**Toolbox Talk – Safe Handling of Electric Vehicles (EVs) in Collision Repair**

**Relevant Legislation & Standards:**

* *WHS Act (harmonised), s19 – Primary Duty of Care*
* *OH&S Act 2004 (Vic), s21 – Employer Duties; s25 – Employee Duties*
* *WHS/OHS Regulations – Electrical Safety and Plant Safety*
* *AS 5732:2022 – Electric Vehicle Operations – Maintenance and Repair*

**Why this matters**

Electric Vehicles (EVs) can store high-voltage energy (up to 800V) and pose significant hazards after a crash. The Australian Standard AS 5732:2022 sets out minimum safety requirements for identifying, isolating, and repairing EVs safely. Untrained handling can cause **electric shock**, **fire**, or **serious injury**.

**Key Risks**

* **Electric shock** from damaged or live high-voltage components
* **Arc flash**, **thermal runaway**, or **fire**, especially after impact
* **Chemical exposure** from battery leaks
* **Vehicle movement** if not correctly shut down
* **Explosion** risk during battery mishandling

**AS 5732:2022 – Key Safety Measures**

1. **Vehicle Identification & Risk Assessment**
	* Identify EVs/hybrids at intake.
	* Conduct a risk assessment before any work begins.
	* Use vehicle-specific info from OEM or repair databases (e.g. I-CAR, Mitchell).
2. **Work Area Designation**
	* Use a **High Voltage (HV) Danger Zone** – clearly marked, restricted access.
	* Separate from standard repair bays, with signage like “High Voltage Work – Authorised Access Only”.
3. **Training & Competency**
	* Only **qualified persons** (as per AS 5732) should perform HV isolation or repairs.
	* Staff must be trained in:
		+ EV system awareness
		+ Safe disconnection procedures
		+ PPE use and emergency procedures
4. **Safe Isolation Procedures**
	* Follow OEM-specific **lockout/tagout (LOTO)** procedures.
	* Confirm **Zero Voltage Verification** using approved HV test equipment.
	* Apply **discharge waiting periods** before working near high-voltage systems.
5. **Personal Protective Equipment (PPE)**
	* Insulated gloves (Class 0 or above), tested every 6 months.
	* Face shield, arc-rated PPE (fire-resistant clothing).
	* Safety footwear with EH protection.
6. **Handling Battery Hazards**
	* Do not open, pierce, or move damaged batteries unless authorised and trained.
	* Store suspect batteries in **quarantine zones**, in fire-resistant containers if required.
	* Use non-conductive tools and follow decontamination protocols if electrolyte leaks.
7. **Emergency Response**
	* Have **Class D or lithium-rated fire extinguishers** available.
	* Evacuate if thermal runaway or battery smoke is detected.
	* Notify emergency services and isolate the area.

**Legal Responsibilities**

* **Employers/PCBUs** must:
	+ Identify EV-specific hazards and control them under s19 of the WHS Act or s21 of the OH&S Act (Vic).
	+ Ensure compliance with **AS 5732:2022**, applicable Codes of Practice, and manufacturer procedures.
* **Workers** must:
	+ Follow safe work procedures and only undertake EV work if trained and authorised.
	+ Wear the correct PPE and report any suspected battery damage or EV-related hazard.

**Discussion Points**

* Are EVs and hybrid vehicles clearly identified in our workshop?
* Do you know who is authorised to isolate EVs?
* Have you received training aligned to AS 5732:2022?
* Do you know what to do in the event of a battery overheating or fire?

**Conclusion**

**Working with EVs isn’t business as usual.** They require specialist procedures, tools, training, and controls to be handled safely. **Always check, isolate, and verify – or STOP and report if unsure.**