

EV/Hybrid Training – Risk Assessment:

Location:

TEN Technical Training Centre – King's Lynn

Including: Technical Training Centre Workshop and Training Rooms.

Risk Assessment Undertaken by: Chris Gostling

Date: 20th September 2023

Review Date: September 2024

Activities:

EV/Hybrid Training to include courses:

IMI Level 1, Level 2 and Level 3

Introduction:

Electric Vehicles (EV's) Electric vehicles use a large capacity battery and electric motor(s) to drive the vehicle. The battery needs to be charged from the electricity supply network when the vehicle is not in use although some energy may be recovered during braking.

Hybrid vehicles (PHEV's) Hybrid vehicles typically have two sources of energy, an internal combustion engine using either diesel or petrol for fuel and a battery. Hybrid vehicles will use the two sources of power automatically and may use both simultaneously. The internal combustion engine and energy recovered from the vehicle braking systems are used to charge the battery. A plug-in hybrid vehicle can have its battery charged directly from the mains electrical supply network.

Awareness:

All TEN Staff and Training Candidates should be aware that Electric and Hybrid Vehicles (E&HVs) are substantially different to conventional Petrol & Diesel propelled vehicles as well as differences in the designs of E&HVs from different manufacturers and they also need have access to specialist tools and equipment in order to be able to work safely.

People who move these vehicles around the workplace should be aware that others may not hear it approaching them.

Voltages present in E&HVs are significantly higher (currently up to 650 Volts direct current (dc)) than those used in other vehicles (12/24 Volts dc). In dry conditions, accidental contact with parts that are live at voltages above 110 Volts dc can be fatal. For E&HVs dc voltages between 60 and 1500 Volts are referred to as 'high voltage'. This terminology is used in this Risk Assessment although high voltage is defined differently in other industry sectors.

Battery systems may contain chemicals that can be harmful if released. They also store significant amounts of energy that can give rise to explosion if not dealt with correctly.

Autodata terminals are available to ALL Staff and Training Candidates is available throughout the TEN Training Centre and it is important in identifying what actions are necessary to work safely.

EV/Hybrid Training – Risk Assessment:



| No. | Hazard | Possible effects/harm | Risk rating: H = High M = Medium L = Low | Detail existing controls Provide details of control measures already in place. If measures are detailed in other documents, state where. | Detail further action required to reduce risk Note the action required, responsible person and target date. | Revised risk rating H, M, L Indicate the rating following implementation of controls. |
|-----|--|---|---|---|--|---|
| 1 | Vehicle movements | Staff & candidates at risk of potential injury being struck by a vehicle in the workshop. | L | Marked walkways for pedestrians, and vehicles to be moved slowly. | No further action required. | L |
| 2 | Potential risk of electric shock due to high voltages. | Staff and candidates at risk of potential injury due to burns or electric shock. | L | Correct PPE to be worn. Vehicle to be located in an area clearly marked with appropriate signage to stop unauthorised access. | No further action required. | L |
| 3 | Charging of vehicle battery | Staff and candidates at risk of potential burns caused by contact with acid. Caused by spillage and or explosion. | L | Correct PPE to be worn. Safety glasses and appropriate gloves. | No further action required. | L |
| 4 | Working on high voltage battery system. | Staff and candidates at risk of potential electric shock or burns. | L | Correct PPE to be worn and correct tools and safety equipment to be used at all times. | No further action required | L |
| 5 | Car engine running indoors. toxic exhaust fumes e.g. carbon monoxide | Staff and candidates at risk of eye irritation and breathing difficulties. | L | Approved exhaust fume extraction system used and inspected regularly. | No further action required | L |
| 6 | Movement of heavy components | Staff and Candidates back or other injury from handling heavy items | L | Staff are trained in safe manual handling and ensure Candidates follow safe techniques. | No further action required | L |

Declaration:

Prepared by: Chris Gostling

Date: 20th September 2023

Signature:

Position: Director

I certify that all controls are in place which reduce risk to as low as is reasonably practicable, all staff have been informed and safe systems of work have been applied.

| Risk Rating | Action Required |
|-------------|--|
| Low | Not a priority, may need attention if not as low as reasonably practicable. Requires attention as soon as possible Immediate Action Required |
| Medium | |
| High | |