



ENGINE FACTORY, AVADI

PROCESS SCHEDULEDESCRIPTION :- **BOOSTER PUMP GEAR**.....COMPT. No :- **402-43-2**.....MFG. SHOP :- **SPS**.....

REV.No.: 00

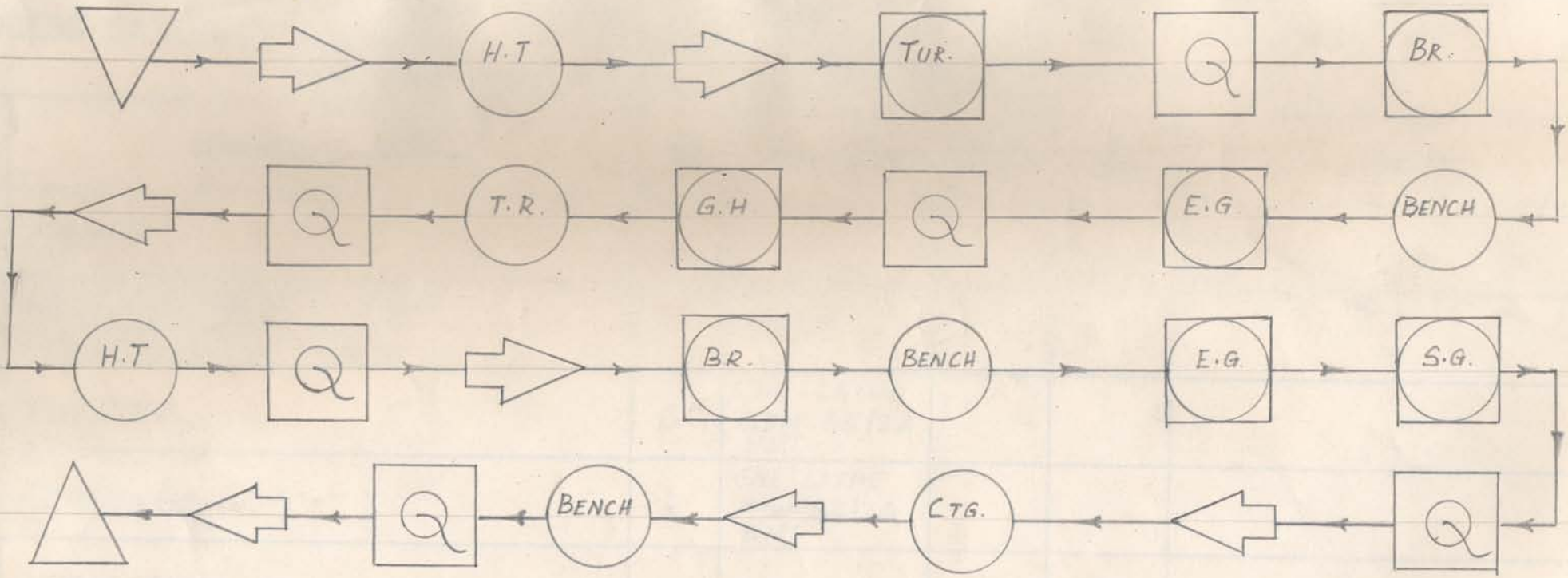
DATE: 30.10.96

FLOW PROCESS CHART

STORE : BOOSTE PUMP GEAR

DRG. NO.: 402-43-2

END STORE: V.46-ENGINE ASSEMBLY.



H.T. = HEAT TREATMENT	TUR. = TURNING	BR. = BROACHING	E.G. = EXTERNAL GRIND	G.H. = GEAR HOBGING
T.R. = TOOTH ROUNDING	S.G. = SURFACE GRIND	CTG. = COATING		

LEGEND		APPROVAL		SECTION	S.P.S.
TEMP. STORAGE	▽	TRANSPORTATION	⇨	SIGNATURE & DATE	NO. OF SHEETS
OPERATION	○	INSPECTION BY QC	Q	PREPARED BY MGF. <i>[Signature]</i> QC -	1.
OPERATION CUM INSPECTION	◻	INSPECTION BY SQAE/CQA(ME) Etc.	I	APPROVED BY <i>[Signature]</i>	SHEET NO. 1.
100% INSPN. BY MFG. SEC.	□	STORAGE	△	AUTHORISED FOR ISSUE	ENGINE FACTORY, AVADI, MADRAS-54

Manhe
30/10/76



ENGINE FACTORY AVADI

FORM No :EFA/P-038

PROCESS SCHEDULE

NOMENCLATURE :
 DRAWING No : 402-43-2
 MATL SPECIFICATION :

OPN No	DESCRIPTION OF OPERATION	SHT No	WORK CENTRE	SET UP TIME	OPN TIME	REMARKS
070	EXTERNAL GRINDING	9	CYL.GRNDG. MIC. HMT. K-130/800P.			
080	INSPECTION	10	BENCH			
090	GEAR HOBGING	11	GEAR HOB. MIC - HMT H-400			
100	WASHING	-	WASHING PLANT			
110	TOOTH ROUNDING	12	BENCH			
120	INSPECTION	13	BENCH			
130	HEAT TREATMENT	14	H.T.P			
140	INSPECTION	-	BENCH			

PREPARED BY		CHECKED BY		APPROVED BY		AUTHORISED BY						
SIGN	<i>[Signature]</i>	SIGN	<i>[Signature]</i>	SIGN	<i>[Signature]</i>	<i>[Signature]</i>						SHT. No
DATE	29/10/96	DATE	30.10.96	DATE	30.10.96	30.10.96						2 OF 20
	Cur - I / PDO		elmt / PDO		HOS / PDO		DO / PDO	PDO REF	ISSUE	DATE	SIGN	



ENGINE FACTORY AVADI

FORM No : EFA/P-038

PROCESS SCHEDULE	NOMENCLATURE :
	DRAWING No : <u>402-43-2</u>
	MATL SPECIFICATION :

OPN No	DESCRIPTION OF OPERATION	SHT No	WORK CENTRE	SET UP TIME	OPN TIME	REMARKS
150	RE-BROACHING	15	VERTICAL BROACHING M/C - HMT			
155	DRESSING	16	BENCH			
160	EXTERNAL GRINDING	17	CYL. GRNDG M/C - HMT K-130/800P			
170	SURFACE GRINDING	18	SURFACE GRINDING M/C - PRAGA			
175	INSPECTION: CRACK TEST & DEMAGNETIZING	-	MAGNETIC FLAW DETECTOR			
180	WASHING	-	WASHING PLANT			
190	FINAL INSPECTION	19,20	BENCH			
200	PRESERVATION	-				

PREPARED BY		CHECKED BY		APPROVED BY		AUTHORISED BY						
SIGN	<i>[Signature]</i>	SIGN	<i>[Signature]</i>	SIGN	<i>[Signature]</i>	<i>[Signature]</i>						SHT. No
DATE	29/10/96	DATE	30.10.96	DATE	30.10.96							3 OF 20
	CW-I /PDO		cpm /PDO		HOS/PDO		DO/PDO	PDO REF	ISSUE	DATE	SIGN	



ENGINE FACTORY AVADI

FORM No :EFA/P-038

PROCESS SCHEDULE

NOMENCLATURE :

DRAWING No : 402-43-2

MATL SPECIFICATION :

OPN No	DESCRIPTION OF OPERATION	SHT No	WORK CENTRE	SET UP TIME	OPN TIME	REMARKS
210	COATING: FOR SPARES ONLY CHEMICAL OXIDIZE & OIL FINISH	-	H.T.P			
220	MARKING : MARK PART NO.	-	BENCH			
230	INSPECTION	-	BENCH			

PREPARED BY		CHECKED BY		APPROVED BY		AUTHORISED BY						
SIGN	<i>[Signature]</i>	SIGN	<i>[Signature]</i>	SIGN	<i>[Signature]</i>	<i>[Signature]</i>						SHT. No
DATE	29/10/96	DATE	30.10.96	DATE	30.10.96	30/10/96						4 OF 20
	Cm I /PDO		e/mp /PDO		HOS/PDO	DO/PDO		PDO REF	ISSUE	DATE	SIGN	

BOOSTER PUMP GEAR

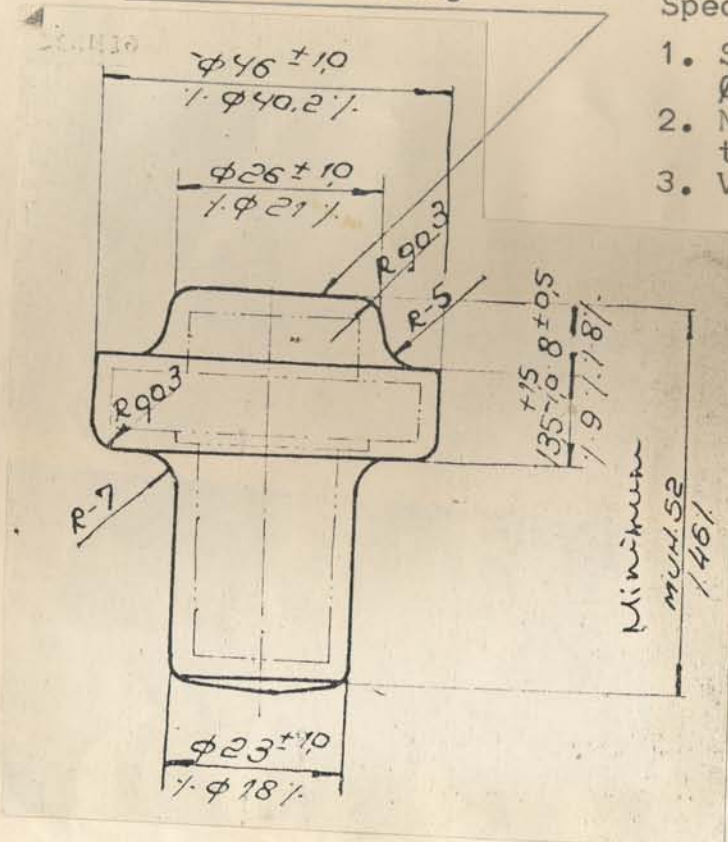
DRAWING No. 402-43-2

ISSUE

OPN. No. 000

OPERATION

Place for Marking



Specifications

1. Shift of axis of $\phi 26$ relative to axis $\phi 46$ and $\phi 23$ upto 1.5 MM.
2. Nonsquareness of forging surface relative to the axis of shank upto 1.0 MM.
3. Variation in wall thickness of head should be within the limit 1.0 MM.
4. Surface defects of depth within the limits of $2/3$ of actual allowance is allowed.
5. Face flashes upto 3 MM and extended upto 2 MM on the side along the diameter of $\phi 46$ is allowed.
6. Thickness of shank $\phi 23$ MM may be increased upto $\phi 25$ MM.
7. Warpage of flange upto 1.0 MM is allowed.
8. Ellipticity of diameters within the tolerance limits is permitted.
9. While replacing, punch the steel grade.

HARDNESS: BHN 156-217

MACHINE:

FORGING DRG.

STD. TOOLS & GAUGES

SPECIAL TOOLS & GAUGES

Note:

1. Dimension of finished components are within the brackets.
2. Dimensions without tolerances serve for the construction of drawing and are not subjected to check.

PLANNING SHEET-PDO/EFA FORM No: EFA/P-039

<i>R. Vijay</i>	<i>[Signature]</i>	<i>[Signature]</i>
PRED.	CHD.	APPD

NOMENCLATURE

BOOSTER PUMP GEAR

DRAWING No.

402-43-2

ISSUE

OPN. No.

010

OPERATION

TURNING

HARDNESS ($\phi B \geq 3.0$)

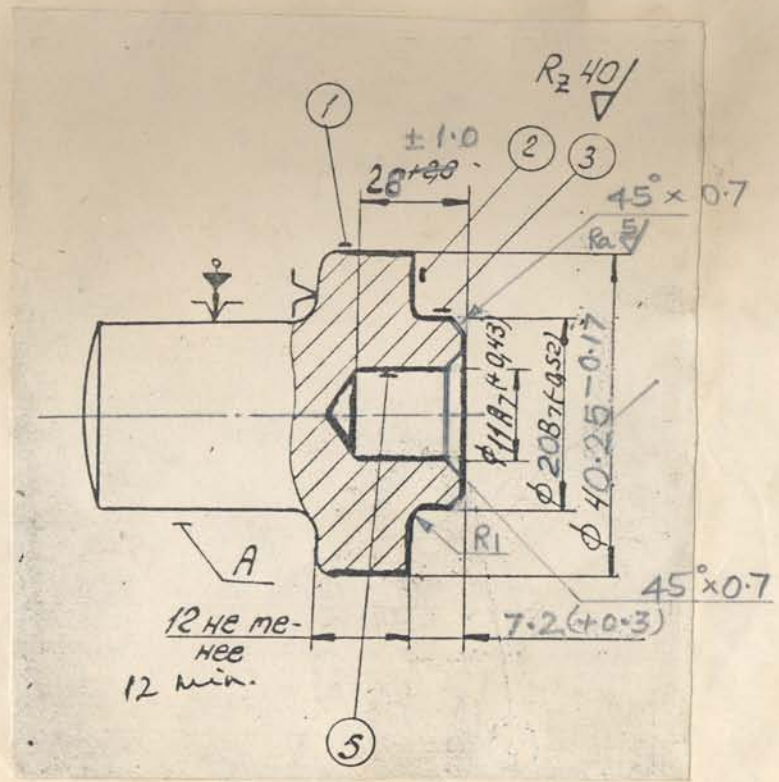
255 BHN

$Ra 10/ (Ra 5/)$

MACHINE: CNC LATHE HMT

GDM 65/2A

(COVERED IN TOOLING PACKAGE)



STD. TOOLS & GAUGES

1. CARBIDE C'DRILL
HBZ 0250
 2. DRILL $\phi 11$ GB
69499 632
 3. TURN & FACE
TOOL HOLDER
PCLNR 252512
INSERT CNMG120408
- HSS C'SK HVG 1250

SPECIAL TOOLS & GAUGES

- GAP GAUGE
-0.17
 $\phi 40.25$ 02S/04/74
- HSS CSK TOOL HVG1250

PRED.	CHD.	APPD

