



Tim Stock

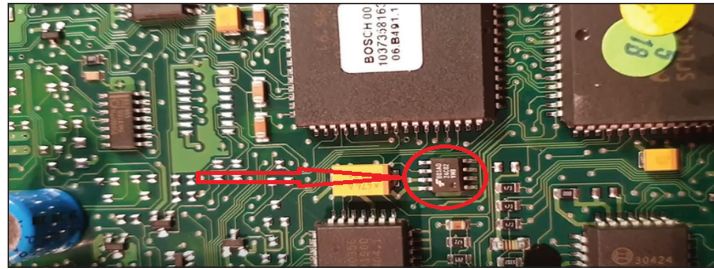
Keeping a classic Golf on the road

An interesting case came through the Helpline recently for a 1999 Volkswagen Golf 1.8i that had a misfire.

On initial investigation, one ignition signal was missing. The spark plugs, ignition coil and leads were replaced, but the misfire and signals remained the same. The primary circuit was load tested to the ECM, but no fault was found.

The ECM was then sent for testing and repair. Unfortunately, due to the age of the vehicle, the repairer could not test for the missing signal. The ECM was returned to the garage, and a new unit was the next step. Once again, the age of the vehicle was a problem, no new ECM was available. There were used units available, but they would require the immobiliser code to be programmed on the replacement ECM. This would require specialist equipment to complete this coding process.

We know the security for this ECM is in



A file on the EEPROM (circled) needed to be copied onto the new ECM

the binary code on an EEPROM 24C02, and a technician just needs to edit this code to allow the ECM swap to take place.

There were 2 options available, either desolder the original EEPROM and replace

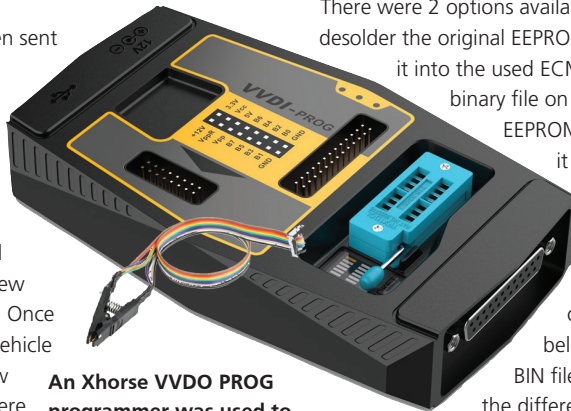
it into the used ECM, or read the binary file on the original EEPROM and write

it back into the used ECM. We opted for the second option, and below are the 2 BIN files showing the differences in the immobiliser coding.

All that was required to perform this task was an EEPROM programmer. For this case, we used an Xhorse VVDO PROG programmer, a generic chip programmer. This enables the EEPROM to read, edit and rewrite the files in circuit without

demounting it from the PCB.

This can save a classic vehicle, allowing it to remain on the road for some time to come, without the expense of a new unit, which could make the repair not viable.



An Xhorse VVDO PROG programmer was used to reprogramme the EEPROM

8bit	16bit	32bit	Lo-Hi								
Hex											
	00	01	02	03	04	05	06	07	08	09	0A
00000000	12	68	30	12	15	L7	06	99	55	AA	82
00000010	A0	0F	1C	00	00	00	00	20	20	20	20
00000020	80	80	80	80	80	00	01	80	1E	80	FF
00000030	BA	D0	48	DE	E4	B8	40	8A	FF	FF	FF
00000040	00	00	00	10	37	35	21	27	00	00	00
00000050	30	36	41	39	30	36	30	31	38	43	47
00000060	12	68	30	12	15	L7	06	99	55	AA	82
00000070	A0	0F	1C	00	00	00	00	20	20	20	20
00000080	80	80	80	80	80	00	01	80	1E	80	FF
00000090	BA	D0	48	DE	E4	B8	40	8A	FF	FF	FF
000000A0	00	00	00	10	37	35	21	27	00	00	00
000000B0	30	36	41	39	30	36	30	31	38	43	47
000000C0	06	00	44	98	48	92	FF	FF	FF	FF	FF
000000D0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
000000E0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF

A sample BIN file