



If you need further information  
or assistance, please contact  
your Stromberg Dealer,  
or e-mail us direct at:

**[tech@stromberg-97.com](mailto:tech@stromberg-97.com)**

or log on to our Tech Center at:  
**[stromberg-97.com](http://stromberg-97.com)**



SSP 9011-175V2



**STROMBERG BIG97 OWNER'S MANUAL**

Made by Stromberg in England

# READ THIS FIRST

## WARNINGS! AND NOTES

These instructions must be read and fully understood before beginning installation. If these instructions are not fully understood, installation should not be attempted. Failure to follow these instructions, including illustrations, may void your warranty and may result in poor performance, vehicle damage, property damage, severe personal injury or death. If you need information or assistance, please contact your Stromberg dealer or email us direct at: [tech@stromberg-97.com](mailto:tech@stromberg-97.com)

## WARNING!

Always perform any work on the fuel system in a well ventilated area. Failure to do so may result in the build up of dangerous gasoline vapors, which are very flammable and can cause severe respiratory injury or death. Make sure that the engine is cool before carburetor installation. Never smoke, use an open flame, or produce any sparks in an area where gasoline or gasoline vapors could be present. Doing so may cause a fire or explosion, resulting in property damage, serious personal injury, or death.

## WARNING!

A thorough knowledge of the vehicle's mechanical and electrical systems is required. Therefore, Stromberg recommends installation by a professional mechanic only. An improperly installed carburetor may void your warranty and may cause poor performance or lead to property damage, personal injury, or death.

## WARNING!

BIG97 carburetors are not to be used in MARINE or AIRCRAFT applications, and are not designed for use with engines or transmissions requiring computer control. Use in these applications may cause damage.

## WARNING!

Before beginning installation of any carburetor, verify that all mechanical and electrical systems are in good working order. These include engine components like the intake manifold and gaskets, electrical components including, but not limited to, the distributor, spark plug wires, battery, battery cables, starter and starter solenoid, and the fuel system including the fuel tank and fuel lines. Any damaged or improperly operating components must be replaced prior to installing the carburetor. Failure to do so may result in property damage, serious personal injury or death.

**NOTE:** This product is legal only for off-road use or for use on pre-emission controlled motor vehicles/engines. In the USA, this means pre-1966 domestic vehicles certified to California standards, pre-1968 domestic vehicles certified to federal standards and all pre-1968 foreign vehicles.

**NOTE:** In some areas, fuels can contain comparatively large percentages of ethanol. While your Stromberg BIG97 carburetor will operate on this fuel, its performance may be impaired if it is not retuned.

# WHAT YOU NEED TO KNOW

## THE STROMBERG BIG97

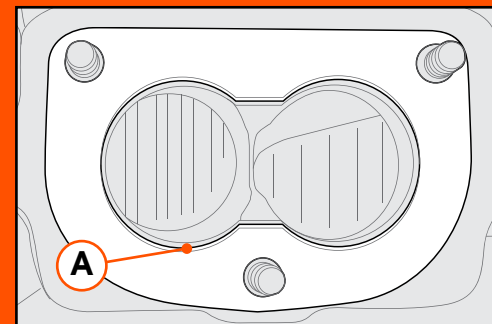
is a new carburetor, based on the original 97 design, but with significantly more airflow (a minimum 250cfm) and many other improvements. 'Primary' and 'Secondary' models are available for use in a three-carb, 3x2 or 'tri-power' system with a progressive linkage. BIG97 Primaries can be used on their own or in multiples (with direct or progressive linkage). Secondaries should ONLY be used in multiple carburetor systems, connected to a Primary model with a progressive linkage. Please check that you have the correct carburetors and linkage for your application.

BIG97 supplied jetting (as marked on the box) is different for Primary and Secondary models to suit their high cfm capability and use in a 'tri-power' set-up. While it will provide a good base-point for a range of applications, rejetting may be required for altitude, forced induction and special, local and seasonal fuels.

While BIG97 main jets are in the usual position under the float bowl, the power valve (Primary models only) is located in the float bowl, feeding direct into the emulsion tube circuit for improved fuel conditioning. The valve under the accelerator pump is of a different design used only to meter the pump charge through the discharge jets. BIG97 Secondaries have no power valve, accelerator pump valve or accelerator pump. On all models, idle air bleeds and high speed air bleeds are fixed. A wide range of main jet and power valve sizes are available from Stromberg.

BIG97 Primaries are supplied with a swap-in fitting to provide 'ported' vacuum for a distributor with vacuum advance (see page 5). Always check your distributor's vacuum requirements before connection. A compatible distributor will only need vacuum from one carburetor.

To make the most of the BIG97's improved airflow capability, some intakes may need opening up around the carburetor bores and down into the webs between the two bores for each carburetor. You can use the supplied carburetor gasket as a template (see A).



For further advice on all of the above, visit the Stromberg Tech Center at: [stromberg-97.com](http://stromberg-97.com)

# THANK YOU

for choosing a Genuine Stromberg carburetor. This Owner's Manual will make installation and adjustment as safe and trouble-free as possible. It contains several warnings, cautions and notes. Please read them all. It also includes important information about the Stromberg warranty and what to do if you have a problem.

Please remember, if you have any questions about carburetor installation, adjustment and tuning, or need to discuss a problem after installation, please contact us at: **tech@stromberg-97.com**

## 1. PRE-INSTALLATION CHECKLIST

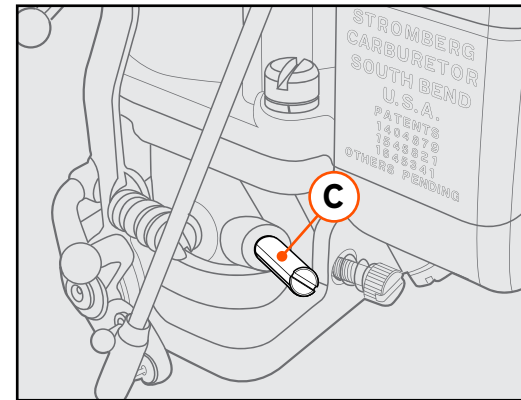
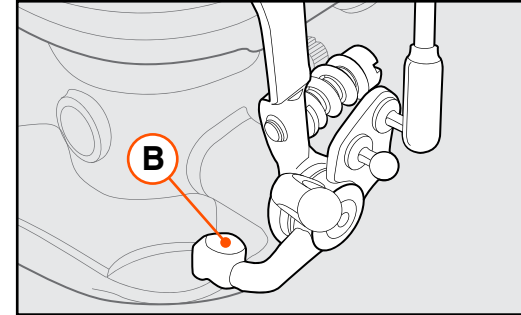
- A) Inspect all carburetors for possible shipping damage. Verify that all linkages operate freely by manually opening the throttle plates to Wide Open Throttle (see B) and back to closed without any binding.

### WARNING:

Do not use the carburetor if the linkage binds in any way. A binding linkage may result in improper throttle function and uncontrolled speed, which can cause property damage, serious personal injury, or death.

- B) Do you have the correct throttle and choke linkage, and fuel supply for your particular application? Use only parts sold specifically for use with Stromberg carburetors on your engine/vehicle. Hand throttle linkage parts are not supplied on BIG97 models.

- C) To provide ported vacuum to your engine distributor, use a 3/32in Allen (hex) wrench to remove the small set screw from the casting boss just behind the throttle kicker linkage (Primary models only). Replace it with the brass fitting (see C), supplied separately in the box, using a small flat blade screwdriver. DO NOT over-tighten the brass fitting.



## 2. REMOVE EXISTING CARBURETOR

- A) Disconnect the vehicle's battery and carefully remove any air cleaners.

### WARNING:

Always disconnect your vehicle's battery, making sure the ignition is off and the engine is cool before performing any work on the fuel system. Failure to do so may result in sparks or burns, and cause a fire or explosion, resulting in property damage, serious personal injury, or death.

- B) Disconnect all linkages - throttle and choke.

- C) Carefully disconnect the fuel lines from the carburetor.

**NOTE:** Disconnecting fuel lines can result in gasoline being spilled. Use a catch tray to collect excess fuel. Clean up any spilled gasoline before continuing.

- D) Unbolt and remove the carburetors from the intake manifold.

- E) Remove all traces of the old carburetor gasket from the intake manifold.

**NOTE:** Do not allow gasket or other material to fall into the manifold.

## 3. INSTALL BIG97 CARBURETOR

- A) Verify that the intake manifold carburetor mounting surfaces (and any spacers or adapters) are completely flat.

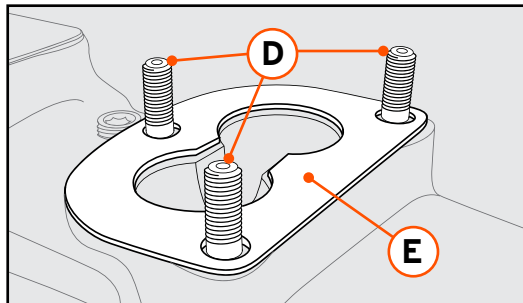
### WARNING:

Any damaged or warped intake components must be replaced prior to installing carburetors. In addition to poor performance, failure to do so may result in an improperly functioning throttle and uncontrolled

speed, or component failure or gas vapor that may ignite - any of which may cause property damage, serious personal injury or death.

- B) Inspect all carburetor mounting studs (see D) to ensure that they are straight. New studs, spring washers and nuts are available from Stromberg (kit 89067K-3).

- C) Place the new carburetor gasket - supplied (see E) onto the intake manifold studs.



**NOTE:** Use the gasket dry. Do not use any cement, glue or RTV sealant.

- D) Place each carburetor on top of the manifold gasket on the studs. When mounting a BIG97 tri-power, mount the Primary (marked P) carburetor in the center position, with the Secondary (marked S) models on the outside, front and rear. Install the washers, then tighten the nuts in a progressive manner to a recommended 15 ft./lbs. torque.

**NOTE:** Do not over-tighten the mounting nuts or bolts. Over-tightening can result in damage to the manifold, manifold studs or carburetor base that is not covered under warranty.

## 4. ATTACH THE LINKAGE

- A) Fit the carburetor linkage, carefully following the manufacturer's instructions. We strongly recommend the use of Stromberg linkages, which are designed specifically to work with Stromberg carburetors. Before you attach the throttle pedal, check that all carburetors move freely from idle to Wide Open Throttle (WOT) and snap shut when released.

**NOTE:** Never use BIG97 Secondary carburetors with a direct (non-progressive) linkage.

- B) Attach the throttle linkage to the carburetors. Have someone operate the throttle linkage from inside the vehicle - opening to WOT and back to idle - while you inspect throttle operation on the carburetors. Check again that all carburetors move freely from idle to WOT and snap shut when released. Check that the pedal does not strain the linkage once WOT is achieved, or cause any over-center condition. Check that the throttle linkage does not interfere with the fuel line and vice versa. And check that the throttle return springs work effectively.

### WARNING:

Check and correct the assembled linkage for interference, sticking or binding. Any sticking, binding, or over-center movement could result in uncontrolled engine speed, property damage, serious personal injury or death.

### WARNING:

Always use a throttle return spring that has sufficient tension to return the carburetor to idle. Failure to use an effective throttle return spring may result in uncontrolled engine speed, property damage, serious personal injury, or death. Do NOT rely on the carburetor accelerator pump lever return spring to act as your throttle return spring.

- C) Attach the choke linkage, ensuring no interference, binding or sticking when operated from inside the vehicle. Ensure that the choke plate is vertical when the choke control is in the 'off' position.

## 5. CONNECT THE FUEL LINE

- A) Install your fuel line into the BIG97 S-jet inlet fitting.

**NOTE:** Stromberg BIG97 carburetors are designed to take 5/16in Outside Diameter (OD) hard line using Stromberg 9081K-BIG Ford Nut style compression fittings. Regular 97s take 1/4in line. Do not use 1/4in line into a BIG97. To connect a fuel hose, use a Genuine Stromberg hose end or banjo fitting.

### WARNING:

Use only rubber and steel fuel lines approved for automotive fuel applications and ensure that any hose clamps are secure. If there are any signs of cracking or fatigue in the hose, replace it immediately. Failure to do so may result in fuel leaks and a fire which may cause property damage, serious personal injury, or death.

### WARNING:

Never use Teflon tape or thread sealant on the fuel inlet fittings or rubber hose. They may cause fuel leaks and a fire resulting in property damage, serious personal injury, or death.

### CAUTION:

Before proceeding, make sure that the fuel line does not touch the intake manifold, carburetor linkage or any other engine parts. Thoroughly flush the fuel lines before connecting them to the carburetor. Do not allow any dirt or other particles to enter the carburetor fuel system.

**CAUTION:**

When connecting the fuel line, hold the carburetor inlet fitting with an 11/16in open-end wrench (see F). This fitting must not be allowed to turn in the carburetor.

If the fitting is allowed to turn, it could over-tighten, damaging the bowl casting. It could also upset the pre-set float level adjustment, causing carburetor malfunction and flooding.

**CAUTION:**

Running without a fuel filter voids the carburetor warranty. It is essential that a quality inline fuel filter is installed between the fuel tank and carburetor. This is mandatory as a safeguard against possible flooding which could result from unfiltered foreign particles becoming lodged inside the fuel inlet valve. Filter elements should be cleaned or replaced regularly to assure maximum protection. Always use new, clean fuel.

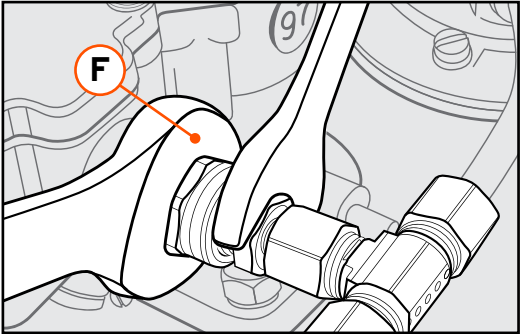
- B) Go back and tighten ALL the fuel line fittings on the carburetor and any fuel distribution block. Be sure not to over-tighten the fittings.

**6. INSTALL THE AIR CLEANERS**

- A) Install your air cleaners, checking for adequate clearance between the air cleaner, carburetor linkages and fuel lines.
- B) Check for adequate clearance between the air cleaners and hood before closing the hood.

**WARNING:**

Check and correct any air cleaner-to-carburetor and air cleaner-to-hood interference that may cause the linkage to stick or bind. Any sticking, binding, or 'over-center' movement could result in uncontrolled engine speed, property damage, serious personal injury, or death.



**CAUTION:**

Running without an air cleaner is strongly discouraged. Dirt and varnish will accumulate and upset the carburetor air/fuel metering balance. Debris can also enter the engine causing further problems.

**NOTE:** Any air filter element must be clean and of sufficient capacity to match the BIG97 airflow capability. Check with your air cleaner supplier as lower capacities can cause rich running conditions.

**7. INSTALL THE VACUUM LINE**

- A) If you have installed the supplied ported vacuum fitting to your BIG97 Primary carburetor, connect a 5/32in ID automotive compatible vacuum line from the carburetor to the distributor. Hose clamps should not be required.

**WARNING:**

Ensure that the vacuum line does not come into contact with the exhaust or other sources of heat that might damage or burn the hose. And check that it does not interfere with the carburetor linkage, causing it to stick or bind. Any sticking, binding or over-center

movement in any part of the linkage could result in uncontrolled engine speed, causing property damage, serious personal injury or death.

**8. START THE ENGINE**

**WARNING:**

If your vehicle is equipped with an automatic transmission, confirm that the transmission is in park before starting. If your vehicle is equipped with a manual transmission, verify that the vehicle is in neutral with the parking brake on before starting. Failure to do so may result in unintended vehicle movement causing property damage, serious personal injury or death.

- A) Stromberg BIG97s are factory set to run, in most applications, straight out of the box, with minimum tuning required. Regulate the fuel pressure to 2.5psi, connect the battery and crank the engine over to prime the carburetors.

**WARNING:**

Stromberg carburetors are designed for fuel pressure of 2.5psi MAXIMUM measured at the carburetor. Excess pressure can cause flooding which may cause a fire or explosion resulting in property damage, serious personal injury, or death. Many modern electric fuel pumps are designed to provide higher pressures and are not suitable for Stromberg carburetors without a fuel pressure regulator of the correct range. Always check the manufacturer's specification.

**WARNING:**

If you crank the engine over to fill the carburetor, make sure the ignition is disabled by removing the coil wire from the distributor. Failure to do so may cause a fire or explosion resulting in property damage, serious personal injury, or death.

**WARNING:**

Due to the inherent danger of gasoline and gasoline vapors, you should have a helper ready with a fire extinguisher when starting the engine after installation of any new carburetor. Protective eyewear must be worn before the fuel pump is first turned on. Failure to do so may result in injury to the eyes or blindness.

**WARNING:**

Watch closely for signs of fuel flooding when the fuel pump is first turned on or when the engine is started. If flooding is apparent, stop the engine immediately. Disconnect the fuel line, remove the fuel inlet fitting (see F) and check for blockage or dirt. Clean as required, reinstall the fitting and reconnect the fuel system. Clean up any raw fuel. Flooding does not necessarily indicate a faulty carburetor.

**NOTE:** If the fuel inlet fitting is replaced for any reason, the float level may need readjustment. For instructions, visit the Stromberg Tech Center at: [stromberg-97.com](http://stromberg-97.com).

- B) Check for leaks at the fuel line and inlet fittings.
- C) Start the engine and recheck for fuel leaks.

**9. TUNING**

**CAUTION:**

Carburetor tuning should always be carried out by a specialist since improper tuning could result in poor performance.

- A) Set the idle speed and mixture outdoors with the engine running at normal operating temperature, the air cleaners in place, all throttle plates closed and the chokes fully open. Temporarily disconnect the carburetor linkage so each carburetor can be adjusted separately.

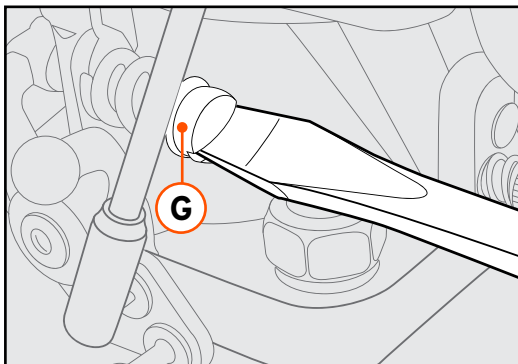
**B)** BIG97 carburetors are factory-set to be very close to your idle requirements straight out of the box. To fine tune the idle speed (rpm), turn the throttle stop screw (see G) clockwise for faster idle speed – counter-clockwise for slower idle speed. To ensure better balance, aim to keep the throttle stop screw in the same position on each carburetor. For a BIG97 tri-power, please see the separate instructions opposite.

**C)** Now set the ignition timing, in the usual way, to the engine's recommended specification. If you are using the BIG97 ported vacuum line, ignition advance should always be set with the vacuum line disconnected from the distributor and clamped. Once the timing is set, reconnect the vacuum hose and recheck the ignition advance at idle. If the advance has increased, the throttle plate is set too high (open), exposing the vacuum port, and it may be necessary to increase the initial (static) ignition timing. This will increase manifold vacuum, and should allow the throttle plates to be closed down below the vacuum port at idle.

**D)** Set the idle mixture (air/fuel ratio) using the needle screws (see H) which are factory-set in a matching position. Adjusting the screws one at a time, turn them IN (clockwise) to make the idle mixture leaner (less fuel) and OUT (counter-clockwise) to make the idle mixture richer (more fuel). Turn each idle screw in slowly (1/4 turn at a time) until the engine begins to lag or run irregularly. Then turn the same screw out slowly until the engine begins to roll or gallop, then back in slightly to provide the smoothest idle. Repeat this same procedure to adjust the other screws. Be prepared to go around all of the screws again if required.

**E)** Winter and Summer Settings: Stromberg BIG97 carburetors are supplied with the accelerator pump rod in the W (Winter) position. The S (Summer)

and W settings partially determine the volume of fuel discharged when the accelerator is pumped. The Primary carburetor will discharge more fuel in the W position. The correct setting should be determined by the driver to suit local operating conditions. If the vehicle tends to stumble on acceleration, try changing the rod to the other position. Note that there is no accelerator pump in BIG97 Secondary carburetors – just a false pump to retain the 97 look – so the S and W positions make no difference to performance.

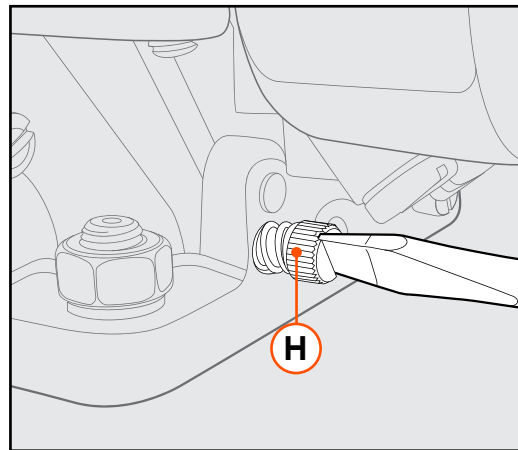


**F)** After tuning and balancing the carburetors, refit the linkage without altering the carburetor settings.

**NOTE:** Since available fuel formulations vary with the seasons, tuning settings may require further adjustment throughout the year.

## **TUNING THE BIG97 TRI-POWER**

BIG97 idle circuits – Primary and Secondary – should always be kept operational, even in multiple carburetor applications. All BIG97 carburetors are shipped with the top edge of the throttle plates set at the bottom edge of the transition ports (the 'upper' idle ports) to ensure smooth transition throughout the rev range. On a BIG97 tri-power, with a Primary in the center between two Secondaries, and a progressive linkage, we recommend that the factory-set Secondary carburetor idle speed (throttle stop) screws are not adjusted. Set the idle speed using just the Primary (center) carburetor throttle stop screw (see G). The idle mixture is set in the usual way. Aim for matching idle mixture screw positions on both Secondary carburetors and minimum difference between Secondary and Primary screw positions.



**NOTE:** Traditional carburetor balancing can help in multiple BIG97 Primary carburetor applications on a direct linkage. However, on a BIG97 tri-power with a progressive linkage, Secondary carburetor throttle plate position is more critical than absolute balance to ensure smooth running. For more advanced tri-power tuning advice, please visit our Tech Center at: [stromberg-97.com](http://stromberg-97.com)

## **10. TROUBLESHOOTING**

**A)** Carburetors can be frustratingly difficult to troubleshoot and are often blamed for other engine-related difficulties. Please check and verify the condition of the complete engine system before proceeding with any carburetor work.

**NOTE:** Correct engine compression, timing, spark plug gap and heat range, distributor points condition and wiring, valve lash and other factors are very important to optimum engine efficiency and performance. There should be no vacuum leaks. A new carburetor will not cure bad valves, incorrect timing or poor compression.

## **11. MAINTENANCE**

**A)** After an initial running period, check and retighten all nuts and screws as required. The presence of liquid fuel demands further checks.

### **WARNING:**

Fuel system components operating under severe conditions, such as high under-hood temperatures, should be periodically inspected to ensure that the fasteners are tight, the hoses are sound and there are no fuel leaks. High temperatures promote faster ageing of non-metallic materials. Metallic materials can age with engine vibration and may warp or fatigue if not properly assembled and maintained.

**12. WARRANTY**

All Stromberg products receive numerous checks and tests to ensure optimum quality and performance. Stromberg also takes customer support very seriously, and this extends to fair Limited Warranty terms and procedures through our full product range as outlined below.

Stromberg warrants your new carburetor to be free from defects in material and workmanship for one (1) year from the date of original purchase by the Purchaser.

**Warranty Exclusions**

Stromberg does not warrant products which are damaged as a result of improper installation or application, including but not limited to:

- 1. Failing to follow or deviating from any installation guidance provided by Stromberg;
- 2. Modifying or altering the carburetor beyond factory specifications, outside what could be considered tuning for optimum performance;
- 3. Subjecting the product to adverse conditions, abuse, neglect, accident, collisions, dirt or contaminants, water or corrosion, gum or varnish, use of improper or poor quality fuel or fuel additives, or faulty repair; and
- 4. Improper adjustment, fire from a backfire, running without a quality air filter and fuel filter, or excessive fuel pressure. Stromberg also does not warrant, and disclaims all liability for, products used for racing, or any non-automotive, marine, or aircraft application or purpose.

Stromberg is the sole and final judge of whether a product is covered by the warranty. In the event that Stromberg determines that a defect in material or workmanship exists, Stromberg's responsibility is strictly limited to the repair or replacement of the defective product or parts, as Stromberg elects, and

the return of the repaired or replaced product or parts to the Purchaser, freight prepaid. Stromberg has no other obligation, and makes no other warranties - whether express or implied.

As used herein, the term 'Purchaser' shall mean the original purchaser or consumer of the Stromberg product. The Limited Warranty is restricted to the Purchaser. The warranty is not assignable or otherwise transferable.

**Limited Warranty**

STROMBERG PROVIDES NO WARRANTY EITHER EXPRESS OR IMPLIED OTHER THAN THIS LIMITED WARRANTY. STROMBERG EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL STROMBERG OR ITS AGENTS, EMPLOYEES, OFFICERS, DIRECTORS, RELATED ENTITIES OR SUCCESSORS, BE LIABLE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES ARISING OUT OF, OR IN CONNECTION WITH, PRODUCTS OR SERVICES SOLD, WHETHER BASED IN WARRANTY, CONTRACT, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY), OR ANY OTHER LEGAL THEORY. STROMBERG'S MAXIMUM LIABILITY SHALL NOT EXCEED THE PURCHASE PRICE OF THE PRODUCT. STROMBERG NEITHER ASSUMES, NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR US, ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THIS GENUINE STROMBERG PRODUCT. STROMBERG DOES NOT WARRANT WHATSOEVER ANY ACCESSORIES OR PARTS SUPPLIED BY OTHER MANUFACTURERS.

Any implied warranty determined to be applicable is limited to the duration of this warranty. This warranty gives you specific legal rights. However, you may also have other rights that may vary from

state to state or province. This Limited Warranty constitutes the entire understanding between Stromberg and the Purchaser.

**Warranty Procedure**

To claim under this Limited Warranty, the Purchaser must:

- 1. **CONTACT US FIRST!** You can email us at [warranty@stromberg-97.com](mailto:warranty@stromberg-97.com). Most carburetor issues are simple and can be addressed quickly with email advice. Please remember to check Section 10. Troubleshooting and look for further advice on the Stromberg Tech Center at [www.stromberg-97.com](http://www.stromberg-97.com)
- 2. If you cannot contact us, contact the place of purchase, providing the dated purchase receipt and a clear description of the problem.
- 3. If the product needs replacement, we will provide a Return Goods Authorization (RGA) number and an address for return. We will provide a replacement on return of the product so enclose your RGA number and a return address. **NO RETURNS WILL BE ACCEPTED WITHOUT AN RGA NUMBER.** No replacements will be shipped without return of the original product.

**DO NOT** send products directly to Stromberg without our prior notice. Stromberg assumes no responsibility for products sent directly to Stromberg.

**NOTES:**

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