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# **BMW**

Select the model:

Model 3 series E36 up to software 23

Model 3 series E36 software 24

Model 3 series E36 Compact up to Software 7

Model 3 series E36 Compact software 20-23

Model Z3 Roadster up to software 7

Model 3 series E46 up to software 16

Model 5 series E39 low (instrument with 1 button) up to Software 16

Model 5 series E39 high + IKE (instrument with 2 buttons), before  
11/1997

Model 5 series E39 high –IKE (instrument with 2 buttons) software 13

Model 7 series E39 high –IKE (instrument with 2 buttons) software 13

Model 7 series E38 high + IKE (instrument with 2 buttons), before  
11/1997

Model 7 series E39 high –IKE (instrument with 2 buttons) software 13

Model X5, high (instrument with 2 buttons) –IKE software 13

All models with M35080 chip

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## **Model 3 series E36 up to software 23**

Diagnostic programming

Use the BMW Diagnostic plug with the connector „old“:



- The diagnostic port is in the motorroom.
- Turn ignition on.
- Connect the Tacho Universal to the BMW diagnostic plug and the diagnostic port.
- Select the menu **BMW-3er E36-Diagnosis**.
- The Tacho Universal shows you the old value.
- Enter the new value.
- Verify the new value with **OK**.

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## **Model 3 series E36 software 24**

- Remove the cluster.
- Open it (pull the two parts of it away from each other).
- On front of the board you can see the 8pin chip 93C46 or B58323. Remove the paint on it to get access to pin 1+2
- Put the board back in the car and connect it with the plugs.
- Connect pin 1+2 on the chip.
- Turn ignition on and disconnect pin 1+2 after 1 second.
- The display now shows , **EEP 1** or **Code N1**.
- Connect the Tacho Universal to the BMW diagnostic plug and the diagnostic port.
- Select the menu **BMW-3er E36-Diagnosis**.
- The Tacho Universal shows you the old value.
- Enter the new value.
- Verify the new value with **OK**.
- Turn ignition off.
- Disconnect the board from the car.
- If you connect it again, the new value will be displayed.

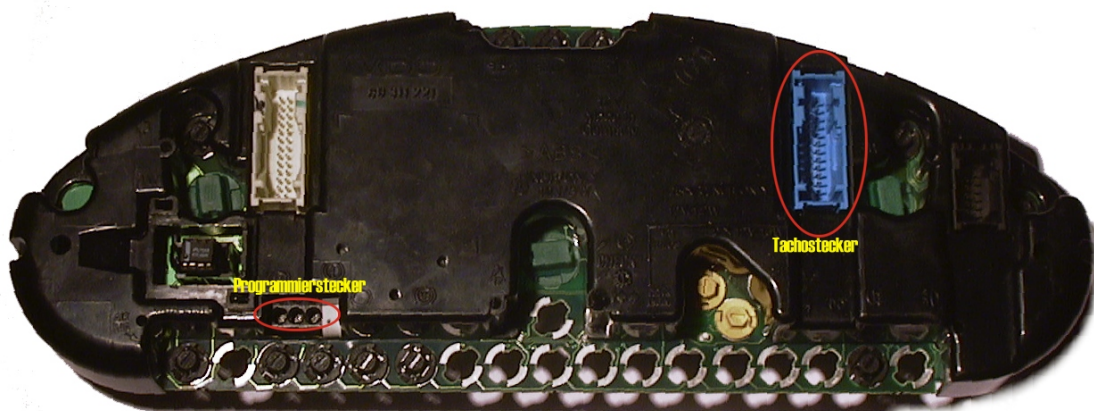
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## Model 3 series E36 Compact up to Software 7

Use this plug:



- Remove the cluster.
- Connect the plug with the blue port and put the 3 pin plug in the 4 pin port left down on the instrument. Put this plug in as it is easy. If it is hard to position, it is upside down!
- Select the menu **BMW – Z3/COMPACT – Diagnosis.**
- The Tacho Universal does not show you the old value.
- Enter the new value.
- Verify the new value with **OK.**



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## **Model 3 series E36 Compact software 20-23**

Use this plug:



- Remove the cluster.
- Connect the cluster plug with the white and blue port and the Tacho Universal.
- Select the menu **BMW-3er E36-Diagnosis**.
- The Tacho Universal shows you the old value.
- Enter the new value.
- Verify the new value with **OK**.

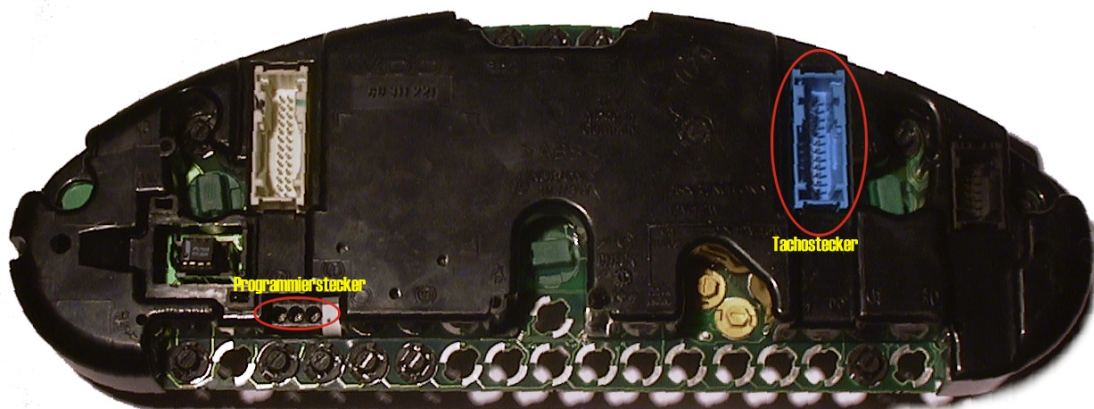
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## Model Z3 Roadster up to software 7

Use this plug:



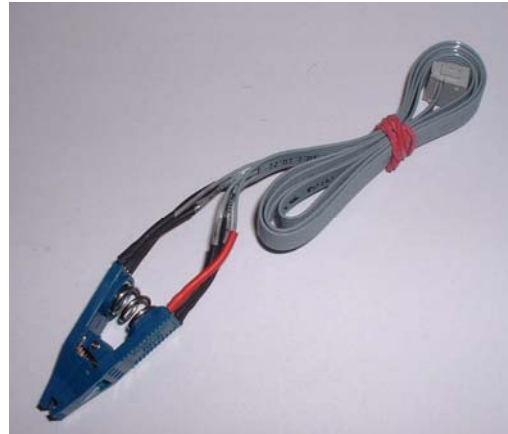
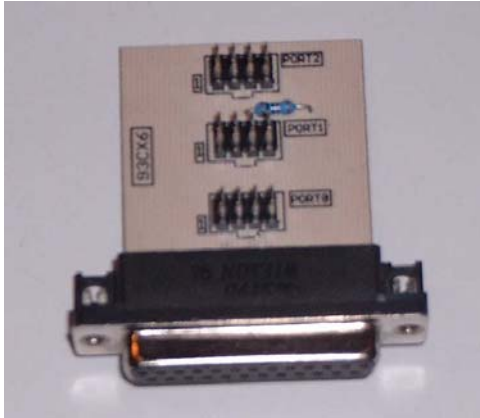
- Remove the cluster.
- Connect the plug with the blue port and put the 3 pin plug in the 4 pin port left down on the instrument. Put this plug in as it is easy. If it is hard to position, it is upside down!
- Select the menu **BMW – Z3/COMPACT – Diagnosis.**
- The Tacho Universal does not show you the old value.
- Enter the new value.
- Verify the new value with **OK.**



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## **Model 3 series E46 up to software 16**

Use this board and clip:

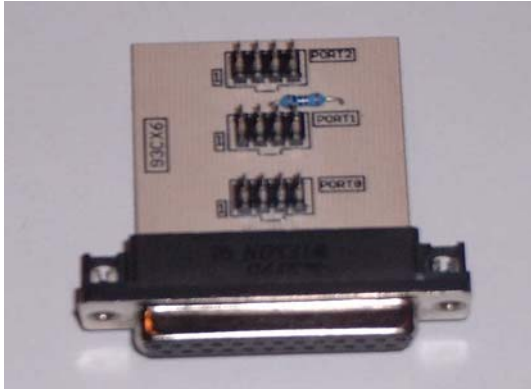


- Remove the cluster and open it.
- Remove all needles.
- Clip off the display carefully. Now you can take off the circuit board.
- Look for the 8pin chip B58 608 (=93C66).
- Look for the silver chrystal and join its contacts.
- Connect the clip to port 2.
- Put the clip on the chip B58 608 (red on pin 1).
- Select the menu **BMW-3er E46-Clip**.
- The Tacho Universal shows you the old value.
- Select the menu **Adjust KM**.
- Enter the new value.
- Verify the new value with **OK**.
- Now select the menu **BMW-3er E46-Service**.
- The handheld may read a wrong value, if the car already has to be serviced. Ignore it.
- Select the menu **Adjust KM**.
- Enter the new value that the service display is supposed to show.
- Verify the new value with **OK**.

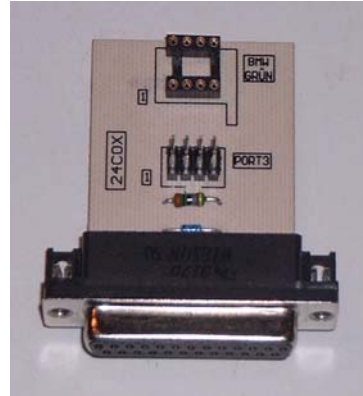
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## **Model 5 series E34 after 3/1989**

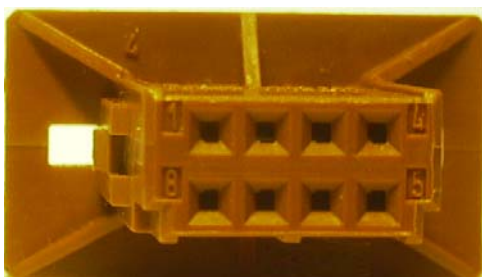
Board for brown and blue code plug:



board for green code plug:



- Remove the cluster.
- Look on the rear for a small plastic cover. Under it you can see a brown, blue or green code plug. You have to break this cover to get the code plug out.
- Take the code plug out.
- Put the brown or blue code plug on port 1. The pins of the code plug are marked on the bottom in the plastic. Pin 1 of the code plug must be positioned on pin 1 of the board.
- If the code plug is green, put it on the board „BMW grün“. There you can also see the shape of the code plug Put the plug carefully on the socket.
- Select the menu **BMW-5er/7er-blue**  
or **BMW-5er/7er-brown**  
or **BMW 5er/7er-green**
- The Tacho Universal shows you the old value.
- Select the menu **Adjust KM**.
- Enter the new value.
- Verify the new value with **OK**.



Brown code plug

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## **Model 5 series E39 low (instrument with 1 button) up to Software 16**

Diagnostic programming

Use the BMW Diagnostic plug with the connector „new“:



- The diagnostic port is in the motorroom.
- Turn ignition on.
- Connect the Tacho Universal to the BMW diagnostic plug and the diagnostic port.
- Select the menu

	<b>BMW-5er/7er-E39 low- Diagnosis</b>	(up to software 14)
or	<b>BMW-5er/7er-E39 low- Diagnosis SW 15</b>	(for software 15)
or	<b>BMW-5er/7er-E39 low- Diagnosis SW 16</b>	(for software 16)

- The Tacho Universal does not show you the old value.
- Enter the new value.
- Verify the new value with **OK**.

If the value does not change, try again with the connector „old“.
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## **Model 5 series E39 high + IKE (instrument with 2 buttons), before 11/1997**

### Diagnostic programming

Use the BMW Diagnostic plug with the connector „new“:



- The diagnostic port is in the motorroom.
- Turn ignition on.
- Connect the Tacho Universal to the BMW diagnostic plug and the diagnostic port.
- Select the menu **BMW-5er/7er- E38/E38 high +IKE**
- The Tacho Universal does not show you the old value.
- Enter the new value.
- Verify the new value with **OK**.

If the value does not change, try again with the connector „old“.  
If it still does not change, it may be a high – IKE instrument.

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**Model 5 series E39 high - IKE (instrument with 2 buttons),  
since 11/1997, hardware 4,5,6, up to software 12**

Use this plug:

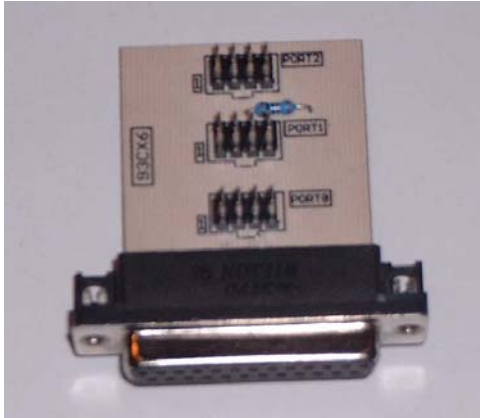


- Remove the cluster.
- Connect the cluster plug with the white and blue port and the Tacho Universal. Ensure that the red point on each plug faces pin 1 on the instrument's port.
- Select the menu **BMW-5er/7er-E38/E39 high –IKE**
- The Tacho Universal shows you the hard- and softwareversion of the instrument.
- Enter the new value.
- Verify the new value with **OK**..
- The Tacho Universal asks now **OK** or **UNDO**
- If you take a look at the display now, you can see the new value. If it is good, press **OK**, if not, you can undo everything with **STOP**.

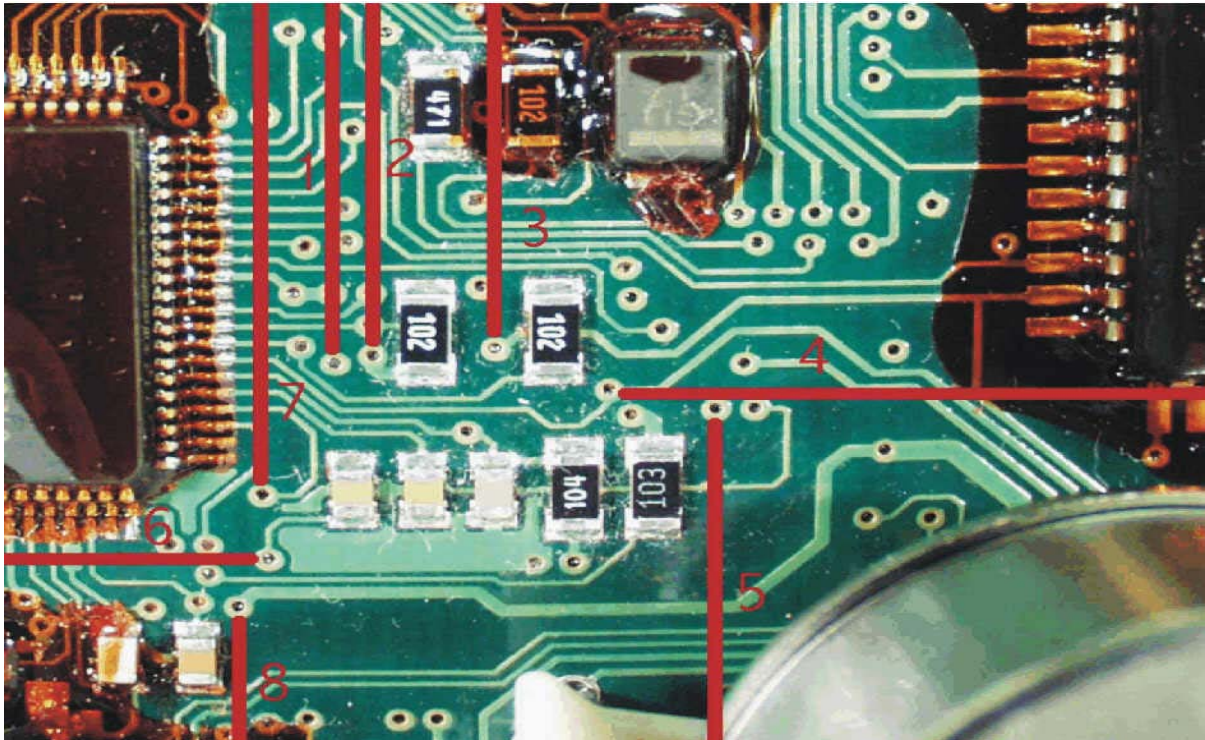
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## **Model 5 series E39 high –IKE (instrument with 2 buttons)** **software 13**

Use this board and cable:



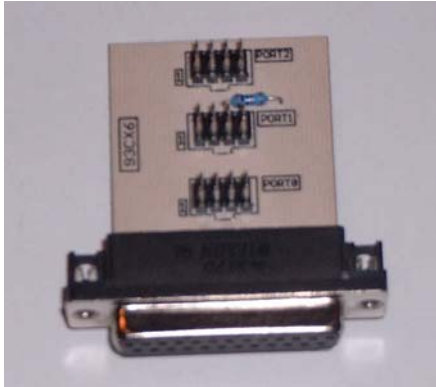
- Remove the cluster.
- Open it and look for the points on the board you can see on the picture.
- Remove the red paint that covers the contacts.
- Connect the cables as shown in the picture.
- Look for the silver crystal and join its contacts.
- Connect the clip to Port 2.
- Select the menu **BMW-5er/7er-E38/39 high – IKE-Clip SW13**
- The Tacho Universal shows you the old value. If it is wrong, go to “**Show**”. If the database is ok, you may continue. If not check the cables.
- Select the menu **Adjust KM**.
- Enter the new value.
- Verify the new value with **OK**.



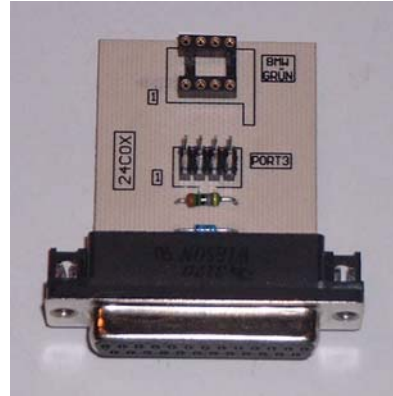
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## **Model 7 series E32 after 3/1989**

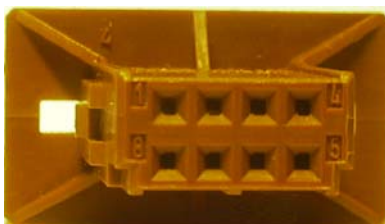
Board for brown and blue code plug:



board for green code plug:



- Remove the cluster.
- Look on the rear for a small plastic cover. Under it you can see a brown, blue or green code plug. You have to break this cover to get the code plug out.
- Take the code plug out.
- Put the brown or blue code plug on port 1. The pins of the code plug are marked on the bottom in the plastic. Pin 1 of the code plug must be positioned on pin 1 of the board.
- If the code plug is green, put it on the board „BMW grün“. There you can also see the shape of the code plug Put the plug carefully on the socket.
- Select the menu **BMW-5er/7er-blue**  
or **BMW-5er/7er-brown**  
or **BMW 5er/7er-green**
- The Tacho Universal shows you the old value.
- Select the menu **Adjust KM**.
- Enter the new value.
- Verify the new value with **OK**.

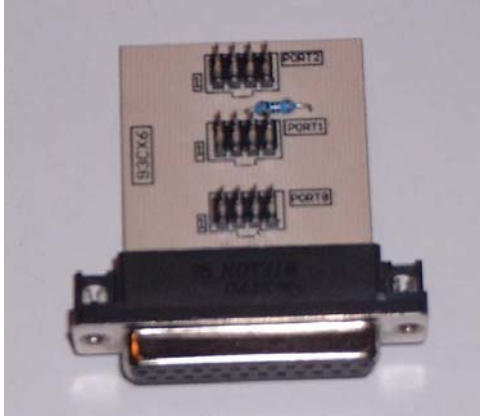


Brown code plug

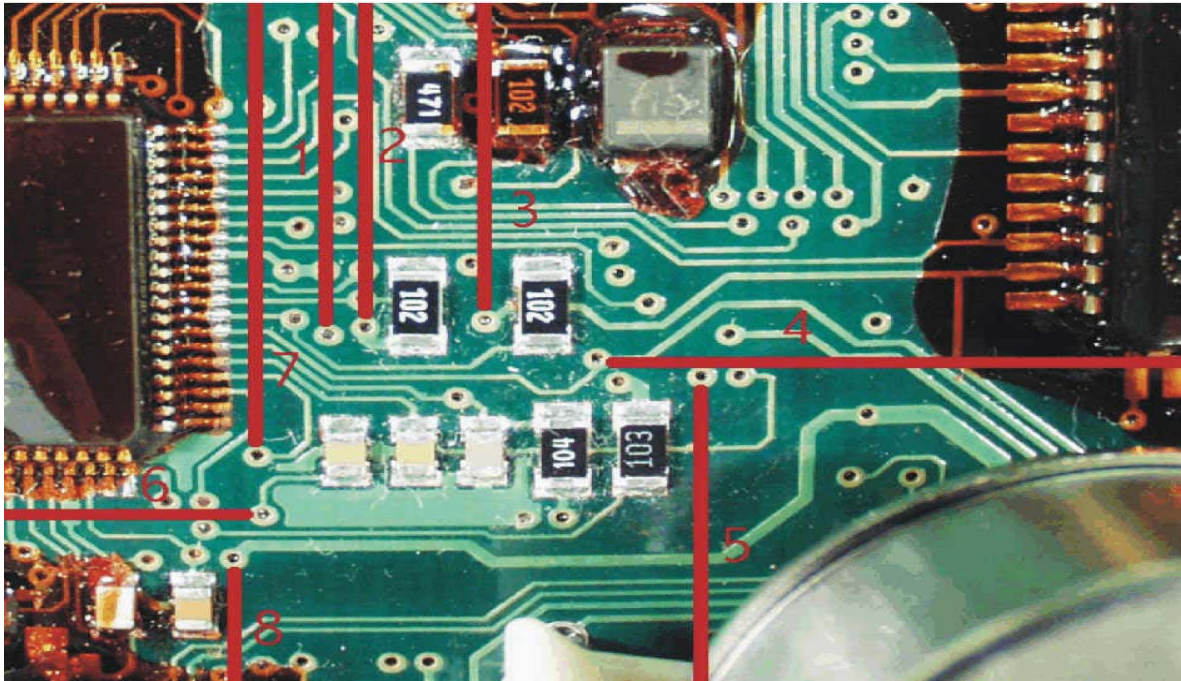
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## **Model 7 series E39 high –IKE (instrument with 2 buttons)** **software 13**

Use this board and cable:



- Remove the cluster.
- Open it and look for the points on the board you can see on the picture.
- Remove the red paint that covers the contacts.
- Connect the cables as shown in the picture.
- Look for the silver chrystal and join its contacts..
- Connect the clip to Port 2.
- Select the menu **BMW-5er/7er-E38/39 high – IKE-Clip SW13**
- The Tacho Universal shows you the old value If it is wrong, go to **“Show”**. If the database is ok, you may continue. If not check the cables.
- Select the menu **Adjust KM**.
- Enter the new value.
- Verify the new value with **OK**.



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## **Model 7 series E38 high + IKE (instrument with 2 buttons), before 11/1997**

### Diagnostic programming

Use the BMW Diagnostic plug with the connector „new“:



- The diagnostic port is in the motorroom.
- Turn ignition on.
- Connect the Tacho Universal to the BMW diagnostic plug and the diagnostic port.
- Select the menu **BMW-5er/7er- E38/E38 high +IKE**
- The Tacho Universal does not show you the old value.
- Enter the new value.
- Verify the new value with **OK**.

If the value does not change, try again with the connector „old“.  
If it still does not change, it may be a high – IKE instrument.

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**Model 7 series E38 high - IKE (instrument with 2 buttons),  
after 11/1997, hardware 4,5,6, up to software 12**

Use this plug:

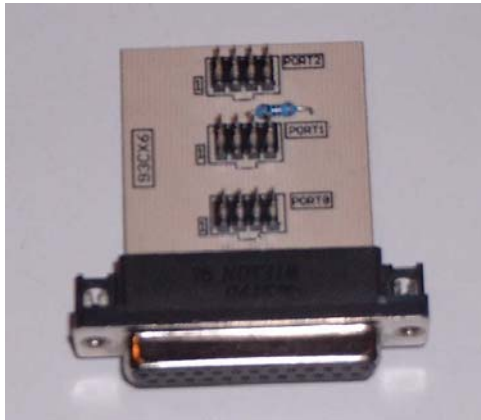


- Remove the cluster.
- Connect the cluster plug with the white and blue port and the Tacho Universal. Ensure that the red point on each plug faces pin 1 on the instrument's port.
- Select the menu **BMW-5er/7er-E38/E39 high -IKE**
- The Tacho Universal shows you the hard- and softwareversion of the instrument.
- Enter the new value.
- Verify the new value with **OK**.
- The Tacho Universal asks now **OK** or **UNDO**.
- If you take a look at the display now, you can see the new value. If it is good, press **OK**, if not, you can undo everything with **STOP**.

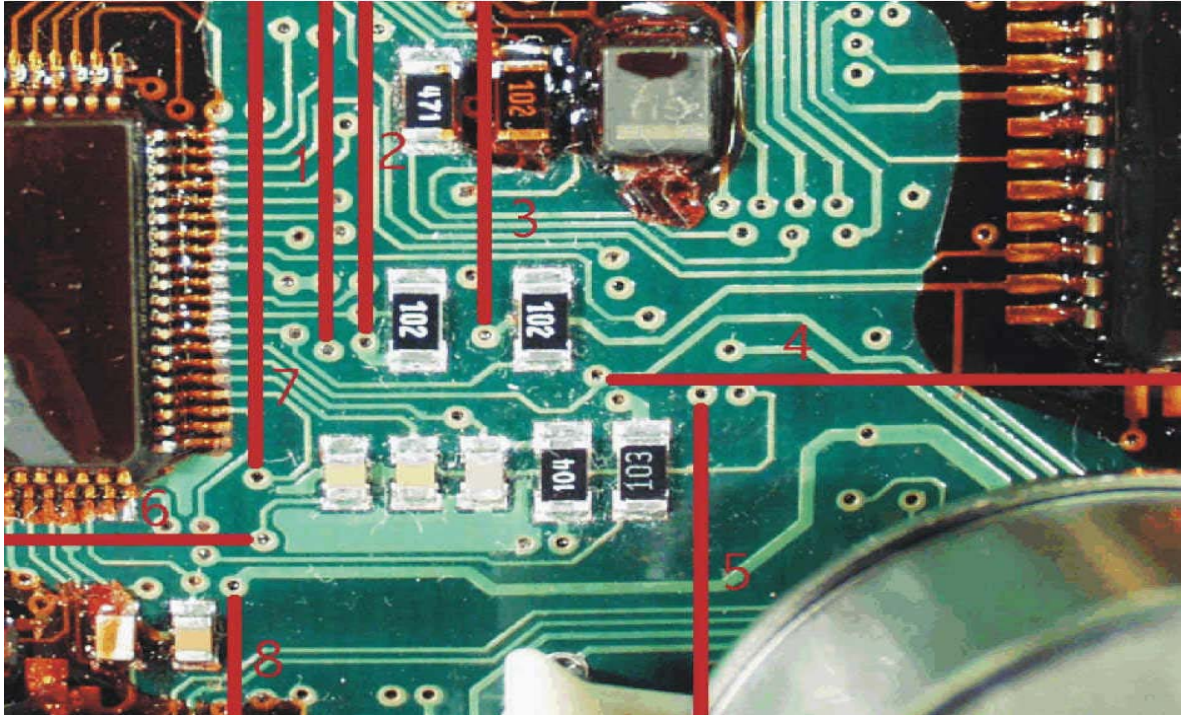
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## **Model 7 series E39 high –IKE (instrument with 2 buttons)** **software 13**

Use this board and cable:



- Remove the cluster.
- Open it and look for the points on the board you can see on the picture.
- Remove the red paint that covers the contacts.
- Connect the cables as shown in the picture.
- Look for the silver chrystal and join its contacts..
- Connect the clip to Port 2.
- Select the menu **BMW-5er/7er-E38/39 high – IKE-Clip SW13**
- The Tacho Universal shows you the old value If it is wrong, go to “**Show**”. If the database is ok, you may continue. If not check the cables.
- Select the menu **Adjust KM.**
- Enter the new value.
- Verify the new value with **OK.**



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## **Model 8 series E31**

### Diagnostic programming

Use the BMW Diagnostic plug with the connector „old“:



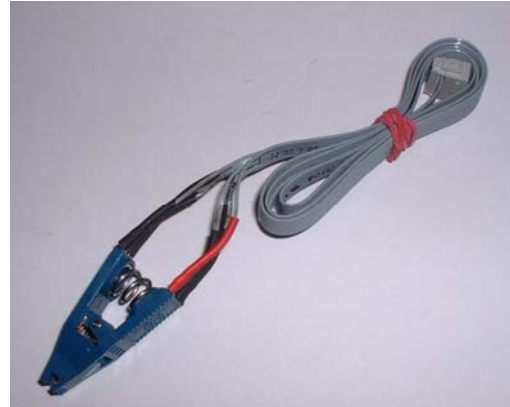
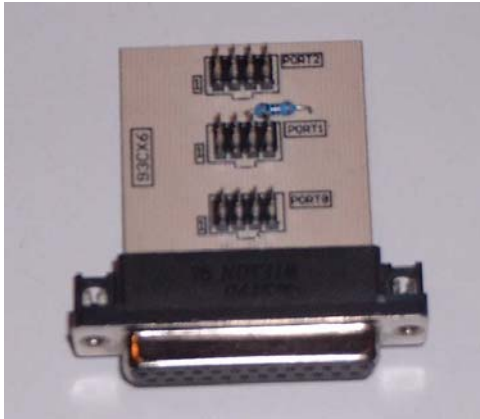
The diagnostic port is in the motorroom under a round cover.

- The diagnostic port is in the motorroom.
- Turn ignition on.
- Connect the Tacho Universal to the BMW diagnostic plug and the diagnostic port.
- Select the menu **BMW-8er-Diagnosis**
- The Tacho Universal does not show you the old value.
- Enter the new value.
- Verify the new value with **OK**.
- If the new value is not displayed, try to program again with open doors, open windows or any combination of it. If it still does not work, remove all plugs from the instrument. Close and lock the car for about 2 minutes. Open it, turn ignition on and program again. Put the instrument back in. Now it should be ok.

If even this does not work, continue like this:

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Use this board and clip:



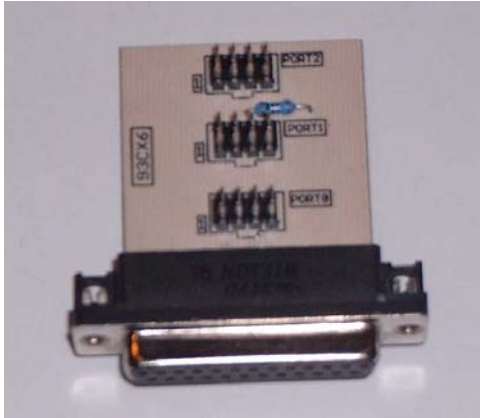
- Remove the cover under the steering wheel.
- Take out the EKM-modul (looks like a video cassette).
- Look for the 8 pin chip 93C56.
- Put the clip on the chip 93C56 (red on pin 1)
- Connect the clip to Port 1.
- Select the menu **BMW-8er-Clip**
- The Tacho Universal shows you the old value.
- Select the menu **Adjust KM.**
- Enter the new value.
- Verify the new value with **OK.**

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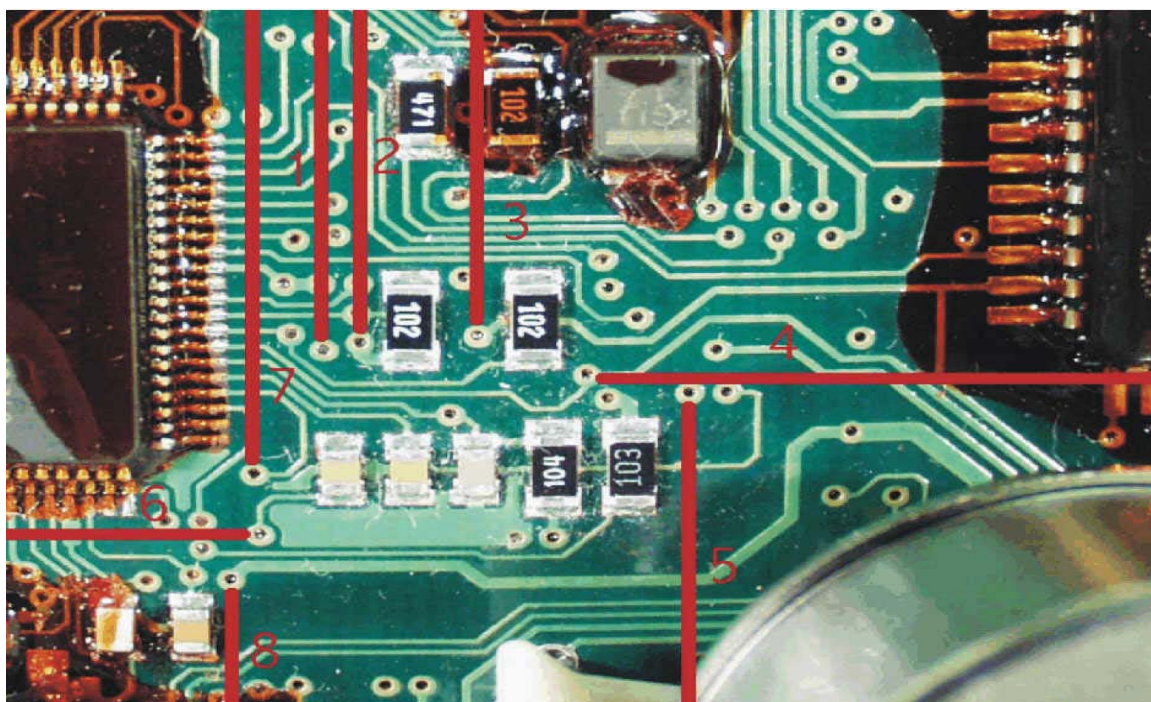
## **Model X5, high (instrument with 2 buttons) –IKE software**

### **13**

Use this board and cable:



- Remove the cluster.
- Open it and look for the points on the board you can see on the picture.
- Remove the red paint that covers the contacts.
- Connect the cables as shown in the picture.
- Look for the silver chrystal and join its contacts.
- Connect the clip to Port 2.
- Select the menu **BMW-5er/7er-E38/39 high – IKE-Clip SW1**
- The Tacho Universal shows you the old value If it is wrong, go to “**Show**”. If the database is ok, you may continue. If not check the cables.
- Select the menu **Adjust KM**.
- Enter the new value.
- Verify the new value with **OK**.



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## **All models with M35080 chip**

This chip can be found in all E46, E38, E39 and X5 since model 2001.

You can recognize model 2001 by the diagnostic port: it has not the round one in the motorroom like the old models, but an OBD II port inside the car

These clusters can be programmed only to more kilometers, not less than before.

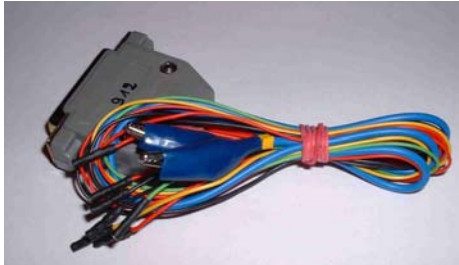
So there are 2 ways to get the desired kilometers:

1. You buy a new cluster that has never been in a car (as you put it in it would return immediately to the original kilometers!) This cluster will be new coded and the kilometers will be put up from 0 to the desired value. This is all done with the 912 cluster-plug.
2. The original M35080 is replaced by a new one.

## Method 1: new cluster

Not only the E46 is done this way, also the others, but the E46 program is used for it.

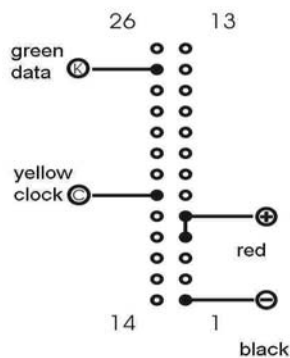
Use the 912 plug:



connect the plug with the original cluster like shown:

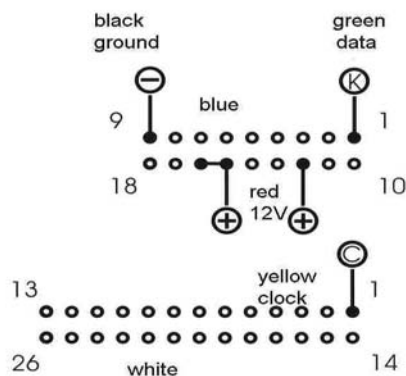
## **BMW power**

BMW E46



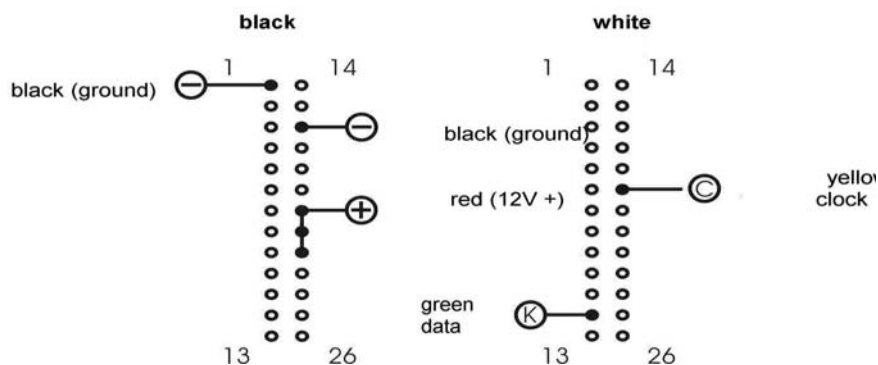
plug 912

BMW E38/39 High



plug HW 4,5,6

## **E39 LOW-Version**



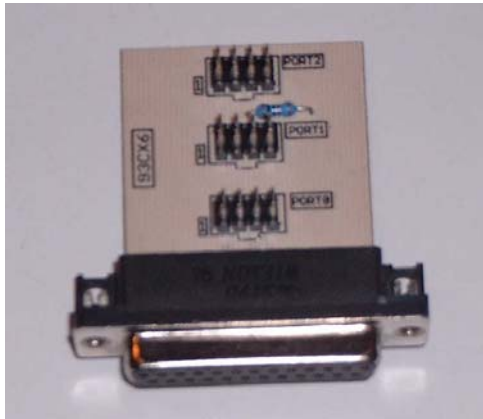
- 
- select the menu **BMW-3er E46- 35080- Tacho-->Diga**
  - the Tacho Universal saves the original data.
  - now connect the new cluster like shown.
  - select the menu **BMW-3er E46-35080- Diga--> Tacho.**
  - now you see a list with all saved data. Select the last saved data.
  - now the new cluster is coded.
  - select the menu **BMW-3er E46-35080- Clock**  
Enter the new kilometers. Now the kilometers are clocked. This may take some time. Please always check how far it has gone!

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## Method 2: new chip

Manual to get access to the chip at the end

Use the M35080 clip and this board:



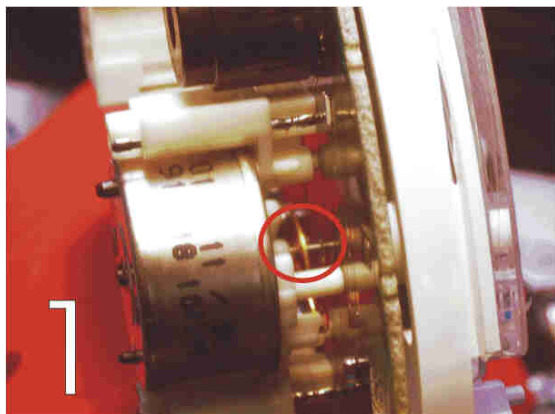
- connect the clip with port 1.
- connect the clip to the original unsoldered M35080 (red on pin 1).
- select the menu **BMW-3er E46-35080-clip**
- the Tacho Universal shows you the old value.
- save the data.
- Now put the clip on the new M35080 chip.
- Select the menu **load**.
- Select the data you have just saved and send it with **write all** to the new chip.  
This may take some time.
- The warning **data not equal** is here not important.
- Select the menu **adjust kilometers**.
- Enter the new value and press **OK**.
- Solder the new chip on the circuit board.

Important: never program a value less than 300 km!!!

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# E 38/ E39 high SW 14 + E 39 low SW 17 +

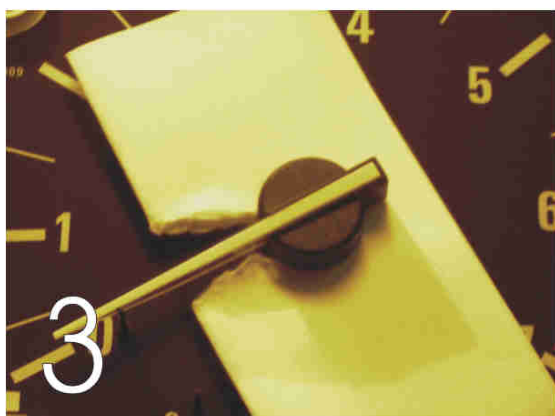
Open the cluster like SW 13



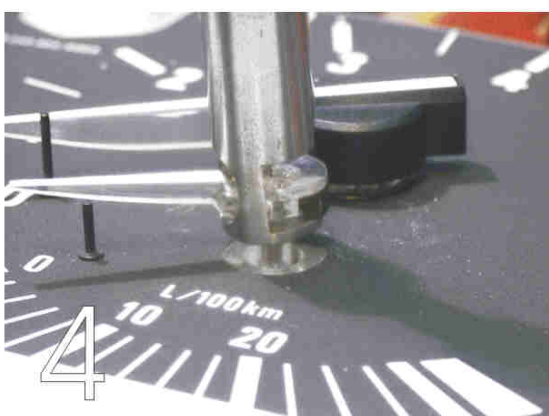
1. Be very careful with this spring



2. Use the scissors to lock the axle between the spring and the circuit board. Press the scissors quite hard to ensure nothing will move.



3. Pull the needle off. To avoid scratches use a piece of paper.



4. To remove the economy needle use the special tool. You must remove the black plastic cover of the needle.

## E38/E39 high SW 14+, E39 low SW 17+

The eeprom M35080 is on rear of the circuit board and has to be removed.

Read it with the menu "clip" and save it.

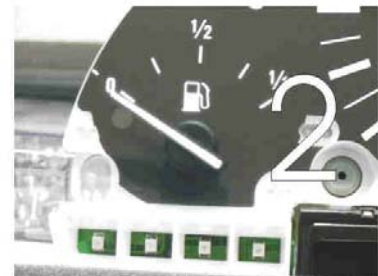
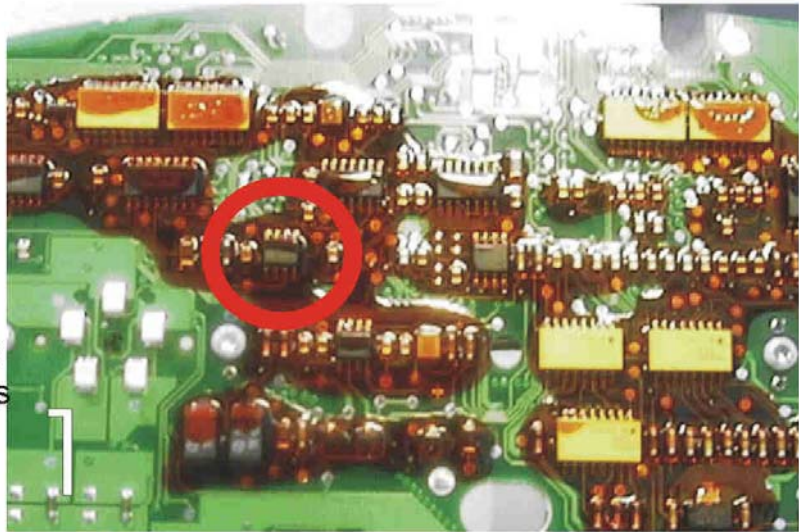
Program the new chip with "write all".

The Diga will display "data not equal" because the location for kilometers is not written.

You can adjust this with "clock".

The smallest value you can program is 300.

Never program less!



Use a 1 mm drill to slightly enlarge the holes in the needles. Put them on carefully and search the 0-position. This is about 1 mm behind the stop-pins. Then check if the needles are returning correctly to the 0-position.

use the M35080 clip on port 1