

## Guide: How to fit a ball and spring mechanical boost controller

A mechanical boost controller can be used when you want to increase the boost pressure on your HDI 90 to go with an intercooler and a stage 2 remap.

You will also need to fit a boost gauge to monitor the boost pressure is at a safe level. The best place to take a boost pressure reading is from the aluminium inlet elbow at the intake manifold. This will give true manifold pressure. Do not fit the boost gauge to the compressor housing.

It's important you don't fit a mechanical boost controller on the 110 or 136 models as these use electronic turbo control.

### How does a mechanical boost controller work:

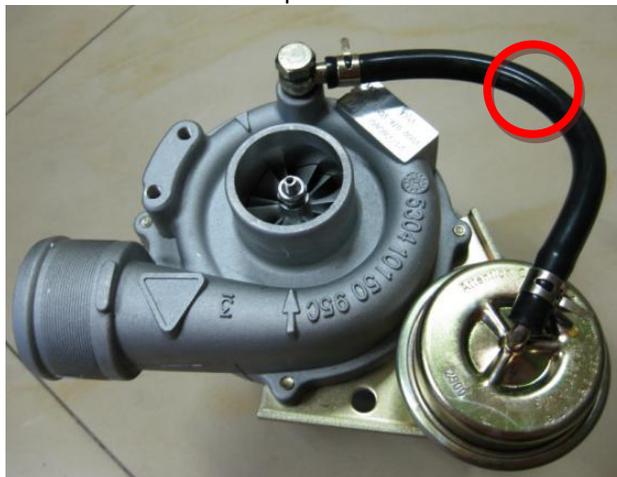
A mechanical boost controller reduces the pressure being sent to the waste gate actuator from the compressor housing. This means that the waste gate will not open at its factory set values; instead it will open at a higher pressure and regulate boost pressure still. This has a similar effect to lengthening the waste gate actuator arm; however it's easily adjustable and maintains full movement of the actuator.

### Parts you will need:

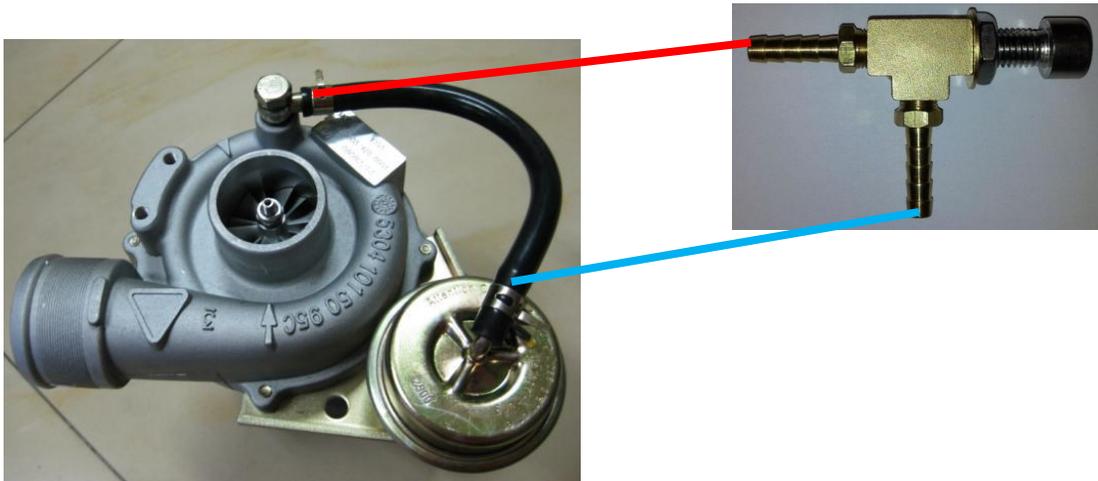
1. Roughly 1.5 meters 4mm ID silicone hose.
2. 2 x 4mm straight hose joins
3. 6 x jubilee clips to suit OD of silicone hose used.
4. Mechanical boost controller (don't use the cheapest bleed valve MBCs, they don't work well. Typically the brass ball and spring units give good results.

### How to fit a ball and spring boost controller:

1. Remove the right side wheel. Be sure to use axle stands to support your car.
2. Remove the wheel arch lining. You should now be able to just about see the turbo charger.
3. Cut the pipe between the compressor housing and waste gate actuator as shown below. On some models the actuator will have a plastic pipe, be very careful not to snap this otherwise you will need to remove the entire turbo to repair it.



4. Using the straight 4mm connectors, join half of the silicone hose to each pipe, run this up to the top of your engine bay. Use the jubilee clips to tighten.
5. Connect both hoses to the mechanical boost controller. It's important you get the pipes the correct way around. The hose joint to the actuator (right) should go to the outlet of the MBC, the hose joint to the compressor housing (left) should go to the inlet of the MBC.



6. Screw the boost controller all the way out to start with. Test your car to ensure the boost pressure is still near to 16 psi. If so you have fitted it correctly.
7. Gradually screw in the controller until you reach 20 to 21 psi maximum boost on your boost gauge.

### How to fit a bleed valve:

We don't recommend fitting a bleed valve, however if you've already bought one this diagram below will show you how to fit it.

