

# Detroit Diesel Engines

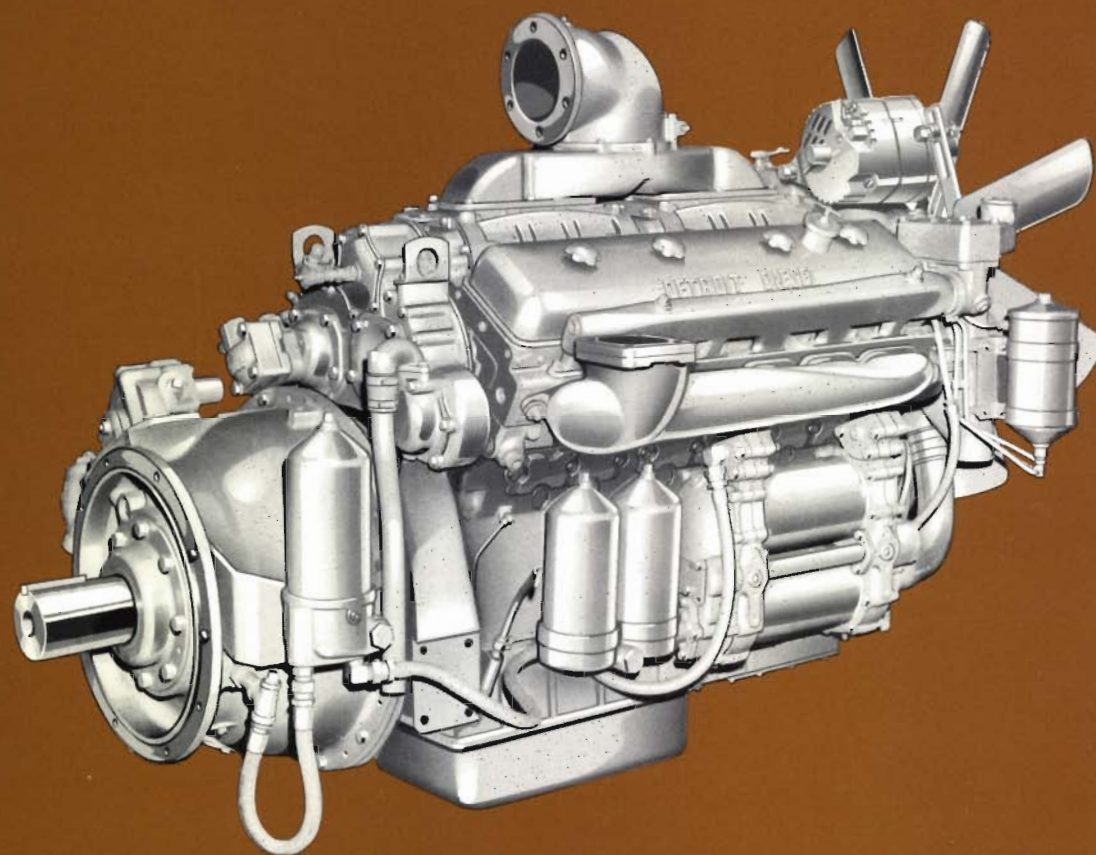
fan-to-flywheel  
models

with torque converter

6V-71  
238 hp

8V-71  
318 hp

12V-71  
475 hp



Typical 12V-71  
Fan-to-Flywheel Model  
with Torque Converter

# specifications

Basic Engine	6V-71	8V-71	12V-71
Model	7063-7001	7083-7001	7123-7001
Engine Type	Two Cycle	Two Cycle	Two Cycle
Numbers of Cylinders	6	8	12
Bore and Stroke	4.25 in x 5 in (108 mm x 127 mm)	4.25 in x 5 in (108 mm x 127 mm)	4.25 in x 5 in (108 mm x 127 mm)
Displacement	426 cu in (6.99 litres)	568 cu in (9.32 litres)	852 cu in (13.97 litres)
Compression Ratio	18.7 to 1	18.7 to 1	18.7 to 1
Piston Speed	1750 ft/min @ 2100 RPM (8.89 m/sec. @ 2100 RPM)	1750 ft/min @ 2100 RPM (8.89 m/sec. @ 2100 RPM)	1750 ft/min @ 2100 RPM (8.89 m/sec. @ 2100 RPM)
Rated Gross Power 60°F (15.6°C) and 29.92 in Hg (101.31 kPa) Bar. (Dry)	238 BHP (178 kW) @ 2100 RPM	318 BHP (237 kW) @ 2100 RPM	475 BHP (354 kW) @ 2100 RPM
SAE: 85°F (29.4°C) and 29.00 in Hg (98.19 kPa) Bar. (Dry)	228 BHP (170 kW) @ 2100 RPM	304 BHP (227 kW) @ 2100 RPM	456 BHP (340 kW) @ 2100 RPM
Torque: SAE: 85°F (29.4°C) and 29.00 in Hg (98.19 kPa) Bar. (Dry)	600 lb ft (813 N·m) @ 1600 RPM	800 lb ft (1085 N·m) @ 1600 RPM	1200 lb ft (1627 N·m) @ 1600 RPM
Continuous Gross Power	175 BHP (131 kW) @ 1800 RPM	233 BHP (174 kW) @ 1800 RPM	350 BHP (261 kW) @ 1800 RPM
Torque Converter Model	TC 574	TC 574	TC 955
Torque Multiplication at Stall Speed	3.26 to 1	3.26 to 1	3.67 to 1
Rated Shaft Horsepower* SAE: 85°F (29.4°C) and 29.00 in Hg (98.19 kPa) Bar. (Dry)	180 SHP (134 SkW) @ 1810 RPM	230 SHP (171 SkW) @ 1660 RPM	343 SHP (256 SkW) @ 1790 RPM
Torque at Stall Speed	1880 lb ft (2549 N·m)	2380 lb ft (3227 N·m)	3980 lb ft (5396 N·m)
Approximate Dimensions			
Length	55 in (1397 mm)	60 in (1524 mm)	81 in (2057 mm)
Width	39 in (991 mm)	39 in (991 mm)	46 in (1168 mm)
Height	47 in (1194 mm)	48 in (1219 mm)	58 in (1473 mm)
Net Weight Dry	2380 lbs (1080 kg)	2900 lbs (1315 kg)	3800 lbs (1724 kg)

\*Converter shaft speed, engine governed at 2100 RPM.

For complete dimensional information refer to installation drawings:

2SA310 for Model 7063-7001

2SA311 for Model 7083-7001

2SA312 for Model 7123-7001

## RATING EXPLANATION

### Basic Engine Performance

**RATED BHP** is the power rating for variable speed and load application where full power is required intermittently. Performance may be derated to improve fuel economy and extend engine life. **CONTINUOUS BHP** is the power rating for applications operating under a constant load and speed for long periods of time.

**FUEL CONSUMPTION CURVE** shows fuel used in pounds per brake horsepower hour.

THESE RATINGS do not include power requirements for accessory and standard equipment.

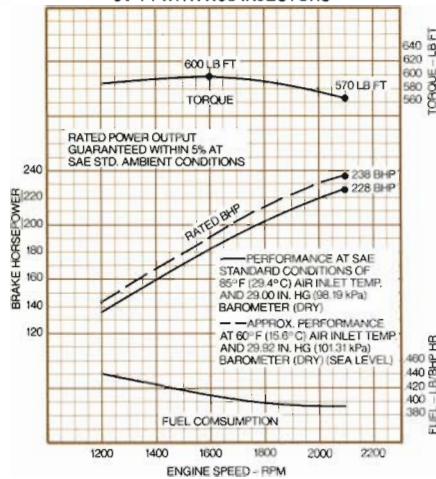
### Net Performance

**RATED PERFORMANCE Full throttle performance** is shown. The recommended normal operating range is above 70% efficiency. Maximum torque capacity is available for starting heavy loads without shifting gears.

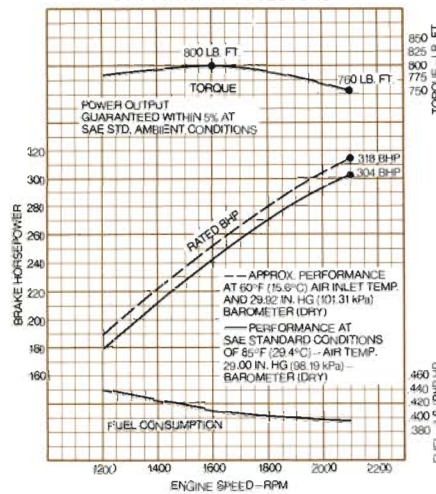
**CONTINUOUS OPERATION** The horsepower output will increase rapidly at low shaft speeds and will remain approximately constant over the remainder of the speed range. If the application has periods of constant load and speed, the average load should correspond to the continuous rating of the engine. The average speed should be above 70% efficiency line.

**TORQUE CONVERTER RATINGS** are based on operating at 85°F (29.4°C) and 29.00 in Hg (98.19 kPa) Bar. (Dry) with standard equipment.

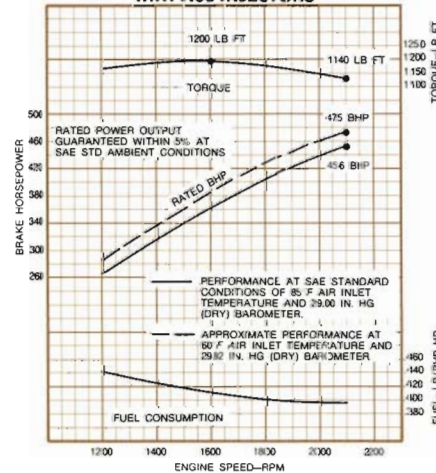
**BASIC ENGINE PERFORMANCE  
6V-71 WITH N65 INJECTORS**



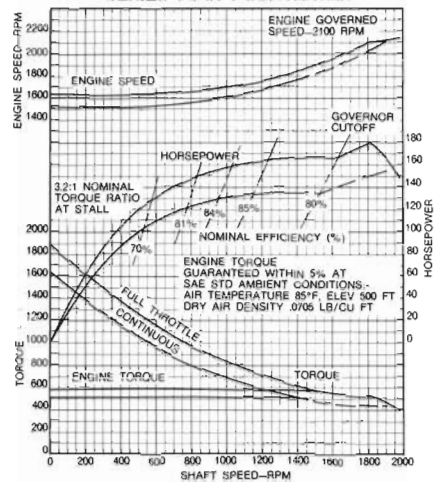
**BASIC ENGINE PERFORMANCE  
8V-71 WITH N65 INJECTORS**



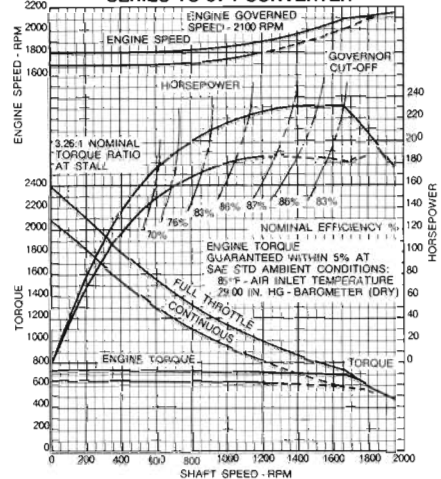
**BASIC ENGINE PERFORMANCE  
MODEL 12V-71  
WITH N65 INJECTORS**



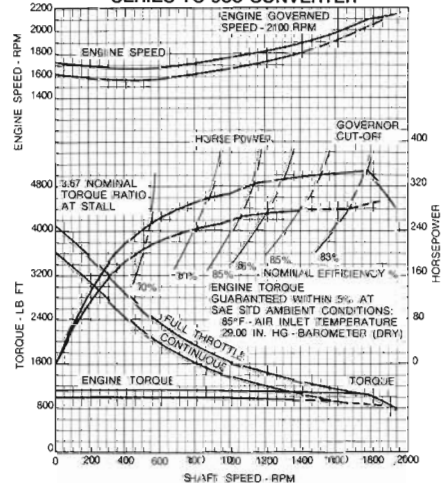
**NET PERFORMANCE  
MODEL 6V-71 WITH  
SERIES TC-574 CONVERTER**



**NET PERFORMANCE  
MODEL 8V-71 WITH  
SERIES TC-574 CONVERTER**



**NET PERFORMANCE  
MODEL 12V-71 WITH  
SERIES TC-955 CONVERTER**



# standard equipment

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## **Air Inlet Housing**

### **Alternator—**

- 12 volt, 65 amp, Model 7063-7001
- 24 volt, 65 amp, Models 7083-7001 & 7123-7001

## **Crankshaft Pulley**

## **Exhaust Manifold**

- Fan—**28", 6 blade, suction Model 7063-7001  
36", 8 blade, suction Model 7083-7001  
40", 8 blade, suction Model 7123-7001

## **Flywheel Housing—**

- SAE #1, Models 7063-7001 and 7083-7001
- SAE #1/2, Model 7123-7001

## **Fuel Filters—**

- Spin-on, Models 7063-7001 & 7083-7001
- Cartridge, Model 7123-7001

## **Governor—**Mechanical, limiting speed

## **Injectors—**Cam operated, unit type, clean tip

**Instruments—**Ammeter, oil pressure and water temperature gages and starter switch for engine; oil temperature and oil pressure gages for torque converter

## **Lube Oil Cooler**

## **Lube Oil Filter—**Full flow

## **Oil Pan—**

- Stamped, 20° front down, 30° rear down, inclination angle  
Model 7063-7001
- Stamped, 17° inclination angle,  
Model 7083-7001
- Stamped, 20° front down, 30° rear down, inclination angle; Model 7123-7001

## **Starting Equipment—**

- 12 volt, Model 7063-7001
- 24 volt, Models 7083-7001 & 7123-7001

## **Torque Converter—**

- Series TC 574 Models 7063-7001 & 7083-7001
- Series TC 955 Model 7123-7001

## **Vibration Damper—**Model 7123-7001 only

For a complete listing of standard and optional equipment, consult your authorized Detroit Diesel Allison representative.

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Specifications subject to change without notice..



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