MWspeedshop.com

HEC Instrument Cluster Diagnostics
(99 and 2000 models)

Photos and video by Mustangworld.

Free Digital speedo, Tach, Engine temp, oil pressure and Metric speedo ?
Ford decided to include a cool hidden feature in the instrument cluster starting in 99 and also in 2000. With a simple press of the trip button and turn of the key you could not only test your instrument cluster (gauges), oil pressure and speedo senders, but get a real time digital readout of your speed, tach and other info AS you drive your stang.

This info is based on the diagnostics procedure sent in a while ago from some cool readers (Adam) located here off the main page. We decided to give you a visual step by step, because the procedure is fairly easy and you don't need to worry about messing up your stang or changing the programming, only enjoy the feature for what it's worth.. and you can't beat the price (free).

Also thanks to Steve 99 Cobra for posting all the trouble codes you could read through the instrument cluster. Most having to do with the operation of the gauges and ignition systems. NOT OBDII codes, though how cool that would be if in the future Ford included a full diagnostic OBDII scanner in your stang.. oh well.. mabye in 2002 :-).

OK... HERE WE GO!

1. Put the key in the ignition, but don't turn it. Push and hold the trip / reset counter button. Don't release it.

2. Next turn the key to the accessory on position. NOT starting your stang, but just to the first click. Leave the key there.

3. Look at your display while you are holding down the button. When you see it say "test" (like shown in the pic), then LET GO the button. You have only a few seconds to do this.

4. What will happen next is all your analog needles will "sweep" to their max positions and then drop back to normal. The digital readout will say "GAGE" like shown.

5. Push the button once and the next diagnostic is all the segments in the digital display will show up lit. Like the pic shows.

6. Push the button again and the readout will say "bulb" and light up all the bulbs like the batt, traction control and other cluster bulbs.

Neat huh ?.. :-)

7. Push the button again and the ROM version is displayed.

8. Push the button again and you get the EE level. Part of the id.

9. Push it again and you see the hex value for the manufacturing test date.

10. Push it again and you will get any diagnistoc trouble codes or DTC's (if any). See table below for a list of codes. This code is for an oil pressure switch failure (example).

11. THE COOL PARTS START HERE. push it again and you will see "eng" followed by your speed in miles per hour. We were standing still but if we were moving, we could get a digital speedo reading in real time.

12. Push it again and you will see an "M" followed by your METRIC speed reading.

13. Push it again and you will see a "tac" followed by your tachometer numbers. All updated in real time. The engine was off here so it was 0000. CLICK HERE for a video 126k Mpeg of the digital tach in action. (recorded from our Mustangworld project 00 stang)

14. Push it again and you see your fuel level, see chart below for what the numbers mean.

15. Push it again and you see your oil pressure. The engine was off so ours read 255.

16. Push it again and you will see your engine temperature "deg" see chart below for what the numbers mean.

17. Push it again and the battery voltage input to your cluster is shown (current battery level) 0 - 255. See chart below for normal settings.

18. Push the button again for the RH codes (there are a few screens of them and they flash).

19. Eventually you will end up at the Cr code, this shows the current RUN/START here it shows "-h" meaning in the key was in the start position.

20. You will make it to the PE codes then back to the "GAGE" and the cycle starts all over again. **TO EXIT the diagnostic mode**, press and hold the trip meter for 5 seconds or until your odometer is displayed again. You can also just remove your key and it will return to normal.

To see your digital speed / tach, etc.. as your stang drives
All you do is once in this diagnostic test mode, simply start your stang and the display will revert to this mode again and you can scroll through until the digital speedo is showing and see your speed digitally.

Here are the DTC trouble codes (thanks Steve 99 Cobra):

9202 Fuel sender open circuit
9204 Fuel sender short to ground
9213 Anti-theft number of programmed keys is below minimum
A103 or 9232 Antenna not connected-defective transceiver
9317 Battery Voltage high
9318 Battery voltage low
9342 ECU is defective
9356 Ignition run circuit open
9364 Ignition Start circuit open
9600 PATS Ignition Key Transponder Signal is Not Received - Damaged Key or non-PATSKey
9601 PATSReceived Incorrect Key-Code from Ignition Key Transponder (unprogrammed Encoded Ignition Key)
9602 PATS Received Invalid Format of Key - Code From Ignition Key Transponder (Partial Key Code)
9681 PATSTranceiver Signal is Not Received (Not Connected, Damaged, or Wiring)
A139 PCM ID does not match between Instrument Cluster and PCM
A141 NVM Configuration Failure (No PCM ID exchange between Instrument Cluster and PCM)
A143 NVM memory failure
5284 Oil Pressure Switch Failure
D027 SCP Invalid or Missing Data for Engine RPM
D041 SCP Invalid or missing data for Vehicle Speed
D043 SCP Invalid or missing data for Traction Control
D073 SCP Invalid or missing data for engine coolant
D123 SCP Invalid or missing data for Odometer
D147 SCP Invalid or missing data for vehicle security
D262 Missing SCP message.

What to do if you get a trouble code
First off don't panic, these are not OBDII codes, call your local Ford dealer and they will give you more info. Some of these codes are NORMAL like when the dealer needs to program a new key for your stang, an unprogrammed key will be inserted for this procedure, you may get a code 9601, this does not mean you have a problem

with your stang. You can clear codes by disconnecting your battery for a while and reconnecting.

For the written procedure showing the values and chart for each test see the first article on the HEC instrument cluster diagnostics.

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