The ABD Gearchange Robot (GR) has been designed to perform controlled changing of gears in manual transmission cars and light vans. When used with ABD’s Clutch Robot (CR) and Accelerator Robot (AR), the GR allows accurate speed control of manual transmission vehicles.

**Driverless Testing of Manual Transmission Vehicles**

The GR, CR and AR may be used with ABD’s existing Steering and Brake robots to provide a fully driverless testing system for manual transmission vehicles. In this instance, all robots are controlled with an ABD Omni(6) six-channel controller and an additional back-up safety system is employed to provide a fail-safe means of stopping the vehicle. (See ABD Driverless Testing System SP6205 for more details)
**Operation**

The GR is designed to be easily mounted within most passenger vehicles without obscuring the driver’s vision or access to controls. With the robot installed, manual operation of the transmission is still possible.

The GR is set up through a simple ‘learn’ process whereby the locations of the gears are defined and recorded for a given vehicle. Once carried out, selection of the gears is then possible with the standard ABD Robot Controller software. For speed control, a series of GR, CR and AR parameters are varied to define the gear changing characteristics of the vehicle.

![Typical Speed Control Test for Manual Transmission Vehicle](image)

**Typical Performance**

Max Fore-Aft Force = 60 N
Max Side Force = 45 N
Max Fore-Aft Stroke = 190 mm
Max Side Stroke = 110 mm
Gearchange times of 0.25 - 0.5 seconds

**For more detailed information on this and other related products contact:**

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