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

CONTROL PLAN

PREV. OPN.	NEXT. OPN.	SURFACE FINISH :	DOC. NO. :
50 - PRE HT INSPECTION	70 - TEETH CHAMFERING		AP04 : 160 : 20

CONTROL PLAN NO : 2448 / 60

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

REVISION: A B C / D E F

EFF DATE	12.08.14	EFF DATE	03.01.15	EFF DATE	16.12.15
PROTOTYPE	✓	PRELAUNCH	✓	PRODN	✓
O.E.	✓	EXPORT			

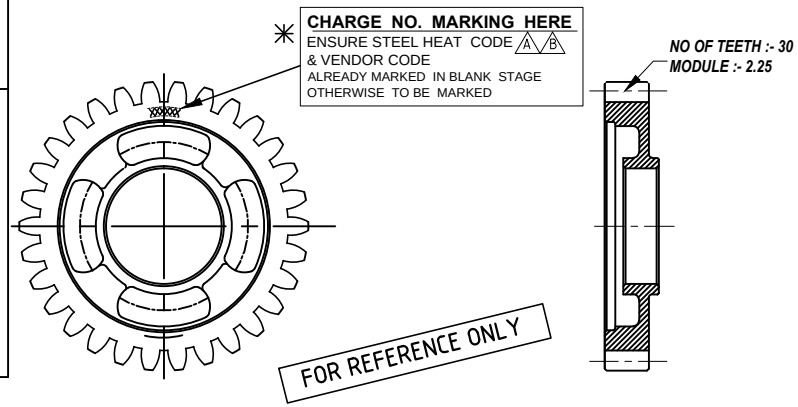
PART NO.	ED 2448 (574247)		
PART NAME	GEAR, 3RD DRIVEN	OPN. NO.	60
CUSTOMER	ROYAL ENFIELD		
OPERATION	* HEAT - TREATMENT		

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

FIXTURE	FIX. NO.	TOOL	NO.

MATERIAL - : 16MnCr5
COMP. WT - : 0.189 Kg.

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



SURFACE HARDNESS	CORE HARDNESS	EFFECTIVE CASE DEPTH	MICROSTRUCTURE	
ALL AREA	AT RCD (MIDDLE OF TEETH)	AT PCD	CASE	CORE
80-83 HRA	300-450 HV1	0.6-0.9 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.

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%			

A OPN. NO. 60 WAS 70 & ADDED MARKING, CHANGE AS PER LATEST OPN. SEQUENCE SHEET. M.W. 24.04.15

B REMOVED PART NO. MARKING, CHANGED AS PER BLANK DRG. REV-D. (M.W. 25.07.15)

C TEMPERING TEMPRATURE RELATED NOTE, REMOVED AS PER CUST'S LATEST PART DRG REV. (e). (MUKESH 21.12.15)

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.