

Hercules No 22

Hercules No 22 has proved to be an excellent runner with a good turn of speed, yet economical on its use of the battery capacity. The ability of the locomotive to execute an emergency stop under regenerative braking has been checked, and found to be excellent. The locomotive has already quite happily coped with a load of 8 children and three adults on the Rugby Model Engineering Society raised track. The track is over 300 metres long, with relatively gentle gradients and large radius curves.



Since taking delivery of the completed locomotive, several changes have been made to the 'standard' design. The first two are as described on the "Electrical Modifications" page of the Hercules assembly instructions on the R-on-R Website.

1. Fitting a 'dead-mans' pushbutton switch.
2. Fitting a speed governor potentiometer.
3. Fitting two sound modules manufactured by Trax Controls:-
 - a. Two tone diesel horn module (DHM-2). This is activated using a pushbutton switch installed in the hand controller.
 - b. Diesel engine sound module (DESM-2). The signal input for this sound module is obtained from 4QD Controller speed potentiometer, so that the engine sound produced is proportional to the speed.

Information on these units can be obtained from (<http://www.traxcontrols.com>)

Both sound modules require 12Vdc supply, which is derived from the battery connected to the negative input to the 4QD Controller. The sound modules and their associated elliptical speakers were installed in an ABS plastic enclosure which has been mounted, on brackets, above the 4QD Controller between the two batteries.



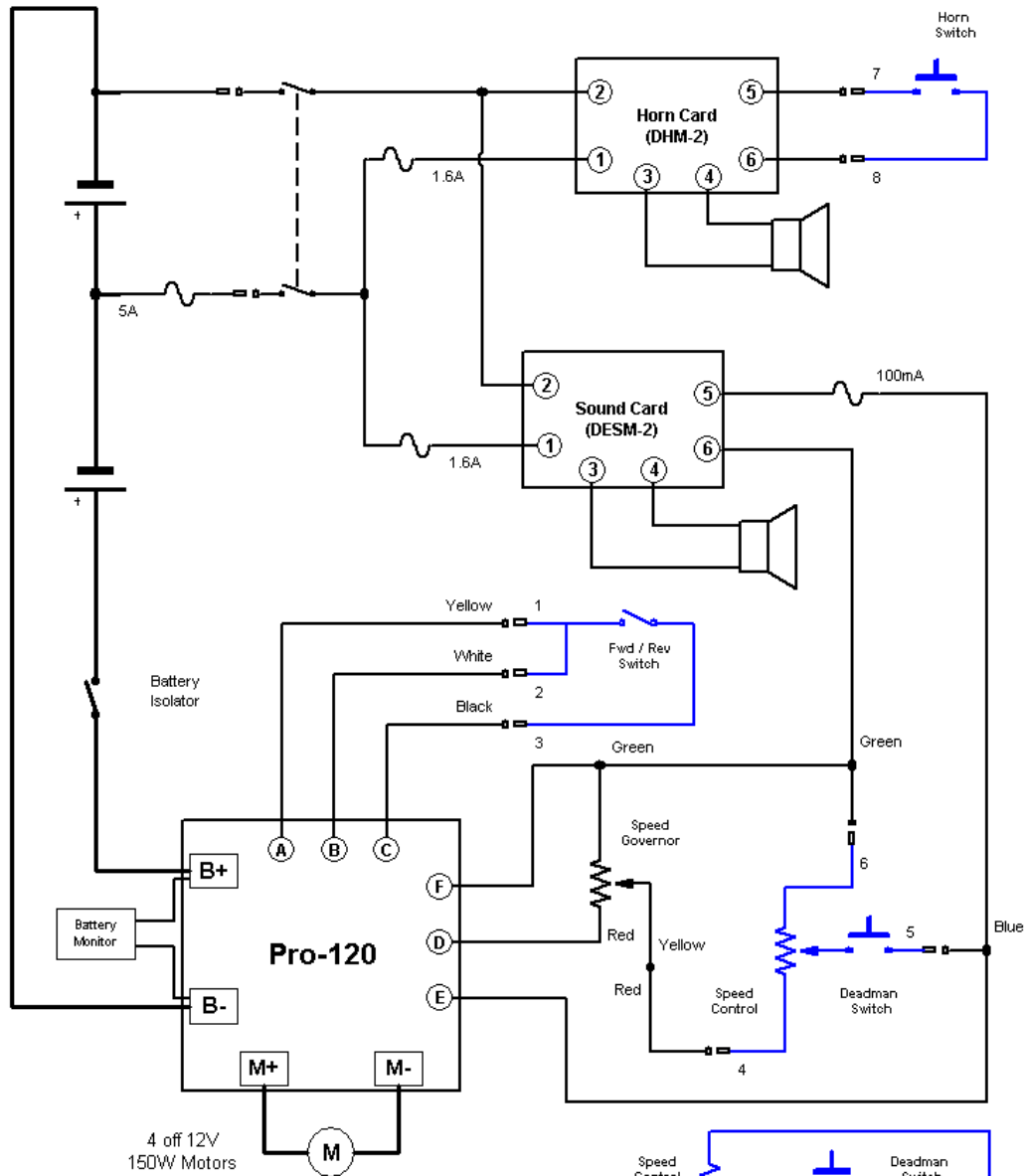
In order to activate the horn module, it was necessary to replace the 6 core cable to the hand controller with an 8 core cable. Consequently a new 8 pin socket was fitted onto the enclosure. The original 6 core cable for the 4QD controller was re-routed into the enclosure.

This enclosure contains both sound modules/speakers and their associated power and signal fuses, and the 12Vdc power input socket and isolation switch. It also houses the speed governor potentiometer and the 8 pin socket. This enabled all interfaces to be contained within one unit, and also enabled removal of the enclosure to be easy achieved, should access to the 4QD Controller be required.

The overall electrical system is shown in the attached schematic diagram. The wiring shown in blue is contained within the hand controller.

Further changes being considered include:-

- Refitting the original 6 pin Bulgin socket in the plastic box, so in the event of problem with the modified hand controller, the option exists to continue operating in the “original” arrangement.
- Installing the battery condition meter into the hand controller. This will enable the meter to be visible in whilst the locomotive is in operation. The meter can be connected to the green (battery negative) and white or yellow (battery positive) wires within the hand controller.



- 1= Yellow
- 2= White
- 3= Black
- 4= Red
- 5= Blue
- 6= Green
- 7= Orange
- 8= Brown

