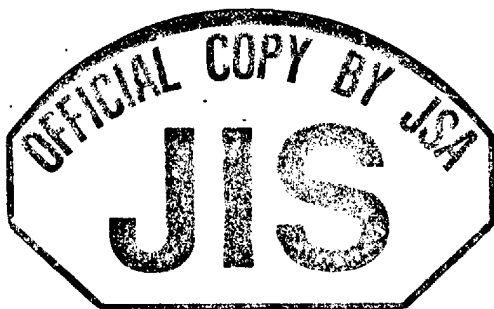


JIS

JAPANESE INDUSTRIAL STANDARD

Clevis fitting Parts for Automobiles

JIS D 2301-1990



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1. Scope

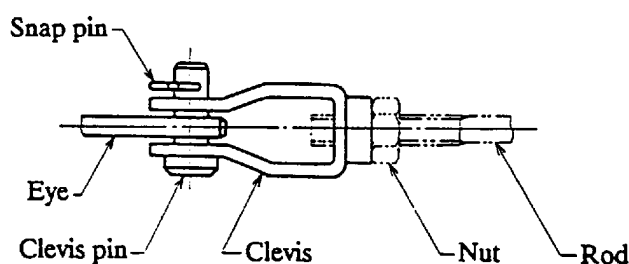
This Japanese Industrial Standard specifies the clevis (internal thread type), clevis pins and eyes to be used for clevis fitting for automobiles, (hereinafter referred to as the "clevis fitting parts").

2. Definitions

For the purposes of this Standard, the following definitions apply:

- (1) **clevis fittings** The generic term of fittings composed of such parts as clevis, clevis pin, eyes and pins for stopping clevis pins (snap pins) (see Figure).
- (2) **clevis** A metal fitting provided with a hole through which a pin is inserted to the both ends of a U-shaped clevis and a threaded part on its bottom.
- (3) **clevis pin** A pin which is inserted through the hole of a clevis.
- (4) **eye** An eye-shaped metal fitting through which the clevis pin is inserted.
- (5) **snap pin** An R-shaped pin which prevents the clevis pin from falling off and arrests the movement in axial direction.

Figure. An Example of Clevis Fitting



3. Types

The types of the clevis fitting parts shall be as follows:

- (1) The types of the clevis shall be five types as given in Table 1.

Table 1. Types of Clevis

Type	Shape	Applicable attached table
Type A	U-shaped forged products	Attached Table 1
Type B	U-shaped machined products	
Type C	U-shaped pressed products	Attached Table 2
Type D	U-shaped Type 1 drawing pressed products	Attached Table 3
Type E	U-shaped Type 2 drawing pressed products	

Applicable Standards and Corresponding International Standard: See page 4.

(2) The types of the clevis pins shall be three types given in Table 2.

Table 2. Types of Clevis Pins

Type	Shape	Applicable attached table
Type A	For headed split-pins	Attached Tables 4 and 5
Type B	For headed snap-pins	
Type C	For headed Type E snap-ring	Attached Table 6

(3) The types of the eyes shall be two types as given in Table 3.

Table 3. Types of Eyes

Type	Shape	Applicable attached table
Type A	Forged type	Attached Table 7
Type B	Pressed type	

4. Shapes and Dimensions

The shapes and dimensions of the clevis fitting parts shall be in accordance with Attached Tables 1 to 7.

5. Screw Threads

The types and grades for screw threads of the clevis shall be in accordance with Table 4.

Table 4. Types and Grades of Screw Threads

Type of screw thread	Applicable Standards	Grade
Metric coarse screw threads	JIS B 0205	6 H of JIS B 0209 apply. However, for the present, the grade 2 of Annex of this Standard may be employed.
Metric fine screw threads	JIS B 0207	6 H of JIS B 0211 apply. However, for the present, the grade 2 of Annex of this Standard may be applied.

Remark: Those which have been processed with electroplating shall also conform to the limits of sizes of the grades and tolerances for the grades of the screw threads of Table 4.

6. Appearance

The appearance of the clevis fitting part shall be as follows:

- (1) The appearance of the clevis shall be free from such defects as cracks, flaws, burrs and rust which are harmful in use, and the surface roughness of the hole parts shall be 6.3 a specified in JIS B 0601. The permissible limit reference of the surface defects of threaded portion, unless otherwise specified should be preferable to refer to the informative reference of JIS B 0101.
- (2) The appearance of the clevis pins and eyes shall be free from such harmful defects in use as cracks, flaws, burrs and rust, and the surface roughnesses of axis parts of clevis and hole parts of eyes shall be 6.3 a of JIS B 0601.

7. Materials

The materials of the clevis fitting parts shall generally be in accordance with Table 5.

Table 5. Materials

Type		Materials	Applicable Standard
Clevises	Type A	S 10 C to S 48 C	JIS G 4051
	Type B	SS 41	JIS G 3101
		S 10 C to S 48 C	JIS G 4051
	Type C to E	SPHC	JIS G 3131
		SPCC	JIS G 3141
		SS 41	JIS G 3101
Clevis pins		SS 41	JIS G 3101
		S 10 C to S 48 C	JIS G 4051
Eyes		SS 41	JIS G 3101
		S 10 C to S 48 C	JIS G 4051
		SPHC	JIS G 3131

Remark: For a type which is required of an abrasion resistance, it shall be processed of heat treatment. However, the surface hardness after heat treatment shall be as agreed between the parties concerned with delivery.

8. Surface Treatment

The surface treatment of the clevis fitting parts shall generally be processed with MFZn 5-C of JIS D 0201. In the case where any surface treatment other than MFZn 5-C is to be processed or no surface treatment is required, it shall be as agreed between the parties concerned with delivery.

Furthermore, in the case where plating has been processed on a heat processed clevis fitting part, a brittleness relief treatment shall be processed as required.

9. Inspection

9.1 Inspection on Shapes and Dimensions The inspection on the shapes and dimensions of the clevis fitting parts shall be carried out by direct measurement, limit gauge or a method in accordance with this, as appropriate, and the results shall conform to the requirements of 4.

9.2 Inspection on Screw Threads The inspection on the screw threads of the clevis shall be carried out in accordance with the precision measuring method of the internal thread of JIS B 1071 or a method in lieu of this, and the results shall conform to the requirements of 5.

9.3 Inspection on Appearance The inspection on the appearance of the clevis fitting parts shall be carried out by the visual inspection, and the results shall conform to the requirements of 6. However, the surface roughness shall be measured by the stylus type measuring instrument or a measuring instrument in lieu of this.