

# Lagondaforum: Water Pump Modification

## Water Pump Modification

*Written by randall977 at Sep 19, 2012 8:20 am*

I'm planning to fit an electric fan to the Rapide and I would like to fit the fan in the place of the existing. The pulley on the water pump gets in the way of doing this - has anyone done or heard of a pulley modification to reduce the depth?

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## Re: Water Pump Modification

*Written by SRD at Sep 19, 2012 8:39 am*

I would recommend that you speak to Guy - LR129, this has been done on his car if my memory serves me correctly.

The spare switch on the dash has been wired up for the fan. I can't remember if he has one or two fans now.

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## Re: Water Pump Modification

*Written by randall977 at Sep 19, 2012 10:52 am*

Thanks Simon. On my TR4 this is quite a standard modification upping the power by about 10bhp. I don't really want to add a secondary fan as to my mind this will further reduce the air flow, also I would quite like a neat solution.

The problem with Kenlowe is the fan is very chunky and thermostat is inserted down the side of the rad pipe, the Revotec fan is much better looking and has an integral inline thermostat.

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## Re: Water Pump Modification

*Written by SRD at Sep 19, 2012 1:41 pm*

Another thought, might I also suggest that you take a good look at the AMOC forum, to see what people have done on the DB4/5/6 cars ?

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## Re: Water Pump Modification

*Written by David at Sep 19, 2012 5:00 pm*

I have 2 fans on my other car, the thermostat for the electric one is in the top hose and there is also a manual override switch. Personally I wouldn't fit only an electric fan to a Rapide because it will always be on!

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## Re: Water Pump Modification

*Written by randall977 at Sep 20, 2012 8:18 am*

Thanks David, that's helpful - I had wondered if the fan would be on all the time. I have a re-cored radiator so I'm hoping that will help too.

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## Re: Water Pump Modification

*Written by David at Sep 21, 2012 9:56 am*

Heat management in the Rapide can be a real issue, especially when stationary in traffic, because air flow is minimal and the side wing vents are blocked by servos etc. So the under bonnet area acts as a heat accumulator. During recent trips I have driven the car with the bonnet up on the first catch which enables hot air to exit at the base of the windscreen and this does seem to make a difference. So finding an exit for the hot air is just as important as fitting an additional fan.

Also I've been trying to work out how an electric fan in a TR4 can add 10bhp to the engine output, but can't make the maths work! Given that an electric fan which draws say 30 amps is less than a half horsepower device.

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## Re: Water Pump Modification

*Written by randall977 at Sep 21, 2012 11:00 am*

I would really like to avoid overheating issues, now is the time to think about it!

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The TR4 has a fan connected directly to the crank pulley, so in a traffic jam it does very little to cool and at high speed (when it's not needed so much) it cooling too much - similar to the Rapide.

At low speed the loss of bhp due to the mechanical fan is not great, at high speed the loss is greater as the fan is taking more power away for obvious reasons - it is generally thought with the TR4's 2.2l engine to be 10 bhp worst case.

So if you remove the mechanical fan and fit an electric fan you loose that inefficiency. The electric fan only comes on when needed so the rest of the time you gain the power you would have lost of the mechanical fan.

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### Re: Water Pump Modification

*Written by David at Sep 21, 2012 2:58 pm*

I'm considering 4 mods to my car for reduced-stress continental touring in due course: 1. full flow oil cooler under the front valence; 2. electric fan in front of radiator; 3. small high volume extractor fans in the wing vents, or as minimum 1 on the exhaust side; 4. modified bonnet (my spare) to give it a "flip tail" vent. Or all the above!

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### Re: Water Pump Modification

*Written by David at Jun 04, 2013 9:43 pm*

The other modification worth thinking about is to remove the bypass hose from water pump to thermostat housing thus forcing all water to pass through the radiator - any thoughts?

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