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SURFACE VEHICLE STANDARD

SAE J629

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An American National Standard

(R) DIESEL FUEL INJECTOR ASSEMBLY - FLANGE MOUNTED TYPES 5 AND 6

***Foreword*—**This Document has also changed to comply with the new SAE Technical Standards Board format.

1. ***Scope*—**This SAE Standard specifies the dimensional requirements necessary for the mounting and interchangeability of two types of fuel injectors in diesel engines.

The location and dimensions of the fuel inlet, leak-off connections, and flange design are not defined since they may vary according to the particular application.

1.1 Field of Application—This document is applicable to nozzle holder types 5 and 6 of a flange mounted design with a 21.0 mm (nominal) shank diameter used with size "S" nozzles specified in ISO 2697. The internal construction of the fuel injector remains optional with the manufacturer.

2. ***References***

2.1 Applicable Publication—The following publication forms a part of this publication to the extent specified herein. The latest issue of SAE publications shall apply.

2.1.1 ISO PUBLICATION—Available from ANSI, 11 West 42nd Street, New York, NY 10036.

ISO 2697—Road Vehicles - Fuel Injection Nozzles - Size "S"

2.2 Related Publication—The following publication is provided for information purposes only and are not a required part of this document.

2.2.1 ISO PUBLICATIONS—Available from ANSI, 1430 Broadway, New York, NY 10018.

ISO 2699—Road Vehicles - Flange-Mounted Injection Nozzle Holders Size "S" - Types 2, 3, 4, 5, and 6

3. ***Dimensions and Tolerances—***With the aid of detail enlargements "Z_1" and "Z_2", Figure 1 illustrates the length and diameters of the nozzle, sealing washer, nozzle retaining nut, and the nozzle holder as related to the interface between the injector and the bore in the engine.

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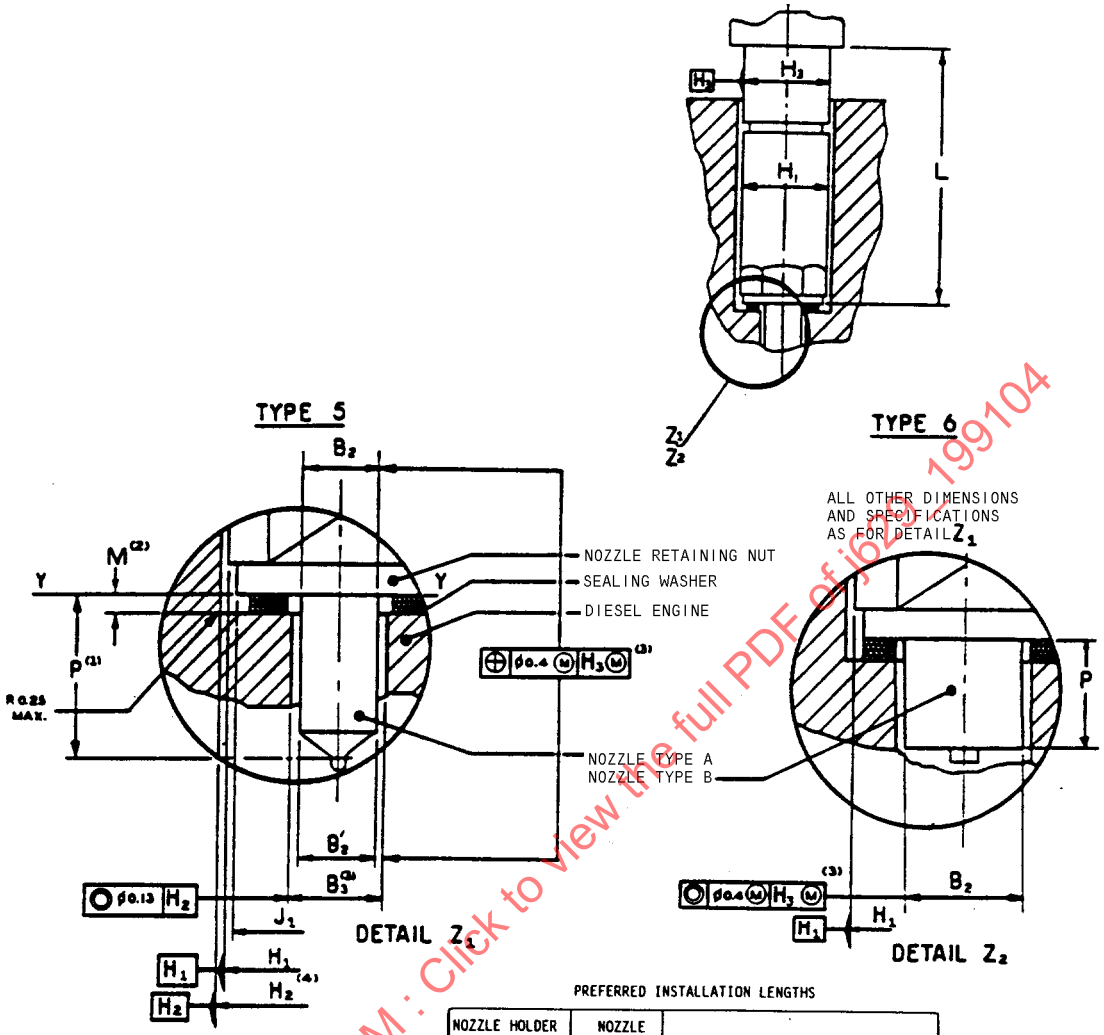

PREFERRED INSTALLATION LENGTHS

NOZZLE HOLDER TYPE	NOZZLE TYPE	L ± 0.8				
5	A	52	67	82	97	112
6	B	35	50	65	80	95

DIMENSIONS IN MM

NOZZLE HOLDER TYPE	NOZZLE TYPE	H_1	H_2(4) +0.1 0	H_3	B_2	B_2' +0.3 0	B_3(3)	J_1	M(2)	P
5	A	20.9 MAX	21.1	21 MAX	9.2 MAX ($B_2 > B_2'$)	8.9	---	18.5 MIN	1.5	20.0 +0.7 -0.0
6	B				14.0 c 11	---				12.5 +0.7 -0.0

[1] Y-Y and the center of the nozzle tip radius on the nozzle axis which is generally the apex of orifice spray.
[2] With commercial tolerances (before compression).
[3] The determination of the diameter B_3 in the cylinder head is left to the manufacturer's choice. For that purpose the maximum value for the nozzle shank which is given as a result of the Maximum Material Principle Ⓜ and the maximum tolerance value of the cylinder head hole must be taken into account. The clearance shall be kept to a minimum to facilitate nozzle cooling.
[4] For type 5 and 6 nozzle holders without shanks, dimension H_2 should be reduced by 0.1 mm. In this case the Maximum Material Principle Ⓜ in details Z_1 and Z_2 applies on diameter H_1, instead of diameter H_3.

FIGURE 1—FLANGE-MOUNTED NOZZLE HOLDER SIZE "S", TYPES 5 AND 6

Note that two basic nozzle types are shown: (A) hole-type and (B) pintle.

Dimensions and requirements not given in this document are left to the discretion of the manufacturer.

4. Notes

4.1 Marginal Indicia—The change bar (l) located in the left margin is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. An (R) symbol to the left of the document title indicates a complete revision of the report.

PREPARED BY THE SAE DIESEL FUEL INJECTION EQUIPMENT STANDARDS COMMITTEE 2