

	SURFACE VEHICLE RECOMMENDED PRACTICE	SAE J2873 JUL2010
		Issued 2010-07
Electric Drive Cooling Fan Motor Mounting		

RATIONALE

This document is intended to encourage commonization. The present state is that this attachment varies with the Original Equipment Manufacturer (OEM) and Supplier. In general, the variation is arbitrary, adding cost but not value.

1. SCOPE

This SAE Recommended Practice is applicable to Electric Drive Cooling Fan Assemblies used in Light Duty vehicle cooling systems (typically, passenger cars and light duty trucks). This document outlines the Electric Drive Cooling Fan Motor Mounting interface characteristics such that a common standard is possible.

1.1 Purpose

This Recommended Practice is intended to document the recommended set of standard mounting interface dimensions for attachment of electric cooling fan motor to fan shroud.

2. REFERENCES

2.1 Applicable Documents

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

SAE J635 Fan Hub Bolt Circles and Pilot Holes

3. DEFINITION

The Recommended Practice provides for three families of bolt circle diameters, essentially a small, medium and large. All of the bolt circles have the attaching holes spaced at 120 degree intervals and all of the attaching holes are the same diameter. From a general application standpoint, the intent of defining three families promotes the optimum standardization, while recognizing that there still is need to accommodate a broad range of application. By way of example, the SMALL bolt circle would typically apply to low-power 2-pole motors used in small car cooling applications or for supplemental or "boost" fans, typically at a power level less than 150 W. The MEDIUM bolt circle would accommodate a mainstream medium power 4-pole motor typically covering a range of 150 to 500 W. The LARGE bolt circle would apply to very high power 4-pole brush type motors or their brushless equivalent exceeding 500 W. There may be argument that there are applications where an attachment scheme using more than three bolts and having spacing different than equal as well as encompassing diameters different from what is recommended here. However, the intent of this Recommended Practice which involved input from the various suppliers was to create a simple basis for communization that would apply to 85% of both the Supplier and OEM users.

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TABLE 1 - FAN MOTOR ATTACHMENT KEY DIMENSIONS

	Bolt Circle Diameter mm	Mounting Hole Diameter mm	Mounting Hole Spacing degrees
Small	100	6.0	120
Medium	120	6.0	120
Large	170	6.0	120

TABLE 2 - EXAMPLE OF TYPICAL FAN MOTOR MOUNTING PROVISIONS

