

Brunel Torque Limiting Clutches

Where to Install / Torque Limiter Selection

In most drive systems there are several alternate locations where the Brunel clutch can be installed (fig. 1). The preferred position is at the driven shaft. This location places the overload protection clutch at a point in the drive system where actual load torque can be accurately monitored. Alternate locations in the drive system as shown in Figure 1 are usually subject to greater variation in torque loads due to the reduction ratios within the drive system. The preferred mounting location will provide better control of the overload release torque thus preventing unnecessary release at torques below safe operating levels due to system inertia and starting torque peaks.

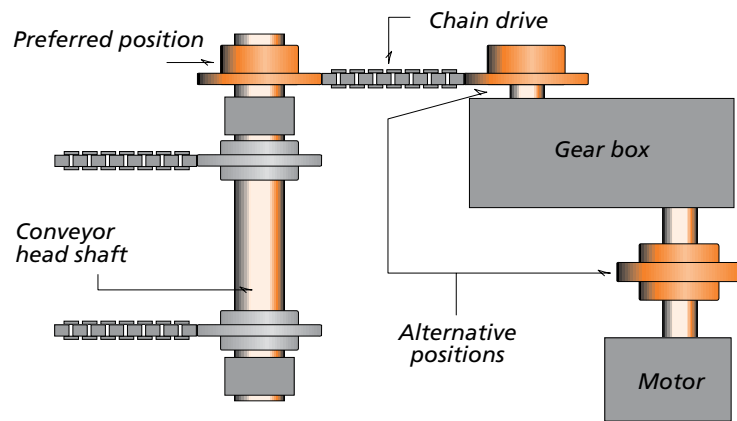


Figure 1

Reduction Gearing

When Brunel Torque Limiting Clutches are installed on large ratio reduction gear boxes care must be taken since it may not be practical to set a torque limiter mounted on the input shaft low enough to provide the proper torque protection on the output shaft. The large reduction ratio will also decrease the accuracy of the output release torque setting if the clutch is located on the input shaft.

High Inertia Drive Systems

When selecting Torque Limiting Clutches for use in high inertia drive system, the location of the clutch must be between the high inertia load (flywheel, large pulley or gear, etc.) and the driven mechanism. Locating the Brunel overload release clutch in this position will protect the driven mechanism from the large inertia forces.

Optional Features

Single Position Re-engagement

For use where timing of machine is required. Available for Type JA. (Standard on JC and JB models.)

Light Duty Springs

For systems requiring very low torque levels and greater range of adjustment sensitivity.

Single Direction Overload Release

For applications where heavy braking is applied. Type JA only.

Dual Level Torque Setting

For heavy overrunning applications which require normal release torque setting in one direction and a lower torque release setting in the opposite direction. Type JA only.

Torque Limiter Selection

Types JA, JB, & JC

For release torques up to 48,000 lb in

Decide on manual or automatic reset. Choose a position as near as possible to the expected overload (see diagram).

Calculate the torque setting required at that position. This can be determined from the motor power, r.p.m. and gearing ratio to the driven load or from the maximum permissible torque for drive components such as compressive stress on keys. **It is the weakest component that requires protection.** Make allowance for motor starting torques (generally twice normal running torque).

Having calculated an approximate setting for the release torque, final adjustments can be made on site.

Check from tables that shaft, sprocket or pulley, etc. can be accommodated.

Selection Example

Model Type JAF7-0500

This specifies:

Manual reset clutch capable of 1000 lb ft torque complete with flexible coupling for shaft-to-shaft application.

To enable us to deal efficiently with your inquiry, we ask you to supply the following facts:-

- Type of application and environment conditions
- R.P.M. of drive
- Release torque required
- Length and diameters of shafts
- Space available between shaft ends
- Overall space available - length and diameter limitations
- Type and sizes of accessories, i.e. sprocket, pulley, etc.
- Any special requirements such as shifter flange, neoprene seals, etc.