



by Patrick Kelly  
*Instructional Designer/  
Instructor*

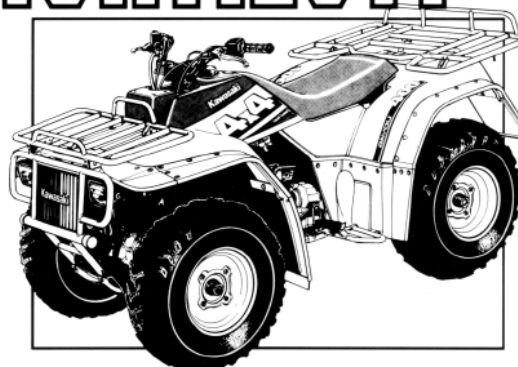
Biggest! Strongest! Mightiest! All these are words that describe Kawasaki's newest ATV, the KLF400 Bayou™ 4x4. The Bayou 400 is the largest, most powerful utility ATV on the market with an engine that generates 25 ps at a low 6000 rpm (25 percent more than the KLF300-C) and 24 ft/lbs of torque at 5000 rpm (38 percent more than the KLF300-C). It can pull an 1100 lb trailer with a tongue weight of 88 lbs. It can carry 88 lbs on its front rack and 154 lbs on its rear rack. And it can do all of this over the roughest and wettest of terrain thanks to its full-time, four-wheel drive.

The engine ...

The KLF400's remarkable all-new engine is responsible for much of the KLF's distinction. It is a liquid-cooled four stroke with four valves and a crankshaft-driven counterbalancer. The valves, two 30mm intake valves and two 27mm exhaust valves, are driven by a single overhead camshaft which incorporates an automatic compression release for easier starting. Valve adjustments are simple because of forked rocker arms with screw and locknut valve adjusters.

The 400's 81mm bore and 76mm stroke give it ▶

**BAYOU™ 400: STRONGEST!**  
**BIGGEST!**  
**MIGHTIEST!**



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Inside!

■ Service tips & more!

## Biggest! Strongest!

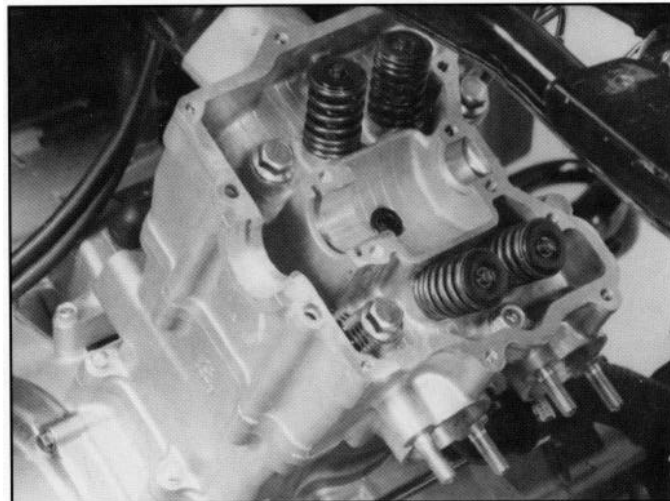
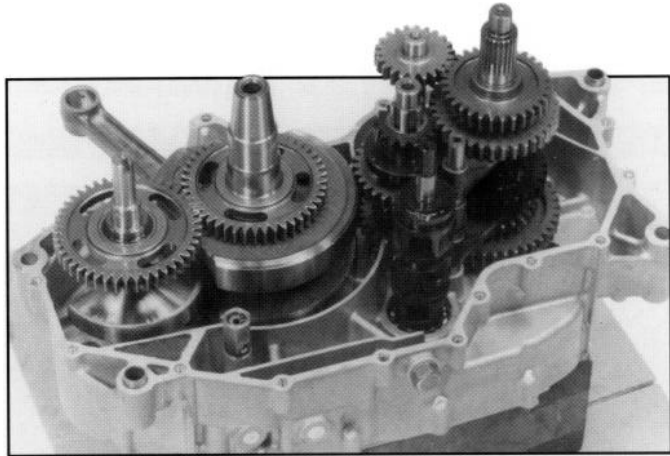
CONTINUED FROM PAGE 1

an actual displacement of 391cc. A pentroof combustion chamber combines with a dome piston to produce a 9:1 compression ratio. The piston rides in an open top deck cylinder liner, similar to the type used in the ZX600-D and ZX750-J/K engines. This type of liner provides the hottest part of the cylinder, the top, with the most cooling. The liquid-cooled cylinder also allows the piston-to-cylinder clearance to be held to a mini-

mum for reduced piston slap and increased engine life.

The cooling system features a large double-core radiator to help the engine keep its cool. This extra large radiator is protected from damage by a wire mesh stone guard and the plastic front grille. The cooling system overflow tank is conveniently mounted in front of the handlebars for easy access.

The piston rides on a chrome-moly connecting rod with a roller-type big end bearing. The pressed-together crankshaft rides on ball-type main bearings.



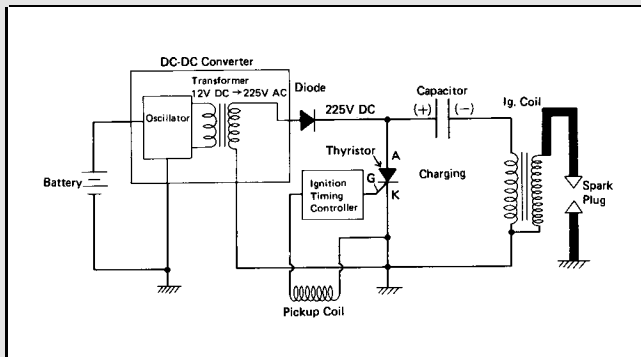
**(TOP) Crankcase showing balancer, crankshaft and transmission; (ABOVE) Four valves close-up.**

### TECHNICALITIES

## For the first time, DC-CDI

Direct Current Capacitor Discharge Ignition, or "DC-CDI," is being used for the first time on a Kawasaki ATV. This new system has many advantages over

and uses a converter which contains an oscillator and transformer to convert the 12 volt DC current to approximately 225 volts AC. The rest of the system



more conventional magneto CDI systems. DC-CDI operates similarly to a conventional CDI but is powered by the vehicle's battery instead of a separate magneto coil. If the vehicle's battery goes dead, the system is designed to use battery charging current to operate. The system takes battery (or charging) current

operates the same as a conventional CDI. Since battery current is stable regardless of engine rpm, the DC-CDI produces the same strong spark at low engine speeds as it does at high engine speeds. The result is easy starting and strong low-end performance.

- Patrick Kelly

Topping the list of engine features is the all new DC-CD ignition system. This system offers many advantages when compared with a magneto CDI system (see sidebar - Ed.).

### Air from above

The engine is fed by an equally impressive induction system. A Keihin CVK 32mm carburetor provides a good balance of power, smooth throttle response, and good fuel economy. A distinctive feature is that the carburetor linkage is fully enclosed by a plastic cover for protection from dust and mud.

For easy starting in cold weather, the carburetor has a priming pump lo-

cated on the left side of the carburetor body. The priming pump squirts fuel directly into the carb throat from a small nozzle in the inlet side. Air is supplied by an extra-large air box which houses a large, foam-covered, paper-core filter element. The air box draws fresh air from between the seat and the fender, above the vehicle. Drawing air from above instead of below the fender means that the air going into the box is cleaner and the air intake is better protected from mud and water.

### Full-time 4wd

The engine's hefty power output reaches the ground through full-time

four-wheel drive and a ride-ratio, 5-speed transmission with a super-low first gear and automatic dual-clutch system. The automatic dual clutch system is like the one used in the KLF300-C, but its capacity has been increased by 20 percent. Unlike the KLF300-C, the KLF400 does not use a high/low range transmission. A high/low range is not necessary because of the engine's superior torque output.

The clutch and transmission are coupled to a full-time four-wheel-drive system. A limited slip front differential lets the 400 steer easily while benefiting from four-wheel power delivery (see sidebar).

Full-time 4wd makes the KLF400 simple and user friendly because it eliminates the hardware needed for shifting and also eliminates the need to decide when to execute the shift.

The chassis ...

The frame, similar to the KLF300-C's, is extra heavy duty for the extra loads the larger displacement KLF is capable of carrying.

The front suspension is Kawasaki's durable and compliant double wish-bone type, with upper and lower A-arms and pre-load adjustable shock absorbers. The rear suspension is our exclusive quad link type, which uses two trailing arms extending from the frame to the outboard ends of the axle, and two locating links extending from the middle of the trailing arms to the axle center.

The result is a very rigid and stable chassis which offers excellent traction and a high degree of rider comfort.

Covering all of this is extra large bodywork with wide, flexible mud guards designed to give the rider exceptional protection from mud and water.

Extra touches

All of these items, plus the little features like hydraulic disc front brakes, twin 25 watt headlights, extra large fuel tank with a mechanical fuel gauge, spin-on oil filter and electric starter with an optional kickstarter means the KLF400 stands alone at the top of its class.

Just call it "King of the Hill." o



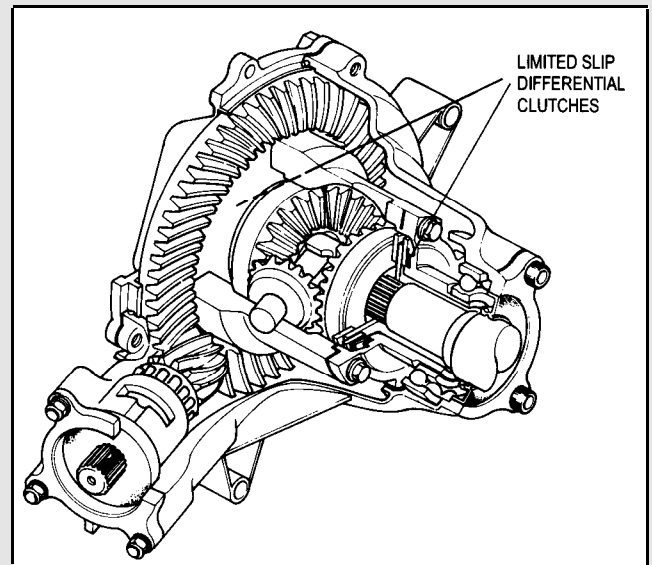
TECHNICALITIES

Limited slip differential

Why do Kawasaki 4x4s use a limited-slip front differential? Well, if no differential was used to drive the front wheels, the wheels would always turn at the same speed. That is fine as long as the vehicle is traveling in a straight line. However, when a ve-

sult? The vehicle can become stuck easily.

The limited slip front differential combines the easy turning of a regular differential and the superior traction of a solid axle. How? The limited slip differential is constructed similarly to a regular dif-



hicle turns a corner, the outside wheels must travel farther and therefore must rotate faster than the inside wheels. With no differential, steering the vehicle would require a lot of effort.

So why not use a regular differential? On solid ground, regular differentials work great, but a problem arises when the vehicle travels on slippery ground. If one wheel has less traction than the other, it becomes easier to turn and the differential sends more torque to that wheel. This is a normal characteristic of a differential, but is exactly the opposite of what is needed to keep the vehicle moving forward. Re-

ferential, but it has small spring-loaded clutch plates inside. These keep the differential locked together as a solid unit until the torque required to turn each axle varies more than a preset amount. At this point, the clutches begin to slip and each axle can turn independently of each other for ease of turning.

The clutches mean that some amount of torque is always going to be delivered to each axle. If one wheel loses traction completely, some amount of torque is still being delivered to the other and the vehicle will continue to move forward.

- Patrick Kelly

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## Inspiring good customer service

Kawasaki's Training Department invited Dr. Rick Brinkman, an outstanding CareerTrack speaker, to the San Antonio Dealer Meeting to present a seminar on "How To Build A Customer Driven Organization." In this month's "Guest Spot" column, we would like to share some of his ideas on how to inspire good customer service within your store:

Start by assembling your staff to discuss your common "vision" and "values," says Dr. Brinkman. Purpose? To make sure you are all tracking the highest priorities of your organization.

To-determine vision, ask your staff, "What's the purpose of your job?"

Vision is purpose. It's a simple statement that you use to distinguish your organization. It's your overriding goal.

Example: "We are here to make our customers' motorcycling experiences pleasant and safe."

To determine values, ask your staff, "What do you stand for?"

Values are principles. They form your codes of conduct. An example?

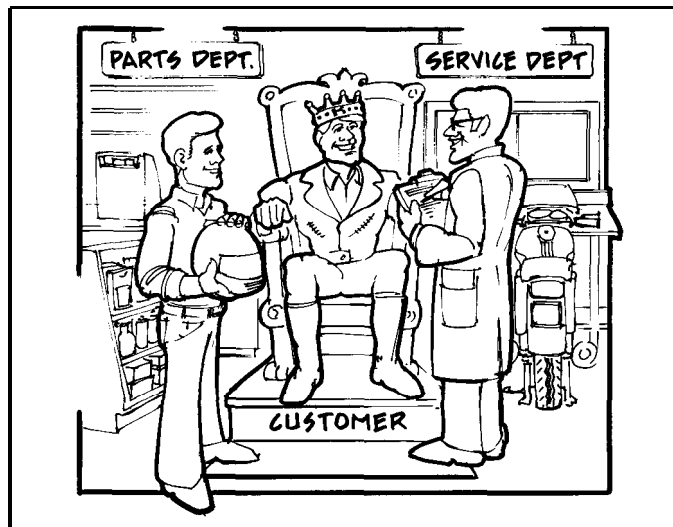
**Professionalism**  
**Respect**  
**Improvement**  
**Dedication**  
**Efficiency**

Now that everyone has had a hand in development, make sure your vision and values are clearly understood. Then, communicate them to your customers. Put them on your business cards or post them in your store. Get the word out!

What does your staff need from you if you want them to perform well? They need clear guidelines of authority. They can only make decisions using their best judgment if they know the limits of their authority.

then work with them to help them meet those goals.

Develop a system for measuring performance: remember that what gets measured, gets improved. Listen to employee suggestions and implement



Quite often in retail businesses, employees who have the most contact with customers are the least trained. Make sure your employees get the necessary training on how to work with customers. (See the article on Page 11 about CareerTrack's video-based employee training program "How to Give Exceptional Customer Service" - Ed.) Everyone can benefit no matter what his or her position. Good communication skills are just as important as product knowledge for building credibility and rapport with customers.

Remember that external service will only be as good as internal service. Employees want appreciation and recognition. Set goals for your employees,

them. Get people to be specific about problems. Encourage them to offer solutions.

Finally, flip your organization chart upside down to put your customers on top. The customer is the most important person in your store. Build a strong relationship with your customers. Remember, service is adding people to the product. People can go elsewhere for the product. Fourteen percent of customers who quit doing business with a particular store are dissatisfied with the product; 68 percent go elsewhere because they were treated with an attitude of indifference.

Make it as pleasant and convenient as possible for the customer to do business with you. □



## Publication collectibles

By Ray St. John, Supervisor, Technical Writing

Older model motorcycles, depending on how interesting, rare, or unique they are, can become collectors items. And the collectors of these motorcycles are usually interested in restoring them to new condition.

There's one part of an old motorcycle however that can't be refurbished or repainted: the Owner's Manual.

So what does an enthusiastic owner of an older bike do when he wants to put that finishing touch on his pride and joy? Well, sometimes he talks to his friends in his motorcycle owners' group. Sometimes he scours the for sale" ads or puts "want-ads" in magazines. And every so often he talks to his Kawasaki dealer.

That's where you come in. You've got the inside rack on authentic Kawasaki publications. Some of the owner's manuals for older bikes are still available. Models like the '73 Z1 and the '69 H1 are the biggest hits with collectors, but recently other year models of the same bikes are getting some interest. The H1's little brothers, the 250cc S1, 350cc S2, and 400cc S3, are beginning to look good to collectors. The three-cylinder 750cc H2 is in there, too. In the Z1 family, look for the Z1-A and -B, and the first LTD, the KZ900-B1.

Here's a list of the owner's manuals still in stock from model years 1972 through 1977 as of this writing:

### In-stock owner's manuals

Model	Part Number	Model	Part Number
<b>2 5 0 c c</b>		<b>5 0 0 c c</b>	
'73 S1-A	99997-546	'72 H1-B	99997-525
'74 S1-B	99997-812	'73 H1-D	99997-547
'75 S1-C	99997-846	'74 H1-E	99997-811
'75KH250-A5	99997-875-01	'75 H1-F	99997-849
		'76 KH500-A8	99997-882-01
<b>3 5 0 c c</b>		<b>7 5 0 c c</b>	
'73 S2-A	99997-546	'73 H2-A	99997-526
		'74 H2-B	99997-810
<b>4 0 0 c c</b>		<b>9 0 0 c c</b>	
'74 S3	99997-812	'74 Z1-A	99997-808
'75 S3-A	99997-846	'75 Z1-B	99997-832
'76 KH400-A3	99997-878-01	'76 KZ900-A4	99997-884-01
'77 KH400-A4	99932-003-01	'76 KZ900-B1	99995-290-01

### TIP

## Generator paint

If the Kawasaki portable generator in your shop is desparately in need of some paint touch-up, this is your lucky day! Fred DeHart, Kawasaki's North and East Region Trainer, has found a paint that almost perfectly matches

that found on Kawasaki generators. The paint should be available in most good auto parts stores or from your local automotive paint store. Ask for Duplicolor - DS-GM249 or 1976 Medium Orange GM Code 78. □

### VIDEO

## New parts and accessories video arriving soon!

The selling season is nearly here and to help your parts and accessories sales people get ready, Kawasaki has produced "At the Parts Coun-

20-minute video. This will help them become aware of the important role parts sales people play in the success of dealerships. Then have the parts sales



ter, You're the Key," a video training program. This video program will arrive at every Kawasaki dealership in the near future.

The video program shows the responsibilities of parts sales people and demonstrates ways for your people to meet those responsibilities. The guide that accompanies every video is filled with ideas and practice activities for upgrading your parts and accessories sales effort.

Correctly completing and sending the quiz at the end of the video guide to Kawasaki will qualify the sales person for the training completion certificate. The certificate and quiz results will be returned by mail.

When the video package arrives, show everyone in the dealership the

people go through the video guide with your parts manager a few pages at a time over the next several weeks. This will help your parts and accessories people be ready, because at the parts counter, they're the key to a great '92 parts and accessories sales year! - Jerry Heil

### ERRATA

We made a mistake in the last issue! We listed the part numbers of the new A&P Checklists incorrectly.

Here's what the part numbers *really* are:

#### NEW A&P CHECKLIST P/Ns

PRODUCT LINE	CHECKLIST P/N
Motorcycle	
ATV	99964-0053-01
Utility Vehicle	99964-0051-01

## Why use motorcycle oil?

by Roger Davis  
& Gregg Thompson

Is your car's engine capable of turning more than 10,000 rpm? Does it cruise down the highway at 4,000 rpm? Does it have an oil bath clutch or lubricate its transmission with the engine oil? Is it likely to sit unused in your garage for days, weeks, or even months at a time?

If your answer to even one of these questions is "yes," you should consider using Kawasaki Motorcycle Oil in your car, not the other way around! Unlike automotive oils, Kawasaki 4-Cycle oil is formulated to protect and lubricate not only engines but also wet clutches and transmis-

sions. Even automotive racing oils don't provide the same protection.

Remember that all the additives used in our oil are available to any company that blends oils. The types and quantities of additives used are determined by what the oil is intended to do and how much the buyer is willing to pay for it.

Oil in motorcycle engines typically runs 30° to 50° F hotter than in automobile engines. Heat causes oxidation, but more heat causes *a lot more* oxidation. Kawasaki oil contains more anti-oxidation additive to help it survive these higher temperatures. In addition, more detergents and dis-



persents are used to deal with the nasty by-products of oxidation and to prevent deposits from forming on critical engine parts.

Because motorcycles are likely to be used less frequently and sit unused for longer periods of time, our oil contains rust and corrosion inhibitors not found in many automotive oils. Also, special acid inhibitors are added to fight acid build-up that can result from frequent short trips and storage.

Motorcycle transmissions create special problems that simply don't exist in auto engines. The "multi-viscosity" characteristics of all multi-grade oils are made possible by additives called Viscosity Index (VI) Improvers. The polymers in these VI Improvers resist the thinning that occurs in oil as it heats up. The result is an oil that is as thin as a straight 20W oil at 100° F, but when it is heated to 250° F it is as thick as a straight 50W oil would be

at that temperature.

As the oil goes through the transmission, the gears continually chew up these polymers, and the lubricating and load bearing qualities of the oil are diminished. The catch here is that there are different polymers available and some are a lot more expensive than others. They all produce virtually the same results in laboratory viscosity index tests, but the more expensive polymers are also more resistant to damage from shear loads created by transmissions.

Kawasaki 4-Cycle Oil contains more expensive Viscosity Index Improvers to help it retain its excellent load-bearing and lubricating qualities longer as it lubricates the transmission.

Then there's the matter of the wet clutch. A special friction control material is blended into our oil to allow proper functioning of

CONTINUED ON NEXT PAGE

### TECHNICALITIES

## Friction modifier additives

There is something relatively new in the automotive oil business that people in the motorcycle industry need to know about. Oil companies



have recently started adding small quantities of "friction modifiers" to some of their oils in order to meet certification requirements for the "Energy Conserving" or "Energy Conserving II" ratings (oils with the ECII rating have more of the

friction modifiers). Friction modifiers are additives that make the oil more "slippery," which results in slightly better fuel economy. Friction modifiers do not improve the oil's ability to protect and lubricate the moving parts in any engine. The automobile manufacturers are soon going to specify that in order to maintain the vehicle warranty, oils with this rating must be used. This helps the manufacturers meet government requirements for fuel economy. As a result, most automotive oils will soon have it.

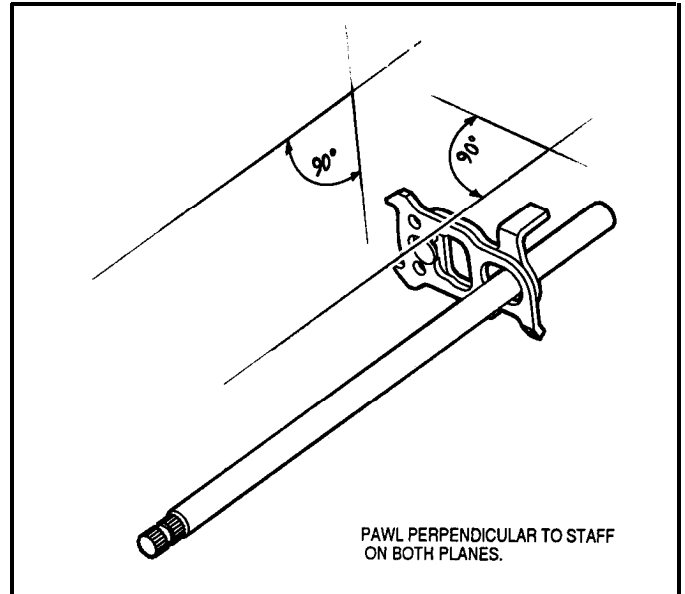
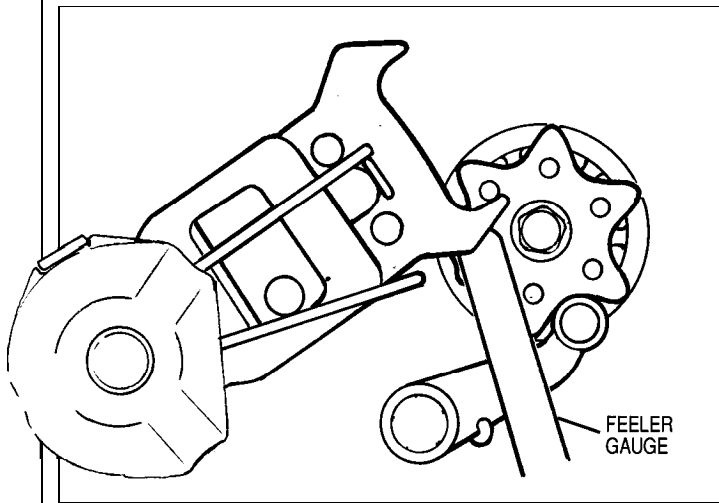
These friction modifiers sound great, but they are not good for wet clutches. For that reason alone, oils with this rating should not be used in motorcycles.  
- Gregg Thompson

# KLF300B transmission shifting blues

by Keith Pestotnik, Rocky Mountain Kawasaki

Ever heard of a B Model KLF300 (two-wheel-drive) with a reluctant (binding) shifter when the engine is hot? If so, chances are the shift mechanism under the right-hand side case is at fault. We have seen units where the shifter pawl arm rubs on the shift drum detent cam due to a mismanufactured shift shaft.

To inspect for this condition, remove the sidecase, both clutches and the large washer and pins from the shift drum. Tighten the bolt back into the shift drum. Up-shift and hold the mechanism in the full upshift position, and push the shift shaft from the clutch side towards the cases (to the left). Now measure the clearance between the pawl arm and the drum detent cam with a feeler gauge. Repeat this inspection in the full downshift position and note the clearance difference between up and down positions.



If either the upper or lower shift pawl hook is close to or touching the detent cam, you may have just found the cause of the problem. To fix it, remove the shift shaft and clamp it securely in a vice between soft jaws. Bend and twist the pawl arm as required until it is exactly perpendicular to the shift shaft. Check your progress using machinist's square.

Final fit inspection is best made on the engine: the pawl arm must be centered in the space between the detent cam and drum washer in all positions with the shaft pushed solidly to the left. Once correct, be certain the shift drum washer is not bent and install it with the sharp edge towards you. Put a few drops of non-permanent locking agent on the washer bolt, and don't forget to use torque wrench on the clutch nuts during re-assembly. □

## COMMUNICATIONS

### Micro-

by David Pyle  
Parts Publications Specialist

Recently, I have received several calls from dealers regarding decals. Some parts come with the decals on them and some don't. When you order body parts for a vehicle, how do you know whether you need to order the decals or not? The accompanying chart should be helpful.

Warning labels are not supplied on any replacement parts. Please remember to order applicable warning labels for parts that are being replaced. □

TYPE OF VEHICLE	DECALS	LABELS
Street and dual-purpose	Decals provided on all body parts*	No
KX/KDX	Decals provided on all body parts*	No
ATV	No decals provided	No
JET SKI® Watercraft	No decals provided	No
Generators	No decals provided	No
Utility Vehicles	No decals provided	No

\*Swingarm assemblies do not include decals.

## TIP

### M/C oil

CONTINUED FROM PREVIOUS PAGE

the oil bath clutch plates. Automotive oils, especially after they've been used over a period of time, may cause slippage and other clutch problems.

The bottom line? There really is a difference between automotive oils and specialty motorcycle oils, and Kawasaki 4-Cycle Oil really is worth a little extra money to the customer who wants the very best for his motorcycle. □

# Needles in a hay stack, and a chart to find your way

**By Gregg Thompson**  
Sr. Product Support Specialist

Well, it's another KX model year and, you guessed it, another new jet needle size identification system! Are you confused ...again?

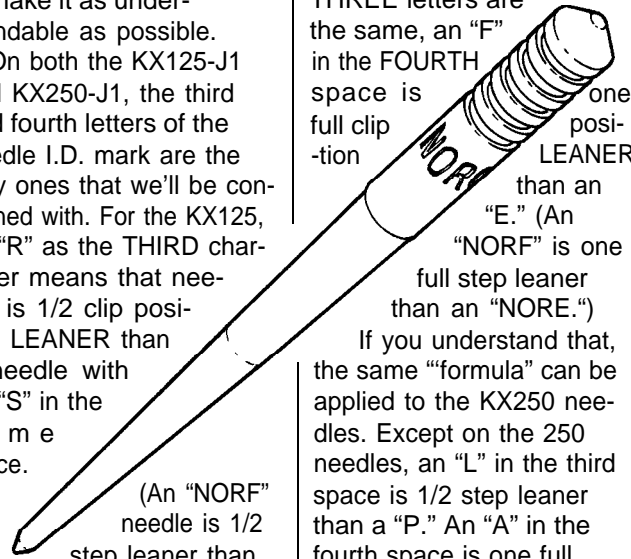
Actually, this same system was used in last year's KX125H2, but this year more needles are available and more clarification is needed. Getting this clear in your mind can be a bit tough especially when you don't have any information about it, so we're going to give you some information and try

to make it as understandable as possible.

On both the KX125-J1 and KX250-J1, the third and fourth letters of the needle I.D. mark are the only ones that we'll be concerned with. For the KX125, an "R" as the THIRD character means that needle is 1/2 clip position LEANER than a needle with an "S" in the same place.

(An "NORF" needle is 1/2 step leaner than an "NOSE") When the FIRST

THREE letters are the same, an "F" in the FOURTH space is one full clip position



than an "E." (An "NORF" is one full step leaner than an "NORE.")

If you understand that, the same "formula" can be applied to the KX250 needles. Except on the 250 needles, an "L" in the third space is 1/2 step leaner than a "P." An "A" in the fourth space is one full step leaner than a "7" in

the same space, a "B" is leaner than an "A" and so on.

Since that explanation makes it just about as clear as mud, here's a table listing the needles from richest to leanest for each model. Each needle listed in this table is 1/2 clip position leaner than the one directly above it in the table. Soon the microfiche will be updated to include this information also. o

**TIP**

## KX rear brake blues (or "an ounce of prevention is worth a pound of caliper")

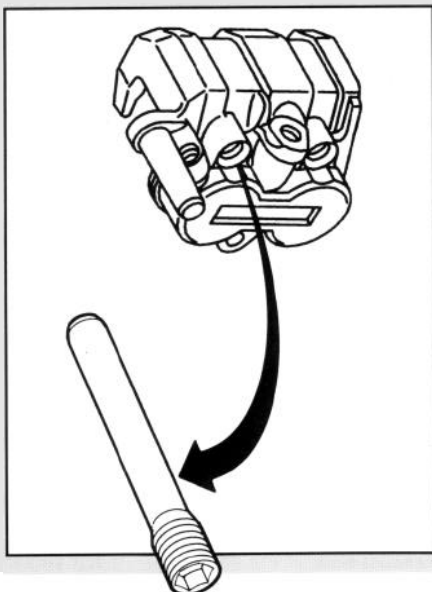
There are few worse feelings for a mechanic than stripping the threads or rounding the head off a piece of hardware. Especially when it's a counter-sunk Allen bolt with no exposed shank or head. The big KXs from '89 on

have used an Allen head brake pad pin on both the front and rear brakes. Over time, dirt and water, along with repeated heating and cooling cycles, make a bolt that is very difficult to remove.

All it takes to avoid the problem is a little bit of anti-seize on the threads.

Doing this each time you change the brake pads will do the trick. Remember, these pins seat into a taper like an automotive spark plug. A small amount of torque goes a long way!

- Dave Pyle



### '92 KX needle I.D. chart

	Needle I.D. Mark	Kawasaki P/N
KX125-J1		
Richer ↑	NOSE	16009-1709
	NORE	16009-1704
	NOSF	16009-1710
	NORF	16009-1705
	NOSG	16009-1711
Standard ↓	NORG	16009-1706
	NOSH	16009-1712
	NORH	16009-1707
Leaner ↓	NOSI	16009-1713
	NORI	16009-1708
KX250-J1		
Richer ↑	NOPZ	16009-1699
	NOLZ	16009-1694
	NOPA	16009-1700
	NOLA	16009-1695
	NOPB	16009-1701
Standard ↓	NOLB	16009-1696
	NOPC	16009-1702
	NOLC	16009-1697
Leaner ↓	NOPD	16009-1703
	NOLD	16009-1698



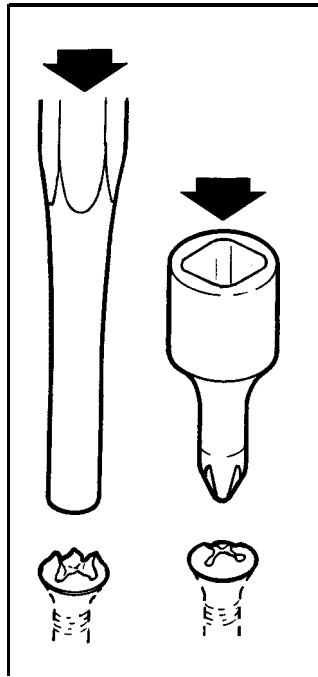
## Service tips from the field: K-Tech readers write

For a motorcycle mechanic, removing "rounded-out" Phillips head screws is just about a daily occurrence. **John DiCiaula** of Action Kawasaki in Mission Viejo, Calif., wrote in with a tip that should help: John takes a large drift and flattens down the raised points on the screw head. Then, with a hammer, he taps the Phillips head socket from his impact driver into the head of the screw. Tapping on the screw with the drift and the Phillips bit also tends to loosen the screw in the case.

One sharp rap with the impact driver and the screw should be loose.

*(Editor's aside: Another thing you might try for removing these screws is putting a little lapping compound on the end of your*

*screwdriver blade. This adds some "grip" between the blade and the stripped head allowing you to apply more torque to the screw.)*



• **Quite often** when starting up a new vehicle for the first time or starting one that has been stored for a week or more, you'll have to crank the starter motor for a long time before it finally lights up. It seems the carburetor just can't deliver quite enough fuel to get the engine going on that first start-up. **Dana Dandeneau** of Dandeneau Automotive has a quick and easy solution to this problem. Instead of melting the starter motor and battery down trying to start one of these, Dana says just find the *pink* vent hose from the carb(s) and gently blow into it while cranking the engine over. This pressurizes the float chamber(s) forcing extra

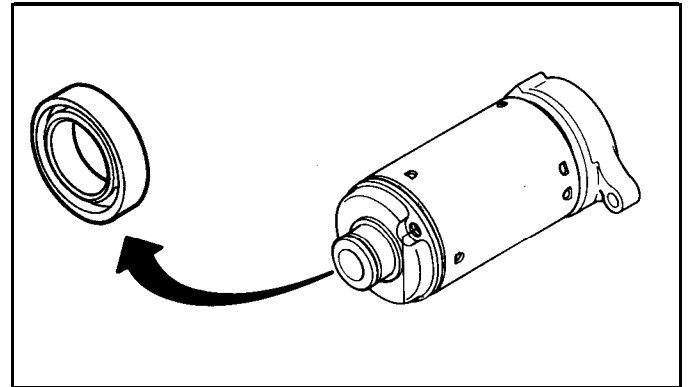
gas into the venturi. The engine should fire up immediately.

Be aware that on some models (such as our KX bikes), there is more than one vent tube so you have to temporarily plug one of them in order to pressurize the carb.

Blow gently! A little pressure goes a long way.

This tip also works on our watercraft, but the vent tube you want to pressurize is the black one from the gas tank cap; there is no vent tube on the carburetor.

*(Thanks for your great tip, Dana! - Ed.)*



• **Every now and then**, you will come across a starter motor that has been damaged by oil that leaked in from the engine. You can order new brushes and rebuild the starter motor, but the part that caused the problem in the first place (the seal) is not available. This can be frustrating!

But **Daryl D'Ambrosio** from Cumberland Kawasaki has a solution: He

says that many of our starters use a common seal available right from Kawasaki. It is a 20x35x 4.5 mm seal and it can be ordered under P/N 92049-1176.

If this seal is not the one you need, you can measure the inner and outer diameters and thickness of the old seal, and your local bearing house can probably sell you one that will replace it. □

### TECHNICALITIES

## KLF220 starting problems

We've had a few reports on the Hot Line of new KLF220-A5s with strange electric starter problems. The symptoms are very similar to what would occur with a low battery or weak starter motor. In every case, the symptoms were intermittent.

Before calling the Hot Line, most of these dealers had already checked the battery, battery cables for tightness and starter motor, and then replaced the starter and battery. When that didn't help, a couple of dealers even did some engine disassembly looking for something binding or seizing.

The problem turned out to be the connection between the negative battery cable and the engine. The 6mm mounting bolt had a locking agent on it which insulated it from the cases, and the engine was painted, insulating it from the cable end. The result was a very poor path for the high-amperage starter current to follow.

The solution was to clean the locking agent from the bolt and the hole in the cases and scrape the paint off the engine around the mounting point. - *Kenny Osberg*

## KLF300: Don't knock these solutions

by Gregg Thompson, Sr. Product Support Specialist

If you have a 1990 or older KLF300B or C model with a mysterious knocking noise at low engine rpm, the solution could be easier than you think. If the noise sounds

just like a rod knock and is louder when the engine is hot, but goes away just above idle, why not try a new IC igniter?

"Oh, that makes perfect sense!" you say.

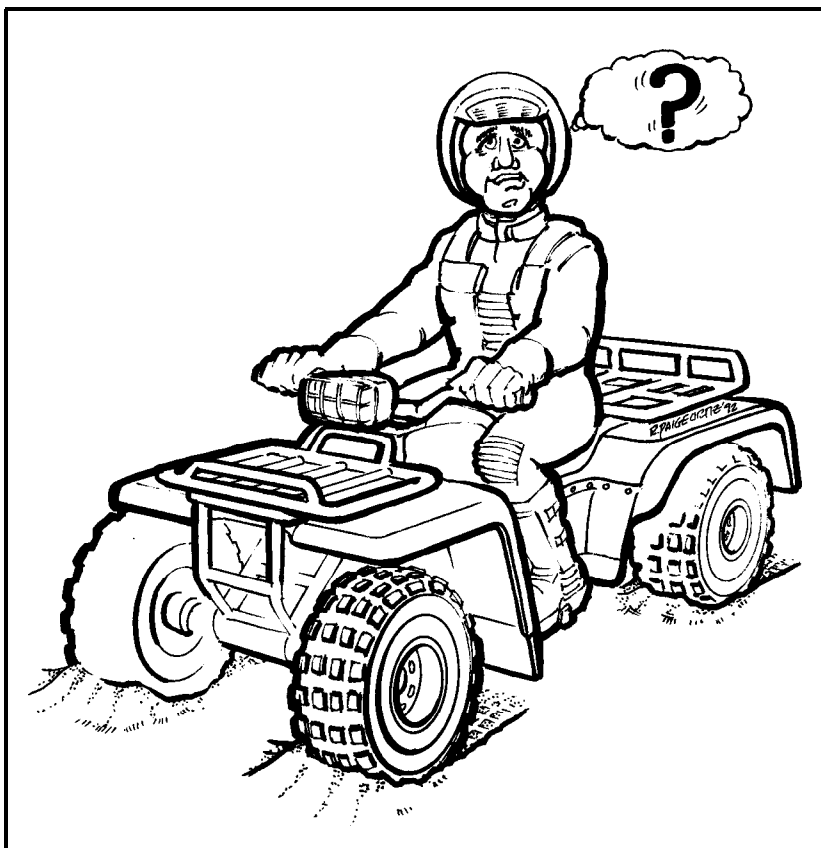
"Not!"

Well, strange as it may seem, that was the solution in a few cases where the symptoms were just as described above. Apparently, the audible "knock" was the result of incorrect ignition timing at low rpm due to a faulty igniter. The knock worsened as the engine warmed up, which does make sense if the noise is the result of detonation.

Hey, if you think the IC igniter remedy is a strange one, here's an even more unlikely solution to the same problem: A couple of units with the same low-rpm knock also had a problem with the engine suddenly stopping at low speeds, bringing the vehicle to an abrupt halt. These

units didn't respond to replacing the igniters. After disassembling and inspecting the clutches, transmission, and in one case even the engine, the problem turned out to be a faulty regulator/rectifier!

That's right: The knocking noise and engine stalling at low speeds was caused by a faulty regulator. So, if a vehicle shows up in your shop with these symptoms, check the battery for high voltage with the engine running or just plug in another regulator/rectifier. □

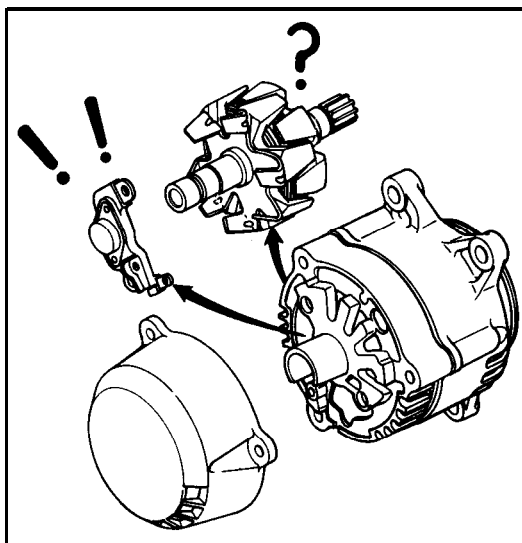


### TIP

## Diagnosing repeat regulator failures

Many of our motorcycles since 1984 have used field-excited alternators with the regulator and rectifier mounted inside the alternator case. The ZX900 Ninja was the first to use this type of alternator and many of the larger street bikes since then have used the same design.

In the past few years, a number of cases have been reported to us where the customer experienced repeat regulator failures in a very short period of time. The problem turned out to be a short in the rotor. The short didn't knock out the rotor completely, but it did reduce the field enough that the regulator



had to pump current through the rotor non-stop to keep up with the demand.

Our feeling is that when this happens, the new regulator simply burns out over a short period of time.

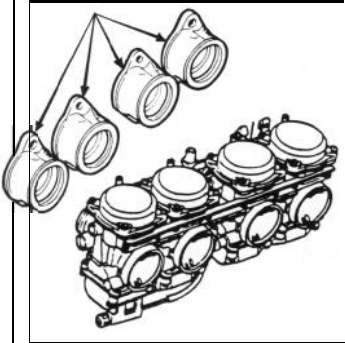
This type of failure (layer short) in the rotor usually cannot be detected with a multimeter resistance test. If you come across a replacement regulator in one of these alternators that has failed shortly after it was installed, you should probably replace the rotor even if it doesn't test bad with your multimeter.

- Tevis Moffett

**BONUS TIP**

Carbs off? Well, just a few minutes extra work saves...

Here's something to remember the next time you have the pleasure of removing a set of carburetors from one of Kawasaki's multi-cylinder motor cycles: Once you have



that carb set removed, just a few minutes' more work will have the manifolds off in your hands too. (Note: *This tip refers to the flanged, bolt-on type manifolds -Ed.*)

On high-mileage units, these manifolds can begin to leak between the flange and the head, resulting in hard starting, poor idle and terrible throttle response off idle.

With just a little extra work you can seal the manifolds to the head, preventing future problems. Use a high-quality heat- and gas-resistant sealant like Kawasaki Bond (P/N 56019-120) for this job. Never use a common RTV-type silicone sealant as it will soon be softened by the gas and *cause* rather than prevent a leak.

- John Pomo

# customer SERVICE

EXTRA:  
"How-to"  
on video

Learn the real reason behind most customer dissatisfaction and what to do about it ...

Learn how to deal with emotional customers and what to do when an angry customer verbally attacks you ...

Learn how to build rapport with customers through active listening techniques ...

Learn what customer service really means and what tactics are being used by organizations who are winning.

Sound interesting? It is, and all of this information can be found in one place: "How to Give Exceptional Customer Service", a video-based training program available from Kawasaki's Technical Services Department that you can use to train everyone in your store.

Included with the four video tapes in this training package are two Student Workbooks and a Discussion Leader's Guide to help you get maximum results. Each volume con-

tains over 80 minutes of proven ideas, tips and strategies-that's over *five hours* of instruction for only \$165.00 (plus applicable sales tax and shipping). Order directly from Kawasaki by calling (714)770-0400, ext. 2472, or write to:

**Kawasaki Motors Corp.,  
U.S.A.  
Technical Services Dept.  
P.O. Box 25252  
Santa Ana, CA 92799**



**Volume I:** How to Build Your Service Image and Customer Loyalty

**Volume II:** How to Satisfy Even the Most Difficult Customers

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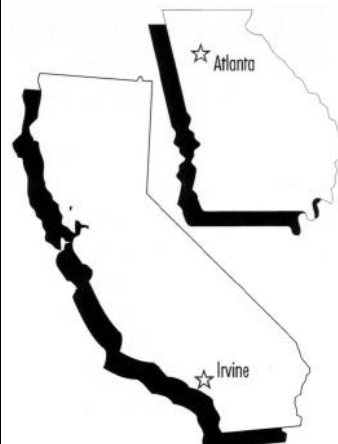
**Volume IV:** Making It Work-Superior Service in Action

**REGIONAL NEWS (cont.)**

**WEST**

CONTINUED FROM PAGE 12

new repair techniques, all our guests were interested in the training techniques and the materials we use in the Service Training and Communications Department. They will use these materials and techniques to enhance technical training efforts in their own countries. □

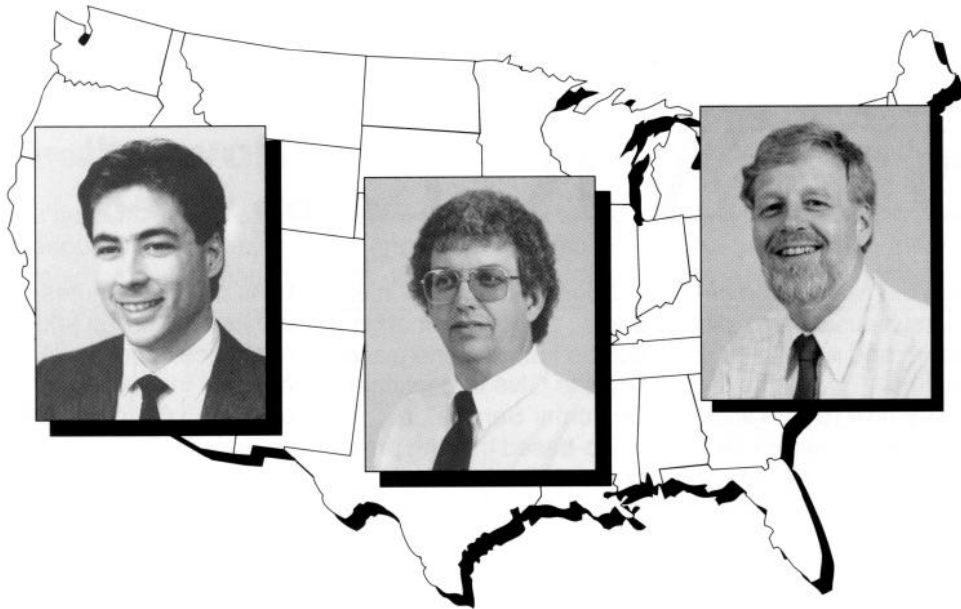


**SOUTH & CENTRAL**

CONTINUED FROM PAGE 12

technicians will be able to talk with the customers about their problems in a competent manner. Also, they will have their diplomas to display for all to see their qualifications.

Kawasaki technical training will make your technician an even more valuable asset. Ask Tony! □



WEST

International horizons

by Patrick Kelly

9950 Jeronimo Road  
Irvine, CA 92718  
(714) 770-0400

The month of January had an international theme in training this year. Three visitors from European and South American Kawasaki distributors attended technical training classes at the West Regional Training Center.

Ronald Kuijper, Product Support Assistant Manager for Kawasaki Jet Ski Europe, attended JET SKI® watercraft class and MULE™ Dealer Orientation plus MULE 1000/2000 and MULE 500 classes.

Javier Botero Gutierrez, Service Department Manager for Autotecnica Columbiana, and his assistant, Javier Arango Alvierrez, traveled from Medellin, Columbia, to take Engines, Fuel Systems, Electrical Troubleshooting and Generators classes.

In addition to learning

CONTINUED ON PAGE 11

SOUTH & CENTRAL

A training testimonial

by Walter Rainwater

6110 Boat Rock Blvd. S.W.  
Atlanta, GA 30378  
(404) 349-2000

Tony Coats is the owner of Wheels for Fun in Louisville, Ky. Tony has been a Kawasaki dealer for about four years and has been in the motorcycle industry about 12 years. He realizes that a well-trained technician can really benefit his dealership, so he recently registered two of his technicians in Kawasaki technical training for a total of 24 student days. His specific reasons were many:

"I wanted these guys to attend training classes now so they would be prepared for the busy season," Coats explains. He wanted his technicians to be able to make repairs quickly and correctly, and he realizes that factory training means they will have the latest, most up-to-date information. His

CONTINUED ON PAGE 11

NORTH & EAST

JET SKI® update class

by Fred DeHart

201 Circle Drive N., #107  
Piscataway, NJ 08854  
(201) 469-1221

With this Spring issue of K-Tech News, it is time again to remind everyone that business will be picking up rapidly as the riding season for motorcycles and JET SKI® watercraft nears. Plan on coming to classes before things get too hectic.

A new 750 JET SKI Update class has been added to the training schedule. Starting in March, any JET SKI class held in the North or East Regions also includes an extra day for the 750 JET SKI Update class.

Even if you have already attended regular JET SKI training, you are welcome to attend the one-day 750 JET SKI Update class. Please check the training schedules and sign up when you get a chance.

Hope to see you in class soon! □

Training Schedule

East Region

April

- 6-8 JET SKI® Watercraft
- 9 750 JET SKI® Update
- 14-16 Troubleshooting Elec. Systems
- 21-23 Engines
- 24 High Performance Engines

May

- 5-7 Engines
- 12-14 JET SKI® Watercraft
- 15 750 JET SKI® Update
- 19-21 Troubleshooting Elec. Systems
- 27-28 Fuel Systems

North Region

April

- 27-29 JET SKI® Watercraft
- 30 750 JET SKI® Update

Central Region

May

No classes scheduled

South Region

April

- 2 Service Department Operations (K-BOSS)
- 6-7 Servicing the MULE 1000/2000
- 8 Servicing the MULE 500
- 9 Generator
- 13 High Performance Engines
- 14-16 Engines
- 20-22 JET SKI® Watercraft
- 23 750 JET SKI® Update
- 27-28 ATV Service
- 29-30 Fuel Systems

May

- 4 High Performance Engines
- 5-7 Engines
- 11-13 JET SKI® Watercraft
- 14 750 JET SKI® Update
- 18-20 Troubleshooting Elec. Systems
- 21 Generator
- 26-27 ATV Service
- 28-29 Fuel Systems

West Region

April

- 1 Generator
- 6 MULE Dealer Orientation
- 7-8 Servicing the MULE 1000/2000
- 9 Servicing the MULE 500
- 14-16 Troubleshooting Elec. Systems
- 20-22 JET SKI® Watercraft
- 23 750 JET SKI® Update
- 29-30 Engines

May

- 11 Generator
- 12-13 Fuel Systems
- 18-20 JET SKI® Watercraft
- 21 750 JET SKI® Update