General Facts Sheets

The following information sheets are used in conjunction with the specific vehicle installation instructions to show adjustment details which are common features for all dual control systems & some features which are specific to the rod or cable dual control systems.

This information includes:

- Pedal & Lever Removal
- Pedal Angular Adjustment
- Pedal Height Adjustment
  - Torque Settings

For Cable Systems
- General Cable Information
- General Cable Arrangement
  - Typical Clamp & Pulley Bracket Arrangement
    - Cable Adjusters
  - Pedal Box Pulley Assembly
    - Maintenance

For Rod Systems
- Dual Control Pedal Options
  - Shaft Collars
  - Hinged pedals
- Ball Joint Link Alignment
  - Rigid Link Alignment

All instruction sheets supplied with the dual control are part of the dual control kit and must be retained with the dual control for possible re-installation or future adjustments etc. He-man may charge for the supply of replacement instruction sheets.
Pedal /Lever Removal

Detachable pedals/levers are secured to the rods with either a Latch/Circlip or a Bolt & Washers

For **Bolt & Washers:**
Remove the bolt with the washers & slide the pedal/lever from the rod. Replace the bolt & washers after removal as they are easy to misplace.

For **Latch:**
Depress the latch & slide the pedal/lever from the rod

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**Pedal or lever**

**Rod**

**Large washer**

**Inner splined collar**

**Bolt with spring & flat washers**

**Shaft collar**

**Circlip**

**Inner splined collar**

**Press**

**The inner collar can be slid off once the circlip has been removed**
Pedal Height Adjustment

Correct Pedal height

It is advantageous, and we recommend, that the dual control clutch pedal height is set slightly (5 to 10mm) higher than the car’s clutch pedal pad, this is to ensure that the car’s clutch is fully disengaged when the dual clutch pedal is depressed whilst not placing excessive strain on the dual linkages.

The dual control brake pedal pad may be placed at any convenient height but must allow the car’s brake pedal full movement in all circumstances - the car’s brake should be able to operate nearer the floor should the car’s primary braking system malfunction. We recommend the the dual control brake pedal pad be at the same height as the dual control clutch pedal pad for ease of use also.

Pedal height Adjustment

Once a dual control system has been installed (either rod or cable) the dual pedals will need adjustment to an appropriate height in order to operate correctly, to achieve fine adjustment the pedals first need to be removed together with the internal splined collar from the rod, see sheet 2.

To achieve fine adjustment of the pedal height (approximately 1° intervals) the internal splined collar must be rotated within the pedal. If the pedal has a latch fitted it will be necessary to push down on the latch in order to slide the splined collar out, see Figure ‘A’.

To raise the height of the pedal rotate the splined collar 1 or 2 teeth in a clockwise direction as figure ‘B’, re-fit the pedal to check the travel & operation of the dual control pedals. Continue adjusting the pedal height with this method until the desired height is achieved. In order to lower the pedal height simply rotate the internal splined collar in an anti-clockwise direction.

With the height adjustment complete re-secure the pedals to the rods. If the pedals are removed from the rods leaving the internal splined collar still on the rod, rotating the pedal 1 tooth up or down will result in an adjustment angle of approximately 25°.
**Pedal Pad Angular Adjustment**

Most dual control pedal pads pivot about a high tensile bolt from the pedal arm allowing the pedal pad a convenient angle to be set to the user’s choice. Loosen the bolt, set to the desired angle & retighten the bolt so that the pedal pad is locked in position.

**Cable Dual Control System**

The cable system comprises of a flexible steel inner cable, a PVC covered flexible steel outer cable with a Celanex liner inside. The inner cable runs through adjusters at the pedal box & pulley brackets. The outer cable & liner slot into recesses in the adjusters.

**Cable Arrangement**

From each pulley wheel on the pedal box assembly the inner cables are attached to clevis pins on their respective swinging arm. Adjust the cable at the driver’s side with the adjuster sleeve to ensure that there is a small gap of approximately 1mm (2mm max) between the adjuster sleeve and the eye bolt on the pedal clamp to ensure full return when used. More adjustment of the cable can be obtained from the adjuster at the pedal box, adjusting the outer cable out from the pedal box effectively shortens the inner cable.

On vehicles with cable operated self adjusting clutches, ensure the gap between the adjuster sleeve & the eyebolt is always maintained, periodic inspection is recommended.

Springs are attached to the adjuster end of the cables & are fixed to a spring bracket which in turn is attached to fixing points at the lower dash. The springs are to ensure that the weight of the dual control pedals does not impinge upon the vehicles pedals & to keep tension on the inner cables avoiding contact with each other at the pedal box.

The dual control pedals remain stationary whilst the vehicles pedals are operated.
Cable Dual Control System

Typical Pedal Clamp & Pulley Bracket Arrangement
Clutch & Brake

Pulley Assembly on the Pedal box

Cable Adjuster
(Passenger side)
Rod Dual Control System

Pedal Options
The following options may be available to the rod operated dual control;

Option A. The dual control pedal remains stationary whilst the vehicle's pedal is moved.

After setting the appropriate pedal height, ensure that the torsion spring tangs are fully engaged in the bearing housing and collar. Then using the 2.5mm Allen key in the grub screw, turn the collar so that the torsion spring applies just enough force to hold any residual weight from the dual control off the vehicle's pedal. Lock the spring in position by tightening the grub screw with the Allen Key. **Ensure that the spring is rotated & set in the correct direction as rotating in the wrong direction could cause problems with the vehicle's clutch & brake operation.**

Option B. The dual control pedal moves directly with the vehicle's pedal.

First apply option 'A', if available, and then bolt the overrider and operating lever together using either the 'J' bolt or plain bolt as appropriate. Remove excess thread from the 'J' bolt once the nut is secured in place.

**Shaft Collars**

Shaft collars are used for locking the sideways movement of the rods, sub assemblies etc.

Tighten the grub screw with the 2.5mm Hex wrench (Allen Key) to lock the collar in position ensuring that the rods etc, rotate freely.

**Hinged Pedal**

Hinged pedals are used when the vehicle layout only allows the dual control 'Pedal Option B' for the clutch, i.e no 'stationary' option is available. A hinged pedal will follow the vehicle's pedal down but will stop upon contact with an obstruction e.g a foot. The pedal should pivot freely on the hinge bolt to avoid foot entrapment.
**Ball Jointed Link Alignment**

Ball joints are designed to move in all directions within certain limits. These limits will not be exceeded if the ball joint link is set to the correct position when at rest, with the ball joint stud perpendicular to the ball joint body. If the link is not set to the correct position when at rest, operational movement and force may cause excess strain on the ball joints and these will fail in time.

![Correct Rest Position](image1)

![Incorrect Rest Position](image2)

**Rigid Link Alignment**

Rigid links can be adjusted sideways by varying the number of washers either side of the lever or clamp. Rigid links must operate parallel to the attached levers or the link may 'bind up.'

![Rigid Link](image3)

On some models that use rigid links, the clevis pin & buckle clips are replaced with M8 bolts with Nyloc nuts. The Nylocs nuts can be adjusted where the links connect to the levers & clamps to ensure that they pivot freely.
**Maintenance of the dual control system**

Ensure all moving parts of the dual control are lubricated once a month to reduce friction.

On the rod & cable dual control systems periodically check the clamps/adaptors attached to the vehicles pedals are fully secure.

On rod operated controls check that any rigid links attached to the clamps & levers pivot freely.

On the cable operated dual control system inspect the cables once a month for any possible wear, freeplay & alignment with the pulley wheels & guides. Renew cables when re-installing the dual control or annually, which ever occurs first.

Replace pedal pads if the rubbers become excessively worn.

Annually check that all fixings for the brackets to the bulkhead/floorpan are secure.

**Re-installation of Dual Control**

If this control is transferred to another vehicle, He-Man Dual Controls must be contacted to ensure that the dual control is suitable for use with that vehicle, have the batch number (see below) from the dual control to hand to enable us to correctly identify the dual control unit.

For **Cable** operated dual controls a new set of cables will be necessary.

**Batch Numbers**

The batch number is used to identify the dual control unit & can be used when ordering parts or when checking compatibility with other vehicle models. The batch number is a series of numbers or letters or a combination of both & is usually stamped into the metal work of the dual brake pedal, see below.

![Batch Number Example](image)

**Recommended Torque Settings**

M6 Bulkhead fixing bolts = 11Nm  
M8 Bulkhead fixing bolts = 18Nm  
M6 Pedal Clamp bolts = 11Nm  
M8 pedal Clamp fixing bolts = 14Nm  
M6 Bearing housing bolts = 3Nm Maximum  
Self-Tapping hex head screws = Tighten screws to hold brackets securely to the bulkhead/floorpan.