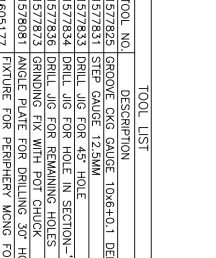
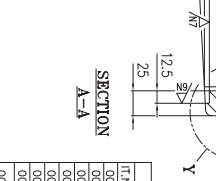


8x
0.6

min. 2.3

97.5

SECTION B-B















8. READING SOURCE OF RAW MATERIAL (CASTING) FROM ROLL
REAR, AND
A. 29 NOS. MARKED DIMENSION AND NOTES ARE INSCRIBED IN ϕ 469.
B. S. L. NO. OF C/O DIMENSION AND NOTES ARE INSCRIBED IN ϕ 469.
9. EMBOSING AND PUNCHING TO BE DONE AT THE SHOWN LOCATION BY CASTING
SUPPLIER AND MACHINIST. SIZE OF EMBOSING/PUNCHING TO BE 5-20MM.
10. SURFACE FINISH OF UNMACHINED CASTED SURFACE TO BE AS PER IS3073
(IN CASE MACHINED ALL OVER IS NOT MENTIONED OR SOME SURFACES ARE NOT
MACHINED, UNMACHINED DURING MACHINING AND SHALL BE RETAINED
INDICATED FOR MACHINING BY SYMBOL.
11. SURFACE POINT TO BE 5-7 MM IN CASE CASTING IS
SUPPLIED ON 3-5 MM IN CASE ROLL MACHINED CASTING IS SUPPLIED
12. FOR OTHER QUALITY REQUIREMENT THAT IS NOT CALLED IN DRAWING SPECIFICATION
TM2545 TO BE REFERRED.
13. OAP FOR CASTING TO BE AS PER QTM/OAP/VENDOR/13-14/001 (LATEST REV.).
14. CASTING TO BE DONE BY ROLL MACHINIST. UNMACHINED CASTING SURFACES SHALL BE AS PER
IS 8350, CLASS-2.
45. DIMENSIONS TO BE CHECKED ON SAMPLE BASIS. QUANTITY OF
INSPECTION SHALL BE AS GIVEN BELOW (AT LEAST ONE NUMBER).

[illegible]

STANDARD
ROBINS
VALVE TO
IS-3073

GRADE NUMBER N1 N2 N3 N4 N5 N6 N7 N8 N9 N10 N11 N12













SYMBOL            

INCHES 0.050 0.060 0.1 0.2 0.4 0.8 1.6 3.2 6.3 12.5 25 50

MM 1.27 1.52 2.54 5.08 10.16 20.32 40.64 81.28 162.56 325.12 650.24 1270.48

NOTE: 1. GRADE NUMBER N1 TO N12
2. GRADE NUMBER N1 TO N12
3. GRADE NUMBER N1 TO N12
4. GRADE NUMBER N1 TO N12
5. GRADE NUMBER N1 TO N12
6. GRADE NUMBER N1 TO N12
7. GRADE NUMBER N1 TO N12
8. GRADE NUMBER N1 TO N12
9. GRADE NUMBER N1 TO N12
10. GRADE NUMBER N1 TO N12
11. GRADE NUMBER N1 TO N12
12. GRADE NUMBER N1 TO N12

GRADE NUMBER N1 N2 N3 N4 N5 N6 N7 N8 N9 N10 N11 N12













SYMBOL            

INCHES 0.050 0.060 0.1 0.2 0.4 0.8 1.6 3.2 6.3 12.5 25 50

MM 1.27 1.52 2.54 5.08 10.16 20.32 40.64 81.28 162.56 325.12 650.24 1270.48

NOTE: 1. GRADE NUMBER N1 TO N12
2. GRADE NUMBER N1 TO N12
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4. GRADE NUMBER N1 TO N12
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9. GRADE NUMBER N1 TO N12
10. GRADE NUMBER N1 TO N12
11. GRADE NUMBER N1 TO N12
12. GRADE NUMBER N1 TO N12

GRADE NUMBER N1 N2 N3 N4 N5 N6 N7 N8 N9 N10 N11 N12













SYMBOL            

INCHES 0.050 0.060 0.1 0.2 0.4 0.8 1.6 3.2 6.3 12.5 25 50

MM 1.27 1.52 2.54 5.08 10.16 20.32 40.64 81.28 162.56 325.12 650.24 1270.48

NOTE: 1. GRADE NUMBER N1 TO N12
2. GRADE NUMBER N1 TO N12
3. GRADE NUMBER N1 TO N12
4. GRADE NUMBER N1 TO N12
5. GRADE NUMBER N1 TO N12
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10. GRADE NUMBER N1 TO N12
11. GRADE NUMBER N1 TO N12
12. GRADE NUMBER N1 TO N12

GRADE NUMBER N1 N2 N3 N4 N5 N6 N7 N8 N9 N10 N11 N12













SYMBOL            

INCHES 0.050 0.060 0.1 0.2 0.4 0.8 1.6 3.2 6.3 12.5 25 50

MM 1.27 1.52 2.54 5.08 10.16 20.32 40.64 81.28 162.56 325.12 650.24 1270.48

NOTE: 1. GRADE NUMBER N1 TO N12
2. GRADE NUMBER N1 TO N12
3. GRADE NUMBER N1 TO N12
4. GRADE NUMBER N1 TO N12
5. GRADE NUMBER N1 TO N12
6. GRADE NUMBER N1 TO N12
7. GRADE NUMBER N1 TO N12
8. GRADE NUMBER N1 TO N12
9. GRADE NUMBER N1 TO N12
10. GRADE NUMBER N1 TO N12
11. GRADE NUMBER N1 TO N12
12. GRADE NUMBER N1 TO N12

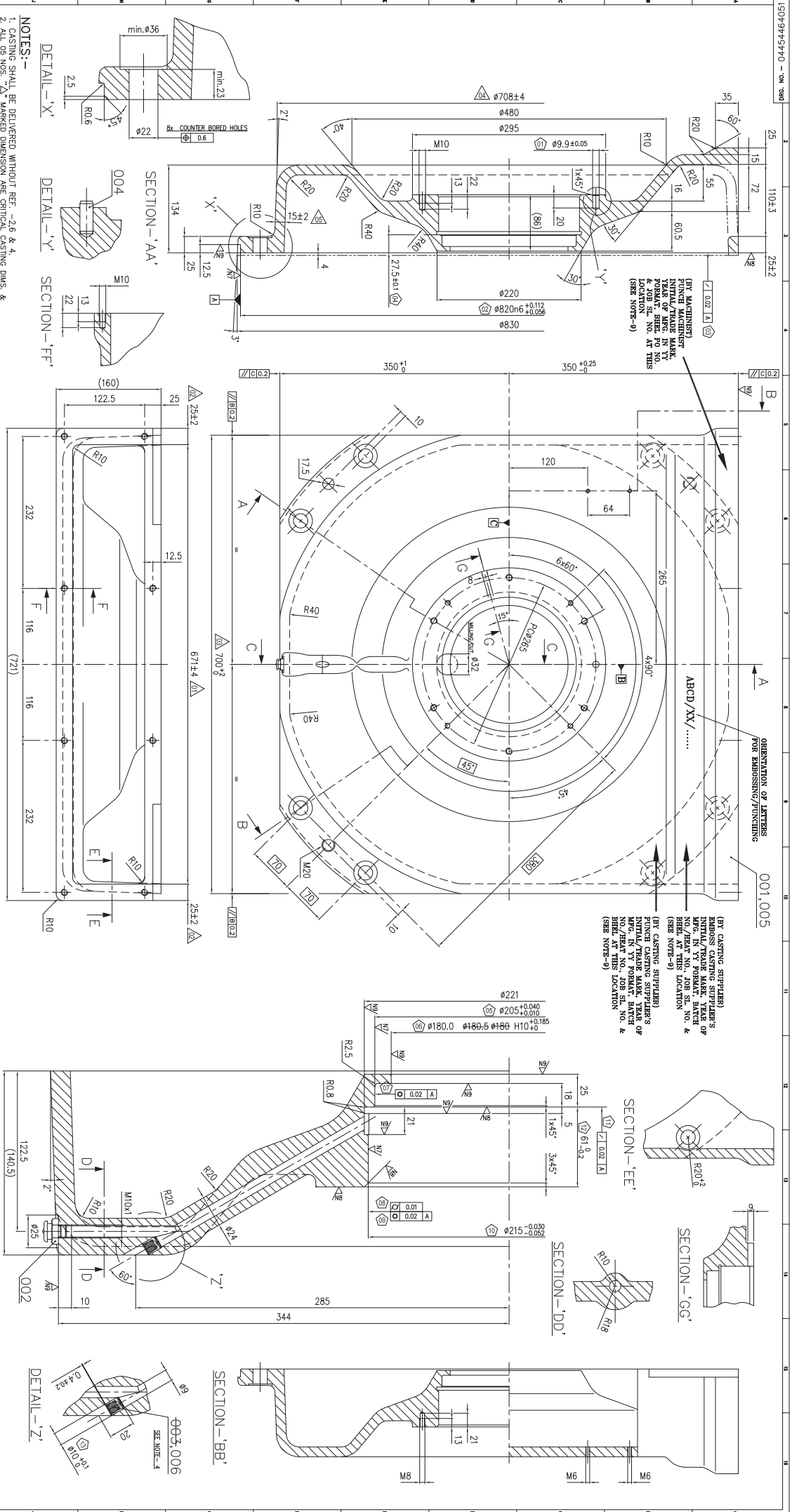
GRADE NUMBER N1 N2 N3 N4 N5 N6 N7 N8 N9 N10 N11 N12

SYMBOL            

INCHES 0.050 0.060 0.1 0.2 0.4 0.8 1.6 3.2 6.3 12.5 25 50

MM 1.27 1.52 2.54 5.08 10.16 20.32 40.64 81.28 162.56 325.12 650.24 1270.48

NOTE: 1. GRADE NUMBER N1 TO N12
2. GRADE NUMBER N1 TO N12
3. GRADE NUMBER N



1000

A vertical line with a horizontal tick mark in the middle. Two arrows point outwards from the tick mark, one to the left and one to the right.

122.5

1. CASTING SHALL BE DELIVERED WITHOUT REF. -2.6 & 4.
2. ALL OS NOS. "A" MARKED DIMENSION ARE CRITICAL CASTING DIMS. &

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102.00		
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[illegible]

QTY.	21	63	20
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068

DATE	NO. OF YEAR
------	----------------

03.09.10			
03.09.10	01		

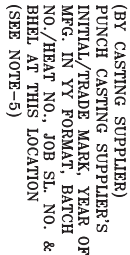
ITEM NO.	NO. OF ITEM
	1

80%	

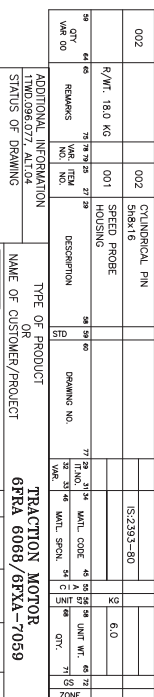
0.154

SIZE A0


1003



TOOL LIST

[illegible]

STATUS OF DRAWING
DISTRIBUTION OF PRIN
TME-1, TXM-3, TNX-1,

 BEHARAT HEAVY ELECTRICALS LTD. BHOPAL	NAME OF CUSTOMER/PROJECT			6MRA 6068/6FAA-7059
	NAME	SGN	DATE	
	DRN, ASWINI J.	-sg-	09.09.11	
	CHO, D.K.	-sg-	09.09.11	

SPEED PROBE HOUSING
(CONT. FROM PREVIOUS PAGE)

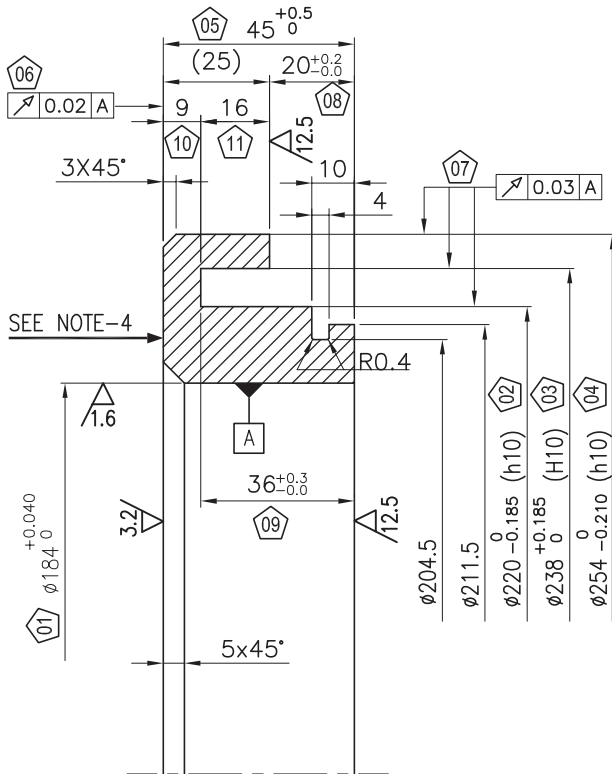
DRAWING NO.	REV.
1 445 01 64 053	15

NOTES:-

1. i) C.E.D. NO. FOR 6FRA-6068--5780/079
- ii) C.E.D. NO. FOR 6FRA-7059--5870/101
2. REMOVE ALL SHARP EDGES.
3. METALLURGICAL TESTS TO BE CARRIED OUT
4. ALL 8 NOS. "◇" MARKED DIMENSION ARE CRITICAL TO QUALITY (C/Q) & S.L. NO. OF C/Q DIMENSION ARE INSCRIBED IN ◇ e.g. (08).
5. EMBOSSING & PUNCHING TO BE DONE AT THE SHOWN LOCATION BY CASTING SUPPLIER AND MACHINIST. SIZE OF EMBOSSING/PUNCHING TO BE 5-20MM. EMBOSSING & PUNCHING SHOULD BE LEGIBLE AND SHOULD NOT BE MACHINED/DAMAGED DURING MACHINING AND SHALL BE RETAINED.
6. SURFACE FINISH OF UNMACHINED CASTED SURFACE TO BE AS PER IS3073. (IN CASE MACHINING ALL OVER IS NOT MENTIONED OR SOME SURFACES ARE NOT INDICATED FOR MACHINING BY SYMBOL.)
7. MACHINING ALLOWANCE ON EACH TOOL POINT TO BE 5-7 MM IN CASE CASTING IS SUPPLIED OR 3-5 MM IN CASE ROUGH MACHINED CASTING IS SUPPLIED.
8. FOR QUALITY REQUIREMENT OF COMPONENT SPECIFICATION TM12345 TO BE REFERRED.
9. QAP FOR CASTING TO BE AS PER QTM/QAP/VENDOR/13--14/001 (LATEST REV.).
10. ADDITIONAL MATERIAL SHALL NOT BE PROVIDED ON SURFACES WHERE MACHINING SYMBOL IS NOT INDICATED. TOLERANCES ON UNTOPOGRAPHED CASTING SURFACES SHALL BE AS PER IS:4597, CLASS-2.
11. COMPONENT TO BE PRIMER PAINTED WITH INORGANIC ETHYL ZINC SILICATE PRIMER (AA56113) AS PER SCHEME NO. 8 OF TMS-11(A) OF SPECIFICATION AA0674123 (PAGE NO. 22 OF 30).
12. ALL MACHINED/R/MACHINED SURFACES TO BE PROTECTED WITH TRP.

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

REV.	DATE	ALT.	SDB	REV.	DATE	ALT.	SDB	ADDITIONAL INFORMATION
20	06.07.21	CHK.	AS	19	30.06.21	CHK.	ABHIJIT	4TWD.096.043, ALT.06
		APPD.	AS			APPD.	ABHIJIT	
ZONE	IN TOOL LIST TOOL NO. 1605074 DELETED & 1605192 ADDED.			ZONE	DIM. 36 _{-0.0} WAS 36.2 _{+0.3} _{-0.0}			STATUS OF DRAWING
	(TCM-358)							DISTRIBUTION TME-1, TXM-4 OF PRINTS TNX-1



TOOL LIST		
IT. NO.	TOOL NO.	DESCRIPTION
001	1605126	GROOVE & DEPTH GAUGE 9x16
001	1605127	CALIPER GAUGE 220 ₀ ⁰ -0.185
001	1605128	PIN GAUGE 238 ₀ ^{+0.185}
001	1577942	PIN GAUGE 183.60/183.65
001	1577943	GROOVE GAUGE 9+0.185/0x16
001	1577944	GRINDING FIX.
001	1577945	PIN GAUGE 184 ₀ ^{+0.040}
001	1605014	SNAP GAUGE 254 ₀ ^{-0.210} (h10)
001	1605074	STEP GAUGE 36.2+0.3/0
001	1605075	STEP GAUGE 20+0.2/0
001	1605149	SPIGOT PLATE FOR TURNING
001	1605192	STEP GAUGE 36+0.3/0

NOTES:-

- REMOVE ALL SHARP EDGES.
- MATERIAL: SPHEROIDAL GRAPHITE CAST IRON (SGCI) TO DIN 1693 PART 1 GR.666/40 OR GR 400/18 OF IS:1865-1991 (LATEST VERSION).
- ALL 11 NOS. "M" MARKED DIMENSION ARE CRITICAL TO QUALITY (CTQ) & SL. NO. OF CTQ DIMENSION ARE INSCRIBED IN "M" e.g. 11.
- SUPPLIER'S INITIAL/TRADE MARK, MANUFACTURERS SERIAL NO. BHEL PO NO. BATCH NO. & DATE OF MFG. IN MM-YY FORMAT TO BE ETCHED AT THE SHOWN LOCATION.
- MACHINING ALLOWANCE ON EACH TOOL POINT TO BE 5-7 MM IN CASE CASTING IS SUPPLIED OR 3-5 MM IN CASE ROUGH MACHINED CASTING IS SUPPLIED.
- FOR QUALITY REQUIREMENT OF COMPONENT SPECIFICATION TM12545 TO BE REFERRED.
- DIMENSIONS TO BE CHECKED ON SAMPLE BASIS. QUANTUM OF INSPECTION SHALL BE AS GIVEN BELOW (AT LEAST ONE NUMBER).

SL.NO.	CHECKING PARAMETER	BHEL Q.C.
001	CTQ DIMS.	DIMENSIONAL TOLERANCE 20%
		GEOMETRICAL TOLERANCE 20%
002	REMAINING DIMS.	5%

- ALL MACHINED/ R.MACHINED SURFACES TO BE PROTECTED WITH TRP.

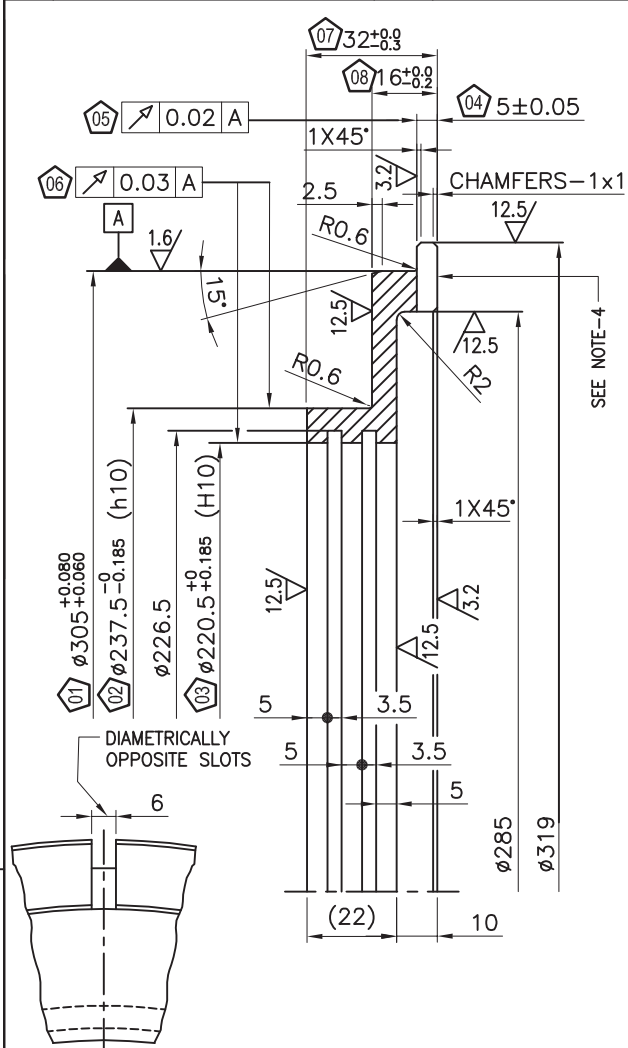
	RAW WEIGHT 12.0 KG.	001	INNER LABYRINTH DE			5.3
59	64	65	75	25	27	29
VAR00	REMARKS	ITEM NO.	DESCRIPTION	STD	MATL. CODE	UNIT WT.
					MATL. SPCN.	QTY.
28	CARD TYPE-3	28	CARD TYPE-1	28	CARD TYPE-2	

BHEL		BHARAT HEAVY ELECTRICALS LTD.		BHOPAL	
DRN.	ASWINI	SIGN	-sd-	DATE	07.09.10
CHD.	D.K.	SIGN	-sd-	DATE	07.09.10
APPD.	A.S.	SIGN	-sd-	DATE	07.09.10

DEPT.	TME	UNTOL. DIMS. GR.		SCALE	WEIGHT (K.G.)	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEM
CODE	405	'M'	TM20079	N.T.S.	5.3	1 445 45 64 053	003	001
TITLE						DRAWING NO.		REV.
INNER LABYRINTH (DE) (STOPPER)						4 445 43 64 052		20
(CNC MACHINED)						SHT. NO.		NO. OF SHT.
6FRA 6068						01		01

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WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

REV. 16	DATE 30.08.19	ALTERED AS CHECKED AS APPROVED AS	REV. 15	DATE 24.7.19	ALTERED SDB CHECKED ABHIJIT APPROVED ABHIJIT	ADDITIONAL INFORMATION 4TWD.096.028
ZONE	IN TOOL LIST TOOL NO. 1605129 1605130 ADDED. TOOL NO 1605057 & 16050058 DELETED.		ZONE	DIMS. Ø237.5 & Ø220.5 WERE Ø237 & Ø221. (CLW LETTER REF. CLW/TM/18059/ PART-I/1 DATED 12/07/19). NOTE 7 DELETED & NOTE 8 ADDED.		STATUS OF DRAWING
REV. 17	DATE 02.01.20	ALTERED AS CHECKED AS APPROVED AS	REV. 14	DATE 12.02.19	ALT. SDB CHK. AS APPD. AS	DISTRIBUTION TME-1, TXM-4 OF PRINTS TNX-1
ZONE	IN TOOL LIST TOOL NO. 1605151 ADDED. (TCM-355)		ZONE	IN TOOL LIST, TOOL NO. 1577949 ADDED. (TCM-353)		TOOL NOS. 1605076 & 1605077 ADDED. TOOL NO. 1577954 DELETED. (TCM-352)



REV. 10	DATE 16.05.18	ALT. AS CHK. AS APPD. AS	REV. 08	DATE 01.12.17	ALT. VK CHK. AJ APPD. AJ
ZONE	TOOL NO.1577953 DELETED. (TCM-352)		ZONE	TOL. ON DIMN. 32 & 16 ADDED.	
REV. 11	DATE 13.08.18	ALT. VK CHK. AS APPD. AS	ZONE	TOOL NO.1577949 DELETED. (TCM-352)	
REV. 12	DATE 18.10.18	ALT. SDB CHK. ABHIJIT APPD. ABHIJIT	ZONE	NOTE-2 DELETED. NOTE-7 MODIFIED.	
REV. 13	DATE 15.12.18	ALT. SDB CHK. ABHIJIT APPD. ABHIJIT	ZONE	IN TITLE BLOCK R/WT & FINISH WT. WERE 17.87 & 2.90KG.	

TOOL LIST				
IT.NO.	TOOL NO.	DESCRIPTION		
001	1577949	GROOVE GAUGE		
001	1577951	STEP GAUGE FOR 11MM		
001	1577953	SNAP GAUGE FOR 32MM		
001	1577954	SNAP GAUGE FOR 22MM		
001	1577955	MILLING FIXTURE		
001	1605069	HOLDING SPIGOT FOR TURNING AND GRINDING		
001	1605076	SNAP GAUGE 32-0.3/0		
001	1605077	SNAP GAUGE 16-0.2/0		
001	1605151	SPIGOT PLATE FOR TURNING		
GAUGE LIST				
LIMIT		NOM. SIZE	TOOL NO.	IT.NO. SYM.
303.50/303.55			1577946	001 CAL.
237.5 ^{+0.185}			1577947	001 SNAP
220.5 ^{+0.185}			1605129	001 PIN
237.5 ^{-0.185}			1605130	001 CAL.
5±0.05			1577952	001 SNAP
237 ^{-0.185}			1605057	001 SNAP
221 ^{+0.185}			1605058	001 PIN
305 ^{+0.08}			1605059	001 CAL.

NOTES:-

- REMOVE ALL SHARP EDGES.
- MATERIAL: SPHEROIDAL GRAPHITE CAST IRON (SGCI) TO DIN 1693 PART-1 OR 900/40 OR GR 400/18 OF IS:1865-1991 (LATEST VERSION).
- ALL 8 NOS. "CTQ" MARKED DIMENSION ARE CRITICAL TO QUALITY (CTQ) & SL. NO. OF CTQ DIMENSION ARE INSCRIBED IN E.g. 001.
- SUPPLIER'S INITIAL/TRADE MARK, MANUFACTURERS SERIAL NO. BHEL PO NO. BATCH NO. & DATE OF MFG. IN MM-YY FORMAT TO BE ETCHED AT THE SHOWN LOCATION.
- MACHINING ALLOWANCE ON EACH TOOL POINT TO BE 5-7 MM IN CASE CASTING IS SUPPLIED OR 3-5 MM IN CASE ROUGH MACHINED CASTING IS SUPPLIED.
- FOR QUALITY REQUIREMENT OF COMPONENT SPECIFICATION TM12545 TO BE REFERRED.
- DIMENSIONS TO BE CHECKED ON SAMPLE BASIS. QUANTUM OF INSPECTION SHALL BE AS GIVEN BELOW (AT LEAST ONE NUMBER).

SL.NO.	CHECKING PARAMETER	BHEL Q.C.
001	CTQ DIMS.	DIMENSIONAL TOLERANCE 20% GEOMETRICAL TOLERANCE 20%
002	REMAINING DIMS.	5%

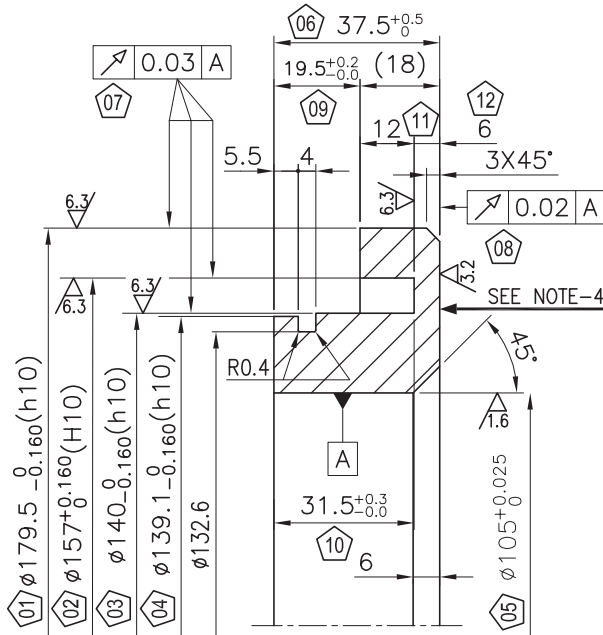
8. ALL MACHINED/ R.MACHINED SURFACES TO BE PROTECTED WITH TRP.

RAW WEIGHT 11.0 KG.	001	INNER LABYRINTH DE	TM11491	KG 3.30
VAR00	REMARKS	ITEM NO.	DESCRIPTION	STD
59 64 65	75 25 27 29	58	34	45 55 56 58 65
		MATL. CODE		UNIT WT.
		MATL. SPCN.		QTY.

BHARAT HEAVY ELECTRICALS LTD. BHOPAL		NAME	SIGN	DATE	NO. OF VAR.
		DRN.	BHAGAT	-sd-	03.09.10
		CHD.	D.K.	-sd-	03.09.10
		APPD.	A.S.	-sd-	03.09.10
DEPT. TME	UNTOL. DIMS. GR.	SCALE	WEIGHT (K.G.)	REF. TO ASSY. DRG.	ITEM NO.
CODE 405		N.T.S.	3.30	0 445 10 64 051	NO. OF ITEM 001
TITLE INNER LABYRINTH (DE) (CNC MACHINED) 6FRA 6068				DRAWING NO. 4 445 43 64 053	REV. 17
				SHT. NO. 01	NO. OF SHT. 01

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REV.	DATE	ALTERED	SDB	REV.	DATE	ALTERED	SDB	ADDITIONAL INFORMATION
20	06.07.21	CHECKED	AS	19	30.06.21	CHECKED	ABHIJIT	4TWD.096.042(ALT.-06)
		APPROVED	AS			APPROVED	ABHIJIT	
ZONE	IN TOOL LIST, TOOL NO. 1605078 DELETED & 1605193 ADDED.			ZONE	DIM. 31.5 ^{+0.3} _{-0.0} WAS 31.7 ^{+0.3} _{-0.0}			STATUS OF DRAWING
	(TCM-358)							DISTRIBUTION OF PRINTS
								TME-1, TXM-3 TNX-1



TOOL LIST	
TOOL NO.	DESCRIPTION
1577956	SNAP GAUGE $\phi 179.5_{-0.160}^0$ (h10)
1605002	PIN GAUGE $\phi 157.5_{-0.160}^0$ (h10)
1605003	SNAP GAUGE $\phi 139.5_{-0.160}^0$ (h10)
1605004	SNAP GAUGE $\phi 139.1_{-0.160}^0$ (h10)
1577960	PIN GAUGE $\phi 105_{-0.025}^0$
1578505	GROOVE CHECKING GAUGE 9x12.2
1605005	GROOVE CHECKING GAUGE 4x5.5
1577962	STEP GAUGE 19.5
1577963	GRINDING FIXTURE
1605078	STEP GAUGE 31.7 ^{+0.3} / ₀
1605079	STEP GAUGE 19.5 ^{+0.2} / ₀
1605088	SNAP GAUGE $\phi 139.1_{-0.160}^0$ (h10)
1605005	GROOVE GAUGE
1605133	PIN GAUGE FOR 157 ^{+0.160} / ₀
1605142	CALIPER GAUGE FOR 140-0.160/0
1578327	GROOVE GAUGE 8.5 ^{+0.160} / ₀ x12 DEEP
1605152	SPIGOT PLATE FOR TURNING
1605193	STEP GAUGE 31.5 ^{+0.3} / ₀


NOTES:-

- REMOVE ALL SHARP EDGES.
- MATERIAL: SPHEROIDAL GRAPHITE CAST IRON (SGCI) TO DIN 1693 PART 1 GR. GGG/40 OR GR 400/18 OF IS:1865-1991(LATEST VERSION).
- ALL 12 NOS. "A" MARKED DIMENSION ARE CRITICAL TO QUALITY (CTQ) & SL. NO. OF CTQ DIMENSION ARE INSCRIBED IN "A" e.g. 12.
- SUPPLIER'S INITIAL/TRADE MARK, MANUFACTURERS SERIAL NO. BHEL PO NO. BATCH NO. & DATE OF MFG. IN MM-YY FORMAT TO BE ETCHED AT THE SHOWN LOCATION.
- MACHINING ALLOWANCE ON EACH TOOL POINT TO BE 5-7 MM IN CASE CASTING IS SUPPLIED OR 3-5 MM IN CASE ROUGH MACHINED CASTING IS SUPPLIED.
- FOR QUALITY REQUIREMENT OF COMPONENT SPECIFICATION TM12545 TO BE REFERRED.
- DIMENSIONS TO BE CHECKED ON SAMPLE BASIS. QUANTUM OF INSPECTION SHALL BE AS GIVEN BELOW (AT LEAST ONE NUMBER):

SL.NO.	CHECKING PARAMETER	BHEL Q.C.
001	CTQ DIMS.	DIMENSIONAL TOLERANCE
		20%
002	REMAINING DIMS.	GEOMETRICAL TOLERANCE
		20%
		5%

8. ALL MACHINED/ R.MACHINED SURFACES TO BE PROTECTED WITH TRP.

	RAW WEIGHT 7.0 KG.	001	INNER LABYRINTH NDE (NDE)				KG	3.0
59	64	65	75	25	27	29	58	59
34							45	55
							56	58
								65
VAR00	REMARKS	ITEM NO.	DESCRIPTION	STD			UNIT	

	NAME	SIGN	DATE	NO. OF VAR.
DRN.	S.D.BHAGAT	-sd-	02.09.10	
CHD.	D.K.	-sd-	02.09.10	
APPD.	A.S.	-sd-	02.09.10	

DEPT.	TME	UNTOL. DIMS. GR.		SCALE	WEIGHT (K.G.)	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEM
CODE	405	'M'		N.T.S.	3.0	14454564053	002	001
TITLE						DRAWING NO.		REV.
INNER LABYRINTH (NDE) (STOPPER)						4 445 44 64 051		20
(CNC MACHINED)								
6FRA6068						SHT. NO.	01	NO. OF SHT.
								01

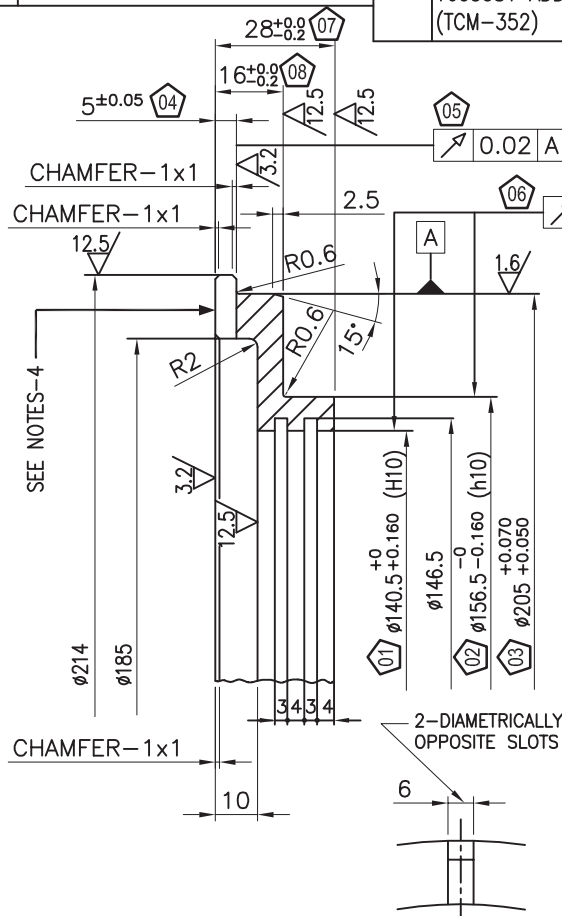
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REF. DRG. NO.

	NVENTORY NO.	SIGN. & DATE
--	--------------	--------------

021 HEP-1 TXM 20501									
REV.	DATE	ALTERED A.J. <i>Devi</i>		REV.	DATE	ALT. SDB <i>@kant</i>		ADDITIONAL INFORMATION 4TWD.096.031	
12	30.08.19	CHECKED AS <i>AS</i>		11	24.07.19	CHK. ABHIJIT <i>At</i>			
		APPROVED AS <i>AS</i>				APPD. ABHIJIT <i>At</i>		STATUS OF DRAWING	
ZONE	IN TOOL LIST TOOL NO. 1605134 1605135 ADDED. TOOL NO 1605020 & 1605021 DELETED.			ZONE	DIMS. $\phi 140.5$ & $\phi 156.5$ WERE $\phi 141$ & $\phi 156$. (CLW LETTER REF. CLW/TM/ 18059/ PART-1/1 DATED 12/07/19). NOTE 7 DELETED & NOTE 8 ADDED.				
REV.	DATE	ALTERED A.J. <i>Devi</i>		REV.	DATE	ALTERED <i>At</i>		DISTRIBUTION TME-1, TXM-4 OF PRINTS TNX-1	
13	02.01.20	CHECKED AS <i>AS</i>		07	01.12.17	CHECKED <i>At</i>			
		APPROVED AS <i>AS</i>				APPROVED <i>At</i>		REV. DATE ALTERED <i>@kant</i> 04 17.11.12 CHECKED <i>@kant</i> APPROVED <i>@kant</i>	
ZONE	IN TOOL LIST TOOL NO. 1605153 ADDED. (TCM-355)			ZONE	TOL. IN DIMN. 16 & 28 ADDED. NOTE 7 ADDED.				
REV.	DATE	ALT. SDB <i>@kant</i>		REV.	DATE	ALT. SDB <i>@kant</i>		DIM. $\phi 205K6^{+0.033}_{+0.004}$ CHANGED TO $\phi 205^{+0.070}_{+0.050}$ AS PER REQUIREMENT OF RDSO MODIFICATION SHEET NO. RDSO/2012/ELRS/MS/0415 (REV.0) DATED 03.10.12. DRG. DIGITIZED & UPLOADED.	
09	18.10.18	CHK. ABHIJIT <i>At</i>		08	09.01.18	CHK. AS <i>AS</i>			
		APPD. ABHIJIT <i>At</i>				APPD. AS <i>AS</i>		REV. DATE ALT. SDB <i>@kant</i> 10 15.12.18 CHK. ABHIJIT <i>At</i> APPD. ABHIJIT <i>At</i>	
ZONE	NOTE-2 DELETED. NOTE-7 MODIFIED.			ZONE	TOOL NOS. 1605080 & 1605081 ADDED. (TCM-352)				
								ZONE IN TITLE BLOCK R/WT & FINISH WT. WERE 3.0 & 1.15KG.	
28.8.9 (07)								TOOL LIST	

TOOL LIST		
IT. NO.	TOOL NO.	DESCRIPTION
001.	1577990	SNAP GAUGE 205 $+0.070$ $+0.050$
001.	1577993	'L' TYPE TOOL FOR 3MM (FOR GROOVING)
001.	1577994	PIN GAUGE 185MM
001.	1605020	SNAP GAUGE 166 -0 -0.160 (h10)
001.	1605021	PIN GAUGE 141 -0 $+0.160$
001.	1605070	HOLDING SPIGOT FOR TURNING & GRINDING
001.	1605080	SNAP GAUGE 28-0.2/0
001.	1605081	SNAP GAUGE 16-0.2/0
001.	1605134	PIN GAUGE 140.5 $+0.160$ $+0$
001.	1605135	SNAP GAUGE 156.5 -0 -0.160 (h10)
001.	1605153	SPIGOT PLATE FOR TURNING



NOTES:-

1. REMOVE ALL SHARP EDGES.
2. MATERIAL: SPHEROIDAL GRAPHITE CAST IRON (SGCI) TO DIN-1693-
PART 1 GR.GGG/40 OR GR 400/18 OF IS:1865-1991 (LATEST VERSION).
3. ALL 8 NOS. "⬡" MARKED DIMENSION ARE CRITICAL
TO QUALITY (CTQ) & SL. NO. OF CTQ DIMENSION
ARE INSCRIBED IN ⬡ e.g. 08.
4. SUPPLIER'S INITIAL/TRADE MARK, MANUFACTURERS
SERIAL NO. BHSL PO NO. BATCH NO. & DATE OF
MFG. IN MM-YY FORMAT TO BE ETCHED AT THE
SHOWN LOCATION.
5. MACHINING ALLOWANCE ON EACH TOOL POINT TO BE 5-7 MM IN CASE
CASTING IS SUPPLIED OR 3-5 MM IN CASE ROUGH MACHINED CASTING IS SUPPLIED.
6. FOR QUALITY REQUIREMENT OF COMPONENT
SPECIFICATION TM12545 TO BE REFERRED.
7. DIMENSIONS TO BE CHECKED ON SAMPLE BASIS.
QUANTUM OF INSPECTION SHALL BE AS GIVEN
BELOW (AT LEAST ONE NUMBER).

SL.NO.	CHECKING PARAMETER		BHEL Q.C.
001	CTQ DIMS.	DIMENSIONAL TOLERANCE	20%
		GEOMETRICAL TOLERANCE	20%
002	REMAINING DIMS.		5%


8. ALL MACHINED/ R.MACHINED SURFACES TO BE PROTECTED WITH TRP.

	RAW WEIGHT 6.0 KG.	001	INNER LABYRINTH NDE					KG	2.0
59 64 65	75 25 27 29	58	59 34	TM11491	45	55 A I C	56	58 UNIT WT.	65
VAR00	REMARKS	ITEM NO.	DESCRIPTION	STD	46 MATL. SPCN.	54		68 QTY.	71



BHARAT HEAVY ELECTRICALS LTD.
BHOPAL

	NAME	SIGN	DATE	NO. OF VAR.
DRN.	ASWINI	—sd—	07.09.10	
CHD.	D.K.	—sd—	07.09.10	
APPD.	A.S.	—sd—	07.09.10	

DEPT.	TME	UNTOL. DIMS. GR.		SCALE	WEIGHT (K.G.)	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEM
CODE	405			N.T.S.	2.0	0 445 10 64 051		001
TITLE <u>INNER LABYRINTH (NDE)</u> <u>(CNC MACHINED)</u> 6FRA 6068						DRAWING NO.		REV.
						4 445 44 64 052		13
						SHT. NO.	01	NO. OF SHT.
								01

SIZE A4



1. CASTING SHALL BE CAREFULLY SCALED & CLEANED.
2. AIR POCKETS SHALL BE PROPERLY DRESSED & REQUIRED RADIUS SHALL BE CAREFULLY MAINTAINED.

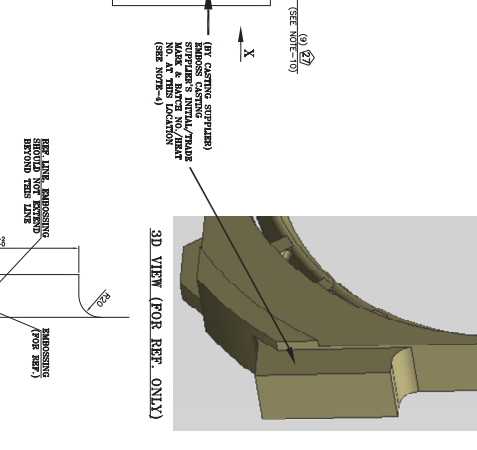
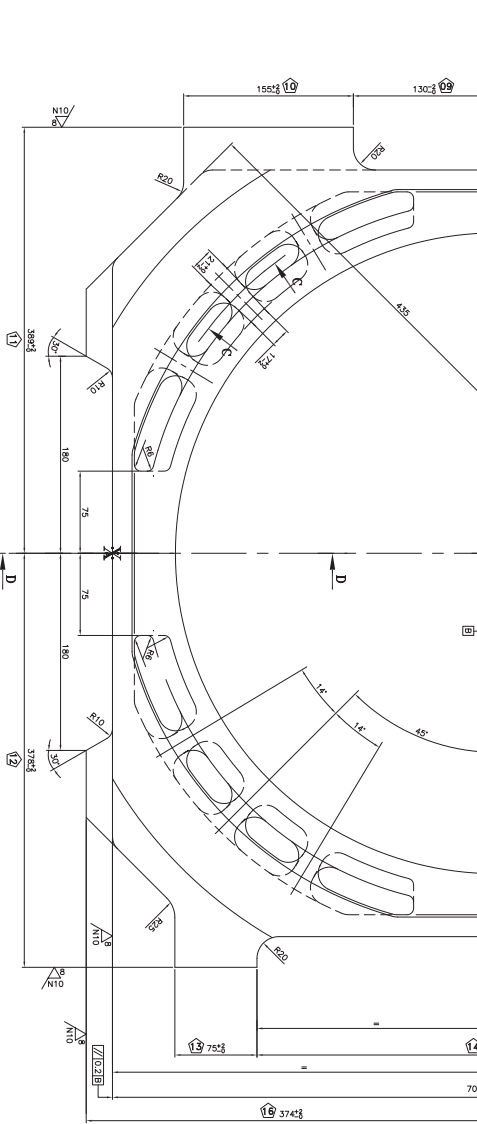
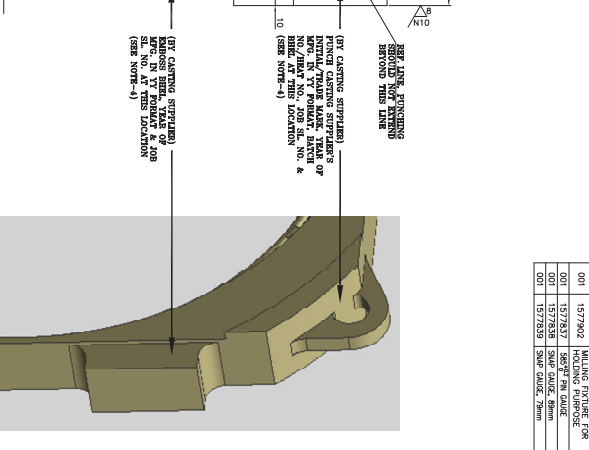
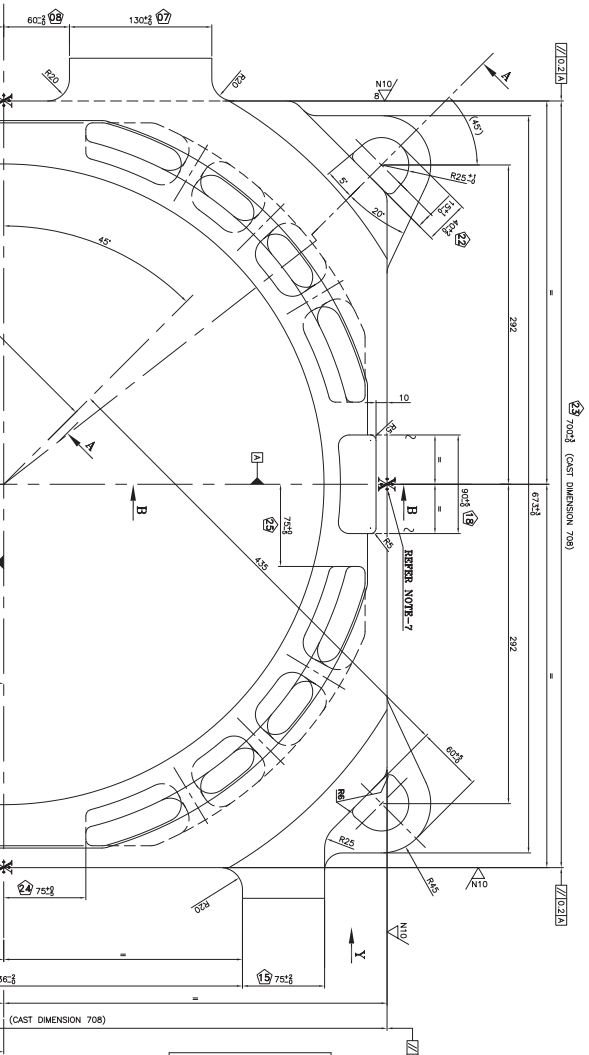
5. OAP FOR CASTING TO BE AS PER QTM/OAP/VENDOR/13-14/001 (LATEST REV.).

6. ADDITIONAL MATERIAL SHALL NOT BE PROVIDED ON SURFACES WHERE MACHINING IS NOT INDICATED. TOLERANCES ON UNTOLERATED CASTING SURFACES SHALL BE: .005 IN. (0.127 MM) FOR SURFACES TO BE PUNCHED ON STATOR CHAMBER ON ALL FOUR SIDE FACES AND .003 IN. (0.076 MM) FOR SURFACES TO BE PUNCHED ON STATOR CHAMBER ON ALL FOUR SIDE FACES.


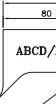

8. ALL 25 NOS. 'C' MARKED DIMENSIONS AND NOTES ARE CRITICAL TO QUALITY (CTQ) & S.L. NO. OF CTQ DIMENSIONS AND NOTES ARE INSCRIBED IN \square 9.9.29.
9. SURFACE FINISH OF UNMACHINED CASTED SURFACE TO BE AS PER IS.3073.
10. D.M. TO BE ENSURED IN ROUGH MACHINED CASTING SO THAT EMBROSSING IS NOT MACHINED DURING FINAL MACHINING.

[illegible][illegible]

DRG. NO. 0 445 31 64 054



15
XX

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|--|--|--|--|
| SECTION C-C | |  | |
| | | 86 | |
| VIEW AS SHOWN-X | | | |
|  <p>80
ABCD/X
RSD</p> | |  <p>80
ABCD/Y
RSD</p> | |

