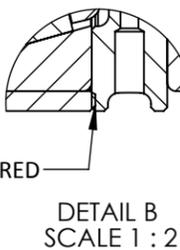
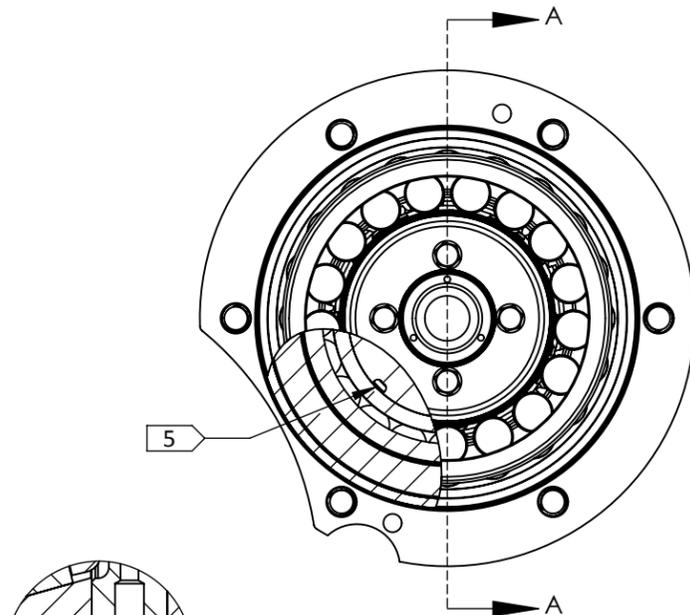
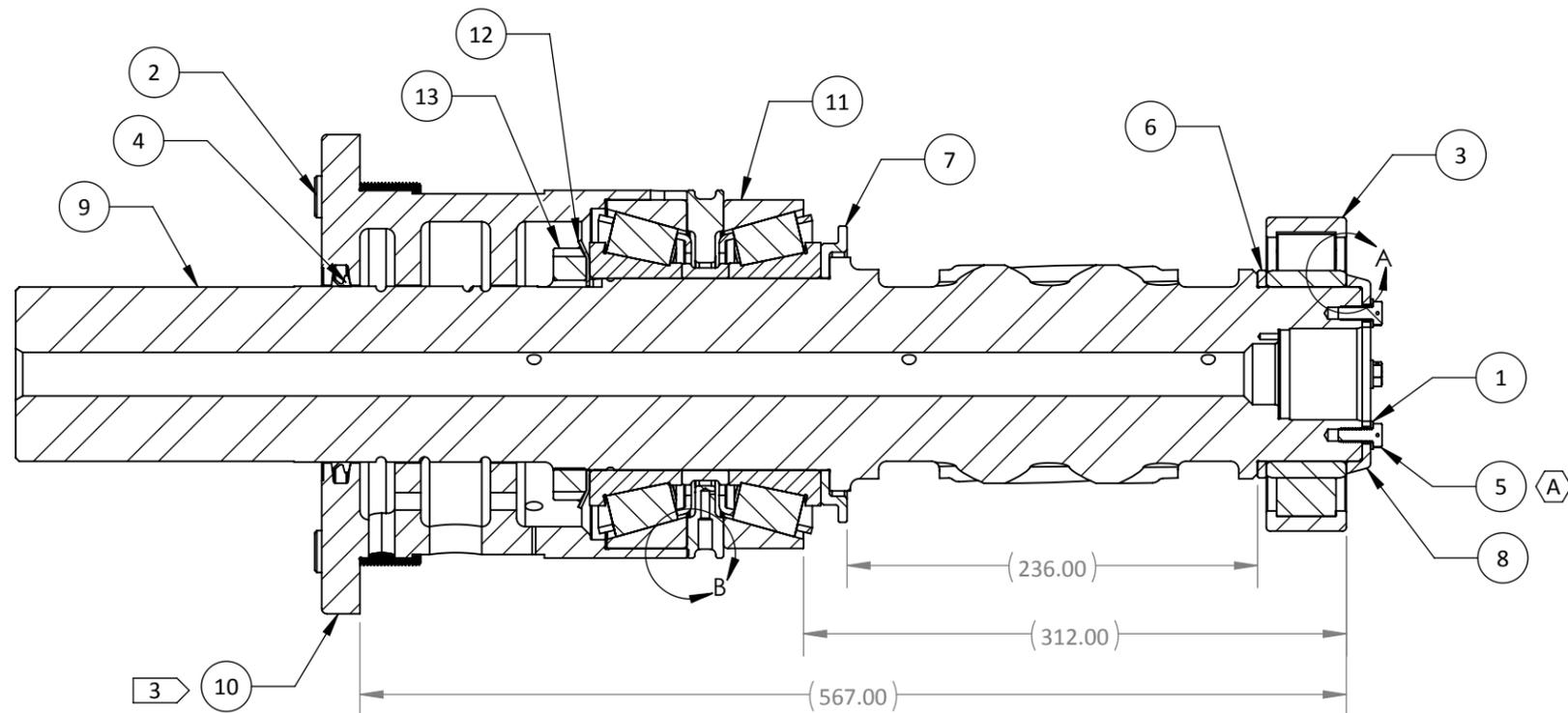


| ITEM NO. | PART NUMBER | DESCRIPTION                                 | QTY. |
|----------|-------------|---|------|
| 1        | 90097       | WASHER, FLAT,PLAIN, STEEL,M8                | 4    |
| 2        | 90490       | SOC HD CAPSCREW, M16 x 45 GR 8.8            | 6    |
| 3        | 93229       | BEARING HSS - A                             | 1    |
| 4        | 98218       | HSS V RING 100_VA_V_HIHI                    | 1    |
| 5        | 98225       | HEX HD CAPSCREW, M8x20, DRILLED HD, GRADE 5 | 4    |
| 6        | 254558      | PLATE, BEARING BAFFLE                       | 1    |
| 7        | 254559      | SHIELD, BEARING OIL                         | 1    |
| 8        | 254509      | IM SHAFT - LEADING END CAP                  | 1    |
| 9        | 254517      | SHAFT, PINION, HIGH SPEED                   | 1    |
| 10       | 254551      | HSS END COVER                               | 1    |
| 11       | 254623      | BEARING ASSEMBLY, HS SHAFT                  | 1    |
| 12       | 99902       | WASHER, LOCK, MB 22                         | 1    |
| 13       | 99901       | NUT, LOCK, KM 22                            | 1    |

TORQUE VALUES (LUBED):

Ⓐ ITEM # 6: 27.3 Nm



NOTES:

1. APPLY LOCTITE 577 THREAD SEALANT ON ALL THREADS PER MFG. INSTRUCTIONS.
2. WIRE TIE ITEM # 6 AFTER APPLYING PROPER TORQUE TO BOLTS. USE  $\varnothing$ 1mm 302/304 STAINLESS STEEL WIRE. APPLY PER STD. ACCEPTABLE PROCEDURES.
3. ADJUST LENGTH OF END COVER 254551, ITEM 11, AT FINAL ASSEMBLY TO SPECIFICATION ON DRAWING 254719.
4. INSTRUMENTATION TO BE COMPLETED PRIOR TO ASSEMBLY PER LAYOUT DRAWINGS 1551-LY-301, 1551-LY-302, 1551-LY-303, 1551-LY-304, 1551-LY-801, AND 1551-LY-901.
5. DURING ASSEMBLY OF TAPERED BEARING SET, INSTRUMENTATION GAUGES ADHERED TO BEARING BORE MUST ALIGN WITH AXIAL GROOVE OF HIGH SPEED SHAFT, P/N 254517, TO AVOID DAMAGING GAUGES.

MAKE FROM MODEL: 1509-AS-005-B

| REV | CHANGED FROM   | BY  | DATE     | APRD |
|-----|--|-----|----------|------|
| A   | PRE-RELEASE, REVIEWED PER 1509-ENC-004                             | CPS | 1/14/13  |      |
| B   | UPDATE BORDER  | CPS | 2/27/13  |      |
| C   | UPDATE PER 1509-DDS-018-A03 & 1509-DDS-024. RELEASE FOR PRODUCTION | CPS | 4/18/13  |      |
| D   | REPAIR DANGLING DIMENSION LEADERS                                  | JMG | 10/18/13 |      |
| E   | CHANGES PER MANUFACTURER REVIEW AND INSTRUMENTATION                | CPG | 3/20/14  |      |
| F   | CHANGES PER MFG REVIEW   | CPG | 1/20/16  |      |

|   |                |                      |
|---|----------------|----------------------|
| REPORT ERRORS & CHANGES REMOVE ALL BURRS AND SHARP EDGES DIMENSIONS ARE IN MILLIMETERS. UNSPECIFIED TOLERANCES: |                |                      |
| DECIMALS:   | FINISH:        | ANGLES:              |
| X. $\pm$ 1.0<br>.X $\pm$ 0.5<br>.XX $\pm$ 0.25  | 6.3 $\mu$ m Ra | $\leq \pm 0.5^\circ$ |
| COPYRIGHT ©   |                |                      |
| NOT TO BE REPRODUCED OR USED TO MAKE OTHER DRAWINGS OR MACHINERY  |                |                      |
| DRAWN   | CPS            | DATE: 1/14/13        |
| CHECKED   | NJB            | THIRD ANGLE PRJ      |

|   |                           |                 |
|---|---------------------------|-----------------|
| <b>National Renewable Energy Laboratory</b> |                           |                 |
| TITLE:<br><b>HIGH SPEED SHAFT ASSEMBLY</b>  |                           |                 |
| SIZE<br><b>B</b>                            | DWG. NO.<br><b>254593</b> | REV<br><b>F</b> |
| SCALE: 1:8                                  | WEIGHT: 84.44 kgs         | SHEET 1 OF 1    |