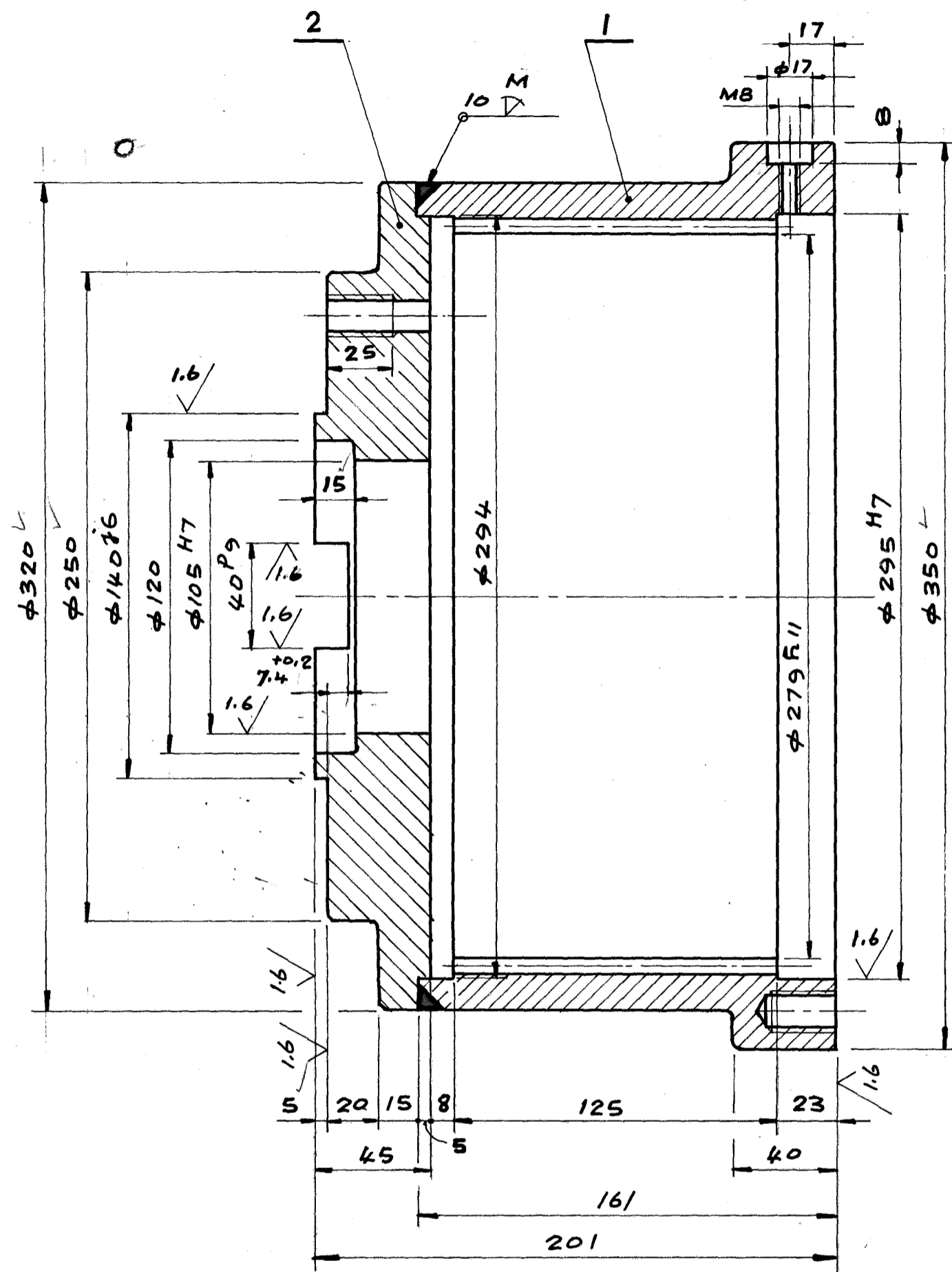


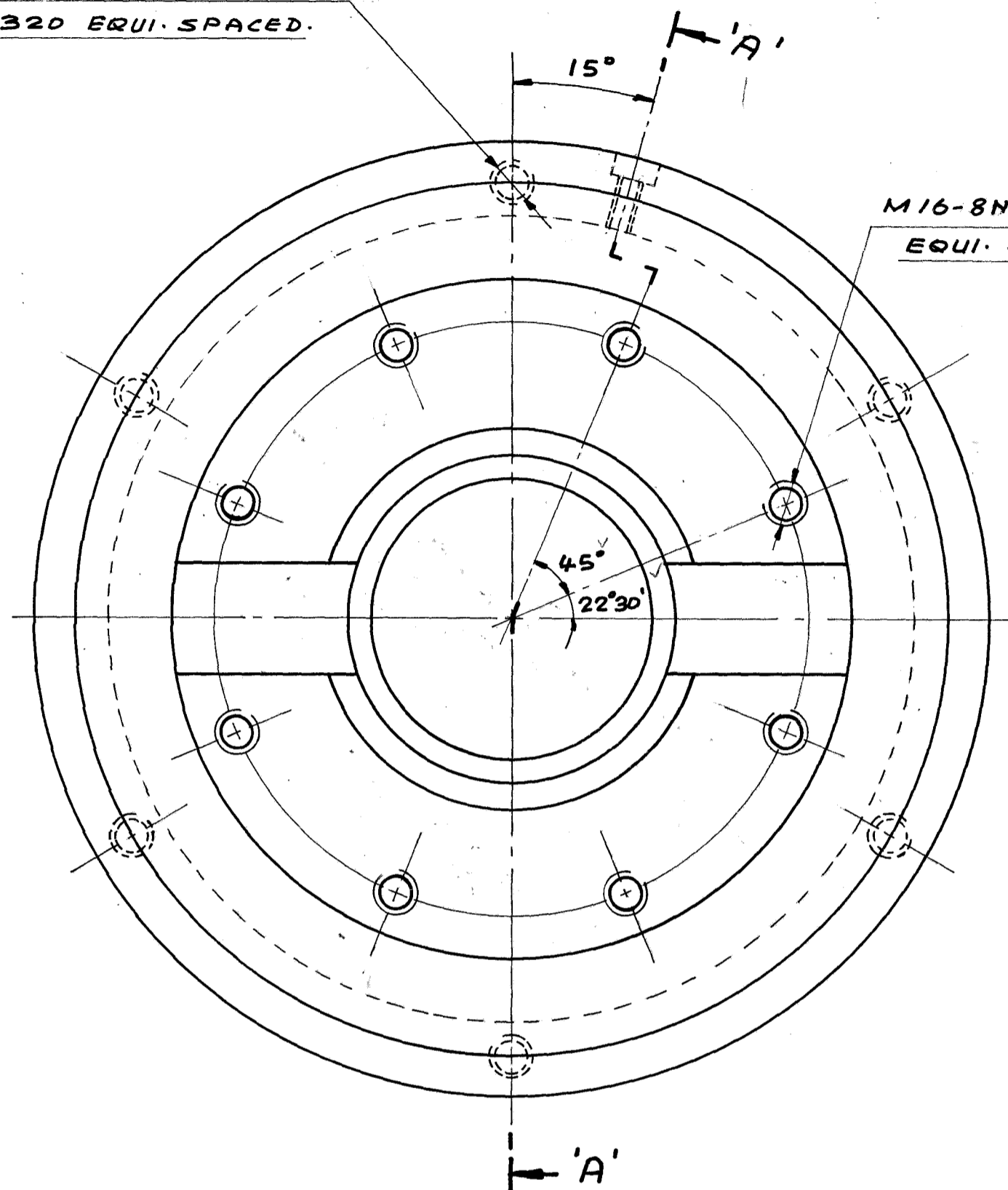
05-228 / C

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SEC-'AA'

M16-6N^o-25 DEEP ON
PCD 320 EQUI-SPACED.



M16-8N^o ON PCD 218
EQUI-SPACED.

φ295 H7	+0.052
	0
φ279 H11	0
	-0.320
φ140 I6	+0.014
	-0.011
φ105 H7	+0.035
	0
40 P9	-0.026
	-0.088

N ^o OF TEETH	95
MODULE	3
PRESSURE ANGLE	20°
CORRECTION FACTOR	0.00
QUALITY & TOLERANCE ZONE	9C DIN 3967
DIA OF WIRE	5.184
DISTANCE BETWEEN WIRES.	277.487
MATING GEAR DRG. N ^o	4-7-1136-05-03396
MATING GEAR N ^o OF TEETH	95
CENTRE DISTANCE	0.00

2	pe. 50 φ320 x φ105		Fe 410 WC 15:2062	1	28.0
1	TUBE φ368 x 50t 1B0R		15/091/267/60 SA 335 P 22	1	24.4
ITEM NO.	DESCRIPTION	DRAWING NO.	MATL CODE	UNIT WT	QTY
			MATL SPEC		

EQPT:- REELER

	Bharat Heavy Electricals Ltd.,		DRN	NAME	SIGN	DATE	NO. OF
	SEAMLESS STEEL TUBE PLANT		CHD	SSN: KUMAR		19-3-87	ITEMS
	TIRUCHIRAPALLI-620 014		APPD				23-380

REV 01	DATE 14-12-96	ALTERED T. KUMAR	DEPT	GRADE OF UNTO. DIM	SCALE	WEIGHT (kg)	REF TO ASSY	OLD DRG	ITEM NO.
		CHECKED: J. JAYAL	CODE	φ/M/F	1:2	52.4	2-7-1136-08-02267		01
ZONE	APPD:								
TITLE MTL SPCN. Fe 410 WC 15:2062 FOR ITEM 2 WAS C-16 15:2062.									

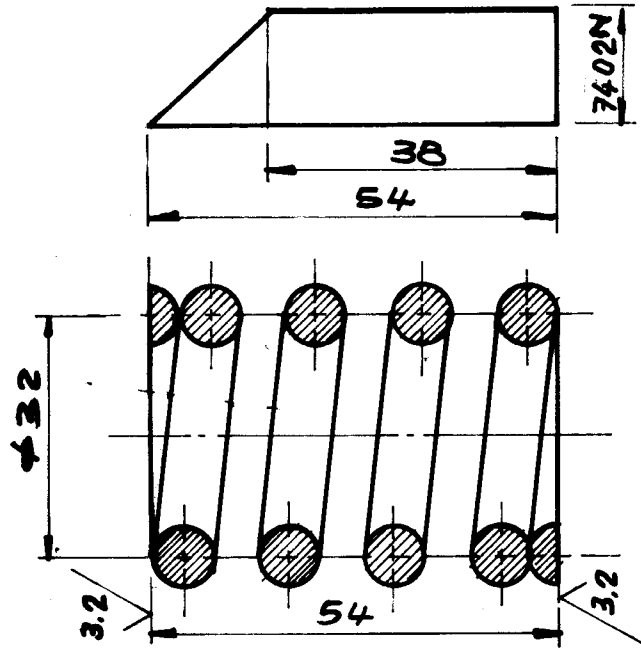
TITLE CLUTCH BODY CLUTCH ASSY.		CARD CODE	DRAWING NO.	REV
		U 01	2-7-1136-08-01850	01

S 27-009

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REV 01	DATE 8-7-87	ALTERED <i>[Signature]</i>	CHECKED <i>[Signature]</i>
ZONE HAND OF HELIX ADDED			

2 / 3.2 / 1



1 mm = 500N

- MEAN COIL DIAMETER : 32
- WIRE DIAMETER : 3
- EFFECTIVE N^o OF COILS : 2.75
- TOTAL N^o OF COILS : 4.75
- FREE LENGTH : 54
- PRE STRESSED LENGTH :
- MAXIMUM PRESSURE : 7402N
- SPRING CONSTANT : 463N/mm
- ENDS TO BE SQUARED AND GROUND
- TO BE HARDENED AND TEMPERED.
- HAND OF HELIX : L.H

ITEM NO.	DESCRIPTION	IS:1570	
		SOCK I V 23	
		MATL CODE	UNIT WT
		MATL SPEC	QTY

EQPT:- REELER

Bharat Heavy Electricals Ltd., SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620 014	DRN	NAME	SIGN	DATE	
	'CHD	SSN KUMAR	<i>[Signature]</i>	21-3-87	
	APPD		<i>[Signature]</i>	17 06 87	
DEPT	GRADE OF UNTO. DIM	SCALE	WEIGHT (kg)	REF TO ASSY / DRG	ITEM NO.
CODE	C/M/F	1:1		2-7-1136-08-02267	08
TITLE		CARD CODE	DRAWING NO.	REV.	
COMPRESSION SPRING		U 01	4-7-1136-08-03403	01	
CLUTCH ASSY.					

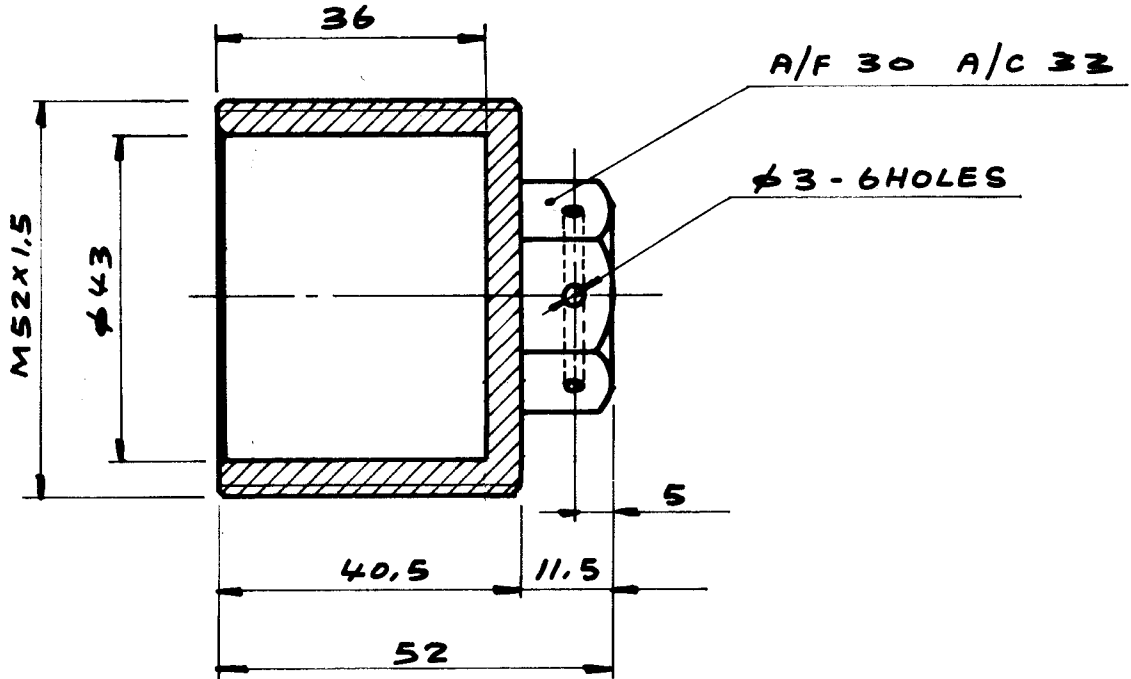
FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

S 27-009

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REV 01	DATE 19.39	ALTERED <i>[Signature]</i>
		CHECKED J. UNIL
ZONE	APPD. <i>[Signature]</i>	
MATL SPEC. 30CB IS:1875		
NAS C30 IS:2073		

3,2



NOTE :-

SHARP CORNERS TO BE CHAMFERED TO 1 X 45°

			30CB IS:1875
ITEM NO.	DESCRIPTION	MATL CODE	UNIT WT
		MATL SPEC	QTY

EXPT:- REELER



Bharat Heavy Electricals Ltd.,
SEAMLESS STEEL TUBE PLANT
TIRUCHIRAPALLI-620 014

DRN	NAME SSN.KUMAR	SIGN <i>[Signature]</i>	DATE 20.3.87
CHD	A.AROCKIAM	J-UNIL	20.3.87
APPD		<i>[Signature]</i>	23.3.87

DEPT	GRADE OF UNTOL. DIM C/M/F	SCALE 1:1	WEIGHT (kg) 0.42	REF TO ASSY / DRG 2-7-1136-08-02267	ITEM NO. 07
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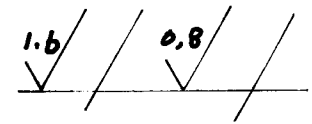
TITLE SPRING RETAINER CLUTCH ASSY.	CARD CODE U 01	DRAWING NO. 4-7-1136-08-03402	REV. 01
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S 27-009

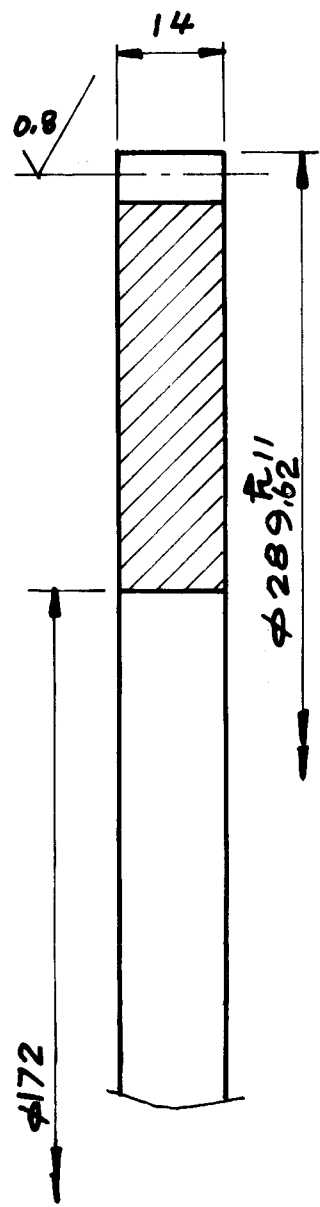
FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

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REV 01	DATE 14-3-87	ALTERED <i>[Signature]</i>
		CHECKED A. CHANL
ZONE	APPD: <i>[Signature]</i>	
	MATL. SPEC. 55CB/IS:5517	
	WASCSSMATS 16:5517	



$\phi 289,62$	R11	0
		-0,320



NO OF TEETH	95
MODULE	3
PRESSURE ANGLE	20°
CORRECTION FACTOR	- 0,23
WIDTH ACROSS 11 TEETH	96,511 -0,178 -0,237
QUALITY & TOLERANCE ZONE	9C DIN 3967
MATING GEAR DRG. NO.	2-7-1136-08-01850
MATING GEAR NO OF TEETH	95
CENTRE DISTANCE	0,0

ITEM NO.	DESCRIPTION	MATL CODE	UNIT WT
		MATL SPEC	QTY
		55CB IS:5517	

EGPT:- REELER,



Bharat Heavy Electricals Ltd.,
SEAMLESS STEEL TUBE PLANT
TIRUCHIRAPALLI - 620 014

DRN	NAME SSN. KUMAR	SIGN <i>[Signature]</i>	DATE 10-3-87
CHD	A. AROCKIAM	A. CHANL	10-3-87
APPD		<i>[Signature]</i>	23-3-82

DEPT	GRADE OF UNTOL. DIM C/M/F	SCALE 1:1	WEIGHT (kg) 4,46	REF TO ASSY / DRG 2-7-1136-08-02267	ITEM NO. 06
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TITLE	CARD CODE	DRAWING NO.	REV.
CLUTCH PLATE-END CLUTCH ASSY. 95T	U 01	4-7-1136-08-03396	01

S 27-009

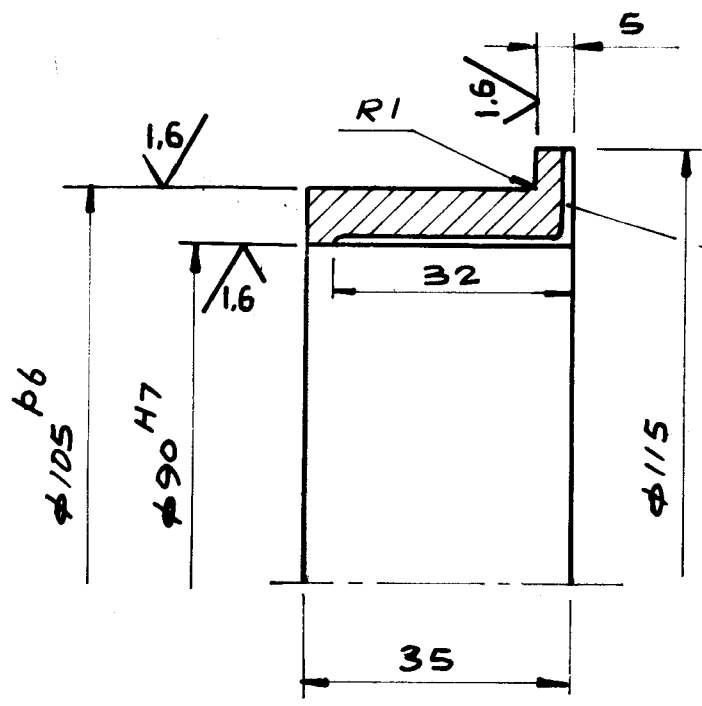
FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

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REV 01	DATE	ALTERED
		CHECKED
ZONE		

3.2/ / 1.6/ /

φ105 p6	+0.059
	+0.037
φ90 H7	+0.035
	0



30/L GROOVES 2x1.5 DEEP @ 120° EQUI. SPACED

NOTE

SHARP CORNER TO BE CHAMFERED TO 0.5x45°

		IS: 28	
		P BRONZE Gr1	
ITEM NO.	DESCRIPTION	MATL CODE	UNIT WT
		MATL SPEC	QTY

EQPT:- REELER



Bharat Heavy Electricals Ltd.,
SEAMLESS STEEL TUBE PLANT
TIRUCHIRAPALLI-620 014

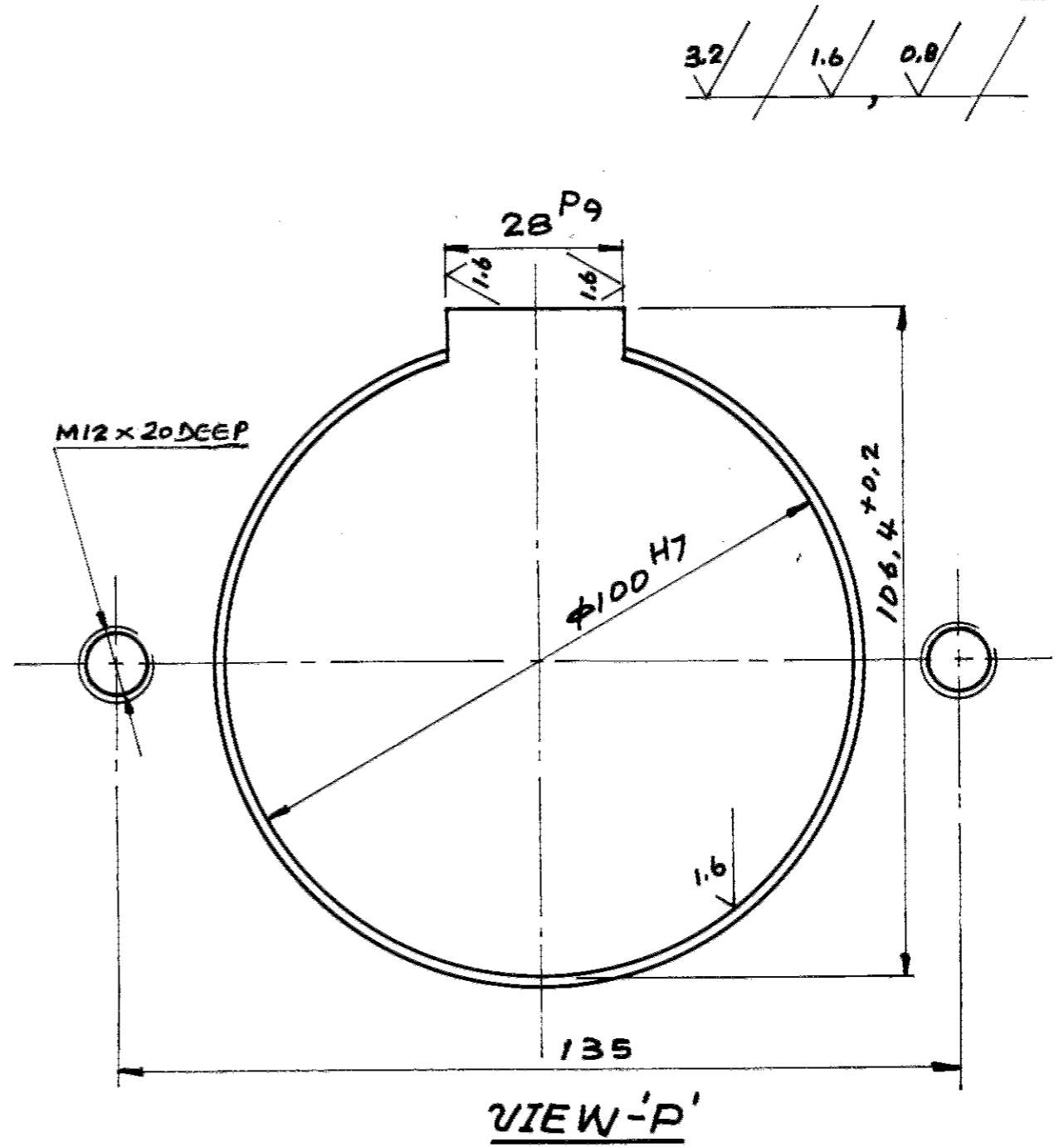
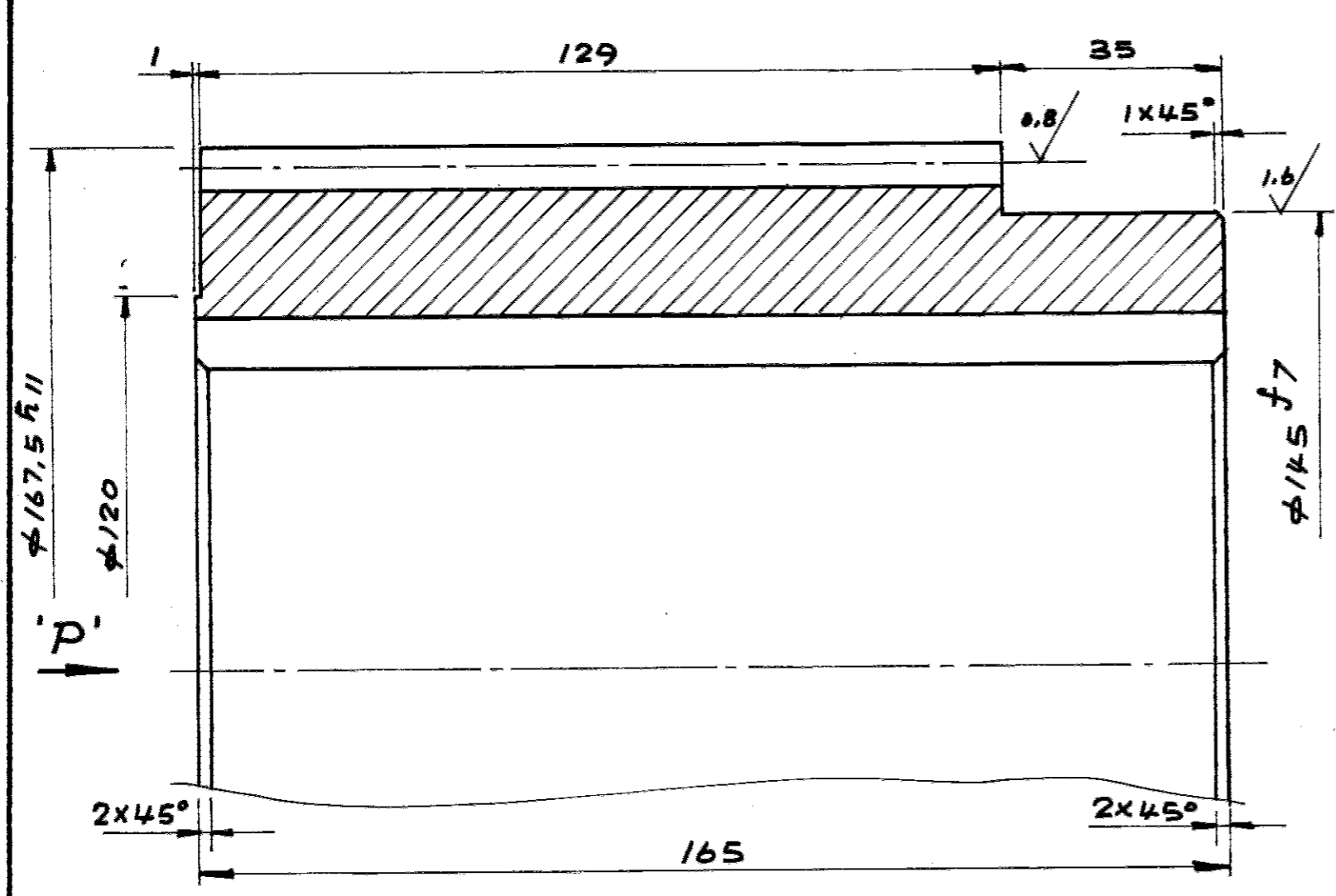
DRN	NAME SSN.KUMAR	SIGN <i>[Signature]</i>	DATE 19.2.87
CHD			
APPD		<i>[Signature]</i>	20.2.87

DEPT	GRADE OF UNTO. DIM e/M/P	SCALE 1:1	WEIGHT (kg) 0.75	REF TO ASSY / DRG 2-7-1136-08-02267	ITEM NO. 04
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TITLE BUSH CLUTCH ASSY.	CARD CODE U 01	DRAWING NO. 4-7-1136-08-03378	REV. 00
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S 27-010

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NO. OF TEETH	54
MODULE	3
PRESSURE ANGLE	20°
CORRECTION FACTOR	0.00
WIDTH ACROSS 7 TEETH	59.835 ^{-0.158} / _{-0.210}
QUALITY & TOLERANCE ZONE	9C DIN 3967
MATING GEAR DRG. NO.	
MATING GEAR NO. OF TEETH	54
CENTRE DISTANCE	0.0

φ167.5 R11	0
	-0.250
φ145 f7	-0.043
	-0.083
φ100 H7	+0.035
	0
28 P9	-0.022
	-0.074

ITEM NO.	DESCRIPTION	DRAWING NO.	55 CB 16:5517	UNIT WT
			MATL SPEC	QTY

EQPT:- REELER

<p>Bharat Heavy Electricals Ltd., SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI-620 014</p>	DRN	NAME	SIGN	DATE	NO. OF ITEMS
	CHD	A. BRICKMAN	J. JNNL	10-3-87	
	APPD			22-3-87	

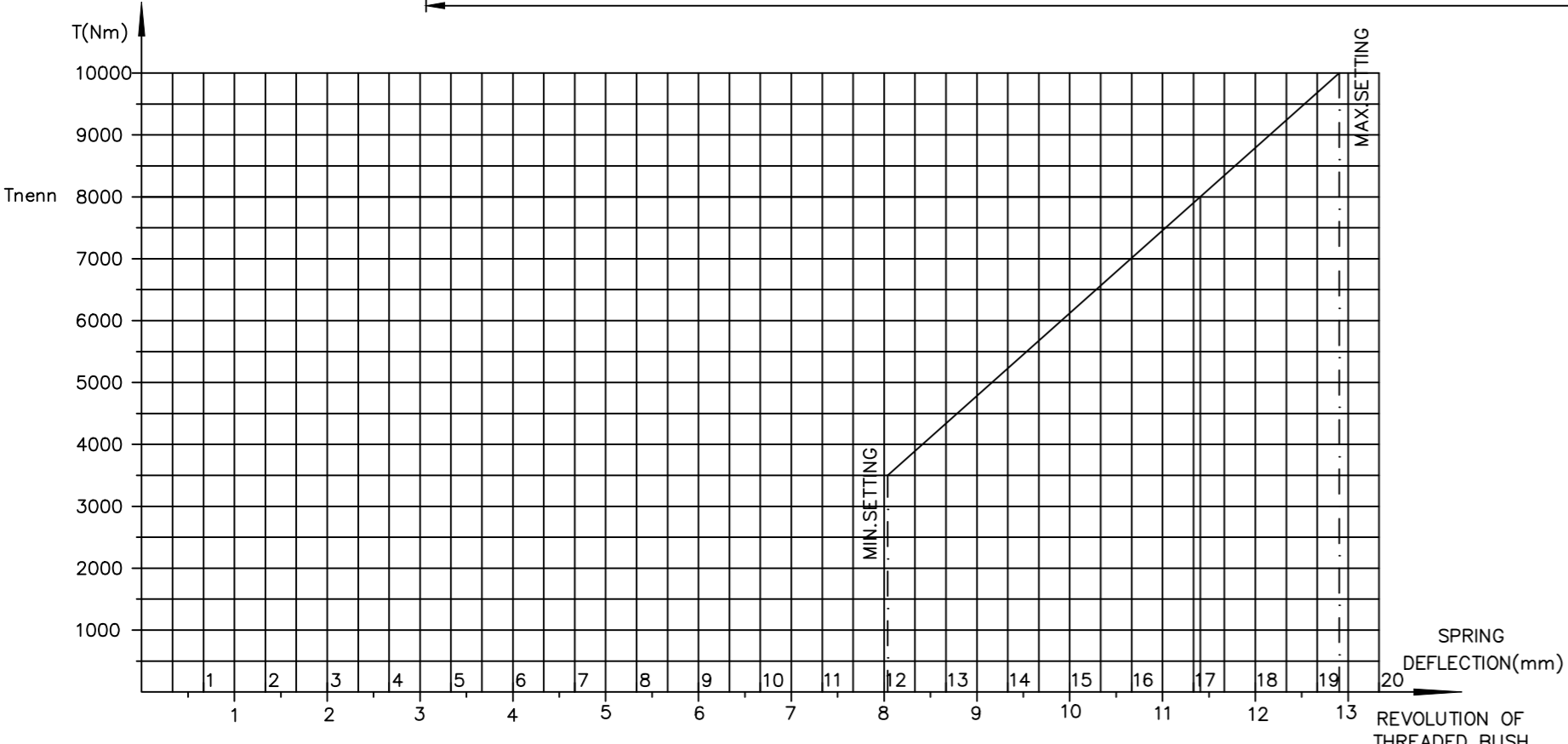
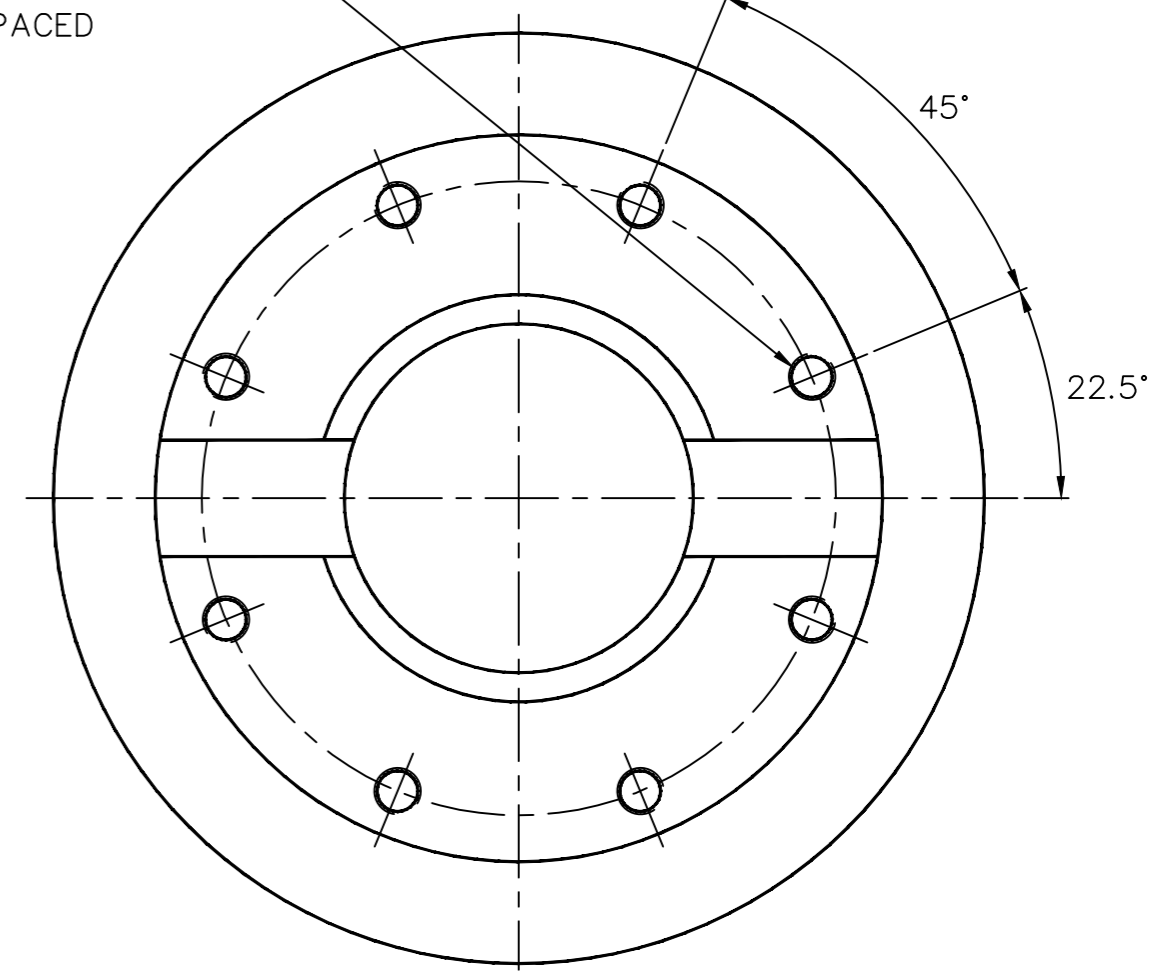
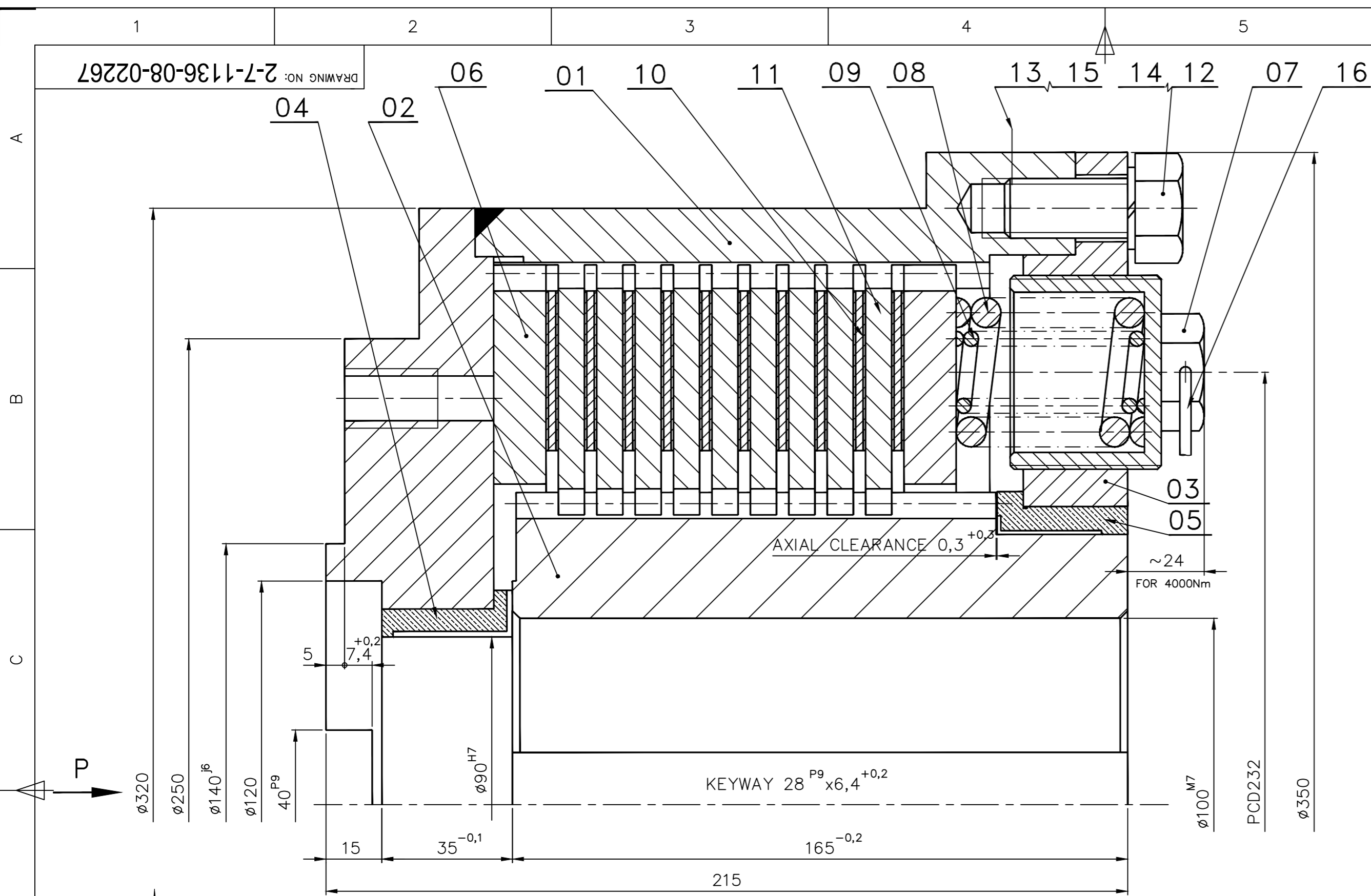
REV	DATE	ALD	REV	DATE	ALTERED
02	10-6-02	CHD:- APPD:-	01	04/12/96	CHECKED J. JNNL
M12x20 DEEP WAS M12x2 - 20 DEEP			MTL SPEN. 55 CB 16:5517 WAS C55 Mn 75 16:5517		

DEPT	GRADE OF UNTO DIM	SCALE	WEIGHT (kg)	REF TO ASSY / QTY DRG	ITEM NO.
	C M F	1:1	16.53	2-7-1136-08-02267	02
TITLE			CARD CODE	DRAWING NO	REV
CLUTCH GEAR CLUTCH ASSY. 54T			U 01	3-7-1136-08-02624	02

79220-80-9311-1-1-2-2
DRAWING NO.:

ALL DIMENSIONS ARE IN MILLIMETERS

M16x25DEEP-8Nos ON PCD 218
EQUI.SPACED



16	LOCK WIRE $\phi 2 \times 900L$		AISI304	1
15	SPRING WASHER B8		IS: 6735	0,002
14	SPRING WASHER B16		IS: 3063	0,008
13	SLOTTED CHEESE HEAD SCREW M8x15L		IS: 1366	0,005
12	HEX.HD.SCREW M16x35L		IS: 1367	0,084
11	CLUTCH PLATE(INNER)			9
10	CLUTCH PLATE(OUTER)			10
09	COMPRESSION SPRING	4-7-1136-08-03404	IS: 1570 50Cr1V23	6
08	COMPRESSION SPRING	4-7-1136-08-03403	IS: 1570 50Cr1V23	6
07	SPRING RETAINER	4-7-1136-08-03402	30C8 IS:1875	0,42
06	CLUTCH PLATE END	4-7-1136-08-03396	55C8 IS: 5517	4,46
05	BUSH	4-7-1136-08-03380	PCuSn7 IS: 28	1,2
04	BUSH	4-7-1136-08-03378	PCuSn7 IS: 28	0,75
03	COVER	3-7-1136-08-02630	30C8 IS:1875	10,6
02	CLUTCH GEAR	3-7-1136-08-02624	55C8 IS: 5517	16,53
01	CLUTCH BODY	2-7-1136-08-01850	SUB ASSY	52,4
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE	UNIT WT
			MATL SPEC	QTY

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REV 02	DATE 24.03.14	CHECKED APPROVED	<i>S.N. Kumar</i> <i>R. Raghav</i> <i>S. Loganathan</i>	REV 01	DATE 20.3.97	CHECKED APPROVED	<i>S.N. Kumar</i> <i>A. Arackiam</i> <i>S. Hanmugasundaram</i>
NEW BORDER INSERTED.				MATL.SPEC. 55C8 IS: 5517 AND 30C8 IS: 1875 FOR ITEMS 02,06 & 03,07 WERE C55Mn25 IS: 5517 AND C30 IS: 2073 RESPECTIVELY			

EQPT: REELER

	Bharat Heavy Electricals Ltd		DRN	NAME	SIGNATURE	DATE
	SEAMLESS STEEL TUBE PLANT		CHD	SSN.KUMAR	<i>S.N. Kumar</i>	5.9.94
	TIRUCHIRAPALLI - 620014		APPD	A.AROCKIAM	<i>A. Arackiam</i>	5.9.94
DEPT S5TP	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM	
456	$\phi / M / \#$ IS: 2102	1:1 1:2,5	94,0	REF TO OLD DWG NO		
TITLE			CARD CODE	DRAWING NO :	REV	
REE - CLUTCH ASSY-8000Nm TOP & BOTTOM ROLL DRIVE			U 01	2-7-1136-08-02267	02	

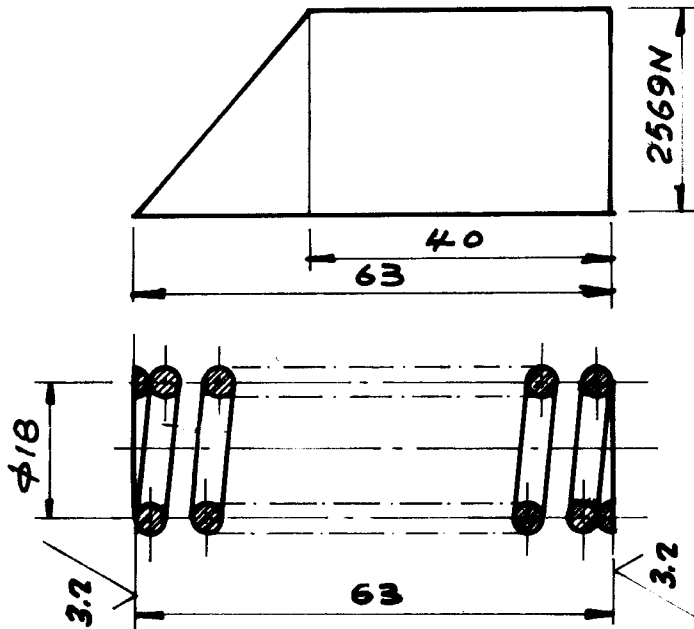
FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

S 27-009

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REV 01	DATE 3-7-87	ALTERED <i>[Signature]</i>
ZONE	HAND OF HELIX ADDED	

~ / 3.2 /



1 mm = 100 N

- MEAN COIL DIAMETER : 18
- WIRE DIAMETER : 4
- EFFECTIVE N^o OF COILS : 8
- TOTAL N^o OF COILS : 10
- FREE LENGTH : 63
- PRE STRESSED LENGTH : —
- MAXIMUM PRESSURE : 2569 N
- SPRING CONSTANT : 112 N/mm
- ENDS TO BE SQUARED AND GROUND
- TO BE HARDENED AND TEMPERED
- HAND OF HELIX : R.H

		IS:1570	
		50 Cr V 23	
ITEM NO.	DESCRIPTION	MATL CODE	UNIT WT
		MATL SPEC	QTY

EQUIP:- REELER



Bharat Heavy Electricals Ltd.,
SEAMLESS STEEL TUBE PLANT
TIRUCHIRAPALLI 620 014

DRN	NAME	SIGN	DATE
CHD	SSN.KUMAR	<i>[Signature]</i>	21.3.87
APPD		<i>[Signature]</i>	23-3-87

DEPT	GRADE OF UNTOL. DIM	SCALE	WEIGHT (kg)	REF TO ASSY / DRG	ITEM NO.
CODE	C/M/F	1:1		2-7-1136-08-02267	09

TITLE	CARD CODE	DRAWING NO.	REV
COMPRESSION SPRING CLUTCH ASSY.	U 01	4-7-1136-08-03404	01