

## Senior Scout Mechanic Badge



Test	Passed	Examiner	Date
<p>1 As appropriate for his/her age, understand the principles of the 4-stroke internal combustion engine (Intake, compression, combustion, exhaust), two-stroke combustion engine, or a high-voltage motor used in EVs.</p> <p>Working models and dummy engines, including those in kit form, can be used to give a practical demonstration of how these are used to produce a rotational force.</p>			
<p>2 As appropriate for his/her age, be able to identify and know the purpose of the following:</p> <ul style="list-style-type: none"> <li>• Transmission</li> <li>• Steering Rack</li> <li>• Suspension</li> <li>• Charging and starting systems</li> <li>• Cooling systems</li> <li>• Braking System</li> </ul>			
<p>3 As appropriate for his/her age, be able to carry out or understand the following:</p> <ul style="list-style-type: none"> <li>• Know the correct method and location to safely jack up and support a vehicle on axle stands, before working under a vehicle</li> <li>• Be familiar with the PPE that should be used whilst working on a vehicle</li> <li>• Know how to disconnect the low voltage vehicle battery before working on the vehicle, and the importance of doing so</li> <li>• Know how to use a socket wrench and spanner</li> <li>• Be able to jump start a car with another battery, car or jumper-pack</li> </ul>			
<p>4</p> <ul style="list-style-type: none"> <li>• Safely remove and replace a road-wheel on a car</li> <li>• Know the legal requirements for tyres</li> <li>• Know how to, and the importance of using a torque wrench to correctly tighten wheel nuts/bolts</li> </ul>			
<p>5 Be able to carry out the following routine checks on a car:</p> <ul style="list-style-type: none"> <li>• Check the oil level of the engine and top up as required</li> <li>• Check and top up the coolant (understanding the importance of the car being cool before doing this)</li> <li>• Check and top up the washer fluid</li> <li>• Replace a wiper blade</li> </ul>			
<p>6 As appropriate for his/her age:</p> <ul style="list-style-type: none"> <li>• Know how to use an OBDII reader to read any active DTCs</li> <li>• Know the steps required to diagnose a non-start condition</li> </ul>			
<p>7 As appropriate for his/her age, know the requirements of the MoT Test.</p>			
<p>NB: although the above test requirements relate to a motor car, similarly tests could include motorcycles and motor scooters as acceptable for gaining the Mechanic badge.</p>			