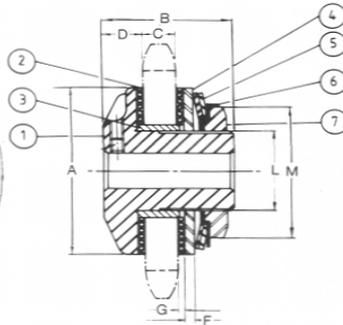
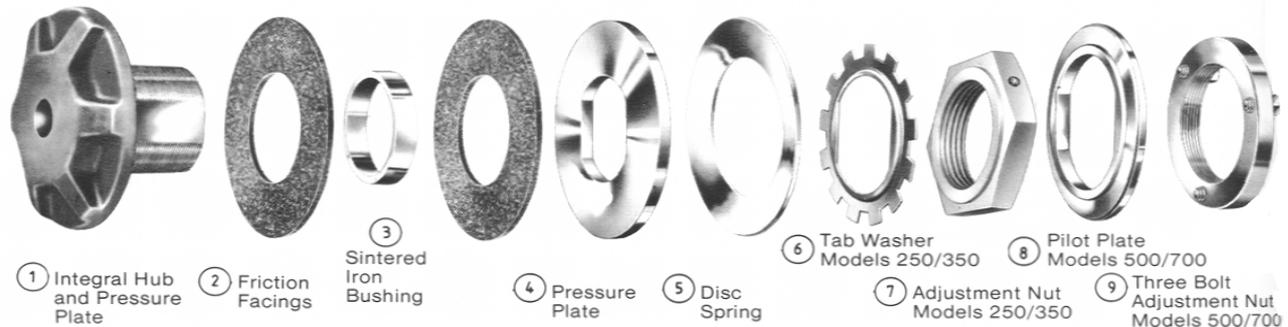
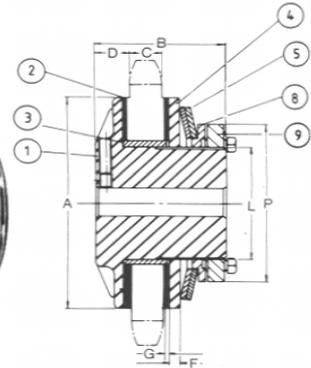
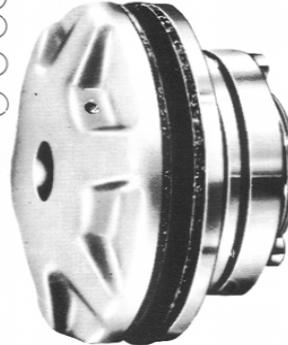


Standard Torque Limiters

Model Nos
250 and 350



Model Nos
500 and 700



INSTALLATION AND MAINTENANCE OF TORQUE LIMITERS 200 TO 700M

1. General

Before assembly, the pressure plate and centre member (sprocket, sheave, plate etc) should be free of oil, grease, dirt and rust. The centre member should have a 3.2nm finish in the bore and a 1.6nm finish on the area where the friction facings rub, in order to obtain maximum torque and optimum life from the Torque Limiter.

2. Assembly

Refer to the appropriate sketch (above) and assemble on the torque limiter hub in the following order Bush (3) , Friction Facing (2) over bush, Centre member (not shown), second Friction Facing (2) ensuring it sits on the bush, Pressure Plate (4), Disc Springs (5); then for 200M to 350M models, Lockwasher (6) and Adjusting Nut (7) ; or on 500M & 700M models pilot plates (8) and Adjustments Nut (9) . NB ensure correct Bush used for Centre member chosen, refer to Cross & Morse catalogue.

3. Running-In

Torque limiters should be run-in for the most consistent results. To run-in adjust the Torque limiter to 70-80% of the maximum single spring capacity and slip the centre member at approx. 60rpm for 4 minutes. (See steps 4 and 5 for setting and checking instructions).

Torque Limiter	200M	250M	350M	500M	700M
Run-In Torque Nm	10	25	75	210	575

4. Torque setting

(A). For the 200M - 350M models: To adjust the Torque limiter to carry the required torque, tighten the adjusting nut an appropriate amount. Do **not** completely flatten the disc spring. Check setting per step 5.

(B). For the 500M and 700M models: With the 3 bolts backed out until the points are below the surface of the nut, run the nut up finger tight. Alternately tighten the bolts no more than ½ turn at a time until the desired torque rating is achieved. Check setting per item 5. Do not over-tighten the bolts nor completely flatten the disc spring.

5. Torque Checking

To check the Torque limiter for the required slip torque, mount the Torque limiter on a stub shaft and fasten in a bench vice. Wrap the centre member (if a sprocket) with a chain and load the chain with weights until the centre member rotates. If the centre member is a plate, attach a



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chain or cable to the centre member. The breakaway torque will be equal to the radius of the centre member in metres, times the weight in kgs on the chain divided by 9.81. The breakaway torque should be slightly higher (5 – 10%) than the required slip torque.

If the slip torque is too high or too low, re-adjust torque limiter as in step 4, tightening or loosening the adjusting nut or bolts as required. After re-adjustment, check the breakaway torque in the manner outlined above.

After final adjustment (models 250M & 350M only), lock the adjusting nut by bending lockwasher tab over nut.

6. Couplings

This additional information is applicable to Torque limiter couplings:

- a) NEVER USE A TORQUE LIMITER ALONE AS A COUPLING. When a shaft coupling is required in conjunction with slip protection, use a torque limiter coupling.
- b) After setting torque limiter per steps 4 & 5 (including chain platewheel centre member), mount it on the shaft. Then mount the coupling leaving a gap between adjacent hub faces, as indicated below.

Torque Limiter	200M	250M	350M	500M	700M
Gap mm	3.7	3.7	3.7	3.7	3.0

- c) Align the shafts accurately to obtain the maximum service life from the coupling; in any case misalignment should not exceed maximum angular misalignment of 1/2°, and parallel alignment as table below.

Torque Limiter	200M	250M	350M	500M	700M
Max. Parallel Misalignment – mm	0.25	0.25	0.30	0.37	0.50

- d) When the shafts are correctly aligned, wrap the coupling chain around the sprocket teeth and connect the chain ends with the connecting link ensuring spring clip is correctly fitted. The chain will wrap and connect easily on correctly aligned sprockets.

7. Caution

The operating characteristics and capacity of Torque limiters are affected by atmospheric conditions, moisture, lubricants and surface corrosion. For example, the life of the friction facings may be greatly reduced by rust on the centre plate. The Torque limiter ratings are based on average conditions.

For best results, the Torque limiter should be adjusted under conditions similar to those in which it will be used.

Maintenance

At periodic intervals, or if proper torque is not being maintained, inspect Torque limiter for presence of oil, grease, moisture or corrosion on the driving services and for proper setting of spring load. Clean and adjust as required. Friction facings and bushings are designed as wearing parts that may require replacement after periods of clutch slipping.