

MSD MSD-6425

MSD Digital 6AL Ignition Control Box User Manual

Model: MSD-6425
Brand: MSD

- Introduction
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- Setup & Installation
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- Maintenance
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1. INTRODUCTION

The MSD Digital 6AL Ignition Control Box is designed to provide superior ignition performance for 4, 6, or 8-cylinder engines. This unit delivers a powerful spark, ensuring optimal combustion and engine efficiency. Its digital design offers precise control and features like an adjustable rev limiter and an integrated LED for system diagnostics. The compact and robust construction, along with a sealed connector system, ensures reliable operation and a clean installation.



Figure 1.1: The MSD Digital 6AL Ignition Control Box, showcasing its red casing, silver fins, and prominent MSD logo. This unit is designed for enhanced engine performance.

2. SAFETY INFORMATION

Always read and understand all instructions before installing or operating this product. Failure to do so may result in personal injury or damage to the product or vehicle.

- **Disconnect Battery:** Always disconnect the vehicle's battery before performing any electrical work to prevent accidental short circuits or electrical shock.
- **Proper Wiring:** Ensure all wiring connections are secure and insulated to prevent shorts and ensure proper operation. Refer to the wiring diagram for correct connections.
- **Ventilation:** Install the unit in a well-ventilated area, away from excessive heat or moisture.
- **Professional Installation:** If you are unsure about any part of the installation process, seek assistance from a qualified automotive technician.
- **Proposition 65 Warning:** This product may contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.



Figure 2.1: Side view of the MSD Digital 6AL Ignition Control Box, showing a warning label that advises against using the device with solid core spark plug wires.

3. PACKAGE CONTENTS

Verify that all components are present before beginning installation:

- MSD Digital 6AL Ignition Control Box
- Main Wiring Harness with Sealed Connector
- Accessory Wiring Harness (for RPM input, etc.)
- Mounting Hardware (screws, rubber mounts)
- Various Electrical Connectors and Terminals
- Zip Ties
- Diode (for specific wiring configurations)



Figure 3.1: Overview of the MSD Digital 6AL Ignition Control Box along with its comprehensive set of wiring harnesses and various installation accessories, including connectors and mounting hardware.

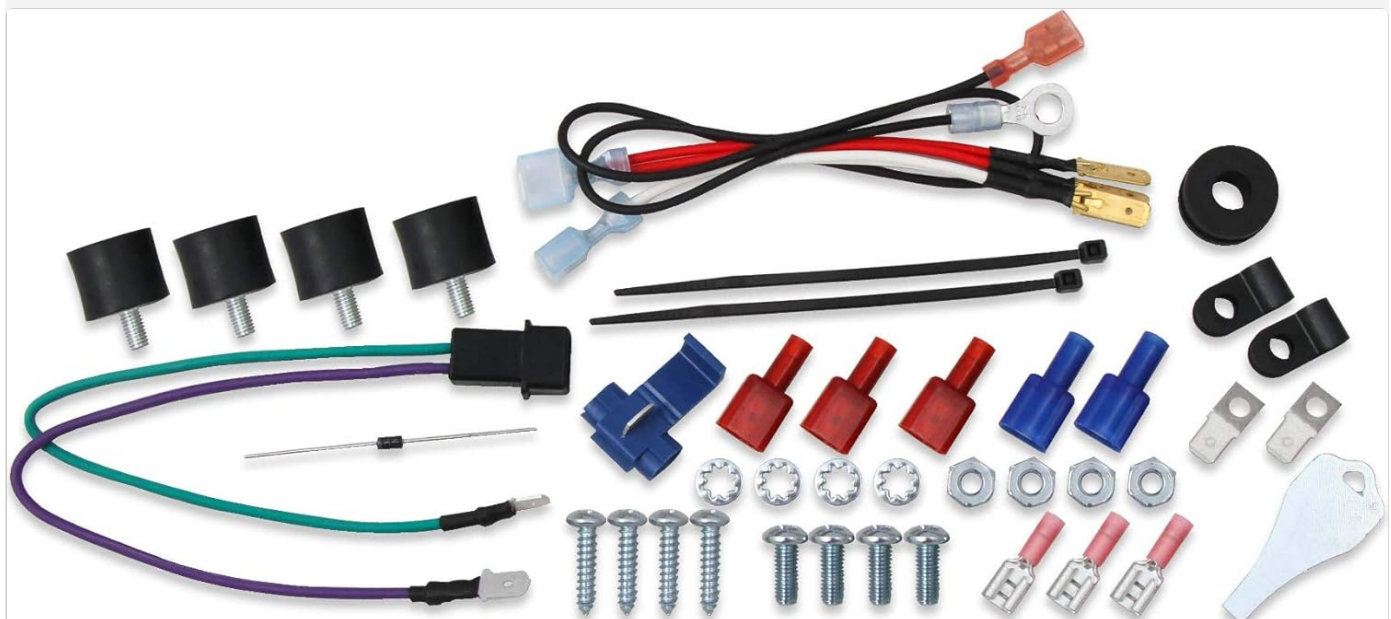


Figure 3.2: A detailed view of the accessory kit, showing various electrical connectors, screws, rubber mounts, and zip ties provided for a complete installation.

4. SETUP & INSTALLATION

Proper installation is critical for the performance and longevity of your Digital 6AL. Follow these steps carefully:

4.1 Mounting the Unit

1. Choose a location that is away from direct engine heat, exhaust manifolds, and excessive vibration. The unit should be mounted securely.
2. Use the provided rubber mounts and screws to secure the Digital 6AL. The rubber mounts help absorb vibration.

4.2 Wiring Connections

The Digital 6AL features a sealed connector for all wiring, ensuring a clean and secure connection. Refer to the detailed wiring diagram in the full manual for specific vehicle applications.

- **Power Wires:** Connect the heavy red wire to a constant 12-volt source (battery positive) and the heavy black wire to a good chassis ground.
- **Ignition Switch Wire:** Connect the thin red wire to a switched 12-volt source that is active when the ignition is ON and during cranking.
- **Tachometer Output:** The gray wire provides a 12-volt square wave signal for your tachometer.
- **Magnetic Pickup/Crank Trigger:** Connect the green and violet wires to your magnetic pickup or crank trigger sensor. Ensure correct polarity.
- **Coil Connections:** Connect the orange wire to the positive (+) terminal of the ignition coil and the black wire to the negative (-) terminal of the ignition coil.



Figure 4.1: Side view of the MSD Digital 6AL Ignition Control Box, highlighting the multi-pin sealed connector where all wiring harnesses connect for a secure and organized installation.

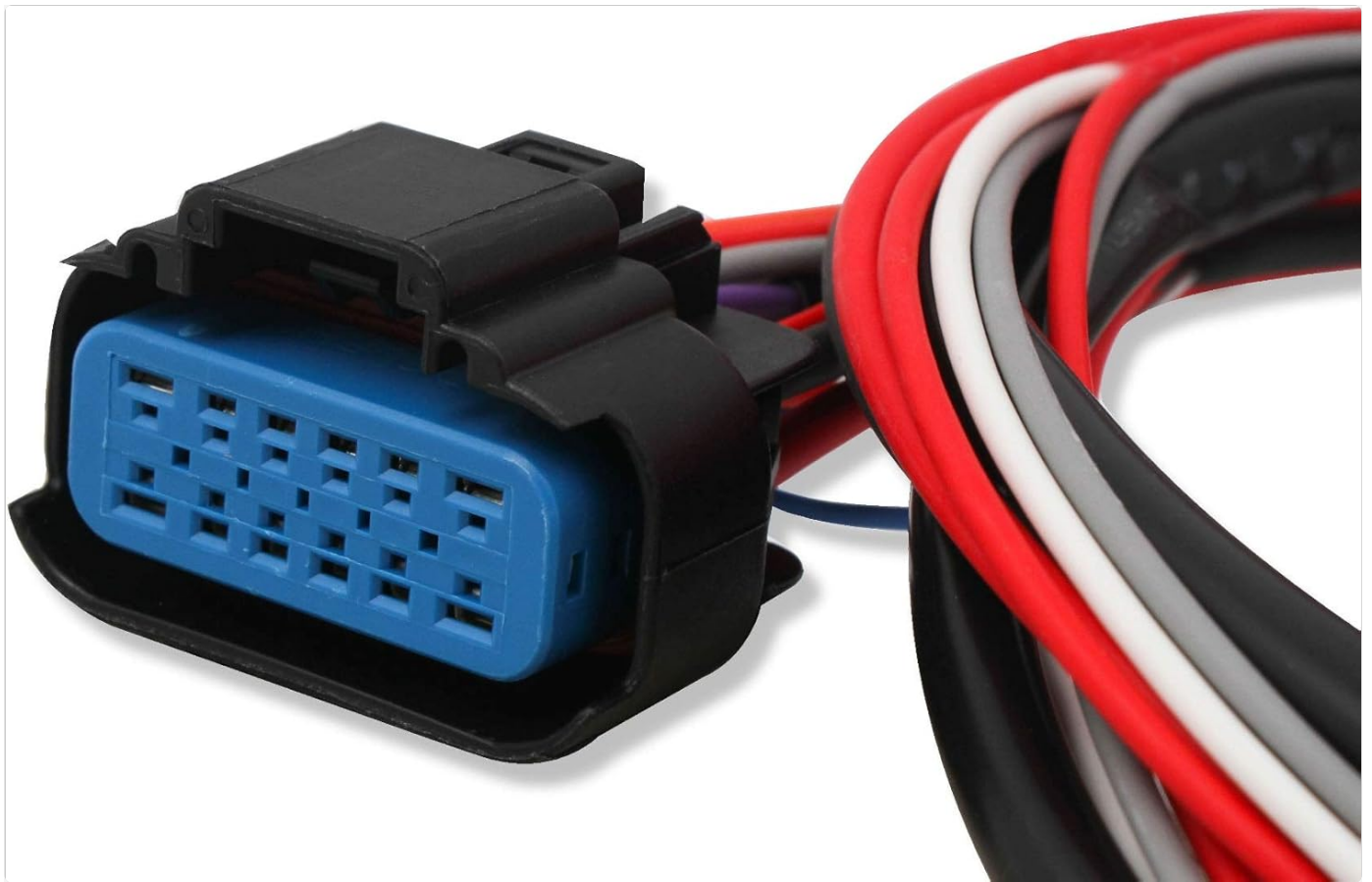


Figure 4.2: A close-up view of the sealed multi-pin connector, demonstrating its robust design for reliable electrical connections.



Figure 4.3: Detailed view of various wire terminals and connectors, illustrating the quality and variety of components used for secure electrical connections.

5. OPERATING INSTRUCTIONS

The Digital 6AL is designed for straightforward operation once installed.

5.1 Adjustable Rev Limiter

The unit features two rotary dials for setting the RPM limit in 100 RPM increments. These dials are typically located on the side or top of the unit, accessible for adjustment.

1. Locate the two rotary dials on the Digital 6AL unit.
2. The left dial typically controls thousands of RPM (e.g., '5' for 5000 RPM).
3. The right dial typically controls hundreds of RPM (e.g., '0' for 000, '5' for 500).
4. Combine the settings to achieve your desired RPM limit. For example, setting the left dial to '6' and the right dial to '5' will set the limit to 6500 RPM.

5.2 LED Indicator

A built-in LED indicator provides system status. Consult the full manual for specific LED flash codes and their meanings, which can assist in diagnostics.

6. MAINTENANCE

The MSD Digital 6AL Ignition Control Box is designed for minimal maintenance. However, periodic checks can ensure optimal performance:

- **Wiring Inspection:** Periodically inspect all wiring connections for signs of wear, fraying, or corrosion. Ensure all connections remain tight and secure.
- **Cleanliness:** Keep the unit clean and free of dirt, dust, and moisture. Use a soft, dry cloth for cleaning. Do not use harsh chemicals or solvents.
- **Mounting Security:** Verify that the unit remains securely mounted and that the rubber isolators are in good condition.

7. TROUBLESHOOTING

If you encounter issues with your Digital 6AL, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Engine Cranks but No Start	Incorrect wiring connections. No power to the unit. Faulty coil or distributor.	Verify all wiring according to the manual. Check battery voltage and fuse. Test coil and distributor components.
Engine Misfires or Runs Rough	Loose connections. Incorrect rev limiter setting. Spark plug or wire issues.	Inspect all wiring for secure connections. Verify rev limiter settings. Check spark plugs and wires for damage.
Unit Not Powering On (LED Off)	No 12V power to the heavy red wire. Poor ground connection. Blown fuse.	Check power supply and connections. Ensure a clean, secure ground. Replace fuse if necessary.

For more detailed troubleshooting, refer to the complete MSD Digital 6AL instruction manual or contact MSD technical support.

8. SPECIFICATIONS

Feature	Detail
Brand	MSD
Model Number	MSD-6425
Voltage Compatibility	12 Volts (Negative Ground)
Spark Energy	135mJ
Output Voltage	530-540V
RPM Range	Up to 11,000 RPM
Cylinder Compatibility	4, 6, or 8-Cylinder Engines
Rev Limiter Adjustment	Two rotary dials, 100 RPM increments

Feature	Detail
Dimensions (L x W x H)	8"L x 4"W x 1.83"H
Item Weight	3.21 pounds
Material	Plastic
Color	Red
Display Type	LED



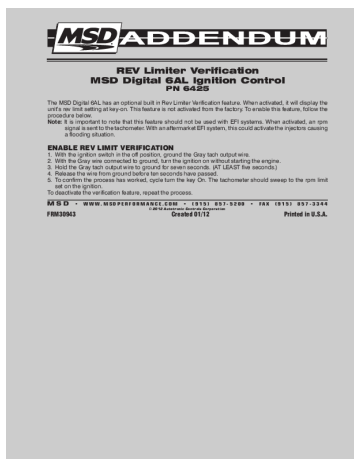
Figure 8.1: Dimensional diagram of the MSD Digital 6AL Ignition Control Box, indicating its length (8 inches), width (4 inches), and height (1.82 inches).

9. WARRANTY & SUPPORT

For warranty information, product registration, or technical assistance, please visit the official MSD website or contact their customer support directly. Keep your purchase receipt as proof of purchase.

MSD Store: [Visit the MSD Store on Amazon](#)



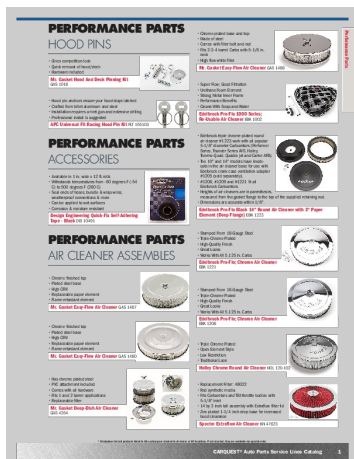


[pdf] Instructions

REV Limiter Verification MSD Digital 6AL Ignition Control M S D MSDPERFORMANCE COM 915 857 5200 FAX 3344 © 2012 Autotronic Controls Corporation FRM30943 Created 01 12 Printed in U A msd 6425 add ADD static summitracing global images instructions classicchevy assets storage googleapis aam files 2 performance documents holley

REV Limiter Verification MSD Digital 6AL Ignition Control PN 6425 The MSD Digital 6AL has an optional built in Rev Limiter Verification feature. When activated, it will display the unit s rev limit setting at key-on. This feature is not activated from the factory. To enable this feature, follow the...

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