INSTALLATION INSTRUCTIONS

COMPU-FIRE® 32 AMP CHARGING SYSTEMS

(Evo Big Twin Engines)

Part # 55520 1981-1999 Evo Big Twin except F.I. Models
Part # 55540 Evo Big Twin Aftermarket Engines

READ THESE INSTRUCTIONS COMPLETELY BEFORE BEGINNING INSTALLATION!

Check the contents of the kit:

Alternator Rotor
Large Washer
Small Washer
32 Amp Stator
Compu-Fire Voltage Regulator
10 Insulated ring terminal
1/4" Un-insulated ring terminal
3/8" Un-insulated ring terminal

NOTE: REFER TO THE FACTORY SHOP MANUAL ELECTRICAL SECTION FOR SAFETY INSTRUCTIONS PRIOR TO PERFORMING ANY ELECTRICAL SYSTEM REPAIRS OR MODIFICATIONS!

CAUTION! ALWAYS DISCONNECT THE BATTERY CABLES BEFORE PERFORMING ANY ELECTRICAL SYSTEM REPAIRS OR MODIFICATIONS.THIS WILL PREVENT DAMAGE TO THE ELECTRICAL SYSTEM OR COMPONENTS IN CASE OF AN ELECTRICAL ARC CAUSED BY SHORTING THE BATTERY POWER TO GROUND.

WARNING! SEVERE DAMAGE TO THE ELECTRICAL SYSTEM OR PERSONAL INJURY MAY OCCUR BY NOT FOLLOWING THE ABOVE SAFETY INSTRUCTIONS.

CAUTION! The installation of the Compu-Fire 32 Amp Charging System requires factory Harley Davidson® service tools in the disassembly of the clutch and primary chain sprocket. If you are not familiar with the disassembly of the primary drive assembly, or do not have the proper tools, Compu-Fire recommends the installation be performed by a trained Harley Davidson® technician.

REMOVAL:

1. Disconnect the cables at the battery. Remove the ground (-) cable first and then the positive (+) cable.
2. Drain the oil in the primary chain case and remove the outer primary cover, compensating sprocket, primary drive and clutch as described in the factory manual.
3. Remove the alternator rotor using Harley Davidson® puller part no. 95960-52B. Note the location of the washers.

NOTE: If the Compu-Fire rotor is being installed on a 1981 – 1988 model with the Harley Davidson® 32 amp alternator kit already installed, the spacers and shim washers should already be properly positioned on the sprocket shaft. Discard the washers supplied in the kit and re-use the washers and shims in the same location from where they were removed.

4. Remove the stator plug retainer and the four Torx head screws attaching the stator.

NOTE: THE FACTORY SHOP MANUAL RECOMMENDS THAT THE TORX HEAD FASTENERS SHOULD NOT BE REUSED. ALWAYS REPLACE THE TORX HEAD FASTENERS WITH NEW PARTS.

5. Remove the stator.

NOTE: IF REPLACING THE FACTORY 38 AMP STATOR, USE THE SHORTER TORX HEAD FASTENERS FROM THE 32 AMP STATOR (HARLEY DAVIDSON P/N 2720).

STATOR AND ROTOR INSTALLATION:

6. Install the Compu-Fire 32 Amp stator using new fasteners (H-D Part no. 2720). Torque the mounting screws to the specs in the service manual. **NOTE: Make sure the cable from the stator is routed so it does not pinch between the stator and the case, and so that the rotor does not rub it.** Install the stator plug retainer.
7. Place the small washer supplied in the kit over the crank shaft (except when 32 amp Harley Davidson® alternator kit is already installed – see note above)

NOTE: Be careful that the magnets in the rotor do not pick up small metal parts or hardware from the work area.

8. Install the rotor on the crank shaft.

Follow one of the following steps depending on the model application for correct placements of spacers and shims:

- To install rotor on 1981 to 1990 Big Twins (except those with a 32 amp alternator kit installed) place the large washer supplied and original shim washers over the crank shaft (in that order). See figure 1.

- To install rotor on 1991 and later FLT/FXR models, discard the large washer supplied in the kit. Place the original washer and shims over the crank shaft (in that order) See figure 2.
- To install rotor on 1991 and later Softail and Dyna Glide models, discard the large washer supplied in the kit. Place the original shim washer over the crank shaft. The original thick spacer washer will be used under the compensating sprocket nut on final assembly. See figure 3.

9. Re-install the primary drive assembly per factory service manual. **NOTE:** Use Loctite® 262 (red) on the threads of compensating sprocket nut.
10. Check sprocket alignment per factory service manual.

IMPORTANT:

The Compensating nut must be torqued to the correct specifications.

1981 – 1990 Models 80 – 100 ft. lbs.
1991 – Later Models 150 – 165 ft. lbs.
Aftermarket sprocket shaft – Use Aftermarket Manufacturers Specifications.

WARNING! The Compu-Fire rotor uses extremely strong magnets that may be damaged if the rotor is placed near any metal parts, tools, or hardware in the work area.

WARNING! Special tools are required in the installation of the rotor. The Compu-Fire rotor uses extremely strong magnets that may cause the installer to lose hold of the rotor during installation. Severe injury may occur if the installer's fingers become pinched between the rotor and the engine case or the stator during installation. Use H-D tool P/N 41771 or Jim's tool P/N 758-147 when installing the rotor.

REGULATOR INSTALLATION:

11. Remove the original regulator.
12. Measure the length of the output lead on the original regulator. Cut output lead on Compu-Fire regulator to same length. Strip wire and crimp #10 ring terminal to wire. **Note:** Terminal must be properly crimped for proper operation of regulator.
13. Install Compu-Fire voltage regulator using the original hardware.
    Note: The voltage regulator must be mounted in a location with good air flow.

VOLTAGE REGULATOR GROUND must be connected to a good engine ground for proper operation.

14. Locate a good engine ground. Crimp proper ring terminal to ground wire and attach.
15. Plug the connector to stator. **Be sure it is connected properly.**
16. Connect output lead to battery (+) positive.
    This can be done at the battery cable terminal on the starter solenoid.
17. Reconnect the battery ground cable.

Figure 1

1981 to 1990 Models

(Except those 1981 to 1988 models with a 32 amp alternator kit installed; see NOTE after Step 3 Page1)

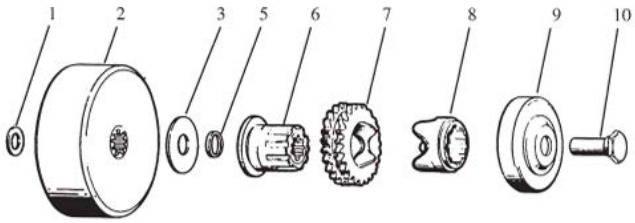


Figure 2

1991 and Later FLT / FXR Models

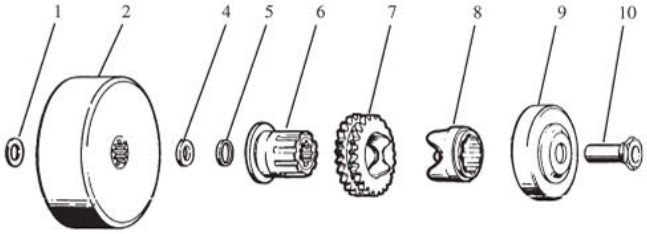
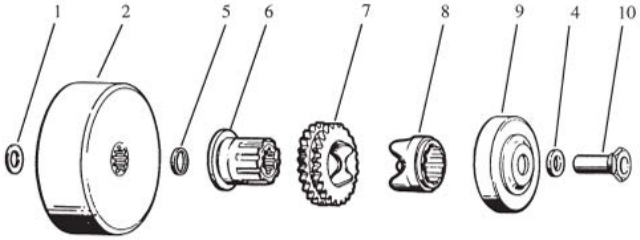


Figure 3

1991 and Later Softail. Dyna Glide Models



COMPU-FIRE®
ROTOR KIT COMPONENTS

1. Spacer washer (1.75 in. O.D. x 0.095 in. thickness)
2. Alternator rotor assembly
3. Spacer washer (2.81 in. O.D. x 0.219 in. thickness)

ORIGINAL EQUIPMENT COMPONENTS

4. Spacer washer (1.75 in. O.D. x 0.249 in. thickness)
5. Shim washer(s) (variable thickness)
6. Shaft extention
7. Compensating sprocket
8. Sliding cam
9. Compensating sprocket cover assy.
10. Compensating sprocket nut

For technical assistance call

(913) 808-2376

PERTRONIX PERFORMANCE PRODUCTS

TROUBLE SHOOTING

Stator

1. The stator has 2 Pins, the pins should have continuity to each other, but the pins should **NOT** have continuity to ground.
2. With a volt meter on AC volts, the stator should be putting out 14 volts per 1,000 RPM. (Check at 1,000 and 3,000 RPM)
3. If all this test out properly your installation of the stator was successful.

Regulator

1. Do not use test procedure found in the factory shop manual. The Compu-Fire voltage regulator uses high efficiency series circuitry. The electronic circuitry is completely different.
2. With the main switch OFF, measure the voltage from the regulator output terminal to ground. The reading should be 12 - 13 volts. If there is no voltage reading, the battery is disconnected.
3. Start the engine and bring the RPM to 1500. The voltage should rise 1/2 to 1 volt. This indicates that the voltage regulator is charging. This completes the test.

NOTE: Compu-Fire Products are manufactured and inspected under strict procedures specified in the Compu-Fire Quality Assurance Program and are packaged and shipped in specially designed boxes to insure against damage. Therefore, Compu-Fire will not accept any rotors returned with chipped or broken magnets as the cause of this can only be due to careless handling or improper installation techniques.

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PERTRONIX
PERFORMANCE PRODUCTS

LIMITED WARRANTY

PerTronix, LLC. Warrants to the original Purchaser of its solid-state ignition system (product) that the module, trigger rotor and wiring (components) shall be free from defects in material and workmanship for a period of (12) months from the date of purchase.

If within the period of the foregoing warranty PerTronix finds, after inspection, that the product or any component thereof is defective, PerTronix will, at its option, repair such products or component or replace them with identical or similar parts PROVIDED that within such period Purchaser Promptly Notifies PerTronix, in writing, of such defects.