VE COMMERCIAL VEHICLES LIMITED.
(UNIT:EICHER ENGINEERING COMPONENTS;DEWAS)UNIT:–II

CONTROL PLAN

PREV. OPN.	NEXT. OPN.	SURFACE FINISH :	DOC. NO. :
80 – PRE HT INSPECTION	95 – TEETH CHAMFERING		AP04 : 160 : 20

CONTROL PLAN NO : 2457 / 90

LOCATION → | REST →→ | CLAMP –N→ | SPL.CHAR. (CRITICAL DIMN.) | Ⓑ EECD | ◇ CUSTOMER.

EFF DATE	05.09.14	EFF DATE	~~03.01.15~~ 06.07.15	EFF DATE	22.12.15
PROTOTYPE	✓	PRELAUNCH	✓	PRODN	✓
O.E.	✓	EXPORT			

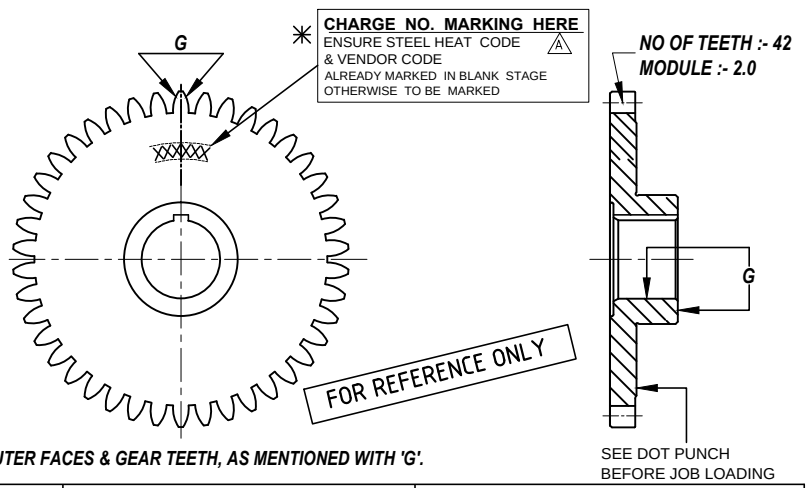
PART NO.	ED 2457 (574114)	
PART NAME	GEAR, CRANK BALANCER DRIVEN	OPN. NO. 90
CUSTOMER	ROYAL ENFIELD	
OPERATION	* HEAT - TREATMENT	

CELL [OPTIONAL]	M./C. S.Q.F.	M / C NO. [OPTIONAL]

FIXTURE	FIX. NO.	TOOL	NO.

MATERIAL - : 16MnCr5
COMP. WT - : 0.30 Kg.

*** HEAT-TREATMENT- :**
MARKING ;
PRE-WASHING ;
PRE-HEATING ;
CARBURISING ;
HARDENING ;
POST-WASHING ;
SHOT BLASTING ;
TEETH CHAMFERING ;



GROUND SURFACE - BORE, BOTH OUTER FACES & GEAR TEETH, AS MENTIONED WITH 'G'.

SURFACE HARDNESS	CORE HARDNESS	*EFFECTIVE CASE DEPTH		MICROSTRUCTURE	
ALL AREA	AT RCD	UNGROUND AREA	AT PCD AFTER GEAR GRINDING	CASE	CORE
80 ~ 83 HRA	300 ~ 450 HV1	0.6 ~ 0.9 mm CUT OFF 513 HV1 Ⓑ	0.5 ~ 0.8 mm CUT OFF 513 HV1 Ⓑ	FINE TEMPERED MARTENSITE + RA <10% AND FREE FROM CARBIDES GBO<20 micron	LOW CARBON MARTENSITE + BAINITE

NOTE:- 1) GROUND SURFACE : HARDNESS @ 0.1mm SHALL BE 650 HV MIN.

* *PLEASE NOTE, GEAR TEETH WOULD BE FURTHER GRIND.*

SR. NO.	CHARACTERISTICS: PRODUCT	CHARACTERISTICS: PROCESS	SPL CHAR CLASS	PRODUCT SPECIFICATIONS	EVALUATION MEASUREMENT TECHNIQUE: INSTRUMENT	NO.	SAMPLING: SIZE	SAMPLING: FREQ	CONTROL METHOD	CORRECTIVE ACTION / REACTION PLAN
1.	EFF. CASE DEPTH		Ⓑ	REFER ABOVE TABLE	MICRO-HARDNESS TESTER	---	1 PC	PER CHARGE	TESTING	CHECK FURNACE SETTING DATA & CONFIRM FOR CORRECTNESS
2.	SURFACE HARDNESS				HARDNESS TESTER	---	1 PC	PER CHARGE		
3.	CORE HARDNESS					---	1 PC	PER CHARGE		
4.	MICROSTRUCTURE				MICROSCOPE	---	1 PC	PER CHARGE		
						---	1 PC	PER CHARGE		
5.	SHOT BLAST			FREE FROM RUST & SCALE	VISUAL	---	100%			

REVISION	
A	Ⓐ REMOVED PART NO. MARKING, CHANGED AS PER BLANK DRG. REV-C. (M.W. 25.07.15)
B	Ⓑ ECD AT PCD ADDED & TEMPERING TEMPRATURE RELATED NOTE, REMOVED AS PER CUST'S LATEST DRG REV. (e). (MUKESH 21.12.15)
C	

DRN BY	MUKESH	CHKD BY	R.PATHAK	APRD BY	B.LEVA	PAGE 01 / 02

UNSPECIFIED TOLERANCES AS PER IS : 2102 (PART-1) : 1993 MEDIUM CLASS. | ALL DIMENSIONS ARE IN MILLIMETERS. | DO NOT SCALE, IF IN DOUBT, PLEASE ASK. | BREAK SHARP CORNERS.