

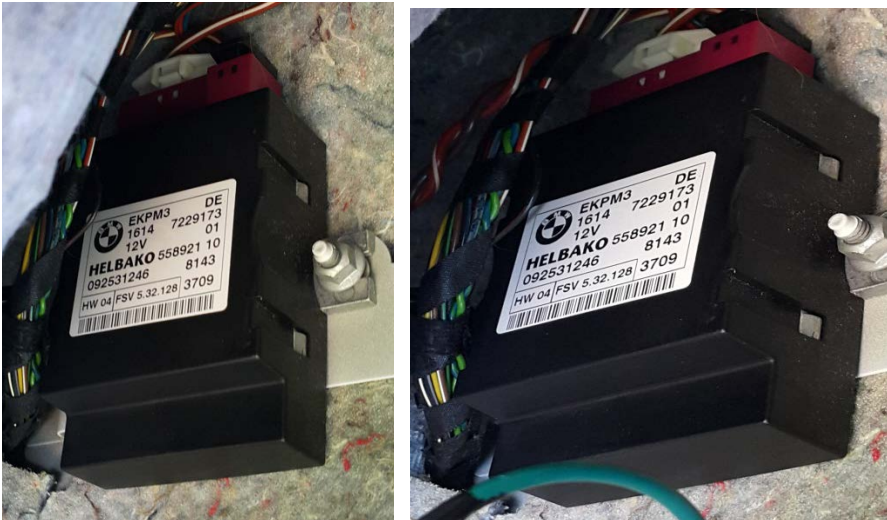
## Long crank no start project plan

### Problem:

- Long crank time
- Crank but no start

### Products to explore:

- Fuel pump controller in trunk

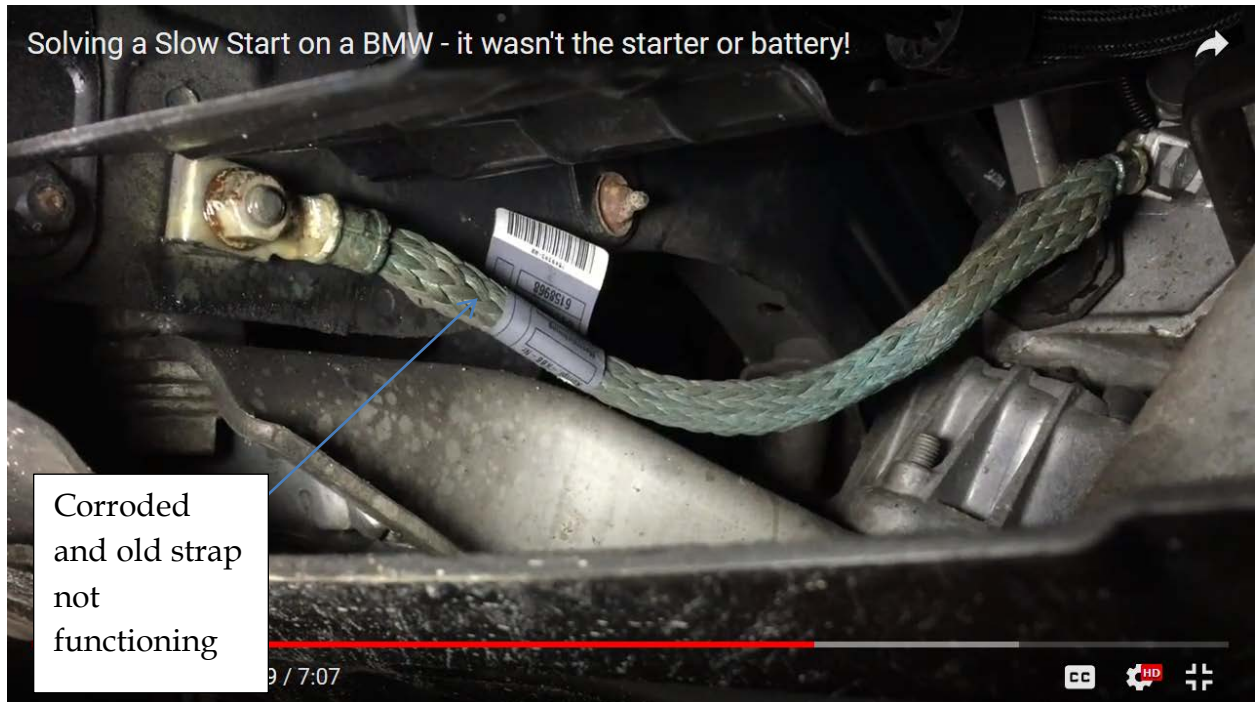


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- Get a can of Textron fuel injector cleaner
- Charcoal Canister clogged?
- Dtml pump faulty?
- Gas ventilation valve faulty?
- Harbor Freight carries a cheap fuel pressure gauge for something like \$15, get one and test fuel pressure at schrader valve on rail, should be around 50psi when cranking
- Starting fluid in spray can
- Coil packs could be going bad

### Approach:

- It could be a bad tank of gas
- It might not be the starter motor going bad
- It might be the battery
- A bad grounding strap between transmission and chassis. See pic below, Grounding strap is frayed and green. See picture below. You must remove the large, mid splash shield to see it.

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- The wire on the crank sensor could be shorting and you need a new crank sensor
- Could be fuel pump pressure specifically the fuel pump controller.
- Many times problem is going to be the fuel pump going bad
- The fuel pump breaks around 100,000 miles. The magnet inside the fuel pump assembly deteriorates and breaks leaving pieces everywhere. This break makes the fuel pump fuse blow, which is number 72
- With a brand new fuel pump installed the fuel pressure should be circa 78 psi to 80 psi
- For this situation and vehicle will be having a condition “crank” but “no start” problem
- First thing is we have to check the actual fuse located in the trunk

- The fuse for the low-pressure fuel pump is number (72) check this is correct. If the fuse is blown this indicates an obvious problem (e.g. the fuel pump is bad and is blowing the fuse)
- There is a Schrader valve on the fuel rail to test the fuel pressure. It allows you to hook a fuel pressure gauge up and see if the fuel pump is working
- Boot INPA to tell you the fuel rail pressure
- Harbor Freight carries a cheap fuel pressure gauge for something like \$15, get one and test fuel pressure at schrader valve on rail

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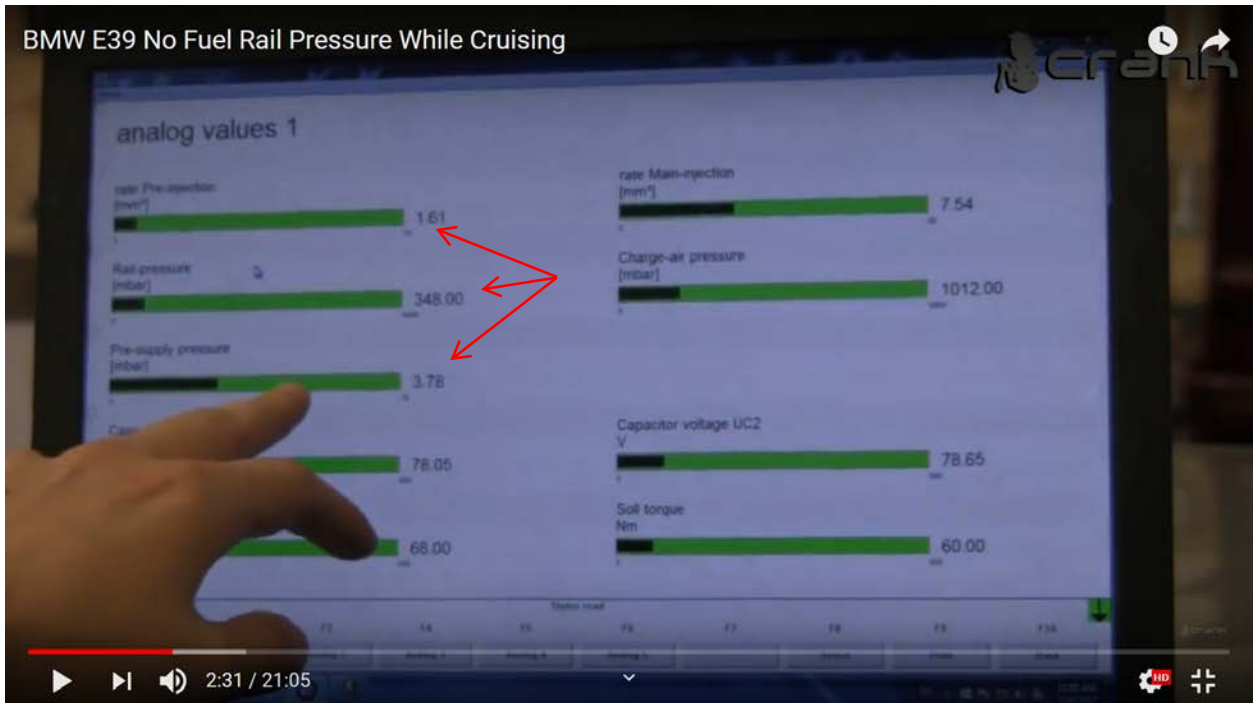
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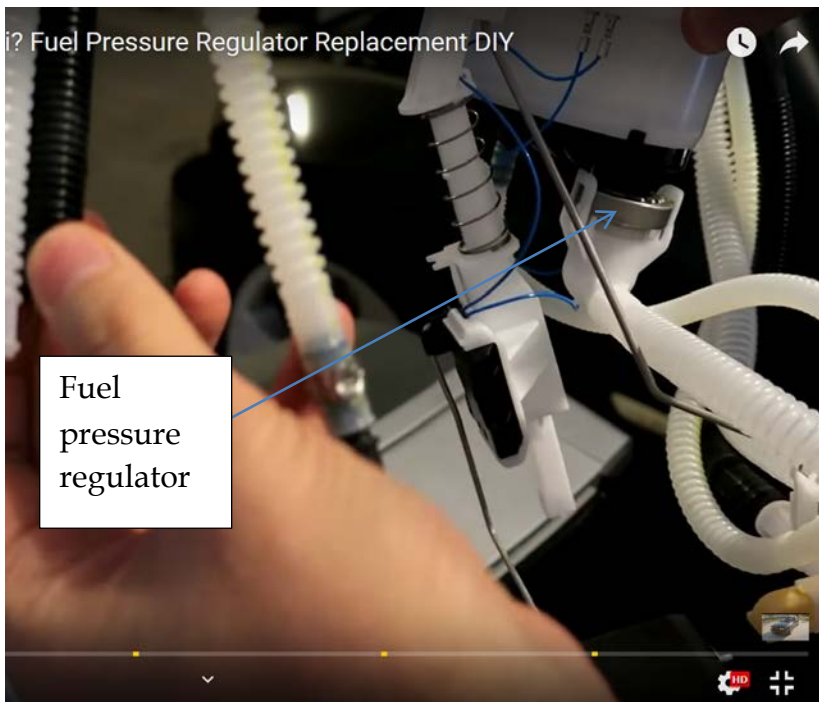
- Do not start the car yet. Just put the ignition on. This should kick on the pump called 'prime pressure'
- You can use INPA to check the primary and running fuel pressure. Watch this video at the 4 minute mark

[https://www.youtube.com/watch?v=nAfMh1\\_KKNE](https://www.youtube.com/watch?v=nAfMh1_KKNE)

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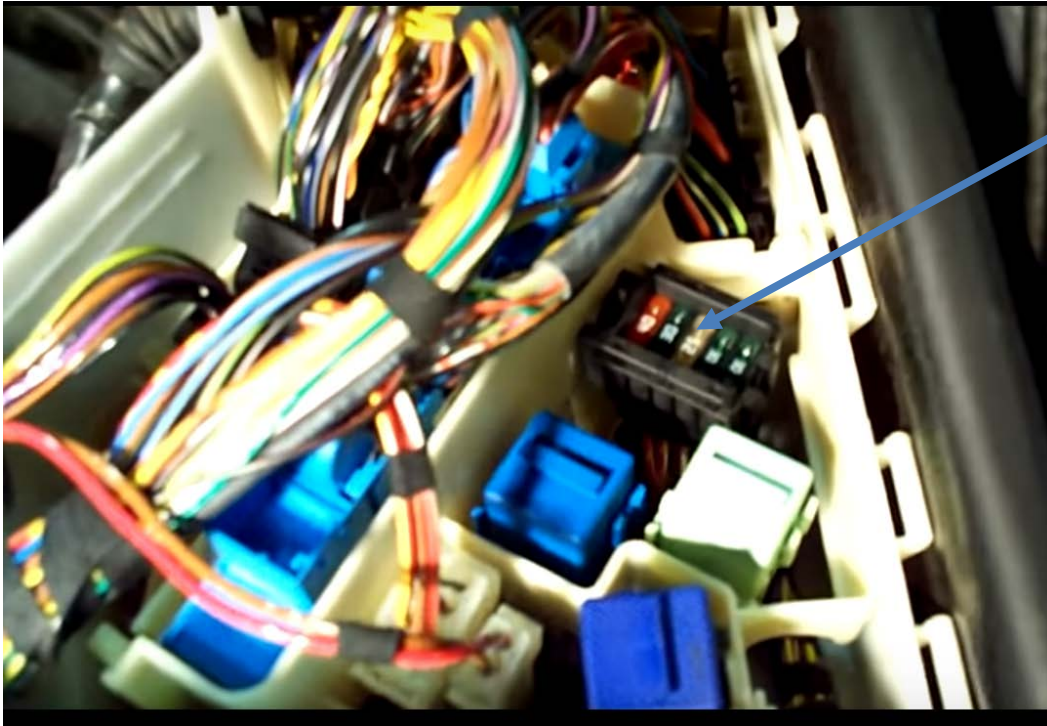
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- Start the vehicle now to identify 'running pressure'. The fuel pressure should be at around 75 psi, but check the Bentley manual for the proper PSI.
- Alternatively, the problem could be the fuel pressure regulator, but that regulator is on the fuel filter assembly.
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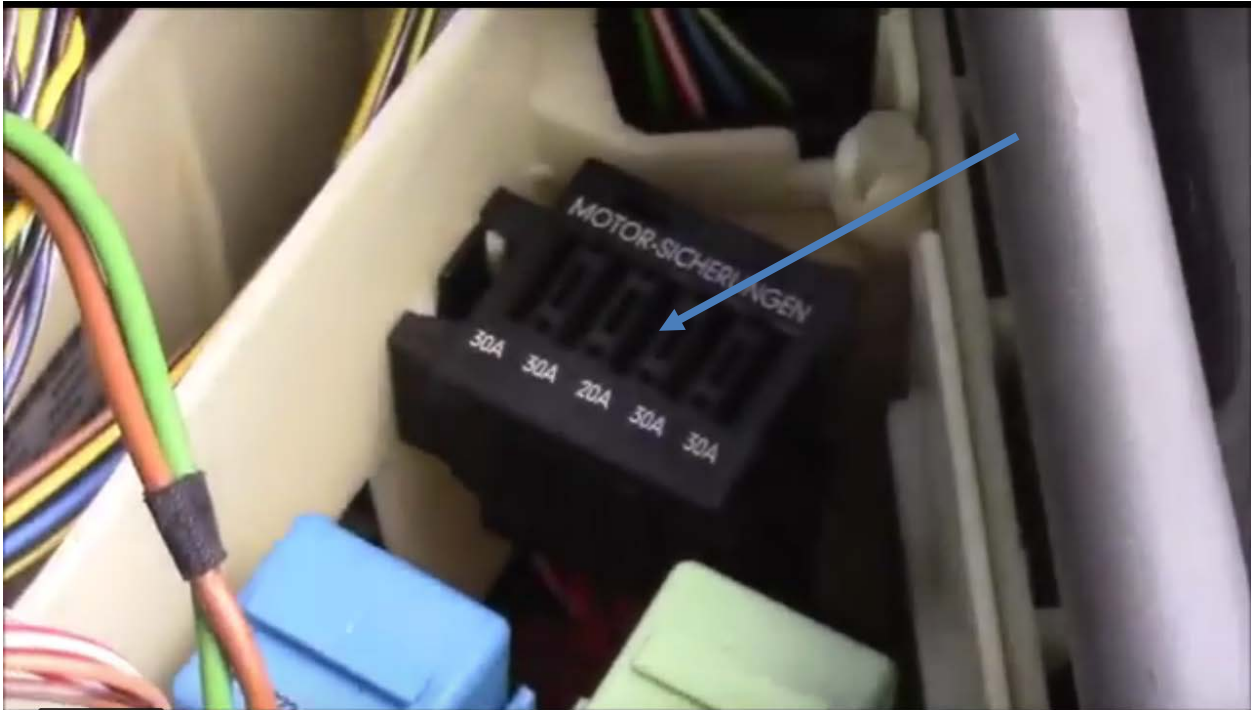


- Check the ignition fuse in the fuse box. If this is blown the coil packs don't work
- There might be fuses blown in the eBox under the hood. It's the middle fuse which is 20amp
- It's the middle fuse, 20 amp fuse in the eBox. see below
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eBox  
bad  
fuse?

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- It's the middle 20 amp fuse in the eBox
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- Check the fuel pump relay controller in the trunk. If you buy a cheap one on eBay this will identify if that is the problem
- If there is a vacuum leak somewhere this could be the problem
- It could be the EVAP system (e.g. the gas cap, purge valve, dtml pump, charcoal canister, charcoal canister air filter)
- over-pressure or a vacuum leak between the purge valve and charcoal canister?
  
- connect INPA and see if there are any codes to research stored in the ECU right now
- Could be bad fuel in the tank from the last fill up
- If the car has been sitting the fuel pressure might be too low. Should be 500 kpa or 70 kpi when car is off, to get a fast start
- Fuel pump regulator going bad (regulator is in the fuel tank connected to the fuel filter and fuel gauge)
- Disconnect the battery in the trunk. Now try to tighten the Red charging block cable block under the hood where the red positive charging device is located
- check the MAF sensor, if the car will not start disconnect the MAF sensor and see if it will start. This has been a problem for many BMW's
- When checking the fuel high pressure rail, go to INPA and check the rail pressure meter
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