

GM EST Distributor Conversion Kit

Installation Instructions for 18-5512, 18-5513, 18-5514

Qty:	Description:
1	EST Distributor with gasket
1	EST Ignition Coil
1	Ignition Coil Hardware Pack
1	MagForce Premium Spark Plug Wire Set
1	Harness, Distributor to Coil
1	Harness, Power & Tachometer
1	Harness, Timing
1	4-pin Distributor Plug w/ wire (Shift Interrupt Harness)
1	Heat Shrink Type Connector Pack

NOTE:

Instructions noted in this document are for general installation of the GM EST Ignition System. Variations in installation may occur depending on engine size and marine manufacturer of your engine.

Replace worn or dirty spark plugs to ensure optimum performance.

REMOVAL

1. Disconnect the Negative battery cable.
2. Remove distributor cap. Note the position of cylinder #1 tower on the distributor cap before removal.
3. Disconnect primary wires from ignition coil which may include tachometer and shift interrupt leads where applicable. Wires can be removed or taped back to prevent accidental contact (see Figure 1).

1. COIL SECONDARY LEAD
2. SPARK PLUG LEADS
3. DISTRIBUTOR CAP
4. DISTRIBUTOR ROTOR
5. DISTRIBUTOR
6. GASKET
7. DISTRIBUTOR MOUNTING HOLE
8. HOLD DOWN CLAMP
9. CLAMP BOLT
10. COIL MOUNTING SCREW
11. COIL
12. IGNITION SWITCH LEAD
13. STARTER LEAD
14. SHIFT INTERRUPT LEAD
15. DISTRIBUTOR PRIMARY LEAD
16. TACH. LEAD
17. COIL TERMINAL NUTS

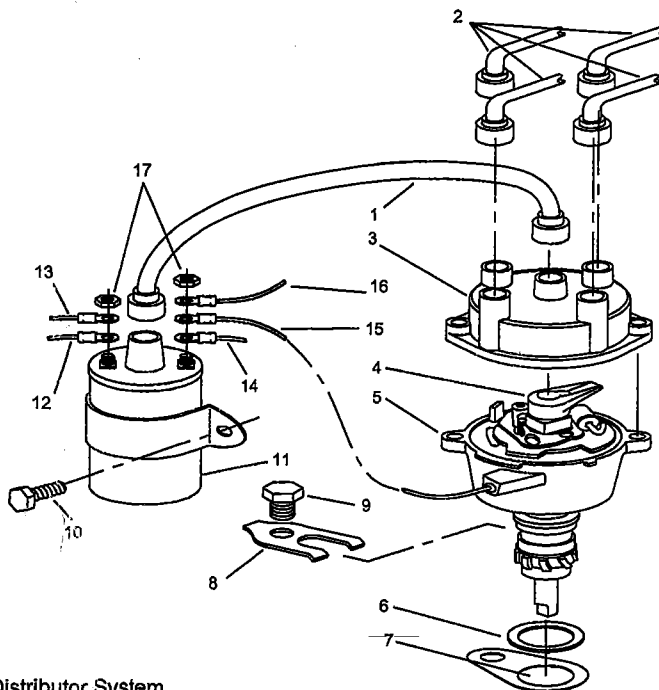


Figure 1 - Old Distributor System

4. Position engine cylinder #1 at top dead center of the power stroke and note the position of the distributor rotor before removing the distributor.

5. Remove distributor and inspect the drive gear for excessive wear. If excessive wear is found, also inspect the cam shaft gear through the distributor mounting hole and repair as necessary.
6. Take precautions to prevent any material from falling into distributor hole in engine and clean away any debris or existing gasket material left behind.
7. Remove ignition coil mounting bolts and ignition coil from engine.

INSTALLATION

1. Install new distributor and rotor noting the rotor position from the old distributor. Ensure distributor is fully seated as the slot needs to engage oil pump drive (**see Figure 2**).

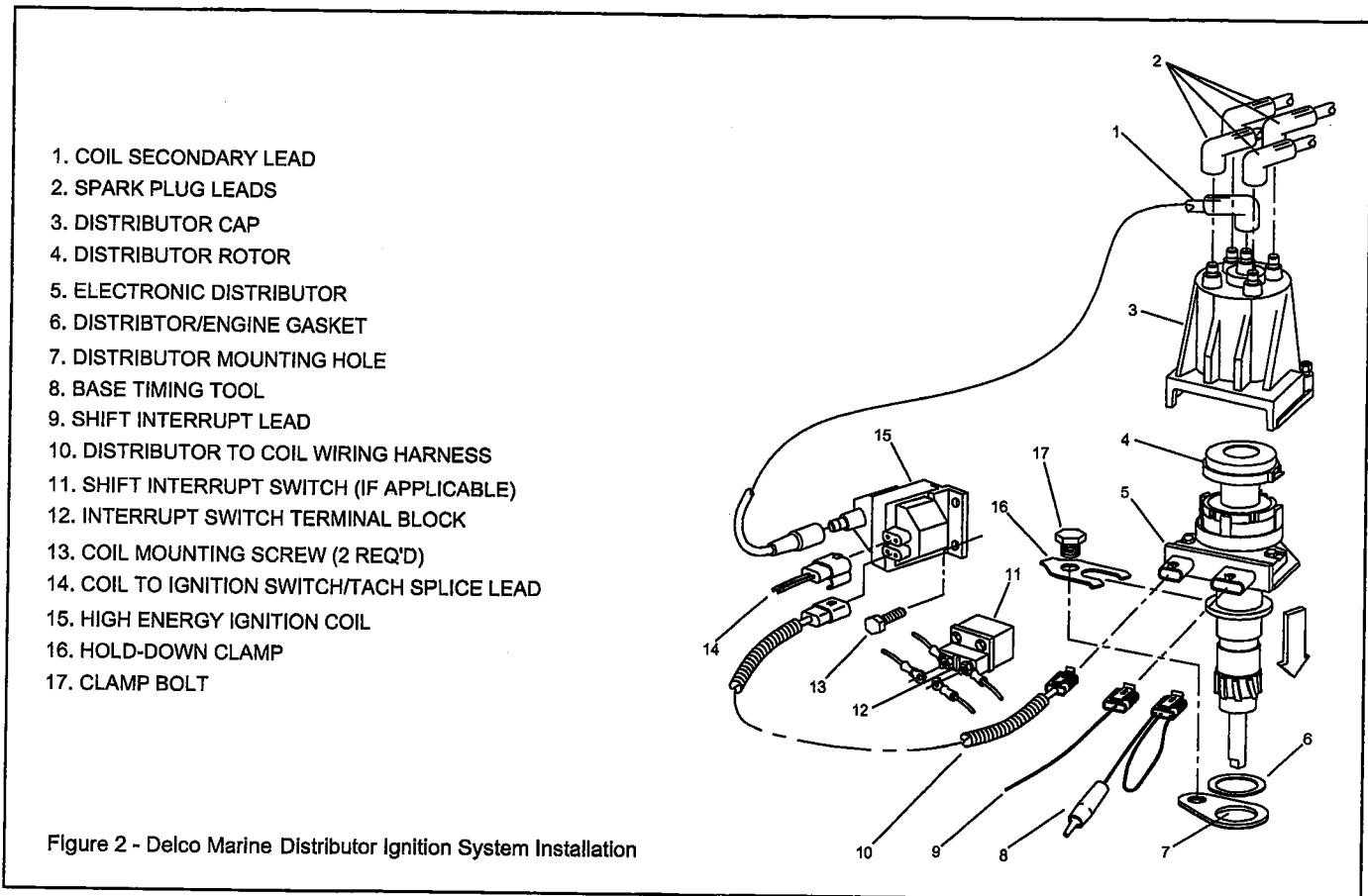
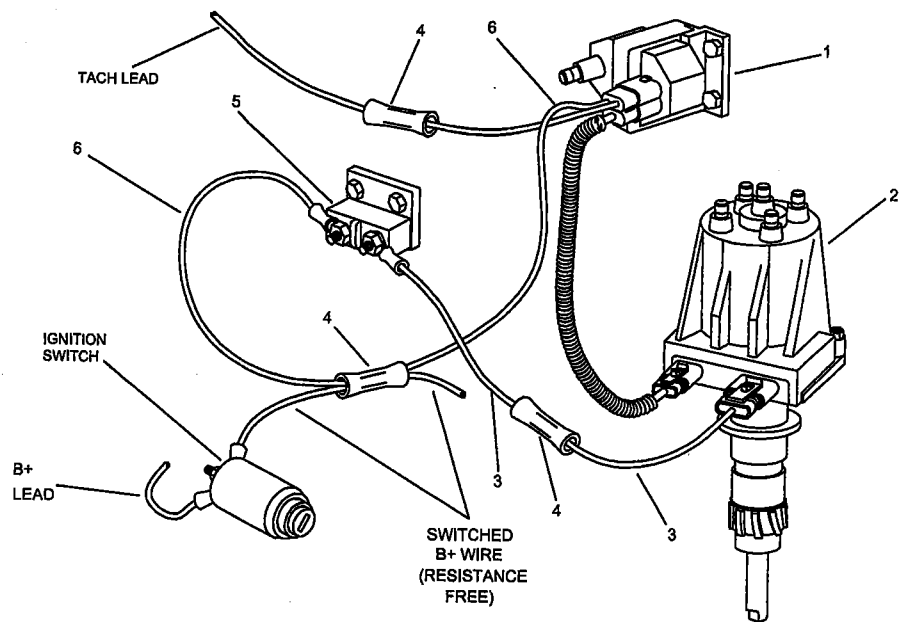


Figure 2 - Delco Marine Distributor Ignition System Installation

2. Install Distributor Cap. Torque to 14 lbs. in. Rotate distributor cap cylinder #1 tower to location of previous distributor cap cylinder #1 tower location previously noted. Install distributor hold down clamp and bolt snug but do not tighten.
3. Secure Ignition Coil to a suitable location. The bracket provided on new ignition coil fits pre-drilled mounting holes on engine. In some applications, it may not be possible to mount the coil to these standard holes due to equipment interference. If this is not possible, mount the ignition coil to marine outfitters location of old coil or to another convenient location by altering bracket to fit. Use appropriate sized screws for installation into the engine block. If necessary, use flat washers to secure coil bracket if screws are too long. Torque to 17 lb. ft.
4. **NOTE:** The GM EST ignition coil requires full battery voltage for proper operation. The Battery Voltage to the new ignition coil **MUST NOT** be stepped down via a ballast resistor or resistance wire in the primary circuit. Wire power & tachometer harness: Gray wire to Tachometer and Purple wire to 'key on' power (12VDC). Note: All connections should be soldered and heat shrunk or utilize crimp connectors with heat shrink.



1. HIGH ENERGY IGNITION COIL
2. ELECTRONIC DISTRIBUTOR
3. DISTRIBUTOR TO SHIFT INTERRUPT LEAD
4. BUTT SPLICE CONNECTOR
5. OLD SHIFT INTERRUPT SWITCH
6. COIL TO IGNITION SWITCH SPLICE LEAD

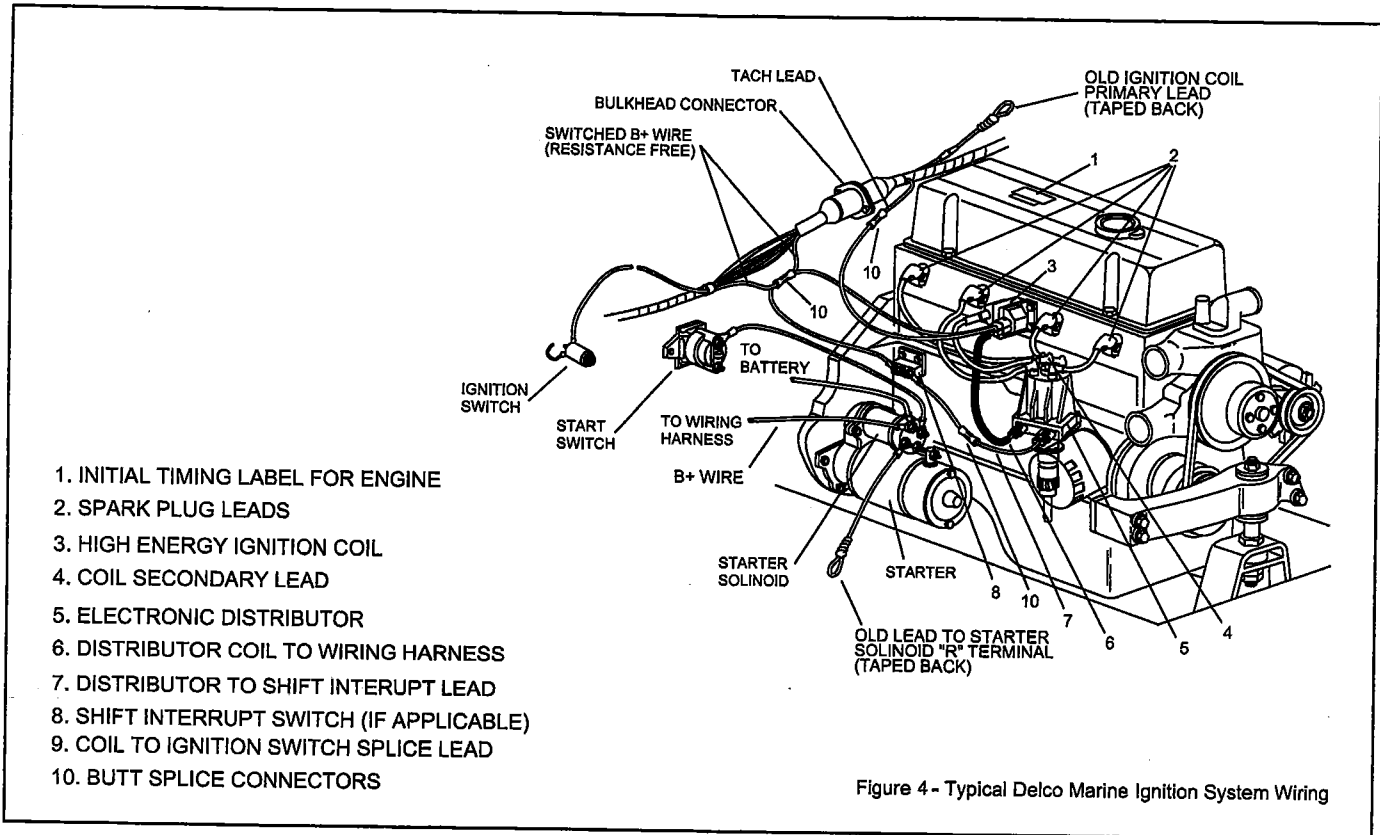
Figure 3 - Delco Marine Distributor Ignition System Primary Circuit

5. Install Distributor to Coil Harness.
6. Replace Ignition Wires with new MagForce Wire Set provided ensuring that the wires follow the same path as the original wires to prevent ignition crossfire and component damage.
7. A. For applications using a shift interrupt switch, temporarily install the shift interrupt harness.
B. For applications not using a shift interrupt switch, skip to step 11.
8. Use of the interrupt switch requires changing the shift interrupt switch from a momentary grounding switch to a momentary Battery Voltage supply switch. Disconnect old wires from shift interrupt switch and tape back the leads to prevent accidental contact and secure to the wiring harness.
9. Determine proper routing of shift interrupt harness and wire to shift interrupt switch. Note: All connections should be soldered and heat shrunk or utilize crimp connectors with heat shrink. Shift interrupt lead must not be routed against any secondary ignition wires to prevent engine drivability concerns.
10. Use 18 AWG purple wire and heat shrink connectors and route from key on 12VDC circuit to shift interrupt switch.
11. Reconnect negative battery cable.

TIMING AND IDLE ADJUSTMENTS

1. Start engine, and allow engine to warm up to operating temperature.
2. If application uses a shift interrupt switch, detach switch interrupt harness from distributor. Install initial timing harness into distributor and connect alligator clip to a 12VDC source. This will remove all advance from electronic spark timing. Engine speed should be approximately 650 RPM. Note: DO NOT connect alligator clip lead of initial timing harness to a 12VDC source prior to engine running. Failure to comply may result in ICM failure. If engine must be restarted during the timing process, disconnect the timing harness alligator clip first. DO NOT attempt to shift drive into gear during this process.
3. Loosen distributor clamp screw enough to rotate the distributor assembly.

4. Using a shop timing light, install timing light on #1 spark plug wire. Time the engine to engine manufacturer specifications.
5. Secure distributor hold down clamp and bolt. Torque to: 4 Cyl. 13 lb. ft., 6 Cyl. 20 lb. ft., 8 Cyl. 30 lb. ft. Recheck timing to ensure distributor did not move during tightening.
6. Disconnect timing harness and if application uses a shift interrupt switch, reinstall shift interrupt harness. If application is not equipped with a shift interrupt switch, cut wire from 4-pin plug and cover to prevent accidental contact (Figure 4). **Note: Retain timing harness for future use or keep with engine.**



7. Follow engine manufacturer's instructions for setting idle speed. Idle speed may have been changed by installation of new ignition system. On some engines, it may be possible to use a lower idle speed than originally specified, allowing for better fuel economy.
8. For applications with a shift interrupt switch, check operation with outdrive immersed in water. Adjust shift linkage and/or shift interrupt switch actuator as needed.