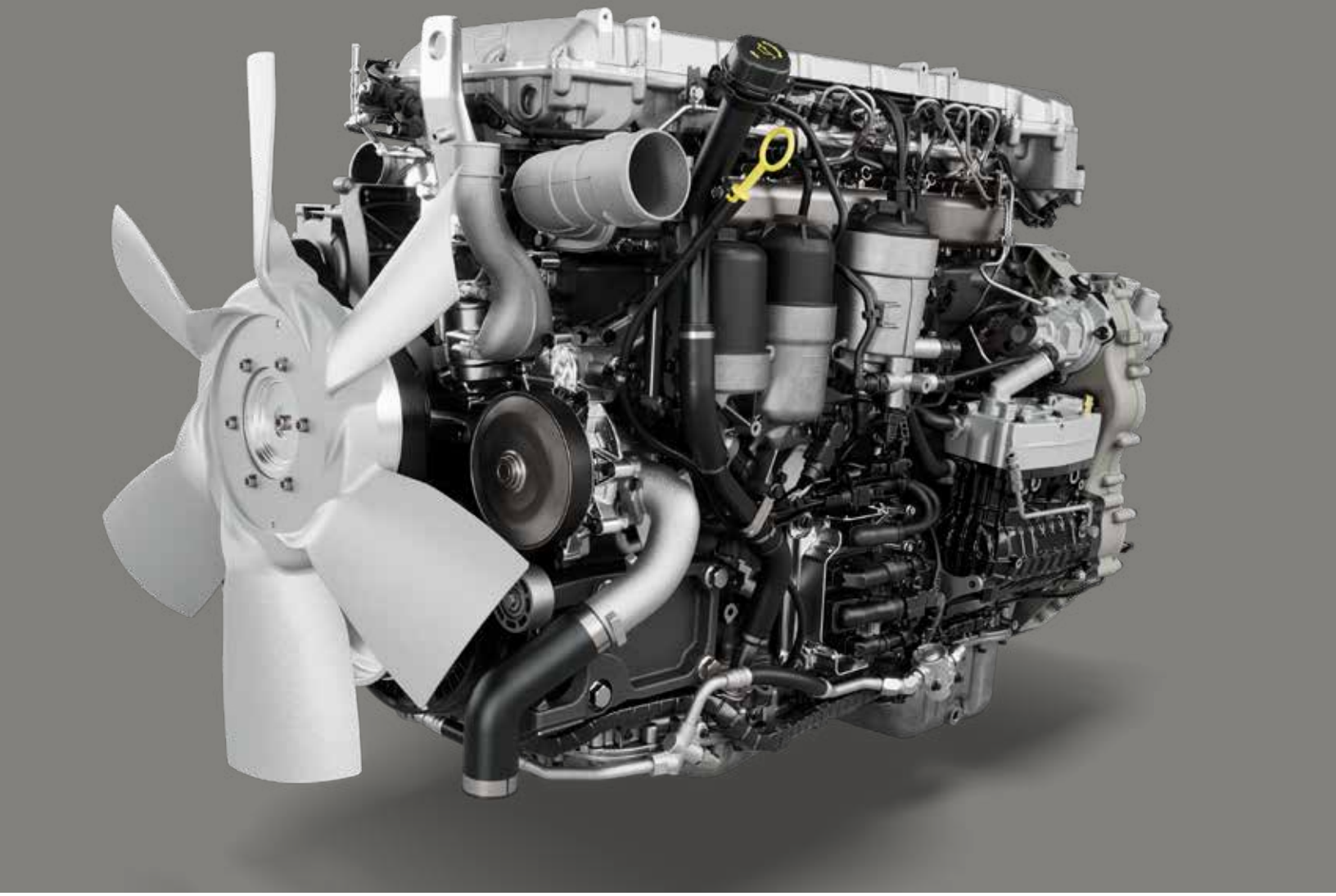
S13® INTEGRATED POWERTRAIN
LT® SERIES AND RH™ SERIES



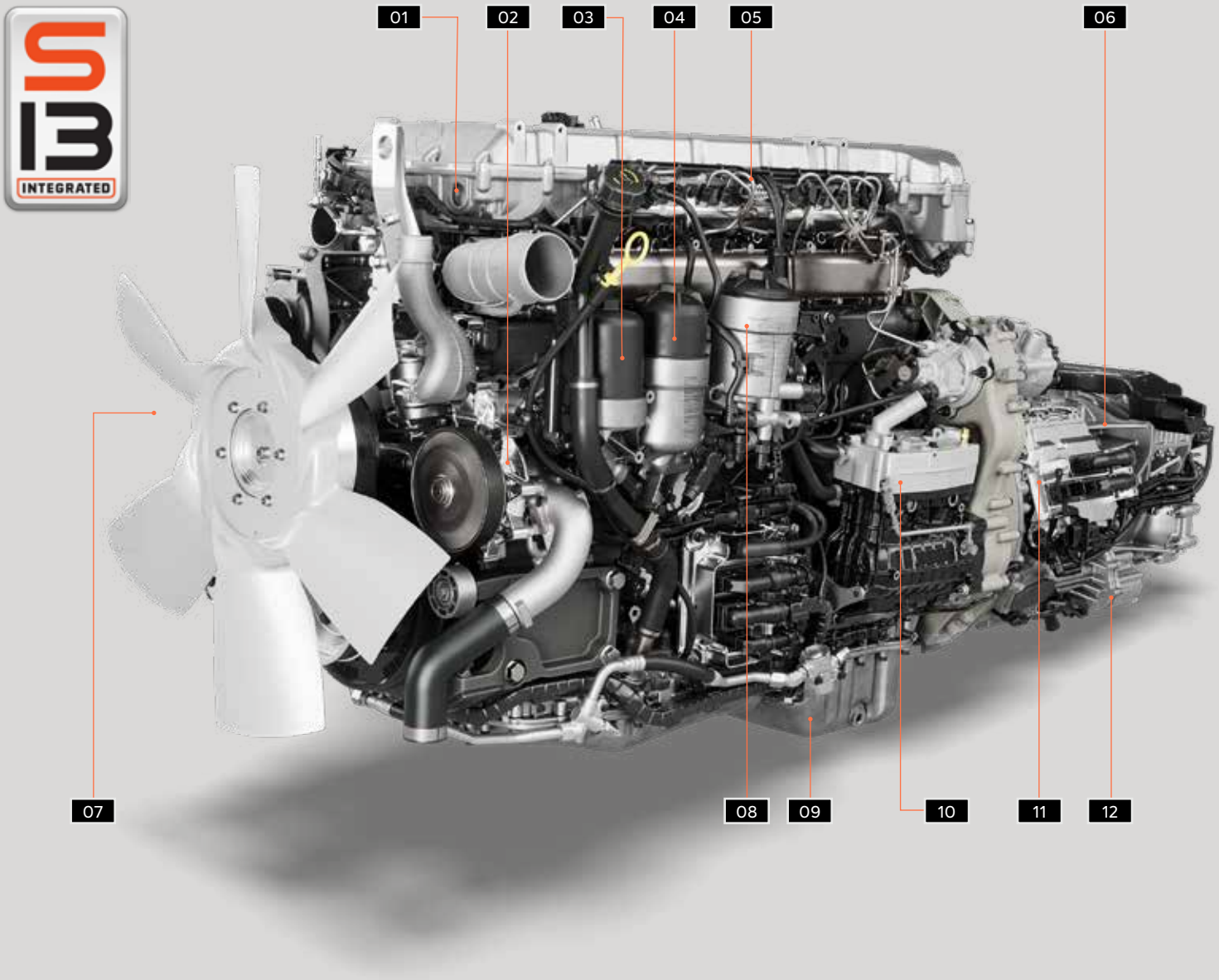
SMOOTH, POWERFUL, EFFICIENT AND READY FOR EPA 2027.

It should come as no surprise that the International® S13® Integrated Powertrain needed only minimal updates to meet 2027 EPA standards. It was, after all, engineered with a clean sheet of paper and a long-term vision that anticipated future regulations. As a result, 90% of the powertrain's components carry over unchanged, which means your service tools, parts, technician training, and driver resources remain familiar, making the transition to the 2027 S13® Integrated Powertrain seamless.

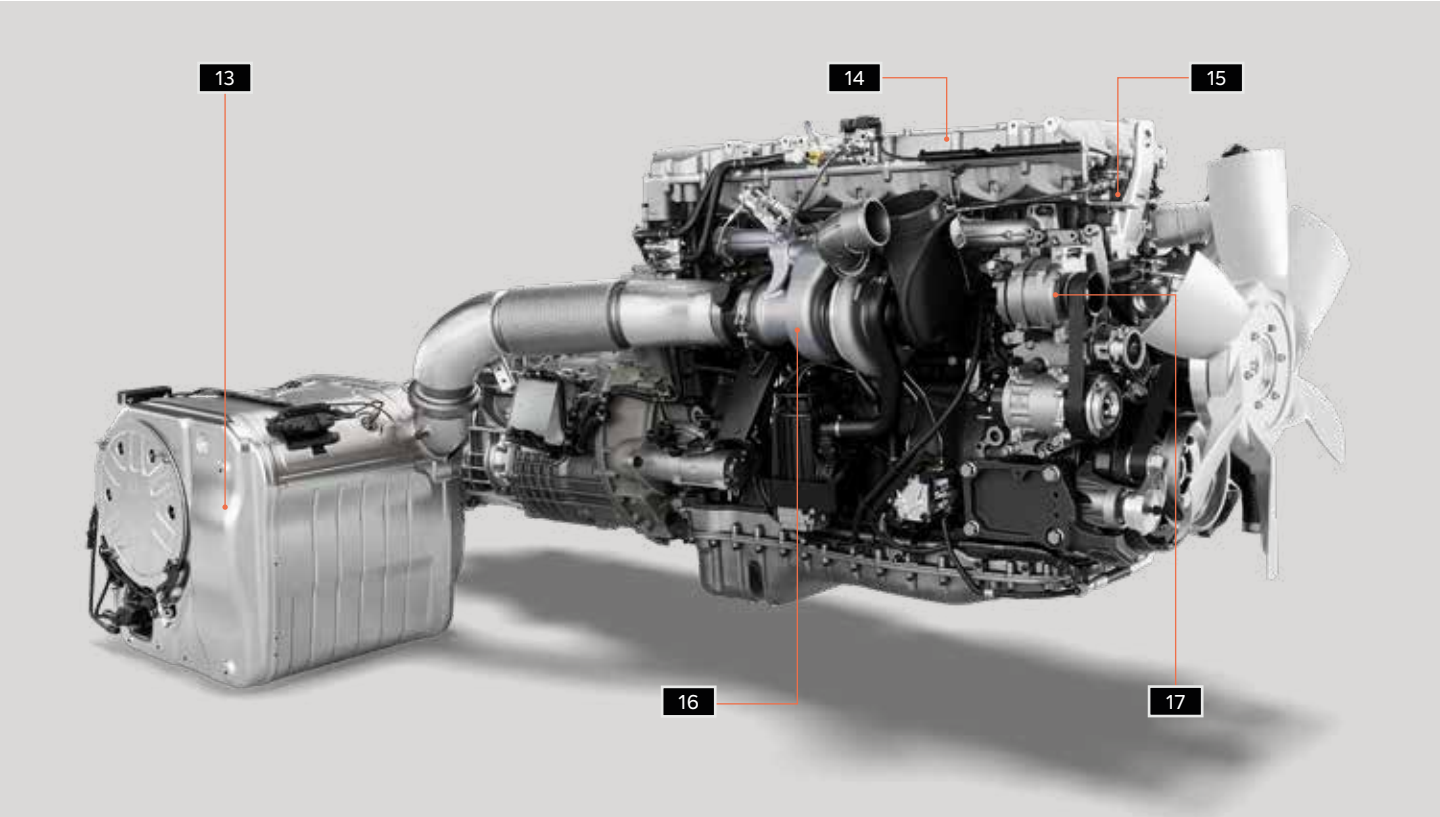
After logging countless miles on the highways and byways of North America, the S13® Integrated Powertrain has proven to be a reliable workhorse. The engine, transmission, and aftertreatment system are designed to work as one, delivering robust power, smooth shifts and incredible efficiency.

INTERNATIONAL

IT ALL COMES TOGETHER



The International® S13® Integrated Powertrain does more with less — delivering strong performance through a simpler, more efficient design. The engine features a double overhead cam design with Variable Valve Timing and an integrated compression release brake, along with a standardized 24V electrical architecture (alternator, starter, engine controllers), while retaining a 12V cab and electrical system for accessories and body controls. The engine, combined with the Dual Stage Aftertreatment System, is so effective at reducing emissions that neither a Diesel Oxidation Catalyst nor any EGR hardware is needed. This not only reduces weight and complexity, but it also means you never have to stop to perform an active regen—improving uptime and productivity.



PARTS AND SPECIFICATIONS

01	Variable Valve Timing (VVT)	Adapts valve timing to match real-time operating conditions for smooth performance and exceptional power across all engine speeds and loads. Improved engine braking performance from 470hp to 540hp resulting in improved brake-wear life and overall performance.
02	Water Pump	Low displacement, Low parasitic losses
03	Oil Centrifuge	Further removes soot and other contaminants from oil that cannot be eliminated by the oil filter alone. Helps maintain oil drain interval customers expect.
04	Oil Filter	Cartridge style
05	High-Pressure Fuel System	1800 Bar
06	T14® Transmission	14-speed single countershaft geartrain transmission with wide ratio spread for efficiencies on flatlands and performance on hilly terrains
07	6-Blade Fan	For additional efficiency
08	Fuel Filter	Top access, cartridge style
09	Oil Pan	Aluminum pan provides corrosion protection (stainless steel available)
10	Air Compressors	• Single cylinder (iron) • Two cylinder (aluminum) • Two cylinder clutched (aluminum)
11	Transmission Control Module (TCM)	24V TCM uses learned driver behavior and predictive shifting, utilizing GPS and topography data to optimize gear selection for fuel efficiency and performance
12	Electronic Clutch Actuator (ECA)	Delivers fast, smooth shifting
13	Dual Stage After-Treatment	• Compact design for more frame rail mounting space • No active DPF regen needed
14	Aluminum Valve Cover	Rugged and lightweight
15	No Cooled EGR, EGR cross-over tube eliminated	No Diesel Oxidation Catalyst or recirculation of exhaust gas required
16	Fixed Geometry Turbo	More reliable and efficient design
17	24V Alternator, Starter, Engine Controllers	Delivers enhanced cold crank performance plus helps to improve starter and battery life

S13 INTEGRATED

Engine type	Diesel, 4-Cycle
Configuration	Inline 6-Cylinder
Displacement	12.74L (777 cu. in.)
Bore & Stroke	5.12 in. x 6.30 in. (126 mm & 166 mm)
Compression Ratio	23:1
Aspiration	Fixed Geometry Turbocharger
Combustion System	1800 bar Common Rail
Engine Lubrication	47.5 quarts (45L)
Total Engine Weight	2,284 lbs. (1,036 kg)
Valves	4 Valves per Cylinder, Dual Overhead Camshaft
B10 Design life	1,200,000 mi (1,931,000 km)

INDUSTRY-LEADING ENGINE WARRANTY

Base Engine	24 months; unlimited miles, unlimited hours*
Base Major Component	60 months; 500,000 miles
Base Towing	24 months; unlimited miles, unlimited hours**
Optional Engine	Up to 72 months, 600,000 miles
Optional Major Component	Up to 84 months, 700,000 miles

* Fire & rescue applications: 60 months/100,000 miles/unlimited hours
**Towing for vehicles with engine failures

S13 INTEGRATED POWER CURVES

HP @ 1800 RPM	Torque [lb-ft]	Governed speed [RPM]
370*	1250	2000
400	1450	2000
400	1850	2000
430	1550	2000
450	1750	2000
470	1750	2000
515	1850	2000

* RH Series Only

T14 TRANSMISSION

Lightweight, efficiently packaged and robustly designed

14-speed including 2 crawler gears

Single countershaft transmission designed for simplicity and reliability

T14 GEAR RATIOS AVAILABLE

Gear	Ratio	Step	Gear	Ratio	Step
R2	12.60		7	4.55	29%
R1	16.23		8	3.53	28%
1	20.81	29%	9	2.77	29%
2	16.16	29%	10	2.15	29%
3	12.57	29%	11	1.66	29%
4	9.76	29%	12	1.29	29%
5	7.56	29%	13	1.00	28%
6	5.87	29%	14	0.78	-

TRANSMISSION BASE WARRANTY (INCLUDES TOWING)

Transmission	5 years, 750,000 miles (1,200,000 km)
Clutch	3 years, 350,000 miles (563,000 km)

DUAL STAGE AFTERTREATMENT

With Dual Stage Aftertreatment, and significantly improved emission control, the combustion can be optimized further for improved performance and fuel efficiency.

- Two DEF Injectors
- Dual Stage catalysts with upstream and midstream DEF dosing

The system manages the regeneration during operation - no driver interaction required

DPF filter does not need to be cleaned/replaced until 650,000 miles @ >8.2 mpg

Robust, compact aftertreatment allows less heat loss and helps significantly in improving the fuel economy and packaging

DUAL STAGE AFTERTREATMENT BASE WARRANTY

2 years, unlimited miles, unlimited hours

INTERNATIONAL

Note: The information and conclusions contained herein are believed to be correct at time of publication, but do not necessarily apply to similar vehicles with different specifications or with production dates after the production of this publication. Vehicles with different specifications or later dates of production may yield different results. Vehicle specifications are subject to change without notice. TAD26002 03/2026 ©2026 International Motors, LLC (d/b/a International Motors USA LLC in Illinois and Ohio). All rights reserved. All marks are trademarks of their respective owners.