

	Engine Data Sheet			Engine Family	D35	Emission Level	N/A
				Engine Model	MTAA11-G3		
	Advertised Horsepower	STANDBY: 310kW/1500r/min@50hz PRIME: 282kW/1500r/min@50hz					
	Curve Number	FR-226	Data Sheet	DS-232	CPL Code	CQ223	Fuel System
Engine Configuration	D353009GX03		Aspiration	Turbo & Charge Air Cooling		Date Issued	07/2007

General Engine Data

Type	6 Cylinder, In-line, 4 Cycle
Aspiration	Turbocharged and Charge Air
Bore × Stroke -mm × mm	125 × 147
Displacement -L	10.8
Firing Order	1-5-3-6-2-4
Compression Ratio	15.0: 1
Dry Weight (Including Flywheel and Generator, Excluding other Electrical Component) -kg	973
Wet Weight -(kg)	1007
Center of Gravity from Front Face of Block -mm	450
Center of Gravity above Crankshaft Centerline -mm	191
Moment of Inertia of Rotation Components (Excluding Flywheel) -kg • m ²	0.85
Installation Drawing	4915163

Engine Mounting

Maximum of Bending Moment @ RFOB -N.m	1356
Moment of Inertia of Complete Engine (with FW2141) -kg • m ²	2.63

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: 110m
 —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 Governed Speed -r/min	1800
Maximum Allowable Altitude -m	1500
Crankshaft Thrust Bearing load Limit:	
—Maximum Intermittent -(N).....	9000
—Maximum Continuous -(N)	4000
Steady State Stability Band at any Constant Load -%	±0.25
Maximum Over Speed Capability r/min	1800

Performance Data (50HZ)	STANDBY	PRIME
Engine Speed -r/min	1500	1500
Power Output -kW	310	282
Maximum Friction Power -kW	22	22
Engine Coolant Flow -L/s	4.8	4.8
Engine Data with Dry Type Exhaust Manifold		
Intake Air Flow -L/s	395	365
Exhaust Gas Temperature (Before Turbo) - °C	595	580
Exhaust Gas Temperature (After Turbo) - °C	440	435
Exhaust Gas Flow -L/s	950	850
Radiated Heat to Ambient -kW	43	40
Heat Rejection to Coolant -kW	95	83
Heat Rejection to Exhaust -kW	270	234
Air to Fuel Ratio	26:1	28:1

* Values are within ±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	2.5
—Dirty Element	6.2
Minimum Allowable Dirt Holding Capacity With Heavy Duty Air Cleaner -g/l/s	6.3

Charge Air Cooling

Design Parameters for Ambients:

Max. Inlet Manifold Temperature -°C	55
Maximum P Between Turbocharger Outlet with Intake Manifold –kPa	16.7
Intake Pipe Size Allowable –mm	100

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	70
Maximum Engine Coolant temperature at Engine Outlet -°C	
—Standby	104
—Prime	100
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

Minimum Coolant Capacity, Not Including Expansion Space -L	9.5
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Lubrication System

Oil Pan Capacity (OP2060):

—High -L	34
—Low -L	26
Total System Capacity with LF9009 Combine filter -L	39
Angularity of Standard Oil Pan: OP 2060-Degrees: -Degree	
—Front Down	42
—Rear Down	45
—Fuel Pump Side Down	40
—Exhaust Side Down	45
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	69
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 -L/hr	850
Maximum fuel Inlet Temperature -°C	71

Electrical System

Battery Capacity (24V)

Minimum Battery Capacity -Cold Soak at -18°C or Above :

—Above 10°C	600
—0°C ~ 10°C	640
—Less Than 0°C	900
Maximum Allowable Resistance of Starting Circuit With 24 volt Starter) - Ω	0.002
Maximum Starting Circuit Volt Drop @ 100 Amperes-Volt	0.2

Cranking System

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

NOTE:

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

All Data is Subject to Change Without Notice.

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