

Using a 555 to replace a 601D Module

DETAILS

While the 601 engine management system is still available as a spare part from DSE, many customers are now looking at replacing these in the field with the more advanced 555 module. This document outlines the steps necessary to achieve this.

➤ **Rewire the 601D 24way loom.**

- Remove wire 1 (of the 24 way 601D connector) and connect to pin 2 (of the 555 module)
- Remove wire 2, and connect to pin 1.
- Remove wire 7, and connect to pin 4.
- Remove wire 8, and connect to pin 5.
- Remove wire 17, and connect to pin 39.
- Remove wire 23, and connect to pin 20.
- Remove wire 24, and connect to pin 21.
- Remove and discard any connection to wires 6,7,8 & 14.

➤ **Decide if you wish to use analogue senders with the 555, or the existing "close on fault" oil pressure and engine temperature protection switches.**

Analogue senders only.

- Fit your chosen oil pressure and engine temperature senders to the engine (see P810 for Windows operating manual for the types of sender compatible with the 555 module).
- Ensure that one side of the sender is connected to GROUND, as close to the sender as possible. Check this is a sound connection.
- Connect the sender GROUND point to 555 pin 24. Ensure this connection is not used for any other purpose.
- Connect the other side of the oil sender to pin 22 of the 555 module.
- Connect the other side of the temp sender to pin 23 of the 555 module.
- Ensure the 555 analogue inputs are correctly configured for your chosen sender types.

Use existing digital switches only

- Remove wire 17 (from 601D 24way connector) and connect to pin 23 (555 module).
- Remove wire 18 (from 601D 24way connector) and connect to pin 22 (555 module).
- Connect 555 module pin 24 to the GROUND connection of the oil pressure switch on the engine.
- Configure the oil pressure input of the 555 module to be digital, normally closed
- Configure the engine temperature input of the 555 module to be digital, normally open

➤ **Remote start input (to start set when module selector switch is in the Auto position.**

- Rewire the remote start system (if used) to give a close to -Ve signal to start the set. (601D was close to positive to run).
- Remove wire 13 (601D 24way connector) and connect to pin 9 (of the 555 module).
- Configure digital input 1 of the 555 module to be Remote start.

➤ **Decide if you wish to use the 550 EM stop system or use existing 601 wiring for EM stop.**

555 EM stop system only:-

- Rewire the EM stop button to give a normally closed +Ve signal (601D was normally closed to negative).
- Remove wire 3 (601D 24way connector) and connect to pin 3 (of the 555 module).

601 EM Stop system retained:-

- Link pin 2 and pin 3 together on the 555
- Remove wire 3 and connect to pin xxx of the 555
- Reconfigure 555 Aux. Input 1 to be User configured, Open to activate, Always active, Shutdown, with "LCD text when active" set to read EMERGENCY STOP.

➤ **If the 601 alarm and pre-heat functions are being used (Alarm [10] and pre-heat [15]).**

- Remove wire 10 (601D 24 way connector), and connect to pin 6 (555 module)
- Remove wire 15 (601D 24 way connector), and connect to pin 7 (555 module)
- Configure Module relay 1 of the 555 to Pre-heat
- Configure Module relay 2 of the 555 to Common alarm
- Ensure the circuit being driven by the preheat and alarm outputs is connected correctly. The alarm and preheat outputs switch to BATTERY POSITIVE when active.

➤ *Rewire the 601D 12way loom.*

- Remove wire 1(of the 12 way 601D connector) and connect to pin 42 (of the 555 module)
- Remove wire 10, and connect to pin 45.
- Remove wire 11, and connect to pin 34.
- Remove wire 12, and connect to pin 31.

If you have a 3 phase 4 wire mains AND generator supply,

- Configure the 555 module for 3 phase, 4 wire AC system.
- Remove wire 4 (from the 601D 12 way connector), and connect to pin 43. (of the 555 module)
- Remove wire 7(from the 601D 12 way connector), and connect to pin 44. (of the 555 module)
- Connect generator L2 to pin 32 (of the 555 module)
- Connect generator L3 to pin 33 (of the 555 module)

If you have a 1 phase 2 wire mains AND generator supply,

- Configure the 555 module for 1 phase, 2 wire AC system.
- Remove and discard any connection to the 601D 12 way connector on terminals 4 & 7.
- Ensure NO CONNECTION to the 550 module pins 32,33,43 & 44.

➤ **FINALLY**

- Check the 555 configuration to ensure that all setting and timers are correctly matched to the old 601 settings.
- Using the Diagnostic screens in the 810 software confirm all wiring is correct. Proceed with normal 555 commission instructions to verify function is correct.

Should you have any queries arising from this application note please contact our Technical Department as detailed below:-

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