



Alfa Romeo 156 Brake Replacement

The procedure below was written up for a 1998 2.0 Twinspark with vented front discs but should be the same for all 156 models. The shape of the pads will differ between vented and solid discs at the front. Later models have larger rear discs and therefore different pads. It should not matter if we are talking standard brakes with normal or drilled/grooved discs with high-speed road pads - the process is the same. The only difference is that some front pads don't have the wear indicator so you will need to tie the cable back out of the way if not required.

Tools Required:

Pads Only	Discs
7mm Allen key or hex key socket 13mm & 15mm spanners and/or sockets 15mm open ended spanner Caliper piston retractor Torque wrench Brake Fluid (Dot 4 or Dot 5.1) Brake Bleeding Kit Spanners for bleed nipples (smaller on front than rear) Copperslip copper-based grease Brake Cleaner (must dry without leaving a residue) Rags Wire and stiff brushes	12mm socket or spanner for disc retaining bolts 19mm socket or spanner to remove caliper mountings

I've written this in the sequence I replaced my brakes. This was to do the fronts first, then the rears and finally to bleed of the system completely to change the fluid.

Remember your new brakes will need to be "Bedded in". This means not using the brakes hard for around 100 miles or following the recommendations supplied with the pads. High performance pads often need a special method. Also bedding in new pads on old discs might take a bit longer as they need to "wear" to fit the old disc shape.

As with all major work like this take your time as you will want these to work properly afterwards. Its no use realising you've forgotten to do something as you hit the brakes for the first time



When working under a car, make sure it is supported securely and do not rely on the jack provided by the manufacturer. Use axles stands under appropriate parts of the car to support it properly.



FRONT PADS

Clean up the caliper of loose dirt, etc.

Push/pull/lever pads to retract piston. If you are changing the discs, then a little brute force with a wide screw driver will probably not come amiss, but if you are keeping the discs, you may want to be a little more careful. Pushing the piston back will displace the brake fluid, so it has to go somewhere. You can loosen the bleed nipple to do this (make sure brake fluid is caught through pipe or clean rags). **KEEP BRAKE FLUID AWAY FROM PAINTWORK.** Tighten bleed nipple after to avoid air getting in. Alternative is to push fluid back into system but check level in master cylinder and take action if gets too high. If this proves difficult, wait until caliper is off. You can then use a G-clamp or similar, or like me, just use the narrow wooden handle of a hammer.

Remove pad spring (1).

Disconnect brake pad wear indicator (2) (if fitted)

Remove covers from ends of caliper mounting bolts (not shown in the diagram on the right, but see 3a in large picture on page 2). Undo the mounting bolts 3a with 7mm hex key.

Lift off caliper and remove pads (4).

DO NOT LET CALIPERS DANGLE & PUT STRAIN ON HOSES!

Inner pad has a spring clip mounting that fits into piston. Clean up the caliper as much as possible, checking piston gaiter for holes or perishing.

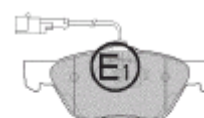
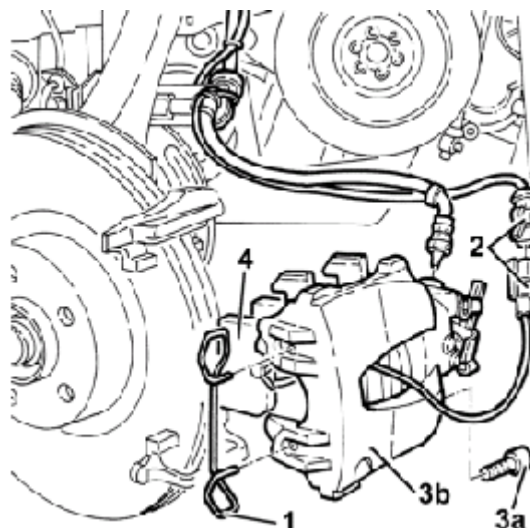
Replace if necessary as this stops dirt and water getting into caliper and causing corrosion/wear.

Make sure piston is pushed fully back and insert new pads into caliper, clipping inner pad into piston. Copperslip the pad backs as you replace them, as well the edges where they sit on the caliper.

If you are changing discs, move to next section otherwise replace caliper and refit hex bolts. Replace pad spring and reconnect pad wear indicator (if fitted).

Repeat on other side.

Hex bolts (3a) torque to 4.8-5.2 Nm.



LP1587
155.1x61.7x18.9
LX0223

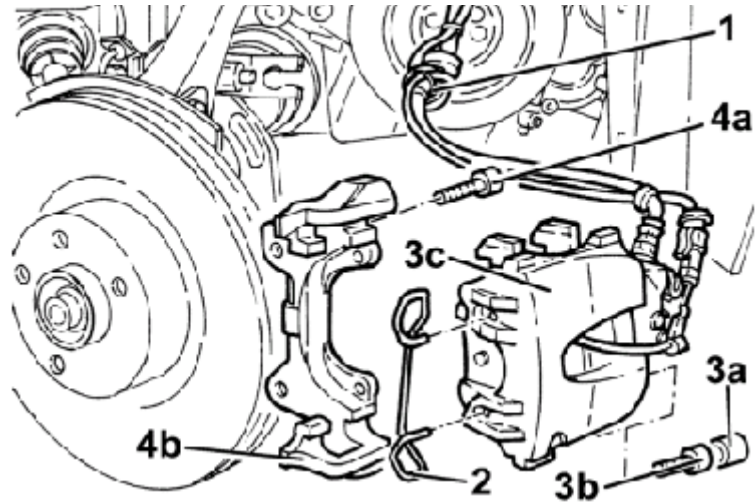


FRONT DISCS

Tools Required:

Once caliper assembly is off, remove the caliper mounting brackets (4b). Remove the two bolts (4a) with a 19mm socket/spanner. These fix to wheel hub behind disc.

Clean up the caliper mountings especially where the caliper locates and slides. Lubricate with Copperlip or similar.



The remove the small bolt/pin (1b) from the hub area of the disc (1a in lower image) and remove disc.

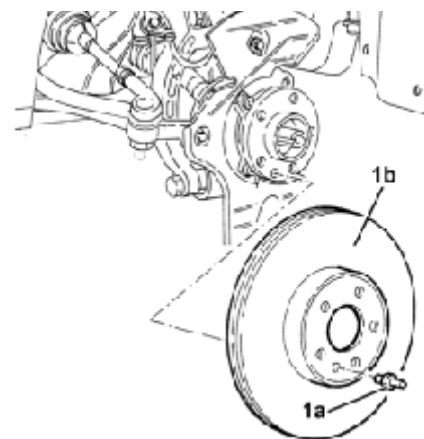
Now's the time to compare the old one with the new one!!

Installation is reverse of above. Clean up the faces of the hub, and clean all the traces of oil/grease, etc., before replacing the disc. Remember the discs will be oiled to prevent corrosion and all traces will need to be removed.

Disc mounting pin (1b) torque settings are 0.8-1.3Nm.

Disc caliper bracket bolts (4a) : 13.6-16.8Nm.

Replace the caliper and pads as in "Front Pads" on page 2.



Fronts: Before and After ... maybe I should have painted them?!?



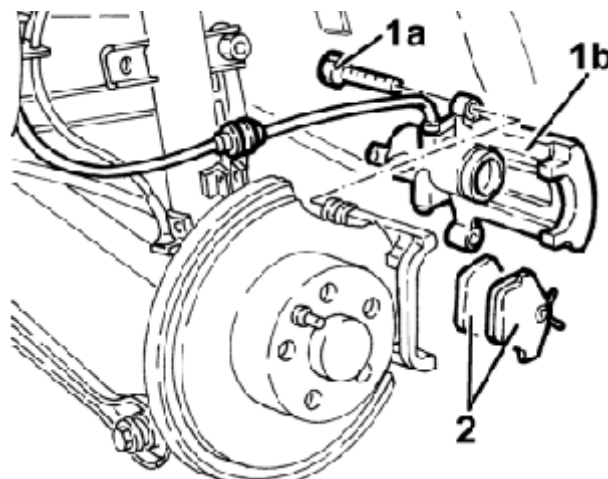
REAR PADS

OK. All the usual stuff (again). Jack up car, take off wheels, make sure car is supported on axles stands, etc.

Release the handbrake and loosen the adjusting nut underneath to allow lots of slack on the handbrake cables. You will have to release the handbrake cables from the caliper. These hook into the handbrake mechanism on the back of the caliper. Pull the outer cable through the mounting flange and keep them clear of the brakes.

Clean up the caliper as much as possible.

Using 13mm and 15mm open ended spanner, remove the caliper mounting bolts and lift the caliper away from the disc. Mine had been fitted using some sort of "loctite" as they had blue threads. Remove the old pads.



DON'T LET IT HANG ON THE BRAKE PIPES AND STRAIN THEM.

Pushing the caliper back involves **PUSHING AND TURNING** at the same time. I used a Draper Piston Retractor which didn't fit perfectly but did the job albeit much more slowly (see picture), but you can use pipe pliers and rags. But be careful. You don't want to scratch the piston surface as this could affect the seal and allow fluid to leak ... new caliper! As with the front, either loosen the bleed nipple or keep a watch on the master cylinder levels as you push the piston back and displace the fluid.

Clean up the caliper, check the piston seal, etc., as you did at the front. Replace the pads and, if you are not changing the discs, refit. Copperslip to pads especially where the inner pad touches the piston.

Caliper mounting bolts torque (1a): 4.8-5.2 Nm.

Reconnect the handbrake cable and when both sides are completed, re-tension the handbrake using the adjuster under the handbrake lever.



Draper Piston Retractor Tool: CWT1

This cost me around £6.90 from my local motor factors. Fits on a 3/8" socket. It has five different side with different shaped and numbers of pins to locate in the piston I used the side with two small round pins, but this didn't fit the piston perfectly. The pins were a little bit too narrow to fit in the cut-outs in the piston. It worked, but a correctly fitting tool would be quicker. I pushed the front piston back by levering the pad with a screwdriver against the disc. But this was because I was replacing the discs. I'd be more careful if only replacing pads. Alternatively you could use the wooden handle of a hammer or a g-clamp. You may be able to lever the pads to do this.

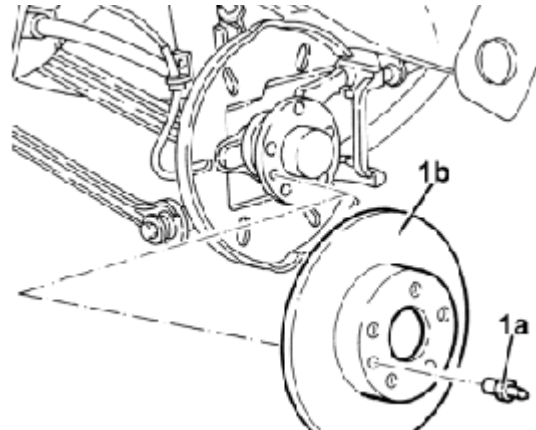




REAR DISCS

Parts Required:

If you are using the opportunity fit new discs, you don't have to remove the caliper mountings. But might be wise and give them a good clean at the same time. You'll need a good strong 19mm ring spanner or narrow socket though as it's impossible to get a thick socket on the lower bolts due to the suspension mountings. Luckily the disc will come off with this in place. Torquing the bolts will be difficult with a ring spanner, so guess work may be needed and some Loctite.



Remove the disc mounting bolt/pin from the hub face and lift the disc away, angling it to clear the hub and the caliper brackets.

My discs were hard to remove and I had to resort to tapping the disc from the back with a hammer while turning it. The discs were the originals, so after 6 1/2 years they tried to remain part of the hub!

As with the fronts, give the hub a good clean and remove all traces of oil and grease from the new disc before replacing.

If you do remove the caliper mountings, the bolts torque setting is 4.7-5.8 Nm.

The disc pin (1a) is 0.8-1.3 Nm.

Copperslip all the moving parts and bolt everything back together.





BLEEDING THE BRAKES

If you release fluid from the calipers through the bleed nipple when you pushed the pistons back, you might have inadvertently got air in the system. This will lead to "spongy" brakes. BUT there is also the possibility that you have got old brake fluid in the system and this may be starting to get contaminated with dirt and water. Brake fluid is hygroscopic which means it will, over time, draw in moisture. This will reduce the fluids boiling point under heavy braking and may lead to you losing braking power at the worst possible moment.

The recommended interval between complete changes is 2 years.

To bleed the brakes you will need either a one-man kit that connects to a tyre valve and forces fluid into the master cylinder and through the system when you open the bleed nipples. Alternatively you can get a simpler kit with a one-way valve on the tube. With this method you need to take care to ensure that the nipple is not too loose or air gets back in as the pressure stops. I use one of these but get someone to sit in the car and pump the brakes. That way I can watch the fluid for colour and bubbles and also make sure the reservoir on the master cylinder doesn't get too low.

If you use the simpler system, pump the brakes slowly, especially when bleeding the rears. The master cylinder may incorporate a brake balance valve which can trigger and prevent the proper flow of fluid to the rears. Alfa brakes are balanced to put most of the braking to the fronts.

There are a number of different ways in which you sequence the brakes:

- Front first, rear last
- Diagonally (n/s/f, o/s/r, o/s/f, n/s/r) or in reverse.
- Working around the brakes, closest to master cylinder first (ie n/s/f, o/s/f, n/s/r, o/s/r)
- The same, but starting furthest from the master cylinder (ie o/s/r, n/s/r, o/s/f, n/s/f)

What is probably going to work here is to bleed the brakes as you finish each wheel or end as I did. Otherwise you will spend most of the time jacking the car up and down and removing wheels more often than you need to.