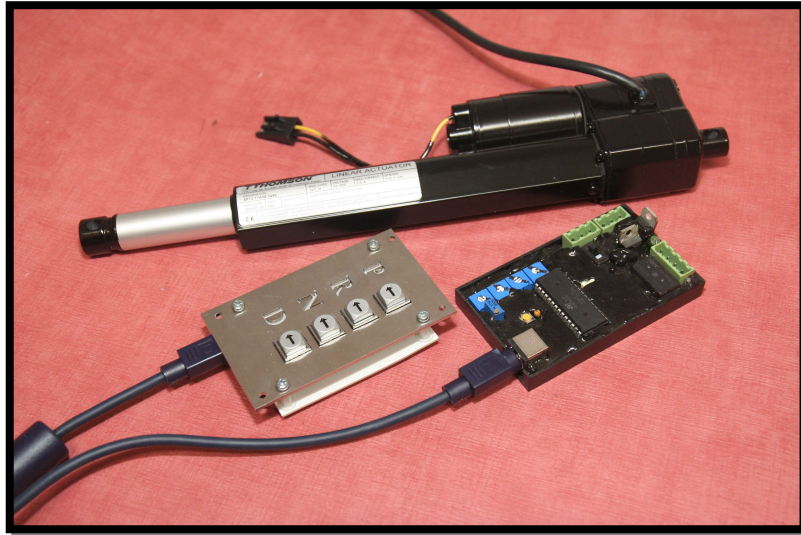


Auto Gear Change Instructions

Another Hollin Applications innovative electronic control for motor vehicles. Using a Linear Actuator to move the gear change on an automatic vehicle, therefore giving simple remote switching for disabled drivers or similar where the gear stick is not required.



*Fig.1
Complete Kit*

Standard Kit as above with everything except cables to convert the vehicle, to a powered gear select.

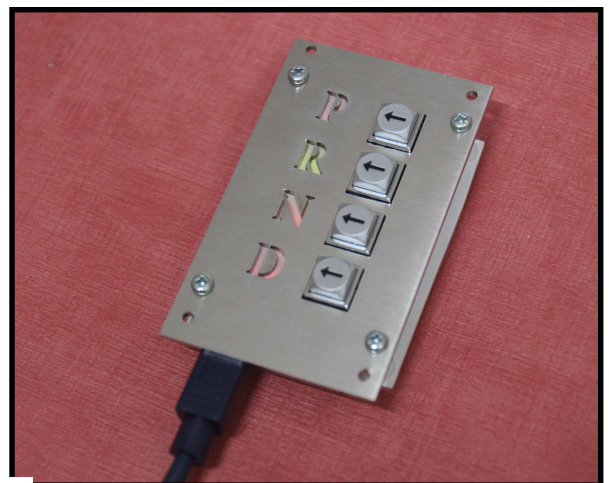
Comes with a 100mm stroke 12 volt high quality Thomson Linear feedback Actuator. Operating a lever at 340N push/pull at 25mm/second. 6.35mm mount holes at each end allow for a range of mounting options. This will work on the gear lever, on the cable or moving the gearbox arm direct.

New style stainless button and LED panel. The lights next to the buttons will illuminate to show when the correct gear is selected and ready. Easy to fit, use and looks stylish.

Simple two plug 2m cable to connect the switch panel to the electronic control module. ECM is resin filled and comes with simple on board potentiometers to adjust the position for each stop. Relay switching of Actuator position and transistor switching of power ensure long life and smooth operation. Actuator is connected via two plugs in simple screw terminal connectors.

Safety inputs to circuit to stop unwanted changes of the gear. Can be connected to the foot or hand brake switch to disable gear select unless brake is on. Power interruption or unwanted reset condition are catered for in a safe manner, with no gear change unless a button is pressed.

Easy set-up procedure to set each stop point, saves time and money.



*Fig.2
Stainless Panel*

Circuit Identification

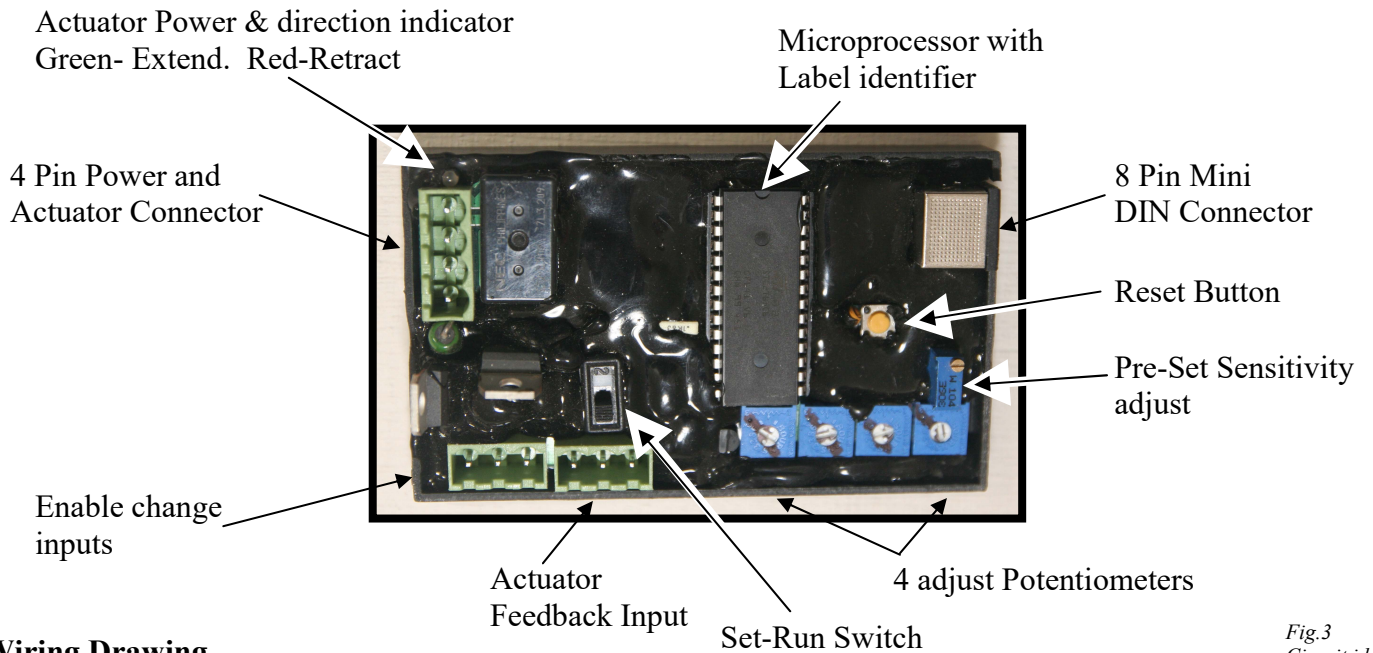


Fig.3
Circuit id.

Wiring Drawing.

Actuator, keyboard and power connections as below.

Actuator	Wire 1	Wire 2
LA1	Yellow	Black
E050	Black	Red

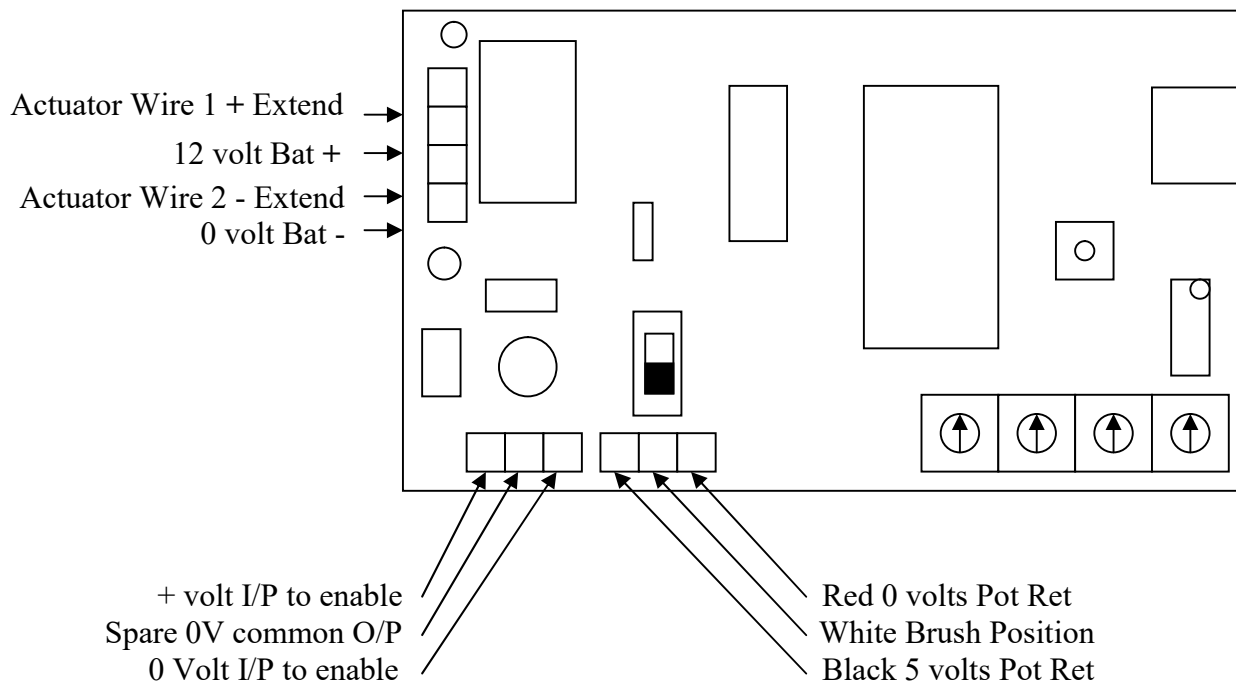


Fig.4
Wiring Connections

Bench test and check

The control will arrive with a range of pre-set positions for simple switch on and test.

Wire the Actuator as per the above diagram, 5 wires only 2 Motor and 3 Position Feedback.
Connect the control circuit to the display keyboard with the 8 pin mini DIN connector cable (Purple).
Connect the circuit to battery 12 volts power with minimum 1mm² cable

Set the run switch to SET-Up, that's farthest from the bottom green connector, or up reference the photograph above.

Switch power on to the circuit board.

Press one of the keyboard buttons.

The LED next to that button will turn red and the other three will turn green, until the Actuator stops.
When the Actuator has reached the position the LED gear select will turn green and the other three red.
Whilst the Actuator is moving please note the LED on the circuit will show green for extend and red for retract. Note wrong direction identifies the Actuator wiring incorrectly fitted.

Press each of the buttons in turn and confirm four separate positions.

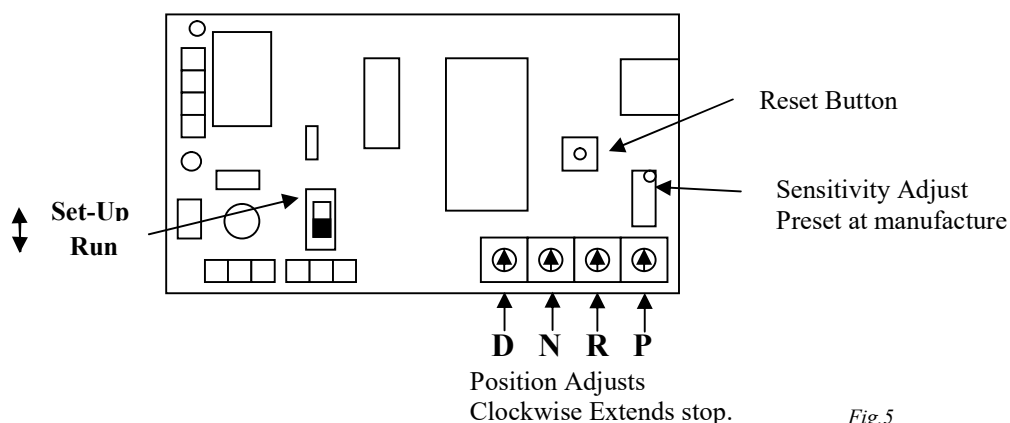
Fitting and Set up for the control.

Mount the Actuator in the vehicle so that all or part of the stroke will adjust the gear select to each position.

If each end is a fixed bar then the Actuator should be mounted each end and the body allowed to float. If a cable or fully flexible coupling is used at the extension screw end then the Actuator should be mounted with a clamp around the cover tube.

Once mounted the circuit keypad should be wired up and powered.

If on power up the circuit is not illuminated then press one key should move to that position.



*Fig.5
Pot. ident*

There is a small two position switch on the bottom edge of the circuit, slide this up this is the set-up position.

Press and release the key of the position you would like to change, wait till the Actuator gets there and the led turns green.

Press and hold the same key, the lights should flash red/green.

With a small screwdriver or trimmer, adjust the relevant potentiometer as per the above diagram. Only move in small steps and wait until the Actuator gets there before changing again.

In turn adjust all 4 positions to be close to the position required on the car.

Try all four positions, approaching from either direction to the 2 middle positions should achieve +/-1mm accuracy.

Normal Operation

Once the positions are set, and the units fitted to the car, switch the control to run mode.

As a safety feature any button presses are ignored unless there is a back-up input.

This input is in the form of one of two options.

- 1) A connection to ground that will perhaps work off a footbrake or handbrake switch. With brake on the connection is grounded and enables to gear change.
- 2) A connection with 5 or 12 volt input, perhaps connected to a brake light or something. Once the light is on the gear change is enabled.

If neither connection is made and open circuit, and the switch is in Run mode the unit will not respond to gear changes.

Options.

It is possible to use our circuit with a range of different feedback actuators and keypads.

We can match other gear select systems, with 50mm and 75mm stroke LA1 actuators and E050 clutched actuators.