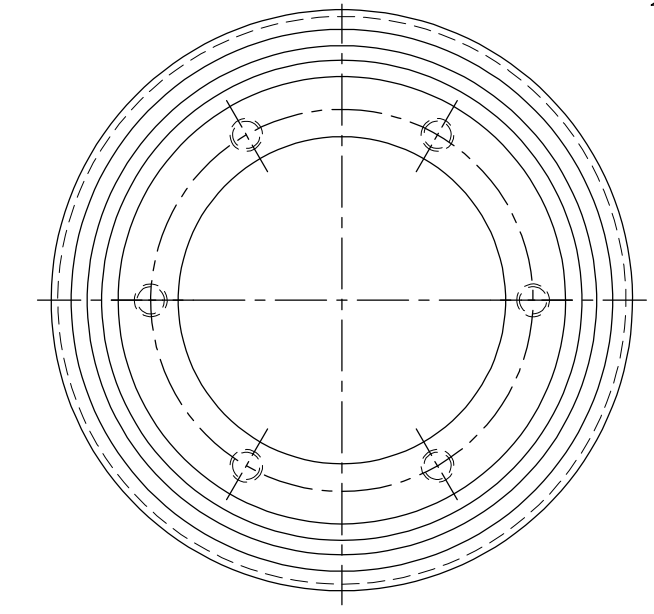
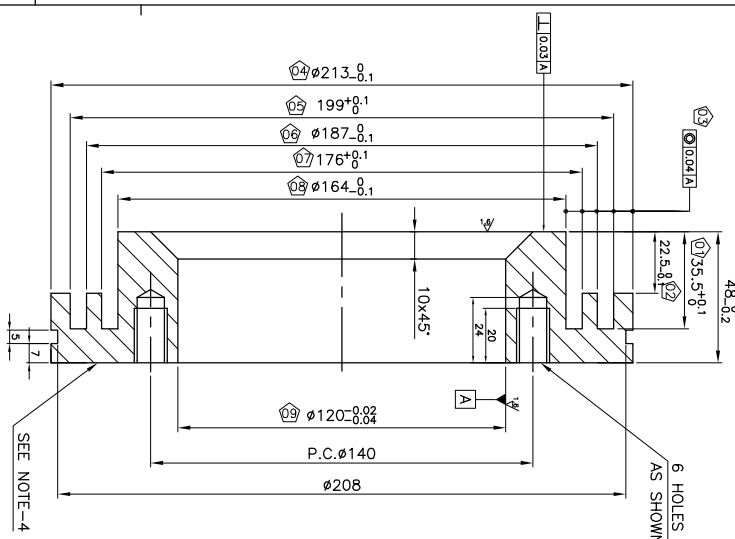


970 16 37 577 3 0N.DRG.



TOOL LIST	
IT. NO.	DESCRIPTION
001	1607573 SNAP GAUGE 213-0.1/0
001	1607574 SNAP GAUGE 187-0.1/0
001	1607575 SNAP GAUGE 164-0.1/0
1607576	SNAP GAUGE 35+0.1/0
1607577	STEP GAUGE 22.5-0.1/0
1607578	PIN GAUGE 199+0.1/0
1607579	PIN GAUGE 176+0.1/0
1607580	PIN GAUGE 120+0.03/0
1607581	DRILL JIG FOR 6 X M12 X 140
1607582	INDEFORMABLE OD GROOVING TOOL LH & RH AP=5, AR=3
1607583	INDEFORMABLE FACE GROOVING TOOL, FIG - 1 & 2, AP=6, AR=2.15

NOTES:-

1. $\frac{3}{2}$ ALL OVER EXCEPT OTHERWISE STATED, REMOVE SHARP CORNERS.
2. ALL SHARP EDGES TO BE CHAMFERED TO 0.2-0.3x45.
3. ALL 09 NOS. "V" MARKED DIMENSIONS ARE CRITICAL TO QUALITY(CTQ) & S.L.NO. OF CTQ DIMENSIONS ARE INSCRIBED IN ∇ e.g. (09)
4. SUPPLIER'S INITIAL/TRADE MARK, MANUFACTURER'S SERIAL NO., BHEL PO NO., BATCH NO. & DATE OF MFG. IN MM-YY FORMAT TO BE ETCHED AT THE SHOWN LOCATION.
5. ALTERNATIVE MATERIAL OF IT 001 IS AA19333.
6. QAP FOR FORGINGS TO BE AS PER QTM/QAP/VENDOR/13-14/002 (LATEST REV.).

INVENTORY NO.	SIGN. & DATE	REF. DRG. NO.
---------------	--------------	---------------

REV.	DATE	ALTERED	APPROVED	REV.	DATE	ALTERED	APPROVED
03	10.09.22	CHECKED	APPD.	02	26.03.21	CHECKED	APPD.
		M.P.	M.P.			M.P.	M.P.
		M.P.	M.P.			M.P.	M.P.

DIM. 48.0+0.2 WAS 45+0.2. & VIEW UPDATED.

DIM. $\phi 120 -0.02/-0.04$ WAS DIM. $\phi 120 +0.03/0$.

VAR 00	RAW WT.-17.5KG	001	BEARING WIPER P.E.	AA193332	5.2	ZONE
	SEE NOTE-5					
	REMARKS	VAR	ITEM NO.	DESCRIPTION	DRAWING NO.	QTY.

ADDITIONAL INFORMATION

STATUS OF DRAWING

DISTRIBUTION OF PRINTS

TXM - 1

TOOL LIST ADDED.


(TCM354)

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

IM4504AZ



BHARAT HEAVY ELECTRICALS LTD. BHOPAL

DEPT.	GRADE OF UN.TOL.		SCALE	WEIGHT(K.G.)	REF. TO ASSY.DRG.	ITEM NO.	NO.OF ITEM
T.M.E.	'W'		NTS	-	24454391076	007	01
CODE	AA0230208						

BEARING WIPER DE (CNC MACHINED)

DRAWING NO.	REV.
3 445 43 91 076	03
SHT. NO. 01	NO. OF SHT. 01

6 HOLES M6 T

3 HOLES M16 ON PCD
EQUALLY SPACED

59
QTY
VAR 00

REV.	DATE	ALTERED	APPROVED	DATE	ALTERED	APPROVED
02	19.03.19	CHECKED	APPROVED	19.03.19	CHECKED	APPROVED
01	19.03.19	CHECKED	APPROVED	19.03.19	CHECKED	APPROVED

NOTE-6 ADDED. QTY 12.13 & 14 ADDED

APPROVED HOLES

REV.	DATE	ALTERED BY	CHECKED BY	APPROVED BY	ZONE
01	22.09.17				

TOOL LIST ADDED.

(TCM350)

CD.70

RAW WEIGHT	14,16 KG.	001	CLAMP	50TK.X	50TK.X
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REMARKS

73/79/25 27/29

VAR. ITEM NO. NO.

D

ADDITIONAL INFORMATION

STATUS OF DRAWING

DISTRIBUTION OF PRINTS

TME-1, TCM-3, TUX-1

NOTES :-

1. REMOVE ALL SHARP EDGES.
2. ALL 14 NOS. "◇" MARKED DIMENSION ARE CRITICAL TO QUALITY (CTQ) & SI. NO. OF CTQ DIMENSION ARE INSCRIBED IN ◇e.g.◇.
3. IDENTIFICATION MARKING TO BE DONE AT THIS LOCATION AS PER TM12548.
4. 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.
5. FOR QUALITY REQUIREMENT OF COMPONENT SPECIFICATION TM12545 TO BE REFERRED.
6. TIR TO BE APPLIED ON ALL MACHINED SURFACES.

THROUGH Ø16.5 C'BORE Ø33

PCD.60 EQUALLY SPACED

PLATE (NDE)

90X190

DATE: 28/09/2024

DRAWING NO: 77/21/23

VAR: 32/33/46

MATL. CODE: 45/50/52/55/58

MATL. SPEC: 54/5/5/5/5

QTY: 71/53

ZONE

TOOL LIST

IT.NO.	TOOL NO.	DESCRIPTION
1	1605006	SNAP GAUGE Ø173.5, Ø.160
2	1605007	PIN GAUGE Ø149.5, Ø.160 (H10)
3	1605008	SNAP GAUGE Ø156.5, Ø.160 (H10)
4	1605009	PIN GAUGE Ø166.5, Ø.160 (H10)
5	1605003	SNAP GAUGE Ø139.5, Ø.160 (H10)
6	1605010	GROOVE GAUGE 5x12.2
7	1606037	PIN GAUGE 90 +0.013/0
8	1606038	SNAP GAUGE 150±0.1
9	1606039	DRILL JIG FOR 6XW6, 3XM16 & 3X16.5

TYPE OF PRODUCT

OR

NAME OF CUSTOMER/PROJECT

IM3301AZ/BZ/IM3302AZ

TOOLING

BHARAT HEAVY ELECTRICALS LTD.

BHOPAL

CHD

A.S.

REF. TO ASSY. Dwg.

ITEM NO.

NO. OF

PLATE (NDE)

90X190

DATE: 28/09/2024

DRAWING NO: 77/21/23

VAR: 32/33/46

MATL. CODE: 45/50/52/55/58

MATL. SPEC: 54/5/5/5/5

QTY: 71/53

ZONE

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9	1606039	DRILL JIG FOR 6XW6, 3XM16 & 3X16.5

TYPE OF PRODUCT

OR

NAME OF CUSTOMER/PROJECT

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TOOLING

BHARAT HEAVY ELECTRICALS LTD.

BHOPAL

CHD

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ITEM NO.

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5	1605003	SNAP GAUGE Ø139.5, Ø.160 (H10)
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9	1606039	DRILL JIG FOR 6XW6, 3XM16 & 3X16.5

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PLATE (NDE)

90X190

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6	1605010	GROOVE GAUGE 5x12.2
7	1606037	PIN GAUGE 90 +0.013/0
8	1606038	SNAP GAUGE 150±0.1
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TYPE OF PRODUCT

OR

NAME OF CUSTOMER/PROJECT

IM3301AZ/BZ/IM3302AZ

TOOLING

BHARAT HEAVY ELECTRICALS LTD.

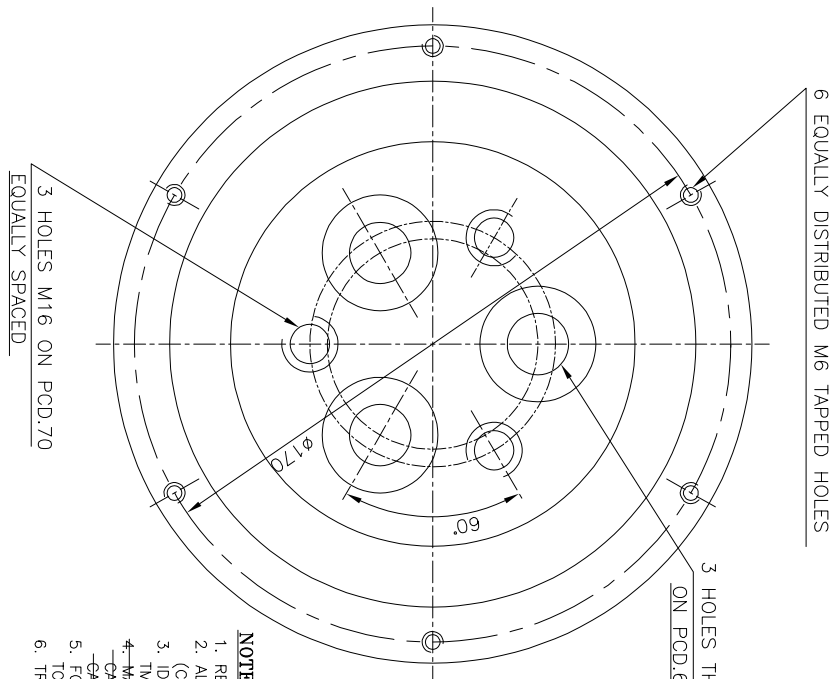
BHOPAL



CHD

A.S.

REF. TO ASSY. Dwg.

ITEM NO.



- NOTES :-**
1. REMOVE ALL SHARP EDGES.
 2. ALL 14 NOS.  MARKED DIMENSION ARE CRITICAL TO QUALITY (CTQ) & S.L. NO. OF CTQ DIMENSION ARE INSCRIBED IN  e.g. (10).
 3. IDENTIFICATION MARKING TO BE DONE AT THIS LOCATION AS PER TM12548.
 4. 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.
 5. FOR QUALITY REQUIREMENT OF COMPONENT SPECIFICATION TM1254545 TO BE REFERRED.
 6. TRP TO BE APPLIED ON ALL MACHINED SURFACES.

TOOL LIST	
IT.NO.	DESCRIPTION
1605006	SNAP GAUGE Ø173.5 ^{+0.160} _{-0.160}
1605007	PIN GAUGE Ø149.5 ^{+0.160} _{-0.160} (H10)
1605008	SNAP GAUGE Ø156.5 ^{+0.160} _{-0.160} (H10)
1605009	PIN GAUGE Ø166.5 ^{+0.160} _{-0.160} (H10)
1605003	SNAP GAUGE Ø139.5 ^{+0.160} _{-0.160} (H10)
1605010	GROOVE GAUGE 5x12.2
1606037	PIN GAUGE 90 +0.013/0
1606038	SNAP GAUGE 150±0.1
1606039	DRILL JIG FOR 6XM6,3XM16 & 3X16.5

920168494711 ON GRD

2

3

4

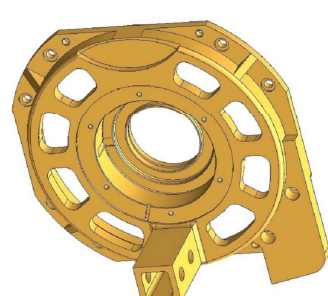
5

6

7

TOOL LIST

ITEM	QTY	DESCRIPTION	UNIT	REMARKS
1	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
2	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
3	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
4	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
5	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
6	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
7	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
8	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
9	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
10	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
11	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
12	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
13	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
14	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
15	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
16	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
17	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
18	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
19	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
20	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
21	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
22	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
23	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
24	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
25	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
26	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
27	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
28	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
29	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
30	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
31	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
32	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
33	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
34	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
35	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
36	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
37	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
38	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
39	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
40	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
41	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
42	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
43	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
44	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
45	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
46	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
47	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
48	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
49	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
50	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
51	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
52	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
53	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
54	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
55	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
56	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
57	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
58	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
59	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
60	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
61	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
62	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
63	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
64	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
65	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
66	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
67	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
68	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
69	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
70	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
71	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
72	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
73	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
74	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
75	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
76	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
77	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
78	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
79	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
80	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
81	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
82	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
83	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
84	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
85	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
86	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
87	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
88	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
89	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
90	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
91	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
92	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
93	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
94	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
95	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
96	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
97	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
98	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
99	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING
100	1	3/16" DIA. X 1.5" LONG	SCREW	FOR MOUNTING

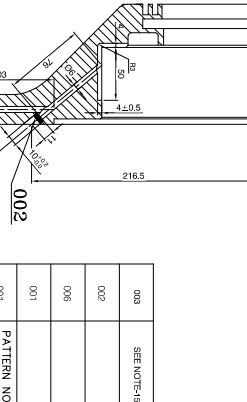
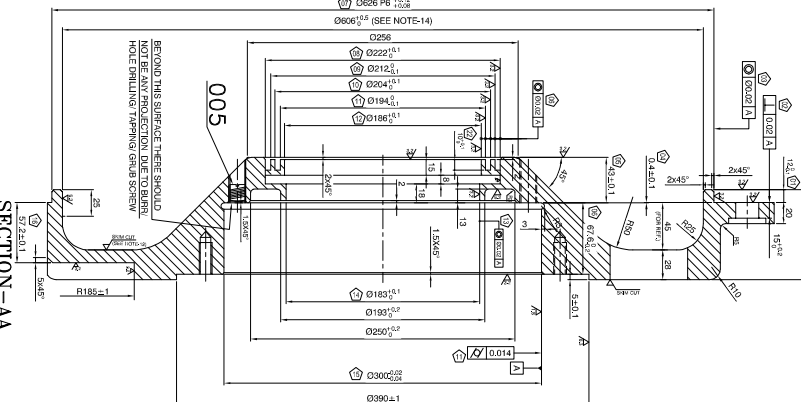


3D VIEW FOR REF. ONLY

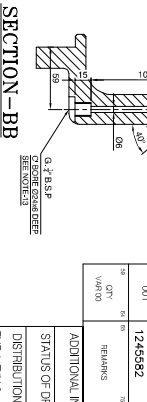
NOTES:-

1. CASTINGS TO BE SHOT/SAND BLASTED & STRESS RELIEVED.
2. ALL SHARP EDGES TO BE CHAMFERED TO 0.2-0.3x45°.
3. ALL 21 NOS. OF MARKED DIMENSIONS ARE CRITICAL TO QUALITY (CTQ)
4. DIMENSIONS TO BE MAINTAINED AS PER SPECIFICATION (CTQ)
5. SIZE OF EMBOSING & PUNCHING TO BE DONE AT THE SUPPLIER LOCATION BY CASTING SUPPLIER.
6. BE MACHINED/DRAKED DURING MACHINING AND SHALL BE REFINED.
7. FIN CASE MACHINING ALL OVER IS NOT MENTIONED OR SOME SURFACES ARE NOT INDICATED FOR MACHINING BY SYMBOL.
8. MACHINING ALLOWANCE ON EACH TOOL POINT TO BE 0.2 MM IN CASE CASTING IS MACHINED.
9. FOR QUALITY REQUIREMENT OF THE COMPONENT, SPECIFICATION IM2545 TO BE REFERRED.
10. ADDITIONAL MATERIAL SHALL NOT BE PROVIDED ON SURFACES WHERE MACHINING SYMBOL IS NOT INDICATED. TOLERANCES ON UNTOUCHED CASTING SURFACES SHALL BE AS PER SPECIFICATION.
11. ALL MACHINED/ FINISHED SURFACES TO BE PROTECTED WITH RP.
12. COMPONENT TO BE PRIMER PAINTED WITH INORGANIC ENYL ZINC SILICATE PRIMER (AA56113) AS PER SPECIMEN NO. 8 OF TABLE-10 OF SPECIFICATION A46874123 (PAGE NO. 22 OF 30) 015-05.
13. THESE SURFACES TO BE SHOT/SAND BLASTED & STRESS RELIEVED & FINISHED & FREE FROM DEFECTS & ENSURED BY CHECKING WITH A STEEL BAR OF DIA. 5 MM AND MINIMUM 150MM LENGTH.
14. THE 4606²⁰ TO BE MAINTAINED BY SKIN CUT.
15. USE LOCKWITE 242 ON THREADS OF GRUB SCREW BEFORE FITMENT.

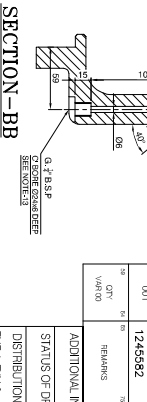
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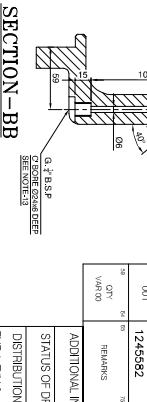
SECTION-BB



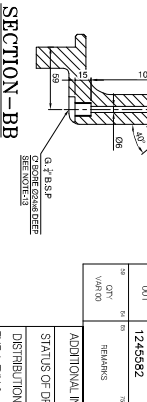
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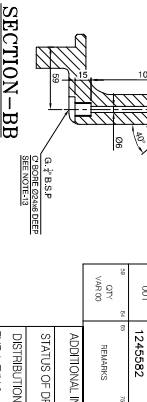
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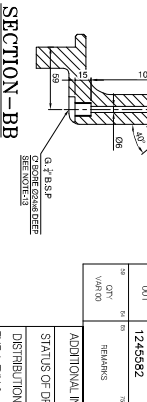
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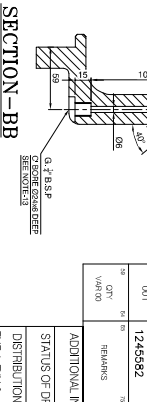
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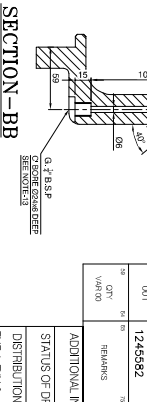
SECTION-GG



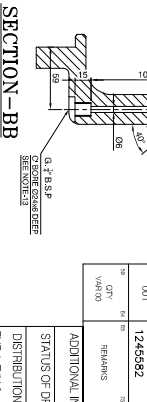
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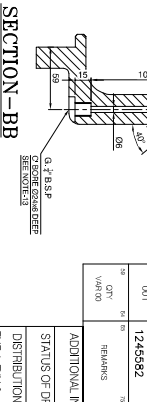
SECTION-II



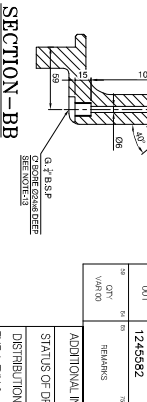
SECTION-JJ



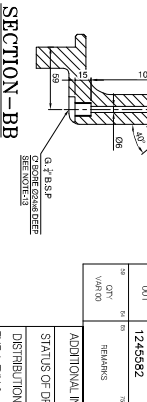
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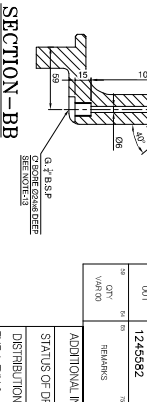
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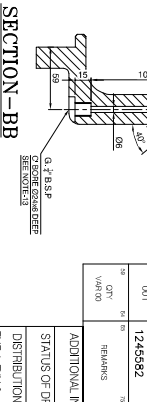
SECTION-MM



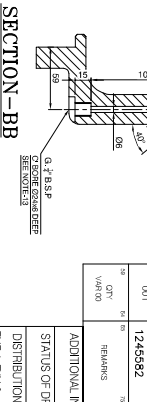
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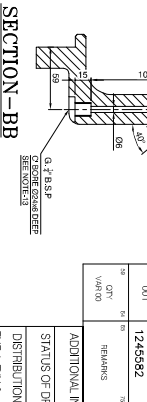
SECTION-OO



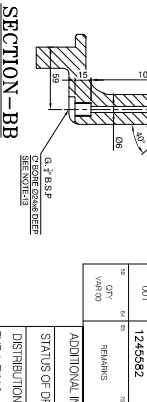
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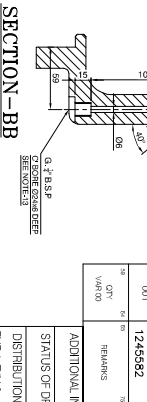
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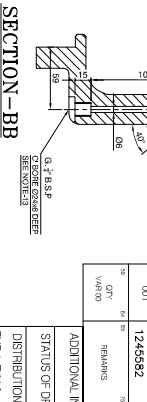
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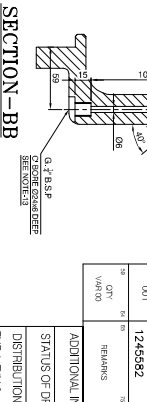
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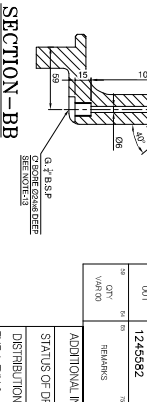
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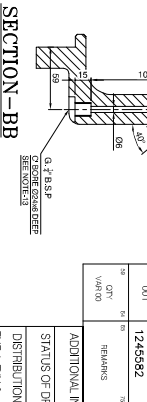
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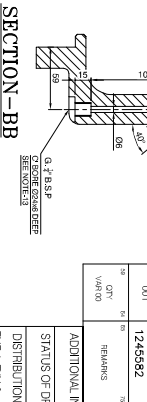
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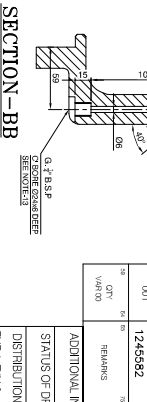
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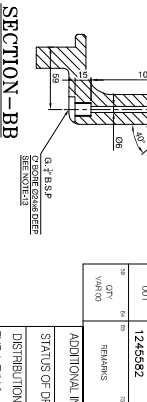
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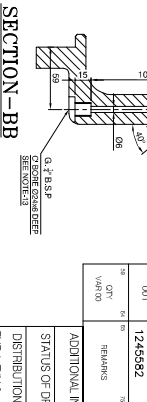
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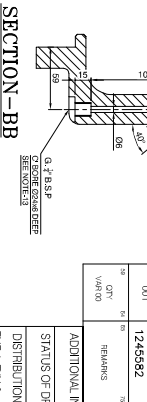
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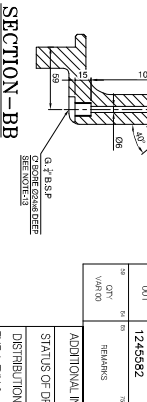
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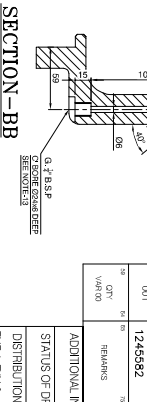
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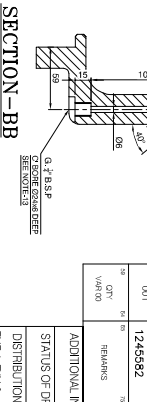
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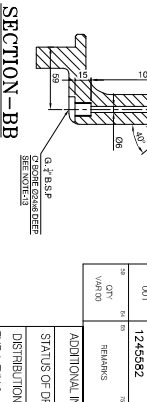
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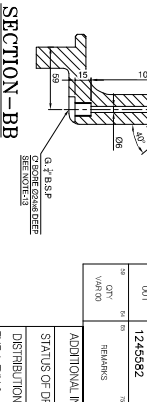
SECTION-EE



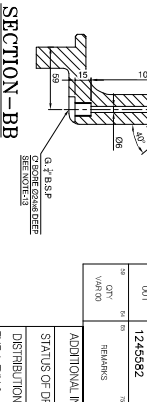
SECTION-FF



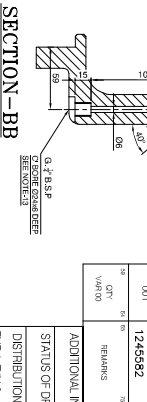
SECTION-GG



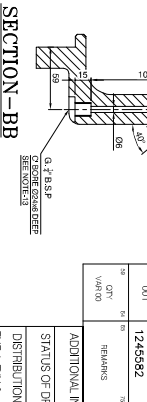
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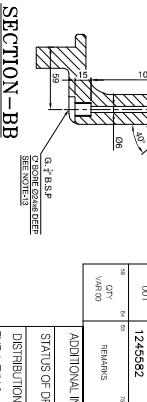
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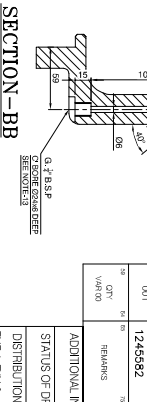
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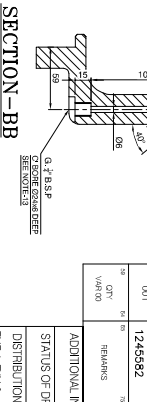
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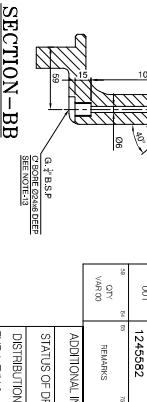
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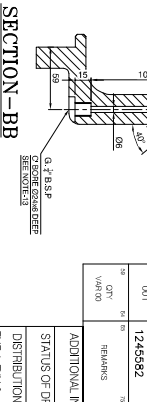
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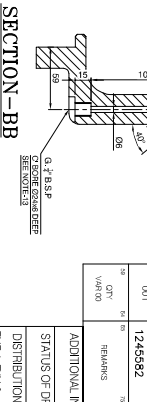
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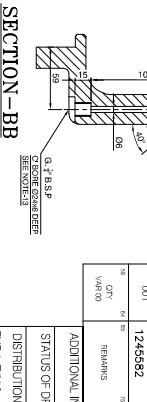
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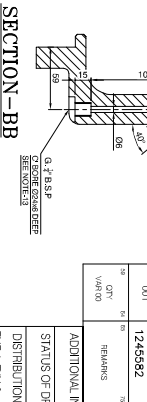
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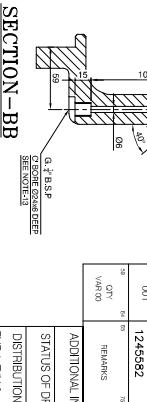
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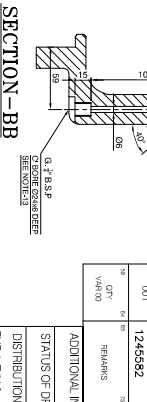
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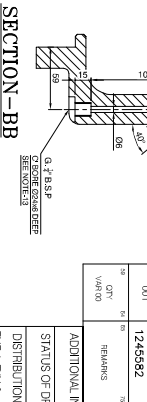
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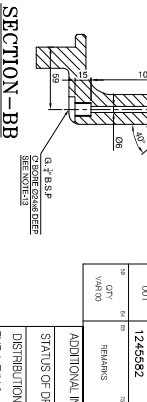
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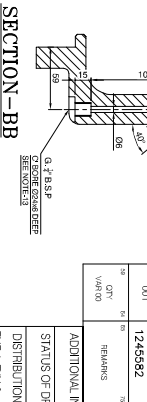
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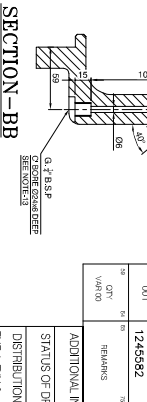
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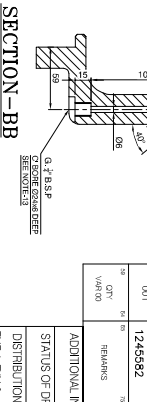
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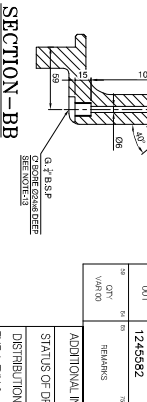
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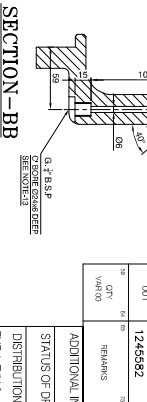
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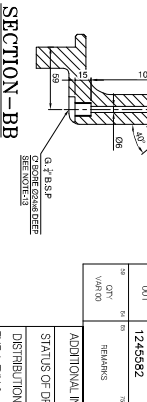
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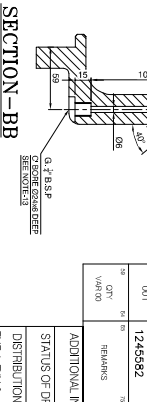
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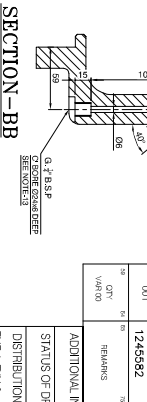
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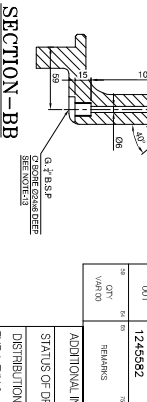
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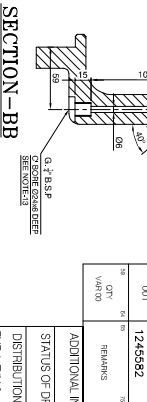
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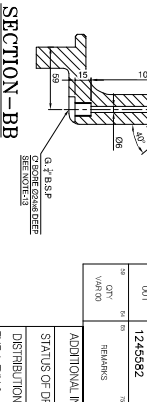
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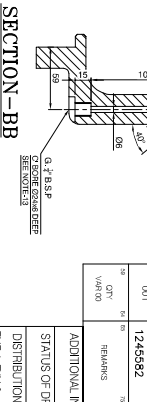
SECTION-FF



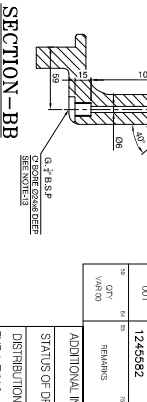
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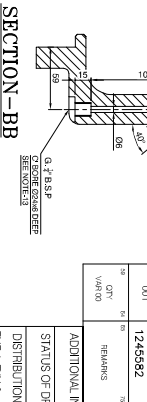
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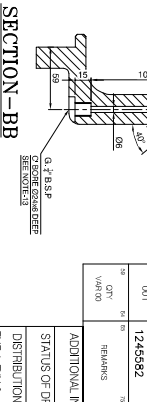
SECTION-II



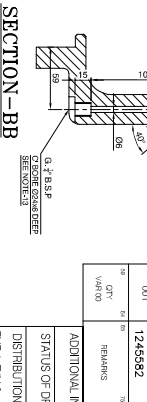
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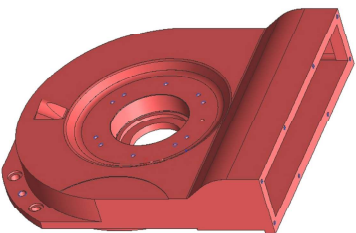
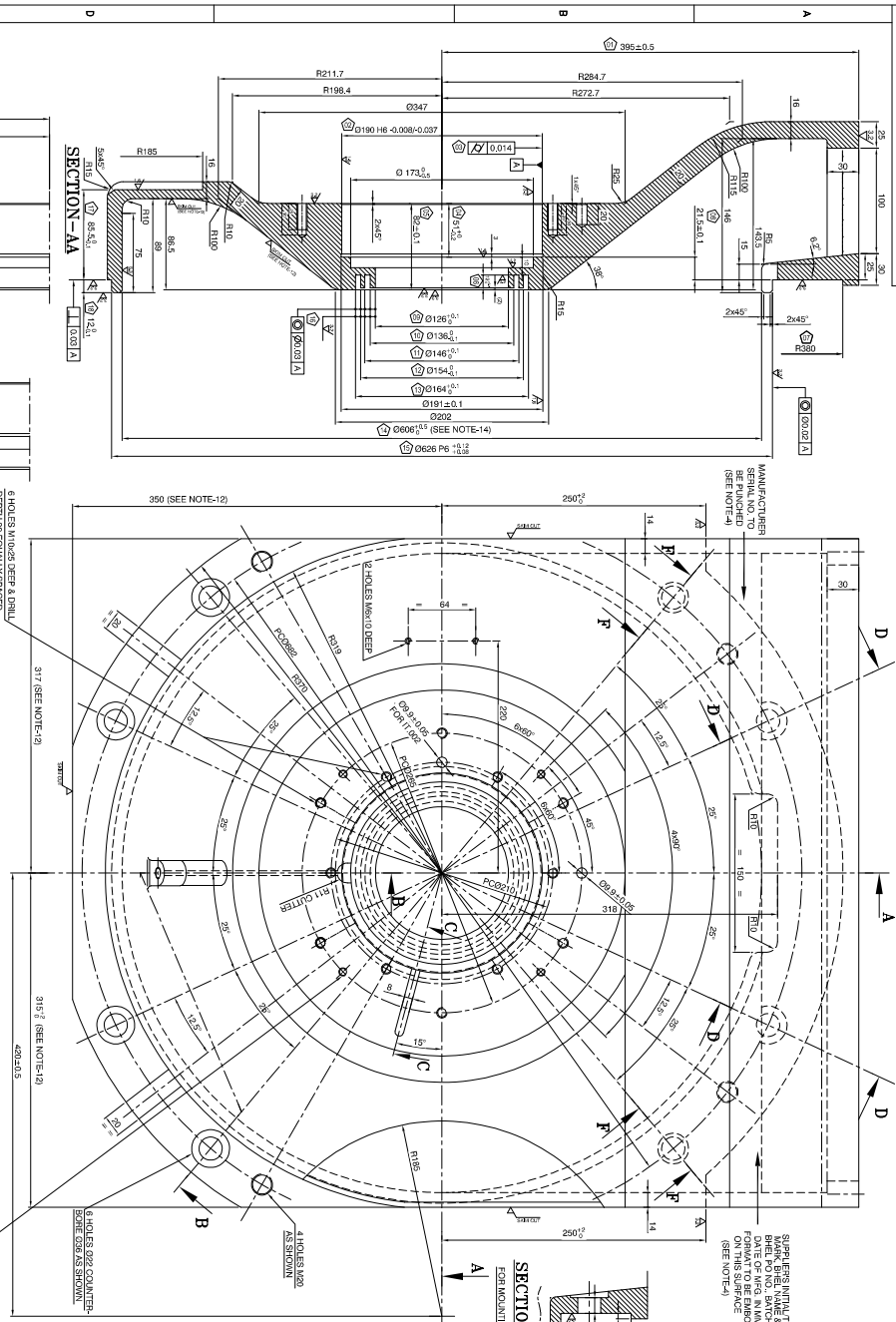
SECTION-KK



SECTION-LL



620164491076 ON DRG.

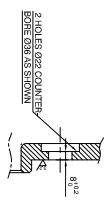


3D VIEW FOR REF. ONLY

NOTES:-

1. CASTINGS TO BE SHOT/SAND BLASTED & STRESS RELIEVED.
2. ALL SHARP EDGES TO BE CHAMFERED TO 0.2-0.3x45°.
3. ALL 18 HOLE Ø TO BE MARKED DIMENSION CRITICAL TO QUALITY (CTQ)
4. SIZE OF EMBOSING/PUNCHING TO BE DONE AT THE SHOWN LOCATION BY CASTING SUPPLIER. EMBOSING & PUNCHING TO BE 5-20mm. EMBOSING & PUNCHING SHOULD NOT BE MACHINED/DAMAGED DURING MACHINING AND SHALL BE RETAINED.
5. SURFACE FINISH OF UNMACHINED CASTED SURFACE TO BE AS PER IS:3073 INDICATED FOR MACHINING BY SYMBOL.
6. 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.
7. FOR CASTING REQUIREMENT OF THE COMPONENT, SPECIFICATION TM/2545 TO BE REFERRED.
8. GAP FOR CASTING TO BE AS PER DIM/ENORM/13-14/001 (LATEST REV.).
9. ADDITIONAL MATERIAL SHALL NOT BE PROVIDED ON SURFACES WHERE MACHINING SYMBOL IS NOT INDICATED. TOLERANCES ON UNTOLERATED CASTING SURFACES SHALL BE AS PER IS:4897, CLASS-2.
10. ALL MACHINED SURFACES TO BE PROTECTED WITH TYP.
11. CASTING SHALL BE POWER PATTERNED WITH INORGANIC FINISH (SPECIFICATION AAO67423 (PAGE NO. 22 OF 30)).
12. THESE SURFACES TO BE MACHINED (SKM CUT) TO MAINTAIN DIMS. 317x315, 350x1 & 86.5.
13. GREASE HOLE Ø4, 6MM TO BE THOROUGHLY CLEANED & FREE FROM CHIPS. SAME IS TO BE ENSURED BY CHECKING WITH A STEEL BAR OF Ø4, 5 MM AND MINIMUM 200MM LENGTH.
14. THE #606^{±0.1} TO BE MAINTAINED BY SKM CUT.

SECTION-FF



DATE	DESIGNED	CHECKED	APPROVED	DATE	DESIGNED	CHECKED	APPROVED
12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023

DATE	DESIGNED	CHECKED	APPROVED	DATE	DESIGNED	CHECKED	APPROVED
12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023

DATE	DESIGNED	CHECKED	APPROVED	DATE	DESIGNED	CHECKED	APPROVED
12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023

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

DATE	DESIGNED	CHECKED	APPROVED	DATE	DESIGNED	CHECKED	APPROVED
12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023

DATE	DESIGNED	CHECKED	APPROVED	DATE	DESIGNED	CHECKED	APPROVED
12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023

DATE	DESIGNED	CHECKED	APPROVED	DATE	DESIGNED	CHECKED	APPROVED
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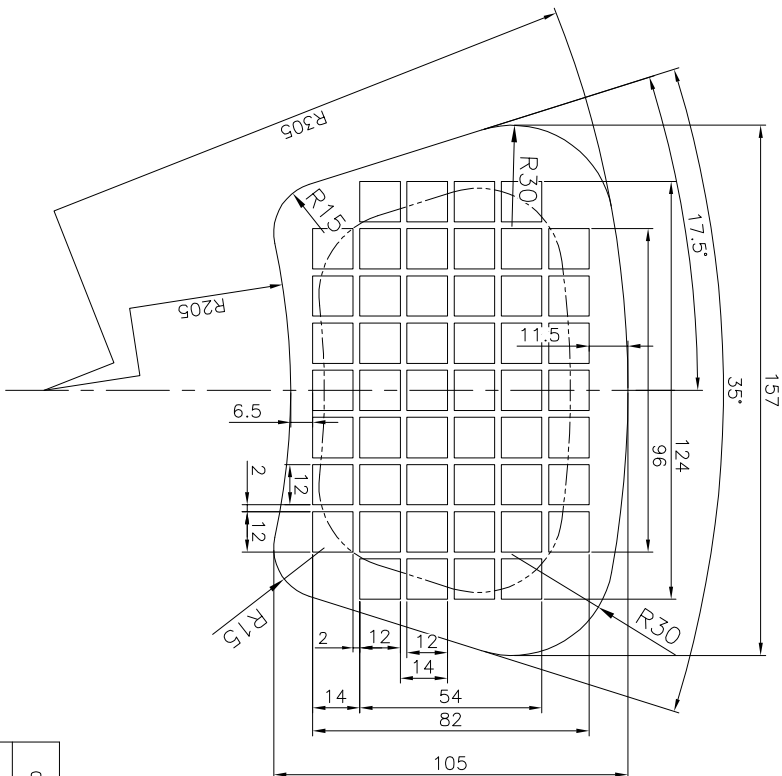
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DATE	DESIGNED	CHECKED	APPROVED	DATE	DESIGNED	CHECKED	APPROVED
12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023

DATE	DESIGNED	CHECKED	APPROVED	DATE	DESIGNED	CHECKED	APPROVED
12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023

SIZE A1

DRG. NO. 3 445 43 91 077



ITEM-001

NOTES:-

1. REMOVE SHARP CORNERS.

REV.	DATE	ALTERED
		CHECKED
		APPD.

ALTERED
CHECKED
APPD.

REV.	DATE	ALTERE
		CHECKE
		APPD.

DEPT. T.M.E.	GRADE OF UN.TOL. 'M'
CODE '05'	AA0230208

SCALE
NTSWEIGHT(K.G.)
—

REF. TO ASSY.DRG.	ITEM NO.
14454391076	003
	004

ITEM NO.	NO.OF ITEM
003	
004	02

TITLE

NET FOR END SHIELD DE

DRAWING NO.

3 445 43 91 077

SHT. NO.	01	NO. OF SHT.	0
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ADDITIONAL INFORMATION

STATUS OF DRAWING

DISTRIBUTION OF PRINTS

TME-1 TXM-4

TXM-1

BHARAT HEAVY ELE
BHOPAL

LTD.

DKIN

MOHIT D	MO
MOHIT D	MO

12.03.20	VAR.
12.07.20	VAR.

TYPE OF PRODUCT OR
NAME OF CUSTOMER/PROJECT

IM4504AZ

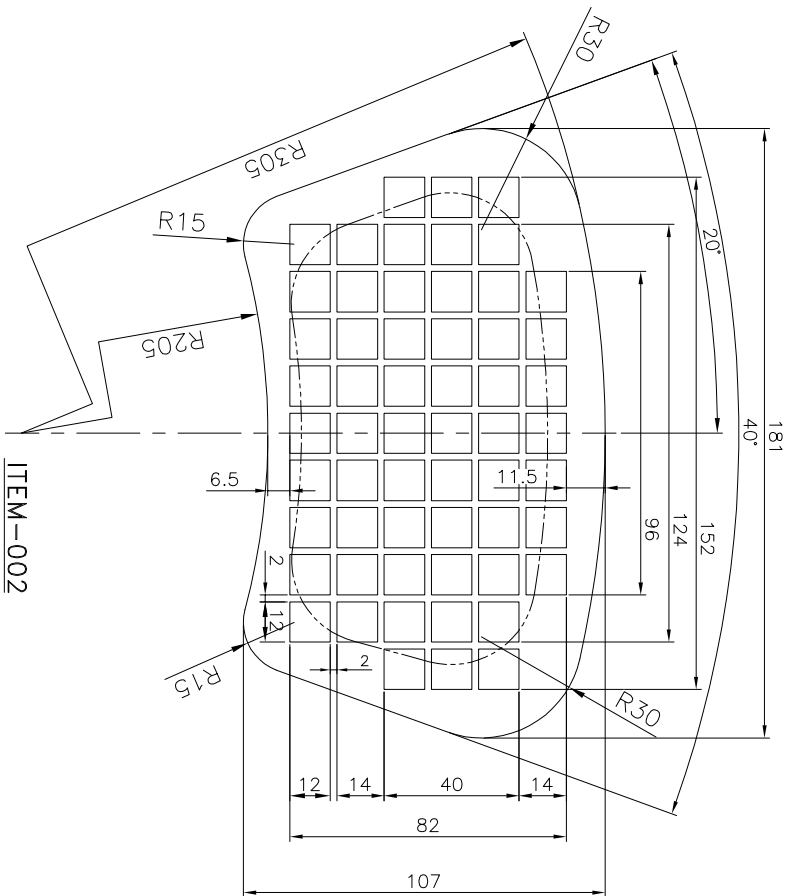
CARD TYPE 3 —————→ 28

200 → CARD TYPE 1

200 → CARD TYPE 2

[illegible]

ITEM-002





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

INVENTORY No. SIGN. & DATE

REV	DATE	ALTERED
		CHECKED
		APPROVED

REV	DATE	ALTERED
		CHECKED
		APPROVED

REV	DATE	ALTERED
		CHECKED
		APPROVED

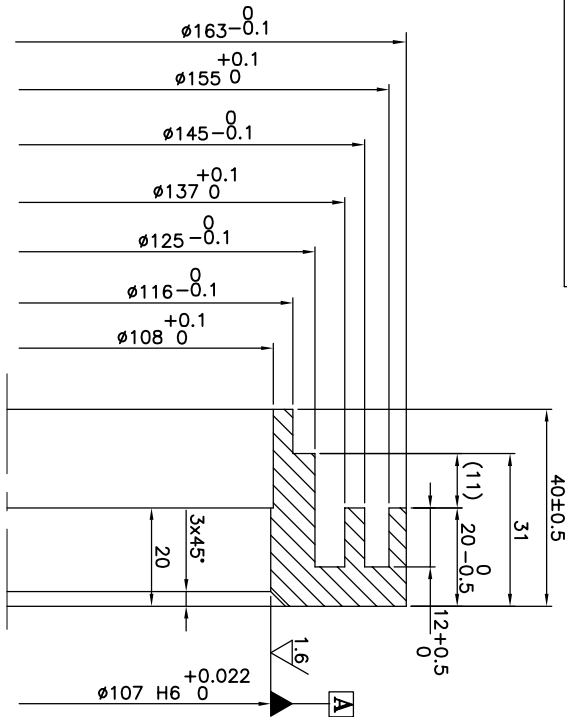
DEPT.	TIME	GRADE OF UNTL. DIMS. GR.		SCALE	WEIGHT
CODE	405	MA0230208 M		NTS	
TITLE					
INNER LABYRINTH RING N					

DDE	1.75	DRAWING NO.		REV.
	2 445 44 03 001	001	001	001
	HEIGHT (K.G.)	REF. TO ASSY.	ITEM NO.	NO. OF ITEM
	3 445 44 03 002	01	NO. OF SHT.	01
	SHT. NO			

ADDITIONAL INFORMATION
STATUS OF DRAWING
DISTRIBUTION OF PRINTS
TIME - 1
TXN - 1
TXM-4

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT IM3601AZ				
BHARAT HEAVY ELECTRICALS LTD. BHOPAL				
DRN.	NAME	SIGN.	DATE	NO. OF VAR.
CKD.	AJHARIA	<i>Devina</i>	05.08.11	
APRD.	D.K.	<i>Madhava</i>	05.08.11	
	S.A.	<i>SA.</i>	05.08.11	

	R.WT. - 10.76		001	LABYRINTH RING 45TK.x SQ.174				AA 10108		KG	1.75	
VAR NO	REMARKS	VAR NO.	ITEM NO.	DESCRIPTION	STD.	DRAWING NO.	IT. NO. VAR	MATL. CODE. MATL. SPGN.	A C	UNIT	UNIT WT. QTY.	S


$$1 \triangle_{3.2} [\triangle_{1.6}]$$

TOOL LIST

TOOL LIST		
IT.NO.	TOOL NO.	DESCRIPTION
001	15/78875	CALIPER GAUGE 163-0.1
001	15/78896	CALIPER GAUGE 116-0.1
001	15/78877	CALIPER GAUGE 125-0.1
001	15/78878	CALIPER GAUGE 145-0.1
001	15/78879	GROOVE GAUGE 6X12
001	15/78880	GROOVE GAUGE 5X12
001	15/78881	PIN GAUGE 107+0.022
001	15/78882	SNAP GAUGE 40-0.5

NOTES:—

1. ALL SHARP EDGES TO BE CHAMFERED TO 0.02-0.03X45
2. FOR ALL DIAMETERS COUNTS

⊙	0.1	A
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3. STYLE NO. BP9104800150

RAILWAY BOARD CONTRACT NO. 2010/ELECT.(DEV.)/181/8 DATED:23-11-2010

(ALL DIMENSIONS ARE IN mm)³


NOTES:-

1. ^{3.2}✓ ALL OVER EXCEPT OTHERWISE STATED.
2. ALL SHARP EDGES TO BE CHAMFERED TO 0.2-0.3x45°.
3. ALL 15 NOS. "⬡" MARKED DIMENSIONS ARE CRITICAL TO QUALITY (CTQ) & SL.NO. OF CTQ DIMENSIONS ARE INSCRIBED IN ⬡ e.g. (15).
4. SUPPLIER'S INITIAL/TRADE MARK, MANUFACTURER'S SERIAL NO., BHFL PO NO., BATCH NO. & DATE OF MFG. IN MM-YY FORMAT TO BE ETCHED AT THE SHOWN LOCATION.
5. ALTERNATIVE MATERIAL OF IT.001 IS AA19333.
6. QAP FOR FORGINGS TO BE AS PER QTM/QAP/VENDOR/13-14/002 (LATEST REV.).

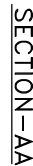


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	NAME	SIGN	DATE	NO. OF VAR.
DRN.	A.JHARIA	<i>Darini</i>	23.05.19	
CHD.	MOHIT P.	<i>Mohit</i>	23.05.19	
APPD.	MOHIT P.	<i>Mohit</i>	23.05.19	

DEPT. TME	UNTOL. DIMS. GR. 'M'		SCALE	WEIGHT (K.G.)	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEM
CODE 405	AA0230208		N.T.S.	4.4	2 445 31 91 076	001	001
TITLE <u>INNER SLEEVE DE (CNC MACHINED)</u> (IM4504AZ)					DRAWING NO. 4 445 43 91 076		REV. 03
					SHT. NO. 01	NO. OF SHT. 01	

1470347/2023/HER-TAM21300




1. ITEM 002 SEATING PLATE TO BE WELDED IN POSITION SHOWN, WELD SHOULD BE LEAK PROOF WELD TO B GR.IV OF AA0622101.

2. ALL 12 NOS. "O" MARKED DIMENSIONS ARE CRITICAL TO QUALITY (CTQ) & S.L.N.O. OF CTQ DIMENSIONS ARE INSCRIBED IN ∇ e.g. (12).
3. ALL MACHINED / R-MACHINED SURFACES TO BE PROTECTED WITH TRP.
3. ALL MACHINED / R-MACHINED SURFACES TO BE PROTECTED WITH TRP.
4. $\frac{3}{4}$ ALL OVER EXCEPT OTHERWISE STATED, REMOVE SHARP CORNERS.



TOOL LIST		
IT.NO.	TOOL NO.	DESCRIPTION
1607393		SNM GAUGE 175-01/1/0
1607394		SNM GAUGE 196-01/1/0
1607395		SNM GAUGE 200-01/2/4/02
1607396		SNM GAUGE 180-01/2/4/02
1607397		3175 GAUGE 16 0-1/0
1607398		3175 GAUGE 16 0-1/0
1607399		3175 GAUGE 6.4 ± 0.05
1607400		PN GAUGE 165 ± 0.05
1607401		PN GAUGE 198 ± 0.1/0
1607402		PN GAUGE 214 ± 0.1/0
1607403		PN GAUGE 214 ± 0.1/0
1607404		INDESTRUCT. LT. TYPE D. GROWING TOOL LT. IN PN A-B (FULL GROWING TOOL IS 4.4-4-6-

[illegible]

FILE NAME NO.	M4504A.Z			
STATUS OF DRAWING	NAME OF CUSTOMER/PROJECT			
DISTRIBUTION OF PRINTS	BHABHAT HEAVY ELECTRICALS LTD.			
FILE - 1	BHPOL			
FILE - 3				
				
SR.	NAME	SSIN	DATE	
1	AJITHRA	2804	24.05.19	
2	MOHIT P.	24.05.19		
3	VAAS	24.05.19		
4	MOHIT P.	24.05.19		
5	VAAS	24.05.19		
6	MOHIT P.	24.05.19		
7	VAAS	24.05.19		
8	MOHIT P.	24.05.19		
9	VAAS	24.05.19		
10	MOHIT P.	24.05.19		
11	VAAS	24.05.19		
12	MOHIT P.	24.05.19		
13	VAAS	24.05.19		
14	MOHIT P.	24.05.19		
15	VAAS	24.05.19		
16	MOHIT P.	24.05.19		
17	VAAS	24.05.19		
18	MOHIT P.	24.05.19		
19	VAAS	24.05.19		
20	MOHIT P.	24.05.19		
21	VAAS	24.05.19		
22	MOHIT P.	24.05.19		
23	VAAS	24.05.19		
24	MOHIT P.	24.05.19		
25	VAAS	24.05.19		
26	MOHIT P.	24.05.19		
27	VAAS	24.05.19		
28	MOHIT P.	24.05.19		
29	VAAS	24.05.19		
30	MOHIT P.	24.05.19		
31	VAAS	24.05.19		
32	MOHIT P.	24.05.19		
33	VAAS	24.05.19		
34	MOHIT P.	24.05.19		
35	VAAS	24.05.19		
36	MOHIT P.	24.05.19		
37	VAAS	24.05.19		
38	MOHIT P.	24.05.19		
39	VAAS	24.05.19		
40	MOHIT P.	24.05.19		
41	VAAS	24.05.19		
42	MOHIT P.	24.05.19		
43	VAAS	24.05.19		
44	MOHIT P.	24.05.19		
45	VAAS	24.05.19		
46	MOHIT P.	24.05.19		
47	VAAS	24.05.19		
48	MOHIT P.	24.05.19		
49	VAAS	24.05.19		
50	MOHIT P.			

REV. DATE	ALTERED BY	DATE	REV. DATE	ALTERED BY	DATE
01/26/06	18	01/26/06	01/26/06	18	01/26/06
TOOL LIST ADDED.					
TITLE			DRAWING NO.		
OUTER CAP DE			2445-4391077		
(CNC MACHINED)			07		
(CNC MACHINED)			07		
SCALE			REF NO.		
1:1			004		
DATE			REV.		
01/26/06			01/26/06		

