



GEAR BOX CONTROL PADDLE SHIFT AUXILIARY KIT



The Paddle Shift Auxiliary Kit is designed as a hardware solution for integrating paddle shift with a sequential racing gearbox.

It is intended for use with a MoTeC GPRP-M1 engine management system, which comprises an M1 ECU and the GPRP firmware Package featuring paddle shift control.

► FEATURES

- Includes two steering wheel mounted paddles (momentary switches) for up/down shifts to the ECU.
- The push/pull pneumatic actuator will allow both up and down shifts through two in-built solenoid valves. Valve timing is controlled through the ECU paddle shift function.
- The pneumatic pump supplies air pressure to the tank and is activated by the ECU with specific control of pressure including a pressure sensor fault fall back strategy. If the sensor fails or is not present, the ECU can automatically cycle the pump to maintain a pressure supply. Excess air pressure is relieved through the pressure relief valve supplied in the kit.
- The air tank and manifold supply a strong reserve of pressurised air for shifts. The manifold includes ports for all necessary fittings and a pressure sensor for the pump control.
- The tank to pump pressure line comes as a standard 1.5m length but can be shortened using simple tools. It is included with the air tank manifold kit but is also available as a spare part.

► KIT CONTENTS

- 75101 - GEAR BOX CONTROLLER SHIFT ACTUATOR
 - 31100 - GEAR BOX CONTROLLER COMPRESSOR PUMP
 - 75102 - GEAR BOX CONTROLLER PADDLES
 - 61222 - CURLY CORD LOOM TERMINATED
 - 58042 - HONEYWELL 250 PSI PRESSURE SENSOR
 - 75104 - GEAR BOX CTRL AIR TANK MANIFOLD KIT
- Also available as a replacement part or spare:
- 75111 - GEAR BOX CONTROLLER AIR TANK HOSE

► WIRING

- Paddles can be wired to any digital, universal digital or analogue voltage input pin.
- The pneumatic actuator can be wired directly to the ECU without the need for an external amplifier or relay. Two half-bridge, peak hold injector outputs or low side injector outputs can be used; one output for up shifts and one output for down shifts.
- The pneumatic pump must be wired to an ECU output via a relay due to the high current draw of the unit. One half-bridge, peak hold injector output or low side injector output can be used.
- The tank pressure sensor can be wired to any analogue voltage or analogue temperature input.

► **KIT COMPONENTS**

Supplied products may differ slightly to the images below.

75101 - GEAR BOX CONTROLLER
SHIFT ACTUATOR



31100 - GEAR BOX CONTROLLER
COMPRESSOR PUMP



75102 - GEAR BOX CONTROLLER
PADDLES



61222 - CURLY CORD LOOM
TERMINATED



58042 - HONEYWELL 250 PSI
PRESSURE SENSOR



75104 - GEAR BOX CTRL AIR TANK
MANIFOLD KIT



75111 - GEAR BOX CONTROLLER AIR
TANK HOSE

Supplied as part of 75104 GEAR BOX
CTRL AIR TANK MANIFOLD KIT

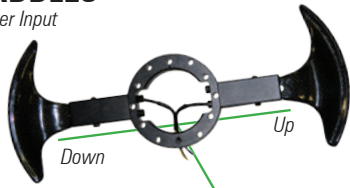
Also available as a replacement or
spare part.



GBC PADDLE SHIFT AUXILIARY KIT

PADDLES

Driver Input



CURLY CORD

COIL

Cut & retard



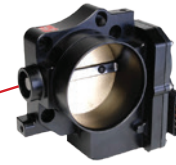
INJECTORS

Cut



DRIVE BY WIRE

Throttle Blipping



RELAY OR PDM

PUMP



PRESSURE SENSOR

Relief Valve

SHIFT ACTUATOR



ACCUMULATOR

Air supply to actuator

GEAR POSITION SENSOR

SEQUENTIAL GEARBOX



PADDLE SHIFT SEQUENCE

- 1** Request to begin shift comes from driver paddle
- 2** System cuts or blips engine using injectors, coils or drive-by-wire
- 3** Shift actuator moves gearbox between gears
- 4** When the next gear is reached power is reintroduced

HIGH PRESSURE AIR HOSE