

# ENGINE SPECIFICATIONS - 12

## PCM MASTER ENGINE SPECIFICATIONS - 2011

MODEL	CES/MPI HO303	CES/MPI EX343	CES/MPI ZR409/ ZR450	ZR550
<b>Displacement</b>	5.0L (305 CID)	5.7L (350 CID)	6.0L (366 CID)	6.2L (376 CID)
<b>Bore</b>	3.75 in. (95.0 mm)	4.0 in. (101.6 mm)	4.0007 in. (101.618 mm)	4.0649 in. (103.25 mm)
<b>Stroke</b>	3.48 in. (88.3 mm)	3.48 in. (88.3 mm)	3.622 in. (92.0 mm)	3.622 in. (92.0 mm)
<b>Compression Ratio</b>	9.4:1	9.4:1	9.67:1	9.1:1
<b>Compression</b>	130 - 215 psi	130 - 215 psi	130 - 215 psi	130 - 215 psi
<b>WOT Operating RPM</b> <b>Preferred WOT RPM</b>	4800-5000 <b>4900</b>	5000 - 5300 <b>5200</b>	5400 - 5600 <b>5500</b>	5200 - 5400 <b>5300</b>
<b>Cruising RPM (Max)</b>	3800	4000	4000	4000
<b>Idle RPM (In Gear)</b>	650 (Not Adjustable)	650 (Not Adjustable)	650 (Not Adjustable)	650 (Not Adjustable)
<b>Oil Pressure @ 2000 RPM</b>	25 - 60 psi (172 - 414 kPa)	25 - 60 psi (172 - 414 kPa)	25 - 80 psi (172 - 552 kPa)	25 - 80 psi (172 - 552 kPa)
<b>Minimum Oil Pressure</b>	5 psi (35 kPa) at Idle	5 psi (35 kPa) at Idle	5 psi (35 kPa) at Idle	5 psi (35 kPa) at Idle
<b>Spark Plug P/N</b> <b>Spark Plug Gap</b>	R030010 0.060 in.	R030010 0.060 in.	R030011 0.040 in.	R030012 0.040 in.
<b>Firing Order</b>	1-8-4-3-6-5-7-2 (LH) 1-2-7-5-6-3-4-8 (RH)	1-8-4-3-6-5-7-2 (LH) 1-2-7-5-6-3-4-8 (RH)	1-8-7-2-6-5-4-3 (LH) NA	1-8-7-2-6-5-4-3 (LH) NA
<b>Thermostat</b>	RWC 160°F (61.7°C) FWC 170°F (76.7°C)	RWC 160°F (61.7°C) FWC 170°F (76.7°C)	NA FWC 160°F (61.7°C)	NA FWC 160°F (61.7°C)
<b>Over- Temperature</b>	200° F (93.3° C)	200° F (93.3° C)	200° F (93.3° C)	200° F (93.3° C)
<b>Electrical System</b>	12 Volt Negative (-) Ground	12 Volt Negative (-) Ground	200° F (93.3° C) Ground	200° F (93.3° C) Ground
<b>Alternator Rating</b>	100 Amps	100 Amps	100 Amps	100 Amps
<b>Ignition Timing</b>	Not Adjustable	Not Adjustable	Not Adjustable	Not Adjustable
<b>CAM Retard</b>	15 + / - 2 degrees	15 + / - 2 degrees	Not Adjustable	Not Adjustable
<b>Battery Rating</b>	650 CCA (Minimum) 120 Ah	650 CCA (Minimum) 120 Ah	650 CCA (Minimum) 120 Ah	650 CCA (Minimum) 120 Ah

## PCM MASTER FUEL PRESSURE SPECIFICATIONS - 2011

MODEL	ALL HO303	ALL EX343	ALL ZR409/ZR450
Fuel Pressure STD. FCC	57-62 psi @ WOT	57-62 psi @ WOT	
Fuel Pressure - FCC Returnless to Rail			57-62 psi (WOT)
Fuel Pressure - LPFP ALL ENGINES	7 - 9 psi (WOT)	7 - 9 psi (WOT)	7 - 9 psi (WOT)

**IMPORTANT: FUEL PRESSURE MEASUREMENT MUST BE MADE WITH THE ENGINE UNDER LOAD.**

## PCM MASTER WARNING/ALARM SPECIFICATIONS - 2011

MODEL	HO303	EX343	ZR409/ZR450/ZR550	HO303 CES	EX343 CES	ZR409/ZR450 CES
Coolant Over-Temperature Sensor	200°F DTC 116/217 MIL and Buzzer Engine Derates	200°F DTC 116/217 MIL and Buzzer Engine Derates	200°F DTC 116/217 MIL and Buzzer Engine Derates	200°F DTC 116/217 Check Gauges Lamp and Buzzer Engine Derates	200°F DTC 116/217 Check Gauges Lamp and Buzzer Engine Derates	200°F DTC 116/217 Check Gauges Lamp and Buzzer Engine Derates
Exhaust Manifold Water Temperature Sensors	Not Applicable	Not Applicable	Not Applicable	240°F/ 250°F DTC 1415/1416/ 1417/1418 Check Gauges Lamp and Buzzer Engine Derates	240°F/ 250°F DTC 1415/1416/ 1417/1418 Check Gauges Lamp and Buzzer Engine Derates	240°F/ 250°F DTC 1415/1416/ 1417/1418 Check Gauges Lamp and Buzzer Engine Derates
Low Oil Pressure Sensor	< 5 psi @ idle / < 24 psi @ 4000 DTC 524 MIL and Buzzer	< 5 psi @ idle / < 24 psi @ 4000 DTC 524 MIL and Buzzer	< 5 psi @ idle / < 24 psi @ 4000 DTC 524 MIL and Buzzer	< 5 psi @ idle / < 24 psi @ 4000 DTC 524 Check Gauges Lamp and Buzzer	< 5 psi @ idle / < 24 psi @ 4000 DTC 524 Check Gauges Lamp and Buzzer	< 5 psi @ idle / < 24 psi @ 4000 DTC 524 Check Gauges Lamp and Buzzer

**NOTE: FOR NEW BOAT PROPPING, IT IS RECOMMENDED THAT OEMS PROP TO THE MAXIMUM RPM LISTED.**

