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

# CONTROL PLAN

| PREV. OPN. | NEXT. OPN. | SURFACE FINISH : | DOC. NO. : |
|---|---|---|---|
| 070 – PRE HT INSPECTION | 090 – DEBURRING | | AP04 : 160 : 20 |

CONTROL PLAN NO : 24114 / 080

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

REVISION: A1 B C / D E F

A1 PLUG - G. 065 - 012 / 85 ADDED. (BY-VSG. DT-24.03.18).

| | | | | | |
|---|---|---|---|---|---|
| EFF DATE | 16.09.17 | EFF DATE | | EFF DATE | |
| PROTOTYPE | ✓ | PRELAUNCH | | PRODN | |
| O.E. | ✓ | EXPORT | | | |
| PART NO. | ED 24114 ( 1570035 ) | | | | |
| PART NAME | GEAR 3RD DRIVE | OPN. NO. | 080 | | |
| CUSTOMER | ROYAL ENFIELD | | | | |
| OPERATION | * HEAT - TREATMENT | | | | |
| CELL [ OPTIONAL ] | M./C. S.Q.F. | M / C NO. [ OPTIONAL ] | | | |

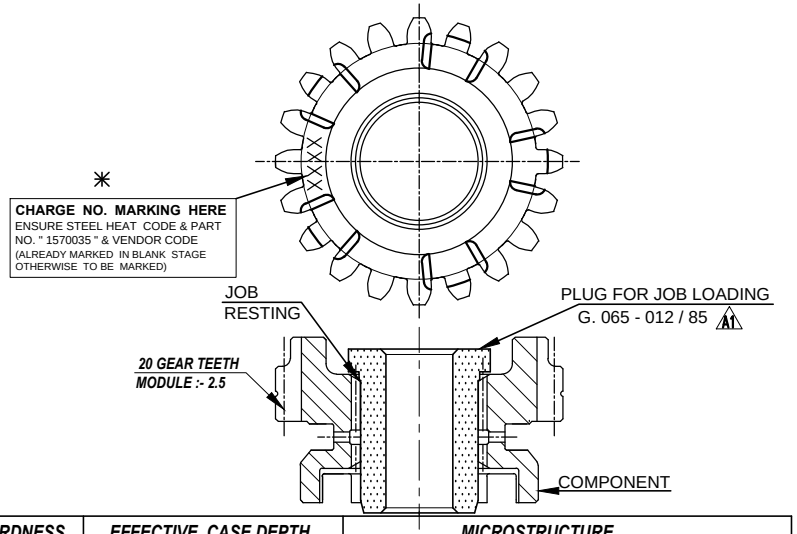
| FIXTURE | FIX. NO. | TOOL | NO. |
|---|---|---|---|
| | | | |

**MATERIAL - : 16 MnCr5 DIN 17210**

**COMP. WT - :** 0.187 Kg.

*** HEAT-TREATMENT- :**

✳ MARKING ;
PRE-WASHING ;
PRE-HEATING ;
CARBURISING ;
HARDENING ;
POST-WASHING ;
SHOT BLASTING ;
DEBURRING
(REFER SEPRATE C.P) ;




| SURFACE HARDNESS | CORE HARDNESS | EFFECTIVE CASE DEPTH | | MICROSTRUCTURE | |
|---|---|---|---|---|---|
| ALL AREA | @ RCD (MIDDLE OF TEETH) | @ PCD | | CASE | CORE |
| 80-84 HRA | 300-450 HV1 | PROCESS REQUIRED | 0.7 ~ 0.9 mm CUT OFF 513 HV1 | FINE TEMPERED MARTENSITE + RA <10% AND FREE FROM CARBIDES GBO<20 micron ,5% CARBIDE GLOBULE FORM ALLOWED. | LOW CARBON MARTENSITE + BAINITE |
| | | FINAL REQUIRED | 0.6 ~ 0.9 mm CUT OFF 513 HV1 | | |

| 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 | | (B) | REFER ABOVE TABLE | MICRO-HARDNESS TESTER | --- | 1 PC | PER CHARGE | TESTING | CHECK FURNACE SETTING DATA & CONFIRM FOR CORRECTNESS |
| 2. | SURFACE HARDNESS | | (B) | | HARDNESS TESTER | --- | 5 PC | PER CHARGE | | |
| 3. | CORE HARDNESS | | (B) | | | --- | 1 PC | PER CHARGE | | |
| 4. | MICROSTRUCTURE | | | | MICROSCOPE | --- | 1 PC | PER CHARGE | | |
| | | | | | | --- | 1 PC | PER CHARGE | | |
| 5. | SHOT BLAST | | | FREE FROM RUST & SCALE | VISUAL | --- | 100% | | | |

FOR REFERENCE ONLY

| DRN BY | VIJAY S GIRI | 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.