



## Installing Your Eaton M112 Upper Pulley

*Please read through these instructions before starting the job. It is relatively straightforward, but best to apply care!*

- Bonnet removal.** Not required on rear-hinged bonnets, but it is much better to remove the bonnet before starting on XK models if fitting in situ, as this added task will make the job much easier and quicker overall. *Alternatively, remove the supercharger – it actually doesn't take too long and will allow the trickier parts of the job to be done comfortably on a bench, also allowing you to clean your blower and throttle body. Once the air trunking, throttle body and throttle elbow are off, there are just a few pipes and 3 bolts to remove the blower, leaving the charge coolers in place.*

- Drive belt.** Next task is to remove the supercharger drive belt. The tensioners are quite tight and strong, so you either need to use a special tool or a long half inch drive wrench. If you have a slim wrench, you can just do this without first removing the fan housing. Inspect your belt for cracks – if it looks old and worn, this would be a good time to replace it.

- Marking.** With a marker pen or similar, place a clear mark on the supercharger snout in line with the back edge of the standard pulley. This line will show you how far back to remove material later.



- Grinding and cutting the old pulley.** Now, using an angle grinder or other suitable tool, grind flat the front of the pulley until you just – only just – cut through the pulley to reveal the supercharger shaft beneath. You will see when you've nearly ground down to the shaft as the remaining pulley material will become thin and will start to discolour due to heat. Do this all the way back to the where the pulley diameter increases.

Next, use a hacksaw to cut level from the ground surface through the face of the pulley and down through the pulley using the second belt vee groove for alignment towards the shaft to meet the first cut you made. There will then be a little more to grind – try just to leave a paper-thin layer of pulley above the shaft, but if you lightly mark the shaft it's not a problem.

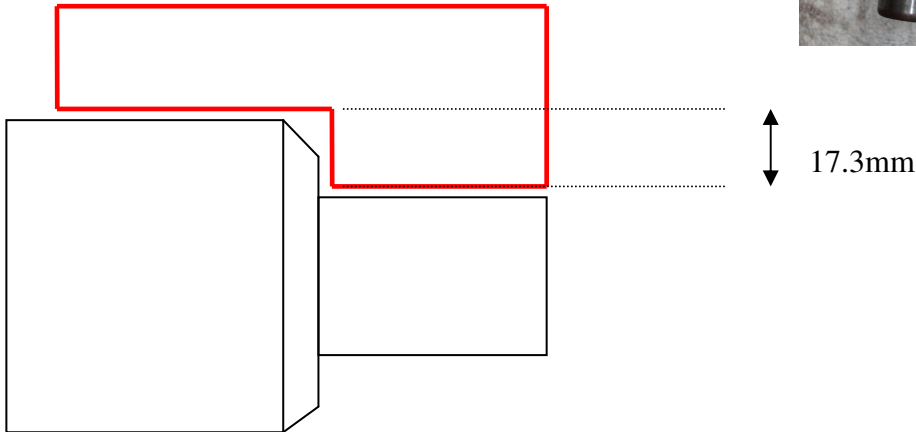
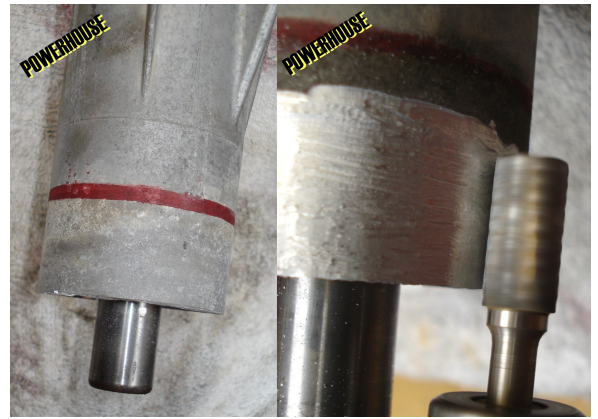


- Removing the old pulley.** You can now remove the pulley off quite easily. This is best done with a puller, rather than tapping the pulley off which could damage the snout bearing. Take care not to lose the clip in front of the bearing cover, and make sure you check the supercharger shaft for any marks you may have made and dress these to make sure they will not cause obstruction when you fit the new pulley.

6. **Modifying the charger nose.** This is the slow part of the operation. You must now remove material from the supercharger nose, as far back as the mark you made earlier,

Your aim is for the nose diameter to be reduced to 54mm, as evenly and smoothly as possible.

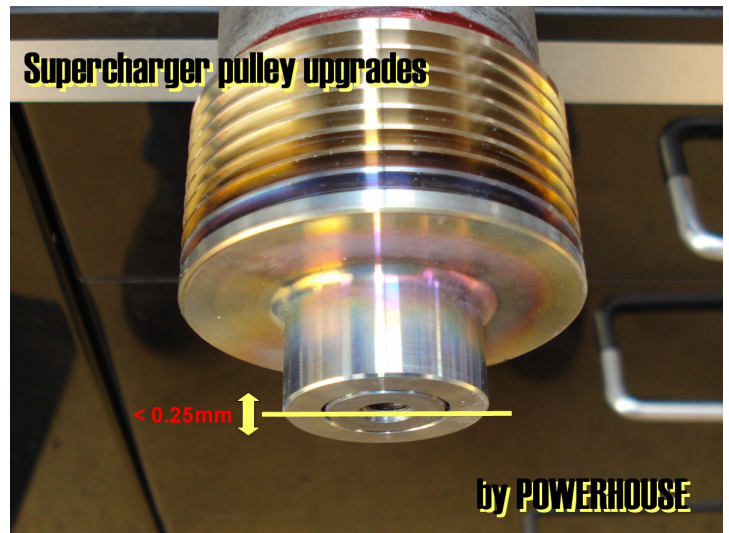
A belt sander or air file are the best tools to use, but a Dremel will do the job (albeit more slowly), and if really necessary it can be done with a hand file, but will take a long time.



Cutting a template to these dimensions, make sure it will clear the alloy all the way round the nose of the casting. Once you're sure about this, you're ready to fit the new pulley.

7. **Heating the new pulley.** You will need a gas welding torch or strong blow lamp to heat the pulley enough to fit it onto the supercharger shaft. Do this within a short distance of the car, to reduce any time lost transferring the hot pulley to the shaft. When you heat the pulley, it will discolour quite clearly. Watch it turn blue, and keep the heat on as it passes to a higher temperature range and goes dark grey. Be ready very soon to fit the pulley! Keep the heat on for another 10-20 seconds (do not heat it enough to make it glow!).

8. **Fitting to the shaft.** Next, very quickly pick up the pulley with thick welding gloves and present it to the shaft. It should slide on quite easily (if you feel it catching at all on the supercharger snout, take it off quickly and go back to the task of trimming material off the supercharger). You only have 30 seconds or so to do this and must not let the pulley cool down and bind onto the shaft before it is in the correct position! Make absolutely sure that you align the end of the shaft with a fraction of a millimetre – if you use a straight edge to push the pulley the last bit it will line up perfectly with the shaft. This is essential or belt life can be reduced to minutes.



9. **Job done.** The pulley will cool naturally, dissipating heat to air and through the supercharger shaft. After a few minutes you will be able to refit the belt and bonnet, and test drive your newly improved car.

10. **Enjoy.** You've just fitted the best bhp/£ modification available!

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