



TECH TIMES

2016 • VOLUME 19, ISSUE 1

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KGIS SEARCH TIPS

Search By Document Number: At times technicians may need to search for a certain TSB, Campaign, PitStop, etc. For example, a service advisor will hand a repair order with the TSB or Campaign number in the RO, or possibly Techline recommends a certain PitStop or Tech Tip. To search using only the document number (in this example a Campaign is being searched):

1. Click on "All Content" **1** to de-select all sections from the list, then click on "Campaign" **2**
2. Enter the Campaign number in the text box **3** and click "Search" **4**

The searched campaign will be displayed in the search list **5**. This procedure can be performed on all TSB, Campaign, Service Action, PitStop, Tech Tips and Technician Basics.

Additionally, in an effort to assist dealer personnel in quickly locating engine and transmission related TSBs, Service Actions, Campaigns, Pitstops and Tech Tips on KGIS, special keywords have been created to group all related publications together and save valuable search and diagnosis time. To search KGIS using these special keywords, perform the steps shown below:

1. On the KGIS home screen, deselect Service Info **6**.
2. Enter either "engdiag" (for engine related publications) or "transdiag" (for transmission related publications) in the Text Search Box **7**.
3. Click on Search **8**.

The results of the search query will be displayed in the search list **9**. This procedure can be performed on all TSBs, Campaigns, Service Actions, Pitstops and Tech Tips.

Please refer to PitStop PS 436.

TECHLINE FAQs

Q	How do I perform a fuel alcohol content test?	A	Within KGIS, Select the "Publication" tab and then select "Technician Basics". When you are in the Technician Basics Menu, select "Fuel System" and then select "TB006 – Alcohol/Fuel Content Test." This article describes in detail the correct way to perform this type of test.
Q	What happened to my PWA case? It disappeared from my case list.	A	In order for Techline to approve/deny the PWA case, it must be closed by the Techline Agent. Make sure that you are set up to receive e-mail Techline case update notifications. Make sure to verify that your KDealer profile has your correct email address, otherwise these notifications may not be received.
Q	Where can I find general engine oil consumption information?	A	Kia does not publish any official oil consumption figures; however, we can offer some general guidelines. Please refer to Tech Times Vol. 2, Iss. 3, Page 3.
Q	How do I check for voltage on a ground circuit?	A	When checking for voltage on a ground circuit it is similar to checking for voltage on a power circuit. Your negative test lead for your DVOM should be grounded and you use the positive test lead to probe for a ground voltage. Refer to Technician Basics TB005 for additional information.

LATEST TECHNICAL SERVICE BULLETINS, SERVICE ACTIONS AND CAMPAIGNS

SA 219	Service Action: Rear Seat Latch Cable Inspection and/or Replacement (BOD 131) (2016MY JFa)
SC 129	A/T Fluid Cooler Hose Replacement (2011MY TD)
SC 126	Engine Control Module Software Update (2011MY TF)
ELE 100r1	Combined TSB/SA: UVO System Upgrade (2014MY PS, XMa, TF/QF, YD, SL)
BOD 117r1	Combined TSB/SA: Exterior Rear Door Handle Trim Cap(s) Replacement (2014 – 2015MY XMa)
BOD 134	Service Action: Headliner Inspection and/or Replacement (2016MY JFa)
ELE 101	Combined TSB/SA: Base Audio System Upgrade (2014MY PS, XMa, TF/QF, YD, SL, UB)
CHA 067	ECU Upgrade – MIL ON with DTC C1356 (2014 – 2016MY TF HEV)



CAUTION

Vehicle servicing performed by untrained persons could result in damage to the vehicle.



WARNING

- Vehicle servicing performed by untrained persons could result in injury to those persons or to others.
- Always take proper and necessary safety precautions when performing any type of service on a vehicle.
- The Kia technician newsletter (Tech Times) is intended for use by professional Kia automotive technicians only. It is written to inform technicians of conditions that may occur on some vehicles. Trained Kia technicians have the equipment, tools, safety instructions, publications and expertise to help perform the job correctly.

NOTICE

The topics covered in this newsletter are designed to assist you with the diagnosis and repair of specific vehicle conditions. Just because a condition is described in this newsletter, do not assume that it applies to your vehicle, or that your vehicle will have that condition. In all cases, the procedures in the applicable Service Manual and/or Electrical Troubleshooting Manual or on KGIS should be performed first.

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KIA UNIVERSITY

CURRENT NEWS

NEW COURSE LAUNCHES

2017 SPORTAGE TECHNICAL HIGHLIGHTS COURSE & TEST

Course Type: WEB
Code: TEC-01-056-1
Audience: Technicians
2015MY Certification Path: Required
Notes: PDI Course

The Pre-Delivery Inspection (PDI) process complements design and high quality to deliver an excellent product to new vehicle customers. New and experienced PDI technicians will benefit from this fast paced 60 minute course demonstrating what to do and how to achieve a PDI that positively impacts customer satisfaction and motivates new vehicle customers to return to the dealership for service.

After completing this course, technicians will be able to identify and complete:

- Kia's New Vehicle Inspection and Delivery Folder.
- Pre-Delivery (PDI) Worksheet's six sections to perform a complete and thorough PDI.
- Vehicle Pre-Delivery Final Inspection to prepare a perfect vehicle
- In-Stock Vehicle Maintenance Procedures and Record

2017 SPORTAGE TECHNICAL HIGHLIGHTS COURSE & TEST

Course Type: WEB
Code: TEC-01-054-1
Audience: Technicians
2015MY Certification Path: Required
Notes: Technical Highlights

Today's technicians must understand the operation of the latest technologies for prompt and effective vehicle service. This 45 minute web course is designed to highlight key features, new technologies, service information and tools pertaining to servicing the 2017 Sportage.

Upon successful completion of this course, service technicians will be able to identify new technologies and key features of the 2017 Sportage, including the:

- Engine and Transaxle service
- Body Electrical circuitry
- Chassis service
- Service Information

MASTER ELITE TECH LIST



Congratulations to all the 2016 Elite Certified Master Technicians (10-Year Honors Milestone):

Name	Elite Certification Level	Region
Bobby Kroman	Master Elite	Central
Joseph Reiser	Senior Elite Plus	Central
Marcelino Francisco	Master Elite	Central
Mike Sample	Master Elite	Central
Mohammad Qurbanali	Master Elite	Central
Robert Danielsen	Master Elite	Central
Tim Clark	Professional Elite Plus	Central
Brian Wright	Maintenance Elite	East
Carl Strothmann	Master Elite	East
Chau Lu	Master Elite Plus	East
Christopher Vitale	Maintenance Elite	East
David Hill	Master Elite	East
David Swanick	Maintenance Elite	East
Dennis Corson	Master Elite Plus	East
George Kammerle	Master Elite	East
Homer Lanham III	Master Elite	East
Jeffrey Youngblood	Master Elite	East
Joseph Herling	Master Elite	East
Larry Houchens	Master Elite	East
Pjay Hunsberger	Master Elite	East
Robert Worman Jr.	Master Elite	East
Sean Pease	Master Elite	East
Stephen Hunt	Master Elite	East
Aaron Jenkins	Maintenance Elite	South
Adnan Aliefendic	Master Elite	South
Andrew Maxted	Master Elite	South
Bill Brumbaugh	Senior Elite Plus	South
Brian Strickler	Master Elite	South
Christopher McClure	Maintenance Elite	South
Craig Wellings	Maintenance Elite	South
Frank Ballard	Master Elite	South
Herbey Rodriguez	Master Elite	South
Humberto Garcia	Master Elite Plus	South
Jeff Lowman	Master Elite	South
John Adams	Master Elite	South
Jose Rubio	Maintenance Elite	South
Joseph Hamilton	Master Elite	South
Kevin Williams	Master Elite	South
Luis Velazquez	Master Elite	South
Marcell Brandon	Maintenance Elite	South
Maurice Grant	Master Elite Plus	South
Paul Labombard	Senior Elite	South
Paul Valenzuela	Maintenance Elite	South
Rodney Perry	Master Elite	South
Enrique Nuñez Jr.	Master Elite	West
Greg Oler	Master Elite	West
Juan Lemus	Master Elite	West
Ken Evans	Master Elite	West
Kenny Do	Master Elite Plus	West
Leonard Teffteller	Professional Elite	West
Mario Salmon	Master Elite	West
Richard Herrera	Master Elite	West
Ruben Hernandez	Master Elite	West
Scott Bair	Master Elite	West
Seth Luke	Master Elite	West
Wendell Stout	Maintenance Elite	West

KIA UNIVERSITY

IMPROVE YOUR PDI KNOWLEDGE

NEW PRE-DELIVERY INSPECTION (PDI) WEB-BASED COURSE

The Kia university team recently introduced an updated Kia PDI web course (TEC-01-056-1). The objective of this new PDI course is to introduce technicians to the latest Kia new vehicle Pre-Delivery Inspection and Delivery process (Fig.1). Kia developed this web-based course to help Kia technicians maintain and prepare new vehicles for customer delivery.

The Pre-delivery Inspection course and test covers the following sections of the PDI process in detail (Fig. 2):

1. Pre-Inspection
2. Pre-Test Drive
3. Test Drive
4. Post Test Drive
5. Under Vehicle Inspection
6. In-Stock Vehicle Maintenance Record
7. Final Inspection

One of the best features of this PDI course, are the video clips shown in each section which provide users the ability to freeze-frame, rewind, and replay as needed. This feature is very helpful when taking notes for future reference (Fig. 3).

If you have not yet taken this course, take a minute to login to Kia University and enroll in the Pre-delivery Inspection Course & Test and expand your knowledge and improve your skills on what is needed to perform the “perfect” Kia vehicle pre-delivery inspection. ■

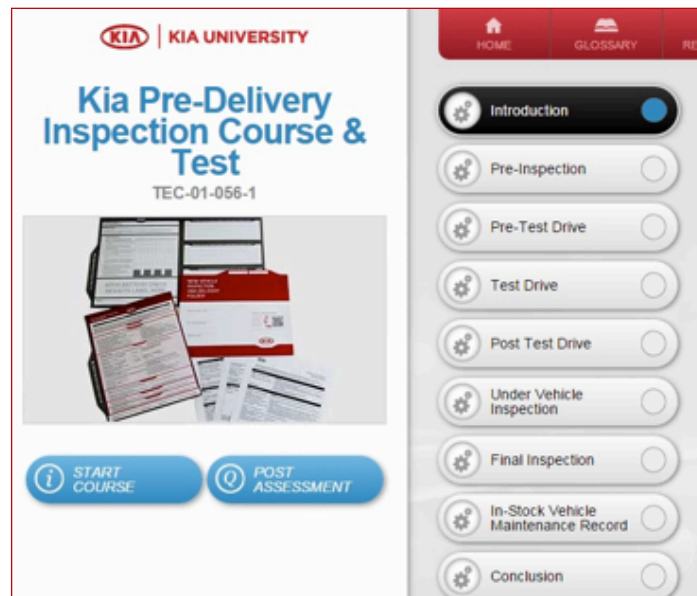


Fig. 1.

Fig. 2.

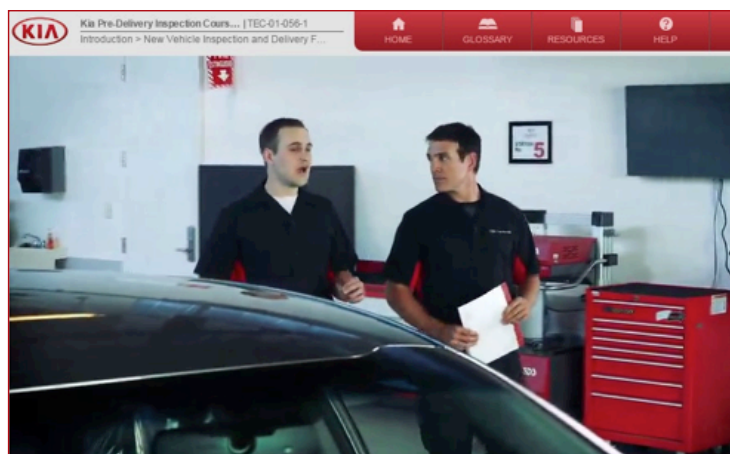


Fig. 3.

AMAZON GIFT CARD REDEMPTION FOR YOUR 2015 CERTIFICATION*



Congratulations to all those who have successfully claimed your 2016 certification awards, Kia will send you instructions for how to redeem your Amazon.com Gift Card to the email address you entered in your KDealer profile. You must be employed by a Kia retailer on the date of the gift card email issuance and date of redemption in order to remain eligible for the award.

We hope you enjoy these well-deserved awards!

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JOE'S CORNER WHAT'S MY CONDITION

C-CAN OSCILLOSCOPE PATTERNS

In this edition, I will show you several oscilloscope patterns that will help identify the type of faults you may come across. There are a few adjustments on the scope screen to give you the most accurate reading:

- Set the Time Base to 100µs (100 microseconds)
- Use the 4 volt scale to view most C-CAN normal and fault patterns
- Use the 20 volt scale to view C-CAN lines shorted to power
- View the C-CAN lines in both Two (2) Channel Mode and View All Mode

The GDS provides the best playback image. The KDS will have this feature added in the future. Measure the C-CAN lines at both the DLC and MCC connectors.

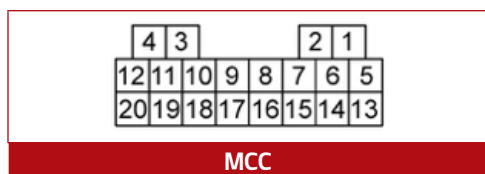
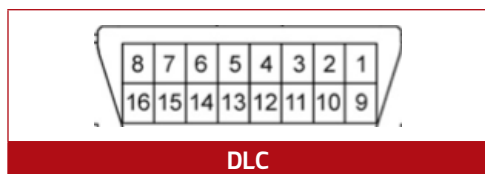
- When a High Line is Open, the Low Line will be jagged below the 2.5 volt bias voltage.
- When a Low Line is Open, the High Line will be jagged above the 2.5 volt bias voltage.

- When a High Line is shorted to ground, the High Line will be near zero 0.0 volts and the Low Line will have some activity.
- When a Low Line is shorted to ground, the Low Line will be near zero 0.0 volts and the High Line will have some activity.
- When a High Line is shorted to power, the High Line will be at battery or charging system voltage and the low Line will be approximately 1.0 volt lower.
- When a Low line is shorted to power, the Low Line will be at battery or charging system voltage and the High Line will be approximately 1.0 volt lower.
- When the High and Low Lines are shorted together, both will be approximately at the 2.5 volt bias voltage.

Take your time when viewing C-CAN Scope Patterns. Depending on the Year and Model, the patterns may look slightly different but under close examination, you can make a comparison to the patterns I have showed you.

In my next edition, I will show you some tricks of the trade measuring Parasitic Draw, and using your DVOM. Stay Tuned. ■

(Additional images next page)



Two channel View All



Normal: Two channel A & B



High Open - Low pulling down

JOE'S CORNER

WHAT'S MY CONDITION (CONTINUED)



Low Open - High pulling up



High Shorted to Power - High at B+



High Shorted to Ground - High at Zero



Low Shorted to Power - Low at B+



Low Shorted to Ground - Low at Zero



High and Low Lines Shorted Together

KIA UNIVERSITY

2016 KIA SKILL NATIONAL CUP



Picture of 2014 Kia Skill National Cup finalists.

It's time again for the World trials of diagnostic skill competitions, the Kia Skill National Cup.

Twenty of Kia's top North American technicians will face off to determine the top master-level technicians from each of the company's four regions Eastern, Southern, Central, Western and four Kia Canada technicians. The winning technicians on the national level will go on to represent their respective countries at the World Kia Skill Competition held in Seoul, South Korea.

The day starts with a group picture on Kia Motor America Headquarters' campus before beginning a competitive day of skills competition.

These technicians will endure five rounds of competition. (Names in alphabetical order):

Central Region

Technician	Dealership	Location
Gregory Dubs	Gerald Kia of Naperville	Naperville, IL
Derek Eveler	Metro Kia of Madison	Madison, WI
Ben Hendricks	Dorsch Kia	Green Bay, WI
Jason Powell	Fox Kia	Grand Rapids, MI

Eastern Region

Technician	Dealership	Location
Robert Baker	Revolution Kia	Copiague, NY
David Cutting	Kia of Cape Cod	Hyannis, MA
David Printy	Garvey Kia	Queensbury, NY
Ray Sowers	Motor Mile Kia	Christiansburg, VA

Southern Region

Technician	Dealership	Location
Kevin Denson	Wilson Kia on Lakeland	Flowood, MS
John Harris	Nalley Kia	Lithonia, GA
Owen Hobgood	Battleground Kia	Greensboro, NC
Ryan Rayle	Capitol Kia	Austin, TX

Western Region

Technician	Dealership	Location
Jim Baker	Jerry Seiner Kia, Salt Lake	Salt Lake City, UT
Rick Byrd	Earnhardt Liberty Kia	Prescott Valley, AZ
Robert Laursen	Medved Kia	Wheat Ridge, CO
Raul Ortega	Peak Kia Chapel Hills	Colorado Springs, CO

KIA Canada Inc.

Technician	Dealership	Location
Pierre Luc Cyr	Lallier Kia de Laval	Laval, Quebec
Berry Dong	Kia Richmond	Richmond, British Columbia
Adam Frenette	Lally Kia	Chatham, Ontario
Darren Roberts	MacDonald Kia	Sydney, Nova Scotia

But National Cup isn't all competition. There's time for fun, entertainment, and most of all comradery —meeting one another and establishing long term friendships. ■

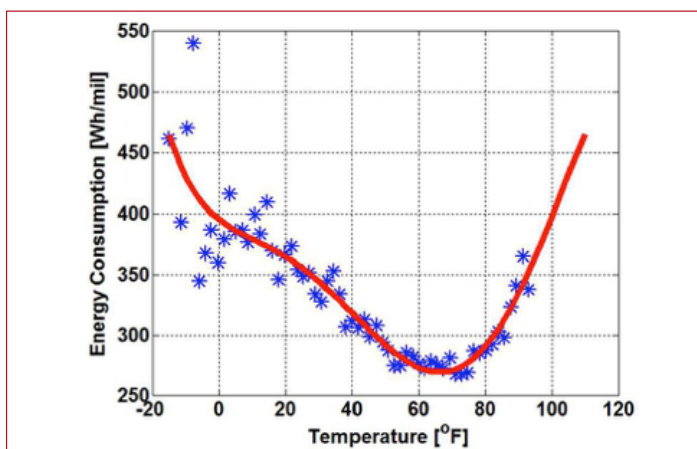
SOUL EV

AMBIENT TEMPERATURE IMPACT ON EV RANGE

In **TechTimes Vol 18, Issue 2, page 4**, we covered the effect of different driving patterns on range and how to measure the HV battery State of Health (SOH) on the Soul EV. (Please refer to it for details.)

This article will discuss the impact of ambient temperatures on range and some best practices to minimize the reduction in range.

As a starting point, the EPA range for the Soul EV is 93 miles combined city/highway. This is rated at an average of 72°F. As can be seen in the graph below, the energy consumption of an electric vehicle can rapidly increase as ambient temperatures change. Some owners of various EVs have reported up to a 40% decrease in range due to extreme cold temperatures.



EV energy consumption per mile versus ambient temperature.
Credit: Yuksel and Michalek.

This increase in energy consumption can primarily be attributed to two factors:

- 1. Battery efficiency:** As temperatures drop, the internal resistance of an electric vehicle's battery increases. This has a direct effect on the battery's ability to both deliver and accept energy efficiently. Note that as temperatures increase, the battery in fact becomes more efficient, but may also suffer degradation if exposed to extreme high temperatures (>120°F) for extended periods of time.
- 2. HVAC use:** In cold temperatures, heater use can consume a significant amount of the available energy which will be seen as reduction in range.

In contrast, an internal combustion engine produces large amounts of wasted heat which can then be used to maintain cabin comfort in cold temperatures without a notable impact on efficiency.

A/C use in an EV also impacts energy consumption in higher temperatures. Internal combustion vehicles also see a decrease in MPG when the A/C is used, but owners rarely notice and complain.

Remember, the Soul EV carries only the equivalent energy of 0.8 gallons of gasoline. Depending on the use of the HVAC system, it can consume an amount of this limited energy to be seen as range reduction.

Given this significant temperature influence on range, what can be done to minimize the impact?

(Continued next page)

TECHLINE SATISFACTION SURVEY & PERFORMANCE UPDATE

Greetings Kia Technicians!!

The results of the **Q4-2015 Technician Satisfaction Survey Raffle** are in! We received 4,163 survey responses for this survey raffle! Thank you all for your valuable feedback! The overall results for Techline were again very positive with the overall satisfaction rating for Techline at 89% using a 1 to 5 point scoring system where only a score of 5 counts. Anything less than 5 is considered a failure. We reviewed all responses and gained valuable feedback from our technicians on their Techline experiences. We will use this feedback to see how we were doing and how we can correct any issues that may be occurring, thus continuing to improve the level of service we provide to all our dealers.

All Kia dealer technicians had a chance at winning one of three \$500 MasterCard gift cards each time he/she closed their Techline repair assistance (RA) case and completed the Technician Satisfaction Survey. The three winners of the Q4-2015 raffle are:

- **Charles Joy** - NY022
- **Javier Alejandro** - TX031
- **Ryan Gehret** - FL010

Congratulations to all the winners!

Please continue to submit your feedback by completing the Technician Satisfaction Survey when you close your cases and be on the lookout for future survey raffles! In closing, Techline continuously works hard to provide industry leading technical support to all Kia dealers in an efficient manner. Here are the latest performance metrics for Kia Techline:

- **Web case response time avg:** 14 minutes
- **Phone response time avg:** 9 secs.
- **Comeback Ratio:** 0.2%
- **Case Count** (includes PWA cases): 22,328 as of 4/4/2016
- **Satisfaction Survey Score** (Only a score of 5 counts): 89%

Thank you all for your continued support!!

Go Kia!!!

Regards,

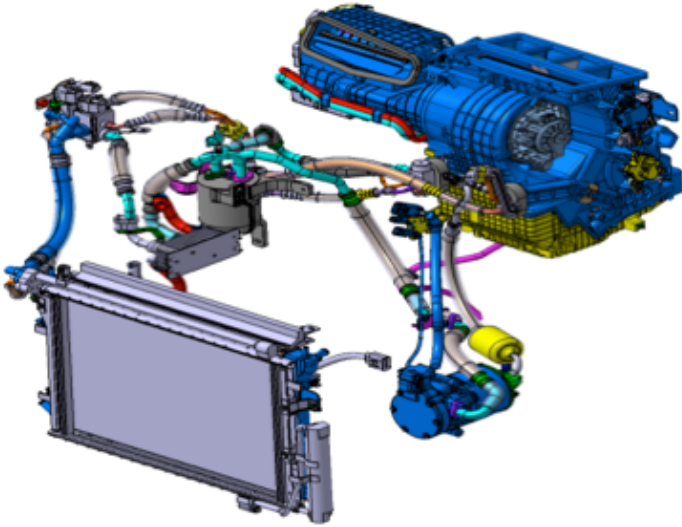
Tony Cartagena
Techline Communications Manager
Kia Motors America

SOUL EV

AMBIENT TEMPERATURE IMPACT ON EV RANGE (CONTINUED)

Continued from page 8

The Soul EV has multiple advanced systems to maximize efficiency, the main one being the heat pump which automatically functions to save energy when heat is needed.



Heat Pump system in the Soul EV

Most Soul EVs sold in the US (Soul EV, Soul EV+) are equipped with a heat pump (not available on the Soul EV-e.) The heat pump takes advantage of the temperature difference of the outside air and the corresponding refrigerant temperature to heat the cabin. The heat pump uses a secondary in-cabin condenser and turns the front mounted condenser into an evaporator. The heat pump operates between -4°F and 59°F and can be up to 4 times more efficient than using a standard PTC (positive temperature coefficient) heater. All Soul EVs are in fact also equipped with a PTC heater and the FATC unit determines the most efficient use of the two systems based on demand and conditions. There are 4 distinct modes of heat pump operation which allow for simultaneous heating and cooling (dehumidification) when needed.

Apart from the system determining the most efficient energy use, minimizing range reduction loss can also be enhanced manually by using some of the available features in the Soul EV.

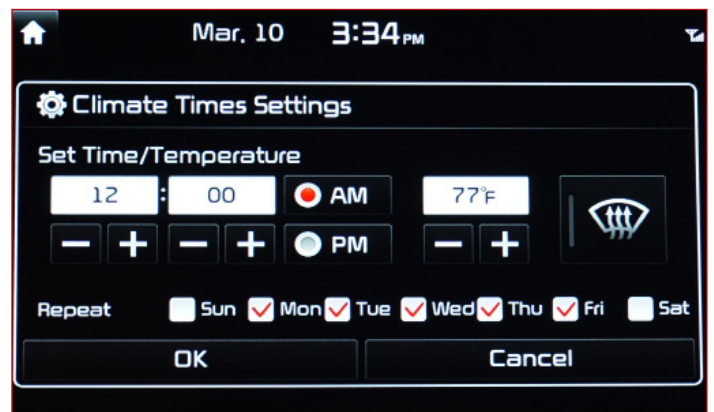


"Driver Only" Switch and Indicator

Driver Only mode: If you are alone in the vehicle, selecting the "Driver Only" mode will shut off the passenger vents and direct all available HVAC energy to the driver's position and save wasted output to the unoccupied seats.



Heated steering wheel and heated (and ventilated, if equipped) seats: Using these features can quickly provide comfort while consuming less energy than HVAC alone. In cold conditions, use the heated steering wheel and seat(s) first and then find the lowest heater temperature that will provide overall comfort. In warm temperatures, use the seat ventilators and set the highest comfortable cabin temperature.



Climate Settings Screen

Pre-Conditioning: Using the multiple options for pre-conditioning the vehicle while still plugged in can have a significant impact on available range. It can also make the vehicle much more pleasant to get into in extreme temperatures! The Soul EV has two pre-conditioning settings which can be set either through the head unit, or by using the UVO EV smart phone app. Set the target time(s) and temperature(s) and the vehicle will use energy from the charger, instead of from the battery, to pre-heat (or pre-cool) the cabin beginning 30 minutes before the set time. If the user has regular departure times, this feature should be used. If the departure times are variable, recommend that they use the UVO app to start pre-conditioning 15-30 minutes before they plan to leave.

This information will assist you in addressing some basic customer concerns of range reduction in varying temperatures. Remember to always check the HV battery State of Health (SOH) parameter in the BMS module using KDS/GDS whenever any concerns of range, or battery capacity are raised. ■

TEST YOUR TECH TIMES KNOWLEDGE

Test your knowledge of the articles in this issue of Tech Times. This puzzle is a hybrid of a word search and crossword puzzle. To solve, determine the answer for each question and find that word in the word search. The solution to this month's puzzle can be found on page 14.

N	T	N	F	N	Z	E	U	T	H	I	R	T	Y	E	R	U	P	S	H	I	F	T	A	S	A	M	P	L	E
E	E	Z	I	L	M	N	V	T	C	B	C	A	W	O	E	T	J	T	E	Z	P	O	C	S	T	G	S	M	C
S	B	T	C	C	S	F	I	R	I	N	G	F	R	S	M	R	X	S	S	P	O	R	T	P	E	R	P	O	K
H	P	D	L	C	R	T	Y	M	W	D	U	P	V	L	A	A	C	U	R	R	E	N	T	U	N	O	R	I	Q
O	Q	R	F	U	M	M	I	D	P	R	W	Q	G	E	N	N	N	R	M	O	L	D	S	B	P	U	F	S	W
R	F	O	O	R	B	A	M	P	E	R	A	G	E	Z	U	S	J	G	F	I	V	E	C	L	F	N	A	T	A
T	O	P	R	V	Q	B	G	R	S	A	V	E	A	K	F	I	D	W	E	L	L	H	A	I	N	D	F	U	Y
E	E	D	T	A	Q	C	C	B	G	A	K	S	K	A	A	E	T	Q	C	A	E	Y	L	C	V	S	B	R	Z
R	O	O	Y	T	G	A	P	S	P	S	N	I	N	F	C	N	Q	M	O	I	T	B	E	A	P	Q	U	E	E
S	C	W	S	U	E	D	A	T	A	J	D	G	B	O	T	T	F	S	R	E	S	I	S	T	A	N	C	E	M
I	F	N	E	R	E	F	L	E	C	T	I	O	N	Q	U	I	C	K	L	I	N	K	S	I	K	N	S	Q	A
G	X	T	V	E	W	L	Q	Z	E	B	G	M	D	T	R	S	K	G	D	Z	W	M	W	O	W	W	R	Q	I
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A	B	P	N	V	U	Q	L	Y	Z	Y	H	T	I	M	D	M	Z	O	O	M	I	F	M	S	D	K	J	O	E
L	R	S	T	R	E	A	K	S	U	H	E	V	Z	E	D	O	W	N	S	H	I	F	T	C	D	E	V	P	D

Questions

- GDS/KDS articles are now available in the _____ section of the home page.
- With the KDS, all of the Service Information and _____ are in your hands.
- When sending flight recordings for a Techline case the recording must be emailed _____ to have the agent review flight recording.
- When you encounter a Korean error message on a Navigation unit you must replace with _____ unit.
- A total of _____ achieved Technical Elite Certified 10 Year Honors in 2015.
- When using the KDS graphing feature, as the number of selected items increases, the data _____ rate decreases.
- The _____ button changes the height of the graphs viewing area.
- When installing the front plate holder on the new 2016 Sorento (UMa) verify that it matches the _____ of the front fascia.
- Large _____ are evident if the incorrect plate holder is installed on the 2016 Sorento (UMa).
- The PCM controls the _____ side to turn the injector ON.
- You should see a _____ voltage spike (50 to 80 volts) when the injector is turned OFF.
- If the voltage spike is weak or missing, check the _____ of the injector.
- How long the spark last when the magnetic field collapses is called the _____ time.
- When in _____ mode, handling is 10% heavier than Normal mode.
- In ECO mode one of the characteristics is to go into high gear and avoid transmission _____.
- If the firing time is _____, it may indicate high resistance in the ignition coil secondary or a large plug gap.
- It has been estimated that one in _____ automobiles on the road have contaminated refrigerant.
- An automobile's receiver drier removes _____ and captures debris inside of an A/C system.

PITSTOP

HARSH UPSHIFT AFTER PERFORMING TSB TRA 058/SA 208 (2016 SEDONA)

KMA has recently identified an increase in Techline cases with a complaint related to "A/T up-shifting hard" in most gears. Further investigation has revealed that most of these occurred after performing TSB TRA 058 / SA 208 using **Manual Mode** and possibly having, inadvertently, entered an incorrect PCM/TCM part number. In some cases, transaxles have already been replaced without condition improvement.

Prior to replacing a transaxle for a similar customer concern, check current ROM ID number using GDS/KDS.

NOTE: pay close attention to the wheel size reference information associated with PCM/TCM Part numbers.

If the ROM ID is not correct, reference the ROM ID information table (at right), the PCM/TCM can be corrected by performing another **Manual Mode** reflash. However, please ensure the correct PCM/TCM part number is selected to prevent any further drivability concerns and verify that the correct ROM ID is loaded after the reflash has been completed.

NOTE: TSB TRA 058/SA 208 will be updated with additional information.

Please refer to PitStop PS 441. ■



Fig. 1. Wheel size reference indicated within red border.

Model	SYS	TCM P/N	Wheel Size	ROM ID	
				Previous	New
Sedona (YP) 3.3 GDI A/T	TCM	39110 3CYN2	17" or 18"	TYP0Z33N*****S0	TYP0Z33N*****S1
		39111 3CYN2			
		39100 3CYN2			
		39101 3CYN2			
Sedona (YP) 3.3 GDI A/T	TCM	39110 3CYN2	19"	TYP0Z33N*****S0	TYP0Z33N*****S1
		39111 3CYN2			
		39100 3CYN2			
		39101 3CYN2			

ROM ID information table.

PITSTOP

FRONT SEAT HEATER INOPERATIVE (2016MY SORENTO)

When diagnosing a customer concern of an inoperative seat heater, first, identify the type of system the vehicle is equipped with — Seat Heater Only, or Seat Heater with Ventilation. Then, follow steps below:

1. Start by function testing the system until the seat is warm to the touch.
2. If during the test, the indicator lamp on the switch turns off and will not illuminate again until cycling the ignition, inspect all associated wiring harness connections for poor pin tension, and for any loose, bent, or backed out pins, prior to replacing ANY components.



NOTE: The control module associated with BOTH front seat heaters (regardless of type of system installed) is located under the PASSENGER seat. To prevent a misdiagnosis, ensure connections are inspected at this location, even if the customer's concern is related to the driver's seat.

3. If no abnormal condition is found, proceed with a resistance test of each branch of the circuit associated with the malfunctioning circuit. If no abnormal condition is found, inspect the resistance of the seat heater elements (cushion and seat back), as well as the thermostat (thermistor). Resistance specifications can be

found in the shop manual, under Body Electrical > Seat Electrical > Seat Heater Repair Procedures.

Please refer to PitStop PS 444. ■

PITSTOP

USE OF AFTERMARKET USB CHARGING CABLES (ALL MODELS)

Use of Aftermarket Charging Cables in USB/12V Ports (All Models) — This article provides information regarding the use of USB ports and 12V power outlets to connect/charge mobile phones. Customers may experience issues with their head units that may be related to the use of aftermarket USB charging cables, including:

- Electrical interference and limited or no functionality when attempting to play music, or when charging a device through the USB port
- Excessive static or noise when listening to the audio source
- Malfunctions and screen freeze of the head unit screen
- Slow down of the system response while device is plugged in
- Music will not play from iPhone 5 or 6 with Kia iPod cable and aftermarket adapter
- No or limited functionality when trying to play music from an Apple device

The following three topics are covered in this article:

1. Using phone USB cables to charge and connect devices to play music or for use with features such as Android Auto:
2. Using 12V chargers to charge mobile devices
3. Recommendations for using USB port to play music from iPhone 5 or 6 in older model/year Kia Vehicles.

1. Using phone USB cables to charge and connect devices to play music or for use with features such as Android Auto:

- Recommendation is to **always** use the USB charging cable that was provided with the phone or a replacement cable from the phone manufacturer.
- Use of aftermarket USB cables is **NOT** recommended.
- Plugging in larger devices, such as iPads and other tablets, is **NOT** recommended as they may draw a higher current when charging (refer to PitStop PS 276).

NOTE: USB devices should always be connected only after turning the engine ON and disconnected prior to turning the engine OFF.



Fig. 1: Aftermarket USB adapter

2. Using 12V chargers through the power outlet to charge devices:

- The use of aftermarket 12V chargers (fig. 1) is **NOT** recommended.

NOTE: use of some 12V-to-USB adapter chargers has been confirmed to cause issues in some vehicles.

- The Recommendation is to **ALWAYS** use the USB charging cable supplied by the phone manufacturer (e.g. Apple, Samsung, etc.) or an approved carrier supplied 12V charging cable (for instance a Verizon branded charger for iPhone products)
- **ONLY** plug in battery equipped electronic devices with reverse current protection or current from the battery may flow into the vehicle's electrical system and cause a system malfunction
- Any devices plugged in to the 12V charging cable should draw less than 10 amps from the system, when the engine is running

3. Recommendations for using USB port to play music from iPhone 5 or 6 in older MY Kia Vehicles:

- For certain older MY vehicles, Kia offers an accessory OEM iPod cable (P/N: P8620 00000) that is recommended for with some models/head unit platforms.

NOTE: reference TSB General 054 for specific application.

- Based on testing of some AVN platforms, it is possible to use the official Apple lightning adapter with the Kia OEM iPod cable to obtain functionality in older MY vehicles. However, compatibility is NOT guaranteed as those vehicles were designed and manufactured prior to Apple's release of these new phones and Apple continues to release new software for these phones.
- Based on limited testing, use of aftermarket Lightning adapters resulted in no, or limited, functionality in the older models and is **NOT** recommended.

Please refer to
PitStop PS 443. ■

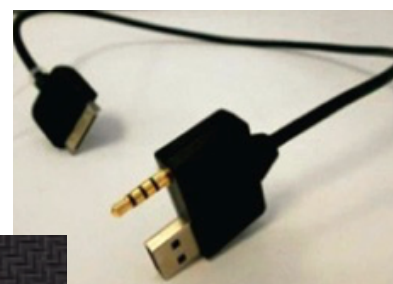


Fig. 2: Kia OEM iPod cable



Fig. 3: Apple Lightning Adapter

KDS TIPS TO INCREASE BATTERY LIFE

This article provides suggestions that may help to extend battery life of the KDS tablet under normal usage. Any unnecessary functions running in the background depletes battery power. Follow the topics below to maximize battery range. These include:

- Turn the KDS tablet OFF when not in use
- Remove Un-needed applications
- Turn VCI Search OFF
- Turn "Vibrate" mode OFF
- Turn "Location" OFF
- Turn "Power Saving" ON
- Turn down display brightness

TURN THE KDS TABLET OFF WHEN NOT IN USE

The KDS will continue to use power when left in sleep mode.

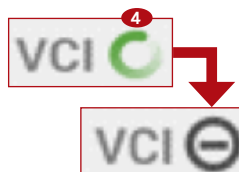
1. To turn the tablet OFF, press and hold the Start button **1** for about 1 second.
2. Select "Power Off" **2**
3. Press the Start button **3** to restart the KDS.



TURN VCI SEARCH OFF

By turning OFF the VCI search function, when the VCI is not needed, battery power is saved.

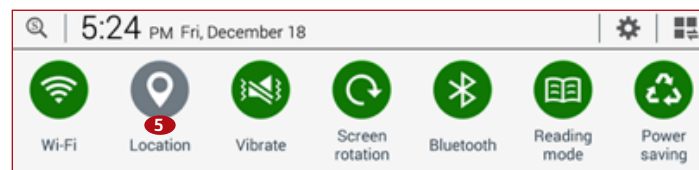
1. Select the "VCI" soft key **4** to turn the VCI Search Function OFF.



TURN "LOCATION" OFF

The tablet will no longer search for the location which will increase battery life.

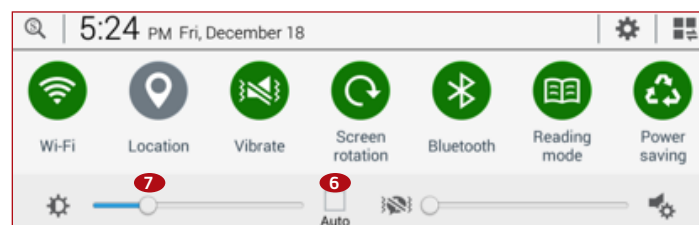
1. Slide down from the top of the screen to access settings.
2. Select "Location" **5** to turn OFF this function.



TURN DOWN DISPLAY BRIGHTNESS

As the brightness increases the display uses more power.

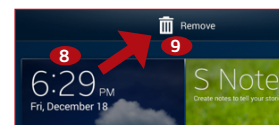
1. Deselect "Auto" **6**.
2. Adjust the brightness **7** as low as possible while you can still comfortably see the screen.



REMOVE UNNEEDED APPLICATIONS

Some applications on the home screen constantly ping for information which uses power.

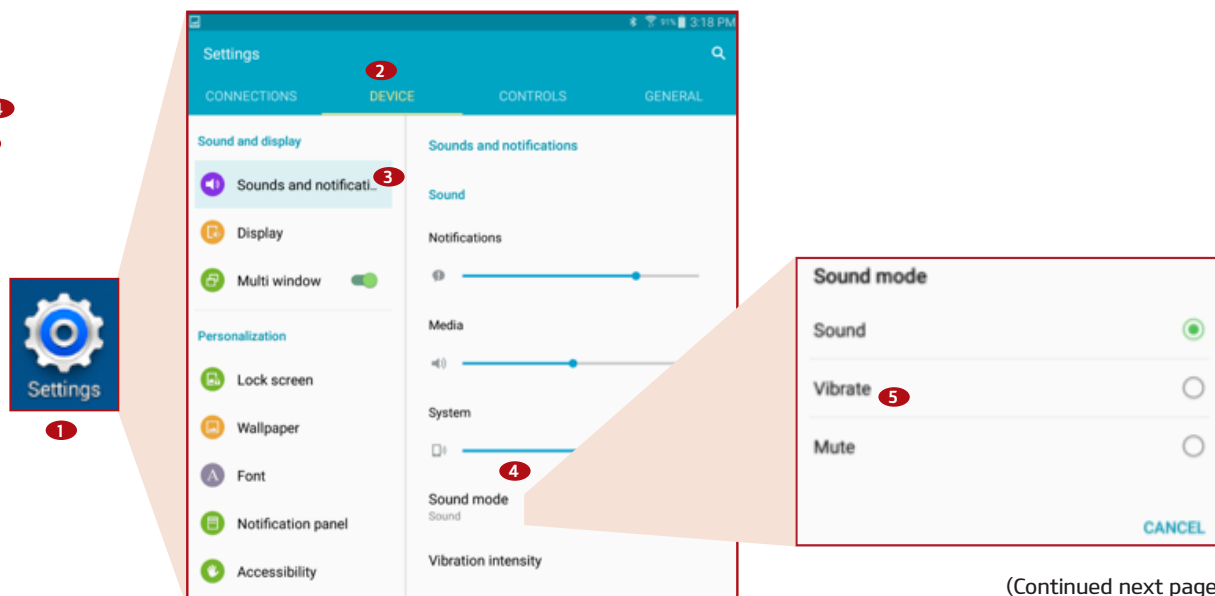
1. Press/hold unneeded app **8**, and a trashcan will appear at the top **9**.
2. Drag the app to the trashcan.



TURN "VIBRATE" MODE OFF (SAMSUNG NOTE 10.1 ONLY)

Haptic feedback will cause a vibration when softkeys are tapped and for certain software actions.

1. Open "Settings" **1**
2. Select "Device" tab at the top **2**
3. Select "Sounds and notifications" **3**
4. Select "Sound Mode" **4**
5. De-select "Vibrate" **5**



(Continued next page)

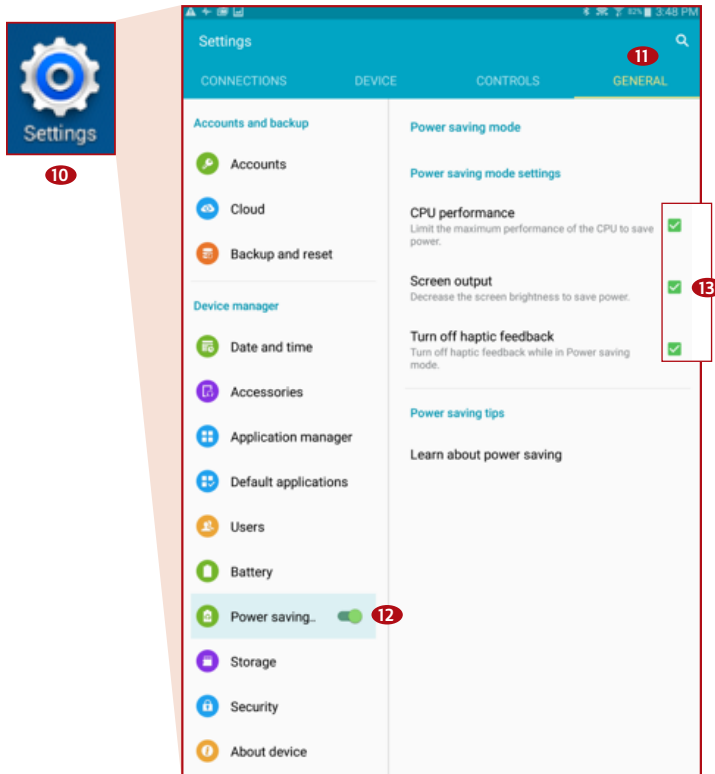
KDS TIPS TO INCREASE BATTERY LIFE (CONTINUED)

Continued from Page 13

TURN "POWER SAVING MODE" ON (SAMSUNG NOTE 10.1 ONLY)

Power saving mode limits the power used by some functions.

1. Open "Settings" **10**
2. Select "General" tab **11**
3. Turn on "Power Saving" **12**
4. Select all three boxes **13**



TURN "POWER SAVING MODE" ON (SAMSUNG TAB S2 ONLY)

Power saving mode limits the power used by some functions.

1. Open "Settings" **6**
2. Select "Battery" **7**
3. Select "Power Saving Mode" **8**
4. Turn on "Power Saving Mode" **9**



TEST YOUR TECH TIMES KNOWLEDGE ANSWERS

D	P	V	E	D	C	T	F	I	H	S	N	W	O	D	E	Z	V	E	H	S	K	A	E	R	T	S	L	R						
E	O	J	K	D	S	M	F	I	M	O	O	Z	M	D	M	I	T	H	Y	Z	Y	Q	L	V	N	P	A	B						
L	S	L	P	F	N	T	X	Y	N	P	Y	N	A	E	I	V	Z	W	J	D	B	V	D	B	X	T	N							
I	Q	R	W	W	O	W	M	W	Z	D	G	K	S	R	T	D	M	G	B	E	Z	Q	L	W	E	V	G							
A	Q	S	N	K	I	S	K	N	L	I	C	K	L	I	U	Q	N	O	I	C	T	E	F	L	E	R	E	I						
M	E	C	N	A	T	S	I	S	E	R	S	F	T	T	O	B	G	D	J	A	T	A	D	E	S	U	S	C	W					
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Z	R	B	S	V	C	L	Y	E	C	A	Q	T	E	A	A	K	S	K	A	G	B	C	C	Q	A	T	E	D	F					
Y	F	U	D	N	I	A	H	L	L	E	W	D	I	F	I	K	A	V	S	R	G	B	Q	V	R	P	T	O	R					
A	T	A	N	F	C	L	E	V	I	F	G	J	S	U	Z	E	G	A	R	E	P	B	A	M	O	R	F	O	R					
W	S	F	U	P	B	S	D	L	O	M	N	N	N	E	G	Q	W	P	R	D	I	M	M	U	F	Q	R	O	Q					
Q	I	Q	R	O	N	U	N	T	N	R	E	N	C	U	R	A	A	V	L	P	D	U	W	Y	C	R	L	C	H	P	D	L		
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E	L	P	A	M	P	L	E	S	A	T	A	F	T	A	R	U	P	S	H	I	F	T	A	S	A	M	P	L	E	N	T	N	F	N

- Answers:
1. Quicklinks
 2. Publications
 3. Emailed
 4. Remanufactured
 5. Forty seven
 6. Sample
 7. Zoom
 8. Curvature
 9. Gaps
 10. Ground
 11. Transient
 12. Resistance
 13. Firing
 14. Sport
 15. Downshift
 16. Shorter
 17. Ten
 18. Moisture