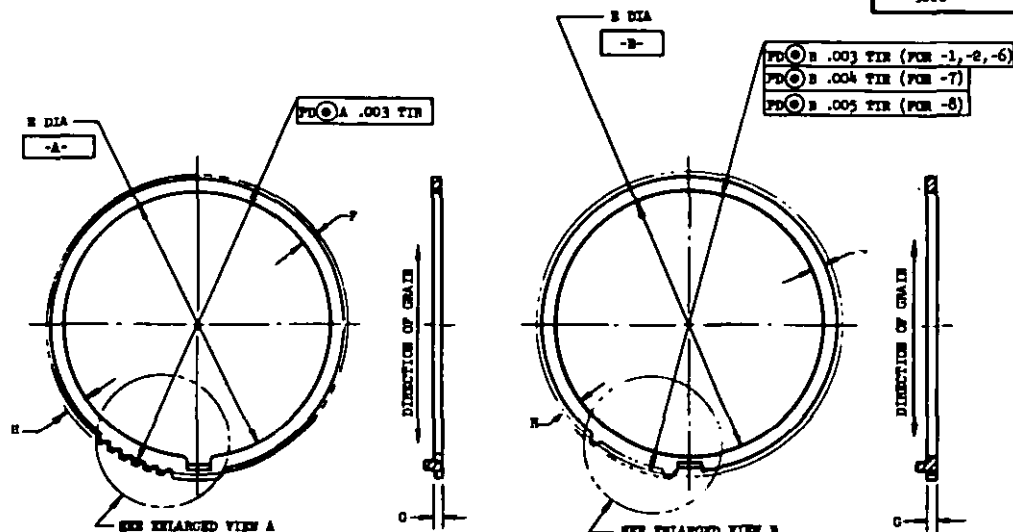


NOTES - REVIEW/USER INFORMATION IS CURRENT AS OF DATE OF THIS DOCUMENT. FOR FUTURE COORDINATION OF CHANGES TO THIS DOCUMENT, FIRST COORDINATION SHOULD BE BASED ON THE INFORMATION IN THE CURRENT EDITIONS.

USER INTEREST:  
ARMY - AV  
NAVY - AS, CG, MC  
AF - 17

REVIEWER INTEREST:  
ARMY - MU, EL, MI  
NAVY - AS, SH  
AF - 11, 15

This military standard is approved by the Department of Defense and is mandatory for use by all Departments & Agencies of the Department of Defense. Selection for all new engineering and design applications and for replacement use shall be made from this document.



RING, ZEROING -1  
RING, ZEROING -4  
RING, ZEROING -5

RING, ZEROING -1  
RING, ZEROING -2  
RING, ZEROING -6  
RING, ZEROING -7  
RING, ZEROING -8

TABLE I - RING DIMENSIONS

| DASH NO. | SIZE | R DIA                   | V     | O          | H     | J   | K   | L      | M    |
|----------|------|-------------------------|-------|------------|-------|-----|-----|--------|------|
| -1       | 05   | 0.3756                  | .0620 | .0150      | .1145 | --  | 10° | 40°    | .020 |
| -2       | 08   | 0.5006                  | .1240 | .0150      | .1875 | --  | 8°  | 40°    | .020 |
| -3       | 11   | 1.0002-.0000            | .032  | .019 ±.003 | .077  | 12° | 13° | 30°    | .010 |
| -4       | 15   | 1.3122 ±.0015<br>-.0000 | .069  | .032       | .108  | 10° | 10° | 30°    | .020 |
| -5       | 18   | 1.5622 ±.0015<br>-.0000 | .095  | .032       | .140  | 10° | 10° | 31°    | .040 |
| -6       | 23   | 2.000 ±.004<br>-.000    | .185  | .041       | .174  | --  | 7°  | 29°11' | .014 |
| -7       | 31   | 2.753 ±.004<br>-.000    | .172  | .041       | .216  | --  | 6°  | 28°30' | .012 |
| -8       | 37   | 3.377 ±.002<br>-.001    | .124  | .041       | .172  | --  | 5°  | 30°30' | .014 |

**NOTES:**

1. MATERIAL: STEEL, CORROSION RESISTING, QQ-S-766, CLASS 410, CONDITION A, FINISH 2B.
2. FINISH: PASSIVATE IN ACCORDANCE WITH QQ-P-35, TYPE II OR TYPE III.
3. HEAT TREATMENT: HEAT TREAT IN ACCORDANCE WITH MIL-H-6875, 3B to 43 ROCKWELL HARDNESS.
4. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
5. DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: DECIMALS ±.0005 FOR -1 AND -2, ±.005 FOR -3, -4, -5, -6, -7, AND -8, ANGLES ±30'. INTERPRET DIMENSIONING AND TOLERANCING IN ACCORDANCE WITH MIL-STD-8.

FOR DESIGN FEATURES PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID.

|   |   |                                  |
|---|---|----------------------------------|
| P.A. NAVY-AS<br>Other Cost<br>ARMY - MU<br>NAVY - AS<br>AF - 11 | TITLE<br><br>RING, ZEROING  | MILITARY STANDARD<br><br>MS90398 |
| PROCUREMENT SPECIFICATION<br>NONE                               | SUPERSEDES:<br>SUORD 813859, 813860, 813861, 854592, 854593, 854594 | SHEET 1 OF 2                     |

DD FORM 672-1 (Coordinated)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

PLATE 88, 15320

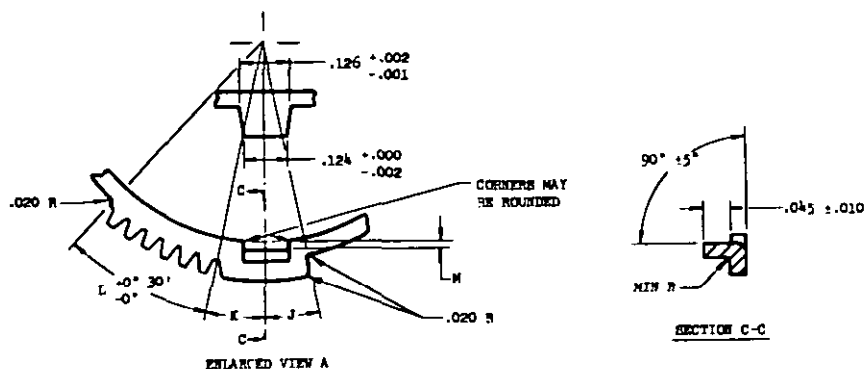
APPROVED 6 JUNE 1967 REVISED

NOTICE - REVIEW/USER INFORMATION IS CURRENT AS OF DATE OF THIS DOCUMENT. FOR FUTURE COORDINATION OF CHANGES TO THIS DOCUMENT, HARP CIRCULATION SHOULD BE MAILED IN THE INFORMATION IN THE CURRENT DTD/ISS.

USER INTEREST:  
ARMY - AV  
NAVY - AS, CU, MC  
AF - 17

REVIEWER INTEREST:  
ARMY - MU, EL, M  
NAVY - AS, CH  
AF - 11, 85

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5490

TABLE II - GEAR DATA (FOR TOOLING PURPOSES)

| DATA                          | DASH NO.                 |                          |                          |                          |
|-------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                               | -1                       | -2                       | -3                       | -4                       |
| TOOTH FORM                    | FULL DEPTH TRUE INVOLUTE | FULL DEPTH TRUE INVOLUTE | FULL DEPTH TRUE INVOLUTE | FULL DEPTH TRUE INVOLUTE |
| PRESSURE ANGLE                | 20°                      | 20°                      | 20°                      | 20°                      |
| TEETH PER COMPLETE GEAR (REV) | 36                       | 54                       | 72                       | 96                       |
| TEETH PER COMPLETE SECTOR     | 4                        | 6                        | 6                        | 8                        |
| DIAMETRAL PITCH               | 64                       | 64                       | 64                       | 64                       |
| ROOT DIA (MAX)                | 0.523                    | 0.705                    | 1.086                    | 1.461                    |
| BACKLASH                      | .002 +.002 / -.000       | .002 +.002 / -.000       | .002 +.002 / -.000       | .002 +.002 / -.000       |
| PITCH DIA (DATUM)             | .5625                    | .8437                    | 1.125                    | 1.500                    |

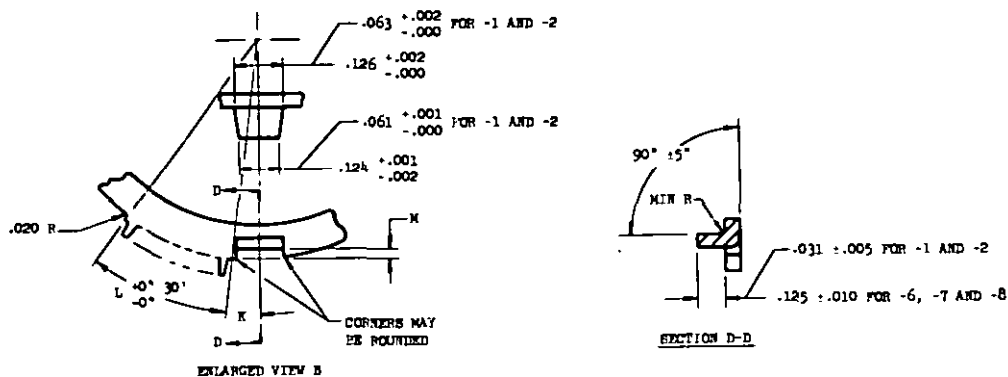


TABLE III - GEAR DATA (FOR TOOLING PURPOSES)

| DATA                          | DASH NO.                 |                          |                          |                          |
|-------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                               | -5                       | -6                       | -7                       | -8                       |
| TOOTH FORM                    | FULL DEPTH TRUE INVOLUTE | FULL DEPTH TRUE INVOLUTE | FULL DEPTH TRUE INVOLUTE | FULL DEPTH TRUE INVOLUTE |
| PRESSURE ANGLE                | 20°                      | 20°                      | 20°                      | 20°                      |
| TEETH PER COMPLETE GEAR (REV) | 116                      | 148                      | 202                      | 236                      |
| TEETH PER COMPLETE SECTOR     | 10                       | 12                       | 16                       | 20                       |
| DIAMETRAL PITCH               | 64                       | 64                       | 64                       | 64                       |
| ROOT DIA (MAX)                | 1.774                    | 2.274                    | 3.111                    | 3.643                    |
| BACKLASH                      | .002 +.002 / -.000       | .002 +.002 / -.000       | .002 +.002 / -.000       | .002 +.002 / -.000       |
| PITCH DIA (DATUM)             | 1.813                    | 2.3125                   | 3.156                    | 3.6875                   |

|  |   |                   |
|--|---|-------------------|
| P.A. NAVY - AS                                   | TITLE   | MILITARY STANDARD |
| Other Cases<br>ARMY - MU<br>NAVY - AS<br>AF - 11 | RING, ZEROING   | MS90398           |
| PROCUREMENT SPECIFICATION<br>N/A                 | SUPERSEDES:<br>EJORD 813859, 813860, 813861, 854592, 854593, 854594 | SHEET 2           |

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PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

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APPROVED 6 JUNE 1967 REVISED