

Rough Country MLC-6

Rough Country MLC-6 Universal LED Light & Accessory Controller Instruction Manual

Model: MLC-6 (Part Number: 70955)

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1. PRODUCT OVERVIEW

The Rough Country MLC-6 Universal LED Light & Accessory Controller is designed to provide centralized control for up to six auxiliary electrical devices in your vehicle. This system simplifies wiring and offers a clean, integrated solution for managing various accessories such as LED lights, winches, and air compressors.

Key Features:

- Seamless Lighting & Accessory Control: Manage up to six LED lights or accessories with quick access and control.
- Multi-Switch Control: Compact LED lit 6-switch hub fits into most vehicles, providing on/off accessory control.
- Plug-and-Play System: Features an inline fused relay for safe connection of up to 6 devices without splicing into factory wiring.
- Optimized Power Control: Includes Low Voltage Cutoff Protection (LVCO), a 12-terminal block, six 40A relays, and six 30A fuses for safe, reliable accessory power.
- Complete Kit: Includes power distribution block, 6-switch hub, mounting brackets, hardware, and high temperature abrasion resistant cables.

2. WHAT'S IN THE BOX

Verify that all components listed below are present in your package:

- 6-Switch Panel
- Wiring Harness
- Mounting Brackets
- Relay Box (Power Distribution Block)
- Battery Cable
- Hardware



Figure 2.1: All components included in the Rough Country MLC-6 kit.

3. SETUP & INSTALLATION

This section provides general installation guidelines. For detailed, vehicle-specific instructions, refer to the included manual or Rough Country's official resources.

3.1. Mounting the Control Box (Power Distribution Block)

The power distribution block should be mounted in a secure, accessible location, typically within the engine bay. Ensure the chosen location is away from excessive heat, moving parts, and direct water spray.



Figure 3.1: Close-up of the power distribution block with relays and fuses.

Use the provided mounting brackets and hardware to secure the control box. Some installations may require minor drilling. Ensure the mounting is robust to withstand vehicle vibrations.

3.2. Wiring the Power Distribution Block

Connect the main power and ground wires from the vehicle's battery to the power distribution block. The thick red wire connects to the positive battery terminal, and the thick black wire connects to the negative battery terminal. Ensure all connections are tight and secure.

An ignition-switched 12V source is required for the control unit's thin red wire. Use the supplied fuse adapter to tap into an appropriate ignition fuse in your vehicle's fuse box. This ensures the system powers on and off with the vehicle.

The system features a resettable 80A circuit breaker for protection. If the breaker trips, reset it by pushing the lever back down.

3.3. Switch Panel Installation

Route the switch panel's wiring harness from the engine bay into the vehicle's cabin. This typically involves passing the wire through an existing grommet in the firewall and routing it along the A-pillar or under the dashboard to the desired switch panel mounting location.



Figure 3.2: Example installation of the MLC-6 switch panel in a vehicle's interior.

The compact 6-switch hub can be mounted in various locations within the cabin, such as above the rearview mirror, in the glove compartment, or on the dashboard. Use the supplied brackets and hardware for a secure installation.



Figure 3.3: The MLC-6 switch panel discreetly mounted in a glove compartment.

3.4. Connecting Accessories

Connect your auxiliary LED lights or other electrical devices to the 12-terminal block on the power distribution block. Each terminal corresponds to a switch on the control panel. Ensure proper positive and negative connections for each accessory. The system is designed for plug-and-play functionality, eliminating the need for complex wiring or splicing into existing factory wiring.

3.5. Installation Video Guide

For a visual guide on the installation process, please refer to the official Rough Country MLC-6 installation video below:

Your browser does not support the video tag.

Video 3.1: Official installation guide for the Rough Country MLC-6 Universal LED Light Controller. This video demonstrates the steps for mounting the control box, wiring, and installing the switch panel.

4. OPERATION

4.1. Using the Switches

Each button on the 6-switch panel controls a connected accessory. Press a button to turn the corresponding accessory on or off. The LED backlighting on the switches indicates their active status.



Figure 4.1: Close-up of the 6-switch panel with individual buttons.

4.2. Low Voltage Cutoff Protection (LVCO)

The MLC-6 system is equipped with Low Voltage Cutoff Protection (LVCO). This feature automatically detects the vehicle's battery voltage and will cut off power to accessories if the battery voltage falls below a safe operating threshold. This prevents excessive battery drain and ensures sufficient power remains to start your vehicle.

4.3. Customizing Switch Labels

The kit includes various interchangeable switch covers with different icons to match your connected accessories. To change a switch cover, carefully use a switch removal tool (if provided) or a small flat-head tool to pry off the existing cover, then snap the desired new cover into place.



Figure 4.2: The switch panel with its wiring connector, ready for customization.

5. MAINTENANCE

- **Regular Inspection:** Periodically check all wiring connections for tightness and signs of corrosion. Ensure the power distribution block and switch panel are securely mounted.
- **Cleanliness:** Keep the switch panel and power distribution block free from dirt, dust, and moisture. Use a soft, dry cloth for cleaning.
- **Fuse Replacement:** If an accessory stops working, check the corresponding fuse in the power distribution block. Replace blown fuses with new ones of the correct amperage (30A for most, 40A for relays).
- **Circuit Breaker:** Ensure the 80A circuit breaker is in the "ON" position. If it trips frequently, investigate the connected accessories for potential overloads or short circuits.

6. TROUBLESHOOTING

- **Accessory Not Functioning:**
 - Check the corresponding switch on the panel to ensure it is in the "ON" position.
 - Verify the fuse for that accessory in the power distribution block. Replace if blown.
 - Inspect the wiring connection for the accessory at the terminal block and the accessory itself.
- **Entire System Not Powering On:**
 - Check the main 80A circuit breaker to ensure it is not tripped.
 - Verify the main power and ground connections at the vehicle battery.
 - Ensure the ignition-switched 12V source (thin red wire) is receiving power when the vehicle is on. Check the fuse for this connection.
- **Battery Drain:**
 - Confirm the LVCO feature is functioning correctly. If accessories remain on after the vehicle is off and battery voltage drops, consult a professional.
 - Ensure no accessories are drawing power when the vehicle is off, unless intentionally wired for constant power.

7. SPECIFICATIONS

Feature	Detail
Brand	Rough Country
Model	MLC-6 (70955)
Voltage	12 Volts (DC)
Current Rating (Fuses)	Six 30 Amps
Current Rating (Relays)	Six 40 Amps
Number of Contacts	12 (Terminal Block)
Mounting Type	Plug-in
Material	Alloy Steel, Aluminum, Plastic
Color	Black
Product Dimensions	10"W x 4"H (Overall)
Switch Unit Dimensions	L: 6.5" x W: 1.594" x H: 1.52"
Item Weight	7.1 pounds
UPC	843030141127

8. SAFETY INFORMATION

Professional Installation Recommended: Rough Country recommends that a certified technician install lift systems and other complex automotive accessories. Knowledge of Rough Country instructions, suspension procedures, and post-installation checks are required. Installation without proper knowledge and expertise may impact the integrity and operating safety of your vehicle.

Regular Vehicle Inspection: It is the buyer's responsibility to have all bolts and nuts checked for tightness after the first 500 miles, and then again every 1,000 miles. Wheel alignment, steering system, suspension, and driveline systems must be inspected by a qualified, professional mechanic at least every 3,000 miles.

Proposition 65 Warning: This product may contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

9. WARRANTY & SUPPORT

The Rough Country MLC-6 Universal LED Light & Accessory Controller is backed by Rough Country's 3-Year warranty. For warranty claims, technical support, or additional product information, please visit the official Rough Country website or contact their customer service department.

Rough Country Store: [Visit the Rough Country Store on Amazon](#)

