International Standard 6519

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Tapers for shaft ends and hubs for fuel injection pumps

Cônes pour bouts d'arbre et accouplement des pompes d'injection

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

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It has been approved by the member bodies of the following countries :

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The member body of the following country expressed disapproval of the document on technical grounds :

United Kingdom

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Tapers for shaft ends and hubs for fuel injection pumps

1 Scope and field of application

This International Standard specifies the dimensional requirements necessary for the interchangeability of tapered shaft ends and hubs for fuel injection pumps of diesel engines.

2 Dimensions and tolerances

2.1 Shaft ends with taper.

Dimensions in millimetres

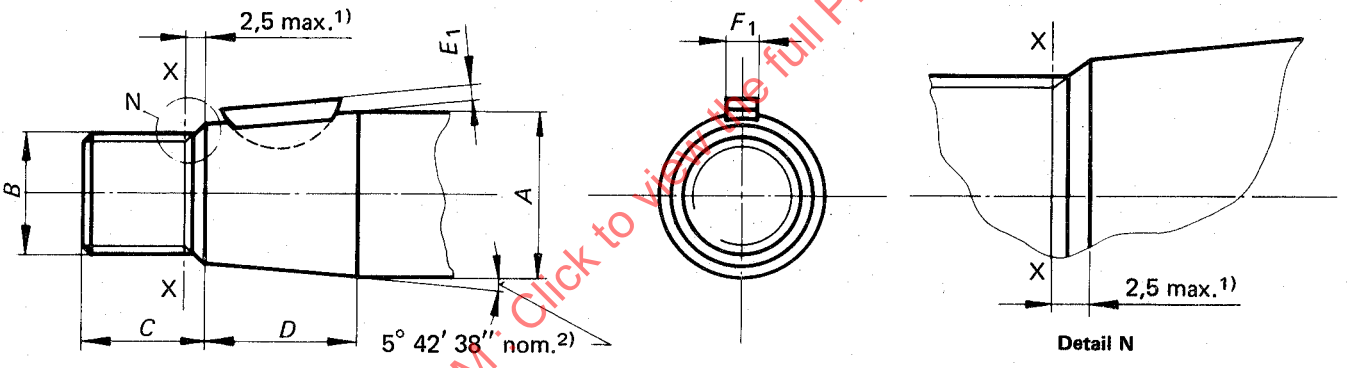

Figure 1 — Shaft end, type 1[1)]

Dimensions in millimetres

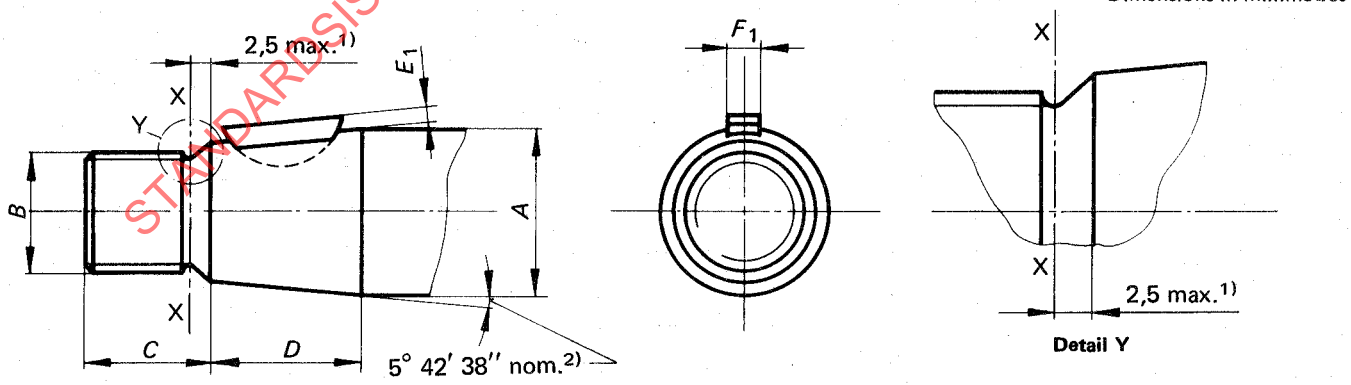

Figure 2 — Shaft end, type 2[1)]

1) The shaft ends may be made optionally according to type 1 or 2. However, it shall be possible to screw the go-gauge for the thread up to the chain line X-X.

2) To ensure satisfactory operation of the taper drive, it is necessary for the manufacturers to provide such tolerances that the contact between the male and female cones is effective at the major diameter.

Table 1 — Shaft ends

Dimensions in millimetres

A[1] nom.	B	C max.	D −1	E_1 max.	F_1 h9
17	M12	14,5	18	1,6	$3\ ^{0}_{-0,025}$
20	M14 × 1,5	16,5	20	2,0	$4\ ^{0}_{-0,03}$
22	M14 × 1,5	16,5	20	2,0	$4\ ^{0}_{-0,03}$
	M16 × 1,5*	18,0			
25	M18 × 1,5	20,0	25	2,6	$5\ ^{0}_{-0,03}$
30	M20 × 1,5	23,0	30	2,6	$5\ ^{0}_{-0,03}$
35	M24 × 1,5	27,0	35	2,6	$5\ ^{0}_{-0,03}$

* The thread M16 × 1,5 is to be preferred for the shaft ends with 22 mm diameter.

2.2 Keyways of hub with taper.

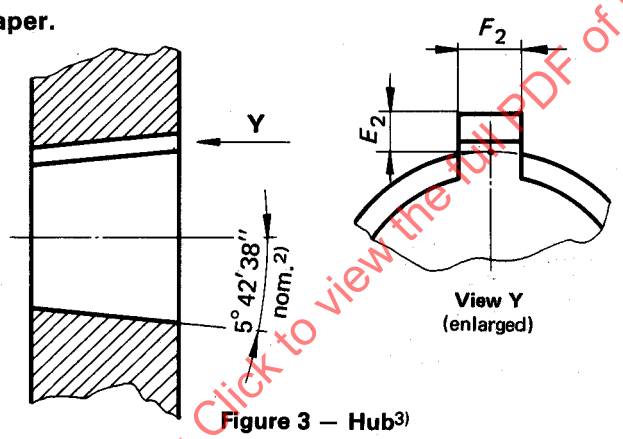

Figure 3 — Hub[3]

Table 2 — Hub

Dimensions in millimetres

A* nom.	E_2 min.	F_2 D10
17	1,8	$3\ ^{+0,060}_{+0,020}$
20	2,2	$4\ ^{+0,078}_{+0,030}$
22	2,2	$4\ ^{+0,078}_{+0,030}$
25	2,8	$5\ ^{+0,078}_{+0,030}$
30	2,8	$5\ ^{+0,078}_{+0,030}$
35	2,8	$5\ ^{+0,078}_{+0,030}$

* A is the nominal diameter of the shaft.

1) The tolerance for dimension A depends on the type of shaft bearing.

2) To ensure satisfactory operation of the taper drive, it is necessary for the manufacturers to provide such tolerances that the contact between the male and female cones is effective at the major diameter.

3) The length of the hub cone shall be such that, after assembling, the face at the smaller diameter of the hub cone lies so far in front of the line X-X (see figures 1 and 2) that the fixing nut can be correctly screwed up.