

	Engine Data Sheet			Engine Family	D35	Emission Level	Tier 1	
				Engine Model	M11-C330			
	Rated power	246 (330) kW(HP)/2100r/min			Peak torque	1458 N.m/1300r/min		
	Curve Number	FR-2509	Data Sheet	DS-225	CPL Code	2363	Fuel System	PT-STC
	Engine Configuration	D353005CX03		Aspiration	Turbocharged & Intercooled		Date Issued	03/2006

General Engine Data

Type	6 Cylinder, In-line, 4 Cycle
Aspiration	Turbocharged & Intercooled
Bore×Stroke -mm×mm	125×147
Displacement -L	10.8
Firing Order	1-5-3-6-2-4
Compression Ratio	16.1: 1
Dry Weight (Including Flywheel and Generator, Excluding other Electrical Component) -kg	940
Wet Weight -(kg)	980
Center of Gravity from Front Face of Block -mm	450
Center of Gravity above Crankshaft Centerline -mm	191
Installation Drawing	3626433
Noise Level at 15m under Normal Operation, Db	
—Right Side	83.3
—Left Side	84.3
—Front Side	84.5
—Rear Side	78.1

Engine Mounting

Maximum (Static) Bending Moment at Front of Block -N.m.....	678
Maximum of Bending Moment at Rear of Block -N.m	1350
Moment of Inertia of Moving Parts(without Flywheel) -kg • m ²	0.85
Inertia weight of engine -kg.m ² :	
—Longitudinal.....	49.7
—Radial.....	110
—Vertical.....	85

Performance Data

All data is based on:

The engine operating with fuel system, water pump, lubricating oil pump and air cleaner; not included alternator, compressor, fan, optional equipment and driven components.

The engine operating with No.0 diesel fuel which meets GB/T 252.

Standard Test Conditions (Refer to Part 1 of ISO 3046):

—Barometric pressure :	100kPa
—Inlet air temperature:	25°C
—Altitude:	90m
—Relative Humidity:	30 %

Data represents gross engine performance capabilities obtained and corrected in accordance with SAE J1995.

Idle Speed -r/min.....	675–750
Minimum Engine Speed -r/min.....	500
Closed Throttle Torque at Minimum Engine Speed -N.m.....	340
Maximum No-Load Speed -r/min	2450
Maximum Overspeed Capability(15 seconds) -r/min.....	2625
Maximum Allowable Altitude –m	3048
Crankshaft Thrust Bearing load Limit:	
—Maximum Intermittent -(N).....	9000
—Maximum Continuous -(N)	4000

Performance Data	Rated	Peak Torque
Engine Speed -r/min	2100	1300
Power Output –kW(BHP)	246(330)	198(266)
Torque -N.m	1119	1458
Intake Manifold Pressure *-kPa	173	90
Mechanical Loss Power -kW	44	18.6
Engine Coolant Flow -L/s	5.6	3.3
Intake Air Flow -L/s	387	187
Exhaust Gas Temperature- °C	438	561
Exhaust Gas Flow -L/s	919	556
Radiated Heat to Ambient –kW	14	18
Heat Rejection to Coolant –kW	141	88
Heat Rejection to Fuel –kW	2.5	1.9
Steady-state of smoke density -Rb	0.3	1.2

* Values are within $\pm 5\%$.

Coolant flow and heat rejection data are based on a coolant mixture of 50% water and 50% ethylene glycol.

Exhaust System

Maximum Back Pressure –kPa	10.0
Exhaust Pipe Size Normally Acceptable –mm	102
Maximum Bending Moment to the Turbo Flange -N.m	27

Air Intake System

Maximum Temperature Rise Between Ambient Air and Engine Air Inlet -°C	16
Maximum Allowable Intake Air Restriction With Heavy Duty Air Cleaner -kPa	
—Clean Element	3.7
—Dirty Element	6.2
Minimum Allowable Dirt Holding Capacity With Heavy Duty Air Cleaner -g/l/s	53

Cooling System

Coolant Capacity, Engine Only –L	9.5
Standard Thermostat (modulating) Range -°C	82–93
Maximum Coolant Friction Head External to Engine –kPa	34.5
Minimum Water Pump Inlet Pressure (Thermostat Full open and No Pressure Cap) –kPa	8.5
Maximum Block Coolant Pressure with Closed Thermostat and no Pressure Cap –kPa	276
Maximum Pressure Cap –kPa	50
Maximum temperature of the engine Coolant outlet -°C	100
Maximum alarm temperature of the engine Coolant -°C	102
Minimum Engine Coolant temperature -°C	70
Minimum Allowable Fill Rate -L/min	19
Maximum Initial Fill Time –min.	5
Minimum Coolant Expansion Space of System Capacity -%	5
Maximum Allowable Deaeration Time –min.	25
Minimum Allowable Drawdown –L	7.1
Maximum Coolant Flow to Accessory -L/min.	75

LUBRICATION SYSTEM

Oil Pan Capacity (OP2060):

—High Level -L	34
—Low Level -L	26
Total System Capacity with LF9009 Combine filter -L	33
Angularity of Standard Oil Pan: OP 2078-Degrees: -Degree	
—Front Down	45
—Rear Down	45
—Fuel Pump Side Down	45
—Exhaust Side Down	51
Normal Operate Oil Pressure Range -kPa	207-276
Maximum Allowable Sump Oil Temperature -°C	121
Minimum Engine Oil Pressure for Engine Protection Devices -kPa:	
—At Rated Speed and Load -kPa	193
—At Low Idle -kPa	152
Maximum Oil Consumption -g/kW.h	0.24

FUEL SYSTEM

Maximum allowable Restriction to PT Fuel Pump -kPa:

—With Clean Fuel Filter	13.6
—With Dirty Fuel Filter	27.1
Maximum Allowable Injector Return Line Restriction -kPa	
—With Check Valves	22
—Less Check Valves	8.4
Minimum Allowable Fuel Tank Vent Capability(back pressure lees than 20kPa)-m³/h	0.85
Maximum fuel Inlet Temperature -°C	71

ELECTRICAL SYSTEM

Battery Capacity	12V	24V
Minimum Battery Capacity -Cold Soak at -18°C or Above :		
—Only cold start of engine no-load current-CCA	1800	900
—The allowable least battery capacity -CCA.....	640	320
Maximum Allowable Resistance of Starting Circuit With 24 volt Starter) - Ω	N/A	0.002
Maximum Starting Circuit Volt Drop @100 Amperes-Volt	0.075	0.2

CRANKING SYSTEM

Minimum Cranking Speed Required for Unaided Cold Start -r/min	150
Minimum Cranking Speed with aether Cold Start -r/min	100

NOTE: N/A = Not Applicable. TBD = To Be Determined.