

Magnetos, Aircraft, Drives for

RATIONALE

This document has been reaffirmed to comply with the SAE 5-year Review policy.

1. SCOPE:

A. This specification covers two types of drive couplings for magnetos as follows:

1. 17-tooth coupling
2. 33-tooth coupling

B. This specification also covers three types of magneto shaft ends as follows:

1. Tapered shaft end
2. 6-tooth spline shaft
3. 24-tooth spline shaft

2. GENERAL REQUIREMENTS:

- A. Dimensions and location of coupling splines, including magneto shaft end, shall conform fully for all magnetos used on engines having the same number of cylinders.
- B. All cotter pins used on magneto shaft ends shall be in accordance with SAE Aeronautical Standard AS 39, 3/32 in. nominal size. As an alternative, instead of cotter pins, the tab type washer, in accordance with AN Standards, may be used.
- C. All holes for cotter pins used on magneto shaft ends shall be in accordance with SAE Aeronautical Standard AS 39, and shall be 60° countersunk to 0.150 in. diameter, ± 0.016 .
- D. Cotter pins used on magneto shaft ends shall be of stainless steel.

3. DESIGN, COUPLING:

- A. The 17-tooth coupling shall be in accordance with Figure 1.
- B. The 33-tooth coupling shall be in accordance with Figure 2.

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SAE AS13

4. DESIGN, MAGNETO SHAFT ENDS::

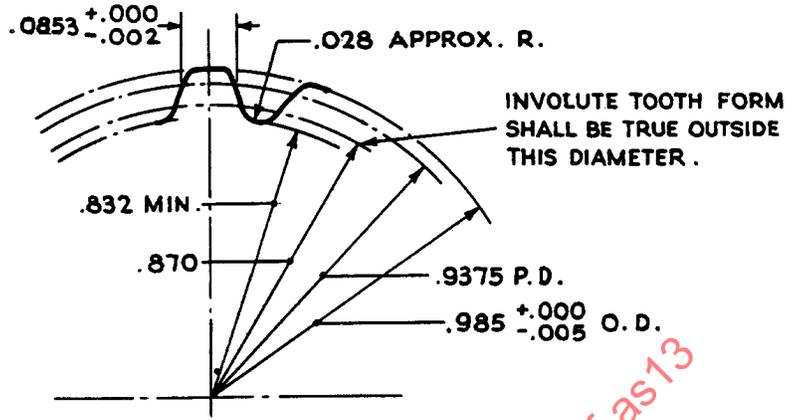
- A. The tapered shaft shall be in accordance with Figure 3.
- B. The 6-tooth shaft spline shall be in accordance with Figure 4.
- C. The 24-tooth shaft spline shall be in accordance with Figure 5.

5. Figures 6, 7 and 8 give the dimensions of locations of the shaft in relation to the flange.

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PREPARED BY SAE COMMITTEE E-25, GENERAL STANDARDS FOR
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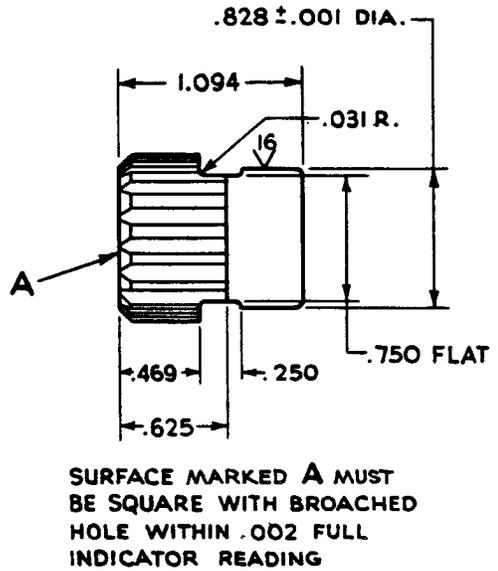
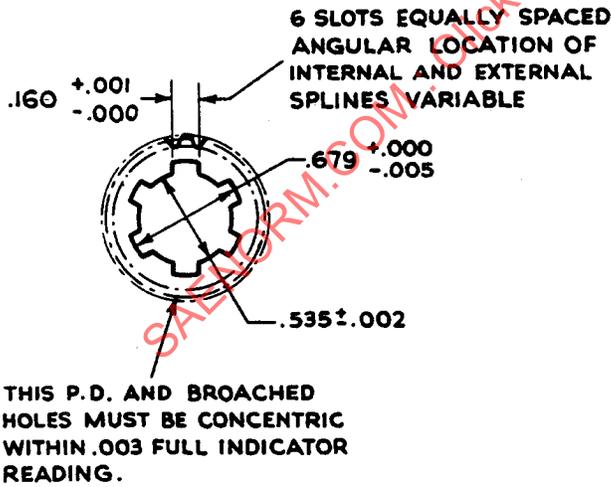
SAE AS13



ENLARGED VIEW OF TEETH

SPLINE DATA :-

- 17 TEETH
- 18.13 DIAMETRAL PITCH
- 30° PRESSURE ANGLE
- .0865 CHORDAL THICKNESS (THEORETICAL)

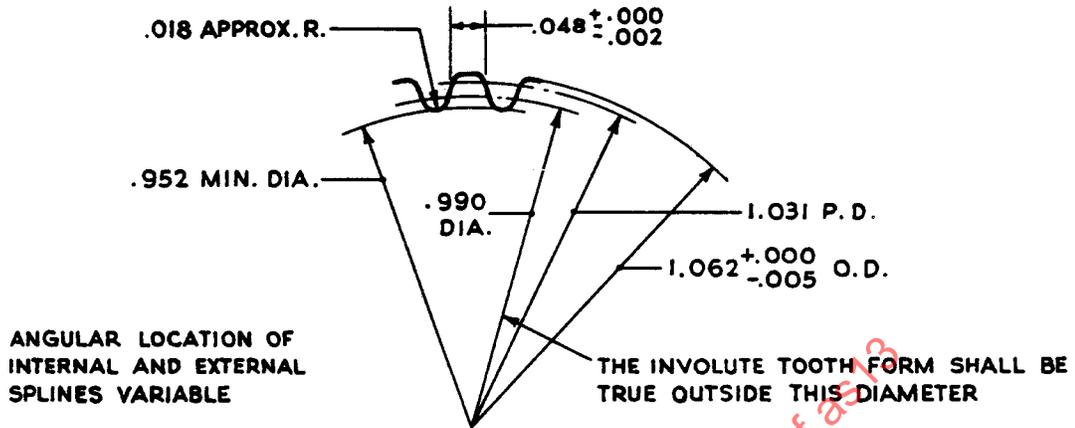


UNLESS OTHERWISE SPECIFIED:

ALLOWABLE TOLERANCE ON FINISHED DIMENSIONS IS $\pm .010$

FIGURE 1 - Coupling - Magneto Shaft (17 Teeth)

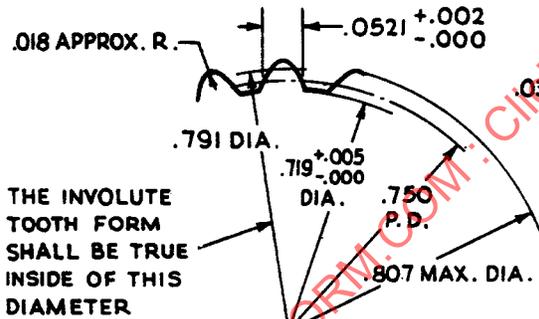
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ENLARGED VIEW OF EXTERNAL SPLINE

SPLINE DATA:-

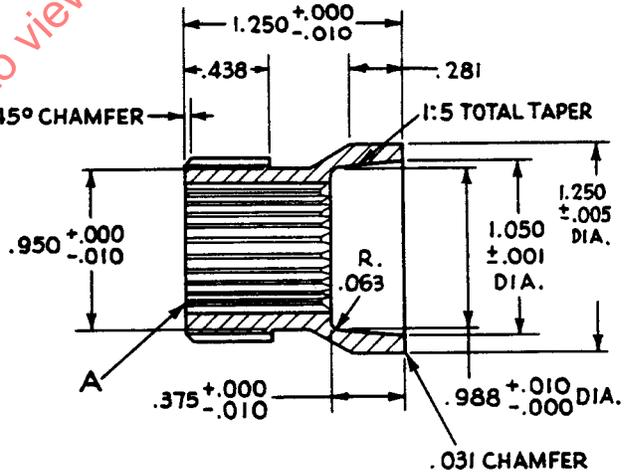
NO. OF TEETH	33
DIAMETRAL PITCH	32/64
TOOTH FORM INVOLUTE	20°



ENLARGED VIEW OF INTERNAL SPLINE

SPLINE DATA:-

NO. OF TEETH	24
DIAMETRAL PITCH	32/64
TOOTH FORM INVOLUTE	20°



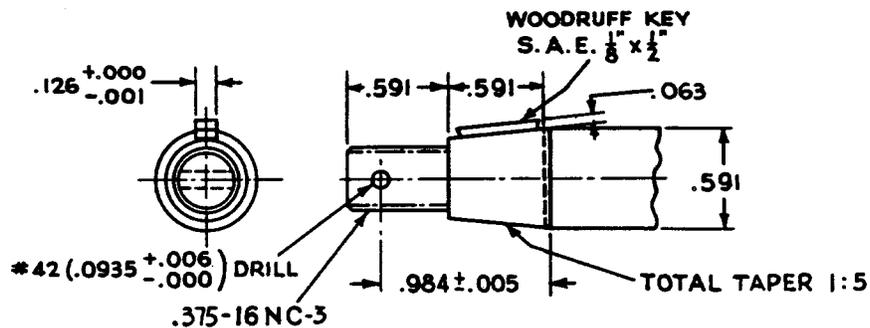
A SURFACE AND P. D. OF SPLINES MUST BE SQUARE AND TRUE TO EACH OTHER WITHIN .002 FULL INDICATOR READING

UNLESS OTHERWISE SPECIFIED:

ALLOWABLE TOLERANCE ON FINISHED DIMENSIONS IS $\pm .010$

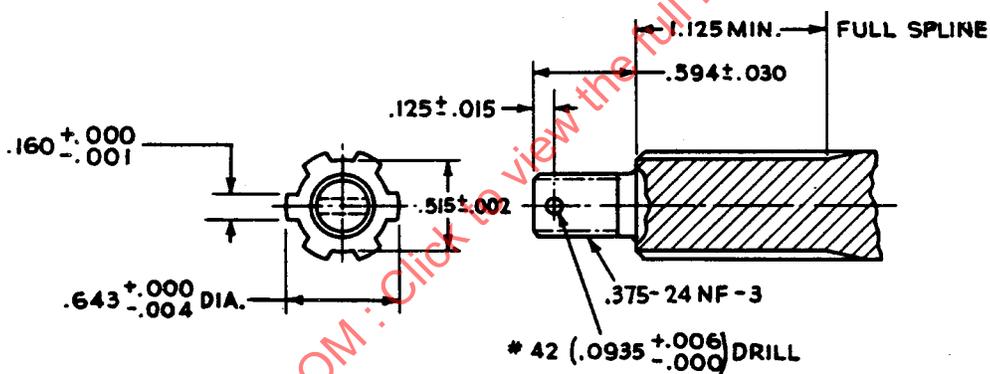
FIGURE 2 - Coupling - Magneto Shaft (33 Teeth)

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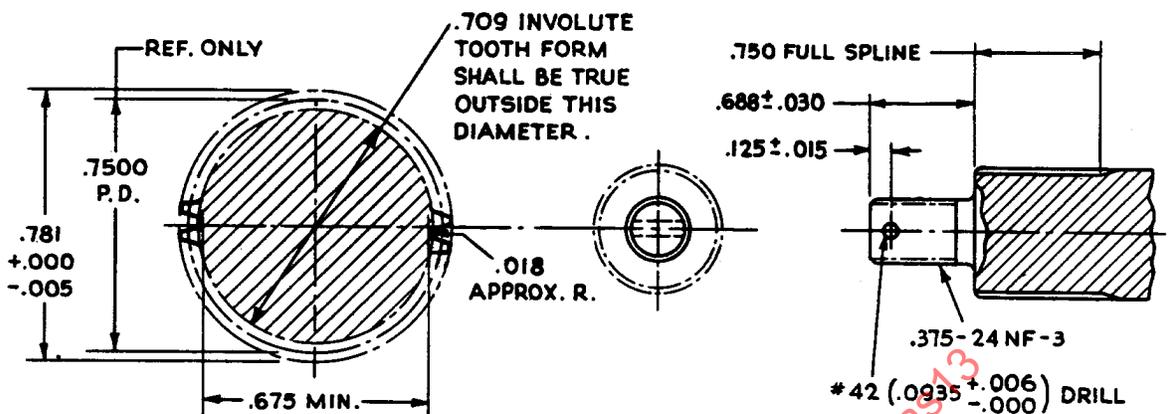
FIGURE 3 - Magneto Shaft End - Tapered Type



UNLESS OTHERWISE SPECIFIED:
ALLOWABLE TOLERANCE ON FINISHED DIMENSIONS IS $\pm .010$

FIGURE 4 - Magneto Shaft End - 6 Tooth Spline Type

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SPLINE DATA:-

NO. OF TEETH	24
DIAMETRAL PITCH	32/64
TOOTH FORM INVOLUTE	20°
CHORDAL THICKNESS	.0490 ± .0005

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FIGURE 5 - Magneto Shaft End - 24 Tooth Spline Type

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