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SAE J226 JAN86

Engine Preheaters

SAE Recommended Practice
Reaffirmed January 1986

Submitted for Recognition as
an American National Standard

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RATIONALE:

Not applicable.

RELATIONSHIP OF SAE STANDARD TO ISO STANDARD:

Not applicable.

REFERENCE SECTION:

Not applicable.

APPLICATION:

Coolant heaters are used to prevent freezing damage and facilitate engine starting under low temperature conditions. This Recommended Practice provides a guideline for coolant heaters, including adequate clearances and service accessibility.

This Recommended Practice includes information and accommodation of both the electric immersion and tank or side arm type external heaters.

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HIGHWAY VEHICLE PRACTICE

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ENGINE PREHEATERS

1. PURPOSE: Coolant heaters are used to prevent freezing damage and facilitate engine starting under low temperature conditions. This Recommended Practice provides a guideline for coolant heaters, including adequate clearances and service accessibility.

2. SCOPE: This Recommended Practice includes information and accommodation of both the electric immersion and tank or side arm type external heaters.

3. ELECTRIC IMMERSION TYPE HEATERS:

3.1 Straight Adaptor Design: This type is used for installation through covers, core hole plugs, etc. The heating element loop should be located to permit free convective circulation of the engine coolant.

See Fig. 1 and Table 1.

3.2 Pipe Thread Adaptor Design: This type is used where space within the cooling jacket allows clearance for a loop. (See Fig. 2 and Table 2.) Where the heater is screwed into a removable flange, the loop may be shaped as shown in Fig. 1.

3.3 Tank Type Heater: Where external or tank type heaters are required, suitable coolant connection must be provided at engine locations assuring adequate fluid circulation. Engines of less than approximately 6.5 ℓ (400 in^3) displacement require 1/4 NPT minimum size connections. For larger engines, use 3/8, 1/2, or 3/4 NPT according to increasing engine size, with 3/4 NPT being used for all engines of 13.0 ℓ (793 in^3) displacement and over.

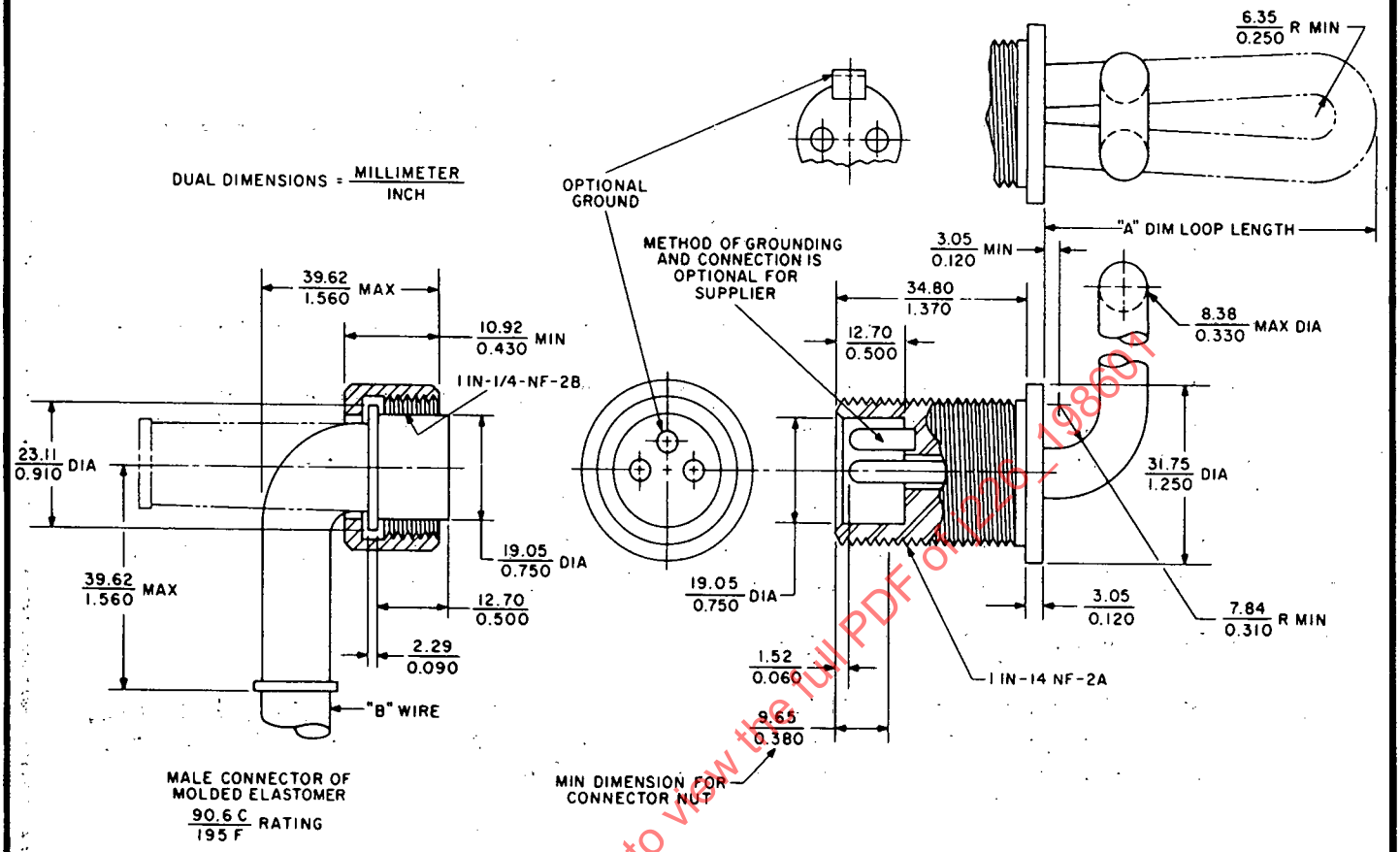

FIG. 1

TABLE 1 - STRAIGHT ADAPTOR DESIGN

SAE Type	Rating	Volts	A		B Wire
			mm	in	
1A	500 W	120	76.20	3.000	16/3
1B	500 W	240	76.20	3.000	16/3
2A	1000 W	120	114.30	4.500	16/3
2B	1000 W	240	114.30	4.500	16/3
3A	1500 W	120	152.40	6.000	16/3
3B	1500 W	240	152.40	6.000	16/3
4A[a]	2000 W	120[a]	190.50	7.500	16/3
4B	2000 W	240	190.50	7.500	16/3

[a]Not recommended.