

Commercial Aircraft Towbar Attach Fitting Interface

1. SCOPE:

Operators of commercial passenger and cargo aircraft in unanimity will request aircraft manufacturers to follow this standard in the design of the nose gear (when towing operations are normally done from the nose gear) in conventional tricycle type landing gears.

1.1 Purpose:

The purpose of this SAE Aerospace Standard (AS) is to standardize towbar attach fittings interface by aircraft weight category (which determines towbar forces) so that one towbar can be used for all aircraft within that weight category.

2. REFERENCES:

There are no referenced publications specified herein.

3. EFFECTIVE:

This document is applicable to new aircraft. To effect on existing aircraft, a change to the basic specification is required.

4. REQUIREMENTS:

4.1 Aircraft Attachment Fitting Location:

The fitting shall be designed to enable simple attachment of the towbar at the front of the nose landing gear and at the rear of the nose landing gear (when requested by the acquiring airline) for push-pull tow operations.

4.2 Aircraft Attachment Fitting Design:

The allowable towing forces on the nose landing gear specified by the aircraft manufacturer shall conform to the design criteria designed by FARs and good design practice.

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

Copyright 2001 Society of Automotive Engineers, Inc.
All rights reserved.

Printed in U.S.A.

TO PLACE A DOCUMENT ORDER: (724) 776-4970

FAX: (724) 776-0790

SAE WEB ADDRESS: <http://www.sae.org>

SAE AS1614 Revision B

4.3 Aircraft Weight Categories:

See Table 1:

TABLE 1 - Aircraft Weight Categories

Category	Maximum Ramp Weight
I	110 000 to 220 000 lb (50 000 to 100 000 kg)
II	220 000 to 330 000 lb (100 000 to 150 000 kg)
III	330 000 to 440 000 lb (150 000 to 200 000 kg)
IV	440 000 to 573 000 lb (200 000 to 260 000 kg)
V	573 000 to 887 000 lb (260 000 to 400 000 kg)

NOTE: The towbar attach fitting category shall be selected in such a way that no change of type shall be necessary during the aircraft development. For aircraft whose design weight is near the top limit of a weight category, it can be classified in the next higher category to allow for weight growth.

4.4 Towbar Attachment Fitting Configuration, Dimensions, and Clearances:

The standard configuration of the attachment fitting shall be a horizontal cylindrical pin (see Table 2 and Figure 1).

TABLE 2

Dimension	Category I	Category II	Category III	Category IV	Category V
A Diameter	1.50 in (38.10 mm)	1.75 in (44.45 mm)	2.00 in (50.80 mm)	2.25 in (57.15 mm)	2.50 in (63.50 mm)
B Length	4.45 in (113.03 mm)	5.25 in (133.35 mm)	6.50 in (165.10 mm)	7.25 in (184.15 mm)	8.00 in (203.20 mm)