

COURSE OVERVIEW

This course is designed to introduce and prepare service technicians new to Kia with the appropriate knowledge and skills so that they can be more effective, efficient, and productive in performing their responsibilities to service and repair customer vehicles.

Furthermore, this course will establish Kia's standards and expectations among these technicians and how they can fulfill and satisfy these expectations.

COURSE GOAL

The course goal is to introduce new service technicians to Kia-provided information, tools, and resources, which will be reinforced by hands-on activities. Service technicians will:

- Be introduced to Kia, its culture, and its growth and development globally, with emphasis on Kia Motors America, Inc. (KMA), Kia's U.S. distributor.
- Receive essential service skills to work confidently and effectively in a Kia dealership environment.
- Be able to use Kia resources to diagnose, service, and repair Kia vehicles on the first visit.

COURSE OBJECTIVES

Upon completion of this course, new service technicians to Kia will be able to demonstrate that they have acquired knowledge and skills with 80% or greater competency on the following subjects:

- Kia, the company, its vehicles & key technologies.
- Kia information, tools & resources.
- Kia practices & processes.
- Kia technician development & certification.
- Kia customer satisfaction.
- Kia corporate values & commitment.

TARGET AUDIENCE

This course targets retail service technicians new to Kia. Ideally, new Kia technicians should take this course within six (6) months of joining a Kia dealership.

EXPECTATIONS

Kia University, KMA's training arm, offers a variety of web and instructor-led courses to help Kia technicians learn about Kia's vehicles and develop service, diagnosis, and repair proficiencies. Beginning with this course, continuous learning from Kia's training programs, and experience and discovery on the job, you will improve your technical expertise, enabling you to achieve Fix It Right the First Time (FRFT) results.

ABOUT TRAINING MODULES

Today's complex automotive technology demands that you, the professional Kia service technician stay up-to-date with the latest service information, special tools, and proper diagnostic and repair procedures.

We have adopted a modular training format to deliver critical information in logical sequence. First, we will present the subject. Then, we will provide you with the opportunity to apply what you have learned. Finally, you will be tested on your newly acquired knowledge and skills in a Performance Assessment.

THEORY

A **Theory Module** explains the subject and enables you to develop a working knowledge of this subject. Your instructor will present the subject through classroom instructions, presentations, and demonstrations.

You will find a Reference section at the end of most chapters that your instructor will not cover due to time constraints. To maximize your learning, look over this Reference material at your own time. You will find that these references contain greater detail on information that will be useful to you as a Kia dealership technician.

Also, you will find that the **Theory Module** will be an exceptionally valuable resource, during your early days while you are learning about and acclimating to the Kia way, to help you become immediately productive at your dealership.

GUIDED PRACTICE/ACTIVITY

The **Guided Practice** or **Activity** provides you with the opportunity to practice and apply the subject you have just learned through hands-on experience. These tasks will be performed under the supervision and verified by your instructor.

PERFORMANCE ASSESSMENT

The Performance Assessment provides the opportunity for you to prove that you can perform the subject matter related tasks and procedures. The Performance Assessment will be completed individually, and not as a team.

GETTING THE MOST OUT OF THIS COURSE

This course is designed to be part of a structured training plan consisting of lecture, interactive classroom discussion, and hands-on activities under the direction of a trained Kia instructor.

COURSE MATERIAL

This course contains 6 chapters:

1. Kia History & Milestones.
2. Kia Information, Tools & Resources.
3. Kia Practices & Processes.
4. Kia Technician Development & Certifications.
5. Customer Satisfaction.
6. Kia Corporate Commitment & achievements.

At the conclusion of this course, your understanding of the material will be verified through a Performance Assessment. In the Performance Assessment, you will be required to pass a written test based on course materials and hands-on activities.

TIMELINE

The Table of Contents immediately following this section will identify the chapters and its contents so that you can easily find and refer to this workbook.

Introduction & Course Overview	8:00 - 8:15
Kia History & Milestones Theory	8:15 - 8:45
Kia History & Milestones Activity	8:45 - 9:15
Kia Information, Tools & Resources Theory	9:15 - 10:00
Morning Break	10:00 - 10:15
Kia Information, Tools & Resource Activity	10:15 - 11:00
Kia Practices & Processes Theory	11:00 - 11:30
Lunch	11:30 - 12:30
Kia Practices & Processes Activity	12:30 - 1:30
Kia Technician Development & Certifications Theory	1:30 - 1:45
Kia Technician Development & Certifications Activity	1:45 - 2:15
Afternoon Break	2:15 - 2:30
Customer Satisfaction Theory	2:30 - 3:00
Customer Satisfaction Activity	3:00 - 3:30
Kia Corporate Commitment Theory	3:30 - 3:45
Performance Assessment	3:45 - 4:45
Conclusion	4:45 - 5:00

COURSE MANAGEMENT

The course and its materials are for you to keep. Use them and your time in a way that will benefit you when you return to your dealership.

TAKE NOTES

Make drawings, jot down notes, and highlight this material to help you remember important details. This course workbook has been designed with ample margins to accommodate your important notes.

ASK QUESTIONS

If you have a question, ask your instructor for clarification. Asking questions is strongly encouraged to help you get the most out of this course.

TEAMWORK

You may be working with other Kia technicians on hands-on activities. Being actively involved in each activity will maximize your learning experience.

During the hands-on activities, feel free to ask your instructor questions at any time.

LEARN AT EVERY OPPORTUNITY

Learning in the controlled environment of an authorized Kia training center/facility under the guidance of a trained Kia instructor will maximize your course experience.

If you make a mistake, turn it into a learning experience to strengthen your ability in order to apply this course material when you are back at your dealership.

REQUIRED MATERIALS

Required materials include:

- This EKSS workbook
- Kia Model by Year Job Aid
- Appropriate Kia vehicles
- Owner's Manuals for latest model Kia vehicles
- Global Diagnostic System (GDS)
- Computer with Internet connection



Note: Information in this course, compiled from a variety of Kia sources, was accurate at the time of print as indicated on the back cover of this workbook.

PERFORMANCE SCORECARD

The Performance Scorecard is used to track your classroom participation, performance on activities, and Performance Assessment.

COURSE ACHIEVEMENT

A final total score of 80% or higher is needed for completion credit for this course.

SCORECARD ROUTING

One copy of the scorecard is yours and one copy is used to update your Kia technical training records.

Should you not complete this course, the third copy is forwarded to your Kia District Parts and Service Manager (DPSM).

ICONS

In this course, you will come across the following icons designed to keep you on track.



The **Note Icon** provides you with additional information to alert you to the subject or to help clarify a particular point or procedure.



The **Reference Icon** indicates you must refer to additional resources to complete the questions and activities.



The **Video Icon** indicates that there is a media segment corresponding to the information.



The **Activities Icon** indicates an activity that supports a critical learning objective. These activities are offered to help you master the material.



The **Feedback Icon** indicates a progress check meant to provide you with feedback on your understanding of the course material. Based on this information, we recommend that you review any areas in which you have not mastered the material.

ACRONYMS

BOB	Breakout Box	KMC	Kia Motors Corporation, Korea
CARB	California Air Resources Board	KMMG	Kia Motors Manufacturing Georgia
CSI	Customer Service Index	KU	Kia University
CVVT	Continuously Variable Valve Timing	LMS	Learning Management System
DATC	Dual Automatic Temperature Control	MIT	Multi-Media Interface Tester
DLC	Diagnostic Link Connector	MY	Model Year
DPSM	District Parts and Service Manager	NHTSA	National Highway Transportation Safety Administration
DTC	Diagnostic Trouble Code	PC	Personal Computer (IBM compatible)
EPA	Environmental Protection Agency	PCM	Powertrain Control Module
ECU	Electronic Control Unit	PDI	Pre-Delivery Inspection
ETM	Electronic Troubleshooting Manual	RCT	ROM Change Tool
FAQ	Frequently Asked Questions	RKE	Remote Keyless Entry
FATC	Fully Automatic Temperature Control	SST	Special Service Tools
GDS	Global Diagnostic System	TPMS	Tire Pressure Monitoring System
HMC	Hyundai Motor Corporation	TSB	Technical Service Bulletin
HSP	Hi-Scan Pro	UIO	Units in Operation
IQS	Initial Quality Study	URL	Uniform Resource Location
JDPA	J.D. Power & Associates	VCI	Vehicle Communication Interface
KGIS	Kia Global Information System	VIN	Vehicle Information Number
KMA	Kia Motors America, Inc.	VMI	Vehicle Measurement Interface

TABLE OF CONTENTS

INTRODUCTION	9
PURPOSE	10
APPLICATION	10
 Kia HISTORY AND MILESTONES	 11
Kia VEHICLE LINE-UP	14
FUTURE VEHICLES	
Upcoming Vehicles	16
Concept Vehicles	17
Alternative Fuel Technology	20
ACCESSORIES	22
VEHICLE IDENTIFICATION NUMBER (VIN)	23
SUMMARY/PROGRESS CHECK	24
ACTIVITY	25
REFERENCES OF CURRENT KIA VEHICLES	
Rio and Rio5	28
Spectra and Spectra5	29
Forte / Forte Koup / Forte 5-Door	30
Optima / Amanti	33
Soul	35
Rondo	36
Sedona	37
Sportage / Sorento / Borrego	38
 Kia INFORMATION, TOOLS & RESOURCES	 41
Kdealer.net	42
Kia GLOBAL INFORMATION SYSTEM (KGIS)	44
TECHLINE	46
Kia SPECIAL SERVICE TOOLS & DIAGNOSTIC EQUIPMENT	49
GDS (Global Diagnostic System)	50
TPMS Exciter	52
GDS Software	53
Diagnostic Link Connector (DLC)	54
Breakout Box (BOB)	55
A/T Tester Pro	56
Midtronics GR8 Diagnostic Charger	57
Kia Universal Multi-Media Interface Tester	58
Special Service Tools (SST)	59
PARTS	60
SUMMARY/PROGRESS CHECK	61
ACTIVITY	64
REFERENCE: Kdealer.net	70
REFERENCE: Kia Global Information System (KGIS)	72
REFERENCE: Global Diagnostic System (GDS)	78
REFERENCE: Break Out Box (BOB) Pro	84

TABLE OF CONTENTS

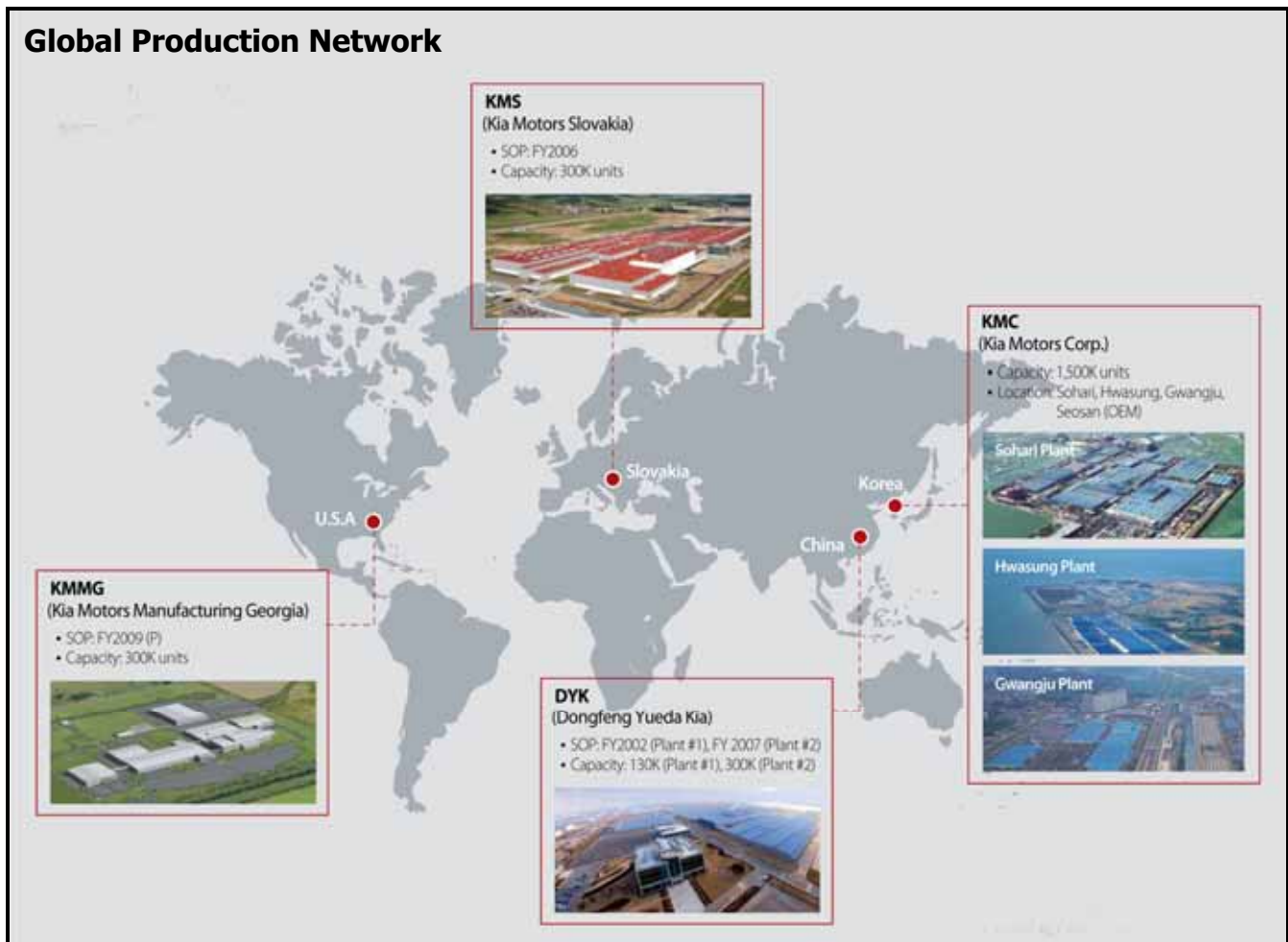
Kia PRACTICES & PROCESSES	93
3CS: CONCERN, CAUSE & CORRECTION	94
Kia 5-STEP DIAGNOSTIC PROCEDURE	96
Kia WARRANTY & ROADSIDE ASSISTANCE	101
SUMMARY/PROGRESS CHECK	104
ACTIVITY	106
 Kia TECHNICIAN DEVELOPMENT & CERTIFICATIONS	 111
Kia UNIVERSITY (KU)	112
www.kiauniversity.com Site Layout	113
Kia University Technical Curriculum	114
Technical Training Courses	116
Course Enrollment	118
Calendar Schedule	119
Technician Test Out Program	120
Attendance	120
CERTIFICATION REQUIREMENTS	121
MY LEARNING PLAN	122
OTHER KEY FEATURES & FUNCTIONS	123
CERTIFICATION REWARDS & RECOGNITION	124
Kia SKILL COMPETITION	125
SUMMARY/PROGRESS CHECK	127
ACTIVITY	129
 CUSTOMER SATISFACTION	 131
INITIAL QUALITY STUDY (IQS)	132
PRE-DELIVERY INSPECTION (PDI)	133
EFFECT OF PDI ON IQS	138
CSI REPORTING – KSAT	140
www.KiaPerformanceCenter.com	144
CUSTOMER SERVICE INDEX (CSI)	146
SUMMARY/PROGRESS CHECK	149
 Kia CORPORATE COMMITMENT & ACHIEVEMENTS	 153
Kia QUALITY ADVANCES, RECOGNITION & AWARDS	154
SALES GROWTH	160
GQ 3 • 3 • 3 • 5	161
SUMMARY/PROGRESS CHECK	162
 PERFORMANCE ASSESSMENT	 165
WRITTEN PERFORMANCE	166
SKILL PERFORMANCE	170
 COURSE EVALUATION	 177

INTRODUCTION

Kia is one of the fastest growing automotive brands in the world. In the United States, its growth in the past decade is unrivaled and exceeds even Toyota and Honda's in their first 10 years of operation in the U.S.

Globally, Kia produces over 1.5 million vehicles a year at 13 manufacturing and assembly operations in 8 countries. Its annual revenues exceed \$14.6 billion from its network of distributors and dealers in 172 countries.

Global Production Network



To support its growth, Kia has expanded production capacity with 2 plants in China and 1 in Slovakia; plans are underway to double the capacity of a China plant to meet increasing demand. Kia's newest plant in West Point, Georgia, U.S.A. boosts manufacturing outside of Korea to 1 million units annually.

Kia's achieved these results by its investments to:

- Improve product design and quality;
- Adopt advance automotive technology;
- Expand information, tools, and resources;
- Refine practices and processes; and
- Develop and strengthen Kia Motors America (KMA) and its dealer network, including technicians.

PURPOSE

This course will introduce new service technicians to:

- Kia and its vehicle line-up equipped with latest technological advances.
- Information, tools, and resources to help diagnose, service, and repair Kia vehicles.
- Practices and processes to insure that Kia vehicles are fixed right the first time, every time.
- Training and certification opportunities.
- Customer satisfaction initiatives for new vehicle sales, delivery, and service.
- KMA's corporate values, commitment & achievements.

APPLICATION

To support course goals, we have designed this course to:

- Train service technicians on Kia's many resources to help them on the job;
- Provide them with the opportunity to practice using these resources in class; and
- Encourage continuous learning of course materials beyond this class by discovering new uses and applying them at the dealership.

For new Kia service technicians, being aware of Kia's resources and, more importantly, knowing how to take advantage of these resources will help them improve their skills and become even better technicians.

Therefore, our expectation is that this course will accelerate new Kia service technician development so that they will be prepared and equipped to fix Kia vehicles right the first time, every time and be rewarded for their contributions.

Kia HISTORY & MILESTONES

**Kia Motors America, Inc.
Corporate Campus
Irvine, California**



Kia Motors Corporation (KMC)

Started as a steel tubing & bicycle part manufacturer in 1944, Kia Motors Corporation (KMC), with its U.S. subsidiary, Kia Motors America, Inc. (KMA), has become a major automotive force throughout the world.

KMA's corporate headquarter, in Irvine, California, is adjacent to Kia Motors Design Center of America.

Kia Motors Manufacturing Georgia (KMMG), West Point, Georgia, celebrated its official grand opening in February 2010 with the 2011 MY Sorento as its first vehicle.

KMMG currently employs more than 2,000 people, which includes 600 new hires with the recent addition of a second shift. At full capacity, the plant is capable of producing 300,000 vehicles annually. This facility uses some of the world's most advanced manufacturing technologies to achieve vehicle quality and productivity.

**Kia Motors Manufacturing Georgia
West Point, Georgia**

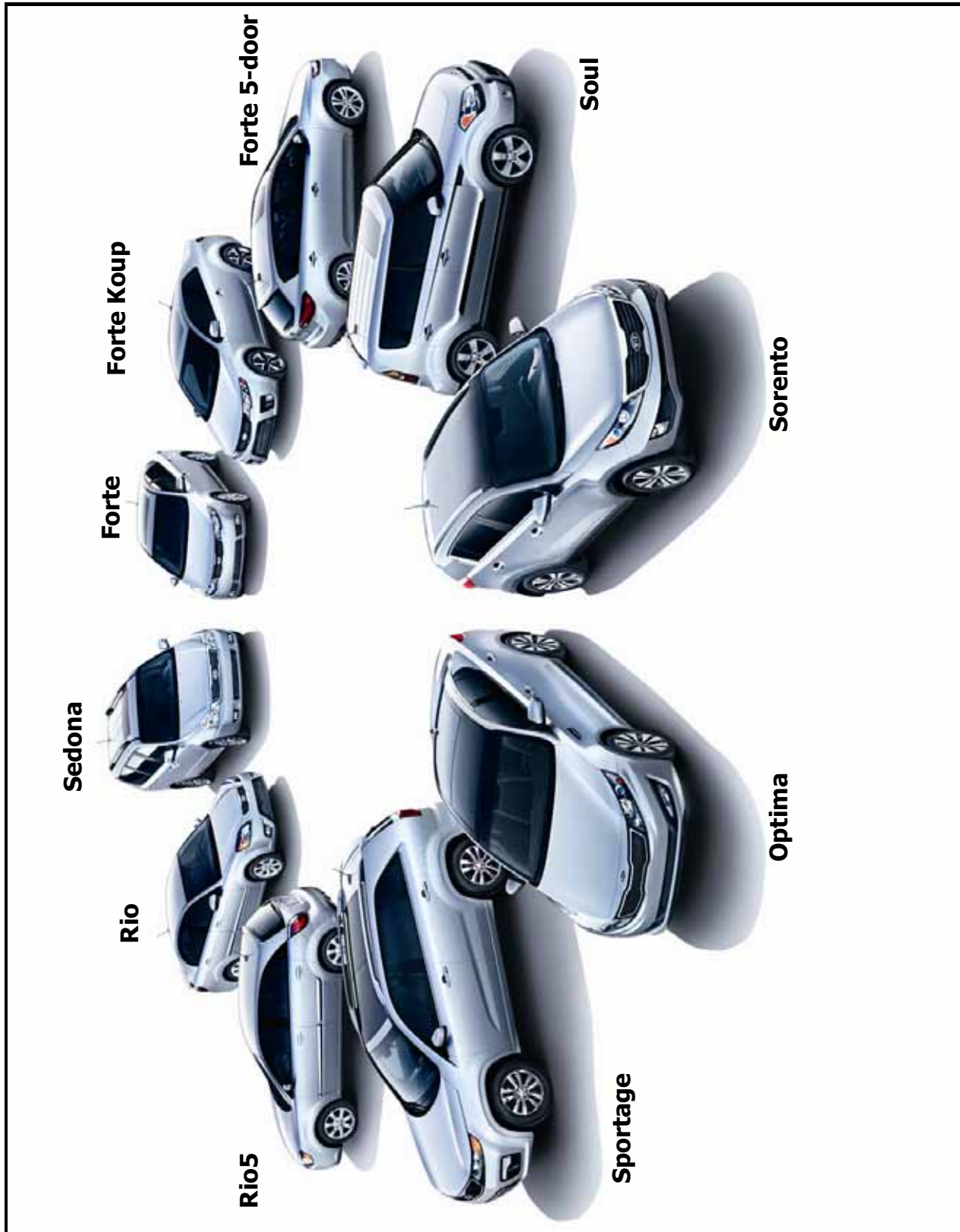


MAJOR Kia MILESTONES

1944	Started as a steel tubing & bicycle part manufacturer.
1951	Started bicycle production.
1957-1962	Produced motor scooters (C-100), motorcycles (C-180), and then trucks (K-360).
1971-1972	Started producing the Titan, a 4-wheel cargo truck and the Brisa B-1000 pick up.
1974	Began manufacturing the Peugeot 604 and Fiat 132.
1979-1984	Entered manufacturing and technology partnerships with other automotive companies, including Mazda.
1981	Produced the Bongo truck.
Late 1980's	Produced 350,000 Ford Festiva over 5 years.
Kia Motors America 1992	Kia Motors America (KMA) incorporated as the sales, marketing, and service arm for KMC in the United States.
1993	Opened parts distribution center (PDC) in Fullerton, CA. Signed first 20 U.S. dealers.
1994-1995	Sephia debuted at first U.S. dealership in Portland, Oregon and introduced the Sportage.
1996	Sold its 50,000th vehicle in the U.S.
1997	Sold its 100,000th vehicle in the U.S.
1999	Sold its 300,000th vehicle in the U.S. Rolled out dealers in 49 states (except North Dakota) becoming the fifth largest import brand in dealer count.
2000	Sold its 500,000th vehicle in the U.S. Expanded vehicle line-up with the Rio subcompact, Spectra5 compact hatchback & Optima mid-size sedan
2001	Launched Rio subcompact hatchback & Sedona minivan.

- 2002** Sold its 750,000th vehicle in the U.S.
Introduced 2003 MY Sorento.
- 2003** Sold its 1,000,000th vehicle in the U.S.
- 2005** Started testing fuel cell vehicles.
- 2006** Sold its 2,000,000th vehicle in the U.S.
Introduced all-new Rondo.
- 2007** Kia achieved its 14th consecutive year of record sales in 2007 with 305,473 units sold.
- 2008** Debuted the Koup concept in a press conference at the 2008 New York International Auto Show.
Launched the Borrego with Kia's first V8 Dual Continuously Variable Valve Timing (CVVT) engine.
Despite the worse market conditions since the 1929 depression, Kia's 2008 sales declined by 10% to 273,397 units, but much less than most other automakers whose sales declined by 25% or more.
- 2009** Introduced the 2010 Soul, its first Kia Concept Vehicle, followed by the 2010 Forte that replaced the Spectra, and the 2010 Forte Koup, another Kia Concept vehicle.
Kia Motors Manufacturing Georgia (KMMG) began production of the 2011 MY Sorento, the first Kia vehicle built in the U.S. with both U.S. and foreign parts.
- 2010** Sold its 3,000,000th vehicle in the U.S.
Achieved 15 consecutive years of increased market share.
Aired its first Super Bowl ad.
Official grand opening of Kia Motors Manufacturing Georgia (KMMG) in February.
Kia continues to break sales records with best ever 1st and 2nd quarter sales increases.
KMMG added second shift and 600 new hires in October in response to increased demand for the Sorento, its best selling model in the U.S. since the vehicle debuted in January.

Kia VEHICLE LINE-UP



Kia EXPANSION IN THE U.S.

Kia's vehicle entry in the United States started in the mid-1990s with the arrival of the Sephia and Sportage. Since that time, Kia has significantly expanded its product line-up with a full range of vehicles from the entry level Rio and Rio5 to the Amanti luxury sedan and the Sedona min-van to the Borrego. The 2009 Borrego started the trend of equipping Kia vehicles with many of its newest technologies that include The Tau 4.6L V8 engine, Hill Start Assist Control (HAC), and Downhill Brake Control (DBC).

The following table presents a history of Kia vehicles arriving on American shores from the mid-1990s through today. Prod (Product) Code, a column heading in the table, is a 2 letter product identifier assigned to a new Kia vehicle during the planning and development stages. It has limited uses after the vehicle has been named and released for sale.

CHRONOLOGICAL HISTORY OF Kia MODELS IN U.S.

Model	Model Year From - To		Prod Code	Model	Model Year From - To		Prod Code
Sportage	1995	2002	AL	Spectra5	2005	2009	LD
Spectra5	2000	2004	SD	Sportage	2005	2010	KM
Optima	2001	2006	MS	Sedona	2006	Current	VQ
Rio	2001	2005	BC	Optima	2006.5	2010	MG
Rio5	2001	2005	BC	Rondo	2007	2009	UN
Sedona	2002	2005	GQ	Borrego	2009	2009	HM
Spectra	2002	2004	SD	Soul	2010	Current	AM
Sorento	2003	2009	BL	Forte	2010	Current	TD
Amanti	2004	2009	GH	Forte Koup	2010	Current	TD
Spectra	2004.5	2009	LD	Sorento	2011		XM
Rio	2005	Current	JB	Sportage	2011		SL
Rio5	2005	Current	JB	Optima	2011		TF

The 2011 Sorento (XM) was the first U.S. assembled Kia vehicle with U.S. and globally sourced parts at KMMG, its first U.S. plant.

FUTURE VEHICLES

VISION

This section presents Kia's future vehicles.

- Upcoming vehicles are ones that tend to be introduced in the near future.
- Concept vehicles may take slightly longer before being introduced for sale.

In addition, Kia continues to invest in alternative fuel technologies that are fuel efficient and less depended on fossil fuels with the upcoming 2011 Kia Optima Hybrid and the Kia Ray plug-in hybrid concept vehicle.

UPCOMING VEHICLE: 2011 Kia Optima Hybrid

Kia's upcoming vehicle for the U.S. market happens to be it's first alternative fuel technology vehicle that will be launched with the 2011 Optima Hybrid.



The all-new Kia Optima Hybrid will feature a parallel drive system, using a state of the art lithium polymer battery that is lighter and smaller than those used by 2010 Toyota, Ford, and Nissan hybrid sedans. The Optima Hybrid will be designed to provide seamless performance matched by exceptional fuel efficiency.

Expected key specifications of the Optima Hybrid are:

- 2.4L 4-cyl hybrid powertrain
- 6-speed electronic automatic transmission
- Lithium polymer type battery
- Multi-point Injection (MPI) fuel system

CONCEPT VEHICLES

Kia's concept vehicles reflect its "Next Leap of Design Evolution" focused on aggressive design & styling. According to Peter Schreyer, Kia's Chief Design Office, his goal is to create a consistent and recognizable look among Kia's family of vehicles so that anywhere in the world, people will recognize Kia vehicles, the brand, and the company.

**Kia Soul'ster
Concept Statement**

With roadster roots and spacious versatility, the **Soul'ster** defies categorization. The distinctive design cues of this open-air concept project a hip industrial look. Dual chrome exhaust, 19-inch aluminum alloy wheels, and a prominent roll bar combined into an **innovative perspective** derived from the original Soul.

**Kia Kue
Concept Statement**

Imparting a lean and athletic design with bold understated simplicity and fitted with a **400-horsepower** supercharged V8 and all-wheel drive, the Kue speaks to a driver's thirst for exhilaration and performance while providing a glimpse at **future styling**.

Kia Kee Concept Statement



An exciting 2-door coupe with svelte, newly proportioned lines, Kee demonstrates an uncluttered, pure and timeless **execution of style**.

The sports coupe is single minded. "It's about driving, pure and simple. It's about appearance, performance, emotion," enthuses Kee's Designer, Peter Schreyer.

KND-5 Concept Statement



The **aggressive and sophisticated** KND-5 exemplifies Kia's **futuristic design** and values. Striking LED headlamps, a seamless panoramic sunroof, and 20-inch alloy wheels contribute to its aggressive yet refined image.

KND-5 exemplifies the **new direction of luxury** sedan design.

Kia Ray Concept Vehicle



Kia Motors America (KMA) unveiled the Ray plug-in hybrid concept during a press conference at the 2010 Chicago Auto Show. The Ray concept is designed to be powered by an all-aluminum 153-horsepower Gasoline Direct Injected (GDI) 1.4L engine mated to a permanently-engaged fixed ratio Continuously Variable Transmission (CVT), and used in combination with a 78kw electric motor.

"The stylist, aerodynamic Ray hybrid plug-in concept combines design and engineering for maximum efficiency. Touch-screen controls, drive-by-wire steering, cool-glazing solar glass, and lithium-polymer battery make this futuristic four-seat compact sedan efficiently functional and striking in appearance."

ALTERNATIVE FUEL TECHNOLOGY

Alternative Fuel isn't new to Kia who built the 1986 Besta, Korea's first electric, battery-powered van. Ever since, Kia has been involved with renewable and clean energy technologies.

Bio Fuel

In 2006, bio diesel was the first commercialized fuel added to petroleum by the South Korea government. Bio ethanol is another environmentally-friendly fuel alternative.

Hybrid Technology

Kia has been testing hybrid vehicles since 2005 as part of the Korean Ministry of the Environment's on-going 'real world' testing program, aimed at creating eco-friendly cars.

In 2009, Kia released the LPI-HEV, which uses legacy vehicles fueled by LPG and a hybrid system for fuel economy and eco-friendliness.

Fuel Cell Technology



Kia aims to be the world leader in fuel cell vehicles. The company hopes to release its fuel cell vehicles to the general public in 2012. This hydrogen-powered vehicle is expected to accelerate to 60 mph in 12 seconds, reaches top speed of 106 mph, and covers 375 miles before refueling.

ACCESSORIES

INTRODUCTION

Accessories present an important income opportunity for Kia and its dealers and an opportunity for additional work for technicians who install and service them. Also, accessories enhance the vehicle owner's appreciation and satisfaction with the vehicle.

While some Kia vehicles are equipped with packages, such as a Sport or Luxury Package, many accessories tend to be dealer add-ons installed by technicians.

Kia SOUL

The Soul is one of Kia's most accessorized vehicles. Targeting Gen Y customers, the Soul is ideally suited for this group who, according to SEMA (Specialty Equipment Market Association), will spend over \$1,000 to personalize their new vehicle! These Gen Y customers are especially interested in audio, exterior, engine, and other upgrades to suit their taste and personality.



Accessories available for each Kia vehicle model and trim are personalized to individual style and taste. More information on accessories for specific Kia vehicles can be found at www.kia.com.

VEHICLE IDENTIFICATION NUMBER (VIN)

The Vehicle Identification Number (VIN) is a resource that contains important information about Kia vehicles. This alphanumeric VIN provides specific vehicle information.

The VIN is made up of the following digits that describe the vehicle:

- 1: Geographic zone
- 2: Manufacturer
- 3: Vehicle type
- 4-5: Vehicle line/Series
- 6-7: Body type
- 8: Engine type
- 9: Check digit
- 10: Model year
- 11: Plant location
- 12-17: Production sequence number

K	N	D	M	B	1	3	3	□	6	6	000001
1	2	3	4	5	6	7	8	9	10	11	12~17

In above VIN, the "6" in the 10th digit position indicates that the vehicle model year was 2006.



Note: The 10th digit of the VIN is an alphanumeric designation. The number "1" designates model year 2001 up to the number "9" for 2009. Thereafter, the alphabet "A" will designate 2010 through alphabet "Y" for 2030 before returning to numbers "1" through "9" for years 2031 through 2039.

Kia MODEL BY YEAR JOB AID

The "**Kia MODEL BY YEAR**" job aid accompanying this workbook is another excellent reference resource. This job aid identifies all Kia vehicles and their drivelines in the United States since 1994.

REFERENCE

After the Progress Check and Activities in this module, you will find more information, which you can look over at your leisure, about the latest Kia vehicles.

SUMMARY

Kia, founded in 1944 to manufacture steel tubing and bicycle parts, has evolved into a global automotive company that competes with major American, Japanese, and European brands.

From modest beginnings, Korea-based Kia Motors Corporation (KMC) has made history with its list of impressive accomplishments, which includes starting Kia Motors America, Inc. (KMA) in the United States and most recently Kia Motors manufacturing Georgia (KMMG) in West Point, Georgia.

Since the mid-1990s when the Kia Sephia and Sportage arrived in the United States, KMA has expanded its vehicle line-up to a full range of vehicles, including the:

- Subcompact Rio and Rio5
- Forte and Forte Koup, which replaced Compact Spectra and Spectra5
- Mid-size Optima sedan
- Luxury Amanti sedan
- Soul
- Rondo
- Sedona minivan
- Sportage
- Mid-size Sorento
- Borrego

In addition to new 2011 MY vehicles, with the Forte 5-door and Optima Hybrid as the newest, many of Kia's existing vehicles have been redesigned or refreshed as face lifts or carryover vehicles. Kia has showcased new concept vehicles that include the Kia Kue, Kee, Soul'ster, and KND-5.

Kia has invested in alternative fuel technologies from clean LPG to renewable bio fuels. KMA unveiled the Ray plug-in hybrid at the 2010 Chicago Auto Show and will launch the 2011 Optima Hybrid in early 2011. In addition, Kia is planning to offer a fuel cell technology vehicle to the public in 2012.

Finally, Kia offers a variety of accessories for car buyers to personalize their new Kia vehicles to their taste and style. The new 2010 MY Kia Soul is among Kia's most accessorized vehicle that appeals to Gen Y customers.

PROGRESS CHECK



1. In which years did Kia reach these sales levels in its milestones for the U.S. market?
 100,000th units: _____
 500,000th units: _____
 2,000,000th units: _____
 3,000,000th units: _____
2. Where is Kia's first U.S. manufacturing plant located?

3. How many models does KMA have in its current vehicle line-up? _____
4. Name one new Kia vehicle introduced since 2008?

5. What vehicle was the first to be manufactured at Kia's U.S. plant?

6. What information do these VIN digits provide?
 Digit 3: _____
 Digits 4-5: _____
 Digits 6-7: _____
 Digits 8: _____
 Digits 10: _____
7. In what city and state is Kia Motors Design Center of America located?

8. What is the Prod Code for these MY Kia vehicles?

2004 Amanti	[]	2009 Borrego	[]
2010 Forte	[]	2008 Rondo	[]
2008 Sedona	[]	2011 Sorento	[]
9. Name three types of alternative fuel technology being worked on by Kia engineers.

10. Accessories represent a revenue opportunity for Kia and its dealers plus additional work for technicians.
 A. True B. False

ACTIVITY 1

www.kia.com WEBSITE DISCOVERY



Go to www.kia.com for Kia's current and future vehicles.

1. Roll the cursor over the Vehicle link toward the top left corner of the screen.
 - 1a. How many vehicles are listed? _____
 - 1b. When you scroll over any vehicle, which of these subjects are provided for the vehicle?

☐ Maintenance Guide	☐ Gallery
☐ Features & Options	☐ Safety
☐ Mileage Chart	☐ Specifications
☐ Receive Updates	☐ Awards & Accolades
2. Select a vehicle and record 3 items of information in:
 - a. Features & Options: _____

 - b. Specifications: _____

3. What vehicle did you select? _____
 - 3a. What trims are offered for your selected vehicle?

☐ Base	☐ +	☐ Sedan
☐ Limited	☐ EX	☐ Sport
☐ LX	☐ !	☐ SX
4. What vehicle categories are found in the FUTURE VEHICLES link?

5. Which of these are featured as Concept Vehicles?

☐ Forte 5-Door	☐ KND-5	☐ Soul'ster
☐ Kee	☐ Optima	☐ Sportage
☐ Kue	☐ Ray	
6. Which one of these concept vehicles do you like best? _____
 - 6a. Why do you like this vehicle? _____

ACTIVITY 2

VEHICLE DISCOVERY



This task is intended to help you become familiar with a Kia vehicle that your instructor will assign to you. Answer questions about this vehicle by physically inspecting it and using its Owner's Manual. If you cannot find an Owner's Manual in the vehicle glove box, you can find a digital Owner's Manual at KGIS (Kia Global Information system).

1. Indicate the following for your assigned vehicle.
 Model: _____
 Model year: _____
 Trim level: _____
 VIN: _____

2. Engine Emissions Certification: _____

3. Engine size: _____ L
 Transmission/transaxle type: _____ A/T M/T
 M/T: Number of forward gears: _____
 Describe R shift location: _____
 A/T: Sport mode shift: _____ Yes No
 Describe Shift lock over ride: _____
 What gear is fail safe mode? _____

4. Identify the:
 Antenna location: _____ Type: _____
 Road Tire size: _____
 Spare tire is: (circle) Full size Space saver
 Jack location: _____
 Jack tools location: _____
 16-pin DLC location: _____
 A/C type, if equipped: (circle) Manual FATC DATC
 Recommended anti-knock fuel rating: _____

ACTIVITY 2 - continued

5. What is the:
Wheel lug bolt torque: _____ lbs-ft
Road Tire pressure: _____ psi
Spare tire pressure: _____ psi
6. List fuse boxes location: _____
Location of the memory fuse (PDI): _____

7. Is this vehicle equipped with TPMS? Yes No
8. List the Schedule 2 Time/Miles maintenance for:
Valve adjustment: _____ / _____
Engine oil & filter replacement: _____ / _____
Engine coolant replacement: _____ / _____
Fuel filter replacement: _____ / _____
Engine coolant replacement: _____ / _____
M/T fluid replacement (if applicable): _____ / _____
A/T fluid replacement (if applicable): _____ / _____
A/C cabin air filter replacement: _____ / _____
Fuel tank air filter: _____ / _____
9. List timing belt inspection: _____ / _____
Replacement: _____ / _____
10. List recommended fluids and capacities for:
Engine oil: _____ / _____
Transmission/Transaxle: _____ / _____
Steering: _____ / _____
Brake: _____ / _____
11. Briefly, explain how the rear seat folds down:

12. Briefly, explain location and setting of the clock:

REFERENCE OF CURRENT KIA VEHICLES: RIO & RIO5



2011 MY Rio



2011 MY Rio5



The Rio and Rio5, Kia's entry-level subcompacts, are two great ways to add more fun into your life.

Standard entertainment features include AM/FM/CD/MP3 audio system, USB/auxiliary jacks, and SIRIUS Satellite Radio. Safety features standard to these models include dual front advanced, dual front seat mounted side, and full-length side curtain airbags, an Anti-lock Braking System (excludes Rio Base model), and Tire Pressure Monitoring System.

The Rio earned the U.S. EPA's "SmartWay Certification Mark" for Greenhouse Gas and Air Pollution scores among 2009 and 2010 model year vehicles.

2011 MY Features	Base¹	LX	SX
1.6L DOHC 16-valve CVT 4-cylinder engine	Standard	Standard	Standard
5-speed manual transmission, overdrive	Standard	--	--
4-speed automatic transmission, overdrive	--	Standard	Standard
Front disc and rear drum brakes	Standard	Standard	Standard
Four-sensor, four-channel ABS	--	Standard	Standard
Air conditioning	--	Standard	Standard
Manual door locks	Standard	Standard	--
Power windows, door locks w/keyless remote	--	Option	Standard

1 = Base model offered for Rio only.

REFERENCE OF CURRENT KIA VEHICLES: SPECTRA & SPECTRA5



2009 MY Spectra



2009 MY Spectra5



2009 was the final year for the Spectra and Spectra5, Kia's sporty compacts. They have been replaced by the 2010 Forte and 2010 Forte Koup.

The 2009 MY:

- Spectra is offered in LX, EX, and SX trim levels.
- Spectra5 is only available as an SX hatchback.

Both Spectra and Spectra5 trims are equipped with manual transmission or automatic transmission as standard equipment.

2009 MY Features	LX	EX	SX
2.0L DOHC 16-valve CVT 4-cylinder engine	Standard	Standard	Standard
5-speed manual transmission	1	1	1
4-speed automatic transmission, overdrive	2	2	2
Front disc and rear drum brakes	Standard	--	--
Front and rear disc brakes	--	Standard	Standard
Four-sensor, four-channel antilock brakes	--	--	Option
Air conditioning	Option	Standard	Standard
Power windows, door locks w/keyless remote	--	Standard	Standard

1 = LX and SX trims offered with M/T.

2 = LX and SX trims offered with A/T.

REFERENCE OF CURRENT KIA VEHICLES: FORTE



2011 MY Forte



The first of its kind, Forte includes class-leading interior space, safety features, and fuel economy (up to 36 mpg) among its strengths.

Forte also provides the features you want, from Bluetooth® hands-free connectivity with steering wheel-mounted controls to USB/auxiliary jacks and SIRIUS Satellite Radio.

2011 MY Features	2.0L LX	2.0L EX	2.4L SX
Inline 4 cylinder, aluminum block and heads engine	Standard	Standard	Standard
DOHC 4 valves per cylinder CVT engine	Standard	Standard	Standard
6-speed manual transmission, overdrive	Standard	Standard	Standard
6-speed electronically Controlled Sportmatic® transmission, overdrive	Option	Option	Option
Hydraulic, power-assisted vacuum w/ four-sensor, four-channel ABS brakes, ESC, BAS and EBD	Standard	Standard	Standard
Air conditioning	Option	Standard	Standard
Automatic temperature control	--	Option	Option
Power windows, door locks with remote keyless entry	--	Standard	Standard

REFERENCE OF CURRENT KIA VEHICLES: FORTE KOUP



2011 MY Forte Koup



While its aggressive profile and stylish interior make it easy to love, Forte Koup's performance tuned engine and sporty suspension will really have your heart racing.

2011 MY Features	2.0L EX	2.4L SX
Inline 4 cylinder, aluminum block and heads engine	Standard	Standard
DOHC 4 valves per cylinder CVVT engine	Standard	Standard
6-speed manual transmission, overdrive	Standard	Standard
6-speed electronically Controlled Sportmatic® transmission, overdrive	Option	Option
Hydraulic, power-assisted vacuum w/ four-sensor, four-channel ABS brakes and ESC	Standard	Standard
Air conditioning	Standard	Standard
Automatic temperature control	Option	Option
Power windows, door locks with remote keyless entry	Standard	Standard

REFERENCE OF CURRENT KIA VEHICLES: FORTE 5-DOOR



2011 MY Forte 5-door



The 2011 Kia Forte 5-Door presents "A progressive, versatile compact wagon design containing a surprising world of inspired automotive and entertainment technology: standard Bluetooth® wireless technology, MP3 connectivity, and SIRIUS® Satellite Radio capabilities.

With intelligent cargo combinations, it offers real world practicality yet is meticulously engineered for your impulsive side."

2011 MY Features	2.0L EX	2.4L SX
Inline 4 cylinder, aluminum block and heads engine	Standard	Standard
DOHC 4 valves per cylinder CVT engine	Standard	Standard
6-speed manual transmission, overdrive	Standard	Standard
6-speed electronically Controlled Sportmatic® transmission, overdrive	Option	Option
Hydraulic, power-assisted vacuum w/ four-sensor, four-channel ABS brakes and ESC	Standard	Standard
Air conditioning	Standard	Standard
Automatic temperature control	Option	Option
Power windows, door locks with remote keyless entry	Standard	Standard

REFERENCE OF CURRENT KIA VEHICLES: OPTIMA



2011 MY Optima



Optima's powerful 4-cylinder engine delivers exceptional fuel economy. And for even more performance, the Optima EX Turbo and SX models deliver 274 hp @ 6,000 RPM.

All automatics feature Sportmatic™ clutchless shifting. A single six-speed manual transmission is available only with the LX four-cylinder model.

Like the Rio, the Optima earned the U.S. EPA's "SmartWay Certification Mark" for Greenhouse Gas and Air Pollution.

2011 MY Features	LX	EX	EX Turbo/SX
4-cylinder, aluminum block and heads engine	Standard	Standard	Standard
2.0L DOHC 16-valve 4-cylinder engine w/CVVT	Standard	Standard	--
2.4L DOHC 16-valve 4-cylinder engine w/CVVT	--	--	Standard
6-speed manual transmission, overdrive	Standard ¹		
6-speed A/T overdrive w/Sportmatic™	Standard ²	Standard	Standard
Power-assisted vacuum 4-sensor, 4-channel ABS	Standard	Standard	Standard
Electronic stability control (ESC)	Standard	Standard	Standard
Air conditioning	Standard	--	--
Dual zone full automatic climate control	--	Standard	Standard
Power windows & door locks and auto dimming mirrors	Standard	Standard	Standard

1 = LX offered with manual or automatic transmission.

2 = Not available on LX M/T model.

REFERENCE OF CURRENT KIA VEHICLES: AMANTI



2009 MY Amanti



Amanti is Kia's full-size, luxury sedan. Luxury meets performance, with heated leather seats, dual-zone automatic temperature control and an Infinity sound system with 9 speakers making every drive a genuine pleasure.

In 2008, the steel unibody Amanti was awarded the highest possible rating in front and side impact crash tests from the Insurance Institute for Highway Safety (IIHS).

2009 MY Features	
3.8L DOHC 24-valve V6 engine	Standard
Electronically-controlled 5-speed automatic, overdrive w/ Sportmatic™	Standard
Power-assisted four-wheel antilock brakes with EBD	Standard
Electronic stability control (ESC)*	ESC*
Traction control system (TCS)*	ESC*
Brake assist system (BAS)*	ESC*
Power windows, door locks w/two turn entry system	Standard

*ESC Package includes Electronic Stability Control (ESC), Traction Control System (TCS) & Brake Assist System (BAS).

REFERENCE OF CURRENT KIA VEHICLES: SOUL



2011 MY Soul



Soul was Kia's first Concept Vehicles in production that was offered as a 2010 model year vehicle.

Exceptional in every way, its unique look, versatile interior, and snappy performance, Soul earned , Cars.com's "Best New Hatchback of 2010" as truly a "new way to roll", 2010 ILHS (Insurance Institute for Highway Safety) for model year 2011, and TopSpeed's "Top Ten Small Cars for Under \$20K" .

2011 MY Features	Base	+	!	Sport
Inline 4-cyl, aluminum block & heads engine	Standard	Standard	Standard	Standard
1.6L CVVT DOHC 16-valve 4-cylinder engine	Standard	--	--	--
2.0L CVVT DOHC 16-valve 4-cylinder engine	--	Standard	Standard	Standard
5-speed manual transmission, overdrive	Standard	Standard	--	--
4-speed automatic transmission/overdrive	--	Option	Standard	Standard
Hydraulic, power-assisted vacuum 4-sensor, 4-channel ABS & ECS (includes EBD, BAS and TCS)	Standard	Standard	Standard	Standard
Air conditioning	Standard	Standard	Standard	Standard
Power windows, door locks	Standard	Standard	Standard	Standard
Remote keyless entry	--	Standard	Standard	Standard

REFERENCE OF CURRENT KIA VEHICLES: RONDO



2009 MY Rondo



Combining flexibility and spaciousness of a 7-passenger vehicle along with the precise handling and fuel efficiency of a sedan, the Rondo is a perfect crossover.

Rondo received NHTSA's 5-Star Frontal Crash Rating, as well as the Car Book's 2009 "Best Bet" for minivan class and NADAguides.com's "Best Car Buys" for 2009.

2009 MY Features	LX I4	EX I4	LX V6	EX V6
2.4L DOHC 16-valve 4-cylinder engine	Standard	Standard	--	--
2.7L DOHC 24-valve V6 engine	--	--	Standard	Standard
4-speed automatic transmission	Standard	Standard	--	--
5-speed automatic transmission	--	--	Standard	Standard
Front and rear disc brakes	Standard	Standard	Standard	Standard
Four-wheel antilock brakes (ABS) & ESC	Standard	Standard	Standard	Standard
Air conditioning	Standard	Standard	Standard	Standard
Power windows, door locks	Standard	Standard	Standard	Standard

REFERENCE OF CURRENT KIA VEHICLES: SEDONA

2011 MY Sedona


No other minivan has a higher safety rating. Features like the rear entertainment system, SIRIUS Satellite Radio, removable second row captain's chairs and fold-in-the-floor third-row seats make Sedona as fun and versatile as it is safe.

Sedona received NHTSA's 5-Star Crash Rating in all four categories and Top Safety Pick by Insurance Institute for Highway Safety (2008), along with Consumer Digest's Best Buy and Edmund.com's "Top Recommended" Vehicle for 2010.

2011 MY Features	LX	EX
3.5L V6 aluminum block & heads engine	Standard	Standard
DOHC 4 valves per cylinder engine	Standard	Standard
6-speed automatic transmission w/ Sportmatic™	Standard	Standard
Hydraulic power-assisted vacuum ABS system	Standard	Standard
ESC, TCS, BAS & EBD	Standard	Standard
Front and rear air conditioning	Standard	Standard
Front automatic temperature control	--	Option
Power front & rear quarter windows	Standard	Standard

REFERENCE OF CURRENT KIA VEHICLES: SPORTAGE



2011 MY Sportage



With on-demand 4WD, Sportage lets you follow adventure wherever it leads, bringing amenities such as SIRIUS Satellite Radio, USB/auxiliary input jacks and an optional navigation system and rear camera display along with the adventure.

Sportage is recipient of NHTSA's 5-Star Crash Safety Rating for all four categories and IIHS's Top Safety Pick for model year 2011.

2011 MY Features	Base	LX	EX
4-cylinder iron block & aluminum heads engine	Standard	Standard	Standard
2.4L DOHC CVVT engine	Standard	Standard	Standard
6-speed manual transmission, overdrive	Standard	--	--
6-speed automatic, overdrive w/ Sportmatic®	Standard	Standard	Standard
4-wheel ABS w/ESC, TCS, BAS & EBD	Standard	Standard	Standard
Downhill brake control (DBC)	Standard	Standard	Standard
Hill assist control (HAC)	Standard	Standard	Standard
Manual air conditioning	Standard	Standard	--
Dual zone automatic climate control w/ionized air filtration	--	--	Standard
Power windows, door locks	Standard	Standard	Standard

REFERENCE OF CURRENT KIA VEHICLES: SORENTO



2011 MY Sorento



Though engineered for rugged performance, Sorento rewards you with a smooth, quiet ride in addition to heated front seats, automatic temperature control and a power sunroof.

Recipient of IIHS' 2010 Top Safety Pick (for vehicles built after March 2010), the Sorento was also named one of the "Best New Cars for 2011" by U.S. News & World Report.

2011 MY Features	Base	LX/EX	LX/EX V6	SX
2.4L DOHC I4 with Dual CVT engine	Standard	Standard	--	--
3.5L DOHC V6 with Dual CVT engine	--	--	Standard	Standard
6-speed automatic overdrive w/Sportmatic®	Standard	Standard	Standard	Standard
4-wheel power-assisted ABS w/ESC, TCS, BAS & EBD	Standard	Standard	Standard	Standard
Downhill brake control (DBC)	Standard	Standard	Standard	Standard
Hill assist control (HAC)	Standard	Standard	Standard	Standard
Manual air conditioning	Standard	1	1	--
Dual zone automatic temperature control	--	2	2	Standard
Rear air conditioning	--	--	Standard	Standard

1 = Base, LX & LX V6 models equipped with manual AC.

2 = EX & EX V6 models equipped with dual zone automatic temperature control.

REFERENCE OF CURRENT KIA VEHICLES: BORREGO



2009 MY Borrego



With an available V8 engine delivering best-in-class highway MPG (15 city/22 hwy for V8 2WD) and a class-leading towing capacity of up to 7,500 lbs., Borrego challenges the notion that something has to cost more to be better. In addition, Borrego received the 5-Star Crash Rating in all four categories from the NHTSA.

Borrego is equipped with many of Kia's first, including:

- Tau 4.6L V8 engine
- Hill start Assist Control (HAC)
- Downhill Brake Control (DBC)

2009 MY Features	LX/EX V6	LX/EX V8	LTD
3.8L DOHC 24-valve V6 Dual CVT engine	Standard	--	--
4.6L DOHC 32-valve V8 Dual CVT engine	--	Standard	Standard
5-speed A/T with overdrive	Standard	--	--
6-speed A/T with overdrive	--	Standard	Standard
Front and rear disc ABS	Standard	Standard	Standard
Traction Control System (TCS), Brake Assist system (BAS) and Electronic Brake Distribution (EBD)	Standard	Standard	Standard
Back-Up Warning System	Standard	Standard	Standard
Power door locks, mirrors, windows	Standard	Standard	Standard

Kia INFORMATION, TOOLS & RESOURCES



Kdealer.net Service Page



GDS: Global Diagnostic System



Techline

INTRODUCTION

The purpose of this chapter is to introduce service technicians to Kia-provided information, tools, and resources.

Kia Motors America (KMA) supports its dealer network with the following information, tools, and resources:

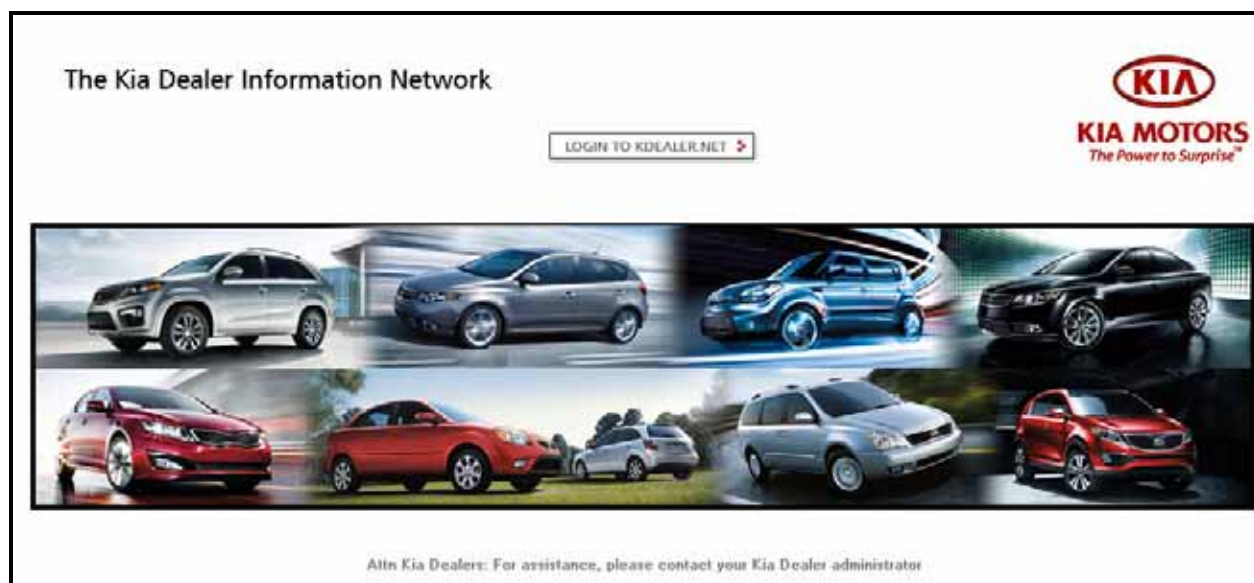
- **Kdealer.net** is the primary communication site providing news and information to the dealership community.
- **KGIS** (Kia Global Information System) is Kia's main technical information site.
- **Techline**, short for the Kia Technical Assistance Center, assists Kia service technicians with vehicle technical and repair issues.
- **Diagnostic equipment**, such as the Global Diagnostic System (GDS) and the Breakout Box (BOB) Pro, are extremely useful for maintenance, diagnosis, and repairs.
- **Special Service Tools** (SST) consisting of hand and electronic tools help technicians perform specialized functions on Kia vehicles.
- **Parts Hotline** provides parts assistance that service technicians can access through their parts department.

Your instructor will provide a brief overview of the contents of this module. Furthermore, you will be exposed to and discover specific Kia information, tools, and resources by performing hands-on activities in the computer lab and on the GDS.

REFERENCE

At the end of this module, a reference section will provide you with more detail on these subjects.

Kdealer.net



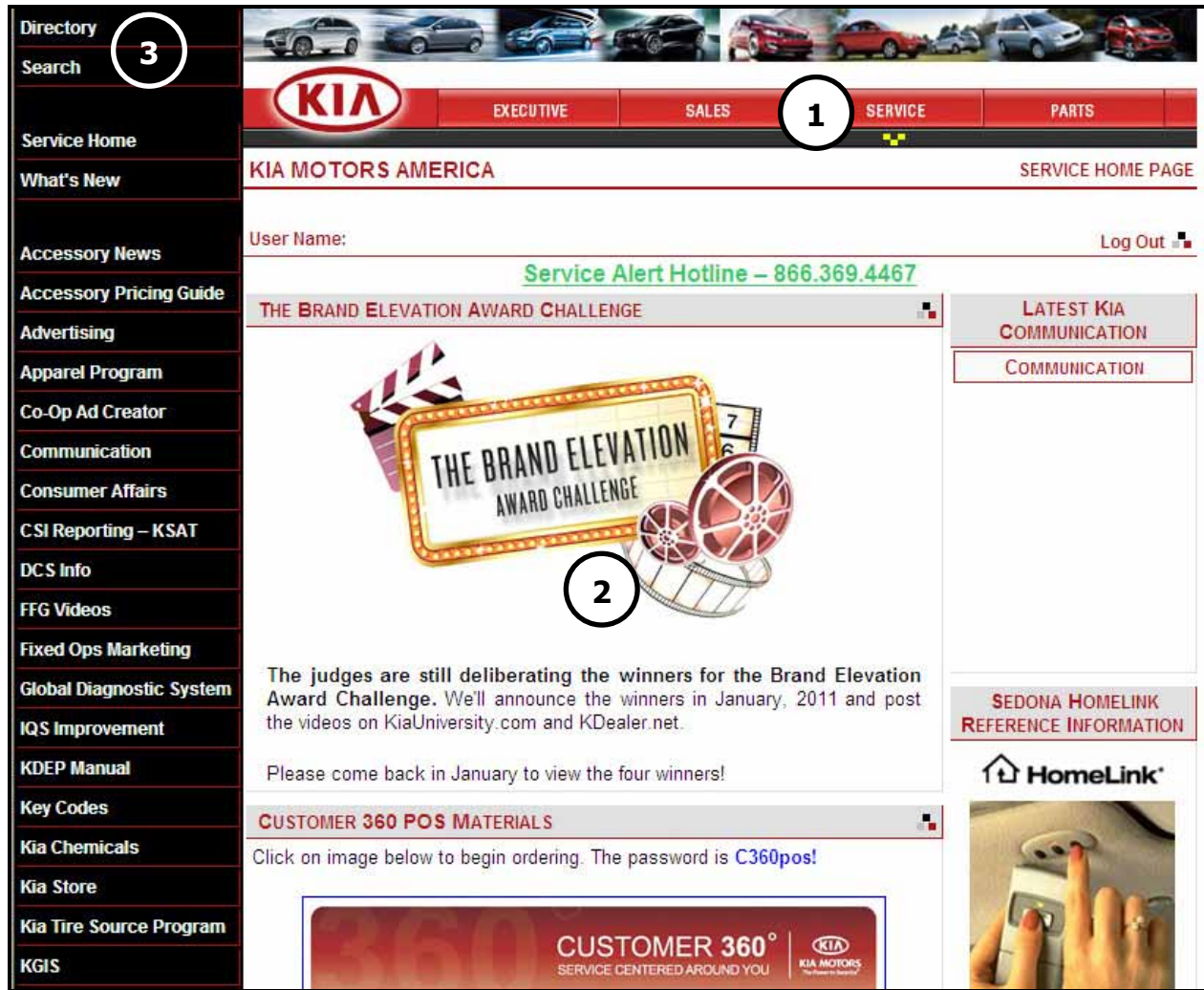
OVERVIEW

Kdealer.net is Kia's primary site for dealer news and information. To access Kdealer.net:

1. Type www.kdealer.net in the URL.
2. Click on the **LOGIN TO KDEALER.NET** button located above the picture on the screen.
3. When the **Connect to www.Kdealer.net** pop up box (shown below) appears, provide your User Name and Password.
4. Then, click the **OK** button

kdealer.net login





Directory **3** Search

Service Home

What's New

Accessory News

Accessory Pricing Guide

Advertising

Apparel Program

Co-Op Ad Creator

Communication

Consumer Affairs

CSI Reporting – KSAT

DCS Info

FFG Videos

Fixed Ops Marketing

Global Diagnostic System

IQS Improvement

KDEP Manual

Key Codes

Kia Chemicals

Kia Store

Kia Tire Source Program

KGIS

KIA EXECUTIVE SALES **1** SERVICE PARTS

KIA MOTORS AMERICA SERVICE HOME PAGE

User Name: Log Out

Service Alert Hotline – 866.369.4467

THE BRAND ELEVATION AWARD CHALLENGE **2**

LATEST KIA COMMUNICATION

COMMUNICATION

The judges are still deliberating the winners for the Brand Elevation Award Challenge. We'll announce the winners in January, 2011 and post the videos on KiaUniversity.com and KDealer.net.

Please come back in January to view the four winners!

CUSTOMER 360 POS MATERIALS

Click on image below to begin ordering. The password is **C360pos!**

CUSTOMER 360° SERVICE CENTERED AROUND YOU KIA MOTORS

SEDONA HOMELINK REFERENCE INFORMATION

HomeLink®

Kdealer.net Service Main Page

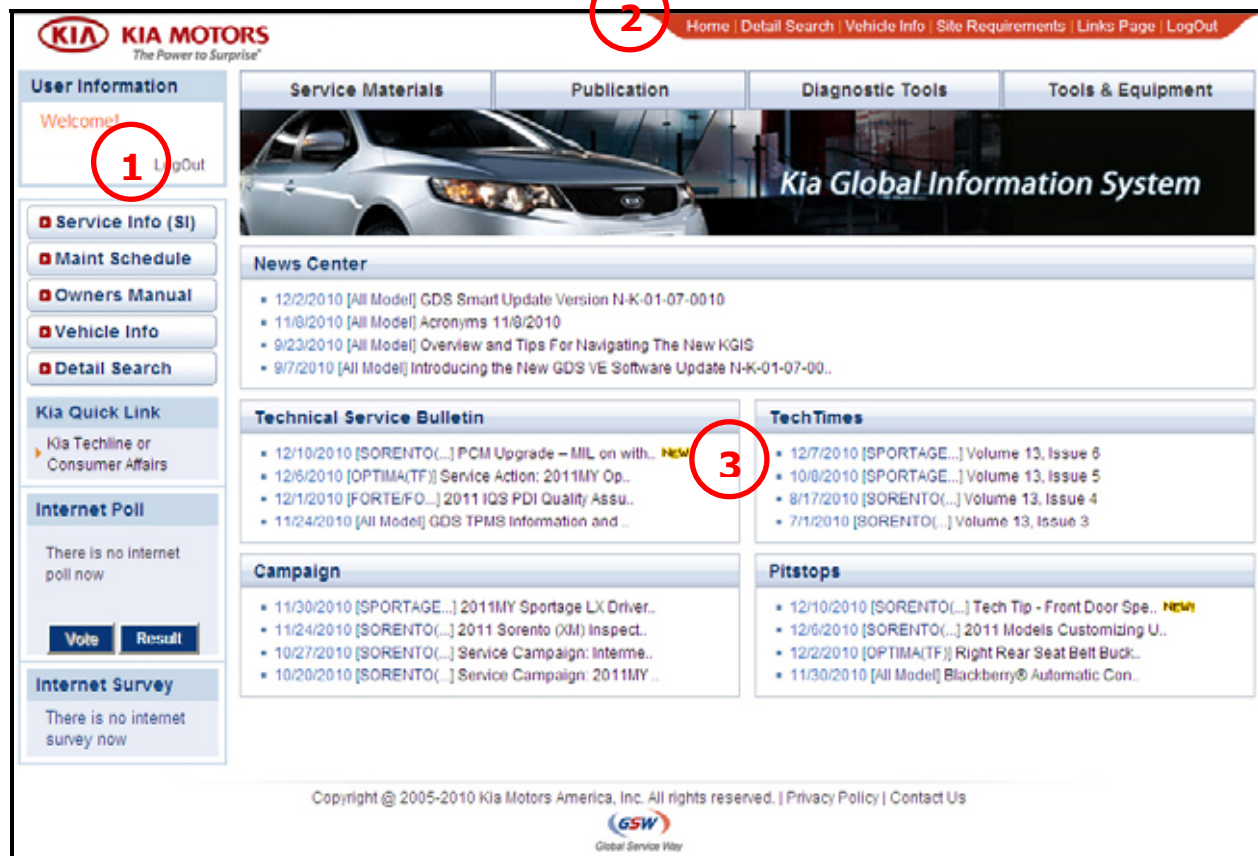
The Kdealer.net home page consists of the following:

1. Specific tabs pertain to dealership Executive, Sales, Service, and Parts personnel.
 - The **Service** tab applies directly to you, the Kia service technician.
2. Main page presents up-to-date general and service news and information.
3. The left column on the screen enables you to access important information links.

Kdealer.net also serves as the portal to other important Kia sites such as Kia Global Information System (KGIS) and Kia University at www.kiauniversity.com.

Take the time to become familiar with Kdealer.net and its offerings that may be important to you.

KGIS (Kia GLOBAL INFORMATION SYSTEM)



OVERVIEW

Kia Global Information System (KGIS) is Kia's main technical information site that can be accessed:

- By clicking the KGIS link in Kdealer.net.
- By typing URL www.kiatechinfo.com.
- From the Go to Kiatechinfo.com link in the GDS.

The KGIS Home Page consists of the following sections:

1. Links on the left column are:
 - Frequently used topics; and
 - Access to Techline and Consumer Affairs, along with periodic Internet Polls and Surveys.
2. Links at the top of the page simplify navigation to the Home page, perform detailed service information searches, access vehicle information, connect to Kia & automotive-related sites, and exit KGIS.
3. The majority of the main screen is devoted to:
 - News Center contains technical news & information on Kia tools, resources & related subjects.
 - Kia Service Bulletins: Technical Service Bulletin (TSB), TechTimes, Campaign, and Pitstops articles.



Note: New publication articles are flagged with the **NEW** icon to alert users. See examples next to latest TSB and Pitstops articles.

- Positioning the cursor over any of these 4 tabs (Service Materials, Publication, Diagnostic Tools, and Tools & Equipment) will expose a sub-menu of information.

Note the hand pointing to the Publication tab displays the sub-menu of information in the screen below.

The screenshot displays the KIA MOTORS website interface. At the top, the KIA logo and "KIA MOTORS The Power to Surprise" tagline are visible. A navigation bar includes links for Home, Detail Search, Vehicle Info, Site Requirements, Links Page, and LogOut. The main content area is divided into four tabs: Service Materials, Publication, Diagnostic Tools, and Tools & Equipment. The Publication tab is highlighted with a red circle and the number 4, and a hand cursor is shown pointing to it. Below the tabs, the Publication sub-menu is displayed, listing items such as Main Schedule, Glove Box Materials, PDF & Eval Docs, Consumer Info. Center, Accessory Info., and Service Training. The left sidebar contains sections for User Information (Welcome!, LogOut), Service Info (SI) (Service Info (SI), Body Dimensions, Technical Service Bulletin, Campaign, Service Action, Pitstops, TechTimes, OBD-II), Kia Quick Link (Kia Techline or Consumer Affairs), Internet Poll (There is no internet poll now), and Internet Survey (There is no internet survey now). The footer includes copyright information for 2005-2010 Kia Motors America, Inc., and links for Privacy Policy and Contact Us.

TECHLINE



OVERVIEW The purpose of the Kia Technical Assistance Center, referred to as Techline, is to assist Kia technicians with Kia vehicle technical and repair-related issues.

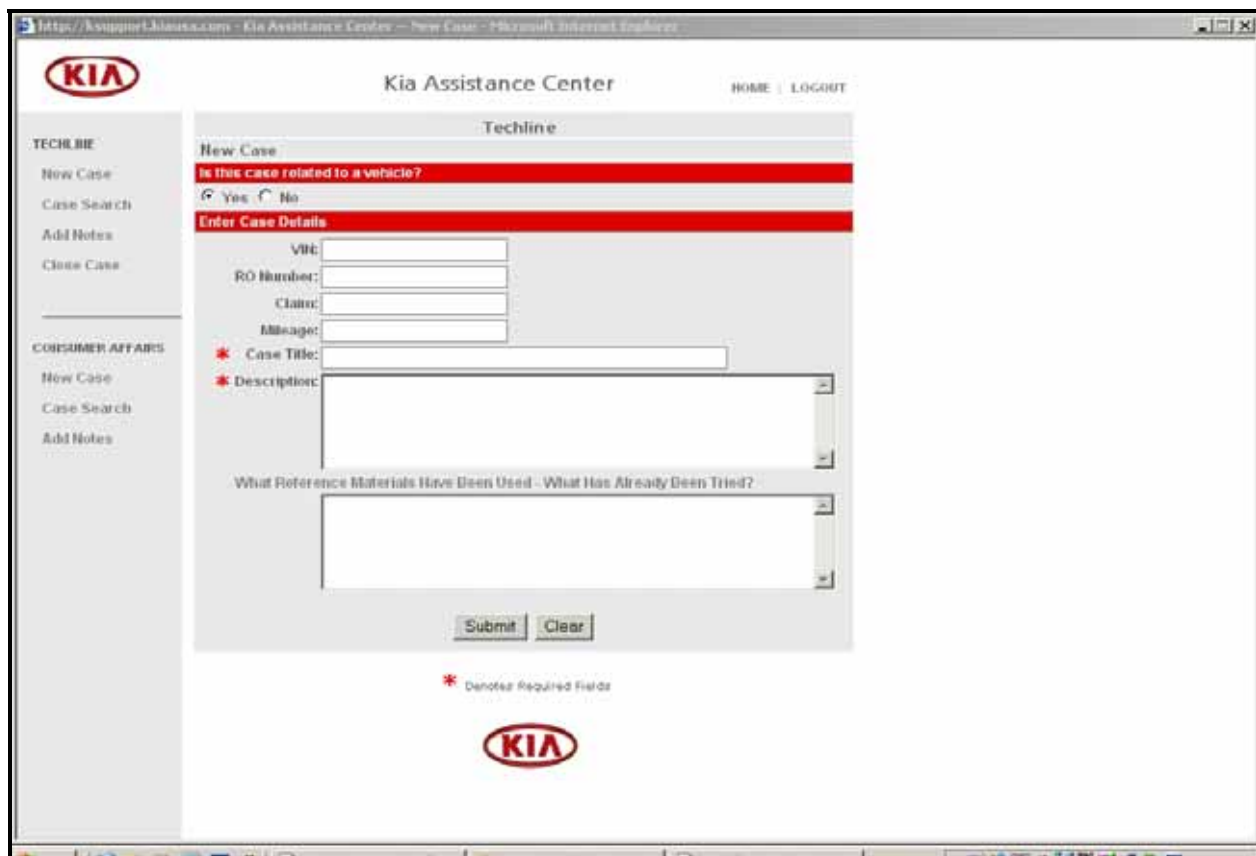
Techline requires technicians to open a case on its web portal. After opening a case and receiving a case number, you may call Techline to speak with a Techline agent. Remember to allow sufficient time for the Techline agent to review your case notes.

OPEN TECHLINE CASE You can open a Techline case at the Techline web portal, which can be accessed:

- At www.kdealer.net and click on the KGIS link; new users are required to register with their Kia University (KU) ID and password.
- At www.kiatechinfo.com to log directly into KGIS and then click on the Kia Quick Link.
- On the GDS by clicking the Techline link at the top of the main screen.

TECHLINE PORTAL Techline portal features allow you to:

- Open new cases;
- Add notes to existing cases;
- Search open cases for similar concerns; and
- Close cases.




Note: All Techline cases must be closed within 30 days.

WHEN TO CONTACT TECHLINE

Contact Techline when:

- All normal repair resources have been used, including:
 - Service manual;
 - Service bulletins: TSB, Campaign, TechTimes, and Pitstops;
 - KGIS;
 - GDS;
 - Kdealer.net; and
 - DPSM assistance.
- The vehicle is in for a second repair attempt
- You have spent more than 1/2 hour of diagnosis time without finding the source of the problem

**PREPARATION TO
CONTACT TECHLINE**

When contacting Techline, be prepared to provide the following information:

- Vehicle VIN.
- Production date of the vehicle.
- Repair Order number.
- Current vehicle mileage.
- Owner's name.
- Repair history with number of repair attempts.
- Explanation of the concern from customer and service personnel.
- DTC and Freeze Frame data.

Each case will be entered into the Techline database and a case number will be assigned for follow-up.

**WHEN NOT TO
CONTACT TECHLINE**

Do not contact Techline:

- Before you make an attempt to repair the vehicle concern.
- When you are not adequately prepared to provide information that Techline will need to assist you.
- When the vehicle is not yet at your dealership.

Also, do not contact Techline for assistance on:

- Warranty information and issues.
- Parts information and issues.

These departments have hotlines to assist you. Their contact information can be found in www.Kdealer.net under the Directory link and KMA Toll-Free Hotlines.

**TECHLINE CONTACT
INFORMATION**

Techline's toll free number is 800-494-4542. This toll free number is found in www.Kdealer.net under the Directory link and KMA Toll-Free Hotlines.

Kia SPECIAL SERVICE TOOLS & DIAGNOSTIC EQUIPMENT



Global Diagnostic System (GDS)



Oil Filter Wrench & Valve Adjustment Tool

Kia requires dealers to provide service technicians with diagnostic equipment and Special Service Tools (SST) that are designed to perform specialized functions on Kia vehicles.

Examples of Kia SSTs are the special oil filter wrench for the Sedona and valve adjustment tool shown in above picture.

Diagnostic equipment includes the:

- Global Diagnostic System (GDS) hardware and software package.
- Diagnostic Link Connectors (DLC)
- Breakout Box (BOB).
- A/T Testers.
- Midtronics GR8 Diagnostic Charger.
- Kia Universal Multi-Media Tester (MIT).

Kia supplies its dealers with a wide variety of Special Service Tools (SST) for their service technicians to efficiently and effectively perform specialized functions.

GDS (GLOBAL DIAGNOSTIC SYSTEM)

OVERVIEW The Global Diagnostic System (GDS) has been designed to be among the most advanced and comprehensive diagnostic tool, capable of diagnosing today's increasingly complex vehicles. This diagnostic tool provides technicians with readily accessible diagnostic functions and technical information.

GDS PACKAGE The GDS is a complete package consisting of hardware, software, and service information.

GDS hardware consists of the following:

1. GDS workstation & cart.
2. Toughbook Laptop Personal Computer (PC).
3. Docking Station (situated beneath the PC).
4. CD/DVD Drive.
5. Laser Printer.
6. Vehicle Communication Interface (VCI).
7. Vehicle Measurement Interface (VMI).
8. TPMS Module
9. Flight Record Trigger (hanging on cart).
10. Assortment of: (hanging on side & back of cart)
 - a. Cables to connect GDS equipment to one another & to the vehicle data link connector (DLC).
 - b. Adapters to supply power to GDS equipment.
11. Storage compartment for Toughbook Laptop carrying case and other accessories.
 - Inset showing carrying case & accessories.

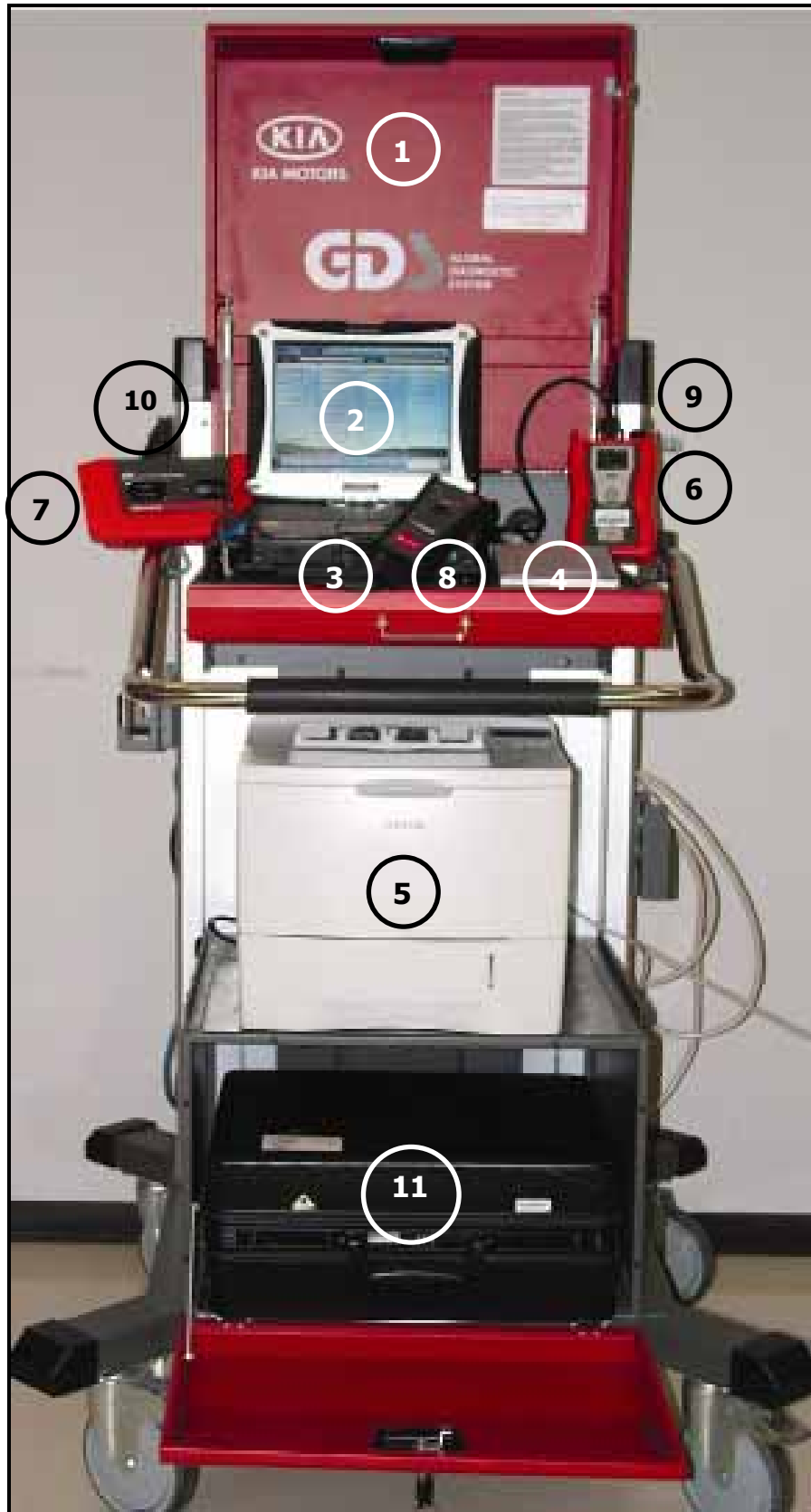
GDS software is identified by diagnostic and other functionality on the GDS main screen. More detail about GDS software procedures is provided in the Reference section of this chapter.

Information content provided by the GDS is similar to those in KGIS. This information content, which is stored in the GDS hard drive, includes:

- Service Information.
- Circuit Diagrams.
- TSB, Campaign, Tech Times, and Pitstops.
- Vehicle Information and Warranty History.



Warning: Do not install any 3rd party software.



TPMS MODULE



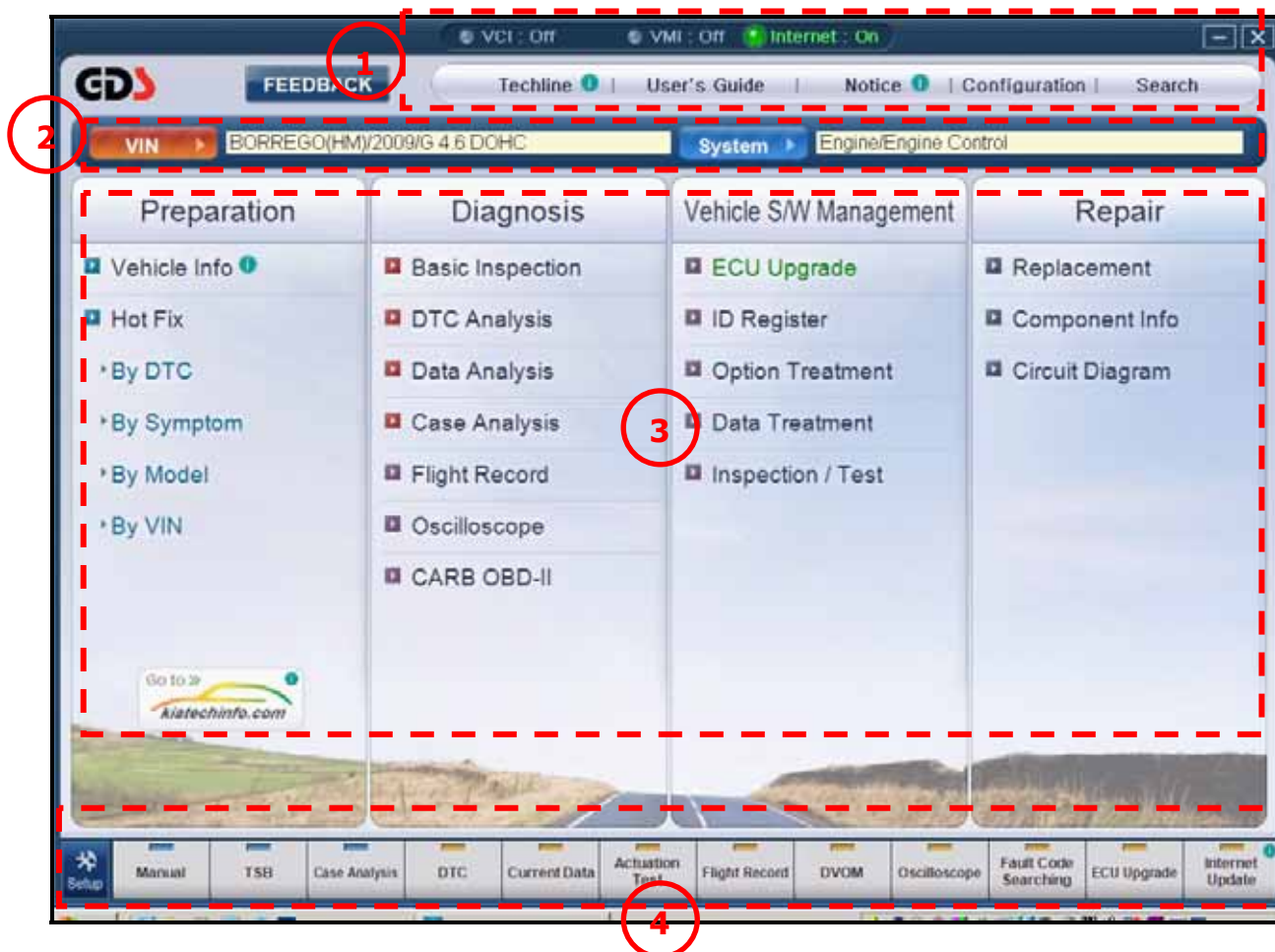
The TPMS (Tire Pressure Monitoring System) Module is used with the GDS to diagnose and service Tire Pressure Monitoring Systems on Kia vehicles.

The TPMS Module Tool is used to:

- Register TPMS sensors and receiver modules.
- Learn and relearn TPMS sensors.
- Retrieve DTCs and diagnose Tire Pressure Monitoring Systems.
- Program the TPMS Receiver.

Kia offers a course devoted to TPMS operations, service, and diagnosis. Refer to www.kiauniversity.com or the Kia University Catalog to obtain more information.

GDS SOFTWARE



GDS MAIN SCREEN

The GDS main screen is the gateway to its diagnostic & other functions and service information. This main screen is divided into the following sections:

1. Status Indicators and Top Link Bar.
2. VIN and System Identification.
3. Preparation, Diagnosis, Vehicle S/W (Software) Management, and Repair (service information).
4. Bottom Button Bar made up of Hot Keys and Shortcuts.



Note: Any link with this Internet icon  indicates that the PC must be connected to the Internet to operate properly. The only link not identified with an Internet icon but requires an Internet connection is the "Go to Kiatechinfo.com" button located below the Preparation menu.

DIAGNOSTIC LINK CONNECTORS (DLC)



GHDM-241000



GHDM-244000



GHDM-242000



GHDM-243000



GHDM-248000

The following Diagnostic Link Connectors (DLC) are used to connect diagnostic tools and interfaces to Kia vehicles:

- 16-pin OBD-II under dash DLC is required by OBD-II regulations and is always located near the steering column.
- 20-pin under hood DLC is not required by OBD-II regulation and its connector location may vary under the hood in the engine bay.
- The 10-pin under dash DLC is used on some Kia vehicle for reprogramming/re-flashing electronic control modules and for Remote Keyless Entry (RKE) programming. This under dash link is often referred to as the ROM Change Tool (RCT) link.



Note: Most Kia vehicles (except 2000-2001 Optima) have an under hood 20-pin DLC, which can be used in some instances instead of the 16-pin DLC. However, use the 20-pin DLC only when it's indicated as the system's primary DLC.

BREAKOUT BOX (BOB)



You may need to connect a Breakout Box (BOB) to a system control module to perform pin voltage and value tests to diagnose the concern.

Most Kia dealers have two types of BOB.

- The electronic BOB Pro (shown in the picture) uses an electric pin selection box instead of overlays. Its use started in 2006 with 154 pins Power Control Modules (PCMs). The BOB SUB box was updated in 2006.
- The other BOB uses manual pin test points with overlays. This BOB requires special overlays that determine how pin position on the BOB relates to pin numbering at the control module.

BOB overlays can be found in the Special Service Tool (SST) Master Index.



Caution: Must use proper overlays with the BOB that uses manual pin test points.

A/T TESTERS



2007 & Earlier Kia Vehicles



2008 & Later Kia Vehicles

A/T Testers are designed to help technicians diagnose automatic transmission concerns. Kia offers two A/T Testers.

- A/T Tester Pro for most 2007 & earlier Kia vehicles; and
- A/T Tester Plus for most Kia vehicles MY 2005 to current.

Each supported A/T has its own unique "Y" cable to connect to the tester. The tester has a manual shift selection and auto shift selection for diagnostics, which is updatable by chip replacement.



Caution: Scan tool can not be connected while using the A/T Testers.

MIDTRONICS GR8 DIAGNOSTIC CHARGER



The Midtronics GR8 Diagnostic Charger is a multitasking battery and electrical diagnostic station that performs rapid charging combined with battery state-of-health analysis.

On a rolling cart with detachable controller and integrated printer, the all-in-one Midtronics GR8 Diagnostic Charger is highly portable and easily moved. Wireless technology allows the Diagnostic Controller to be removed from the charger base and used on another vehicle while a vehicle's battery is charging.

To comply with warranty requirement for battery replacement, you must conduct Kia-required tests before replacing a battery under warranty. A printout of test results must be attached to the repair order (RO).

KIA UNIVERSAL MULTI-MEDIA INTERFACE TESTER (MIT)



The Kia Multi-Media Interface Tester (MIT) was developed to test Kia vehicle's *Bluetooth*® and audio input functions. The Kia MIT outputs three distinct audio files to test for proper operation of the:

- *Bluetooth*® system;
- AUX/Line-in; and
- USB.

DIAGNOSTIC TOOL TRAINING

Kia University offers a variety of self-study Web and instructor-led courses for diagnostic equipment training, including courses on TPMS and GDS Web and instructor-led courses.

Go to the Kia University site for more information on these courses.

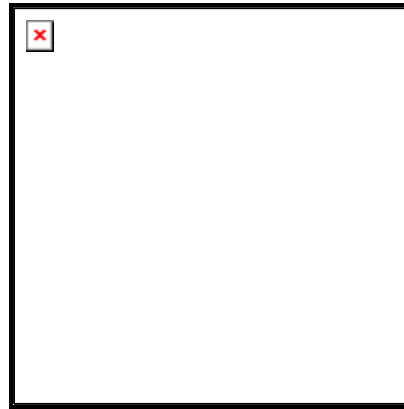
SPECIAL SERVICE TOOLS (SST)



SST Storage Cabinet



SST Storage Cabinet Drawer 4



SST Storage Cabinet Drawer Liner 4

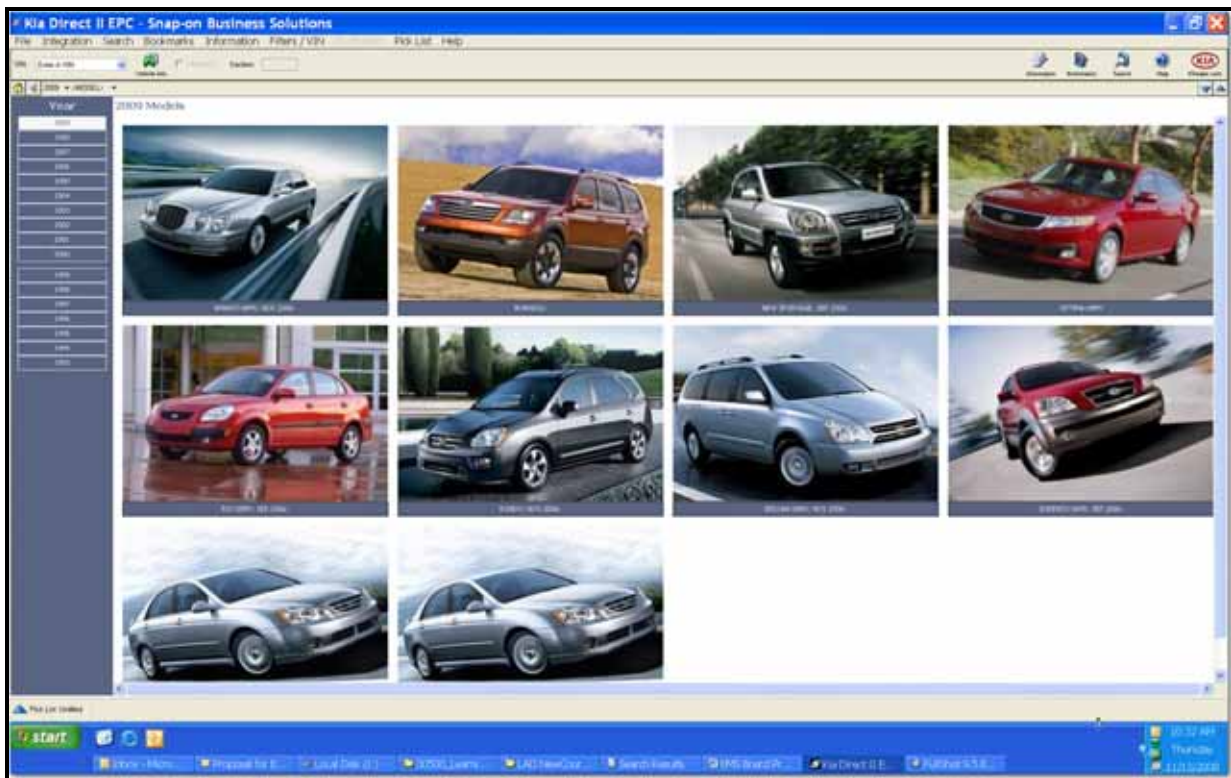
Most SSTs are stored and organized in a black storage cabinet at each Kia dealership. This storage cabinet is equipped with drawer liners containing outlines for every SST to indicate each tool's storage location.

The best way to determine the availability of an SST is to check the SST Storage System Master Index attached to the side of the storage cabinet. The SST master index is organized by Part Number and Drawer Liner. The Part Number section sequentially displays SST by part numbers.

You can also find the SST Master Index in the "Tool & Equipment" section on KGIS. Every tool listed in this SST master index is a required SST that is automatically shipped to Kia dealers.

SSTs can be purchased from Snap-on Business Solutions at **888-542-1011**, source for the Kia approved Dealer Tool & Equipment Program.

PARTS



Kia PARTS

Kia provides dealers with online access to search for parts with the Kia Direct II EPC (Electronic Parts Catalog). This EPC is vehicle-specific and providing a VIN will enable you to find the part easier and faster.

PARTS HOTLINE

The purpose of the Parts Hotline is to assist Kia dealers with resolving all parts related issues. Technicians should work closely with their Parts Department who can contact the Parts Hotline staff at 800-542-5611 for assistance.

SUMMARY

Kia Motors America (KMA) supports its dealership service technicians with information, tools, and resources so that they can perform their responsibilities more effectively, efficiently, and productively.

Kdealer.net is KMA's primary site for its dealer network. This site provides up-to-date news and information to dealership personnel, including Executive, Sales, Service, and Parts. Kdealer.net also serves as a portal to other important Kia sites including KGIS (Kia Global Information system) and www.kiauniversity.com.

KGIS is KMA's primary technical information site serving the service technician community. Technical information on this site helps service technicians diagnose, service, and repair customer concerns.

The Kia Technical Assistance Center, commonly known as Techline, provides technical advice and helps service technicians resolve difficult customer concerns. Service technicians can best utilize this resource by opening a new case in Techline's web portal and provide information that Techline requires to remotely analyze and diagnose the vehicle conditions.

Diagnostic equipment and Special Service Tools (SST) are designed to help technicians perform specific functions on Kia vehicles. Diagnostic equipment consists of the:

- GDS (Global Diagnostic System) hardware, software, and service information
- Diagnostic Link Connectors (DLC)
- Breakout Box (BOB)
- A/T Testers
- Midtronics GR8 Diagnostic Charger
- Universal Multi-Media Interface (MIT) Tester

The Parts Hotline is another KMA resource. Service technicians should work with their parts departments and have them contact the Parts Hotline.

These Kia information, tools, and resources are readily available and immensely useful to service technicians. Knowing how to use Kia's information, tools & resources will increase service technicians' effectiveness and efficiency in fixing Kia vehicles right the first time.

PROGRESS CHECK



1. Technician A states that the Service tab on Kdealer.net is the one for service technicians. Technician B states that Kdealer is Kia's primary Website for dealer news and information and is a portal to other important Kia sites such as KGIS and Kia University.
Who is correct?
A. A only
B. B only
C. Both A and B
D. Neither A nor B

2. The following statements about KGIS are correct EXCEPT:
A. KGIS can only be accessed from Kdealer.net
B. A large part of the Main Screen is devoted to recent TechTimes, TSB, Campaign, and Pitstops articles
C. VIN search is useful for finding vehicle-specific information
D. Link to Techline and Consumer Affairs is located at the left column of the KGIS Home Page

3. Circle all statements that apply to Special Service Tools (SST).
A. They are commonly found in every service technician's tool box.
B. SSTs are designed to perform specialized functions on Kia vehicles.
C. Kia dealers have the option of purchasing only desired SSTs.
D. They are stored and organized in a black cabinet and listed in the SST Storage System Master Index.

4. Technician A says the GDS is Kia's most advanced and comprehensive diagnostic tool. Technician B says the TPMS Module is used with the GDS to service and diagnose the TPMS and its components.
Who is correct?
A. A only
B. B only
C. Both A and B
D. Neither A nor B

5. Service technicians must contact Techline under these conditions EXCEPT:
 - A. Normal repair resources have been exhausted.
 - B. The vehicle is in for a second repair.
 - C. The service technician could not find the source of the problem after 1/2 hour of diagnosis time.
 - D. To prepare the Technical Assistance Center worksheet
6. While service technicians should work closely with their parts department, they may occasionally need to contact the parts Hotline. What is the Parts Hotline phone number? _____

ACTIVITY 1

Kdealer.net



Go to URL www.kdealer.net. Ask your instructor for assistance if you cannot log into this site.

1. List 3 items found on the main Service page of www.Kdealer.net?

2. Click on the Directory link on the Left Menu Bar. List 3 sub-links that may be important to you as a technician.

3. Click on the Directory link to answer these questions.
 - a. What are toll-free phone numbers for:
 Consumer Affairs (800) _____ - _____
 DCS (800) _____ - _____
 Technical Assistance (800) _____ - _____
 Warranty Assistance (800) _____ - _____
 - b. In what city and state are the 2 closest parts distribution centers (PDC) to your dealership?

 - c. What parts are identified as Small Parts Core Returns?

4. While you are in the Directory site, list steps you took to find your Dealer Code.

5. Record your Dealer Code. _____
What information is provided for your dealer?

6. On the Dealer Directory page, click on the Home link at the top left of the screen. Where did this take you?

7. Briefly describe what you found when you clicked on the Service Tech link.

8. Click on the What's New link.
 - a. How many items were provided on this page? ____
 - b. Record the title of the first item and the last item displayed.

9. Now, click on the Warranty link on the Left Menu Bar and list 3 types of warranty information that may be important to you as a technician.

10. Take a few minutes to look through some of the other links on the Left Menu Bar. Which ones of these links would be of greatest interest to you and why?

<u>Interesting Link</u>	<u>Reason for Interest</u>
_____	_____
_____	_____
_____	_____

ACTIVITY 2

KGIS



From www.kdealer.net, click on the KGIS link on the left menu bar.



1. Write the number that corresponds to above image on the location of the following information.

Information

- | | |
|-------|---|
| _____ | ETM |
| _____ | GDS User Guides |
| _____ | Glove Box Materials |
| _____ | Governmental Agency Links |
| _____ | Kia Techline Link |
| _____ | Maint(enance) Schedule |
| _____ | PDI and Evaluation Materials |
| _____ | Service Action Articles |
| _____ | Service Training Materials |
| _____ | Shop (Manual) |
| _____ | Snap-on Took Website |
| _____ | SST Master Index |
| _____ | Technical Service Bulletin (TSB) Articles |
| _____ | TechTimes Articles |

ACTIVITY 2 - continued

Find a water pump pulley torque tightening specification.

2. Access Service Information for the Shop Manual (SHOP) for a 2010 Forte:

- a. Model: Forte (TD)
- b. Year: 2010
- c. Engine: 2.0 DOHC

3. Besides SHOP for Shop Manual, what other Service Information can you access for the 2010 Forte?

4. Select Engine: 2.0 DOHC. Describe what new information populates on the left side of the screen.

5. From the Shop Manual categories, what links did you select to find tightening torque specifications for the water pump pulley?

6. What is the tightening torque specification for the water pump pulley?

7. Besides the Shop Manual, what other Service Information source(s) might you find torque tightening specification for the water pump pulley?

8. Which of the following contains or can help you find tightening torque for a 2009 Optima water pump?

- ☐ Detail Search
- ☐ Owners Manual
- ☐ Service Info (SI)
- ☐ Vehicle Info.

9. What is the tightening torque for a 2009 Optima water pump? _____

ACTIVITY 3

GDS

Authorized Dealer

Your Dealership
#1 Kia Boulevard
Your town, USA

SERVICE HISTORY							
DATE	REPAIR ORDER	MILEAGE	ADVISOR	TECHNICIAN	TYPE	OPERATION	OPERATION DESCRIPTION

RENTAL ☐ SUBLET ☐ TOWING ☐ OTHER	VEHICLE I.D. NO. KNADC123X26162303	YEAR/MAKE/MODEL 2002 Kia Rio	PRODUCTION DATE 12-01-01	STOCK NO. N/A	LICENSE NO. N/A	R.O. NO. N/A
	11 Mockingbird Ln Any State, Any City USA 11111	CUSTOMER NO. 1157	SERVICE CONTRACT N/A	DELIVERY DATE 2-23-03	DELIVERY MILES 000006	SELLING DEALER NO. D5402
		COLOR Red	CONTRACT NO. N/A	EXPIRATION DATE N/A	EXPIRATION MILES N/A	TAG NO. N/A
	RESIDENCE PHONE 555.1111	BUSINESS PHONE 555.1234	TURBO ☒	MMC ☒	AIR COND ☒	P.S. ☒
SAVE OLD PARTS ☐ YES ☒ NO	TIME RECEIVED 555.1111	DATE/TIME PROMISED 555.1234	PRIORITY 85.00	TRANS ☒	MILEAGE 9865	ADVISOR NO. 231
APPOINTMENT ☒ YES ☐ NO	LABOR RATE 85.00		I hereby authorize the repair work herein set forth to be done by you, together with the furnishing by you of the necessary parts and other material for such repair, and agree that you are not responsible for and delays caused by unavailability or delayed availability of parts or material for any reason, that you neither assume or authorize any other person to assume for you any liability in connection with such repair, that you shall not be responsible for use or damage to the above vehicle, or vehicles left therein, in case of fire, theft, or other cause beyond your control. That an express mechanic's lien is hereby acknowledged on the above vehicle to secure the amount of repairs thereto. That your employees may operate the above vehicle on streets, highways, or elsewhere for the purpose of testing and/or inspecting such vehicle. All (b) The only warranties applying to this repair are those which may be by the manufacturer. The selling dealer hereby expressly disclaims all warranties, either express or implied, including any implied warranties of merchantability or fitness for a particular purpose, and neither assumes nor authorizes any other person to assume for it any liability in connection with the sale of this part and/or service. Buyer shall not be entitled to recover from the selling dealer any consequential damages, damages to property, damages for loss of use, loss of time, loss of profit, or income, or any other incidental damages.			
	x <u>John A. Public</u>					

JOB

Customer states a light clunking sound from the rear of the car when braking at low speeds or when shifting from forward to reverse.

JOB #	IN	
	OUT	
JOB #	IN	
	OUT	
JOB #	IN	
	OUT	
JOB #	IN	
	OUT	
JOB #	IN	
	OUT	
JOB #	IN	
	OUT	
JOB #	IN	
	OUT	
ORIGINAL ESTIMATE		CUSTOMER ACCEPTANCE
AUTHORIZED ADDITIONS		ADDITIONS OK'D BY
		DATE TIME

At the event that you, the customer, authorize commencement but do not authorize completion of a repair or service, a charge will be imposed for disassembly, reassembly, or partially completed work. Such charges will be directly related to the actual amount of labor or parts involved in the inspection, repair, or service.

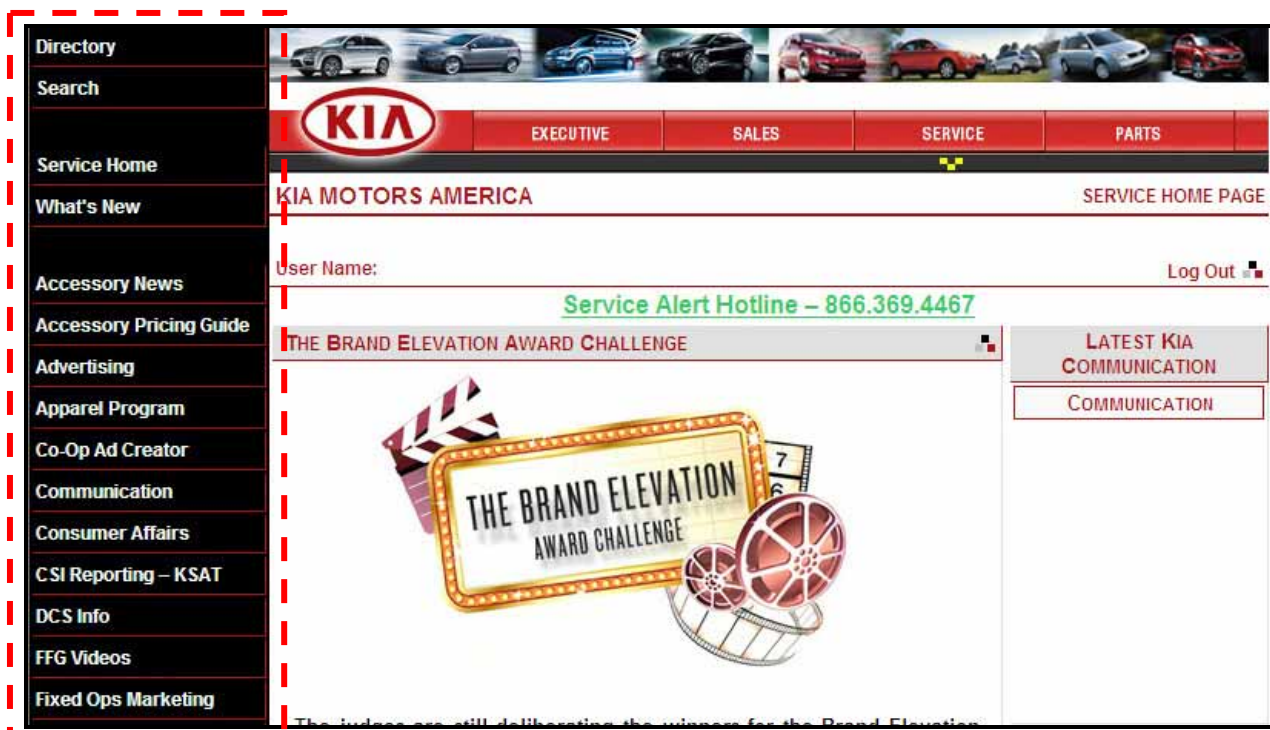
ACTIVITY 3 - continued**GDS**

Navigate the Global Diagnostic System (GDS) to answer these questions. Ask your instructor for assistance if needed.

1. With the GDS turned on, click on the VIN button.
2. Enter the VIN on the Repair Order.
3. Based on the customer concern, which system(s) should you select? _____
4. Enter:
 - a. Group: Brakes
 - b. Symptom: Noise
5. Click OK to return to the GDS main screen.
6. Next, click Hot Fix By Symptom
7. How many articles are listed for:
 - a. TSB? ____
 - b. Campaign? ____
 - c. TechTimes? ____
 - d. Pitstops? ____
8. Did you find the information that you need?
Yes No
9. If yes, record the source(s) and name(s) of article(s) pertaining to the symptom.

10. What instructions did the article(s) advise to correct the concern.

REFERENCE: Kdealer.net



Kdealer.net SERVICE LINKS



Important Kdealer.net links for service technicians include:

Directory provides KMA & Kia dealer contact information.

Search is a helpful feature to quickly locate information in the Kdealer.net site.

Service Home is a link to navigate to the Kdealer.net Service Home Page from other parts of the site.

What's New provides most up-to-date information for dealer personnel.

Accessory News announces accessory(s) availability and promotions.

Accessory Pricing Guide provides digital brochures and vehicle-specific accessory guides.

Apparel Program is where dealership personnel can purchase apparel, uniforms, and accessories.

Communications display a list of communications and information sent to dealers.

Consumer Affairs provides Consumer Affairs information, Service Recalls & Campaigns, and KMA region contacts.

CSI Reporting - KSAT contains satisfaction scores for Kia regions, districts, dealers, and dealership personnel.

DCS Info involves Kia's Dealer Communication System.

FFG Videos consist of video presentations on Kia vehicle systems, components, accessories & other devices.

Kdealer.net SERVICE TAB LINKS (Continued)

Global Diagnostic System
IQS Improvement
KDEP Manual
Key Codes
Kia Chemicals
Kia Store
Kia Tire Source Program
KGIS
Links
New Dealer Start-Up
Operations Management
Parts Market Analysis
Parts Tech
Product Guide - 2010MY
Product Guide - 2009MY
Programs & Incentives
Recalls & Campaigns
Reports
ServiceSmarts
Service Tech
Training
Training - KU Catalog
Vehicle Info
Warranty
Web DCS Webinars
KIA UNIVERSITY


Global Diagnostic System (GDS) contains information on the GDS and its features and functions.

IQS Improvement presents messages and advice to dealer personnel on how to improve IQS performance.

KDEP (Kia Dealer of Excellence Program) Manual provides dealers with standards and evaluation processes for KMC's dealership operations and profitability initiatives.

Key Codes provides key cutting and duplication information.

Kia Chemicals redirect you to Kia's Automotive Chemical Website.

Kia Store accesses Kia's store that merchandises Kia apparel and merchandise.

Kia Tire Source Program accesses the Kia Tire Source Website.

KGIS links directly to the Kia Global Information System (KGIS) Website at www.kiatechinfo.com.

Links connects to sites to download applications like Adobe Acrobat Reader and important Kia Websites.

Parts Tech is the source for parts publications and information.

Product Guide provides information about Kia vehicles.

Programs & Incentives communicates Kia's reward and incentive programs for dealer personnel.

Recalls & Campaigns is where you will find Kia recalls and campaigns.

Service Tech alerts you, the service technician, to important new information and updates.

Training/Training - KU Catalog consists of 2 links to the KU catalog, Kia product training, and job/sales aids.

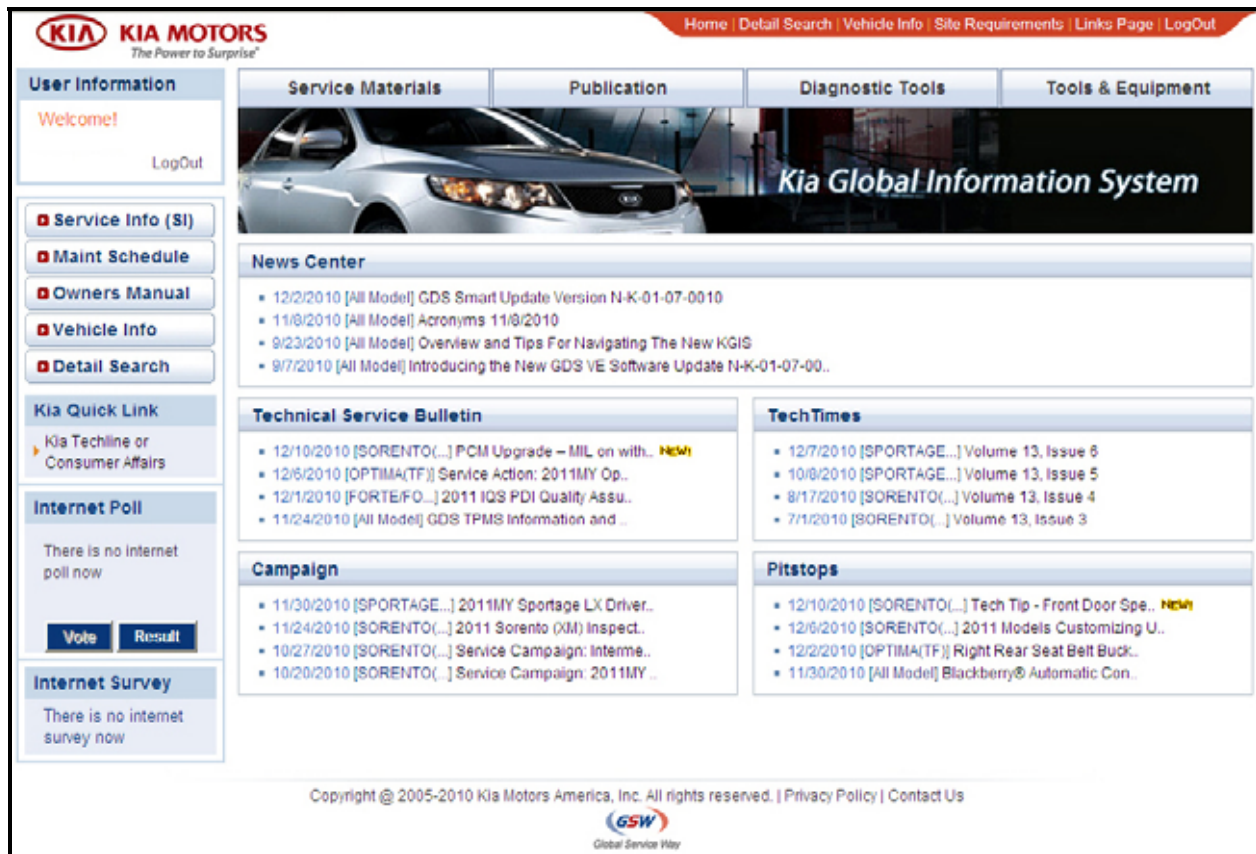
Vehicle Info is the source for vehicle-specific information such as PDI worksheets, model & accessory codes, and other vehicle information.

Warranty contains labor time standards (LTS), warranty bulletins, reference materials, and forms.

Kia University navigates to www.KiaUniversity.com.

SIRIUS Satellite Radio provides SIRIUS Satellite Radio and Traffic information.

REFERENCE: KGIS (Kia GLOBAL INFORMATION SYSTEM)



INTRODUCTION



This Reference section provides additional information on KGIS features and functions to familiarize you with this site's content. Look over this section and use it as a guide to navigate and discover KGIS' rich content.

KGIS (Kia Global Information System) provides Kia's most relevant, useful, and up-to-date technical information to help technicians fulfill their responsibilities to service, diagnose, and repair customer vehicles.

This technical information consists of :

- Service Information from Service Manuals and Service Bulletins.
- Vehicle Information specific to the VIN and on Kia models such as Owner's Manuals.
- PDI, accessory installation, training, and related instructions.
- Special Service Tools and diagnostic equipment.

In addition, technicians can search KGIS' technical content and seek assistance from Techline.

KGIS MAIN PAGE

The majority of the KGIS Main Page displays these information categories and its most recent articles:

- News Center;
- Technical Service Bulletin (TSB);
- Campaign;
- TechTimes; and
- Pitstops.

Clicking each category heading opens a new page that lists additional articles.

News Center

News Center contains important technical news and information, typically pertaining to Kia tools and resources.

Technical Service Bulletin

A Technical Service Bulletin (TSB) is a formal document prepared by KMA to address a concern that causes a Kia vehicle to malfunction.

Service Action, typically TSBs, is a repair program that is performed during the warranty period without customer notification. Any dealer requesting these repairs outside the warranty period must obtain DPSM approval.

Campaign

Campaigns, also formal KMA documents, are identified as:

- Service Campaign provides a uniform procedure to perform on applicable Kia vehicles.
- A Service Recall addresses specific safety and emission related issues.

All Service Campaigns and Service Recalls must be performed prior to vehicle sales delivery at no cost to the owner. Both generally do not expire.

Tech Times

TechTimes (Technician Times) is a KMA publication that contains a collection of timely and useful technical articles. TechTimes articles are added to KGIS and posted individually by subject matter for search purposes.

Pitstops

Pitstops contains informal articles written by KMA to address a specific topic. These articles are written and distributed to get the information out quickly. Some Pitstops articles escalate to become TSBs.

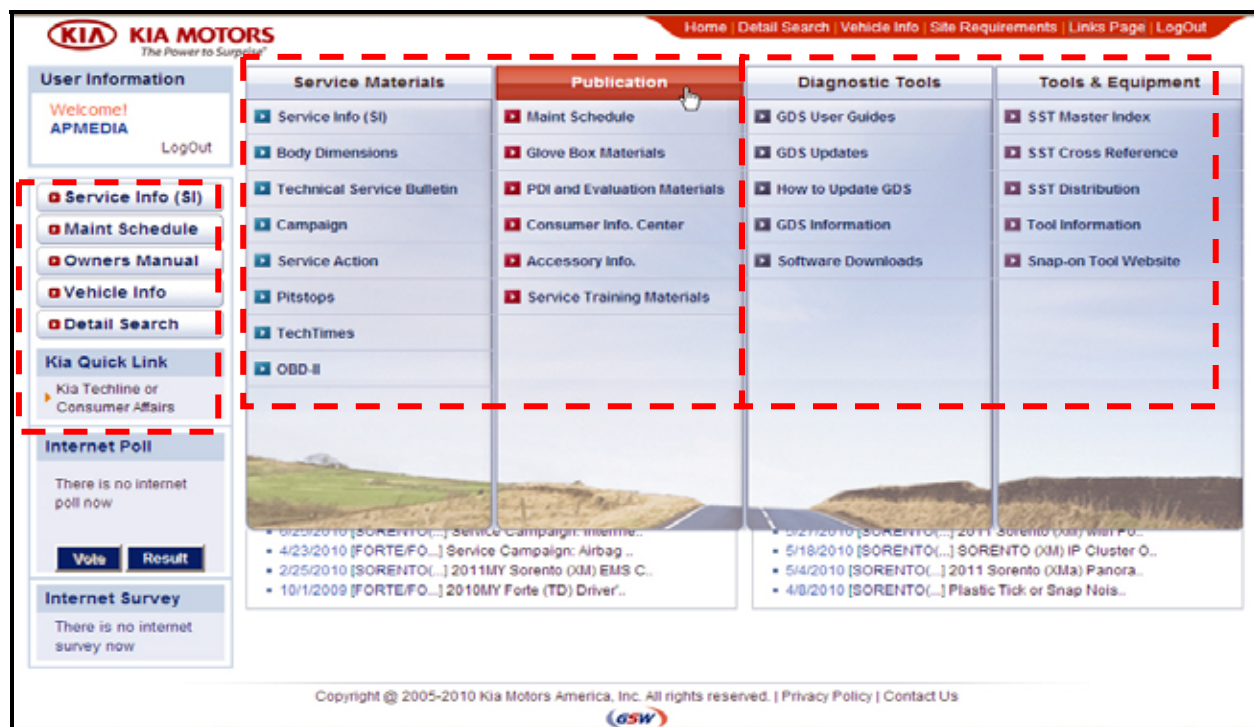
Information Organization

TSBs, Campaigns, and Pitstops are organized according to these vehicle systems:

- General Information
- Engine Electrical System
- Engine Mechanical System
- Special Service Tools
- Emissions Control System
- Fuel System
- Suspension System
- Driveshaft and Axle
- Brake system
- Manual Transmission
- Automatic Transmission
- Steering system
- Heating Ventilation and Air Conditioning
- Restraints
- Body (Interior and Exterior)
- Body Electrical System

TechTimes articles are organized by year, volume & issue.

ADDITIONAL INFORMATION ON KGIS MAIN PAGE



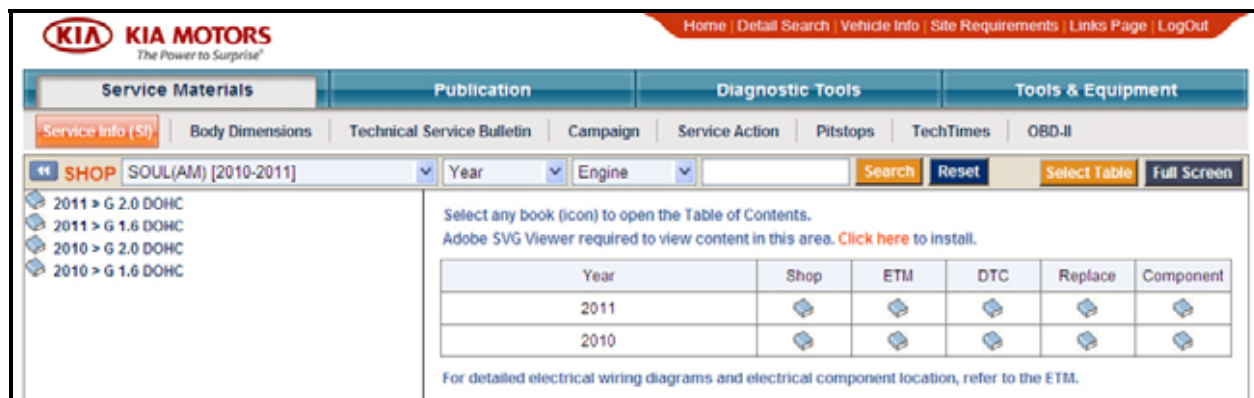
Scrolling over any of these tabs on the KGIS Main Page introduces a sub-menu of its information.

- Service Materials
- Publications
- Diagnostic Tools
- Tools & Equipment

See box in above image for information under each tab.

Information under the tabs duplicates some of the information links on the left column. You can also contact Techline from the left column Kia Quick Link.

Service Materials Tab/Service Info (SI) Link



New Page after clicking on Service Materials Tab or Service Info (SI) Link

The Service Materials tab and Service Info (SI) link open a new page that provides identical information.

Service Info (SI) pertains to:

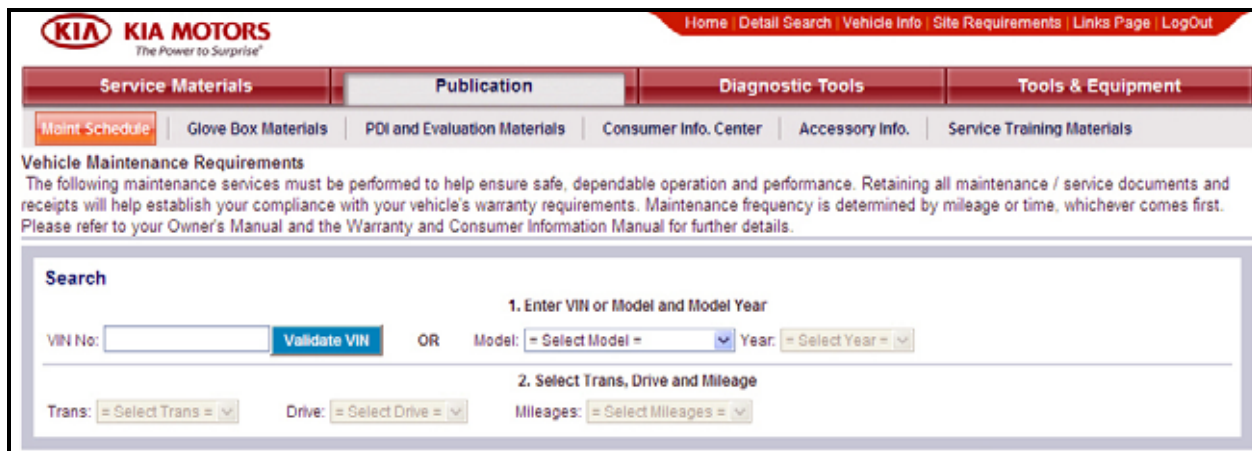
- Shop (Manual)
- ETM
- DTC
- Replace(ment)
- Component

Additional information from these sources include:

- Body Dimensions
- Tech Serv Bul (TSB)
- Campaign
- Service Action
- Pitstops
- TechTimes
- OBD-II

Service Actions are Service Bulletins that require immediate attention.

Publication Tab/Maint(enance) Schedule & Owners Manual Links



The screenshot shows the KIA MOTORS website interface. At the top, there's a navigation bar with links: Home, Detail Search, Vehicle Info, Site Requirements, Links Page, and LogOut. Below this, there's a main menu with tabs: Service Materials, Publication (selected), Diagnostic Tools, and Tools & Equipment. Under the Publication tab, there's a sub-menu with links: Maint Schedule, Glove Box Materials, PDI and Evaluation Materials, Consumer Info. Center, Accessory Info., and Service Training Materials. The main content area is titled "Vehicle Maintenance Requirements" and contains a search form. The search form has two sections: "1. Enter VIN or Model and Model Year" and "2. Select Trans, Drive and Mileage". The first section has a "VIN No:" input field, a "Validate VIN" button, and an "OR" option. The second section has "Model:" and "Year:" dropdown menus. The third section has "Trans:", "Drive:", and "Mileages:" dropdown menus.

New Page after clicking on Publication Tab or Maint Schedule/Owners Manual Link

The Publication tab duplicates information under the Maint(enance) Schedule and Owners Manual links.

Information provided by these links include:

- Maint(enance) Schedule search by VIN or by model & model year.
- Glove Box Materials and Accessory Info. search by model & model year.
- List of information is provided for:
 - PDI and Evaluation Materials;
 - Consumer Info. Center; and
 - Service Training Materials.



Diagnostic Tools Tab

The Diagnostic Tools tab is devoted to supporting Kia's Global Diagnostic System (GDS) by providing user information, instructions, and tool updates.

Tools & Equipment Tab

The Tools & Equipment tab supports Kia's Special Service Tools and simplifies tool purchases by rerouting KGIS to the Snap-on Tool Website.

Vehicle Info. Link

The Vehicle Info. link provides detailed information on the vehicle information that includes:

- Warranty History
- Vehicle Specifications, including:
 - PIO (Port Installed Options); and
 - Campaigns

This information is specific to individual VINs.

Detailed Search Link

This search feature enables you to search Service Manuals, Service Bulletins, and accessory information.



REFERENCE: GLOBAL DIAGNOSTIC SYSTEM (GDS)

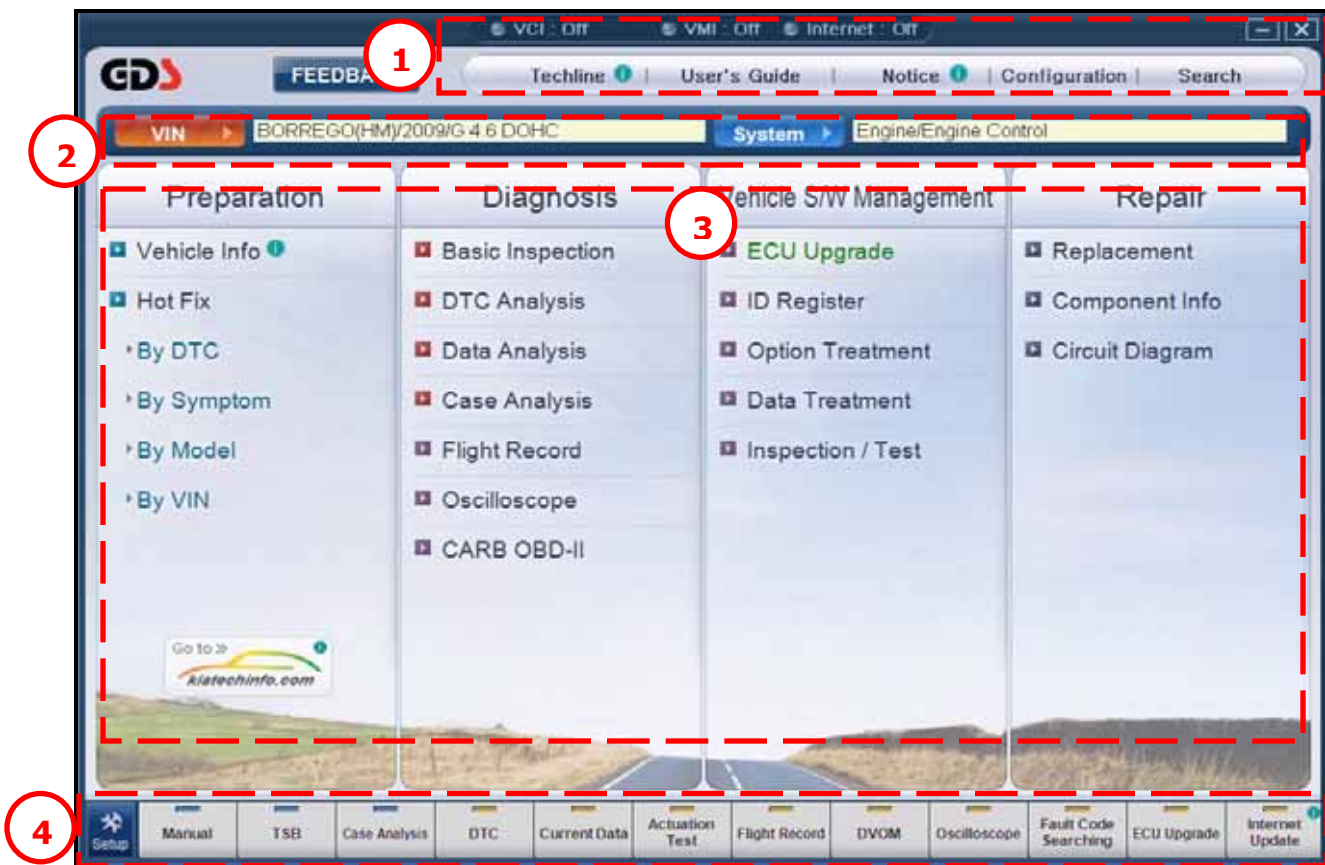
GLOBAL DIAGNOSTIC SYSTEM (GDS)



This reference section will introduce you to important GDS features and functions so that you will be able to begin using this diagnostic tool when you return to your dealership.

Kia has several online and instructor-led training courses that will provide you with knowledge and hands-on experience in using the GDS.

GDS MAIN SCREEN



The GDS main screen is divided into these sections:

- 1:** Status Indicators & Top Link Bar
- 2:** VIN & System Identification
- 3:** Preparation, Diagnosis, Vehicle Software Management & Repair Links
- 4:** Hot Keys & Shortcuts

The GDS is capable of targeting specific VINs (vehicle identification numbers), enabling quick access to diagnostic procedures and information.

Section 1: Status Indicators & Top Link Bar

Status indicators, located at the top of the GDS Main Screen identify the ON and OFF conditions for the VCI, VMI or TPMS Module, and the Internet connection.

The Top Link Bar provides users with general administrative, communication, and research tools for the GDS. This section consists of the following:

- Techline - Open, case search, add notes, and close Techline cases.
- User's Guide - GDS and TPMS Module user's manual.
- Notice - Important information and updates on the GDS.
- Configuration - VCI set-up, self-tests, server connection, and other configuration settings and updates.
- Search - Global search engine for GDS content.

Section 2: VIN & System Identification

Clicking on the VIN and button will open a VIN Screen where you can enter the vehicle VIN, identify Systems, specify Group(s) and Symptom(s), and elect to perform Fault Code Searching or not.

You should enter a VIN to take advantage of the powerful features of the GDS relating to the specific vehicle.

SECTION 3: PREPARATION, DIAGNOSIS, VEHICLE S/W MANAGEMENT & REPAIR

This section of the GDS is divided into the following subsections:

1. Preparation;
2. Diagnosis;
3. Vehicle S/W Management; and
4. Repair.

In this section, you can perform diagnostic and software management functions and access Service Information from Kia's Service Manuals and Bulletins.

Preparation

The Preparation subsection contains:

- Vehicle Info consisting of vehicle build information, warranty history, and other service information for the specific vehicle.
- Access to Hot Fix for TSB, Campaign, Technician Times, and Pitstops articles.
- Kiatechinfo.com, which takes you to KGIS.

- Diagnosis** Diagnosis consists of the:
- Basic Inspection checklist.
 - DTC Analysis checks DTC and related information.
 - Data Analysis obtains Current Data and related information.
 - Case Analysis provides cases for selected trouble symptoms.
 - Flight Record saves data to the VCI or the PC from the vehicle ECU.
 - Oscilloscope measures signal characteristics.
 - CARB OBD-II is the generic OBD-II mode.

- Vehicle S/W Management** Vehicle S/W Management functions perform:
- ECU Upgrade: Kia will issue a bulletin with detailed instructions when reprogramming is necessary.
 - Evap. Leak Test
 - ABS Air Bleeding
 - Transmitter Code Saving
 - Code saving involves programming Remote Keyless Entry (RKE) on applicable vehicles and Immobilizer procedures on supported vehicles.
 - VIN Writing
 - Customer Option

- Repair** The Repair section accesses the following information:
- Replacement (Procedures)
 - Component Info(rmation)
 - Circuit Diagram (ETM)

Section 4: Bottom Button Bar Buttons on the Bottom Button Bar duplicate many of the functions and information in the other 3 sections.

- Two important buttons in this section are:
- Fault Code Searching button: Clicking on this button whenever there is a DTC will display the DTC list, as well as initiate Fault Code Searching.
 - Internet Update button: Clicking on this button accesses the Smart Update function.

BASIC GDS FUNCTIONS

The GDS provides several simple and extremely useful functions that you can perform immediately. These functions include:

- Enter VIN.
- Go To Hot Fix.
- Search Feature.

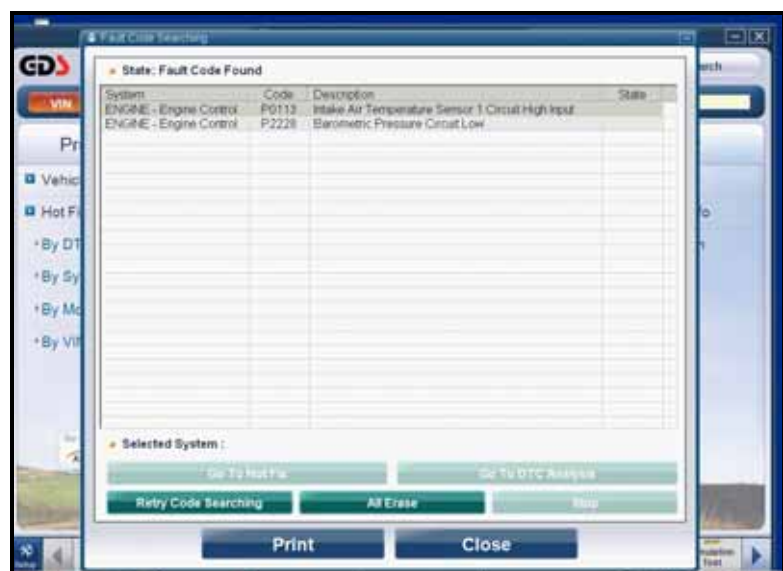
Enter VIN



It is always a good idea to enter the VIN and conduct Fault Code Searching. After accessing the VIN screen:

1. Enter the VIN.
2. Select the vehicle system for the concern.
3. Select Group(s) and then Symptom(s) affecting the vehicle.
4. Perform Fault Code Searching.

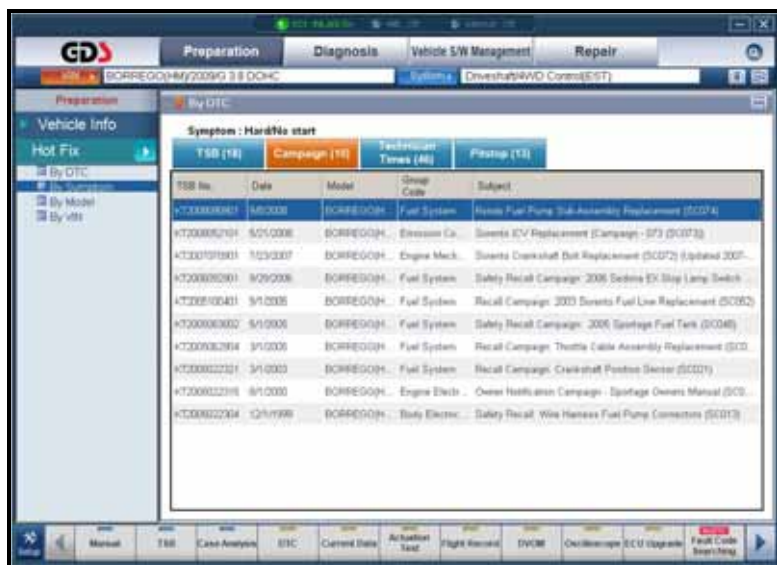
Go To Hot Fix



Entering appropriate information on the VIN Screen and performing Fault Code Searching will display any DTCs found. Selecting a DTC and then clicking on Go To Hot Fix will initiate the GDS to search Kia Service Bulletins by:

- DTC when Fault Code Searching is performed for a code(s) retrieved from the vehicle.
- Symptom based on the symptom entered.
- Model for a specific Kia vehicle model.
- VIN for a specific Kia vehicle.

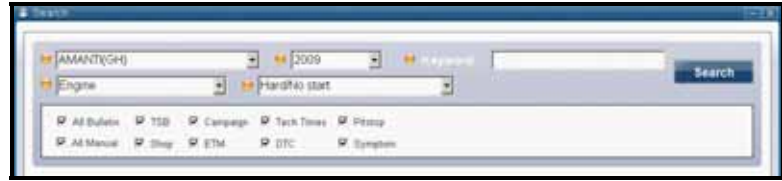
Hot Fix is an invaluable tool to help users search Kia Service Bulletins for potential solutions to address the vehicle concern.



The Hot Fix search concludes by displaying the number of articles found in Service Bulletins consisting of TSB, Campaign, TechTimes, and Pitstops that may provide a solution to the vehicle concern.

Whenever a DTC is found, you can also Go To DTC Analysis, which will search Technical Service Bulletins and the DTC Guide for potential resolutions to the concern.

Search Feature



You can conduct a keyword search for service information stored in the PC hard drive. Search parameters include:

- Model and model year;
- Keyword options: Subject, Content, and/or DTC;
- Specifications: Group and Symptom; and
- Start and End Dates.

This function is a quick and efficient way to search:

- Kia's publication databases consisting of TSB, Campaign, TechTimes, and Pitstops articles.
- Service Manuals consisting of the Shop Manual, ETM Manual, DTC Analysis, Symptom Analysis, Replacement, and Parts Information.

The search feature is not specific to a VIN or to a vehicle.

INTERNET CONNECTION

The following features require the GDS to be connected to the Internet:

- Notice.
- Techline.
- Vehicle Info.
- Kiatechinfo.com.
- Internet Update.

All of these links, except for Kiatechinfo.com, are identified with this Internet icon .

REFERENCE: BREAK OUT BOX (BOB) PRO



INTRODUCTION



When diagnosing a DTC and you need to test electrical circuits, the BOB Pro allows you to connect to an Electronic Control Unit (ECU) and its associated wiring.

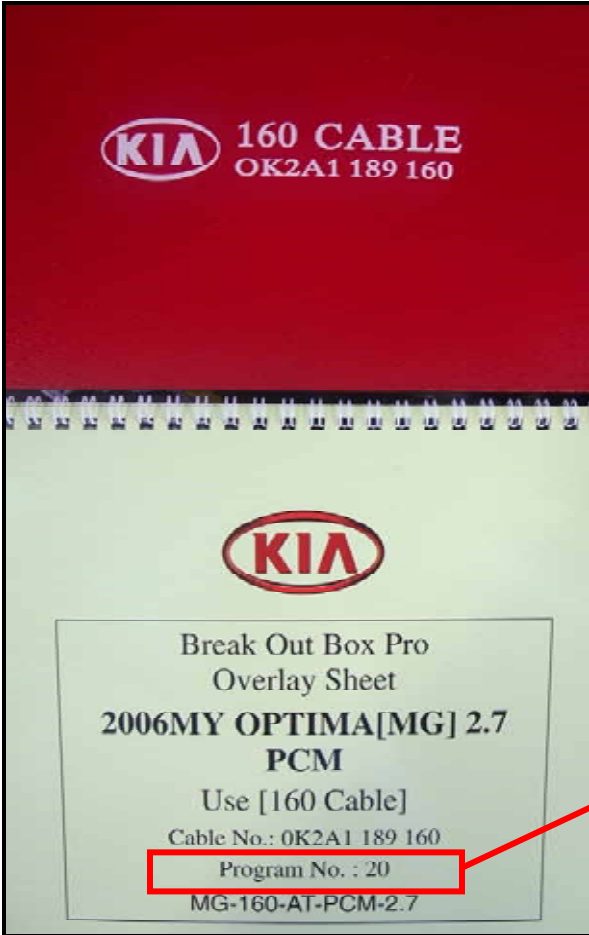
BOB Pro is a digital Break Out Box that can be connected to most 2003 and later Kia PCM, ECM, and TCM equipped vehicles.

The BOB Pro provides access to multiple ECU terminals that require measurements such as voltage, resistance, and frequency. In addition, it provides access points for external test equipment such as an oscilloscope.



Caution: Do not pick up or carry BOB Pro by its cables.

BOB PRO APPLICATION TABLE AND OVERLAY



No.	Program Number	Program Name	Overlay Sheet Number	Interface Cable Number
1	01	2006MY RIO 1.6 PCM 154	OLS-039	OK2A1 189 154
2	02	2006MY SEDONA 3.8 PCM 160	OLS-040U	OK2A1 189 160
3	03	2003-2005MY RIO 1.6 ECM 134	OLS-041U	OK2A1 189 134
4	04	2003-2005MY RIO 1.6 TCM AT B88	OLS-042U	OK2A1 189 B88
5	05	2003-2004MY SPECTRA[SD] 1.8 TCM B88	OLS-043U	OK2A1 189 B88
6	06	2003-2004MY SPECTRA[SD] 1.8 ECM 81	OLS-044U	OK2A1 189 081
7	07	2004-2005MY SPECTRA[LD] 2.0 PCM 121	OLS-045U	OK2A1 189 121
8	08	2003-2005MY OPTIMA[MS] 2.4 ECM M76	OLS-046U	OK2A1 189 M76
9	09	2003-2005MY OPTIMA[MS] 2.4 PCM 119	OLS-047U	OK2A1 189 119
10	10	2003-2005MY OPTIMA[MS] 2.7 TCM M76	OLS-048U	OK2A1 189 M76
11	11	2003-2005MY OPTIMA[MS] 2.7 ECM 134	OLS-049U	OK2A1 189 134
12	12	2003-2005MY SEDONA 3.5 PCM 119	OLS-050U	OK2A1 189 119
13	13	2003-2004MY SORENTO 3.5 ECM 119	OLS-051U	OK2A1 189 119
14	14	2003-2004MY SORENTO 3.5 TCM 50	OLS-052U	OK2A1 189 050
15	15	2003-2004MY SORENTO 3.5 EST 53	OLS-053U	TKDE 073A (53PIN)
16	16	2003-2004MY SORENTO 3.5 TOD 53		
17	17	2005MY AMANTI 3.5 PCM 119	OLS-054U	OK2A1 189 119
18	18	2005MY AMANTI 3.5 BCS 78	OLS-055U	OK2A1 189 078
19	20	2006MY OPTIMA[MG] 2.7 PCM 160	OLS-057U	OK2A1 189 160
20	21	2006MY OPTIMA[MG] 2.4 ECM 154	OLS-058U	OK2A1 189 154
21	22	2006MY SPECTRA[LD] 2.0 PCM,ECM 121	OLS-059U	OK2A1 189 121
22	23	2006MY SPECTRA[LD] 2.0 TCM(FED) 81	OLS-060U	OK2A1 189 081
23	08	2006MY OPTIMA[MS] 2.4 ECM M76	OLS-061U	OK2A1 189 M76

The Application Table for BOB Pro is online at KGIS and provides the correct program number/overlay sheet number and "red" interface cable box number for the vehicle application.

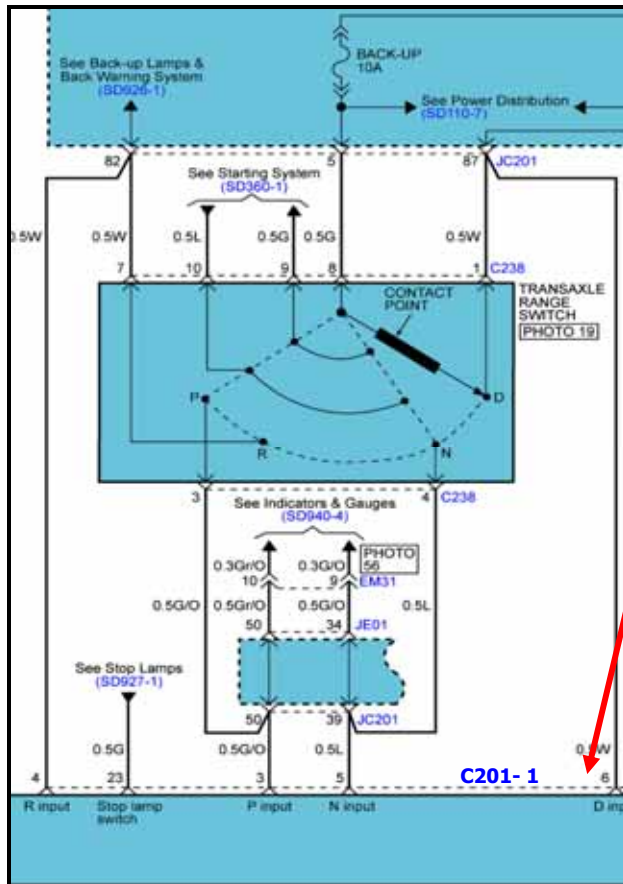
The front cover of the overlay sheet will also provide the same information, but only for one vehicle application. The overlay sheet is a flipchart with the following information:

- ETM and ECU terminal pin number.
- Name of the signal.
- Test condition, such as idle, park or A/C ON/OFF.
- Type of input/output signal value for meter setup:
 - Type such as pulse, DC or analog.
 - Level such as 1.0V.



Note: Older Kia vehicles may be tested with BOB, which uses manual pin selections and has similar overlay sheets with holes to overlay the pin-out box.

BOB PRO OVERLAY



TERMINAL NO.	BOB	PCM	SIGNAL	TEST CONDITION	INPUT/OUTPUT VALUE
1	C201-1-01	2nd CAN [High]	Idle	DC pulse	2.0 - 3.0V
2	C201-1-02	2nd CAN [Low]	Idle	DC pulse	2.0 - 3.0V
3	C201-1-03	P Range selection	P Position	DC	B+
4	C201-1-04	R Range selection	R Position	DC	B+
5	C201-1-05	N Range selection	N Position	DC	B+
6	C201-1-06	D Range selection	D Position	DC	B+
7	C201-1-07	Sport Mode Selector	Otherwise	DC	< 1.0V
8	C201-1-08	Up Position	UP Position	DC	B+
9	C201-1-09	Down Position	DN Position	DC	B+
10	C201-1-10	Power Steering switch	High Pressure	DC	< 0.5V
15	C201-1-15	Alternator load signal input	Low Pressure	DC	B+
16	C201-1-16	Cruise Control switch ground	Idle	DC	Hi: B+ Low: < 1.5V
17	C201-1-17	Fuel tank pressure sensor ground	Idle	DC	Scope 5V / 5ms / div
18	C201-1-18	A/C Switch "ON" signal input	A/C Relay OFF	DC	< 1.0V
20	C201-1-20	ATM Control relay	A/C Relay ON	DC	B+
21	C201-1-21	Brake switch B signal input	Relay ON	DC	B+
23	C201-1-23	Brake switch A signal input	Relay OFF	DC	< 1.0V
25	C201-1-25	Cruise switch signal input	Pedal Release	DC	B+
26	C201-1-26	Air Conditioner Compressor switch signal input	Pedal Push	DC	< 0.5V
			ON	DC	4.3 - 4.7V
			Main SW	DC	B+
			Set SW	DC	1.3 - 1.7V
			Resume SW	DC	2.8 - 3.2V
			Cancel SW	DC	-0.2 - 0.2V
			A/C OFF	DC	< 1.0V
			A/C ON	DC	B+

ETM VS OVERLAY

The BOB Pro overlay terminal number (PCM) matches the ETM connector and pin numbers as shown.

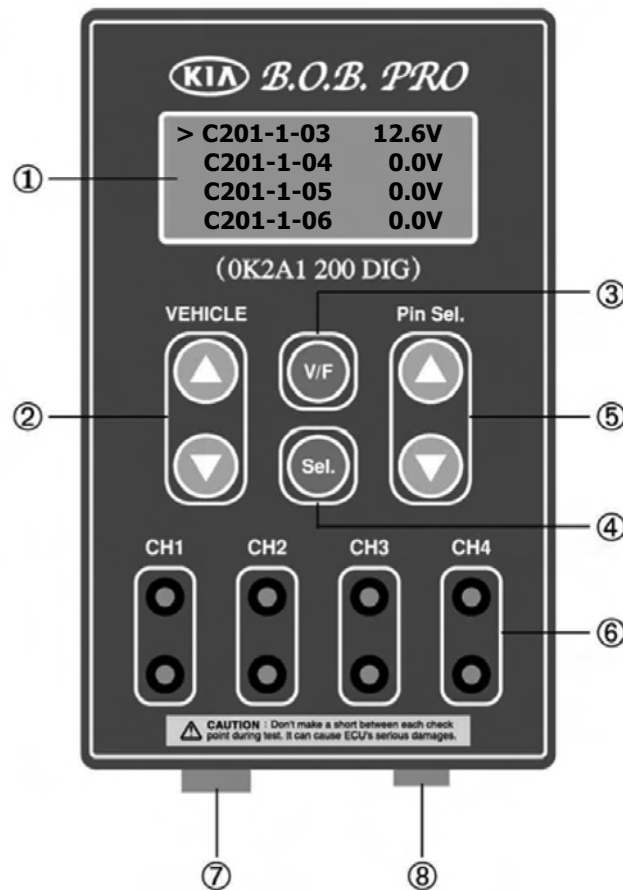
The overlay provides the type of signal to measure and its results are based upon the test condition.

The terminal number (BOB) is used when "Test 198 Mode" is selected on the BOB Pro unit. The preferred mode is to select the vehicle, year, engine and ECU. This is shown on the following pages.



Note: The PCM terminal numbers on the BOB Pro overlay sheet may be different than the ETM pin number.

BOB PRO OPERATION: FRONT PANEL OF BODY UNIT



BOB Body

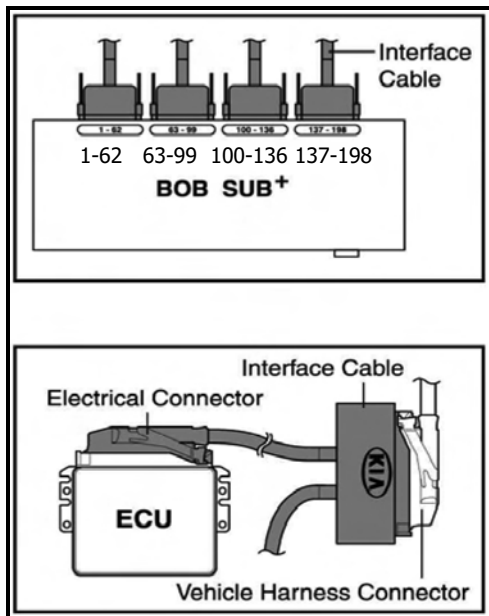
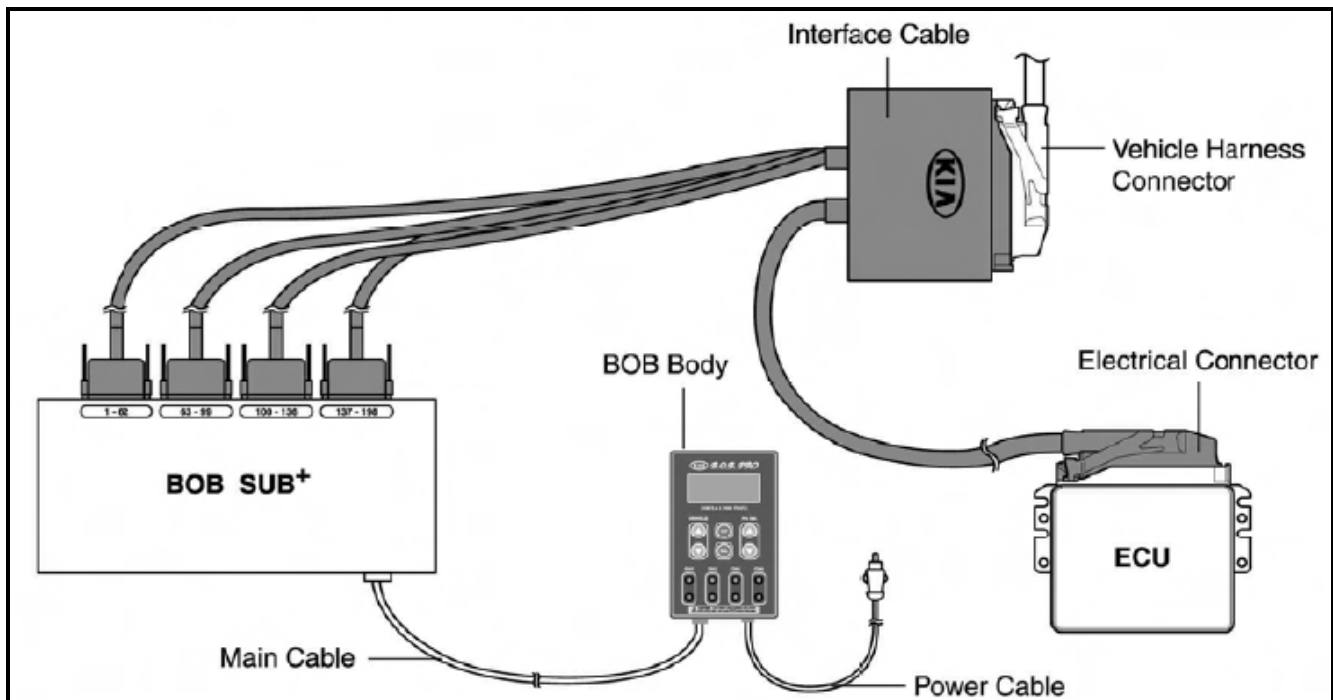
The tester panel uses the following configuration:

1. Display window.
2. Vehicle Up/Down selection button.
3. Voltage/Frequency selection button.
4. Select (Sel.) button:
 - a. Vehicle.
 - b. Channel 1 through 4.
5. Pin selection Up/Down button.
6. Voltage/Waveform check point (CH 1-4).
7. Main cable port.
8. Power cable port.



Note: The numbers above correspond with the numbers on the panel illustration above.

BOB PRO SETUP CONNECTIONS



1. Check the vehicle year, model, and choose the correct interface cable/red interface cable box and overlay/application chart.
2. Connect the interface cable to the BOB SUB Plus (black box).
3. Connect the Main Cable to the BOB body and BOB SUB Plus.
4. Connect the Power Cable to the BOB body and to the vehicle cigarette lighter or to the battery with the appropriate adapter.
5. Connect the vehicle harness ECU connector(s) to the red interface cable box, and connect the interface cable(s) to the ECU.
6. Verify that all cables are correctly connected
7. Turn IGN ON to power up BOB Pro.

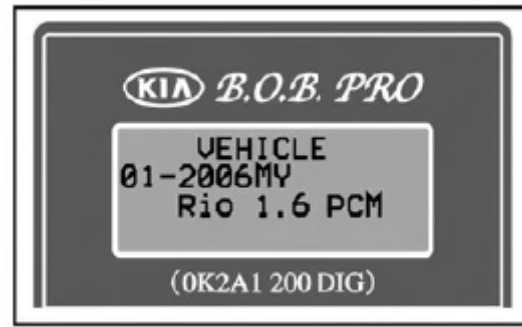


Caution: BOB Pro must be connected prior to connecting to the vehicle's ECU. Be sure the key is OFF before disconnecting any vehicle cables and that the interface cables do not contact the battery B+ terminal.

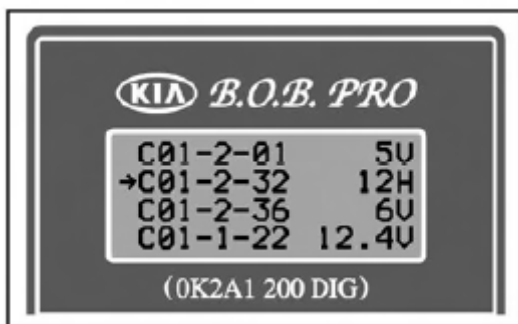
BOB PRO OPERATION



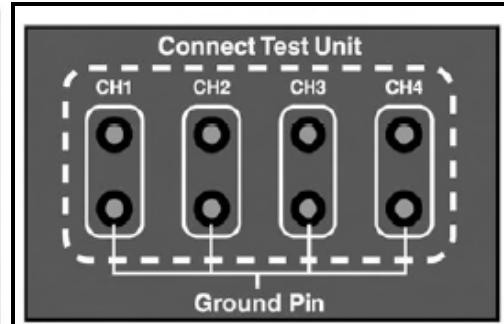
(8) Welcome Screen



(9-10) Vehicle Selection



(11-12) Pin Selection



(14) Check Points

The numbered photos match the steps on the next page.

After connecting BOB to the vehicle and turning the IGN ON:

8. Verify that the "Welcome to" is displayed on the screen, then display changes to voltage or frequency (Welcome Screen).



Note: If the voltage value or frequency is not displayed, recheck all cables and connections.

9. Press the vehicle up or down button for more than 1 second and the tester will enter into the vehicle selection mode (Vehicle Selection).
10. Use the button to scroll through and select the vehicle you are working on. After selecting the correct vehicle, press the "selection" button to confirm the selection and exit the mode.



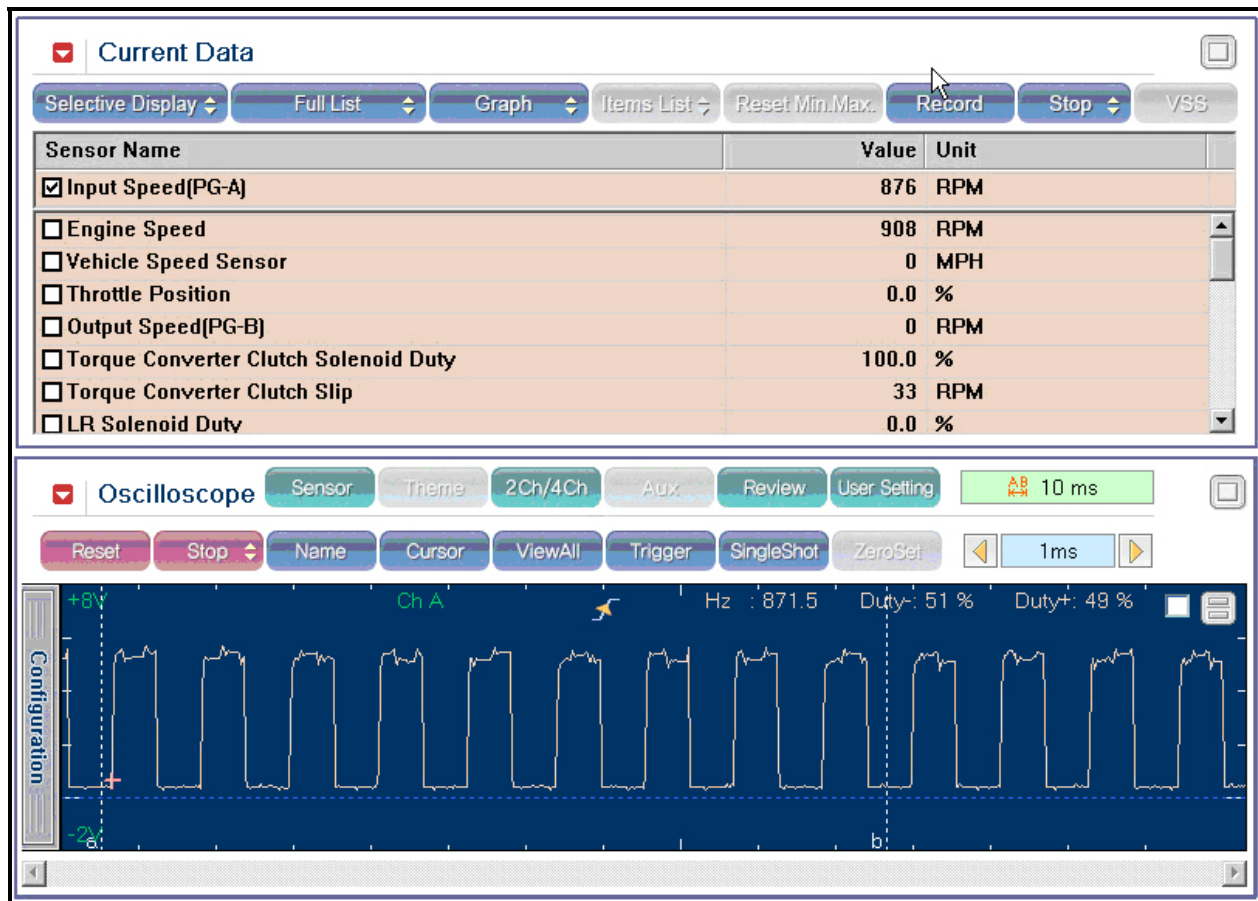
Caution: The Tester may be damaged and will not function properly if it is placed in the wrong Vehicle Selection Mode.

11. Press the selection button to select the desired channel.
12. After selecting the "Channel," Press the "Pin Selection Up/Down" to check the desired signal as indicated on the overlay sheet (Pin Selection).
13. If you want to switch from Voltage to Frequency, press the V/F button.
14. Use a DMM or oscilloscope in the appropriate channel test points to measure voltage or frequency (Check Points).



Caution: Do not allow the test probes to make contact with each other. This accidental contact could damage the BOB Pro and the ECU.

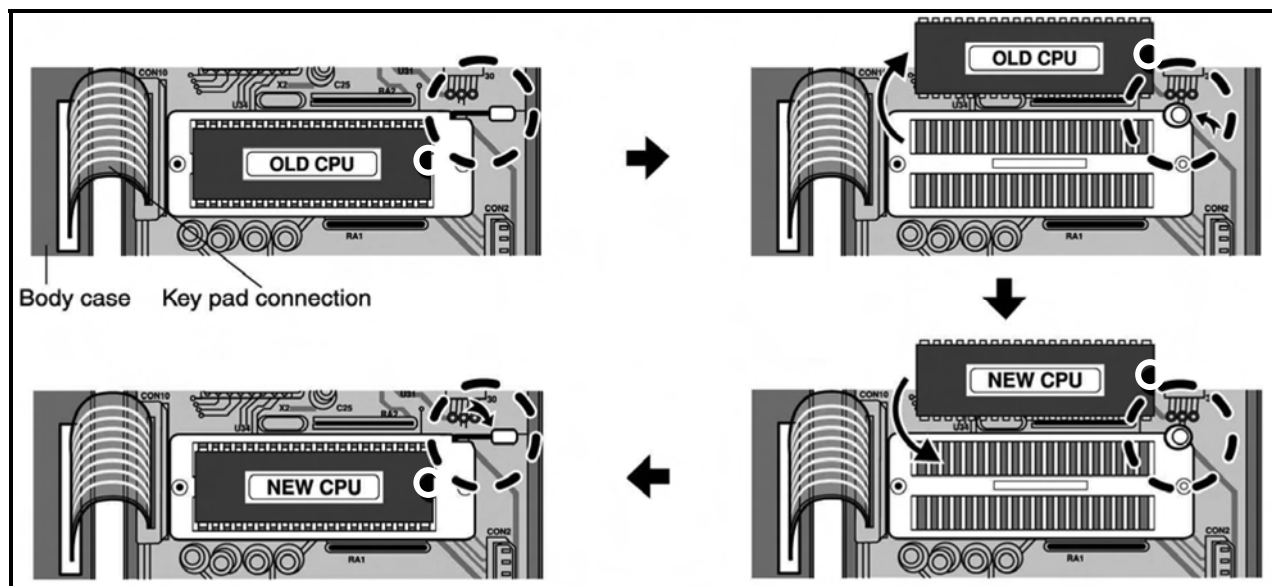
EXAMPLE OF LIVE DATA WITH BOB



You can use the BOB Pro, GDS with VMI Scope function and VCI for Current Data and compare that data with the signal, in this case to determine what may be causing an A/T related drivability concern.

The GDS can display both the Current Data and Scope pattern at the same time.

BOB PRO CPU UPDATE



BOB Pro has a replaceable E-Prom chip for updating the unit due to:

- New vehicles
- New PCM in current vehicles
- Programming updates

The chip is easily installed after taking off the front panel, as shown above. The chip is usually shipped out with the new essential tools (SST) to your parts department. It comes with a new overlay/application chart(s) for the new vehicle/PCM systems.



Note: When changing the CPU chip, note the location of the direction indicator on the right side of the chip above.

Kia PRACTICES & PROCESSES



INTRODUCTION

This chapter covers Kia practices and processes consisting of:

- 3Cs: Concern, Cause, and Correction
- Kia 5-Step Diagnostic Process
- Kia Warranty and Roadside Assistance

By following these practices and processes, you will increase your effectiveness in diagnosing customer concerns and fixing it right the first time, every time.

3CS: CONCERN, CAUSE & CORRECTION



OVERVIEW

When working on a customer concern that is covered by warranty, Kia requires technicians to describe their findings and record any repairs on the RO using the 3Cs:

- Concern
- Cause
- Correction

Whether performing a warranty repair or not, it is always a good practice to document the 3Cs on the RO.

The 3Cs is closely correlated to the Kia 5-Step Diagnostic Process.

CONCERN

Concern directly relates to step 1 of the 5-Step Diagnostic Process, which is to "verify the customer's concern".

CAUSE

Cause directly relates to these steps in Kia's 5-Step Diagnostic Process:

- Step 2's "analyze the customer's concern; and
- Step 3's "diagnose the concern and determine the root cause".

CORRECTION

Correction directly relates to these steps in Kia's 5-Step Diagnostic Process:

- Steps 4's "repair the diagnosed concern"; and
- Step 5's "verify the repair".

MILEAGE INFORMATION

It is extremely important that you record mileage information on the RO, consisting of:

- Mileage In
- Miles driven by you
- Mileage Out

Before beginning work on the customer's vehicle, check that the service advisor has written the "Mileage In" on the RO. If you don't see this mileage, write it in.

If you test drive the vehicle to determine the cause of the customer's concern, be sure to indicate the number of miles you drove on the RO and test drive conditions.

Finally, remember to record the "Mileage Out" on the RO when you are done.

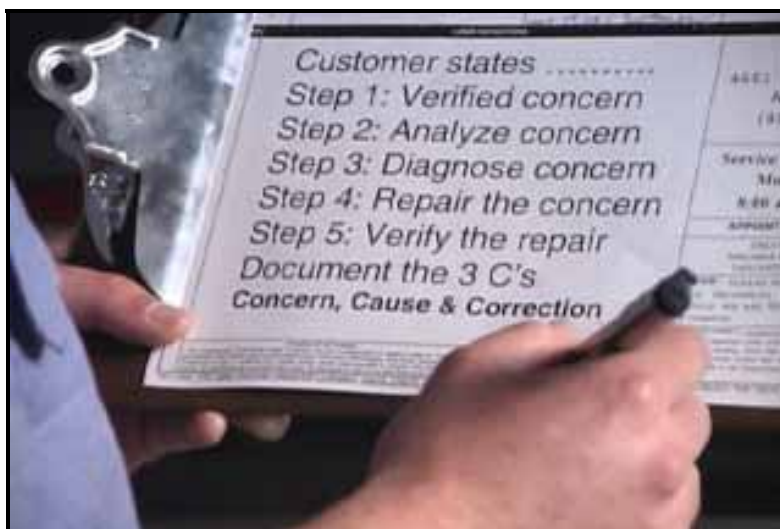
**IMPORTANCE OF
DIAGNOSTIC PROCEDURES**

The 3Cs and Kia's 5-Step Diagnostic Process are systematic approaches to properly approach the diagnosis and repair of customers' concerns.

Fixing the vehicle in the first visit increases customer confidence, create customer loyalty, and build customer satisfaction with the technician, service department, and the dealer.

This will reinforce reasons for Kia vehicle owners to return for service and eventually a future Kia vehicle. Furthermore, happy customers refer relatives and friends who may become future Kia customers.

KIA 5-STEP DIAGNOSTIC PROCESS



OVERVIEW

Kia's 5-Step Diagnostic Process is a proven method to fix the vehicle right the first time, every time. While it may be tempting to short-cut these steps to save time, you will find that omitting or not following these steps will actually cost you more time and possibly jeopardize the repair.

The Kia 5-Step Diagnostic Process consists of the following:

1. Verify the customer's concern
2. Analyze the customer's concern
3. Diagnose the customer's concern to determine the root cause
4. Repair the diagnosed concern
5. Verify the repair

The first three steps represent important confirmation and diagnostic procedures to help you:

- Review and confirm the customer's concern as communicated by the customer to the service advisor or to you.
- Investigate the system that is not operating properly and determine reasons for the malfunction.
- Use sound diagnostic procedures to eliminate some of the possible causes

Once you've determined the root cause, you can efficiently repair the concern and verify your repair.

**STEP 1:
VERIFY THE CONCERN**

Guidelines to verify the customer's concern are:

- Do not disassemble, test or begin the repair until you have verified and narrowed down the concern.
- Experience the symptoms first hand by trying to duplicate the concern as noted by the service advisor (For example, operate the vehicle in the same manner described simulating same temperature range or road conditions).
- Conduct a visual inspection or use a diagnostic tool, where applicable.
- Do not erase any DTCs or Freeze Frame data until you have recorded the occurrence.

Verifying the concern will result in one of these outcomes:

1. You were able to verify a legitimate concern;
2. You have verified the concern, but the vehicle is operating normally and within manufacturer's specifications so that no repair is needed; or
3. You cannot verify the concern at this time.



Note: If you cannot verify the concern or find that the vehicle is operating properly, contact the service advisor for follow-up with the customer and document your findings on the repair order. To only return the vehicle to the customer as no trouble found (NTF) may not resolve the customer's concern.

STEP 2: ANALYZE THE CONCERN

Once you have verified that a malfunction exists, you can begin to analyze the customer's concern.

Important questions to help you analyze the concern are:

- Is the vehicle functioning as the manufacturer intended?
- Have there been previous repair attempts for the same concern?
- Are previous repairs the cause of the new concern?
- Are there any aftermarket parts or accessories installed that are influencing this concern?
- Are there any open campaigns or recalls that apply to the concern?
- Are there any Technical Service Bulletins, Technician Times, or Pitstops information addressing this concern?

By analyzing the concern, you will be able to determine that:

- The concern is operating within normal range and no repair is needed.
- The concern has been attempted before, which may help you narrow down what has been done and suggest what to do next.
- A previous repair or aftermarket parts may be the cause of the concern.
- Kia is aware of and has communicated how to deal with this concern.



Note: If this is a second repair attempt by you or someone else:

- Notify your service advisor and DPSM.
- Contact Techline and open a new case.

**STEP 3:
DIAGNOSE THE CONCERN**

Having completed steps 1 and 2, you now need to determine the root cause for the concern. Formulate a simple and logical strategy to diagnose the condition.

1. Prioritize your findings based on most likely root causes.
2. Use Special Service Tools and diagnostic equipment to diagnose the concern.
3. Conduct research for information that applies to the concern on KGIS or GDS.
4. If applicable, study wiring diagrams to check for a common cause for the concern.
5. If you are uncertain on what is good or bad, compare results with known good parts.
6. Document your findings on the repair order including:
 - Tests performed
 - Test results
 - Expected specifications and results
 - Whether results are within or outside of specifications.

Your diagnosis will:

- Establish the foundation for your repair.
- Provide necessary information for someone else to assist or to perform the repair in your absence.
- Provide information to Techline and your DPSM should this concern escalate to a higher level.

If you cannot find the root cause, stop and return to step 2 to review your analysis. If possible, discuss the concern with another technician or your shop foreman. For further assistance, open a Techline case.



Note: If you have spent 30 minutes or more diagnosing a concern without finding the root cause, notify your service advisor and contact Techline for assistance.

STEP 4: REPAIR THE CONCERN

With the concern verified, analyzed, and diagnosed, you are now ready to perform the necessary repair.

- Always follow the repair procedures outlined in KGIS or the GDS
 - Unless the repair procedure is not specified.
- When replacing parts, use only parts applicable to the VIN, production date, and trim code for the vehicle.
- List what you repaired in detail on the repair order.

STEP 5: VERIFY THE REPAIR

After the repair has been made:

- Verify the repair to confirm that the concern no longer exists or will not reoccur.
- Try to replicate the concern as you did in step 1 when you verified the concern.
- Always allow time for managed systems to perform "self diagnosis".
- Also, check to see that no new concerns appear.

Make sure that any DTC is erased and that it does not reset.



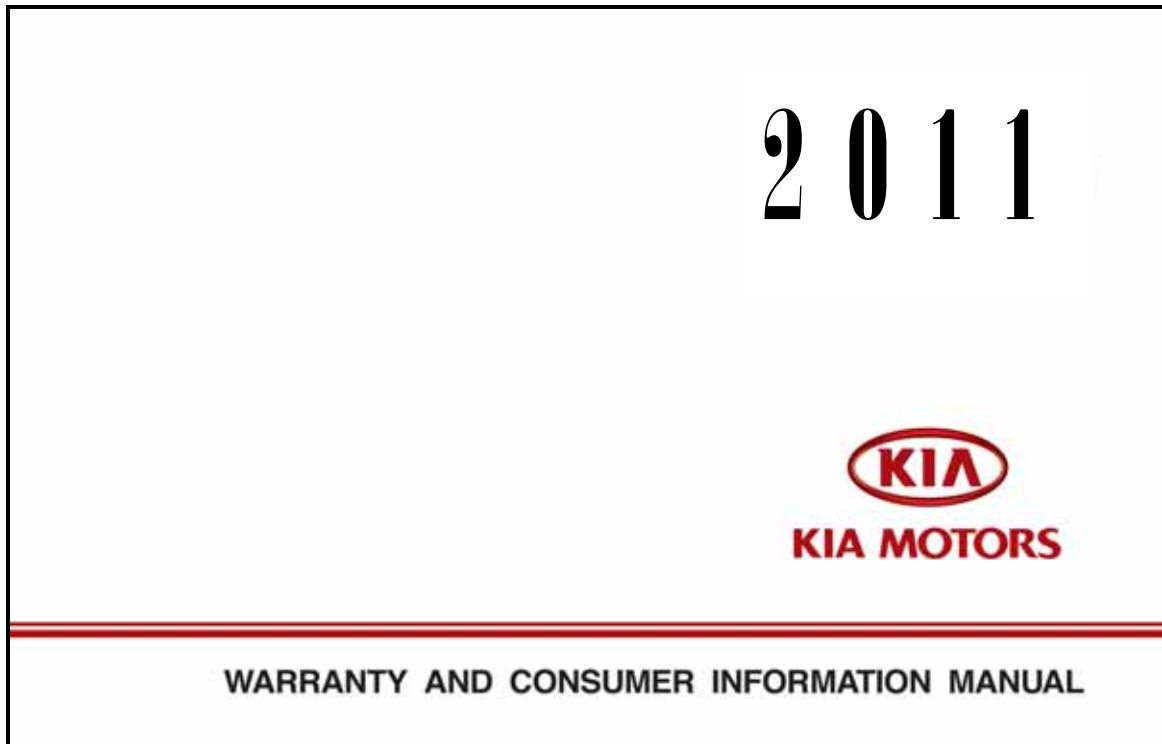
Note: Managed systems such as the Powertrain Control Module (PCM) often requires lengthy road tests to complete system "self diagnosis and readiness testing". Always consult information in KGIS or the GDS when evaluating these types of systems.

IMPORTANCE OF 5-STEP DIAGNOSTIC PROCESS

Following this 5-Setp Diagnostic Process will not always insure that you will be able to resolve the concern. Occasionally, you may misdiagnose or may not be able resolve a concern.

However, not following the 5-Step Diagnostic Process will certainly increase the probability that the concern will not be properly diagnosed and resolved.

Customers unhappy with the repair will not likely bring their vehicles back to your dealership. Therefore, it is extremely important that you follow Kia's tried and true 5-Step Diagnostic Process to ensure that the vehicle is fixed right the first time, every time.

Kia WARRANTY & ROADSIDE ASSISTANCE**OVERVIEW**

Kia provides its customers with one of the industry's best warranty protection program. Every new Kia vehicle is supplied a warranty publication (shown above), which provides detail of Kia's excellent warranties.

The Kia 10 Year, 100,000 Mile Warranty includes:

- 10-year/100,000-mile limited powertrain warranty
- 5-year/60,000-mile limited basic warranty
- 5-year/100,000-mile limited anti-perforation warranty
- 5-year/60,000-mile 24-hour roadside assistance



Note: The intention of this section is to provide technicians with a basic understanding of Kia's warranty program. For further information, refer to Kia's Warranty Coverage Quick Reference Guide in the Warranty link on www.kdealer.net.

BASIC WARRANTY

Kia's Basic Warranty has been in effect for vehicles sold since July 10, 2000. The Basic Warranty is:

- 60-months or 60,000 miles
- Not a "Bumper-to-Bumper" warranty

POWERTRAIN WARRANTY

Kia vehicles built after July 10, 2000 are covered by a 10-year or 100,000-mile Powertrain Warranty.

Powertrain Warranty for Kia vehicles built on July 10, 2000 or before was 36-months or 36,000 miles. These older vehicles are no longer covered by warranty.

ROADSIDE ASSISTANCE

Kia provides roadside assistance for:

- Warrantable repairs, which affect safety or disabled vehicle.
- Non-warrantable repairs such as lock outs, flat tires, out of gas, and dead batteries.

You should be aware of the following coverage affecting Kia vehicles:

1. 2000 MY through 2005 MY vehicles are covered for 5 years/unlimited miles
2. 2006 MY vehicles are covered for 5 years/60,000 miles

WARRANTY COVERED REPAIRS

Technicians should be aware of and follow these guidelines to insure that they are paid for warranty repairs performed.

- Accurate punch time on all warranty-related work orders.
- Document your findings and repair in the RO (in sufficient detail) using the 3Cs.
- Contact Techline if the vehicle is in for a second repair attempt or you have spent more than half an hour of diagnosis time without finding the source of the problem.

"TRAINED TECHNICIAN WARRANTY CLAIM EDIT"

Kia issued the Trained Technician Warranty Claim Edit to ensure that warranty claims for specific labor operations are paid only when trained technicians are performing these repairs.

For more information, look for Warranty Bulletins found in the Warranty link in www.kdealer.net.

Non-Recommended Services

Kia engineers have conducted comprehensive testing in the development of Kia vehicles and have established required maintenance schedules to support the performance and durability of Kia vehicles. Not following maintenance schedules, using non-Kia fluids and oils or not using genuine Kia parts can result in vehicle breakdowns or early failures of major components (engines, transmissions, etc.) and possible voiding of the Kia warranty.

Kia does not generally warrant technicians rebuilding engines, automatic transmissions, compressors, and alternators. Performing services not recommended by Kia can have adverse consequences on Kia vehicles.

In addition, Kia does not recommend departure from service intervals and the use of aftermarket additives, such as the following:

- Nitrogen tire fill.
- Engine flushing.
- Fuel injection (induction) cleaning/flushing.
- Brake fluid flush.
- Oil change interval deviation.
- Automatic transmission flushing machines (power flush).
- Engine cooling system flushing.

Genuine Kia fluids and oils should be used at recommended service intervals.

SUMMARY

For warranty repairs, Kia requires technicians to document their findings and repairs on the repair order (RO) using the 3Cs, which are Concern, Cause, and Correction.

The 3Cs are closely tied to Kia's 5-Step Diagnostic Process. Relationship of these two methods are as follows:

- Concern is tied closely to step 1 to verify the customer's concern.
- Cause deals with steps 2 and 3 to analyze and diagnose the customer's concern.
- Correction relates to steps 4 and 5 to repair the concern and then verify the repair.

Following these practices and processes will insure that you will properly prepare, diagnose, and fix the vehicle right the first time, every time.

You were also introduced to Kia's Warranty and Roadside Assistance programs, which are among the industry's best. These services assure new car buyers that Kia stands behind its products and, at the same time, provide you with warranty repair and customer pay work.

PROGRESS CHECK

1. What are the 3Cs?

1st C: _____

2nd C: _____

3rd C: _____

2. What are the five steps involved in Kia's 5-Step Diagnostic Process?

Step 1: _____

Step 2: _____

Step 3: _____

Step 4: _____

Step 5: _____

3. Under what condition does Kia require that service technicians document the 3Cs on the repair order?

4. Match each of the 3Cs to each step of the 5-Step Diagnostic Procedure.

___ Verify the concern

A. Concern

___ Analyze the concern

B. Cause

___ Diagnose the concern

C. Correction

___ Repair the concern

___ Verify the repair

5. State two of Kia's rules that you must follow in order to be paid for warranty repairs.

ACTIVITY 1

5-STEP DIAGNOSTIC PROCESS

Authorized Dealer

Your Dealership
#1 Kia Boulevard
Your town, USA

SERVICE HISTORY							
DATE	REPAIR ORDER	MILEAGE	ADVISOR	TECHNICIAN	TYPE	OPERATION	OPERATION DESCRIPTION

RENTAL ☐ SUBLET ☐ TOWING ☐ OTHER	VEHICLE I.D. NO. K-----#####	YEAR/MAKE/MODEL 2006 Kia -----	PRODUCTION DATE #-##-06	STOCK NO. N/A	LICENSE NO. N/A	R.O. NO. N/A
11 Mockingbird Ln Any State, Any City USA 11111		CUSTOMER NO. 1157	SERVICE CONTRACT N/A	DELIVERY DATE ##-##-06	DELIVERY MILES 000009	SELLING DEALER NO. D5402
COLOR Black		CONTRACT NO. N/A		EXPIRATION DATE N/A	EXPIRATION MILES N/A	TAG NO. N/A
TURBO ☐		MMC ☐	AIR COND. ☒	P.S. ☒	TRANS ☒	MILEAGE 9865
ADVISOR NO. 231		ADVISOR D. Jones				

SAVE OLD PARTS ☐ YES ☒ NO	RESIDENCE PHONE 555.1111	BUSINESS PHONE 555.1234	I hereby authorize the repair work herein set forth to be done by you, together with the furnishing by you of the necessary parts and other material for such repair, and agree that you are not responsible for and accept liability for availability of parts or material for any reason, that you neither assume nor authorize any other person to assume for you any liability in connection with such repair, that you shall not be responsible for loss or damage to the above vehicle, or vehicles left therein, in case of fire, theft, or other cause beyond your control, that an express mechanic's lien is hereby acknowledged on the above vehicle to secure the amount of repairs thereto, that your employees may operate the above vehicle on streets, highways, or elsewhere for the purpose of testing and/or inspecting such vehicle. AS IS: The only warranties applying to this product are those which may be by the manufacturer. The selling dealer hereby expressly disclaims all warranties, either express or implied, including any implied warranties of merchantability or fitness for a particular purpose, and neither assumes nor authorizes any other person to assume for it any liability in connection with the sale of this product and/or service. Repair shall not be entitled to recover from the selling dealer any consequential damages, damages to property, damages for loss of use, loss of time, loss of profit, or income, or any other incidental damages.		
APPOINTMENT ☒ YES ☐ NO	TIME RECEIVED 	DATE/TIME PROMISED 	PRIORITY 	LABOR RATE 85.00	Signature: x John Q. Public

JOB		
Customer states that vehicle won't start.	JOB #	IN
		OUT
	JOB #	IN
		OUT
	JOB #	IN
		OUT
	JOB #	IN
		OUT
	JOB #	IN
		OUT
	JOB #	IN
		OUT
	JOB #	IN
		OUT
	JOB #	IN

ORIGINAL ESTIMATE	CUSTOMER ACCEPTANCE
AUTHORIZED ADDITIONS	ADDITIONS OK'D BY
	DATE TIME

In the event that you, the customer, authorize commencement but do not authorize completion of a repair or service, a charge will be imposed for disassembly, reassembly, or partially completed work. Such charges will be directly related to the actual amount of labor or parts involved in the inspection, repair, or service.

ACTIVITY 1 - continued**5-STEP DIAGNOSTIC
PROCESS EXERCISE**

This is a group exercise with your instructor acting as the service advisor and you as technicians using Kia's 5-Step Diagnostic Process to diagnose and correct a customer concern.

1. Verify the concern

2. Analyze the concern

3. Diagnose the concern

4. Repair the concern

5. Verify the repair

ACTIVITY 2



3 Cs

Continue from Kia 5-Step Diagnostic Process by documenting the 3Cs below as though you are recording them on the RO.

1. Document the Concern

2. Document the Cause

3. Document the Correction

ACTIVITY 3**WARRANTY REPAIRS**

Now, you will determine whether repairs in this activity qualify as warrantable concerns. To do this, you will locate Kia's Warranty Quick Reference Guide, which is contained in the www.kdealer.net website.

Situation: Customer brings in a vehicle with a blown fuse that needs to be replaced. Before making the repair, you need to determine whether this repair is covered by the warranty or not.

1. Which link did you click on to find Kia's Warranty Quick Reference Guide? _____
2. What is the complete name of the reference document that contains the warranty information?

3. What does the Quick Reference Guide say about fuses in terms of:
 - a. Coverage Months/Miles: _____
 - b. What is covered? _____

 - c. What is not covered: _____

4. What method did you use to find your answer?
 - a. Used the search feature in Adobe Reader.
 - b. Scanned the warranty document.
 - c. Looked up subject alphabetically.
 - d. Instructor showed me how to find it.



Note: For portable document format (PDF) documents, a search feature in Adobe Reader will help you find what you are looking for by typing in a keyword(s). To use this feature, do the following in order:

- Click on "Edit" on the Menu Bar to display a drop down window.
- Click "Find" in the drop down window.
- Type the word "fuse" in the search box.
- Press the "Enter" key or indicate for search to proceed (this step may differ according to Adobe Reader version and/or other factors).

ACTIVITY 3 - continued

5. Use this search feature to look up different warranty coverage Kia provides for tires-related concerns and record your findings below.

6. Returning to the customer's situation, what additional information might you need to determine whether the fuse is a warrantable concern?

7. Based on your findings, do you think this customer concern is covered by warranty?

Yes No

8. Why do you say that?
