



If you need further information
or assistance, please contact
your Stromberg dealer,
or e-mail us direct at:
tech@stromberg-97.com
or log on to our Tech Center at:
stromberg-97.com



SSP 9033V1



STROMBERG e-FIRE OWNER'S MANUAL

Made by Stromberg in England

CHEVROLET SMALL BLOCK / BIG BLOCK

THANK YOU

for choosing a Genuine Stromberg e-FIRE electronic distributor. 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 need help.

If you experience any difficulties with distributor installation & timing, please check the detailed Troubleshooting section of this manual first. There is help available at the Stromberg Tech Center: **www.stromberg-97.com**. And you can contact us direct: **tech@stromberg-97.com**

READ THIS FIRST

WARNINGS AND NOTES:

These instructions must be read and fully understood before beginning installation, otherwise installation should not be attempted. Failure to follow these instructions, including illustrations, may void your warranty and could 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: **tech@stromberg-97.com**

WARNING:

Correct distributor installation and set up is critical to engine performance, so a thorough knowledge of vehicle mechanical and electrical systems is required. Stromberg recommends installation by a professional mechanic only. An improperly installed or adjusted distributor may void your warranty and may cause poor engine performance or damage, property damage, personal injury or death.

WARNING:

All e-FIRE V8 distributors should be used with a 1.5 Ohm (Ω) coil. For optimum performance use a Stromberg '44 Coil', part number 9708K. Coils with a higher Ohm rating (often called 'internally resisted') will give you less spark and low power into the module, leading to unreliable performance. A coil with LESS than 1.5 Ohms resistance could cause the ignition module to overheat, misfire and fail prematurely.

DO NOT use a low resistance or HEI coil. Remove any external ballast resistor or resistor wire. If your engine has a starter bypass wire, you can leave it in place.

WARNING:

This distributor is not designed for use with engines or transmissions requiring computer-control. Use with these applications may cause damage. This distributor is not designed for MARINE or AIRCRAFT applications.

NOTE: This product is applicable only for off-road use, or on pre-emission controlled motor vehicles/engines. It is not applicable or intended for use on any emission controlled vehicles operated on highways or roads, unless otherwise noted.

WARNING:

Before installation, please verify that the whole vehicle electrical system is in good working order. This includes, but is not limited to, spark plugs and plug wires, battery, battery cables, generator or alternator, starter, starter solenoid and its wiring. Any damaged or improperly operating components can cause additional resistance in the circuits and must be replaced prior to installing the distributor. Failure to do so may result in poor performance, and could cause a fire resulting in property damage, serious personal injury or death.

1. PRE-INSTALLATION CHECKLIST

- A)** Every single Stromberg e-FIRE distributor is machine tested by the builder before boxing to ensure accurate timing throughout the rev range, and a strong spark to all plugs. Please inspect your new e-FIRE distributor for possible shipping damage and check you have the correct model for your application. Model details are clearly marked on the distributor packaging and ID plate.
- B)** Stromberg recommends the use of a traditional, 'points style' 1.5 Ohm ignition coil for all of our 8-cylinder e-FIRE distributors. That's 1.5 Ohm primary resistance measured across the low tension positive and negative terminals. 1.5 Ohm coils are sometimes called 6v or 9v coils, though in practice, ignition coils are not designed for a specific voltage input. Please refer back to the previous page for further advice.
- C)** This product is designed for 12 volt negative ground auto electrics. Connection with the wrong polarity will cause ignition module failure and void your warranty. Regulated battery voltage measured at the coil's positive terminal with the engine running, should not exceed 14.5 volts at any RPM level. Excessive voltage can lead to overheating and ignition module failure. Reduced voltage can cause unreliable performance.
- D)** To prevent false triggering and premature ignition module failure, use only suppression type spark plug wire. Stromberg recommends e-FIRE high performance spark plug wires with a spiral wound, stainless steel ignition core. DO NOT use solid core (typically copper or stainless steel) spark plug wires, which lack resistance, do not suppress Electromagnetic/Radio Frequency

Interference (EMI/RFI), and can damage the e-FIRE ignition module.

- E)** This distributor is equipped with a hardened steel drive gear, compatible with most street-driven camshafts. If you are unsure, always check compatibility before installation.

USE e-FIRE HIGH PERFORMANCE SPARK PLUG WIRES.

Designed for optimum performance with your e-FIRE electronic distributor, Stromberg e-FIRE spark plug wires offer strong fire power with high level EMI/RFI resistance. The spiral-wound, stainless steel suppression core is protected by tough fiberglass reinforcing braid for strength and flexibility. And the 100% silicone insulation resists high temperatures, moisture, oil and chemicals, and protects against arcing and voltage leaks. With low 500 Ohm/ft resistance, they get more energy into your plugs too.

For easy installation, the 90-degree cap terminals and boots are pre-fitted for smarter 'distributor first' installation. This also leaves you free to use the supplied 90-degree spark plug boots or choose your own hot rod terminals. All leads are 7mm diameter so they fit through your plug wire looms or tubes. They're cut to length, too, with an extra-long coil wire to reach your firewall.



- F)** Unlike a points distributor, electronic ignition needs a stable, independent power feed and reliable ground (earth) connection into the engine. To ensure this, we remove the protective anodized coating from inside the distributor body to maintain a quality ground from the module plate right down into the engine. Performance will be compromised if the engine/chassis ground back to the battery negative is poor. On installation, we recommend a multimeter continuity test from the module mounting plate to your battery negative. Net resistance (ie not including any resistance within the test leads) should be less than 0.2 Ohms.

2. REMOVE EXISTING DISTRIBUTOR

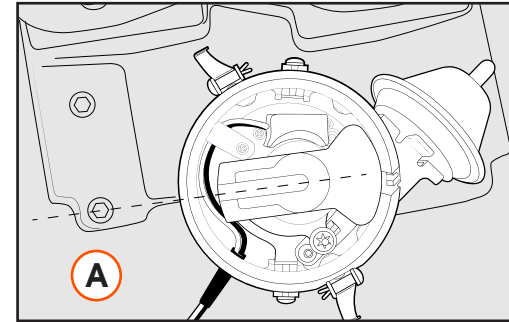
- A)** Disconnect the vehicle's battery. Remove the condenser and any radio suppressors. They are not required, nor compatible with the Stromberg e-FIRE distributor. Disconnect the distributor low tension wire at the coil.

WARNING:

Always disconnect your vehicle's battery, making sure the ignition is off and the engine is cool before performing any work. 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)** Carefully disconnect any vacuum advance line at the distributor end.
- C)** Remove the cap from the original distributor and make a note of where the rotor points BEFORE removing the distributor from the engine. If needed, crank the engine until the rotor lines up with a notable point on the engine or firewall. THIS IS VERY IMPORTANT. Mark it (see A) or

take a photo! In terms of guaranteed engine/firewall clearance and convenience, it is also worth noting where the vacuum canister is pointing.



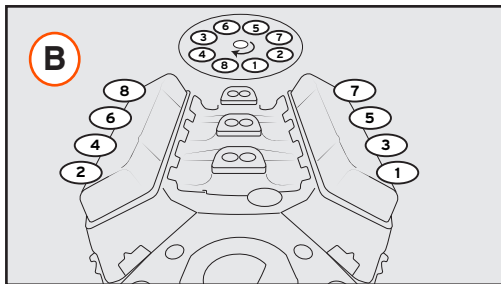
- D)** Replace the cap and also note which spark plug wire the rotor points to. Then label all the wires and disconnect them from the cap. Now remove the clamp and lift the old distributor from the engine. The rotor will turn as the distributor is lifted out. Take this movement into consideration when you install your new e-FIRE distributor. DO NOT turn the crankshaft until the new distributor is installed.

3. INSTALL NEW DISTRIBUTOR

- A)** Remove the e-FIRE distributor cap and install the supplied distributor gasket on the drive shaft sleeve. If you are simply replacing another distributor, smear the drive gear with a little engine assembly lube and install the new e-FIRE distributor into the engine engaging the drive gear into the camshaft gear so that the rotor points at the same fixed mark you noted for

your old one (you marked it, remember?). As the distributor seats down into the intake manifold, the rotor will spin as the gears engage, so you will need to start up to 40 degs further around to end up in the right spot. If the distributor will not fully seat, with the rotor pointing at your mark, the oil pump shaft may need rotating to help alignment.

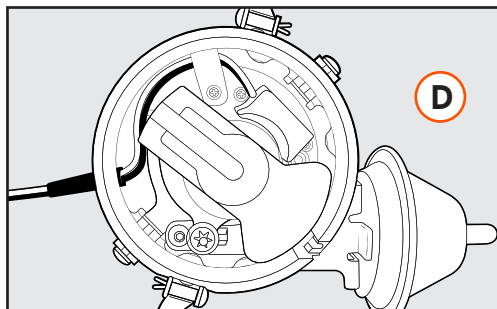
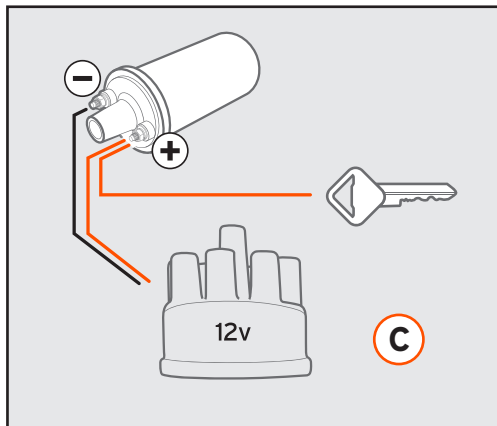
- B)** If you are building a new engine, turn it to Top Dead Center on the compression stroke of Number One cylinder (or your preferred timing mark) and install the new e-FIRE distributor where the body position provides good access to the cap clips, and the vacuum canister is not interfering with anything on the engine or firewall. Engage the drive gear so your rotor points at your designated Number One cap terminal once it has finished turning. With the distributor seated and the rotor aligned, install the clamp.



- C)** Fit the distributor cap and connect the spark plug wires from the cap to the plugs. Install the wires one at a time following the correct firing order and direction of rotor travel (see B).

Note: The Chevrolet Small Block (265, 283, 302, 327, 350, 400ci) and Big Block (396, 406, 427, 454ci) V8 distributors both spin clockwise. The firing order is 1-8-4-3-6-5-7-2.

- D)** The 12 volt negative ground e-FIRE distributor has red and black low tension wires. Connect the black wire to the negative (-) side of



the ignition coil. Connect the red wire to the positive (+) side of the coil or another power source controlled by the ignition switch (see C). Terminals are supplied. Use standard auto wire - 20 gauge/15 amp - to lengthen e-FIRE wires to the coil. Crimp tightly or solder (best) the joints and insulate all connections. DO NOT pull on the wires causing them to tighten inside the distributor. Leave enough slack to allow movement when adjusting the timing (see D). A tachometer trigger wire will connect to the coil negative. The e-FIRE distributor module grounds down through the body into the engine block.

- E)** Most older vehicles came with a primary circuit ballast resistor or resistance wire, to protect the distributor points. We recommend removing any and all external resistance. Electronic ignition has no mechanical points so there is no need for it. If you keep it, you will reduce voltage to the module, which is not good. And even if you by-pass it to the distributor, you will still reduce power to your coil, which can only reduce the power of your spark. If the position of the ballast resistor or wire is not known (or you want to keep it for looks or a future owner), extend the positive coil feed direct to the ignition switch or to a switched live on the fuse box - on the key side of the fuse (use 12-14 gauge wire).

- F)** At some point, you will connect the e-FIRE vacuum advance canister to a carburetor 'ported vacuum' outlet (ie. just above the throttle plates). If you have a Tri-Power carb set-up, connect the vacuum line to the primary (centre) carburetor. However, do not attach the vacuum line until you have finishing timing the ignition.

- G)** This e-FIRE distributor is compatible with most Capacitor Discharge Ignition units. Follow the

manufacturer's instructions, connecting the black trigger wire to the CDI unit. The red wire is connected to the same switched power source as the CDI unit, with power while cranking. DO NOT connect the red wire to the coil.

4. START THE ENGINE

WARNING:

If your vehicle has a manual transmission, verify that it is not in gear and that the parking brake is on before starting. With an automatic transmission, confirm that it is in 'park' or 'neutral' before starting. Ensure that all tools and other miscellaneous items are clear of the engine. Failure to do so may result in unintended vehicle movement causing property damage, serious personal injury or death.

- A)** Connect the battery and start the vehicle as usual. Some fine tuning of the distributor timing may be required both to start the engine and set the initial timing at idle (see Section 5. Engine Timing, below). Pay particular attention to any knocking, pinking or detonation sound under engine load, which may indicate excess advance. If so, stop the vehicle, retard the initial timing a little and test again.

WARNING:

Too much distributor advance can cause engine detonation, which can damage an engine very quickly. If you hear detonation, stop the engine immediately and retard the timing.

- B)** Run the engine to full operating temperature, then check it idles and revs freely and take it for a test drive. If you suspect any problems, stop the engine immediately and refer to Section 6, Troubleshooting.

WARNING:

DO NOT leave the ignition switched on when the car is not running, as this can cause permanent overheating damage to the coil and ignition module.

5. ENGINE TIMING

An understanding of basic engine timing terms is required for set up. Timing (or advance) defines the exact point when each spark plug fires, measured in the number of crankshaft degrees Before Top Dead Centre (BTDC). If a plug sparks 15 degrees of crank rotation before its piston reaches TDC, it has 15 degs advance.

Initial or Static Timing is the base or idle advance.

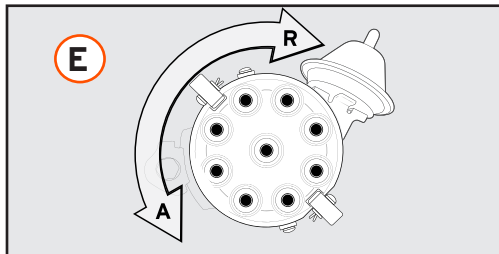
The engine manufacturer's recommended timing is always a good starting point, but different settings may be required for non-standard engines and differences in local gasoline. Always back the timing off if you hear detonation or pinking. And remember, the more you increase initial timing, the more you will need to restrict the mechanical advance available in the distributor to retain acceptable Total Timing.

Mechanical or Centrifugal Timing is the additional advance added by the distributor's internal advance mechanism as rpm increases. The rate of mechanical advance (the 'curve') is dictated principally by the advance springs used. The maximum available mechanical advance is set inside the distributor and can be adjusted.

Total Timing is simply the addition of your initial advance, plus the full mechanical advance available inside the distributor. For example, 14 degs static at idle plus a further 22 degs mechanical = 36 degs Total Timing.

Vacuum Advance adds around 10 to 15 degrees more Total Timing in the mid-throttle (cruise) rpm range, allowing you the same power output at lower rpm for greater fuel economy. Your e-FIRE distributor will still work perfectly without the vacuum connection if you don't need these mid-range benefits.

- A) On a clockwise-spinning distributor (eg. Small and Big Block Chevy), turn the body counter clockwise to advance initial (static) timing and clockwise to retard (See E). Always set the initial timing with the vacuum advance pipe disconnected and the vacuum port capped off at the carburetor. Remember to tighten the distributor clamp bolt when you're done - without moving the distributor body.



- B) Stromberg has selected and tested a set of advance springs for this distributor to produce an advance curve that suits most street driven engines, whilst also preventing engine detonation. We do not recommend changing from the stock springs.
- C) This e-FIRE distributor is factory-set for 22 degrees maximum mechanical advance, with the advance 'all in' at around 2600rpm. Extensive testing has found this to be a good base setting for most road-going Chevrolet

V8 engines. The e-FIRE distributor does allow adjustment of maximum mechanical advance, but Stromberg recommends that changes from the factory setting should only be carried out by a professional auto mechanic with specific experience in advanced engine timing. Further details can be found on the Stromberg Tech Center at: www.stromberg-97.com.

WARNING:

Always take considerable care when adjusting distributor timing. Failure to do so may result in engine and property damage, severe personal injury or death.

6. TROUBLESHOOTING

Every single e-FIRE distributor is factory-tested before shipping and experience has shown that our ignition modules are very robust. If you have a problem, please read this before contacting Stromberg or your dealer.

- A) If the engine will not start after installation, begin with the usual diagnostics. Are your plug wires connected properly? Do you have fuel? Is there enough power to and a spark out of the coil when cranking? Is the firing order correct? If the engine runs, but won't pick up, do you need to adjust the timing?
- B) Your old points distributor may run fine with weak input voltage, but any electronic distributor will struggle without a reliable power source and a good ground (earth). This is VERY important, especially on older cars where under-charged batteries, hidden ballast resistors, high-resistance coils, old wiring and worn starter motors can leave your e-FIRE without the power it needs. Please check it gets
- a good 12 volts WHEN CRANKING the starter with the ignition on - both when cold and at running temperature.
- C) The above also applies if the engine runs roughly, especially at higher rpm. If so, use a jumper cable to temporarily connect the red e-FIRE power wire direct to the battery. If running improves, this usually indicates low voltage to the module, often caused by a hidden ballast resistor or a high resistance coil. So try connecting the power wire to a more direct source, like the ignition switch. And/or swap the coil to the recommended 1.5 Ohms. **Performance will also be compromised if the ground (earth) is poor. So check for good continuity from the e-FIRE module mounting plate to ground.** Less than 0.2 Ohms (net of resistance in the test leads) from module plate to battery negative is recommended.
- D) If the engine runs great at startup, then quits after say 30 minutes - but starts again when it has cooled down - the reason is typically unstable inward voltage to the module (or a bad coil). Coil resistance and continuity is easy to check - hot and cold. If it's not the coil, a loaded voltage test will usually reveal the problem. Do it when the engine is cold, then again at full operating temperature - preferably when the engine 'quits'. Usually, the test will show a significant drop in supplied voltage when hot - usually down to old/poor wiring or a missed ballast resistor.
- E) Remember, too, that the e-FIRE module is a switch for the coil. It does not govern spark strength. And if it sparks to one plug, there is no electrical reason why it shouldn't spark to them all.
- F) If at any point the module is wired incorrectly, supplied with excess voltage or the polarity

reversed, it may fail and void your warranty.
For further troubleshooting tips, visit the
StrombergTech Center at:
www.stromberg-97.com

7. MAINTENANCE

- A)** The e-FIRE distributor is designed for low maintenance. The top shaft bearing is sealed for life, with a separate seal to stop oil entering the distributor body. The oilite bearing at the bottom also requires no maintenance. After an initial running period, we recommend that you check and retighten the distributor clamp along with all electrical connections, including the spark plug wires.
- B)** Further down the road, a little annual aftercare can pay huge dividends. A drop or two of light oil on the felt pad under the rotor will help keep the advance plate moving on the drive shaft, for example. And while you should aim to keep water and road salt out of the distributor, it is known that air inside any distributor cap becomes ionized and attracts moisture, which causes corrosion. All of the e-FIRE steel internal parts are zinc plated, but a light spray of water displacement fluid onto the advance mechanism (under the module plate) should keep the advance weights moving freely.
- C)** Stromberg e-FIRE service parts, available on the Stromberg website, are recommended for reliable fit and service life. Always use genuine Stromberg e-FIRE ignition modules.

8. 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 across our full product range as outlined below.

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

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 in duration 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

Most warranty issues are very simple, and in most cases, Stromberg will aim to repair the distributor, either with a replacement part or with advice on a simple owner fix. In the event that the distributor needs further investigation, an RGA number will be issued and the product can be sent for swift examination and repair. Warranty claims can be rejected if the date of purchase cannot be established.

To claim under this Limited Warranty, the Purchaser must:

1. CONTACT US FIRST! Return the product to the place of purchase. Or contact Stromberg directly by email at: warranty@stromberg-97.com
2. Provide the dated purchase receipt.
3. Provide a clear description of the problem.
4. Get a Return Goods Authorization (RGA) number from Stromberg. NO RETURNS WILL BE ACCEPTED WITHOUT AN RGA NUMBER.

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

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, including incorrect wiring, a coil with insufficient resistance, excess voltage, and reversed polarity.
2. Modifying or altering the distributor beyond factory specifications, outside what could be considered tuning for optimum performance
3. Subjecting the product to adverse conditions, overheating, abuse, neglect, accident, collisions, dirt or contaminants, water or corrosion, or faulty repair; and improper adjustment.
4. 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.