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## INSTALLATION

1. Turn off the ignition and any battery disconnect switches before proceeding.
2. Select a convenient mounting location in the engine compartment for the MVP-D6 module and coil. We recommend using rubber shock mounts. Orient the unit so that you will have easy access to the rotary switches.
3. Refer to drawings for basic hookup.

**WARNING: Do not cut the power or coil wires shorter than 12 inches. Doing so makes the unit impossible to test and will void the warranty.**

4. **Power connections.** Connect the 12 AWG red wire to the battery disconnect switch or the battery cable at the starter solenoid. Ground the 12 AWG black wire to the engine, preferably where the battery ground cable is attached. Do not extend the black ground wire.
5. **Ignition switch connection.** Connect the red wire from Deutsch connector pin 1 to the ignition switch as shown.
6. **Trigger signal connections.** The violet/green magnetic pickup cable is supplied with an weather pak connector that will mate with common magnetic pickup distributors and crank trigger systems.
7. **Coil connections.** Connect the black and orange coil wires to the ignition coil as shown in drawing.

**DANGER: High voltage is present at the coil primary and secondary terminals whenever the ignition switch is on. Do not touch or connect any test equipment to the coil terminals.**

8. **Tach connection.** Use the supplied Weather Pack connectors as shown to connect the brown wire from Deutsch connector pin 11 to the tach as shown. When the engine is running an industry standard 12V square wave signal appears on the tach output with one tach pulse per trigger event. The rising edge of tach pulse is synchronized with the trigger event.
9. **Completing the installation.** Remove any unused wires from the Deutsch connector and install supplied terminal seals. Set the rev control switches. The wires are for non associated items such as Blue, Launch RPM Limit, Connects to launch RPM limit circuit. Supplied 1N4007 diode must be installed if circuit includes a solenoid valve. White, Module Trigger, Connects to trigger output from engine control module. If the module trigger input is used, the magnetic trigger inputs on pins 6 and 7 must be left open. Yellow, General purpose input/output 3 for data recorder Grey, General purpose input/output 2. Used for burnout RPM limit. Supplied 1N4007 diode must be installed if circuit includes a solenoid valve.
10. Start engine and check timing. If timing has changed significantly, MAG+ and MAG- may be reversed.

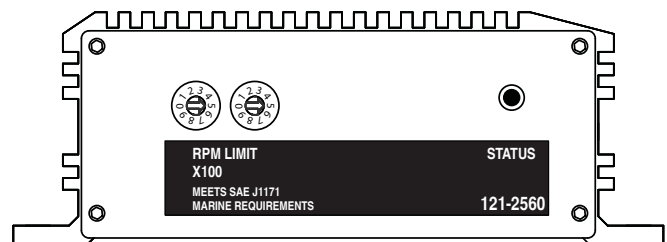
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## SWITCH SETTINGS AND STATUS LED

The left end panel of the MVP-D6 has a status LED and two rotary switches used to set the RPM limit. The status LED will illuminate when the ignition switch is turned on. If a fault condition occurs, such as a DC/DC converter (internal high voltage power supply used to charge the capacitor) fault or loss of trigger signal, the status LED will blink.

### RPM Limit Switch Settings

- |              |   |
|--------------|---|
| <b>00</b>    | RPM limit disabled  |
| <b>06-99</b> | RPM limit setting X100 (i.e. switch setting 35 = 3,500 RPM) |



## SPARK PLUGS AND WIRES

To avoid electrical noise that may interfere with the MVP-D6 or other onboard computer and radio equipment, resistor spark plugs are recommended and spiral core RFI/EMI suppression type spark plug wires are required. Optimum spark plug gap is .045" for normally aspirated engines. Engines with high boost levels may require a smaller spark plug gap. Do not use solid copper or high resistance carbon core spark plug wires. Optimum spark plug wire resistance is 50-500 ohms per foot.

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## **APPLICATION ISSUES**

1. **Tach hookup.** Some original equipment tachs require a high voltage pulse and will require a commercially available tach adapter.
2. **Ignition run-on.** If the engine continues to run after the ignition switch is turned off, current is leaking back into the MVP-D6 through the charging system. Please contact our tech support.

## **TROUBLESHOOTING**

Did the engine run properly before installation of the MVP-D6? If not, remove the MVP-D6, reinstall the original ignition system and then find and correct the problem. Did the MVP-D6 function correctly before the problem occurred? If the answer is yes, did you change anything that may have affected it? To isolate the problem, go back to the last setup that was OK. If the engine will not start, runs intermittently, or misfires, use the following check list steps:

### **Status LED Doesn't Illuminate**

If the status LED doesn't illuminate after the ignition switch is turned on, check power and ground connections. Use a volt meter to verify +12V at the battery+ and ignition switch wires at the MVP-D6 with the ignition switch in both the run and start positions. The MVP-D6 requires a minimum of +9V when the ignition switch is first turned on. During cranking, the unit will continue to operate down to +4.5V.

### **Engine Will Not Start**

If the status LED illuminates when the ignition switch is turned on but the engine will not start, verify that the status LED blinks while the engine is cranking. If the status LED doesn't blink during cranking, the unit is not getting a trigger signal. Verify that trigger signal wiring is not shorted together or to ground. If the status LED blinks, but engine will not start, recheck coil primary connections or replace coil.

### **Spark Testing**

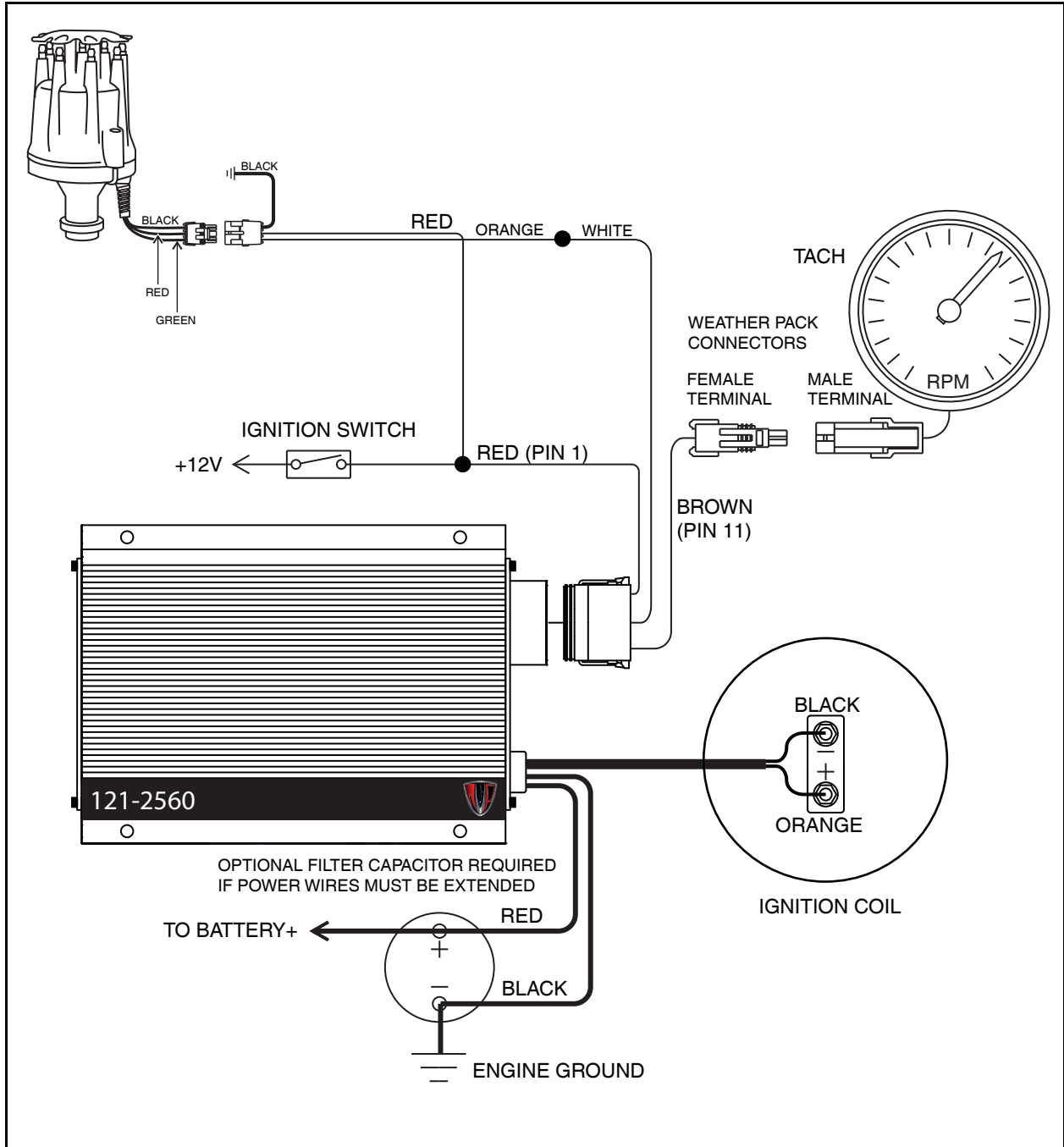
K-D Tools HEI ignition test plug P/N 2756 is recommended for spark testing. Attach the alligator clip on the test plug to chassis ground and fabricate a short section of spark plug wire to connect the test plug to the coil.

### **Intermittent Operation or Misfire at High RPM**

1. Misfire at high RPM is usually not an electrical problem with the MVP-D6. Common causes include: coil failure or arcing at spark plug boots or within the distributor.

2. To avoid electrical noise problems, route magnetic trigger wiring away from any coil or spark plug wires. Use only spiral core spark plug wires. Do not use solid copper core or carbon core resistance wires.
3. Check for broken, loose or corroded connections. Verify correct air gap for magnetic pickup. Check distributor for loose, missing, or jammed parts in advance mechanism.
4. Verify that spark plugs are proper type, gap size, and heat range.
5. Replace spark plugs, spark plug wires, and distributor rotor and cap.

# MVP-D6 Ready to Run 121-3606



# Basic Magnetic Trigger Hookup

