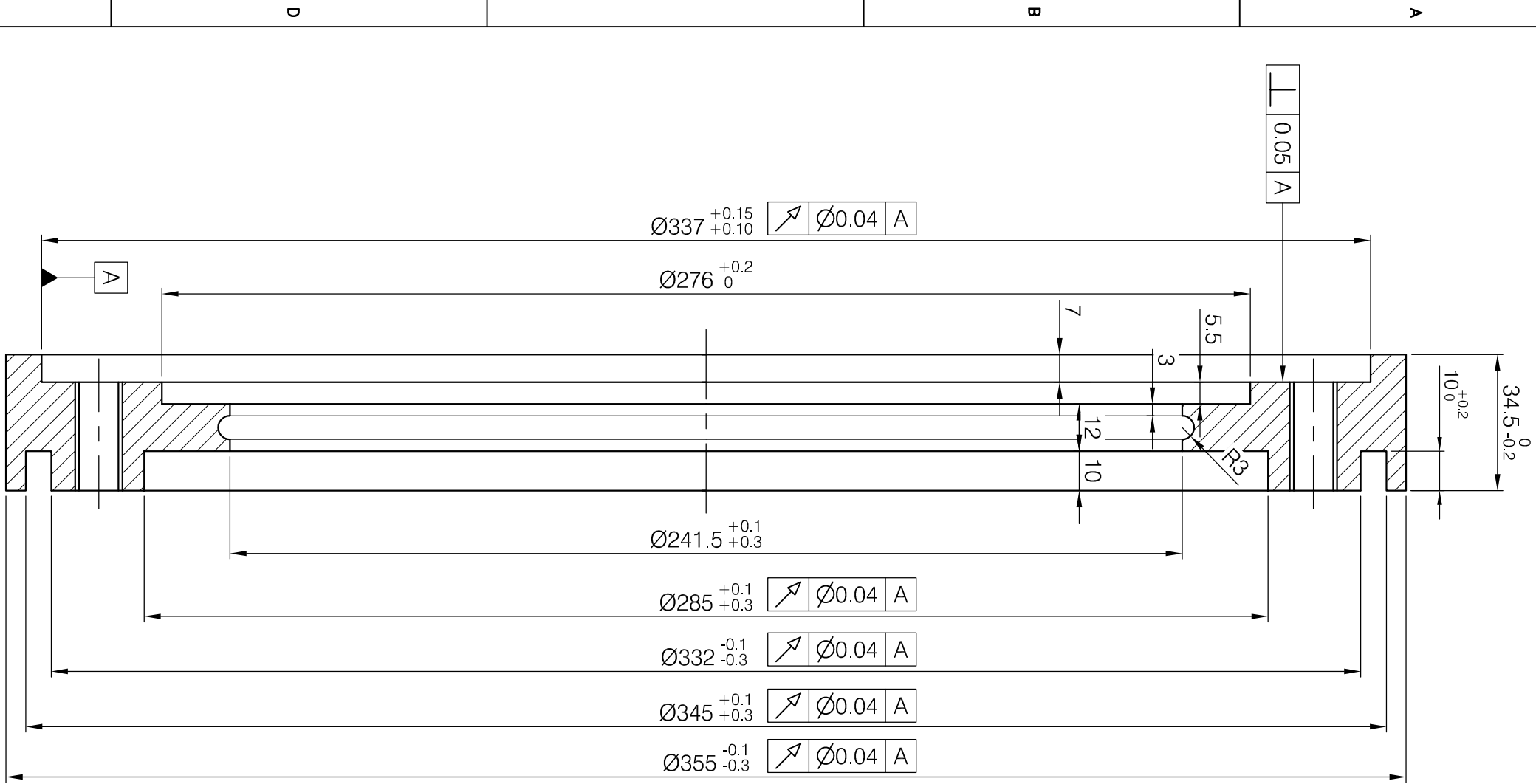
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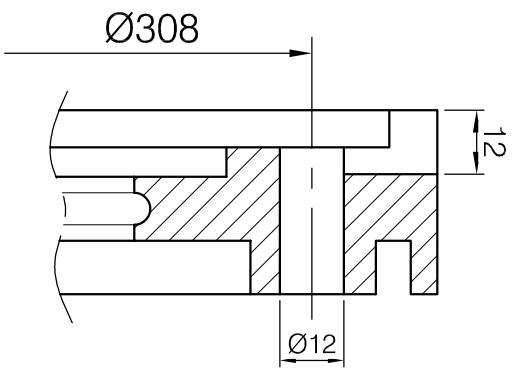
080 16 51 544 2 ON GRD

## TOOL LIST

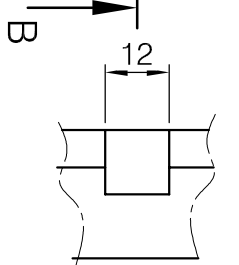
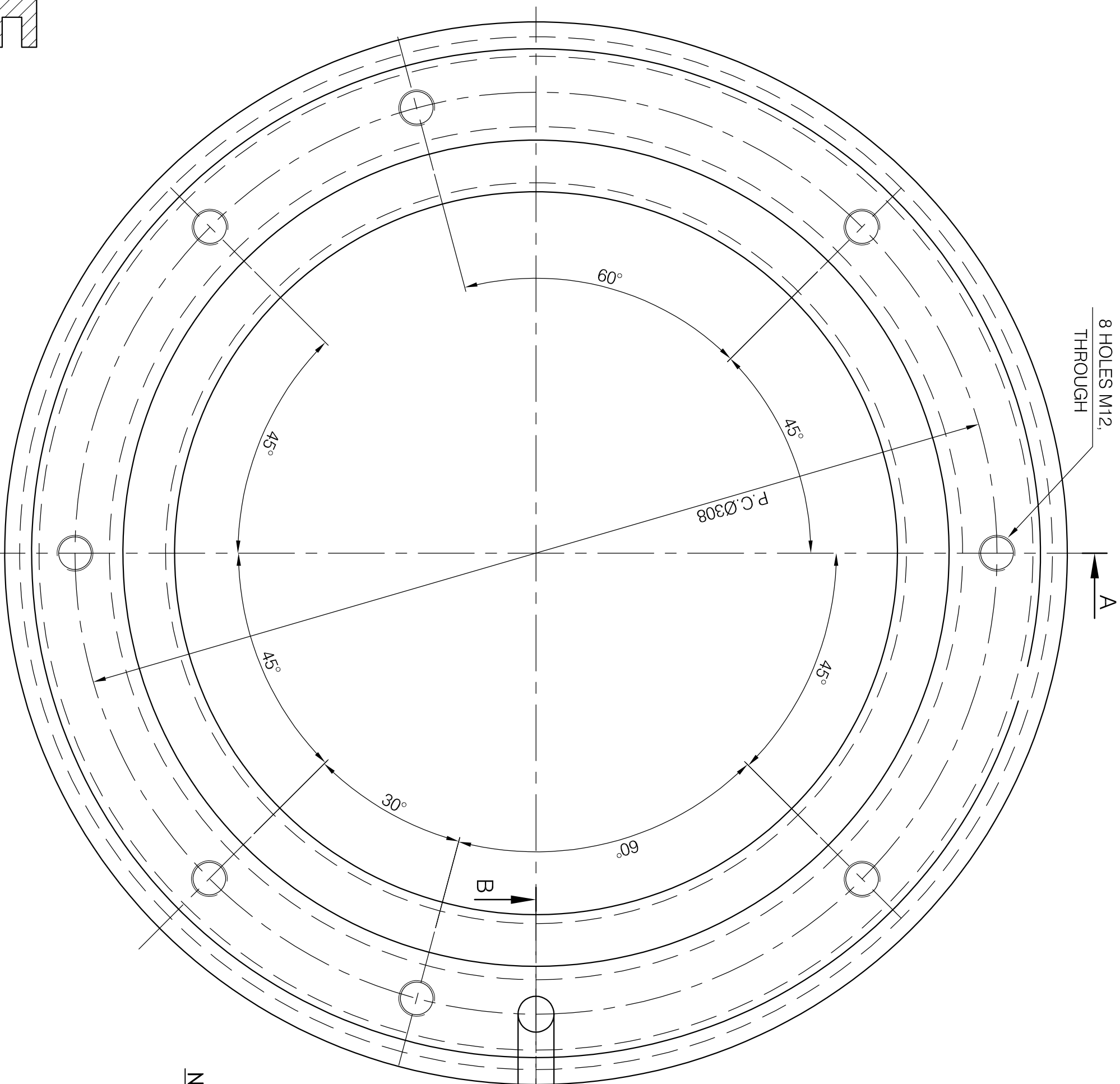
IT. NO.	TOOL NO.	DESCRIPTION
001	1607652	DRILL JIG FOR 8 X M12 @ PCD 308
001	1607634	ID GROOVING TOOL LH & RH FULL ROUND R3, AP = 6MM AR = 3MM INDEX ABLE
001	1607635	FACE GROOVING TOOL LH & RH INDEXABLE FIG- ANY OF SK-745 AP = 6.5 AR ≥ 10
001	1408592	OFFSET PIN GAUGE 276 <sup>+0.2</sup> <sub>0</sub>
001	1408593	OFFSET PIN GAUGE 337 <sup>+0.15</sup> <sub>+0.10</sub>
001	1408594	SNAP GAUGE 355 <sup>+0.3</sup> <sub>-0.1</sub>
001	1408582	GROOVE GAUGE 6.5X10 DEEP



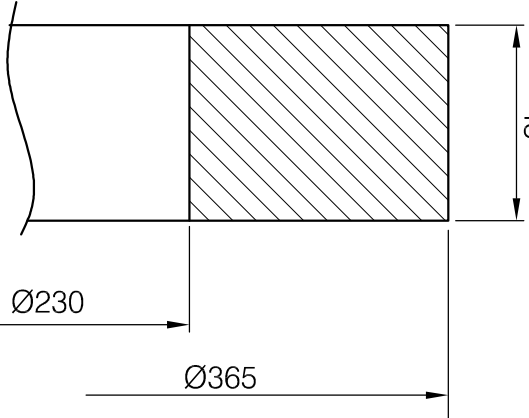
SECTION-AA



SECTION-BB



## FOR ROUGH M/C FORGING



## NOTES:-

- MATERIAL OF ITEM-001 TO BE AA19333 EXCEPT FOR THE MECHANICAL PROPERTIES WITH SHALL CONFORM TO IS:2004 CLASS 4 TABLE-2
- REMOVE ALL SHARP CORNERS.
- ALL UNTOLERATED DIMENSIONS TO BE ±0.25
- ALL UNTOLERATED ANGLES TO BE ±0°-30°
- MACHINE ALL OVER \*EXCEPT WHEREVER SHOWN.
- ALL CORNERS RADI SHALL BE 0.5 <sup>+0.3</sup><sub>0</sub> TO AVOID SHARPNESS EXCEPT WHEREVER STATED.
- SAMPLE Ø25X800 LONG AS PER 11.2 OF AA19333 TO BE SUPPLIED FOR TESTING OF ITEM 001.
- TEMPORARY RUST PREVENTIVE (TRP) TO BE APPLIED ALL OVER AS PER AA65152.
- ALTERNATIVE MATERIAL TO BE USED FOR IT. 001 IS AA10108 (SIZE 45TK X Ø365).

REV.	DATE	ALTERED	CHECKED	APPROVED	ZONE	DESCRIPTION
03	12.12.20	AS/HEP	AS/HEP	AS/HEP	03	DIM. Ø355 -0.1 WAS Ø355.
02	26.11.20	AS/HEP	AS/HEP	AS/HEP	02	IN TOOL LIST TOOL NOS. 1408592 TO 1408594 & 1408582 ADDED. (TCM-356)

ADDITIONAL INFORMATION  
REF. DRG. NO.-14391553007  
STATUS OF DRAWING

DISTRIBUTION OF PRINTS

TIME-1, TCM-3,  
TNX-1BHARAT HEAVY ELECTRICALS LTD  
BHOPALTYPE OF PRODUCT  
OR  
NAME OF CUSTOMER/PROJECT

IM4504AZ

NAME	SIGN	DATE	NO. OF VAR.
AJHARIA	AS/HEP	12.12.19	
MOHIT P.	AS/HEP	12.12.19	
MOHIT P.	AS/HEP	12.12.19	

DEPT.	TIME	SCALE	WEIGHT	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEM
405	AA0230208	N.T.S.	9.35	1 445 15 91 076	002	001
DRAWING NO. 2 445 15 91 080						REV. 03
SHT. NO. 01						NO. OF SHT. 01

END COVER (GWE)  
(CNC MACHINED)

INVENTORY NO. SIGN. &amp; DATE REF. DRG. NO.

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IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

8

Technical drawing of a circular flange, showing the top view and a side view detail.

**Top View:**

- Overall diameter:  $80 \pm 0.1$
- Inner diameter:  $\varnothing 40 \pm 0.02$
- 6 HOLES  $\varnothing 11$  C BORE 18X10 DEEP
- EQUI SPACED
- Section line A-A
- 60° angle dimension

**Side View Detail:**

- Overall thickness: 28
- Inner bore diameter:  $\varnothing 40 \pm 0.02$

Technical drawing of a stepped shaft. The drawing shows a shaft with three steps. The dimensions are as follows:

- Top diameter:  $\varnothing 392$
- Middle diameter:  $\varnothing 345$
- Bottom diameter:  $\varnothing 433$
- Height of the top step:  $80 \pm 0.1$
- Height of the middle step:  $28$
- Length of the bottom section:  $4$

# DISTRIBUTION OF PRINTS



**BHARAT HEAVY ELE  
BHOPAL**

PRICALS LTD


	NAME	SIGN	DATE
DRN.	A.JHARIA	<del>Sign</del>	12.12.19
CHD.	MOHIT P.	<del>Moist</del>	12.12.19
APPD.	MOHIT P.	<del>Moist</del>	12.12.19

NO. OF VAR.	01
----------------	----

REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHECKED			CHECKED
		APPROVED	02	04.02.21	APPROVED
ZONE					DIM. 0398±0.1 DELETED.

REV.	DATE	ALTERED	BY
01	29.05.20	CHECKED	ASB/MSK
ZONE		APPROVED	ASB/MSK

TOOL LIST ADDED. (TCM356)

DEPT.	UNTOOL. DIMS. GR.		SCALE	WEIGHT
TIME	' M'			(K)
CODE			N.T.S.	10
405	AA0230208			

RIGHT (G.)	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEM
5.9	1 445 15 91 076	002	001


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TITLE

ENCLOSURE




(CNC MACHINED)

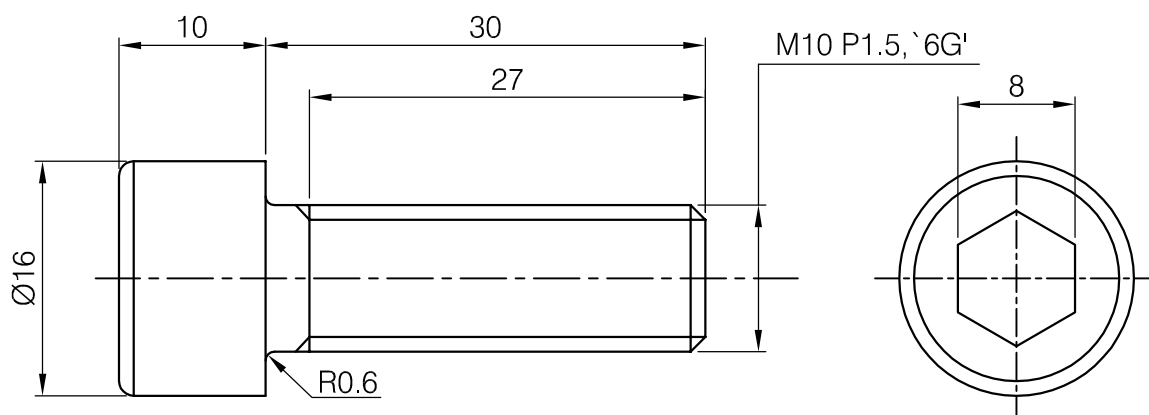
DRAWING NO.	REV.
2 445 15 91 081	02
SHT. NO.	NO. OF SHT.
01	01



FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

REV. D.	REV.	DATE	ALTERED	REV.	DATE	ALTERED A.J. 	ADDITIONAL INFORMATION					
			CHECKED			CHECKED A.S. 						
			APPROVED			APPROVED A.S. 	STATUS OF DRAWING					
				1 HOLE DIA. 2.5 DELETED. IN REMARKS COLUMN OF BOM IT.001, 'UNBREAKO BOUGHTOUT' DELETED.						DISTRIBUTION OF PRINTS		
						TME-1 TNX-1 TXM -4						



## NOTES:-

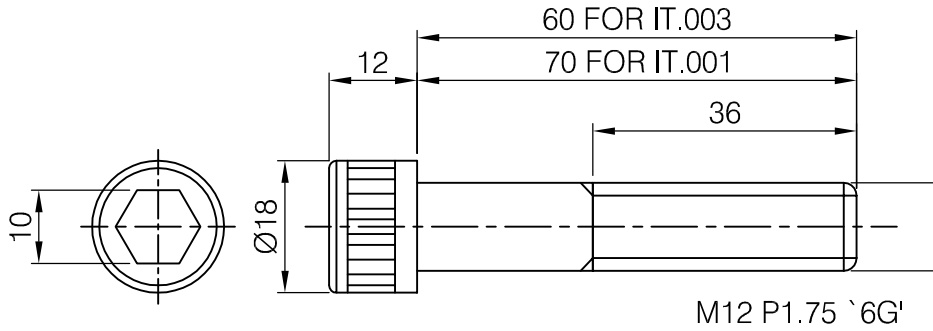
1. IT. 002 TO BE APPLIED ON THREAD BEFORE TIGHTENING TO SCRU.
2. SCRU TO BE 100% M.C.D. TESTED OF BP0850178 .

REF. DRG. NO.	AS REQD,	002	LOCKTITE-270			KG	0.004
	SEE NOTE-1	001	SOCKET HEAD CAP SCRU M10x30, P12.9			KG	0.03
	REMARKS	ITEM NO.	DESCRIPTION	STD	MATL. CODE	A/C	UNIT WT.
					MATL. SPECN.		QTY.
SIGN. & DATE	CARD TYPE 3 → 28			28 → CARD TYPE 1	28 → CARD TYPE 2		
				DRN.	NAME	SIGN	DATE
INVENTORY NO.	BHARAT HEAVY ELECTRICALS LTD. BHOPAL			CKD.	D.K.		05.05.11
				APPD.	A.S.		05.05.11
	DEPT. TME	GRADE OF UN.TOL.	SCALE	WEIGHT(KG)	REF.TO ASSY.DRG.	ITEM NO.	NO.OF ITEM
	CODE 405		N.T.S.	0.034	04451503001	010	002
TITLE				DRAWING NO.			REV
SOCKET HEAD CAP SCRU (IM3601AZ) 9				44451503005			01
				SHT.NO	01	NO.OF.SHT.	01

## FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

ED. THE COMPANY.	REV.	DATE	ALTERED	A.J.	REV.	DATE	ALTERED	-SD-	ADDITIONAL INFORMATION	10T 827-635
	08	31.10.19	CHECKED	A.S.	07	22.1.09	CHECKED	-SD-		
			APPROVED	A.S.			APPROVED	-SD-		
	IN REMARKS COLUMN OF BOM IT.001, 'UNBREAKO BOUGHTOUT' DELETED.				DRG. DIGITIZED & UPDATED				STATUS OF DRAWING	
									DISTRIBUTION TME-1 TNX-1 OF PRINTS TXM -4	



## STYLE LIST

VAR	IT.NO.	STYLE NO.
	001	BP9014752555

## NOTES:-

1. IT. 002 TO BE APPLIED ON THREAD BEFORE TIGHTENING SCRU.
2. SCRU TO BE 100% M.C.D. TESTED TO B.P. 0850178.

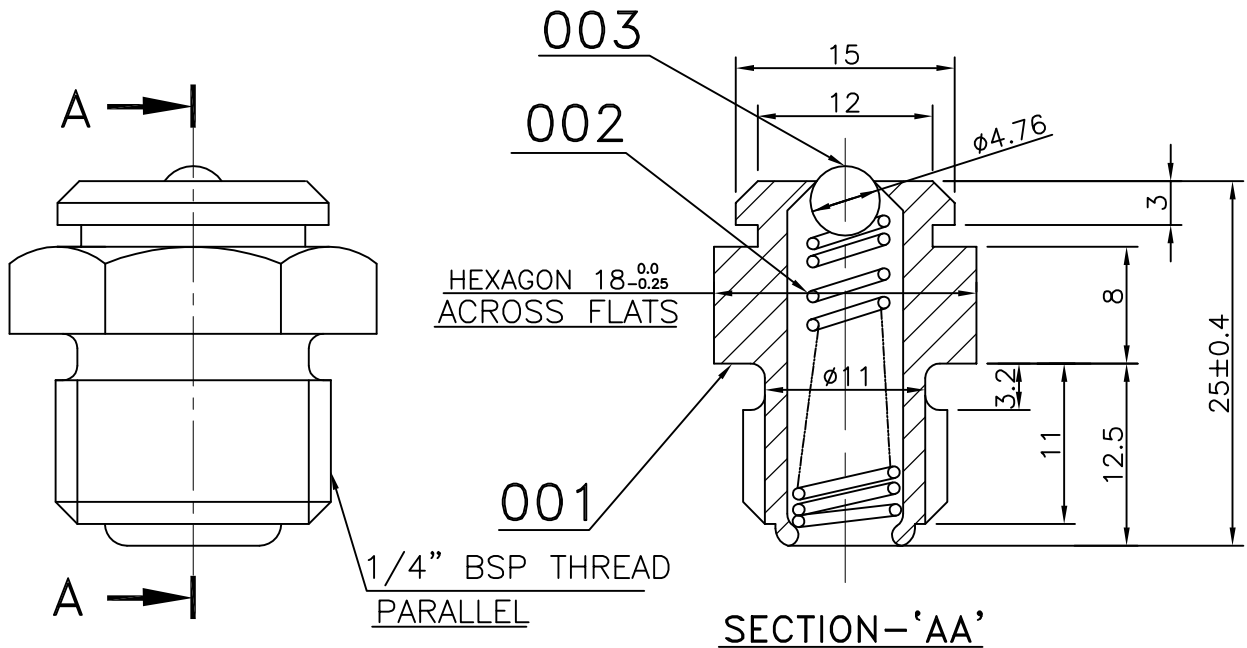
REF. DRG. NO.	SEE NOTE-1	003	SOC HD CAP SCRU M12x60 P12.9			KG	0.07
	AS REQD,	002	LOCKTITE-270			KG	0.004
	SEE NOTE-1	001	SOCKET HEAD CAP SCRU M12x70, P12.9			KG	0.08
	REMARKS	ITEM NO.	DESCRIPTION	STD	MATL. CODE	A/C	UNIT WT.
SIGN. & DATE					MATL. SPECN.	UNIT	QTY.
	CARD TYPE 3	28	28	CARD TYPE 1	28	CARD TYPE 2	
	Bharat Heavy Electricals Ltd. Bhopal			DRN.	NAME	SIGN	DATE
				CKD.	M.R.P.	Sd/-	22.11.87
INVENTORY NO.				APPD.	S.G.D.	Sd/-	25.11.87
					S.K.S	Sd/-	26.11.87
	DEPT. TME	GRADE OF UN.TOL.	SCALE	WEIGHT(KG)	REF.TO ASSY.DRG.	ITEM NO.	NO.OF ITEM
	CODE 405	M AA0230208	N.T.S.	0.084	04391560003	012	003
TITLE					DRAWING NO.	REV	
SOCKET HEAD CAP SCRU HS 15250A 25 KV AC LOCO					44391560003	08	
					SHT.NO 01	NO.OF.SHT. 01	



## FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

REV.	DATE	ALTERED	REV.	DATE	ALTERED	ADDITIONAL INFORMATION
		CHECKED			CHECKED	
		APPROVED			APPROVED	
ZONE			ZONE			STATUS OF DRAWING
						DISTRIBUTION TME-1, TXM-3, TNX-1 OF PRINTS



## NOTE:-

1. GREASE NIPPLE TO BE ZINC PLATED TO AA0673603 AND AA0673604.

001		003	BALL					KG.	0.01
001		002	VALVE SPRING					KG.	0.01
001		001	GREASE NIPPLE BODY					KG.	0.02
VAR00	REMARKS	ITEM NO.	DESCRIPTION	DRAWING NO.	IT.NO.	MATL. CODE	A/C	UNIT	UNIT WT.
					VAR.	MATL. SPCN.			QTY.
28 → CARD TYPE-3			28 → CARD TYPE-1			28 → CARD TYPE-2			



**BHARAT HEAVY ELECTRICALS LTD.**  
**BHOPAL**

	NAME	SIGN	DATE	NO. OF VAR.
DRN.	A.JHARIA	<i>A.Jharia</i>	22.07.11	
CHD.	D.K.	<i>D.K.</i>	22.07.11	
APPD.	A.S.	<i>A.S.</i>	22.07.11	01

INVENTORY NO.	DEPT. TME	UNTOL. DIMS. GR.	SCALE	WEIGHT (K.G.)	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEM
	CODE		N.T.S.	-	04451503001	013	003
	405				24454303001	016	
TITLE					DRAWING NO.		REV.
<b>GREASE NIPPLE</b>					<b>4 445 15 03 007</b>		00
<b>IM3601AZ</b>					SHT. NO.	01	NO. OF SHT. 01

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Technical drawing of a circular mating surface. The drawing includes a top view and a side view. The top view shows a circular outer ring with 12 radial slots. The side view shows the thickness of the ring, labeled 'THK.', and the inner diameter, labeled 'I/D'. The outer diameter is labeled 'O/D'.

## SEIZING RIDGES ON OUTER SURFACE

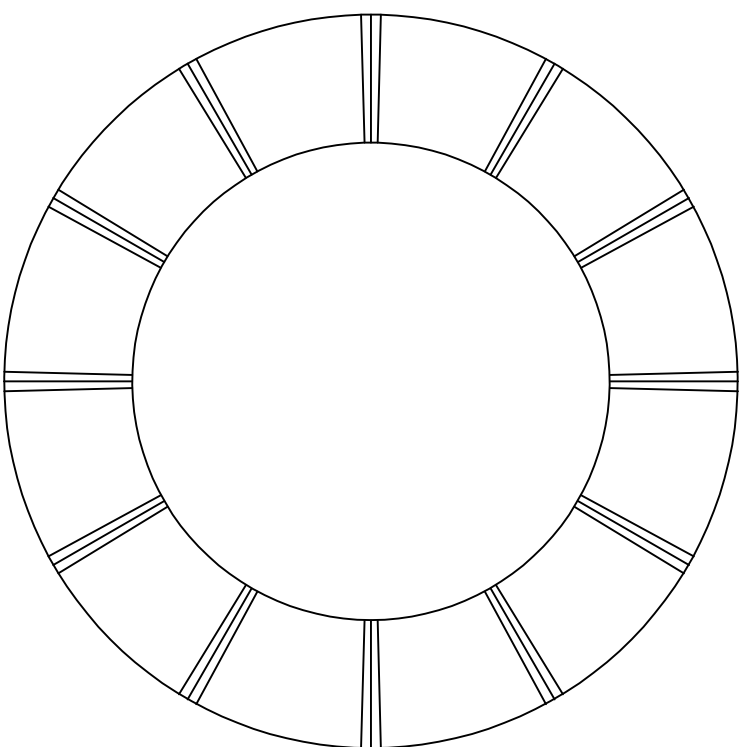


TABLE-1 (ALL DIMENSIONS ARE IN MM)

SL. NO.	SIZE	I/D	O/D	THK.	REF. ASSY. DRG. NO.	ITEM NO.
1	M12	A. 13.00±0.2	A. 19.60±0.2	A. 2.50±0.25	04391531106	014
		B. 12.95±0.2	B. 19.60±0.2	B. 4.22±0.25	04391413001	014
					04391527001	
					04304581001	015
2	M12	A. 13.00±0.2	A. 19.60±0.2	A. 2.50±0.25	04391580002	014 & 037
		B. 12.95±0.2	B. 19.60±0.2	B. 2.50±0.25	04451509051	016
3	M30	A. 31.50±0.2	A. 47.00±0.3	A. 6.60 <sub>-0.5</sub> <sup>0</sup>	04393180001	011
		B. 32.39±0.2	B. 47.63±0.3	B. 6.73 <sub>-0.5</sub> <sup>0</sup>	04393131106	017
					44453109001	002
4	M36	A. 37.30±0.2	A. 55.10±0.3	A. 6.60 <sub>-0.5</sub> <sup>0</sup>	04393113002	016
		B. 36.32±0.2	B. 55.78±0.3	B. 5.84 <sub>-0.5</sub> <sup>0</sup>	04393127007	016
5	M20	A. 21.3±0.2	A. 30.70±0.2	A. 3.30±0.25	24454305051	008
					24454405051	012
6	M24	A. 25.40±0.2	A. 39.10±0.2	A. 3.30±0.25	04394001001	010
		B. 25.78±0.2	B. 41.30±0.2	B. 6.50±0.25		
7	M10	A. 10.55±0.2	A. 16.5±0.2	A. 2.5±0.25	04451509051	015
8	M8	A. 13.50±0.2	A. 8.60±0.2	A. 2.5±0.25	—	—
9	M6	A. 10.90±0.2	A. 6.60±0.2	A. 1.8±0.25	—	—

1. SUPPLIER CAN OFFER THE WASHER AS PER EITHER 'A' OR 'B' AGAINST EACH SERIAL NO. AS MENTIONED IN TABLE 1
2. MATERIAL OF SERRATED LOCK WASHER SHALL BE CONFORMING TO EITHER OF THE FOLLOWING:

- d) ASI 1010: CARBON STEELS
- b) EN 1.7182
- c) 50Cr V4 TO DIN17222
3. SURFACE COATING-DELTA PROTEKT R BASE COAT (KL100) AND TOP COAT (VH302GZ)
4. ONE SERRATED LOCK WASHER COMPRISE OF TWO PARTS ONE UPPER HALF AND ONE LOWER HALF. BOTH HALVES OF WASHER SHALL BE GLUED TOGETHER.
5. PROCUREMENT OF M12 DISC LOCK WASHER FOR TM4303, IM3302 SHALL BE AS PER SL NO. 02 OF TABLE-1.
6. WASHER TO BE ZINC PLATED TO AA0673603 & PASSIVATED TO AA0673604. PLATING THICKNESS TO BE 0.013 TO 0.015 MM.

—	—	—	—	SEE TABLE 1	—	—		—		—	—	—					
59	64	65	75	78 79 25	27 29	58	59	60	77	29	31 34	45	55	56 57	58	65	72
VAR 00	REMARKS	VAR. NO.	ITEM NO.	DESCRIPTION	STD	DRAWING NO.	IT NO.	MATL. CODE	A	LINE	UNIT WT.	QTY.	ZONE				
							32	33	46	54	C	68	71				
							VAR.	MATL. SPCN.									

[illegible]



## FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

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			CHECKED			CHECKED		
			APPROVED			APPROVED	STATUS OF DRAWING	
							DISTRIBUTION TME-1 TNX-1 OF PRINTS TXM-3	

**SECTION-AA**

**NOTES:-**

1. REMOVE ALL SHARP CORNERS.
2. ALL UNTOLERATED DIMENSIONS TO BE  $\pm 0.25$ .
3. ALL UNTOLERATED ANGLES TO BE  $\pm 0^\circ - 30^\circ$ .
4. MACHINE ALL OVER  $\frac{3}{2}$  EXCEPT WHEREVER SHOWN.
5. TEMPORARY RUST PREVENTIVE (TRP) TO BE APPLIED ALL OVER AS PER AA55152.

REF. DRG. NO.	RAW WT. = 11KG.		001	SPACER 20THK.x265x265			IS:2062, GR-250	KG	2.9
	REMARKS		ITEM NO.	DESCRIPTION		STD	MATL. CODE	A/C UNIT	UNIT WT.
						MATL. SPECN.	QTY.		

CARD TYPE 3	28	28	CARD TYPE 1	28	CARD TYPE 2
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SIGN. & DATE		BHARAT HEAVY ELECTRICALS LTD. BHOPAL		DRN.	NAME	SIGN	DATE	NO. OF VAR.
				CKD.	M. PAROTHIA	<i>M. Parothia</i>	08.12.21	
				APPD.	A. SHARMA	<i>A. Sharma</i>	08.12.21	

DEPT. TME	UNTOL. DIMS. GR.	SCALE	WEIGHT(KG)	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEM
CODE 405	AA02300208	NTS	2.9	1 445 15 91 076	017	001

TITLE	DRAWING NO.	REV
SPACER (IM4504AZ/BY) 13	44451591076	00
SHT. NO 01	NO. OF SHT. 01	