



**Motorcycle
Electronic Cruise Control
Repair Manual ©**

**Upgrading the Cruise Control Computer from the
MCS8000TBW to the MCS10000TBW**

For cruise control kits on bikes with Throttle-By-Wire

17 July 2024

MOTORCYCLE CRUISE CONTROLS

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A new Throttle –By-Wire (TBW) cruise control computer is now supplied in our cruise control kits. This unit has replaced our previous model computer.

Functionally, both computers are almost identical, the new unit has some new designs and abilities. Actual performance of the cruise control is identical, as this is based on the ‘firmware’ loaded in the computer.

The description on the label on the older computer may be MCS8128 TBW (P24 V2.1) or MCS8128 TBW CAN BUS.

The new computer will be MCS10128 TBW or MCS10128 TBW CAN BUS. The new model is in the same plastic enclosure, but in most cases, the enclosure is lighter in colour and more transparent, but otherwise is identical to the previous version.

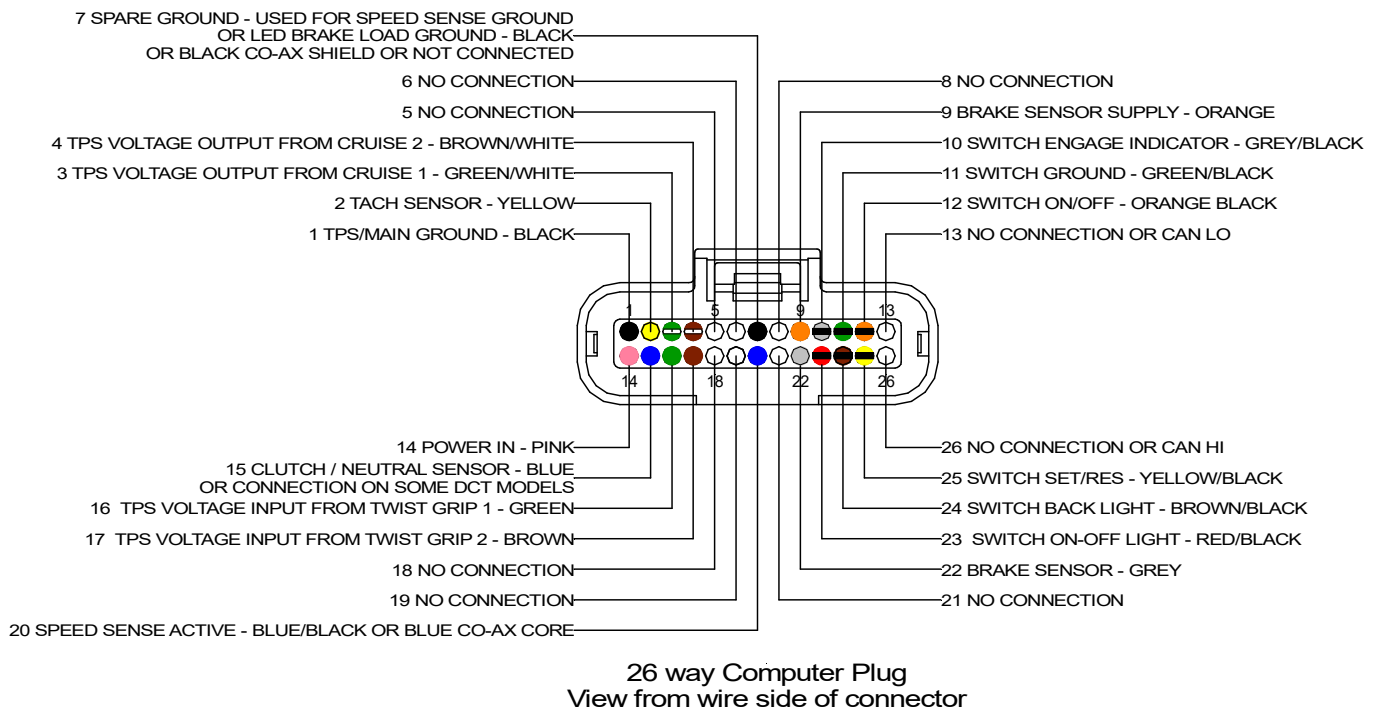
This instruction set shows how to ‘re-pin’ the computer connector so the new computer can be fitted to replace the old one.

WARNING: - The wiring ‘pin’ positions on the new model are different to the previous model and the units are NOT interchangeable without re-wiring the connector.

It is necessary to remove and insert the wiring pins in the ‘main’ cruise control computer plug. The connector is the same for the old and new computers, but the wiring positions (pin-outs) are different.

Take care to ensure that the instruction relate to the correct computer.

This diagram below shows the most common wiring positions for the new computer, Part Number MCS10128 TBW.



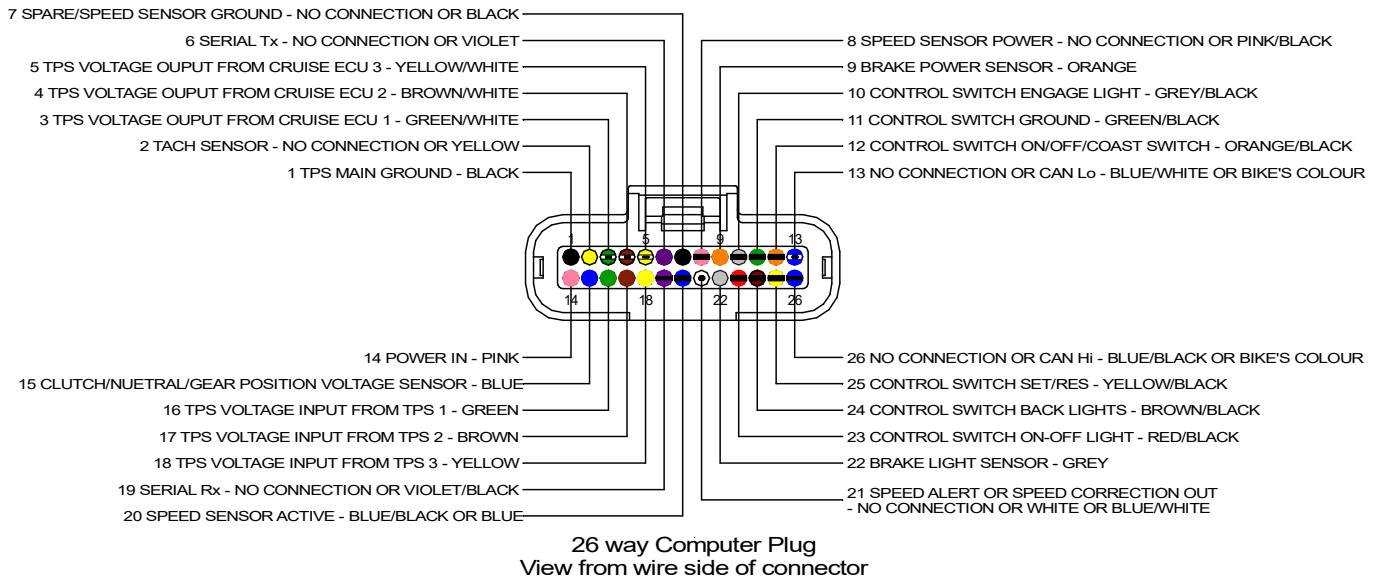
NOTE: - The TPS/main ground in position 1 is the black wire from position 17 in the previous connection.

NOTE: - The ground in position 7 is a spare ground and the black wire from position 25 or 26 in the previous connector should go to this ground. In some cases there will be no wire for this position.

MotorCycle Cruise © - MCS8000TBW to MCS10000TBW computer swap

NOTE: - If the cruise control is connected to the bike's CAN-BUS, the blue wires in positions 15 (clutch/neutral sensor) and position 20 (speed sensor) will NOT be populated. The CAN-BUS wires in positions 13 and 26 will be populated instead.

This diagram below shows ALL the wiring positions for the new computer, Part Number MCS10128 TBW.

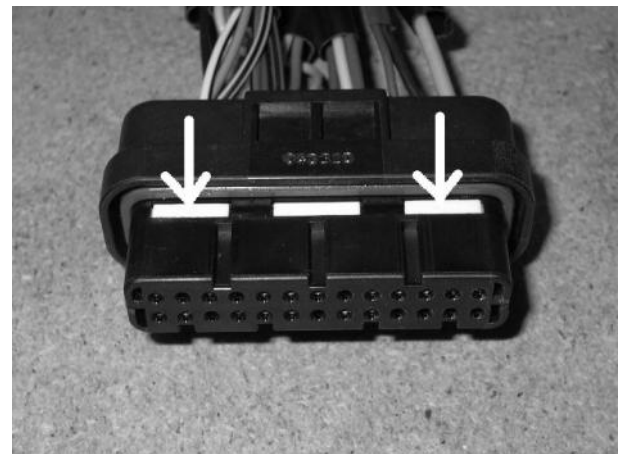


If there is ANY confusion about what wire goes to which position, please contact us for help.

In order to do this, first you must remove all of the wires and computer plug terminals from the main harness connector.

Backing out computer plug terminals.

- There are three white tabs on the bottom side of the computer plug. These tabs are the terminal lock. Use a small screwdriver or similar and press the tabs down.



- The tabs will push down about 3mm (1/8")....



- And the two tabs on the top of the plug will rise about 3mm (1/8")
- The terminals are now unlocked and can be removed from the plug.



- You can now remove the terminal by pulling on the wire. There will be some resistance to pulling the terminals out due to mechanism inside the plug and the rubber seal.



- Use a paper clip to push out the blanking plug if there is a blanking plug in the hole you wish to fit the terminal in.
- The terminals may now be re-inserted into the computer plug.



WARNING: - It is CRITICAL that the correct wires go into the correct holes, both for safe operation of the cruise control or speed limiter and to ensure that the circuitry is not damaged.

Refer to the computer pin-out diagrams to be sure to insert the terminals in the correct positions.

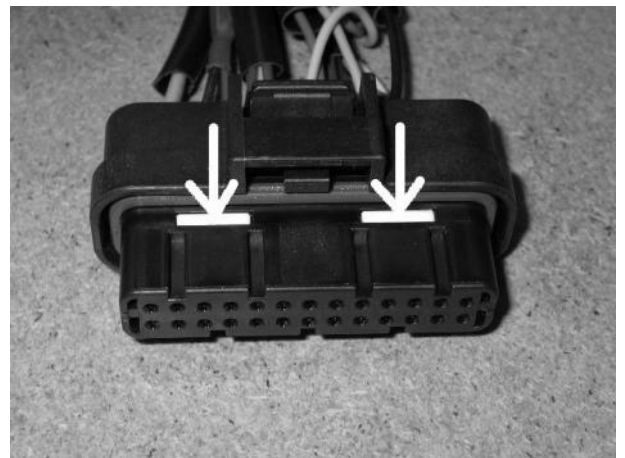
- Insert the terminals into the appropriate holes in the plug. The terminal must be inserted all the way into the plug as shown. The holes circled show one hole with the terminal inserted properly and another without complete insertion.



- If you cannot get the terminal to push home by pushing the wire (the wire bends while pushing in the terminal), you can use the end of a paper clip or a jewellers screwdriver to push on the end of terminal by sliding it past the seal next to the wire and pushing the terminal home.



- When all the terminals are inserted, the terminal lock must be pressed back into place. If it will not go, DO NOT FORCE IT, there will be one or more terminals not completely inserted.



CAUTION: - Check the wire positions in the connector against the pinout diagram again. If any are incorrect it could result in damage to the cruise control computer or the motorcycle.

NOTE: - The cruise control computer must now be calibrated to the bikes throttle positions sensor before the engine is started. See over the page for this procedure.

THROTTLE POSITION SENSOR (TPS) CALIBRATION & TESTING

Explanation:

The cruise control has to ‘learn’ how the throttle twist grip on the bike works electrically. The calibration process ‘teaches’ the cruise control what signals to send to duplicate the operation of the throttle twist grip.

Good cruise control response and operation requires that the cruise control knows exactly the point where the engine speed is about to increase from idle. On many TBW (Throttle By Wire) vehicles, the engine does not respond to the throttle until some ‘free play’ is taken up in the grip. In order to respond quickly at low speeds, the cruise control must ‘know’ where the ‘free play’ stops and the engine actually starts to respond to throttle.

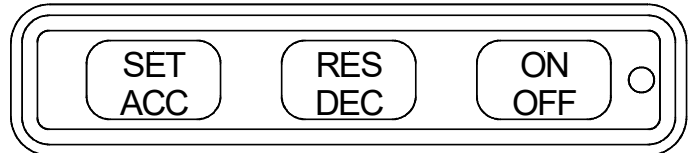
The following procedure is designed to do, and test, the throttle calibration procedure.

Some motorcycle models respond quickly and do not need any ‘free play’ compensation, others do need it.

The various testing and diagnostic functions are entered using combinations of pressing buttons on the cruise control switch, operating the bike’s ignition switch and operating the controls on the motorcycle.

MotorCycle Cruise Controls has two different control switches that can be supplied with the cruise control.

The earlier design has three large buttons and a small indicator light on the end of the switch next to the ON-OFF button. The buttons have text written on them for the functions.

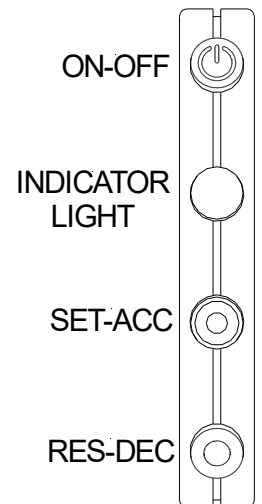


We also have another switch. This design has smaller buttons with no text, only pictographs on the buttons.

The ON-OFF button has a ‘standard’ power switch pictograph on it.

The SET/ACC button has a white circle on it.

The RES/DECelerate button has a white dot on it.



NOTE: - During this procedure, the engine must be started while the cruise control is in a calibration mode. If the battery voltage drops too much while starting the engine, the cruise control will ‘reboot’ (turn off and back on again), and this will ‘drop’ the cruise out of calibration mode. This is NOT a disaster, there is an alternate procedure if this happens, but it is simpler if the cruise does stay powered up while the engine is started. In most cases, if you start the engine and warm it up before you perform the following procedures, this will make the cruise more likely to stay powered up, as a warm engine requires less power from the battery to start, AND running the engine will boost the battery voltage bit as well.

For those reasons, we recommend you start the engine and warm it up for a couple of minutes before doing the TPS Calibration and Testing.

Enter diagnostic mode:

With the ignition switch OFF & the Engine Stop switch (Kill switch) in the 'ON' or 'Engine Run' position;

Press and HOLD both the SET and ON-OFF buttons individually on the cruise control switch. Turn the ignition switch on. DON'T START THE ENGINE. Wait until the indicator light on the switch comes on green momentarily or about 2-3 seconds then release the SET and ON-OFF buttons. Do NOT start the engine.

Apply and release the front brake, the light on the switch should come on green while brakes are applied and turn off when the brakes are released. If the light does not come on, turn the ignition off and try again from 'Enter diagnostic mode'.

THE LIGHT MUST COME ON GREEN WITH FRONT BRAKE APPLICATION BEFORE PROCEEDING ANY FURTHER.

Press and release the SET, RES, and ON-OFF buttons **once** only, one at a time. Make sure the light on the switch comes on green when each button is pressed and goes off when the button is released. This test confirms that the buttons are working correctly.

NOTE: - If you press the SET or RES buttons more than once, you may cause a TPS sensor fault (engine warning light) on the bike. If this happens turn the ignition off and start again.

Apply and release the front brake.

Enter TPS Calibration mode:

Press and HOLD the ON-OFF button (green light). While holding the ON-OFF button, press and release the SET button six (6) times. The green light will go out on the first press, and at the 6th press the light will come back on red. Release the ON-OFF button when the light comes on red.

Make sure the throttle is fully released (idle position).

Press and release the SET button. The light will change to green when the button is pressed and go back to red when released.

Twist the grip to apply full throttle and hold it.

Press and release the RES button. The light will change to yellow when the button is pressed and go back to red when released.

Release the throttle.

If you are not happy that the throttle position is correct in either position, you can repeat the procedure (move the throttle to the appropriate position, hold it there, press SET for idle position or RES for full throttle position).

Do NOT turn the ignition off, move to the next section below.

Confirming the calibration.

Press and HOLD the ON-OFF button until the red light changes to green (about 2 seconds).

Slowly apply the throttle. When the throttle position moves from fully released (idle) the light will start to flash green. It will continue to flash green as you apply more throttle.

At full throttle the light will change to solid yellow.

The calibration is correct if:

Throttle released – the light is solid (not flashing) green.

Between fully released and full throttle – flashing green.

Full throttle – solid yellow.

Past full throttle (should not happen) – flashing red/yellow – This should not occur; it means the calibration is NOT correct.

Less than idle (should not happen) – flashing red/yellow – This should not occur; it means the calibration is NOT correct.

Release the throttle.

Do NOT turn the ignition off, move to the next section below.

Checking throttle operation.

Press and HOLD the ON-OFF button until the green light changes to red (about 2 seconds).

Make sure that the bike is in Neutral gear position.

Observe the red light on the control switch, and start the engine.

NOTE: - The light on the switch should remain solid red while starting the engine. If it does not, the battery does not have enough charge to maintain cruise operation during engine starter operation. If the light does go out, there is an alternative procedure over the page marked with an asterisk (*) that can be used to complete the calibration procedure.

If the red light stays on while starting the engine:

Wait for the engine to run/warm enough to idle at its normal idle speed.

The SET button will apply a small amount of throttle with each press; the RES button will release the throttle a small amount with each press.

Press and release the SET button slowly and regularly (about 1~2 presses per second). Each press will apply a small amount of throttle. The engine will usually start to increase speed within 1 to 3 presses, but some bikes may take more presses (up to 20 or more).

Once the engine is above idle speed, press and release the SET and RES buttons to make sure the engine responds predictably and repeatedly to the SET (increase engine speed) and RES (decrease engine speed) button operation.

Checking throttle 'free-play'.

Note: - This procedure is to establish the exact point where the engine starts to respond to throttle movement.

Apply and release the front brake, the engine should return to idle.

Press and release the SET button slowly and regularly (about 1~2 presses per second). The engine will usually start to increase speed within 1 to 6 presses. **If it takes more than 3 presses to lift the engine off idle, keep the engine running and continue with the rest of the procedure below.**

Calibrating throttle 'free-play'.

If it takes more than 3 presses of the SET button to lift the engine off idle keep the engine running and continue with the rest of the procedure below.

If the engine speed gets too high, apply and release the front brake, the engine will return to idle.

Use the buttons to put the engine speed slightly above idle speed, then press the RES button until the engine JUST drops to idle, then press RES one (1) more time.

Press and release the ON-OFF button, the light will change to green while the button is pressed, then go back to red. The cruise control will record the throttle position.

Apply and release the brake.

Press and release the SET button, the engine speed should start to increase within 1~3 presses. Pressing the RES button a few times should return the engine to idle reliably. Applying the front brake will release the throttle completely.

Repeat the last two lines a couple of times to ensure the result is predictable and repeatable.

NOTE: - If the engine does not return to idle using RES or it takes more than 3 presses of SET to lift off idle after brake application, return to the start and repeat the calibration procedure from the start.

Apply and release the brake. Turn the ignition off. This completes the throttle calibration.

Move on 3 pages to 'DIAGNOSTIC MODE TESTING'.

If the red light does NOT stay on while starting the engine.

If the indicator light on the control switch turns off while starting the engine, it means power to the cruise control is turning off while the starter motor is in operation. This will re-boot the cruise control in its normal operating mode. It will retain the calibration you have done, but the rest of the calibration procedure is unable to be completed.

The following different procedure allows you to complete the calibration and test the free play.

Because the cruise is ‘turned off’ while starting the engine, we now have to make sure the cruise control re-starts in diagnostic mode after the engine is started.

With the ignition switch OFF;

Press and HOLD the SET and ON-OFF buttons on the cruise control switch. While holding the buttons, turn the ignition switch on and start the engine. Wait until the indicator light on the switch comes on green momentarily or the back lights behind the buttons come on, then release the SET and ON-OFF buttons.

Apply and release the front brake, the light on the switch should come on green while brakes are applied and turn off when the brakes are released. If the light does not come on, turn the ignition off and try again.

Wait for the engine to warm enough to idle at its normal idle speed.

The SET button will apply a small amount of throttle with each press; the RES button will release the throttle a small amount with each press.

Press and release the SET button slowly and regularly (about 1~2 presses per second). Each press will apply a small amount of throttle. The engine will usually start to increase speed within 1 to 3 presses, but some bikes may take more presses (up to 20 or more).

Once the engine is above idle speed, press and release the SET and RES buttons to make sure the engine responds predictably and repeatedly to the SET (increase engine speed) and RES (decrease engine speed) button operation.

Note: - This next procedure is to establish the exact point where the engine starts to respond to throttle movement.

Apply and release the front brake, the engine should return to idle.

Press and release the SET button slowly and regularly (about 1 press per second) and count the number of presses until the engine JUST lifts off idle. The engine will usually start to increase speed within 1 to 6 presses.

Press the RES button ONCE, check that the engine returns to idle. If the engine has not returned to idle, press RES ONCE again.

The ‘**free play count**’ you need to remember is the number of presses of SET, less the number of presses of RES (for example, 6 SET minus 1 RES = 5 presses).

Apply and release the front brake.

Press and release the SET button slowly and regularly (about 1 press per second) the number of times of our ‘**free play count**’. Check that the engine speed has not increased.

Now press the SET button one more time. The engine speed should just start to increase. If it does, this confirms that your ‘**free play count**’ is correct. DON’T turn the ignition off.

If the ‘**free play count**’ number is 1~3, you have finished the procedure.

If the ‘**free play count**’ number is 4 or above you should follow the rest of this procedure to allow for this in the throttle calibration.

DON’T turn the ignition off. Stop the engine using the ‘engine stop’ or ‘kill’ switch.

Turn the 'engine stop switch' back to the 'run' position.

Apply and release the front brake. You should get a green light with the brake applied, and it should go out when the brake is released. This confirms that the cruise control is still in diagnostic mode.

Enter TPS calibration mode. While still in diagnostic mode, press and HOLD the ON-OFF button (green light). While holding the ON-OFF button, press and release the SET button six (6) times. The green light will go out on the first press, and at the 6th press the light will come back on red. Release the ON-OFF button when the light comes on red.

Make sure the throttle is fully released (idle position).

Press and release the SET button. The light will change to green when the button is pressed and go back to red when released.

Twist the grip to apply full throttle and hold it.

Press and release the RES button. The light will change to yellow when the button is pressed and go back to red when released.

Release the throttle.

If you are not happy that the throttle position is correct in either position, you can repeat the procedure (move the throttle to the appropriate position, hold it there, press SET for idle position or RES for full throttle position).

Confirm the calibration. Press and HOLD the ON-OFF button until the red light changes to green (about 2 seconds).

Slowly apply the throttle. When the throttle position moves from fully released (idle) the light will start to flash green. It will continue to flash green as you apply more throttle.

At full throttle the light will change to solid yellow.

The calibration is correct if:

Throttle released – the light is solid (not flashing) green.

Between fully released and full throttle – flashing green.

Full throttle – solid (not flashing) yellow.

Entering the 'free play count'. Press and HOLD the ON-OFF button until the green light changes to red (about 2 seconds).

Apply and release the front brake.

Press and release the SET button slowly (~1 press per second) the number of times you got in the '**free play count**'. Press and release the ON-OFF button, the light will change to green while the button is pressed, then go back to red. The cruise control will record the throttle position. Apply and release the brake. Turn the ignition off.

Confirm the 'free play count'. With the ignition switch OFF;

Press and HOLD the SET and ON-OFF buttons on the cruise control switch. While holding the buttons, turn the ignition switch on and start the engine. Wait until the indicator light on the switch comes on green momentarily or the back lights behind the buttons come on, then release the SET and ON-OFF buttons.

Apply and release the front brake, the light on the switch should come on green while brake is applied and turn off when the brake is released. If the light does not come on, turn the ignition off and try again.

Wait for the engine to warm enough to idle at its normal idle speed.

Press and release the SET button slowly and regularly (about 1 press per second). Each press will apply a small amount of throttle. The engine should now start to increase speed within 1 to 2 presses, 3 is also OK, but it should be 1~2 presses.

Press and release the RES button to reduce speed back to idle.

If the engine speed increases within 1~3 presses or SET, and pressing RES returns the engine to idle, the throttle calibration is complete.

Apply and release the brake. Turn the ignition off. This completes the throttle calibration.

9. DIAGNOSTIC MODE OPERATION

Diagnostic mode operation is used to confirm correct installation before actually riding the motorcycle. During diagnostic mode operation the speed control programme is disabled, and correct operation of the cruise control 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 in the computer (inside the computer, either side of the main harness 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. RED indicates power on. YELLOW indicates cruise control engaged. GREEN is used to confirm the cruise control functions during the diagnostic checks and some calibration procedures.

There are also two lights inside the cruise control computer that 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. The green light is also visible from above, but the red light is only visible from the side.

During the diagnostic checks many of the features of the cruise control 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.

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 trouble-shooting guide for more details on this function.

- Place the bike on the centre stand (if it has one) and make sure it is in neutral.
- Turn the bike's ignition switch OFF
- Make sure that the bike's engine kill switch is ON (engine RUN position).

- Press and hold the SET and ON-OFF buttons.
- Turn ON the bike's ignition switch - DO NOT START the engine. **HOLD THE BUTTONS FOR AT LEAST 3 SECONDS or until you see the Green LED on the switch light up or the back lights behind the control switch buttons come on.** After 3 seconds (or the lights coming on) release the buttons.
- The cruise control is now in diagnostic mode.

NOTE: - The following pages explain a series of tests to be performed with the cruise control 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 cruise control will stay in diagnostic mode.

- Check that the bike is in Neutral. If not, select Neutral (the indicator light MAY come on green. Ignore it for the moment).

WARNING: - Some bikes (scooters and similar) may have transmissions without a neutral position indicator. If that is the case, at any time when the engine is running in diagnostic mode, make sure the bike is on the centre stand and the rear wheel is clear of the ground.

Testing the brake system

- Operate the rear brake pedal a few times. The indicator light on the cruise control switch should illuminate GREEN and the light on the computer should illuminate green when the pedal is depressed and go out when it is released. Adjust the rear brake light switch so that the light comes on just before the brakes start to operate. Note: - There may be a slight delay (~1 sec) before the light goes out when the brakes are released on some occasions. This is normal and is NOT a fault.

NOTE: - If the brake switch is already ON (it is adjusted so that the switch never turns OFF or the switch is stuck on), then the light on the control switch will NOT COME ON AT ALL. The brake light switch must be OFF before applying the brake in order for the control switch light to work. If you cannot get the light to come on, check that your brake lights are not permanently on, and that they do actually work with brake application. If they are stuck on, back off the brake switch adjuster to ensure that the switch DOES TURN OFF. If the brake light globe is blown the light will not come on. In many cases if you have fitted an LED brake light or a brake light flasher system, this will prevent the cruise control detecting brake signal. THE CRUISE CONTROL WILL NOT WORK UNTIL THESE PROBLEMS ARE CORRECTED.

- Operate the front brake lever and the rear brake pedal a few times. The light on the switch should illuminate green when the brakes are used. This indicates that the cruise control will cancel when the brakes are applied.

NOTE: - If the bike is fitted with LED light globes or a flasher device on the brake light system this may cause interference with the cruise control brake detection. If the cruise control will not work, try replacing the brake light globes with standard globes and/or disconnecting the flasher device. Contact us for ways to enable both your brake light flasher and the cruise control.

Testing the control switch

- Depress the SET button. The switch light will go green when the button is pressed and go out when the button is released. This indicates that both the SET button is working correctly.

- Depress the RES button. The switch light will go green when the button is pressed and go out when it is released. This indicates that the RES button is working correctly.
- Press the ON-OFF switch. The switch light will go green when the button is pressed and go out when it is released. This indicates that the ON-OFF switch is working correctly.

Testing the TPS calibration

- Pull on the brake lever (to ensure that the throttle connection is disengaged and the engine will idle), release the brake and start the engine.

NOTE: - If the battery is not in good condition or is not fully charged, the cruise control computer may 'reset' when the engine is started (drop out of diagnostic mode) due to the drop in voltage when the starter motor is used. If this happens, the cruise control will no longer show any lights in response to button presses or brake application. In order to re-start the computer in diagnostic mode, press and hold the SET and ON-OFF buttons while you start the engine and HOLD the buttons for 3 seconds after the engine starts. When the battery voltage recovers after the engine is started, the computer will 're-boot' in diagnostic mode.

- Press the SET key 1 to 3 times until the engine revs start to increase. Each press will increase the speed slightly.

NOTE: - there should be almost no delay with this operation. It should take 1~3 presses before the engine speed starts to increase. If the engine speed gets too high, the brake lever or the ignition switch will disengage the throttle. The engine kill switch will turn the engine off BUT MAY NOT RELEASE THE THROTTLE as the throttle servo may still be engaged if the kill switch does not remove power to the brake light system. OPERATE THE BRAKE LEVER TO TURN THE THROTTLE SERVO OFF AND RELEASE THE THROTTLE.

NOTE: - The ignition switch will turn the cruise control off. This will also release the cruise from diagnostic mode. You will need to press and hold the SET and ON-OFF buttons while turning the ignition switch back ON to place the cruise in diagnostic mode again. Depress the brake lever to reset the throttle servo before restarting the engine and repeating the previous step.

- Press the RES key several times and the engine should gradually return to idle.
- Operate the brakes to reset the throttle connection.

Testing the clutch/neutral sensor

- Make sure that the cruise control is in diagnostic mode. Press any of the buttons on the control switch. If the indicator light comes on green at each button press, the cruise control is in diagnostic mode. If the light does not come on green, turn the ignition switch off and re-enter diagnostic mode.
- **Make sure the bike is in gear (engine not running) and the side stand is up (retracted). In most cases this test will not work unless these things are done.**

Clutch sensor – (used on most manual shift bikes)

- Operate the clutch lever. The indicator light on the switch should illuminate green when the clutch is disengaged and go out when it is released.

Neutral sensor – (used on some auto or DCT shift bikes)

- Shift gear from neutral to other gears. The indicator light on the switch should illuminate green when neutral is selected and go out when any other gear is selected.

Configuring the clutch/neutral sensor

Most bikes have a clutch switch or neutral switch that pulls to ground (lo) when the clutch is operated or neutral is selected. A few, mostly older bikes, have this circuit that pulls to 12V (high) instead. The cruise control can be configured to accept either signal. In all cases where the cruise control is supplied for a specific model, the sensor will be configured to suit the bike already, and this will not need to be changed.

On 'universal' installations it may be necessary to configure the sensor, particularly on older bike (pre1980's).

Enter clutch neutral configure mode

NOTE: - The indicator light on the switch is used to show what settings are selected. The red and green lights in the cruise computer show what stage you are at in the process.

- Turn the ignition off. Press & hold the ON-OFF, SET & RES buttons, turn the ignition on, hold the three buttons until the switch indicator light comes on yellow. When the light comes on, release the buttons. The red and green lights on the computer should be on, not flashing.
- Press and release the brake. The indicator light will change to green or red, usually green. Red means the sensor is turned off (disabled). Green is turned on (enabled). Press SET to enable the sensor (green light), or press RES to disable the sensor (red light). The light on the computer should be flashing once very couple of seconds.
- If the sensor is enabled, press and release the brake to move to the next step. If the sensor is disabled, turn the ignition off, the procedure is complete.
- After the brake is pressed and released, the lights on the computer should be flashing twice then pause for a couple of seconds. In this stage, the sensor can be configured for Hi sensing (red light), Lo sensing (yellow light) or gear positions sensing (green light - used on some ATV's). Press RES to select Lo sensing (yellow light - the most common setting). Press SET to select Hi sensing (red light).

NOTE: - If your bike/ATV required gear position sensing press the ON-OFF button (green light). The rest of the procedure for calibrating gear position sensing is in another document.

- Turn the ignition switch off. This completes the configuration. Go back into diagnostic mode to test the clutch/neutral sensor.

Checking the TPS 'free play'.

Refer to the installation manual for details about this.

Typically, the TPS 'free play' test follows this routine.

- Make sure that the cruise control is in diagnostic mode. Press any of the buttons on the control switch. If the indicator light comes on green at each button press, the cruise control is in diagnostic mode. If the light does not come on green, turn the ignition switch off and re-enter diagnostic mode.

MotorCycle Cruise © - MCS8000TBW to MCS10000TBW computer swap

- Start the engine. Apply and release the front brakes, make sure the light on the switch comes on green with brake application to check that the cruise control is still in diagnostic mode.
- Allow the engine to settle to normal idle speed.

NOTE: - Do NOT apply the brakes until instructed to do so, unless you need to disengage the cruise control because the engine rpm is too high and won't come back down.

- Press and release the SET button, about 1 press per second or slower, and count the number of presses until the engine just lifts off idle. Normally this should take 1 to 3 presses.
- Press the SET button a few more times to bring engine rpm up to 2,000~3,000rpm.
- Press the RES button at least as many times as you pressed the SET button, then 5 more times, the revs should drop to idle. If the engine does not return to idle, perform the TPS calibration routine again.
- Press and release the SET button, about 1 press per second or slower, and count the number of presses until the engine just lifts off idle. This should take 1~3 presses. If it takes more than 3 presses, perform the TPS calibration routine again.
- Repeat the last three lines (under lined) a few times to see if the results are consistent each time.
- Apply and release the brakes. The engine should return to idle instantly.
- Turn the ignition off. This will release the cruise control from diagnostic mode.

You cruise control is ready for a road test.