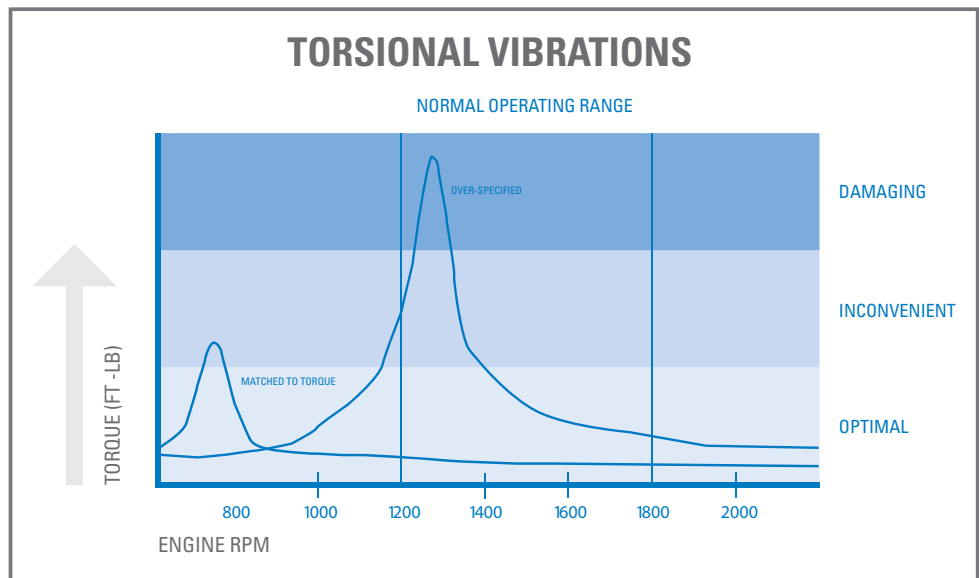




Questions to ask when choosing a replacement clutch.

Many of today's vehicles are being kept in service longer and accumulating enough miles to require a clutch replacement. Operators, maintenance managers and fleet owners are often faced with the decision of which replacement clutch to buy. While brand name, application, price and availability are a few of the factors that are often considered, here are four questions that should be asked when shopping for a replacement clutch.

Eaton is the global leader in heavy-duty clutches and while Eaton clutches may not be the least expensive option, once you include downtime and the potential for preventing serious damage to the driveline, the economic benefit exceeds the initial purchase cost.



Q: What are torsional vibrations?

A: Torsional vibrations occur because of the firing of the engine cylinders and the sudden high pressure forcing the piston down. All engines produce torsional vibrations, and all drivelines have natural frequencies at which they will vibrate. The problem occurs when the vibration the engine produces at the normal cruise RPM consists of the same frequency as the driveline's natural vibration frequency so the driveline will develop vibration at normal cruise. The clutch damper is the key vibration tuning element for the whole drivetrain. It shifts the frequency produced by the engine to below the natural frequency of the drivetrain.

Eaton® Clutch

Q: What variables are considered when tuning the clutch?

A: The engine's RPM as well as the torque rating need to be considered when tuning the clutch to the drivetrain. For example, a damper that will work with 1,850 lbs.-ft. of torque would not be effective with a lower torque rating because the springs would not compress enough. The engine rated at 1,650 lbs.-ft. of torque would need softer springs. The length of the springs must also be tailored to the operating RPM; today's downsped engines often need longer springs. The design process is very much like tuning a musical instrument.

Q: What's wrong with a one-size fits all clutch option?

A: Choosing the right replacement clutch is critical because as RPMs have dropped in today's engines, the torque spikes that result are much more likely to cause torsional vibration in the drivetrain.

Some aftermarket clutches are ineffective in absorbing these torsional vibrations. The result will be resonance that can show up as damage in many different places, from gears or synchronizer parts in the transmission, to U-joints, even the clutch itself, or the flywheel or engine thrust bearings.

There are aftermarket clutch brands that sell a standard design claiming to fit a variety of torque ratings, operating ranges and cruise RPMs. They often sell their line of replacement clutches to the fleet or distributor by claiming the customer can save inventory dollars because they won't need to stock as many replacement clutches.

Q: How do Eaton's aftermarket clutches differ from other manufacturers' designs?

A: It's combination of things really. Eaton clutches are available in a variety of configurations: each is uniquely tuned to the engine RPM to eliminate vibrations. Proprietary facings provide longer life, smoother engagement and less flywheel wear. With Eaton's broad portfolio of clutches, you can rest assured that you're getting excellent value for your money. And every Eaton clutch is backed by the support, solutions and expertise of the Roadranger network to get you back on the road faster.

EATON'S FULL PORTFOLIO OF CLUTCHES— TIERED TO MEET A RANGE OF NEEDS FOR PERFORMANCE, PROTECTION AND VALUE.

Best: Advantage Series



Solo Advantage™ and Easy Pedal Advantage™ provide proprietary friction material and industry-leading vibration dampening technology to protect the driveline. The Advantage Series release bearing extends the lube interval to 50,000 miles.

Better: EverTough™ by Eaton



The reliability of a new clutch at the price point you need. Features aftermarket specific facings, a visible wear indicator and a 25,000-mile lube interval for linehaul applications.

Good: Solo and Easy Pedal Remans and ValueClutch™



Solo and Easy Pedal Remans are built to Genuine OE specs but priced for savings. The ValueClutch line is everything you expect from a new clutch at about the same price as a non-genuine clutch.

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For more information on our comprehensive line of replacement clutches, visit roadranger.com/clutch

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