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 : 2447 / 60

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

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

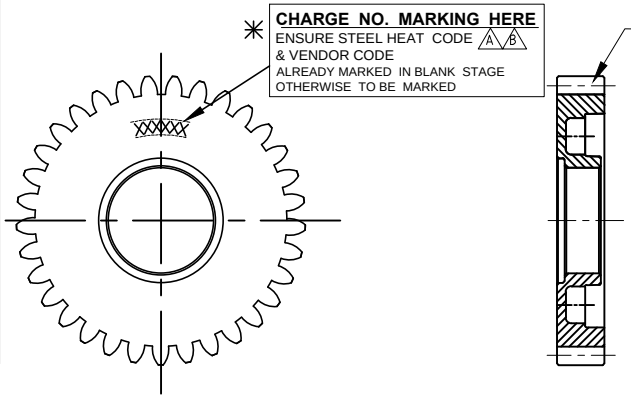
PART NO.	ED 2447 (574244)		
PART NAME	GEAR, 2ND DRIVEN	OPN. NO.	60 A
CUSTOMER	ROYAL ENFIELD		
OPERATION	* HEAT - TREATMENT		

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

FIXTURE	FIX. NO.	TOOL	NO.

MATERIAL - : 16MnCr5
COMP. WT - : 0.25 Kg.

*** HEAT-TREATMENT- :**
✳ MARKING ;
PRE-WASHING ;
PRE-HEATING ;
CARBURISING ;
HARDENING ;
POST-WASHING ;
TEETH CHAMFERIN ;
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 5% CARBIDE IN GLOBULE FROM IN ALLOWED.	LOW CARBON MARTENSITE + BAINITE 10% FERRITE/FERRITIC PRODUCTS ALLOWED.

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

SR. NO.	CHARACTERISTICS PRODUCT	CHARACTERISTICS PROCESS	SPL CHAR CLASS	PRODUCT SPECIFICATIONS	EVALUATION TECHNIQUE INSTRUMENT	EVALUATION TECHNIQUE NO.	SAMPLING SIZE	SAMPLING FREQ	CONTROL METHOD	CORRECTIVE ACTION / REACTION PLAN
1.	EFF. CASE DEPTH		B	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		B		MICROSCOPE	---	1 PC	PER CHARGE		
						---	1 PC	PER CHARGE		
5.	SHOT BLAST			FREE FROM RUST & SCALE	VISUAL	---	100%			

FOR REFERENCE ONLY

REVISION	
A	ADDED MAKING DETAILS & OPN. NO. 60 WAS 70, MW 21.05.15
B	REMOVED PART NO. MARKING, CHANGED AS PER BLANK DRG. REV-H. (M.W. 25.07.15)
C	TEMPERING TEMPRATURE RELATED NOTE, REMOVED AS PER CUST'S LATEST PART DRG REV. (f). (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.