

Nathan Bryant

It seems fairly common on these cars for the A/C clutch plate to wear down to the point where the A/C compressor no longer is able to reliably turn itself on. When the problem starts to show itself, cooling will stop during warm weather after running for a while. At the start, turning the A/C off for a few minutes and then back on will make the symptoms go away. As the problem gets worse, the A/C may only work for the first 5 – 10 minutes of a trip and then it will quit working until the car has had time to cool down. Hot weather, stop and go driving, and quick acceleration all seem to make the problem worse.

The A/C clutch gap can be checked underneath the car using a set of feeler gauges. The figure below shows where to check. The original specification for the gap is  $\sim 0.3 - 0.4$  mm, depending on which message board you chose to believe. When the gap gets to around 0.8 mm, the clutch may not be able to re-engage after the compressor gets hot. The fix is to remove the clutch plate from the compressor, and remove enough of the shims in it to get the air gap back to  $\sim 0.4$ mm.



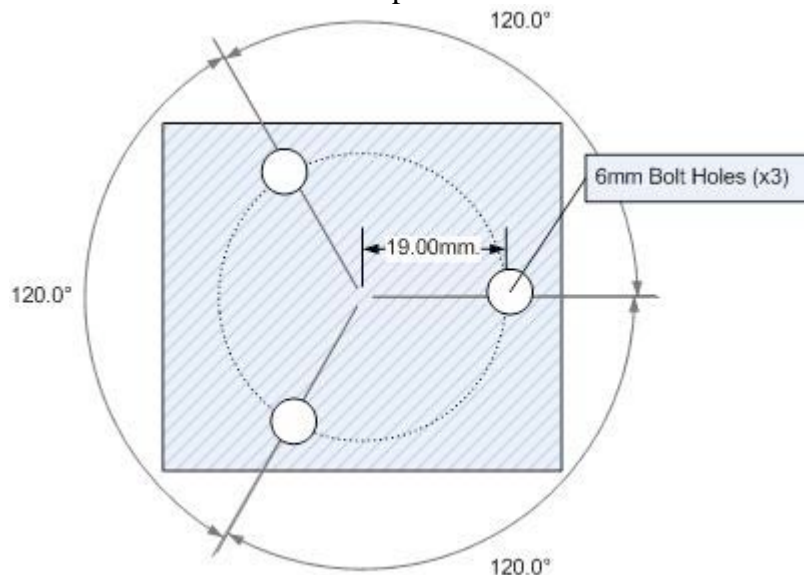
To remove the clutch plate, you'll need a little bit of space to work. Remove the serpentine belt and remove mounting bolts for the compressor. There are 4 bolts that hold the compressor in. They are all located on the side of the compressor that is towards the back of the car. There are 2 bolts on the pulley side of the compressor and 2 on the hose

connection side. Most of the bolts can be accessed from the bottom of the car. You will probably need to loosen the passenger side wheel well shield for better access.

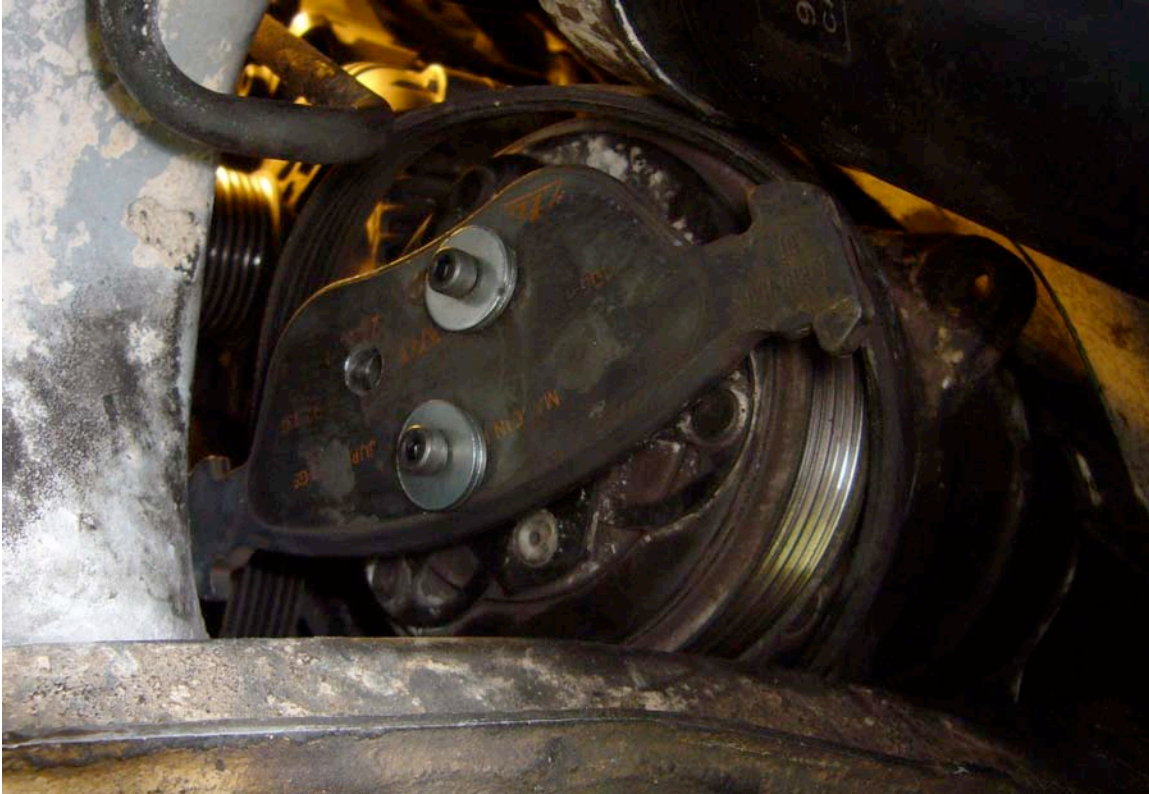
Remove the bolt that holds the A/C drier in so you can move it around a little. You will also be able to get a little more movement from the compressor if remove the bolts that hold the cooling fan in and lift it up a bit.

Once you have some working space, tilt the compressor so the pulley faces the front of the vehicle and down a little bit. There is one bolt that holds the clutch plate on. You can remove it.

You will need some sort of a puller to remove the clutch plate from the pulley. You can construct one from an old front brake pad fairly easily. You will need 3 30mm M5 bolts and 1 30mm M6 bolt or stud. The following figure shows the pattern to drill into the piece of metal you will use as your puller (drill 3 8mm (5/16") holes at 120 degree angles off a 19mm radius circle). Remember that you can get the 120 degree angles by drawing a circle, placing the fixed end of the compass on the circle and drawing arcs (using the same radius) that intersect the circle. The arcs will be 120 degrees from each other and 60 degrees from the fixed end of the compass.



To pull the clutch plate, thread the M6 bolt into the center hole a few turns and attach the puller to the to the plate using the 3 M5 bolts through the holes you drilled. Figure x shows the puller plate attached. Finger tighten the bolts until the bottom of the puller plate rests against the top of the M6 bolt in the center of the compressor and then use a wrench to equally tighten the M5 bolts.



Once the clutch plate is off, you will find 3 shims in the hole the pulley mounting shaft goes into. The shims are different sizes (~0.1 mm, ~0.3mm and ~0.9mm). Remove appropriate shims to get the gap back down to 0.4 mm based on your original measurement of the gap. You can use an oil stone (knife honing block) to thin the 0.9mm shim if you need to remove more than 0.4mm.

Reattach the clutch plate and put everything back together, and you're done. Go for a nice long drive to test it out.

