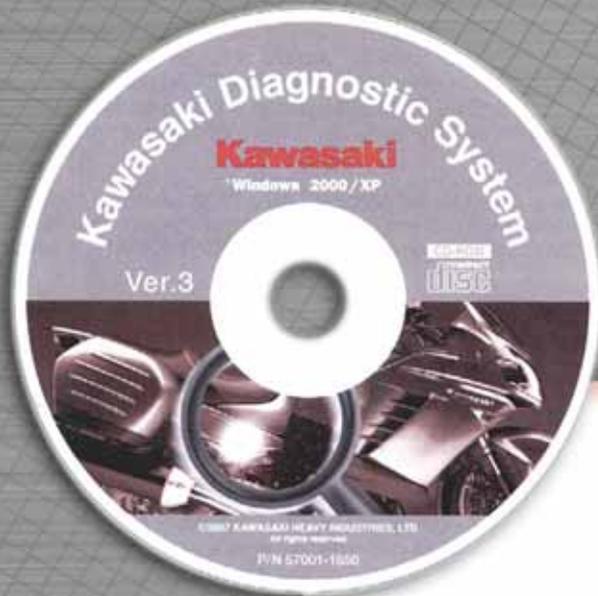


K-TECH NEWS

Vol. 20 , Issue 4 • 2008

The KAWASAKI Technical Resource



All About KDS 3



ROUTING: Service Parts Sales Please Return to Service Library

Kawasaki
Let the good times roll.™

All About KDS 3



KDS is a continually evolving diagnostic tool.

By Mike Nixon
Instructional Designer/Instructor

A new version of KDS (Kawasaki Diagnostic System) was recently released. Since more Kawasaki vehicles require KDS, more dealers are discovering the benefits of this service tool. There are a number of new features in this new version, so it's a good time to cover KDS from start to finish.

History

KDS was originally introduced in late 2002 as version 1.0, at which time it was applicable to all then-current

fuel injected models. The subsequent year version 2.0 emerged, followed by 2.2 in 2005, 2.3 for 2006, and version 2.4 for 2007. Historically, each new version emerged in response to updated fuel injection specifications on new models.

All of these earliest versions had one thing in common: the same basic hardware (cabling), which limited this resource to serial port functionality. KDS 3.0 uses all-new hardware and the long-awaited USB (universal serial bus) connectivity, as well as support for new technology in the form of the Smart system on the ZG1400 Concours™ 14. And while all KDS versions have been designed for the Windows® platform, versions 1.0 through 2.3 were Windows® 95 through XP compatible, version 2.4 is limited to Windows® 2000 through XP, and the new KDS 3.0 is designed for Windows® 2000 and up, including the current Windows® Vista. All KDS versions were designed only for Kawasaki four-stroke fuel injected vehicles.

You also may be familiar with a program we had in the past called

KADIAG. This was a DOS® based application intended only for two-stroke direct-injected personal watercraft. Different program, different hardware, different application. Don't confuse these two resources.

Benefits

The benefits of using KDS are numerous. KDS allows the troubleshooter to go beyond the vehicle's built-in "dealer mode" self-diagnosis capability, with the ability to retrieve and save-to-file stored codes, for example. On a few models, even the vehicle's run history is viewable. The KDS user can perform engine power balance tests (where individual cylinders are "killed" temporarily and the resulting idle drops compared), view starting and charging rates, and adjust the engine idle on vehicles lacking tachometers such as the KFX®450R and the new KVF750. And although throttle position sensors can be adjusted using a good multimeter, KDS makes this task a simple one-connection process.

But there's more. With the intro-
Cont'd pg. 11

SOFTWARE PATCH ON K-DEALER

A patch has been created to the KDS 3 software that makes some rpm graphs easier to read. The updated software can be downloaded from the Special Tools folder in the Service section of K-Dealer. ♦

Using KDS 3 on the Concours™ 14

By Mike Nixon
Instructor/Instructional Designer

Three tasks will eventually come up that require the use of KDS 3.0 on the Concours 14: replacement of the tire pressure monitoring system (TPMS) wheel sensor, registering new key fobs, and replacing any of the motorcycle's three ECUs. So here's a close up look at using KDS on this model, and more specifically, using KDS' KI-PASS menu.

TPMS

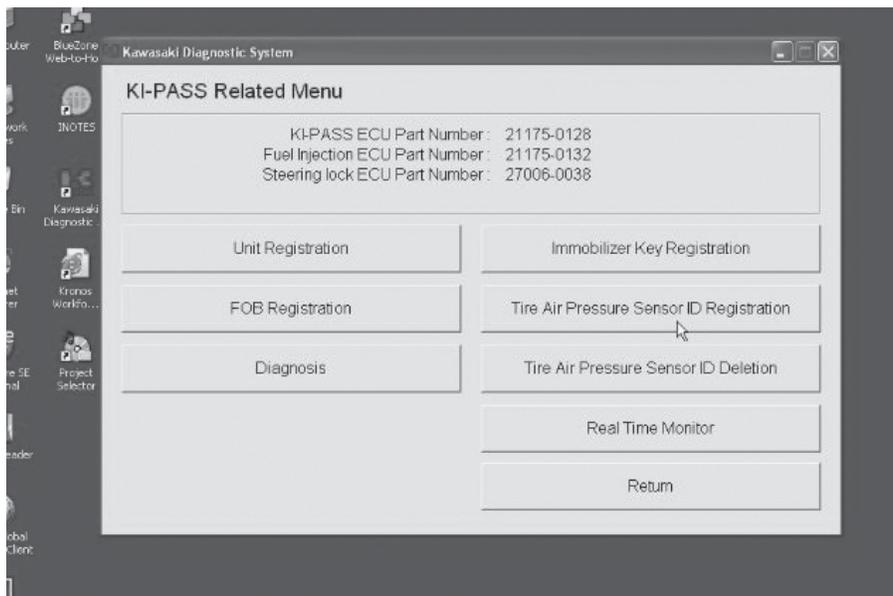
The TPMS sensor will eventually need to be replaced when its sealed-in battery runs down, or if the vehicle is being repaired for collision damage. Begin by unwrapping the new sensor and writing down the part number attached directly to the sensor. This step is very important, and will save you a lot of time. Install the new sensor on the wheel, and the wheel back onto the motorcycle. Connect the bike up and start KDS. From the start menu select SMART SYSTEM, and from the MAIN MENU that appears, KI-PASS, then from the KI-PASS menu choose TIRE PRESSURE SENSOR ID REGISTRATION. Finally,

click on either the FRONT WHEEL or the REAR WHEEL, type in the new sensor's ID number, and click RE-REGISTRATION. You're done!

Key FOBs

Now let's say your customer comes to you and has purchased a new fob and needs to get this third fob registered to the vehicle. This is a bit tricky, but not too bad if you proceed methodically. Start by writing down the ID number found on the outside of the new fob's package. *Important note:* For security reasons, unlike the tire pressure sensor, the fob's ID number is on the packaging, not on the part itself. Without this ID number the new fob cannot be registered, so don't discard the packaging before recording the number. From the KI-PASS menu, select FOB REGISTRATION, then from the new menu choose ADDITIONAL REGISTRATION. Lay the new fob within a few inches of the SMART ECU (the ECU in the very center of the motorcycle). Type in the new fob's ID number, then click ADDITIONAL REGISTRATION. However, you're not done yet, as this procedure registers only the

Cont'd pg. 10



KI-PASS may be the most often used menu when servicing the Councourse™ 14.

INSIDE

Features

- KDS 3 2
- Using the New KDS 3 3
- New KDS Video Clips 12

Training

- FSA Files 4
- Assistance Builds Loyalty 4

Tech Tips

- JT1500B Supercharger Update . . . 5
- ZX600P7F Crankcase Confusion . . 5
- JT1500B Supercharger Update . . . 5
- New Premium Audio 6
- Concourse 14 Heat Deflectors . . . 7
- New ATV Warranty Period 7
- Important Parts Info 7
- Jetting Chart 8
- Suspension Chart 9

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Publisher
Kawasaki Tech Services

Publications Manager
Eric Hjalmarson

Executive Editor
Don Church

Editor-in-Chief
Nate Rauba

Technical Editor/Graphic Art
Gregg Thompson

Design/Production Manager
Desirée Holland

Contributors
Nate DePauw, Mike Nixon,
Tim Rice, Rick Roddewig

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Assistance Builds Loyalty



By Nate DePauw, Senior Consumer Analyst

Consumer Services receives many telephone calls from customers who have contacted their local Kawasaki dealership for assistance or information and were merely referred to Kawasaki Consumer Services instead. Unfortunately, the typical responses from the customers are that they felt like they weren't important to the dealership because nobody would take the time to try and help them.

While Consumer Services will do everything possible to assist such customers when they do call Kawasaki, it's a lost opportunity for the dealership to gain new customers and/or create loyalty with returning ones. Don't forget, these are customers you'd like to come into your dealership to spend money, too.

Part of customer service is providing assistance when customers come in to your shop or call you on the phone for some assistance with Kawasaki product. You may not always be able to immediately help or have an answer, but if you merely pass them the Consumer Services number they're likely to feel abandoned. And the next time they have to buy parts, accessories, service or a new unit they might think otherwise of purchasing from your dealership.

So when a customer contacts you for assistance with Kawasaki products, take a few minutes to find out what they need and if you can help. If it's something that you don't know, call Kawasaki to find out for them. Most likely another customer will seek the same information and the next time you'll be ready with the answer.

If you have exhausted all of your resources and just can't get an answer then have the customer call Kawasaki Consumer Services at 949-460-5688 and we'll be glad to assist. ♦



FSA FILES

Reo Replaces Retiring Rainwater



Kawasaki's newest Field Service Advisor (FSA), Chris Reo, replaces a familiar face in the southeast region, Walter Rainwater, who retired after nearly 36 years of service to Kawasaki. While Reo may be a new hire, he's no stranger to the Kawasaki family and you'll likely recognize him as either a former chief instructor at the Motorcycle Mechanics Institute (MMI) or a television personality from several motorcycle-related programs.

Originally from New Jersey, Reo's affiliation with Kawasaki started back in the early '80s when he purchased a KX80 and started racing motocross. He further honed his racing skills aboard a KX™125 and 250, and like many young racers Reo knew he wanted to make a career in the powersports industry.

After graduating from American Motorcycle Institute's Kawasaki program Reo accepted his first job in the industry at The Kawasaki Sports Center in Pompton Plains, NJ. After a few years he went to work at MMI as an instructor and relocated to Florida, then in 1997 he became the Chief Instructor of the Kawasaki K-Tech Specialist program. For the past few years Reo has been further involved with Kawasaki's technical training program as a contracted instructor.

During his 10 years in that position Reo also pursued a number of other opportunities that would broaden his experience in the industry. He organized a team of MMI students to assist the Muzzy Kawasaki road racing team reach the podium at the 1998 and '99 Daytona 200. From Bike Week at Daytona Reo went to Bike Week the television program with Greg White where he did a segment called Kawasaki's Good Time Giveaway in which he installed accessories on two Vulcan® 1500s on the show that were given away after the end of the season. He also did a tech tips segment on Motoworld for four seasons until the show was canceled, and most recently did a tech segment for Corbin's Ride On program that aired on the SPEED Channel. And he also appeared on the Discovery Channel's Junk Yard wars where his team built a dune buggy.

Reo still rides and races motocross aboard KX250F and KX450F motorcycles, and has also recently taken up supermoto aboard the KX450F. In fact, his expert-level ability helped him earn a spot in the Lights, Motors, Action stunt show at the MGM Studios at Disney World, where he occasionally still squeezes in performances between his travels as an FSA.

"Being trained and training at both the entry level and the dealer level has prepared me for my new endeavor as an FSA," said Reo. "I am looking forward to visiting and working with dealers in my service area." ♦



Reo (left, holding stand) supported Team Muzzy during the Daytona 200 Superbike race

JT1500B Supercharger Water Intrusion – Update

In the last issue of *K-Tech News* we touched on preventing mineral deposits accumulating within the supercharger on the Jet Ski® Ultra® 250X watercraft. Since that time Kawasaki issued Service Bulletin JS 07-06 with a more specific procedure for lubricating the supercharger components to prevent mineral deposit accumulation during longer periods of inoperation.

Be sure the JS 07-06 FDM has been completed. If the engine turns over, proceed with lubricating the supercharger (if the engine fails to turn over, immediately cease the starting attempt and call the Product Support Hot Line for further instructions).

Lubricating Procedure

Disconnect the oil separator tank hose and the exhaust manifold cooling hose and move them aside, then remove the supercharger-to-intercooler tube. Disconnect the primary ignition cables at the right front of the engine near the ignition coil to prevent the engine from firing. Spray Kawasaki fogging oil (P/N K61030-002A) into the top of the supercharger for five seconds and briefly press the start button to “bump” the engine, which slightly repositions the supercharger rotors. Repeat the fogging and “bump” steps five times to adequately coat the internal components of the supercharger, then reconnect all hoses and wires.

Kawasaki recommends this storage preparation if the Ultra 250X will not be used for more than 30 days and the procedure will be added to the next printing of the service manual. Be sure to add this procedure to your storage service package and adjust your customer charges appropriately. ♦—Ed.



Follow the instructions in Bulletin JS 07-06 for spraying fogging oil into the supercharger (above) to help prevent deposit accumulation during long periods of inoperation (below).



ZX600P7F Crankcase Confusion

By Rick Roddewig
Consumer Services Supervisor

Before ordering parts for any ZX600P7F engine repair, be sure to check the engine numbers. ZX600P7F models were produced with three different variations of crankcases, depending on the engine number.

The first two versions of the cases are no longer being produced, which

complicates matters a little further. The first two part numbers, 14001-0112 and 14001-0113 have now been substituted to “kit” part numbers, which include the newest version cases (P/N 14001-0130), thrust washers if necessary and an instruction sheet explaining the differences.

Be sure to use the following table when ordering a crankcase set for any ZX600P7F, which may be more likely

than in years past since this model uses an integrated case and cylinder design.

It may also be a good idea to make a copy of this page and insert it into your dealership’s Service Manual, since at press time there is no mention of the third version of engine cases in the manual or parts diagrams. ♦

ENGINE NUMBER	CRANKCASE PART NUMBER	SUBSTITUTE KIT PART NUMBER	KIT CONTENTS		
			Qty	P/N	Description
~ ZX600PE008560	14001-0112	14001-5411	1	14001-0130	Crankcase set
			1	99929-0183	Technical information
ZX600PE008561~ ZX600PE016039	14001-0113	14001-5410	1	14001-0130	Crankcase set
			2	92200-0383	Thrust washer 2.5mm
			1	99929-0197	Technical information
ZX600PE016040~ ZX600PE019346	14001-0112	14001-5411	1	14001-0130	Crankcase set
			1	99929-0183	Technical information
ZX600PE019347~	14001-0130	N/A	N/A	N/A	N/A

Kawasaki's New Premium Audio

After much testing and development, Kawasaki has a new sound accessory, the Premium Audio System. Currently designed for just the 2005-2008 Vulcan® 1600 Nomad™, but with future fitment plans including the Vulcan® 900 Classic LT and Vulcan® 2000 Classic LT, this new accessory is sure to be a hot item.

The Premium Audio System is a modular design allowing the user to purchase just the basics or add on all the extras for a complete system. The basic Premium Audio System package starts with an AM/FM/Weatherband radio with handlebar-mounted controller, antenna and rider entertainment (ear speakers only) headset. If desired, the addition of the optional rider and passenger communication headsets (with boom mics) make available the radio's built-in rider-to-passenger intercom. At the next option level, the CB Radio Kit adds in the 40-channel CB radio and antenna, and of course requires the communication headset, if not already purchased. A third module,

the XM Radio Kit, brings in XM radio capability, including three full months of free XM subscription. A fourth piece is an iPod attachment cable, and there are more optional cables to connect up CD, cassette, and MP3 players. If the customer goes all the way with this system, a very handy custom-fitted canvas pouch is available that holds all the slimly-constructed modules in their places against the inner wall of the saddlebag.

Installation is very straightforward, taking about 1½ hours and requiring little in the way of special tools or techniques. Instructions are thorough and include a drilling template for the saddlebag, and no soldering, crimping, or any invasion of the vehicle's wiring is needed. The equipped audio cable routes along the frame and



The handlebar controller puts all audio controls within easy reach.

plugs into existing connectors. With no external speakers in this system, nothing shows on the vehicle except the compact, easy-to-use controller and the antenna(s). Everything else stows away in the left saddlebag, flat against the inner surface, where there is still plenty of room for the Nomad's saddlebag liner. The wiring coming out of the saddlebag passes through a nicely-designed, high-quality weatherproof seal, and there is enough slack in the cable to permit tilting of the saddlebag during rear wheel service.

Using this sound accessory is fun. The controller is very easy to use and informative, with context-sensitive (performing similar tasks in different contexts) buttons designed to provide tactile feedback even through gloves. The controller's large backlit LCD panel displays media information, including the enhanced RDS (radio data system) data available from larger radio stations such as song, artist, and station name. All the usual functions are available, including seek, memory, scan, and most of the iPod's accessibility is retained as well. There is automatic volume control as well, whose aggressiveness is easily adjusted through the controller.

Kawasaki's Premium Audio System is backed by a one-year warranty, and look for a change to appear soon in the Warranty Policies and Procedures manual relative to this new accessory. ♦ —Mike Nixon



The Complete System comes with a custom canvas pouch that holds all of the modules on the inner wall of the saddlebag. And due to slim designs, they take up minimal space.



Concours™ 14 Heat Deflectors

The Concours 14 is equipped with removable heat deflectors at the trailing edges of the fairing ducts that are designed minimize engine heat around the rider's lower legs. So in the cooler months it would seem logical to remove these deflectors so that riders could use some engine heat to help warm their legs.

But unless the Concours 14 will only be used for low-speed, stop-and-go riding that tends to generate more engine heat, removing the

deflectors will have the opposite effect. Since the deflectors are effective at creating a small pocket of still air behind the fairing, removing them allows more air to reach the lower legs. At colder ambient temperatures (below about 55 degrees) what little engine heat that comes out of the fairing ducts isn't enough to overcome the wind-chill created when the rider's lower legs are exposed in the airflow over the fairing at highway speeds. ♦ -Nate Rauba

New ATV Warranty Period

If you missed the announcement in Service Bulletin WTY 07-03, Kawasaki has increased the basic warranty period from six to 12 months on all 2008 model-year ATVs. The new basic warranty will also be extended on previously-retailed 2008 units as well as units in dealer inventory. Additionally, all new, unsold 2007 and prior Kawasaki ATV models sold after November 1, 2007 receive the new 12-month warranty.

Kawasaki Motors Corp., U.S.A., sent letters to all registered owners of 2008 ATVs advising them that their basic warranties have been extended and they also received updated product registration cards and warranty certificates. Remove any six-month warranty certificates from all new, unsold units and replace them with the 12-month certificate (99969-2289) available on K-Dealer. KMC has issued updated W85 Product Registration forms for all ATVs in dealer inventory as of November 1, 2007. ♦-Ed.

Important Parts Info: Concours™ 14 Key Fobs

When ordering a replacement key fob (P/N 21175-0126) for the 2008 Concours 14, be careful not to discard the inner package in which the fob is sealed. That is the only place where the I.D. number needed to register the fob is located. Currently Kawasaki provides no label to alert unsuspecting customers to this fact, but should be rectified by KHI in the future.



This information is printed on page 23 of the KDS 3 instruction manual. However, parts counterpeople need to alert their customers to either record the I.D. number in a safe place (like the owner's manual) or simply don't discard the package. That way the service department will have the number when it registers the new fob to the motorcycle.

Also, please advise your customers to bring in all fobs when a new replacement fob is registered. The last procedure that needs to be done is to re-register all fobs. This can only be done with all fobs in proximity to the Smart ECU at time of programming. If the customer leaves one of his fobs at home, it will be deactivated. This provides a way to deactivate a lost or stolen fob. ♦-Tim Rice

Team Green™ 2008 Tuning Charts

The information contained in the following charts is compiled from information obtained from Team Green experiences working with riders throughout the country. This information is intended to be used as a starting point and individuals should test all changes in order to obtain maximum performance.

2008 TEAM GREEN™ RECOMMENDED JETTING CHART

	KX65A8F		KX85A8F		KX100D8F		KX250T8F		KX450D8F		KLX450A8F	
	STOCK	T.G.	STOCK	T.G.	STOCK	T.G.	STOCK	T.G.	STOCK	T.G.	STOCK	T.G.
MAIN JET	#190	-----	#140	#138	#138	#135	#182	#175	#175	#180	#145	#140
KMC P/N	92063-021	-----	92063-1360	92063-1359	92063-1359	92063-1338	92063-1377	92063-1374	92063-1374	92063-1376	92063-1362	92063-1360
NEEDLE & CLIP	5GSP-68 #3	-----	NAPE #3	NAPE #4	NAPE #4	-----	NCYU #2	NCYS #4	NCVR #4	-----	NLZU	OBEKS #3
KMC P/N	16187-1226	-----	16187-1178	16187-1179	16187-1179	-----	16187-0193	16187-0191	16187-0214	-----	16017-0012	16187-0070
POWER / LEAK JET	N/A	-----	N/A	-----	N/A	-----	#55	#50	#70	#55	#50	-----
KMC P/N	#25	-----	#45	#48	#45	#48	16159-1054	16159-1053	16159-0004	16159-1054	16159-1053	#48
PILOT JET	92064-032	-----	92064-1142	92064-1143	92064-1142	92064-1143	92064-1140	92064-1141	92064-1141	-----	92064-1142	92064-1143
SLIDE	1.5	-----	3.5	-----	3.5	-----	-----	-----	-----	-----	-----	-----
KMC P/N	16025-1040	-----	16025-1220	16025-1220	16025-1220	-----	-----	-----	-----	-----	-----	-----
FUEL SCREW TURNS OUT	N/A	N/A	N/A	N/A	N/A	N/A	1.5:8	2.5	1.75	2	FIXED	2.5
AIR SCREW TURNS OUT	1-1/2	-----	1-1/2	-----	1-1/2	-----	N/A	N/A	N/A	N/A	N/A	N/A
SPARK PLUG	BR10EG	BR10EIX	105NGK	BR9EIX	105NGK	105NGK	CR8E	-----	CPR8EB-9	-----	CPR8EB-9	-----
NGK/KMC #	92070-1133	92070-1272	92070-1241	92070-1271	92070-1241	92070-1241	92070-0019	92070-0019	92070-0020	-----	92070-0020	-----
C/S SPROCKET GEARING	13	14	14	14	13	-----	13	-----	13	13	13	-----
RR SPROCKET	47	46	50	52	51	-----	48	-----	50	48	50	-----

CAUTION: Team Green specifications are obtained using 92 Octane pump fuel mixed at a 32:1 mix ratio. Your results will vary with the use of different gasolines, oils, temperatures, altitudes or mix ratios. Team Green does not recommend the use of low octane pump gas, aviation fuels or octane boosters. Use of these products may cause engine damage or failure. Recommended for sea level to 3,000 feet above sea level.

-----: Team Green recommends no change from stock. *Team Green Specifications subject to change.
N/A: Non-applicable

2008 TEAM GREEN™ RECOMMENDED SUSPENSION CHART

Rider Weight	Fork Position (height)*	Spring Rate		Oil Level Volume	Oil Weight	Reb Out	Comp Out	Spring Rate	SAG Level	Reb Out	Clicks Comp Out Low	Turns Out Comp High Speed	Nitro Pressure
		Spring Rate	Spring Rate										
KX65A8F													
55-65	15mm	0.29Kgf	Light	130mm	10	2****	n/a	4.7Kgf	70mm	2****	**STK		140psi
65-75	10mm	0.27Kgf	Stock	130mm	10	2****	n/a	4.6Kgf	70mm	1.5****	**STK		140psi
75-85	Flush	0.29Kgf	Heavy	125mm	10	3****	n/a	4.9Kgf	70mm	1****	85.3mm		140psi
KX85A8F													
Up to 75	Std	0.27Kgf	Xtra Light	90mm	5	n/a	8	4.4Kgf	80-85mm	9	1		150psi
75-100	Std	0.29Kgf	Light	90mm	5	n/a	8	4.6Kgf	80-85mm	9	1		150psi
100-115	Std	0.29Kgf	Stock	90mm	5	n/a	8	4.6Kgf	80-85mm	8	1		150psi
115-125	Std	0.30Kgf	Heavy	80mm	5	n/a	8	5.0Kgf	80-85mm	8	2		150psi
KX100D8F													
70-85	Std	0.27Kgf	Xtra Light	90mm	5	n/a	8	4.4Kgf	80-85mm	9	2		150psi
85-100	Std	0.29Kgf	Light	90mm	5	n/a	8	4.6Kgf	80-85mm	9	2		150psi
100-115	Std	0.29Kgf	Stock	90mm	5	n/a	8	4.6Kgf	80-85mm	8	2		150psi
115-125	Std	0.30Kgf	Heavy	80mm	5	n/a	8	5.0Kgf	80-85mm	8	2-3		150psi
KX250T8F (4-stroke)													
125-140	7mm	4.2N/mm	Light	360cc	5	14	6-12	47N/mm	102-105mm	11	10-12	2-3	150psi
140-160	7mm	4.2N/mm	Light	370cc	5	14	6-10	48N/mm	102-105mm	10	10-12	2-3	150psi
160-180	7mm	4.4N/mm	Stock	370cc	5	12	6-10	51N/mm	102-105mm	9	10-12	2-3	150psi
180-195	7mm	4.5N/mm	Heavy	370cc	5	12	6-10	53N/mm	102-105mm	9	10-12	2-3	150psi
KX450D8F (4-stroke)													
140-155	10mm	4.5N/mm	Light	330cc	5	12	10-14	48N/mm	102-105mm	9-10	6-10	1 - 2.25	150psi
155-170	10mm	4.6N/mm	Stock	330cc	5	10	10-14	50N/mm	102-105mm	9-10	6-10	1 - 2.25	150psi
170-185	10mm	4.7N/mm	Heavy	330cc	5	8	10-14	52N/mm	102-105mm	8-9	6-10	1 - 2.25	150psi
185-200	10mm	4.7N/mm	Heavy	Plus 10cc	5	8	10-14	54N/mm	102-105mm	8-9	6-10	1 - 2.25	150psi

*Fork height is measured from top of fork tube to top of fork clamps.
 **Stock 86.3mm pull rods on the 2002 KX65 can be exchanged for optional 85.3mm or 87.3mm to raise or lower the seat height by 4.5mm each.
 ****Refer to the 2007 KX65 owner's manual for position information.
 FOOTNOTES - Rebound and compression adjustments are the number of clicks out from full hard (all the way in). Front fork oil level in millimeters (mm) is a measured distance or in cc's for a measured volume. Rear shock sag level is measured in millimeters (mm). All optional spring part numbers can be found at your local Kawasaki dealership.
 SPECIAL NOTE - Team Green recommends that any suspension sag measurements be done when shock is cold. Always test new setting before racing.
 N/mm = Newtons / millimeter - Kgf = kilograms force
 Conversion Formula for each method of measurement: N/mm Spring Rate x 0.102 = Kgf/mm Spring Rate and Kgf/mm Spring Rate x 9.807 = N/mm Spring Rate
 **Team Green Specifications subject to change

Using KDS 3 Cont'd from pg.3

transmitting part of the fob and not the transponder portion. The transponder is that part that allows the fob to work even when its internal battery is run down, kind of an emergency fob feature. The transponder must also be registered on the new fob.

Gather up all the customer's fobs, and remove any mechanical keys from their backs. All the existing fob's transponders must be re-registered along with that of the new fob. From the KI-PASS menu, select IMMOBILIZER KEY REGISTRATION. From within the new menu, select IMMOBILIZER KEY REGISTRATION again. Place the fob on the key switch at the special projection on the switch. KDS will immediately recognize and register the fob's transponder. Replace the fob with the second fob, and repeat, continuing for all of the customer's fobs. After all the fobs' transponders have been registered, click CONFIRM CHANGED ITEM to complete the process.

But you're not done yet, there is one more procedure. Now, to double-check each of the newly registered fob transponders, open each fob and temporarily remove its battery and reassemble the fob. Test the emergency transponder by laying the fob against the key switch's projection, and then depress the key switch to turn on the vehicle. You don't need to turn the key however. After just pressing, the key icon should appear on the vehicle's instrument display. If it does, the transponder is working. Repeat for all the fobs. If any do not

work, repeat the transponder registration procedure for all the fobs.

Now let's suppose a customer has lost one of the fobs. You will want to encourage your customer to re-register all the remaining fobs so that the lost fob will be disassociated in the ECU, preventing unauthorized use and providing the customer with the maximum security possible. Starting from the KI-PASS menu, select FOB REGISTRATION, then REREGISTRATION. Lay all the remaining fobs near the smart ECU. When KDS asks if you have all the fobs together, click YES. The result will be the vehicle will now recognize only those fobs.



Record the ID number on the tire pressure monitor before installing it on the rim.

If at some point the customer recovers the lost fob, you can use this exact same process to re-associate the (now) three fobs. Remember to lay all three fobs near the smart ECU. If on the other hand the customer ends up buying a replacement for the lost third fob, follow the procedure for adding a fob, above.

It may be useful to compare the Immobilizer and KI-PASS on the Concours™ with the similarly-featured Immobilizer on the Jet Ski® Ultra® 250X/Ultra® LX. Where the two vehicles are similar is that they both use electronic keys. In fact, the

Immobilizer circuits on each are very similar. Each vehicle's ECU can store up to six key codes, and each vehicle is delivered to the customer with just two keys and two key "slots" already taken up in the ECU. Also, each vehicle allows the technician to increase or decrease the number of working keys. From there things get very different. Obviously, the Concours™ KI-PASS system is much more sophisticated than the Ultra's Immobilizer, and adds features such as TPMS and the ability to sense when the fob is out of range, which the Ultra's system doesn't do. In fact, you can look at the Ultra's Immobilizer system as simply preventative, locking out the wrong key, while the Concours™ system is more preemptive, requiring a sort of "daisy-chain" of confirmations between no fewer than three onboard ECUs before the system will power up. Other differences? Well, come to our hands-on courses this training season and find out!

Hopefully this tutorial on the new KDS version 3.0 has opened your eyes to the resourcefulness of this diagnostic tool, and more importantly, given you some insight into the practical use of KDS on Kawasaki vehicles. KDS 2.4 will no longer be supported starting with the 2009 model year, so be diligent in learning about and using the new version 3.0. Kawasaki offers one-day hands-on classes in KDS 3.0, and two-day hands-on classes on the new Concours™ 14 at five locations around the country. See the schedule in *K-Tech News* Vol. 20, Issue 3, the 2008 Course Catalog sent to all dealers in November or on K-dealer's Learning Center, for class dates and locations. ♦



To test newly-registered fobs: 1) remove the battery from the fob; 2) find the slot on the back of the fob; 3) place the slot against the projection at the front of the key switch. 4) If the fob was correctly registered, the key icon will appear in the instrument panel's LCD window.

KDS 3 *Cont'd from pg. 2*

duction of the ZG1400 Concours™ 14, KDS plays an even larger role. Registering key fobs, replacing tire pressure sensors and troubleshooting ABS all require the use of KDS. Not surprisingly, KDS has now become an official Kawasaki Essential Tool for motorcycle dealers.

Components

There are six basic parts to KDS version 3.0. First is the adapter (previously called the signal converter), P/N 57001-1648. It's now a bit larger than it was with KDS 2.4, and it has the new USB connector. The adapter translates between the vehicle's ECU and your personal computer. There is the double-shielded USB cable, P/N C57001-0017, which connects the adapter to the computer. Next, as with version 2.4, there are two communications cables for linking the signal adapter to the vehicle, though with version 3.0 these are totally new cables. Both a 4-pin cable (P/N 57001-1649) and an 8-pin cable (P/N 57001-1688) are included. The KDS software disk, P/N 57001-1650, includes both the program itself and a new-for-version 3.0 separate driver for the signal adapter, as well as an instruction manual in electronic form. Rounding out the complete KDS system is a paper copy of the instruction manual, P/N 99924-0154-02, which is being made available under separate part number for the first time.

Two more parts are necessary to



All previous versions of KDS used the computer's serial port.



KDS 3 uses all -new hardware and connects to the computer's USB port.

use KDS if you are a personal watercraft dealer. Although KDS needs no further cables or adapters to connect to Kawasaki Jet Ski® watercraft, a special "relay" cable is needed to prepare the watercraft's ECU to communicate with KDS. For all JT1200 and JT1500 A models, this is relay cable 57001-1535. For the JT1500 B and C, use relay cable 57001-1696.

Installation

Installation of KDS 3.0 onto your computer is similar to previous versions, except there is now an added preliminary step, the installation of the special signal adapter driver. Turn on the computer and insert the KDS program disk. A small black window will appear. Don't close it, we'll come back to it later. Connect the adapter to a Kawasaki fuel injected four-stroke vehicle, and turn the key switch on. Connect the USB cable to the adapter, then plug the other end of the USB cable into the computer. Immediately, a Found New Hardware Wizard will appear. Just tell the computer to search the KDS disk for the adapter driver, and follow the prompts. Once the driver is installed, the New Hardware Wizard window will close and the black window will remain. Turn the bike's key off, and type a "1" in the black window, then press enter on your keyboard. Follow the prompts and KDS will install almost instantaneously.

Use

The basic use of KDS on all but the Concours™ is pretty simple. Bear in mind a couple of things however. First, like any diagnostic aid, KDS is only a tool. You're the one doing the diagnosing, not the computer. Second, be sure and provide plenty of ventilation when doing tests that require the engine to be running, which is most of them. Third, if at any time the vehicle's key switch is turned off, or a cable disconnected, the KDS program will revert to its initial start screen. Simply restore the connection and resume using the program.

Connection of KDS varies with the type of vehicle. The two communications cables are designed to be used in three different configurations, to suit the different kinds of connectors used on Kawasaki vehicles. For 99 percent of street bikes and the KFX450R, use both comm cables together, terminating in a 4-pin connector, and attach to the 4-pin connector on the vehicle (under the bike's seat or inside the service panel at the front of the KFX450R). For the small-hulled personal watercraft, it's the same two cables and 4-pin connector, only here the connector is found inside the hull, near the rectifier. Don't forget to add in the -1535 relay cable as mentioned previously. Everything on the large-hulled Jet Ski® watercraft is the same, except the 4-pin connector is at the

Cont'd pg. 12

KDS 3 *Cont'd from pg. 11*

front of the craft near the battery, and a different -1696 relay cable must be used, and that at a different place, near the ECU. The Concours™ is connected using no comm cables at all; the signal adapter attaches directly to a 6-pin connector under the seat. Similarly, the earliest VN1500s connect through a unique, otherwise unused, 8-pin connector found right on the ECU.

Start KDS and note that the first window that comes up reminds you that not all problems on fuel injected vehicles are necessarily fuel injection system problems. In other words, remember to check the usual stuff you check even on carbureted vehicles. Such things as fuel quantity, quality, venting, spark, compression, air filter condition, etc. Turn the vehicle's key switch on, and then click OK in the KDS window. The KDS start menu will appear, offering four choices, including connecting to a vehicle WITH the SMART system, or to a vehicle WITHOUT SMART. Chose WITHOUT SMART unless the bike is a Concours™.

The KDS main menu then appears. Now select either FI (fuel injection) or KI-PASS, and continue. KI-PASS is the keyless fob system on the Concours™. You'll most often work in the FI menu. In the FI menu, you have five options besides Exit. These are REAL TIME MONITOR, REAL TIME MONITOR GRAPHS, AC-





NEW KDS VIDEO CLIPS ON K-DEALER

Since the release of KDS 3 three video training clips have been added to K-Dealer to help you get started in using this important diagnostic tool. KDS Part 1 goes over familiarization with the pieces and installing the program, KDS Part 2 is all about hooking up to various fuel injected vehicles and using the many features of KDS, and KDS Part 3 is devoted to the unique applicability to the Concours™ 14. Take the time to visit the Service section of K-Dealer to view these short videos so that you are ready to use KDS. ♦ — *Mike Nixon*

TUATOR, DIAGNOSIS, and ERASE STORED CODES. REAL TIME MONITOR allows you to do such things as check sensor values, but also more immediate jobs such as throttle position sensor (TPS) adjustment and idle adjustment.

REAL TIME MONITOR GRAPHS offers moving graphs on any three values you select, including voltage, throttle position, engine rpm, etc. This is useful for comparing readings at different throttle openings, and can be used to check charging voltage, and voltage drop in the starting system.

The ACTUATOR selection will bring up a list of actuators to test. Some such as the fuel pump can be tested by turning them on. Others, such as the ignition coils and fuel injectors, can be tested by turning them off, for 5-second intervals while you compare the resulting engine rpm drop.

KDS can be a very useful tool in your service department. Learn to use it and become familiar with its many features, and prepare yourself to meet your customer's expectations by providing the best possible diagnostic service. ♦



KDS 3 comes in a handy carrying case that conveniently holds all cables, adapter, master disc and instruction manual.