



# AEROSPACE RECOMMENDED PRACTICE

**ARP4296™****REV. B**

|            |         |
|------------|---------|
| Issued     | 1990-08 |
| Revised    | 1999-01 |
| Reaffirmed | 2014-10 |
| Cancelled  | 2019-03 |

Superseding ARP4296A

Drawing Interpretation and Standard Machining Practices,  
Couplings, Fittings and Hose Ends, Fluid Systems

## RATIONALE

ARP4296 has been specified on several SAE Aerospace Standard (AS) drawings. It was intended to be a requirements document, but, since it was published as an ARP document, the contents were not mandatory, only recommended. Because of this, ARP4296A will be cancelled. All of its contents are incorporated into AS4296. Supersession by an SAE Aerospace Standard (AS4296) will make the specified contents mandatory.

## CANCELLATION NOTICE

This Technical Report has been declared "CANCELLED" as of March 2019, and has been superseded by AS4296. By this action, this document will remain listed in the respective index, if applicable. Cancelled Technical Reports are available from SAE.

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## 1. SCOPE:

This SAE Aerospace Recommended Practice (ARP) is intended to interpret and clarify engineering drawing requirements relating to the manufacture and inspection of fluid system couplings, tube fittings, and hose ends. Because it is impractical to define every minute detail of the part on the face of the drawing, this document describes interpretations of dimensioning of general machining features and otherwise undefined tolerances that fall under the heading of "good shop practice". This document serves as a supplement to engineering drawings when referenced on applicable documents.

## 2. APPLICABLE DOCUMENTS:

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

### 2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

|         |                                                                                                                       |
|---------|-----------------------------------------------------------------------------------------------------------------------|
| ARP4266 | Hole Contour, Fluid Passage, Tube Fitting                                                                             |
| ARP4784 | Definitions and Limits, Metal Material Defects and Surface and Edge Features, Fluid Couplings, Fittings and Hose Ends |

### 2.2 ANSI/ASME Publications:

Available from ASME, 22 Law Drive, Box 2900, Fairfield, NJ 07007-2900.

|             |                              |
|-------------|------------------------------|
| ASME Y14.5M | Dimensioning and Tolerancing |
|-------------|------------------------------|

### 3. REQUIREMENTS:

#### 3.1 General:

- 3.1.1 Conflict in Requirements: Where a conflict exists between the requirements of this document and the applicable part drawing, the part drawing shall take precedence. All requirements herein are meant to apply only if not specified on the drawing.
- 3.1.2 Material Defects and Surface and Edge Flaws: Unless specified on the drawing surface and edge defect definitions and limits shall be in accordance with ARP4784.
- 3.1.3 Sharp Edges: Break edges 0.003 to 0.015 unless otherwise noted.

#### 3.2 Tolerances:

- 3.2.1 Concentricity: Unless there is a definite need for the control of a feature's median points, it is recommended in ANSI Y14.5M-1982 or ASME Y14.5M-1994 that a control be specified in terms of a runout tolerance (see 3.2.6) or a positional tolerance.
- 3.2.2 Angularity:
- 3.2.2.1 Shapes: Angularity between the legs of shape fitting such as tees, elbows, and crosses shall be as shown in Figure 1.

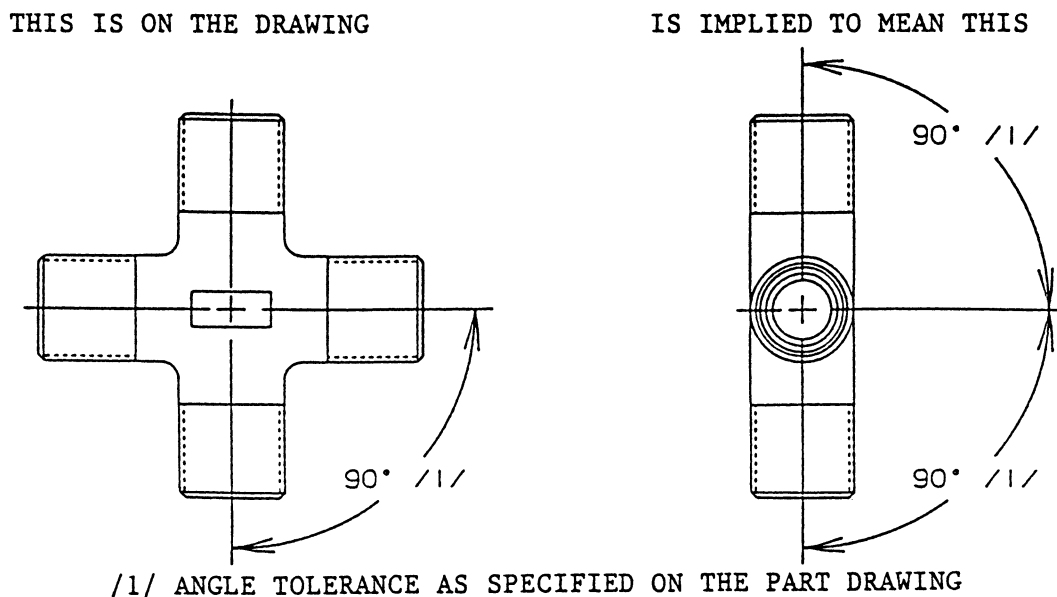


FIGURE 1 - Angularity of Shape Fittings