

ANNEXURE 2

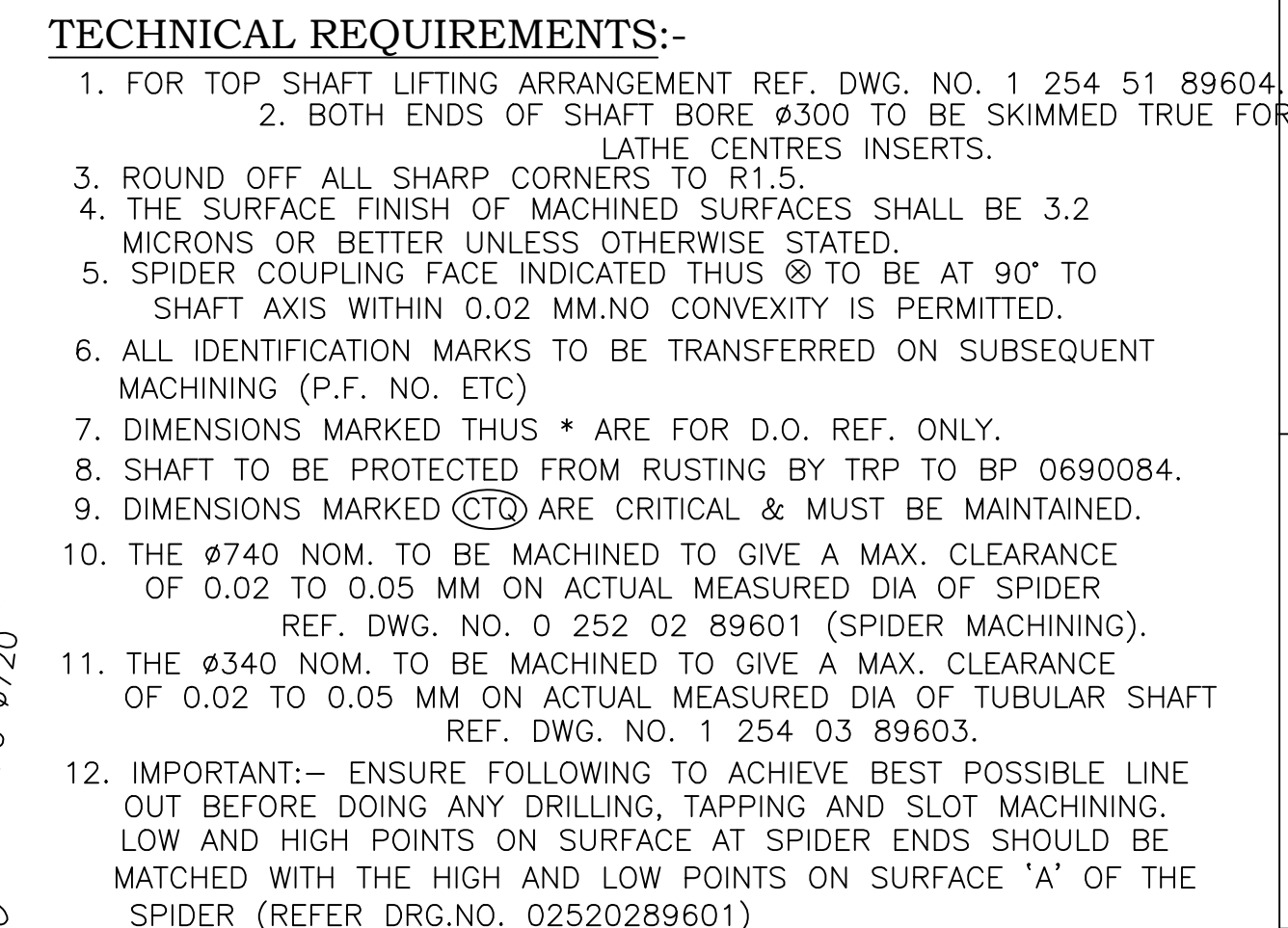
Date: 20-07-2022

Subject: The drawings / sketches of the jobs / components to be machined on the proposed CNC Horizontal Boring Machine

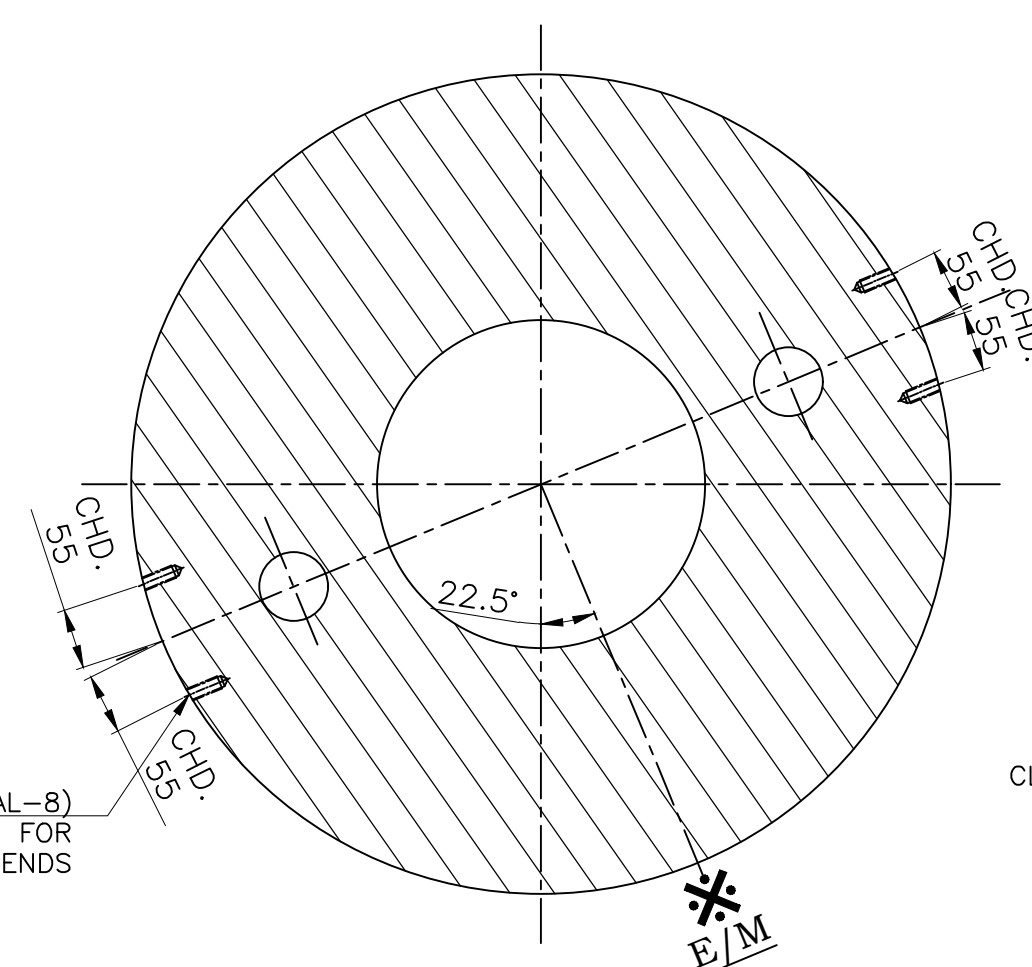
Reference: Annexure-I (Specification Number - **TEX/EOI/CNC-H. Boring/2022/01**)

Contents: Drawings / Sketches as given below

- Top Shaft M/c
- Base Plate
- Spider Assy
- Bottom Bracket

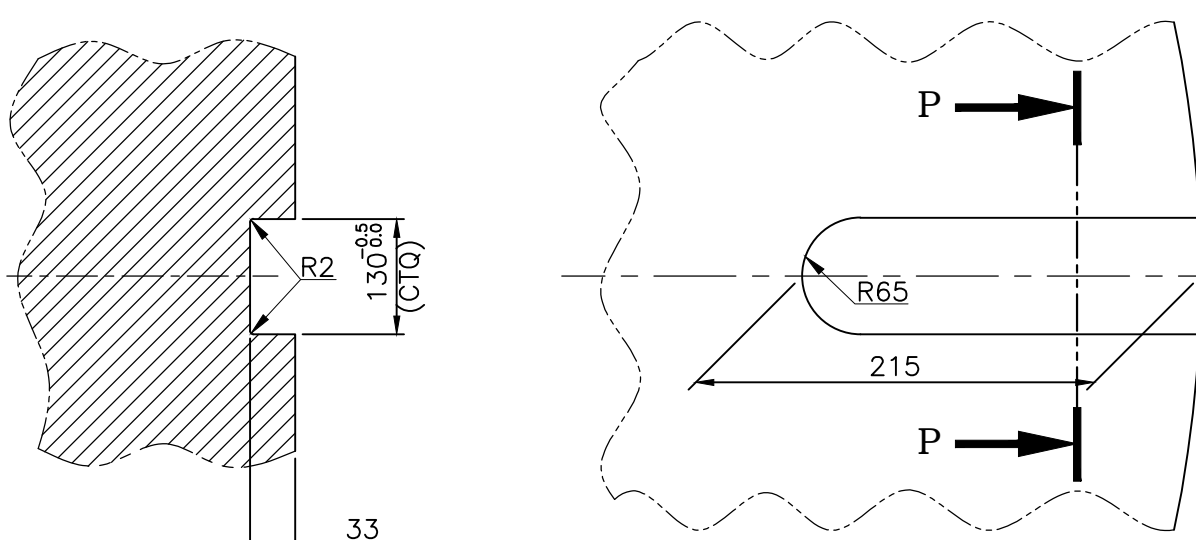


<u>TOOL LIST</u>		
<u>SL. NO.</u>	<u>TOOL NO.</u>	<u>DESCRIPTION</u>
01	1598477 (EXISTING)	DRILL JIG FOR 12 HOLES $\phi 72$ & 2 HOLES $\phi 25$ ON PCD 1100. (COMMON WITH SPIDER ASSY.)
02	1598487 (EXISTING)	DRILL JIG FOR 6 HOLES M30 ON PCD 720. (COMMON WITH TUBULAR SHAFT)
03	1598483 (EXISTING)	DRILL $\phi 72$.
04	SFB130/072 (EXISTING)	BACK SPOT FACE CUTTER $\phi 130$ WITH $\phi 72$ PILOT.
05	1597807 (EXISTING)	DRILL $\phi 11.8 \times 150$ LONG CUTTING FLUTE.
06	1598480 (EXISTING)	SHALL END MIL CUTTER $\phi 128$ (ROUGHER)
07	1598481 (EXISTING)	SHALL END MIL CUTTER $\phi 130$ (FINISHER)



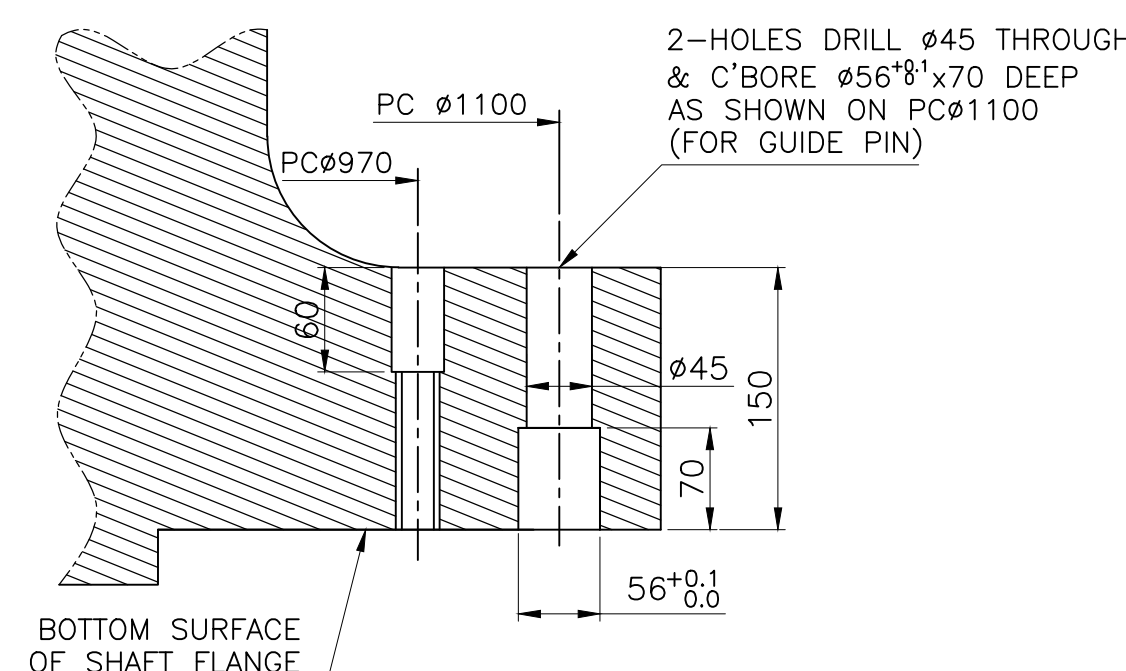
SECTION O-O
(ZONE - A4:C4)

SECTION J1-J1



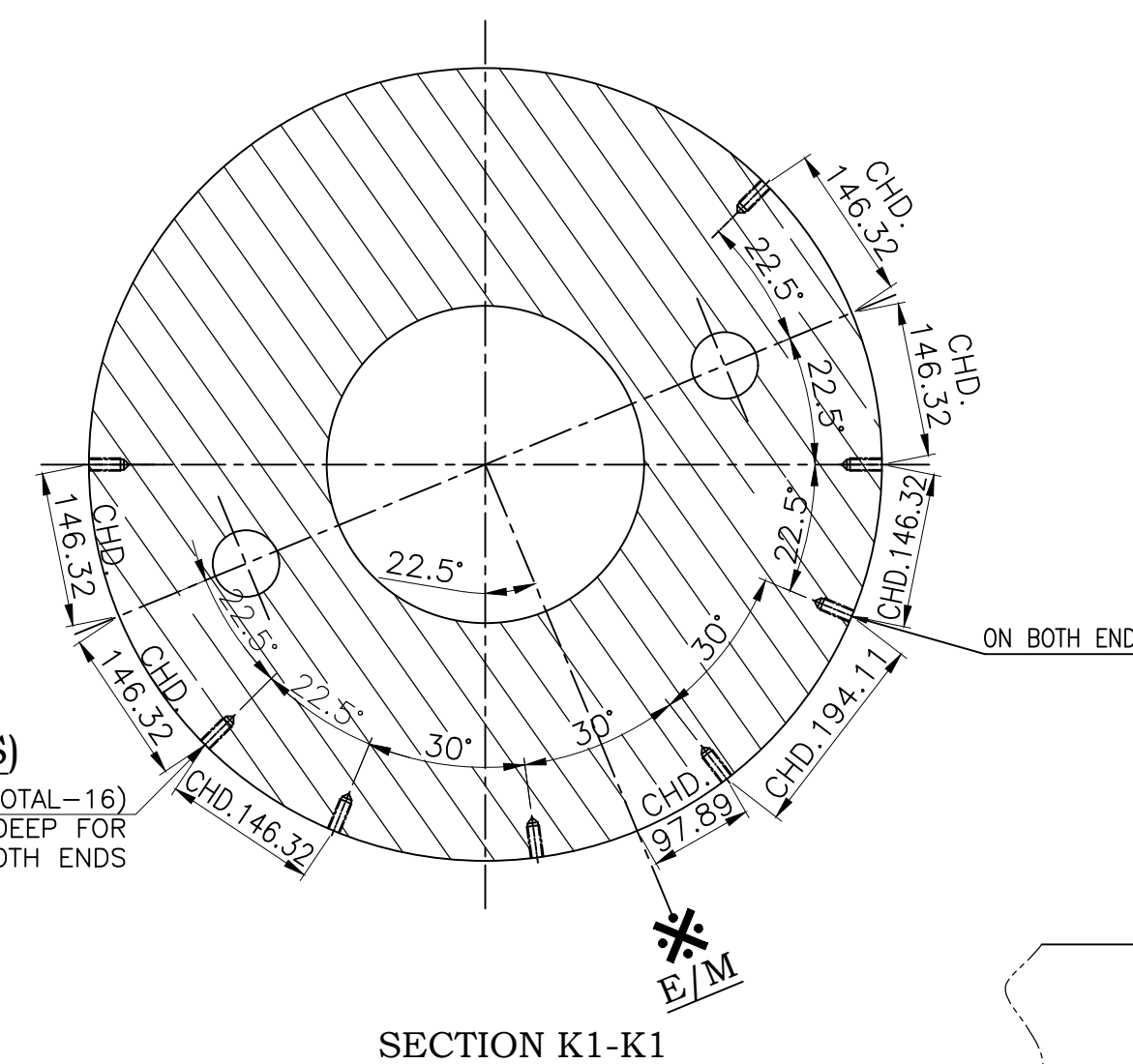
SECTION-PP

ENLARGED DETAIL-
(ZONE - B3)

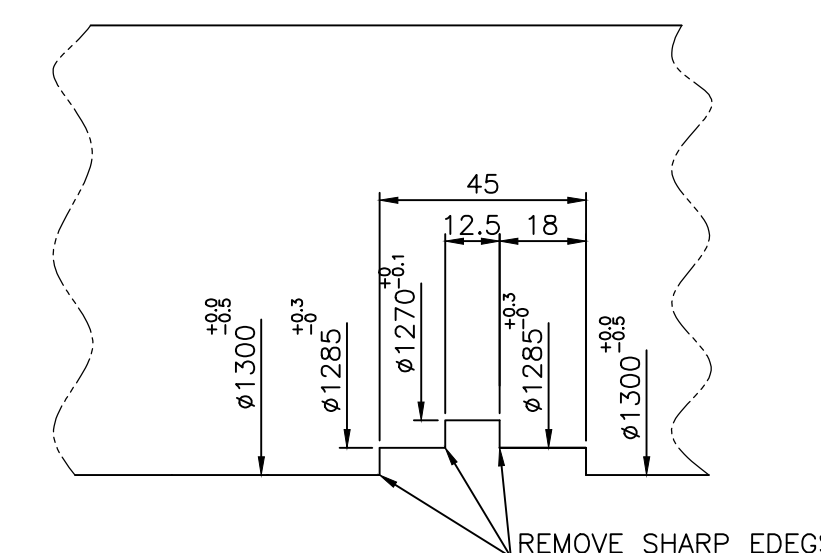


SECTION-SS

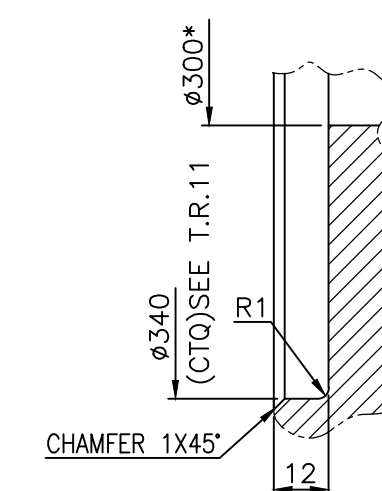
CLOCK GAUGE TOLERANCE TABLE	
POSITION	MAXIMUM RUNOUT IN MM
A	0.025
B	0.025
C	0.05
D	0.05
E	0.05
F	0.02
G	0.025
B1	0.05
B2	0.05



SECTION K1-K2




ENLARGED DETAIL-S
(ZONE - C4)




ENLARGED DETAIL-Z
(FOR TUBULAR SHAFT FIXING)
(ZONE - B4)

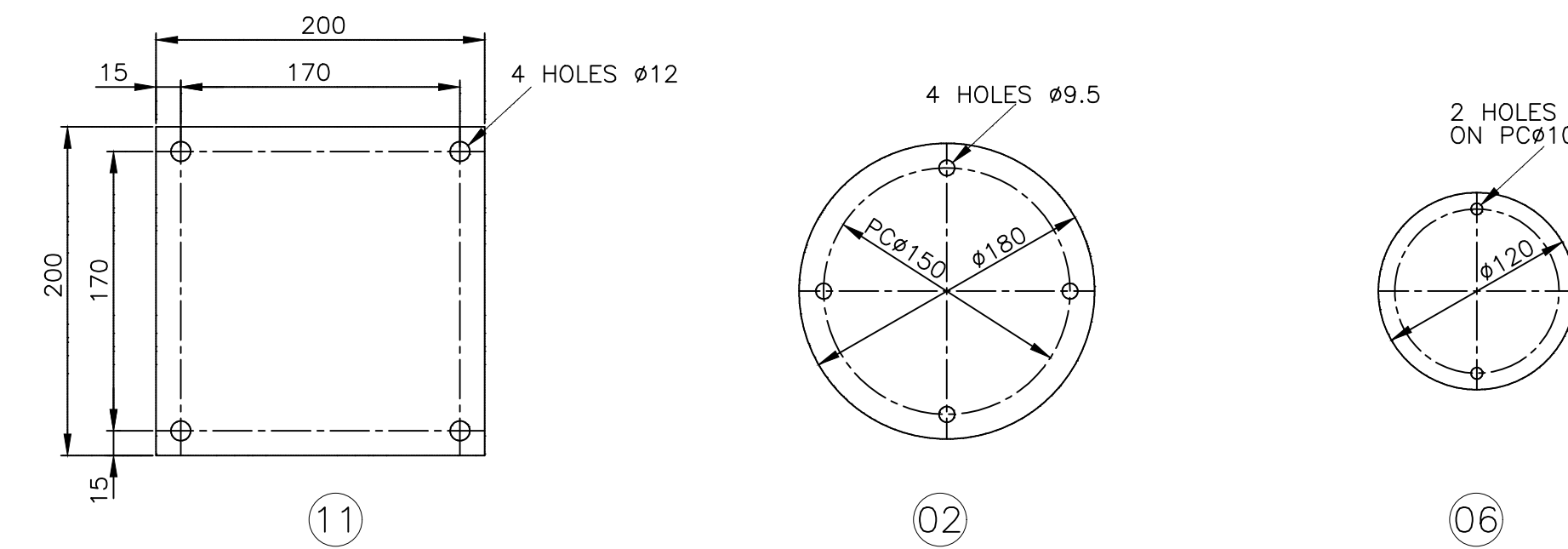
001						001			TOP SHAFT FORGING			3 254 01 89602			001						NA	NA	10600.00																		
59	64	65	REMARKS			75	78	79	25	27	29	DESCRIPTION			58	59	60	DRAWING NO.			77	29	31	34	MATL. CODE			45	55	56	58	UNIT WT.			65	72	PO				
QTY VAR00						VAR. NO.			ITEM NO.						STD									IT. NO.						C			UNIT			QTY.					
2R → CARD. TYPE = 1												2R → CARD. TYPE = 1												2R → CARD. TYPE = 2																	

CARD TYPE-3	28 → CARD TYPE-1	28 → CARD TYPE-2
ADDITIONAL INFORMATION W.O. NO. 36201 TO 09-A-23154-STAGE2 W.O. NO. 36210 TO 08-A-23154-STAGE3	mRikn dk i-dkj;k xk-gd@fj;ksduk dk uke TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT	HMS-713/170-24K PALAMURU RANGAREDDY LIS STAGE-2&3 (MEIL/TSGENCO)
STATUS OF DRAWING		

DISTRIBUTION OF PRINTS	 HAKjṛ gsho bystDV&dYl fyvefVsm HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL	cu;k NAME	glrk gSIGN	troukdDATE	osfj
HGE -1		DRN.			ch
HGM -2		THWPK CKD.	SSC/NS	17.10.20	ta;k
TEX -1		RG		17.10.20	VAR.

forHkx DEPT. p.h.jz dksM CODE 403	u. lly. ukl dh jshk UNTOL. DIMS. GR. 32500001404		vugtur SOLE NTS	HAM (a) RIGHT (kg) 10074	ids. Mkbkx dk lanHAZ REF. TO ASSY. DRG. —	en d— ITEM NO. —	en laq. ITEM 001
'Ah'AZBUE					Mkbkx dBRAVING NO. 1 254 01 89601		qu. OFE
TOP SHAFT (M/C)					02		
w'B d—SHT. NO. 01					w'Bkso dh laq.MF. OF SHT.		


INVENTORY NO.	SIGN & DATE	DEF DOC NO
		14034740258 (404574086)



1	2 HOLES DRILL Ø5X20 DEEP AS CONTROL HOLES BEFORE THE MACHINING.
2	2 DOWEL HOLES Ø25 AFTER THE ALIGNMENT OF STATOR.
3	2 DOWEL DRILL Ø25 AFTER THE ALIGNMENT OF BEARING PEDESTAL.
4	4 SETS OF 4 HOLES M8X15 DEEP FOR COVER ITEM 02.
5	13+15 HOLES M10 MARK OFF FROM PIT COVER ASSEMBLIES (DE & NDE).
6	MACHINING ON THE BASE FRAME UPTO WELDS OF SUPPORT.
7	2 HOLES FOR DOWEL Ø16 AS PER STATOR OF EXCITER.
8	2 SETS 2 HOLES M6 AS PER IT. 06.
9	4 HOLES M10X30 DEEP FOR IT. 7.
10	2 SETS OF 4 HOLES M10X20 DEEP MARK OFF FROM COVER IT. 11.
11	2 SETS OF 6 HOLES M16 FOR SHAFT SEALING COVER.
12	4 HOLES M42 FOR FIXING OF BEARING PEDESTAL.
13	4 HOLES M42 FOR FIXING OF STATOR HOUSING .
14	6 HOLES M16 FOR SHAFT SEALING COVERS.
15	4 HOLES M24 FOR FIXING OF EXCITER STATOR FRAME.
16	1 HOLES 3/4" FOR BTD WIRING.
17	DIMENSION IN BRACKET ARE FOR REFERENCE ONLY.
18	2 HOLES M12 FOR MOUNTING OF SLIPRING (REQD. FOR EARTH FAULT PROTECTION).
19	BOTTOM PADS TO BE MACHINED UPTO 10mm THK.

GES NO. 404574113 VAR.00

[illegible]

REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	REV	DATE	ALTERED CHECKED	DEPT. AME	GRADE OF UNTOL DM. C/M/P		SCALE N.T.S.	WEIGHT (kg) 3100	REF. TO ASSY. DRG.	ITEM NO.	78 NO. OF ITEMS
		APPROVED			APPROVED			APPROVED	CODE 404							
ZONE			ZONE			ZONE			TITLE				DRAWING NO.		79 REV.	
									BASE PLATE (MACHINING)				14034740266		00	
7			8			9							SHEET NO. 01		NO. OF SHEET 01	

SYN.:/14034740266

20 HOLES DRILL & TAP M48X55 DEEP EQUALLY SPACED
AS SHOWN ON PCØ1920 AT INTERMEDIATE PLATE
HOLES MUST NOT BREAK THROUGH (USE FLAT BOTTOM DRILL)
FOR SPRING PLATE ASSY.

8 SETS OF 12 HOLES (TOTAL =96) DRILL & TAP M48X55 (CTQ)
DEEP AS SHOWN (HOLES MUST NOT BREAK
THROUGH USE FLAT BOTTOM DRILL)

VIEW AS ARROW-B

1. APPLY TRP ON MACHINED SURFACES TO BP 0690084.
2. DIMENSIONS MARKED THUS * ARE FOR D.O. REFERENCE ONLY.
3. SURFACE FINISH OF MACHINED SURFACES SHALL BE 3.2 MICRONS OF BETTER.
4. DIMENSION MARKED THUS CRD ARE CRITICAL & MUST BE MAINTAINED.
5. PAINTING SHALL BE CARRIED OUT AS PER HG 12007.




TOOL LIST		
IT. NO.	TOOL NO.	DESCRIPTION
1.	1598453 (EXISTING)	DRILL JIG FOR 12 HOLES M48 AND 8 HOLES Ø 100 DIAMETER JOINT FACE (COMMON BOTTOM BRACKET)
2.	1598461 (EXISTING)	DRILL JIG FOR 20 HOLES M48 IN PCD 1920 INTERMEDIATE PLATE (COMMON WITH SPRING PLATE ASSEMBLY).
3.	AA6312017257 (EXISTING)	DRILL 56 DIAMETER.
4.	SFB100/056 (EXISTING)	BACK SPOT FACE CUTTER Ø100 WITH Ø56 PILE



001						001			BOTTOM BRACKET CENTRE ASSY.(FAB.)						0 257 01 89601									30610.00											
59	64	65	75	78	79	25	27	29	59	60	59	60	77	29	31	34	45	55	56	58	65	75	68	69											
QTY VAR00			REMARKS			VAR NO.			ITEM NO.			DESCRIPTION			DRAWING NO.			IT.ND.			MATL. CODE			UNIT W.T.											
VAR.															VAR.			MATL. SPCN.			UNIT			QTY.											
28 → CARD TYPE-3												28 → CARD TYPE-1												28 → CARD TYPE-2											

HARD TYPE		E6
ADDITIONAL INFORMATION		
W.O. 36201 TO 09 A 23157		STAGE-2
W.O. 36210 TO 18 A 23157		STAGE-3
STATUS OF DRAWING		

mRikn dk i-dkj ;k xk-gd@f;kstuk dk uke TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT	HMS-713/170-24K PALAMURU RANGAREDDY LIS STAGE-2&3 (MEIL/TSGENCO)
---	--

DISTRIBUTION OF PRINTS	
HGE-1	TEX-1
HGM-2	

बी एच ई एन	HAkjr gsoh bysfDV&dYl fyfeVsM	cu:k DRN.	uke@ NAME	gLrk @SIGN	naukd@DATE	ost dth of NO. w
	HAKSiky	TWlPK CKD.	AKV/NS		30.09.20	
	BHARAT HEAVY ELECTRICALS LTD.	wgeksftr	RG/AD		30.09.20	
	BHOPAL					

BAHXAK DEPT. HOE	Wu_Ky_uki d_ukn UNTOL. DIMS. GR.		vuqikr SCALE	HAKJ fd_3d NEEJH fd_3d 29080 (M/C)	AP-PU vls_ Mxkbbk d_ lantHAK RET. to ASY. DMS.	en d_ ITEM NO.	en ITEM NO.
dkmM CODE 403	32500001404		1:10		1 257 01 89605	001	0
'An'AZvE				Mxkbbk d_bdbvWING NO.			
BOTTOM BRACKET CENTRE ASSY.				1 257 01 89604			
(M/C)				b= b_ SHIT. NO. 01 b= b_ SHIT. NO. 01			

VIEW AS ARROW-C

[illegible]