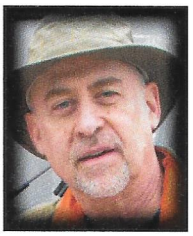
DIFFICULTY RATING: ●●○○○

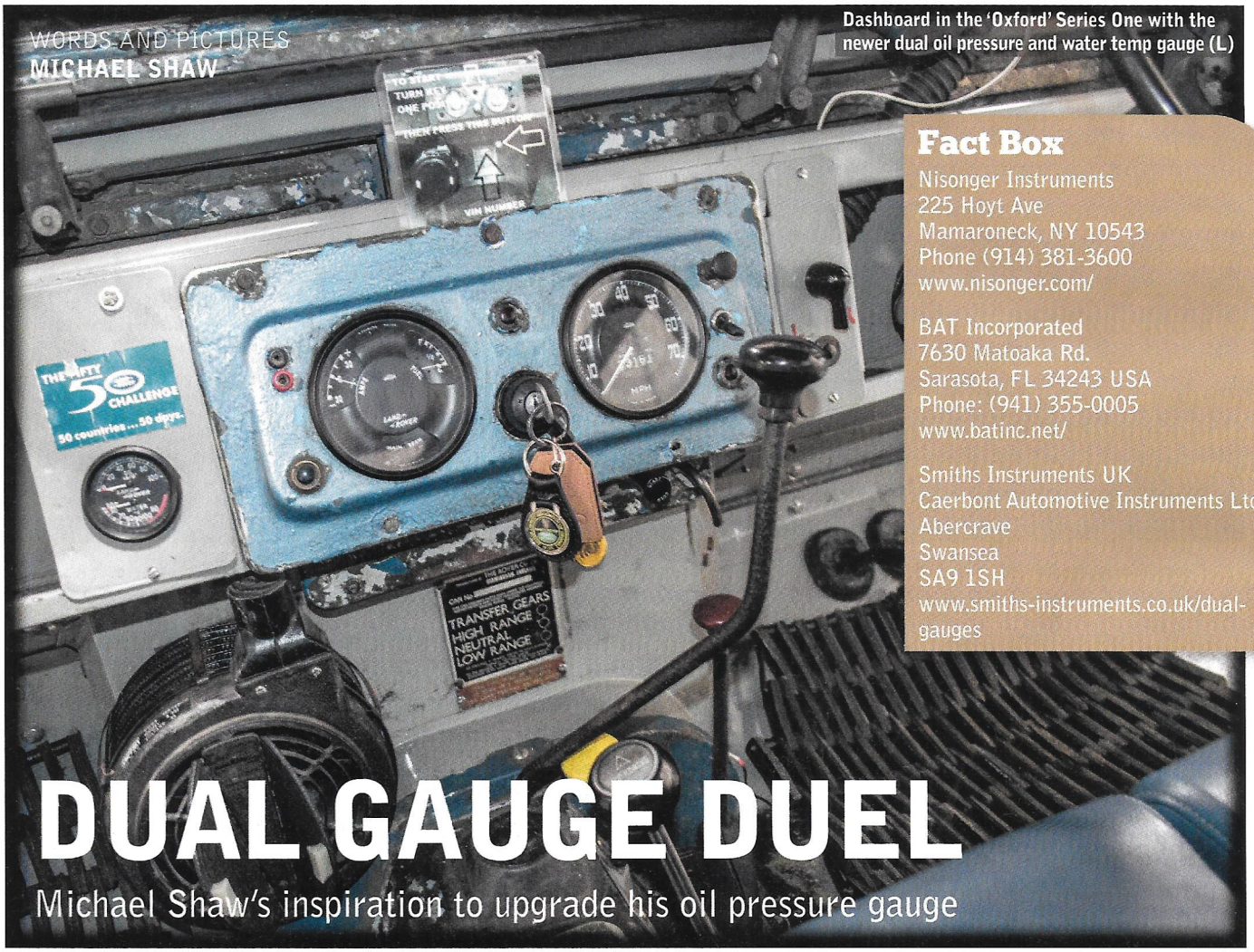
TIME ALLOWED: N/A

COST: N/A



FITTING A COMBINED OIL AND WATER GAUGE

WORDS AND PICTURES
MICHAEL SHAW



Dashboard in the 'Oxford' Series One with the newer dual oil pressure and water temp gauge (L)

DUAL GAUGE DUEL

Michael Shaw's inspiration to upgrade his oil pressure gauge

Fact Box

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www.smiths-instruments.co.uk/dual-gauges

Oxford had round-tripped London-Singapore twice and was now in the USA for its American tour. As I sat in the legendary driver's seat, I wanted to make a memorable personal connection, so I looked around the cab for inspiration.

I noticed a new-style oil pressure gauge. This is the Smiths mechanical gauge showing both oil pressure and water temperature. Miles Dib-Bennett (the owner's son) was present that day and I asked him about it. He explained that the original Smiths oil pressure gauge was unavailable during the restoration, so they had to install a newer-style gauge.

Well, my 1970 Series IIA did have the classic gauge, but by the time I arrived home, I'd made up my mind to replace it with the same type I'd seen in Oxford. This newer gauge (GD1310-20B080) is mechanical, not electrical like the old-style gauge.

Water temperature is measured via an ether-filled bulb and capillary tube, and oil pressure is measured hydraulically using a hose from the engine block to the gauge.

I ordered the gauge from Nisonger Instruments in Mamaroneck, New York and the hydraulic hose with 10mm banjo connector from British American Transfer in Sarasota, Florida.

First, I removed the old gauge, its two electrical senders, and sealed off the disconnected wires. Next, I widened a hole in the firewall so I could run the temperature sender bulb into the engine bay, sealing the hole with a provided grommet and silicone around the edges.

I was careful not to crimp or bend the capillary tubing, and instead looped the excess. I used cable ties to secure the loop to an area that does not get too hot so as not to affect the temperature reading.

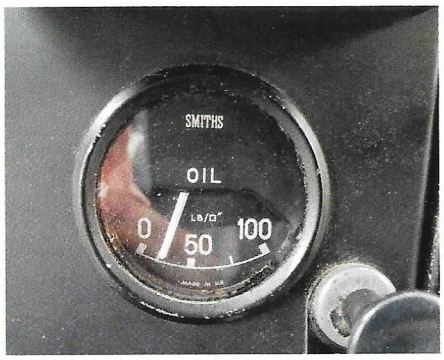
I ran the oil pressure hose through an adjacent hole, also sealing it with a grommet and silicone. This is connected to a through-bolt via a banjo connector at the oil filter housing.

It is important to align the hole in the through-bolt with the top of the banjo so the oil can shoot up into the banjo. The oil pressure light sender switch screws into the end of the through-bolt, and for this, I used a zinc-plated washer having a rubber gasket in its centre.

At one click of the ignition key, the green light came on as it should, then immediately went off as I started the engine. It was a thrill to see for the first time the oil pressure rise to a steady 55psi (my old gauge had refused to show a reading above 25psi).

The water temperature rose numerically in a way I could understand vs the old water temp gauge which took forever to show any indication.

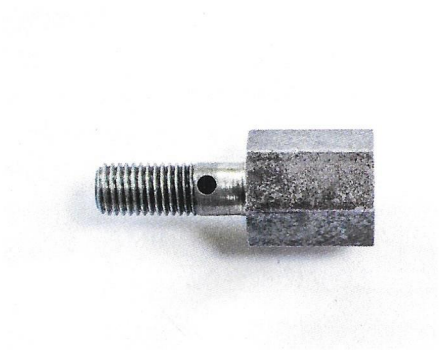
Without a doubt, I must credit Oxford for convincing me to make this upgrade, and surprisingly, that was the personal connection I'd hoped for. Moreover, I can say my Land Rover now shares a connection with Oxford too.



1. Old style Smiths gauge in my Series IIA. The electrical sender never indicated above 30psi

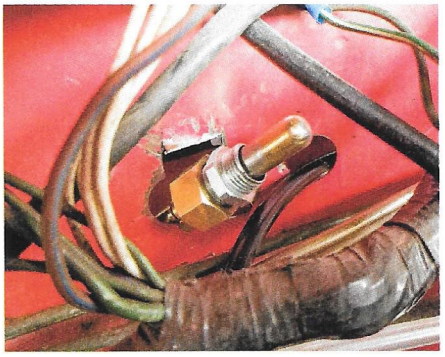
2. Water temp gauge in my Series IIA uses electrical sender and voltage stabilizer. Very slow to climb and not very accurate to read

3. Gauge kit gauge comes with a permanently attached capillary tube and a choice of two threaded adapters (3/8NPT or 5/8UNF) to fit most engine blocks

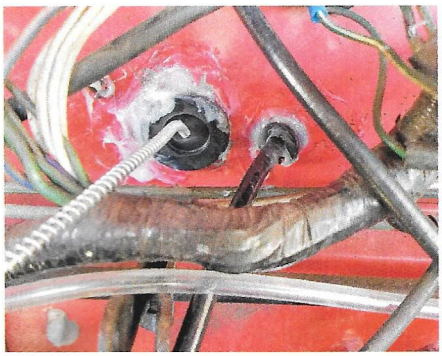


4. Oil feed through-bolt, a hollow bolt which allows oil to go through it and also shoot out a little hole in the side. Align the hole with the top of the banjo connector

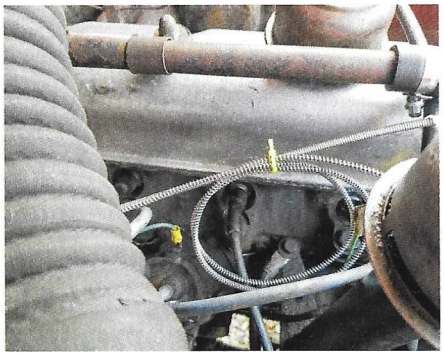
5. New banjo connector with 10mm opening attached to the hydraulic oil pressure hose purchased from British American Transfer (BAT) in Sarasota, Florida



6. Hole in firewall expanded to allow temp sender bulb and its 5/8UNF connector through. Oil pressure hose comes through the adjacent hole



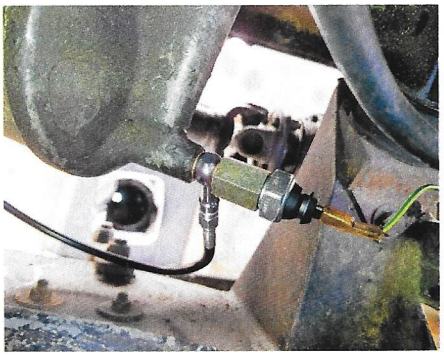
7. Capillary tube and adjacent oil pressure hose grommeted and sealed with silicone at the firewall



8. Excess capillary tube length coiled, not bent, and secured to heater valve cable away from the engine block

9. The water temperature bulb required an adapter from 5/8UNF (L) to the 3/8BSP thread (R) in my engine block. I used copper washers between all connections

10. Installed water temperature bulb in the engine block



11. Oil pressure hose connected with banjo (L), and oil pressure switch on the end of the through-bolt (R). Copper washers on both sides of banjo, zinc plated washer at the switch

12. Installed mechanical Smiths gauge shows accurate oil pressure and water temperature on engine start-up