



## Service Information System

Shutdown SIS

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◀ Product: MARINE ENGINE  
 Model: C280-16 MARINE ENGINE TDX  
 Configuration: C280-16 MARINE TDX00001-UP

### Testing and Adjusting

#### 3606, 3608, 3612 and 3616 Engines and C280-12, C280-16, C280-6 and C280-8 Marine Engines Control Panel

Media Number -REN2493-01

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## Setpoints

SMCS - 7451

## Setpoints For Timers

The following timers use 10 dip switches in order to set the time delay.

- Timer (Engine Speed)
- Timer (Engine Oil Level)
- Timer (Engine Oil Level)
- Timer (Low Starting Air Pressure)

The switches are numbered from 1 to 10. The switches are two-position switches: "OPEN" and "CLOSE". See Table 1 for times of each switch.

Table 1

Switch Number (OPEN)	Time (Seconds)
1	1
2	2
3	4
4	8
5	16
6	32

7	64
8	128
9	256
10	512

**Note:** The first second is not a full second. Therefore, one second can be added to the time that is needed for a more accurate reading.

See Table 2 for proper settings.

The following timer uses a dial in order to set the time delay.

- Timer (Post Lubrication)

The dial uses a pointer in order to point to a number that represents the time delay in minutes.

Table 2

Timer	Label	Time Delay (seconds)	Switches "OPEN" <sup>(1)</sup>
Engine Speed	"SPFTD"	3	1, 2
Engine Oil Level	"OLLTD"	5	1, 3
Low Starting Air Pressure	"ASPTD"	5	1, 3
Particle Detector	"PDSTD"	5	1, 3
Post Lubrication	"PLTD"	1	N/A

<sup>(1)</sup> All other switches will be in the CLOSED position.

## Setpoints for Tachometer

The tachometer is used in order to display the engine RPM and the tachometer is used in order to control four outputs: "Crank Terminate", "Crank Terminate Time Delay", "Engine Oil Step" and "Overspeed". See Table 3 for setpoints.

**Reference** Refer to Service Manual, RENR5851, "3606, 3608, 3612, 3616 and 3618 Engines Tachometer" for calibration procedures for the tachometer.

Table 3

First Level Label	Second Level Label	Setpoint
"Setpoints"	"#1 RPM"	113% of rated engine speed

	"#2 RPM"	75% of rated engine speed
	"#3 RPM"	170
	"#4 RPM"	170
"Input"	"PPr"	255
	"Decimal Point"	"dPnt"
	"PrE.D"	1
"Scale"	"Gear Speed ="	1
	"Display Speed ="	1
"Unit"		"RPM"
"Bar"	"Bar Type"	"       "
	"brLO"	0
	"brHI"	1020
"Sp.CF"	"SP #1"	"HI" "NO" 0 "Hyst." 0 "t.dLy" 0 "r.dLy"
	"SP #2"	"HI" "NO" 0 "Hyst." 9 "t.dLy" 0 "r.dLy"
	"SP #3"	"HI" "NO" 169 "Hyst." 9 "t.dLy" 2 "r.dLy"
	"SP #4"	"HI" "NO" 169 "Hyst." 0 "t.dLy" 2 "r.dLy"
"Filter"	"Value"	80

## Parameters for Pyrometer

The pyrometer is an electronic scanner for exhaust temperatures. The pyrometer monitors the

temperature of each cylinder exhaust port. The pyrometer also monitors the exhaust temperature at the turbocharger inlet. If the engine has two turbochargers, the pyrometer monitors the exhaust temperature at both turbocharger inlets. See Table 4 for setpoints.

**Reference** Refer to Service Manual, RENR4911, "Exhaust Temperature Scanner" for calibration procedures.

Table 4

Description	Displayed	Value
Number of engine cylinders	"CYLINDERS"	The actual number
Number of turbochargers	"TURBOS"	The actual number
Display only the turbocharger outlet temperature. Display only the turbocharger inlet temperature. Display the turbocharger outlet and inlet temperatures.	"TURBO OUT" "TURBO IN" "TURBO OUT AND TURBO IN"	"TURBO IN"
Units for the display	"UNITS"	"DEG C"
Automatic scanning or manual scanning	"AUTOSCAN"	"YES"
Value for the scanner's filter	"FILTER VALUE"	230
Setpoint for exhaust port temperature deviation	"SET CYL DEV"	"OFF"
Setpoint 1 for high cylinder exhaust temperature	"SET CYL HI 1"	"OFF"
Setpoint 2 for high cylinder exhaust temperature	"SET CYL HI 2"	"OFF"
Setpoint 1 for high turbocharger outlet temperature	"SET TO HI 1"	"OFF"
Setpoint 2 for high turbocharger outlet temperature	"SET TO HI 2"	"OFF"
Setpoint for high turbocharger inlet temperature	"SET TI HI"	630 for standard 650 for HI Output
Start-up timer	"SET TIMER"	15
Arming temperature	"SET ARM TEMP"	400 C

## Setpoints for Pressure Contactors

The pressure contactors monitor the system for alarms and shutdowns. See Table 5 for the setpoints.

**Reference** Refer to Special Instruction, SEHS9828, "Calibration of Pressure Contactors used on 3600 Diesel Engines" for information on calibrating the pressure contactors.

Table 5

Alarm or Shutdown	Pressure Contactor	Setpoint
Alarm	Engine Oil (Low Idle)	120 kPa (17.4 psi)
Alarm	Engine Oil (High Idle)	320 kPa (46.4 psi)
Alarm	Aftercooler/Oil Cooler	35 kPa (5 psi)
Alarm	Air Start	750 kPa (109 psi)
Alarm	Fuel	260 kPa (38 psi)
Alarm	Jacket Water	20 kPa (2.9 psi)
Shutdown	Engine Oil (Low Idle)	105 kPa (15.2 psi)
Shutdown	Engine Oil (High Idle)	260 kPa (37.7 psi)
Shutdown	Crankcase	1.0 kPa (0.15 psi)

## Setpoints for Temperature Contactors

The temperature contactors monitor the system for alarms and shutdowns. See Table 6 for the setpoints.

**Reference** Refer to Special Instruction, SEHS9827, "Calibration of Temperature Contactors used on 3600 Diesel Engines" for information on calibrating the temperature contactors.

Table 6

Alarm or Shutdown	Pressure Contactor	Setpoint

Alarm	Engine Oil	92 °C (198 °F)
Alarm	Intake Air	92 °C (198 °F)
Alarm	Fuel	66 °C (151 °F)
Alarm	Jacket Water	103 °C (217 °F)
Shutdown	Engine Oil	98 °C (208 °F)
Shutdown	Jacket Water	109 °C (228 °F)

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