



## Doppler Gear TechBit: JIS D 2001:1959

“JIS” stands for **Japanese Industrial Standard**.

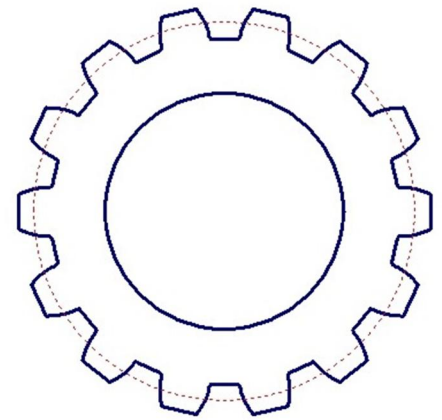
**D 2001 : 1959** is a common standard covering straight (non-helical) 20° pressure angle, stub tooth, involute splines. To help decoding the standard let’s examine two examples:

**JIS D SHAFT 35 x 12 x 2.5 (Class 2-a)**

**JIS D HOLE 35 x 12 x 2.5 (R)**

### 35 is the “Nominal Diameter”

The nominal dimension for expressing the diameter of a spline, for which the basic dimension of the Major Diameter of the external spline shaft and the Major Diameter of the internal spline hole are referenced.



**12 is the Number of Teeth in the spline**

**2.5 is the Module of the spline (size of tooth)**

### Class 2-a defines the Tooth Flank and Major Diameter fits

The **2** in this case is the Major Diameter variation of tolerance

The two classes of Major Diameter fit are Class 2 and Class 3

The **a** is a Circular Tooth Thickness (measurement over pin) variation of tolerance

There are 4 Tooth Flank fits: Class a, Class b, Class c, and Class d

**R suffixed in brackets are only used when Major Diameter fits are employed**

When JIS D 2001:1959 shafts and holes are meshed with each other, the method of alignment varies in relation to the clearance (interference) between major diameters and the clearance (interference) normal to the flank surfaces of the mating parts and any one of the following desired fits may be obtained:

Tooth Flank Fit:	LOOSE	SLIDING	FIXED	PRESS
Major Diameter Fit:		SLIDING	FIXED	



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Involute splines in accordance with **ANSI B92.2M, DIN 5480, and ISO 4156** are **not interchangeable** with splines described by the **JIS D 2001:1959** series of standards.

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