



# ACS Training Solutions Overview

## Introduction

ACS is proud of its reputation as a specialist Electric Drive Truck supplier. With a proven track record in supporting our clients from a service and maintenance perspective ACS has now invested heavily in the development of a complete range of training modules aimed towards those working on electric drive trucks, specifically those utilising the Statex™ or Invertex™ Drive system.

The modules are designed to cover all experience levels and are broken into 'bite sized' pieces to form a complete training solution for your personnel. In addition these modules can be delivered on an ad-hoc basis or in one of the ACS tailored packages.

## Training Modules

We have divided the modules into 3 sections, Beginner, Intermediate and Advanced.

ABM modules:

1. ABM001 Electric Drive Truck Safety Awareness Training
2. ABM002 Contactor Maintenance Training
3. ABM003 Electric Drive Truck Servicing Techniques - AC
4. ABM004 Electric Drive Truck Servicing Techniques -DC
5. ABM005 DC Drive Overview
6. ABM006 AC Drive Overview
7. ABM007 Laptop Training

AIM modules:

1. AIM001 Rotating Maintenance Training\*
2. AIM002 DC Drive Training
3. AIM003 AC Drive Training
4. AIM004 24V System Training
5. AIM005 PLM Training
6. AIM006 ARP Training

AAM modules:

1. AAM001 Advanced Laptop Skills Training\*
2. AAM002 Advanced DC Drive Fault Finding Training\*
3. AAM003 Advanced AC Drive Fault Finding Training\*

In total there are 16 modules with all but 4 fully developed.

## Training Modules packages

We envisage our training modules to be implemented in one of 4 different optional ways:

1. **Direct**

Individual modules are selected based on the requirement from the client.

2. **12 month training program (Mine Employee)**

All modules are delivered across the timeframe with unlimited phone support available for the duration of the program.

3. **12 month training program (ACS employee)**

This involves ACS employing the prospective mine site employee for 12 months in which ACS will provide all modules and at the successful completion, the employee would be able to apply directly to the mine site for a permanent position onsite. During the 12 month program, the individual would work onsite as an FTE giving the mine site the opportunity to evaluate the individuals suitability for a future onsite role.

4. **Austindo contracted FTE**

Austindo supplied FTE employee can be provided with the training already provided.

## Module Descriptions

### 1. **ABM001 Electric Drive Truck Safety Awareness Training**

The primary purpose of this training module is to provide a fundamental overview of an electric drive truck and clearly identify all sources of energy and safety circuits contained within the truck. It covers both mechanical and electrical safety aspects.

### 2. **ABM002 Contactor Maintenance Training**

This module covers the area of component fundamentals, maintenance inspections and specific procedures for all types of contactors used with the electric drive system.

### 3. **ABM003 Electric Drive Truck Servicing Techniques – AC**

This 'hands on' module involves a tour of an AC truck looking at specific maintenance and servicing aspects and provides documented information that can be referred to at a later date.

### 4. **ABM004 Electric Drive Truck Servicing Techniques - DC**

This 'hands on' module involves a tour of a DC truck looking at specific maintenance and servicing aspects and provides documented information that can be referred to at a later date.

### 5. **ABM005 DC Drive Overview**

The primary purpose of this training module is to provide a fundamental overview of a DC drive electric drive truck and clearly identify all major components contained within the truck and look at some basic functionality

### 6. **ABM006 AC Drive Overview**

The primary purpose of this training module is to provide a fundamental overview of an AC drive electric drive truck and clearly identify all major components contained within the truck and look at some basic functionality.

### 7. **ABM007 Laptop Training**

With both AC and DC versions, this module aims to provide all participants with the required skills to confidently interface with the drive system via the laptop software or any applicable diagnostic panels on the truck.

## 8. AIM001 Rotating Maintenance Training\*

This module will focus on the specific hands on skills and theory to maintain various rotating motors on an electric drive truck. The module covers skills from servicing to repairs and including flashover repairs. This module is focused on the skills needed to perform the role required by a site electrician.

## 9. AIM002 DC Drive Training

This training module follows and expands on the material in the DC Drive system overview training. This module details the overall drive system, components and sub systems. Included is drive system control logic, processor cards and fault finding.

## 10. AIM003 AC Drive Training

This training module follows and expands on the material in the AC Drive system overview training. This module details the overall drive system, components and sub systems. Included is drive system control logic, processor cards and fault finding.

## 11. AIM004 24V System Training

This module will focus on the functionality of the 24V circuits and specific OEM circuits and include how they interface with the drive system.

## 12. AIM005 PLM Training

Our PLM module provides a brief system overview including suggested maintenance and fault finding.

## 13. AIM006 ARP Training

The Austindo AID's replacement panel provides various improvements to the factory installed system. This training outlines the function and specific fault finding information to enable the trainee to maintain this system.

## 14. AAM001 Advanced Laptop Skills Training

This module expands on the base laptop training module and focuses on more advanced skills that are not normally performed but become very valuable when fault finding difficult truck problems.

**15. AAM002 Advanced DC Drive Fault Finding Training\***

This module will focus on specific fault finding examples, exercises and methods that will assist field electricians responsible for electric drive truck maintenance.

**16. AAM003 Advanced AC Drive Fault Finding Training\***

This module will focus on specific fault finding examples, exercises and methods that will assist field electricians responsible for electric drive truck maintenance.