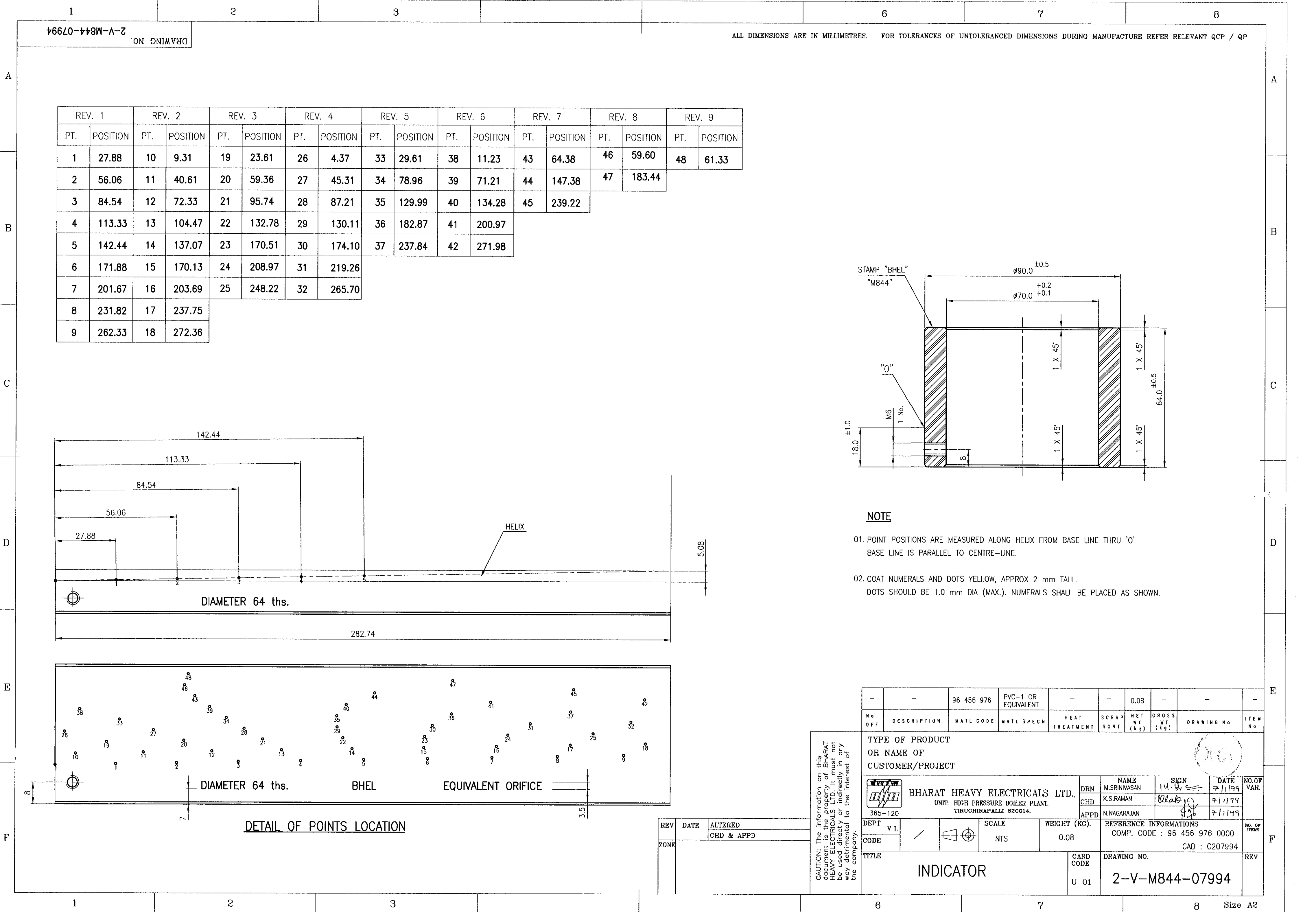
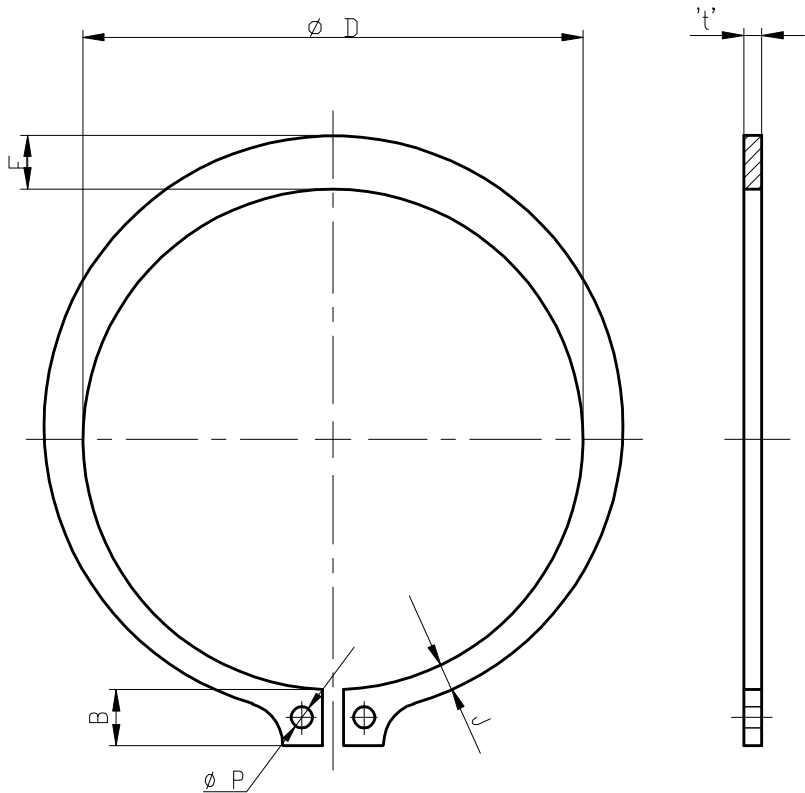




ALL DIMENSIONS ARE IN MILLIMETRES. FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP / QP.

SL No.	DRAWING NUMBER	MATERIAL CODE ON DIMENSION	MATL. SPECN.	TRUE ARC TYPE No.	DIMENSIONS						Wt (Kg)	BHEL PART No.	ALTERNATE EQUIVALENT IS No. (NOTE-2)	SUPERSEDED DRG.
					∅ D	t	B	E	J	∅ P				
01	3-V-4115-07725/01	96 452 351	CARBON SPRING STEEL SAE 1075	5100-300	$70.49^{+0.50}_{-0.76}$	2.36 ±0.07	7.82 ±0.12	6.71 ±0.17	3.51 ±0.17	$3.18^{+0.37}_{-0.05}$	0.024	4115005	A 75	VPS-001-9009/01
02	3-V-4116-07725/01	96 452 350		5100-362	$85.14^{+0.50}_{-0.76}$	2.77 ±0.07	8.33 ±0.12	7.52 ±0.20	3.89 ±0.20	$3.18^{+0.37}_{-0.05}$	0.035	4116005	A 90	VPS-002-9009/01
03	3-V-4167-07725/01	96 452 518		5100-450	$107.27^{+0.50}_{-0.76}$	2.77 ±0.07	10.26 ±0.20	7.24 ±0.25	3.25 ±0.25	$3.18^{+0.37}_{-0.05}$	0.048	4167005	A 115	VPS-003-9009/01
04	3-V-4190-07725/01	96 452 546		5100-550	$131.11^{+0.50}_{-1.01}$	3.18 ±0.09	12.62 ±0.18	9.91 ±0.25	5.31 ±0.25	$3.96^{+0.50}_{-0.12}$	0.08	4190005	A 140	VPS-004-9009/01
05	3-V-4235-07725/01	96 452 655		5100-162	$38.18^{+0.32}_{-0.50}$	1.58 ±0.07	5.97 ±0.10	4.57 ±0.15	2.46 ±0.14	$3.18^{+0.37}_{-0.05}$	0.01	4235004	—	VPS-005-9009/01
06	3-V-4345-07725/01	96 452 904		—	$44.5^{+0.39}_{-0.78}$	$1.75^0_{-0.06}$	6.9 MAX.	5 (APPROX)	—	2.5 min.	0.01	4345004	A 48 x 1.75	VPS-006-9009
07	3-V-4769-07725/01	96 464 355	AISI 302	—	$36.5^{+0.39}_{-0.78}$	$1.75^0_{-0.06}$	6.0 MAX.	4.4(APPROX)	—	2.5 min.	0.01	4769046	A 40 x 1.75 W/MATL. AISI 302	VPS-007-9009/01
08	3-V-R922-07725/01	96 464 577	CARBON SPRING STEEL SAE-1075	—	$94.5^{+0.50}_{-1.08}$	3.18 ±0.09	9.6 MAX.	9.0 ±0.25	—	3.5 min.	0.01	R922	A 100 x 3.18	—
09	3-V-4000-07725/01	96 464 658		5100-375	$88.10^{+0.50}_{-0.76}$	2.77 ±0.07	8.43 ±0.12	7.87 ±0.20	4.06 ±0.20	$3.18^{+0.37}_{-0.05}$	0.037	4000027	—	F/RMFR
10	3-V-4B75-07725/01	96 464 700		5100-315	73.5 ±0.50	2.36 ±0.07	7.82 ±0.12	6.95 ±0.17	3.50 ±0.20	$3.12^{+0.4}_{-0.05}$	0.03	4B75003	—	LANDING MANDREL 2-7/8"
11	3-V-4L10-07725/00	96 469 094		—	$23.20^{+0.21}_{-0.42}$	$1.20^0_{-0.05}$	4.4 MAX.	3.0 (APPROX)	—	2.0 min.	0.01	4L10046	—	F/ 2-1/16"-15M CLE. PIN



NOTES:-

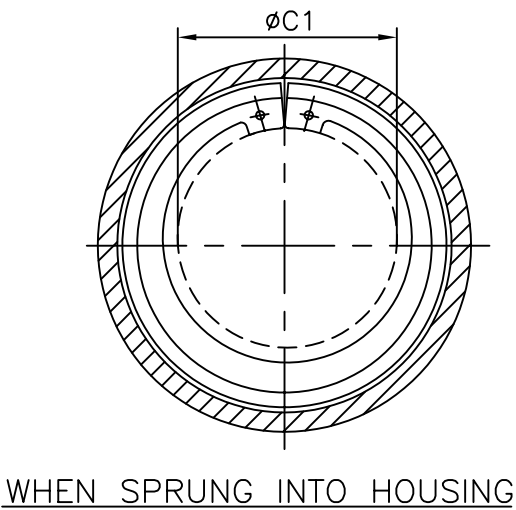
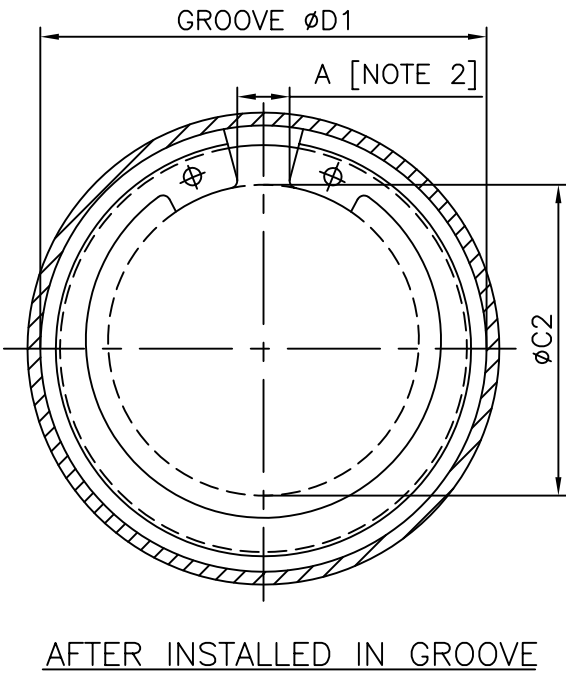
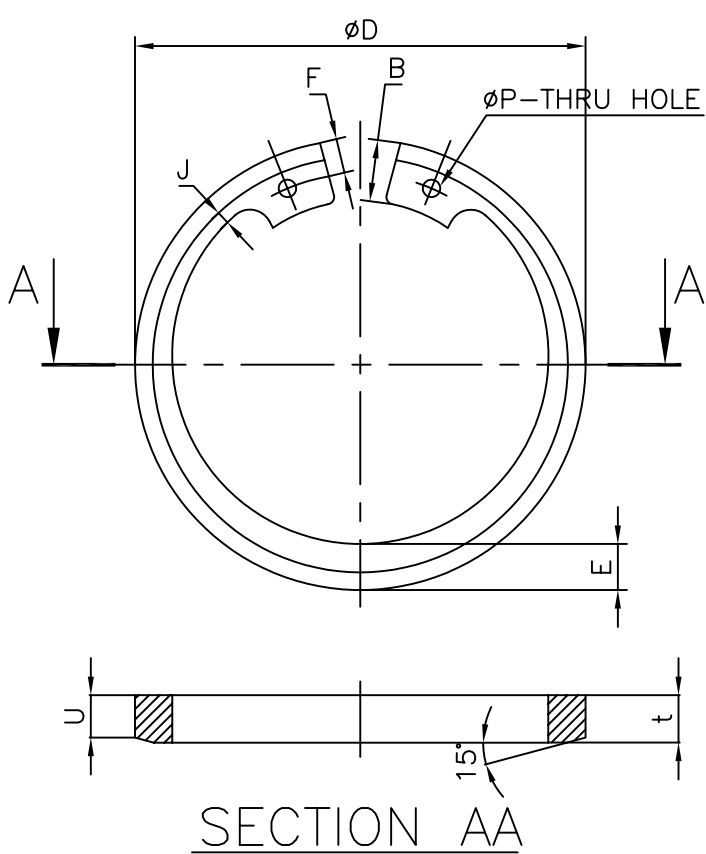
- TO BE BLACKENED. (EXCEPT SL No. 07)
- ALTERNATE RETAINER RINGS SHALL CONFORM TO "IS 3075"
-CIRCLIPS FOR SHAFTS NORMAL TYPE.

NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
365-121					DRN	NAME R.NATARAJAN	SIGN 	DATE 18-12-2010	NO.OF VAR.
Bharat Heavy Electricals Ltd., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014.					CHD	R.NATARAJAN		18-12-2010	
					APPD	R.ELAYARAJA		18-12-2010	
DEPT VL	—		SCALE N T S	WEIGHT (KG). —	REFERENCE INFORMATION				NO. OF ITEMS
CODE 340					—				
TITLE RETAINER RING (EXTERNAL SERIES)						CARD CODE U 01	DRAWING NO. 3-V-0000-07725		REV 05

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

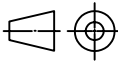
DCP No.	ALTERED	APPD
—	CHD	DATE 18-12-'10
REV 05	SL. No. 11 ADDED.	
ZONE 05	REVISED & REDRAWN IN CAD	

DRAWING NO. 3-V-0000-13132																		
SL. No.	DRAWING No.	MATERIAL		DIMENSIONS												DRESSER PART No.	TRUARC TYPE No.	APPROX Wt/1000 Kgs.
		CODE	SPECN	øC1	øC2	øD	t	U	F	B	E	øP	J	A	øD1		DIM.øS	
1	3-V-9405-13132/04	97419975*	CARBON SPRING STEEL(SAE 1075) [NOTE-1]	39.1	40.9	$57.912^{+1.016}_{-0.762}$	1.981±0.076	1.524±0.038	3.8	6.350±0.127	4.724±0.177	$2.362^{+0.381}_{-0.050}$	2.311±0.177	8.9	$56.134^{+0.152}_0$	2090414	N5002-206 $52.375^{+0.050}_0$	8.2
2	3-V-9406-13132/04	97419976*	CARBON SPRING STEEL(SAE 1075) [NOTE-1]	48.5	50.8	$70.485^{+1.016}_{-0.762}$	1.981±0.076	1.448±0.037	4.3	7.112±0.127	5.334±0.177	$2.794^{+0.381}_{-0.050}$	2.616±0.177	10.1	$68.174^{+0.152}_0$	2090413	N5002-250 $63.500^{+0.050}_0$	11.4
3	3-V-9641-13132/03	96291014	CARBON SPRING STEEL(SAE 1075) [NOTE-1]	142.2	147.3	185.623±2.031	3.962±0.126	3.073±0.075	8.2	12.319±0.254	11.354±0.228	$4.750^{+0.507}_{-0.127}$	5.613±0.228	27.0	$178.867^{+0.152}_0$	2090720	N5002-662 $168.275^{+0.076}_0$	138.5
4	3-V-9408-13132/04	96291016	CARBON SPRING STEEL(SAE 1075) [NOTE-1]	64.5	67.3	92.024±1.396	2.769±0.075	2.083±0.063	5.2	8.687±0.203	6.833±0.202	$3.175^{+0.381}_{-0.050}$	3.429±0.203	12.9	$88.621^{+0.152}_0$	2090421	N5002-325 $82.550^{+0.076}_0$	27.2
5	3-V-9456-13132/03	96291015	CARBON SPRING STEEL(SAE 1075) [NOTE-1]	171.5	177.5	224.028±2.286	4.749±0.126	3.708±0.075	9.4	15.240±0.254	13.716±0.254	$4.749^{+0.508}_{-0.126}$	6.654±0.253	31.4	$216.078^{+0.203}_0$	2090726	N5002-800 $203.208^{+0.076}_0$	251.6



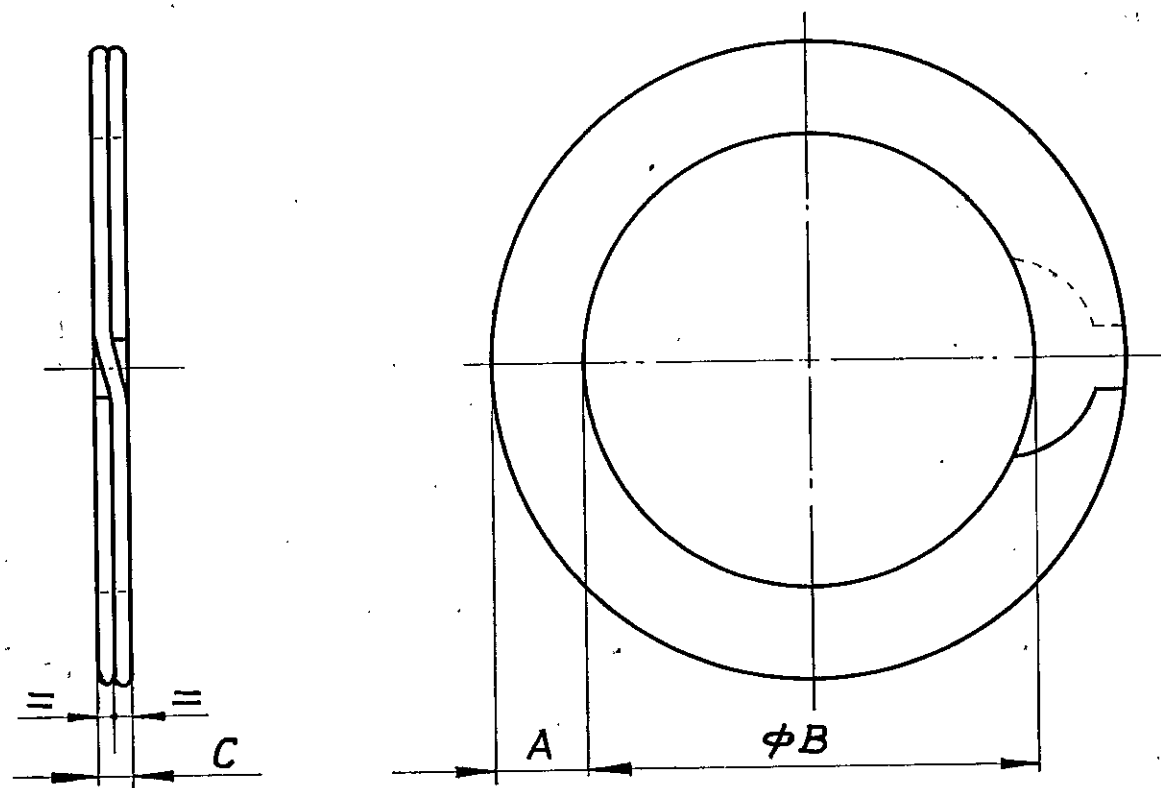
REVISION DETAILS

REV. NO.	DATE	DETAILS
01	03.12.79	1. SL.NO:5 ADDED.
02	26.05.80	1. DIMENSIONS 'F' & GROOVE øD1 ADDED FOR SL.NO.S: 1 TO 5. 2. HOUSING PROFILE IS INCLUDED IN FIG. AFTER INSTALLED IN GROOVE.
03	16.04.87	1. DIM.øC2 ADDED IN FIG. AFTER INSTALLED IN GROOVE 2. FIG.WHEN SPRING INTO HOUSING ADDED. 3. NOTE-4 ADDED.
04	27.07.91	1. CARBON SPRING STEEL (SAE 1075) WAS PH 15-7 MO ST.ST. FOR SL.NO.1,2&4
05	20.10.92	1. ENTRY DIA DIM. øS & THE RELATIVE VIEW ADDED.DRG.REVISION NO 3 UPDATED.
06	30.03.94	1. IN NOTE-4,TDC 5:196 WAS TDC 5:138. DCN NO. SR:0061

NO OFF	DESCRIPTION	MATLCODE	MATLSPEC	HEAT TREATMENT	SCARP SORT	NET Wt (Kg)	GROSS Wt (Kg)	DRAWINGNO.	ITEM NO
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014. 365-121				DRN	NAME	SIGN	DATE	NO.OF VAR.	
CHD		E.ATHIANNAVI		08.10.05					
APPD		E.ATHIANNAVI		08.10.05					
DEPT VL			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS			NO. OF ITEMS	
CODE			NTS						
TITLE				CARD CODE	DRAWING NO.				REV
RETAINER RING				U 01	3-V-0000-13132				07

3-V-0000-13167/03

SL.NO.	DRAWING NO.	MATERIAL		DIMENSIONS			DRESSER PART NO.	REMARK	APPROX WT/1000 NOS KG.
		SPECN.	CODE	A	B	C			
1	3-V-9408-13167	AISI 302 STAINLESS STEEL	96291017	1.90 ± 0.126	23.60 ⁰ -0.300	0.92 ± 0.050	4055103		1.1
2	3-V-9456-13167	AISI 302 STAINLESS STEEL	96291018	2.16 ± 0.126	29.40 ⁰ -0.250	1.10 ± 0.050	4055104		1.8
3	3-V-9721-13167/01	AISI 302 STAINLESS STEEL	96415054	1.14 ± 0.126	13.40 ⁰ -0.300	0.64 ± 0.050	4055101		0.26
4	3-V-9905-13167	AISI 302 STAINLESS STEEL	97442436★	1.40 ± 0.126	17.20 ⁰ -0.300	0.64 ± 0.050	4055102		0.41



★ - CODE FOR IMPORTED COMPONENT.

MICROFILMED ON
ROLL 00534 FRAME 1601



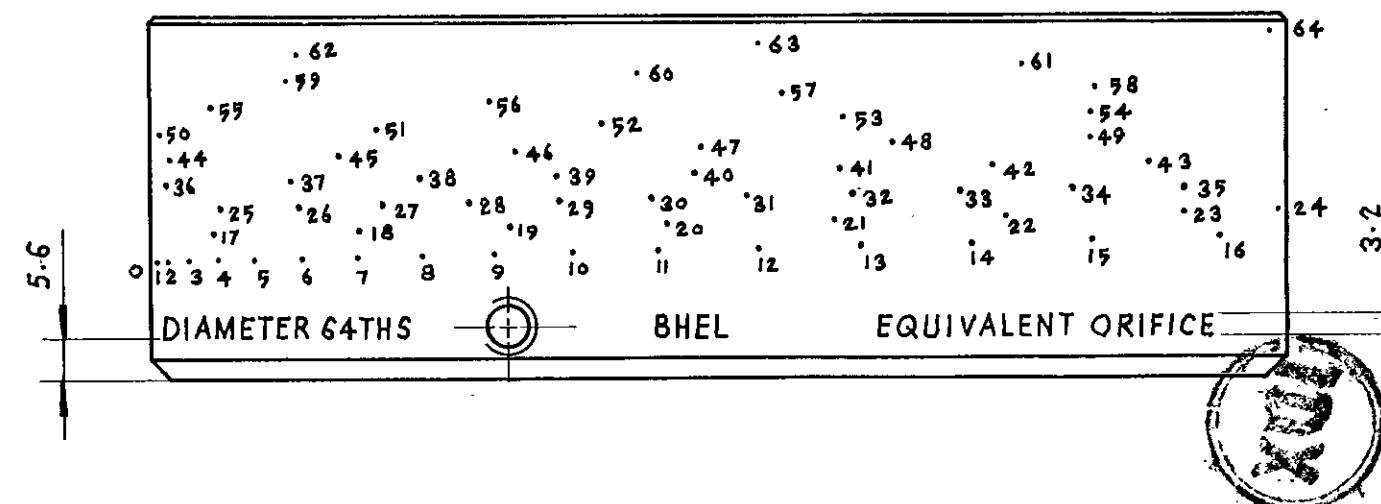
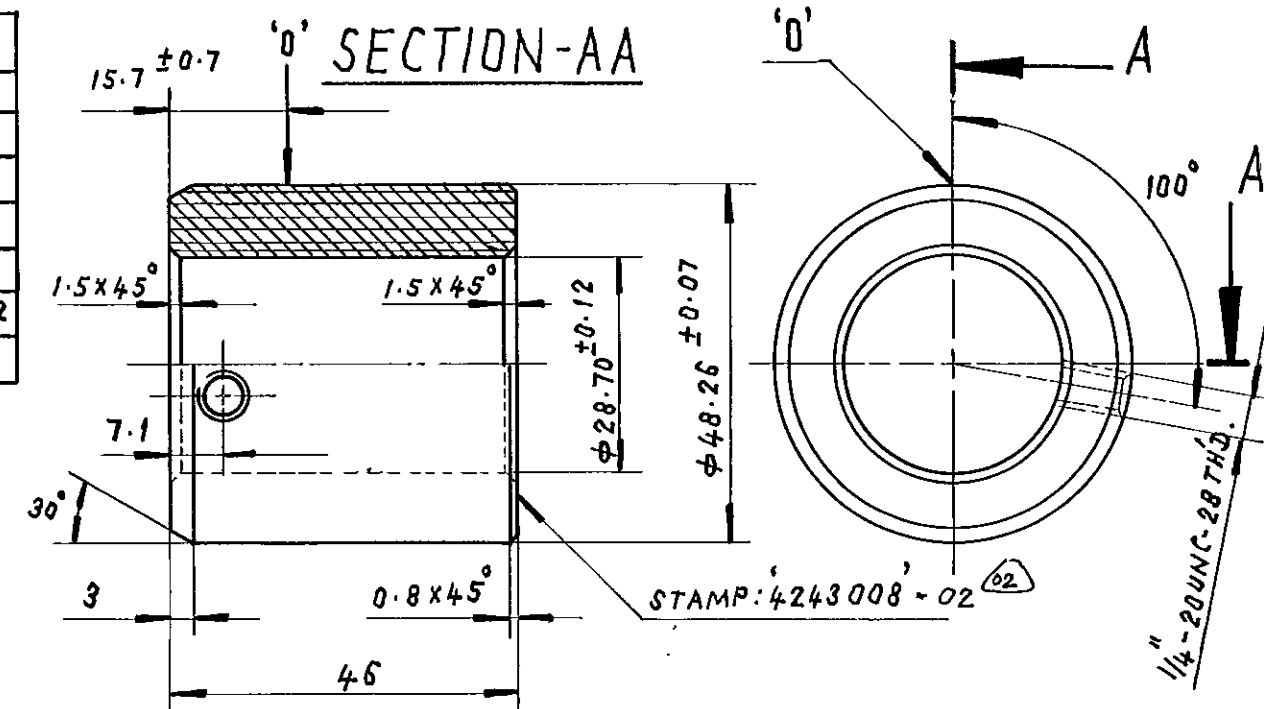
BHARAT HEAVY ELECTRICALS LIMITED
BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

DEPT VL	CODE 340	SCALE	WEIGHT (kg.)	DRESSER DRG. NO. 240551 [3786] [REV. CE 707]	IT. NO. 173
TITLE RETAINER RING			DRAWN K.S. RAJU	SIGN K.S. RAJU	DATE 10.12.79
DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 mm UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE ±			CARD CODE	DRAWING NO. 3-V-0000-13167	IS 15 REV 17
			SHEET NO.	NO. OF SHEETS	

DCN: SR: 0017	ALTERED CHECKED	REV. 02 DATE 01.03.82 ALTERED CHECKED	REV. 01 DATE 01.10.80 ALTERED CHECKED
REV. 03 DATE: 9.11.92	REVISION No. 3 UPDATED IN THE TABULATED DRGS.	SL. No. 4 ADDED FOR DRESSER PART No. 4055102. 2. IN SL. No. 3 CODE No. 96415054 WAS 97442158.	SL. No. 3 ADDED FOR DRESSER PART No. 4055101.

INDICATOR POINT LOCATION

REV. 1	REV. 2	REV. 3	REV. 4	REV. 5	REV. 6	REV. 7	REV. 8	REV. 9
PT. POSITION	PT. POSITION	PT. POSITION	PT. POSITION	PT. POSITION	PT. POSITION	PT. POSITION	PT. POSITION	PT. POSITION
1 0.559 (0.022)	17 8.433 (0.332)	25 8.992 (0.354)	36 1.930 (0.076)	44 2.540 (0.100)	50 1.016 (0.040)	55 8.382 (0.330)	59 17.907 (0.705)	62 19.710 (0.776)
2 2.261 (0.089)	18 27.457 (1.081)	26 19.533 (0.769)	37 18.517 (0.729)	45 25.095 (0.988)	51 29.921 (1.178)	56 45.212 (1.780)	60 65.075 (2.562)	63 80.696 (3.177)
3 5.055 (0.199)	19 47.473 (1.869)	27 30.556 (1.203)	38 35.738 (1.407)	46 48.565 (1.912)	52 60.147 (2.368)	57 84.150 (3.313)	61 115.951 (4.565)	64 149.022 (5.867)
4 9.017 (0.355)	20 68.504 (2.697)	28 42.088 (1.657)	39 53.619 (2.111)	47 72.974 (2.873)	53 91.821 (3.615)	58 125.476 (4.940)		
5 14.072 (0.554)	21 90.500 (3.563)	29 54.102 (2.130)	40 72.212 (2.843)	48 98.425 (3.875)	54 125.044 (4.923)			
6 20.244 (0.797)	22 113.462 (4.467)	30 66.650 (2.624)	41 91.542 (3.604)	49 124.943 (4.919)				
7 27.534 (1.084)	23 137.363 (5.408)	31 79.731 (3.139)	42 111.608 (4.394)					
8 35.916 (1.414)	24 150.546 (5.927)	32 93.345 (3.675)	43 132.461 (5.215)					
9 45.415 (1.788)		33 107.518 (4.233)						
10 56.007 (2.205)		34 122.250 (4.813)						
11 67.666 (2.664)		35 137.592 (5.417)						
12 80.442 (3.167)								
13 94.259 (3.711)								
14 109.144 (4.297)								
15 125.070 (4.924)								
16 142.037 (5.592)								



NOTE:-

- POINT POSITIONS MEASURED ALONG HELIX FROM BASE LINE THRU '0' BASE LINE PARALLEL TO CENTRE LINE.
- COAT NUMERALS AND DOTS YELLOW, APPROX 2mm TALL DOTS SHOULD BE 0.64 - 0.76 mm DIA, NUMERALS MAY BE MOVED DOWN TO CLEAR DOTS.
- ALUMILITE 204 - R PRIOR TO PAINT FILLING.
- DIMENSIONS GIVEN IN BRACKETS ARE IN INCHES.
- IMPORTED MATERIAL CODE : 97452941
- STAMP AS PER QCP 2-7-375
- UNSPECIFIED MACHINING TOLERANCES ± 0.25 mm.

DCN OF 367	PRE: 22	APPD: 24-3-97
REV 02	NOTES UPDATED.	
ZONE 02		
DCN CONTROL No. OFE 880059 Dt 7-9-88	ALTERED: 22	APPD: 24-3-97
REV 01	REVISED AND REDRAWN AS PER NATIONAL LATEST DRG.	

No. OFF	DESCRIPTION	MATL. CODE	MATL. SPEC.	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No.	ITEM No.
		96452670	PVC-1 WITH YELLOW NUMERALS.			0.08			008

BHARAT HEAVY ELECTRICALS LTD., BOILER PLANT UNIT, TIRUCHIRAPALLI-14

FIRST ANGLE	SCALE	DRAWN	CHKD	APPD	NL. DRG. No.	REV. D.	SL. No.
	N.T.S				522115	522115 X-REV-E	1866/142871/1
ALL DIMENSIONS IN MILLIMETRES		DATE	NEW/OLD DRG. NO.				
		1-4-87					

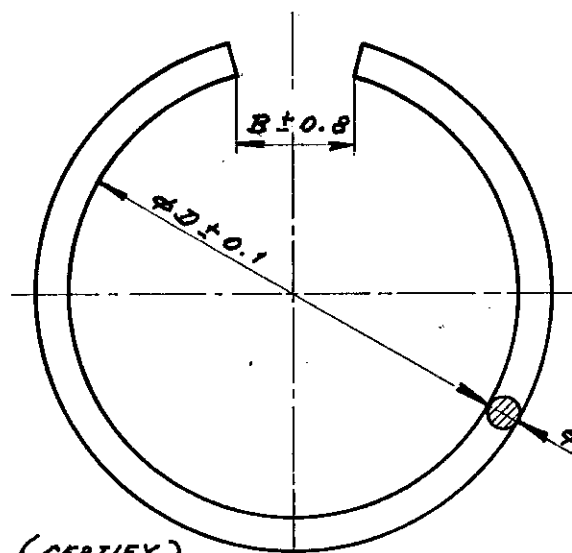
CAUTION

THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LTD., BOILER PLANT UNIT, TIRUCHIRAPALLI-14 AND SHALL NOT BE USED WITHOUT THEIR EXPRESS WRITTEN PERMISSION IN ANY FORM OR PART THEREOF FOR ANY OTHER PURPOSE THAN FOR WHICH IT IS SENT TO YOU.

TITLE	
7 1/2° x 20° TIP STEM.	
DRAWING NO	REVISION
3-V-4243-05539	02

DATE Dwg ID

REV.	DATE	ALT:	REV.	DATE	ALT:	REV.	DATE	ALT:
06	22.3.91	CND: <i>[Signature]</i>	07	27.2.95	CND & APPD: <i>[Signature]</i>	08	10.3.97	CND & APPD: <i>[Signature]</i>
REDRAWN & UPDATED, MATL. INCONEL X750 WAS ARMCO 17-7 PH 57.5T.			ALTERNATE MATERIAL FOR SL No. 10 ADDED.			DIMENSIONAL ACCURACY UPDATED.		
DCH No. SAV: 90144			DCH No. SR: 0109			DCH: SR: 0184		
SL. No.		DRG. No.	DRESSER PART No.	MATERIAL CODE	DIMENSIONS			WT./1000 PIECES [kg]
					ϕD	ϕd	B	
01	4-V-9001-13005	2410802	96291006 A97462395	8.3	1.14 $\pm$ 0.02	3.2	0.2	
02	4-V-9008-13005	2410803	96291007 A97419855	19.9	1.8 $\pm$ 0.02	7.9	1.2	
03	4-V-9011-13005	2410804	96291008 A97419854	14.2	1.3 $\pm$ 0.02	4.8	0.5	
04	4-V-9009-13005	2410805	96291009 A97419856	12.8	1.14 $\pm$ 0.02	4.8	0.3	
05	4-V-9013-13005	2410801	96291010 A97419857	22.6	2.16 $\pm$ 0.02	9.5	2.0	
06	4-V-9015-13005	2410809	96291011 A-97419858	17.7	1.5 $\pm$ 0.02	8.7	0.7	
07	4-V-9023-13005	2410810	96291012 A97419859	25.0	2.16 $\pm$ 0.04	11.1	2.1	
08	4-V-9025-13005	2410811	96291013 A97419860	42.4	2.54 $\pm$ 0.04	11.1	5.2	
09	4-V-9145-13005	2410808	A97442605	10.4	0.89 $\pm$ 0.02	6.4	0.2	
10	4-V-9866-13005 (DR)	2410812	A97462050 MATERIAL CODE: 54681080 COMP. CODE: -93176158. MATL.: INCONEL-82	6.1	0.74 $\pm$ 0.02	4.0	0.1	



* - CODE FOR IMPORTED COMPONENT.

MATERIAL: (CERTIFY)

INCONEL X750

NO. OF PIECES	NAME - DIMENSIONS	SEMI - PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET Wt (kg)	GROSS Wt (kg)	DRAWING NO.	ITEM NO.
REMARKS				TOTAL NET Wt (kg)					
SCALE	DRAWN	M. RAJA	DRESSER	ALTERATIONS		DATE	SIGNA- TURE	ALTERA- TION INDEX	
	CHECKED	K. S. RAJU	DRG. NO.						
	APPROVED	V. M	241 (2848)						
	STDS. OFFICER		TRANS. COPY NO.						
DATE									
TYPE		GROUP		OLD DRG.		NEW DRG.			
TITLE				DRAWING NO.					
RETAINER RING				4-V-0000-13005					

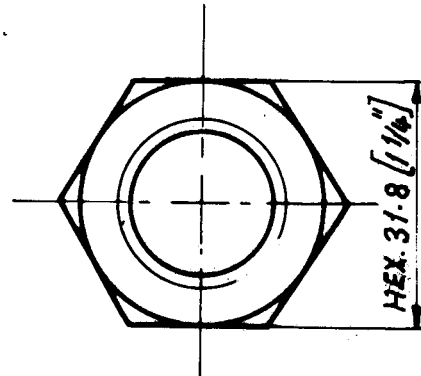
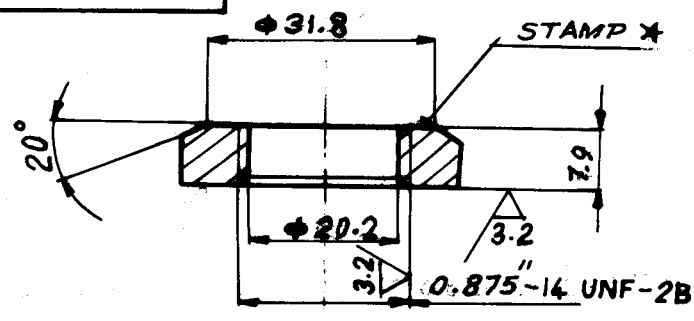
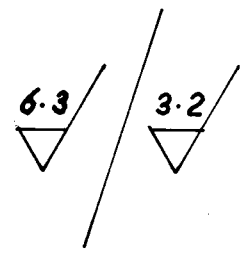


33-116

SIZE A-C
CG 4-V-0000-13009
CORPORATE DRG ID

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REV. 01	DATE 18-8-79	ALTERED	CHECKED
HARDNESS VALUE 155 BHN INCLUDED.		TABULATED 255 WAS MAIN DRG. SL. No. 2 ADDED.	
REV. 02	DATE 12-11-84	ALTERED	CHECKED
REV. 03	DATE 18.1.90	ALTERED	CHECKED
SL. No. 03 ADDED.			



NOTES:-

1. 45° CHAMFER FIRST THREAD.
2. SECURE SHARP EDGES.
3. THIS MATL. CAN BE SUBSTITUTED WITH AISI - 416 FOR SL. No. 01 ONLY.

MICROFILMED ON

00523 1082

03	4-V-8880-13017	16 924 501	K-500	0.04	HARDENED	1077106
	BAR 40 x 12.5	MONEL K-500	60	0.14	33 175 768	1320-300/4
02	4-V-8851-13017	15 024 277	F316	0.03	SOLUTION ANNEALED	1077105
	BAR 40 x 12.5	ASTM A182 - F316	46	0.12	33 175 014	1320-300/54
01	4-V-9704-13017	15 924 958	416	0.03	ANNEALED 155 BHN	1077101
	BAR 45 x 12.5	ASTM A502 - 416	40	0.15	33 075 656	1320-8"
SL. No.	DRG. No.	MATL. CODE	STAMP	NET WT. [kg]	HEAT TREATMENT	DRESSER PART No.
	DESCRIPTION	MATL. SPECN. (CERTIFY)	SCRAP SORT	GROSS WT. [kg]	COMP. CODE	DRESSER TYPE No.



05-249/A

BHARAT HEAVY ELECTRICALS LIMITED

BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

[REV. EC 041]

DEPT VL	CODE 340	SCALE 1:1	WEIGHT (kg)	DRESSER DRG. NO. 210771	ST. NO. 102		
TITLE LOCK NUT				EC 009	NAME K.B	SIGN K.B	DATE 28.3.79
				DRAWN			
				CHECKED			
				APPROVED	D.K	D.K	

DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 mm. UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE $\pm$

CARD CODE

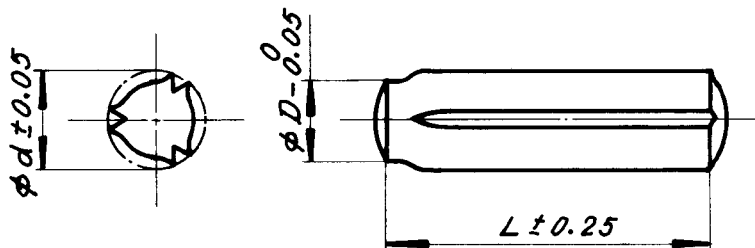
4 DRAWING NO.

4-V-0000-13017

15 16 REV 17

CORPORATE DROID

REV 01	DATE 03.12.79	ALTERED	REV 02	DATE 10.3.97	ALTERED
CHECKED			CHECKED		
SL NO 04 ADDED.			DIMENSIONAL ACCURACY UPDATED.		
			DCN: SR: 0184		



SL. NO.	DRG NO.	DRESSER PART NO.	MATL CODE	MATL SPECN.	DIMENSIONS			RECOMMENDED HOLE SIZE	WT/1000 PIECES
					ϕd	ϕD	L		
01	4-V-9641-13120	2030310	96415045	AISI 303 ST. ST.	4.17	3.97	44.5	3.96 $\begin{smallmatrix} +0.05 \\ 0 \end{smallmatrix}$	4.3
02	4-V-9405-13120	2030307	-	AISI 303 ST. ST.	4.17	3.97	22.0	3.96 $\begin{smallmatrix} +0.05 \\ 0 \end{smallmatrix}$	2.2
03	4-V-9434-13120	2030306	96415048	AISI 303 ST. ST.	4.17	3.97	25.4	3.96 $\begin{smallmatrix} +0.05 \\ 0 \end{smallmatrix}$	2.5
04	4-V-9456-13120	3030307	96415049	AISI 303 ST. ST.	4.17	3.97	50.8	3.96 $\begin{smallmatrix} +0.05 \\ 0 \end{smallmatrix}$	4.9

00592

1542



05-249/A

BHARAT HEAVY ELECTRICALS LIMITED
BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

DEPT VL	CODE 340	SCALE	WEIGHT (kg)	DRESSER DRG. NO. 203 / 303 [1329] [REV. EC.184] / [1942] [REV. ET.182]	IT. NO. 050
TITLE DRIVE PIN				DRAWN R.L.	DATE 24.9.79
				CHECKED K.B.	DATE 24.9.79
				APPROVED	DATE 3.10.79
DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 mm. UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE $\pm$			CARD CODE	4 DRAWING NO. 4-V-0000-13120 02 15 16 REV 17	

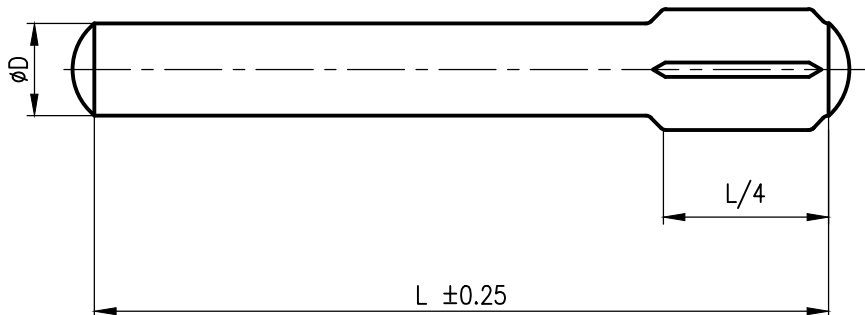
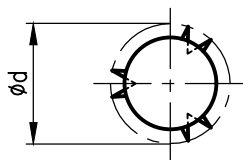
CAUTION THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LTD. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

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FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

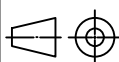
DCP No.	ALTERED : G.V	CHD : R.N
802107	DATE :03-11-15	APPD : R.E
REV	REVISED AND REDRAWN IN CAD	
03		
ZONE		



02	6.40 ⁰ _{-0.05}	51.0	6.7	6.35 ^{+0.07} ₀
01	9.50 ⁰ _{-0.05}	63.5	9.8	9.53 ^{+0.07} ₀
SL.No.	ØD	L	Ød	RECOMMENDED HOLE SIZE
DIMENSIONS				

NOTE:-

- CHROME VANADIUM STEEL (SAE 6150) 45-50 HRC,-ZINC PLATED.
OR
ASTM A193 -B16 30-35 HRC,-ZINC PLATED.

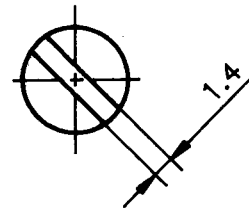
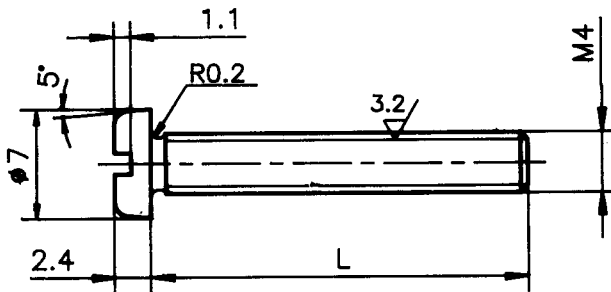
02		96 452 422	NOTE-1			0.013		4-V-4126-13124/00	
01		96 415 044	NOTE-1			0.035		4-V-9641-13124/01	
SLNo.	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME	SIGN	DATE	NO.OF VAR
					CHD	R.L	R.L	03.10.1989	
					APPD	S.S	S.S	03.10.1989	
DEPT VL			SCALE	WEIGHT (KG).		REFERENCE INFORMATIONS			NO. OF ITEMS
CODE 340			NTS	_____		DRESSER DRG. NO. 303(1942) (REV: EJ 182) DRESSER PART NO. 3030206			
TITLE					CARD CODE	DRAWING NO.			REV
DRIVE PIN					U 01	4-V-0000-13124			03
(FOR CONVENTIONAL SLIP) 9-5/8" CASING.									

REV	DATE	ALTERED
01	9.7.94	R. Mohan
		CHECKED

DCN: F80235	DT: 21.7.94
REV 02	DATE 15.3.97
CHD & APPD:	QUALITY REFERENCES REMOVED.
5850	DCN: 54

TOLERANCE FOR UNTOLERANCED DIMENSIONS	
UPTO 6 MM	= ± 0.1 MM
> 6 UPTO 120 MM	= ± 0.2 MM
MORE THAN 120 MM	= ± 0.5 MM
ANGULAR TOLERANCE	= ± 0.5 Deg.
CHAMFER	= ± 5 Deg.

SL. No.	DRG. No.	COMP. CODE	DIMENSIONS		NET WT (Kgs.)
			L		
01.	4.V.K502.90513/02	964564420000	25		0.002
02.	4.V.K508.90513/02	964564430000	35		0.003



Note :-

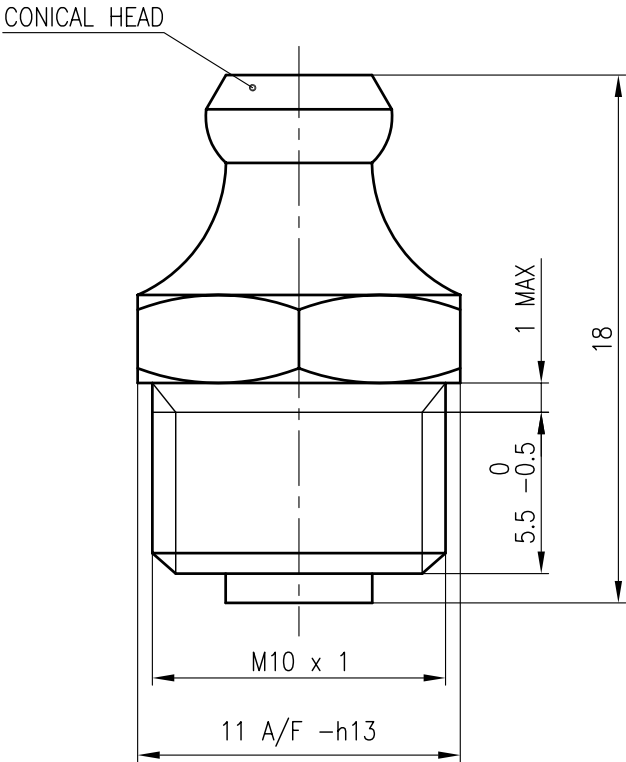
01. THE SCREW SHALL COMPLY WITH THE REQUIREMENTS OF LATEST APPLICABLE QUALITY PROCEDURE.
02. MATERIAL :- STEEL TO CLASS 4.8 OF IS-1367 (PART-3)

NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	COMP CODE	ITEM No
BHARAT HEAVY ELECTRICALS LTD. UNIT: HIGH PRESSURE BOILER PLANT. CHENCHIRAPALLI 680014.					DCN	R. MOHAN	SIGN R. Mohan	DATE 3.5.93	NO. OF VAR
					CHD	N.P.ESWARAN	SIGN N.P.ESWARAN	DATE 4.5.93	
					APPD	N.NAGARAJAN	SIGN N.NAGARAJAN	DATE 6.5.93	
DEPT VL	GRADE OF UNTOL DIM	SCALE	WEIGHT (KG).		REFERENCE INFORMATION				NO. OF ITEMS
CODE 320	6 / M / F	NTS	-		CAD: F490513				
TITLE					CARD CODE	DRAWING NO.			REV
INDICATOR SCREW					U 01	4-V-0000-90513			02

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FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

DCP No. 800479	ALT: <i>Rej</i> CHD: <i>Rej</i>	APPD: <i>Mpwarani</i> DATE: 27-6-05
REV 01	REVISED AND REDRAWN IN CAD	
ZONE 		



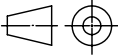
DESIGNATION : CONICAL HEAD GREASE NIPPLE M10x1-IS:4009

DIMENSION : AS PER IS:4009-1967

MATERIAL : STEEL CONFIRMING TO CLASS 4.8 OF IS : 1367-1967.

CAD REF No. o407053

COMP.CODE : 96 192 004 0000

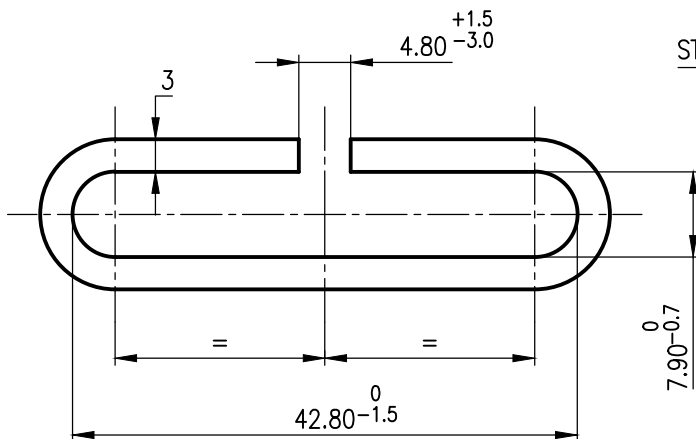
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 365-122 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME T.RAJARAMAN	SIGN <i>Rejaraman</i>	DATE 27-6-05	NO.OF VAR
					CHD	T.RAJARAMAN	<i>Rejaraman</i>	27-6-05	
					APPD	V.ALAGARSWAMI	<i>Mpwarani</i>	27-6-05	
DEPT VL	—		SCALE N T S	WEIGHT (KG). 0.010	REFERENCE INFORMATION				NO. OF ITEMS
CODE 340									
TITLE GREASE NIPPLE					CARD CODE U 01	DRAWING NO. 4-V-1553-07053			REV 01

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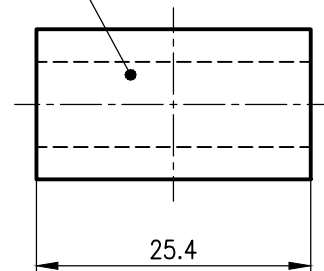
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

DCP No. 802107	ALTERED : G.V	CHD : R.N
	DATE : 08.10.15	APPD : R.E
REV 04	REVISED AND REDRAWN IN CAD	
ZONE		

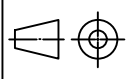


STAMP OR MARK-'4126003'



NOTES:-

1. COAT: ZINC PHOSPHATE COATING.
2. MATL: CARBON STEEL WITH 0.2 TO 0.35 CARBON CONTENT.

	--	96 452 421	NOTE-2		-	0.06	-	-	003
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME K.SIVASANKAR	SIGN K.S	DATE 16.01.1986	NO.OF VAR ____ ____
					CHD	V.ALAGARSWAMI	V.A	16.01.1986	
					APPD	K.RAMALINGAM	K.R	16.01.1986	
DEPT VL			SCALE	WEIGHT (KG). _____	REFERENCE INFORMATIONS NATIONAL DRG No. 526702 2RI- REV.-				NO. OF ITEMS ____
CODE 340			NTS						
TITLE HINGE (FOR 5-1/2" CONV. SLIP)					CARD CODE U 01	DRAWING NO. 4-V-4126-07520			REV 04

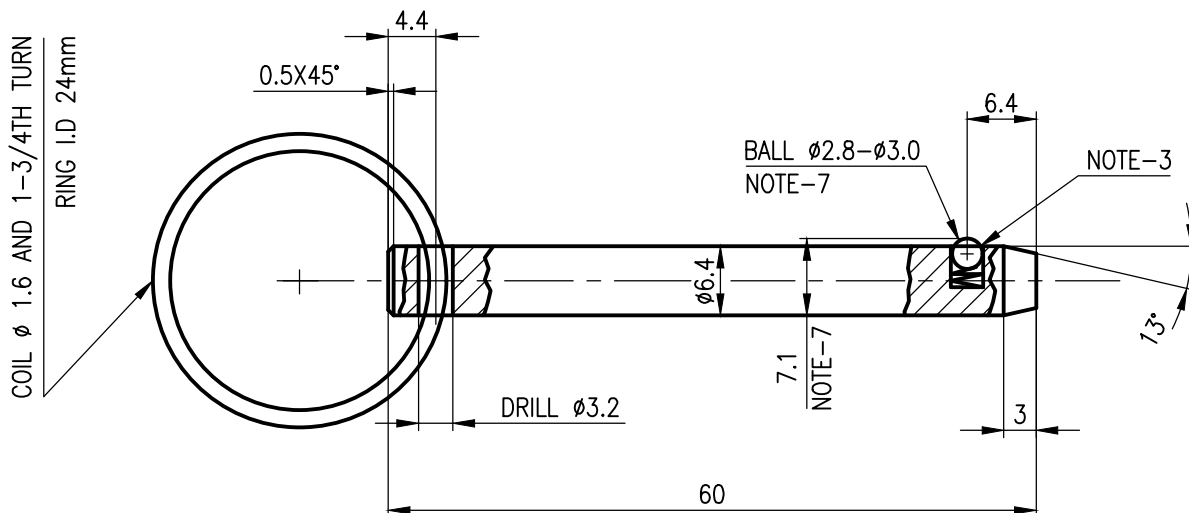
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

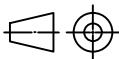
DCP No.	ALTERED : G.V	CHD : R.N
802107	DATE : 03-11-15	APPD : R.E
REV	REVISED AND REDRAWN IN CAD	
02		
ZONE		

6.3 /

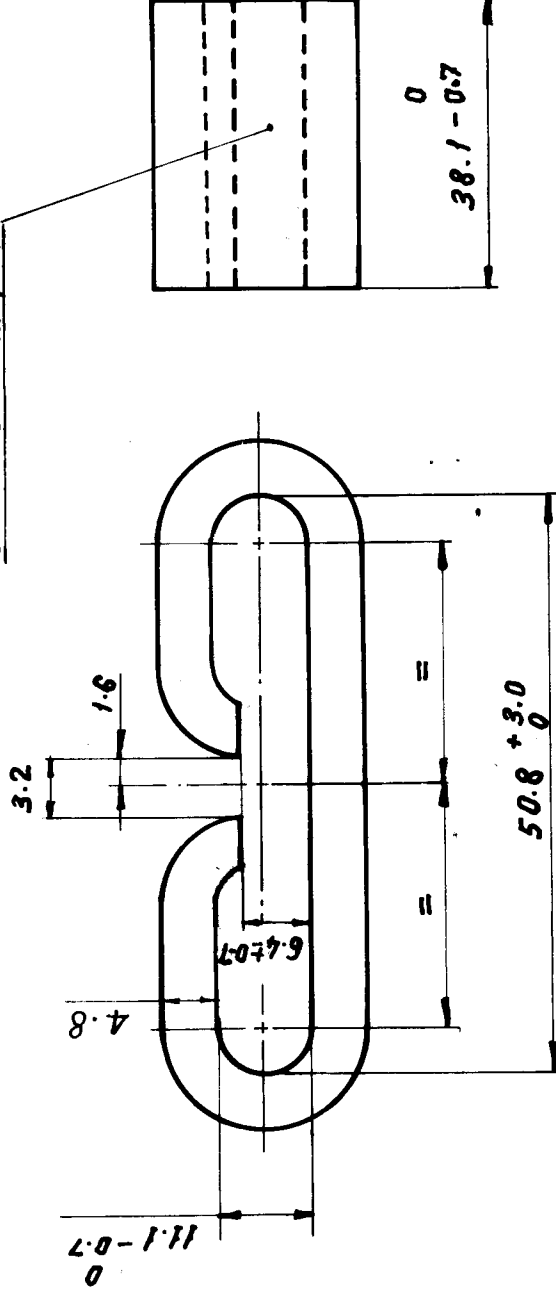


NOTE:-

- UNSPECIFIED ANGLE TOLERANCES $\pm 1/2^\circ$
- UNSPECIFIED MACHINING TOLERANCES $\pm 0.25\text{mm}$
- BY PUNCHING TO PREVENT THE BALL FROM COMING OUT.
- TO BE CHROMIUM PLATED.
- HARDNESS 29 HRC TO 32 HRC.
- MATERIAL:- AISI 1040 OR AISI 4140 OF HIGH CARBON STEEL.
- THIS DIMENSION (BALL IN PRESSED CONDITION) SHOULD SUIT TO THE MATING HOLE $\phi 6.7$.
- SUPPLY THE PIN WITH TAG MARKED - '4126.'

		96 452 424	NOTE-6			0.02				
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME T.RAJARAMAN	SIGN T.R	DATE 16.01.1986	NO.OF VAR	
					CHD	V.ALAGARSWAMI	V.A	16.01.1986		—
					APPD	K.RAMALINGAM	K.R	17.01.1986		—
DEPT VL			SCALE	WEIGHT (KG). —	REFERENCE INFORMATION				NO. OF ITEMS	
CODE 340			NTS		NATIONAL PART No. 7915040					
TITLE PIN (FOR CONVENTIONAL SLIP) 9-5/8" CASING.					CARD CODE U 01	DRAWING NO. 4-V-4126-07522			REV 02	

SCN No. 0FE 910054	ALTERED CHECKED	APPD. Dt: 19-9-91	DEN No. OF: 0527	ALTERED CHECKED	APPRO. Dt: 23-3-2000
REV 01	NOTES 1 & NOTE 4 ADDED.	REV 02	NOTE-3 ALTERED.		
ZONE 01					



STAMP BR MARK-4129003-02

NOTES:-

1. MATERIAL: AISI 1075 TO AISI 1095.
2. HARDNESS: 40 TO 46 HRC.
3. COAT: ZINC PHOSPHATE COATING.
4. MATL: CARBON STEEL WITH 0.2 TO 0.35 CARBON CONTENT.

LESS 16

61 61

-	PL 4.8 t	96 452420	NOTE - 4	-	NOTE-2	-	0.08	-	003
NO. OFF	DESCRIPTION	MATL. CODE	MATL. SPECN.	HEAT TREATMENT	GR. WT	GR. WT (kg)	NET WT (kg)	DRG. NO.	ITOP NO.



Bharat Heavy Electricals Ltd.,
BOILER PLANT UNIT
TIRUCHIRAPALLI-620 014

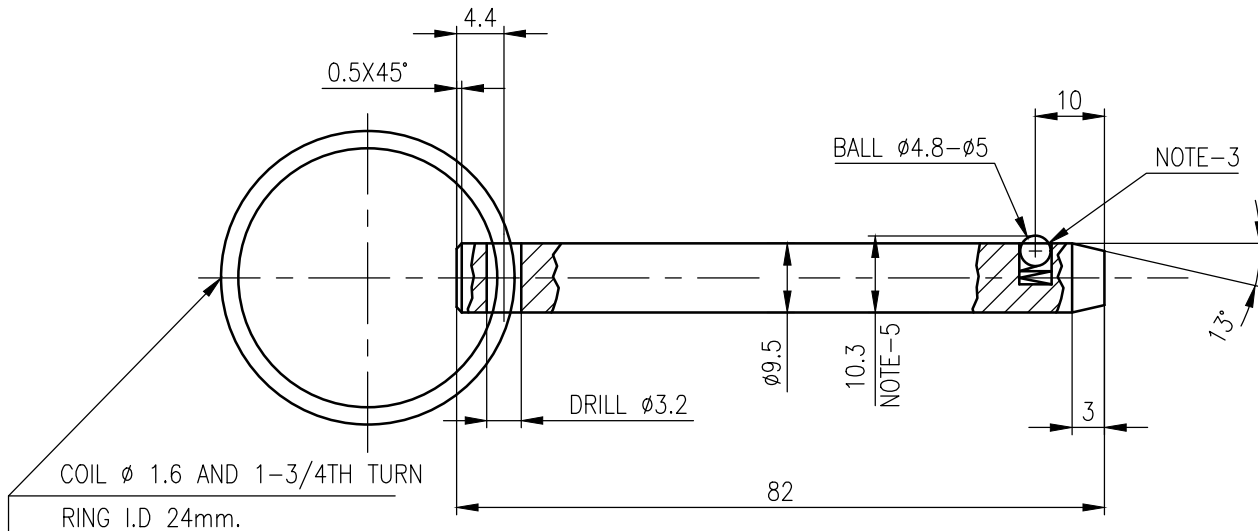
DEPT. G/M	GRADE OF UNTOOL. DIM	SCALE N T S	WEIGHT (kg)	REF NATIONAL DRG. NO: 526784-2 REV-A SL. NO: 2380	DATE 16-1-86
CODE	SIGN K. S. SAMINR V. ALAGASWAMI K. RAMALINGAM				ITEM NO.
TITLE HINGE (FOR 13 3/8 SLIP)	CARD CODE U 01	DRAWING NO. 4-V-4129-07523	REV 02		

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FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

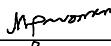
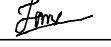
ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

DCP No. 802322	ALTD: A.K.P. CHD: R.E.	APPD: R.E. DT: 08.02.18
REV 02	REVISED AND REDRAWN IN CAD	
ZONE 02		

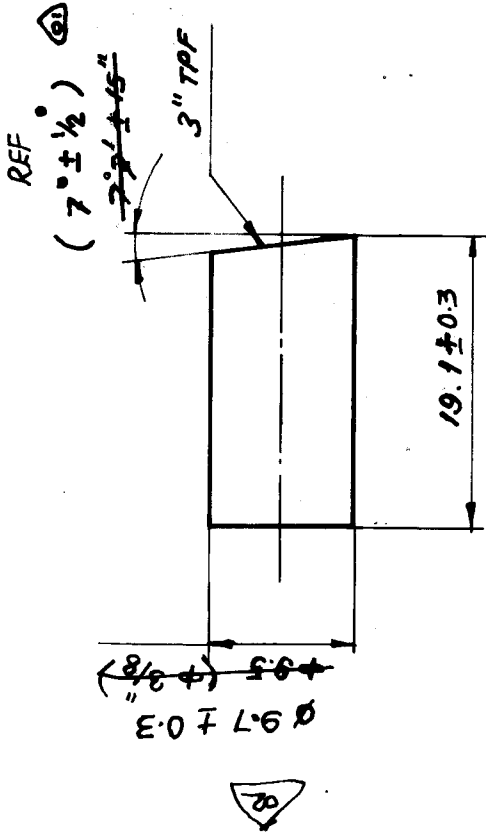


NOTES:-

1. UNSPECIFIED ANGLE TOLERANCE $\pm 1/2^\circ$
2. UNSPECIFIED MACHINING TOLERANCE $\pm 0.25\text{mm}$.
3. BY PUNCHING TO PREVENT THE BALL FROM COMING OUT.
4. TO BE CHROMIUM PLATED.
5. THIS DIMENSION (BALL IN PRESSED CONDITION) SHOULD SUIT TO THE MATING HOLE $\phi 9$
6. MATERIAL:- AISI 1040
7. ALTERNATE MATERIAL : AISI 4140
8. HARDNESS (29-32) HRC.
9. SUPPLY THE PIN WITH TAG MARKED '4129'

-	-	964524230000	NOTE-6 & 7	-	-	0.04	-	-	-
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
	BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME T.RAJARAMAN	SIGN 	DATE 16-01-86	NO.OF VAR
365-122					CHD	V.ALAGARSWAMI		16-01-86	—
					APPD	K.RAMALINGAM		17-01-86	—
DEPT VL		SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS	
CODE 340		NTS	-	NATIONAL PART NO. 7915041				—	
TITLE PIN 13 3/8" CASING (FOR CONVENTIONAL SLIP)				CARD CODE U 01	DRAWING NO. 4-V-4129-07525				REV 02

DCN NO. 20.8.87	ALTERED	BY K. Ramalingam	DCN NO. 0415	ALTERED	BY K. Ramalingam
NO. 87046	CHECKED	BY K. Ramalingam	OF: 0415	CHECKED	BY K. Ramalingam
DATE: 1.12.97					
REV 01	CORRECTION MADE IN PLACE MARKED AS				
REV 02	DIMENSION $\phi 9.7 \pm 0.3$ WAS $\phi 9.5 (\phi 3 \frac{7}{8})$				
ZONE	02				



NOTES:-

1. MATERIAL : PHENOLIC & LINEN ROD.
2. SURFACE FINISH SHOULD BE ∇ MIN.



105143

NO.	DESCRIPTION	MATL. CODE	MATL. SPECN.	HEAT TREATMENT	SCR. PART	GRD. WTKG	NET WTKG	DRG. NO.	ITEM NO.
-	-	96 432 475	(NOTE-1)	-	-	-	0.002	-	-



Bharat Heavy Electricals Ltd.,
BOILER PLANT UNIT
TIRUCHIRAPALLI-620 014

DEPT.	SCALE	WEIGHT (kg)	NATIONAL DRG. NO.	ITEM NO.
CODE	NTS		522102	
GRADE OF MATERIAL		REV - / SL. No 1852/01		
C/M/E				

TITLE	CARD CODE	DRAWING NO.	REV
LOCK PLUG	U 01	4-V-4146-07552	02

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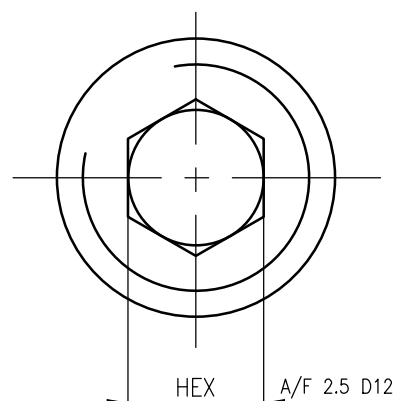
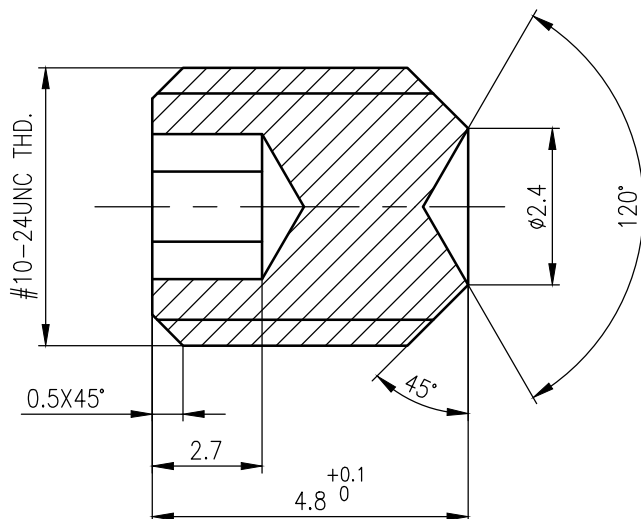
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

DCP No. 802322	ALTD: A.K.P. CHD: R.E.	APPD: R.E. DT: 08.02.18
REV 01	REVISED AND REDRAWN IN CAD	
ZONE 01		

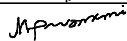
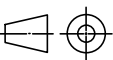
3.2 /

2.5 D12	+0.12
	+0.02



NOTES :-

1. UNSPECIFIED MACHINING TOLERANCE ± 0.1
2. UNSPECIFIED ANGLE TOLERANCE $\pm 1/2^\circ$
3. MATERIAL : STEEL (SULFUR 0.05%MAX.,
PHOSPHORUS 0.04% MAX.)

—	—	964526590000	NOTE-3	—	Q&T	—	—	—	005
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 365-122 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME R.NATARAJAN	SIGN 	DATE 01.01.87	NO.OF VAR
					CHD	K.RAMALINGAM		01.01.87	—
					APPD	D.KRUSHNAMURTHY		01.01.87	—
DEPT VL		SCALE	WEIGHT (KG). —	REFERENCE INFORMATIONS —				NO. OF ITEMS	
CODE 340		NTS						—	
TITLE SOC.HD.CAP SCREW				CARD CODE U 01	DRAWING NO. 4-V-4235-07617				REV 01

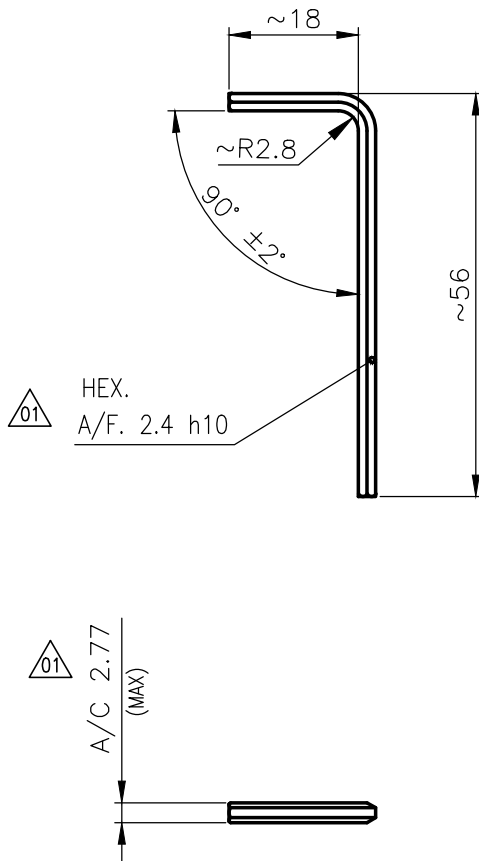
Size A4

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

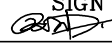
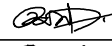
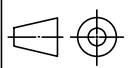
DCP No. 801941	ALTERED 	CHD : P. Arj.
	DATE : 	APPD : 29.05.2015
REV 01	A/F 2.4 h10 WAS 2.5 h10 REVISED & REDRAWN IN CAD	
		

2.5 h10	0 -0.040
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NOTES:-

1. THE WRENCH SHOULD GENERALLY CONFORM TO IS 3082-1965
2. MATERIAL HEAT TREATED ALLOY STEEL RC. 47 MIN
3. TO BE BLACKENED

-	-	96 452 660	IS: 1570 55 Cr 70	-	-	0.002	-	-	011
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME R.NATARAJAN	SIGN 	DATE 29.05.2015	NO.OF VAR
					CHD	R.NATARAJAN		29.05.2015	—
					APPD	P.ARUNKUMAR	P. Arj.	29.05.2015	—
DEPT VL	—		SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS
CODE 340	—	—	NTS	—					—
TITLE ALLEN WRENCH					CARD CODE U 01	DRAWING NO. 4-V-4235-07621			REV 01



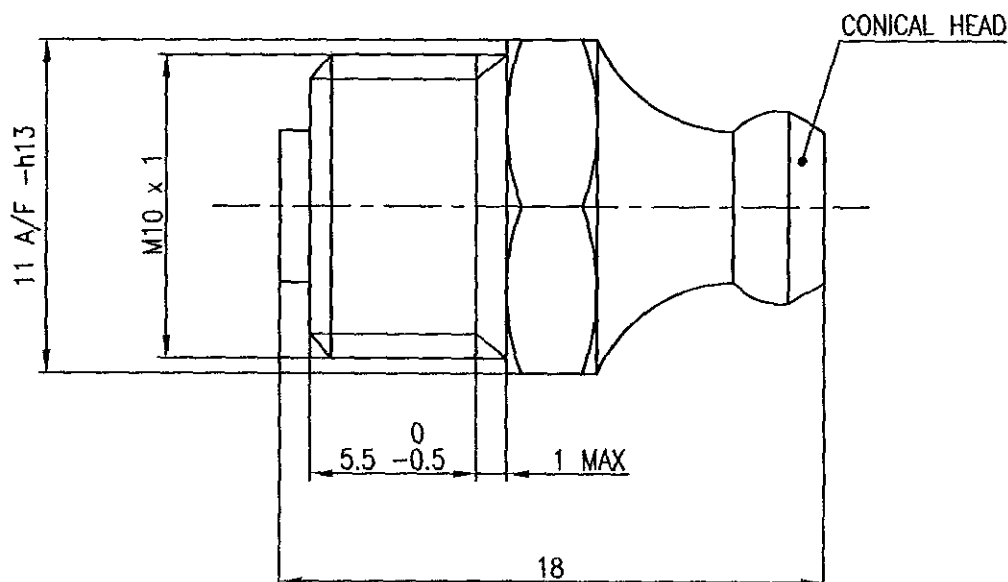
1075066

- 

4-V-4271-07647

REV	DATE	ALTERED
		CHD & APPD

h13	+0
	-0.270



DESIGNATION : CONICAL HEAD GREASE NIPPLE M10x1-IS:4009

DIMENSION : AS PER IS:4009-1967

MATERIAL : STAINLESS STEEL - SS316

MATERIAL CODE : 96 464 893



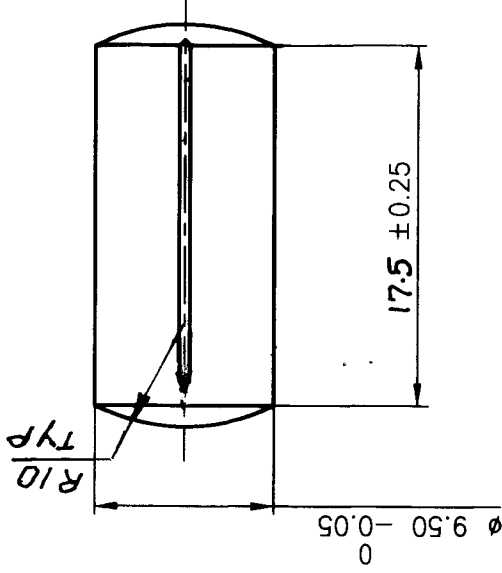
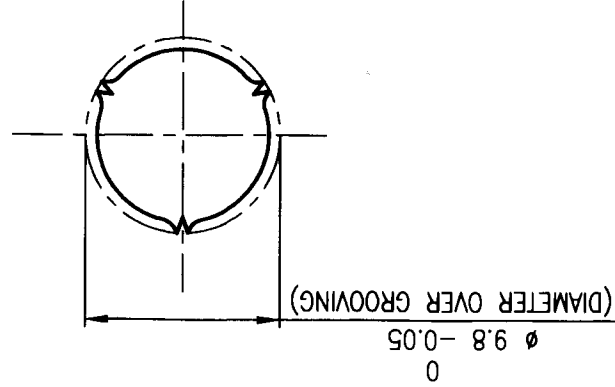
CAD REF No. o408886

NO OFF		DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
							0.012			
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.						DRN	NAME	SIGN	DATE	NO. OF VAR
						CHD	T.RAJARAMAN	<i>T.Rajaraman</i>	4-3-03	
						APPD	V.ALAGARSWAMI	<i>V.AlagarSwami</i>	4-3-03	
DEPT	VL			SCALE	WEIGHT (KG).	REFERENCE INFORMATION				ITEM No.
CODE	340			NTS						
TITLE						CARD CODE	DRAWING NO.			REV
GREASE NIPPLE - SS						U 01	4-V-4746-08886			

ALL DIMENSIONS ARE IN MILLIMETRES
DURING MANUFACTURE REFER RELEVANT QCP/QP

ALL DIMENSIONS ARE IN MILLIMETRES
DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
		CHD & APPD



NOTES :-

1. RECOMMENDED HOLE SIZE ϕ 9.53 ± 0.05 0
2. MATL. ASTM A193 Gr.B16, 30-35 HRC.
3. WHILE HOLDING, CARE SHOULD BE TAKEN FOR NOT TO SPOIL THE PROFILE.
4. TO BE CADMIUM PLATED.



CAD REF No. 0408000

NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO	ITEM NO
		96 464 561	NOTE-2			0.01			
 365-122 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.									
DEPT	VL	SCALE		WEIGHT (KG).		REFERENCE INFORMATION			
		 		N T S					
CODE	340	TITLE							
		DRAWING NO.				REV			
		CARD CODE				4-V-4A36-08000			
		U 01							

CORPORATE DRG ID
TP-DG-4-V-4A36-08000

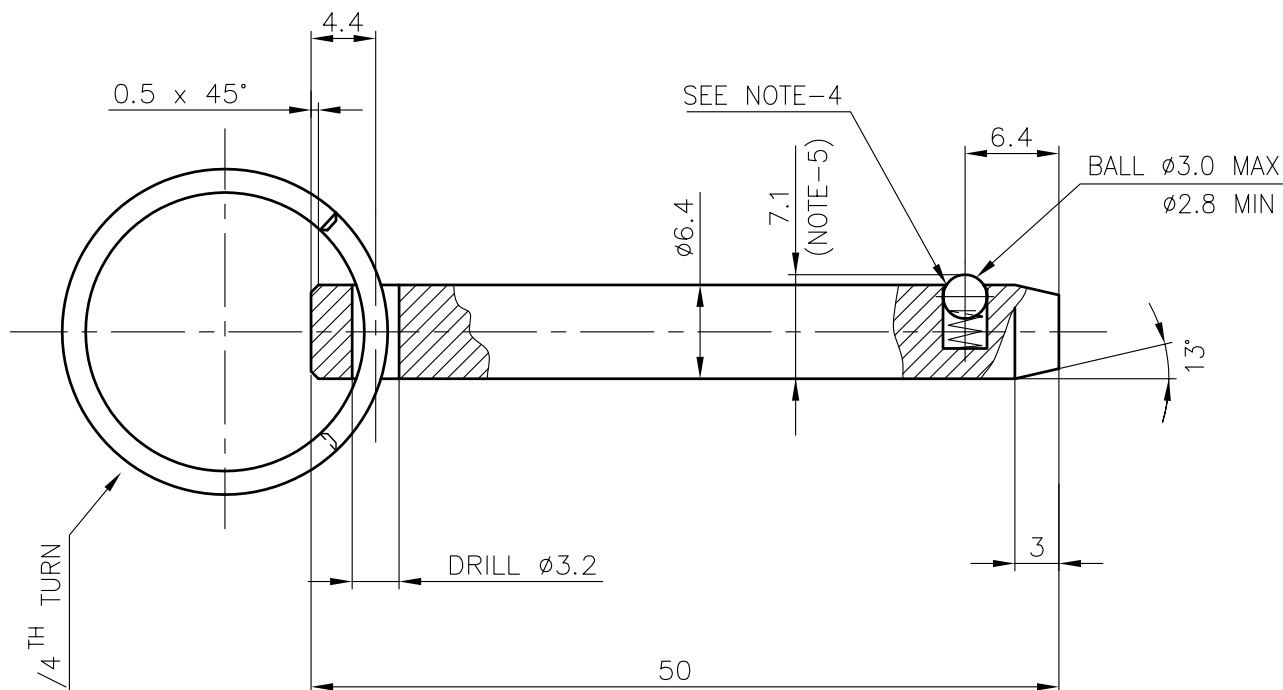
TITLE

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

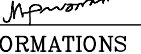
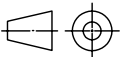
REV	DATE	ALTERED
		CHD & APPD

6.3

**NOTES:**

1. UNSPECIFIED MACHINING TOLERANCES ± 0.25 & ANGLE TOLERANCE $\pm 1/2^\circ$
2. MATERIAL : ASTM AISI-1040 OR AISI-4140 OR HIGH CARBON STEEL
3. HARDNESS 29 - 32 HRC
4. BY PUNCHING TO PREVENT THE BALL FROM COMING OUT.
5. THIS DIMENSION (BALL IN PRESSED CONDITION) SHOULD SUIT TO THE MATCHING HOLE $\phi 6.7 \pm 0.1$
6. TO BE CADMIUM PLATED.
7. SUPPLY THE PIN WITH TAG MARKED "BHEL-4J68"

CAD REF NO. 0493359

		96 469 039	NOTE-2	--	--	0.02	--	--	006
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME R.NATARAJAN	SIGN 	DATE 28-05-2008	NO.OF VAR
					CHD	R.NATARAJAN		28-05-2008	
					APPD	V.ALAGARSWAMI		28-05-2008	
DEPT VL			SCALE N.T.S	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 340					FOR CBM WELL HEAD				
TITLE					CARD CODE	DRAWING NO.			REV
PIN-REMOVABLE					U 01	4-V-4J68-93359			
F/ CBM BCMBNS SLIP									



Size A4

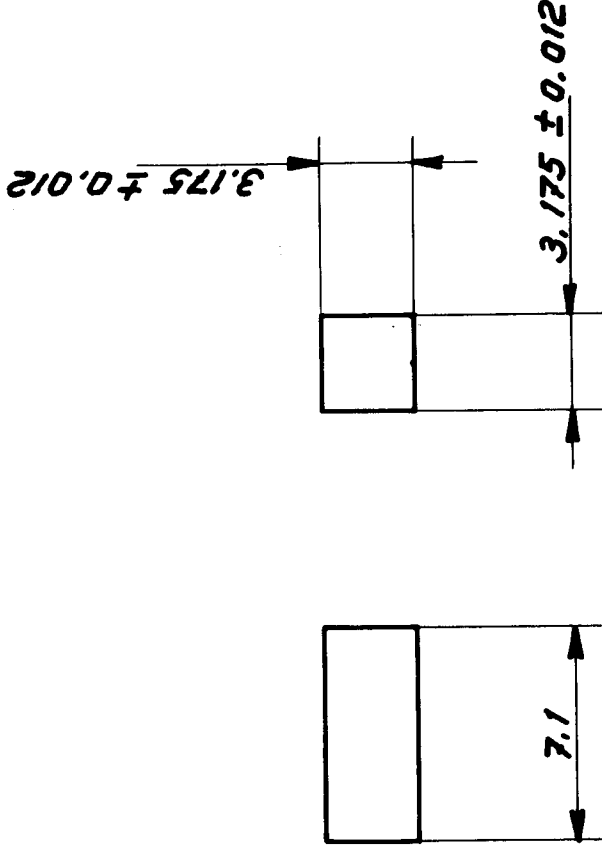
REV 01	DATE 9.4.98	ALTERED CHECKED	REV 02	DATE	ALTERED CHECKED
COMPONENT CHANGED TO SUB DELIVERY ITEM					

General Notes:

- A) All Diameters Concentric to O. 102
T. I. R.
- B) All Key Surfaces at Right Angles
with Centre-Line of hole to
O. 102 T. I. R.

6.3 / 

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NOTE:

- 1. BREAK ALL SHARP CORNERS

MICROFILMED ON
POLYESTER FRAME 213

NO. OFF	DESCRIPTION	CODE NO.	FINAL MATERIAL ATMENT	HEAT TRE-SCRAP WE. (kg)	H & T Rc 32-36	0.001	190
				NET GROSS DRG. No.			ITEM No.



BHARAT HEAVY ELECTRICALS LIMITED
BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

DEPT VL	CODE 320	SCALE NTS	WEIGHT (kg)	KEY D 9554 / CV 011 / 525	IT. NO.
TITLE KEY				SIGN DATE 6.7.80	APPROVED 15

DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 mm. UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE ±

CARD CODE

4 DRAWING NO.

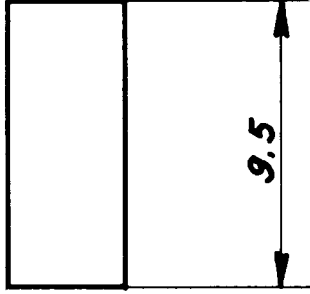
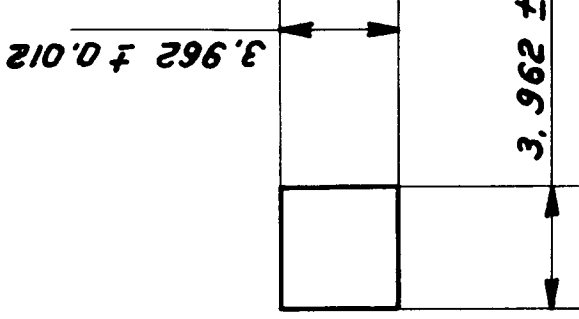
15 16 REV:17
L.V. 5904.04933

REV 01	DATE 9-6-90	ALTERED CHECKED	REV 02	DATE	ALTERED CHECKED
COMPONENT CHANGED TO SUB DELIVERY ITEM					

General Notes:

- A) All Diameter Concentric to O-102
T. I. R.
B) All Key Surfaces at Right Angles
with Centre Line of hole to
O 102 T. I. R.

6.3 / 



NOTE :

1. BREAK ALL SHARP CORNERS

MICROFILMED ON
MO. 000000 FRAME 230

	96 456 102	AISI 1045 CERTIFY	H&T RC 32-36	0-001	190
NO. DESCRIPTION OFF	CODE No.	FINAL MATERIAL	HEAT TREATMENT	NET GROSS WT. WT. SORT (Kg.) (Kg.)	DRG. No.



BHARAT HEAVY ELECTRICALS LIMITED
BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

DEPT VL	CODE 320	05-249/A		SCALE NTS	WEIGHT (Kg.)	KEY D-95840/CANON/540	IT. NO.
TITLE KEY							DATE DRAWN CHECKED APPROVED 4.7.80

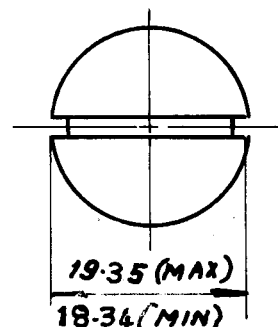
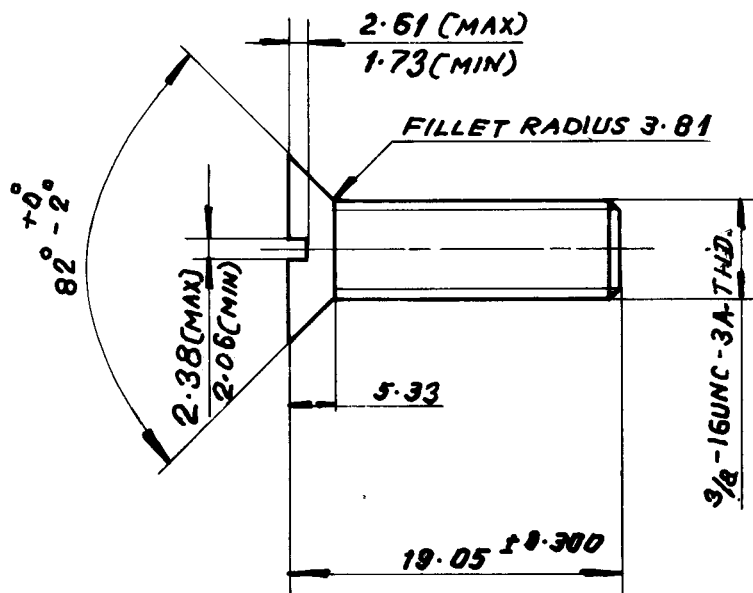
DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 mm. UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE $\pm$			CARD CODE	4 DRAWING NO.	15	16 REV 17
					4-V-5907-04934	01

REV 01	DATE 16-7-79	ALTERED	CHECKED
REV 02	DATE 20-6-97	ALTERED	CHECKED

1. INCH UNITS CHANGED TO METRIC UNITS EXCEPT THREAD DIM.
2. NOTES ADDED
3. RAW MATL SIZE, MATL CODE ADDED

NOTES UPDATED.
DEN. NO. SV: 0436

3.2



NOTE:-

1. SHARP CORNERS TO BE REMOVED.
2. 45° CHAMFER FIRST THREAD.
3. THIS DRG. AS PER STD. ANSI. B18.6.2 - 1972

MICROFILMED ON

ROLL 00523 FRAME 3781

No. OFF	DESCRIPTION	MATL. CODE	FINAL MATL.	HEAT TREATMENT	SCRAP NET WT (kg)	GROSS WT (kg)	DRG No.	ITEM No.
	φ 22 x 30	15 039 343	SA 105 CERTIFY	NORMALISED	10	0.01 0.09	—	237



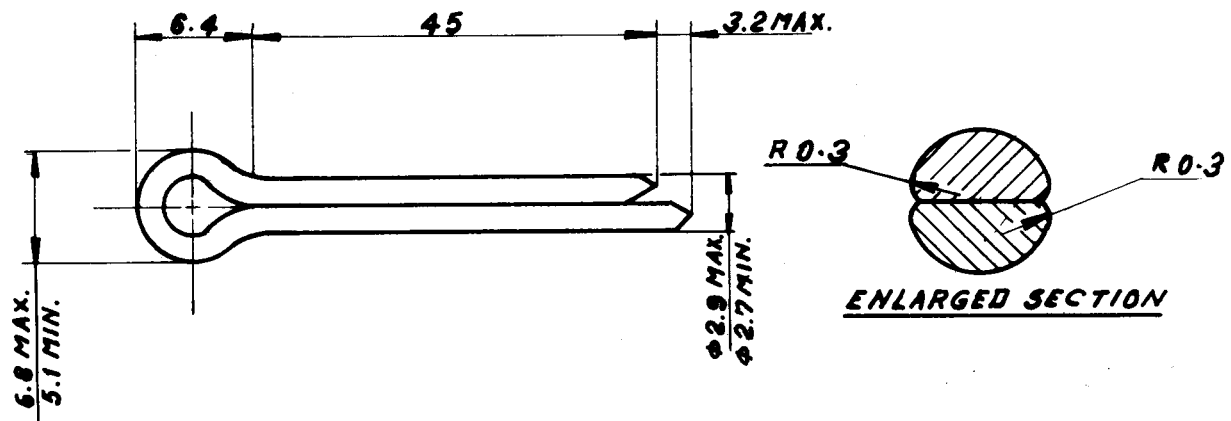
05-249/A

BHARAT HEAVY ELECTRICALS LIMITED
BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

DEPT VL	CODE 340	SCALE NTS	WEIGHT (kg) —	PART No. 2420807	720
TITLE				DR. DRG No. 242/CN244	
LOCKING SCREW				DRAWN	NAME T.R.
				CHECKED	NAME VR
				APPROVED	NAME JA
DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 mm. UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE ±				4 DRAWING NO.	15
CARD CODE				4-V-7000-10008	02

REV 01	DATE 28.6.97	CHECKED APPD: V.	REV 02	DATE	ALTERED
			CHECKED		

NOTES UPDATED:
DCN-NO. SV: 0438



NOTE:-

1. THIS DRG. IS AS PER STD. BPS 417 04 - 7301 EXCEPT MATL
2. STAINLESS STEEL WIRE OF HALF-ROUND SECTION WITH RADIUS CORNERS.

RECORDED AND INDEXED ON
00593 332

PIN SIZE φ3.2	96 415 014	18 - 8 ST. ST CERTIFY	45	0.01		182
NO OFF	DESCRIPTION	MATL CODE	FINAL MATL	HEAT TREATMENT	SCARP NET WT (KG)	ITEM NO



05-249/A

BHARAT HEAVY ELECTRICALS LIMITED
BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

DEPT VL	CODE 340		SCALE N.T.S	WEIGHT (kg)	PART NO-0087501/C2.372 DR.DRG.NO. ST2-185A/SL.NO.265			
TITLE COTTER PIN					DRAWN	NAME V.P	SIGN 	DATE 8.7.79
					CHECKED	VR		9.7.79
					APPROVED	PA		9.7.79

DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 mm. UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE $\pm$

CARD CODE
4-V-7000-10055 01
4 DRAWING NO.
15 16 REV 17

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FOR TOLERANCES OF DIMENSIONS REFER TO BPS 417 04 - 7301

CAUTION



-



RECORDED ON
ROLL 00523 FRAME 33

TP-DG 4/V7000-10056
SIZE A-4

TP-DG-4-V-7000-10057
CORPORATE DRG ID

REV 02
DATE
ALTERED
CHECKED

NOTES UPDATED.
DCN. NO. SV:0438

6.4253.2 MAX.

6.8 MAX.
5.1 MIN.

25

2.9 MAX.
2.7 MIN.

R0.3R0.3

ENLARGED SECTION

NOTE:-

1. THIS DRG. IS AS PER STD. SPS 41704 7301 EXCEPT MATL

2. ST. ST. WIRE OF HALF-ROUND SECTION WITH RADIUS CORNERS.

3. CUT THE PIN LENGTH TO SUIT ASSY.

MICROFILMED ON
ROLL 00523 FRAME 330

	PIN SIZE ϕ 3.2	96 415 017	18-8 ST.ST. CERTIFY	-	46	0.01			186
NO OFF	DESCRIPTION	MATL. CODE	FINAL MATL	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO	ITEM NO



05-249/A

BHARAT HEAVY ELECTRICALS LIMITED

BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

DEPT YL	CODE 340		SCALE N.T.S	WEIGHT (kg.)	PART NO. 0050976/C2372 DR. DRG. NO ST2-185A/SL. NO 265				
TITLE COTTER PIN					DRAWN	NAME V.P	SIGN 	DATE 10.7.79	
					CHECKED	VR		10.7.79	
					APPROVED	JA		10.7.79	

DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE $\pm$ 0.25 mm. UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE $\pm$

CARD CODE

4 V-7000-10057 01

4 DRAWING NO.
15 16 REV 17

TP-DG-4-V-7000-10057
CORPORATE DRG ID

TP-DG-4-V-7000-10057
CORPORATE DRG ID

SIZE A-4

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CAUTION

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REV

DATE

ALTERED

CHECKED

1

15-1-77

V.A.

2

20-6-97

END

APPD: V.V.

1. INCH UNITS CHANGED TO METRIC UNITS EXCEPT THREAD DIM.

2. NOTES ADDED

3. RAW MATL SIZE, CODE ADDED

4. MATL. CHANGED FROM STEEL CLASS 6 TO SA 105

REV

DATE

ALTD

02

20-6-97

END

APPD: V.V.

NOTES UPDATED.

DCN. No. SV: 0436

2.61(MAX)

1.73(MIN)

FILLET RADIUS 3.81

82° +0° -2°

2.38(MAX)

2.08(MIN)

5.33

22.20 ± 0.300

3/4 - 16 UNC-3A

19.35 (MAX)

18.34 (MIN)

NOTE:-

1. SHARP CORNERS TO BE REMOVED.

2. 45° CHAMFER FIRST THREAD.

3. THIS DRG IS AS PER STD ANSI-B 18.6.2 - 1972.

MICROFILMED ON

ROLL 1005213

FRAME 371

	φ 22 x 35	15 039 343	SA 105 CERTIFY	NORMALISED	10	8.02	0.11		237
No. OFF	DESCRIPTION	MATL. CODE	FINAL MATL.	HEAT TREATMENT	SCRAM SORT	NET WT (kg)	GROSS WT (kg)	DRG No.	ITEM No.



05-249/A

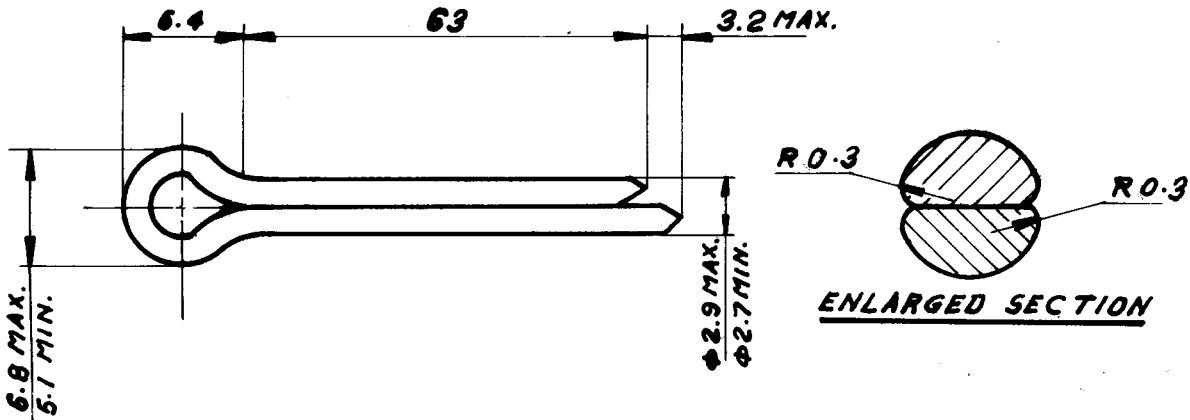
BHARAT HEAVY ELECTRICALS LIMITED

BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

DEPT	VL	CODE	340	SCALE	N.T.S	WEIGHT (kg)	PART No. 2420808	IT. NO.	720	
TITLE							DRAWN	NAME	SIGN	DATE
LOCKING SCREW							CHECKED	VR	26-3-79	
							APPROVED	JA	26-3-79	
							DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 mm. UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE ±			CARD CODE

COMP. CODE: 9307013/0000

BASIC TYPE 1775 0418

TP-DG 4-V-7002-10058 CORPORATE DRG ID		FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)																					
REV 01	DATE 7/5/77	REV 02	DATE	ALTERED	CHECKED																		
NOTES UPDATED. DCN No. SV: 0428																							
																							
NOTE:- 1. THIS DRG. IS AS PER STD. BPS Q1784-7301 EXCEPT MATL. 2. STAINLESS STEEL WIRE OF HALF-ROUND SECTION WITH RADIUS CORNERS. 3. CUT THE PIN LENGTH TO SUIT ASSY.																							
MICROFILMED ON ROLL 00523 FRAME 3294																							
<table><tr><td></td><td>PIN SIZE ϕ 3.2</td><td>96 415 015</td><td>18-8 ST. ST. CERTIFY</td><td>—</td><td>46</td><td>0.01</td><td>—</td><td>183</td></tr><tr><td>NO. OFF.</td><td>DESCRIPTION</td><td>MATL. CODE</td><td>FINAL MATL.</td><td>HEAT TREATMENT</td><td>SCRAP SORT</td><td>NET WT [KG]</td><td>GROSS WT [KG]</td><td>ITEM</td></tr></table>							PIN SIZE ϕ 3.2	96 415 015	18-8 ST. ST. CERTIFY	—	46	0.01	—	183	NO. OFF.	DESCRIPTION	MATL. CODE	FINAL MATL.	HEAT TREATMENT	SCRAP SORT	NET WT [KG]	GROSS WT [KG]	ITEM
	PIN SIZE ϕ 3.2	96 415 015	18-8 ST. ST. CERTIFY	—	46	0.01	—	183															
NO. OFF.	DESCRIPTION	MATL. CODE	FINAL MATL.	HEAT TREATMENT	SCRAP SORT	NET WT [KG]	GROSS WT [KG]	ITEM															
APPL. DRESSER TYPE NOS		BHARAT HEAVY ELECTRICALS LIMITED BOILER PLANT UNIT, TIRUCHIRAPALLI-620014				DR. DRG. NO. ST2-185A/C2372 PART NO. 0087736																	
DEPT YL		CODE 340		SCALE NTS		WEIGHT (kg.)		SL. NO. 265															
TITLE COTTER PIN						<table><tr><td>DRAWN</td><td>NAME V.P.</td><td>SIGN</td><td>DATE 9-7-79</td></tr><tr><td>CHECKED</td><td>VR</td><td></td><td>9-7-79</td></tr><tr><td>APPROVED</td><td>JA</td><td></td><td>9-7-79</td></tr></table>			DRAWN	NAME V.P.	SIGN	DATE 9-7-79	CHECKED	VR		9-7-79	APPROVED	JA		9-7-79			
DRAWN	NAME V.P.	SIGN	DATE 9-7-79																				
CHECKED	VR		9-7-79																				
APPROVED	JA		9-7-79																				
DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE $\pm$ 0.25 mm. UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE $\pm$				CARD CODE		4 V-7002-10058		15															
				4 DRAWING No.		16 REV 17																	

TP-DG 4-V-7009-10067
CORPORATE DRG ID

REV 02
DATE
28.6.97
CHECKED & APPD: W

ALTERED
CHECKED

NOTES UPDATED.
DCN. NO. SY! 0438

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6.4

36

3.2 MAX

6.8 MAX.

5.1 MIN.

2.9 MAX.

2.7 MIN.

R0.3

R0.9

ENLARGED SECTION

NOTE:-

1. ST. ST. WIRE OF HALF-ROUND SECTION WITH RADIUS CORNERS.

~~2. THIS DRG. IS AS PER STD. SPS 41704-7301 EXCEPT MATL.~~

MICROFILMED ON
ROLL 005213 FRAME 320

	PIN SIZE φ 3.2	36 415 036	18-8. ST. ST CERTIFY	46	0-01			188	
No. OFF	DESCRIPTION	MATL CODE	FINAL MATL.	HEAT TREATMENT	SCRAP SORT	NET wt (kg)	GROSS wt (kg)	DRG No.	ITEM No.
 05-249/A		BHARAT HEAVY ELECTRICALS LIMITED BOILER PLANT UNIT, TIRUCHIRAPALLI-620014							
DEPT VL	CODE 340		SCALE N.T.S	WEIGHT (kg) 0.01	DR. DRG No. ST2-185-A / CZ 372 PART No. 73310		Sl. No. 285.		
TITLE COTTER PIN					DRAWN	NAME T.R	SIGN 	DATE 17-12-79	
					CHECKED	VR		17-12-79	
					APPROVED	JA		17-12-79	
DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 mm. UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE ±				CARD CODE	4 DRAWING No. 4-V-7009-10067		15	16 REV 17	

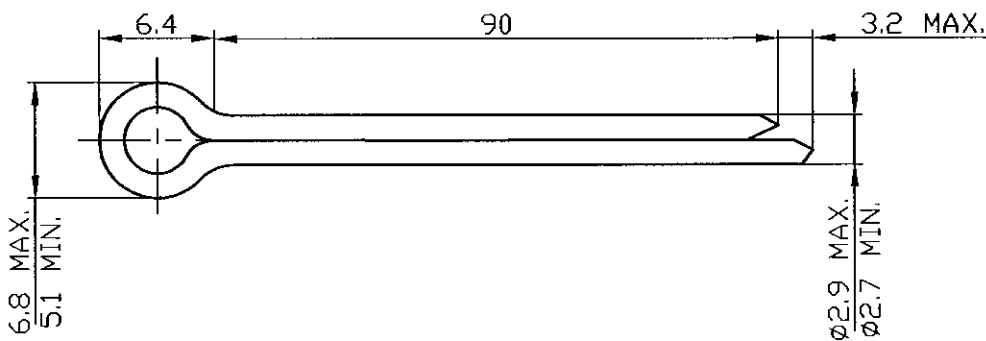
1750WB
CORPORATE DRG ID
TP-DG 4-V-7009-10067
SIZE A-4

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FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

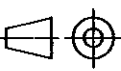
ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
		CHD & APPD



NOTE:

1. STAINLESS STEEL WIRE OF HALF-ROUND SECTION WITH RADIUS CORNERS.
2. CUT THE PIN LENGTH TO SUIT ASSY.

	PIN SIZE $\phi 3.2$	96415582	18-8 ST.ST. CERTIFY	-	46	0.02	-	-	181
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 365-122 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.				DRN	NAME L.RENGA SWAMY		SIGN	DATE 10.07.03	NO.OF VAR
				CHD	V.PERUMAL PILLAI			10.07.03	
				APPD	E.ATHIANNAVI			10.07.03	
DEPT VL			SCALE	WEIGHT (KG).		REFERENCE INFORMATION			NO. OF ITEMS
CODE 340			NTS			DR.DRG.No.:222/EX365 PART No.:2220219/SL.No:10504			
TITLE				CARD CODE	DRAWING NO.				REV
COTTER PIN				U 01	4-V-7132-10512				

COMP.CODE:964155820000

1787WB

Size A4

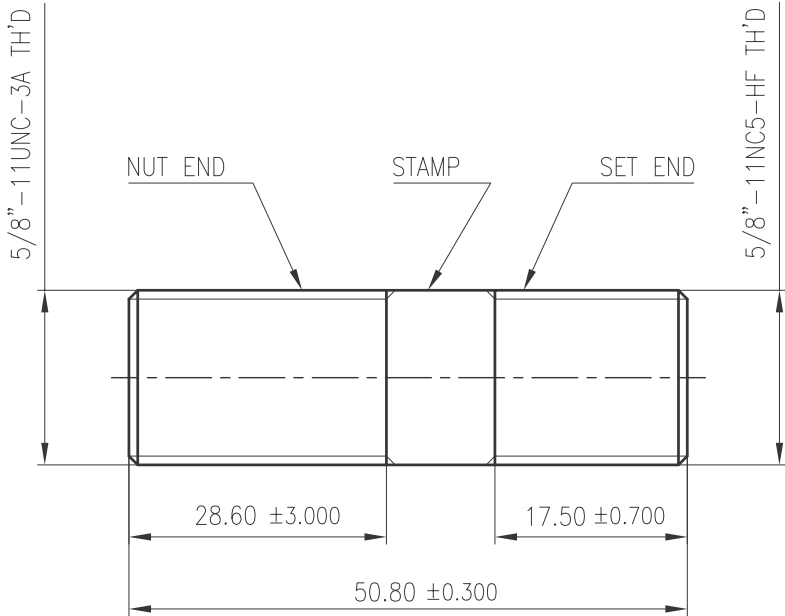
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

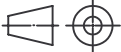
REV	DATE	ALTERED
		CHD & APPD

3.2



NOTES:

- 45° CHAMFER FIRST THREAD.
- PHOSPHATE COAT AS PER LATEST APPLICABLE QUALITY PROCEDURE.

—	ø25X60	15039163	ASTM A193 Gr.B16 CERTIFY	QUENCHED & TEMPERED 265 BHN (MIN)	20	0.08	0.23	—	226
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 365-122 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME N.THAVA	SIGN	DATE 01.03.11	NO.OF VAR
					CHD	S.Madhulingam		01.03.11	
					APPD	E.ATHIANNAVI		01.03.11	
DEPT VL			SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE 340			N T S	—	SL.No. : 8981				
TITLE				CARD CODE	DRAWING NO.				REV
STUD				U 01	4-V-7301-10580				00

COMP. CODE : 93 171 010 0000

173AWP

Size A4

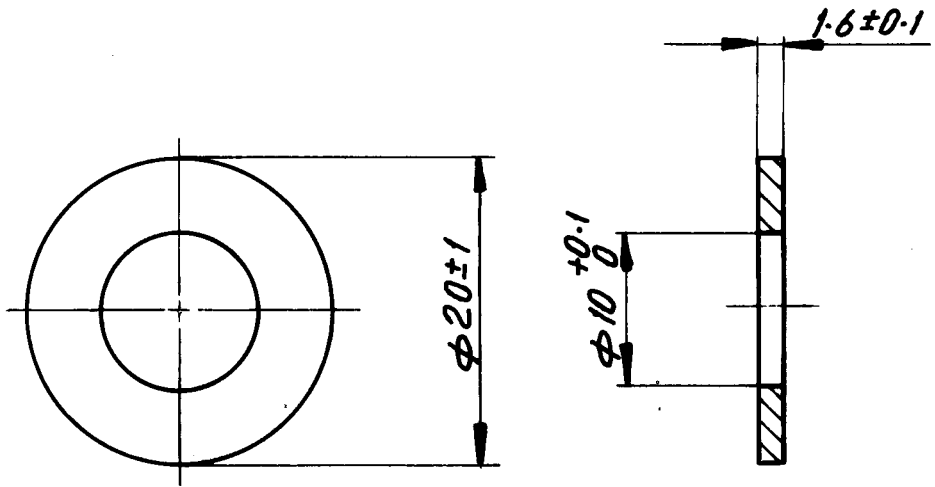
TP-DG-4-V-7501-10174
CORPORATE DRG ID

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REV	DATE	ALTERED
01	28.6.77	CHECKED
02		CHECKED

NOTES UPDATED
DCN. NO. SV: 0438

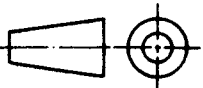
6.3



NOTES:-

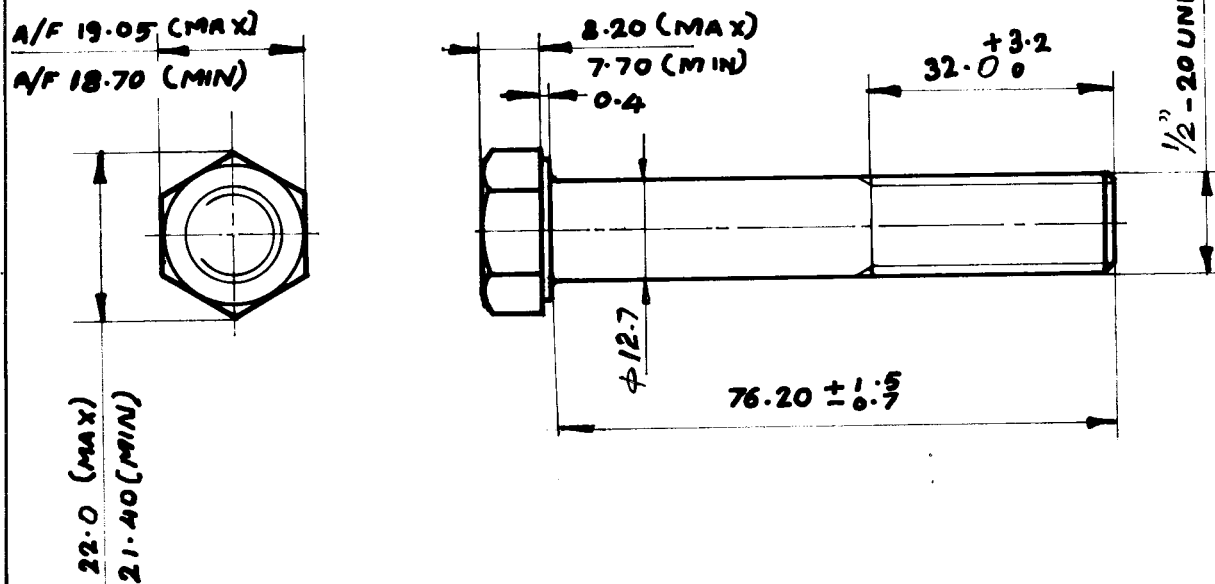
1. MATERIAL:- IS: 2016-67 MILD STEEL.
2. CADMIUM PLATED DICHROMATE DIPPED
3. SHARP EDGES TO BE REMOVED.
4. CODE No: 21 004 402

MANUFACTURED ON
09522 FRAME 12

		Bharat Heavy Electricals Ltd., BOILER PLANT UNIT TIRUCHIRAPALLI-620 014		DRN	NAME N.R	SIGN N. Ramad.	DATE 5-3-81
DEPT. VL		GRADE OF UNQOL DIM C/M/F		CHD	K. B	K. M	5-3-81
CODE 340				APPD	S. R	S. R	5-3-81
TITLE WASHER		SCALE 2:1		WEIGHT (kg) 2.95/1000 PIECES		DRESSER DRG NO: VA 814 PART NO: VA 814 B (REV: CE 600) (REV: 577)	
		CARD CODE U 01		DRAWING NO. 4-V-7501-10174/01		ITEM NO. 513	

TP-DG-4-V-7501-10174
CORPORATE DRG ID

3.2



NOTES

1. SHARP CORNERS TO BE REMOVED.
2. 45° CHAMFER FIRST THRED.

		96415203	SA 105	NORMALISED	0.09			524
NO. OF PIECES	NAME - DIMENSIONS	MATL. CODE	FINAL MATERIAL	HEAT TREATMENT	SCRAP SORT	NET Wt (kg)	GROSS Wt (kg)	DRAWING NO.
REMARKS				TOTAL NET Wt (kg)				
NTS	DRAWN	A. VELUSAMY		ALTERATIONS	DATE	SIGNA- TURE	ALTERA- TION INDEX	
	CHECKED	V. Perum Pillai						
	APPROVED	V.P.		DR. DRG. NO. 215/EX 198				
	STDS. OFFICER			PART NO. 2150126, SL. No. 8918, 8919, 8920				
	DATE	20-3-89						
TYPE		GROUP		OLD DRG.		NEW DRG.		
TITLE		CAP SCREW		DRAWING NO.		4-V-7520-10379		



33-116

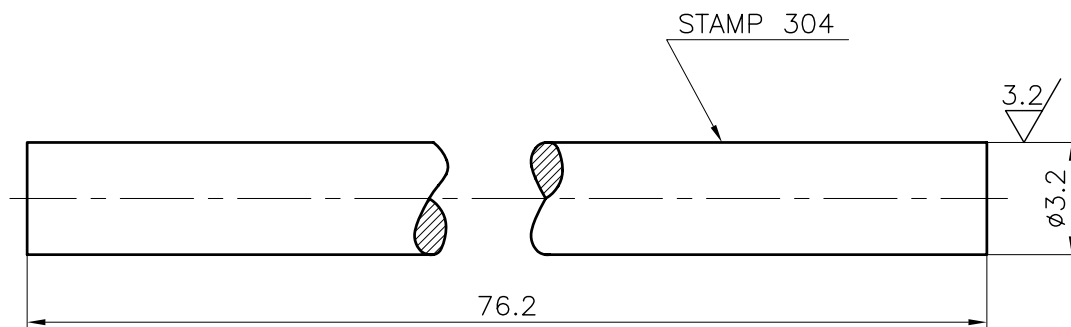
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED	G.V
01	26.10.10	CHD & APPD	E.A

REDRAWN AND UPDATED
FOR SOFT COPY.
DCP NO: 800519

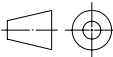
12.5 / 3.2



NOTE:

- BREAK SHARP EDGES.
- TOLERANCE FOR UNTOLERANCED DIMENSION IS ± 0.3 mm.

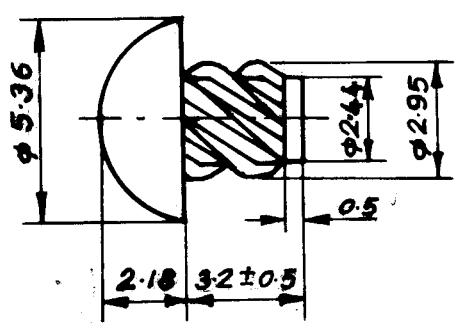
COMP.CODE:964155960000

01	—	—	A182—F304 or AISI 304	SOLUTION ANNEALED	—	0.01	—	—	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN (CERTIFY)	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
 365-122 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.					DRN	NAME G.VENKATESWARALU		DATE 27.03.06	NO.OF VAR
					CHD	E.ATHIANNAVI		27.03.06	
					APPD	E.ATHIANNAVI		27.03.06	
DEPT VL		SCALE NTS	WEIGHT (KG). 0.01	REFERENCE INFORMATION					NO. OF ITEMS
CODE 340				DR.PART.NO:2110126,SL.NO:1343 REV:EC 855 REF.DRG.NO:4—V—8815—13066					
TITLE PIN				CARD CODE U 01	DRAWING NO. 4—V—8815—13848				REV 01

Size A4

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REV 01	DATE	ALTERED
CHECKED	REV 02	CHECKED



NOTE:-

THIS COMPONENT IS IDENTICAL TO BPS 416-01-3x101 EXCEPT LENGTH. MICROFILMED ON

MATERIAL:-

LOW CARBON STEEL UP TO 0.18 %C
NICKEL PLATED.

CODE :- 96162131



BHARAT HEAVY ELECTRICALS LIMITED
BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

DEPT VL	CODE 340		SCALE 5:1	WEIGHT (kg.) .0003	REF. TO ASSY. DRG.	IT.No. 235		
TITLE DRIVE SCREW					DRAWN	NAME K.S.RATU	SIGN 	DATE 17.5.79
					CHECKED	K.B	K.N.H	17.5.79
					APPROVED	D.K	D.K	17.5.79
DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 mm. UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE $\pm$				CARD CODE	4 DRAWING NO. 4-V-9000-13082			

4-A SIZE 4 V 9000 13091

TP-DG 4-V-9096-13194
CORPORATE DRG ID

REV	DATE	ALTERED	K.N. Ramani
01	4.8.81	CHECKED	2/2
REV	DATE	ALTERED	K.N. Ramani
02	5.10.81	CHECKED	2/2

1. RAW MATL. BMCQ-45 WAS
IS:1367 CLASS 6-6
2. NOTES:- 2&3 ADDED.

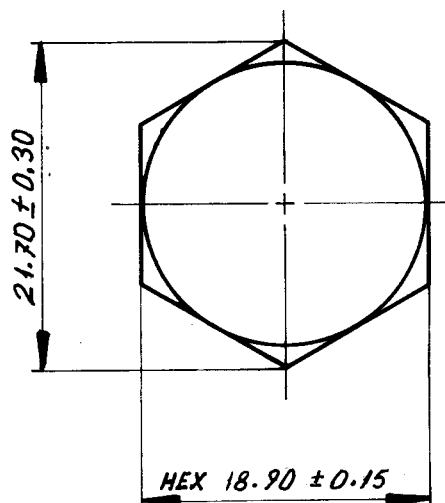
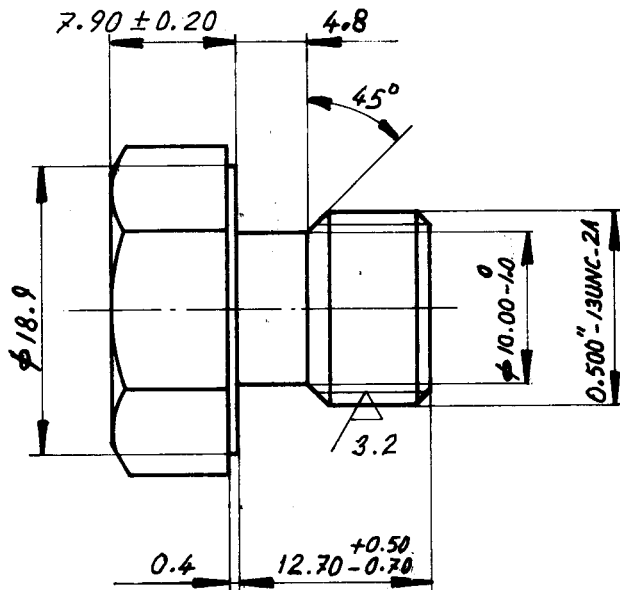
1. RAW MATL. ASTM A 194 Gr.4 WAS
BMCQ-45 AND ITS DETAILS CHANGED
2. HARDNESS:- 24-38 HRC WAS
190-240 BHN.

REV	DATE	ALT:	Mh
03	10.3.97	CHD. & APPD.	2/2

NOTES UPDATED.

DCN:SR: 0184

6.3 / 3.2



NOTE:-

1. 45° CHAMFER FIRST THREAD.
2. HARDNESS:- 24-38 HRC
3. PHOSPHATE COAT AS PER APPLICABLE QUALITY PROCEDURE.

MICROFILMED ON

005121 4112



01	BAR $\phi 32 \times 26$	15039222	Q&T	ASTM-A194-Gr.4	10	0.01	0.16	93075594.	158
NO OFF	DESCRIPTION	MATL. CODE	HEAT TREATMENT	MATL. SPECN (CERTIFY)	SCRAP SORT	NET WEIGHT	GRDS RECD	COMP. CODE	ITEM NO



05-249/A

BHARAT HEAVY ELECTRICALS LIMITED
BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

DEPT	VL	CODE	340		SCALE	2:1	WEIGHT (kg)	0.01	REF. TO ASSY. DRG.	IT.No		
TITLE SEALING PLUG									DRAWN	NAME	SIGN	DATE
									CHECKED	K.B	K.B	16/5/80
									APPROVED	D.K	D.K	16/5/80

DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 mm UNLESS OTHERWISE SHOWN. NON-MACHINING TOLERANCE $\pm$

CARD CODE

4 DRAWING NO.

4.V. 9096.13194

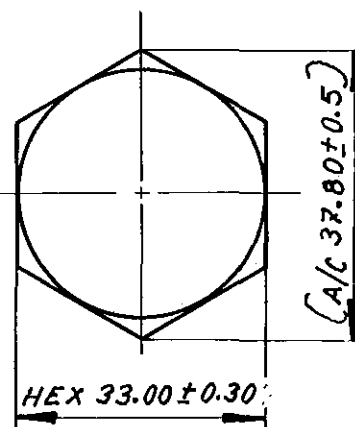
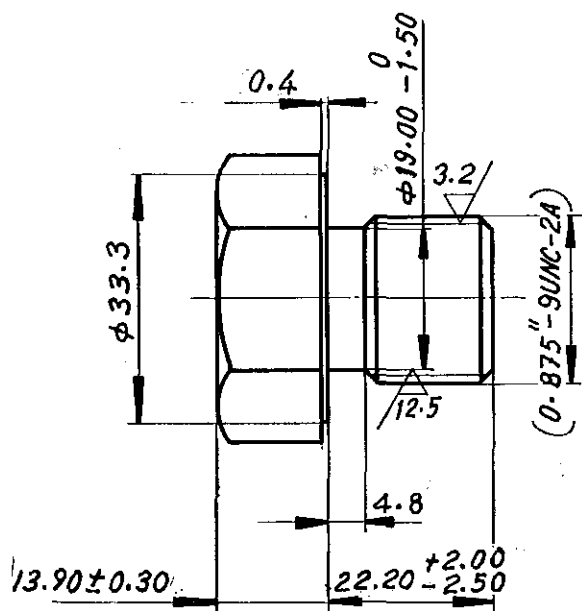
15 16 REV 17

03

TP-DG 4-V-9096-13194
CORPORATE DRG ID
SIZE A-4

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REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
01	4.8.81	K.N. Ramu	02	5.10.81	K.N. Ramu	03	10.3.97	END APPRO
1. RAW MATL. BMCQ-45 WAS IS: 1367 CLASS 6-6			1. RAW MATL. ASTM A194-Gr.4 WAS BMCQ-45 AND ITS DETAILS CHANGED			NOTES UPDATED.		
2. NOTES: 2 & 3 ADDED.			2. HARDNESS 24-38 HRC WAS 190-240 BHN.			DCH:SR: 0184		

**NOTE:-**

- 45° CHAMFER FIRST AND LAST THREAD.
- HARDNESS: 24-38 HRC.
- PHOSPHATE COAT AS PER LATEST APPLICABLE QUALITY PROCEDURE.

MICROFILMED ON
CO522 509

01	BAR $\phi 40 \times 43$	15039340	Q&T	ASTM A194-Gr 4	10	0.16	0.42	93076030	158
No. OFF	DESCRIPTION	MATL. CODE	HEAT TREATMENT	MATL. SPECN. (CERTIFY)	SCRAP SORT	NET WT. (kg)	GROSS WT. (kg)	COMP. CODE	ITEM NO.



05-249/A

BHARAT HEAVY ELECTRICALS LIMITED
BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

(REV. EX 095)

DEPT	CODE		SCALE	WEIGHT (kg.)	DRESSER DRG. No. 251437. (4541) PART No. 5143702.		IT. NO.	
VL	340		1:1	0.16			158	
TITLE SEALING PLUG					DRAWN	NAME E. ATHI ANNAYI	SIGN 	DATE 16.5.80
					CHECKED	K. B.		16.5.80
					APPROVED	D. K.		16/5/80

DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS
SHOWN. MACHINING TOLERANCE ± 0.25 mm. UNLESS
OTHERWISE SHOWN NON-MACHINING TOLERANCE $\pm$ CARD
CODE

DRAWING No.

4-V-9098-13158

15 REV 17

03

DIMENSIONS TO BE CONTROLLED WITHIN LIMITS AS SHOWN. MACHINING TOLERANCE ± 0.25 mm. UNLESS OTHERWISE SHOWN NON-MACHINING TOLERANCE $\pm$

4 DRAWING NO.

CARD	CODE
1	1
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99	99
100	100

4-V-9400-13123

PIPE PLUG [SOLID]

	NAME	SIGNATURE	DATE
DRAWN	R. L.	<i>[Signature]</i>	
CHECKED	K. B.	<i>[Signature]</i>	26.9.79
APPROVED	D. F.	<i>[Signature]</i>	3.10.79

TITLE

IT NO. 213 (166X)
DRESSER PART NO:- 2130501

DEPT	CODE	SCALE	WEIGHT (kg)	IT. NO.
VI	340		2:1 0.05	DRG NO:- 213 (1667) DRESSER PART NO:- 2130501

[illegible]

05-249/A

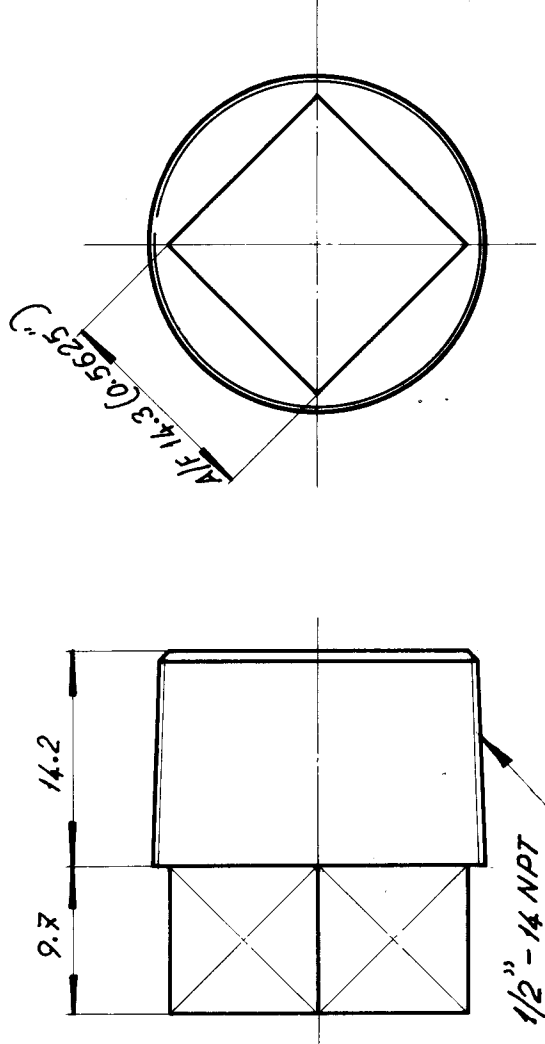
BHARAT HEAVY ELECTRICALS LIMITED
BOILER PLANT UNIT, TIRUCHIRAPALLI-620014

(REV:-FJ74Z)

NOTE:-

1. PIPE PLUG AS PER ANSI B16.14-1977.
2. 45° CHAMFER FIRST THREAD.
3. DEBURR SHARP EDGES

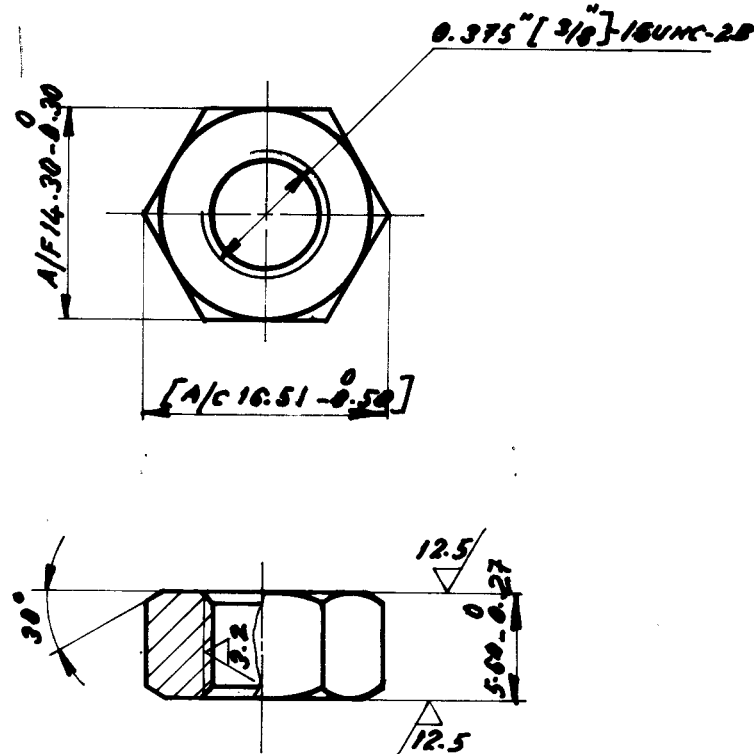
NOV 22 1964



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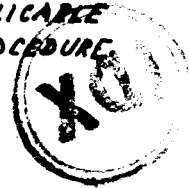
~~CORPORATE DRG ID~~
~~TP-DG-4-V-9400-13123~~

6.3 / 12.5 / 3.2



NOTES:-

1. HEX. JAM NUT IN THIS DRG. IS AS PER AMERICAN STD. B 18.2.2
2. JAM NUT SHOULD BE MANUFACTURED AND TESTED AS PER LATEST APPLICABLE [QUALITY PROCEDURE]
3. HARDNESS:- 24 - 38 HRC
4. PHOSPHATE COAT AS PER LATEST APPLICABLE QUALITY PROCEDURE.



01	25 X 11.5	Q & T	15 039 221	ASTM A194 GR. 4	10	0.01	0.04	93-175737	132
NO. OF PIECES	DESCRIPTION	HEAT TREATMENT	MATL. CODE	MATL. SPECN. [CERTIFY]	SCRAP SORT	NET Wt (kg)	GROSS Wt (kg)	COMP. CODE	ITEM NO.
REMARKS				TOTAL NET WT (kg)					
SCALE	DRAWN	M.R.C	DRESSER DRG NO.	ALTERATIONS	DATE	SIGNA- TURE	ALTERA- TION INDEX		
NTS	CHECKED	K.S. RAJU	221 PIN 2210103						
	APPROVED	V.M	REV. EX 537 (9534)						
	STDS. OFFICER		TRANS. COPY NO.						
	DATE	25/8/83.							
TYPE		GROUP		OLD DRG.		NEW DRG.			
TITLE				DRAWING NO.					
JAM NUT 0.375 [3/8"]				4-V-9945-13548				01	