

# TECH TIMES

#### 2018 · VOLUME 21, ISSUE 4

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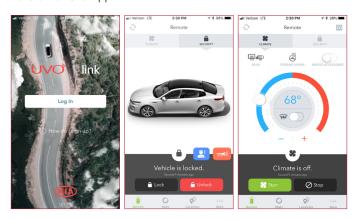
### 2019MY (JFa) OPTIMA EQUIPPED WITH EMBEDDED MODEM

The 2019 Model Year Optima vehicles with UVO Link (both with navigation and without navigation) will be the first high volume model for Kia with embedded telematics. Previous to the Optima, only the K900, electric Soul, and plug-in electric Optima and Niro had embedded telematics. Over the next few months this technology will be rolled out to other gas models including the Soul and Sportage. What does embedded Telematics mean and what is the difference between Connected and Embedded Telematics.

- Telematics in a vehicle in a broad sense relates to data being sent to and from the vehicle
- Connected Telematics uses the customer's smartphone as the conduit to send data to and from the vehicle. This technology is currently in models such as the Stinger, Forte, and Sorento. Some of the features available in Connected Telematics includes Vehicle Diagnostics and My Car Zone (speed, curfew, and other alerts).
- Embedded Telematics means the vehicle has a built in "modem" and the vehicle communicates directly through the "modem" essentially replacing the need for a customer's phone. The embedded modem allows for more functionality for things like remote climate control, remote locking, remote starting the engine and other features

The UVO Link App applies to the Optima and can be downloaded from the iTunes or Google Play store to allow the user to send remote commands through the embedded modem to the

vehicle. Below are some of the screenshots from the launch version of the App.



Keep in mind that in order for a remote command to be successful it is required that both the vehicle and the customer's phone (if using the UVO Link App) must be in an area with "good" carrier coverage.

Some other basic pre-conditions for the vehicle to accept and execute the remote commands include:

Remote Start Engine: Vehicle doors are closed and locked. Hood and trunk are closed.

Remote Stop Engine: Vehicle engine is on and was previously remotely started.

continued on page 4

### **TECHLINE FAQs**

I have a vehicle in for SC147 but it has a salvaged title. How do I proceed?	A	The salvage title does not invalidate the SC147 safety recall and you should proceed as you normally would.
Q How do I get a variant or ACU code?	A	When you create a case after pasting or typing the VIN into the box, simply click on the "more info" button and you will see a list that includes Campaigns, Service Actions, TSBs, Pit Stops, DTCs, ETM, Service Manual, ACU coding, and Key and Pin codes.
Do I need to attach a WRTY 143 data form and return the core for Campaign SC147?	A	Beginning April 1, 2018, entire engine cores with starter bracket ear intact are required to be received by KMA in order for dealers to receive their core deposit refund. If not received or if the starter bracket ears are broken, the dealer core deposit will be forfeited.
Q How do you test the thermistor?	A	Place the sensing bulb in a glass of ice water to test at 32°F, then measure the resistance across the terminals and compare to the specifications chart in KGIS for the component.
Why is Techline requesting detailed information for PWA cases?	Α	The reason for this is the PWA case will later be reviewed by the warranty dept. and if the information is not adequate the claim can be rejected. So to avoid this, Techline agents request as much detailed information as possible.

### LATEST TECHNICAL SERVICE BULLETINS, SERVICE ACTIONS AND CAMPAIGNS

SC 163r1	Hydraulic Clutch Actuator (HCA) Inspection, Repair or Replacement (17MY DE HEV)	
PI 1802r1	Knock Sensor Detection System - ECU Logic Improvement (15MY XM, 14-15MY TF/QF, SL)	
ENG 189	Service Action: 1.6L Turbo Oil Feed Pipe Gasket Replacement (18MY PS)	
ELE 151	BMS Logic Improvement After High Voltage Battery Replacement (11-16MY TF HEV)	
TRA 077r1	Service Action: 2.0T Fast Static Gear Shift Logic Improvement (18MY CK)	
TRA 079	TRA 079 Service Action: HCU/TCU Logic Improvement for DTC P1744 (400 Mesh Equipped Trans)(13-15MY TF HEV	
ENG 170r1	ENG 170r1 Adaptive Values Reset for DTC P0016 (17-18MY YDm)	
ELE 091r4	Identifying Head Unit Software Version For Direct Exchange (All Models)	

### **ACAUTION**

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

## **AWARNING**

- 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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### NEW HYBRID TECHNOLOGY COURSE FROM KIA UNIVERSITY

With the success of hybrid powertrains, more and more Kia models are joining the hybrid team.

Because of this, Kia University has created a new course, Hybrid Technology (TEC-03-057-1). It's designed to teach the key points of hybrid technology rather than focusing on each Kia model. This approach will establish a strong foundation for hybrid vehicles to come.

This new Hybrid Technology instructor-led hands-on three-day course includes hybrid components and technology used in the Kia line-up thus far. It allows significant shop time using KDS, DVOM and SSTs to familiarize the technician with hybrid safety and service procedures.



This course is for all technicians who work on hybrid vehicles and it is required to perform warranty repairs.

#### "But I already took the hybrid course"

If a technician <u>HAS</u> attended, passed and received credit for the three-day Optima Hybrid Technology (TEC-03-040-1) instructor-led course, they are <u>NOT</u> required to take this new Hybrid Technology Course. Those technicians will receive equivalent credit.

### "I took a hybrid course, but I think it was Niro"

If a technician <u>ONLY</u> attended the one-day Niro Technology instructor-led course, they <u>MUST</u> take Hybrid Technology to maintain certification after January 1, 2019.

Eligible technicians should log onto KU.com to check the Hybrid Technology prerequisite requirements and get signed up for the instructor-led course ASAP.



### STINGER ENGINE OIL CAPACITY & GRADE SPECS

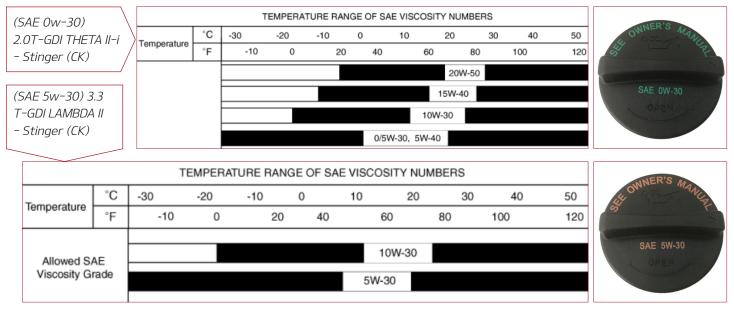
This article provides information regarding the required engine oil capacity for 2018MY~ Stinger (CK) vehicles, equipped with either 2.0T-GDI THETA-II or 3.3T-GDI LAMBDA-II turbo engines. It is important to note that the Stinger (CK) engines may have different oil capacities than engines of the same type and displacement in other model vehicles (for example: UMa). To avoid incorrect engine oil

refills that may cause future mechanical concerns, refer to the table below for engine oil and capacities for <u>Stinger (CK) vehicles only.</u> Ensure that the vehicle is on level ground and engine is warm when verifying oil level on dip stick. This information provided can also be found on KGIS  $\rightarrow$  Service Materials  $\rightarrow$  Service Information  $\rightarrow$  Shop (select vehicle)  $\rightarrow$  Engine Mechanical System  $\rightarrow$  Specifications  $\rightarrow$  Lubricant.

Engine Type	Recommended Engine Oil	(CK) Total Oil Capacity	(CK) Drain & Fill Incl. Oil Filter	(UMa) Drain & Fill Incl. Oil Filter
2.0 T-GDI Theta II-i	API SN or ACEA C2	6.66 U.S qt.,	6.02 U.S qt.,	5.07 U.S qt.,
	Ow-30	1.66 U.S gal	1.50 U.S gal	1.26 U.S gal
3.3 T-GDI Lambda II	API service SM or ACEA A3	8.14 U.S qt.,	7.29 U.S qt.,	6.02 U.S qt.,
	5w-30	2.03 U.S gal	1.82 U.S gal	1.50 U.S gal

Allowed motor oil grade: API SL or above, ILSAC GF-3 or above, ACEA A3 or above.

NOTE: Selection of alternative oil viscosities should be based on the geographical location and area ambient temperature where the vehicle will typically be driven. See the Stinger (CK) Owners Manual or excerpted charts from KGIS below for reference.



Engine oil and filter intervals for both 2.0T/3.3T engines are 6,000 miles/12 months. Please refer to PitStop PS558.

## 2019MY (JFa) OPTIMA EQUIPPED WITH EMBEDDED MODEM (CONTINUED)

Continued from page 1

Remote Climate Control: Vehicle doors are closed and locked. Hood and Trunk are closed.

Other features that are available on this UVO Link App include:

- Valet Alert Will notify driver if the valet drives over a mile away from the initial vehicle location
- Horn & Lights Vehicle's horn will sound and headlights will flash
- Functionality to schedule climate preconditioning
- Find My Car, Trip Information, and my POIs

- Driving Score Uses an algorithm that takes into account driving characteristics such as rate of acceleration and braking on all trips in a given month
- My Car Zone Alerts including Curfew, Geo Fence, Speed Alerts

Additionally, this UVO Link Telematics system has been integrated with the Amazon Alexa companion App and Google Home Assistant App to allow for using voice for some of the remote commands.

Please refer to PitStop PS575.

### SPEEDOMETER / ODOMETER RECALIBRATION PROCEDURE

This article provides information when replacing an inoperative cluster in some Kia models, follow the procedure detailed below to ensure compliance with all applicable federal and state regulations, shorten vehicle servicing time and prevent the possibility of claims being charged-back.

**NOTE:** On some models, mileage setting with a KDS is supported, which will prevent the requirement of sending the instrument cluster to a repair facility. Refer to TSB ELE106.

The following procedure is taken from Section #7.15 of the Kia Service Policies and Procedures Manual:

"Kia Motors America, Inc. has developed a procedure that will allow the vehicle mileage to be preset on a replacement speedometer/odometer or I/P cluster.

If a speedometer fails within the Kia Basic Warranty period, <u>Kia's policy is to recalibrate the new speedometer with the vehicle mileage at the time of failure replacement.</u>

Many states now require that only preset speedometer/ odometers be installed. The following explains the warranty claim procedure for recalibrating the odometer.

Many states have certified or approved repair facilities that are authorized to reset speedometer mileage. The dealer may use a state approved speedometer facility to reset Kia speedometer/odometer mileage for warranty repairs. In the event that an approved facility is not in your local area, the following companies handle resetting speedometer/odometer mileage for Kia and other OEM's."

### Palo Alto Speedometer, Inc.

718 Emerson Street, Palo Alto, CA 94301-2410

Phone: (650) 323-0243 Fax: (650) 323-4632 www.paspeedo.com **Model Electronics, Inc.** (NOTE: new address) 615 East Crescent Ave., Ramsey, NJ 07446

Phone: (800) 433-9657 Fax: (201) 961-6282

www.modelelectronics.com

## **NOTICE**

A copy of the repair order and a purchase order must be sent with the new speedometer or I/P cluster. Turnaround time is between one to four days, depending upon the speedometer and the distance between the dealer location and the service facility.

### Warranty Claim Submission Procedures:

- Claim type = 'W' (Basic Warranty).
- Use the recalibrated mileage on the claim.
- Use the Speedometer Assy., R&R or the Instrumental Cluster Assy., R&R as the primary Labor Operation code from the WebLTS.
- Create a labor operation from the primary labor op code replacing the last two digits of the labor operation code with a "ZZ"
- Charge out the replacement part and list the speedometer or the instrument cluster as the causal part number and a quantity of one for replacement.
- Enter Sublet Code X1 in the Sublet field
- Charge out the sublet dollar amount at dealer net and include freight charges for shipping the cluster unit to the speedometer service facility.
- Enter the sublet invoice #.

## **NOTICE**

Submit as one claim and include the parts, labor AND sublet charges.

Please refer to PitStop PS264r2.



## A/C REFRIGERANT REFERENCE GUIDE (2018/2019MY)

To assist technicians in expediting the A/C repair process, Kia is providing a list for 2018 and 2019MY vehicles with information regarding the type of refrigerant and amount specifications.

Year	Model	Туре	Option	Capacity (g)
	Cadenza	R-1234yf		550 ± 25g
	Niro HEV	R-1234yf		550 ± 25g
	Niro PHEV	R-1234yf		550 ± 25g
	Optima	R-1234yf		550 ± 25g
	Optima HEV	R-1234yf		550 ± 25g
	Optima PHEV	R-1234yf		550 ± 25g
	Rio	R-1234yf		480 ± 25g
	Soul	R-1234yf		550 ± 25g
2018MY	Sportage	R-1234yf		550 ± 25g
	Stinger	R-1234yf		570 ± 25g
	Forte	R-134a		530 ± 25g
	K900	R-134a		650 ± 25g
	Sedona	R-134a		1100 ± 25g
	Sorento	R-134a	w/o Rear A/C	700 ± 25g
	Sorento	R-154d	with Rear A/C	850 ± 25g
	Soul EV	R-134a	w/o heat pump	550 ± 25g
	Soul EV	Soul EV R-134d -	with heat pump	900 ± 25g
	Sorento		w/o Rear A/C	650 ± 25g
	Sorento	R-1234yf	with Rear A/C	850 ± 25g
	Sportage			550 ± 25g
	Soul			550 ± 25g
	Soul EV	R-134a	w/o heat pump	550 ± 25g
	JOUI EV	TC 154a	with heat pump	900 ± 25g
	Optima			570 ± 25g
	Optima HEV			570 ± 25g
	Optima PHEV			570 ± 25g
2019MY	Stinger			570 ± 25g
	Forte			500 ± 25g
	Niro HEV			550 ± 25 g
	Niro PHEV	R-1234yf		550 ± 25 g
	K900			650 ± 25 g
	Cadenza			550 ± 25g
	Sedona			1050 ± 25g
	Rio			480 ± 25 g
	Niro EV		w/o heat pump	650 ± 25g
	WII O E V		with heat pump	1000 ± 25 g

## 2019MY (BDm) FORTE TECHNICAL HIGHLIGHTS

#### **General Information**

- 2019MY is the third-generation Forte (BDm) based on an entirely new platform
- At launch, the 4Dr model built exclusively at Kia Motors Mexico (KMM) will be available in 4 trims (FE, LXS, S, EX)
- A special EX Launch Edition will be available with:
  - 17" graphite finish alloy wheels
  - 4.2 in. TFT Supervision meter cluster
  - Auto-dimming Rearview Mirror
  - Forward Collision-avoidance Assist (FCA)
  - Harman/Kardon Premium Sound, 320W, 7 speaker system, Clari-Fi
  - Parking Distance Warning-Reverse (RDW-R)
  - Power sunroof w/ overhead LED front and rear reading lamps
  - Rear deck lid spoiler
  - Single projection LED headlights w/ Auto-Leveling and High Beam Assist (HBA)
  - Smart Cruise Control (SCC)
  - UVO eServices w/ Voice Command Premium Navigation (AVN5.0)
  - Wireless charging

#### Powertrain

- 2nd Generation Nu 2.0L MPI Atkinson cycle engine (147hp@6,200rpm / 132lb-ft@4,500 rpm) w/cooled EGR, intermediate cam phaser and piston cooling jets
- Intelligent Variable Transmission (IVT) w/ adaptive style shift logic, new chain belt, vane-type oil pump and Drive Mode Select (DMS) with NORMAL, SMART, SPORT modes
  - During mild acceleration, the IVT will operate like a traditional CVT, with no discrete shift points. However, during spirited driving, the transmission will mimic the shift points of a conventional A/T
  - SPORT mode (automatically selected when manually shifting) with 8 programmed gear-ratios to mimic shift points. In this mode, throttle response is more aggressive and steering feel is heavier.



- NORMAL mode provides smooth transmission shifting and normal throttle response/steering effort. NORMAL mode will not remain illuminated in the instrument cluster when selected.
- SMART mode automatically adjusts between NORMAL and SPORT mode depending on the driver's steering and throttle input. The color of the indicator will change accordingly depending on what mode the vehicle is in.

**Note:** SPORT mode will default to NORMAL mode when the engine is restarted

#### Convenience

- New standard convenience features as part of Kia Drive Wise include camera-based Forward Collision-avoidance Assist (FCA), Forward-Collision Warning System (FCW), Driver Attention Warning (DAW), Lane Keeping Assist (LKA) and Lane Departure Warning (LDW)
- New standard convenience features include:
  - 8 in. touchscreen with Android Auto<sup>™</sup>/Apple CarPlay<sup>®</sup> and Rear-view Monitor w/Dynamic Parking Guidance
  - Dual-zone Full Automatic Air Conditioning (D-FATC)
  - High-line TPMS
  - 6-way adjustable passenger seat
  - Day-time Running Lights (DRL)
  - Cruise control

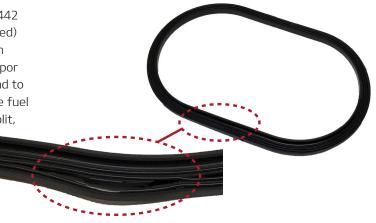
Android Auto™ is a registered trademark of Google, Inc. Apple CarPlay® is a registered trademark of Apple, Inc.

### 2017MY (YG) CADENZA - DTC P0456/P0442 WITH FUEL PUMP SEAL DAMAGE

This article provides information regarding DTC P0456/P0442 (Evaporative Emissions System – (Very) Small Leak Detected) or fuel smell on some 2017MY Cadenza (YG) vehicles. When addressing the concern with DTC P0456/P0442 and the vapor lines, fuel cap, and all other corresponding circuits are found to be within specifications, it may be necessary to inspect the fuel pump seal for damage. If this seal is found to be torn or split, replace the fuel pump seal by referring to the "Engine Control / Fuel System  $\rightarrow$  Fuel Delivery System  $\rightarrow$  Low Pressure Fuel Pump  $\rightarrow$  Repair procedures"

Please refer to PitStop PS567.

chapter in the applicable Shop Manual on KGIS.



## TEST YOUR TECH TIMES KNOWLEDGE WORD SCRAMBLE

Test your search ability on this puzzle: we have taken 19 words from articles in this issue and scrambled them. Unscramble the words, then use the letters <u>underlined</u> in <u>red</u> to reveal the secret phrase in the box at the bottom of the page. Solution is on page 22.

	1. TYRNAWRA 2. TNIAIONVAG 3. IETCMSALET 4. ENSISMSOI 5. CSEDO 6. BRNUCITAL 7. BYDRIH	Page 2	Page 1 Page 1 ge 7
	8. ANGTNOCTUARIO		_ Page 10
	9. QT <b>E</b> SEIEPRRUI		Page 3
10. T <b>Y</b> NFNULAIOCIT	- 	Page 4	
11. EOT <mark>N</mark> TITNA	Page 7		
12. TO <b>B</b> RU	_ Page 4		
13. CITNRP <b>U</b> GA	Page 22		
14. OS <b>W</b> REN	Page 4		
15. O <b>E</b> FTR	Page 7		
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24. A <b>V</b> PRO	Page 7		"





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KIA PROFESSIONAL
has achieved Kia University Certification for
14 Years



Certified since 2004

## 14

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ļ	DEALER	TECHNICIAN	CERTIFICATION LEVEL	
V	Chris Leith Kia	Matthew Stevens	Master Plus	
	Dorschel Kia	Todd Dugan	Master	
	Dutch Miller Kia	Dana Woodrome	Master	
	Edwards Kia	Michael Smith	Master	
	Fa <mark>mily K</mark> ia of St. Augustine	MIKE HAMMER	Master	
- 5	Galeana Kia	David Wilson	Master	
8	Gay Family Kia	Scott Dutzel	Master Plus	
	Grand Kia	Murray Osthoff	Master Plus	1
	Jake Sweeney Kia	Richard Middendorf Jr	Master Plus	
	Kia Country of Savannah	Calvin Riggins Jr	Master Plus	
. 3	Kia Fort Walton Beach	Everett Nichols iii	Professional	
	Kia of Bradley	Brad Barker	Master Plus	
	Lou Fusz Kia	Richard Secrease	Master Plus	
	Medved Kia	Robert Laursen	Master Plus	
	Olathe Kia	Curtis Darby	Master Plus	
	Rosen Kia	Steve Larsen	Master	
	San Luis Bay Motors Kia	lan Anderson	Master Plus	
	Serra Kia	Timothy Bridges	Master	8
	Stevenson Kia of Jacksonville	Joseph Carter	Master	
)	The Kia Store	Guy Neuschwander	Master	1
	Wallace Kia of Bristol	Richard Guy	Master	
1	Warner Kia	Robert Richards	Senior	
	West-Herr Kia	Jon Brawdy	Master	
	Car Maria			





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DEALER	TECHNICIAN	CERTIFICATION LEVEL
Auto World Kia	Robert Baker	Master Plus
Boucher Kia	Dave Batzko	Master Plus
Car Pros Kia	Ralph Brunt	Master
Car Town Kia, USA	Mark Rayburn	Master
Century Kia	David Cummins	Master
Commonwealth Kia	Richard Burnham	Senior
Crain Kia	Joseph Sansom	Master
Darcars Kia	Robert Covolo	Master Plus
Eagle Auto Kia	Charles Sladky	Master
Family Kia of St. Augustine	Clive Delaphena	Master
Galpin Kia	Edwin Torossian	Master Plus
Generation Kia	David Nourse	Master Plus
Gerry Wood Kia	Jason Atwell	Master
Grand Kia	Jim Schofield	Master Plus
Hyman Bros Kia	Wiley Preston	Master
Jerry Seiner Kia, Salt Lake	James Baker	Master Plus
Jim Butler Kia	Billy Beaver	Professional Plus
Keffer Kia	Chris Wright	Master
Kia Autosport	John Hale	Professional
Kia of Bedford	Britt Vanmeter	Master
Lancaster Kia	Lawrence Cole	Professional Plus
Lehighton Kia	Scott Rutan	Master
Matt Castrucci Kia	Bernard Crawford	Master
Medved Kia	Chad Davis	Master
Mentor Kia	John Vinkler	Master





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DEALER	TECHNICIAN	CERTIFICATION LEVEL
Midtown Kia	James Grannemann	Master
Moritz Kia	James Goree	Professional
Palmen Kia of Kenosha	Buddy Duvall	Professional
Performance Kia	Brett Raymer	Master
Prestige Kia	David Bailey	Master
Raymond Kia	Jason Fitzgerald	Master Plus
Rosen Kia	Fidencio Perez	Master
Safford Kia of Fredericks- burg	Chris Childers	Master
Smith Kia	Dean Dewitt	Master Plus
Steven Kia	Blair Vile	Master Plus
Steven Kia	Shawn Beigler	Master
World Kia Joliet	Pete Sustaita	Master





Certificate of Achievement
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12 Years



Certified since 2006

DEALER	TECHNICIAN	CERTIFICATION LEVEL
Auffenberg Kia Cape Girardeau	Mike Sample	Master
Bill Bryan Kia	Frank Ballard	Master
Billion Kia	Robert Danielsen	Professional Plus
Bob Rohrman Schaumburg Kia	Bobby Kroman	Master
Brown-Daub Kia	David Hill	Master
Car Pros Kia	Leonard T <mark>e</mark> ffteller	Professional
Car Pros Kia	Seth Luke	Master
Car Pros Kia Huntington Beach	Richard Herrera	Master
Central Kia of Plano	Adnan Aliefendic	Master
Charlie's Kia	Dennis Corson	Master Plus
Cobb County Kia	Andrew Maxted	Master
Covina Valley Kia	Kenny Do	Master Plus
Dennis Eakin Kia	Paul Labombard	Professional
Dutch Miller Kia	Homer Lanham III	Master
Gateway Kia	George Kammerle	Master
Haddad Kia	Ruben Hernandez	Master
Kia Country	Enrique Nunez Jr	Master
Kia of Lansdale	Chau Lu	Professional Plus
Lehighton Kia	Robert Worman Jr	Master
Luther Kia	Tim Clark	Professional
Martin Kia	Carl Strothmann	Master
Midwest Kia	Lewis Velazquez	Professional
Moritz Kia	Humberto Garcia	Master Plus
Paramount Kia	Jeff Lowman	Master





Certificate of Achievement
KIA PROFESSIONAL
has achieved Kia University Certification for
12 Years



Certified since 2006

DEALER	TECHNICIAN	CERTIFICATION LEVEL
Parkway Family Kia	Jose Rubio	Master
Price Kia	Larry Houchens	Professional
Quality Kia of Greenwood	Rodney Perry	Master
Riverside Kia	Mario Salmon	Master
Rodeo Kia	Greg Oler	Professional
Smail Kia	Sean Pease	Master
Sunbury Motors Kia	Pjay Hunsberger	Professional
Sussman Kia	Joseph Herling	Master
Universal Kia	Brian Strickler	Professional
Visalia Kia	Juan Lemus	Master
Westside Kia	Herbey Rodriguez	Master
Willowbrook Kia	Marcelino Francisco	Master
Young Kia	Scott Bair	Professional







Certificate of Achievement
KIA PROFESSIONAL
has achieved Kia University Certification for
11 Years



Certified since 2007

		Control of the contro	
Z	DEALER	TECHNICIAN	CERTIFICATION LEVEL
1	Alan Jay Kia	Douglas Campbell	Master
	Alexander Kia	Jeffrey Yost	Master
,	Aloha Kia Leeward	Pedro Pacleb	Professional
	Ancira Kia	David Estrada	Master
	An <mark>cira K</mark> ia	Robert Cigarroa	Senior
	Archer Kia	Hung Nguyen	Master
×	Baierl Kia	Brad Leech	Master
	Ball Kia	Donald Way	Master Plus
	Berlin City Kia, Burlington	Dale Fullerton	Master
	Berlin City Kia, Burlington	Peter Austin	Master
_4	Berlin City Kia, Burlington	Kevin Butler	Professional
1	Buchanan Kia	Wayne Vaughn	Master
	Burlington Kia	Michael Morey	Master
-	Car Pros Kia Glendale	Patrick Farrell	Master
	Central Kia of Plano	Marco Palacios	Professional
	Central Kia of Plano	Christopher Bettis	Master
	Citrus Kia	Rod Adams	Master Plus
	Classic Kia of Carrollton	Babak Nadimi	Professional Plus
	Cooper Kia	Scott Forbes	Professional Plus
)	Cooper Kia	Charles Christie	Master
	Covina Valley Kia	Juan Alvarez	Master
-	Crowley Kia	Jared Brunet	Master
	Crown Kia	Keith Mullikin	Master Plus
	Destination Kia	Joseph Gaglioti	Master
	Dothan Kia	Nicholas Shelley	Master
	Evans Kia	Jerry Poston	Master
	Ewald Kia of Oconomowoc	Joseph Pasternak	Master Plus





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9			
₹	DEALER	TECHNICIAN	CERTIFICATION LEVEL
Y	Fayetteville Kia	Frank Dorado	Master
	Franklin Kia	Michael Faught	Master
4	Freedom Kia	Eric Nicholson	Senior
	Fuccillo Kia of Port Charlotte	Dale North	Master
	Fuc <mark>cillo</mark> Kia of Port Charlotte	Garfield Scarlett	Master
	FX Caprara Kia	John Perretta	Professional
×	Galeana Kia	Terry Garner	Master
	Galeana Kia	Dominick Giglione	Master
	Geral <mark>d Kia of</mark> Naperville	Gregory Dubs	Master Plus
	Gervais Kia	Johnson Paisarn	Master
_4	Halleen Kia	David Zimmerman	Master
	Harper Kia	Tracy Hanger	Master
	Hendrick Kia Charlotte	Patron Miller	Master
_	J.P. Thibodeaux Kia	Gerald Provost	Master
	Jack Miller Kia	Todd Keown	Master
	Jack Miller Kia	Rick Nielsen	Professional
	Jeff Wyler Kia	James McGurk	Master
	Kia Atlanta South	Walter Henson	Master
	Kia Autosport	James Burkett	Master
)	Kia Autosport	Kelly Howley	Professional
	Kia Country	Dang Yang	Master
	Kia Country	Aaron Kimmel	Master
	Kia Fort Walton Beach	Groekrit Suttisawas	Professional
	Kia of Gastonia	Guy Gentry	Master
	Kia of Lansdale	James Mitchell	Master
	Kia of Lincoln	John Frohner	Master
	Kia of McComb	Wesley Hubner	Master
100			





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Į	DEALER	TECHNICIAN	CERTIFICATION LEVEL
A	Kia of Puyallup	Christopher Ford	Master
	Lifetime Kia	Lewis Clark	Professional
e -	Lifetime Kia	Mark Roberts	Master
	Lokey Kia	Adam Donoho	Master
	Luther Kia of Bloomington	Alex Soderberg	Professional
	Mark Kia	Russell Hahn	Master
4	Mike Murphy Kia of Brunswick	Larry Thompson	Master
	Mike Sh <mark>aw Kia</mark>	Lawrence Alderete	Master
	Montrose Kia	William Barcklay	Master
	Napleton's Kia of Elmhurst	Jesus Payabyab	Master
ŕ	Napleton's River Oaks Kia	Lee Snyder	Master
	Northtown Kia	Martin Ceciliano	Professional
	Paramount Kia	Michael Barlowe	Master
	Paramount Kia of Asheville	Seth Heffner	Master
	Parkside Kia	Tommy Latulipe	Master
	Patterson Kia of Arlington	Emanuel Hernandez	Master
	Peak Kia	Hector Delgado	Master
	Perris Valley Kia	Leo Rosales	Master
j	Price Kia	Corey Byars	Master
	Rick Case Kia	Field Williams	Master
	Riverside Kia	Roberto Lopez	Master
	Rock River Kia	Douglas Hawkinson	Professional
	Rowe Kia	Eric Smith	Master
	Royal Kia	Chad Nowell	Master
	Russ Darrow Madison Kia	Erik Filipowicz	Master Plus
	Shawnee Mission Kia	Michael Bland	Master





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Į	DEALER	TECHNICIAN	CERTIFICATION LEVEL
V	Southern Kia Greenbrier	Mark Chew	Professional
	Southlake Kia	Paul Hamstra	Master
	Southwest Kia AU	Zachary Brown	Master
	Team Kia	Patrick Saylor	Master Plus
	Team Kia	Edward Papinchak	Senior Plus
	Transitowne Kia of West Seneca	Terry Bridenbaker	Master
100	V <mark>an Griffi</mark> th Kia	Justin Kenny	Master
	Van Griffith Kia	James Coffer	Master
	Warner Kia	John Mayhew	Professional
	Weseloh Kia Carlsbad	Thomas Cruz	Master Plus
ř	West-Herr Kia	Dwayne Hogencamp	Master
	Westside Kia	Sean Martin	Master
	Williams Kia	Samuel Tann	Professional
	Wyatt Johnson Kia	Thomas Crowell	Master





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DEALER	TECHNICIAN	CERTIFICATION LEVEL
Atlanta West Kia	Charles O'Bannon	Professional
Autoserv Kia	Stephen Geary	Master
Barnett Kia	Al Behrens	Master
Bill Bryan Kia	Roland Turner	Master
Bill Doraty Kia	Bradley Gostlin	Master Plus
Billion Kia of Sioux City	Tyler Hoppe	Professional
Bob Bell Kia of Essex	Carlos Flowers	Professional
Bob Bell Kia of Essex	Alexis Lee	Master
Bob King Kia	Scott Curtis	Master
Bob Rohrman Kia	Donald Puetz	Professional
Brown-Daub Kia	Scott Spohn	Master
Brown's Manassas Kia	Otis Mitchell	Master
C. Harper Kia	Jeffrey Wyne	Master
Car Pros Kia Renton	Joseph Clinch	Master
Carolina Kia of High Point	Nicholas Sheets	Master
Carriage Kia	Raymond Kary	Master
Casey Kia	Charles Sizemore	Master
Central Kia of Plano	Farah Ghneim	Professional
Central Kia of Plano	Brian McNees	Professional
Charlie's Kia	Nick Roberge	Master
City Kia of Greater Orlando	Thomas Cinque	Master
Columbia Kia	Eric Normandie	Master
Courtesy Kia	Christopher Laduke	Master
Cronin Kia	David Meyung	Master
Deacon Jones Kia	Larry Pease	Master
Deacon Jones Kia	Greg Tepper	Master
Dick Brantmeier Kia	Max Umbs	Master Plus





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Į	DEALER	TECHNICIAN	CERTIFICATION LEVEL
V	Doral Kia	Paul Villa	Master
	Ed Voyles Kia	Cyrus Quinn	Master
	Evansville Kia	Dirk Farney	Master
	Fette Kia	Marc Mitchell	Master
	Fin <mark>dlay</mark> Kia	Richard Fishel	Master
	Fox Kia	Lyle Gross	Master
0	Frank Boucher Kia	Mark Coey	Master
	Frank Boucher Kia	Adam Keszler	Master
	Fred Beans Kia of Mechanicsburg	Dat Peng	Professional
	Friendly Kia	Jay Turner	Master
Í	Fuccillo Kia	Anthony Raeppel	Master
	Gary Lang Kia	Patrick Barch	Master
	H & H Kia	John Martin	Master
	Hanson Kia	Todd Kelley	Master
	Hanson Kia	Ronald Heaton	Master Plus
	Hendrick Kia Charlotte	Derek Dixon	Master
	Hertrich Kia of Easton	James Compton	Professional
	Hollywood Kia	Christian Fifi	Master
1	Hometown Kia	Philip Stover	Professional
	Horne Kia	Steven Janson	Senior
-	Jim Marsh Kia	Aaron Selby	Master Plus
	Jim Shorkey Kia	Jonathan Lepovsky	Senior
	Jim Shorkey Kia	Jeremiah Cant	Master
	Kelly Grimsley Kia	Milton Williams	Master
	Kia of Anderson	David Gailey	Master





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DEALER	TECHNICIAN	CERTIFICATION LEVEL
Kia of Bedford	Jeffrey Foster	Professional
Kia of Clarksville	Garold Hurt Jr	Master
Kia of Columbia	Robert Johnson	Master
Kia of Covington	Bryant Coyne	Master
Kia of Dartmouth	Richard Medeiros	Master
Kia of East Syracuse	Dimitrije Stojanovski	Professional
Kia of East Syracuse	Lawrence Backus	Master
Kia of Fargo	Brad Roney	Master
Kia of Lynchburg	Michael Schwartz	Master Plus
Kia of Meridian	Richard Dean	Professional
Kia of Yuma	Angel Garcia	Professional
Kia on the Boulevard	Joseph Downey Sr	Master
Ladd Hanford Kia	George Fessler jr	Master
Laurel Kia	Edward Welk	Master
Lou Fusz Kia	Ryan Woodward	Professional
Lou Fusz Kia	Christopher Jones	Master
Merced Kia	Alvin Morales	Master
Michael Kia	Anthony Gambardella	Master
Moritz Kia	Bobby Ramirez	Master
Moritz Kia of Hurst	John Rankin	Master
Motor Mile Kia	Ray Sowers	Master Plus
Murray Kia	Matthew Kauffman	Master
Napleton's Kia of Urbana	Michael Stivers	Master
North County Kia	Salvador Alvarez	Master
Orlando Kia East	Ebert Rabel	Professional
Patterson Kia of Arlington	Gilberto Rodriguez	Master
Performance Kia	Robert Burroughs	Professional





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Į	DEALER	TECHNICIAN	CERTIFICATION LEVEL
Y	Performance Kia	Jeffrey Frank	Professional
	Power Kia	Noe Ulloa	Master
	Rally Kia	Alfredo Valdez	Master
	Renaldo Kia	David Harrill	Master
	Ru <mark>ss Da</mark> rrow Kia of Wauwatosa	James McNamara	Maintenance
é	Scott Kia of Springfield	Dale Harris	Master
No.	Seelye Kia of Battle Creek	Joshua Koehler	Master
	Seelye Kia of Battle Creek	Jerry Chrispyn	Master
	Selbyville Holly Kia	Daniel Hafer	Master
	Shawnee Mission Kia	Toney Doles	Master
í	Shawnee Mission Kia	Steven Gearhart	Master
	Sherwood Kia of Salisbury	Jason Kramer	Master
	Smith Kia of Bellingham	Timothy Griffith	Master
	Sunset Kia	Scott Varnholtz	Professional
	Taylor Kia	Jan Muszynski	Professional
	Taylor Kia	Douglas Vore Jr	Master
	Taylor Kia of Boardman	Richard Guerrieri	Master
	Taylor Kia of Boardman	Bill Britton	Master
	Universal Kia	Joshua Sutton	Professional
-	Valley Kia	Jorge Barocio	Professional
	Visalia Kia	Kevin Kurtz	Master
	Warner Kia	Gregory Hutchinson	Senior
	Weston Kia	Michael Doherty	Maintenance
	Weston Kia	Zon Bevens	Professional Plus
	Williamsburg Kia	Robert Barkle	Master

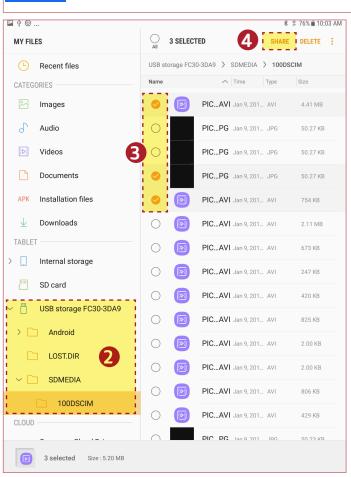
### CAPTURING AND EMAILING KDS IMAGES USING BORESCOPE

After capturing the images using a borescope, the images from the borescope can be easily transferred to the KDS tablet and then emailed to the appropriate recipient.

- 1. Open "My Files" on the KDS tablet.
- 2. Turn on the scope
- 3. Attach the USB Mini connector to the scope.
- 4. Connect the tablet to the scope's USB cable using the OTG cable displayed in the image  $oldsymbol{1}$
- 5. After the connection is made, under Recent files or Timeline the scope will display on the left side of the KDS screen and its contents will display on the right for this example under USB storage FC30-3DA9 > SDMEDIA > 100DSCIM, as shown below (your folder location may slightly differ).
- 6. Select, press and hold an image. A check mark <sup>3</sup> will display.
- 7. Touch any of the other images to be emailed and then select the "Share" button  $oldsymbol{\Phi}_{\cdot}$
- 8. Select a "Share via" option 5 to send the image(s) to a preferred destination.

**NOTICE** Borescope/KDS connection speed will vary depending on SD card speed.







### WORD SCRAMBLE SOLUTION

Here is the solution to the Word Scramble puzzle on page 8.

POWERED BY EVERYDAY ADVENTURE ...

THE 2019 KIN SOBENITO IS			
OЯЧVA	.42		
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AJ <b>T</b> T∃8	.22.		
TAA <b>V</b> IЯ8∃	.12		
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RETNFRR <b>A</b> IGE	.el		
TIMAOq	.81		
YFTALCII	.\TI		
UTS <b>E</b> RLC	.9I		
O <b>E</b> FTR	'Sl		
OS <b>M</b> BEN	.pl		
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TIDOIAJUNANYT	.01		
QT <b>E</b> SEIEPRRUI	.6		
<b>ANGTNOCTUARIOS</b> L	.8		
<b>B</b> V <b>D</b> RIH	.Γ		
<b>BR</b> NUCIT <b>A</b> L	.9		
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