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| VE COMMERCIAL VEHICLES LIMITED.<br>(UNIT : EICHER ENGINEERING COMPONENTS; DEWAS) |                                     |              |                                     |                        |                                     |
| CONTROL PLAN NO : 1008/110   |                                     |              |                                     |                        |                                     |
| EFF. DATE  | 29.11.10                            | EFF. DATE    | 26.04.11                            | EFF. DATE              | 06.05.11                            |
| PROTO-TYPE   | <input checked="" type="checkbox"/> | PRE-LAUNCH   | <input checked="" type="checkbox"/> | PRODUCTION             | <input checked="" type="checkbox"/> |
| O.E.   | <input checked="" type="checkbox"/> | EXPORT       |                                     |                        |                                     |
| PART NO. <b>ED 1008</b> (SU 22389)   |                                     |              |                                     |                        |                                     |
| PART NAME  |                                     |              | IDLER GEAR ; REVERSE                | OPN. NO.               | <b>110</b>                          |
| CUSTOMER <b>JOHN DEERE</b>   |                                     |              |                                     |                        |                                     |
| OPERATION <b>AFTER HEAT - TREATMENT INSPECTION</b>                               |                                     |              |                                     |                        |                                     |
| CELL [ OPTIONAL ]  |                                     | M/C.         |                                     | M / C NO. [ OPTIONAL ] |                                     |
|  |                                     | INSP. DEPTT. |                                     |                        |                                     |
| FIXTURE  | FIX. NO.                            | TOOL         | NO.                                 |                        |                                     |
|  |                                     |              |                                     |                        |                                     |
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|--|------------|---|------------------------|---------------------------------|--|
| <b>CONTROL PLAN</b>  |            | PREV. OPN.  | NEXT. OPN.             | SURFACE FINISH :                | DOC. NO. :   |
|  |            | 100 - HEAT TREATMENT  | 115 - TEETH CHAMFERING |                                 | AP04 : 160 : 20<br>REV- 01 (DATE : 05.10.17)   |
| KEY CONTACT PERSON :- ALM                                      |            | CORE TEAM :- ALM, SK, SRS, SNP, IDS, MM, RK, RSC, NKS, VS, RJ                           |                        |                                 | REVISION   |
| LOCATION   | → REST →→→ | CLAMP   | → N →                  | SPL CHAR.<br>( CRITICAL DIMN. ) | REVISION   |
| <b>MATERIAL - : SAE 8620 HR</b><br><b>COMP. WT. = 1.13 KG.</b> |            | <input checked="" type="checkbox"/> B EEC <input checked="" type="checkbox"/> CUSTOMER. |                        |                                 | <input checked="" type="checkbox"/> A <input checked="" type="checkbox"/> B <input checked="" type="checkbox"/> C  |
|  |            |   |                        |                                 | <b>NOTE :-</b><br>1. IF CASE DEPTH FOUND LOWER OR HIGHER LIMIT OF SPECIFICATION TWO PART CHECK.<br>2. SAMPLE SHOULD BE CHECK BEST & WORST LOCATION FOR CASE DEPTH & MICROSTRUCTURE.<br>3. IN CASE RA IS MORE THAN 25% CHECK HARDNESS ( WITH 100 GM LOAD VICKER HARDNESS ) AT 0.1mm. IN SHOULD BE 58 HRC. Min.<br>4. SURFACE HARDNESS 80 HRA Min. ON FINISH MACHINED AREA MARKED AS "G" |
| SECTION - 'A-A'  |            |   |                        |                                 | <b>FOR REFERENCE ONLY</b>  |

| SR. NO. | CHARACTERISTIC                 |          | SPL CHAR CLASS | PRODUCT / PROCESS SPECIFICATIONS                                    | MEASUREMENT TECHNIQUE            |           | SAMPLING |            | RESP.   | CONTROL METHOD  | CORRECTIVE ACTION / REACTION PLAN |                 |
|---------|--------------------------------|----------|----------------|---|----------------------------------|-----------|----------|------------|---------|-----------------|-----------------------------------|-----------------|
|         | PRODUCT                        | PROCESS  |                |   | INSTRUMENT                       | NO.       | SIZE     | FREQ.      |         |                 |                                   |                 |
| 1.      | SURFACE HARDNESS               |          |                | 58 - 62 HRC.  | ROCK WELL HARDNESS TESTER        | ----      | 1 PC.    | PER CHARGE | ~ INSP. | SELF INSPECTION | SORT / REWORK ;                   |                 |
| 2.      | CUT PART FOR CASE DEPTH ON PCD |          |                | 0.7 ~ 0.9 mm. (AT515Hv)   | AUTOMATIC VICKER HARDNESS TESTER | ----      | 1 PC.    | PER CHARGE | ~ INSP. | SELF INSPECTION |                                   |                 |
| 3.      | CUT PART FOR CASE DEPTH ON RCD |          |                | 0.4 mm. Min (AT515Hv)   | AUTOMATIC VICKER HARDNESS TESTER | ----      | 1 PC.    | PER CHARGE | ~ INSP. | SELF INSPECTION |                                   |                 |
| 4.      | AFTER GRINDING BORE CASE DEPTH |          |                | 0.6 Min.  | AUTOMATIC VICKER HARDNESS TESTER | ----      | 1 PC.    | PER CHARGE | ~ INSP. | SELF INSPECTION |                                   |                 |
| 5.      | CORE HARDNESS AT RCD           |          |                | 25 ~ 45 HRC.  | ROCK WELL HARDNESS TESTER        | ----      | 1 PC.    | PER CHARGE |         | SELF INSPECTION |                                   |                 |
| 6.      | MICROSTRUCTURE AT CASE         |          |                | TM WITH 25% RA Max. ( FREE FROM CARBIDES )                          | MICROSCOPE AT 500X               | ----      | 1 PC.    | PER CHARGE | ~ INSP. | SELF INSPECTION |                                   |                 |
| 7.      | MICROSTRUCTURE AT CORE         |          |                | LCM + BANITE  | MICROSCOPE AT 500X               | ----      | 1 PC.    | PER CHARGE | ~ INSP. | SELF INSPECTION |                                   |                 |
| 8.      | IGO & NMTP ( Max. IN MICRON )  |          |                | <_ 25 MICRON  | MICROSCOPE 100X                  | ----      | 1 PC.    | PER CHARGE | ~ INSP. | SELF INSPECTION |                                   |                 |
| 9.      | ITP ( Max. IN MICRON )         |          |                | 0% AT SURFACE<br>5% Max. AT ECD/2 AT PCD<br>5% Max. AT ECD/4 AT RCD | MICROSCOPE 100X                  | ----      | 1 PC.    | PER CHARGE | ~ INSP. | SELF INSPECTION |                                   |                 |
| DRN BY  |                                | M. PATEL |                | CHKD BY   |                                  | R. PATHAK |          | APRD BY    |         | B. LEVA         |                                   | PAGE<br>01 / 01 |