

WP0207

Dodge® Torque-Tamer clutches: frequently asked questions

Dodge Customer/Order Engineering

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The Dodge Torque-Tamer is a simple, low-cost solution for overload protection, yet inquiries about Torque-Tamer selection and functionality are common. This short article will address many of these common questions.

What is the advantage of the Torque-Tamer?

The Torque-Tamer's purpose is to prevent shock load damage to other more expensive components in the drive train. When an overload occurs, the torque spike is absorbed through slippage between the friction discs, pressure plates and sprocket. The limiting torque can be preset on each unit over a wide torque transmission window. Torque ratings can be found in Chart 1 in the Dodge PT Components Engineering Catalog.

Dodge doesn't have a part number for the sprocket size I need, what do I do?

The sprocket part numbers in the Dodge PT Components Engineering Catalog are for common sizes used with Torque-Tamer. However, many other sprockets can be used. For sprockets not listed simply select the A-plate sprocket from the chain sprocket section and have it bored and micro-finished for the intended Torque-Tamer size.

Can a certain sprocket be used with a certain Torque Tamer? Example: #50 Chain, 34 Teeth, #50 Torque Tamer.

The Dodge PT Components Engineering Catalog shows minimum allowable sprocket teeth for each chain pitch on a given Torque Tamer size. Concern should be for sprockets falling below these minimum values as the chain will begin to interfere with the pressure plates and friction discs. As long as the sprocket teeth are greater than the minimum recommended size then the sprocket of choice will work fine. For the example above, the minimum number of teeth for a #50 chain on a #50 TT is 30. Therefore, 34 teeth is acceptable.

A customer wants to re-bore their own sprocket, what dimensions should they bore it to?

The inside diameter should be bored to the 'L' dimension in the Torque-Tamer section of the Dodge PT Components Engineering Catalog. Note the bore tolerance (+0.003"/-0.000") is listed in the column header. Additionally, the face of the sprocket will require facing, as a surface finish between 65 – 125 is required for friction disc contacting surfaces. Therefore, facing should be done to a minimum diameter of the 'A' dimension. ABB can also provide rework stock A-plates from stock through the re-bore department.

What bushing is required for a specific sprocket size? Why is a bushing required?

The Dodge PT Components Engineering Catalog outlines this as well. Bushing width is dependent upon the sprocket width. The bushing should be slightly thinner than the sprocket width to ensure full contact of the friction discs and the sprocket face.

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I don't want to use a chain sprocket, I want to use a synchronous sprocket or a sheave. Will this work?

Possibly. Contact product engineering (864-284-5700) when this request arises. V-belts and synchronous belts run at much higher speeds than chain sprockets making torque spikes less sensitive. Additionally, the speed limits of the Torque-Tamer could be exceeded.

What is the material of the bushing and what is its purpose?

Sintered Steel. As you see in the picture below, the bushing has a tooth on the inside diameter. This prevents rotation on the hub and protects the Torque-Tamer hub from wear. The only components needing replacement are generally the bushing and the friction discs.

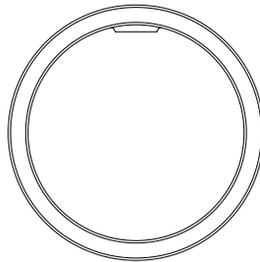
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