Motorcycle
Electronic Cruise Control
Repair Manual ©

Upgrading the Cruise Control Computer from the MCSU400C to the MCS8000C

For cruise control kits using an Electric Throttle Servo

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MOTORCYCLE CRUISE CONTROLS

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WARNING

A new, smaller, cruise control computer is now supplied in many of our cruise control kits. This unit is replacing our previous model computer in many cases.

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

The parts list in the second or third pages of the installation instruction set will show the part number for 'old' metal box computer as MCSU400C.

The new computer part number is MCS8000C. In cases where the cruise control was developed before the new computer was released this new computer will be supplied, but the old computer will still be shown in the parts list.

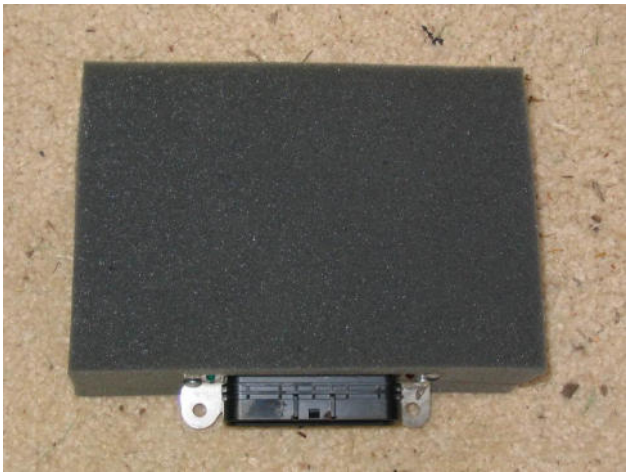
Functionally, both computers are almost identical, the new unit has some new designs and abilities, and is more compact and lighter. Actual performance of the cruise control is identical, as this is based on the 'firmware' loaded in the computer.

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

The previous model is the one in the metal 'box' at the rear of this photograph.

The new model is in a black plastic enclosure. This model is quite a bit smaller and lot lighter than the previous model, but still uses the same connector.

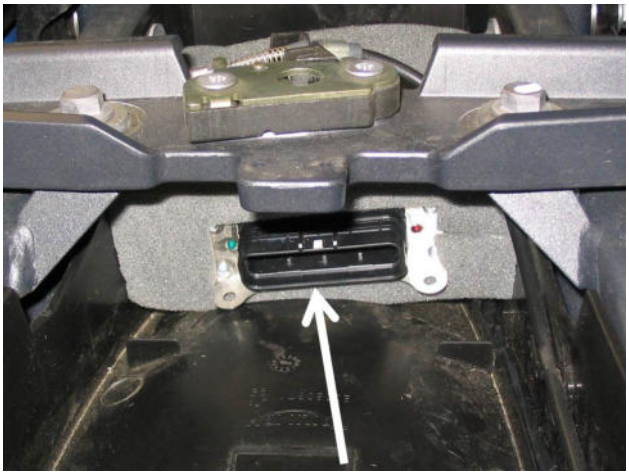
WARNING: - The wiring 'pin' positions on the new model are different to the old model and the units are NOT interchangeable without re-wiring the connector.



<u>Mounting the new computer on installations that still show the previous model.</u>

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

Some installations come with a foam block to mount the cruise control computer.



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

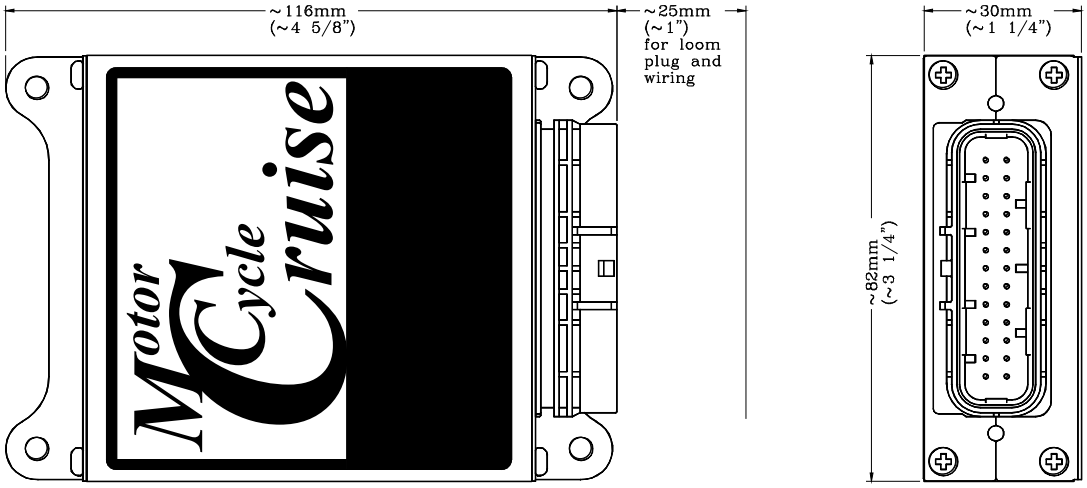
This method can still be used with the new computer.

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 cruise control kit. This may be used instead of the foam block or the foam mounting tape.

NOTE: - Most of our ‘older’ cruise control models were designed around this computer, part number MCSU400C, so older installation instruction sets will show this computer. This computer is no longer available and has been replaced by our new MCS8000C computer.

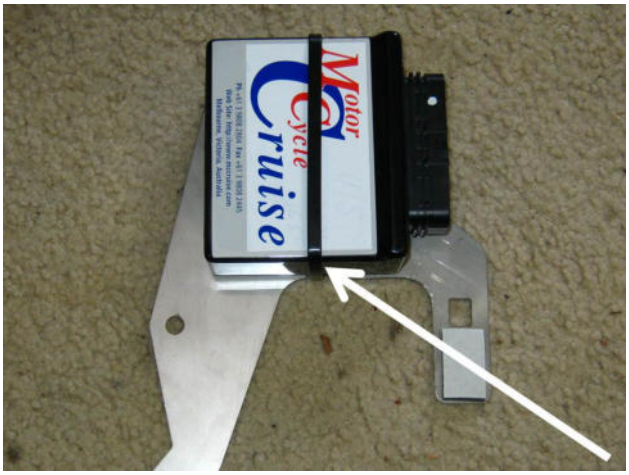
This drawing shows the dimensions of the older metal case cruise computer.



The new version is the MCS8000C computer.

To mount the new computer 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.

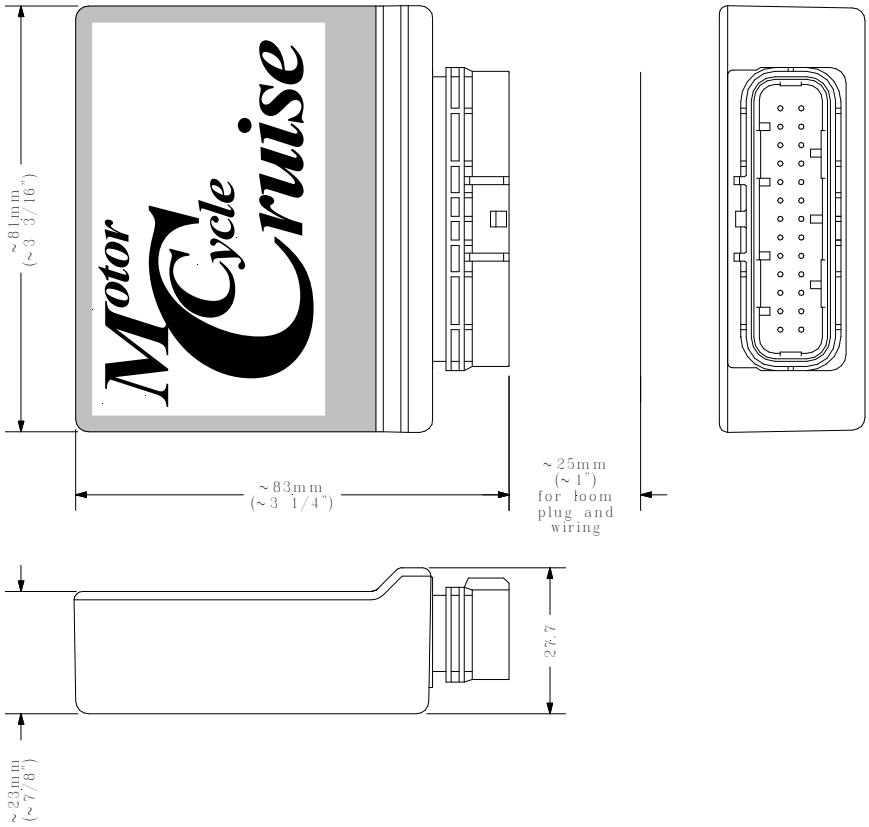


Where a mounting bracket was supplied, the old computer was attached to the bracket using two or four screws.

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).

This drawing shows the dimensions of the new plastic case cruise computer. This unit is more compact and lighter than the older model. It weighs about 140 grams or 5 ounces.



Changes to wiring pin positions.

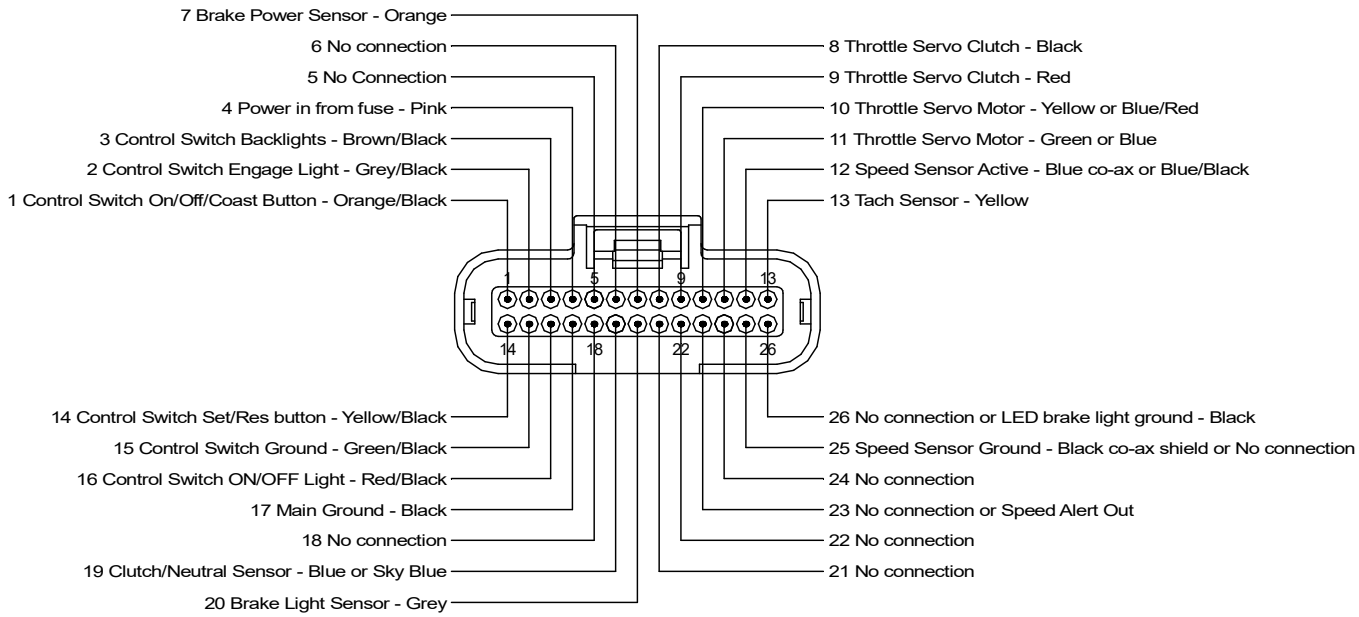
In some installations, it is necessary to remove and insert some of the wiring pins in the 'main' cruise control computer plug. The connector is the same for the old and new computers, but the wiring positions (pin-outs) are different.

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

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

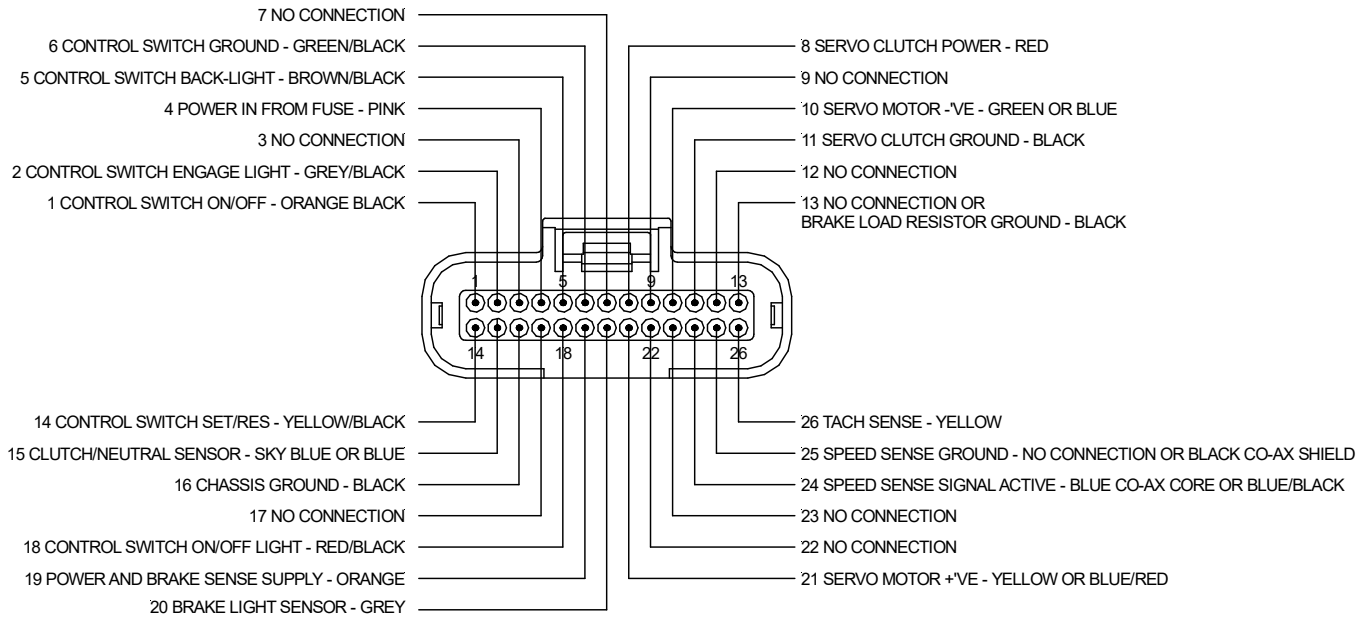
If a new computer is to be fitted to replace an old one, the connecter will have to re-pinned to suit the new computer.

This diagram below shows the wiring positions for the 'new' compact black plastic box computer, Part Number MCS8000C.



NOTE: - In some cases, position 6 may be used for clutch sensing instead of postion 19

The diagram below shows the wiring positions for the 'old' larger metal box computer Part Number MCSU400C.



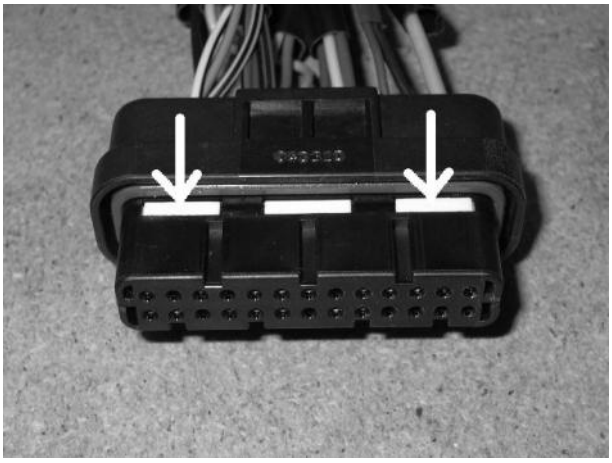
In order to do this, first you must remove most of the wires and computer plug terminals from the main harness connector.

There are a few wires still in the same positions. They are:

1. Control Switch ON-OFF – orange/black
2. Control Switch Engage Light – grey/black
4. Power In from fuse – pink
14. Control Switch Set/Res – yellow/black
20. Brake light sensor – grey
25. Speed sensor ground – black co-axial shield

All the other wire positions are changed.

<u>Backing out computer plug terminals.</u>

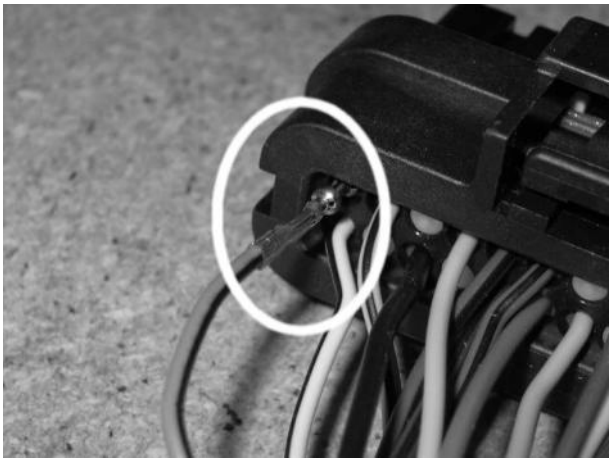


- There are three white tabs on the bottom side of the computer plug. These tabs are the terminal lock. Use a small screwdriver or similar and press the tabs down.

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

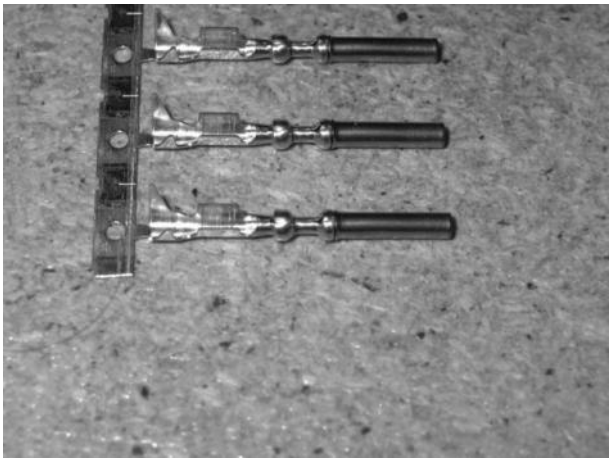
- And the two tabs on the top of the plug will rise about 3mm (1/8”)

- 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.

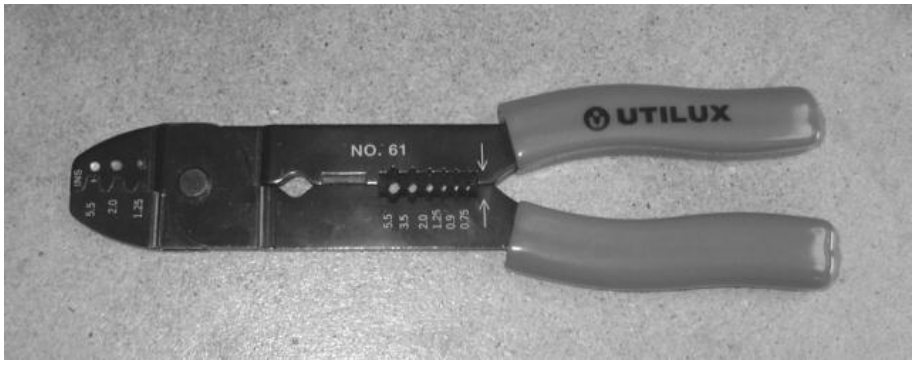
- In the event of a wire pulling out and leaving the terminal inside the plug, a paper clip or any piece of wire up to 1mm (0.040") can be used to push the terminal out. DO NOT USE WIRE LARGER THAN 1mm DIA.



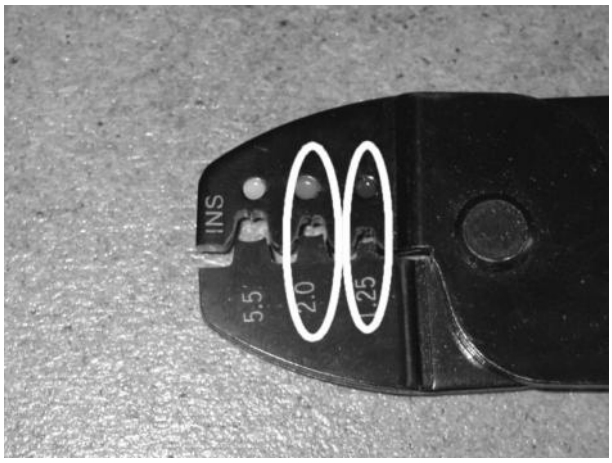
- You can then re-terminate the wire with a new computer plug terminal if needed.

- In order to attach the terminals to the wire you will either need a suitable 'roll crimp' crimper or a small 15 ~ 60 watt electronic soldering iron and a fine tip.

- A crimper of this type is suitable for crimping these terminals, but it MUST have small crimping jaws, about half the size usually found on most aftermarket automotive crimpers. The one shown is an Utilux No. 61. The Utilux No 147A and No. 47A (older version) are also suitable.



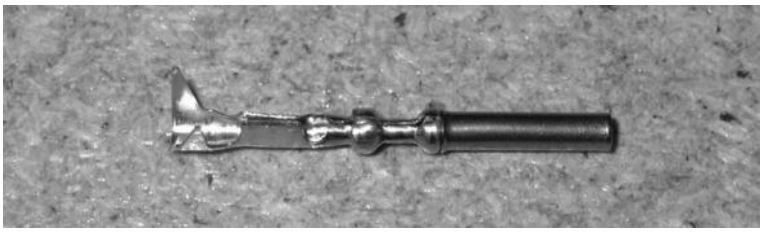
NOTE: - Crush crimpers are NOT suitable for use on these terminals.



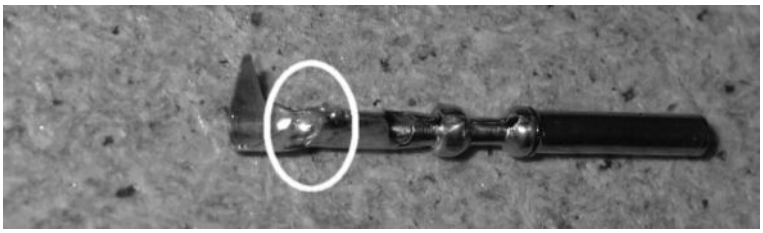
- Use the smallest jaw with the roll crimp to crimp the wire bucket on the terminal, and the middle jaw to crimp the insulation bucket.

- The crimp will look like this using the No 61 crimpers.

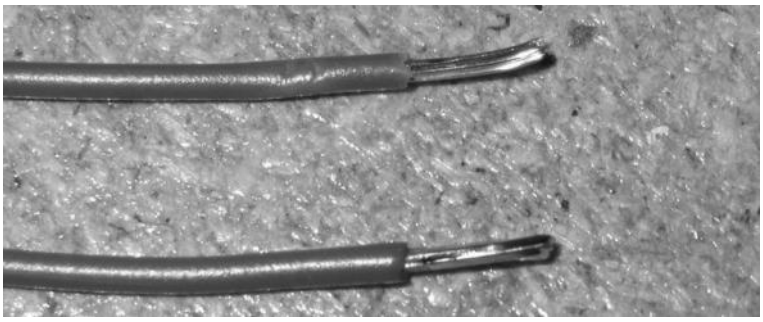
- If you don't have access to suitable crimpers, the other alternative is to solder the terminal to the wire. A small vice to hold the terminal or an assistant with pliers and a steady hand is VERY helpful for this process. It turns a difficult job into an easy one.



- Roll the wire bucket so that it is almost closed at the top as shown using a pair of long nosed or needle nosed pliers.



- Use the soldering iron to heat the terminal and 'tin' the inside of the wire bucket so that it is partially filled with solder. Be careful to ensure that the solder does NOT run inside the terminal.



- Strip the end of the wire

- 'Tin' the wire with solder.

- Remelt the solder in the terminal bucket and insert the wire into the terminal bucket.

- Use the pliers to fold over the insulation bucket onto the wire.

- 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.

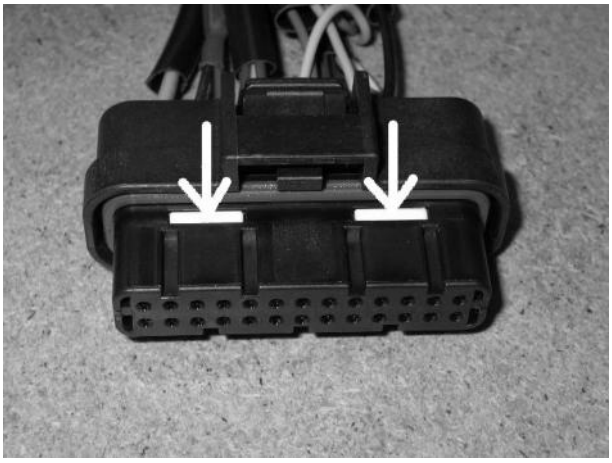
- The terminals may now be re-inserted into the computer plug.

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 appropriate computer pin-out diagram 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.