



**Installation and Tuning Instructions for Dual Carburetors**

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## Table of Contents

Introduction.....	1
Parts Required for Installation.....	2
Installation .....	5
Manifold/Carburetor Installation.....	5
Throttle Cable Connections.....	6
Air Cleaner Installation .....	6
Operation .....	6
Starting Procedure .....	6
Adjusting Carburetor .....	7
Idle Adjustment .....	7
Idle to Mid-Range Adjustment .....	7-8
Needle Size Adjustments .....	9-10
Spark Plug Readings .....	11
General Information.....	11
Float Adjustment.....	11
Trouble Shooting .....	12-13
Gas Cap Drilling Procedure .....	13
Warranty .....	13
Disclaimer .....	13
Carburetor Exploded View .....	14

## INTRODUCTION

The Edelbrock Performer Series Carburetor is a smooth bore, gravity fed, carburetor, with a float operated fuel valve, a variable venturi and a throttle stop screw for idle speed adjustment. The enricher is a lever or cable operated valve allowing fuel to be drawn directly from the float bowl and enters the venturi directly behind the slide. This system WILL NOT cause the idle speed to increase when engaged.

The EPS venturi design increases air velocity and air flow (CFM). The common theory that a bigger carburetor is better, is not the case when it comes to the EPS. When a venturi is too big air velocity is lost, which means the ability to lift and atomize the fuel is lost creating what is known as "flat spots". Please, when choosing a venturi size use the chart we have provided and if a different size is desired, contact Edelbrock for recommendations.

### IMPORTANT!

#### **Parts Required for Installation Read Before beginning Installation**

To complete this installation you must have all of the following parts:

1. Edelbrock Dual-Carburetor Kit
2. Edelbrock Dual-Carb Intake Manifold
3. Throttle Cables
4. Dual-Carburetor Air Cleaner

Check the following listings to be sure that you have the right parts to complete the installation on your bike.

**EDELBROCK DUAL CARBURETOR KIT REQUIRE A CAMSHAFT WITH NO LESS THAN 240 DURATION ON BOTH INTAKE AND EXHAUST AND 40 DEGREES OF OVERLAP.** Failure to use an appropriate cam will result high manifold vacuum making the throttle very stiff.

Recommended venturi sizes are as follows:

80-95"	34mm	#8635
96-113"	38mm	#8636
114-up	40mm	#8637

**Important Note:** Highly modified engines may require different combinations than listed above. In these cases, please call Edelbrock for assistance.

**Note:** It is recommended a high-flow, non-vacuum operated petcock be used with all dual carb set-up

### **Edelbrock Dual-Carburetor Kits**

Kits include chrome-plated carbs, mounting hardware, fuel line, metering adjustment tools and spare needles for tuning.

### **Dual-Carburetor Air Cleaner**

Designed for two Edelbrock carbs, this oval air cleaner has a billet aluminum top and base plate and includes a K&N 2-3/4" element.

#8627(with Edelbrock Logo)  
#8638(without logo)

## Throttle Cables

These cables are designed for the Dual-Carb set-up. To choose the correct cables:

- 1) Measure stock throttle cable housing.
- 2) Add 10 inches.
- 3) Round up to closest size.

### Description

**35" 40" 45" 50"**

1984-95 Black Teflon Cables

**8268 8276 8271 8607**

1984-95 Stainless Steel Cables

**8269 8277 8272 8608**

1996-up Black Teflon Cables

**8680 8682 8684 8686**

1996-up Stainless Steel Cables

**8681 8683 8685 8687**

## Dual-Carb 3-Piece Intake Manifolds

These chrome-plated intakes are available in four flange thicknesses for various cylinder head/barrel length combinations.

<u>Cyl.Ht.</u>	<u>ROUND PORT</u>	<u>SQUARE PORT</u>
Stock	8601	8602
-.050	8621	8624
-.175	3087	3083
+.075	8622	8625
+.200	8623	8626
+.265	3127	3124

\*IF YOU NEED ASSISTANCE WHEN CHOOSING A MANIFOLD FOR YOUR MOTOR, PLEASE REFER TO OUR WEBSITE [WWW.EDELBROCK.COM](http://WWW.EDELBROCK.COM), OR CALL OUR TECH LINE AT 877-888-7504 OPTION # 2.

## PRECAUTIONS

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

- 1.) Check fuel valve, making sure it is completely OFF!

**WARNING!** GASOLINE IS EXTREMELY FLAMMABLE AND HIGHLY EXPLOSIVE, IT CAN ALSO BE VERY HARMFUL IF INHALED. DO NOT SMOKE! PERFORM INSTALLATION IN A WELL VENTILATED AREA. KEEP OPEN FLAME OR SPARKS AWAY FROM GASOLINE AT ALL TIMES.

- 2.) Disconnect battery 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.

## Dual-Carburetor and Manifold Installation

**NOTE:** THESE DIRECTIONS NEED TO BE FOLLOWED IN EXACT ORDER TO ENSURE PROPER INSTALLATION. IF ORDER IS NOT FOLLOWED, PROBLEMS MAY OCCUR DURING INSTALLATION.

1.) Remove stock manifold and hardware, including throttle cables.

2.) Install manifold bracket to front cylinder head.

A.) (Big Twin Evos 1984-1992) Install Manifold bracket to front cylinder using the (2) 5/16-18 X 1-1/2" chrome-plated button head cap screws, (2) 5/16-1/2" reducers and (2) spacers (see figure 1). DO NOT TIGHTEN OR CONNECT TO REAR CYLINDER AT THIS TIME.

Figure 1.



B.) (Big Twin Evos 1993-1999 and 1999-later Twin Cam) Install Manifold bracket to front cylinder using the (2) 1/2"-13 X 1-1/2" chrome plated banjo bolts, (6) fiber washers. See Figure 2. DO NOT TIGHTEN OR CONNECT TO REAR CYLINDER AT THIS TIME.

Figure 2.



3.) Assemble carburetors to manifold using (2) manifold gaskets, (4) 5/16-18 X 1 chrome plated ferry head bolts and (4) 5/16 washers.

**CAUTION:** AN IMPROPERLY MOUNTED CARBURETOR OR MANIFOLD COULD COME LOOSE FROM THE ENGINE, RESULTING IN AIR LEAKS/POOR PERFORMANCE AND COULD CAUSE PERMANENT DAMAGE TO ENGINE.

**WARNING!** AN IMPROPERLY MOUNTED CARBURETOR OR MANIFOLD COULD BREAK FREE. IF MOTORCYCLE WOULD FALL AND SUSTAIN DAMAGE IN AN ACCIDENT, THIS COULD CAUSE AN UNWARRANTED RELEASE OF GASOLINE, CREATING A FIRE HAZARD AND POTENTIAL PERSONAL INJURY TO YOU OR OTHERS.

4.) Prepare manifold/carburetor assembly for installation.

A.) Install (2) 5/16-18 X 1" Black ferry head bolts and (2) 5/16 washers into the lower (left side of engine) manifold mounting holes of the front and rear cylinders. Only thread in 2-3 threads. A small amount of grease can be used to hold the washer against the head of the bolt for easier manifold installation.

B.) Clean intake port surfaces on cylinder heads to ensure proper manifold to head seal.

C.) Install manifold flanges, making sure the flange marked "F" is on the front port and the flange marked "R" is on the rear port. See Figure 3. Install rubber seals with tapered side toward flange.

Figure 3.



**NOTE:** A LIGHT FILM OF GREASE OR HIGH TEMPERATURE SILICONE WILL HELP ENSURE A PROPER SEAL. IF MANIFOLD IS BEING RE-INSTALLED, WE RECOMMEND REPLACING THE MANIFOLD RUBBERS/SEALS, TO ENSURE A PROPER SEAL AND NO AIR LEAKS. If your manifold uses round seals, you can replace them with stock seals from a dealership.

#### 5.) Install Manifold

A.) Holding manifold bracket up out of the way, carefully insert the manifold/carburetor assembly into place, making sure the 5/16 washers stay on top of the flanges.

B.) Insert (2) 5/16-18 X 1" socket head bolts and (2) 5/16 washers into the remaining manifold mount holes in cylinder heads. Right side of engine.

C.) Snug manifold mounting bolts slightly, DO NOT COMPLETELY TIGHTEN!

6.) Secure manifold to mounting bracket using the two rubber washers, sleeve cup washer and 3/8 button head bolt. Place one rubber washer on top manifold and under bracket. Place second washer on top of mounting bracket and place steel sleeve through center of rubber washers. Place chrome cup washer over rubber washer and insert bolt (see figure 4) with Blue Lctite (or equivalent) and tighten.

Figure 4.



A.) Big Twin EVO 1984-1992 Use step 2A for proper procedure, only apply to the rear cylinder.

B.) Big Twin EVO 1990-1999 and 1999-later Twin Cam, Use step 2B for proper procedure, only apply to rear cylinder. Use remaining breather banjo and point it toward the front of the motorcycle.

C.) Tighten manifold bracket mounting bolts.

7.) Install fuel line and connect VOES (if equipped).

**NOTE:** EDELBROCK CARBURETORS REQUIRE THE USE OF A TWO CABLE (PUSH-PULL) THROTTLE ASSEMBLY. IF YOUR BIKE IS NOT EQUIPPED WITH THIS TYPE, EDELBROCK OFFERS A TWO-CABLE THROTTLE ASSEMBLY.

## 8.) Throttle cable connections:

A.) Double check cable selection, using chart found in the "Throttle Cable Requirement" section of this manual

**NOTE:** CABLE SHOULD BE ROUTED DOWN THE LEFT HAND SIDE OF MOTORCYCLE.

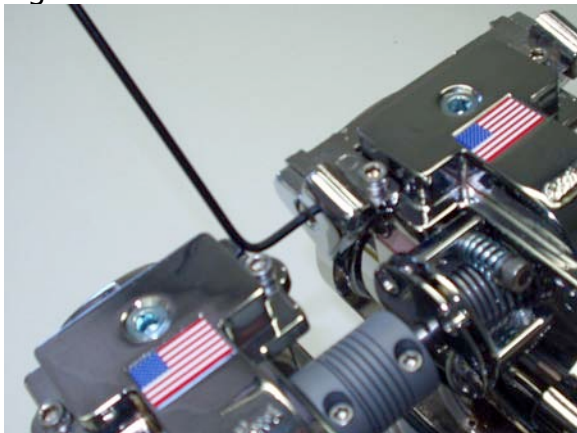
**NOTE:** THROTTLE ASSEMBLY MUST BE ASSEMBLED CORRECTLY AND WORK FREELY TO PREVENT POSSIBLE STICKING OF THE THROTTLE DURING OPERATION. MAKE SURE CABLES ARE FREE OF TIGHT BENDS AND HAVE PLENTY OF FREE PLAY TO MINIMIZE CABLE FRICTION.

**WARNING!** IF THE THROTTLE DOES NOT WORK FREELY, IT MAY STICK OPEN CAUSING LOSS OF CONTROL OF THE MOTORCYCLE AND PERSONAL INJURY TO YOU AND OTHERS.

B.) Loosen cable free play adjustment locknuts and thread adjusting screw so there are no threads exposed, this will give you the maximum amount of free play.

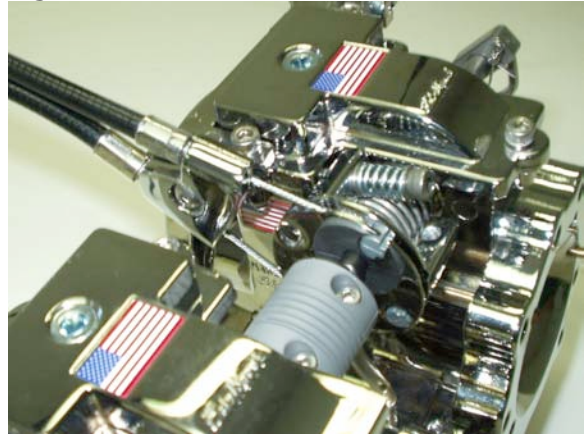
C.) Loosen the inside cable clamp by loosening the 3/32 allen screw on the left side of the cable bracket (see figure 5).

Figure 5.



D.) Insert the throttle cable in the 4:00 position and insert the Idle cable in the 1:00 position (see figure 6).

Figure 6.



**NOTE:** ALWAYS USE A MEDIUM HIGH HEAT THREAD LOCKING COMPOUND ON ALL MOUNT BOLTS AND SCREWS. THIS WILL PREVENT HARDWARE FROM VIBRATING LOOSE.

## AIR CLEANER INSTALLATION

1.) Prepare backing plate for installation by installing the brass 3/8" barb fitting into back.

2.) Using (2) air cleaner gaskets, (6) 1/4"-20 X 1/2" button head cap screws mount backing plate to carburetors using blue Loctite.

3.) Connect breather line to 3/8 barb.

A.) (Big Twin EVO 1984-1992) Use 5/16 Breather line provided to connect existing breather tube to 3/8 barb fitting.

B.) (Big Twin EVO 1993-1999, 1999-later Twin Cam) Connect 5/16 banjos using the 5/16 plastic tee. Connect tee to 5/16 barb.

4.) Install element and cover using (2) 1/4"-20 X 3/4" flat socket head cap screws with blue Loctite.

## **CARBURETOR OPERATION**

### **Starting Procedure**

The Edelbrock dual carburetor does not have a conventional choke. Instead, a fuel enrichment device is used for starting. This device uses a separate fuel pick-up tube to enrich the mixture. This WILL NOT cause the idle to increase. The enricher is for starting purposes only, continued use will cause an excessively rich condition or fouled spark plugs.

Cold Starts:

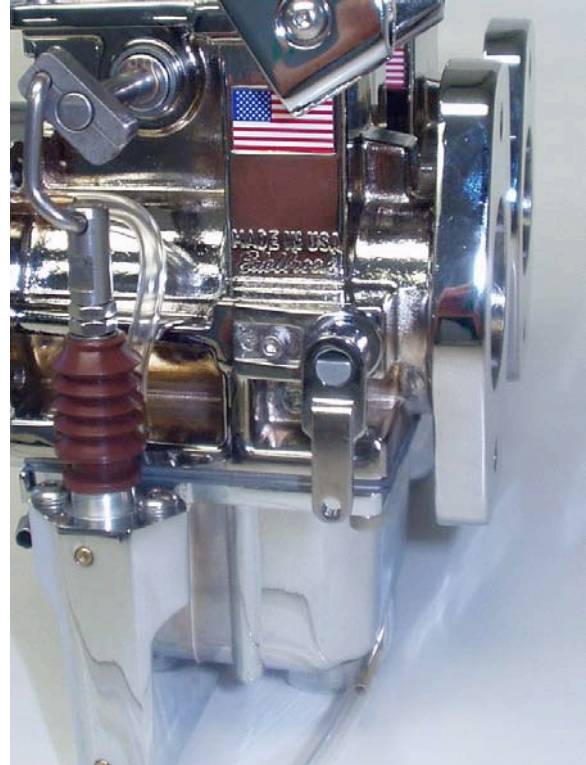
- 1.) Open Fuel Petcock.

**NOTE:** WHEN MOTORCYCLE IS NOT RUNNING, THE FUEL PETCOCK SHOULD ALWAYS BE TURNED OFF TO PREVENT POSSIBLE LEAKAGE.

**CAUTION:** Not Closing the Fuel Petcock May Cause GASOLINE to LEAK PAST THE NEEDLE AND SEAT and MAY FLOOD THE ENGINE, CAUSING DAMAGE AND CREATING A FIRE HAZARD.

**NOTE:** ENRICHER CAN BE ROTATED EITHER DIRECTION AND SHOULD ONLY BE ROTATED TO THE 6:00 OR 12:00 POSITION. (See figure 7).

Figure 7.



- 2.) Turn on ignition.

- 3.) Turn enricher lever to 6:00 or 12:00 position. Twist throttle two times to activate accelerator pump. With throttle closed engage starter, if engine fails to fire, slightly open the throttle and continue engaging starter until engine fires. Once the engine has fired return the enricher lever back to the 9:00 position and warm to operating temperature by holding the throttle at 1000-1200 RPM for 2 minutes or several miles.

**NOTE:** FOR PROBLEMS WITH STARTING SEE TROUBLESHOOTING TIPS AT THE END OF THIS MANUAL.

## HOT STARTS

- 1.) Open Fuel Petcock.

**NOTE:** WHEN MOTORCYCLE IS NOT RUNNING, THE FUEL PETCOCK SHOULD ALWAYS BE TURNED OFF TO PREVENT POSSIBLE LEAKAGE.

**CAUTION:** Not Closing the Fuel Petcock May Cause GASOLINE to LEAK PAST THE NEEDLE AND SEAT and MAY FLOOD THE ENGINE, CAUSING DAMAGE AND CREATING A FIRE HAZARD.

- 2.) Turn on ignition.
- 3.) With the throttle closed engage starter.
- 4.) If engine fails to start immediately, open throttle slightly and continue to kick or engage starter until engine fires.

**NOTE:** FOR PROBLEMS WITH STARTING SEE TROUBLESHOOTING TIPS AT THE END OF THIS BOOKLET.

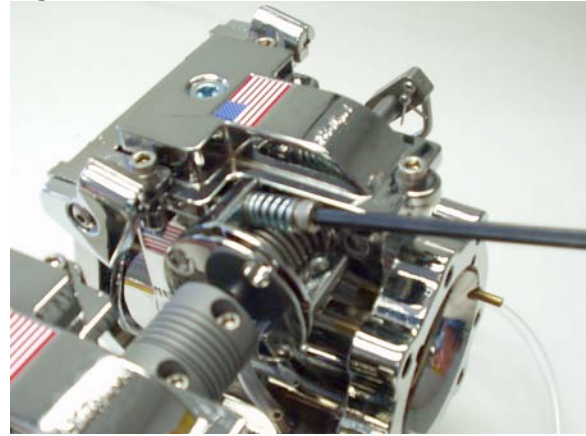
## ADJUSTING CARBURETOR

**NOTE:** ALL MIXTURE OR NEEDLE ADJUSTMENTS SHOULD BE DONE EVENLY.

## 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. The idle adjustment screw is located on the cable wheel where the throttle cables attach. (See figure 8) Edelbrock adjusts this screw to a position that should allow the bike to idle upon initial start-up.

Figure 8.



- 1.) Start engine and warm for approximately 2-3 minutes.
- 2.) Initially adjust to obtain 900-1000 RPM by using the 9/64 hex wrench provided.

**NOTE:** IDLE SPEED WILL CHANGE WHEN ADJUSTMENTS ARE MADE TO THE NEEDLE ADJUSTER. THIS WILL REQUIRE THE REPEAT OF STEPS ONE (1) AND TWO (2).

### Mixture Adjustment (IDLE TO MIDRANGE, 800-2500 RPM)

All Edelbrock Performance Carburetors come preset for use on a stock based engine with a performance camshaft (240 degrees or better duration and 40 degrees or better of over-lap) and performance exhaust with baffles. Depending on the modifications that have been made to your motorcycle a slight adjustment to the air/fuel mixture may be necessary.

Before attempting to tune your Edelbrock carburetors, a change of spark plugs is recommended. This will make it a lot easier to tune and if you haven't done so in a while, this will also give you better performance.

**NOTE:** IF LOW IDLE SPEED CANNOT BE OBTAINED OR THE ENRICHER HAS TO BE ON FOR ENGINE TO RUN, THIS IS AN INDICATION OF A LEAN CONDITION IN THE IDLE TO MID-RANGE, OR POSSIBLY AN AIR LEAK IN THE INTAKE TRACT.

**NOTE:** IF BIKE IDLES, BUT HAS A HINT OF BLACK SMOKE, MAKE SURE THE ENRICHER IS COMPLETELY OFF. IF THE ENRICHER IS OFF AND THE SMOKE PERSISTS, THIS IS AN INDICATION, THAT A RICH CONDITION EXISTS IN THE IDLE TO MID-RANGE.

### **INITIAL RIDE**

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

1.) After completing the engine idle adjustment, it is now ready for an initial test ride.

Ride motorcycle paying close attention to the RPM ranges of 1000-2500. In this RPM range things to watch for are:

### **Lean Condition**

- A.) Hard Starting
- B.) Lag in acceleration
- C.) Popping or back firing through the intake or exhaust on deceleration.
- D.) Erratic idle or won't idle down to 900-1000 RPM

**NOTE:** BEFORE ADJUSTING 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.) Poor low-rpm cruise

**NOTE:** BEFORE MAKING ADJUSTMENT FOR THIS CONDITION MAKE SURE ENRICHER IS COMPLETELY OFF.

### IDLE TO MID-RANGE AIR/FUEL MIXTURE ADJUSTMENT

All idle to mid range adjustments are made by rotating the center slot of the needle adjuster right (Clockwise) to richen the mixture or Left (Counter-clockwise) to lean the mixture. These adjustments are referred to as "clicks". Each click equals a 1/4 turn of the screwdriver. The usable range is approximately thirty (30) clicks from full rich. Always adjust carburetors equally. Base setting for Edelbrock dual carburetors is K-8 Needles @ 10 clicks.

**NOTE:** WE AT EDELBROCK HAVE FOUND THAT ADJUSTING THE MIXTURE TO A SLIGHTLY RICH CONDITION (SMALL AMOUNT OF BLACK SMOKE AT IDLE), THEN LEAN THE MIXTURE 2 CLICKS, GENERALLY IS A GOOD BASE TO FINE TUNE FROM.

**CAUTION:** WHEN MAKING ADJUSTMENTS TO NEEDLE ADJUSTER, DO NOT LOOSEN OUTER COLLAR AS IT MAY BACK OUT CAUSING AN EXCESSIVE RICH CONDITION OR POSSIBLE DAMAGE TO THE CARBURETOR.

**NOTE:** USE ONE OF THE THREE METHODS DESCRIBED FOLLOWING.

## **METHOD #1**

1.) Using the 3/16 hex wrench provided, remove cap plugs from caps, located on top of the carburetor.

2.) Install Mixture Adjustment Tool (Included) into the cap plug hole, using a 7/16 wrench. Snug slightly. With the engine off, open the throttle to the full position and lock it down, using the thumb lock on the underside of the throttle housing.

**WARNING!** DO NOT OVER TIGHTEN AS DAMAGE MAY OCCUR TO CAP.

3.) Make adjustment by pushing down and turning the red knob until it engages and some resistance is felt. Once resistance is felt DO NOT continue rotating knob. Now make adjustment according to the following:

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

**NOTE:** IF PROPER ADJUSTMENT CANNOT BE OBTAINED THROUGH THE STANDARD RANGE OF ADJUSTMENT SEE SECTION "NEEDLE SIZE ADJUSTMENTS" LATER IN THIS MANUAL.

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

4.) Release red knob and throttle lockdown.

Evaluate performance and repeat process, if necessary.

## **METHOD #2**

1.) Using the 3/16 hex wrench provided, remove cap plugs from caps, located on top of the carburetor.

2.) Locate the center slot of the needle adjuster, insert a 3/16" straight screwdriver and make adjustment as follows:

TO MAKE RICHER 0-1/3 THROTTLE (MORE FUEL) Turn center adjuster to the RIGHT (Clockwise) one (1) or two (2) clicks depending on the severity of the lean condition.

**NOTE:** IF PROPER ADJUSTMENT CANNOT BE OBTAINED THROUGH THE STANDARD RANGE OF ADJUSTMENT SEE SECTION "NEEDLE SIZE ADJUSTMENTS" LATER IN THIS MANUAL.

TO MAKE LEANER 0-1/3 THROTTLE (LESS FUEL) Turn adjuster to the LEFT (Counter-Clockwise) one (1) or two (2) clicks depending on the severity of the rich condition.

3.) Reinstall cap plug and tighten carefully.

4.) Evaluate performance and repeat process if necessary.

## **METHOD #3**

1.) Using a 3/16" hex cordless screwdriver bit (not included) and a 1/4" wrench remove cap plugs.

2.) Open throttle to the full or wide open position, Insert a 3/16" straight screwdriver bit, aligning it in the center

slot of the needle adjuster, make adjustment as follows:

3.) Make adjustment:

TO MAKE RICHER 0-1/3 THROTTLE (MORE FUEL) Turn center adjuster to the RIGHT (Clockwise) one (1) or two (2) clicks depending on the severity of the lean condition.

**NOTE:** IF PROPER ADJUSTMENT CANNOT BE OBTAINED THROUGH THE STANDARD RANGE OF ADJUSTMENT SEE SECTION "NEEDLE SIZE ADJUSTMENTS" LATER IN THIS MANUAL.

TO MAKE LEANER 0-1/3 THROTTLE (LESS FUEL) Turn adjuster to the LEFT (Counter-Clockwise) one (1) or two (2) clicks depending on the severity of the rich condition.

- 4.) Re-install cap plugs and tighten carefully.
- 5.) Close throttle
- 6.) Evaluate performance and repeat process if necessary.

#### Mixture Adjustment (Mid-Range to Full Throttle 2500-6000 RPM)

This adjustment is made by removing the slide and changing the needle. All Carburetors come pre-jetted, with a K-8 needle installed. We have also included K-7 and K-9 needles. The higher the number the richer the needle, from 1/3 to full throttle. A needle change may be required for different engine combinations.

Ride motorcycle paying close attention to the RPM ranges of 2500-6000. In this RPM range things to watch for are:

NOTE: CLOSE ATTENTION SHOULD BE PAID NOT TO OVER-REV THE ENGINE. MOST MOTORCYCLES HAVE A BUILT IN

REV LIMITER, WHICH ELIMINATES THE POSSIBILITY OF THIS HAPPENING. A REV LIMITER CAN ALSO SOMETIMES BE MISTAKEN FOR A FLAT SPOT IN THE HIGHER RPM RANGES. DETERMINE WHETHER OR NOT THIS IS THE CASE BEFORE MAKING ADJUSTMENTS FOR THIS CONDITION.

WARNING: OVER-REVING THE ENGINE CAN CAUSE PERMANENT DAMAGE.

#### **Lean Condition**

- A.) Will not rev over 4000-5000 RPM
- B.) Poor acceleration when throttle is rolled on from 4000 RPM

#### **Rich Condition**

- A.) With throttle at full position power-band falls off, rotate throttle back and engine RPM's come up and motorcycle accelerates slightly.
- B.) Black smoke from exhaust
- C.) Lazy acceleration.

#### **Adjustments**

- 1.) Remove the three cap screws from each carburetor and lift cap slightly separating the cap from the cable bracket. (see picture)
- 2.) Remove screw attaching actuator strip to inside wheel using a T-10 Torx bit. See figure 9.

Figure 9.



3.) Remove slide assemblies from carburetors.

4.) Using a 3/16" straight screwdriver start turning the center slot to the right (clockwise) counting clicks or 1/4 turns as you go. See figure 10.

Figure 10.



**NOTE:** THIS ALLOWS YOU TO REPOSITION THE NEW NEEDLE IN THE SAME LOCATION FOR IDLE-MID RANGE ADJUSTMENT. SOME ADJUSTMENT MAY NEED TO BE MADE TO THIS SETTING AFTER MOTORCYCLE HAS BEEN TEST RIDDEN AGAIN.

5.) Using a large bladed straight screwdriver remove needle adjuster assembly and needle from slide.

**NOTE:** TO MAKE RICHER 1/3-FULL THROTTLE (MORE FUEL) Read number located on the lower end of the needle. To make richer you would go to the next number. EXAMPLE: The factory installed needles are K-8's, you would go to K-9's for a richer mixture.

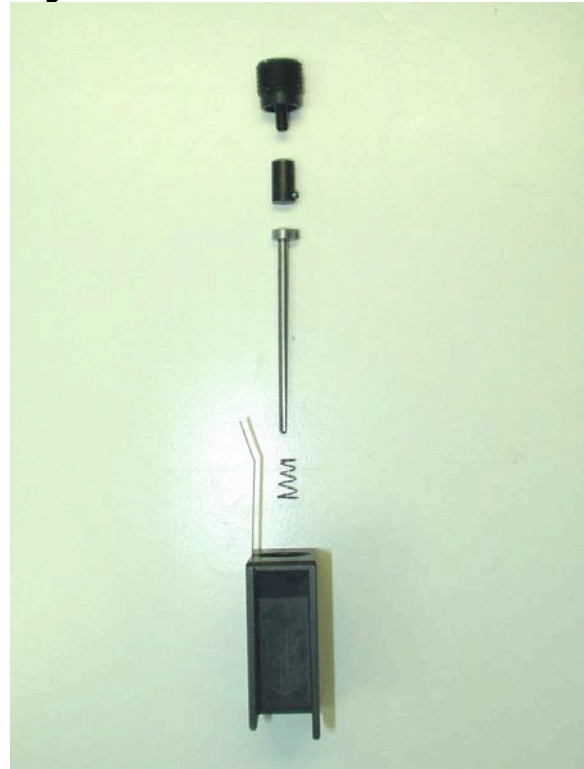
**NOTE:** TO MAKE LEANER 1/3-FULL THROTTLE (LESS FUEL) Read number located on the lower end of the needle. To make leaner you would go to the next lower number. EXAMPLE: The factory installed needles are K-8's, you would go to K-7's for a leaner mixture.

6.) Place needle spring on desired needle with the small end towards

the head of the needle. Insert needle with spring into the slide, aligning the notch on the needle with groove in slide. Insert needle adjuster actuator pin aligning roll pin with groove in slide.

7.) Install needle adjuster assembly. See figure 11.

Figure 11.



**NOTE:** NEEDLE ADJUSTER MUST BE COMPLETELY TIGHTENED TO ELIMINATE THE POSSIBILITY OF IT BACKING OUT DURING OPERATION. (A DROP OF LOCTITE 642 ABOVE THE FOUR CROSS-DRILLED HOLES IS RECOMMENDED.) IF THIS HAPPENS, THE MOTORCYCLE WILL BECOME VERY RICH AND WILL NOT RUN PROPERLY.

8.) Using a 3/16 screwdriver rotate center needle adjuster (see figure 10) all the way to the right (clockwise) until it stops. Rotate back left (counter-clockwise) to the first click. Now rotate left (counter-clockwise) counting clicks (one (1) click equals a 1/4 turn), until the number acquired from step # 6 is reached.

**NOTE:** WHEN REINSTALLING CAP, ROTATE CABLE WHEEL BACK TO AVOID CLAMPING THE CAP DOWN ON THE IDLE ADJUSTMENT SCREW. CLAMPING DOWN ON THIS SCREW WILL CAUSE PERMANENT DAMAGE TO THE CARBURETOR.

9.) When finished repeat steps 1-5 in reverse order.

#### Spark Plug Readings

1. If possible ride the motorcycle for a good distance to get a proper reading on the spark plugs. Never let motorcycle 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: Threaded metal area surrounding the porcelain will have a little dark discoloration. Porcelain area of spark plug should be a light tan to white color with no flaking.

#### **Condition-Rich in the Low-Mid Range**

Bike Performance: There will be a hint of black smoke at idle, rough idle, poor fuel economy, fouled spark plugs.

Plug Reading: Threaded metal area surrounding porcelain will be dark black and very sooty.

#### **Condition-Lean Low-Mid Range**

Bike Performance: Won't run without enricher turned on.

Plug Reading: NONE.

#### **Condition-Rich Mid-Full Range**

Bike Performance: Bike will fall off at higher RPM's. A slight reduction of throttle will make motorcycle pick up and rev all the way out. Poor fuel economy.

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

**WARNING!** OVER-REVVING THE MOTOR CAN CAUSE SERIOUS DAMAGE!

Plug Reading: Porcelain area of spark plug will be brown to dark black and sometimes sooty.

#### **Condition-Lean Mid-Full Range**

Bike Performance: Poor acceleration from half throttle to full throttle. Pops and stutters above half throttle.

Plug Reading: Porcelain will be white with small whisker-like protrusions.

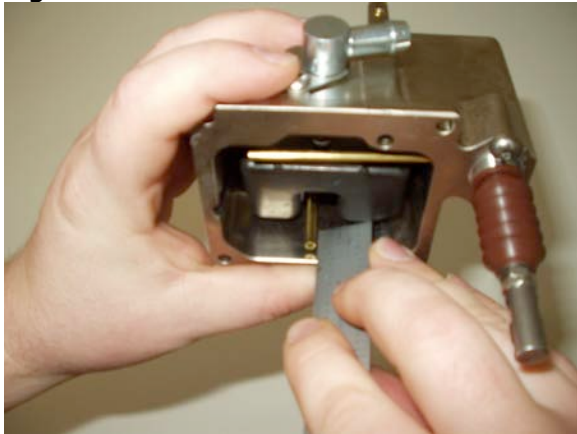
**WARNING!** CONTINUED OPERATION IN THIS CONDITION CAN RESULT IN SERIOUS DAMAGE TO THE MOTOR!

## GENERAL INFORMATION

### **Float Adjustment**

- 1.) Remove carburetor.
- 2.) Remove four (4) float bowl sockethead cap screws from each carburetor body.
- 3.) Turn float bowls upside-down and measure float level as shown in figure 12.

Figure 12.



**NOTE:** FUEL LEVEL SHOULD RISE TO THE MIDDLE OF THE NEEDLE AND SEAT.

**WARNING!** GASOLINE IS EXTREMELY FLAMMABLE AND HIGHLY EXPLOSIVE, IT CAN ALSO BE VERY HARMFUL IF INHALED. DO NOT SMOKE AND PERFORM INSTALLATION IN A WELL VENTILATED AREA. KEEP OPEN FLAME OR SPARKS AWAY FROM GASOLINE AT ALL TIMES.

4.) Float level adjustments are made by carefully bending the small tab located on the back of the float.

- A.) Bending tab in raises float level.
- B.) Bending tab out lowers float level.

4.) Repeat step #3 after adjustments have been made.

6.) Repeat steps 1-2 in reverse order.

### **Accelerator Pump Adjustment**

The new Edelbrock EPS Dual-Carb set-ups include an accelerator pump on the inboard carburetor only. The pump bypass screw located on the left side of the float bowl controls the amount of fuel the pump will deliver to the venturi during rapid throttle opening. The bypass screw is factory set at 1 turn out from bottom. The further in the screw is set, the more fuel will be delivered. It is recommended that the bypass screw be set after the needles have been set to a desired position as the accelerator pump works with the main fuel circuit. To adjust bypass screw loosen 5/16" nut and make adjustments to screw as shown in figure 12. It is recommended adjustments be made in 1/8 turn increments at a time. Tighten 5/16" nut when adjustments are final. When the pump bypass screw is properly set there should not be any hesitation in the throttle response during rapid throttle opening. The accelerator pump may also be used to prime a cold motor before starting by pumping the throttle a couple of times.

Figure 12.



## TROUBLESHOOTING

### Problem

### Check For

### Remedy

#### Fuel Overflow

1. Loose float bowl screws
2. Damaged float bowl gasket
3. Damaged float assembly
4. Worn or dirty needle and seat
5. Improper fuel level in float bowl
6. Restricted fuel tank vent system

1. Tighten screws
2. Replace gasket
3. Replace float assembly
4. Clean or replace needle and seat
5. Adjust float tab for correct fuel level
6. Drill or replace gas cap

#### RESTRICTED FUEL FLOW

- Restricted fuel tank vent system
- Restricted fuel supply line
- Particle contamination in fuel inlet cavity
- Worn or dirty needle and seat
- Improper fuel level in float bowl

1. Correct restricted hose/ Replace vapor valve
2. Correct or replace fuel supply line
3. Clean or clear cavity
4. Clean or replace needle and seat
5. Adjust float tab for correct fuel level

#### POOR IDLING

- Idle speed improperly adjusted
- Inlet system air leak (faster idling)
- Enricher valve not seating or leaking
- Leaking shaft o-rings (faster idling)
- Erratic Idle (non-constant)

1. Adjust operating idle speed
2. Correct as required
3. Adjust, clean or replace choke o-rings
4. Replace shaft o-rings
5. Adjust low speed air/fuel mixture

#### POOR FUEL ECONOMY

1. Excessive use of enricher system
2. Enricher valve not seated or leaking

1. Limit use to start-up only
2. Adjust, clean or replace choke o-rings

- 3. Dirty air cleaner element
- 4. Restricted fuel tank vent system
- 5. High speed riding style
- 6. Idle speed improperly adjusted
- 7. Fuel level too high
- 8. Plugged or restricted bowl vents
- 9. Worn or damaged needle
- 10. Too rich fuel mixture  
(non emissions models only)

- 3. Clean or replace as required
- 4. Correct restricted hose / Replace vapor valve /  
Drill gas cap for proper venting
- 5. Modify riding habits
- 6. Adjust operating idle speed
- 7. Adjust float level
- 8. Clean and clear passages
- 9. Replace needle
- 10. Lean mixture out  
(non emissions models only)

**POOR ACCELERATION**

- 1. Throttle cables misaligned
- 2. Inlet system air leak
- 3. Restricted fuel tank vent system
- 4. Restricted fuel supply passages
- 5. Plugged bowl vents
- 6. Enricher valve not seated or leaking
- 7. Worn or damaged needle
- 8. Fuel level too low
- 9. Fuel mixture too lean  
(non emissions models only)
- 10. Slide not opening completely

- 1. Adjust throttle cables
- 2. Correct as required
- 3. Correct restricted hose / Replace vapor valve /  
Drill gas cap for proper venting
- 4. Clean and clear passages
- 5. Clean and clear passages
- 6. Adjust, clean or replace choke o-rings
- 7. Replace needle
- 8. Adjust float level
- 9. Richen fuel mixture  
(non emissions models only)
- 10. Adjust throttle cables

**HARD STARTING**

- 1. Enricher system plugged, not working
- 2. Inlet system air leak
- 3. Fuel overflow
- 4. Fuel restricted
- 5. Lean low speed air/fuel mixture

- 1. Adjust, clean or replace or improperly operated choke o-ring  
Read "START UP" inst.
- 2. Correct as required
- 3. See "FUEL OVERFLOW TROUBLE SHOOTING"
- 4. See "RESTRICTED FUEL FLOW TROUBLE SHOOTING"
- 5. See "TUNING INSTRUCTIONS"

## **POOR PERFORMANCE ON ROAD**

- |   |  |
|---|--|
| 1. Idle speed improperly adjusted       | 1. Adjust operating idle speed                           |
| 2. Inlet system air leak                | 2. Correct as required                                   |
| 3. Restricted fuel tank vent system     | 3. Correct restricted hose / Replace vapor valve         |
| 4. Dirty or damaged air cleaner element | 4. Clean or replace                                      |
| 5. Enricher valve not seated or leaking | 5. Adjust, clean or replace choke o-rings                |
| 6. Restricted fuel supply               | 6. See "RESTRICTED FUEL FLOW TROUBLESHOOTING"            |
| 7. Plugged float bowl vents             | 7. Clean and clear passages                              |
| 8. Worn or damaged needle               | 8. Replace needle  |
| 9. Improper fuel mixture                | 9. See "TUNING INSTRUCTIONS" (non emissions models only) |
| 10. Slide not opening completely        | 10. Adjust throttle cables                               |

If problems continue please give our technical staff a call at (877) 888-7504 option # 2 Mon.-Fri. 8:00AM to 12:30 PM, 1:30 PM to 5:00 PM Pacific Standard Time.

NOTE: SOME HARLEY-DAVIDSON AND AFTERMARKET GAS CAPS DO NOT VENT PROPERLY. THESE GAS CAPS CAN CAUSE NUMEROUS PROBLEMS. WE AT EDELBROCK STRONGLY RECOMMEND DRILLING A SMALL .075"-.100" HOLE IN THE CENTER OF THE GAS CAP TO RELIEVE PRESSURE.

1.Remove gas cap from motorcycle.

2.Drill a small hole (.075"-.100") hole in the center of the cap being careful to drill only through the plastic and not the metal. Remove any loose plastic or metal, reinstall gas cap.

WARNING: FAILURE TO DO SO MAY CAUSE AN EXCESS BUILD-UP OF PRESSURE IN THE FUEL TANK, CAUSING A FAILURE OF THE NEEDLE AND SEAT. THIS COULD CAUSE AN UNWARRANTED RELEASE OF GASOLINE, CREATING A FIRE HAZARD AND POTENTIAL PERSONAL INJURY TO YOU OR OTHERS.

### **WARRANTY**

Edelbrock Carburetors and all parts included on 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, upon receipt of the defective part within the one (1) year warranty period.

In the event a part has been rendered defective, Edelbrock 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. Edelbrock will not be liable for any consequential or incidental damages resulting from the failure of any Edelbrock 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 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 will not be liable for any modifications made to carburetors designed to meet emissions standards. Any modifications to these products will void any certification and all warranties they may carry. Please contact Edelbrock with any questions.

The use of the words Harley-Davidson, various model names, designations, OEM part numbers and the name K&N Filters are provided solely for reference and fitment information only, there is no affiliation between Harley-Davidson, K&N Filters, S&S and Edelbrock.