



PO Box 243, Richmond, NSW 2753, Australia

## REMOTE GREASING KIT FOR MORGANS – SERIES 3

### Fitting Instructions

Thank you for purchasing a Remote Greasing Kit for your Morgan. These fitting instructions should enable you to fit the kit to your Morgan. Depending on which model Morgan you have, fitting will take from 2 to 4 hours.

If you have any problems following these instructions please don't hesitate to email me at [geoff@mpsconsult.com](mailto:geoff@mpsconsult.com) or telephone me on 61-2-45677247 (only during Australian business hours please).

Geoff Williams

### Your kit contains:

- 2 x pre-assembled steel grease blocks for mounting on inner guard in engine bay
- 4 x stainless M6 allen head screws with washers and nuts
- 2 x 90° swivel elbows 1/8BSP to 6mm push-on (replace top grease fitting)
- 2 x 90° swivel elbows M6 to 6mm push-on (replace lower grease fitting)
- 2m of 6mm high pressure Nylon tube
- 1m of insulation sleeve (V6 Roadsters only)
- Template for mounting of grease blocks on inner guards



## Tools Needed:

	Paint pen or crayon for marking drill hole locations on inner guard
	4mm Hex key for tightening stainless screws which hold grease block to inner guard
	10mm, 11mm & 13mm spanners
	Utility knife for cutting nylon tubing - use new blade
	Permatex ultra grey or similar high quality gasket maker for sealing thread of lower grease fitting
	Grease gun and grease
	Power drill - the more compact the better.
	7mm drill bit
	Die grinder or Dremmel with tungsten bur (only for older cars without lower spring bearing fitted - refer instructions)
	16mm Tungsten hole cutter.
	Car jack or hoist if available
	Axle stands (if using car jack)

*If using a jack, raise the vehicle as high as you can and ensure it is safely supported by car stands.*

## Introduction:

Regular greasing of the kingpins is an essential part of Morgan maintenance. Never a fun job, it has been made even more onerous with the newer cars requiring the front wheels to be removed for accessing the top kingpin greasing point every 1600km (1000miles).

This remote grease system is designed to enable you to grease the top and bottom of the Morgan front suspension kingpins without having to either remove the road wheel or lie under the car. All the fittings are of professional quality and feature push-in capture of the nylon tube rather than the cumbersome olives used in cheaper systems. The tubes can be easily removed and reinserted multiple times.

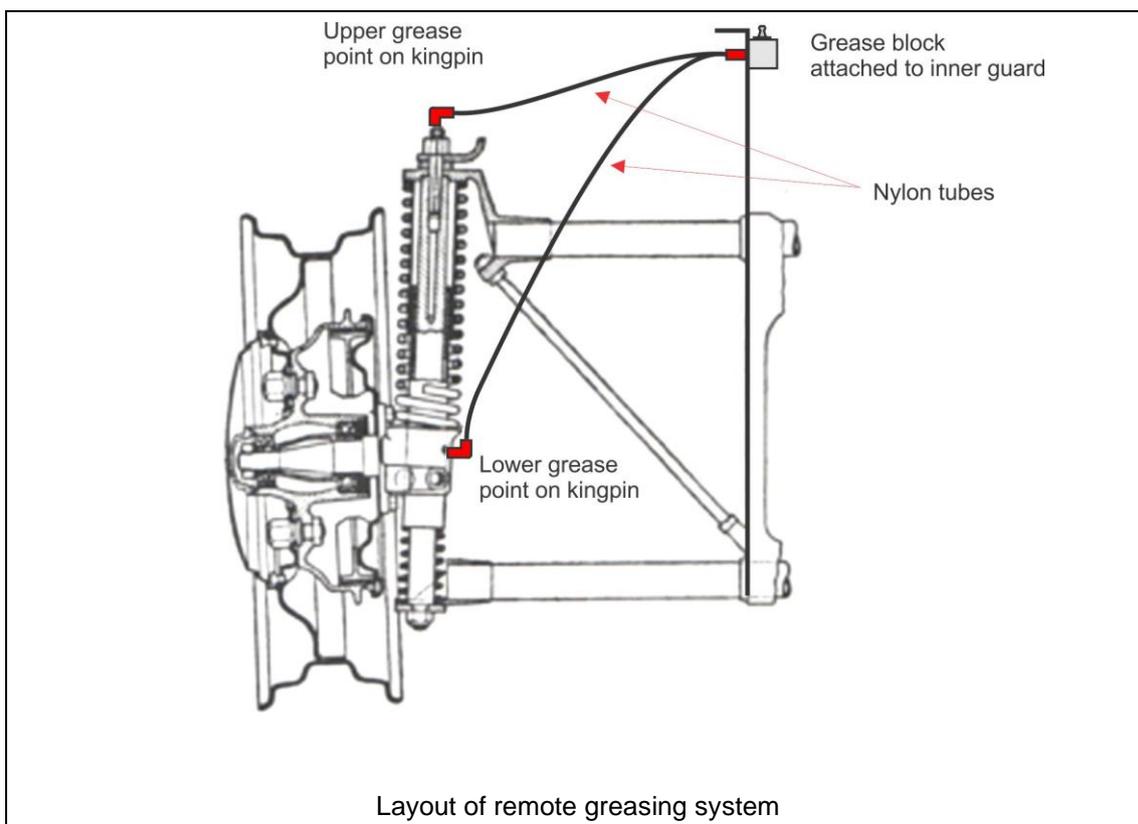
The top and bottom kingpin fittings are of swivel design, allowing full suspension and steering travel without stress on the tubing.

These kits successfully operated on three Morgans travelling around Australia in 2013 - a 1995 4/4, a 1978 Plus 8 and a 2012 Roadster. A total of 60,000km between them.

**PLEASE NOTE THAT SOME INSTALLATION PHOTOS IN THIS DOCUMENT SHOW THE EARLIER GREASE BLOCK. THE NEW VERSION IS MORE COMPACT AND CAN BE MORE EASILY FITTED IN TIGHT SPOTS.**

## Layout of fittings:

The grease blocks are attached to the engine side of the inner guards on each side of the car. Each grease block has two nipples on the top and two outlets. The outlets exit through the inner guard and are connected to the 6mm nylon tubing. One goes to the top grease point, the other to the lower grease point.



## Instructions:

**Step 1: Raise car and remove front wheels. Support the car with stands.**

### Step 2: Installing the grease blocks.

The grease blocks are installed just below the lip on the engine side of the inner guards. The actual external dimensions of the blocks are 58mm x 25mm.

They can be located anywhere between the front or rear of the engine compartment but the closer to the front the better as this moves them away from engine exhaust heat. Use a template to find an ideal location.

Make sure there is clear space on the outside of the inner guard to allow drilling and routing of tubes. The grease blocks can be offset, i.e. in different locations on each side of the car.

On late V6 roadsters the blocks may need to be located just above where the exhausts exit. In this case thermal sleeving is required.

Once you have chosen your preferred location, use the template to mark where the holes will need to be drilled in the inner guard. It is helpful to place some masking tape over the area and use a pen to mark the holes. Lightly centre punch the holes to help with drilling.

The exit holes for the grease outlets are 16mm in diameter and are best made using a tungsten hole cutter – these are available quite cheaply online.

The holes for the M6 screws are 7mm.

Deburr the holes, check for fit and adjust holes if necessary and then attach the grease blocks using a hex key and 10mm spanner.



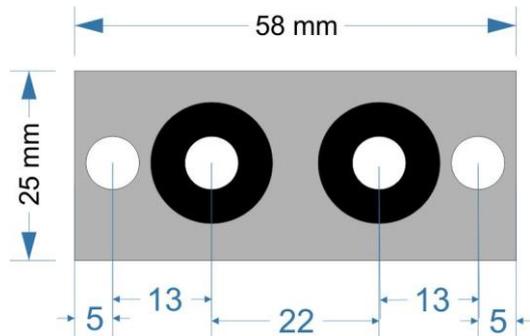
Location in an older 4/4



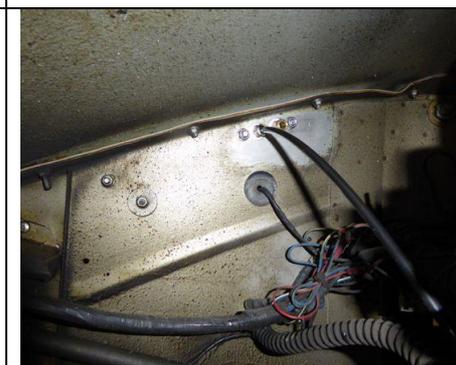
Location in a late V6 Roadster



Exit location on an older 4/4



*Dimensions of the grease blocks*



Exit location in a 2004 Plus 8

**Please note:** The grease blocks are sealed and maintenance free. If you ever remove the grease nipples please do not overtighten when refitting. The 1/8 BSP fitting is a very fine thread and can be stripped if overtightened.

### Step 3: Installing the top and bottom grease line adapters

#### Top Adapters:

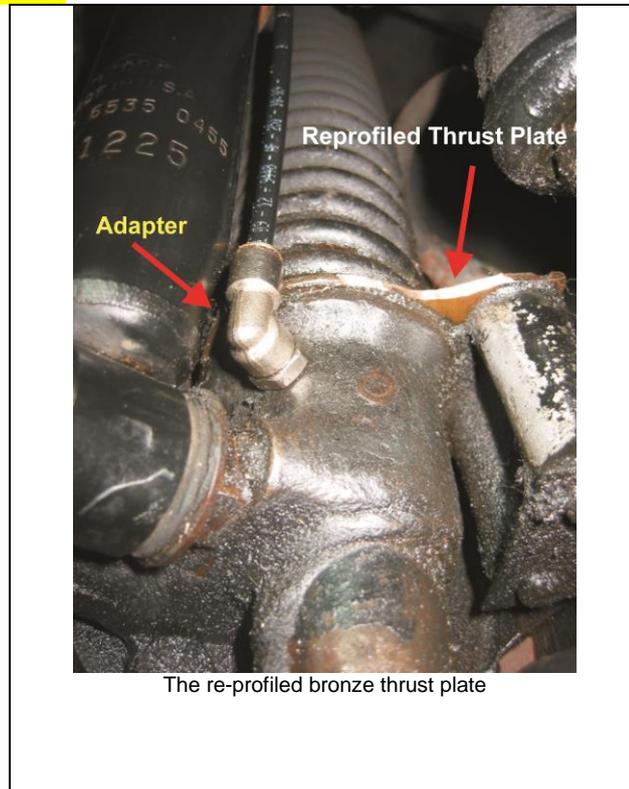
Remove the factory fitted grease nipple and replace with the supplied 90° 1/8 BSP adapter.

#### Lower adapters:

If you have a late model car or an older car with a factory or Mulberry lower bearing upgrade skip to the next step.

#### Older cars without lower bearings upgrade:

To allow the proper movement of the grease adapter and tube under full steering lock it is necessary to sculpture the bronze thrust plate underneath the spring. This can be done on the car but requires a dye grinder or Dremmel to remove the material. A tungsten carbide bur is needed.



Next: Remove the factory fitted grease nipple and replace with the supplied 90° M6 adapter. The thread on the old grease nipple is 1/4 BSF whereas the thread on the new fitting is M6 which, although not identical, gives a good fit. As a precaution clean the threads and smear some good quality gasket maker on the adapter thread before screwing it home. The fittings are of brass so **be careful not to cross the thread and do not overtighten to avoid shearing the fitting.**

Because the new fitting can swivel it is possible to screw it in without having to remove the shock absorber by holding the swivel end and using a spanner to turn the thread end but if you find it awkward by all means withdraw the lower shock mount.

#### Step 4: Installing the tubing at grease block

Tubing to top grease point: Cut long enough to give a slight bow when fitted.

Tubing to lower grease point: Cut tubing long enough to give sufficient movement when the steering is turned lock-to-lock. Better to cut it too long than too short. The tubing is normally routed to the rear of the top cross member and tension rod. Make sure you cut the tubing cleanly at 90° with a sharp knife.

Push the tubing in firmly at the grease block end. You will feel a definite movement of about 6mm if it is in properly. If not, it will leak grease when primed but it is easily removed by pushing in the brass collar and can be inserted again until it is correct.

Once in properly it will not leak as it is capable of withstanding very high pressures.

If you need extra nylon tubing it can be purchased from any quality hydraulics supply company such as Pirtek.

If your grease blocks are in the proximity of the exhaust then cover with a length of 16mm diameter heat shield before priming.

#### Step 5: Priming the grease lines

Once the tubing has been installed at the grease blocks the tubes need to be filled with grease. Attach the grease gun to one of the nipples on the grease block and pump until grease exits the end of the tube. **Check to make sure grease has not seeped out from the grease block end of the tubes. If it has refit the tube (see above).**

Repeat for the other three grease tubes. As with step 4 above, push the tubing in firmly at the suspension end. You will feel a definite movement of about 6mm if it is in properly. If not, it will leak grease when the grease gun is used but it is easily removed by pushing in the brass collar and can be inserted again until it is correct. Once in properly it will not leak as it is capable of withstanding very high pressures (over 1000psi).

Repeat for the other three fittings.

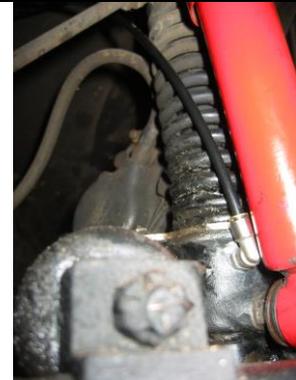
#### Step 6: Final grease pressure test

Use your grease gun to push grease through each of the four grease block nipples. Inspect both ends of each tube for any leakages and re-insert tubes if necessary.

If all is good then re-fit wheels and lower the car. From now on you can use the nipples on the grease blocks to grease your front suspension at recommended intervals.



Top tube 4/4



Lower tube older 4/4



Heat Shielding

Heat shield sleeve around nylon tube on a Roadster



Lower grease point on a Roadster



16mm heat shield may be needed on some vehicles