

Electric Vehicle Drive Systems Repairs

Manufacturing and Technology

Show us you know how to perform diagnostic analysis and restorative actions on high voltage drive systems to ensure electric vehicles operate as per manufacturers' specifications.

- Level 5
- Credits 10
- \$199 NZD (GST incl.)

Assessment

You are required to submit evidence of the following:

1. Perform diagnostic analysis to identify faulty high voltage drive system components and complete restorative actions to manufacturers' specifications.
2. Perform quality control diagnostic analysis to ensure electric vehicles operate according to manufacturers' specifications.

To earn this EduBit, you must submit evidence to the required standard. You may be given the opportunity to resubmit if there are minor gaps in your submission evidence. If your evidence does not meet the requirements, we encourage you to practice your skills and attempt the EduBit at a later date. All work for this EduBit must be your own.

Evidence Submission Options:

There are two (2) options to choose from for ways to collect and submit evidence for this EduBit:

a. From naturally occurring evidence produced as a result of your normal work and validated with attestations from your qualified supervisor. Refer to acceptable evidence requirements below.

OR

b. Enrol in an Electric Vehicle Drive Systems Repairs workshop* and provide evidence as per requirements.

*If you are interested in attending a workshop, please register your interest by emailing ecldadmin@op.ac.nz.

Learning Recommendations

[Nissan Lead Teardown Part 1](#)

[Troubleshooting a Variable Frequency Drive](#)

Tasks

Proof of Identity

Please include a scanned copy of photo identification (e.g. passport, drivers licence, work ID card).

General Information

Please provide the following information:

1. What is the name of your organisation?
2. What type of industry do you work in?
3. A brief description of your role in the organisation (maximum 50 words).

This information is provided as context for theEduBit Assessor only.

Task 1: Identify Electric Vehicle drive system and describe restorative repair.

You will need to:

1.1. Identify the Electric Vehicle Driveline System that you are working on:

Evidence must include:

- Vehicle/Machine details.
- The type of electric motor/s (AC, Dc, synchronous or asynchronous).
- Any reduction drive unit and/or torque modifier (transmission) used in the electric vehicle's drivetrain.
- Thermal management used on the system (if applicable).
- Lubrication system used on system (if applicable).

Information can be provided in any of the following forms:

- Written (maximum 150 words).
- Video log (maximum 5 minutes) and written report.
- Photographic and written report.
- Any resources or supporting evidence must be clearly identified and referenced.

1.2. Record the system restorative action and service requirements for the driveline system you are working on.

Evidence must include:

- Accurate description of driveline system restorative action and service requirements required to bring system to OEM standards.
- Any supporting evidence applicable to restorative action and service requirements (as applicable).

Please provide written evidence with supporting photos of job cards which supports documentation.

If applicable, please download the [Photo Evidence Guidelines](#).

Task 2: Record restorative action.

You will need to:

2.1. Record the restorative action and service procedures carried out on the drive system.

Evidence must include:

- Repair overview (brief of restorative action and service procedures carried out throughout the repair).
- Specialised restorative procedures are documented and results given (insulation tests, OEM procedures, Electrical test meter or equivalent test results).
- All Health and Safety procedures taken to ensure compliance with manufactures and legislative guidelines are documented.

Evidence can be provided in any of the following forms:

- Written (maximum 250 words).
- Video log (maximum 10 minutes) and written report.
- Photographic and written report.
- Any resources or supporting evidence must be clearly identified and referenced.

If applicable, please download the [Photo Evidence Guidelines](#).

If applicable, please download the [Video Evidence Guidelines](#).

Please download the [APA Reference Guidelines](#). Upload your reference(s) as a document OR type into the free text field available in this task.

Task 3: Verify restorative action.

You will need to:

3.1. Provide a detailed report on how the repair has brought the Drive System back to OEM specification.

Evidence must show:

- Verification procedure overview.
- Test procedure results.
- Evidence that shows restorative and service procedure completed up to OEM specification (live data, Road test, OEM verification test, operational test) as applicable.

Evidence can be provided in any of the following forms:

- Written (maximum 150 words).

- Video log (maximum 5 minutes) and written report.
- Photographic and written report.
- Any resources or supporting evidence must be clearly identified and referenced.

If applicable, please download the [Photo Evidence Guidelines](#).

If applicable, please download the [Video Evidence Guidelines](#).

Please download the [APA Reference Guidelines](#). Upload your reference(s) as a document OR type into the free text field available in this task.

Task 4: Supporting evidence from your supervisor/manager/team leader etc.

You will need to:

4.1. Provide a completed copy of the provided [Attestation Form](#) from your supervisor/manager/team leader to support the evidence you have provided in Tasks 1 to 3.

Please download the Attestation Form and make sure it is completed, signed and dated before uploading to this task.

