



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 9018V1



## STROMBERG e-FIRE OWNER'S MANUAL

# THANK YOU

for choosing a Genuine Stromberg e-FIRE electronic distributor for your Flathead Ford. 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](http://www.stromberg-97.com)**. And you can contact us direct: **[tech@stromberg-97.com](mailto: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](mailto: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:**

This e-FIRE distributor (12v negative or 6v positive ground) should be used with a 1.5 Ohm ( $\Omega$ ) coil. Coils with a higher Ohm rating (often called 'internally resisted') will reduce power to the ignition module leading to unreliable performance. Remove or bypass any external ballast resistor or resistor wire. If your engine has a starter bypass wire, you can leave it in place. DO NOT use a low resistance or HEI coil. A coil

with LESS than 1.5 Ohms resistance could cause the ignition module to overheat, misfire and fail prematurely. This will invalidate the warranty.

## **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 legal only for use off-road or 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.

## **WARNING:**

Before installation, please verify that the vehicle's 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)** Inspect your new Stromberg e-FIRE distributor for possible shipping damage. Check you have the correct model for your application. Model details are clearly marked on the distributor packaging and ID plate.

### WARNING:

DO NOT proceed unless your vehicle's electrical system matches that clearly marked on your new e-FIRE distributor. The wrong polarity will cause the e-FIRE ignition module to fail and void your warranty.

- B)** Stromberg recommends the use of a traditional, points style 1.5 Ohm ignition coil for both 12v and 6v 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)** With a 12 volt e-FIRE model, battery voltage measured at the coil's positive terminal with the engine running, must not exceed 14 volts at any RPM level. With a 6 volt model, aim for no more than 8 volts in the charging circuit, under no load (ie. no lights, no heater etc.)

### WARNING:

Excessive voltage can lead to overheating and ignition module failure.

- D)** DO NOT use solid core (typically copper) spark plug wires, which lack resistance and do not suppress Electromagnetic/Radio Frequency Interference (EMI/RFI) which can damage the e-FIRE ignition module. Stromberg recommends

e-FIRE suppression style high performance spark plug wires.

- E)** Unlike a points distributor, electronic ignition needs a reliable, independent power feed and quality ground (earth) connections. On 6 volt models, choose a power source as near to the ignition key as possible. Check all ground connections and even run an additional engine ground if required.

## USE E-FIRE HIGH PERFORMANCE SPARK PLUG WIRES.

Designed for optimum performance with your e-FIRE electronic distributor, Stromberg e-FIRE spark plug wires mix strong fire power with high level RFI/EMI 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 designed to fit through your flathead plug wire looms or tubes, and they're cut to length, too, with an extra-long coil wire to reach your firewall.



- F)** This e-FIRE distributor fits all of the different Ford 8BA front covers (distributor mounts). If it is too tight and the flange won't sit down onto the cylinder head, the hole might be rusted or corroded, so open it out to the OE spec - 3/4in (19mm). Please note that the slot in the end of the shaft is used for Stromberg in-house assembly and pre-ship testing only. Every e-FIRE distributor is machine tested before boxing to check timing and high tension function to the spark plugs.

## 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:

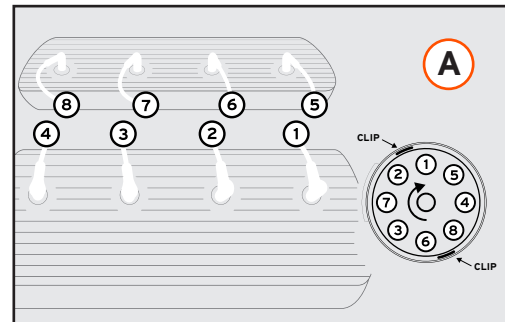
Always disconnect your vehicle's battery, making sure the ignition is off and the engine is cool before performing any work. Failure to do so may result in sparks or burns, and cause a fire or explosion, resulting in property damage, serious personal injury or death.

- B)** If you are replacing the original Ford Loadomatic distributor, carefully disconnect the vacuum advance line at the distributor and carburetor. It is not required by the e-FIRE distributor. Plug the vacuum line port in the carburetor.
- C)** Disconnect the spark plug wires from the distributor cap. To make replacement easier on the new distributor, label each wire with its destination cylinder number.

- D)** Remove the cap from the original distributor and make a note or mark where the rotor points BEFORE removing the distributor from the engine. THIS IS VERY IMPORTANT! Take a photo! Now remove the clamp and the old distributor from the engine.

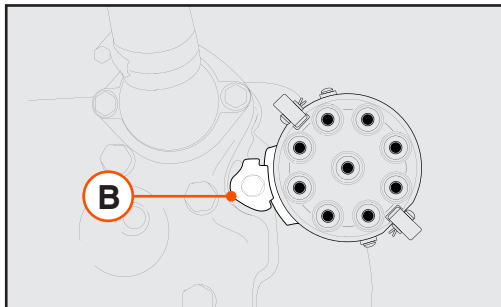
## 3. INSTALL NEW DISTRIBUTOR

- A)** 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 8BA timing cover engaging the drive gear into the camshaft gear so that the rotor points in the same direction as your old one did (you marked it, remember?). As the distributor seats down onto the head, the rotor will spin clockwise as the gears engage, so you will need to start further counter-clockwise (about 40 degs) to end up in the right spot.
- B)** If you are building a new engine, crank it to Top Dead Center on the compression stroke of Number One cylinder (See A) and install the new



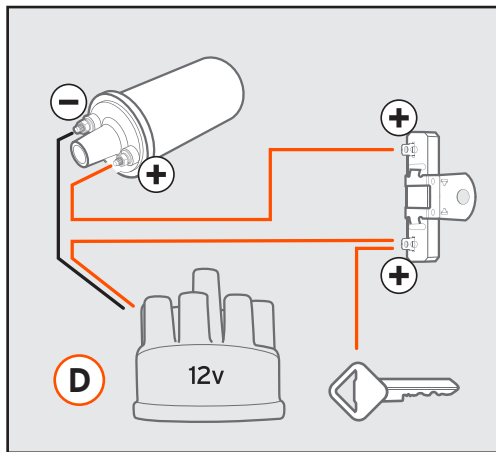
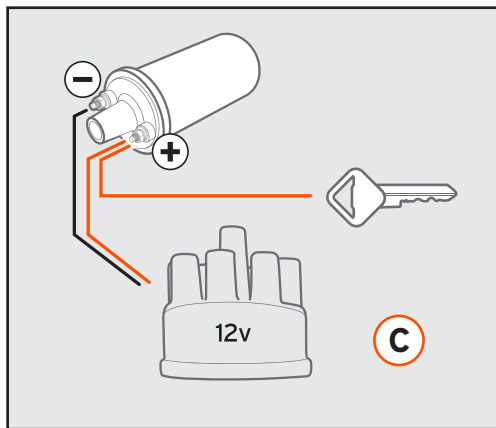
e-FIRE distributor with the rotor pointing to your Number One plug terminal on the cap. We recommend the Ford Service Manual designated Number One as shown in A. If your engine has a timing mark, crank the engine until the pointer lines up with the mark on the crank pulley on the compression stroke.

- C**) Install the bolt, spring washer and clamp (See B). Do not overtighten the bolt. Check that the distributor flange sits flat on the mounting surface.

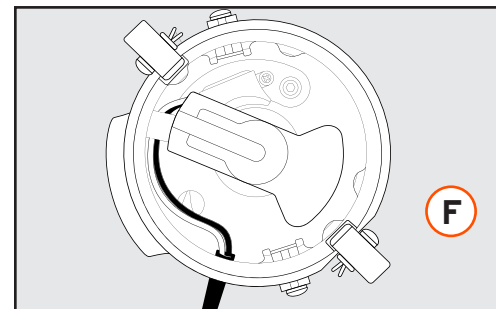
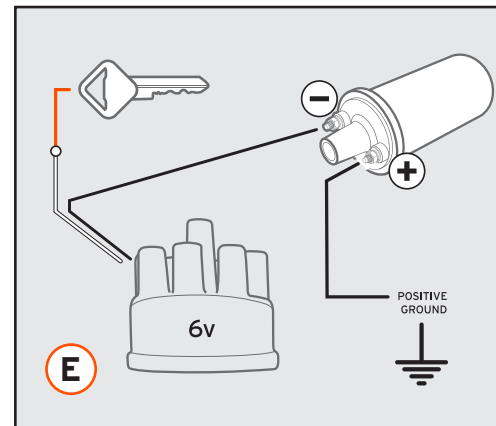


- D**) Connect the spark plug wires following the correct firing order and cylinder positions (See A). The distributor turns clockwise.

- E**) 12 volt negative ground e-FIRE distributors have 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 ignition coil or other power source controlled by the ignition switch (See C).



- F**) If your ignition has a primary circuit ballast resistor or wire, connect the red wire to the ignition switch side of the ballast resistor (See D). If the position of the ballast resistor or wire is not known, connect the red wire direct to the ignition switch or to a switched live on the fuse box - on the key side of the fuse.



- G**) On a 6 volt positive ground model, remove the ignition switch (power) wire from the negative (-) coil terminal and connect the black module wire to the same negative terminal. Connect the white wire to that ignition switch power wire. DO NOT attach the white wire to the ignition coil. (See E). Connect an insulated AWG 20 copper stranded wire from the positive coil terminal direct to a good quality chassis ground.

**Note:** Most early Ford 6 volt positive ground coils were ballast resisted. If possible connect the white module wire to the switched ignition side of the resistor (often located under the dashboard).

- H**) Terminals are supplied. Use standard auto wire - 20 gauge (1.5mm) 15 amp - to lengthen any wires. Crimp tightly or solder (best) the joints and insulate all connections. Do not pull on the wires causing them to tighten inside the distributor cap. The wires must allow movement of the timing adjustment plate, yet not interfere with any moving parts (See F).

**WARNING:**

DO NOT reverse the polarity of the wires from the advice above. It will damage the ignition module irreparably and void the warranty.

- I**) 12 volt negative ground e-FIRE distributors are compatible with most Capacitor Discharge Ignition units. Follow the manufacturer's instructions, connecting the black wire to the CDI unit as if connecting your low tension wire. The red wire is connected to the same switched power source as the CDI unit. DO NOT connect the red wire to the coil. 6 volt positive ground models are NOT compatible with CDI units.

## 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. 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 static timing at idle (See Section 5. Engine Timing). 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 static timing a little (See H) and test again.
- 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:

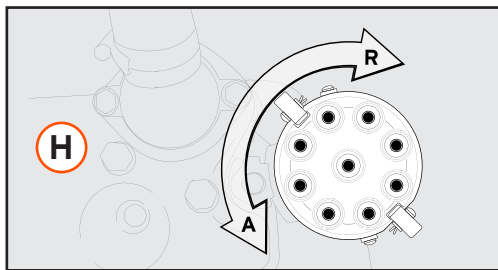
Too much distributor advance can cause engine detonation, which can damage an engine very quickly. If you hear detonation, stop the engine immediately and retard the timing.

### 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

- A) To adjust the initial (static) timing on this distributor turn the body counter-clockwise to advance engine timing or clockwise to retard (See H). The adjustment is sensitive - one degree at the distributor is two degrees at the crank. Always remember to tighten the clamp bolt. For best results, use the engine's timing marks and a timing light. The recommended static timing for a stock 8BA engine is 4 degrees BTDC (Before Top Dead Center). Different settings may be required for non-standard engines and differences in local gasoline.



- B) The e-FIRE distributor provides a further 22 degrees maximum mechanical advance at around 2600rpm. While the e-FIRE allows adjustment of the total advance, for most customers, there is no need to change the factory setting.

### WARNING:

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

## 6. TROUBLESHOOTING

Every single e-FIRE distributor is factory-tested before shipping to check advance from idle up through the rpm range, and high tension function to the spark plugs. Experience has shown that our ignition modules are very robust. So 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 a spark out of the coil into the cap? 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 6 volt models 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 still gets a good 6 or 12 volts WHEN CRANKING the starter.
- C) The above also applies if the engine runs roughly, especially at higher rpm. If so, use a jumper cable to connect the e-FIRE power wire direct to the battery. If running improves, this usually indicates low voltage to the module, often caused by a ballast resistor or a high Ohm 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.**

- D) Remember, too, that the electronic module is a switch for the coil. It does not govern spark strength. And if it sparks to one plug, it should spark to them all.
- E) 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 Stromberg Tech Center at: [www.stromberg-97.com](http://www.stromberg-97.com)

## 7. MAINTENANCE

- A) The e-FIRE 8BA 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 dividends. A single drop of light oil on the felt pad under the rotor will help keep the advance plate moving, 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 can cause corrosion over time. All of the e-FIRE steel internal parts are zinc plated, but a light spray of water displacement lube to the advance mechanism (under the module plate), will keep the advance weights moving as they should.
- C) Stromberg e-FIRE service parts are recommended for reliable fit and service life. Always use 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

To claim under this Limited Warranty:

1. CONTACT US FIRST! You can email us at [warranty@stromberg-97.com](mailto:warranty@stromberg-97.com). Most distributor issues are simple and can be addressed quickly with email advice. Please remember to check Section 6. 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.

### 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.

### NOTES:

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