

REMOTE VACUUM SERVO UNIT BOOST RATIO 1.90:1

Triumph Herald, Spitfire, Vitesse, GT6, Toledo
1500, 1300, TR2-4A, Austin Healey Sprite and MG
Midget



Part Number: RH5272

(For single line braking systems)

GENERAL FITTING INSTRUCTIONS

To ensure correct installation of the remote vacuum servo unit, thoroughly read and adhere to the fitting instructions prior to carrying out any work on the vehicle.

INTRODUCTION

The vacuum servo unit is incorporated into the hydraulic braking system remote from the master cylinder as an intermediate stage operating between the master cylinder and the brake assemblies. The two main parts of the servo unit consist of the vacuum servo mechanism and the hydraulic slave cylinder assembly. These component parts are bolted together so that the slave cylinder piston is in line with and is operated directly by, the servo push rod. A plastic non-return valve is fitted into the vacuum shell and an integral air cleaner is incorporated to prevent foreign matter entering the air control valve chamber. The servo unit is designed to give no assistance with very light brake application. In the absence of servo assistance due to loss of vacuum, an unrestricted passage for the fluid will exist. The brakes can still be applied, therefore, by the normal action of the pedal on the brake master cylinder, but this would demand heavier foot pressure to achieve the same degree of braking as with servo assistance. When this servo unit is used to replace a non-lockhead servo or is installed on a vehicle previously without a servo, the following installation recommendations must be observed.

NOTE:

Not for use on vehicles with tandem or dual line braking systems except for specific applications where twin servo units are fitted. In this instance, units must be replaced in pairs to maintain the correct brake balance.

Quality Parts and Accessories for



Triumph House, Sleaford Road, Bracebridge Heath, Lincoln LN4 2NA, England
Telephone: 01522 568000 | E-mail: customer.services@rimmerbros.com

www.rimmerbros.com

IMPORTANT:

Fitting a brake servo unit will not make faulty brakes reliable. Any fault in the vehicle braking system must be rectified. Therefore before fitting the new servo unit, ensure, that the braking system is in good working order.

NOTE:

- A. When changing brake parts the need for absolute cleanliness is essential. Therefore ensure that hands are free of grease and dirt. Always use fluff-free cloth or paper towelling for cleaning purposes.
- B. Ensure a sufficient quantity of **Dot 4 brake & clutch fluid** is available for bleeding the braking system and topping up the reservoir. Where possible brake fluid should always be stored and dispensed from the original tin or bottle. Care must be taken to prevent both dirt entry and contamination especially in the mouth area of the master cylinder reservoir during the operation. Prior to fitment of the brake servo unit or removal of an existing servo installation, thoroughly clean the outer surfaces of the unit (where applicable) and around all relevant hydraulic pipe connections using methylated spirit as a solvent. Do not use petroleum-based products for deaning braking system components, i.e. petrol or paraffin. On the majority of vehicles a 3-way adaptor is used into which are coupled the supply pipe from the master cylinder outlet port and the pipes feeding both front and rear brake assemblies.

REMOVING EXISTING INSTALLATION

1. Disconnect the battery.
2. Disconnect and remove the vacuum hosepipe that connects the servo unit to the vacuum pump/manifold.
3. Disconnect, remove and discard the hydraulic feed pipe from the master cylinder outlet port to the 3-way adaptor. Seal off the hydraulic connection points to prevent loss of brake fluid and ingress of foreign matter.
4. Unbolt the existing servo unit together with any mounting brackets, where applicable, and remove from the vehicle.

NOTE:

Brake fluid is injurious to paintwork, therefore when removing the servo unit from the vehicle care should be taken to ensure that no fluid is spilt onto the painted surface of the bodywork. Should fluid spillage occur, wash off immediately with copious amounts of cold water.

The following general instructions apply to remote servo installation kits. Obviously all vehicle types cannot be quoted, but by observing these instructions the installation kit can be used for the majority of vehicles with single line braking systems. Where the hydraulic piping, supplied in the fitting kit, needs to be shortened it will be necessary to use a Bundy flaring too to reform the pipe end.

Quality Parts and Accessories for



Triumph House, Sleaford Road, Bracebridge Heath, Lincoln LN4 2NA, England
Telephone: 01522 568000 | E-mail: customer.services@rimmerbros.com

www.rimmerbros.com

LOCATION OF NEW SERVO UNIT AND BRACKETS

1. It is essential that the servo unit is fitted to the integral body or chassis (i.e. Not to the engine) thus preventing the brake pipes being subjected to vibration or flexing.
2. It is an advantage to locate the servo within the engine compartment whenever possible to safeguard the unit and to keep the hydraulic pipe runs to a minimum length.
3. Ensure the hydraulic Slave cylinder is at least six inches away from any part of the vehicle exhaust system, otherwise fluid vaporization from local heat could occur.
4. The servo unit need not be mounted below the level of the brake fluid reservoir but keep the difference in height to a minimum.
5. With the aid of the mounting brackets and fixings provided in the kit install the servo unit with the hydraulic slave cylinder outlet port inclined upwards between 25° and 45° from the horizontal plane. (See Fig.2). The air control valve should be situated at least 30° below the centre line to assist when bleeding the hydraulic system. (See Fig.3).

FITTING HYDRAULIC PIPING

With all relevant connection points clean and free from ingress of foreign matter, using the new Bundy piping supplied in the kit:

- a. Connect up the feed pipe from the brake master cylinder to the servo slave cylinder inlet port.
- b. Connect up the supply pipe from the servo slave cylinder outlet port to the 3-way adaptor.

When bending brake pipes to shape, great care must be taken to void kinking. The best way to obtain a good curve is to bend the pipes smoothly round a mandrel of suitable diameter. Using existing clips on the vehicle, ensure pipes are properly secured and cannot chafe or foul other components. Where a long length of piping is fitted e.g. from one side of the vehicle to the other via the bulkhead, secure the pipe to the bulkhead to avoid vibration. Additional pipe clips are available for use where necessary. On some vehicles where space is limited, it will be helpful to use banjo and bolt fittings in the tappings of the servo slave cylinder to avoid a severe bend in the brake pipe. (See Fig.4).

NOTE:

No attempt should be made to cut and reflare existing brake pipes in situ, as problems could arise with contamination through ingress of foreign matter, i.e. swarf.

Quality Parts and Accessories for



Triumph House, Sleaford Road, Bracebridge Heath, Lincoln LN4 2NA, England
Telephone: 01522 568000 | E-mail: customer.services@rimmerbros.com

www.rimmerbros.com

VACUUM HOSE, IN LINE NON-RETURN VALVE (WHERE FITTED) AND FITTINGS:

The servo unit must be connected via a vacuum hose, running from the plastic non-return valve located in the servo shell to a suitable vacuum source e.g. the engine induction manifold or vacuum pump. On some vehicles the manifold is already tapped and fitted with a removable plug, otherwise it will be necessary to drill and tap the manifold. Three manifold adaptors are available, each with a different thread size to suit various applications.

These thread sizes are:

1. 1/8" x B.S.P. taper, This is self-sealing and should be used when the manifold is not already tapped. Drill the top wall of the manifold 5/16" and tap with a 1/8" B.S.P. taper tap. The manifold should be removed from the engine for this operation.
2. 5/8" x 16 Whitworth thread. (Use with a copper gasket).
3. 5/8" x 1s U.N.F. thread (Use with a copper gasket).

Fit the relevant adaptor (and the copper gasket, if a 5/8" diameter adaptor is used), and attach the vacuum hose from the kit, securing with one of the hose clips provided.

In a convenient position, preferably at the highest point in the vacuum hose, run, an in line non-return valve is advisable on high performance vehicles. Cut the hose and connect up the two sections to the valve unit, secure with hose clips supplied. Ensure that when fitted the arrow on the non-return valve is pointing towards the servo (See Fig.4).

IMPORTANT:

To protect the servo unit and non-return valve from fuel contamination, especially, on a petrol engine vehicle, a 'U' trap must be formed in the vacuum hose route.

It is essential the vacuum hose inclines downwards from the servo and that the 'U' trap is formed below the level of the servo and the in line non-return valve (where fitted), i.e. by looping it between the inlet manifold and non-return valve so that point 'X' is lower than points 'Y' and 'Z' as shown (See Fig 4). Where the vacuum hose traverses the engine secure in position with plastic ties. Secure hose connection at the servo with the remaining hose clip.

BLEEDING AND-TESTING SYSTEM

1. Reconnect the battery.
2. Using new DOT 4 brake & clutch fluid or fluid as recommended by the vehicle manufacturer (conforming to SAE J1703 specification) bleed the braking system in accordance with the appropriate vehicle manual. With the system properly bled, firm resistance should be felt at the brake pedal, if difficulty is experienced in achieving a "good bleed", then the bleeding process will be assisted by "cracking open" the brake pipe tube nut at the servo outlet connection whilst depressing the brake pedal. Surround this connection with

Quality Parts and Accessories for



Triumph House, Sleaford Road, Bracebridge Heath, Lincoln LN4 2NA, England
Telephone: 01522 568000 | E-mail: customer.services@rimmerbros.com

www.rimmerbros.com

clean "fluff free" cloth to capture escaping brake fluid. When the pedal is fully depressed retighten tube nut, repeat this process several times if necessary. When completed; "top up" the fluid reservoir to the correct level.

3. Start the engine and apply the brakes several times. Whilst an assistant depresses the brake pedal, re-check for fluid leaks particularly where new connections have been made.
4. Road test the vehicle, and finally check for fluid leaks.

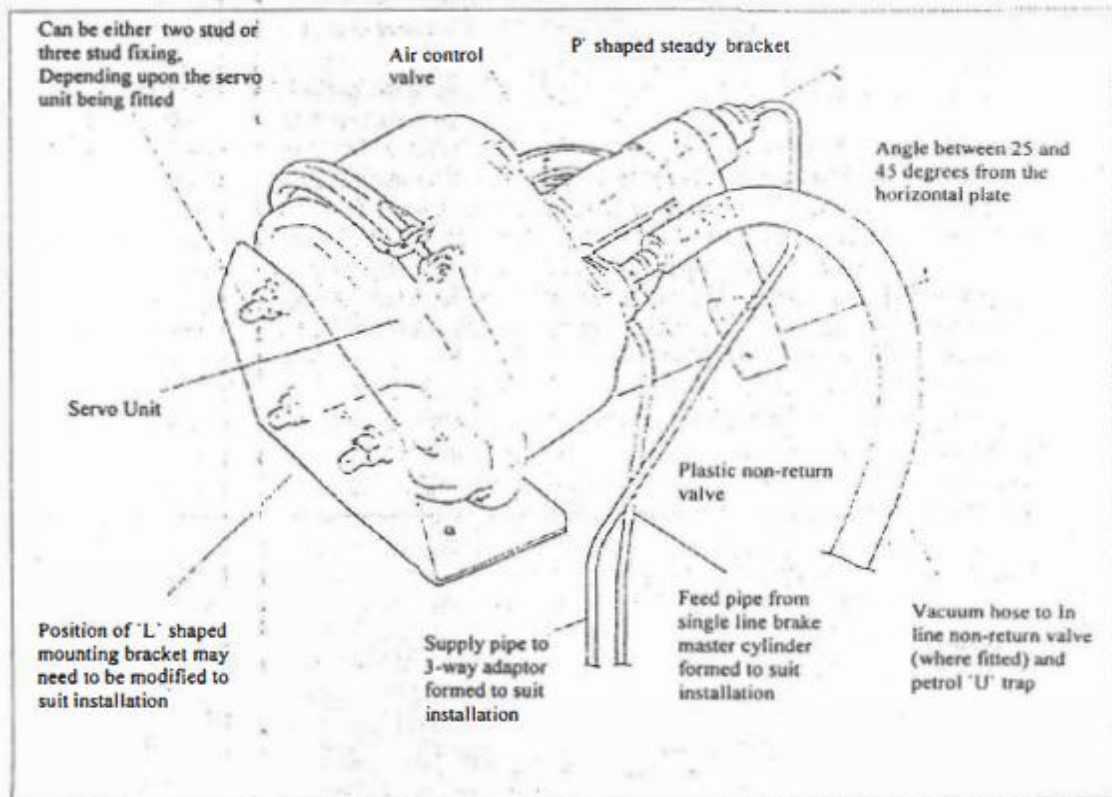
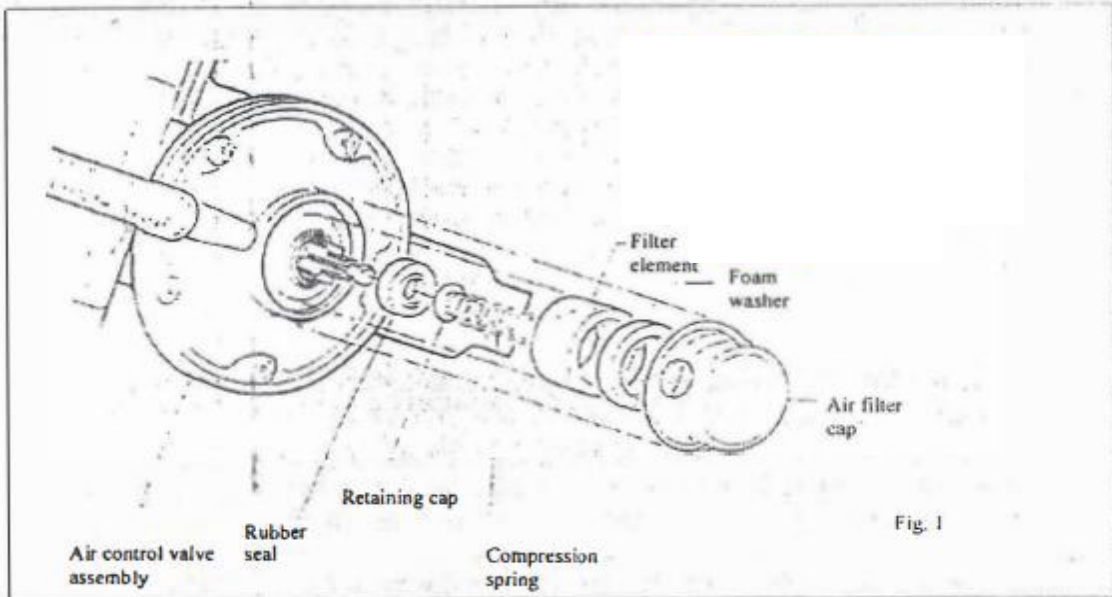
General application guide for remote servo assemblies			
Vehicle application	Installation Kit/servo	Vehicle application	Installation Kit/servo
AUSTIN/MORRIS Austin Healey Sprite Mks I, II, III & IV Austin A30, A35 A40 MK. II Austin/Morris 1100, 1300, (including all variants) Mini 850 & 1000, Countryman, Clubman (including all variants) Mini-Cooper Mks. I & II Mini Cooper "S" Morris Minor (All Models) Morris Oxford "Farina" series V & VI (All models)	(LE2696)	MG MGA (All models) MG 1100 M.G. Midget Mks. I, II & III TALBOT (Hillman, Singer) Hillman Imp Mks. I & II, Californian Hillman Minx (All Models) Singer Chamois Mks. I & II, Coupe TRIUMPH Triumph Herald (All Models) Triumph 1300 Saloon Triumph Toledo Saloon Triumph TR3 Triumph TR4 & TR4A Roadster & Coupe Triumph Spitfire Mks. II, III & IV Triumph GT6, Mks. I, II & III	(LE72696) (LE72696) (LE72696)

Quality Parts and Accessories for



Triumph House, Sleaford Road, Bracebridge Heath, Lincoln LN4 2NA, England
 Telephone: 01522 568000 | E-mail: customer.services@rimmerbros.com

www.rimmerbros.com

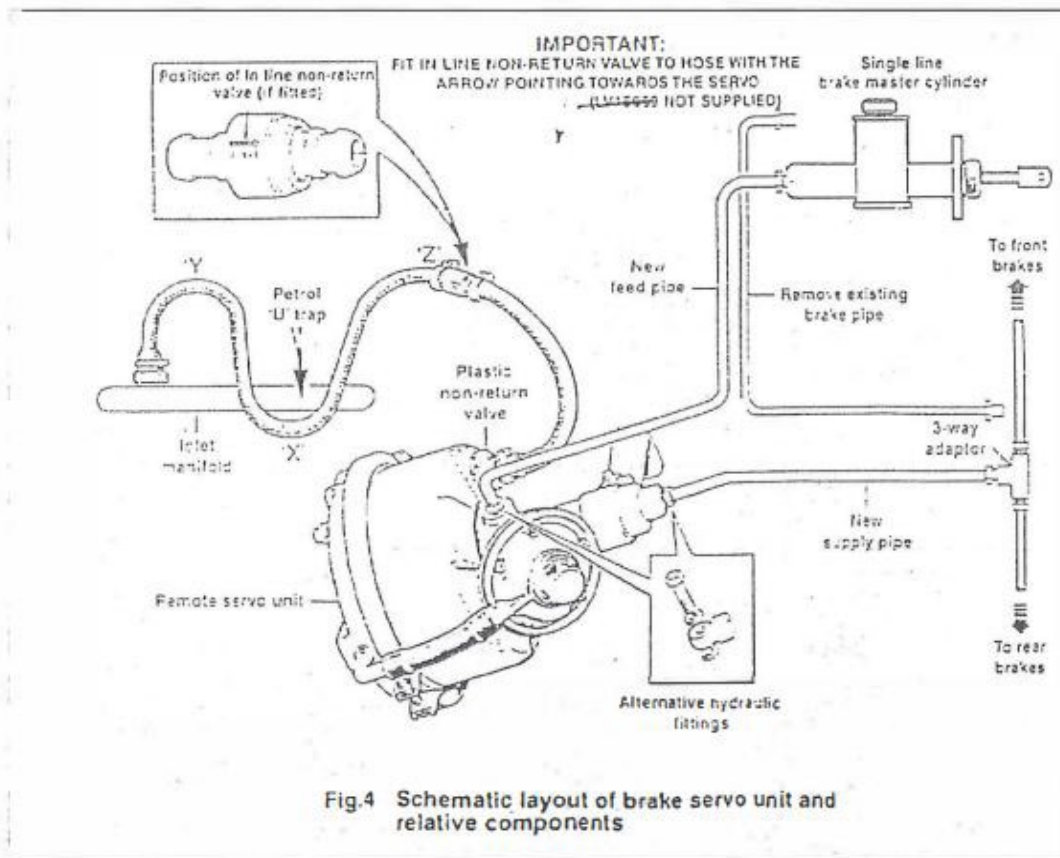
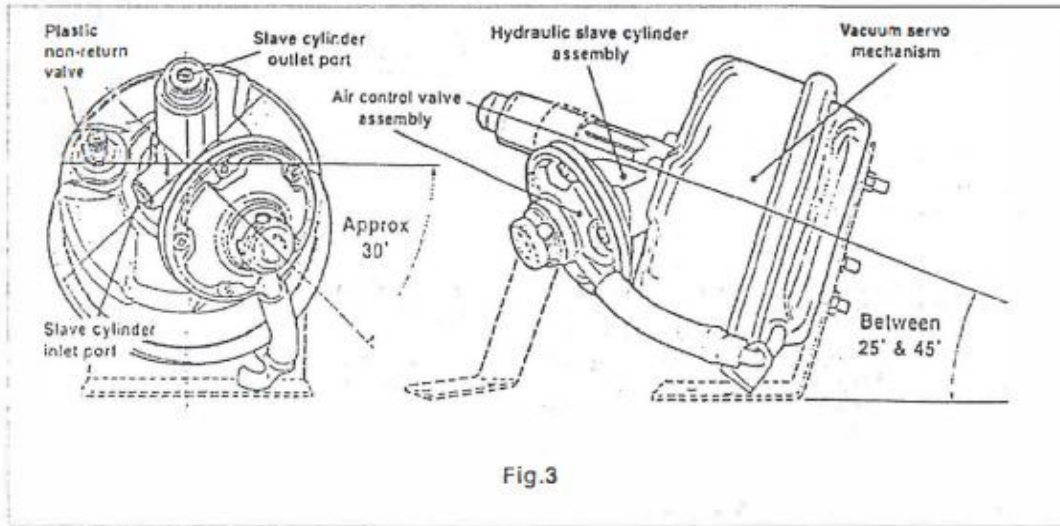


Quality Parts and Accessories for



Triumph House, Sleaford Road, Bracebridge Heath, Lincoln LN4 2NA, England
 Telephone: 01522 568000 | E-mail: customer.services@rimmerbros.com

www.rimmerbros.com



Quality Parts and Accessories for



Triumph House, Sleaford Road, Bracebridge Heath, Lincoln LN4 2NA, England
 Telephone: 01522 568000 | E-mail: customer.services@rimmerbros.com

www.rimmerbros.com