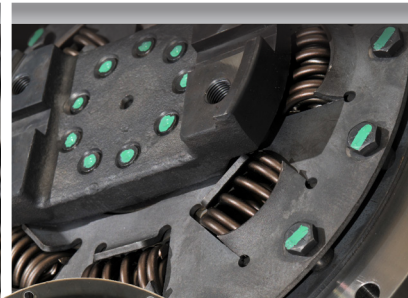




**TORSION
CONTROL PRODUCTS**
SPRING COUPLINGS BY TIMKEN



**IF OUR COUPLINGS
DON'T FIT YOUR APPLICATION... We'll change our design.**



Spring couplings have been a part of powertrains for more than 80 years. Torsion Control Products (TCP) has developed a line of spring couplings specifically for today's modern diesel engines. These products address the torsional characteristics unique to the diesel engine tier upgrades that produce lower emissions and more power in smaller packages with lower operating speeds.

Through the evaluation of many different applications using Torsional Vibration Analysis, TCP engineers have created products that address the needs of most applications. Whether it is in construction, agricultural, mining, industrial or marine equipment, chances are we have a product that can address the needs of your application. And if we don't, we will create a customized solution just for you.



SPRING COUPLINGS

GEARBOXES • PUMPS DRIVES • HYDROSTATIC DRIVES • POWERSHIFTS • HYBRID TRANSMISSIONS

TYPICAL APPLICATIONS:

- » Agriculture vehicles
- » Construction equipment
- » Industrial equipment
- » Marine
- » Mining equipment

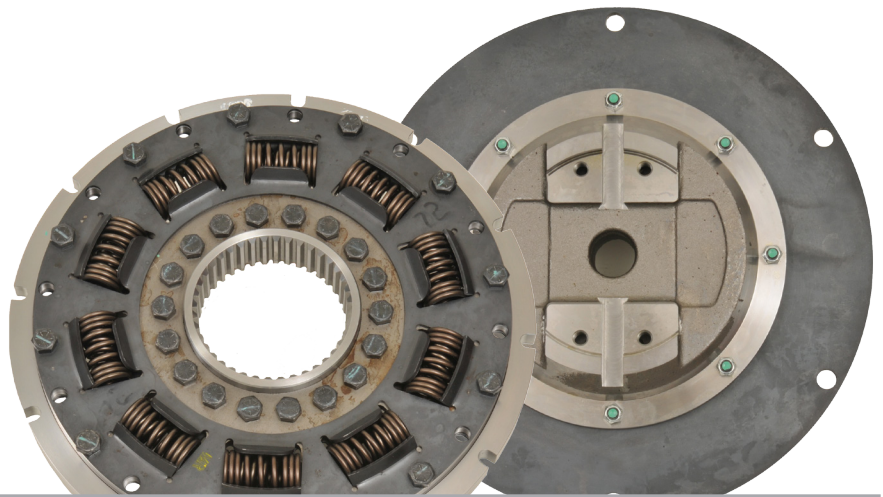
SPRING COUPLINGS vs: DRIVE PLATES

Although not all applications require torsional compliance, TCP engineers will evaluate your application and determine if a spring coupling would provide an advantage over a conventional drive plate. TCP has engineered and developed a comprehensive line of spring couplings used in a wide variety of powertrain applications. These devices typically offer the following advantages.

- » Torsional vibration attenuation
- » Resonance isolation
- » Overload and shock load protection
- » Noise reduction
- » Improved bearing / gear life
- » Increased system durability

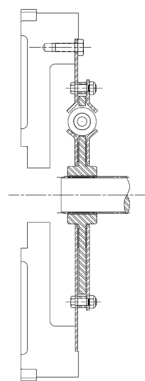
ADVANTAGES OF USING TORSION CONTROL PRODUCTS SPRING COUPLINGS:

- » All steel construction for long life
- » Lubricated and non-lubricated environments
- » Space efficient design
- » Minimal impact from temperature on performance or durability
- » Performance can be optimized for a given application
- » Multistage stiffness for optimized system tuning
- » Controlled coulomb damping using “Smart Damping”
- » Drop-in replacement for original drive plates, no spacers required
- » Integral shaft support capability eliminates the need for additional bearing support

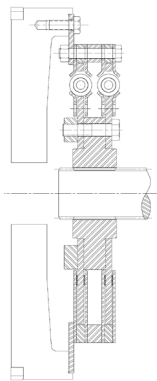


Typical Ratings	20 to 20,000 lbs.-ft. (27 to 27,000 N-m)
Typical Environment	Dry, lubricated, sealed or unsealed
Performance	Consistent throughout the life of the product
Long Life	TCP couplings continue to operate and attenuate driveline torsionals in even the roughest applications
Tuning Capability using “Smart Damping”	Through the use of our unique Smart Damping system, our products supply damping when needed and pure isolation when damping is detrimental. This reduces torsional spikes at start up, shut down, and transient events, improving durability and coupling life.

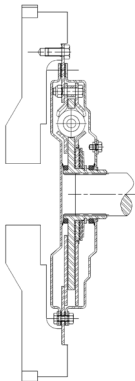
TYPICAL INSTALLATIONS AND MOUNTINGS



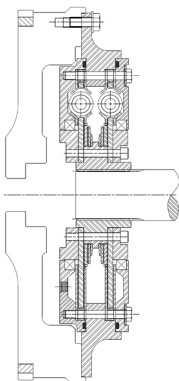
Direct Mount



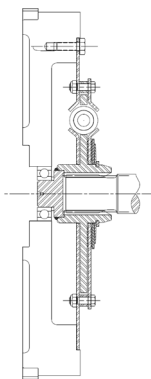
**Direct Mount
Double Row**



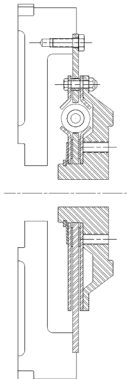
**Sealed and
Self-Lubricated**



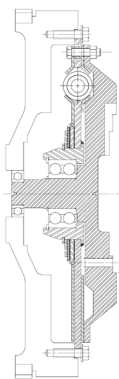
**Double Row Sealed
and Self-Lubricated**



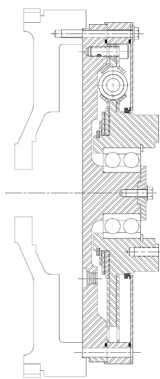
**Direct Mount
Shaft Support**



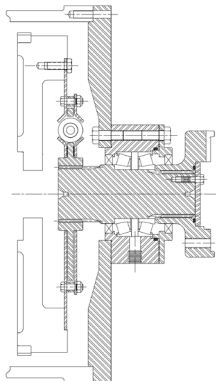
**ISO Mounted Engine
Remote Drive Shaft
Support**



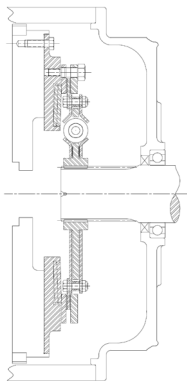
**ISO Mounted Engine
Remote Drive Shaft
Support**



**ISO Mount Engine Remote
Driveshaft Support Sealed
and Self-Lubricated**



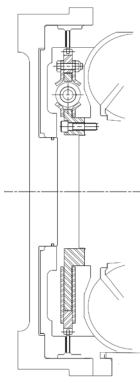
**Bearing Housing Support
for Remote Drive Shaft
Mount**



**Torque Limiting Spring
Coupling**



**Flywheel Integrated Torque
Limiting Spring Coupling
with Hydraulic Assist**



**Torque Converter Lockup
Clutch Coupling**



CONTACT US FOR MORE INFORMATION.

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TIMKEN

The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets high-performance mechanical components, including bearings, belts, chain, couplings, gears and related mechanical power transmission products and services.

Stronger. By Design.

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