SAE Aerospace
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AEROSPACE RECOMMENDED PRACTICE

SAE ARP1902 | REV. A

Issued 1985-03
Revised 2001-10
Reaffirmed 2012-11

Superseding ARP1902

Bolt, Tee Head, Interface Surface, Dimensions for

RATIONALE

ARP1902A has been reaffirmed to comply with the SAE five-year review policy.

FOREWORD

Changes in this Revision are format/editorial only.

1. SCOPE:

This recommended practice provides the dimensional data for the diameters of surfaces that interface with the following tee head bolt series: AS3232 thru AS3235, MS9397 thru MS9402 and MS9432 thru MS9437, or other parts with compatible dimensions.

1.1 Purpose:

To establish a recommended practice for calculating the diameters of surfaces that interface with the head of tee head bolts to prevent rotation.

2. REFERENCES:

AS3232 thru AS3235
MS9397 thru MS9402
MS9432 thru MS9437

3. GENERAL DESIGN INFORMATION:

3.1 External Interface Dimensions:

The external interface diameter is illustrated in Figure 1. The interface diameter A is determined by the following formula:

$$øA = B - C - .025 \quad \text{(Eq. 1)}$$

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3.1 (Continued):

where:

A = Interface Diameter
B = Bolt Circle Diameter, Basic
C = Bolt Head Width, Maximum

Calculations are rounded to the nearest three place decimal. Recommended tolerance applied to øA; ±.010. Table 1 establishes the dimensional requirements for bolt diameters .190 thru .500. Maximum bolt clearance hole is assumed to be the bolt nominal thread diameter plus .030. Bolt hole positional tolerance is assumed to be .010 diameter of true position relative to diameter A.

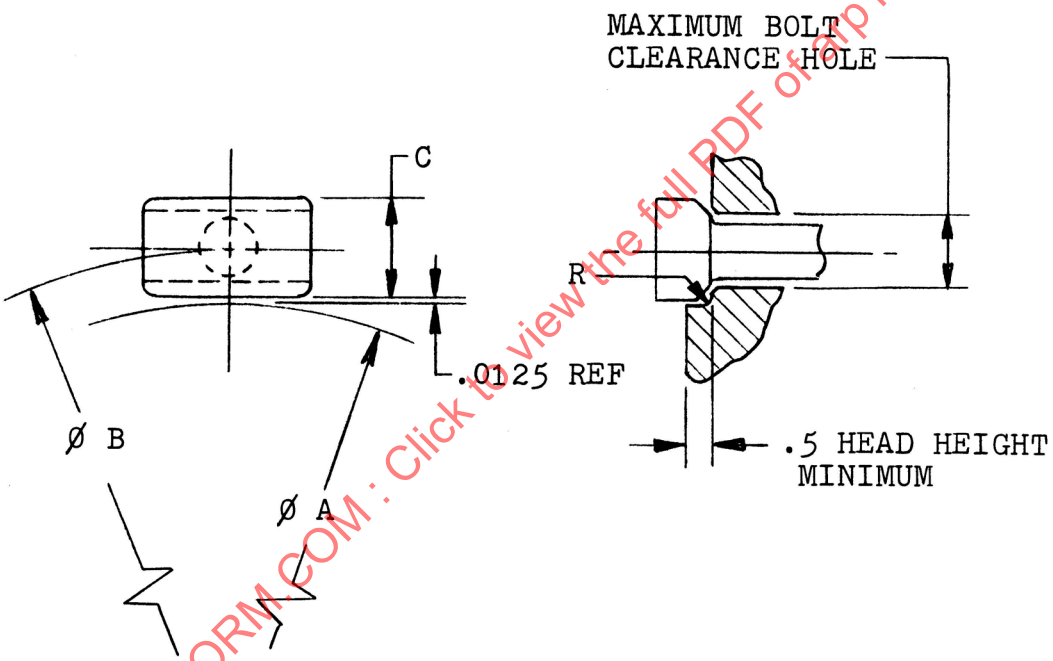

FIGURE 1

TABLE 1

BOLT DIA	DIAMETER A	R MAX
.190	(B - .320) - .025	.035
.250	(B - .380) - .025	.035
.3125	(B - .440) - .025	.035
.375	(B - .500) - .025	.035
.4375	(B - .580) - .025	.040
.500	(B - .640) - .025	.040

Dimensions are in inches

3.2 Internal Interface Dimensions:

The internal interface diameter is illustrated in Figure 2. The interface diameter A is determined by the following formula:

$$øA = \sqrt{(B + C)^2 + D^2} + .025 \quad \text{(Eq. 2)}$$

where:

A = Interface Diameter
B = Bolt Circle Diameter, Basic
C = Bolt Head Width Maximum
D = Bolt Head Length Maximum

Calculations are rounded to the nearest three place decimal. Recommended tolerance applied to øA: ±.010. Table 2 establishes the dimensional requirements for bolt diameters .190 thru .500. Maximum bolt clearance hole is assumed to be the bolt nominal thread diameter plus .030. Bolt hole positional tolerance is assumed to be .010 diameter of true position relative to diameter A.

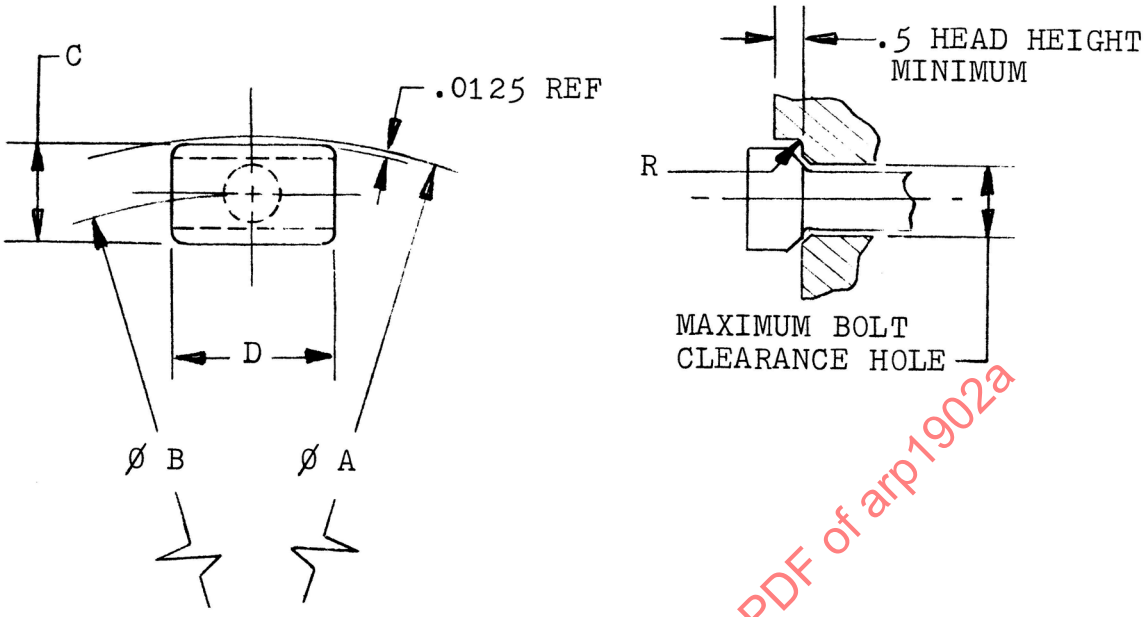

FIGURE 2