

Installing the Gear Shift Servo

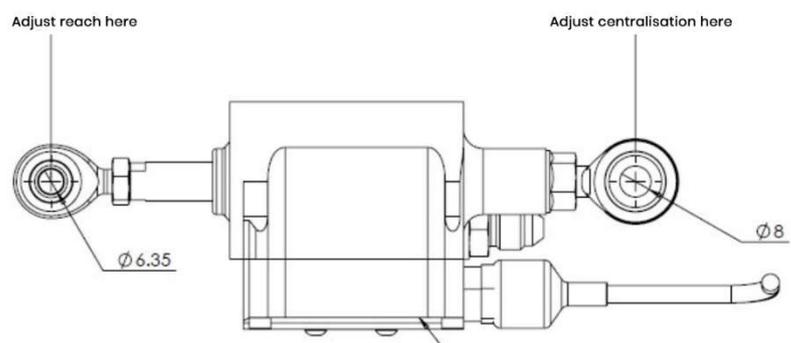
The Gear Shift Servo (GSS) provides mechanical effort to the gearbox selector to change gears. The GSS integrates the pneumatic control valves with the actuator creating an almost zero length air path between valves and actuator piston which results in a light weight, compact solution with excellent system response times.

The GSS mounts via two rose joints/spherical bearings and floats on these bearings during operation. The body of the GSS is mounted via an 8mm rose joint whilst the actuating rod of the GSS mounts via a 1/4" rose joint. This allows the GSS to directly replace most shift cables.

Some gearboxes will require a bracket/clevis to carry the 8mm rose joint/body of the GSS. If your gearbox is not already fitted with a suitable bracket please contact your gearbox manufacturer who will be able to supply a suitable component.

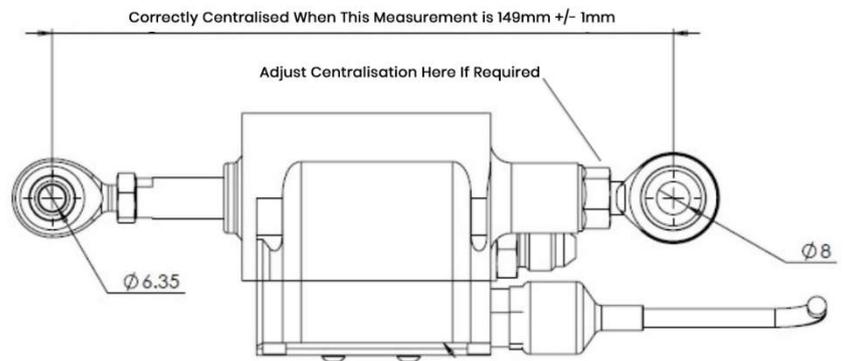
Installation Steps:

1. Ensure the gearbox is fully in a gear or in neutral and that the gearbox ratchet assembly has released to the centre position of its movement. Loosen the locking nuts on the GSS rose joints.
2. Loosely bolt the GSS body rose joint to the gearbox bracket/clevis using a suitable 8mm fastener.
3. The GSS has a maximum stroke of +/- 17mm, ensure the shaft is in its central position when fitting the servo. Adjust the overall reach of the servo using the rods rose joint assembly. Adjust the centralisation of the GSS using the body of the GSS rose joint assembly as per the diagram.
4. Adjust the length of the GSS rod rose joint to reach the selector. Loosely bolt the GSS rod rose joint to the gearbox selector using a suitable 1/4" fastener. If the GSS rod rose joint does not offer enough reach adjustment the body rose joint can be used to further increase reach at the expense of adjustability of centralisation.



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5. Using a steel rule measure the distance between the centres of the GSS rose joints, with the gearbox selector at its central position this measurement should be 149MM +/- 1MM. It is **critical** to system operation that the actuator is correctly centralised. If it is not adjust the centralisation of the actuator by adjusting the GSS body rose joint length as per the diagram.



6. Tighten the rod and body rose joints mounting hardware. The GSS is now installed.

Gear Shift Servo Wiring Connection.

The standard Gear Shift Servo is supplied with a three way Deutsch DTM connector of type DTM04-3P

Wiring connections to the controller which will drive the Gear Shift Servo should be with a mating connector with terminals crimped with the correct tool. The pinout of the Gear Shift Servo is as per the below table:

Pin	Application	Wire Size
1	12V Valve Supply	22awg
2	Up Valve	22awg
3	Down Valve	22awg