



ENGINE FACTORY, AVADI

PROCESS SCHEDULE

DESCRIPTION :- **TACHOMETER GENERATOR DRIVE SHAFT**

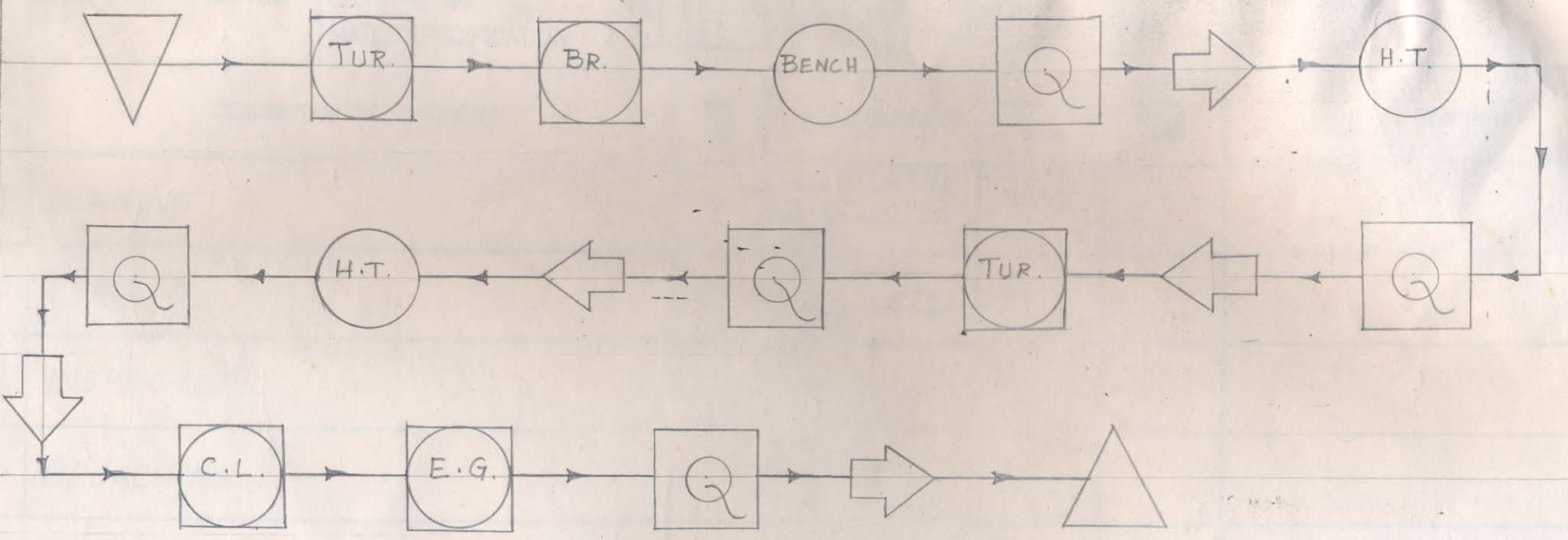
COMPT. No :- ..... **20-08-214-4** .....

MFG. SHOP :- ..... **SPS** .....

# FLOW PROCESS CHART

STORE : TACHOMETER GENERATOR DRIVE SHAFT. DRG. NO.: 20-08-214-4.

END STORE: U.T.D. ENGINE ASSEMBLY.



TUR. = TURNING  
 BR. BROACHING.  
 H.T. HEAT TREATMENT  
 C.L. = CENTRE LAP.  
 E.G. = EXTERNAL GRIND

LEGEND		APPROVAL			SECTION	
TEMP. STORAGE	▽	TRANSPORTATION	➡	SIGNATURE & DATE		S.P.S.
OPERATION	○	INSPECTION BY QC	Q	PREPARED BY	MGR <i>[Signature]</i>	NO. OF SHEETS
OPERATION CUM INSPECTION	◻	INSPECTION BY SQA/CQA(ME) Etc.	I	APPROVED BY	<i>[Signature]</i>	SHEET NO.
100% INSPN. BY MFG. SEC.	◻	STORAGE	△	AUTHORISED FOR ISSUE	<i>[Signature]</i> 22/10/96	ENGINE FACTORY, AVADI, MADRAS-54



# ENGINE FACTORY AVADI

FORM No :EFA/P-038

PROCESS SCHEDULE

NOMENCLATURE

: TACHOMETER GENERATOR DRIVE SHAFT.

DRAWING No

: 20-08-214-4

MATL SPECIFICATION

: STEEL-20X $\phi$ 30 BRT X 95 LONG.

OPN No	DESCRIPTION OF OPERATION	SHT No	WORK CENTRE	SET UP TIME	OPN TIME	REMARKS
020	TURNING	4	CNC. LATHE GDM-65/2A HMT			
030	TURNING	5	CNC. LATHE GDM-65/2A HMT			
040	INSPECTION	6	BENCH			
050	BROACHING	7	VERTICAL BROACHING MIC - HMT			
060	WASHING	-	WASHING PLANT			
070	DEBURRING	-	BENCH			
080	INSPECTION	8	BENCH			
085	COPPER PLATING	9	ELECTRO- PLATING SHOP.			

PREPARED BY		CHECKED BY		APPROVED BY		AUTHORISED BY								SHT. No
SIGN	<i>[Signature]</i>	SIGN	<i>[Signature]</i>	SIGN	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>							1 OF 17
DATE	22.10.96	DATE	22.10.96	DATE	22.10.96		22/10/96							
	CM-I /PDO		CPMI /PDO		HOS/PDO		DO/PDO							
								PDO REF	ISSUE	DATE	SIGN			



# ENGINE FACTORY AVADI

FORM No : EFA/P-038

PROCESS SCHEDULE	NOMENCLATURE	:	.....
	DRAWING No	:	20-08-214-4
	MATL. SPECIFICATION	:	.....

OPN No	DESCRIPTION OF OPERATION	SHT No	WORK CENTRE	SET UP TIME	OPN TIME	REMARKS
090	HEAT TREATMENT - CARBURIZING	9	H.T.P.			
095	SHOT BLASTING	9	H.T.P.			
098	DE-COPPERING	9	ELECTRO-PLATING SHOP			
110	TURNING	10	CNC LATHE GDM-65/2A HMT			
120	TURNING	11	CNC LATHE GDM-65/2A HMT			
130	INSPECTION	12	BENCH			
140	HEAT TREATMENT: HARDENING & TEMPERING	13	H.T.P.			
145	SHOT BLASTING	13	H.T.P.			

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	22-10-96	DATE	22-10-96	DATE	22-10-96	22/10/96						2 OF 17
cm-I /PDO		ump /PDO		HOS/PDO		DO/PDO		PDO REF	ISSUE	DATE	SIGN	



# ENGINE FACTORY AVADI

FORM No : EFA/P-038

PROCESS SCHEDULE

NOMENCLATURE

DRAWING No

: 20-08-214-4

MATL. SPECIFICATION

: .....

OPN No	DESCRIPTION OF OPERATION	SHT No	WORK CENTRE	SET UP TIME	OPN TIME	REMARKS
150	INSPECTION	-	BENCH			
160	CENTRE CORRECTION	14	CENTRE HOLE GRNDG. MIC			
170	EXTERNAL GRINDING	15	CYL. GRNDG. MIC - HMT. K130/800P.			
180	EXTERNAL GRINDING	16	CYL. GRNDG. MIC. HMT. K130/800P.			
190	WASHING	-	WASHING PLANT.			
200	INSPECTION : CRACK TEST & DE-MAGNETIZING	-	MAGNETIC FLAW DETECTOR			
210	INSPECTION	17	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	28-10-96	DATE	22-10-96	DATE	22-10-96	22/10/96						3 OF 17
CM-5 /PDO		/PDO		HOS/PDO		DO/PDO		PDO REF	ISSUE	DATE	SIGN	

MACHINE: CNC LATHE  
HMT - GDM 65 2A.

STD. TOOLS & GAUGES

T&F HOLDER PCLNR 2525-12  
INSERT CNMG 120408  
CENTRE DRILL  
DRILL  $\phi 5.8$   
REAMER  $\phi 6$   
PART. TOOL HOLDER 70703009  
INSERT 44 315523  
TURNING HOLDER PDJNR 2525-15  
INSERT DNMG 150608

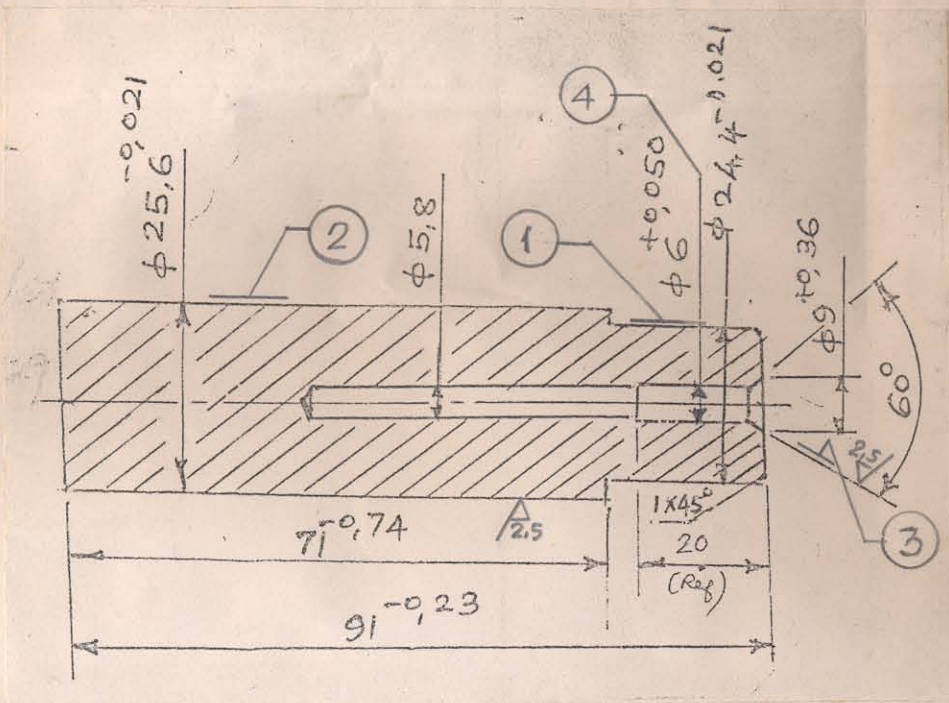
SPL. TOOLS & GAUGES

C/SK CUTTER  $60^\circ$   
SNAP GAUGE  
 $\phi 25.6^{-0.021}$  025/03/51  
 $\phi 24.4^{-0.021}$  025/02/129  
PLUG GAUGE  
 $\phi 6.0^{+0.05}$  020/03/15

HARD JAWS.  
FRONT STOPPER.

I SET UP

Pa10 [A]



TECH. REQ. :-

RUN OUT OF SURFACE '1' W.R.T. SURFACE '2'  
SHOULD NOT EXCEED 0.01 mm.

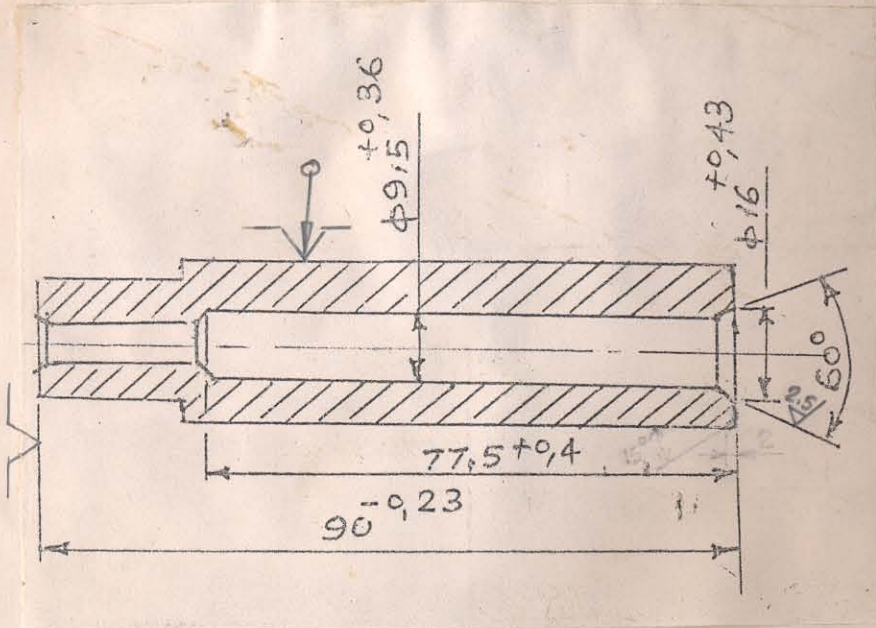
RUN OUT OF SURFACE 3 & 4 W.R.T. SURFACE 2  
SHOULD NOT EXCEED 0.02 mm

PRED.	CHD.	APPD.

MACHINE: CNC LATHE  
HMT- GDM 65 2A.

II SET UP

Ratio [ ]



STD. TOOLS & GAUGES

TURN. HOLDER	PCLNR 2525-12
INSERT CNMG	420408
CENTRE DRILL	
DRILL $\phi 9.5$	
C'SK CUTTER $60^\circ$	

SPL. TOOLS & GAUGES

SOFT JAWS	200536
LENGTH GAUGE	
$90.0^{-0.23}$	027/9

BACK STOPPER.

PRED.	CHD.	APPD.