This article was originally written in 2000, before I retired as 1100 club spares secretary. I have updated some of it, but references to part numbers and availability may be out of date, as I don’t have “insider” access to current information.

When I say “contemporary” I mean vehicles of similar age (i.e. not modern Minis!). - John Byde

**BRAKE & CLUTCH PARTS**

The following notes are designed to help ADO16 owners through what can be a somewhat confusing process of identifying correct brake parts, and are correct to the best of my knowledge and belief. The numbers listed are those last known - Unipart numbers followed by AP/Lockheed. Original equipment was always AP/Lockheed, Unipart numbers always used to be Lockheed stock but aren’t necessarily so now. All AP/Lockheed brake part numbers were reclassified in 1990, so that stock carrying the first number listed will be of older origin. In accordance with standard vehicle conventions, RH means right hand when viewed from the rear of the car, ie offside or driver's side UK, LH is left hand.

**MASTER CYLINDERS**

Replacement cylinders introduced in the 1970s had modified pistons requiring different seal kits. They should have markings .70 or 3/4 on the outside of the piston barrel (ie under the reservoir) but this isn’t always consistent. Cylinders painted in a glossy bronze colour are always the later type. This is important because seal kits are not interchangeable. The original consisted of a cup and ring seal, modified consist of two ring seals. The surest procedure is either to dismantle the cylinder first, or buy both seal kits.

Brake master cylinder Unipart GMC120 = AP/Lockheed 4222-929 now obsolete, GMC175 = 4222-998 now LM12998, both have 17.5mm bore. GMC120 was the original mk1 specification, having a smaller base plate. GMC175 has a larger base plate but with same fixing holes and can be substituted. Original cylinders have cup & ring seals GRK1028 = SSB703 now LK10703. Replacement cylinder ring & ring seals GRK1006 = SSB994 now LK10994. The difference between this and contemporary Mini etc cylinders is in the length of the push rod, so you may be able to do a swap if your original push rod is serviceable – but make sure the eye for the clevis pin has not worn oval.

In 1999 AP modified the design of master cylinder LM12998 by making it with a transparent plastic reservoir instead of a metal one, with a indicator line
marked for minimum fluid level. If you need a new cylinder but dislike these for aesthetic reasons, you will have to find new old stock.

Brake master cylinder GMC142 = 4222-138 now obsolete, fitted to 1300GT, MG1300 & VP1300 manual 1971 onwards, where a brake servo was fitted as original equipment. 19mm bore. NB cars fitted with a brake servo after manufacture are unlikely to have had a matching master cylinder fitted. It appears the 'modified seals' cylinder was GMC156, although I am not sure of this, never having seen or handled one. Both have been obsolete for many years. Cup & ring seal kits GRK1026 = KL71535 now LK11535. Ring & ring seals SSB977 now LK10977, Unipart number apparently GRK1009. No other vehicle was fitted with this master cylinder, so it has become pretty scarce. In practice you can probably use an ordinary one without noticing much difference in performance, as when aftermarket servos were fitted.

From 1972 on cars shipped to some export markets, particularly Sweden and the USA, had tandem brake systems fitted which necessitated a master cylinder GMC159 = 4222-427 now LM12427, 17.5mm bore, repair kit GRK1019 = SSB927 now LK10927. These were used on contemporary Minis in the same markets so can sometimes be found at a cost.

Clutch master cylinder GMC1001 = 4223-711 now LK13711, 17.5mm bore. Cup & ring seals GRK3005 = SSB716 now LK10716. Ring & ring seals GRK3008 = SSB993 now LK10993. These have smaller reservoirs than the brake master cylinders and do not have an internal non-return valve. There is no other vehicle application.

**CALIPERS**

Mk1 ADO16s were the first British mass market cars to be fitted with disc brakes, and used a conventional twin piston design caliper. BMC part no 17H9438 (RH), 17H9439 (LH). This is unobtainable new except very occasionally via autojumbles, but as it was also used on the MG Midget (but with LH & RH reversed) it is easily obtainable through the MG market as a reconditioned item, and occasionally the pistons also. Eg online purchase from [http://www.leacymg.co.uk/](http://www.leacymg.co.uk/)

In 1967 shortly after the introduction of the mk2 range, calipers changed to a single swinging piston design. Last available OE part number 37H7217 (RH), AP 4832-719; 37H7218 (LH), AP 4832-720 This necessitated changes to the discs, the front hoses, the rear check valve and the rear wheel cylinders. No other car was ever fitted with this caliper, and even the pistons are only common to a Saab 95 V8. The calipers have not been made for many years,
although at one time AP marketed a kit which consisted of new parts which could be fitted to an existing frame, SSB2620 RH, SSB2621 LH. Existing calipers can be reconditioned, and the pistons have in the past been obtainable as remanufactured parts, eg from Brace Engineering. Original parts are scarce, and no conventional supplier lists them now. The AP part SSB2609 (OE part no 18G8327) now LK12609 which is listed as a "repair kit" is in fact the rubber seal kit for the pistons and has no practical use without new pistons.

**BRAKE SERVO**

As original equipment this was only fitted from 1972 on to 1300GT, the very few MG1300s still made, and the Vanden Plas 1300 manual (not automatic). Last OE part no 13H7938 = AP 4257-814 then LR17814. The boost is 2.9, quite high for a modest saloon car. It was also fitted to a few Hillman Hunters. The repair kit was 18G8852, AP SSB1066 then LK11066. All these parts are obsolete, expensive, and difficult to find even from specialist classic brake part suppliers – the last new unit made about 15 years ago is fitted to my VP1300. A very few cars were fitted after leaving the factory with Lockheed or Girling bolt-on kits available at the time There were several other Type 6 Lockheed servos made for contemporary vehicles, before dual circuit brake systems became industry standard, eg an aftermarket kit LE72696 which has been available more recently and which you may be able to find, and the MGB servo at Leacy MG. This could be fitted to any ADO16 and would not require the master cylinder to be changed. These alternatives have 2.1 or 2.6 boost and the service kits are not interchangeable. Occasionally you may come across an ADO16 where one of these has been fitted, eg from an MGB, after the original failed. Internally the bores, and therefore the seal kits, are different, although the external appearance is the same. The only certain identification is if the original metal tag with the Lockheed part number is still attached to the unit. I note that [http://www.jlspares.com/contact.htm](http://www.jlspares.com/contact.htm) offer services for these servos, although I have no personal experience of them.

**SLAVE CYLINDERS**

Rear wheel cylinder mk1 GWC1102 = 4241-396 now LW11396, 19mm bore, repair kit GRK2014 = SSB1522 now LK11522. This is the cylinder associated with the original twin piston front calipers.
Rear wheel cylinder mk2 GWC1103 = 4241-575 now LW11575, 20.3mm bore, repair kit GRK2012 = SSB539 now LK10539. Casting number 99023C. Matching the single piston swinging caliper system. According to the microfiche a few early mk2 cars were still fitted with twin piston calipers. Identify the caliper to determine the correct rear wheel cylinder.

More recently Italian made wheel cylinders of both types have come onto the market at well under half the Lockheed price - casting numbers mk1 N601, mk2 NH01. If your car has been fitted with these and you need a repair kit, it has to come from the same source, you cannot use Lockheed repair kits to service them.

Fortunately this cylinder was also fitted to MGB GT, so MG specialists have stock both of original and reproduction items.

**Clutch slave cylinder**

Up until 1972, remote control gearboxes (ie no engine steady bar) GSY110 = 110469 now LL10469, 22.2mm bore, repair kit GRK4008 = KL71590 now LK11590. Same as contemporary Minis and some Triumphs, and available from specialist dealers.

When rod change gearboxes were introduced early in 1973, top and bottom engine steady bars had to be introduced, and this required the slave cylinder to be foreshortened slightly to accommodate the top bar. This was not required for the Mini since the steady bar was at a slightly different angle. The solution was to “borrow” a modified clutch slave cylinder from early Maxis, in that application they were made by Girling. However, the 1100 range cylinders were made by Lockheed because they had the ADO16 contract. British Leyland part number 13H8133 = Unipart GSY108 = 4252-396 now LL12396, 22.2mm bore. This has given rise to some confusion about repair kits, if the cylinder is made by Lockheed, identified by casting number 3232-666C, you use the same repair kit as for earlier cylinders, GRK4008 etc. In use, the assemblies are interchangeable but the repair kits are not, so it is possible your car started life with an AP cylinder but has had a Girling replacement. If made by Girling, use GRK4009 now GRK4036 = LK32029. My thanks to AP technical for clarifying this point.

Changes were also made to the clutch hose, push rod, and return spring, and you can’t pick and mix although you can fit the later system to earlier cars if you want to add the engine tie bar system for greater stability. Earlier slave cylinder push rod 13H396 88mm approx available eg MiniSpares. Later 13H8134 75mm approx obsolete although one UK specialist lists it.
BRAKE HOSES

Most of the brake hoses on the car have gone through a number of minor modifications which give rise to different BMC, Unipart, and AP/Lockheed part numbers, too numerous to try and catalogue here, so only the most recent numbers are listed. For about the last 25 years brake hoses have normally carried date of manufacture stamps on them, sometimes this appears on the tubing, sometimes on the flats at the end. No date suggests that a new old stock hose is more than 25 years old. There have been several manufacturers in the past although most have disappeared or been amalgamated.

Front brake hose mk1 (ie twin piston caliper), GBH106 = LH1701. This is a plain tube without plastic armouring, and because it is cheaper is often sold as a mk2 hose as well.

Front brake hose mk2 (ie swinging caliper), GBH162 = LH1704. This has a plastic or metal coil protecting the tube, make sure the coil ends bear on metal, if they slip back onto rubber they will cut the hose! This is 6mm shorter than the mk1 depending on manufacturer, the entry points on the caliper are different and a mk2 hose attached to a mk1 caliper will come under considerable strain on full lock for which it was not designed.

Hose pipe under car to rear sub frame GBH117 = LH1703. This is a little shorter than GBH179 and can easily be confused.

Rear brake hose GBH179 = LH1702.

Clutch hose, earlier slave cylinder GSY110, BMC no. BCA4736 = Lockheed LH5155. This is obsolete and sometimes a longer substitute has been fitted (eg GBH117) which may give rise to problems.

Clutch hose, later slave cylinder GSY108, BMC no 31G5377 = LH5156, also obsolete and pretty scarce.

John Byde

Last revised 23rd October 2008