

## S5000 TECHNICAL BULLETIN

Date	14/11/21
Topic	Motec Configuration Update
Priority	Information

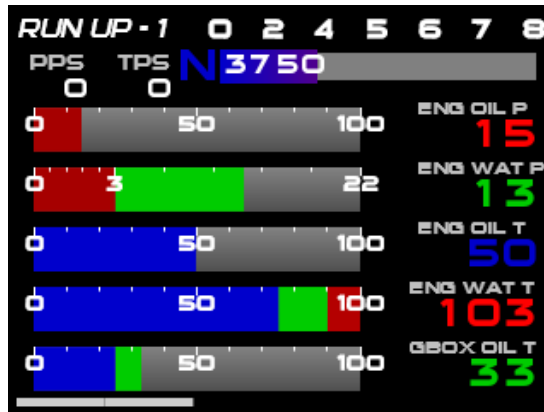
There are multiple updates to the Motec configurations of the Display, Logger, PDM and keypad to improve functionality for mechanics and drivers, as well as providing added safety to items such as the fuel pump during pump-out.

### DISPLAY PAGES

New display pages have been created, primarily for use during run up by mechanics.

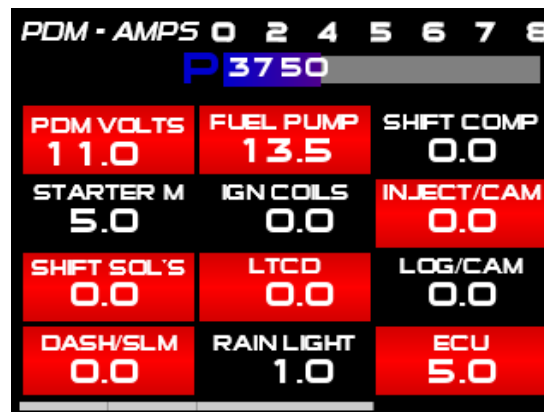
#### 'Run Up - 1'

- Bar charts with colour coded segments used to display specific parameters, ie. Oil and Coolant Temperatures and Pressures. The accompanying values next to the charts also change colour to reflect their operating state. These colour coded values are setup as a guide to 'run-up' a S5000.
- Blue = Cold
- Green = In Optimal range
- Red = Low Pressure or High Temperature



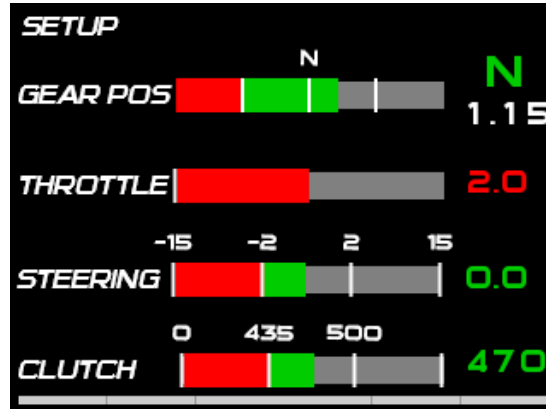
#### 'PDM - Amps'

- Display of the critical PDM Currents plus PDM voltage used throughout the S5000
- Boxes surrounding each PDM circuit turn red once the system determines it is in an error mode, be it either over-current or output fault



**'Setup'**

- Introduction of colour coding to the setup parameters
- Gear Position Voltage in operating range of  $0.67 < V < 1.32$ . Ideally neutral is 1.0V.
- Steering Angle chart altered for improved accuracy

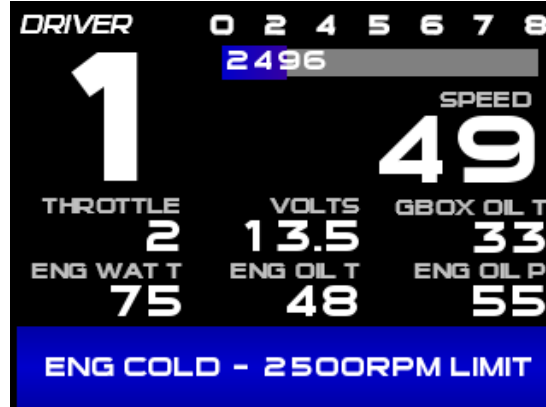


**ALARMS**

**'ENG COLD - 2500RPM LIMIT'**

When the oil temperature is below 50°, the engine speed is limited, like previously, to 2500RPM. The addition of a dash alarm to alert drivers/mechanics of this condition has been included in this update.

This blue alarm remains on until the oil temperature has reached 50°. The outermost LED's on the SLM will also flash blue until the temperature reaches the requirement, at which point the engine speed is no longer limited.



**'ENG HOT WARN'**

The engine hot warning alarm is activated if the Engine Oil Temperature reaches 120° or the Coolant Temperature reaches 105°. The coolant temperature aspect of this warning is setup as a pre-cursor to the following alarm, 'HOT RPM LIMIT'.

**'HOT RPM LIMIT'**

This alarm is displayed once the Coolant Temperature reaches 110°, at which point, the engine speed is limited to 7200RPM to protect the engine until the temperature drops below 110°.

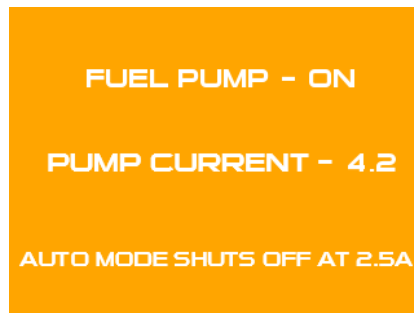
All dash alarms, except the ENG COLD - 2500RPM LIMIT, can be acknowledged by the driver and will not return until 20 seconds have passed and if the alarm condition is still activated.

## FUEL PUMP-OUT

An automatic pump-out cut-off has been configured which prevents the fuel pump from being left on for an extended period after the tank is empty, which can damage the pump.

To pump fuel out using **automatic shut-off**: press the 'Pump Fuel Out' button on the keypad (like previously done) and the dash will display a message stating the fuel pump current as well as the auto shut-off pump current value of 2.5A. The pump will shut-off 5 seconds after the pump current drops to 2.5A, which is sufficient time to ensure all fuel is drained.

To pump fuel out **manually**: press and hold the 'Pump Fuel Out' button on the keypad for as long as required and like the automatic method, the dash will display a message stating the fuel pump current as well as the auto shut-off pump current value of 2.5A. The pump will turn off when the button is released.



## DASH & SHIFT LIGHT MODULE (SLM) DIMMING

To ensure the dash display and the shift lights are adjustable for varying light conditions (i.e. night driving at SMSP), the final unused keypad button is programmed to alter the brightness in a number of stages. It is done so by simply pressing the button to scroll through the various settings. The settings are shown in the table below.

Number of Presses	Display Brightness (%)	Shiftlight Brightness (SLM) (%)
Default	100	100
1	50	40
2	50	25
3	50	10



Dim Button – Press repeatedly to cycle through

## OTHER CHANGES

- Increased the accuracy of the Brake Bias Setting channel
- Bar chart, shown along the bottom of the dash pages (with the exception of the driver page), used to display the progress of the selected dash page throughout the now 7 pages. As shown in the images previously for 'Run Up - 1', 'PDM - Amps' and 'Setup'
- A 12V power output has been configured from the PDM which can be used for accessories such as radio power and the like. Found behind the driver's seat is a 6-pin Deutsch connector labelled 'PWR SPARE'. Pins 5 (5A output) and 6 (GND) are to be used. Power is supplied to this circuit whenever the master switch is on so caution should be used to not flatten the battery by leaving the master switch ON when not required.
- The L120 logger firmware will be updated to 6.40I5. The correct C125 Dash Manager software will be available from [S5000 Team Centre - Garry Rogers Motorsport \(grmotorsport.com.au\)](http://S5000 Team Centre - Garry Rogers Motorsport (grmotorsport.com.au)).

These updates will be applied on the Thursday of SMSP prior to the Test Night.

Any questions please contact [s5000@grmotorsport.com.au](mailto:s5000@grmotorsport.com.au)