

# DETROIT<sup>™</sup> DD13<sup>®</sup>

## TECHNICAL SPECIFICATIONS

**JUST RIGHT. SIMPLY AWESOME.** THE DETROIT<sup>™</sup> DD13<sup>®</sup> ENGINE PROVIDES THE RIGHT AMOUNT OF POWER AND TORQUE TO YOUR BOTTOM LINE.

Designed specifically for less-than-truckload, regional distribution, and vocational applications, the Detroit DD13 engine delivers a smooth, quiet ride and outstanding fuel economy.

### PERFORMANCE

- Meet your deadline every time
  - Enjoy less shifting with an extremely wide and flat torque curve
  - Three-stage integrated Jacobs<sup>®</sup> engine brake offers quieter engine braking and provides superior braking horsepower for extended service brake life
  - Overall robust design provides B50 life of 1 million miles
  - Sturdy rear gear train and ribbed cast-iron block minimize noise vibration harshness (NVH)
  - Proven asymmetric turbocharger—now built in Detroit—is optimally matched to updated Exhaust Gas Recirculation (EGR) system for improved efficiency
- Rear Powertrain Take-Off (PTO) availability for vocational applications

### SERVICEABILITY

- Lower your cost of ownership with easier serviceability
  - Longest scheduled maintenance intervals in its class
  - Oil and fuel filters are positioned above the frame rails for easier, faster, and cleaner filter changes

- Maintenance-free crankcase breather
- Detroit<sup>™</sup> Connect Virtual Technician<sup>SM</sup> remote diagnostic service helps you maximize uptime

### ECONOMY

- Smart, fuel-efficient design makes the most of every gallon
  - Improved fuel economy
  - Pulls strong down below 1000 RPM so drivers can spend more time in top gear
  - 2nd Generation Amplified Common Rail System (ACRS<sup>™</sup>) optimizes each injection event to minimize fuel consumption
  - Advanced cooling system allows for decreased fan on time, minimizing fuel consumption
  - Available variable-speed water pump reduces load on the engine
  - Fuel injector improvements for improved combustion control
- Usable power and torque reached at lower engine speeds, helping to reduce friction and improving fuel efficiency

### COMPLIANCE

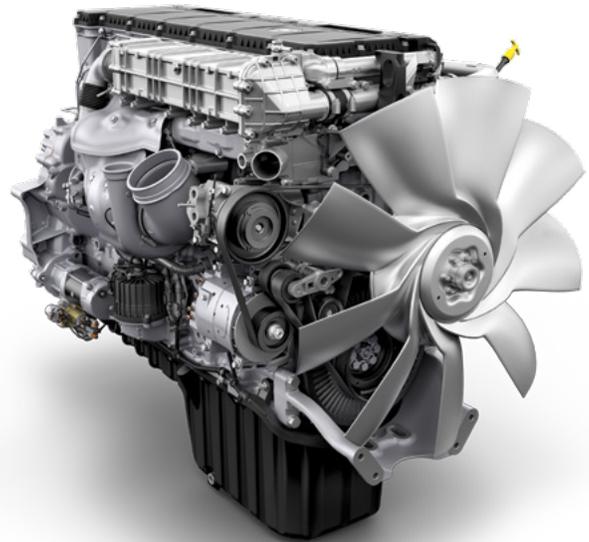
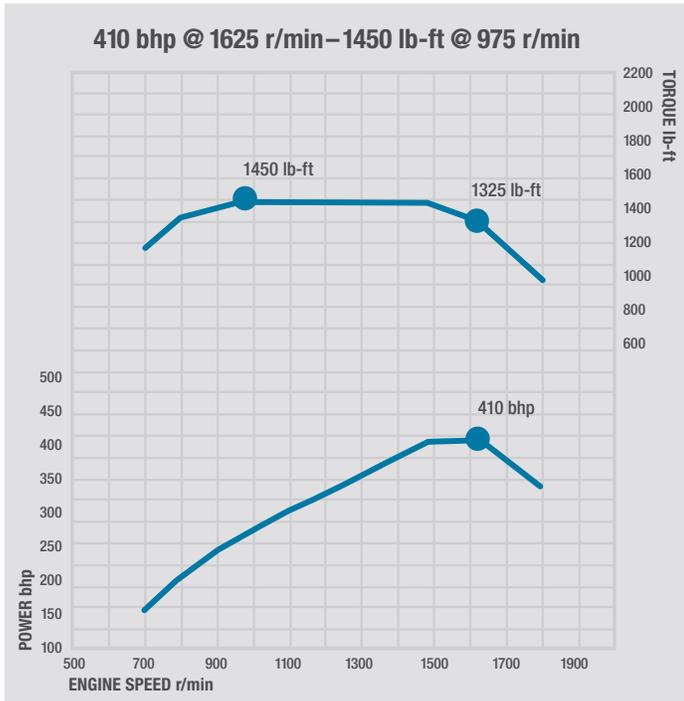
- The DD13 is compliant with 2017 Greenhouse Gas (GHG17) requirements

### DD13 SPECIFICATIONS

|   |                      |
|---|----------------------|
| Configuration .....                     | Inline 6 Cylinder    |
| Displacement .....                      | 781 cu. in. (12.8 L) |
| Compression Ratio .....                 | 18.4:1               |
| Bore .....                              | 5.20 in. (132 mm)    |
| Stroke.....                             | 6.15 in. (156 mm)    |
| Weight (Dry) .....                      | 2487 lb. (1128 kg)   |
| Electronics .....                       | DDEC <sup>®</sup>    |
| Service Fill (Oil & Filter Change)..... | 40 qt. (38 L)        |
| Horsepower Range .....                  | 350-505              |
| Torque Range .....                      | 1250-1850 lb-ft      |
| Rear-Engine Power Take-Off.....         | Optional             |



### Horsepower and Torque Curve



### Power Ratings

| DD13 Engine Power Ratings              |                           |
|--|---------------------------|
| 350 HP @ 1625 RPM                      | 1350 lb-ft @ 975 RPM      |
| 370 HP @ 1625 RPM                      | 1250 lb-ft @ 975 RPM      |
| 380 HP @ 1625 RPM                      | 1450 lb-ft @ 975 RPM      |
| 400 HP @ 1625 RPM*                     | 1750 lb-ft @ 975 RPM*     |
| 410 HP @ 1625 RPM                      | 1450 lb-ft @ 975 RPM      |
| 410 HP @ 1625 RPM                      | 1550 lb-ft @ 975 RPM      |
| 410 HP @ 1625 RPM                      | 1650 lb-ft @ 975 RPM      |
| 435 HP @ 1625 RPM                      | 1550 lb-ft @ 975 RPM      |
| 450 HP @ 1625 RPM                      | 1550 lb-ft @ 975 RPM      |
| 450 HP @ 1625 RPM                      | 1650 lb-ft @ 975 RPM      |
| 470 HP @ 1625 RPM                      | 1650 lb-ft @ 975 RPM      |
| 505 HP @ 1625 RPM                      | 1850 lb-ft @ 975 RPM      |
| DD13 Engine Multi-Torque Power Ratings |                           |
| 410 HP @ 1625 RPM                      | 1450/1650 lb-ft @ 975 RPM |

\*Integrated Detroit Powertrain only.

### Standard Warranty

| Item  | Warranty Limits (Whichever Occurs First) |                         | Repair Charge (Paid by Owner) |             |
|---|--|-------------------------|-------------------------------|-------------|
|   | Months                                   | Miles / Kilometers      | Parts                         | Labor       |
| Engine  | 0-24                                     | Unlimited               | No charge                     | No charge   |
| Injectors   | 0-24                                     | 200,000 mi / 320,000 km | No charge                     | No charge   |
| Upon expiration of the 24-month warranty coverage, but within 500,000 mi / 800,000 km of use, the warranty continues to apply as follows: |  |                         |                               |             |
| Major Components  | 25-60                                    | 500,000 mi / 800,000 km | No charge                     | Not covered |

### Maintenance Intervals\*

| Item                           | Mi / km / Hr†   | Severe Duty   | Short-Haul | Long-Haul | Efficient Long-Haul |
|--------------------------------|---|---|------------|-----------|---------------------|
| Engine Oil and Filter Change** | Miles   | 35,000  | 40,000     | 55,000    | 65,000              |
|                                | Kilometers  | 56,000  | 64,000     | 89,000    | 105,000             |
|                                | Hours   | 750   | 1000       | —         | —                   |
| Fuel Filter Change             | Miles   | 35,000  | 40,000     | 55,000    | 65,000              |
|                                | Kilometers  | 56,000  | 64,000     | 89,000    | 105,000             |
|                                | Hours   | 750   | 1000       | —         | —                   |
| Valve Lash Adjustment          | Miles   | Adjust at 100,000, at 500,000, and then every 500,000 thereafter. |            |           |                     |
|                                | Kilometers  | Adjust at 160,000, at 800,000, and then every 800,000 thereafter. |            |           |                     |
| Diesel Particulate Filter      | A check engine light will illuminate when ash requires removal. Normal DPF ash clean interval is: |   |            |           |                     |
|                                | Miles   | 500,000 to 550,000  |            |           |                     |
|                                | Kilometers  | 800,000 to 880,000  |            |           |                     |
|                                | Hours   | 11,000 to 11,500  |            |           |                     |
| DEF Pump Filter                | Replace filter every 3 years or 500,000 (800,000 km) miles, whichever comes first.                |   |            |           |                     |

\* Maintenance intervals using Detroit Fluids Specification 93K222 (CK-4) or 93K223 (FA-4) Approved Oils.  
 \*\* Recommended based on using Detroit's lube oil and oil analysis program.  
 Severe duty is up to 30,000 annual miles (48,000 kilometers) and a vehicle that averages less than 5 miles per gallon (mpg).  
 Short-haul is between 30,000 and 60,000 annual miles (48,000-96,000 kilometers) and a vehicle that averages between 5.1 and 5.9 mpg.  
 Long-haul is over 60,000 annual miles (96,000 kilometers) and a vehicle that averages between 6.0 and 6.9 mpg.  
 Efficient long-haul is over 60,000 annual miles (96,000 kilometers) and a vehicle that averages greater than 7 mpg.  
 † Miles/Kilometers or Hours, whichever occurs first.

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