



**INTERNATIONAL®  
S13 INTEGRATED  
POWERTRAIN**



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INTEGRATED POWERTRAIN**

**International® HX® Series**







# IT ALL COMES TOGETHER

A clean sheet of paper and decades of experience. That's what the engineering team started with when they began work on the International® S13 Integrated Powertrain. And this wasn't just any team. This was a dream team of engineers located literally all over the world. Thanks to a spirit of collaboration between partner companies, the team was able to shift what's possible and rethink, redesign and reinvent what an integrated powertrain can be. The result is the S13 Engine, T14 Transmission, Dual Stage Aftertreatment system and nine PTO options — which, combined, make up the S13 Integrated Powertrain. A powertrain that delivers stellar performance, is easy to service and is at home on the toughest jobsites.

## HIGH-PRESSURE FUEL SYSTEM

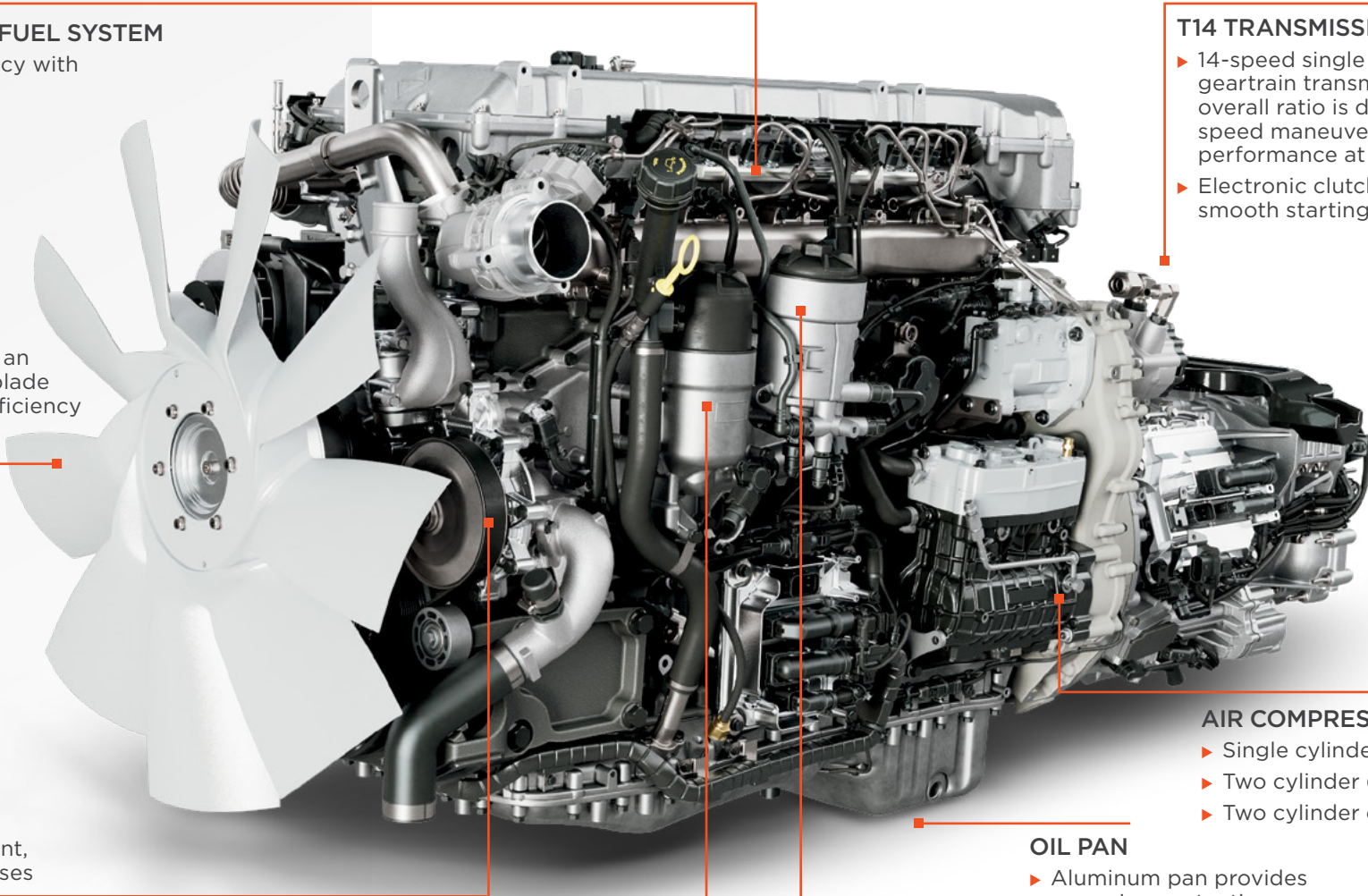
- ▶ Improved efficiency with less parasitic loss
- ▶ 1800 bar

## 9-BLADE FAN

- ▶ Converted from an 11-blade to a 9-blade for additional efficiency improvement

## WATER PUMP

- ▶ Low displacement, low parasitic losses



## T14 TRANSMISSION

- ▶ 14-speed single countershaft geartrain transmission with a 26.7 overall ratio is designed for slow speed maneuverability as well as performance at highway speeds
- ▶ Electronic clutch actuator for smooth starting and fast shifting

## AIR COMPRESSORS

- ▶ Single cylinder (iron)
- ▶ Two cylinder (aluminum)
- ▶ Two cylinder clutched (aluminum)

## OIL PAN

- ▶ Aluminum pan provides corrosion protection

## OIL FILTER

## FUEL FILTER

- ▶ Offered with industry leading systems

### DUAL STAGE AFTERTREATMENT

- ▶ Compact design for more frame rail mounting space
- ▶ No active DPF regen
- ▶ No diesel oxidation catalyst

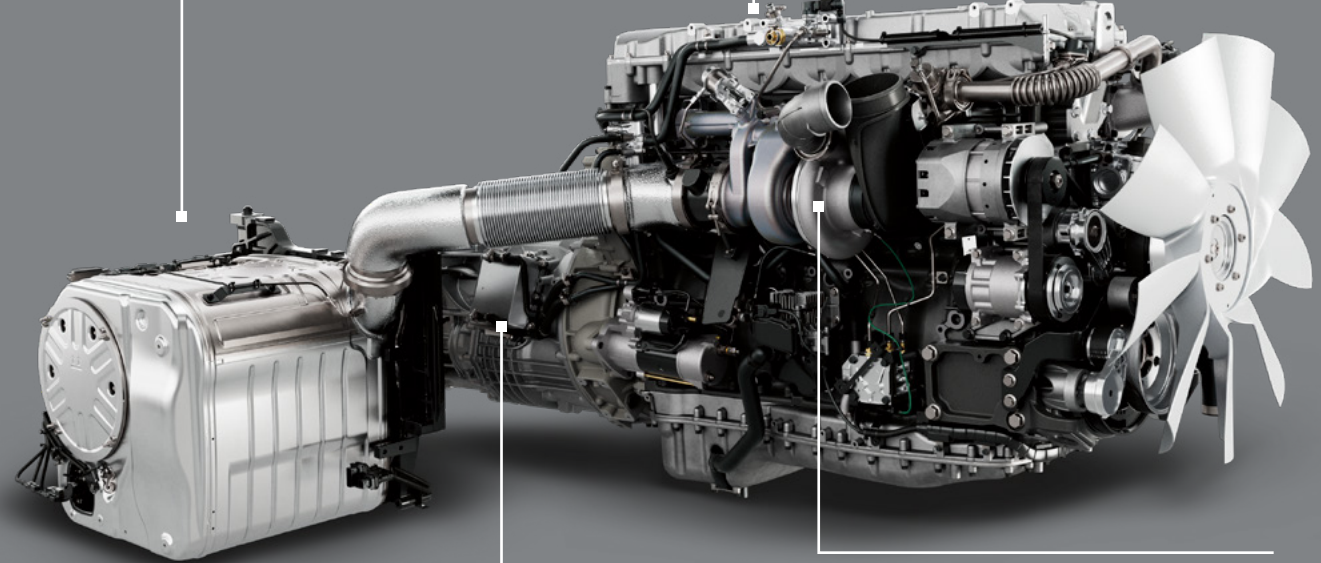


### ELIMINATION OF EGR COOLER

- ▶ Improved reliability

### ALUMINUM VALVE COVER

- ▶ Rugged and lightweight

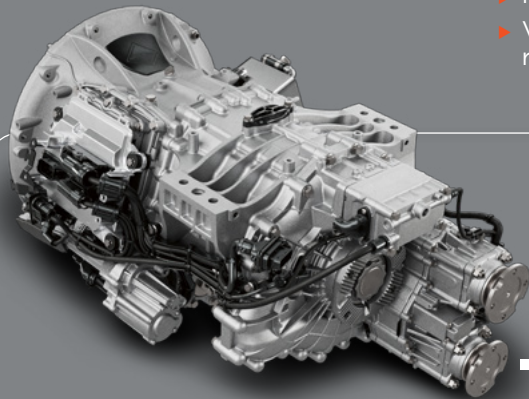


### FIXED GEOMETRY TURBO

- ▶ More reliable and efficient design

### STANDARD INTEGRAL HEAT EXCHANGER AND OIL SYSTEM

- ▶ No horsepower or torque restrictions
- ▶ Variable oil system with dry sump in high range allows for reduced parasitic loss



### FACTORY INSTALLED PTOs AVAILABLE

- ▶ Single and dual transmission PTOs available with a variety of common interfaces, installed directly at the factory
- ▶ REPTO and FEPTO options available without horsepower restrictions



### READY TO WORK: ON THE ROAD OR AT THE JOBSITE

The International® S13 Integrated Powertrain was designed with hard work in mind. The S13 delivers performance through its robust lightweight design, optimized gearing, and no active regens leading to more payloads delivered on the jobsite.

- Outstanding payload capacity
- Simple design, easy serviceability
- Exceptional fuel economy
- Nine PTO options including a dual option

Plus, thanks to the seamless integration of OnCommand® Connection Advanced Remote Diagnostics, the visibility into the health, location and performance of your assets has never been more accessible.



# S13 SPECIFICATIONS

## Technical Specifications

Engine Type	Diesel, 4-Cycle
Configuration	Inline 6-Cylinder
Displacement	12.74L (777 cu. in.)
Bore & Stroke	5.12 in. & 6.30 in. (130 mm & 160 mm)
Compression Ratio	23:1
Aspiration	Fixed Geometry Turbocharger
Combustion System	1800 bar Common Rail
Engine Lubrication	47.5 Quarts (45L)
Total Engine Weight (Dry)	2,284 lbs. (1,036 kg)
Valves	4 Valves per Cylinder, Dual Overhead Cam
B10 Design Life	1,200,000 miles (1,931,000 km)

## Industry-Leading Engine Warranty

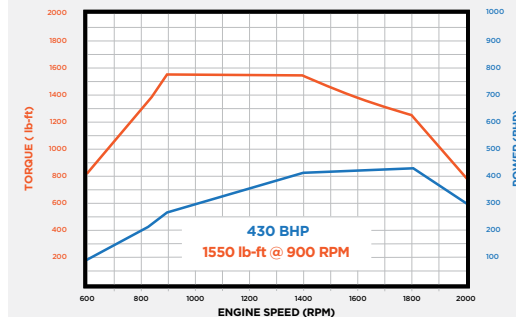
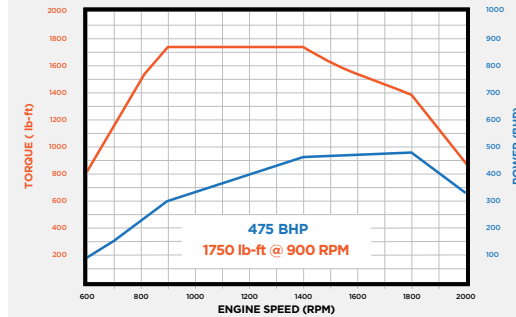
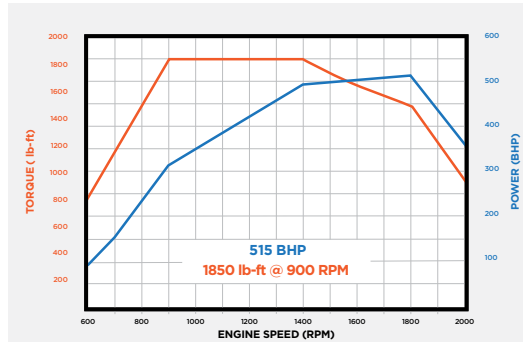
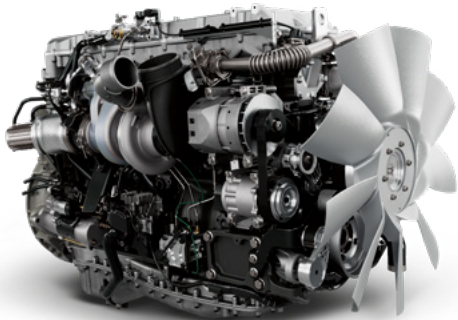
Base Engine	2 years; unlimited miles, unlimited hours*
Base Major Component	5 years; 500,000 miles
Base Towing	2 years; unlimited miles, unlimited hours**
Optional Engine	Up to 6 years, 600,000 miles
Optional Major Component	Up to 7 years, 700,000 miles

\* 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] @ 900 RPM	Governed speed[RPM]
400	1450	2000
430	1550	2000
450	1750	2000
475	1750	2000
515	1850	2000



# T14 BENEFITS

## Transmission Key Benefits

14 speed including 2 crawler gears

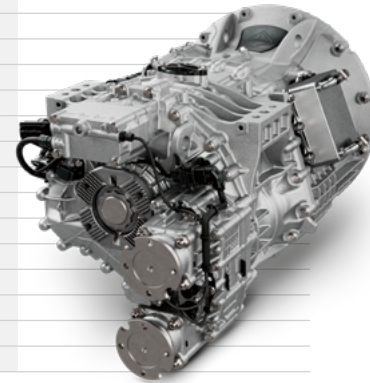
Lightweight, efficiently packaged and robustly designed

Single countershaft design for simplicity and reliability

Vocational specific drive modes including paver, off-road and split shaft

## T14 Gear Ratios Available

Gear	Ratio	% Step	R Gear	Ratio
1	20.81	29%	R6	4.59
2	16.16	29%	R5	5.91
3	12.57	29%	R4	7.61
4	9.76	29%	R3	9.81
5	7.56	29%	R2	12.60
6	5.87	29%	R1	16.23
7	4.55	29%		
8	3.53	28%		
9	2.77	29%		
10	2.15	29%		
11	1.66	29%		
12	1.29	29%		
13	1.00	28%		
14	0.78	-		



## Transmission, Clutch and Transmission Mounted PTO Base Warranty (includes Towing)

Less than 52K Rear Axle Rating	3 years; unlimited miles
Greater than 52K Rear Axles Rating	2 years; unlimited miles

# A/T BENEFITS

## Dual Stage Aftertreatment Key Benefits

The advanced Dual Stage Aftertreatment system allows the powertrain to focus on what it does best: delivering power - when and where you need it.

- DPF service intervals extended due to less soot being produced by the engine
- No diesel oxidation catalyst, no fuel dosing
- Easy access to DPF for easy serviceability

## Dual Stage Aftertreatment Base Warranty

2 years, unlimited miles, unlimited hours



**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. © 2023 NAVISTAR Inc. 2/2023 TAD23001 All rights reserved. All marks are trademarks of their respective owners.