

# WARNING

**Motorcycle Cruise Controls has five different product ranges based on four different computers (electronics modules or electronics 'box').**

**These products all use the same electrical connector, BUT the wire positions are not compatible.**

**Under no circumstance should the 'computer' from one product be swapped for another without first contacting the manufacturer.**

**The 'best' case if a module is 'swapped' is a cruise control limiter or speed limiter that will not work correctly. The most likely result is a 'blown' computer that is not repairable. The 'worst' case is that this could result in a dangerous situation that may result in injury or death.**

**DO NOT UNDER ANY CIRCUMSTANCES  
EXCHANGE ONE 'COMPUTER' FOR  
ANOTHER WITHOUT CONTACTING US  
FIRST.**

# WARNING

MotorCycle Cruise Controls has had several different speed limiter computers over the years

Many of our instruction sets are written and photos taken using older model computers. This sheet shows the difference in mounting the cruise control/speed limiter computer and the differences in the wiring connections required.

Functionally, all the computers are almost identical, the later units have some new designs and abilities. Actual performance of the speed limiter is similar if not the same.

**WARNING:** - The connector used on all of these computers is the same, BUT the wiring 'pin' positions on the different computers are different. The units are NOT interchangeable without re-wiring the connector.

In most cases, you will not need this information, the wiring harness supplied is terminated to suit the computer supplied in the speed limiter kit.

## Computer Part Number MCSU400C & MCS800C.

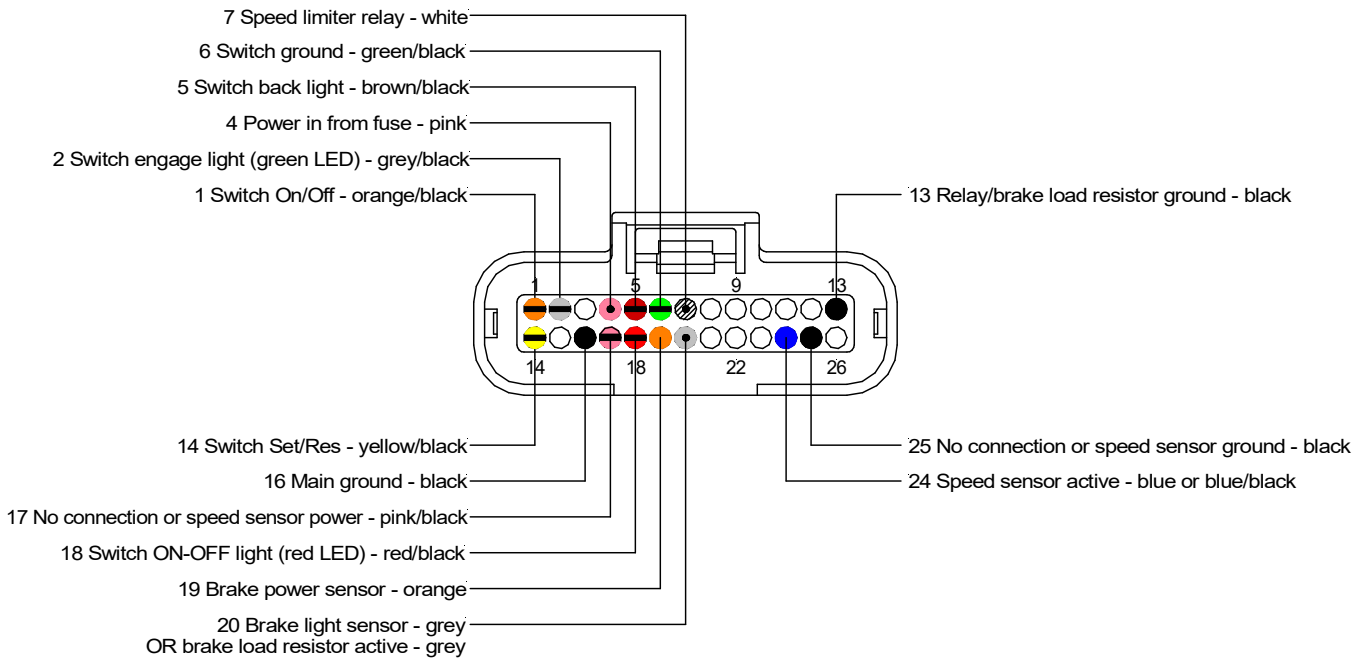
This is the original computer, and it has an aluminium enclosure with stainless steel end plates and a label on the top face. The label may have this MotorCycle Cruise logo or a QuadCruise logo in it.

This computer is usually identified in the installation manual parts list as SL2\*\*\*SLC or MCSU400C or MCS800.



The diagram over the page shows the wiring positions for this computer.

**The diagram below shows the wiring positions for the metal box computer Part Number MCSU400C & MCS800C.**



**Computer Part Number MCS8000SLC**

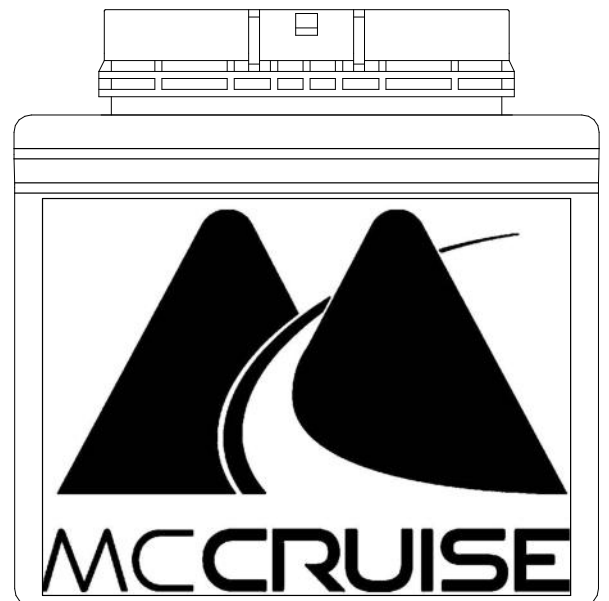
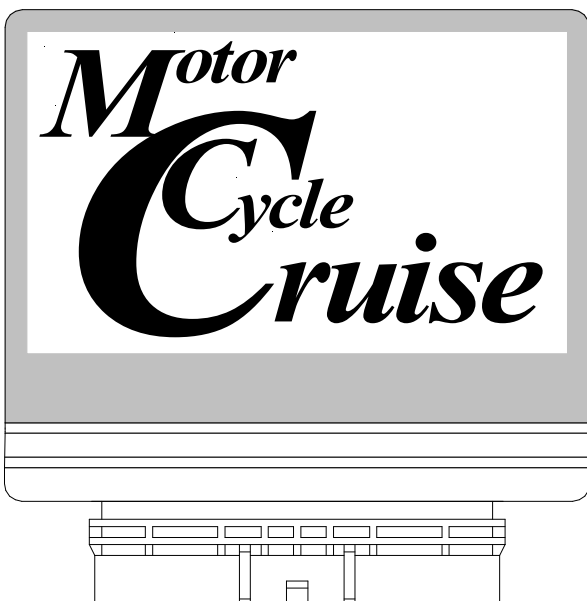
The next version that was released is the MCS8000SLC.

Earlier versions of this have a dark, almost black, translucent plastic enclosure with a label on the top face, shown below left.

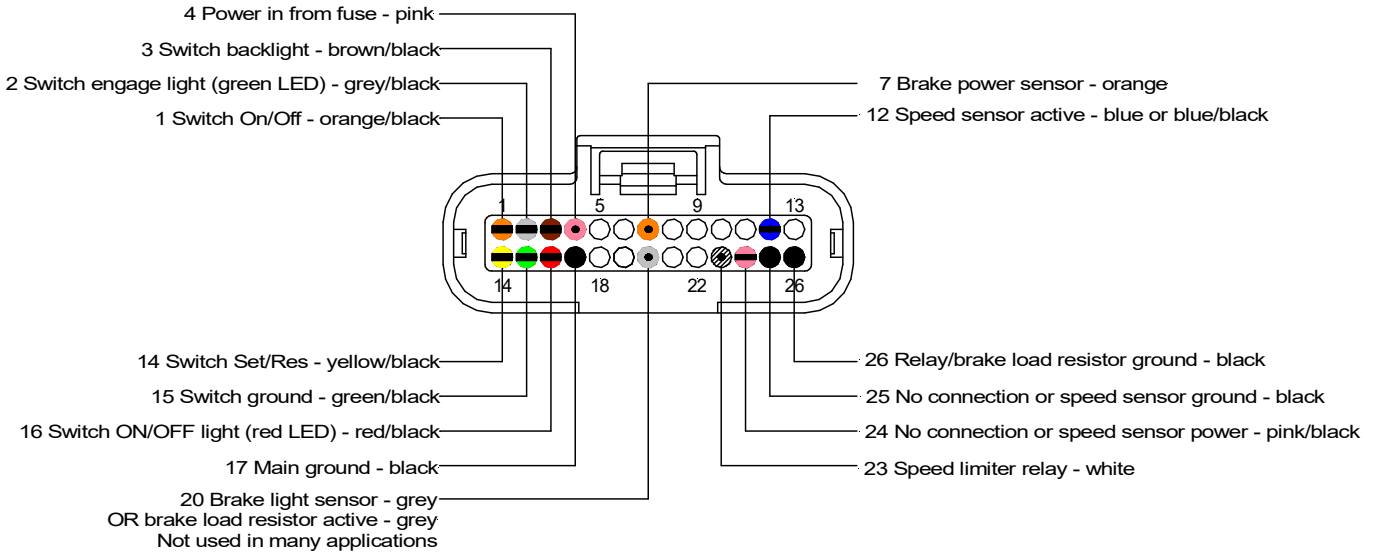
The current version of the MCS8000SLC computer have a pale brown translucent plastic enclosure with the logo moulded into the top face of the enclosure, shown below right.

The size and shape of the enclosure is the same for both versions.

**This is still current and most common computer used on our speed limiters.**



**This diagram below shows the wiring positions for all versions of the MCS8000SLC.**

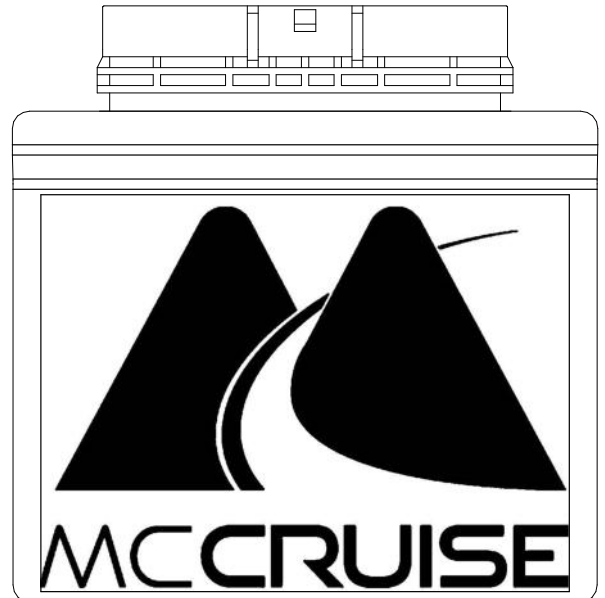


**Computer Part Number MCS10000SLC**

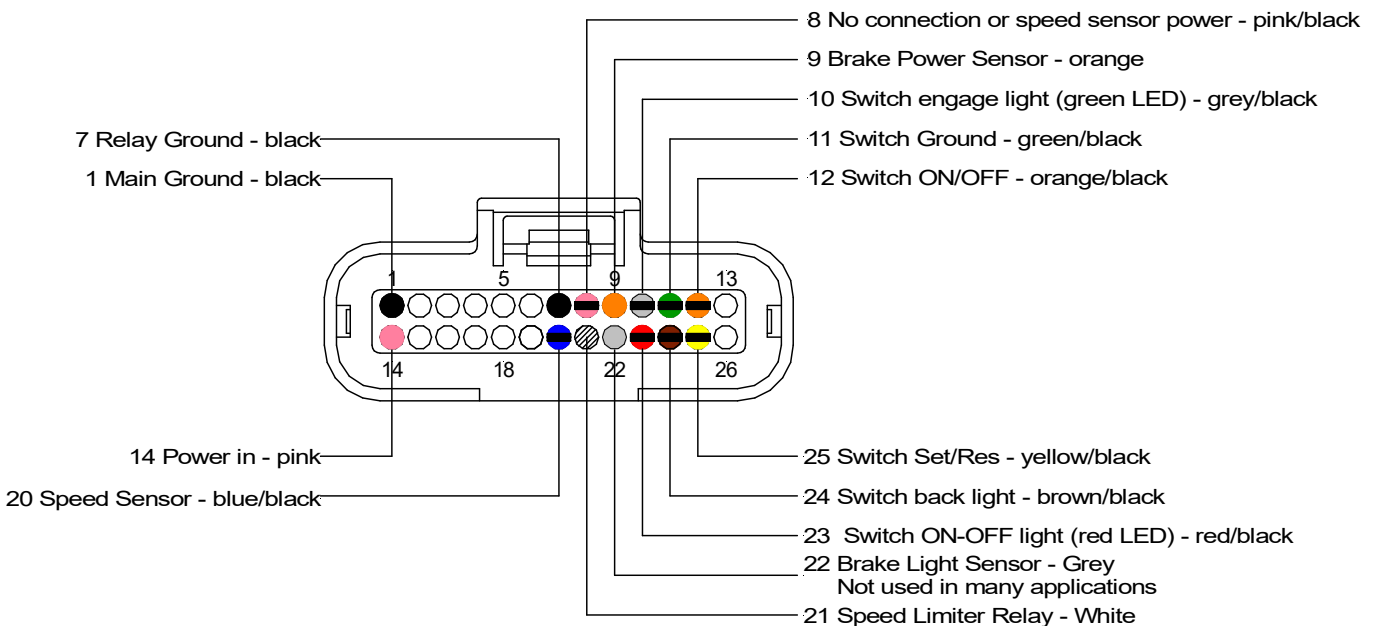
The next version that was released is the MCS10000SLC.

This has the same connector and enclosure as the MCS8000SLC computer, BUT the wiring pin positions are different.

This is not commonly supplied as a speed limiter, usually it is used in cruise control applications, but it may be supplied as a speed limiter in some cases.



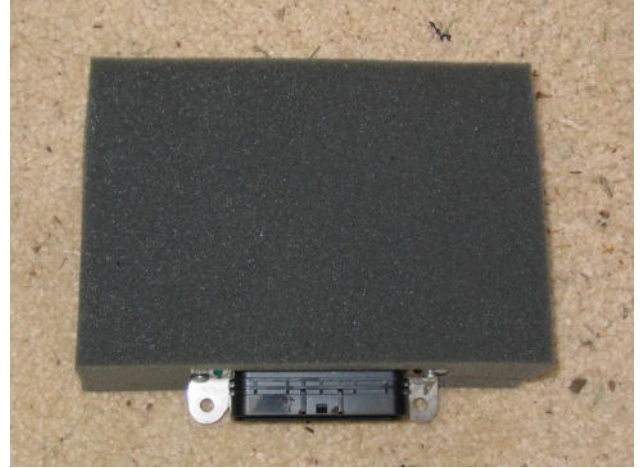
**This diagram below shows the wiring positions for the MCS10000SLC.**



**Mounting the new computer on installations that still show the previous models.**

There are several different methods used to mount the previous model computer.

Some installations come with a foam block to mount the speed limiter computer.

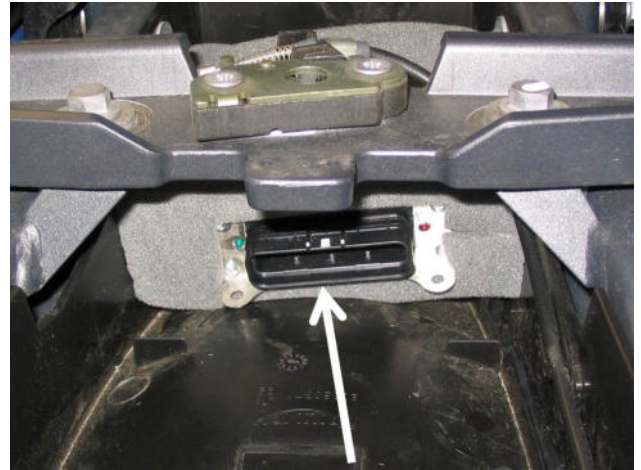


The foam block is then cut to suit the space on the bike.

This method can still be used with the new computer.

In some cases, double sided adhesive foam mounting tape will have been supplied.

In most cases Velcro mounting tape will also be provided in the speed limiter kit. This may be used instead of the foam block or the foam mounting tape.



Apply the Velcro tape to the bottom of the computer and use the tape to attach the computer to the bike.

This method is also used where a metal mounting bracket is supplied in the kit to mount the computer.



Where a mounting bracket was supplied, the old computer was attached to the bracket using two or four screws.

The new computer is mounted to the bracket using Velcro mounting tape.

After it is attached using the Velcro tape, place a long cable tie (zip tie) around the bracket and the computer 'box' (arrowed).







# ***SPEED SAFE***

**ATV Electronic Speed Limiter**

**Set up Manual ©**

**Refer to the Installation Manual for Installation details**

**15 August 2024**

**MOTORCYCLE CRUISE CONTROLS**

**MotorCycle Setup Pty. Ltd.  
A.B.N. 94 798 167 654  
AUSTRALIA**





# WARNING

**Your new “Speed Safe” speed limiter has been designed to provide a speed related fuel cut out for your ATV.**

**This is achieved by momentarily cutting the fuel injector or ignition and then turning it back on again. The speed limiter function is achieved by doing this rapidly so the engine appears to be misfiring.**

**While this function has been tested on various ATVs, we cannot guarantee that long term operation with the speed limiter operating (continuous running with the speed limiter limiting the vehicle speed) will not result in damage to the vehicle fuel injection system, ignition system, engine or exhaust system.**

**MotorCycle Setup P/L offers NO warranty for damage to the vehicle caused by use of the speed limiter. Fitment and use of the speed limiter is at the vehicle owner’s risk.**

If, after reading these instructions, you feel you are not competent to install this kit, we strongly urge you to seek the assistance of one of our authorised dealers and installers. Please phone or e-mail us to obtain the name of your nearest outlet.

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SET UP & CALIBRATION PROCEDURES SUMMARY SHEETS (LAST PAGES)

### 1. INTRODUCTION

Congratulations, you have purchased the most advanced speed limiter for ATV's in the world. The speed limiter is microprocessor controlled by the 'SpeedSafe' computer, which reduces the complexity of installation.

Before installing your speed limiter, take the time to read and understand each installation step in this manual.

Your kit has been designed for a specific ATV. Even if you have installed kits before, take note of where and how components should be installed.

### 2. WARNINGS, CAUTIONS and NOTES

This manual contains several **cautions**, **warnings** and **notes**, which are prominently displayed. The convention used is:

A **warning** applies whenever injury could result from ignoring the warning;

A **caution** applies whenever damage to the vehicle or speed limiter could result from ignoring the caution; and

A **note** applies where other aspects should be considered before any action to do with installation is undertaken.

#### EXAMPLES:

**WARNING:** - Always ensure the ATV is properly chocked on front and rear wheels and cannot accidentally roll away.

**CAUTION:** - Before drilling any holes, make sure there are no components that may be damaged on the other side of the surface being drilled. Double check for any wiring harness that might be easily damaged by a drill bit.

**NOTE:** - Lay the wiring harness in place and connect the components before cable tying the harness in place.

### 3. TOOLS REQUIRED

- Standard socket and spanner set to suit your vehicle;
- Small needle nose pliers or flat blade screwdrivers to remove plastic expansion clips;
- In many installations, small (jewellers) screwdriver to back out electrical terminals on the ATV;
- Side cutters or knife (to trim cable ties)

### 4. PARTS LIST

Check that all components depicted in the parts list in the installation manual are included in the speed limiter kit. Please phone your dealer or (03) 9808 2804 within Australia, international (61 3) 9808 2804 or email [sales@mccruise.com](mailto:sales@mccruise.com) for advice, if any parts are missing;

### 5. OVERVIEW OF SPEED LIMITER OPERATION

The principle behind your speed limiter's operation is very simple:

- The 'SpeedSafe' speed limiter computer continuously monitors the speed of the vehicle;
- When the speed reaches the speed limiter trigger speed the computer sends out a signal to a relay that is wired in to the vehicle to turn the fuel injector or ignition system off. At the speed limiter trigger speed fuel flow to the engine or ignition is cut for short periods of time to make the engine 'misfire'.
- As soon as the vehicle speed returns to a speed below the speed limiter trigger speed normal fuel injection operation resumes.
- The speed limiter can be configured in different ways if desired. They are:

**Selectable speed limit.** The default speed the speed limiter is 25kph (15mph) when it is enabled, but the vehicle owner can set this to any speed desired or the speed limiter may be ordered with a different default speed.

**Soft Cut limiter.** When the limiting speed is reached, the engine is cut regularly at a fixed frequency, but the cut time varies with vehicle speed, short periods at the speed limit (feels like a slight misfire), longer periods if speed continues to increase (a serious misfire). The frequency and the over speed range are adjustable according to the preferences of the vehicle owner.

**Hard cut limiter.** When the speed is reached the engine is cut completely until the speed drops below the speed. The delay before the engine is turned back on again is adjustable according to the preferences of the vehicle owner.

**Penalty Mode** is also available and can be applied to Soft or Hard cut speed limiting. If the operator runs on the speed limit continuously for 5 seconds, or 'hits' the speed limit twice within a few seconds, the speed limit is reduced for a period of time, slowing or stopping the vehicle. If the operator stays on the speed limit, the slower speed limit will remain, if the operator stays off the limiter for the specified time, the original limiting speed will be restored.

Both the amount the speed is reduced and the amount of time the reduction is applied are adjustable according to the preferences of the vehicle owner.

The purpose of penalty mode is to discourage the operator from running the vehicle on the speed limit.

**CAUTION: - Repeated and continuous operation above the speed limiter trigger speed may result in damage to the vehicle electronics, fuel system or engine.**

- **Standard** speed limiter setup means that in most cases any failure or tampering with the speed limiter wiring, fuse or computer will disable the speed limiter but will NOT disable the vehicle. This does not apply to all wiring connections, or failure modes of the speed limiter computer, but it does apply to most of them.

**Note: -** Standard setup is recommended in situations where vehicle failure has the potential to cause injury, loss of life or other serious consequences. Tamper evident tags are provided in the kit where necessary to show if any tampering has occurred.

- **Tamper Resistant** speed limiter setup means that in most cases any failure or tampering with the speed limiter, fuse or computer will disable the vehicle (stop the engine running). Again, this does not apply to every situation, but does to most.

**Note: -** Tamper Resistant setup is recommended in most situations where there are no serious consequences if the vehicle is disabled either by tampering or failure of the speed limiter.

**CAUTION: - Changing this setting requires a change in the wiring harness. The vehicle will be disabled until the change is made.**

All of these features are easily adjustable or selectable using a 'setup' switch that is provided with the speed limiter. This switch is removed after setup is completed and should be held by the vehicle owner, manager or parent.

## **6 & 7. INSTALLATION**

**Refer to the separate Installation Manual provided for your make and model of vehicle.**

## **8. DIAGNOSTIC MODE OPERATION**

**Note: - Refer to the speed limiter Menu Map at the back of this manual to see the menu structure for the various functions available on this speed limiter.**

Diagnostic mode operation is used to confirm correct electrical and mechanical installation. During diagnostic mode operation the speed control programme is disabled, and correct operation of most parts of the speed limiter can be checked in safety while the bike is stationary. Confirmation that electrical connections are correct is provided by the indicator light on the control switch and by the GREEN indicator light on the front of the computer (next to the loom plug).

**Note: - The control switch has an indicator light at the right end, next to the ON-OFF button. This light has three colours, RED and GREEN and YELLOW. These colours are used to indicate various operations in testing and setting up the speed limiter. GREEN is used to confirm the speed limiter functions during the diagnostic checks and some calibration procedures.**

**There are also two lights on the speed limiter computer. We have two different computers with the lights in different locations.**

The computer with the aluminum box has two LED lights on the front of the computer, one each side of the wiring harness connector. One is green, the other is red.

The computer that is in a translucent black plastic box has two lights inside the box. They are only visible when the lights are operating. The lights are visible from the sides of the box, near the connector end of the box.

During the diagnostic checks many of the features of the speed limiter are confirmed by the GREEN light on the CONTROL SWITCH and the GREEN light on the COMPUTER operating. For example, the lights confirm brake switch operation (for those vehicles using brake sensing).

During normal operation the RED light on the COMPUTER displays stop and fault codes and is only used to diagnose problems. The control switch can also display the stop codes. See your troubleshooting guide for more details on this function.

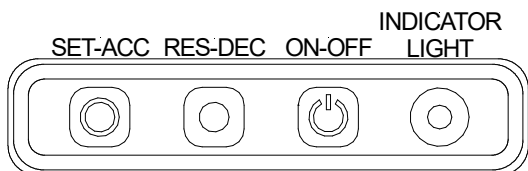
### Speed Limiter Setup Switch.

MotorCycle Cruise Controls produces two different types of Setup Switch. Both are designed for cruise control use and are used with the speed limiter as a hand held Setup Switch to allow changes to various settings which affect the way the speed limiter operates and for diagnostic purposes.

The switch shown below is the original switch and has been used for many years. It has an indicator light at the right end next to the ON-OFF button.

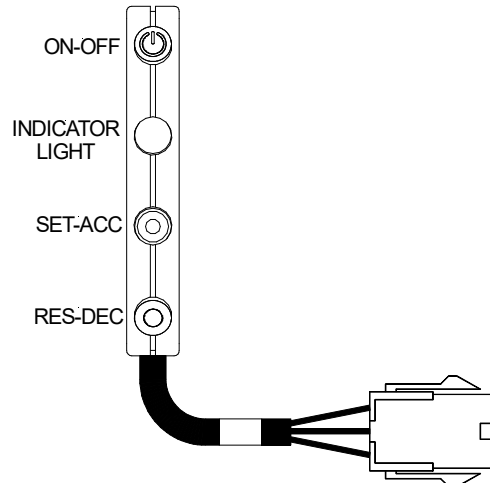


The speed limiter may be supplied with either of these new design switches. These switches do not have anything written on them; the buttons have icons on them instead.



The meanings of the icons are explained in the pictures.

Operation and use of the buttons and light is the same for both switches.



### Enter Diagnostic Mode.

- Ensure the vehicle is secure and is in neutral.
- Turn the bike's ignition switch OFF.
- Connect the speed limiter setup switch to the connector on the speed limiter wiring harness, near the speed limiter computer.
  - Make sure that the engine kill switch is ON (engine RUN position).

- Press and hold the SET and ON-OFF buttons.
- Turn ON the ignition switch - DO NOT START the engine. **HOLD THE BUTTONS UNTIL THE GREEN LIGHT ON THE SWITCH COMES ON (a couple of seconds).** After the light comes on, release the buttons. The light should go out when the buttons are released.
- The speed limiter is now in diagnostic mode.

**NOTE: - The following pages explain a series of tests to be performed with the speed limiter in Diagnostic Mode. If you turn the ignition switch OFF in between the tests, you will need to repeat the above procedure to re-enter diagnostic mode before performing the next test. If you do leave the ignition switch ON, the speed limiter will stay in diagnostic mode.**

### Testing the setup switch

- Press and release the three buttons, SET, RES and ON/OFF, on the setup switch in turn, **NOT** all at the same time. The switch light will go green when a button is pressed and go out when it is released. This light should come on with each button and go out when the button is released. This indicates that the buttons are working correctly.

### Testing the speed sensor

- If possible, drive the vehicle and watch the indicator light on the switch. The light should pulse on and off as the computer detects the speed signal. This flash rate should be about 1 flash per rear wheel revolution (on for ½ turn, off for ½ turn). At 8km/h (5mph) the light will turn on for about 1/2 second then off for 1/2 sec., or go through an ON/OFF cycle every second. The faster the speed, the faster the pulse rate from the light. This indicates that the computer is detecting the speed signal. If the LED flash rate at 8km/h (5 mph) is not roughly 1 flash per second (one flash per rear wheel revolution), the calibration of the computer will not be correct for the ATV. See section 9 to re-calibrate the speed pulse input. If the flash rate is faster than this, the speed limiter may start to operate to limit the vehicle speed lower than expected.
- Turn the ignition off. This completes the diagnostic test procedure.

## 9. CALIBRATION, SETUP & TESTING

**NOTE: - There are several sheets at the end of this manual that can be removed and put in a pocket to assist with setup and calibration of the speed limiter. One ‘set’ of sheets is the Menu Map showing the structure of the various menus that can be accessed to configure the speed limiter. The other ‘set’ shows the various calibration and setup procedures that can be performed and the order in which they should be performed.**

### Speed sensor calibration.

**NOTE: - In most cases the computer will already be calibrated to suit your vehicle. This can be confirmed in diagnostic mode on the previous page in the section called Testing the speed sensor.**

This function teaches the speed limiter computer how many pulses per wheel revolution it will receive from the speed sensor or the vehicle’s speedometer sender, so that the speed limiter control knows what speed the vehicle is doing. This can be done either by calibrating over a 10m (33feet) distance or while driving at 10kph.

### **Speed limiter enable/disable and configuration modes.**

This function allows you to enable or disable the speed limiter, set the limiting speed, set it to either 'hard cut' or 'soft cut' limiting mode, and configure 'speed range' and 'rate' of the speed limiter operation.

You can also configure the speed limiter to 'normal' (standard) configuration, or 'tamper resistant' operation.

**CAUTION: - Changing this setting from one to the other will also require a change in one wiring connection on the speed limiter relay. The vehicle will be disabled until this change is made.**

### **Penalty mode enable/disable and configuration.**

This function enables or disables the 'Penalty' mode, sets the amount of speed reduction when penalty is in operation and the duration (time) of the penalty speed reduction.

## **How to perform the calibration procedures**

### **Speed Sensor Pulse Rate Calibration**

Note: - Speed sensor calibration can be done either at 10kph using the vehicle's speedometer to measure the speed, or by moving the vehicle over a 10m (33 feet) distance if the vehicle does not have a speedometer or the speedometer is inaccurate.

Note: - Where possible we 'program' the speed limiter computer so the correct calibration for the vehicle is already done. This procedure should only be necessary if the speed limiter is moved to another vehicle OR if we don't have the necessary calibration info (a 'Universal' kit is supplied instead of the model specific kit).

- Connect the speed limiter setup switch to the connector on the wiring harness, next to the speed limiter computer.
- Make sure the ignition switch is OFF. Press and HOLD the RES and ON-OFF buttons, turn the ignition switch ON, **HOLD THE BUTTONS UNTIL THE SWITCH INDICATOR LIGHT COMES ON GREEN (a few seconds), then release the buttons.** The speed limiter is now in speed pulse rate calibration mode.

### **10kph (6mph) calibration.**

- Drive the vehicle at 10 kph (6 mph) and hold the speed STEADY. The GREEN indicator light will be flashing as you drive. The flash rate will vary with speed and the frequency of the pulses coming from the speed sensor, so the flash rate may be very slow or very fast or anywhere in between, in some cases it may be so fast you cannot see the flashing except at low speeds.
- Press and release the SET button once. The indicator on the switch will change to RED for two seconds and may flash yellow during this time. The computer will record the pulse rate of the speed signal. Hold the speed STEADY at 10 kph (6mph) for two seconds until the red light goes out. The light will resume flashing green from the speed signal after the red goes out.

- If you are not sure that your speed was correct or stable, adjust your speed to 10 kph (6 mph) again and simply press SET again. Each time SET is pressed the speed pulse rate will be recorded and saved overwriting the previous setting.
- Stop the vehicle and turn the ignition switch OFF, DO NOT TURN THE IGNITION OFF BEFORE THE VEHICLE HAS STOPPED MOVING. This completes the speed signal pulse rate calibration.

### **10 meter calibration.**

- Mark out a 10meter (~33 feet) length. Drive the vehicle to the start point. Line up some part of the vehicle with the start line.
- Press and release the SET button once.
- Drive slowly along the 10 meter distance (the speed is not critical) to the end point and stop when the same part of the vehicle is lined up with the end point. Do not back up if you overshoot the mark. As you drive, the green light will flash on and off. How fast the light flashes depends on the pulse rate from the speed sensor, it may flash very fast or slow. The light flashes once every 10 pulses from the speed sensor. When you reach the end point stop the vehicle and press and release the RES button once.
- If the calibration is acceptable, the light will come on green, if it is not the light will come on red and the previous calibration will be retained.
- If you are not sure that you started or stopped at the correct point, return to the start point and repeat the calibration procedure, press SET at the start and RES at the end.
- Stop the vehicle and turn the ignition switch OFF, DO NOT TURN THE IGNITION OFF BEFORE THE VEHICLE HAS STOPPED MOVING. This completes the speed signal pulse rate calibration.

### **Speed limiter enable/disable and configuration modes.**

**Note:** - At various points in the following instructions, the term ‘default setting’ will be used. This term refers to the setting the speed limiter computer will return to in the event of the computer forcing a ‘reset’ due to a serious fault or if the computer is reset using the ‘reset defaults’ command (contact us for this command). We try to get the customer to specify the appropriate ‘defaults’ for their application so the speed limiter will continue to work appropriately if a reset occurs.

**The MOST important default to specify is the ‘Standard’ or ‘Tamper Resistant’ selection. If this is not set to its default setting, if the computer does reset the vehicle will be immobilised.**

#### **Mode 1 - Speed limiter enable/disable.**

This uses a combination of the **indicator light on the setup switch** to indicate what is being selected or adjusted using different colours and/or flashing numbers.

The **red and green lights on the computer** are used to indicate the mode number by the number of times they flash. You only need to refer to these lights if you are not sure what mode you are in.

**NOTE:** - You can stop at any point in this process by turning the ignition switch off. The speed limiter will save any changes you have made, and keep the other settings that you have not changed as they were.



- Connect the speed limiter setup switch to the connector on the wiring harness, next to the speed limiter computer.
- Make sure the ignition switch is OFF. Press and HOLD the SET button, turn the ignition switch ON, **HOLD THE BUTTON UNTIL THE SWITCH INDICATOR LIGHT COMES ON GREEN FOR A SECOND THEN TURNS OFF, then release the button.** The speed limiter is now in speed limiter enable/disable mode.
- The light will come back on when you release the button.

**Computer lights – Red and green** lights flash once every few seconds (mode 1).

- If the light on the switch comes on RED the limiter is turned off, or DISABLED, if the light comes on GREEN the limiter is ENABLED.
- Press SET to ENABLE the speed limiter (light changes to GREEN). This will set the limiting speed to the default speed, usually 25kph (15mph).
- Press RES to DISABLE the speed limiter (light changes to RED).
- In order to go ahead with any other changes, the limiter must be enabled (GREEN light)
- If you are not changing any other settings, turn the ignition off to save the settings or move to the next setting.

### **Mode 1 - Change Speed limiter speed.**

- To change the limit speed, enable the limiter (press SET), start the engine and drive to the desired speed. The switch light will flash green as you drive, the flash rate varies with speed. When at the desired speed, press and release the SET button, the light will stay on for a few seconds, then start flashing again. Bring the vehicle to a stop.
- If you are not changing any other settings, turn the ignition off to save the settings or move to the next setting.

### **Mode 2 - Speed limiter Soft or Hard cut select.**

Soft Cut is our usual default setting for petrol (gasoline) engines; Hard Cut is the default setting for diesel engines. **Soft cut cannot be enabled for use on diesel engines.**

- Press and hold the ON-OFF button for a few seconds until the **green light on the switch** goes out and comes back on green or red, then release the button.

**Computer lights – Red and green** lights flash twice every few seconds (mode 2).

- If the switch light comes on RED the limiter is in HARD CUT mode, if the light comes on GREEN the limiter is in SOFT CUT mode
- Press SET to select SOFT CUT mode (GREEN light). Move to **Mode 3** to setup Soft Cut. NOTE: - Speed limiters for diesel engines will not allow selection of soft cut.

- Press RES to select HARD CUT mode (RED light). Move to **Mode 4** to setup Hard Cut.

**NOTE: - You can drive the vehicle while making these changes to test the result of the change. STOP the vehicle completely before moving to the next mode.**

- If you are not changing any other settings, turn the ignition off to save the settings or move to the next setting.

### **Mode 3 – Soft Cut Range setting.**

In soft cut mode, the speed limiter will start with a slight misfire when the limiting speed is reached, and as speed increases (by the operator applying more throttle) the misfire will become more severe. The speed range over which the limiter operates from a slight misfire to a sever misfire is selectable.

- Press and hold the ON-OFF button for a few seconds until the green light on the switch goes out and comes back on flashing yellow, then release the button.

**Computer lights – Red and green** lights flash three times every few seconds (mode 3).

- The number of yellow flashes between pauses indicates the speed limiter RANGE.
- Press SET to increase the range number, press RES to reduce the range number. The flash code corresponds to the following ranges. A lower speed range will make the speed limiter more ‘aggressive’.

- 1 = ½ kph
- 2 = 1 kph
- 3 = 2 kph
- 4 = 4 kph (petrol default)
- 5 = 8kph

**NOTE: - You can drive the vehicle while making these changes to test the result of the change. STOP the vehicle completely before moving to the next mode.**

- If you are not changing any other settings, turn the ignition off to save the settings or move to the next setting.

### **Mode 3 continued – Soft Cut Pulse Rate setting.**

In soft cut mode, the speed limiter will start with a slight misfire when the limiting speed is reached, and as speed increases (by the operator applying more throttle) the misfire will become more severe. The pulse rate selects the number of times the misfire occurs per second.

- Press and hold the ON-OFF button for a few seconds until the yellow flashing light on the switch changes to flashing red, then release the button.

**Computer lights** – Red and green lights flash three times every few seconds (mode 3).

- The number of red flashes between pauses indicates the speed limiter RATE.
- Press SET to increase the rate number, press RES to reduce the rate number. The flash code corresponds to the following rates. The lower the number of pulses per seconds, the more ‘rough’ the speed limiter will be.

- 1 = 6 pulses per second
- 2 = 4 pulses per second (petrol default)
- 3 = 2 pulses per second

**NOTE: - You can drive the vehicle while making these changes to test the result of the change. STOP the vehicle completely before moving to the next mode.**

- If you are not changing any other settings, turn the ignition off to save the settings or move to the next setting.

#### **Mode 4 – Hard Cut setting.**

In hard cut mode, the speed limiter will turn the engine off when the limiting speed is reached and turns it back on after a short delay when the speed drops below the limiting speed. The setting selects the delay time before the engine is turned back on.

- Press and hold the ON-OFF button for a few seconds until the red light on the switch goes out and comes back on flashing yellow, then release the button.

**Computer lights – Red and green** lights flash four times every few seconds (mode 4).

- The number of yellow flashes between pauses indicates the speed limiter hard cut setting.
- Press SET to increase the number, press RES to reduce the number. The flash code corresponds to the following settings. The higher the number the longer the delay before the engine turns back on, the more ‘aggressive’ the speed limiter will be.

- 1 = ~120mS (0.12 second) minimum cut time, no delay
- 2 = ~250mS minimum cut time, 0.25 second turn on delay (petrol default)
- 3 = ~500mS minimum cut time, 0.5 second turn on delay (diesel default)
- 4 = ~1000mS minimum cut time, 1.0 second turn on delay
- 5 = ~2000mS minimum cut time, 2.0 second turn on delay
- 6 = ~4000mS minimum cut time, 4.0 second turn on delay

**NOTE: - You can drive the vehicle while making these changes to test the result of the change. STOP the vehicle completely before moving to the next mode.**

- Depending on how quickly the vehicle decelerates when the engine is cut, the engine may only be turned off for a very short period (the minimum possible will be approximately 0.1 second), in most cases the engine will be cut for about ¼ to ½ second minimum (the time it takes for the vehicle to slow down below the limit speed), then the delay setting will increase the cut time to make the operation more ‘severe’.
- If you are not changing any other settings, turn the ignition off to save the settings or move to the next setting.

#### **Mode 5 – Speed limiter STANDARD or TAMPER RESISTANT selection.**

In STANDARD mode, if the speed limiter is tampered with or fails, in most cases the speed limiter will stop working and the vehicle can still be driven normally.

In TAMPER RESISTANT mode, if the speed limiter is tampered with or fails, in most cases the vehicle will be immobilised. Do NOT select this if an immobilised vehicle presents a risk of injury or death.

The default setting will depend what was requested when the speed limiter is ordered.

**CAUTION: - A change in this setting requires a change in the wiring to the speed limiter relay. The vehicle will be immobilised until the wiring is changed to suit the selection. Contact us to assistance with this. This selection should be specified when the speed limiter is ordered, to ensure the correct 'default' is programmed in, as a computer 'reset' to the wrong default will immobile the vehicle.**

- Press and hold the ON-OFF button for a few seconds until the red or yellow flashing light on the switch goes out and comes back on green or yellow (not flashing), then release the button.

**Computer lights – Red and green** lights flash five times every few seconds (mode 5).

- If the switch light comes on GREEN the limiter is in STANDARD mode, if the light comes on YELLOW the limiter is in TAMPER RESISTANT mode
- Press SET to select STANDARD mode (GREEN light).
- Press RES to select TAMPER RESISTANT mode (YELLOW light).

**NOTE: - If the engine is running when you change this setting the engine will STOP. If you don't want to make with change press SET (Standard) or RES (Tamper Resistant) to return to the original setting. The engine can then be restarted.**

- If you are not changing any other settings, turn the ignition off to save the settings.
- Press and hold the ON-OFF button until the light turns off and comes back on GREEN. You are now back in **Mode 1 - Speed limiter enable/disable.**

**Computer lights – Red and green** lights flash once times every few seconds (mode 1).

## **Penalty mode enable/disable and configuration.**

**NOTE: - Penalty mode is normally turned on by default on diesel engine vehicles, and is set to stop the vehicle completely for 5 seconds when penalty mode is initiated.**

Penalty mode means that if the speed limiter is activated, and then stays within ½ kph (1/3 mph) of the limiting speed for more than 5 seconds, OR if the speed limit is 'hit' twice within a few seconds, a speed limit penalty is initiated.

The penalty is a reduced limiting speed; the vehicle is slowed down below the normal limiting speed for a period of time. The reduction in speed is not instantaneous in most cases, it is a gradual reduction starting at the speed limit and reducing the specified amount over 5 seconds, however on diesel engine vehicle, 100% speed cut is selected, the speed reduction is instant, the engine is turned off until the vehicle comes to a stop. The 100% cut setting is usually only selected on diesel engines to prevent damage to the injection pump.

The amount of the speed reduction and the duration of the reduction are adjustable.

When the speed reduction selected is less than 100%, a timer is started when the new reduced speed is reached to count down the selected time. If the speed limiter is activated at any time during the reduced speed period (by exceeding the reduced speed limit), the timer stops and does not restart until the speed drops below the speed limit, it does not reset, it just stops and then restarts. When the timer finishes, the limiting speed is

returned to normal. There is no visual or other indication that normal speed has returned, the only way to tell is by increasing the vehicle speed to see if the speed limiter operates or not.

When the speed reduction selected is 100%, the vehicle must come to a complete stop for the timer to start, if the vehicle is driven at any significant speed, the engine will be cut again until the timer finishes.

Once penalty is initiated, there is no way to stop it. Stopping the vehicle, turning the ignition off or going backwards will not stop the penalty timer.

### **Mode 1 – Penalty mode enable/disable.**

This uses the indicator light on the setup switch to indicate what is being selected or adjusted using different colours and/or flashing numbers.

**The red and green lights on the computer are not used in any of these modes.**

**NOTE: - You can stop at any point in this process by turning the ignition switch off. The speed limiter will save any changes you have made, and keep the other settings that you have not changed as they were.**

- Connect the speed limiter setup switch to the connector on the wiring harness, next to the speed limiter computer.
- Make sure the ignition switch is OFF. Press and HOLD the RES button, turn the ignition switch ON, **HOLD THE BUTTON UNTIL THE SWITCH INDICATOR LIGHT COMES ON RED OR GREEN, then release the button.** The speed limiter is now in Penalty enable/disable mode.
- If the light on the switch comes on RED penalty mode is turned off or DISABLED, if the light comes on GREEN penalty mode is ENABLED.
- Press SET to ENABLE penalty mode (light changes to GREEN).
- RES to DISABLE penalty mode (light changes to RED). **Unless otherwise specified when ordered, this is the default setting.**
- In order to go ahead with any other changes, penalty mode must be enabled (GREEN light)
- If you are not changing any other settings, turn the ignition off to save the settings or move to the next setting.

### **Mode 2 – Penalty speed reduction.**

- Press and hold the ON-OFF button for a few seconds until the green light on the switch changes to flashing yellow, then release the button.
- The number of yellow flashes between pauses indicates the speed reduction value.
- Press SET to increase the reduction number, press RES to reduce the reduction number. The flash code corresponds to the following rates.

1 = 10% reduction

2 = 20% reduction (petrol default)

3 = 30% reduction

- 4 = 40% reduction
- 5 = 50% reduction
- 6 = 100% reduction, vehicle is stopped (diesel default)

**NOTE: - You can drive the vehicle while making these changes to test the result of the change. STOP the vehicle completely before moving to the next mode.**

- If you are not changing any other settings, turn the ignition off to save the settings or move to the next setting.

### **Mode 3 – Penalty time.**

- Press and hold the ON-OFF button for a few seconds until the yellow flashing light on the switch changes to flashing red, then release the button.
- The number of red flashes between pauses indicates the time value.
- Press SET to increase the time, press RES to reduce the time. The flash code corresponds to the following times AFTER the initial 5 seconds it takes to reduce the speed when penalty is initiated.

- 1 = 5 seconds (diesel default)
- 2 = 10 seconds (petrol default)
- 3 = 15 seconds
- 4 = 20 seconds
- 5 = 25 seconds
- 6 = 30 seconds

**NOTE: - You can drive the vehicle while making these changes to test the result of the change. STOP the vehicle completely before moving to the next mode.**

- If you are not changing any other settings, turn the ignition off to save the settings or move to the next setting.
- Press and hold the ON-OFF button until the light turns off and comes back on GREEN. You are now back in **Mode 1 – Penalty mode enable/disable.**

**This completes the adjustment procedure.**

## **10. SAFETY ISSUES & FEATURES**

### **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 speed limiter wiring harness it can create disturbances within the speed limiter computer. The speed limiter may operate randomly or not operate at all, but still pass all diagnostic tests.

The most likely causes of electrical noise interference on a vehicle 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 speed limiter MUST NOT BE USED IF AFTERMARKET, SOLID CORE HIGH TENSION LEADS ARE FITTED.**

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

Make sure that the vehicle'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.

## Notes

**SpeedSafe** © SL2000 ISOM V5.125+  
**MOTORCYCLE SETUP PTY. LTD.**

**12 MONTH CONSUMER SATISFACTION GUARANTEE REGISTRATION**

Please keep this card and your receipt in a safe place. Copies of both are required if warranty service is needed.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Item Model Number: \_\_\_\_\_ Date Purchased \_\_\_\_\_

Name of Retailer: \_\_\_\_\_

Installed By: \_\_\_\_\_

Year, Make and Model of Vehicle: \_\_\_\_\_

I have read the warranty agreement below and accept its terms.

Customer signature: \_\_\_\_\_

**Warranty service requires a copy of the sales receipt.**

**12 MONTH WARRANTY**

MotorCycle Setup Pty. Ltd., Unit 13, 137-145 Rooks Road, Nunawading, Victoria 3131, AUSTRALIA, hereby warrant that it will repair or replace to the original purchaser products which prove to be defective under normal use and service in workmanship or material.

MotorCycle Setup obligation under this warranty is limited to the repair or replacement of the product at its option without charge for parts and labour at its warehouse located at the above address at Mount Waverley, when the product is returned with postal charges prepaid and examination of the product shall disclose it not to have been defective in the respects aforesaid during the warranty period.

The repairs or replacements will be made promptly and the repaired unit will be returned with all postal charges prepaid.

Coverage under this warranty is limited to the original purchase of the product at retail. When requesting warranty service a copy of the sales receipt or guarantee card must be submitted.

The warranty period for speed limiters is limited to a period of 12 months from the date of purchase. No warranty is implied for the installation and therefore MotorCycle Setup will not be responsible for installation or re-installation charges.

This warranty does not apply to products or equipment or components used in conjunction with the speed limiter.

Warranty does not cover unauthorised repairs, improper installation or application, damage or misuse or product which has not been maintained or used in accordance with the operating specifications as set forth in the written instructions.

The warranty term shall not extend beyond its original term with respect to subsequent warranty replacement.

Under no circumstances shall MotorCycle Setup be liable for consequential damages or breach of this warranty or for any implied warranty.

MotorCycle Setup neither assumes nor authorises any person to assume for it or any obligation or liability other than herein expressly stated.

**MOTORCYCLE SETUP CUSTOMER SERVICE POLICY**

You will receive free consultation on any problem you might encounter in the assembly or use of MotorCycle Setup products. Just drop us a note, e-mail us at [sales@mccruise.com](mailto:sales@mccruise.com) or give us a call on +61 3 9808 2804.

You can obtain parts directly from MotorCycle Setup by writing to us or from your dealer. Use your packing list to describe your requirements.

If you are not satisfied with our service or with our products, write direct to the Managing Director, MotorCycle Setup Pty. Ltd., Unit 13, 137-145 Rooks Road, Nunawading, Victoria 3131, AUSTRALIA. He will make certain your problem receives immediate personal attention.

The benefits conferred by this guarantee are in addition to all other rights and remedies in respect of the product, which the consumer has under the Trade Practices Act, and other State and Territory Laws.





## **Calibration & Setup procedures**

**NOTE: - In most cases these procedures do NOT need to be performed, the speed limiter is already pre-calibrated for the vehicle it is fitted to.**

### **Calibrate Speed Signal. (10kph moving)**

- Enter Speed Pulse Rate Calibration mode (RES and ON-OFF held, turn ignition ON and start engine, wait for light to come on green, release buttons).
- Drive to **steady** 10kph, (6mph). Green light flashing.
- Press SET, light goes red/yellow for 2 seconds.
- **Bring vehicle to a stop**, then turn ignition OFF to exit.

### **OR**

### **Calibrate Speed Signal. (10 meter start-stop)**

- Mark out 10 meter length (33 feet).
- Enter Speed Pulse Rate Calibration mode (RES and ON-OFF held, turn ignition ON and start engine, wait for light to come on green, release buttons).
- Drive to the start of the 10 meters, Stop.
- Press and release SET.
- Drive to end of 10 meters. Green light flashing while moving.
- Stop. Press and release RES. Green light on. If red light on, calibration failed.
- Turn ignition OFF to exit

### **Mode 1 - Speed limiter enable/disable.**

- Enter Setup Mode 1 (SET held, turn ignition ON and start engine, wait for switch light to come on green or red, release button). **Computer red and green** lights flashing once every few seconds.
- Press SET to enable (green light) set to default speed limiter setting (usually 25kph)

### **OR**

- Press RES to disable (red light).
- Turn ignition OFF **OR** stay in this mode for the next step.

### **Mode 1 - Change limiting speed.**

- Already in enable/disable - Mode 1 (see above), green light on. **Computer red and green** lights flashing once every few seconds.
- Drive to desired speed, green light flashing.
- Press and release SET, green light on for a few seconds then back to flashing.
- Stop vehicle.
- Turn ignition OFF **OR** stay in this mode for the next step (Mode 2 – Soft or Hard cut selection).

### **Mode 2 - Soft or Hard cut selection (hard cut only possible on diesel engines)**

- Already in enable/disable - Mode 1 (see above), green light on. **Computer red and green** lights flashing once every few seconds.
  - Press and hold ON-OFF button for a few seconds until green light goes off and comes back on green or red, then release button. **Computer red and green** lights flashing twice every few seconds.
  - Press SET to select Soft Cut (green light).
- ### **OR**
- Press RES to select Hard Cut (red light).
  - If desired, drive to test speed limiter operation.
  - Stop vehicle.
  - Turn ignition OFF **OR** stay in this mode for the next step (Mode 3 for soft cut OR Mode 4 for hard cut).

### Mode 3 – Soft cut Range selection

- Already in soft or hard cut select - Mode 2 (see previous page), green light on (Soft cut selected). **Computer red and green** lights flashing twice every few seconds.
- Press and hold ON-OFF button for a few seconds until green light goes off and comes back on flashing yellow, then release button. **Computer red and green** lights flashing three times every few seconds.
- Press SET to increase range number (count yellow flashes) Range is 1 to 5 (1/2 kph to 8 kph).  
**OR**
- Press RES to reduce range number (count yellow flashes) Range is 1 to 5 (1/2 kph to 8 kph).
- If desired, drive to test speed limiter operation.
- Stop vehicle.
- Turn ignition OFF **OR** stay in this mode for the next step (Soft Cut Pulse Rate selection).

### Mode 3 – Soft cut Pulse Rate selection

- Already in soft cut range select - Mode 3 (see previous page), yellow light flashing. **Computer red and green** lights flashing three times every few seconds.
- Press and hold ON-OFF button for a few seconds until yellow flashing light changes to red flashing light, then release button. **Computer red and green** lights flashing three times every few seconds.
- Press SET to increase pulse rate number (count red flashes) Range is 1 to 3 (6 pps to 2 pps).  
**OR**
- Press RES to decrease pulse rate number (count red flashes) Range is 1 to 3 (6 pps to 2 pps)..
- If desired, drive to test speed limiter operation.
- Stop vehicle.
- Turn ignition OFF **OR** stay in this mode for the next step (Mode 5, Standard or Tamper Resistant select).

### Mode 4 – Hard cut delay setting selection

- Already in soft or hard cut select - Mode 2 (see previous page), red light on (Hard cut selected). **Computer red and green** lights flashing twice every few seconds.
- Press and hold ON-OFF button for a few seconds until red light goes off and comes back on flashing yellow, then release button. **Computer red and green** lights flashing four times every few seconds.
- Press SET to increase number (count yellow flashes) Range is 1 to 6 (no delay to 4 seconds).  
**OR**
- Press RES to reduce number (count yellow flashes) Range is 1 to 6 (no delay to 4 seconds).
- If desired, drive to test speed limiter operation.
- Stop vehicle.
- Turn ignition OFF **OR** stay in this mode for the next step (Mode 5, Standard or Tamper Resistant select).

### Mode 5 – Standard or Tamper Resistant selection. **WARNING: - Changing this setting requires a change in the wiring to the speed limiter relay. Vehicle will be disabled until wiring is changed.**

- Already in Mode 3 or 4 (see above), flashing red or yellow light. **Computer red and green** lights flashing three or four times every few seconds.
  - Press and hold ON-OFF button for a few seconds until green light goes off and comes back on green or red, then release button. **Computer red and green** lights flashing five times every few seconds.
  - Press SET to select Standard (green light).  
**OR**
  - Press RES to select Tamper Resistant (yellow light).
- NOTE: - If engine is running, it will STOP when this selection is changed. If you do not want to change the selection, press SET (standard) or RES (Tamper Resistant) to go back to the original selection and the engine can then be restarted.**
- Turn ignition OFF **OR** press and hold ON-OFF button to return to Mode 1 (speed limiter enable/disable).
  - Change wiring to speed limiter relay to suit selection.

### Mode 1 – Penalty mode enable/disable.

- Enter Penalty Setup Mode 1 (RES held, turn ignition ON and start engine, wait for switch light to come on green or red, release button). **Computer lights not** operating.
- Press SET to enable penalty mode (green light).  
**OR**
- Press RES to disable penalty mode (red light).
- Turn ignition OFF **OR** stay in this mode for the next step (Penalty mode speed reduction selection).

### Mode 2 – Penalty speed reduction selection

- Already in Penalty mode enable/disable - Mode 1, green light on (Penalty mode enabled).
- Press and hold ON-OFF button for a few seconds until green light goes off and comes back on flashing yellow, then release button.
- Press SET to increase reduction number (count yellow flashes) Range is 1 to 6 (10% to 100%).  
**OR**
- Press RES to reduce reduction number (count yellow flashes) Range is 1 to 6 (10% to 100%).
- If desired, drive to test speed limiter operation.
- Stop vehicle.
- Turn ignition OFF **OR** stay in this mode for the next step (Penalty speed reduction selection).

### Mode 3 – Penalty time selection

- Already in Penalty speed reduction selection - Mode 2, yellow light flashing.
- Press and hold ON-OFF button for a few seconds until flashing yellow changes to flashing red light, then release button.
- Press SET to increase time (count red flashes) Range is 1 to 6 (5 to 30 seconds).  
**OR**
- Press RES to reduce time (count red flashes) Range is 1 to 6 (5 to 30 seconds).
- If desired, drive to test speed limiter operation.
- Stop vehicle.
- Turn ignition OFF **OR** stay in this mode to return to mode 1 (Penalty mode enable/disable).
- Press and hold ON-OFF button for a few seconds until flashing red changes to green (not flashing), then release button.

