

# MACK

# ENGINE MP7 US07

## FEATURES

- High Torque MAXIDYNE™ Diesel Engine
- Cooled Exhaust Gas Recirculation (CEGR)
- Maximum Horsepower 365 BHP [272 kW]
- Electronic Unit Pump Fuel Injection with Rate Shaping
- V-MAC IV Total Vehicle Electronics System
- Wide Operating Range 1200-2100 RPM
- Chassis Mounted Charge Air Cooled
- Variable Geometry Turbocharger
- Extended Service Intervals
- MACK PowerLeash Engine Brake

## SPECIFICATIONS

Peak HP (kW) @ RPM . . . . . 365 [272] @ 1500-1900  
 HP [kW] @ Governed RPM . . . . . 335 [250] @ 2100  
 Max. Torque lb. ft. [N•m] @ RPM . . . . . 1,340 [1 816] @ 1200  
 Type . . . . . Direct Injection Diesel  
 Number of Cylinders . . . . . 6, In-Line  
 Bore & Stroke, in. [mm]. . . . . 4.84 x 5.98 [123 x 152]  
 Displacement, in.<sup>3</sup> [L]. . . . . 659 [11]  
 Compression Ratio . . . . . 16:1  
 Firing Order . . . . . 1-5-3-6-2-4  
 Torque Rise . . . . . 60%  
 Clutch Engagement . . . . . 720 lb. ft. [976 N•m] @ 800 RPM  
 Idle Speeds:  
 Low . . . . . Adjustable; 650 RPM  
 High . . . . . Adjustable; 2170 RPM  
 Engine Brake Retarding Power (If Applicable)  
 . . . . . 420 HP [313 kW] @ 2100 RPM  
 Weight, Dry: (Approx.) . . . . . 2,270 lbs. [1 030 kg]  
 (With air compressor, but no oil, water, starter, fan, alternator, or clutch)

## V-MAC IV® FUNCTIONS

4th Generation Vehicle Management And Control System

### V-MAC IV PRODUCTIVITY FEATURES:

- PTO (4) and Electronic Hand Throttle Control
- Engine "Smart Fan Control"
- Integrated Sleeper Low Voltage Disconnect †
- "Smart Idle" Speed Regulator
- GuardDog Routine Maintenance Monitoring †

### V-MAC IV DRIVER CONVENIENCE FEATURES:

- Full Featured Cruise Control
- Cruise and Brake Engine Brake Control
- Programmable Engine Governor Type
- Idle Cooldown
- Daytime Running Light (DRL) Override †

### V-MAC IV FUEL ECONOMY FEATURES:

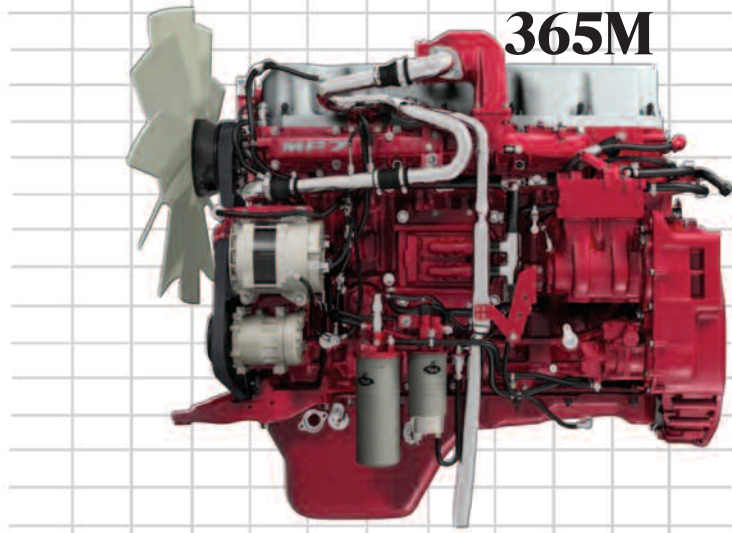
- Vehicle Speed Limiting
- Engine "Sweet Spot Indicator"
- Fuel Economy Incentive Program
- Idle Shutdown
- Integrated Temp-A-Start †

### V-MAC IV RELIABILITY FEATURES:

- Engine Protection
- Starter Protection
- Differential Lock Auto Control

### V-MAC IV FLEET MANAGEMENT FEATURES:

- DataMax Comprehensive On-Board Data Logger
- InfoMax PC Fleet Management Software



### V-MAC IV SAFETY AND SECURITY FEATURES:

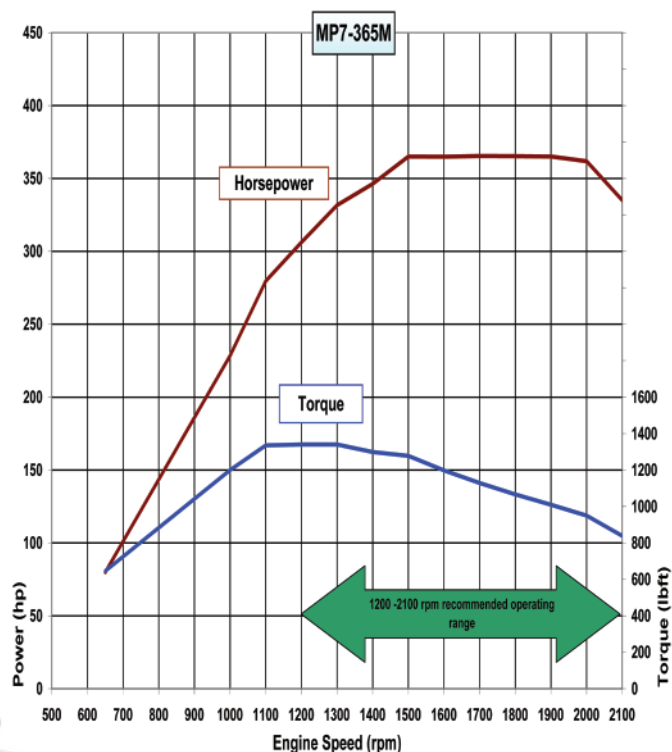
- Speed Sensor Tamper Resistance
- Theft Deterrence
- 5th Wheel Slide Unlocked Vehicle Speed Limiting
- Air Suspension Deflated Vehicle Speed Limiting

### V-MAC IV SERVICEABILITY FEATURES:

- SAE J1587 and J1939 Diagnostic Port
- Electronic Fault Logging with Fault Reporter
- VCADS PC Based Service Software

† Denotes an available option.

## ENGINE PERFORMANCE



## ENGINE SPECIFICATIONS

Flywheel Housing ..... Die cast Aluminum  
 Cylinder Block:  
 Material ..... Alloyed Grey Cast Iron  
 Ladder Frame Reinforcement

Cylinder Liners:  
 Type ..... Full Wet Design  
 Surface Finish ..... Plateau Honed

Cylinder Head Assembly:  
 Type Grey Cast Iron Slab Head With  
 Intermediate Deck  
 Single Overhead Cam

Configuration ..... 4 Valves/Cyl., OHV  
 Valve Type ..... Poppet  
 Valve/Insert Material ..... Super Alloy (Serviceable)

Pistons & Rings:  
 Piston Type ..... Monotherm™ Single Piece Steel  
 w/Closed Cooling Gallery

Pin Diameter ..... 2.125" [54 mm]  
 Rings ..... 2 Compression, 1 Oil Control

Crankshaft:  
 Material ..... Forged, Carbon Steel  
 Heat Treatment ..... Induction-Hardened Journals/Fillet  
 Main Bearing Diameter ..... 4.5" [114 mm]

Charge Air Cooling ..... Chassis Mounted, Air-To-Air  
 Fuel System ..... Delphi E3 Electronic Unit Injectors  
 w/2 Solenoid Valve Technology and Rate Shaping  
 Fuel Supply Pump ..... ZF Meritor  
 Filter ..... Spin On, Disposable

Lubrication System:  
 Type Full Pressure, Wet Sump  
 Oil Filters ..... 2 Spin-On Full Flow Disposable,  
 Single Bypass Disposable

Oil Cooler ..... Stainless Steel Plate  
 Total Oil Capacity ..... 36 qts. (Incl's. Filters)  
 Drain Plug ..... Magnetic

Cooling System:  
 Capacity ..... 17 qts. [16 L]  
 Thermostats ..... 180°F [82°C]  
 Hose Material ..... Silicone

Air Compressor:  
 Type Meritor WABCO  
 Standard Capacity ..... 18.7 cfm [8.9L/s]

Turbocharger ..... Holset, Sliding Nozzle Ring Variable  
 Geometry w/Water Cooled Actuator and Bearings  
 and Electronic Controls

Accessory Belt ..... Poly-V w/Automatic Tensioners  
 EGR System  
 Single EGR Valve Assembly ... Modulated Cast Stainless Steel  
 EGR Cooler ..... Stainless Steel Tube  
 and Insert Gas to Coolant

## OIL/FILTER SERVICE INTERVALS

Refer to the latest version of Mack Maintenance & Lubrication Manual TS494.

## OPTIONAL EQUIPMENT\*\*

High Capacity Air Compressor  
 120 and 240 Volt Engine Block Heaters  
 High Capacity Alternator

\*\* Availability may be chassis model dependent.

## GEARING RECOMMENDATIONS

Proper gearing is necessary to achieve optimum vehicle performance and fuel economy. Vehicle specifications, including engine, transmission, axle ratio, and tire selection, should generally be selected to meet the following criteria:

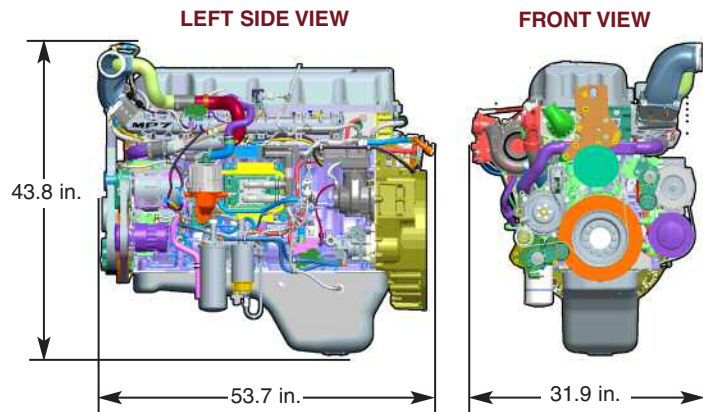
|                     |   |
|---------------------|---|
| <b>Startability</b> | Highway Applications ..... ≥ 10%        |
|                     | On-Off Highway Applications ..... ≥ 16% |
| <b>Gradeability</b> | @ Cruise Max. MPH ..... ≥ 0.5%          |
|                     | @ Peak Torque, Top Gear ..... ≥ 1.5%    |
| <b>Cruise RPM</b>   | 1500 ±50 RPM*                           |

\*Cruise RPM = Engine speed in top gear @ Cruise Max. MPH setting. Limited to 65 MPH. At higher speeds gear truck to obtain above RPM @ 65 MPH.

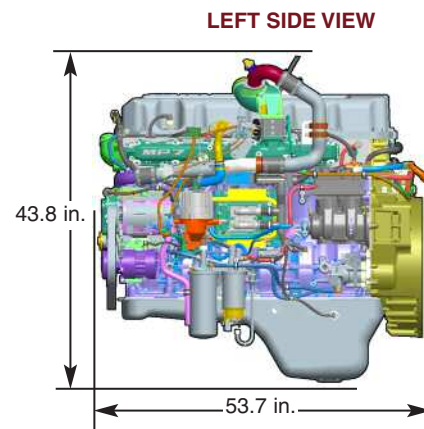
Refer to the MACKTRAQ® electronic sales tool to obtain startability, gradeability and cruise RPM results for specific vehicle specifications. Special service applications, road surfaces, high GCW's or other factors may require different gearing considerations.

## DIMENSIONS

### Conventional Chassis (CHU, CXU, GU7 AND GU8 MODELS)



### LCF Chassis (MRU AND LEU MODELS)



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