

The Industry's Only Full-System Solution to Downsized Engines

Spicer® AdvanTEK® 40 Tandem Axle, SPL® 350 Driveshaft, SPL® 250 Inter-Axle Shaft, and E-Series Steer Axle



SPICER®

Drivetrain Products



Together, the Dana downspeeding system delivers the industry's fastest axle ratio, allows 40 percent improved torque capacity, and up to \$10,000 in savings over five years* by increasing fuel efficiency.

**DARE^{TO}
COMPARE**

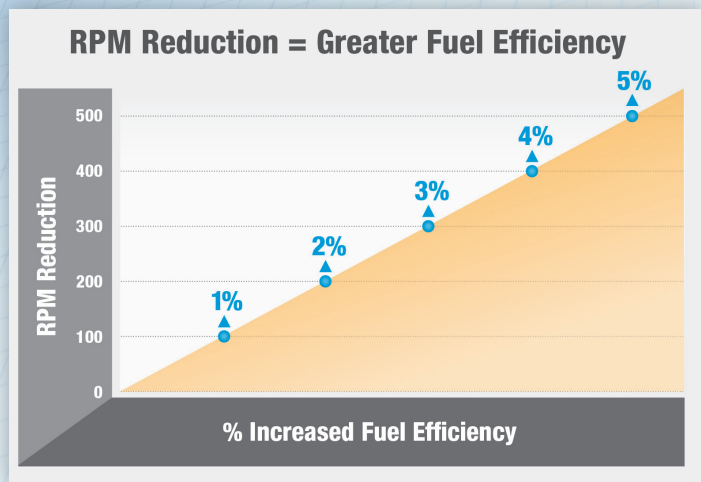
*Assumes 120,000 miles driven on highway over a five-year period at a fuel cost of \$4.00 per gallon.

The Dana Solution for Engine Downsizing

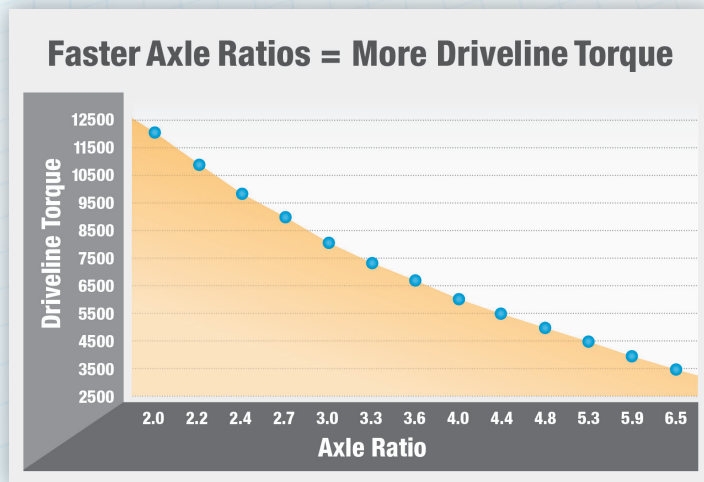
As U.S. fuel economy and greenhouse gas standards for medium-duty and heavy-duty vehicles become more stringent, the industry is looking toward **engine downsizing** as a way to reach new targets.

An engine running at lower rpms requires faster axle ratios to maintain the same vehicle speed and performance in all driving conditions, but it **generates significantly higher torque stresses in the driveline**. These higher torques place added stress on the axle, driveshaft, and inter-axle shaft, greatly reducing the life of these components, especially U-joints.

Some will say the only way to address downsizing is **through engine de-rating** by adjusting electronic controls, which is merely a **short-term solution to avoid catastrophic driveshaft failures** that limit engine capabilities, and **still increase torque by 57 percent**.



Fuel efficiency increases by approximately one percent for every 100 rpm reduction in engine rpm at highway cruise speeds, and the savings are even more impressive for light loads or empty returns.



Decreasing an engine's rpm at cruise speed from 1,450 rpm for the typical engine to 1,125 rpm for a downsized engine increases torque loads in the driveline by 29 percent.

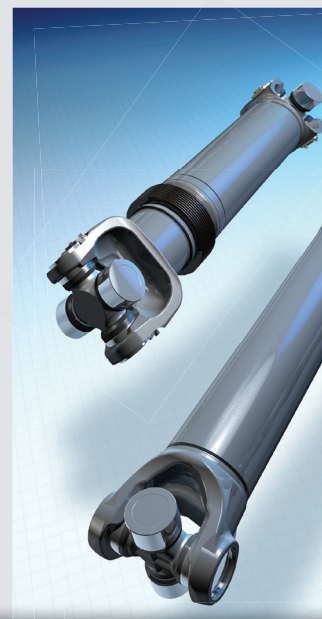
Spec the Industry's First Full-System



Spicer® AdvanTEK® 40 Tandem Axle

- Offered in five ratios to support engine downsizing, including the industry's fastest axle ratio of 2.26:1.
- Weighs 37* pounds less than competitive 40,000-lb tandem axles.
- Enables increased overall vehicle efficiency up to two percent.
- Saves more than 2,700 gallons of diesel fuel over five years and reduces over 60,000 lbs. in carbon dioxide output.
- Equipped with innovative technologies including a flow-thru lubrication system with on-demand pump, U-tube breather, differential lock, and more.

*D140-155 model is up to 8 pounds lighter.



For more information about the system, please visit www.danacv.com/daretocomp

Downspeeding can effectively:

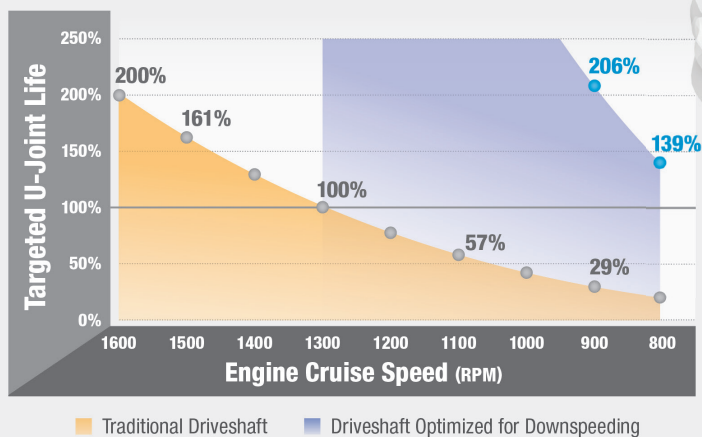
- Decrease fuel consumption
- Reduce engine friction from lower piston speeds
- Diminish relative heat transfer
- Increase thermodynamic efficiency

DARE^{TO} COMPARE

A powertrain that takes advantage of the efficiency gains from engine downspeeding **requires all elements** – engine, transmission, axle ratio, and tire size – **to work in concert** to deliver the power needed **to get the job done with maximum efficiency.**

U-Joint Life Analysis

200 Hp @ 6 degrees



A properly engineered driveline – including an advanced axle, driveshaft, and inter-axle shaft – can manage increased torque stresses better than a traditional driveline system.

That's why you need
to spec the right parts,
the first time.

Solution for Engine Downspeeding.

SPL® 350 Driveshaft and SPL® 250 Inter-Axle Shaft

- Maximize the efficiency and durability of Spicer® AdvanTEK® 40 axle and low rpm engines.
- Highest torque carrying U-joint in the industry – 40 percent more than the competition.
- Most robust, heavy-duty driveshaft and inter-axle shaft in their class, with High Power Density™ (HPD™) design features and double the bearing life.
- Only combination on the market that can supply up to a million miles of life expectancy in a downsped engine powertrain.
- Available with optional service-free design for further maintenance and life cycle benefits.

Spicer® E-Series Lightweight Steer Axle

- Available in both standard and wide beam tracks for a 10,000 to 13,200 gross axle weight rating.
- Provides maximum durability to withstand added torque in the driveline.
- 35 pounds lighter than a standard steer axle with integral arm knuckles.
- Lightweight, steel forged beam design enhances strength and torsional stiffness.
- Improved braking response.

are-downspeeding. For data code information, please contact your OEM or TSSM.



Constant Support to Keep You Moving

Dana offers comprehensive support through a network of experienced, professional service representatives who will work to reduce downtime and contribute to improving your customers' bottom line. We're always here – well after the first turn.

Call 1-877-777-5360 to speak with a Dana representative today.

We provide international support with:

- Aftermarket assistance
- Spec help
- Comprehensive training
- Dana® extras™ app
- Dana Field Sales and Service Representatives



Dana Commercial Vehicle Driveline Technologies
3939 Technology Drive
Maumee, Ohio, USA 43537
www.dana.com/cv



SPICER®

Drivetrain Products

Application Policy

Capacity ratings, features, and specifications vary depending upon the model and type of service. Application approvals must be obtained from Dana; contact your representative for application approval. We reserve the right to change or modify our product specifications, configurations, or dimensions at any time without notice.