

The Edelbrock/QwikSilver Carburetor has four (4) adjustments:

1. **IDLE SPEED:** Mechanical, does not affect air/fuel mixture.
2. **LOW-MID RANGE:** Adjustment on top of slide will raise or lower the needle.
3. **MID-FULL RANGE:** Requires a needle change. There are **NO** jets in this carburetor to change!
4. **ACCELERATOR PUMP:** For Pumper Series carburetors only. This will affect the throttle response at low rpm's.

THROTTLE CABLE REQUIREMENTS

NOTE: Most QwikSilver carburetors require the use of a two cable (push-pull) throttle assembly and cables. If your kit was supplied with dual cables, you must be certain both cables are used. See your supplemental instructions for more details.

CARBURETOR INSTALLATION

See supplement supplied with carburetor.

NOTE: QwikSilver recommends consulting an authorized service manual for make, model and year of motorcycle/ATV before disassembly of stock parts.

PRECAUTIONS

Several warnings and precautions should be taken before and during installation:

- 1.) Check fuel petcock making sure it is in the **"OFF"** position.
- 2.) Disconnect battery if bike is equipped with electric start to eliminate the possibility of sparks or accidentally engaging the starter.
- 3.) Read instructions thoroughly and carefully, making sure all are completely understood before beginning installation. Please call with any questions.

CARBURETOR OPERATION

COLD STARTING PROCEDURE (Non-Pumper Series carbs)

The Edelbrock/QwikSilver carb is equipped with an enrichener system for cold starts. The enrichener

should be used for starting only when motor is cold. On some occasions a cold motor may fire without the use of the enrichener.

KICK START MOTORS

1. Turn enrichener lever to 6:00 or 12:00 (see figure 1).

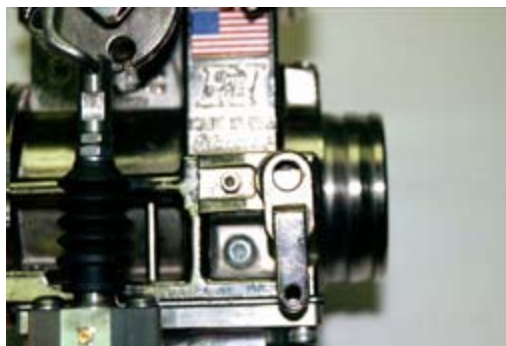


Figure 1

- 2.) Hold decompression lever (for kick-start models) and kick through two or three times making certain the throttle is in the closed position. This will prime the engine.

- 3.) Bring engine up to compression and kick all the way through. If engine does not fire, try to kick a few more times before priming engine again.

After engine fires it may require the throttle be held at a high idle (1000-1200 RPM) for several seconds to warm engine. Be sure to return enrichener arm to the 9:00 position (OFF) to avoid a rich condition.

COLD STARTING PROCEDURE FOR PUMPER SERIES CARBS.

For Pumper Series carbs the enrichener will not be needed in most cases as the accelerator pump can be used to prime the engine by simply twisting the throttle two times before attempting to start engine.

ELECTRIC START MOTORS (non-Pumper Series carburetors)

- 1.) Turn enrichener lever to 6:00 or 12:00 as seen in figure
- 2.) Engage starter until motor fires.

NOTE: It may be necessary to crack the throttle open approx 1/8 of an inch to help the motor turn over faster and aid in starting.

- 3.) After engine fires it may require the throttle be held at a high idle (1000-1200 RPM) for several seconds to warm

engine. Be sure to return enricher arm to the 9:00 position (OFF) to avoid a rich condition.

COLD STARTING PROCEDURE FOR PUMPER SERIES CARBS.

For Pumper Series carbs the enricher will not be needed in most cases as the accelerator pump can be used to prime the engine by simply twisting the throttle two times.

If cold start problems persist, please refer to the troubleshooting guide at the end of this manual.

HOT STARTS

Now that the engine has been run and is warm the enricher will not be necessary. Simply bring the engine up to compression and kick all the way through or engage starter until engine fires. If engine does not fire, it may be necessary to open the throttle approx 1/8 of an inch.

NOTE: DO NOT OPEN THE THROTTLE ON A PUMPER SERIES CARBURETOR IF THE ENGINE IS WARM AND NOT RUNNING! DOING THIS WILL FLOOD THE ENGINE, MAKING IT DIFFICULT TO RESTART.

If you think the engine is flooded, you can clear out the cylinder by SLOWLY opening the throttle to wide open and kick through eight to ten times with the decompression lever held in. For electric start engines open the throttle SLOWLY to wide open and engage starter for three to four seconds. Once this is done the engine should fire normally.

If hot start problems persist, please refer to the troubleshooting guide at the end of this manual.

ADJUSTING CARBURETOR

IDLE ADJUSTMENT

The idle adjustment screw mechanically adjusts the idle by keeping the slide slightly open at idle. This will be affected by adjustments made to the needle adjuster upon tuning the low to mid range. There are

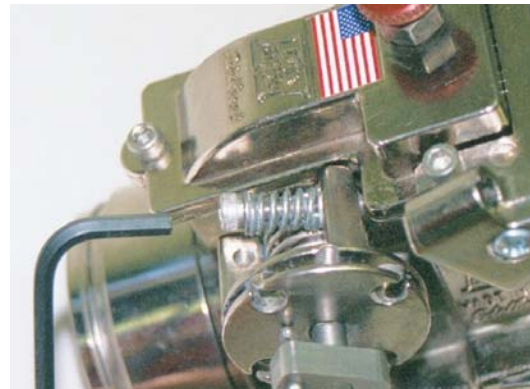
two types of idle systems QwikSilver uses, depending on application.

REMOTE IDLE CABLE



The remote idle cable will be included in the carburetor hardware kit. It is recommended that the cable be installed onto the carburetor before carb is installed onto the engine. **The nut MUST be removed before cable is installed onto carburetor.** Adjust cable until there is approximately 1/16-1/8 inch of slide opening, this should allow the engine to idle during initial start up.

CABLE WHEEL IDLE SCREW



The idle speed screw is installed on the carburetor and pre-set at the factory.

1. Start engine and warm for 3-5 minutes.
2. Once engine is warm set idle to manufacturers recommended specifications.

NOTE: Idle speed may change when adjustments are made to the needle adjuster. This will require the repeat of steps (1) and (2).

All Edelbrock/QwikSilver performance carburetors come preset from the factory for use on stock based motorcycles with an aftermarket "slip-on" exhaust. Depending on the modifications that have been made to your engine, a slight adjustment to the air/fuel mixture may be necessary.

Before attempting to tune your Edelbrock/QwikSilver carburetor, a new spark plug is recommended. This will make it a lot easier to tune, and if an old plug was in use this should give you better performance.

INITIAL RIDE

NOTE: The engine's performance is usually the best way to tune the carburetor. Due to different grades of gasoline, gasoline additives and altitudes, plug readings may differ from engine to engine.

After the initial idle speed has been set, it is now time for an initial test ride. While riding the motorcycle pay close attention to the 0 to 1/3 throttle position. In this range watch and listen for the following:

LEAN CONDITION

- A. Hard starting
- B. Flat spot off idle
- C. Lag in acceleration
- D. Popping or backfiring through exhaust or intake on deceleration.
- E. Erratic idle (engine will not idle consistently)

These problems can be remedied by richening the needle position (turn the needle adjuster to the right).

NOTE: Before making adjustments for this condition, check for intake and exhaust leaks. These leaks have similar symptoms.

RICH CONDITION

- A. Black smoke at idle
- B. Lazy acceleration
- C. Poor mileage
- D. Surge at low speeds
- E. Rough idling

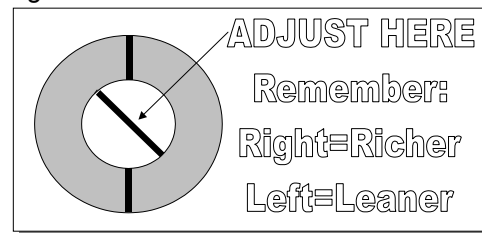
These problems can be remedied by leaning the needle position (turn the needle adjuster to the left).

NOTE: Before making adjustments for this condition make sure enrichener is completely off (9:00 position).

IDLE TO MID-RANGE AIR/FUEL MIXTURE ADJUSTMENT

All idle to mid-range mixture adjustments are made by raising or lowering the needle height in the slide. The needle adjuster is located in the slide on top of the needle and adjusts the needle height. By turning the center slot on the needle adjuster (see figure 2) to the right (clock wise) will richen the mixture, or turning it to the left (counter clock wise) will lean the mixture. These adjustments are referred to as "clicks". Each click equals 1/4 of a turn. The usable range is approximately 32 clicks with zero (0) clicks being full rich and thirty two (32) being full lean. The number of clicks is always referred from full rich. Example: 14 clicks would be 14 clicks from full rich, zero (0) clicks. QwikSilver recommends making 1 or 2 click increments when adjusting needle height.

Figure 2



ADJUSTMENT METHODS

Use one of the two methods described below.

Method 1, Metering Adjustment Tool (easiest). See figure 3.

Figure 3

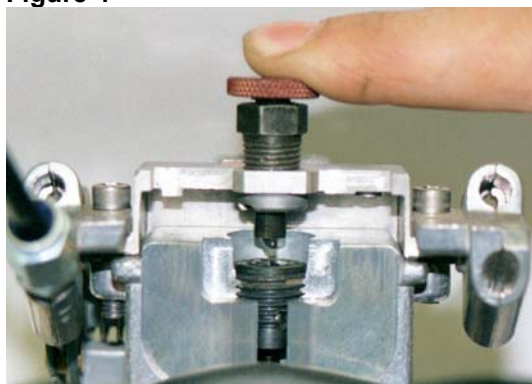


1. Remove the hex plug from the carburetor cap using a 7/16" wrench.

2. Install the Metering Adjustment Tool #8450 into the carburetor cap plug hole. Thread M.A.T. into cap until finger tight, then snug 1/4 -1/2 turn. **DO NOT OVERTIGHTEN AS DAMAGE MAY OCCUR TO CAP!**

3. With engine off, open throttle to wide open. For pumper Series carburetors, remember to open slowly to avoid flooding.
4. Push red knob down (with throttle still open) and turn until it engages with the needle adjuster and some resistance is felt. See figure 4. Once resistance is felt, it is now time to make your adjustment.

Figure 4



Make your adjustments according to the following:

TO MAKE RICHER (MORE FUEL) 0-1/3 THROTTLE.

Pushing down, turn the red adjuster knob to the **RIGHT** (clockwise) one (1) or two (2) clicks depending on the severity of the lean condition.

TO MAKE LEANER (LESS FUEL) 0-1/3 THROTTLE.

Pushing down, turn the red adjuster knob to the **LEFT** (counter-clockwise) one (1) or two (2) clicks depending on the severity of the rich condition.

Release knob and throttle. Restart engine and reset idle speed if necessary. Evaluate performance and repeat if necessary.

NOTE: If proper adjustment cannot be obtained through the standard range of adjustment see "Needle size adjustments" later in this manual.

Method 2, 3/16 flat blade screwdriver.

1. Remove carburetor from manifold.
2. Remove the hex plug from the carburetor cap using a 7/16 wrench.

3. Insert a 3/16 flat blade screwdriver into the cap hole and engage into the needle adjuster and make necessary adjustments as described above.

IDLE TO MID-RANGE MIXTURE ADJUSTMENT CONTINUED

4. Reinstall cap plug and tighten carefully.
5. Reinstall carburetor back into manifold and reattach air boot or air cleaner.
6. Restart engine and reset idle speed if necessary. Evaluate performance and repeat if necessary.

NEEDLE SIZE ADJUSTMENTS

MIXTURE ADJUSTMENT (MID-RANGE TO FULL THROTTLE)

The needle size in the carburetor controls the mid-wide open throttle mixture. QwikSilver pre-jets the carburetors at the factory for a stock based engine with an aftermarket exhaust system. Some engine combinations may require different needles and settings depending on the altitude and modifications done to your engine.

Ride motorcycle and pay close attention to the engine's performance from 1/3 to full throttle. In this range watch for the following.

LEAN CONDITION

- A. Will not rev out in higher rpm's.
- B. Poor acceleration when throttle is rolled on at higher rpm's.
- C. Detonation (pinging).

RICH CONDITION

- A. Black smoke from exhaust at high rpm's.
- B. Lazy acceleration.
- C. Power falls off at wide open throttle and accelerates when throttle is rolled closed slightly.

ADJUSTMENTS-SLIDE REMOVAL

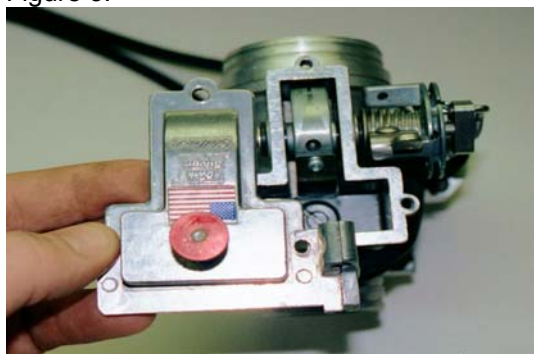
Most applications will require the removal of the carburetor. Some will be able to loosen manifold clamp and rotate carburetor horizontal to access the three (3) 9/64 cap screws.

1. Remove remote idle cable (if equipped) or turn idle speed screw to the left until it no longer touches the carburetor cap.

2. Remove three 9/64 cap screws using allen wrench (provided).

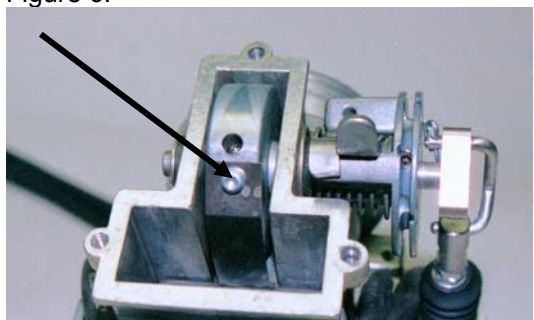
3. Lift cap off of carburetor body and pull back towards air boot /air filter. See figure 5.

Figure 5.



4. After cap has been removed, remove the torx head T-10 screw (see figure 6.) attaching the slide actuator strip to the inside wheel.

Figure 6.

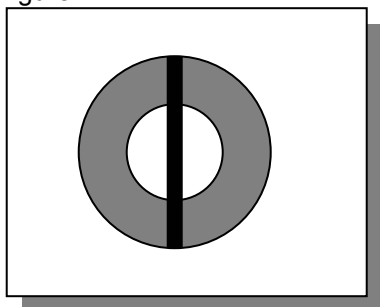


5. Remove slide assembly from carb body

6. Turn center slot of the needle adjuster to the right and count the number of clicks until it stops. This will allow you to reposition the new needle in the same location for idle-mid range adjustment. It is recommended this number be written down for later use.

7. Line up slots (inner and outer) on the needle adjuster. See figure 7.

Figure 7.



8. Using a wide, flat blade screwdriver remove the needle adjuster assembly, needle and needle spring from the slide.

All QwikSilver carburetors are pre set from the factory for specific applications. QwikSilver supplies two (2) spare needles with each carburetor, one (1) richer and one (1) leaner. See supplement for jetting specs on your carburetor.

Make needle change according to the following:

A. To make RICHER (more fuel) 1/3-full throttle position. Read the number printed on the needle that was just removed from the carburetor. To make richer, you will need to install the NEXT HIGHER # needle.

B. To make LEANER (less fuel) 1/3-full throttle position. Read the number printed on the needle that was just removed from the carburetor. To make leaner, you will need to install the NEXT LOWER # needle.

9. Place needle spring on needle with the small end towards the needle head (up). Insert needle and spring into the slide, aligning the nub on the needle head into the groove in the slide. Insert needle adjuster actuator pin into slide with threaded hole up and also aligning roll pin into the groove in the slide. See figure 8 for correct sequence.

Figure 8.



10. Put a drop of BLUE Loctite 242 or equivalent on the upper threads (above crossdrilled holes) of the needle adjuster and install into slide. Tighten needle adjuster assembly in slide with a wide, flat blade screwdriver.

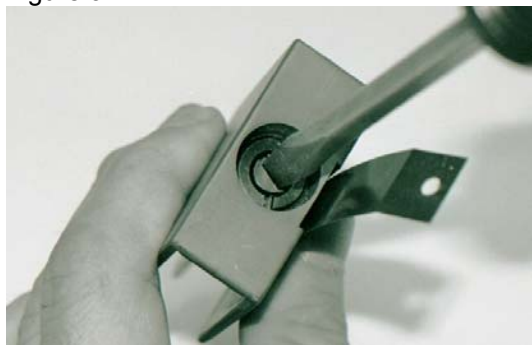
NOTE: Make sure Loctite does not get into the crossdrilled holes of needle adjuster. If this happens clean needle adjuster with WD-40 or a penetrating oil.

DO NOT USE ANY HARSH CHEMICALS TO CLEAN NEEDLE ADJUSTER ASSEMBLY!

11. Using a 3/16 flat blade screwdriver, turn center slot of needle adjuster (see figure 9) to the right (clockwise) until it stops. Now turn to the left (counter-clockwise) counting clicks (one click equals ¼ turn) until the number acquired from step 6 is obtained.

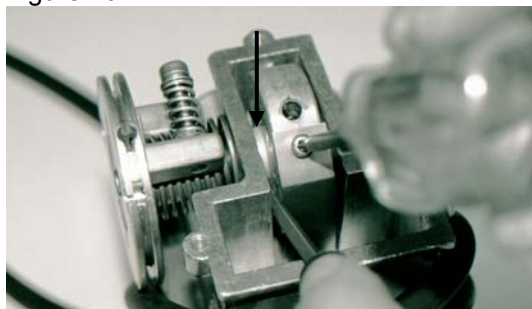
Some adjustment may be needed to this setting after engine has been test ridden again. Generally, If you go to a richer needle (higher #) you will be a couple of clicks leaner on your setting. Just opposite for a leaner needle (lower #) richer setting.

Figure 9.



12. Install slide into carburetor body and make sure slide moves freely and will completely close with it's own weight. Use a drop of BLUE Loctite 242 or equivalent (medium strength) on the 4-40 torx screw and attach the slide actuator strip to the inner wheel. When tightening screw, place a small flat blade screwdriver between the slide strip and carburetor body. See figure 10. This will prevent the slide strip from twisting.

Figure 10.



13. Replace cap and cap gasket onto top of carburetor body and secure with the three allen cap screws. NOTE: Before tightening screws, open carburetor to wide open and hold while tightening screws. This will ensure cap is centered on carburetor body.

14. Reinstall carburetor into manifold and secure all clamps and hoses before starting engine.

ACCELERATOR PUMP ADJUSTMENTS

For QwikSilver Pumper Series carburetors, the following will help you adjust your accelerator pump to it's proper settings.

Accelerator pumps are primarily used on four-stroke applications where instant low-rpm throttle response is desired and/or required. The QwikSilver accelerator pump is easily adjustable to fine-tune the throttle response and ride ability of the engine to different combinations and riding styles.

The pump adjustment screw is pre set for each application (see your supplement sheet for base settings)

To make adjustments to the pump, it is recommended you determine if the engine requires more or less "pump shot". To determine which way to adjust the pump, use the following to help guide you.

EXAMPLES:

- A. The engine wants to stall or stumble during quick throttle openings = not enough pump shot. Turn adjustment screw in (clockwise) until hesitation goes away.
- B. The engine is sluggish during a "roll on" of the throttle then cleans out and accelerates normally = too much pump shot. Turn adjustment screw out (counter clockwise) until engine accelerates smooth.

Do not try to adjust pump by revving the motor. This adjustment should be done then tested with a load on the motor i.e. riding the bike and going through the first three gears.

To make adjustments to the accelerator pump (figure 11) you will need the following tools: 5/16 of 8mm open end wrench and a flat-blade screwdriver.

Figure 11



To make adjustment to pump use the following procedure.

1. While holding the screw from turning, loosen the jam nut approx. 1 turn.
2. Turn the screw in the direction required for proper adjustment.. Remember: right for more fuel, left for less fuel. QwikSilver recommends that 1/8 of a turn adjustments be made until proper pump shot is achieved.
3. Once pump has been set to optimized setting, hold screw from turning and tighten jam nut.

GENERAL INFORMATION

FLOAT ADJUSTMENT

1. Disconnect throttle cables and fuel line from carburetor and remove from engine.
2. Remove four (4) float bowl screws using the 9/64 allen wrench provided.

WARNING!!! Gasoline is very flammable. DO NOT work on any carburetor while smoking or around an open flame. It is also strongly recommended that any procedure pertaining to gasoline be performed in a well-ventilated area, as the vapors can be harmful.

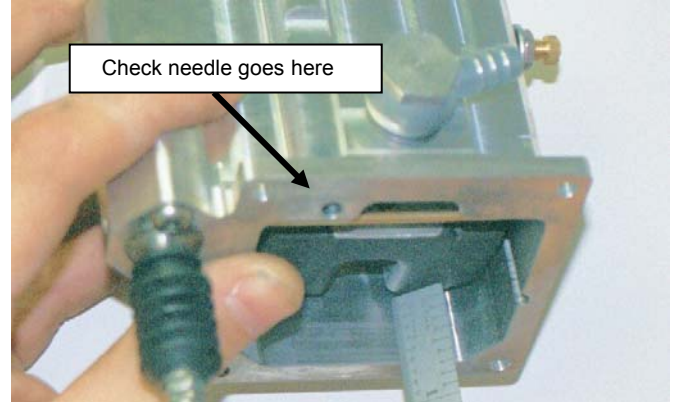
3. Drain fuel from bowl into a fuel safe container.

CAUTION!!! QwikSilver Pumper Series carburetors contain a small brass check needle that can fall out when bowl is turned upside down. It is recommended that the bowl be emptied through a strainer or rag to catch the check needle. Reinstall check needle (point down) into hole on top of float bowl flange. See arrow in figure 12.

4. Tilt float bowl upside-down so float closes needle completely. Using a machinists scale, measure from

the end of the float to the top of the bowl. See figure 12. Please refer to your instruction supplement for recommended float height.

Figure 12.



Float adjustments are made by carefully bending the small tab on the back of the float. See figure 13.

Figure 13.



By bending the tab outward (away from float) you will lower the float level. Bending the tab inward will raise the float level.

NOTE: Changing the float level will affect the carburetor jetting. If the float level has been readjusted, it may be necessary to retune the carburetor.

SPARK PLUG READINGS

If possible, ride for a good distance to get a proper reading on the spark plug(s). NEVER let engine idle for a long period of time before checking spark plugs.

EXAMINE AND EVALUATE FOR THE FOLLOWING CONDITIONS.

Condition-Good Performance

Bike performance: Smooth idle, good acceleration, good fuel economy.

Plug Reading: Porcelain area of spark plug should be white to a light tan color with no flaking. Threaded area will have a dark discoloration.

Condition-Rich in the low-mid range

Bike performance: Rough idle, poor fuel economy, black smoke at idle.

Plug reading: Porcelain and threaded area will be black and sooty.

Condition-Lean low-mid range.

Bike Performance: Hard starting, poor throttle response, popping through exhaust during deceleration. Motor will only idle with enrichener on.

Plug reading: White porcelain, may be flaking. Threaded area will be clean.

Condition- Rich mid-wide open

Bike performance: Motor will fall off at higher rpm's. A slight reduction of throttle will make engine pick up and rev. If there is an extremely rich condition motor will sputter at wide-open throttle. Poor fuel economy.

NOTE: Careful, sometimes the rev limiter is mistaken for this condition.

Plug reading: Porcelain will be dark brown to black in color and possibly sooty. Threaded area will be black and sooty.

Condition- Lean mid-wide open

Bike performance: Poor acceleration above half throttle. May pop through air cleaner.

Plug reading: Porcelain will be snow-white in color with whisker-like protrusions.

WARRANTY POLICY

Edelbrock/QwikSilver Carburetors and all parts included in carburetor kits are warranted to the original purchaser to be free of manufacturing defects in materials and workmanship for a period of one (1) year from the original date of purchase. Any part that fails to conform to these conditions will be repaired or replaced at the discretion of Edelbrock/QwikSilver, upon receipt of the defective part within the one (1) year warranty period. In the event a part has been rendered defective, Edelbrock/QwikSilver must be notified prior to the return of the defective part. A Return Authorization Number MUST BE OBTAINED prior to the return of any defective parts. A part that is suspected to be defective must not be replaced without prior authorization from Edelbrock/QwikSilver. Edelbrock/QwikSilver will not be liable for any consequential or incidental damages resulting from the failure of any Edelbrock/QwikSilver part, the breach of any warranties, the failure to deliver, delay in delivery, delivery in non-conforming condition, or for any other breach of duty between Edelbrock/QwikSilver and a customer.

All warranties will be void under any of the following conditions:

1. Merchandise was improperly installed or used in an abnormal application.
2. Merchandise has been modified or altered in any way.

DISCLAIMER

It is the sole responsibility of the user to determine the suitability of the product for his/her use, and the user shall assume all legal, personal injury risk and liability and all other obligations, duties and risks associated therewith.

Edelbrock/QwikSilver will not be liable for any modifications made to carburetors designed to meet emissions standards. Any modifications to these products will void certification and all warranties they may carry. Please contact Edelbrock/QwikSilver with any questions at (909) 654-6677 ext.2 8:00am-12:30pm, 1:30pm-5:00pm PST, Monday through Friday.