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## VP MD2020 tachometer repair

Instructions for making a technical contribution are on the parent page "Comments & Technical".

By Barrie & Terry 19th January 2013

The type of Volvo Penta tachometer fitted with the MD 2020 engine is notorious for problems with the LCD engine hours run display.

During 2012 our LCD display kept fading, disappearing and then reappearing, all the while still accurately recording the engine hours run! Eventually in early 2013 it died completely.

We tried warming it (as recommended on some forums), cleaning all the wiring connections etc with no success.

There were four options at this point:

1. Do without an hours run meter.
2. Replace the complete tachometer e.g. Keyparts sell one here <http://www.keypart.com/volvo-penta/diesel-engine/md2020/19931994> (<http://www.keypart.com/volvo-penta/diesel-engine/md2020/19931994>)
3. Fit a remote hours run meter e.g. from the Curtis Instruments range <http://curtisinstruments.com/index.cfm?fuseaction=cProducts.dspProductCategory&catID=13> (<http://curtisinstruments.com/index.cfm?fuseaction=cProducts.dspProductCategory&catID=13>)
4. Replace the LCD in the tachometer.

We opted for number 4, partly to retain the 'original' look and partly because it was a relatively cheap solution (£21 including vat and delivery).

Fortunately we found a superb pictorial guide by Richard Davis on how to do this.

[Volvo Penta tachometer LCD repair.pdf](http://verl900.files.wordpress.com/2013/01/volvo-penta-tachometer-lcd.pdf) (<http://verl900.files.wordpress.com/2013/01/volvo-penta-tachometer-lcd.pdf>)

Notes for anyone considering this:

- The Curtis LCD part number given in Richard's guide seems to be no longer available but RS Components sell one that is suitable part number 185-6107 <http://uk.rs-online.com/web/p/hours-run-meters/1856107/?searchTerm=185+6107&relevancy-data=636F3D3126696E3D4931384E525353746F636B4E756D6265724D504E266C753D656E266D6D3D6D61746368616C6C26706D3D5E5C647B337D5B5C732D2F255C2E2C5D5C647B332C347D2426706F3D313426736E3D5> (<http://uk.rs-online.com/web/p/hours-run-meters/1856107/?searchTerm=185+6107&relevancy-data=636F3D3126696E3D4931384E525353746F636B4E756D6265724D504E266C753D656E266D6D3D6D61746368616C6C26706D3D5E5C647B337D5B5C732D2F255C2E2C5D5C647B332C347D2426706F3D313426736E3D5>)
- The depth of the replacement LCD is more than the original one which is why the aperture in the clear plastic faceplate has to be created, see picture 9 of Richard's guide. The new LCD must be able to sit completely in the aperture and rest against the inside face of the black metal dial plate; otherwise the pins etc on the back may touch the PCB.
- Before cutting the aperture, ensure that the display of the new LCD will line up squarely with the cut-out in the black metal dial plate!
- To cut the aperture we used a Dremel (actually the Lidl's version!) with a tiny cutting disc, and a selection of small fine files. The only other 'special tool' required is a small soldering iron.
- The RS-supplied LCD is virtually identical to that in Richard's picture 8. As shown in picture 11 (where the LCD is now upside down) the 'P' pin at top left and the 'Y' pin at bottom right need to be wired together and the 'P' and 'N' (top right) pins wired to the positive and negative inputs of the PCB. Instructions do come with the new LCD.
- The + and - inputs are indicated on the back of the plastic plate with bayonets (into which the wiring loom plug fits) as shown in picture 12. When soldering the wires from the new LCD to the sockets for the bayonets, ensure that no solder goes inside, otherwise the bayonets may not insert properly.
- Before replacing the needle, ensure that its spindle is turned fully anti-clockwise.
- It may sound involved but actually we found this to be a straightforward job, albeit everything was on a small scale and rather fiddly for someone with chunky fingers. Most time was spent cutting the

- aperture in the clear plastic faceplate, taking care not to crack it.
- On completion we then attached ours to a 12v transformer at home until it reached the actual engine hours.
- It has now been re-installed and is working well.

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