INTERNATIONAL STANDARD

ISO 6519

Third edition
2004-03-15

Diesel engines — Fuel injection pumps — Tapers for shaft ends and hubs

Moteurs diesels — Pompes d'injection de combustible — Cônes pour bouts d'arbre et moyeux

Reference number
ISO 6519:2004(E)

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Foreword

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ISO 6519 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 7, *Injection equipment and filters for use on road vehicles*.

This third edition cancels and replaces the second edition (ISO 6519:1993), which has been technically revised by the addition of nominal diameter 40 and dimensions for nominal diameter types 25 and 35.

Diesel engines — Fuel injection pumps — Tapers for shaft ends and hubs

1 Scope

This International Standard specifies the dimensions, necessary for interchangeability, of tapers for the shaft ends and hubs of fuel injection pumps on diesel (compression-ignition) engines. The shaft ends and hubs specified can be used either with or without woodruff keys, and for other applications for which no specific standards exist.

2 Dimensions and tolerances

2.1 General

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

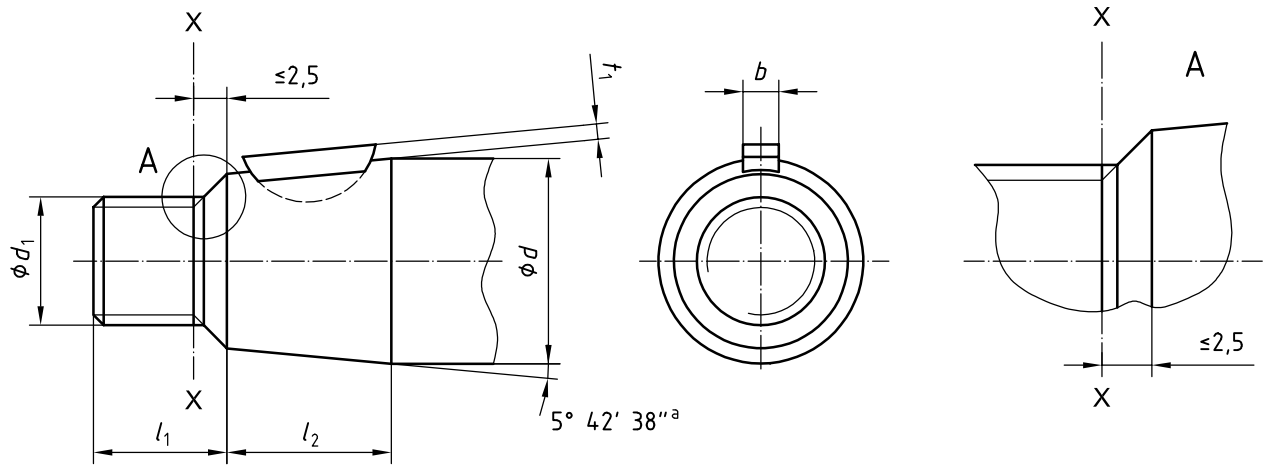
2.2 Shaft ends with taper

Shaft ends shall be as shown in Figure 1 and in accordance with Table 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 XX line.

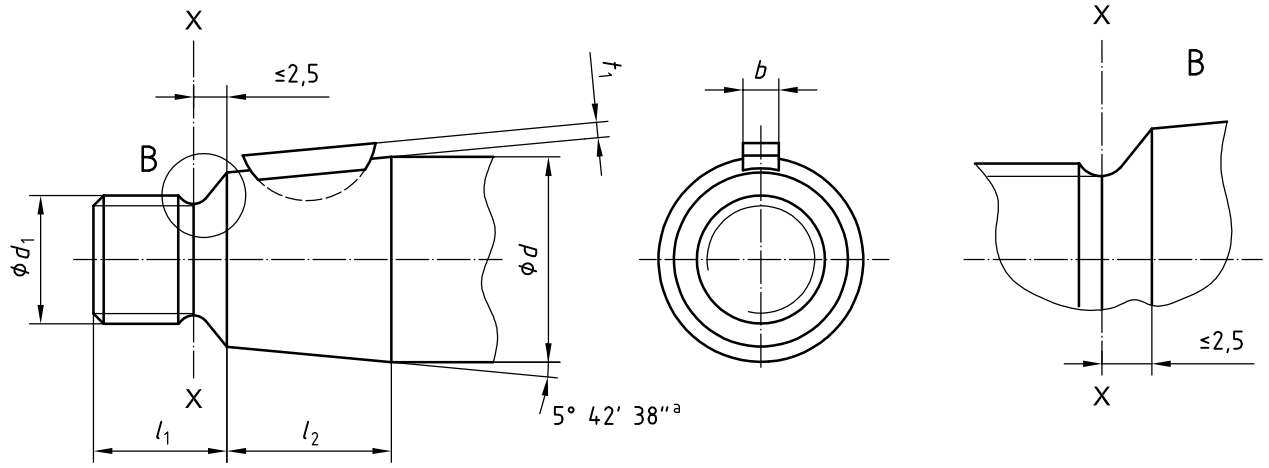
2.3 Keyways of hub with taper

Hub keyways shall be as shown in Figure 2 and in accordance with Table 2. The length of the hub cone shall be such that, after assembling, the face at the smaller diameter of the hub cone lies far enough in front of the XX line (see Figures 1 and 2) that the fixing nut can be correctly screwed to this line.

Dimensions in millimetres



a) Type 1



b) Type 2

[a] Nominal.

Figure 1 — Shaft ends

Table 1 — Shaft ends

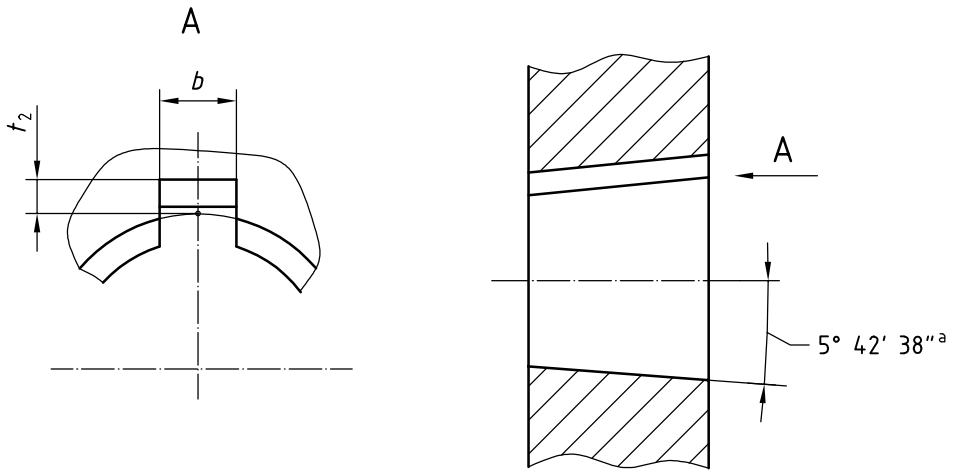
Dimensions in millimetres

d [a] nom.	d_1	l_1 max.	l_2 $^{0}_{-1}$	t_1 max.	b (h9)
17	M12	14,5	18	1,6	$3\ ^{0}_{-0,025}$
20	M14 × 1,5	16,5	20	2	$4\ ^{0}_{-0,03}$
22	M14 × 1,5	16,5			
	M16 × 1,5 [b]	18			
23	M16 × 1,5	18	23		
25	M18 × 1,5	20	25	2,6	$5\ ^{0}_{-0,03}$
		14			
30	M20 × 1,5	23	30		
35	M24 × 1,5	27	35		
			27		
40	M30 × 1,5	27	40		
			27		

[a] The tolerance for dimension d depends on the type of shaft bearing.

[b] The thread M16 × 1,5 is preferred for shaft ends with 22 mm diameter.

Dimensions in millimetres



[a] Nominal.

Figure 2 — Hub

Table 2 — Hub

Dimensions in millimetres

d [a] nom.	t_2 min.	b (D10)
17	1,8	$3\ ^{+0,06}_{+0,02}$
20	2,2	$4\ ^{+0,078}_{+0,030}$
22		
23		
25	2,8	$5\ ^{+0,078}_{+0,030}$
30		
35		
40		

[a] d is the nominal diameter of the shaft.

ICS 43.060.40

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