



- 1 MATERIAL: EXISTING SHAFT 251243 (Rev F). ADD HOLES AS SHOWN.  
RADIAL ALIGNMENT OF TAPPED HOLES TO OTHER FEATURES NOT REQUIRED
2. PROVIDE INSPECTION REPORTS OR PROOF ACCORDING TO THE PROVISIONS EN-10204-3.1 REQUEST  
SEARCH FOR ORIGINAL MATERIAL CERTIFICATIONS, NDT REPORTS, AND CONCESSION DATA.
- 3 REFERENCES DIAMETERS GIVEN FOR INSPECTION. TOLERANCES & GD&T GIVEN ON P/N 251243.  
RESIZE TO DIAMETERS GIVEN. IF UNDERSIZE, GRIND TO CLEAN UP, HARD CHROME PLATE AND  
RE-GRIND TO SIZES INDICATED. ALT: REPAIR BY METAL SPRAY, 45 Rc min HARDNESS. RECORD  
PROCESS USED AND DIMENSIONS AS IDENTIFIED.
4. DATUMS FROM THE EXISTING COMPONENT ARE MARKED WITH AN "E" PREFIX  
REFERENCE P/N 251243 FOR SURFACE FINISH ON GEAR TEETH.  
NON SPECIFIED FILLETS - R3, NON SPECIFIED CHAMFERS - 1x45°
5. CRACK TESTING: FOR EXISTING TEETH, MAGNETIC PARTICLE TESTING OR DYE  
PENETRANT TEST GROUND SURFACES TO ISO 6336-5.  
(ALT: AGMA 2001-D04-GRADE 3) NO CRACKS ALLOWED.
- 6 VISUALLY INSPECT EXISTING TEETH 100%. NO STEP ALLOWED  
ON PROFILE. MICRO INSPECT WORSE TOOTH IN THREE (3)  
PLACES ALONG THE LENGTH.
7. ULTRASONIC TESTING: TESTING OF EXISTING FEATURES MUST  
FOLLOW THE PROVISIONS OF EN-10228-3 LEVEL 3 (AGMA A-388-  
TO AN EQUIVALENT 3 mm FLAT BOTTOMED HOLE IS AN  
ACCEPTABLE ALTERNATIVE.) PERFORM ONLY ON PROBLEM  
AREAS AS NOTED.

MAKE FROM MODEL: 1509-GS-011-B

| REV | CHANGED FROM  | BY  | DATE     | APRD |
|-----|---|-----|----------|------|
| B   | REVIEWED & UPDATED PER 1509-ENC-004                   | CPS | 1/18/13  |      |
| C   | CHANGES PER CUSTOMER REQUEST ON NREL DRW REVIEW NOTES | CPS | 3/6/13   |      |
| D   | CHANGES PER CUSTOMER REQUEST; RELEASE FOR PRODUCTION  | CPS | 4/11/13  |      |
| E   | REPAIR DANGLING TAGS                                  | JMG | 10/17/13 |      |
| F   | CHANGES REQUESTED PER MANUFACTURER DRW REVIEW         | CPG | 12/11/13 |      |

|   |                |                 |
|---|----------------|-----------------|
| REPORT ERRORS & CHANGES<br>REMOVE ALL BURRS AND SHARP EDGES<br>DIMENSIONS ARE IN MILLIMETERS.<br>UNSPECIFIED TOLERANCES:<br>DECIMALS: FINISH: ANGLES: |                |                 |
| X. ±1.0<br>.X ±0.5<br>.XX ±0.25   | 6.3<br>√ μm Ra | ≤ ± 0.5°        |
| COPYRIGHT ©<br>NOT TO BE REPRODUCED OR USED TO MAKE<br>OTHER DRAWINGS OR MACHINERY  |                |                 |
| DRAWN   | JFC            | DATE: 8/28/12   |
| CHECKED   | NJB            | THIRD ANGLE PRJ |

|   |                    |              |
|---|--------------------|--------------|
| National Renewable<br>Energy Laboratory |                    |              |
| TITLE:<br>INTERMEDIATE SHAFT - REWORK   |                    |              |
| SIZE<br>B                               | DWG. NO.<br>254507 | REV<br>F     |
| SCALE: 1:3                              | WEIGHT: 99.66 kgs  | SHEET 1 OF 1 |

3 CHECK "EB" TO "EX/EY"  
ADVISE ENGINEERING.  
RE-SIZE IF REQUIRED

INSPECT AND DRESS  
KEYWAYS IF REQUIRED

6 VISUALLY INSPECT  
EXISTING TEETH 100%

3 CHECK "EC" TO "EX/EY"  
ADVISE ENGINEERING  
RE-SIZE IF REQUIRED