

MCS 068 Actuator power cut off

The MotorCycle Setup 'CruiseSafe' actuator cut off cuts power to the cruise control throttle actuator (throttle servo) whenever the front or rear brake is applied. This innovative safety device is unique to the MCS product range and demonstrates the company's dedication to building product to the highest possible levels of safety, quality and reliability.

The 'CruiseSafe' cut off is a simple relay incorporated into the brake circuit so that when either brake light switch (front or rear) operates, power to the cruise control actuator is shut down. The 'CruiseSafe' protects you against accidental damage to the wiring loom or any sort of electrical failure or interference in the cruise control electronics causing a malfunction, because whenever the brakes are applied, the cruise control actuator is disconnected from power by the open relay.

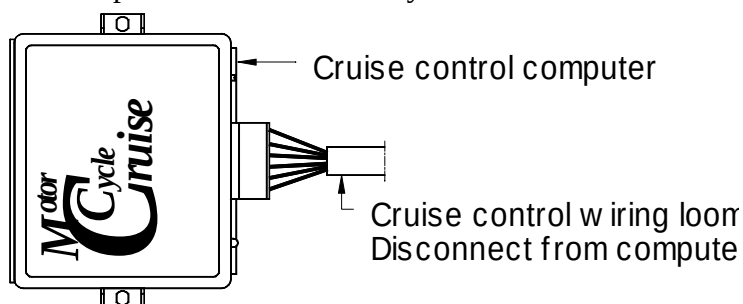
Its operation is failsafe, which means that if you lose power to the brakes, the brake light globes blow, a wire becomes disconnected or the 'CruiseSafe' relay fails, the power to the cruise control actuator is disconnected. The ONLY electrical failure it cannot protect against is if BOTH brake light switches fail. Then you must turn the cruise control OFF using its switch or use the bike's engine kill switch or ignition switch to kill the engine.

MotorCycle Setup has chosen to use a mechanical relay instead of an electronic device, because electrical interference cannot hinder its operation. Also, in the unlikely event of the relay failing, it is a standard automotive part used by major auto companies, and is readily available from auto electricians and auto spare parts outlets around the world. Fitting is simple. Just unplug the failed unit and plug the new one into the socket on the wiring loom.

- Note: - This device will NOT work on the Honda GL1500 Gold Wing at present. We are working on a fix for this to allow fitment to this model. This is because the brake light switches on the GL1500 operate a relay that then operates the brake lights. On all other bikes in our model range, the brake light switches operate the brake lights directly.

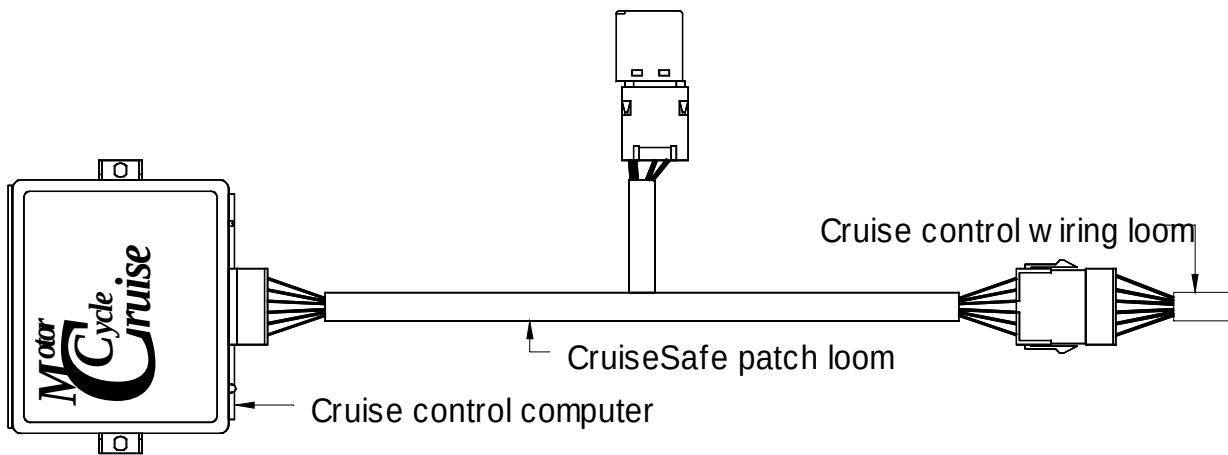
Installation.

- Locate the cruise control computer. It is usually located under the seat or in the rear luggage compartment of the motorcycle.



- Disconnect the cruise control loom from the computer. There is a latch on the loom plug on the bottom side. This latch must be pressed to disconnect the plug.
- Push the appropriate plug on the 'CruiseSafe' patch loom into the computer plug until it is home and the latch is engaged.

- Connect the cruise control loom plug to the other end of the 'CruiseSafe' patch loom.



- Route the cruise control loom and the CruiseSafe patch loom so that it will not be damaged by any moving or stationary parts (such as seat supports or latches).
- Tape or cable tie the loom in place if necessary. Tape or cable tie the relay to the loom, frame tube or other convenient point to prevent it being damaged. If possible mount it so that the closed end (the 'top' of the relay) is uppermost. This will help prevent dirt or moisture entry into the relay.
- This completes the installation.

You can test that the relay is working by turning the ignition ON and operating either brake lever. You will hear the relay operate when the brakes are applied and again when they are released. The relay actually turns 'OFF' when you apply the brakes, and disconnects the power line to the cruise control actuator. When you release the brakes, the relay turns back 'ON' and reconnects power to the cruise control actuator.

Maintenance/relay replacement.

There is no periodic maintenance required for the CruiseSafe patch. If the relay fails, simply undo the tape around the base of the relay and the relay socket, unplug the relay and replace with a new relay. We suggest that you re-tape the relay to the socket.

THE RELAY MUST BE REPLACED WITH A RELAY OF THE SAME PIN CONFIGURATION AND IT MUST HAVE A RESISTOR SUPPRESSED COIL.

IF A RELAY WITHOUT A RESISTOR SUPPRESSED COIL IS USED, YOU WILL DAMAGE THE CRUISE CONTROL COMPUTER. THIS WILL NOT BE COVERED BY WARRANTY.

This relay is a common automotive relay and should be readily available from most automotive electrical outlets.

Safety Issues.

Electrical ‘Noise’.

Noise is a broad term used to describe the electromagnetic radiation of energy. Noise is generated during rapid changes in voltage or current levels or by radio transmitters (ignition systems, alternators, mobile phones and other heavy current carrying wires). If noise gets coupled into the cruise control wiring harness it can create disturbances within the cruise control computer. The cruise control may drop out after engagement or not engage at all, but still pass all diagnostic tests.

The most likely causes of electrical noise interference on a motorcycle is faulty spark plug leads or fitment of non suppressed spark plug leads, or the electrical system could be in poor repair due to age or lack of appropriate preventative maintenance.

WARNING: - It is ESSENTIAL that the spark plug leads are radio suppression type leads and that they are in good condition. Inspect the spark plug leads for any cracks, and replace if required. All original equipment high-tension ignition leads, in optimal condition, should be acceptable, but the cruise control MUST NOT BE USED IF AFTERMARKET SOLID CORE HIGH TENSION LEADS ARE FITTED.

Ideally all cruise control wiring should be kept as far as possible from all high voltage and high current wiring. This is often difficult to achieve on a motorcycle due to space limitations, so it is important to FOLLOW THE WIRING HARNESS INSTALLATION INSTRUCTIONS CAREFULLY.

Make sure that the bike’s battery and charging system are in good condition and the battery electrolyte levels are correct and the battery connections are clean and tight. The battery acts as an electrical ‘buffer’ and absorbs electrical spike energy and stabilises voltage in the electrical system.

WARNING: - In order to stop the motor cycle in the event of cruise control electrical malfunction, simply pull on the brakes. This will instantly remove power to the cruise control actuator.

WARNING: - In the event of a major malfunction, the cruise control may re-apply the throttle when the brakes are released. If this occurs, disconnect the loom computer plug from cruise control computer until the cause can be found and remedied.

WARNING: - Any erratic behaviour (cruise control disengages at random or it fails to engage without resetting by turning the ignition switch off and back on) from the cruise control should be regarded as suspicious. The cruise control computer should be disconnected until the cause can be found and remedied.

This page intentionally blank