



Tooling and Resource List

Workshop equipment

General

- Waste disposal and recycling facilities
- Exhaust extraction equipment
- Vehicle lift, column lifts or pit
- Vehicle jacking and supporting equipment
- Working surface / bench with fixed vice
- Engine lifting and support equipment
- Transmission support stands
- Injector tool(s)
- Mechanical measuring equipment to i.e. vernier, micrometer, feeler gauges, DTI
- Electrical measuring equipment i.e. volt meter, ohm meter, ammeter
- Torque wrench
- Inspection lamp
- Hand tools to include spanners, sockets/ ratchets, hammers, screwdrivers, prybars etc.

Specialised

- Brake roller tester (not essential)
- Diagnostic equipment capable of reading fault codes
- Oscilloscope (if not within scan/ diagnostic tool capabilities)
- Wheel alignment equipment
- Oil pressure gauge
- Manufacturer's specialist tools for engine, chassis, transmission and electrical diagnostic and repairs (if required)
- Coach Builder pathway only:
 - Engineering tools to support cutting, filing, joining and drilling
 - Panel beating tools/equipment for repairing minor exterior body panel damage
 - Paint to carry out small skirt/exterior panel brush repair
 - Seat trimming tools and materials

Technical data required for all vehicles and rigs within the workshop

- Manuals or technical data to cover all tolerances, adjustments and manufacturer's specifications
- Wiring diagrams
- Service / inspection schedules
- Guide to Maintaining Roadworthiness

Vehicles

Observation A

- A DDA compliant single deck bus with at least one DVSA annual test 'fail' defect. Examples of which could be a missing split pin, a cut or damaged tyre.



Observation B (Mechanical Pathway)

- An up to date bus or coach capable of setting up the following faults:
 - Air system not building up pressure
 - Brake effort too low to meet minimum DVSA standard
 - Heavy steering
 - Excessively high suspension ride height caused by a mechanical issue
 - Excessive noise from the engine caused by incorrect valve clearances
 - Transmission fault which causes a vibration (must be in section IM57 of the DVSA manual)

Observation B (Electrical Pathway)

- An up to date bus or coach capable of setting up the following faults:
 - Non-charging
 - Rear light inoperative caused by a 'no live' wiring fault
 - Simulated rear accident damage resulting in missing rear lights and exposed unidentified wiring
 - Electrical fault resulting in a 'no start'
 - ABS inoperative and an activated ABS warning light
 - Suspension ride height in excess of specification caused by an electrical fault

Observation B (Coach Builder Pathway)

- An up to date bus or coach capable of setting up the following faults:
 - Complete floor section requires replacement
 - Door not closing due to a faulty ram assembly
 - Minor accident damage to an exterior body panel
 - Damage to a seat trim which requires repair

Observation B (Mechelec Pathway)

- An up to date bus or coach capable of setting up the following faults:
 - Doors not functioning and multiplex light illuminated
 - Gearbox temperature warning light illuminated
 - Active Drive Line multiplex warning light illuminated
 - MIL and emission/engine derate fault (mechanical or electrical fault)
 - A failed injector (mechanical or electrical fault)
 - Accumulated pressure system fault (could be with the gear pump, cam housing, distributor, OCV or accumulator)

Other requirements

- Have sufficient workspace, workshop and candidate facilities which are clean, tidy and well maintained
- Have private and quiet breakout areas
- Maintain a full set of tools and resources as defined above
- Facilities to conduct online assessments in-line with IMI Operating Manual
<http://awarding.theimi.org.uk/Portals/0/Documents/Operating%20Manual%20and%20Of%20orms/3.1%20Using%20IMI%20Online%20Iss3%20Jul16.pdf?ver=2016-07-22-160001-523>