

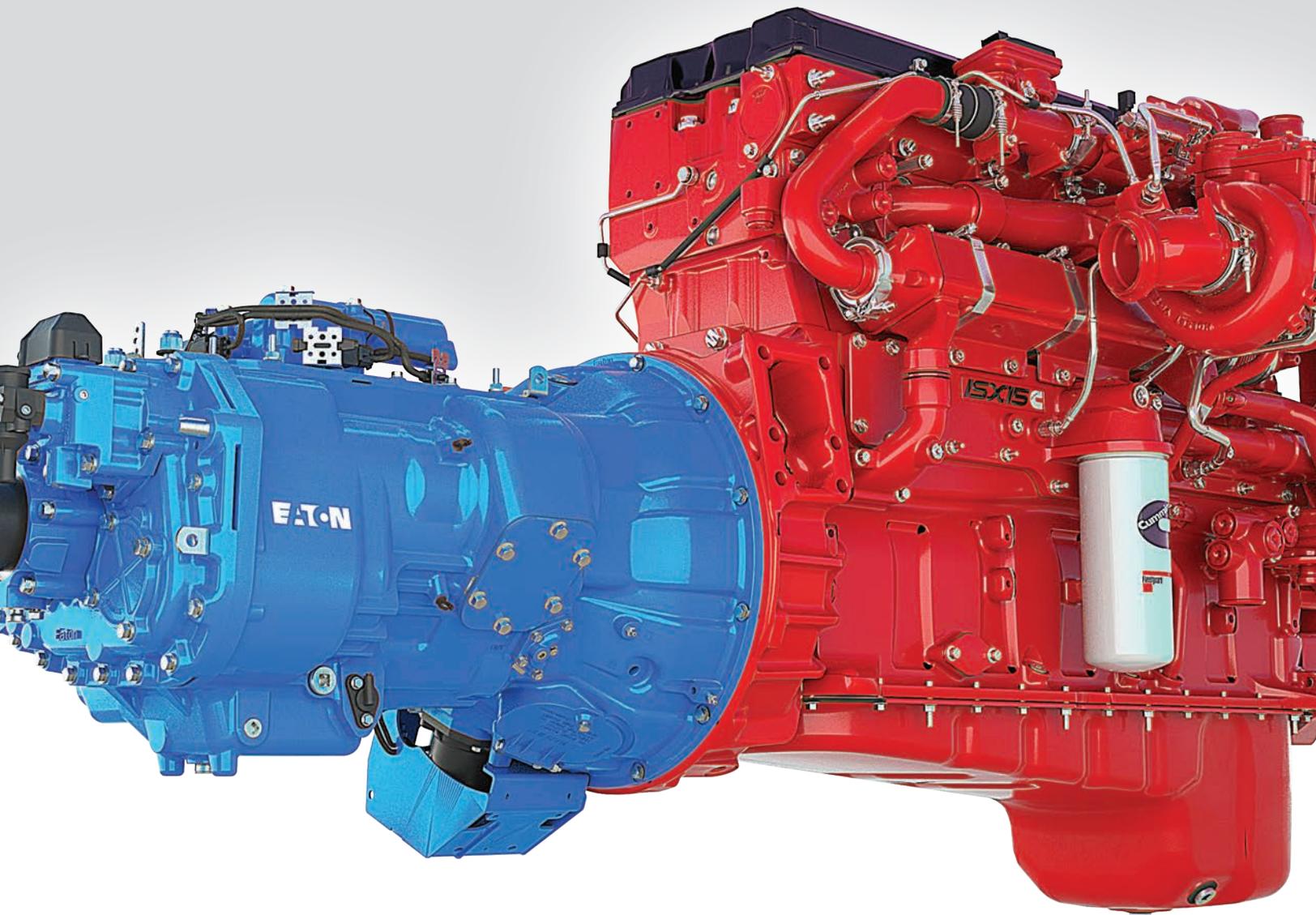
EATON

Powering Business Worldwide



SmartAdvantage™ Powertrain

ISX15 And Fuller Advantage® Series Automated Transmission



The Most Fuel-Efficient Powertrain You Can Buy.

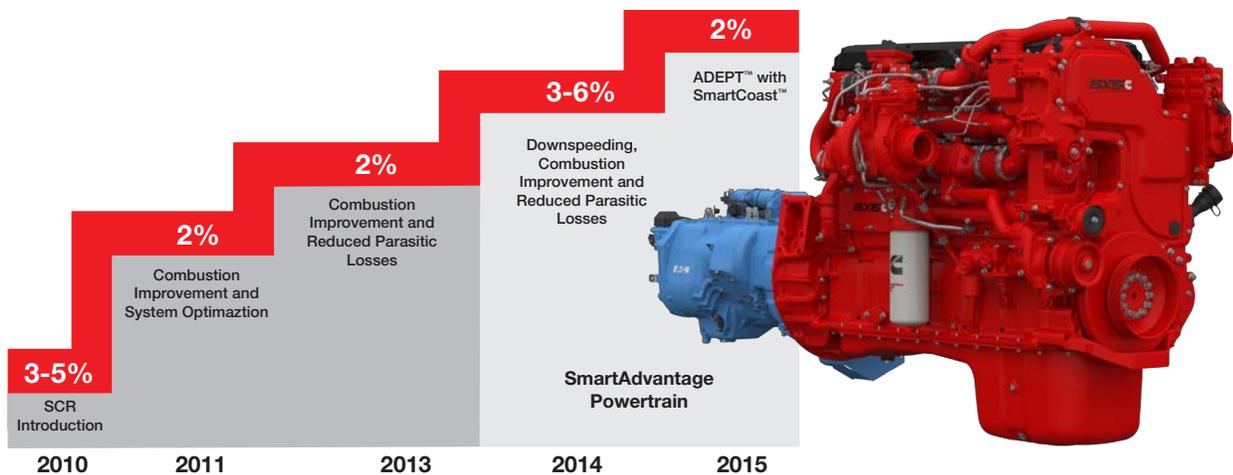
More Ways More Trucking Fleets Can Save More Fuel.

Since its introduction in 2013, the SmartAdvantage™ Powertrain has proven to be the most fuel-efficient powertrain in the trucking industry. Continuous improvements and innovative technology have yielded significant gains every year. Today we are utilizing downspeeding to get up to 7% better fuel economy than competitive integrated powertrains.

To get the highest mpg possible, the SmartAdvantage Powertrain is configured using Cummins ISX15 engine with SmartTorque2 (ST2) and the SmartCoast™ option,

paired with an Eaton Fuller Advantage® 10-speed automated manual transmission (AMT). The engine and transmission share critical data, determining the torque required to deliver the power level that drivers demand.

The ISX15 SmartAdvantage Powertrain optimizes shifting based on grade, vehicle weight, engine torque and throttle position. The result is error-free, guess-proof shifting, making every driver in your fleet as efficient as your best driver.



The Power Of Choice: Overdrive Or Direct Drive.

In response to customer needs, Cummins and Eaton have expanded the ISX15 SmartAdvantage Powertrain lineup to include the original small-step overdrive transmission, plus a new direct drive version that delivers exceptional fuel economy in less-than-truckload (LTL) and regional linehaul operations. This addition will help fleets achieve productivity challenges across a broader spectrum of operating conditions with specific duty cycles.

The ISX15 SmartAdvantage Powertrain is the only integrated powertrain in the industry to offer both small-step overdrive and direct drive options. This choice allows trucking fleets to spec the best ratio for their application, cruise speed and terrain.

Transmission Top Gear	Cummins Engine	Power hp (kW)	Peak Torque lb-ft (N•m) @ rpm	Eaton Transmission	Axle Ratios
Small-Step Overdrive	ISX15 400 SA	400 (298)	1450/1650 (1968/2240) @ 1000	FAOM-14810S-EC3	2.78, 2.64
	ISX15 400 SA	400 (298)	1550/1750 (2103/2375) @ 1000	FAOM-15810S-EC3	
	ISX15 420 SA	420 (313)	1550/1750 (2103/2375) @ 1000		
	ISX15 450 SA	450 (336)	1550/1750 (2103/2375) @ 1000		
Direct Drive	ISX15 400 SA	400 (298)	1550/1750 (2103/2375) @ 1000	FAM-15810B-EA3	2.26, 2.28, 2.39, 2.47
	ISX15 450 SA	450 (336)	1550/1750 (2103/2375) @ 1000		

Technology To Match Your Duty Cycle.

When you spec the ISX15 SmartAdvantage Powertrain, you can choose between a small-step overdrive or direct drive Eaton Fuller Advantage 10-speed automated transmission.

Small-Step Overdrive technology combines downspeeding in overdrive (10th gear) with efficiency in direct drive (9th gear). A 26% step from 9th to 10th allows the transmission to move quickly and seamlessly between the two upper gears, in response to changing terrain and load demand. Customers benefit from downspeeding (cruising at a lower rpm for better fuel economy) through fully integrated electronic control of the engine and transmission as a complete unit. This will be the optimal choice for about 80% of North American linehaul trucking fleets.

Direct Drive has a 1:1 gear ratio in 10th gear. This reduces friction losses, delivering up to as much as 4% better fuel economy than small-step overdrive transmissions when operating on flat terrain with an average road speed not exceeding 62 mph. It is particularly effective for regional LTL carriers making five or more stops per shift, spending 40 – 80% time at cruise speed and traveling 50,000 – 100,000 miles annually. The SmartAdvantage Powertrain with direct drive has recently been approved for 2.26, 2.28 to 2.39 axle ratios, providing additional downspeeding for enhanced efficiency.

Gear	Small-Step		Direct Drive	
	Ratio	%Step	Ratio	%Step
10th	0.80		1.00	
9th	1.00	26	1.34	34
8th	1.42	42	1.83	37
7th	2.03	43	2.45	34
6th	2.83	39	3.30	34
5th	3.97	40	4.57	42
4th	4.98	26	6.28	34
3rd	7.06	42	8.55	36
2nd	10.12	43	11.52	35
1st	14.11	39	15.42	34
Hi REV	3.43		3.89	
Lo REV	17.12		18.18	
Overall	17.70		15.42	

Where Innovation Meets Integration.

The Eaton Fuller Advantage 10-speed automated transmission makes strategic use of lightweight components to reduce weight and increase payload by 82 lb. Precision Lubrication technology eliminates the oil cooling system, uses 33% less oil than conventional transmissions while further enhancing fuel economy.

Cummins is continually setting new benchmarks for the trucking industry. Major technological advancements in the ISX15 platform include ADEPT™ with SmartCoast and SmartTorque2, along with Vehicle Acceleration Management.

- ST2 automatically senses vehicle weight, grade and operating gear, and then selects the optimum torque for the best fuel economy and performance in every gear. Higher torque is delivered earlier in the rpm range, so you can cruise at 1150-1240 rpm and still get the torque and power needed to match real-time load demand.

- SmartCoast is an optional feature within the ADEPT suite of Cummins electronic engine features that senses when a vehicle is descending downhill (up to 4% grade), then disengages the driveline to take full advantage of gravity and momentum.

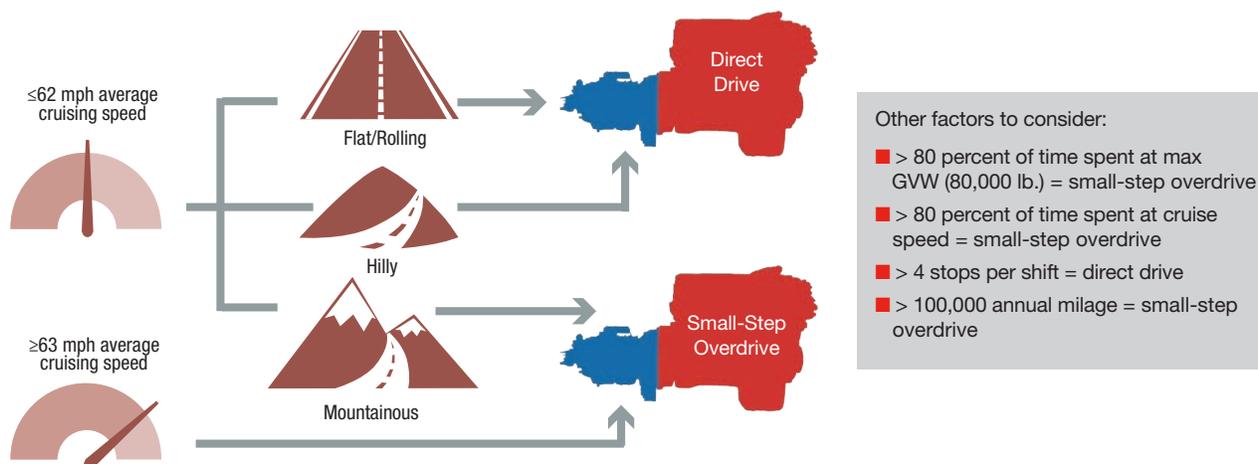
When SmartCoast is active, the ISX15 returns to idle. In routes across hilly terrain, this feature can save up to 2% in fuel economy.

- VAM maintains a smoother acceleration rate from the launch of the vehicle, maintaining a more consistent acceleration due to more efficient transition through the gears. This enhances the driving experience and reduces driveline wear while increasing fuel economy.

Spec'ing To Win.

Whether you run coast-to-coast at 80,000 lb, or stay close to home and make multiple stops on every route, there's a SmartAdvantage™ Powertrain that can help you reduce fuel use and lower your total cost of operation while maintaining road speeds and driver satisfaction.

The key is to spec your ISX15 SmartAdvantage Powertrain at the ideal horsepower and torque rating with the proper Eaton Fuller Advantage 10-speed automated transmission, utilizing the correct axle ratio and tires to deliver driver-pleasing performance with the best possible fuel economy.



Better Coverage, Better Warranties, Better Peace Of Mind.

Service for your ISX15 SmartAdvantage Powertrain is available almost everywhere. Cummins ISX15 is supported through Cummins network of over 3,500 distributors and dealers, with Cummins Care representatives ready to answer your call at 1-800-DIESELS™ (1-800-343-7357). The Eaton® Fuller Advantage® Series automated transmission is backed by the Roadranger® network, which you can reach at (800) 826-4357.

Cummins Base Warranty for the ISX15 engine is 2 years/250,000 miles (402,336 km), and includes parts and labor on warrantable failures for the engine and aftertreatment system, with no deductible. A wide range of extended coverage plans are available.

Eaton Fuller Advantage Series Transmissions Warranty covers you for 5 years/750,000 miles (1,307,008 km) when using PS386 oil. The Advantage Series clutch is warranted for 3 years/350,000 miles (563,270 km). Extended protection plans are also available.

If you're looking to gain a competitive edge by lowering operating costs, this is the SmartAdvantage you need. To learn more about the ISX15 SmartAdvantage Powertrain, call your local Cummins or Eaton Fuller representative, or check out our website at SmartAdvantagePowertrain.com.



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