

**RECOMMENDED DESIGN PRACTICE
FOR INVOLUTE SPLINE**

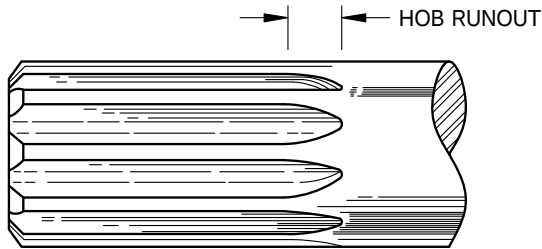
1. INTRODUCTION

- 1.1 Involute splines shall be designed, manufactured and inspected in accordance with NAS580 and NAS581.
- 1.2 Unusual applications requiring design details not included in NAS580 and NAS581 should be designed in accordance with ANSI B92.1 Involute Splines and Inspection Standard.

- 2. PREFERRED SPLINES.** The spline dimensions listed in the standards NAS580 and NAS581 cover only full filleted tooth form with loose side bearing fit, recognized as ASA Class A. The preferred diametral pitches and numbers of teeth were selected to cover essentially all airframe applications.

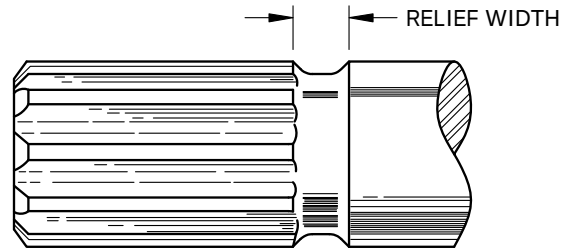
3. SHAFT DETAILS

- 3.1 The shaft ends shown in Figures 1 and 2 should be optional to each other wherever possible to facilitate manufacturing.



SPLINE DESIGN PERMITTING HOB RUNOUT IS RECOMMENDED DESIGN. PRODUCED ON HOBBING MACHINE.

FIGURE 1



SPLINE DESIGN WITH SHAPER RELIEF. PRODUCED ON GEAR SHAPER.

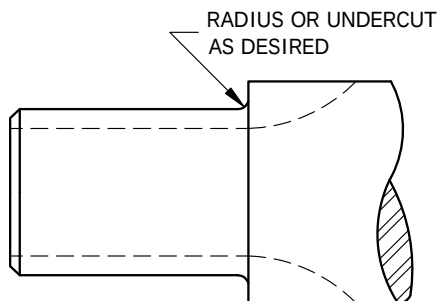
FIGURE 2

② COMPLETELY REVISED

THIRD ANGLE PROJECTION	CUSTODIAN NATIONAL AEROSPACE STANDARDS COMMITTEE	REVISION 2
PROCUREMENT SPECIFICATION NONE	TITLE INVOLUTE SPLINE, 30° FULL FILLET ②	CLASSIFICATION RECOMMENDED PRACTICE NAS579 SHEET 1 OF 4

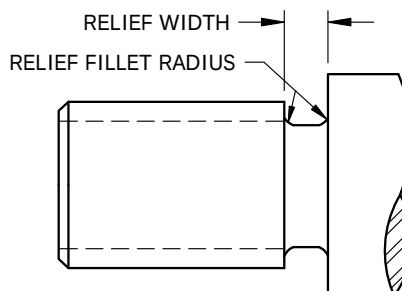
3.2

Spline shafts designed with a shoulder are normally hobbled thru shoulder as shown in Figure 3 or produced on a gear shaper as shown in Figure 4. If thru hobbing is not allowable Figure 5 may present a desirable configuration.



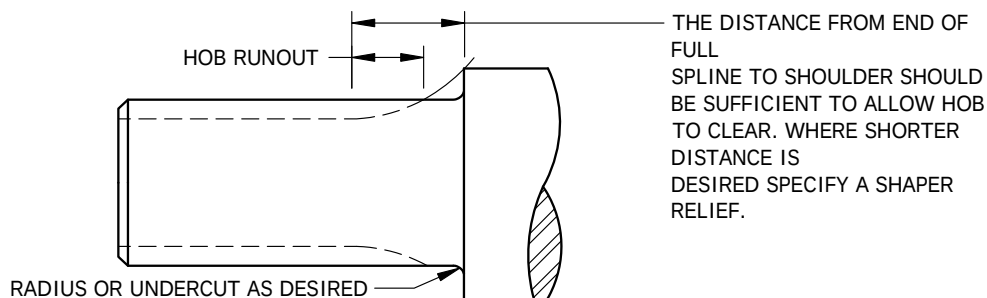
HOB THRU SHOULDER OPERATION

FIGURE 3



PRODUCED ON GEAR SHAPER

FIGURE 4



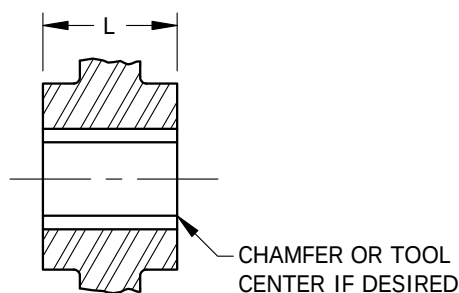
PRODUCED ON HOBGING MACHINE

FIGURE 5

4. HOLE DETAILS

4.1

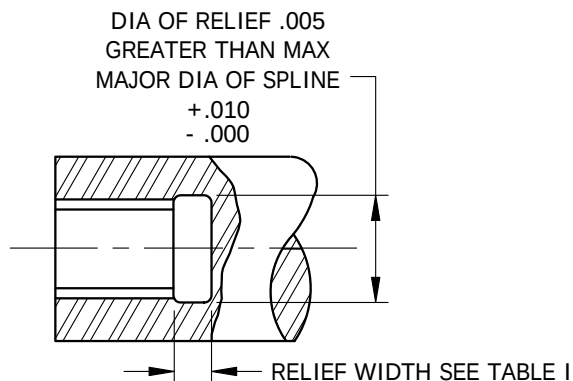
Figures 6 and 7 show forms of hole splines which are produced with a gear shaper or broach. Blind hole splines cost much more than the thru type and should not be specified unless absolutely necessary. To provide for sufficient chip space in broaching the length "L" should not be more than 1.5 times the pitch diameter.



THRU TYPE

PRODUCED WITH GEAR SHAPER OR BROACH

FIGURE 6



BLIND TYPE

PRODUCED WITH GEAR SHAPER ONLY

FIGURE 7