

**BEC**

**Student Learning Guide**

**Course  
Introduction**



**Automotive  
Electrical Course**

**KIA**

**S E R V I C E   T R A I N I N G**



Welcome to Kia Automotive Electrical

- Electrical principles and hands-on diagnostics for Kia Technicians
- Review of available resources
- Course length is 3 days

AEC-1

This three day course provides an opportunity for hands-on electrical diagnosis practice.

During this course, you will:

- Analyze automotive circuits using circuit diagrams.
- Learn to use the Kia 5-Step Troubleshooting Process to locate faults.
- Gain experience using the DVOM.
- Identify normal system operation of electrical system components.
- Inspect for normal operation of the vehicle's basic electrical systems.

## COURSE GOAL

To provide the Kia technician with the skills and knowledge required to diagnose and repair a vehicle that has an electrical system malfunction.

AEC-2

## PREREQUISITES

None



Modular format will help you focus your efforts in the areas that are of the most value to you.

AEC-3

1. Student Learning Guide and Workbook:
  - Explains theory
  - Can be used for self study
2. Guided Practice
  - Provides hands-on experience
  - Helps develop troubleshooting skills

AEC-4

## MODULAR FORMAT

As a Kia service professional, you understand the importance of staying current with today's complex automotive technology. The amount of training that a technician needs depends on factors like technical background, product knowledge and practical experience. To meet your needs, we have developed a modular training system to help you focus your efforts in the areas that are of the most value to you.

## TWO TYPES OF MODULES

### 1. Student Learning Guide and Workbook

This module explains subjects from basic concepts to the most complex technology we offer. Obtaining a working knowledge of any system or component is a prerequisite to effectively diagnose system malfunctions. There may also be classroom exercises that you will complete as a group.

### 2. Guided Practice

This module provides hands-on experience that will build on the theory and diagnosis topics discussed in the classroom.

These modules will also help develop your troubleshooting skills. This course will involve the use of service manuals, ETMs, technical service bulletins, newsletters and other resources as an integral approach to your overall diagnostic strategy.



## VIDEO

When you see this symbol, view the appropriate video segment for important concepts or procedures.

## ACTIVITY

Activities support critical learning objectives. Performing these procedures will help you master the material.

## REFERENCE

This symbol shows when you must refer to additional publications to complete the questions or module activity.

## FEEDBACK

Most modules contain a Self-Test or an Instructor Sign-Off to give you feedback on your strengths and weaknesses. Gauge your level of expertise by your ability to answer the questions and instructor's feedback. Review appropriate areas as needed.

AEC-5

## MODULE SYMBOLS

Several symbols have been designed to keep you on track as you complete each module. These symbols are shown in the illustration above.



TIME	LOCATION	INST. TYPE	SUBJECT MATTER
8:00-8:30	Classroom	Discussion	<u>Course Introductions</u>
8:30-9:00	Classroom	Video	<u>Electrical Fundamentals</u>
9:00-10:00	Classroom	Discussion	<u>Electrical Fundamentals</u>
10:00-10:15	<b>BREAK</b>		
10:15-10:30	Classroom	Video	<u>Introduction to Multimeters</u>
10:30-11:30	Classroom	Discussion/Activity	<u>Introduction to Multimeters</u>
11:30-12:30	<b>LUNCH</b>		
12:30-2:30	Classroom	Discussion/Activity	<u>Electrical Circuits</u>
2:30-2:45	<b>BREAK</b>		
2:45-4:00	Classroom	Discussion/Activity	<u>Electrical Circuits</u>
4:00-4:30	Classroom	Evaluation	<u>Review / Day 1 Test</u>

AEC-6

TIME	LOCATION	INST. TYPE	SUBJECT MATTER
8:00-9:30	Classroom	Discussion/Activity	<u>Electrical Circuits</u>
9:30-9:45	<b>BREAK</b>		
9:45-12:00	Classroom	Discussion/Activity	<u>Electrical Circuits</u>
12:00-1:00	<b>LUNCH</b>		
1:00-1:45	Classroom	Video	<u>Electrical Diagnosis</u>
1:45-2:45	Classroom/Shop	Discussion/Activity	<u>Electrical Diagnosis</u>
2:45-3:00	<b>BREAK</b>		
3:00-4:00	Classroom	Discussion/Activity	<u>Electrical Diagnosis</u>
4:00-4:30	Classroom	Evaluation	<u>Review / Day 2 Test</u>

AEC-7



TIME	LOCATION	INST. TYPE	SUBJECT MATTER
8:00-8:15	Classroom	Video	<u>Electrical Repairs</u>
8:15-9:30	Classroom/Shop	Discussion/Activity	<u>Electrical Repairs</u>
9:30-9:45	<b>BREAK</b>		
9:45-10:45	Classroom	Discussion/Activity	<u>Electrical Repairs</u>
10:45-11:15	Classroom	Video	<u>Battery, Charging and Starting Systems</u>
11:15-12:00	Classroom/Shop	Discussion/Activity	<u>Battery, Charging and Starting Systems</u>
12:00-1:00	<b>LUNCH</b>		
1:00-2:30	Classroom/Shop	Discussion/Activity	<u>Battery, Charging and Starting Systems</u>
2:30-2:45	<b>BREAK</b>		
2:45-4:00	Classroom/Shop	Discussion/Activity	<u>Battery, Charging and Starting Systems</u>
4:00-4:30	Classroom	Evaluation	<u>Review / Final Test</u>

AEC-8

- Take notes and make drawings
  - Work as a team
  - Learn from mistakes
  - Ask questions
  - Be an active participant
- AEC-9

**GETTING THE MOST OUT OF THE COURSE**

Use the course materials in any way that will help you remember the material. Make notes or drawings on these materials to help you remember details.

One of Kia’s main goals is to provide as much individual instruction as possible. If you do not understand something in the classroom, ask your instructor to clarify the point.

During hands-on practice sessions, you will often be part of a working team. You will only learn from the experience if you actively participate.



This training course is an opportunity to learn advanced skills successfully in a controlled environment under the guidance of a trained Kia instructor. Have a good experience here, and return to your dealership with confidence in your own abilities as a trained Kia professional.

Guided Practice = 45%
Day 1 Test = 10%
Day 2 Test = 10%
+ Final test = 25%
<hr/>
+ Class participation = 10%
<b>Total = 100%</b>
80% required for course credit
AEC-10

### COURSE CREDIT

Course credit will be granted by a Kia Service Training Instructor when all of the criteria for course completion has been met.

Because our technical training is performance-based, hands-on practice will make up 45% of your course credit. Each Guided Practice module lists specific performance objectives that are the basis for scoring. The instructor will observe and evaluate your performance, coaching you when necessary.

Additional factors that may affect this score are safe and appropriate use of tools and equipment and following written and verbal instructions.

Each Guided Practice Module is assigned a relative "point" value, depending on the difficulty of the material.

The Day 1 and Day 2 tests are 10% each. The Final Test is 25% of your grade.

The instructor will evaluate the degree to which you contribute to discussions, offer your experience, or simply ask questions about something you don't understand. Participation also takes into account your professional conduct and working with teammates during classroom and shop practice activities. This counts for 10% of your course credit.

The sum of the above scores will determine your course achievement performance. A minimum score of 80% is required for course credit.



A series of horizontal lines for writing, spanning the width of the page. A large, light grey watermark reading "NOTES" is oriented diagonally across the center of these lines.







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