



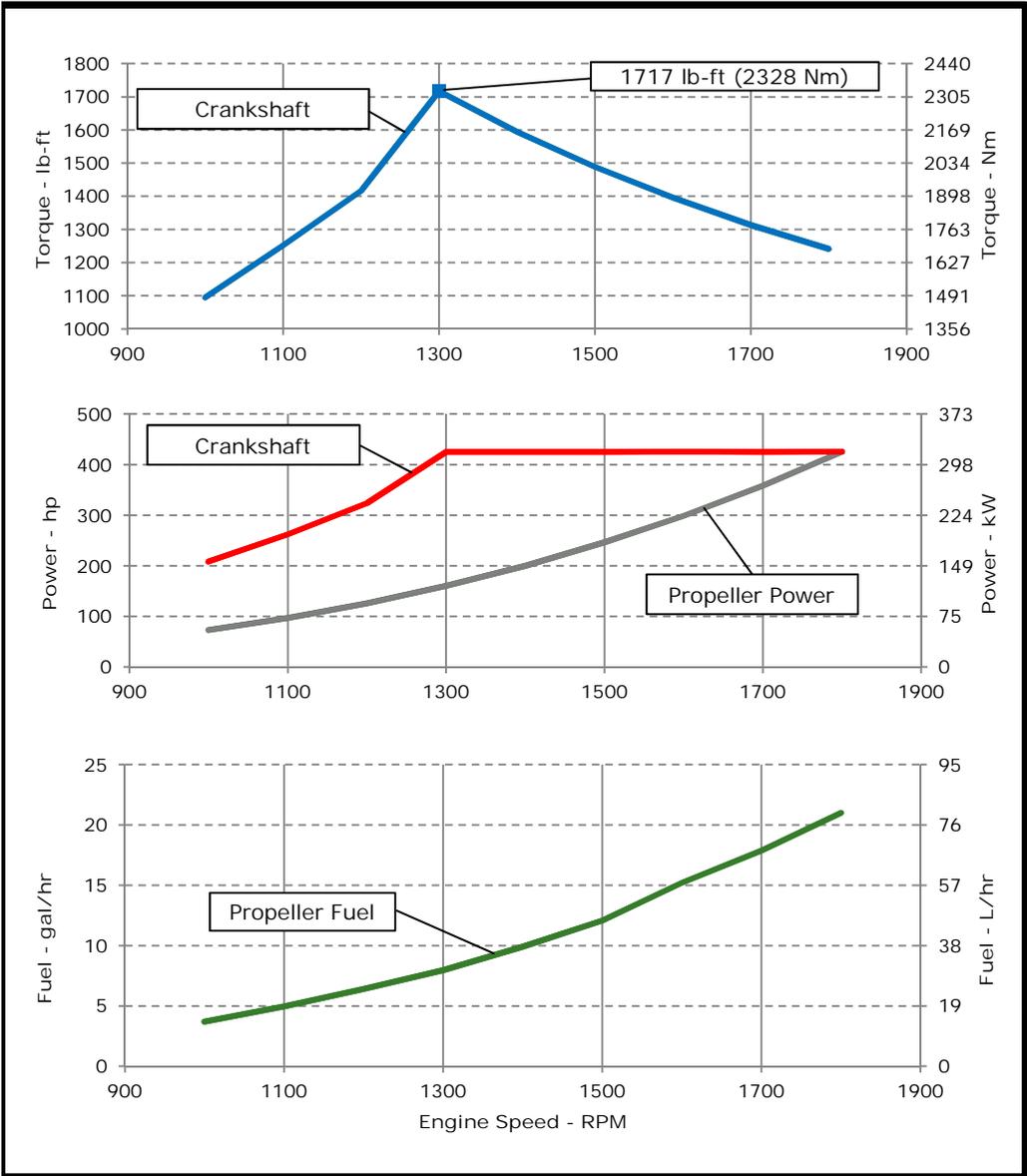
JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: M1 - 425hp (317kW) @ 1800 RPM
 Application: Marine

PowerTech™ 13.5L Engine

Model: 6135SFM85



REFERENCE CONDITIONS

Air Intake Restriction..... 12 in.H₂O (3 kPa)
 Exhaust Back Pressure..... 30 in.H₂O (7.5 kPa)

Rated speed and power
 Gross power guaranteed within ±5% at SAE J1995 and ISO 3046
 J1995 and ISO 3046 conditions:

- 77 °F (25 °C) air inlet temperature
- 29.31 in.Hg (99 kPa) barometric pressure
- 104 °F (40 °C) fuel inlet temperature
- 0.853 fuel specific gravity @ 60 °F (15.5 °C)

Ambient air temperature is defined to be the temperature of ambient air close to operating vessel that is not influenced in any manner by operating characteristics of the vessel (free field temp).

Conversion factors:

- Power: kW = hp x 0.746
- Fuel: 1 gal = 7.1 lb, 1 L = 0.85 kg
- Torque: N·m = lb-ft x 1.356

All values from currently available data. Subject to manufacturing and measurement variations and to change without notice.
 Actual performance is subject to application and operation conditions outside of John Deere control.

Notes:

M1: The M1 rating is for marine propulsion applications that may operate up to 24 hours per day at uninterrupted full power and have load factors greater than 65 percent.

Possible applications: Line hauls tugs and towboats, fish and shrimp trawlers/draggers, and displacement hull fishing boats.

Designed/Calibrated to meet:

- EPA Commercial Marine Tier 3
- IMO MARPOL Annex VI Compliant
- NRMM (97/68/EC), as amended

Ref: Engine Emission Label

Certified by:

Adam Paul

12-Mar-14

Performance Curve: 6135SFM85_A

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

General Data

Model	6135SFM85		
Number of Cylinders	6		
Bore	132 mm	5.20	in
Stroke	165 mm	6.50	in
Displacement	13.5 L	824	in ³
Compression Ratio	16.0:1		
Valves per Cylinder, Intake/Exhaust	2/2		
Combustion System	Direct injection		
Firing Order	1-5-3-6-2-4		
Engine Type	In line, 4 Cycle		
Aspiration	Turbocharged and Aftercooled		
Aftercooling System	Seawater cooled		
Engine Crankcase Vent System	Closed		

Cooling System*

Total Engine to Seawater Heat Rejection**	197 kW	11213	BTU/min
Aftercooler Heat Rejection	70 kW	3984	BTU/min
Coolant Flow	237 L/min	63	gal/min
Thermostat Start to Open	82 °C	180	°F
Thermostat Fully Open	92 °C	197	°F
Min. Coolant Fill Rate	12 L/min	3.2	gal/min
Min. Pressure Cap	110.3 kPa	16	psi
Max. External Coolant Restriction	40 kPa	5.8	psi
Normal Operation Max Top Tank Temperature	100 °C	212	°F
≤ 5% of Total Operating Time Top Tank Temperature	100-105 °C	212-230	°F
Absolute Max Top Tank Temperature	105 °C	221	°F
Recommended Fuel Cooler	14 kW	806	BTU/min
Engine Radiated Heat	40 kW	2272	BTU/min

* The cooling system should be capable of typical at ambient up to the maximum conditions in which the vessel will operate.

Typical operation is defined as the average load sustainable in the vessel over 10 min.

** Reference 32 °C Sea Water Temperature

Physical Data

Length to rear face of block	1337 mm	52.6	in
Length maximum	1725 mm	67.9	in
Width maximum	975 mm	38.4	in
Height, crank centerline to top	780 mm	30.7	in
Height, crank centerline to bottom	363 mm	363	in
Weight, with oil, no coolant (includes engine, flywheel housing, flywheel, and electronics)	1426 kg	3143	lb
Center of Gravity Location, X-axis From Rear Face of Block	476 mm	18.7	in
Center of Gravity Location, Y-axis Right of Crankshaft	-9 mm	-0.4	in
Center of Gravity Location, Z-axis Above Crankshaft	250 mm	9.8	in
Max. Allowable Static Bending Moment At Rear Face of Flywheel Housing with 5-G Load	814 Nm	600	lb-ft
Thrust Bearing Load Limit, Forward Continuous	5.4 kN	1214	lbf
Thrust Bearing Load Limit, Forward Intermittent	8.1 kN	1821	lbf
Thrust Bearing Load Limit, Rearward Continuous	2.5 kN	562	lbf
Thrust Bearing Load Limit, Rearward Intermittent	4 kN	899	lbf

Electrical System

Min. Recommended Battery Capacity, 12V @32 °F (0 °C)	1900 amps
Min. Recommended Battery Capacity, 24V @32 °F (0 °C)	925 amps
Starter Rolling Current, 12V @32 °F (0 °C)	920 amps
Starter Rolling Current, 24V @32 °F (0 °C)	600 amps
Min. Voltage at ECU during Cranking, 12V	6 volts
Min. Voltage at ECU during Cranking, 24V	10 volts
Max. Allowable Start Circuit Resistance, 12V	0.002 ohms
Max. Allowable Start Circuit Resistance, 24V	0.0012 ohms
Recommended Starter Cable, 12V 100"	#000
Recommended Starter Cable, 24V 100"	#1
Recommended Starter Cable, 12V 200"	2#000
Recommended Starter Cable, 24V 200"	#000
Electrical Component Maximum Temperature Limit	125 °C 257 °F

Performance Curve: 6135SFM85_A

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

Fuel System

ECU Description	L15			
Fuel Injection Pump	EUI			
Governor Type	Electronic			
Volumetric Fuel Consumption	79.5	L/hr	21.0	gal/hr
Mass Fuel Consumption	67.6	kg/hr	149	lb/hr
Total Fuel Volumetric Flow	270	L/hr	71.3	gal/hr
Total Fuel Mass Flow	230	kg/hr	506	lb/hr
Max. Fuel Inlet Restriction*	20	kPa	80	in.H2O
Max. Fuel Inlet Pressure	20	kPa	80	in.H2O
Max Fuel Return Pressure	20	kPa	80	in.H2O
Max. Fuel Height Above Transfer Pump	2.4	m	7.9	ft
Max. Leak-off Return Height	2.4	m	7.9	ft
Max. Fuel Inlet Height Above Fuel Tank Supply	2.4	m	7.9	ft
Normal Operation Fuel Temperature	40	°C	104	°F
Max. Fuel Inlet Temperature	100	°C	212	°F
Min. Recommended Fuel Line Inside Diameter	8.85	mm	0.35	in
Min. Recommended Fuel Line Size	6 (-) AN			
Primary Fuel Filter	10 mic			
Secondary Fuel Filter	2 mic			

Lubrication System

Oil Pressure at Rated Speed	280	kPa	41	psi
Oil Pressure at Low Idle (600rpm)**	120	kPa	17	psi
Max. Crankcase Pressure	2	kPa	8	in.H2O
Maximum Installed Angle, Front Down	0 deg			
Maximum Installed Angle, Front Up	12 deg			
Engine Angularity Limits Any Direction, Continuous***	20 deg			
Engine Angularity Limits Any Direction, Intermittent***	30 deg			

Seawater Pump System

Seawater Pump Flow	390	L/min	103	gal/min
Max. Suction Lift	3	m	9.8	ft
Max. Outlet Pressure	140	kPa	20	psi
Max. Inlet Restriction	30	kPa	4	psi

* With clean filters

** With John Deere Plus-50 II™ 15w-40, not applicable with break in oil.

*** With 1932 option

Air Intake System

Engine Air Flow	29	m ³ /min	1024	ft ³ /min
Intake Manifold Pressure	164.3	kPa	23.8	psi
Manifold Air Temperature	49	°C	120	°F
Maximum Manifold Air Temperature	87	°C	189	°F
Max. Allowable Temperature Rise, Ambient	17	°C	30	°F
Air to Engine Inlet				
Max. Air Intake Restriction, Clean Air Cleaner	3	kPa	12	in.H2O
Max. Air Intake Restriction, Dirty Air Cleaner	6.25	kPa	25	in.H2O
Min. Ventilation Area	0.178	m ²	277	in ²

Performance Data

Rated Power	317	kW	425	hp
Rated Speed	1800 RPM			
Peak Torque Speed	1300 RPM			
Low Idle Speed	600 RPM			
Rated Torque	1682	Nm	1240	ft-lb
Peak Torque	2328	Nm	1717	ft-lb
BMEP, Rated	1565	kPa	227	psi
Rated Pferdestärke (metric hp)	431 ps			
Front Drive Capacity, Intermittent	542	Nm	400	lb-ft
Front Drive Capacity, Continuous	542	Nm	400	lb-ft

Exhaust System

Exhaust Flow	61.6	m ³ /min	2175	ft ³ /min
Exhaust Flow @ gas STP	29.2	m ³ /min	1031	ft ³ /min
Exhaust Temperature	355	°C	671	°F
Max. Allowable Exhaust Restriction	7.5	kPa	30	in.H2O
Max. Shear on Turbocharger Exhaust Outlet	11	kg	24.3	lb
Max. Bending Moment on Turbocharger Exhaust Outlet	7	Nm	15.4	lb-ft
Min. Exhaust Pipe Diameter, Dry	127	mm	5.0	in
Min. Exhaust Pipe Diameter, Wet	139.7	mm	5.5	in

Performance Curve: 6135SFM85_A

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

Engine Performance Data Table

Engine Speed	Crank Power		Crank Torque		* Prop Power		* Prop Fuel		* Prop BSFC
	RPM	kW	hp	Nm	lb-ft	kW	hp	L/hr	gal/hr
1800	317	425	1683	1241	317	425	79.5	21.0	213
1700	317	425	1781	1313	267	358	67.7	17.9	215
1600	317	425	1892	1396	223	299	57.5	15.2	220
1500	317	425	2018	1489	184	246	45.7	12.1	212
1400	317	425	2162	1595	149	200	37.5	9.9	214
1300	317	425	2328	1717	119	160	30.1	8.0	214
1200	241	324	1920	1416	94	126	24.2	6.4	219
1100	196	262	1698	1252	72	97	18.8	5.0	221
1000	155	208	1484	1095	54	73	14.0	3.7	219

* Theoretical 3.0 exponent propeller curve , measured at flywheel

Performance Curve: 6135SFM85_A

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.



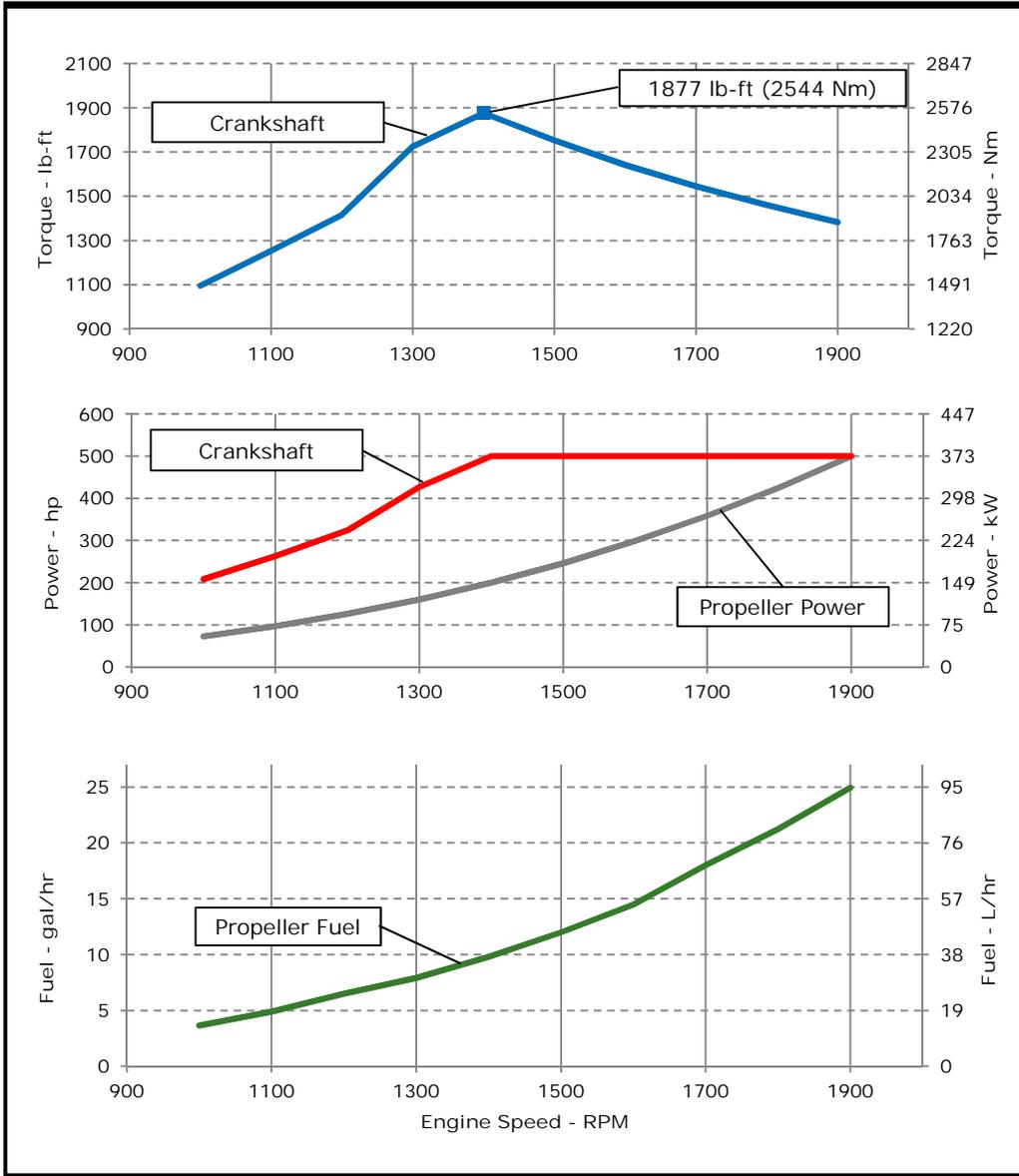
JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: M2 - 500hp (373kW) @ 1900 RPM
Application: Marine

PowerTech™ 13.5L Engine

Model: 6135SFM85



REFERENCE CONDITIONS

Air Intake Restriction..... 12 in.H₂O (3 kPa)
Exhaust Back Pressure..... 30 in.H₂O (7.5 kPa)

Rated speed and power
Gross power guaranteed within ±5% at SAE J1995 and ISO 3046
J1995 and ISO 3046 conditions:

- 77 °F (25 °C) air inlet temperature
- 29.31 in.Hg (99 kPa) barometric pressure
- 104 °F (40 °C) fuel inlet temperature
- 0.853 fuel specific gravity @ 60 °F (15.5 °C)

Ambient air temperature is defined to be the temperature of ambient air close to operating vessel that is not influenced in any manner by operating characteristics of the vessel (free field temp).

Conversion factors:

- Power: kW = hp x 0.746
- Fuel: 1 gal = 7.1 lb, 1 L = 0.85 kg
- Torque: N·m = lb-ft x 1.356

All values from currently available data. Subject to manufacturing and measurement variations and to change without notice.
Actual performance is subject to application and operation conditions outside of John Deere control.

Notes:

M2: The M2 rating is for marine propulsion applications that typically operate between 3,000-5,000 hours per year and have load factors up to 65 percent. This rating is for applications that are in continuous use and use full power for no more than 16 hours of each 24 hours of operation. The remaining time of operation is at or below cruising speed.

Possible applications: Short-range tugs and towboats long-range ferryboats, large passenger vessels and offshore displacement hull fishing boats

Designed/Calibrated to meet:

- EPA Commercial Marine Tier 3
- IMO MARPOL Annex VI Compliant
- NRMM (97/68/EC), as amended

Ref: Engine Emission Label

Certified by:

12-Mar-14

Performance Curve: 6135SFM85_B

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

General Data

Model	6135SFM85		
Number of Cylinders	6		
Bore	132 mm	5.20	in
Stroke	165 mm	6.50	in
Displacement	13.5 L	824	in ³
Compression Ratio	16.0:1		
Valves per Cylinder, Intake/Exhaust	2/2		
Combustion System	Direct injection		
Firing Order	1-5-3-6-2-4		
Engine Type	In line, 4 Cycle		
Aspiration	Turbocharged and Aftercooled		
Aftercooling System	Seawater cooled		
Engine Crankcase Vent System	Closed		

Cooling System*

Total Engine to Seawater Heat Rejection**	224.6 kW	12784	BTU/min
Aftercooler Heat Rejection	94.32 kW	5369	BTU/min
Coolant Flow	250 L/min	66	gal/min
Thermostat Start to Open	82 °C	180	°F
Thermostat Fully Open	92 °C	197	°F
Min. Coolant Fill Rate	12 L/min	3.2	gal/min
Min. Pressure Cap	110.3 kPa	16	psi
Max. External Coolant Restriction	40 kPa	5.8	psi
Normal Operation Max Top Tank Temperature	100 °C	212	°F
≤ 5% of Total Operating Time Top Tank Temperature	100-105 °C	212-230	°F
Absolute Max Top Tank Temperature	105 °C	221	°F
Recommended Fuel Cooler	13 kW	743	BTU/min
Engine Radiated Heat	47 kW	2697	BTU/min

* The cooling system should be capable of typical at ambient up to the maximum conditions in which the vessel will operate.

Typical operation is defined as the average load sustainable in the vessel over 10 min.

** Reference 32 °C Sea Water Temperature

Physical Data

Length to rear face of block	1337 mm	52.6	in
Length maximum	1725 mm	67.9	in
Width maximum	975 mm	38.4	in
Height, crank centerline to top	780 mm	30.7	in
Height, crank centerline to bottom	363 mm	363	in
Weight, with oil, no coolant (includes engine, flywheel housing, flywheel, and electronics)	1426 kg	3143	lb
Center of Gravity Location, X-axis From Rear Face of Block	476 mm	18.7	in
Center of Gravity Location, Y-axis Right of Crankshaft	-9 mm	-0.4	in
Center of Gravity Location, Z-axis Above Crankshaft	250 mm	9.8	in
Max. Allowable Static Bending Moment At Rear Face of Flywheel Housing with 5-G Load	814 Nm	600	lb-ft
Thrust Bearing Load Limit, Forward Continuous	5.4 kN	1214	lbf
Thrust Bearing Load Limit, Forward Intermittent	8.1 kN	1821	lbf
Thrust Bearing Load Limit, Rearward Continuous	2.5 kN	562	lbf
Thrust Bearing Load Limit, Rearward Intermittent	4 kN	899	lbf

Electrical System

Min. Recommended Battery Capacity, 12V @32 °F (0 °C)	1900 amps
Min. Recommended Battery Capacity, 24V @32 °F (0 °C)	925 amps
Starter Rolling Current, 12V @32 °F (0 °C)	920 amps
Starter Rolling Current, 24V @32 °F (0 °C)	600 amps
Min. Voltage at ECU during Cranking, 12V	6 volts
Min. Voltage at ECU during Cranking, 24V	10 volts
Max. Allowable Start Circuit Resistance, 12V	0.002 ohms
Max. Allowable Start Circuit Resistance, 24V	0.0012 ohms
Recommended Starter Cable, 12V 100"	#000
Recommended Starter Cable, 24V 100"	#1
Recommended Starter Cable, 12V 200"	2#000
Recommended Starter Cable, 24V 200"	#000
Electrical Component Maximum Temperature Limit	125 °C 257 °F

Performance Curve: 6135SFM85_B

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

Fuel System

ECU Description	L15		
Fuel Injection Pump	EUI		
Governor Type	Electronic		
Volumetric Fuel Consumption	94.4 L/hr	24.9 gal/hr	
Mass Fuel Consumption	80.2 kg/hr	177 lb/hr	
Total Fuel Volumetric Flow	270 L/hr	71.3 gal/hr	
Total Fuel Mass Flow	230 kg/hr	506 lb/hr	
Max. Fuel Inlet Restriction*	20 kPa	80 in.H2O	
Max. Fuel Inlet Pressure	20 kPa	80 in.H2O	
Max Fuel Return Pressure	20 kPa	80 in.H2O	
Max. Fuel Height Above Transfer Pump	2.4 m	7.9 ft	
Max. Leak-off Return Height	2.4 m	7.9 ft	
Max. Fuel Inlet Height Above Fuel Tank Supply	2.4 m	7.9 ft	
Normal Operation Fuel Temperature	40 °C	104 °F	
Max. Fuel Inlet Temperature	100 °C	212 °F	
Min. Recommended Fuel Line Inside Diameter	8.85 mm	0.35 in	
Min. Recommended Fuel Line Size	6 (-) AN		
Primary Fuel Filter	10 mic		
Secondary Fuel Filter	2 mic		

Lubrication System

Oil Pressure at Rated Speed	280 kPa	41 psi	
Oil Pressure at Low Idle (600rpm)**	120 kPa	17 psi	
Max. Crankcase Pressure	2 kPa	8 in.H2O	
Maximum Installed Angle, Front Down	0 deg		
Maximum Installed Angle, Front Up	12 deg		
Engine Angularity Limits Any Direction, Continuous***	20 deg		
Engine Angularity Limits Any Direction, Intermittent***	30 deg		

Seawater Pump System

Seawater Pump Flow	401 L/min	106 gal/min	
Max. Suction Lift	3 m	9.8 ft	
Max. Outlet Pressure	140 kPa	20 psi	
Max. Inlet Restriction	30 kPa	4 psi	

* With clean filters

** With John Deere Plus-50 II™ 15w-40, not applicable with break in oil.

*** With 1932 option

Air Intake System

Engine Air Flow	33.41 m ³ /min	1180 ft ³ /min	
Intake Manifold Pressure	201.3 kPa	29.2 psi	
Manifold Air Temperature	54.12 °C	129 °F	
Maximum Manifold Air Temperature	87 °C	189 °F	
Max. Allowable Temperature Rise, Ambient	17 °C	30 °F	
Air to Engine Inlet			
Max. Air Intake Restriction, Clean Air Cleaner	3 kPa	12 in.H2O	
Max. Air Intake Restriction, Dirty Air Cleaner	6.25 kPa	25 in.H2O	
Min. Ventilation Area	0.206 m ²	319 in ²	

Performance Data

Rated Power	373 kW	500 hp	
Rated Speed	1900 RPM		
Peak Torque Speed	1400 RPM		
Low Idle Speed	600 RPM		
Rated Torque	1875 Nm	1383 ft-lb	
Peak Torque	2544 Nm	1877 ft-lb	
BMEP, Rated	1745 kPa	253 psi	
Rated Pferdestärke (metric hp)	431 ps		
Front Drive Capacity, Intermittent	542 Nm	400 lb-ft	
Front Drive Capacity, Continuous	542 Nm	400 lb-ft	

Exhaust System

Exhaust Flow	70.19 m ³ /min	2479 ft ³ /min	
Exhaust Flow @ gas STP	32.6 m ³ /min	1151 ft ³ /min	
Exhaust Temperature	366 °C	691 °F	
Max. Allowable Exhaust Restriction	7.5 kPa	30 in.H2O	
Max. Shear on Turbocharger Exhaust Outlet	11 kg	24.3 lb	
Max. Bending Moment on Turbocharger Exhaust Outlet	7 Nm	15.4 lb-ft	
Min. Exhaust Pipe Diameter, Dry	127 mm	5.0 in	
Min. Exhaust Pipe Diameter, Wet	139.7 mm	5.5 in	

Performance Curve: 6135SFM85_B

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

Engine Performance Data Table

Engine Speed	Crank Power		Crank Torque		* Prop Power		* Prop Fuel		* Prop BSFC
RPM	kW	hp	Nm	lb-ft	kW	hp	L/hr	gal/hr	g/kW-hr
1900	373	500	1875	1383	373	500	94	25	215
1800	373	500	1979	1460	317	425	80	21	215
1700	373	500	2096	1546	267	358	68	18	217
1600	373	500	2225	1641	223	299	55	14	209
1500	373	500	2375	1752	184	246	45	12	210
1400	373	500	2544	1877	149	200	37	10	211
1300	318	427	2339	1725	119	160	30	8	213
1200	241	324	1920	1416	94	126	25	6	222
1100	196	262	1699	1253	72	97	19	5	217
1000	155	208	1484	1095	54	73	14	4	216

* Theoretical 3.0 exponent propeller curve , measured at flywheel

Performance Curve: 6135SFM85_B

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.



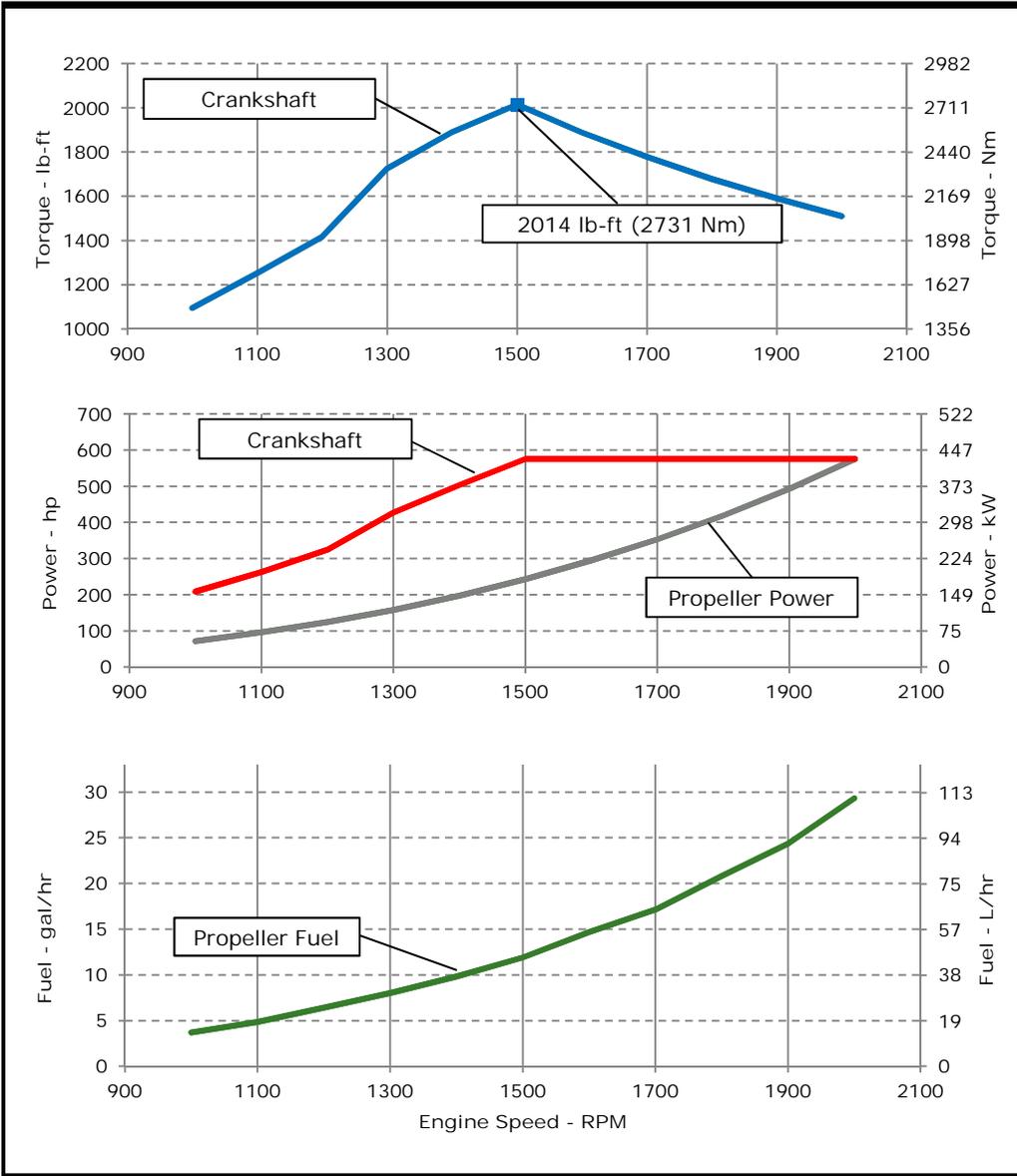
JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: M3 - 575hp (429kW) @ 2000 RPM
 Application: Marine

PowerTech™ 13.5L Engine

Model: 6135SFM85



REFERENCE CONDITIONS

Air Intake Restriction..... 12 in.H₂O (3 kPa)
 Exhaust Back Pressure..... 30 in.H₂O (7.5 kPa)

Rated speed and power
 Gross power guaranteed within ±5% at SAE J1995 and ISO 3046
 J1995 and ISO 3046 conditions:

- 77 °F (25 °C) air inlet temperature
- 29.31 in.Hg (99 kPa) barometric pressure
- 104 °F (40 °C) fuel inlet temperature
- 0.853 fuel specific gravity @ 60 °F (15.5 °C)

Ambient air temperature is defined to be the temperature of ambient air close to operating vessel that is not influenced in any manner by operating characteristics of the vessel (free field temp).

Conversion factors:

- Power: kW = hp x 0.746
- Fuel: 1 gal = 7.1 lb, 1 L = 0.85 kg
- Torque: N-m = lb-ft x 1.356

All values from currently available data. Subject to manufacturing and measurement variations and to change without notice.
 Actual performance is subject to application and operation conditions outside of John Deere control.

Notes:

M3: The M3 rating is for marine propulsion applications that typically operate between 2,000-4,000 hours per year and have load factors up to 50 percent. This rating is for applications that use full power for no more than 4 hours out of each 12 hours of operation. The remaining time of operation is at or below cruising speed.

Possible applications: Coastal fishing boats offshore crew boats, research boats. Short range ferryboats and dinner cruise boats.

Designed/Calibrated to meet:

- EPA Commercial Marine Tier 3
- IMO MARPOL Annex VI Compliant
- NRMM (97/68/EC), as amended

Ref: Engine Emission Label

Certified by:

Adam Paul

12-Mar-14

Performance Curve: 6135SFM85_C

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

General Data

Model	6135SFM85		
Number of Cylinders	6		
Bore	132 mm	5.20	in
Stroke	165 mm	6.50	in
Displacement	13.5 L	824	in ³
Compression Ratio	16.0:1		
Valves per Cylinder, Intake/Exhaust	2/2		
Combustion System	Direct injection		
Firing Order	1-5-3-6-2-4		
Engine Type	In line, 4 Cycle		
Aspiration	Turbocharged and Aftercooled		
Aftercooling System	Seawater cooled		
Engine Crankcase Vent System	Closed		

Cooling System*

Total Engine to Seawater Heat Rejection**	271.1 kW	15431 BTU/min
Aftercooler Heat Rejection	125.95 kW	7169 BTU/min
Coolant Flow	264 L/min	70 gal/min
Thermostat Start to Open	82 °C	180 °F
Thermostat Fully Open	92 °C	197 °F
Min. Coolant Fill Rate	12 L/min	3.2 gal/min
Min. Pressure Cap	110.3 kPa	16 psi
Max. External Coolant Restriction	40 kPa	5.8 psi
Normal Operation Max Top Tank Temperature	100 °C	212 °F
≤ 5% of Total Operating Time Top Tank Temperature	100-105 °C	212-230 °F
Absolute Max Top Tank Temperature	105 °C	221 °F
Recommended Fuel Cooler	12 kW	673 BTU/min
Engine Radiated Heat	56 kW	3170 BTU/min

* The cooling system should be capable of typical at ambient up to the maximum conditions in which the vessel will operate.

Typical operation is defined as the average load sustainable in the vessel over 10 min.

** Reference 32 °C Sea Water Temperature

Physical Data

Length to rear face of block	1337 mm	52.6 in
Length maximum	1725 mm	67.9 in
Width maximum	975 mm	38.4 in
Height, crank centerline to top	780 mm	30.7 in
Height, crank centerline to bottom	363 mm	363 in
Weight, with oil, no coolant (includes engine, flywheel housing, flywheel, and electronics)	1426 kg	3143 lb
Center of Gravity Location, X-axis From Rear Face of Block	476 mm	18.7 in
Center of Gravity Location, Y-axis Right of Crankshaft	-9 mm	-0.4 in
Center of Gravity Location, Z-axis Above Crankshaft	250 mm	9.8 in
Max. Allowable Static Bending Moment At Rear Face of Flywheel Housing with 5-G Load	814 Nm	600 lb-ft
Thrust Bearing Load Limit, Forward Continuous	5.4 kN	1214 lbf
Thrust Bearing Load Limit, Forward Intermittent	8.1 kN	1821 lbf
Thrust Bearing Load Limit, Rearward Continuous	2.5 kN	562 lbf
Thrust Bearing Load Limit, Rearward Intermittent	4 kN	899 lbf

Electrical System

Min. Recommended Battery Capacity, 12V @32 °F (0 °C)	1900 amps
Min. Recommended Battery Capacity, 24V @32 °F (0 °C)	925 amps
Starter Rolling Current, 12V @32 °F (0 °C)	920 amps
Starter Rolling Current, 24V @32 °F (0 °C)	600 amps
Min. Voltage at ECU during Cranking, 12V	6 volts
Min. Voltage at ECU during Cranking, 24V	10 volts
Max. Allowable Start Circuit Resistance, 12V	0.002 ohms
Max. Allowable Start Circuit Resistance, 24V	0.0012 ohms
Recommended Starter Cable, 12V 100"	#000
Recommended Starter Cable, 24V 100"	#1
Recommended Starter Cable, 12V 200"	2#000
Recommended Starter Cable, 24V 200"	#000
Electrical Component Maximum Temperature Limit	125 °C 257 °F

Performance Curve: 6135SFM85_C

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

Fuel System

ECU Description	L15			
Fuel Injection Pump	EUI			
Governor Type	Electronic			
Volumetric Fuel Consumption	111	L/hr	29.3	gal/hr
Mass Fuel Consumption	94.3	kg/hr	208	lb/hr
Total Fuel Volumetric Flow	270	L/hr	71.3	gal/hr
Total Fuel Mass Flow	230	kg/hr	506	lb/hr
Max. Fuel Inlet Restriction*	20	kPa	80	in.H2O
Max. Fuel Inlet Pressure	20	kPa	80	in.H2O
Max Fuel Return Pressure	20	kPa	80	in.H2O
Max. Fuel Height Above Transfer Pump	2.4	m	7.9	ft
Max. Leak-off Return Height	2.4	m	7.9	ft
Max. Fuel Inlet Height Above Fuel Tank Supply	2.4	m	7.9	ft
Normal Operation Fuel Temperature	40	°C	104	°F
Max. Fuel Inlet Temperature	100	°C	212	°F
Min. Recommended Fuel Line Inside Diameter	8.85	mm	0.35	in
Min. Recommended Fuel Line Size	6 (-) AN			
Primary Fuel Filter	10 mic			
Secondary Fuel Filter	2 mic			

Lubrication System

Oil Pressure at Rated Speed	280	kPa	41	psi
Oil Pressure at Low Idle (600rpm)**	120	kPa	17	psi
Max. Crankcase Pressure	2	kPa	8	in.H2O
Maximum Installed Angle, Front Down	0 deg			
Maximum Installed Angle, Front Up	12 deg			
Engine Angularity Limits Any Direction, Continuous***	20 deg			
Engine Angularity Limits Any Direction, Intermittent***	30 deg			

Seawater Pump System

Seawater Pump Flow	398	L/min	105	gal/min
Max. Suction Lift	3	m	9.8	ft
Max. Outlet Pressure	140	kPa	20	psi
Max. Inlet Restriction	30	kPa	4	psi

* With clean filters

** With John Deere Plus-50 II™ 15w-40, not applicable with break in oil.

*** With 1932 option

Air Intake System

Engine Air Flow	38	m ³ /min	1342	ft ³ /min
Intake Manifold Pressure	238.5	kPa	34.6	psi
Manifold Air Temperature	58	°C	136	°F
Maximum Manifold Air Temperature	87	°C	189	°F
Max. Allowable Temperature Rise, Ambient	17	°C	30	°F
Air to Engine Inlet				
Max. Air Intake Restriction, Clean Air Cleaner	3	kPa	12	in.H2O
Max. Air Intake Restriction, Dirty Air Cleaner	6.25	kPa	25	in.H2O
Min. Ventilation Area	0.234	m ²	362	in ²

Performance Data

Rated Power	429	kW	575	hp
Rated Speed	2000 RPM			
Peak Torque Speed	1500 RPM			
Low Idle Speed	600 RPM			
Rated Torque	2048	Nm	1511	ft-lb
Peak Torque	2731	Nm	2014	ft-lb
BMEP, Rated	1907	kPa	276	psi
Rated Pferdestärke (metric hp)	583 ps			
Front Drive Capacity, Intermittent	542	Nm	400	lb-ft
Front Drive Capacity, Continuous	542	Nm	400	lb-ft

Exhaust System

Exhaust Flow	82.66	m ³ /min	2919	ft ³ /min
Exhaust Flow @ gas STP	37	m ³ /min	1307	ft ³ /min
Exhaust Temperature	388	°C	730	°F
Max. Allowable Exhaust Restriction	7.5	kPa	30	in.H2O
Max. Shear on Turbocharger Exhaust Outlet	11	kg	24.3	lb
Max. Bending Moment on Turbocharger Exhaust Outlet	7	Nm	15.4	lb-ft
Min. Exhaust Pipe Diameter, Dry	139.7	mm	5.5	in
Min. Exhaust Pipe Diameter, Wet	152.4	mm	6.0	in

Performance Curve: 6135SFM85_C

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

Engine Performance Data Table

Engine Speed	Crank Power		Crank Torque		* Prop Power		* Prop Fuel		* Prop BSFC
	RPM	kW	hp	Nm	lb-ft	kW	hp	L/hr	gal/hr
2000	429	575	2048	1511	429	575	111	29	220
1900	429	575	2156	1590	368	493	92	24	213
1800	429	575	2276	1679	313	419	79	21	214
1700	429	575	2410	1778	263	353	65	17	209
1600	429	575	2560	1888	220	295	55	15	214
1500	429	575	2731	2014	181	243	45	12	212
1400	376	504	2561	1889	147	197	37	10	215
1300	318	427	2339	1725	118	158	30	8	219
1200	241	324	1920	1416	93	124	24	6	222
1100	196	262	1698	1252	71	96	18	5	218
1000	155	208	1484	1095	54	72	14	4	222

* Theoretical 3.0 exponent propeller curve , measured at flywheel

Performance Curve: 6135SFM85_C

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.



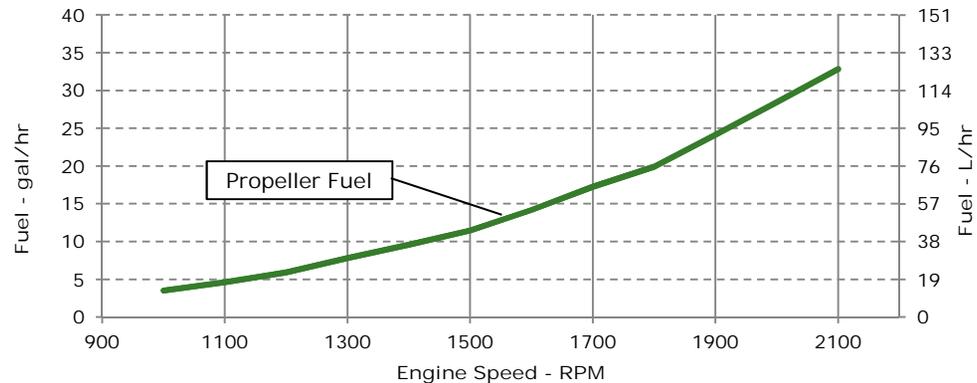
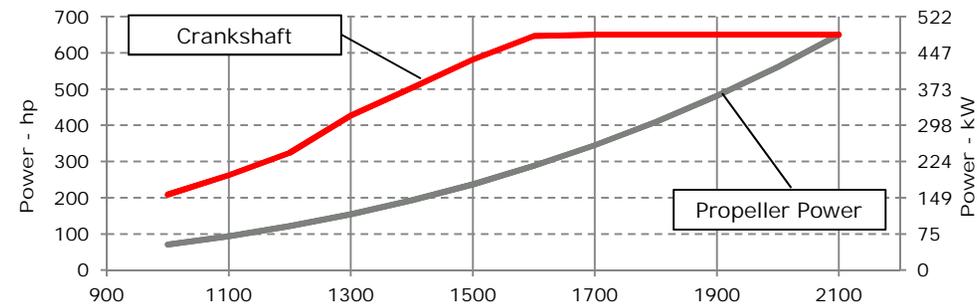
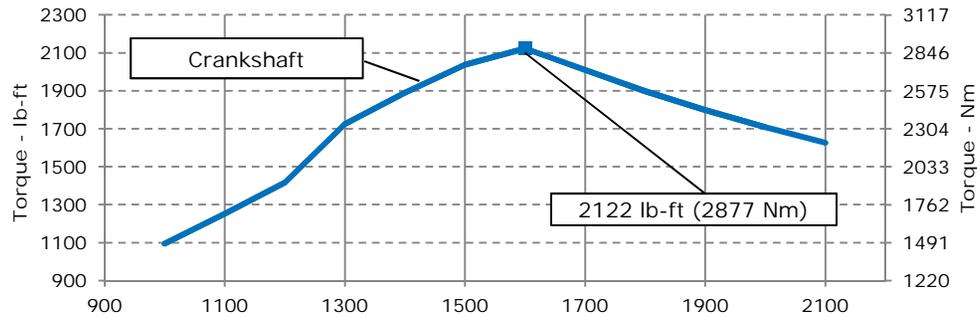
JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: M4 - 650hp (485kW) @ 2100 RPM
Application: Marine

PowerTech™ 13.5L Engine

Model: 6135SFM85



REFERENCE CONDITIONS

Air Intake Restriction..... 12 in.H₂O (3 kPa)
Exhaust Back Pressure..... 30 in.H₂O (7.5 kPa)

Rated speed and power
Gross power guaranteed within ±5% at SAE J1995 and ISO 3046
J1995 and ISO 3046 conditions:

- 77 °F (25 °C) air inlet temperature
- 29.31 in.Hg (99 kPa) barometric pressure
- 104 °F (40 °C) fuel inlet temperature
- 0.853 fuel specific gravity @ 60 °F (15.5 °C)

Ambient air temperature is defined to be the temperature of ambient air close to operating vessel that is not influenced in any manner by operating characteristics of the vessel (free field temp).

Conversion factors:

- Power: kW = hp x 0.746
- Fuel: 1 gal = 7.1 lb, 1 L = 0.85 kg
- Torque: N·m = lb-ft x 1.356

All values from currently available data. Subject to manufacturing and measurement variations and to change without notice.
Actual performance is subject to application and operation conditions outside of John Deere control.

Notes:

M4: The M4 rating is for marine propulsion applications that typically operate between 1,000-3,000 hours per year and have load factors below 40 percent. This rating is for applications that use full power no more than 1 hour out of each 12 hours of operation. The remaining time of operation is at or below cruising speed.

Possible applications: Inshore crew boats, charter fishing boats, pilot boats, dive boats, and planning hull commercial fishing boats.

Designed/Calibrated to meet:

- EPA Commercial Marine Tier 3
- IMO MARPOL Annex VI Compliant
- NRMM (97/68/EC), as amended

Ref: Engine Emission Label

Certified by:

12-Mar-14

Performance Curve: 6135SFM85_D

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

General Data

Model	6135SFM85		
Number of Cylinders	6		
Bore	132 mm	5.20 in	
Stroke	165 mm	6.50 in	
Displacement	13.5 L	824 in ³	
Compression Ratio	16.0:1		
Valves per Cylinder, Intake/Exhaust	2/2		
Combustion System	Direct injection		
Firing Order	1-5-3-6-2-4		
Engine Type	In line, 4 Cycle		
Aspiration	Turbocharged and Aftercooled		
Aftercooling System	Seawater cooled		
Engine Crankcase Vent System	Closed		

Cooling System*

Total Engine to Seawater Heat Rejection**	307 kW	17474 BTU/min
Aftercooler Heat Rejection	143 kW	8140 BTU/min
Coolant Flow	277 L/min	73 gal/min
Thermostat Start to Open	82 °C	180 °F
Thermostat Fully Open	92 °C	197 °F
Min. Coolant Fill Rate	12 L/min	3.2 gal/min
Min. Pressure Cap	110.3 kPa	16 psi
Max. External Coolant Restriction	40 kPa	5.8 psi
Normal Operation Max Top Tank Temperature	100 °C	212 °F
≤ 5% of Total Operating Time Top Tank Temperature	100-105 °C	212-230 °F
Absolute Max Top Tank Temperature	105 °C	221 °F
Recommended Fuel Cooler	11 kW	617 BTU/min
Engine Radiated Heat	62 kW	3551 BTU/min

* The cooling system should be capable of typical at ambient up to the maximum conditions in which the vessel will operate.

Typical operation is defined as the average load sustainable in the vessel over 10 min.

** Reference 32 °C Sea Water Temperature

Physical Data

Length to rear face of block	1337 mm	52.6 in
Length maximum	1725 mm	67.9 in
Width maximum	975 mm	38.4 in
Height, crank centerline to top	780 mm	30.7 in
Height, crank centerline to bottom	363 mm	363 in
Weight, with oil, no coolant (includes engine, flywheel housing, flywheel, and electronics)	1426 kg	3143 lb
Center of Gravity Location, X-axis From Rear Face of Block	476 mm	18.7 in
Center of Gravity Location, Y-axis Right of Crankshaft	-9 mm	-0.4 in
Center of Gravity Location, Z-axis Above Crankshaft	250 mm	9.8 in
Max. Allowable Static Bending Moment At Rear Face of Flywheel Housing with 5-G Load	814 Nm	600 lb-ft
Thrust Bearing Load Limit, Forward Continuous	5.4 kN	1214 lbf
Thrust Bearing Load Limit, Forward Intermittent	8.1 kN	1821 lbf
Thrust Bearing Load Limit, Rearward Continuous	2.5 kN	562 lbf
Thrust Bearing Load Limit, Rearward Intermittent	4 kN	899 lbf

Electrical System

Min. Recommended Battery Capacity, 12V @32 °F (0 °C)	1900 amps
Min. Recommended Battery Capacity, 24V @32 °F (0 °C)	925 amps
Starter Rolling Current, 12V @32 °F (0 °C)	920 amps
Starter Rolling Current, 24V @32 °F (0 °C)	600 amps
Min. Voltage at ECU during Cranking, 12V	6 volts
Min. Voltage at ECU during Cranking, 24V	10 volts
Max. Allowable Start Circuit Resistance, 12V	0.002 ohms
Max. Allowable Start Circuit Resistance, 24V	0.0012 ohms
Recommended Starter Cable, 12V 100"	#000
Recommended Starter Cable, 24V 100"	#1
Recommended Starter Cable, 12V 200"	2#000
Recommended Starter Cable, 24V 200"	#000
Electrical Component Maximum Temperature Limit	125 °C 257 °F

Performance Curve: 6135SFM85_D

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

Fuel System

ECU Description	L15			
Fuel Injection Pump	EUI			
Governor Type	Electronic			
Volumetric Fuel Consumption	124	L/hr	32.8	gal/hr
Mass Fuel Consumption	106	kg/hr	233	lb/hr
Total Fuel Volumetric Flow	270	L/hr	71.3	gal/hr
Total Fuel Mass Flow	230	kg/hr	506	lb/hr
Max. Fuel Inlet Restriction*	20	kPa	80	in.H2O
Max. Fuel Inlet Pressure	20	kPa	80	in.H2O
Max Fuel Return Pressure	20	kPa	80	in.H2O
Max. Fuel Height Above Transfer Pump	2.4	m	7.9	ft
Max. Leak-off Return Height	2.4	m	7.9	ft
Max. Fuel Inlet Height Above Fuel Tank Supply	2.4	m	7.9	ft
Normal Operation Fuel Temperature	40	°C	104	°F
Max. Fuel Inlet Temperature	100	°C	212	°F
Min. Recommended Fuel Line Inside Diameter	8.85	mm	0.35	in
Min. Recommended Fuel Line Size	6 (-) AN			
Primary Fuel Filter	10 mic			
Secondary Fuel Filter	2 mic			

Lubrication System

Oil Pressure at Rated Speed	280	kPa	41	psi
Oil Pressure at Low Idle (600rpm)**	120	kPa	17	psi
Max. Crankcase Pressure	2	kPa	8	in.H2O
Maximum Installed Angle, Front Down	0 deg			
Maximum Installed Angle, Front Up	12 deg			
Engine Angularity Limits Any Direction, Continuous***	20 deg			
Engine Angularity Limits Any Direction, Intermittent***	30 deg			

Seawater Pump System

Seawater Pump Flow	395	L/min	104	gal/min
Max. Suction Lift	3	m	9.8	ft
Max. Outlet Pressure	140	kPa	20	psi
Max. Inlet Restriction	30	kPa	4	psi

* With clean filters

** With John Deere Plus-50 II™ 15w-40, not applicable with break in oil.

*** With 1932 option

Air Intake System

Engine Air Flow	40.9	m ³ /min	1444	ft ³ /min
Intake Manifold Pressure	350	kPa	50.8	psi
Manifold Air Temperature	61	°C	142	°F
Maximum Manifold Air Temperature	87	°C	189	°F
Max. Allowable Temperature Rise, Ambient	17	°C	30	°F
Air to Engine Inlet				
Max. Air Intake Restriction, Clean Air Cleaner	3	kPa	12	in.H2O
Max. Air Intake Restriction, Dirty Air Cleaner	6.25	kPa	25	in.H2O
Min. Ventilation Area	0.252	m ²	390	in ²

Performance Data

Rated Power	485	kW	650	hp
Rated Speed	2100 RPM			
Peak Torque Speed	1600 RPM			
Low Idle Speed	600 RPM			
Rated Torque	2205	Nm	1627	ft-lb
Peak Torque	2877	Nm	2122	ft-lb
BMEP, Rated	2053	kPa	298	psi
Rated Pferdestärke (metric hp)	659 ps			
Front Drive Capacity, Intermittent	542	Nm	400	lb-ft
Front Drive Capacity, Continuous	542	Nm	400	lb-ft

Exhaust System

Exhaust Flow	89	m ³ /min	3143	ft ³ /min
Exhaust Flow @ gas STP	39.1	m ³ /min	1381	ft ³ /min
Exhaust Temperature	411	°C	772	°F
Max. Allowable Exhaust Restriction	7.5	kPa	30	in.H2O
Max. Shear on Turbocharger Exhaust Outlet	11	kg	24.3	lb
Max. Bending Moment on Turbocharger Exhaust Outlet	7	Nm	15.4	lb-ft
Min. Exhaust Pipe Diameter, Dry	152.4	mm	6.0	in
Min. Exhaust Pipe Diameter, Wet	203.2	mm	8.0	in

Performance Curve: 6135SFM85_D

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

Engine Performance Data Table

Engine Speed	Crank Power		Crank Torque		* Prop Power		* Prop Fuel		* Prop BSFC
	RPM	kW	hp	Nm	lb-ft	kW	hp	L/hr	gal/hr
2100	485	650	2205	1626	485	650	124	33	218
2000	485	650	2316	1708	419	562	108	28	219
1900	485	651	2438	1798	359	482	91	24	216
1800	485	650	2573	1898	305	409	75	20	210
1700	485	650	2724	2009	257	345	65	17	216
1600	482	646	2877	2122	214	288	54	14	213
1500	434	582	2763	2038	177	237	43	11	208
1400	375	504	2561	1889	144	193	36	10	214
1300	318	427	2339	1725	115	154	30	8	218
1200	241	324	1920	1416	90	121	22	6	211
1100	196	262	1699	1253	70	93	17	5	213
1000	155	208	1485	1095	52	70	13	4	217

* Theoretical 3.0 exponent propeller curve , measured at flywheel

Performance Curve: 6135SFM85_D

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.



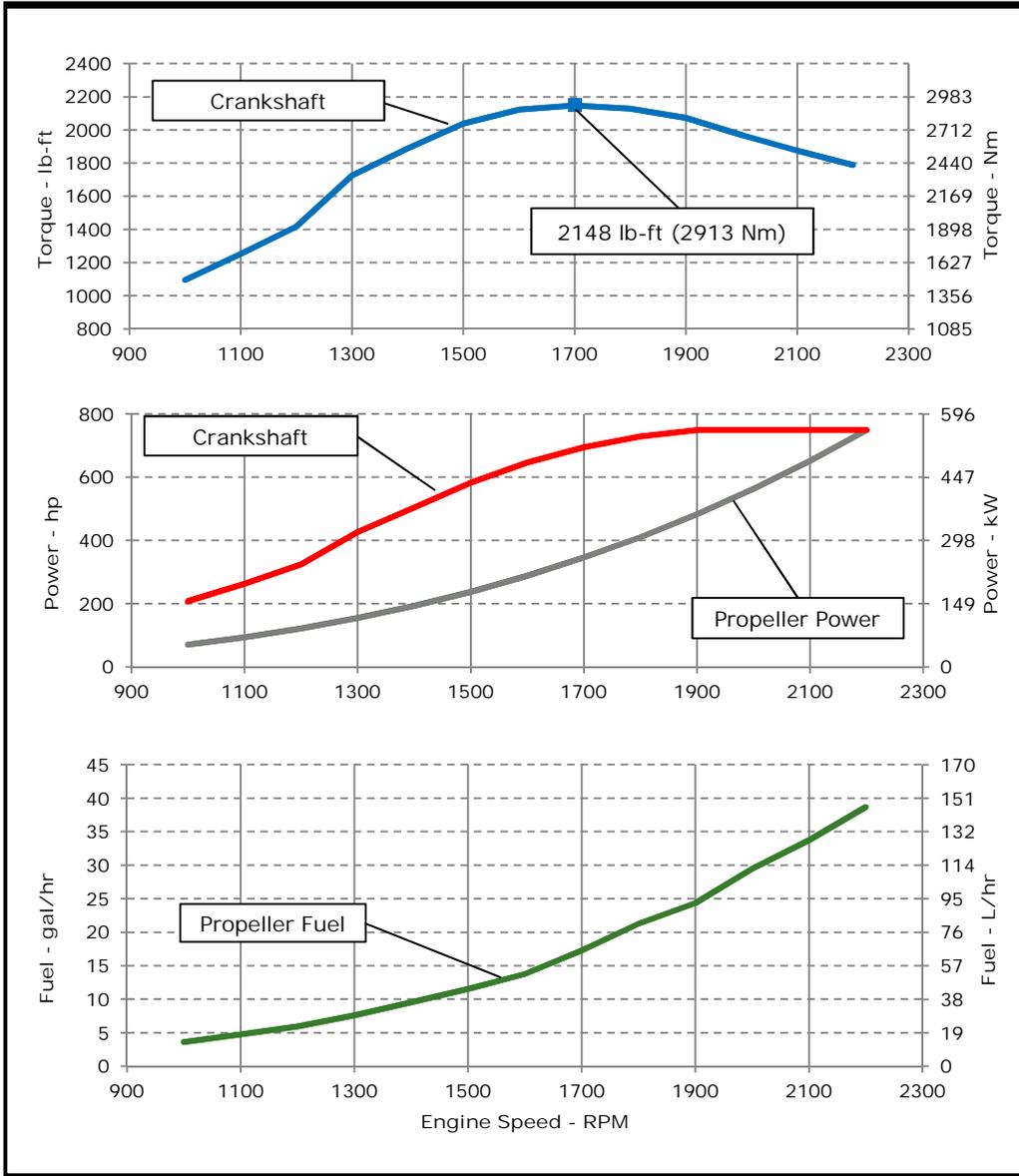
JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: M5 - 750hp (559kW) @ 2200 RPM
 Application: Marine

PowerTech™ 13.5L Engine

Model: 6135SFM85



REFERENCE CONDITIONS

Air Intake Restriction..... 12 in.H₂O (3 kPa)
 Exhaust Back Pressure..... 30 in.H₂O (7.5 kPa)

Rated speed and power
 Gross power guaranteed within ±5% at SAE J1995 and ISO 3046
 J1995 and ISO 3046 conditions:

- 77 °F (25 °C) air inlet temperature
- 29.31 in.Hg (99 kPa) barometric pressure
- 104 °F (40 °C) fuel inlet temperature
- 0.853 fuel specific gravity @ 60 °F (15.5 °C)

Ambient air temperature is defined to be the temperature of ambient air close to operating vessel that is not influenced in any manner by operating characteristics of the vessel (free field temp).

Conversion factors:

- Power: kW = hp x 0.746
- Fuel: 1 gal = 7.1 lb, 1 L = 0.85 kg
- Torque: N-m = lb-ft x 1.356

All values from currently available data. Subject to manufacturing and measurement variations and to change without notice.
 Actual performance is subject to application and operation conditions outside of John Deere control.

Notes:

M5: The M5 rating is for marine recreational and light duty commercial propulsion applications that operate between 300-1,000 hours per year and have load factors below 35 percent. This rating is for applications that use full power for no more than 30 minutes out of each 8 hours. The remaining time of operation is at or below cruising speed.

Possible applications: recreational boats, tactical military vessels and rescue boats.

Designed/Calibrated to meet:

- EPA Commercial Marine Tier 3
- IMO MARPOL Annex VI Compliant
- NRMM (97/68/EC), as amended

Ref: Engine Emission Label

Certified by:

12-Mar-14

Performance Curve: 6135SFM85_E

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

General Data

Model	6135SFM85		
Number of Cylinders	6		
Bore	132 mm	5.20	in
Stroke	165 mm	6.50	in
Displacement	13.5 L	824	in ³
Compression Ratio	16.0:1		
Valves per Cylinder, Intake/Exhaust	2/2		
Combustion System	Direct injection		
Firing Order	1-5-3-6-2-4		
Engine Type	In line, 4 Cycle		
Aspiration	Turbocharged and Aftercooled		
Aftercooling System	Seawater cooled		
Engine Crankcase Vent System	Closed		

Cooling System*

Total Engine to Seawater Heat Rejection**	368 kW	20946 BTU/min
Aftercooler Heat Rejection	164 kW	9335 BTU/min
Coolant Flow	299 L/min	79 gal/min
Thermostat Start to Open	82 °C	180 °F
Thermostat Fully Open	92 °C	197 °F
Min. Coolant Fill Rate	12 L/min	3.2 gal/min
Min. Pressure Cap	110.3 kPa	16 psi
Max. External Coolant Restriction	40 kPa	5.8 psi
Normal Operation Max Top Tank Temperature	100 °C	212 °F
≤ 5% of Total Operating Time Top Tank Temperature	100-105 °C	212-230 °F
Absolute Max Top Tank Temperature	105 °C	221 °F
Recommended Fuel Cooler	9 kW	523 BTU/min
Engine Radiated Heat	73 kW	4183 BTU/min

* The cooling system should be capable of typical at ambient up to the maximum conditions in which the vessel will operate.

Typical operation is defined as the average load sustainable in the vessel over 10 min.

** Reference 32 °C Sea Water Temperature

Physical Data

Length to rear face of block	1337 mm	52.6 in
Length maximum	1725 mm	67.9 in
Width maximum	975 mm	38.4 in
Height, crank centerline to top	780 mm	30.7 in
Height, crank centerline to bottom	363 mm	363 in
Weight, with oil, no coolant (includes engine, flywheel housing, flywheel, and electronics)	1426 kg	3143 lb
Center of Gravity Location, X-axis From Rear Face of Block	476 mm	18.7 in
Center of Gravity Location, Y-axis Right of Crankshaft	-9 mm	-0.4 in
Center of Gravity Location, Z-axis Above Crankshaft	250 mm	9.8 in
Max. Allowable Static Bending Moment At Rear Face of Flywheel Housing with 5-G Load	814 Nm	600 lb-ft
Thrust Bearing Load Limit, Forward Continuous	5.4 kN	1214 lbf
Thrust Bearing Load Limit, Forward Intermittent	8.1 kN	1821 lbf
Thrust Bearing Load Limit, Rearward Continuous	2.5 kN	562 lbf
Thrust Bearing Load Limit, Rearward Intermittent	4 kN	899 lbf

Electrical System

Min. Recommended Battery Capacity, 12V @32 °F (0 °C)	1900 amps
Min. Recommended Battery Capacity, 24V @32 °F (0 °C)	925 amps
Starter Rolling Current, 12V @32 °F (0 °C)	920 amps
Starter Rolling Current, 24V @32 °F (0 °C)	600 amps
Min. Voltage at ECU during Cranking, 12V	6 volts
Min. Voltage at ECU during Cranking, 24V	10 volts
Max. Allowable Start Circuit Resistance, 12V	0.002 ohms
Max. Allowable Start Circuit Resistance, 24V	0.0012 ohms
Recommended Starter Cable, 12V 100"	#000
Recommended Starter Cable, 24V 100"	#1
Recommended Starter Cable, 12V 200"	2#000
Recommended Starter Cable, 24V 200"	#000
Electrical Component Maximum Temperature Limit	125 °C 257 °F

Performance Curve: 6135SFM85_E

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

Fuel System

ECU Description	L15		
Fuel Injection Pump	EUI		
Governor Type	Electronic		
Volumetric Fuel Consumption	146 L/hr	38.7 gal/hr	
Mass Fuel Consumption	124 kg/hr	274 lb/hr	
Total Fuel Volumetric Flow	270 L/hr	71.3 gal/hr	
Total Fuel Mass Flow	230 kg/hr	506 lb/hr	
Max. Fuel Inlet Restriction*	20 kPa	80 in.H2O	
Max. Fuel Inlet Pressure	20 kPa	80 in.H2O	
Max Fuel Return Pressure	20 kPa	80 in.H2O	
Max. Fuel Height Above Transfer Pump	2.4 m	7.9 ft	
Max. Leak-off Return Height	2.4 m	7.9 ft	
Max. Fuel Inlet Height Above Fuel Tank Supply	2.4 m	7.9 ft	
Normal Operation Fuel Temperature	40 °C	104 °F	
Max. Fuel Inlet Temperature	100 °C	212 °F	
Min. Recommended Fuel Line Inside Diameter	8.85 mm	0.35 in	
Min. Recommended Fuel Line Size	6 (-) AN		
Primary Fuel Filter	10 mic		
Secondary Fuel Filter	2 mic		

Lubrication System

Oil Pressure at Rated Speed	280 kPa	41 psi	
Oil Pressure at Low Idle (600rpm)**	120 kPa	17 psi	
Max. Crankcase Pressure	2 kPa	8 in.H2O	
Maximum Installed Angle, Front Down	0 deg		
Maximum Installed Angle, Front Up	12 deg		
Engine Angularity Limits Any Direction, Continuous***	20 deg		
Engine Angularity Limits Any Direction, Intermittent***	30 deg		

Seawater Pump System

Seawater Pump Flow	387 L/min	102 gal/min	
Max. Suction Lift	3 m	9.8 ft	
Max. Outlet Pressure	140 kPa	20 psi	
Max. Inlet Restriction	30 kPa	4 psi	

* With clean filters

** With John Deere Plus-50 II™ 15w-40, not applicable with break in oil.

*** With 1932 option

Air Intake System

Engine Air Flow	43 m ³ /min	1519 ft ³ /min	
Intake Manifold Pressure	350 kPa	38.7 psi	
Manifold Air Temperature	66 °C	151 °F	
Maximum Manifold Air Temperature	87 °C	189 °F	
Max. Allowable Temperature Rise, Ambient	17 °C	30 °F	
Air to Engine Inlet			
Max. Air Intake Restriction, Clean Air Cleaner	3 kPa	12 in.H2O	
Max. Air Intake Restriction, Dirty Air Cleaner	6.25 kPa	25 in.H2O	
Min. Ventilation Area	0.265 m ²	410 in ²	

Performance Data

Rated Power	559 kW	750 hp	
Rated Speed	2200 RPM		
Peak Torque Speed	1700 RPM		
Low Idle Speed	600 RPM		
Rated Torque	2426 Nm	1790 ft-lb	
Peak Torque	2913 Nm	2148 ft-lb	
BMEP, Rated	2259 kPa	327 psi	
Rated Pferdestärke (metric hp)	760 ps		
Front Drive Capacity, Intermittent	542 Nm	400 lb-ft	
Front Drive Capacity, Continuous	542 Nm	400 lb-ft	

Exhaust System

Exhaust Flow	97.4 m ³ /min	3440 ft ³ /min	
Exhaust Flow @ gas STP	41 m ³ /min	1448 ft ³ /min	
Exhaust Temperature	448 °C	838.4 °F	
Max. Allowable Exhaust Restriction	7.5 kPa	30 in.H2O	
Max. Shear on Turbocharger Exhaust Outlet	11 kg	24.3 lb	
Max. Bending Moment on Turbocharger Exhaust Outlet	7 Nm	15.4 lb-ft	
Min. Exhaust Pipe Diameter, Dry	152.4 mm	6.0 in	
Min. Exhaust Pipe Diameter, Wet	203.2 mm	8.0 in	

Performance Curve: 6135SFM85_E

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.

Engine Installation Criteria

Engine Performance Data Table

Engine Speed	Crank Power		Crank Torque		* Prop Power		* Prop Fuel		* Prop BSFC
	RPM	kW	hp	Nm	lb-ft	kW	hp	L/hr	gal/hr
2200	559	749	2426	1789	559	749	146	39	223
2100	559	750	2542	1875	486	652	128	34	223
2000	559	750	2669	1968	420	563	112	29	226
1900	559	750	2809	2072	360	483	92	24	217
1800	544	729	2885	2128	306	410	80	21	224
1700	519	695	2913	2148	258	346	65	17	216
1600	482	646	2877	2122	215	288	52	14	206
1500	434	582	2763	2038	177	238	44	12	209
1400	376	504	2561	1889	144	193	36	10	213
1300	318	427	2339	1725	115	155	29	8	213
1200	241	324	1920	1416	91	122	22	6	210
1100	196	262	1698	1253	70	94	18	5	219
1000	155	208	1484	1094	52	70	14	4	223

* Theoretical 3.0 exponent propeller curve , measured at flywheel

Performance Curve: 6135SFM85_E

All values at rated speed, power, and standard conditions, per SAE J1995 unless otherwise noted.