

# Troubleshooting: Engine Won't Start

TODO: flowchart

TODO: reorder

This page is organised in order of simplicity to check (assuming you have a nanocom or similar), and then likelihood of failure.

## Battery

Symptoms	<ul style="list-style-type: none"><li>• Battery light stays on on dash indicator</li><li>• Starter motor won't turn at ~200 RPM, or at all (clicking noise)</li><li>• Battery voltage is less than 12V when vehicle is off</li><li>• Battery voltage is less than 10.5V while cranking</li><li>• Battery tester shows CCA of less than ???</li></ul>
Testing	<ul style="list-style-type: none"><li>• Ideally use a decent battery charger (e.g. Norco) and charge out of vehicle until 100%. This may take a day or so. If it doesn't reach 100% it's kaput.</li><li>• Test voltage with a multimeter, or better a battery tester (e.g. Ancel BA301) that tests CCA.</li></ul>
Fixes	<ul style="list-style-type: none"><li>• Replace if after charging voltage is less than ??? and CCA is less than ???</li><li>• Consider a dual battery system</li></ul>

## Crank Sensor

Symptoms	<ul style="list-style-type: none"><li>• Starter motor turns over</li><li>• Noisy crank fault from ECU, MIL/CEL light on</li></ul>
Testing	
Fixes	

## Air in Fuel System / Air Bleed Valve

Symptoms	
Testing	<ul style="list-style-type: none"><li>• If possible fill the tank</li><li>• With ignition in P2 depress accelerator pedal 5 times. That initiates the priming sequence (to bleed air). The CEL/MIL lamp should flash during this process and you should be able to hear the pump and air gurgling as it's purged via the air bleed valve. The standard process has 5 priming cycles. You may need to re-run this if you can still hear air.</li><li>• After priming, turn the ignition off for &gt; 5 seconds, and back on. Apparently you then need to wait for 2-3 minutes... Then with the throttle to the floor crank for up to 30 seconds. It should start.</li><li>• Check the air bleed valve (rear right hand side of <b>filter head</b>), often these will be blocked and won't allow air to be expelled back into the tank.</li></ul>
Fixes	<ul style="list-style-type: none"><li>• Replace the <u>air bleed valve</u> (# WJN500110). Currently you need to buy the whole assembly as the little plastic valve isn't sold separately.</li></ul>

## ECU - Oil in Connector

Symptoms	
Testing	
Fixes	

## Injector Washers & Seals

Symptoms	<ul style="list-style-type: none"><li>• Diesel in oil</li><li>• Starts but runs rough</li></ul>
Testing	
Fixes	

## Fuel Filter Head

Symptoms	
Testing	
Fixes	

## Fuel Pump

Symptoms	<ul style="list-style-type: none"><li>• Can't hear pump running when ignition key is in position 2 (on but not cranking/running).</li><li>•</li></ul>
Testing	<ul style="list-style-type: none"><li>• See "Air in Fuel System Above" re priming process. If that doesn't happen then there is an issue with the pump, or more likely the upstream electrics as a sudden total failure is unlikely.</li></ul>
Fixes	

## Immobiliser

Symptoms	
Testing	
Fixes	

## Roll-over (Inertia) Switch

Symptoms	
Testing	
Fixes	

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