Thank you for purchasing this Cobra Dynojet Kit. This kit has been developed for a motorcycle which is set to the parameters listed at left in the descriptions. If your motorcycle does not meet any of these parameters, you may have the wrong kit, so please check with Cobra before installation. For technical assistance please call 1-800-992-4993

COBRA® Anything's Possible

92-4165

U.S. Models only

1991-99 Kawasaki VN1500 Vulcan

Stage 1&3

For Mildly tuned machines using the stock airbox, with stock filter, or Cobra intake kit 06-0431. Must be used Cobra Boulevard Exhaust.

WARNING

Legal only for racing vehicles-not applicable nor intended for use on pollution controlled street or highway vehicles.

NO SMOKING!

NO OPEN FLAME!

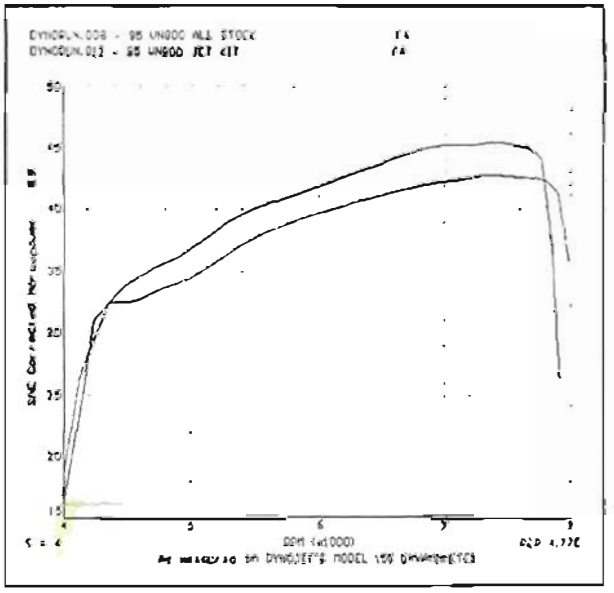
WHILE INSTALLING YOUR JET KIT.

Cobra Engineering Corporation
4915 East Hunter, Anaheim, California 92807
Tel: (714)-779-7798 Fax: (714)-779-2191

714-779-7798

The manufacturer and seller make no warranties express or implied which extend beyond the description of the goods contained herein. Any description of this product is for the purpose of identifying it and shall not be deemed to create an express warranty.

Packed by: ☐



This graph shows a typical gain with a Cobra jet kit.

250310000

PARTS LIST		
2	Main Jets	DJ108
2	Main Jets	DJ112
2	Main Jets	DJ160
4	Adjusting Washers	DW0001
1	Deceleration Jet Drill	DD#58
2	Pilot Air Corrector	DCO251
2	Fuel Needles	DNO106
2	E-Clips	DE0001
1	Plug Drill	DD# 5/32
1	Screw	DS0001

STAGE ONE INSTRUCTIONS

1. .Remove vacuum slide from carb. Remove stock needle & spacers, noting order of assembly.

2. Install Cobra needle on groove # 3. Install the Cobra washers above the E-clip.

3. Remove the main jet and replace with the Cobra main jet provided. Use DJ112 with Slip-on exhaust at altitudes below 3000 ft. Use the DJ108 at altitudes above 3000 ft. Use the DJ160 main jets with the boulevard air box removal kit part no 06-0431. Be sure that the jet you are changing is the main jet.

4. Drill the deceleration jet in carb bell mouth as in (Fig.C) with the DD#58 drill provided. Use grease when drilling and make sure to blow out jet to remove chips.

5. Install the DCO251 Pilot Air Corrector in the Pilot Air Jet location shown in (Fig.C).

6. Locate the Fuel Mixture Screw location (Fig.B). If you see a screw proceed to the adjusting procedure. With the 5/32 drill provided, carefully drill thru the plug. NOTE: the mixture screw is directly underneath this plug, be ready to pull back on the drill the instant you break thru. Use screw provided to secure and remove the plug. Carefully turn mixture screw clockwise until seated, then back out 4-1/2 turns.

Fig. A

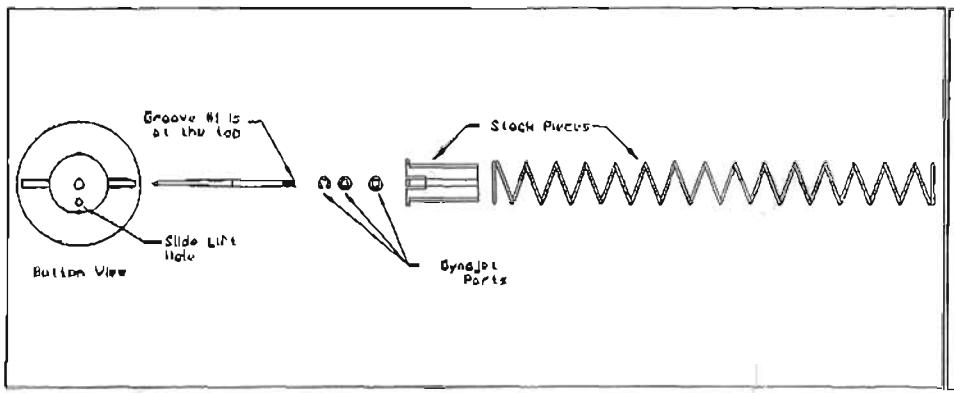


Fig.B

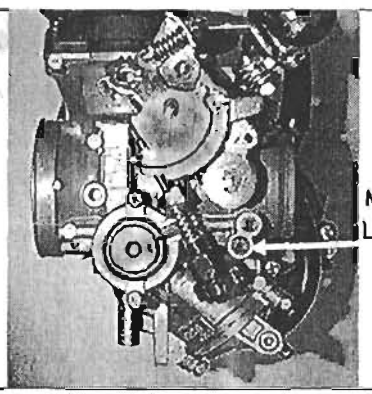
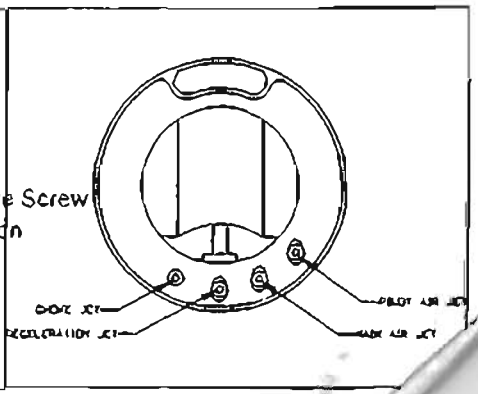


Fig.C



COBRA

PART NUMBER
06-0431 & 06-0432
KAWASAKI
Vulcan 1500 A/B/C 87-96

AIRBOX REMOVAL KIT INSTALLATION INSTRUCTIONS

Congratulations on your purchase of your airbox removal kit. Each and every component is manufactured in the U.S.A. of the highest quality materials. Read your installation instructions completely before beginning. This kit removes the chrome airboxes on each side of your motorcycle. Installation of this kit requires re-jetting your carburetors and modifying your stock airbox. It is recommended that a qualified mechanic or technician install this product.

1. Begin by removing the seat and the fuel tank. Next remove the front frame covers over the steering neck.

2. Now remove the two air filter assemblies from both sides of the motorcycle. Pull both rectangular rubber connections from the main airbox.

3. Remove the radiator shroud and drain the coolant into a clean container. The plastic drain plug on the bottom of the radiator can be loosened by hand. Remove the radiator cap to expedite the draining. After draining the coolant, reinstall the drain plug and radiator cap. Remove the top radiator mount bolt.

4. Next remove the thermostat unit by disconnecting the three large hoses, small overflow hose by the cap, and the two mounting bolts on the right side. Swing the radiator on the lower mounts and remove the top radiator hose. Now remove the thermostat unit from the right side. Remove the fuel pump mounting bolts, disconnect the carb fuel line and swing the fuel pump out of the way.

5. Loosen the carb airboot clamps and remove the large rear airboot from the back of the airbox. Pull both airpump hoses from the airbox. Disconnect the front airbox vent hoses and remove the complete airbox assembly.

6. The two small hoses at the front of the airbox (crankcase vent and airbox drain) will be connected together with the reducer coupler supplied with the kit. Use the two small zip ties the secure the hoses in the coupler. Push the supplied airpump hose plugs into both airpump hoses and secure with the small hose clamps supplied.

7. Reinstall the thermostat unit, coolant hoses, and fill the radiator with coolant. Remount the top radiator bolt and front frame covers.

8. Remove the throttle cables, float bowl vent hoses, and loosen the carb mount clamps. Remove the carbs and install the jet kit following the supplied instructions. Reinstall the carb assembly.

9. Mount the rear cylinder carb K & N Filter with the supplied clamp. The front cylinder airboot must be modified to fit the supplied filter airboot adapter. With a band saw or sharp knife, cut the rubber airboot between the two raised flanges where the boot went into the stock airbox. The airboot divider (inside the boot) must be cut back one inch so that the filter adapter can be slid inside and secured with the two large clamps supplied. Reinstall the airboot on the carb and tighten the hose clamps.

Cobra Engineering Corporation 4915 East Hunter, Anaheim, California 92807
Telephone: 714-779-7798 Fax: 714-779-2191

10. Hook up the throttle cables, fuel line, fuel pump mount and vent/vacuum hoses to the carbs. Ch for smooth throttle action and proper hose routing. reinstall the fuel tank and seat. Start the engine. Remember, the fuel pump must fill the carbs before the engine will start. Check for fuel or coolant leaks and check for loose hardware. Synchronize the carbs if necessary.

11. Unplug the two wires from your horn on the left side of the motorcycle and remove the horn. Remove the horn mounting bracket from the horn . Install the supplied black L shaped horn relocater bracket to the mount on the frame where the left side air box used to be using the stock bolt. Position the bracket so that the screw goes down through the top and the other hole is slightly lower and facing outward. Mount the horn to that bracket so that the sound exits forward. Reconnect the two wires to the horn making sure that they are properly routed.

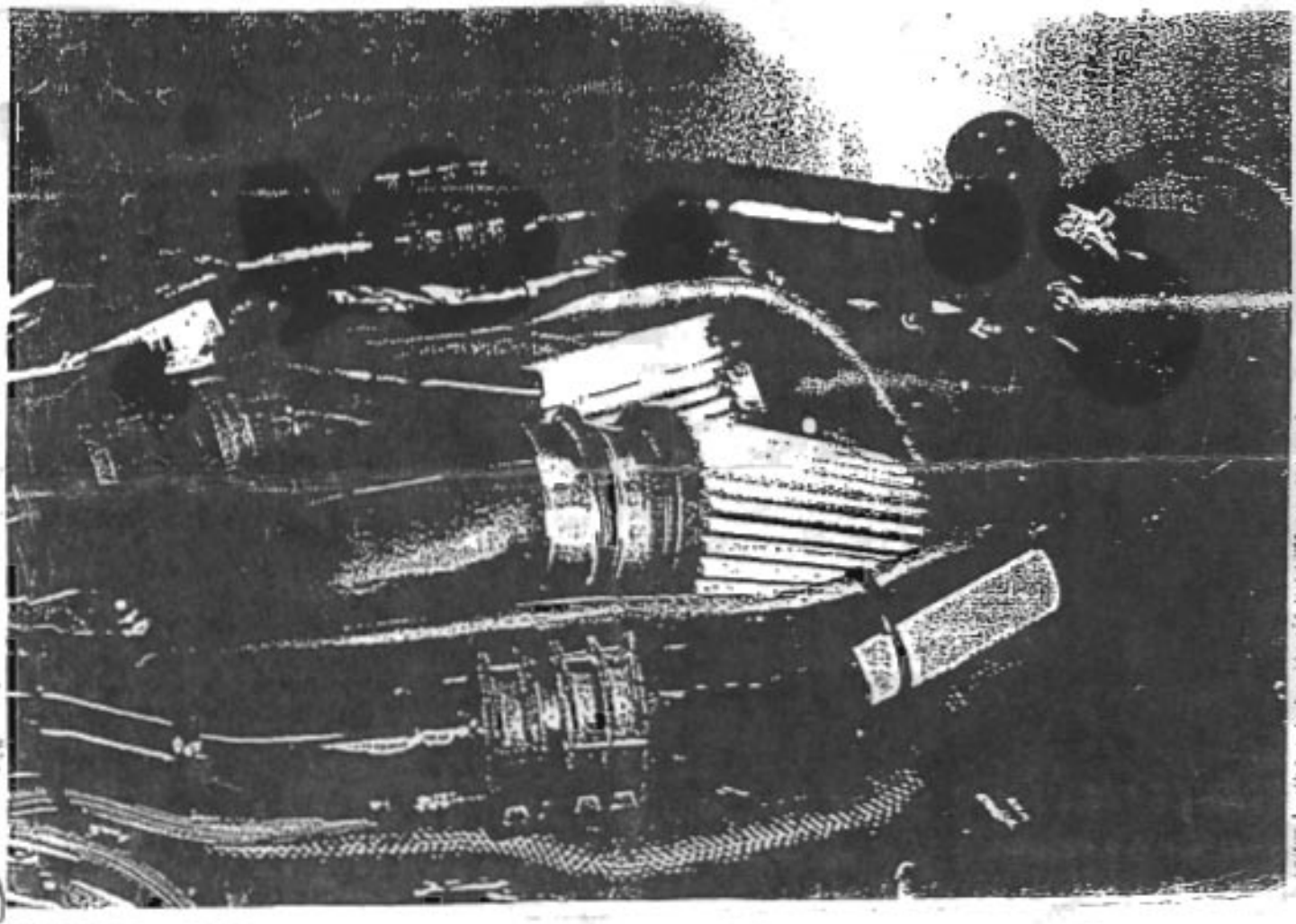
12. Install steering neck covers, tank and seat.

12. Check again to make sure everything is tight and your motorcycle is safe to operate. Double check to make sure there is no coolant on your tires prior to riding. Coolant is extremely slippery.

Cobra recommends you always wear a helmet while riding. Please never operate your motorcycle while under the influence of alcohol and/or drugs. Enjoy the new look and performance of your airbox removal kit and please ride safely.

Supplied.

2 - K & N Air Cleaners
1 - Air Cleaner Boot Adapter
2 - Large Hose Clamps
1 - Carburetor Recalibration Kit
2 - Aluminum Airpump Line Plugs
2 - Small Hose Clamps
1 - Hose Reducer Fitting
2 - Small Zip Ties
1 - Horn Relocater Bracket



LESHOOTING GUIDE

DYNOJET®

ARNING - BEFORE STARTING THE MOTORCYCLE

heck vacuum lines, fuel lines, throttle hoke cables, clamps, mounting bolts, hose e routing and any other parts that have been ved or adjusted during installation.

2) Turn the fuel valve to the prime position and check for leaks while the float bowls are filling.

ADJUSTMENTS BEFORE DRIVING

CARB SYNC AND MIXTURE SCREW ADJUSTMENT

Carb sync is a must. Set idle to factory recommended settings. We suggest you use the mercury carb sticks. Start bike and warm up to normal operating temperature. Adjust carbs as necessary. Once the sync is finished, you will then check your base settings on your mixture screws. Turn one screw in at a time, slowly, until that cylinder starts to miss. Stop at that point and turn the screw back out until your idle is smooth. Perform this step to the other cylinder or cylinders.

Note

DYNOJET DOES NOT CHANGE YOUR MOTORCYCLE'S STOCK IDLE. IF YOUR BIKE FAILS TO START OR WILL NOT IDLE STOP.

PROCEED TO "Starting and Idling Problems" FOR TROUBLESHOOTING INFORMATION.

WARNING BEFORE STARTING THE MOTORCYCLE

1) Start the engine, turn the handle bars from lock to lock to insure that the throttle cables are routed properly

2) Blip the throttle a couple of times to insure that the throttle linkage is not sticking.

3) Check to make sure the engine kill switch is operating properly.

PROPER IDLE BEFORE INSTALLATION OF THIS KIT IS REQUIRED

After completing your installation and following the proper safety precautions, your machine should function properly with noticeable performance gains. If your machine functions well but does not seem to have any performance gains, try needle positions on either side of the base settings to improve performance. If your machine has more pronounced troubles in function or performance, read through the troubleshooting guide. Find the problem description that best matches your trouble and perform each of the adjustment procedures. In some cases more than one description closely resembles your problem. If so, perform each of the adjustment procedures in the easiest manner, or most logical, whichever you prefer.

Starting and Idling Problems

1. Motorcycle will not start cold.

It is important to know that your motorcycle will start and idle without your needles, slides or main jets in place. Dynojet will rarely alter your idle circuit, and never alter your starting circuit. The following are things to check before going further

Check for fuel in the float bowls

Check for function of the choke plungers

Check that the throttle plates are closed, proper slack remains in the throttle cables, and that no manifold clamps are touching throttle linkage.

Check to make sure that the float bowls are not running over with gas because a float was damaged or installed wrong.

Check for vacuum leaks. Possibly hoses not hooked up, clamps not tightened down and so on.

2. Motorcycle will not start hot.

It is important to note whether the bike starts hard only when you let it rest for a period of time, or starts hard all the time. Both of these conditions are usually rich problems. If you have trouble after the bike sits, then check for gas tank venting problems or excess carb temperature. Also, check the following for both problems.

Float bowls are over flowing with gas or improper float adjustment.

Mixture screws turned out too far.

Carb sync is off.

3. Motorcycle idles rough until it reaches normal temperature.

Mixture screws are set too lean. By turning counter clockwise you richen the mixture.

4. Motorcycle idles well until it reaches normal temperature, then idles rough, fluctuates or stalls.

Mixture screws are set too rich. By turning clockwise you will lean out the mixture.

Check for choke plungers closing all the way.

Proper slack in the throttle and choke cables

Check for plugged pilot jets.

Choke not closing fully, fuel level in bowl too high.

If all of that checks out, then install your stock needle. Then check low speed again.

5. Motorcycle starts but does not idle at all, black smoke pours out of exhaust pipe, and revs very rich.

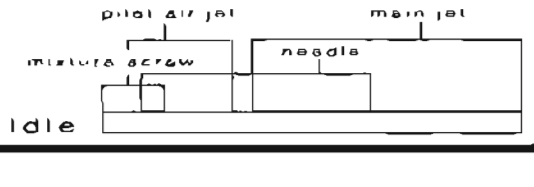
Dynojet kits are designed to use your stock pilot jets. THIS IS A MUST

If it works, call Dynojet with results. Needles will be replaced at no cost on an exchange basis.

LOW SPEED AND CRUISING PROBLEMS

Dynojet receives many calls where customers install a jet kit and the bike then idles poorly so they proceed to change the main jets. It is important to distinguish the difference between fueling circuits in your carburetors. You see in Fig. 1 that changing the main jet to fix a problem at 2000 RPM will have little to no effect to the fuel curve. So if you are making a carb adjustment, check Fig. 1 below, for its effectiveness.

The float level is another troublesome circuit. It is always a good idea to check your float level whether Dynojet is asking you to change it or not. Especially when experiencing idling or 0 - 4000 RPM problems.



LOW SPEED AND CRUISING PROBLEMS

6.A Engine does not accept throttle past idle.

B Engine accepts throttle in neutral but not in first gear.

C Engine posses symptoms 1 and 2 but surges when holding a steady speed.

D Engine posses symptoms 1, 2, and 3, but doesn't pull.

Check that main jets are drilled completely

Check that all stock spacers are in the order as required by Dynojet.

Check to make sure your slides are free, and that rubber diaphragms are sealed properly.

Check to make sure your application matches the parameters on your fact sheet (the year, the model, and stage 1 or 3). If you have stock airbox or K & N Filters USE ONLY THE INTAKE MODIFICATION DESCRIBED UNDER THE PARAMETERS

SECTION ON THE FACT SHEET. Any changes other than that described by Dynojet will alter your base settings. If your are using something other than K & N Filters, leave them off until test drive is over

Make sure you have removed the float bowl vent tubes. (Not applicable to Pressurized Air Box Models)

If the following items check out, raise the needle up one groove at a time. With these symptoms, it is not uncommon to raise the needle 2 grooves or more.

7. Full throttle at 2000 RPM, engine stumbles, then clears up after 4000 RPM.

This condition occurs primarily when the engine has a fair amount of cam overlap, motorcycles like the Yamaha Genesis design or Kawasaki ZX-10 to name the most troublesome. This problem of cam overlap is being controlled at the factory level by special exhaust systems, like the Yamaha EXUP pipes. On the carburetion side they use strong slide springs and small lift holes. Changing either the exhaust or the carbs doesn't present a problem in most cases, but change both and the problem appears. At this point you notice you get your best performance with both, but at a loss to the bottom end. So check the following to minimize your compromise

Float bowl vent tubes are removed (Not applicable to Pressurized Air Box Models)

Check for consistant float level setting among the carbs

Check that your exhaust baffle is larger than that of stock. Remember that most stock pipes have two exhaust outlets.

You may slow the slide down with the stock springs or lean the needle but it will be at the expense of acceleration.

Trying to fix this problem when the EXUP pipe is removed may prove hopeless.

Adjusting the cam timing and/or ignition timing can improve the problem in some cases. See your dealer or specialist with your model.

ACCELERATION PROBLEMS

Troubleshooting the acceleration curve is where the most time consuming problems occur. A good rule of thumb is if you have a problem while asking for horsepower, the problem is rich. If you have a problem while not asking for horsepower, then you are lean. So, before you start adjusting the carbs, check these two most common problems:

The stage 1 kit was designed with a clean stock filter, not an aftermarket replacement filter. Don't assume that the aftermarket filter is flowing the same as stock. Check that your intake air matches what your base settings were designed for.

Now look at the exhaust outlet size. If your stock pipes had two 1-inch outlets and you installed a four into one with an exhaust outlet that measures 1 1/8 inch, you're probably not flowing as well as your stock pipes. Simply remove the baffle and test again. Checking the intake and exhaust flow is the key to a trouble-free installation.

8. Engine accelerates until the midrange then pauses, stumbles, or shuts down until you back off the throttle. This problem gets worse the higher the gear used.

Check that your parameters on the Fact Sheet are being met. For example, the mains are stage 1 mains if you have the stock airbox. The stage 3 mains are used with the individual filters.

Check that your intake and exhaust flow matches that described by Dynojet.

Check for proper installation of parts (spacers under the needle etc. as Dynojet recommends, and that your needles and mains are all matched and machined properly)

Make sure to remove the float bowl vent tubes. (Not applicable to Pressurized Air Box Models)

If the following all checks out, lower the needle down to fix a slight pause or stumble. Lower the needle and the main jet to fix a more severe problem.

9. Engine accelerates to red line but flattens out, pauses in between shifts or signs off completely.

This problem can be either rich or lean. First determine this by using either of these methods. If the spot is more noticeable when engine is cold, you are lean. If your problem gets worse as it warms up, you are rich. Restrict the air entering the engine a small amount at a time with duct tape. If the problem gets better, you are too lean. If the problem gets worse as you restrict the air, you are too rich. Once you find the problem to be rich or lean, simply change the mains in the direction necessary. The flow of Dynojet main jets do not correspond with Mikuni or Keihin main jets.

10. Bike functions normal except that it pops when you get off the throttle.

Check that there are no vacuum leaks

Check that there are no exhaust flange gaskets leaking or joints that are leaking air into the pipe.

If these things check out, richen the mixture screw up slightly, making sure you have a good stock idle

Some emission models have fresh air devices pumping air into the exhaust. Check for this being the problem by temporarily plugging the air hose leading to the cylinder head

TROUBLESHOOTING GUIDE QUESTIONNAIRE

DYNO

Kit # _____ **Revision #** _____ **Voice Phone #** ( ) _____ **Name** _____
Current Needle Position Setting 4 TA **Main Jet Size** _____ **Mixture Screw Setting** _____

Before calling the Dynojet Technical Assistance line (1-800-992-4993), please take a few minutes to fill out the following questionnaire. These are the questions that the Dynojet technician will ask, and it will expedite the process if you know the answers ahead of time. Also, please make note of your current needle position setting, main jet size, and mixture screw setting.

Idle		
1. Does the bike idle?	Yes	No
2. If yes, is it rough or smooth?	Smooth	Rough
3. If idle is rough, is it better when the engine is hot or cold?	Hot	Cold
4. Does the bike have an aftermarket pipe? If so, please list:		

Cruising or steady throttle (no acceleration, maintaining a steady RPM)		
1. Is the cruise smooth or does the bike surge?	Smooth	Surges
2. If it surges, at what RPM?		RPM
3. Is this problem worse in a higher gear or lower gear?	Higher	Lower
4. Is the problem worse when the motor is hot or cold?	Hot	Cold

Full throttle acceleration problems		
1. If running Stage 3, were the air filters pre-oiled or did you oil them?	Pre-oiled	You oiled
2. Does the bike accelerate smoothly from approximately 2,000 RPM to red line in every gear	Yes	No
3. If not, what is the RPM range where the bike has difficulty?		RPM
4. Do a roll on in 2nd gear from 2,000 RPM on, then another roll on in 4th gear from 2,000 RPM on. Do this as many times as necessary to determine which gear the problem is worse in. Is this problem worse in a higher gear or a lower gear?	Higher	Lower
5. Is this problem worse when the motor is hot or cold?	Hot	Cold
6. If the bike is set up as Stage 1 (stock air box and lid), repeat step 4 with approximately 1/4 of the filter element covered with duct tape. Did this make the problem better or worse?	Better	Worse
7a. If bike is set up as Stage 3 (no air box, individual filters), repeat step 4 with approximately 1/3 of the filter area of each filter element covered with duct tape. Did this make the problem better or worse?	Better	Worse
7b. Repeat step 4 again with the filters completely off the bike. Did this make the problem better or worse?	Better	Worse

Drill slide - Pilot Jet

Deceleration (main jet, needle, and slide have no effect on deceleration):
If you have a popping on deceleration, make sure you have no air leaks in your exhaust pipe, intake manifolds, vacuum lines, etc. If there are no leaks, try turning your mixture screw out 1/2 turn.

You may also elect to Fax this information sheet and your graphs directly to Dynojet and a Technician will call you back. Our fax number is (406) 388-4721. Please remember to list a voice number where we can reach you. Thank you.