



# BHARAT HEAVY ELECTRICALS LIMITED

( A Government of India Undertaking )  
HIGH PRESSURE BOILER PLANT  
PURCHASE DEPARTMENT - FOSSIL BOILERS  
THIRUCHIRAPALLI - 620014  
TAMILNADU (INDIA)

PHONE :2577629  
GRAMS : BHARATELEC  
FAX NO: 2520719  
E-mail: srchandran@bheltry.co.in  
Web:

429-002/A

	<b>Enquiry No</b>	<b>Enquiry Date</b>	<b>Due Date for Quotation</b>
	2661400124 - 55	22.02.2014	31.03.2014
Please quote Enquiry No, Date and due date in all correspondences. This is only a request for quotation and not an order			

Item	Description	Unit	Quantity	Delivery Quantity	Schedule Date
10	7512B1601200 FRONT OUTER RACE LOCK NUT (L.H) AS PER DRG. NO. 3M-12B-16-7887 NOTE:SL.NO. 10 TO 120 ARE MATING COMPONENTS. HENCE THESE ITEMS SHOULD BE PROCURED FROM SINGLE SOURCE ONLY. COMMON NOTE FOR SL.NO. 10 TO 260: (1)VENDOR SHALL SUBMIT THE MATERIAL TEST CERTIFICATE OBTAINED FROM APPROVED AGENCIES WHILE DELIVERY OF THE MATERIAL. (2)AFTER PLACEMENT OF PURCHASE ORDER ONE NUMBER OF SAMPLE IN EACH ITEM HAS TO BE SUPPLIED FOR BHEL ACCEPTANCE PREFERABLY WITHIN 5 WEEKS. AFTER ACCEPTANCE OF SAMPLE ONLY BALANCE QUANTITY SHALL BE MANUFACTURED AND SUPPLIED.ACCEPTENCE BY BHEL WILL BE GIVEN WITHIN 1 WEEKS. THIS PERIOD (5 - 1 6WEEKS) IS TO BE TAKEN INTO ACCOUNT WHILE QUOTING DELIVERY PERIOD BY THE SUPPLIER. VENDOR QUALIFYING CRITERIA Only those vendors who satisfy the following conditions will get qualified to participate in the tender: 1.Vendor should have minimum 3 years experience in this field. 2.Previous PO details for supplying similar kind of items should be submitted along with offer.Otherwise offer will be rejected. 3.Company profile details has to be provided along with offer. 4.BHEL reserves the right to visit the vendor's works for verifying the manufacturing facilities and any other credential furnished by the vendor in case the information furnished with the offers found to be false /incorrect, the offer shall be rejected.	NO	10.000	10.00	19.05.14
20	7512B1601400 FRONT OUTER BALL BEARING HOUSING AS PER DRG. NO. 3M-12B-16-7885-01	NO	8.000	8.00	19.05.14

The offers should reach us 30 minutes before the time of opening of tenders.  
The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening.Late and delayed offers are liable to be rejected.

Yours faithfully,  
For **BHARAT HEAVY ELECTRICALS LIMITED**

MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully,



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2661400124 / 22.02.2014

30	7512B1603000 LOCK NUT AS PER DRG. NO. 4M 12B 16-19256	NO	10.000	10.00	19.05.14
40	7512B1604700 LOCK NUT AS PER DRG NO: 4M 12B 16-28807.	NO	10.000	10.00	19.05.14
50	7512B1600700 SPINDLE AS PER DRG.No. 3M-12B-16-7889	NO	4.000	4.00	19.05.14
60	7512B1602900 BEARING LOCK NUT AS PER DRG.No. 4M 12B 16-19794	NO	10.000	10.00	19.05.14
70	7512B1603200 FRONT THRUST RING AS PER DRG.No. 3M-12B-16-7886	NO	10.000	10.00	19.05.14
80	7512B1603100 FRONT INNER RACE LOCK NUT (L.H) AS PER DRG. NO. 4M-12B-16-19624	NO	10.000	10.00	19.05.14
90	7512B1602600 REAR THRUST RING AS PER DRG.No. 3M 12B 16 7946	NO	10.000	10.00	19.05.14
100	7512B1602800 REAR INNER RACE LOCK NUT AS PER DRG. NO. 4M 12B 16 19625	NO	10.000	10.00	19.05.14
110	7512B1601500 REAR OUTER BALL BEARING HOUSING AS PER DRG. NO. 3M-12B-16-7892-01	NO	10.000	10.00	19.05.14
120	7512B1601300 REAR OUTER RACE LOCK NUT AS PER DRG. NO. 3M 12B 16-7893	NO	10.000	10.00	19.05.14
130	7510A1304600 BUSH AS PER DRG NO: 4M-10A-13-28890-01, Sl.NO. 01	NO	40.000	40.00	19.05.14
140	7510A1304700 BUSH AS PER DRG NO: 4M-10A-13-28890-01, Sl.NO. 02	NO	40.000	40.00	19.05.14
150	7510A1304800 BUSH AS PER DRG NO: 4M-10A-13-28890-01, Sl.NO. 03	NO	100.000	100.00	19.05.14

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For **BHARAT HEAVY ELECTRICALS LIMITED**

MANAGER / PURCHASE  
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2661400124 / 22.02.2014

160	7510A1305200 BUSH AS PER DRG NO: 4M-10A-13-28890-01, SL.NO. 04	NO	10.000	10.00	19.05.14
170	7510A1305300 BUSH AS PER DRG NO: 4M-10A-13-28890-01, SL.NO. 05	NO	20.000	20.00	19.05.14
180	7502F1401900 BUSH AS PER DRG NO 4M-02F-14-12820, ITEM NO 22	NO	250.000	250.00	19.05.14
190	7512B1607200 PISTON ROD AS PER DRG. NO. 3M 12B-16-8644	NO	5.000	5.00	19.05.14
200	7512B1607300 VALVE SEAT AS PER DRG. NO. 4M 12B 16-25529 NOTE: SL.NO. 200 TO 220 ARE MATING COMPONENTS. HENCE THESE ITEMS SHOULD BE PROCURED FROM SINGLE SOURCE ONLY.	NO	10.000	10.00	19.05.14
210	7512B1607400 VALVE CONE AS PER DRG. NO. 4M 12B-16-25534	NO	10.000	10.00	19.05.14
220	7512B1607500 NEEDLE VALVE AS PER DRG. NO. 4M 12B 16-25535	NO	10.000	10.00	19.05.14
230	7512B1607600 SPRING AS PER DRG. NO. 4M-12B-16-25538	NO	10.000	10.00	19.05.14
240	7512B1607700 PULLEY (MOTOR SIDE) AS PER DRG. NO. 4M 12B-16-27469 NOTE: SL.NO. 240 AND 250 ARE MATING COMPONENTS. HENCE THESE ITEMS SHOULD BE PROCURED FROM SINGLE SOURCE ONLY.	NO	5.000	5.00	19.05.14
250	7512B1607800 PULLEY (FEEDER SIDE) AS PER DRG. NO. 4M 12B-16-27470	NO	5.000	5.00	19.05.14
260	7512B1603300 THRUST PIN AS PER DRG NO:4M 12B 16-19619	NO	100.000	100.00	19.05.14

### General Note:

### GENERAL NOTE:

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For **BHARAT HEAVY ELECTRICALS LIMITED**

MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully,



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2661400124 / 22.02.2014

PLEASE SUBMIT YOUR OFFER IN "TWO PART BID SYSTEM"  
AS PER ANNEXURE ENCLOSED.

ENCLOSURES:  
ANNEXURE II,III,IV AND V

Enclosures:

"LD clause has to be confirmed without fail."

"Payment to vendors will be made only thro E-Payment mode"

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tenderers who have submitted their offer and who may like to be present for the tender  
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For **BHARAT HEAVY ELECTRICALS LIMITED**

MANAGER / PURCHASE  
(FOSSIL BOILERS)  
Yours faithfully,

**CAPITAL PURCHASE**  
**COMMERCIAL TERMS AND CONDITIONS**

**1.0 QUOTATIONS**

The Bidders shall submit the offer in **TWO INNER ENVELOPES** as indicated below which shall be sealed in one outer envelope.

**Envelope I** This sealed envelope should contain all the copies of technical bid together with un-priced commercial bid & annexure III. This envelope should be clearly marked **'Part I - Technical and commercial bid'**,

Indicating Enquiry No., Due Date and Address & Reference of the Bidder.

**Envelope II** This sealed envelope should contain **price as per Annexure-IV format**. This envelope should be clearly marked **"Part II - Price bid"**, indicating **Enquiry No., Due Date and Address & Reference of the Bidder**.

Both the envelopes (Part I & II) shall be put in one cover (**Envelope III**), duly sealed, superscribing as Part I and Part II of Enquiry No., due date of opening and the address and reference of the Bidder

The above offer should reach this office on or before the due date by 14.00 hours (IST). Late offers will not be considered.

Tender should not be addressed to any individual's name but only by designation to

**SENIOR MANAGER /PURCHASE/ CP & SP/ MM / MFG  
BHARAT HEAVY ELECTRICALS LIMITED  
HIGH PRESSURE BOILER PLANT  
TIRUCHIRAPALLI - 620 014  
TAMIL NADU**

Tenders should be free from **CORRECTION AND ERASURES**, Corrections if any, must be attested. All Amounts shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

Offers should be in **ENGLISH** and accompanied by detailed technical literature, catalogue and detailed dimensional drawings in **ENGLISH** or otherwise, the offers will not be considered.

**2.0 OPENING OF TENDERS**

The Part I - Technical & commercial bid alone would be opened on the Tender opening date.

The Part II - Price bid of technically suitable Bidders alone would be opened. The Technically Suitable Bidders would be informed about the tender opening date through e-mail.

Clarifications if any required by BHEL for Technical evaluation **would be** sought from Bidders before opening of Part II - price bid

**For any queries clarifications the bidders may contact us through our FAX NO. +91 431 2520719 or through e-mail < arjerome@bheltry.co.in > & < chells@bheltry.co.in>**

**Annexure For Techno Commercial Bid**

Check List - to be filled and submitted along with Technical Bid

BHEL Commercial Terms and Conditions for Indigenous Supplies	Vendor's Confirmation / Comments
Technical confirmation to BHEL's Specification as called for in BHEL Format shall be furnished. If needed additional sheets shall be used.	
Prices shall be <b>quoted item wise</b> only as per the model format enclosed	
Prices shall be quoted on " <b>FIRM PRICE</b> " basis only The prices should be only on <b>F.O.R / Despatching station</b> basis with <b>Packing &amp; Forwarding</b> charges if any. <b>Applicable % of ED &amp; Sales Tax, Freight &amp; Insurance, Installation &amp; Commissioning Charges should be clearly Indicated</b>	
<b>Validity of offer</b> shall be for a minimum period of 120 days from the date of Tender opening	
Delivery period from the date of Letter of Intent / Purchase order shall be clearly mentioned in the offer	
<b>Liquidated damages @ 0.5% per week</b> subject to a maximum of 10% of the order value shall be applicable for delay in deliveries <b>For Details Refer Annexure- v</b>	
<b>Following Risk Purchase clause</b> shall be applicable The purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated or if the same were not available, the best and the nearest available substitute therefore The supplier shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases	
<b>Payment term for supply portion:</b> Payment term is 100% direct payment after 45 days from the date of receipt and acceptance of materials <b>For details Refer Annexure- v</b>	
Rejection / commissioning: (if applicable only) Rejection / commissioning charges if any has been mentioned in the offer or else confirmation that Rejection / commissioning shall be done at free of cost is available in the offer,	
The equipment shall be guaranteed for a period of 12 months from the date of commissioning Final inspection and acceptance of equipment will be after installation at BHEL, Trichy	
The vendor shall provide necessary drawings, Test Certificates and Operating Maintenance Manuals etc., as called for in the Technical Specification, in the required number of copies at no extra cost	
Any warranty replacement during warranty period shall be supplied free of charge on FOR BHEL, Trichy basis.	
Offers should be submitted only in <b>sealed cover super-scribing clearly the Enquiry reference and due date.</b>	
% of Excise Duty with cess	
% of TAX (CST/VAT) (INGST with FORM-17 or CST with C-FORM)	
Packing & Forwarding Charges ( if any in % only)	
Percentage of Freight & transit insurance charges, if any Freight charges from Dispatching station to BHEL, Tiruchirappalli • Supplier should quote for F.O.R-BHEL Trichy Stores.	
As per Commercial terms and conditions, acceptance for participation in Reverse auction (RA). Yes/No to be indicated	
Name of the person for participating reverse auction	
Land Line Number	
Fax Number	
Mobile Number	
E mail ID	

## NOTE:-

- It is confirmed that all the terms and conditions stipulated In the Enquiry have been fully understood by us and all clarifications & details have been obtained.
- Your offer should be indicating applicable If any P&F Charges, % of ED, Sales Tax -CST or VAT, Service Tax), Freight, Insurance and Installation and Commissioning Charges etc., as per our Price Format
- Your specific acceptance to our Payment terms, LD & Risk Purchase Clause are essential for consideration of your offer. Other wise your offer is liable for rejection.
- No row shall be left blank. Please indicate NA, in case the item is "not applicable"



**Payment Term (Indigenous)**

<b>If materials are receivable at Stores/Trichy without PBG</b>	Payment term is 100% direct payment after 45 days from the date of receipt and acceptance of materials.
<b>If materials are receivable at Stores/Trichy with PBG</b>	Payment term is 100% direct payment after 45 days from the date of receipt and acceptance of materials and against 10% PBG valid for the warranty period.

Any deviation in the above payment term will attract loading as mentioned below.

Base rate of SBI (as applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders.

Payment through Bank is not preferred. In case of Payment through Bank is opted by Supplier, BHEL, prefers documents submission through bank with copy of LR and door delivery of Goods to Site/Stores with Consignee copy attached. In this case Loading will be 3% on the offered value.

Offers of indigenous Suppliers with payment terms as LC/Advance Payment are liable for rejection.

**Liquidated Damages / Penalty -**

Liquidated damages shall be 0.5% of the total order value per week or part thereof subject to a maximum of 10% of the total order value.

For staggered delivery schedule, LD shall be 0.5% of the undelivered portion per week of the delay or part thereof subject to a maximum of 10% of the total order value.

Any deviation from the above LD clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value).

**Guarantee / Warranty Period – (if applicable)**

Normally No deviation permitted and the deviated offers are liable for rejection.

**Ranking-**

BHEL will consider the ranking after the loading is applied as referred above wherever deviations are observed.

**Performance Bank Guarantee – (if applicable)**

Normally No deviation permitted and the deviated offers are liable for rejection.

**NOTE:-**

1. If the due date of tender opening happens to be a holiday, the tenders will be opened on the next working day.
2. BHEL reserves the right to go for a reverse auction (RA) instead of opening the submitted sealed bid which will be decided after technical evaluation. Information and general terms and conditions covering RA are given in commercial terms and conditions.
3. Corrigendum if any, with respect to this tender will be hosted only in the website <http://www.bhel.com> or <http://tenders.gov.in>. You are requested to visit the website regularly for updates.



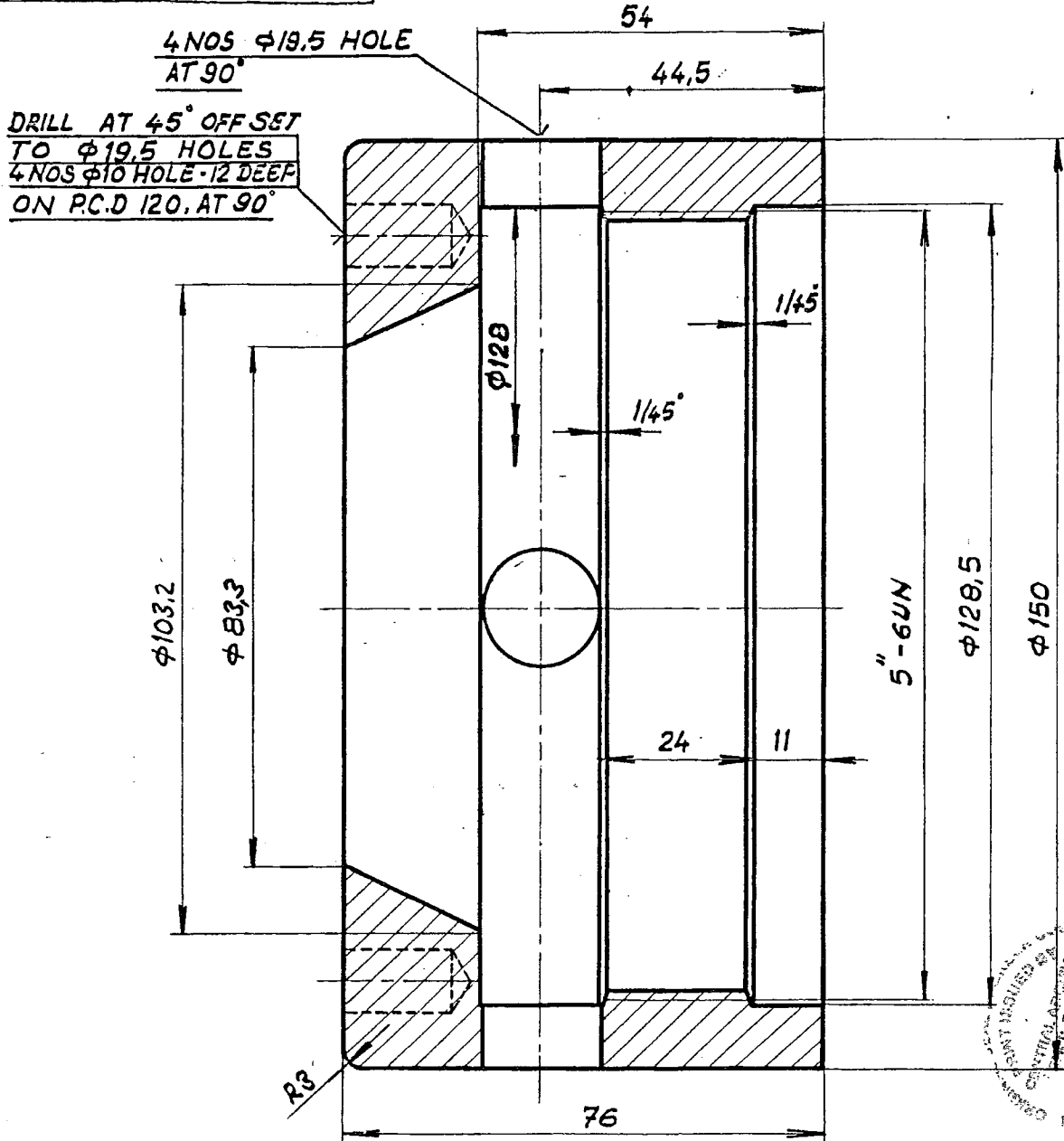



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**BHARAT HEAVY ELECTRICALS LTD.,**  
 TIRUCHIRAPALLI-14

3,2

INDEX NO. 39 - 607

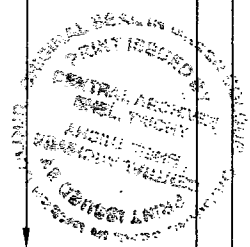
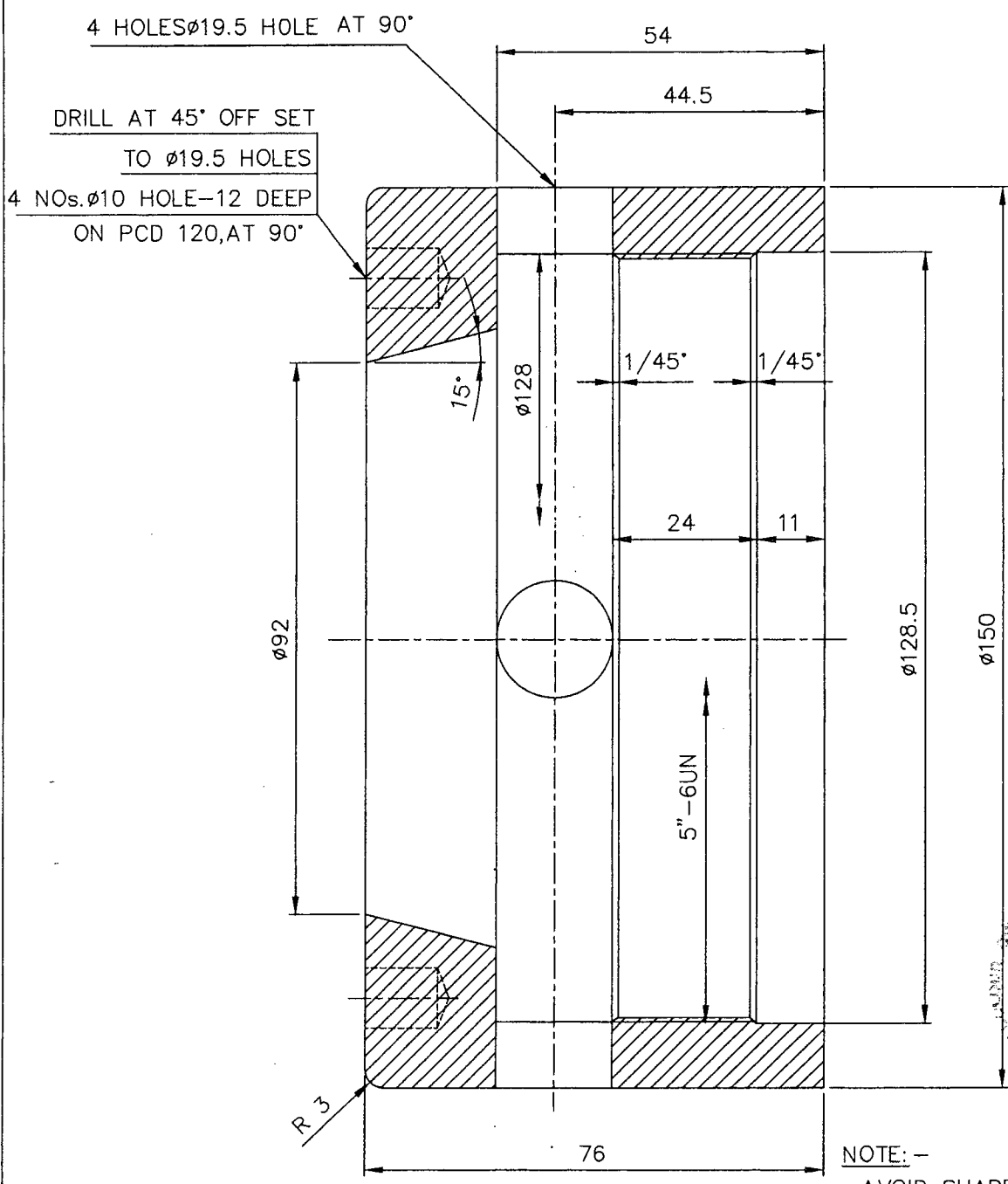


		BM-C45		45CB 25:7283		3.2			
NO. OF PIECES	DESCRIPTION	SEMI-PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET Wt(kg)	GROSS Wt(kg)	DRAWING NO.	ITEM NO.
REMARKS				TOTAL NET Wt (kg) CC:00 EC:16					
SCALE 1:1	DRAWN	K.P. Vaidyanathan		REFERENCE	ALTERATIONS				
	CHECKED	S. V. Jeyaraj			DATE				
	APPROVED	K. Chandrasekhar			SIGNATURE				
	STDS. OFFICER	15-12-79			INDEX				
DATE				TYPE: MODEL 3K		INV. NO.			
MACHINE MODERN CUT-OFF		TITLE:			DRAWING NO.				
		<p><b>LOCK NUT</b> 5"-6 UN (COLLET LOCKING)</p>			<p>4-M-12b<sup>16</sup>-19256</p>				
				NO. OF SHEETS		SHEET NO.			

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ALL DIMENSIONS ARE IN MM

3.2/√



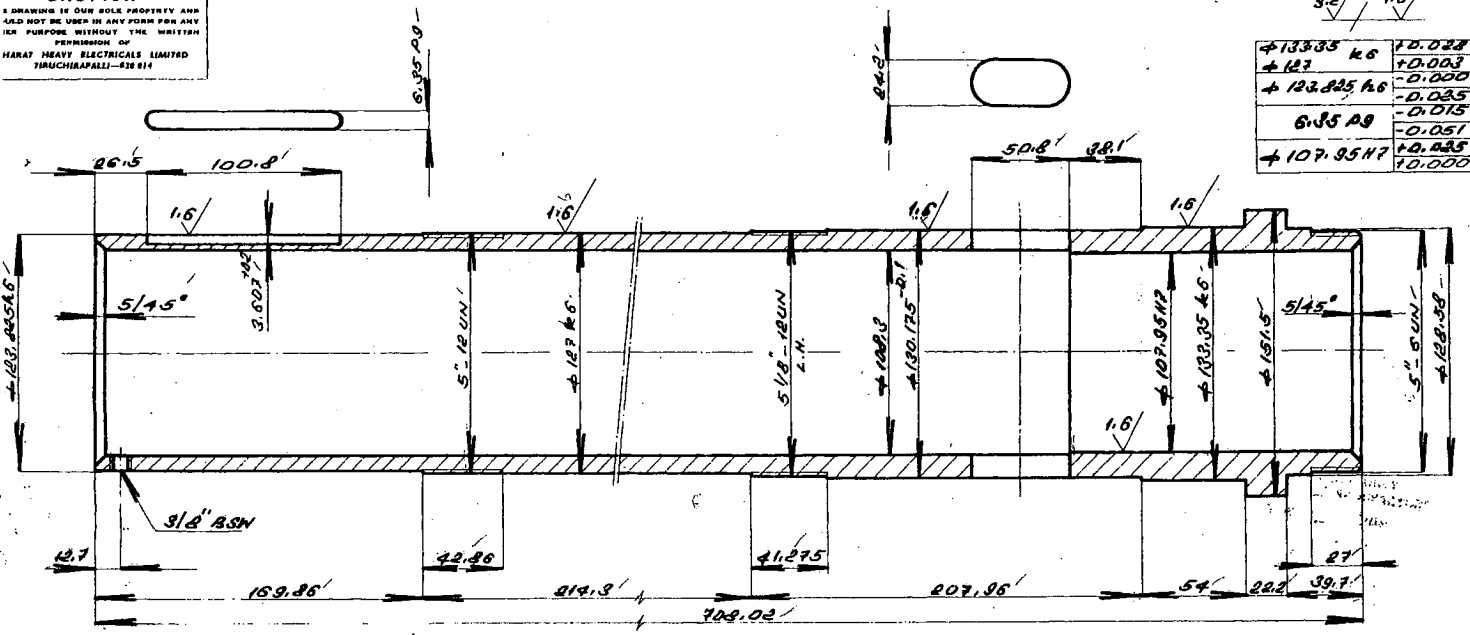
NOTE: - AVOID SHARP CORNERS

		$\phi 150 \times 76$ L	45 C8	IS: 7283	3.75		
No. of Pieces	DESCRIPTION		MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	
	REFERENCE: LOC.NO: 5951-4014			ALTERATIONS:		DCN REF	DATE
	DRAWN/TCD	P. Albertrose					
1:1	CHECKED	R. Ramamoorthy					
	APPROVED	C.S. Jayasheelan					
	DATE	18-03-10					
MACHINE: MODERN CUT-OFF				TYPE: MODEL 3K-NEW			
		TITLE: LOCK NUT 5"-6UN x 76 L (COLLET LOCKING.)		DRAWING No:			
				4M12B1628807			
				Sheet No:		No. of Sheets:	

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 HARAT HEAVY ELECTRICALS LIMITED  
 THIRUCHIRAPPALLI-620 014

3.0 / 1.6

+133.33	20.028
+122	+0.003
+133.825	-0.000
	-0.025
6.35 20	-0.015
	-0.051
+107.9517	+0.035
	+0.000



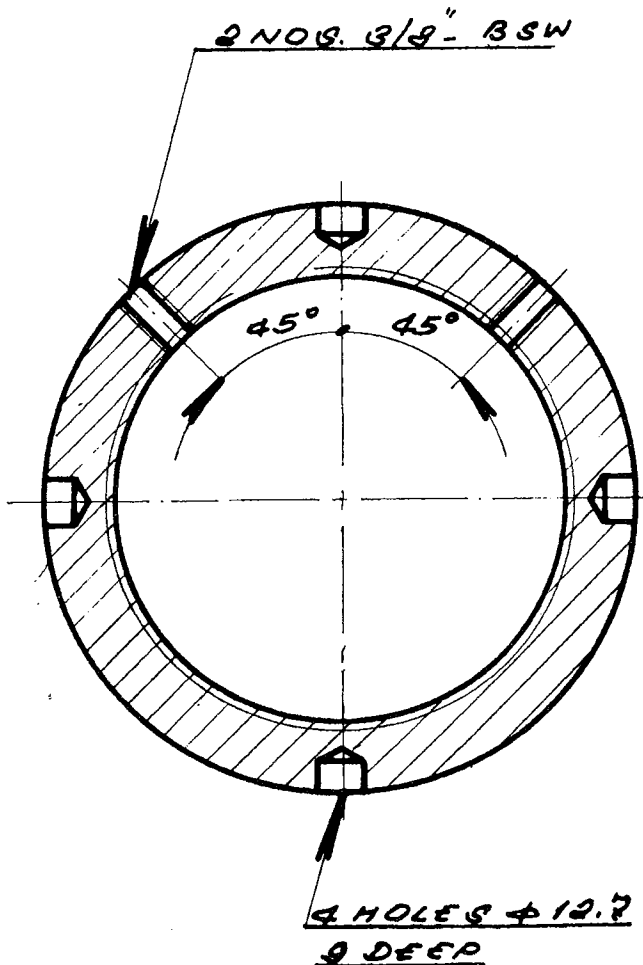
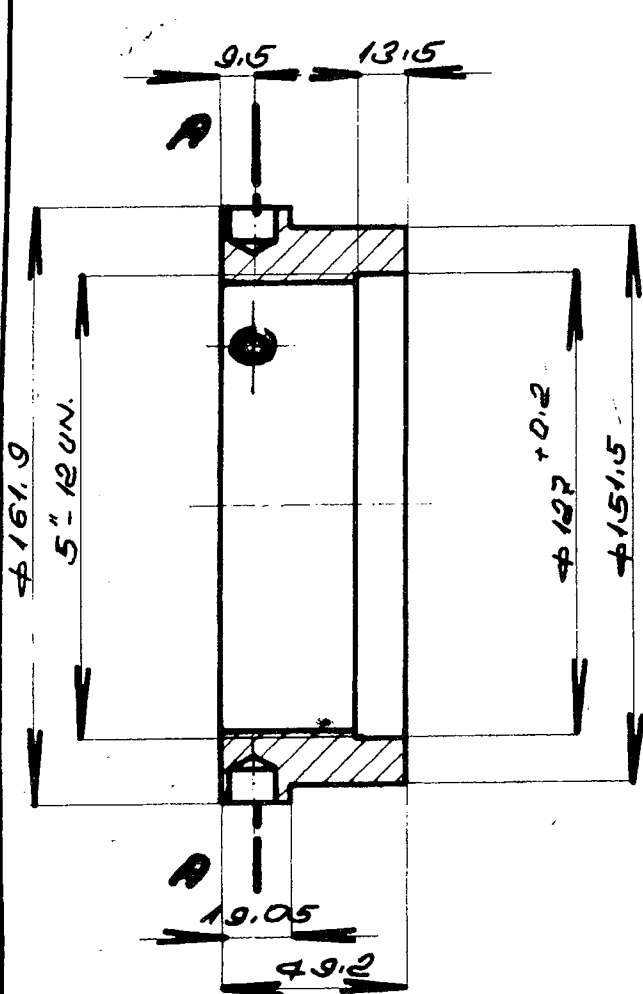
NO. OF PAGES		5568		23.26		DRAWING NO.		ITEM NO.	
DESCRIPTION		SEMI-PRODUCT		FINAL MATERIAL		INITIAL MATERIAL		SCALE	
REMARKS						TOTAL NET WT. (KG.)		TOTAL NET WT. (LBS.)	
SCALE	DRAWN	REFERENCE	ALTERATIONS		DATE	SIGNATURE	IN. PREP.		
1:2	<i>[Signature]</i>								
	CHECKED								
	APPROVED								
	BY DR. OFFICER								
	DATE				05.1980				
MACHINE MODERN CUT OFF		TYPE: MODEL SK		DRAWING NO.		16		3-M-12B-7889	
TITLE: SPINDLE		PART NO: E 3002A		NO. OF SHEETS		SHEET NO:			

**CAUTION**

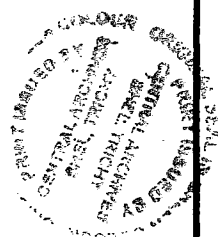
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**BHARAT HEAVY ELECTRICALS LTD., TIRUCHIRAPALLI-14**

3.2



**SECTION 'A-A'**



		CI. 9120							
		IS: 210							
NO. OF PIECES	DESCRIPTION	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	REFERENCE	ALTERATIONS		DATE	SIGNATURE	INDEX		
1:2	CHECKED	PART NO.							
	APPROVED		E.308						
	STDS. OFFICER								
	DATE								
		MACHINE MODERN CUT OFF		TYPE: MODEL-3K.		INV. NO.			
		TITLE:		DRAWING NO.					
		<b>BEARING LOCK NUT</b>		7. M. 126-19.794					
		5" 12. UN.		16					
				NO. OF SHEETS		SHEET NO.			

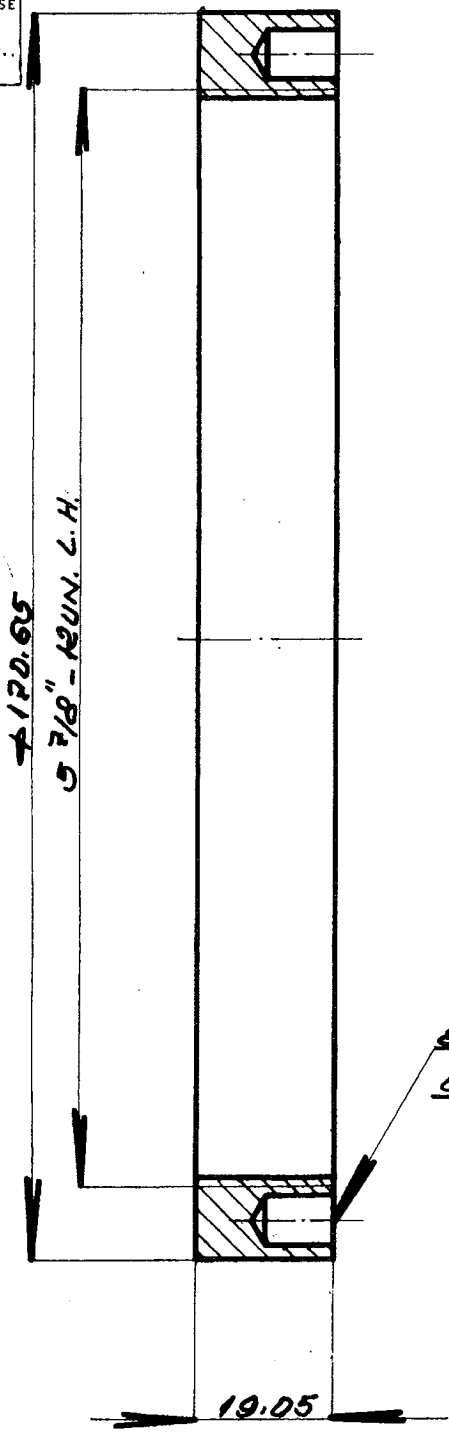




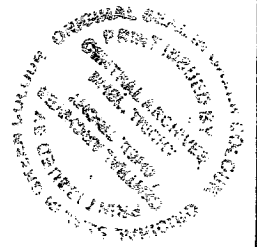
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**BHARAT HEAVY ELECTRICALS LTD.,**  
 TIRUCHIRAPALLI-14

3.2



2 HOLES 6.9-9.5 DEEP  
ON RCD 158.75



BM-030

NO. OF PIECES	DESCRIPTION	SEMI-PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET Wt(kg)	GROSS Wt(kg)	DRAWING NO.	ITEM NO.
REMARKS				TOTAL NET Wt (kg)					
SCALE 1:1	DRAWN	<i>[Signature]</i>	REFERENCE	ALTERATIONS		DATE	SIGNATURE	INDEX	
	CHECKED	<i>[Signature]</i>							
	APPROVED	<i>[Signature]</i>							
	STDS. OFFICER	<i>[Signature]</i>							
	DATE	0.5.1980							
MACHINE MODERN CUT OFF				TYPE: MODEL 3K		INV. NO.			
TITLE: FRONT INNER RACE LOCK NUT 5 7/8" - 120MM L.H.				DRAWING NO. 16		Q. M. 12B-19624			
PART NO: E3008				NO. OF SHEETS		SHEET NO.			

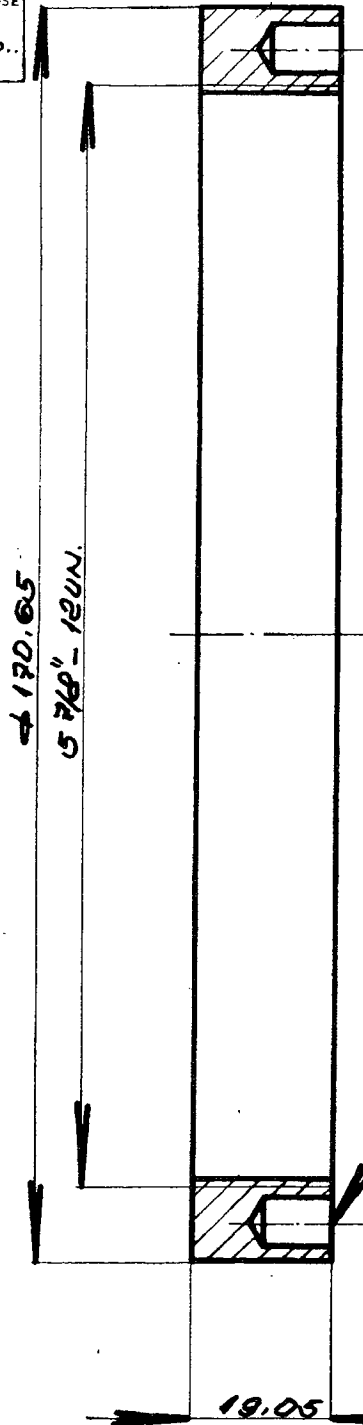




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 TIRUCHIRAPALLI-14

82 ✓



2 HOLES 6.9 - 9.5 DEEP  
ON PCD 158.75

19.05

				BM.C30					
NO. OF PIECES	DESCRIPTION	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	<i>[Signature]</i>		REFERENCE	ALTERATIONS		DATE	SIGNATURE	INDEX
	CHECKED	<i>[Signature]</i>							
	APPROVED	<i>[Signature]</i>							
	STDS. OFFICER	<i>[Signature]</i>							
	DATE	0.5.1960							
MACHINE MODERN CUT OFF				TYPE: MODEL.3K		INV. NO.			
TITLE: <b>REAR INNER RACE LOCK NUT 5 7/8" 120 UN.</b>				DRAWING NO. <b>16</b>					
<b>PART NO: E3009</b>				<b>9.M.126.19625</b>					
NO. OF SHEETS				SHEET NO.					



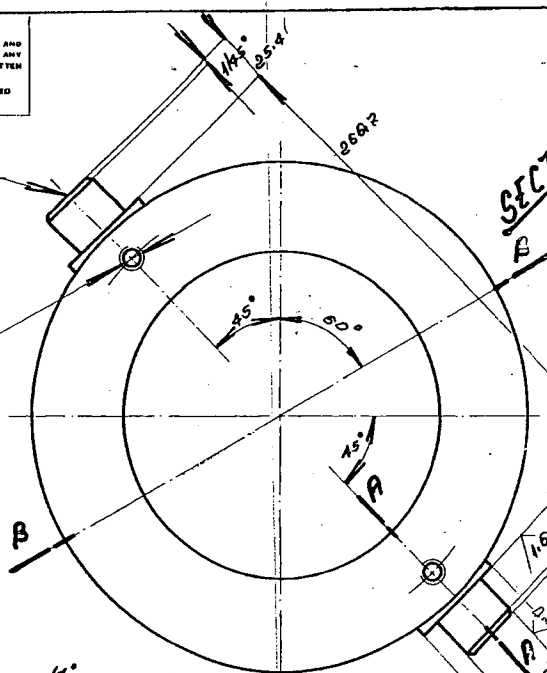
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 BHARAT HEAVY ELECTRICALS LIMITED  
 TRICHURAPALLI-512 014

± 232.12	HP	+0.005
± 235.00		+0.000
± 31.75 kg		+0.018
		+0.002

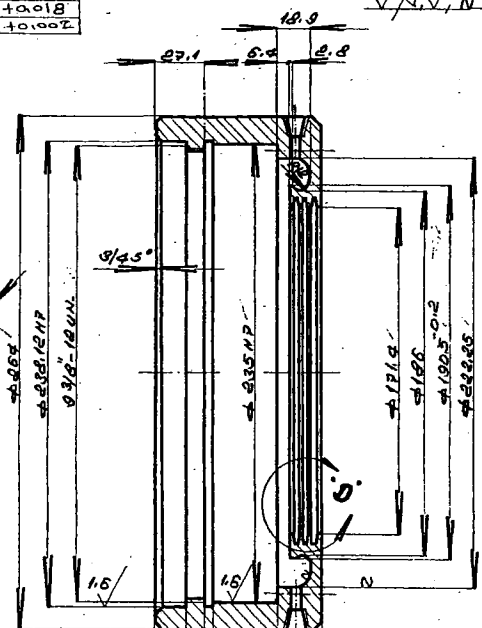
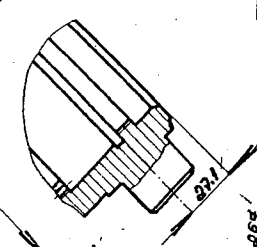
02/08/15  
 N.Y. N

M8. B3 DEEP ON  
 BOTH ENDS

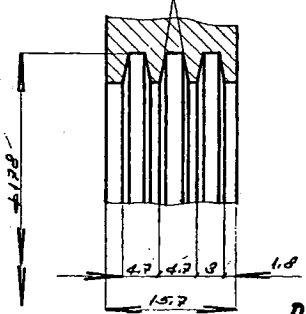
1/2" BSW GNDG  
 ON PCW 229.5  
 THROUGH



**SECTION 'AA'**



**SECTION 'BB'**



**DETAIL 'D'**



NO. OF PIECES		DESCRIPTION		45 CB	15:7283	17.13				
REMARKS		SERIAL PRODUCT		FINAL MATERIAL	INITIAL MATERIAL	SCRAP WGT (KG)	NET WGT (KG)	GROSS WGT (KG)	DRAWING NO.	ITEM NO.
SCALE		DRAWN		REFERENCE	ALTERATIONS		DATE	SIGNATURE	INDEX	
1:1		CHECKED		PART NO.	± 25.4 kg WAS ± 31.75 kg		07-08-15			
2:1		APPROVED		DATE	DIMENSION ± 31.75 kg WAS					
		SYD. OFFICER		RATE	25 kg					
		DATE			MATERIAL WAS PQ220 IS:210					
		MACHINE		MORDED CUT OFF	TYPE: MODEL JK					
		TITLE		REAR OUTER BALL BEARING HOUSING		DRAWING NO. 16		3.M.12B.7892		
		NO. OF SHEETS				SHEET NO.		01		

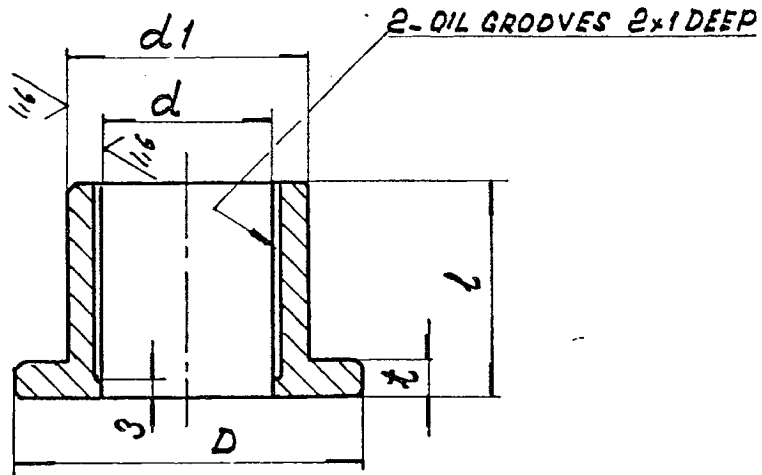




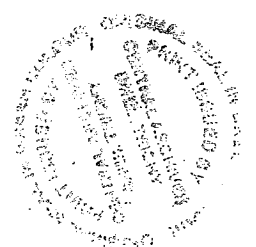
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 TIRUCHIRAPALLI-14

32/ / 1.5/ /



D	dH7	d1P6	l	t	NOS.	RED	ITEM NO.	wt.
70	50	60	30	5	1		26	0,26
50	25	35	20	5	2		25	0,114
80	60	70	30	5	4		24	0,075
55	35	45	40	5	4		22	0,26



CHAMFER SHARP CORNERS TO  $1/45^\circ$

26  
25  
24  
22

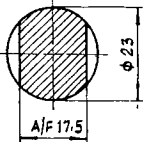
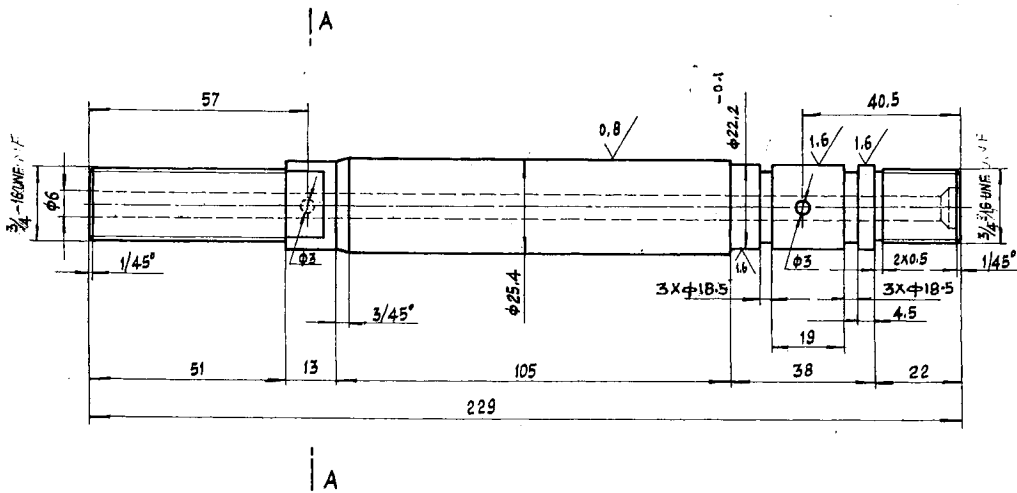
		BN-CA3		PCUSN7		IS:28		4.M.02F.0804	
NO. OF PIECES	DESCRIPTION	SEMI-PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET WT(KG)	GROSS WT(KG)	DRAWING NO.	ITEM NO.
REMARKS				TOTAL NET WT (KG) 607.6601					
SCALE	DRAWN	REFERENCE		ALTERATIONS	DCN	DATE	SIGNATURE	INDEX	
1:1	Fe. U. Basamy								
	CHECKED								
	APPROVED								
	STDS. OFFICER								
	DATE	19.11.1974							
MACHINE		PINCH ROLL		TYPE:		PRG		INV. NO.	
TITLE:		BUSH		DRAWING NO.		4.M.02F.12820			
NO. OF SHEETS				SHEET NO.					



INDEX No. 39 • 607

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3.2/1.6/0.8



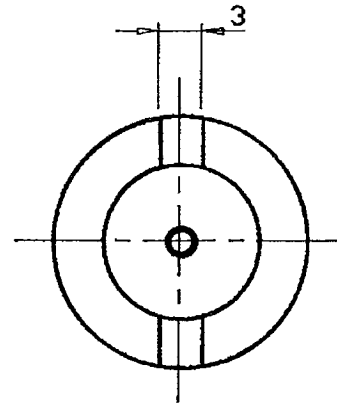
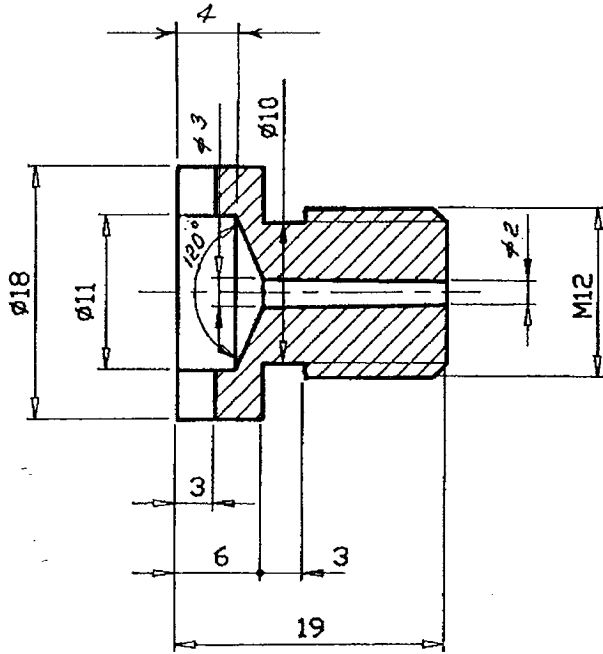
SECTION-AA

NO. OF PIECES		DESCRIPTION	SEMI-PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP CODE	NET WE	ORDER NO.	DRAWING NO.	FIG. NO.
					45 CB ZS-7283		0.13	2-14-12B-03349	04	
REMARKS					TOTAL NET WT. (SEE)		ECIB		CC 00	
SCALE	DRAWN	CHECKED	APPROVED	STDS. OFFICER	DATE	REFERENCE	ALTERNATIONS	DATE	SIGNATURE	INDEX
1:1					08-11-82					
MACHINE: MODERN CUT OFF				TYPE: MODEL 3K						
TITLE: PART NO. EXP. 161				DRAWING NO.						
PISTON ROD				3-M-12b-8644						
[WORKING CYLINDER]				NO. OF SHEETS: 16						
				SHEET NO.						

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ALL DIMENSIONS ARE IN MM

3.2//1.6// ✓



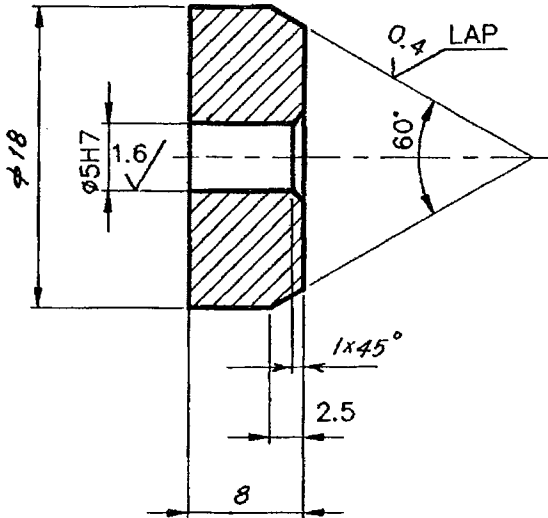
AVOID SHARP CORNERS.

		ROD $\phi 18 \times 19 l$	CL IV	IS: 1875	0.02	2-M-12B-03951	11
No. of Pieces	DESCRIPTION		MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
REFERENCE:			COMPONENT CODE: 00	EQUIPMENT CODE: 16			
SCALE	DRAWN	<i>K. Natarajan</i>	ALTERATIONS:		DCN REF	DATE	SIGN.
2:1	CHECKED	<i>[Signature]</i>					
	APPROVED	<i>[Signature]</i>					
	DATE	23-07-95					
	MACHINE: MODERN CUT-OFF			TYPE: MODEL 3K			
	TITLE: VALVE SEAT (WORKING CYLINDER)			DRAWING No: 4-M-12B <sup>16</sup> -25529			REV.
			No. of Sheets:		Sheet No:		

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ALL DIMENSIONS ARE IN MM

Ø5H7	+0.012	3.2//1.6/0.4	LAP
	+0.000		



NOTE: -  
AVOID SHARP CORNERS.

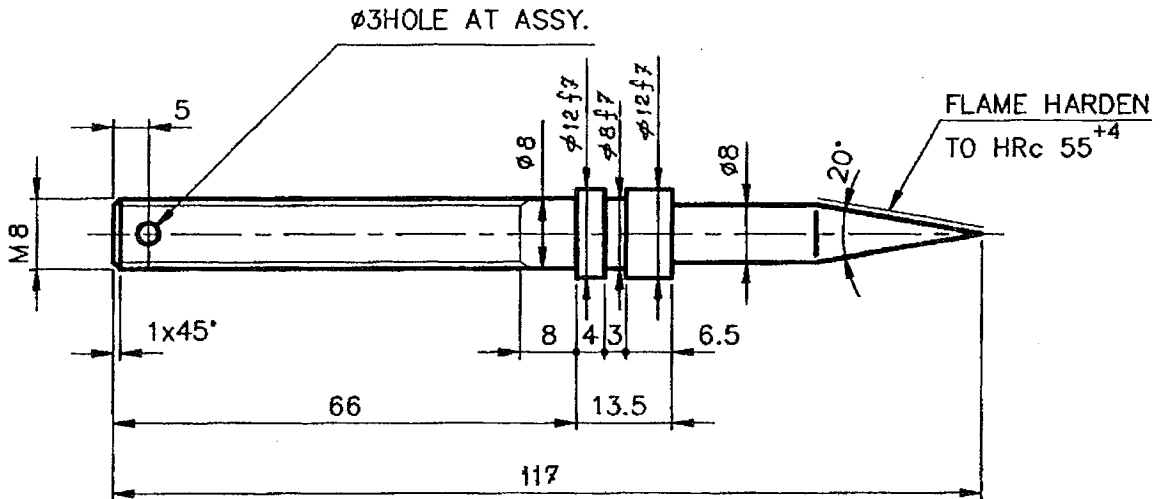


No. of Pieces		DESCRIPTION		MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
X		ROD Ø 18 x 86		P Cu Sn 7	IS: 28	0.02	2-19-12B-03951	08
REFERENCE:				COMPONENT CODE: 00		EQUIPMENT CODE: 16		
				ALTERATIONS:		DCN REF	DATE	SIGN.
SCALE	DRAWN	K. Natarajan						
2:1	CHECKED							
	APPROVED							
	DATE	28-07-95						
MACHINE: MODERN CUT-OFF				TYPE: MODEL 3K		REV.		
TITLE: VALVE CONE (WORKING CYLINDER)				DRAWING No: 4-M-12B-25534		16		
No. of Sheets				Sheet No:				

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ALL DIMENSIONS ARE IN MM

$\phi 8f7$	-0.013	$\phi 12f7$	-0.016	3.2//1.6// $\checkmark$
	-0.028		-0.034	

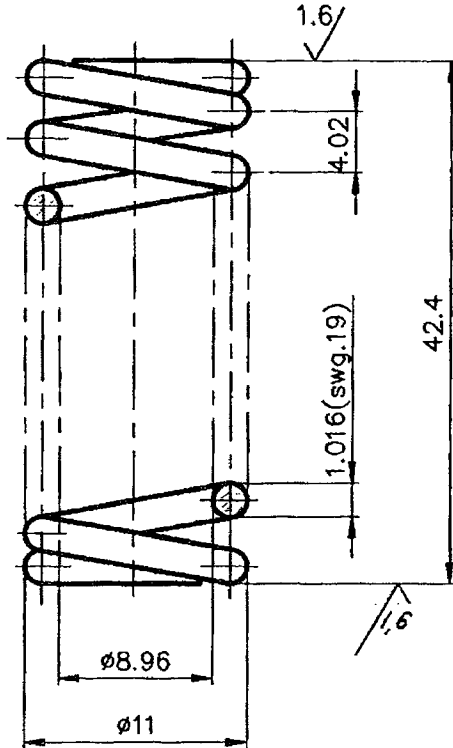


X	ROD $\phi 12 \times 117$		55C8	IS: 5517	0.05	2-M-12B-03951	12
	No. of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
REFERENCE:				COMPONENT CODE: 00	EQUIPMENT CODE: 16		
SCALE			ALTERATIONS:		DCN REF	DATE	SIGN.
/	DRAWN	<i>K. Natarajan</i>					
	CHECKED	<i>[Signature]</i>					
	APPROVED	<i>[Signature]</i>					
	DATE	28-07-95					
MACHINE: MODERN CUT-OFF				TYPE: MODEL 3K			
TITLE: NEEDLE VALVE (WORKING CYLINDER)				DRAWING No: 4-M-12B-25535		REV.	
				No. of Sheets: 16		Sheet No:	

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ALL DIMENSIONS ARE IN MM

~1.6/√



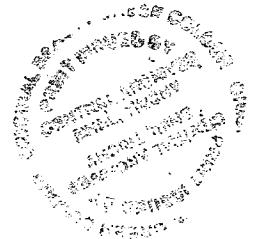
COIL DETAILS:-

TOTAL NO. OF COILS: 12

NO. OF ACTIVE COILS 10

ENDS CLOSED & SQUARED BY GRINDING.

HARDENED AND TEMPERED



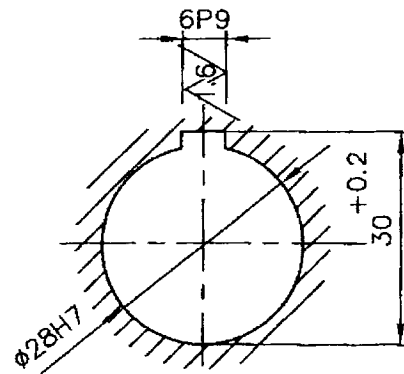
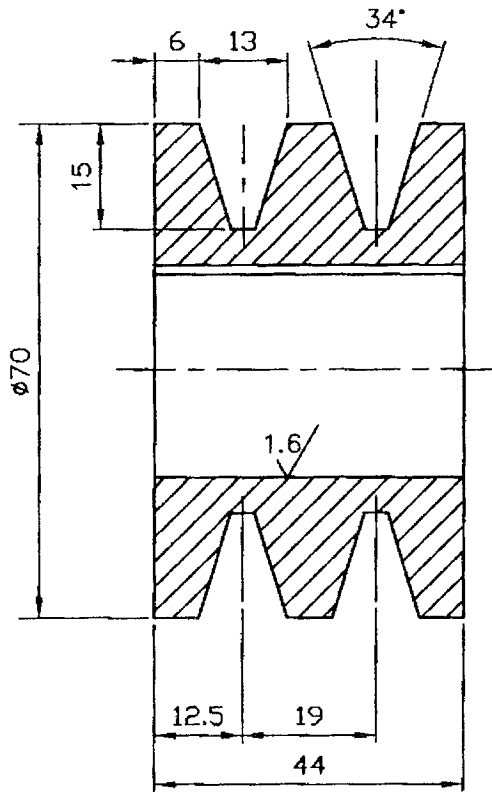
No. of Pieces		DESCRIPTION		MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
X				En 42C	BS-970	0.01	2-M-12B-03951	14
REFERENCE:				COMPONENT CODE: 18		EQUIPMENT CODE: 16		
				ALTERATIONS:		DCN REF	DATE	SIGN.
SCALE	DRAWN	P.A.ROSS						
/	CHECKED							
	APPROVED	<i>[Signature]</i>						
	DATE	29-07-95						
MACHINE: MODERN CUT-OFF					TYPE: MODEL 3K			
		TITLE: SPRING (ID8.96xOD11x42.4L) (WORKING CYLINDER)			DRAWING No: 4-M-12B-25538			REV.
					No. of Sheets: 16		Sheet No:	

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ALL DIMENSIONS ARE IN MM

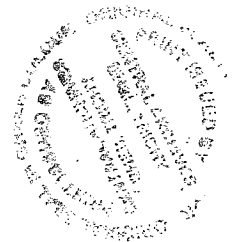
ø28H7	+0.021
	+0.000
6P9	-0.012
	-0.042

3.2//1.6/



NOTE:

SHARP CORNERS TO BE CHAMFERED 1/45°



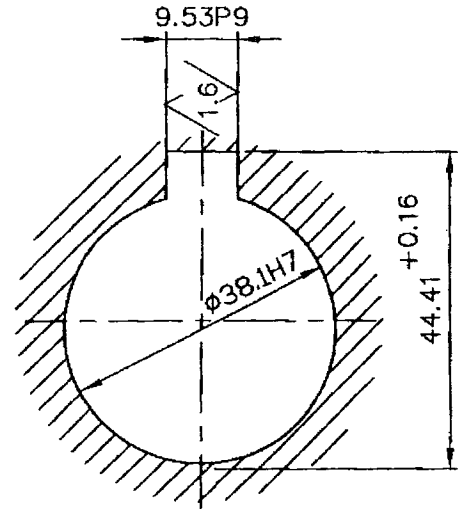
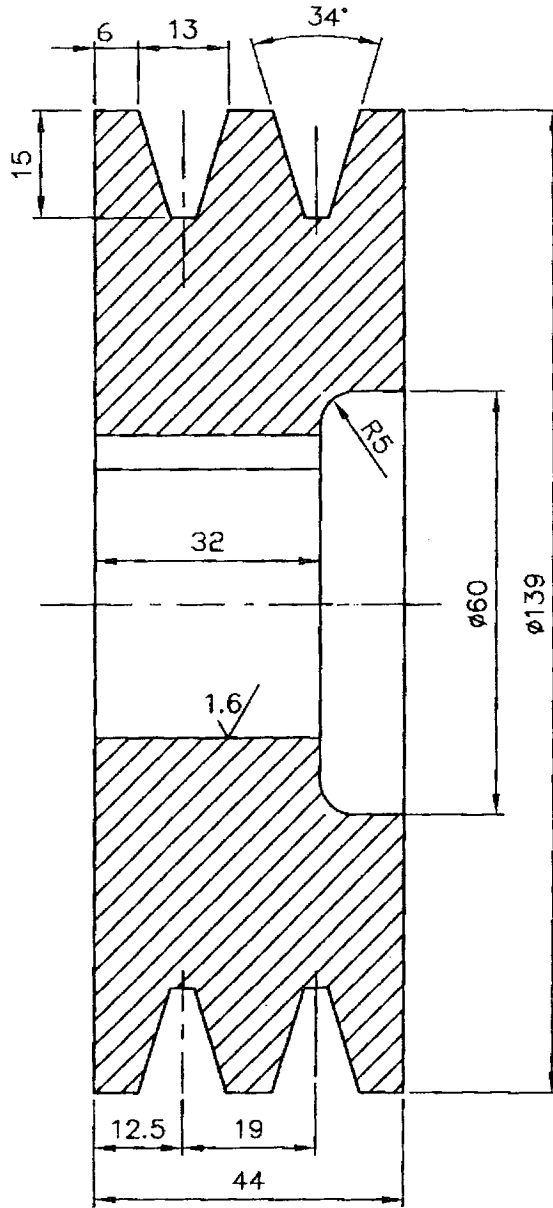
No. of Pieces		DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.	ITEM No.
SCALE		REFERENCE:	ALTERATIONS:		DCN REF	DATE	SIGN. INDEX
1:1	DRAWN	M.K.V					
	CHECKED						
	APPROVED						
	DATE	24-09-04					
MACHINE: MODERN CUT OFF			TYPE: MCO-NEW		REV.		
TITLE: PULLEY (MOTOR SIDE) (FEEDER ASSY)			DRAWING No:				
			4M12B1627469				
			Sheet No:		No. of Sheets		

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ALL DIMENSIONS ARE IN MM

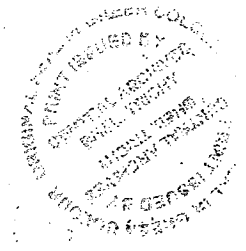
∅38.1H7	+0.021
	+0.000
9.53P9	-0.015
	-0.051

3.2//1.6



NOTE:

SHARP CORNERS TO BE CHAMFERED 1/45°



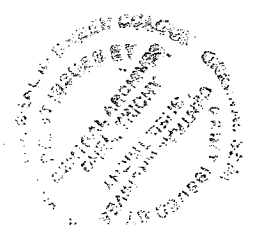
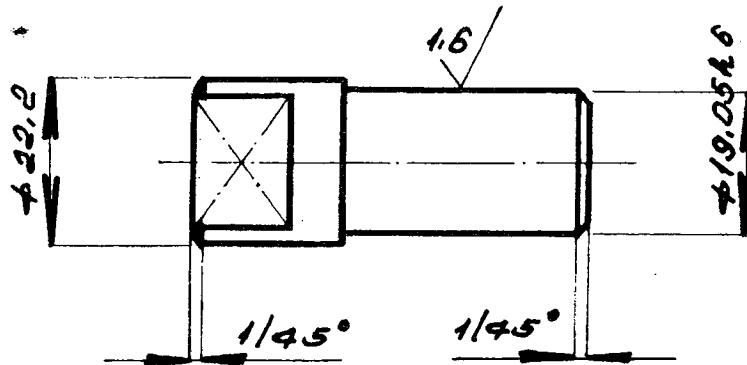
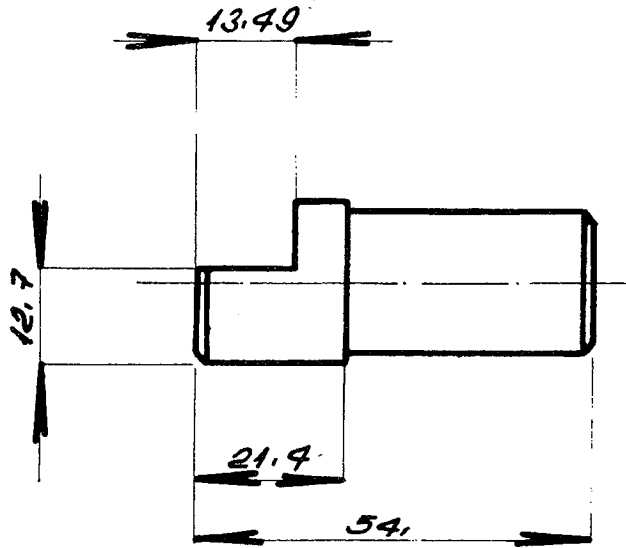
No. of Pieces		DESCRIPTION	MATERIAL	STANDARD	NET.WT. IN KGS.	DRAWING No.	ITEM No.
No. of Pieces		REFERENCE:		ALTERATIONS:	DCN REF	DATE	SIGN.
SCALE	DRAWN	M.K.V					
1:1	CHECKED						
	APPROVED						
	DATE	24-09-04					
MACHINE: MODERN CUT OFF			TYPE: MCO-NEW				
TITLE: PULLEY (FEEDER SIDE) (FEEDER ASSY)			DRAWING No:		REV.		
Sheet No			4M12B1627470		No. of Sheets		

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 TIRUCHIRAPALLI-14

3.2 / 1.6

φ 19.05 h6	-0.000
	-0.013



2	ROD φ 22.2 x 54L		BM. C45	ASCB				0.02		
NO. OF PIECES	DESCRIPTION	SEMI-PRODUCT	FINAL MATERIAL	INITIAL MATERIAL	SCRAP SORT	NET WT (KG)	GROSS WT (KG)	DRAWING NO.	ITEM NO.	

REMARKS				TOTAL NET WT (KG) EC: 31		EC: 16		
SCALE	DRAWN	APPROVED	REFERENCE	ALTERATIONS		DATE	SIGNATURE	INDEX
A4	Bayal	[Signature]						
	CHECKED	[Signature]						
	APPROVED	[Signature]						
	STDS. OFFICER	[Signature]						
	DATE	9.5.1980						

	MACHINE MODERN CUT OFF	TYPE: MODEL 3K	INV. NO.
	TITLE:	DRAWING NO.	
	<b>THRUST PIN</b> OD 22.1 x 54L PART NO: E8301	46 <b>Q.M. 122.19619</b>	
	NO. OF SHEETS	SHEET NO.	