

Packing list for:
KAWASAKI Concours Z1400GTR from 2010
MCS 6160 kit

Above Switch ☐
Below Switch ☐
Multiple Order ☐

Pack in small kit carton (MCS002)

<u>Qty</u>	<u>Part Number</u>	<u>Description</u>
1	MCS 4788	Carburettor cable (MCSCC 150) modified
1	MCS 850	Electric throttle servo assembly (large parts bag)
1	MCSSC 580	Servo cable
1	MCS 850B	Servo cable-sealing boot
1	MCS 054	Wire ring, cable retainer
1	MCS 8000C	Computer configured for Z1400GTR 2010 HW: _____ SW: _____
2		Velcro mounting tape 7cm long
1	MCS 4785	Cable Interface Unit (CIU) assembly including mounting bolt and washers
1	MCS 4784-830C	Switch assembly for Above bar mounting (90cm)
<u>OR</u>		
1	MCS 4784-830Y	Switch assembly for Below bar mounting (90cm)
1	Parts bag	(See below for contents)
1	MCS 6161	Wiring harness
1	Installation Manual for Z1400GTR from 2010	
1	QR Code for MCS6000	

Parts bag contents (medium parts bag)

1	Sum MT6187-1171	1 way tab housing (speed sensor plug)
1	MCS 6162AU	Upper servo mounting bracket
1	MCS 6162AL	Lower servo mounting bracket
1	HoseClamp6	Hose clamp 8~22mm (throttle servo)
2	HoseClamp24	Hose clamp 26-50mm (throttle servo)
1	MCS 054	Wire ring, cable retainer (spare)
6cm	HST 3	3mm dia heat shrink tube (cover for tach sensor terminals)
6cm	HST 4	4mm dia heat shrink tube (cover for tach sensor terminals)
1	bottle	Throttle cable oil
10		100mm cable ties
10		150mm cable ties
10		300mm cable ties



**Motorcycle
Electronic Cruise Control
Installation Manual ©
(Sections 6 & 7)**

**Refer to the Information Setup & Operation Manual for
Sections 1~5 & 8~12**

**For Kawasaki Concours Z1400GTR
From 2010 model year**

13 April 2026

MOTORCYCLE CRUISE CONTROLS

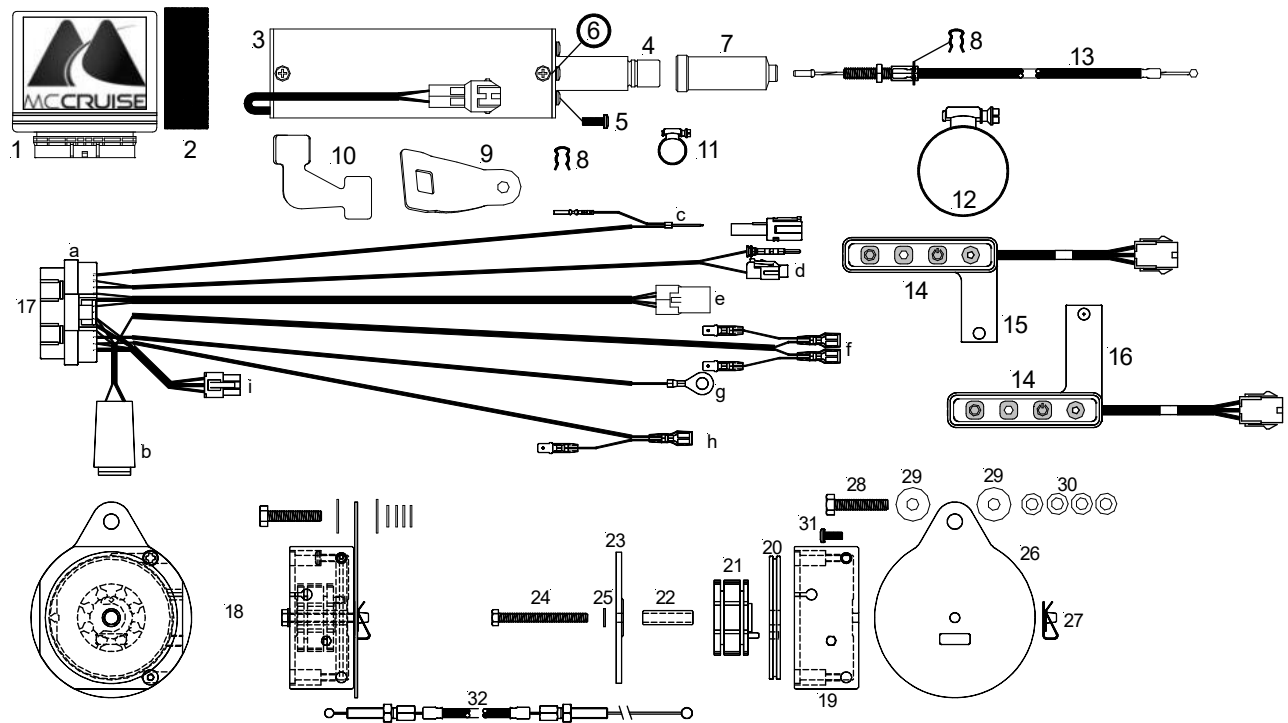
**MotorCycle Setup Pty. Ltd.
A.B.N. 94 798 167 654
AUSTRALIA**

KAWASAKI Z1400GTR Concours from 2010 model year**Parts list for MCS 6160 kit**

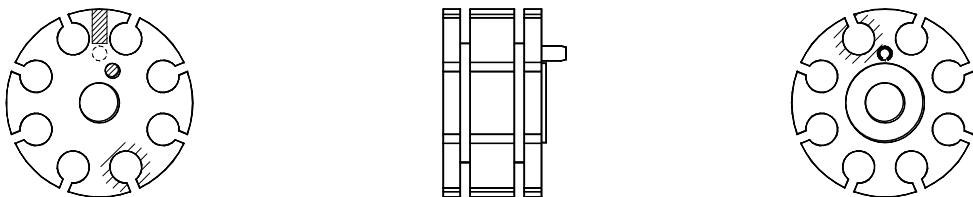
Item	Qty	Part Number	Description
1	1	MCS 8000C	Computer
2	2		Velcro Mounting Tape 7cm long
		<u>MCS 6162</u>	<u>Electric Throttle Servo assembly</u>
3	1	MCS 850	Electric Throttle Servo
4	1	MCS 850C	Servo nose
5	3		M5 x 12 pan head screws
6	1		3/4" x 3/32" (19 x 3mm) 'O' ring
7	1	MCS 850B	Cable sealing boot
8	2	MCS 054	Wire ring cable retainer (1 spare)
9	1	MCS 6162AU	Servo mounting (upper)
10	1	MCS 6162AL	Servo mounting bracket (lower)
11	1	HoseClamp6	Hose clamp 8~22mm
12	2	HoseClamp24	Hose clamp 27~51mm
13	1	MCSSC 580	Throttle servo cable
		<u>MCS 4784</u>	<u>Control Switch assembly</u>
14	1	MCS 820-90cm	Control Switch
15	1	MCS 830C	Switch bracket (above bar control switch mounting)
<u>OR</u>			
16	1	MCS 830Y	Switch bracket (below bar control switch mounting)
	4		4 gauge x 1/2" pan head self tap screw
17	1	MCS 6161	Wiring harness
a			Computer plug (26 pin)
b			Fuse holder (3 amp fuse)
c			Tach sensor (yellow wire)
d			Speed sensor (blue/black wire)
e			Throttle servo plug (4 pin)
f			Power & brake sensor (orange and grey wires)
g			Ground connector (black wire)
h			Neutral sensor (blue wire)
i			Control switch plug (6 pin)
18		<u>MCS 4785</u>	<u>Cable Interface Unit (CIU) assembly</u>
19	1	MCS 4495A	CIU housing
20	1	MCS 003F	Throttle servo spool
21	1	MCS 4496	Dual spool
22	1	MCS 003H	Bush
23	1	MCS 003K	End Cap
24	1		M5 x 45 pivot bolt
25	1		5mm plated flat washer
26	1	MCS 4495B	Mounting bracket
27	1	F20029	M5 guard clip
28	1		M6 x 30 bolt
29	2		6mm x 19mm flat washer
30	4		6mm x 12mm flat washer

MotorCycle Cruise © - Kawasaki Concours Z1400GTR from 2010

31	1		M4 x 10 pan head screw (throttle servo cable retainer)
32	1	MCS 4788	Carburettor cable
	6cm		3mm heat shrink tube (tach sensor connection)
	6cm		6mm heat shrink tube (tach sensor connection)
	10		100mm cable ties
	10		150mm cable ties
	10		300mm cable ties
	1 bottle		Throttle cable oil (Singer industrial sewing machine oil)
			Information, Set up and Operation Manual
			Operation and User Manual
			Installation Manual
			Trouble shooting guide



Dual spool hole marking



Electronic Cruise Control Installation Manual ©

REFER TO THE INFORMATION, SET UP AND OPERATION MANUAL FOR INFORMATION ABOUT THE CRUISE CONTROL, SETTING UP, CALIBRATING AND USING THE CRUISE CONTROL

The cruise control computer used has been purpose built for motorcycle applications. Testing has resulted in programming to deliver safe, reliable operation on a variety of motorcycles, from 250cc up. It is essential that you install the cruise control in accordance with the advice in the installation instructions precisely so that electrical interference does not cause the unit to behave erratically or be rendered inoperative.

We strongly recommend against fitting off-the-shelf motorcar cruise controls to any motorcycle!

WARNING: - This cruise will function properly only if your vehicle has resistor type (radio suppression) ignition wires (spark plug leads). The cruise control may not function properly if aftermarket SOLID CORE spark plug wires are installed. Please read Section 11, Safety Issues & Features before fitting & using the cruise control.

If, after reading these instructions, you feel you are not competent to install this kit, we strongly urge you to seek the assistance of your local dealer.

NOTE: - It is recommended that on most motorcycles the fuel tank is less than 1/4 full before attempting to fit the cruise control. The fuel tank must be removed for most installations and can be very heavy when full of fuel.

CONTENTS

Chapters 1 to 5 and 8 to 11 are contained in the separate Information, Set up and Operation manual.

6. PREPARING THE BIKE FOR CRUISE CONTROL INSTALLATION

7. INSTALLATION

Parts List (last pages)

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 bike or cruise control 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 bike is properly supported on the side or centre stand and cannot accidentally fall off either stand.

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.

PARTS LIST

Check that all components depicted in the parts list are included in the cruise control kit. Please phone (03) 9808 2804 within Australia, international (61 3) 9808 2804 or e-mail sales@mccruise.com for advice, if any parts are missing;

6. PREPARING THE BIKE FOR CRUISE CONTROL INSTALLATION

NOTE: - This manual was originally written for the first release Z1400GTR (up to 2009 models). Where appropriate we have taken new photos and amended the manual for the 2010 model, but where the differences are not significant we have left the photos and instructions for the earlier model.

Also instructions were written and photos taken using our previous model computer. Where relevant new photos have been inserted showing the new computer, but there are other photos in the manual still showing the old computer.

We have NOT fitted a cruise control to a model fitted with evaporative emissions carbon canister, however several of our customers have done and have not reported any issues with the installation.

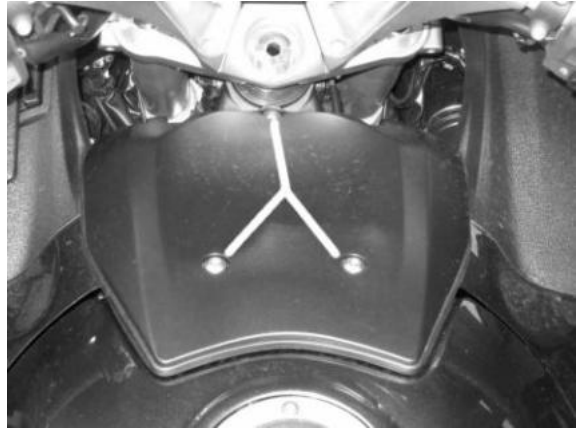
The following operations will have to be performed.

- Remove the seat;
- Remove the fuel tank front cover (plastic cover behind the steering head on the fuel tank);
- Remove the fairing screen.
- Remove the fill panels both sides of the instrument panel (including the fairing pocket on the left side);
- Remove the fairing middle sections on both sides;
- Disconnect the negative battery lead;
- Disconnect the opening throttle cable from the throttle bodies.
- Lubricate the throttle cables and throttle grip tube.

The following instructions may be followed to perform the disassembly operations.

Removing the fuel tank front cover.

- Remove the three screws and remove the cover.



Removing the fairing screen.

Early models without the screen vent.

- Undo the four screws and remove the two plastic trim pieces.



- Undo the two screws and lift the screen off its mounting.

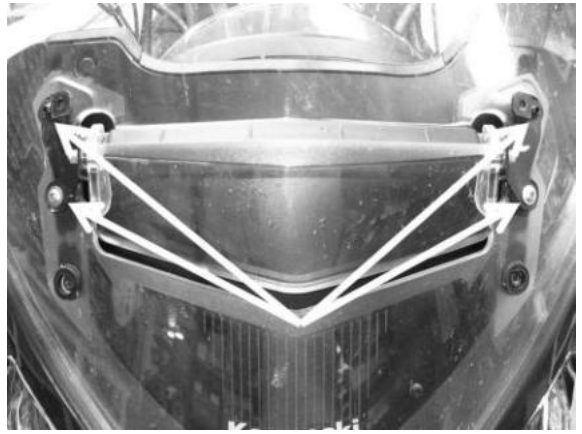


Later models with the screen vent.

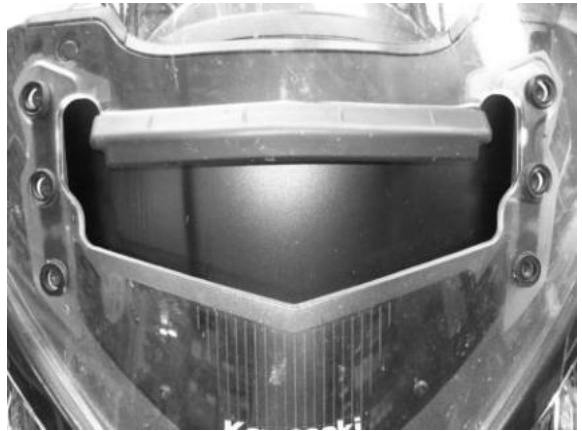
- Undo the four screws and remove the plastic trim.



- Undo the four screws and remove the screen vent.



- Lift the screen off its mounting.



Removing the fill panels next to the instruments.

- Remove the clip in the corner above the screen mount.
- Use a small screwdriver to depress the middle plug in the clip to release it. The clip can then be removed, again using a small screwdriver to lift it up and out.



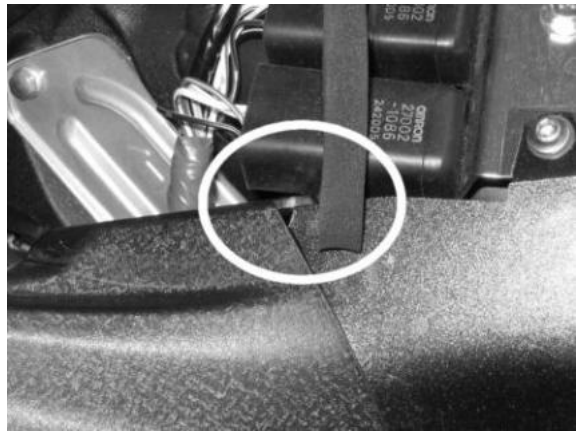
- Remove the three screws shown.



- Open the lid and remove the bolt in the bottom of the storage compartment. **NOTE: - The ignition must be turned on in order to open the lid.**



- Release the tab at the rear inner corner of the panel.

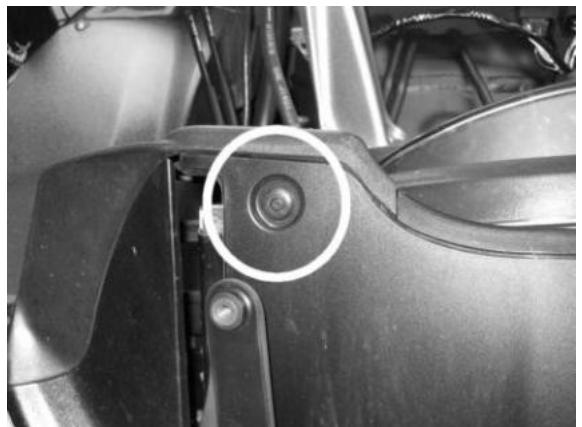


- Lift the panel and disconnect the three connectors for the heated grips and the compartment lid lock.
- Remove the panel and compartment from the bike.



Repeat for the right side.

- Remove the clip in the corner above the screen mount.
- Use a small screwdriver to depress the middle plug in the clip to release it. The clip can then be removed, again using a small screwdriver to lift it up and out.



- Remove the three screws shown.
- Release the tab at the rear inner corner.
- Remove the panel from the bike.



Remove the fairing middle section.

- Remove the four screws and two clips shown.



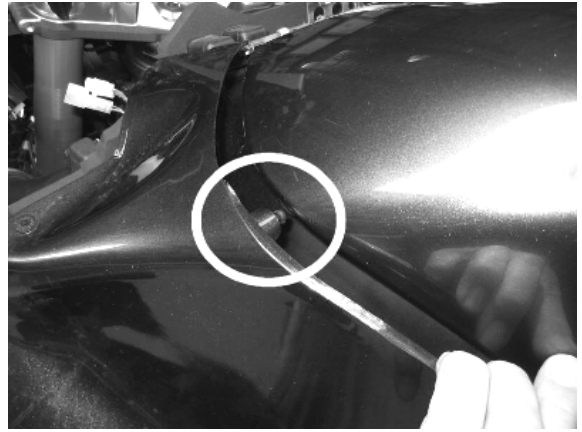
- The screw on top of the fuel tank.



- The two clips at the bottom rear edge.



- Ease the panel outward to disengage the grommet at the top rear edge of the fairing.



- Pull the lower edge of the fairing panel AND the bottom fairing panel outwards slightly.
- Ease the fairing panel out and to the rear to disengage the various tabs joining the panel to the other fairing panels. The tabs along the bottom edge are a bit awkward to release. Push the upper clip in to release it from the lower panel.
- Lift the panel clear of the bike.



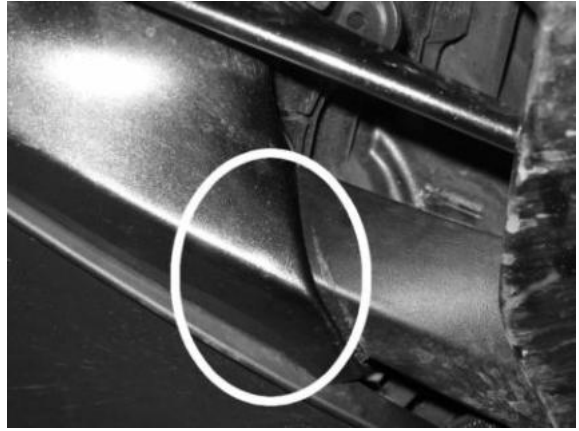
- Repeat for the other side. The procedure is essentially the same, but you will need to remove the battery inspection panel first.
- Remove the bolt holding the inspection panel.



- Pull the panel out to disengage the post from the grommet (bottom right), then pull the panel down to disengage the tab (upper right).



- Remove the right-side fairing panel using the same procedure as the left side panel.
- The right panel has an additional tab at the bottom of the fairing vent that need to be released (circled), and the tabs connecting it to the fairing lower are in different locations to those on the left side. The removal procedure is however much the same.



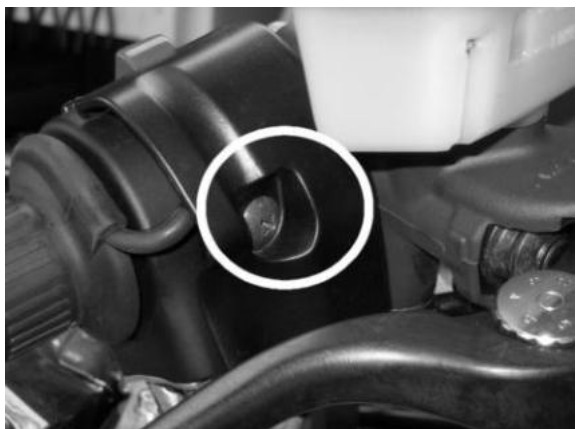
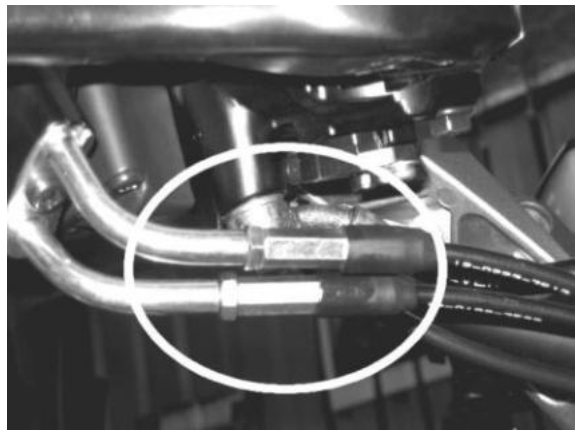
Disconnect the negative battery lead.

- While probably not strictly necessary, it is always good practice to disconnect the negative lead at the battery. This is not all that easy on this bike, so the next best thing is to disconnect the cable from the battery to the frame.
- Undo and remove the bolt arrowed (the left bolt of the pair). Tape wrap the end of the battery cable so that it cannot touch the frame.

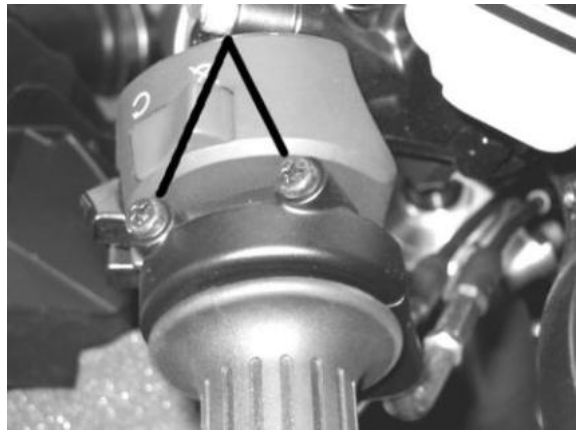


Disconnecting the throttle cable.

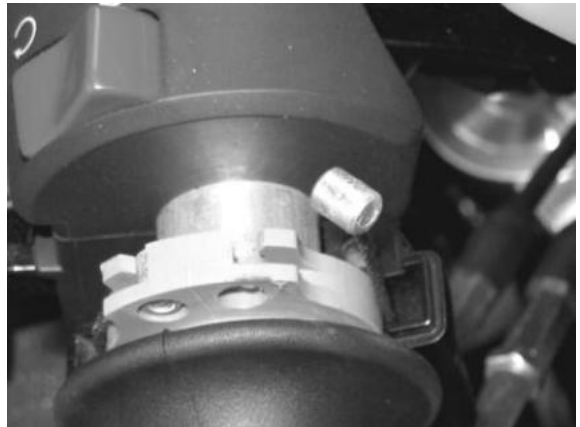
- Back of the adjuster in BOTH throttle cables so that there is as much free play as possible in the twist grip.
- If heated grips are fitted, remove the screw and remove the cover for the heated grip wire on the twist grip switch block assembly.



- Remove the two screws in the twist grip cable housing.



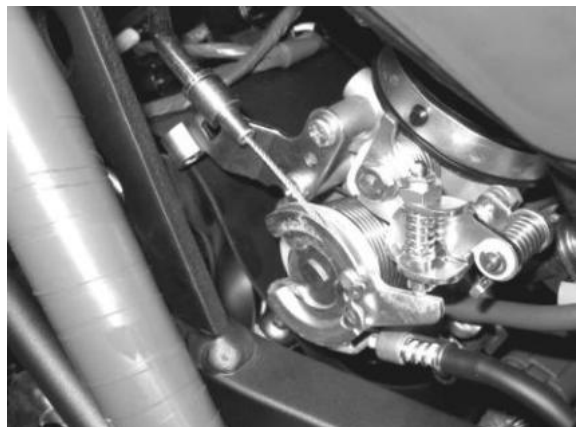
- Disconnect the nipple for the front cable (the pull or opening cable) from the twist grip tube.



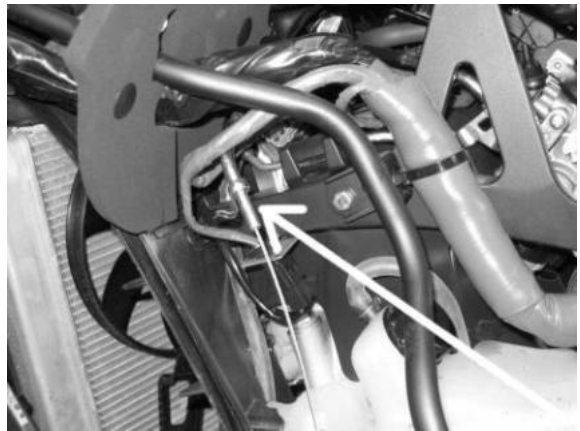
- Undo the retaining clip and pull the pull (opening) cable out of the bracket. This is the lower cable of the pair.
- Disconnect the cable nipple from the throttle spindle.



- The throttle bodies with the 'pull' cable removed.



- Draw the throttle cable back and re-route it out to the left side above the engine. It will be connected to the Cable Interface Unit (CIU) later.



Lubricating the throttle cable and throttle twist grip.

NOTE: - this is essential maintenance to ensure smooth operation and performance of the cruise control and throttle grip. While the twist grip is disassembled, lubricate the twist grip and cables.

- If possible (heated grips may make this difficult), remove the twist grip from the handlebar and clean the inside of the twist grip and the handlebar.
- Apply a THIN film of engine oil to lubricate the throttle grip barrel where it contacts the handle bar. If you do not or cannot remove the twist grip, trickly a SMALL amount of engine oil OR spray silicone lubricant spray under the twist grip to lubricate the handlebar.
- Run at least 6 (more is better) drops of the supplied throttle cable oil (sewing machine oil) – **DO NOT USE ENGINE OIL. It is too heavy!** down each throttle cable. Lubricating the cable with a dewatering fluid such as CRC 5-56 or WD-40 is NOT an acceptable alternative. NOTE that we have had customers use this instead, it DOES NOT WORK.
- Re-assemble the twist grip/cable assembly.

NOTE: - Failure to lubricate the cables and twist grip WILL result in an unacceptably heavy throttle action and it WILL severely impact on the performance of the cruise control. This maintenance MUST be done while fitting the cruise control.

7. INSTALLATION

The main components to be installed include the **computer**, the **cable interface unit**, the **electric throttle servo** that controls the throttles via the cable interface unit, the **control switch** and the **wiring harness**. Installing components in the following order has been found to be the most efficient.

Installing the ‘Carburettor’ cable.

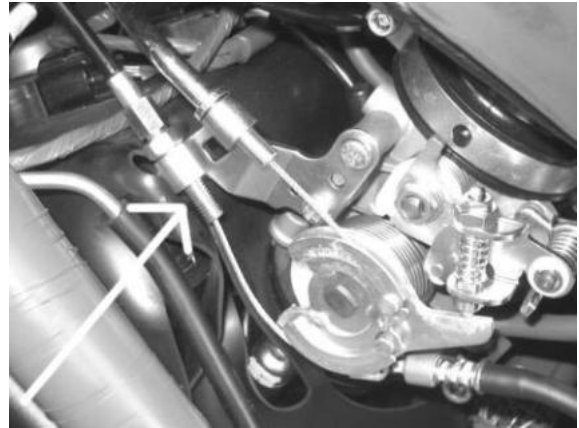
- Locate the ‘carburettor’ cable in the kit.

- Make sure that the lock nut/s on the adjuster on the end of the cable with the barrel nipple (NOT the ball nipple) is screwed all the way up the adjuster and tightened GENTLY.

NOTE: - the adjusters are made of alloy and WILL break if over tightened. This type of damage is NOT covered by warranty.

- Install the barrel nipple end of the cable in the throttle body cable fittings as shown. **NOTE: - Some cables will have one lock nut on this adjuster, some will have two. Make sure both nuts (if two are fitted) are screwed all the way up the adjuster.**

Note: - We have moved the frame brace out of the way to allow better photographs.



- Draw the cable out the left side of the bike. Routing of this cable will be taken care of when it is connected to the Cable Interface Unit (CIU) later.

Installing the Cable Interface Unit mounting bracket.

- Locate the Cable Interface Unit (CIU) in the kit and remove the mounting bracket from the back of the CIU.

- This photo shows the finished CIU in position on the left side of the bike. It is mounted on the mounting bolt for the fairing frame.



Early models with one connector in this location.

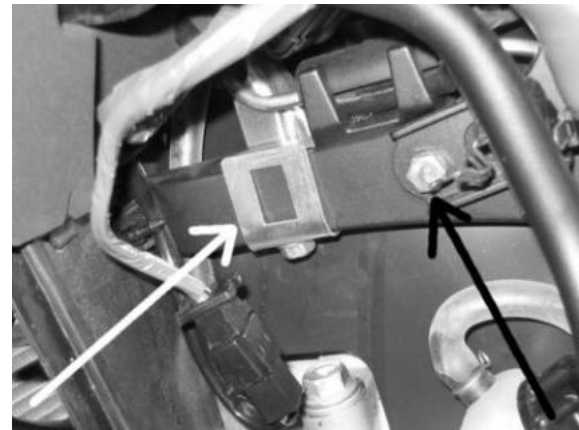
- Disconnect this connector and remove it from the mounting tab.



- Reconnect the connector NOT in the mounting tab.

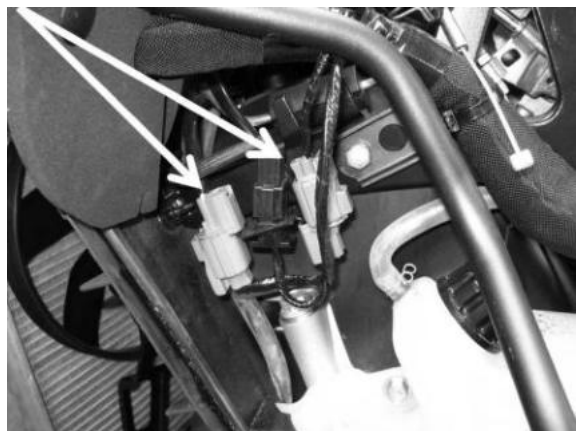


- Bend the mounting tab up against the frame. A small block of timber and a hammer make it easy to gently bend the tab up against the frame (white arrow).
- Remove the fairing frame bolt (black arrow). Store it as it will not be re-used.



Later models with three connectors in this location.

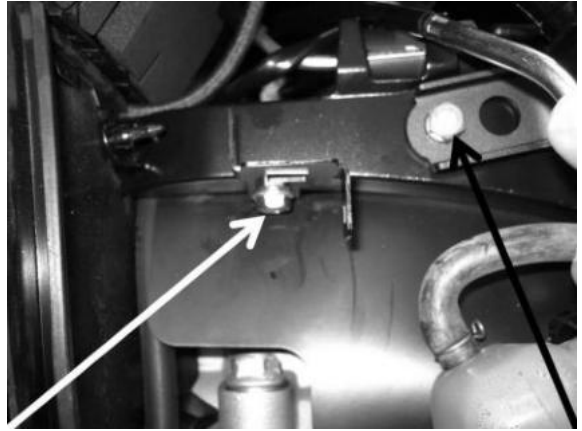
- Disconnect these three connectors and remove them from the mounting tabs.



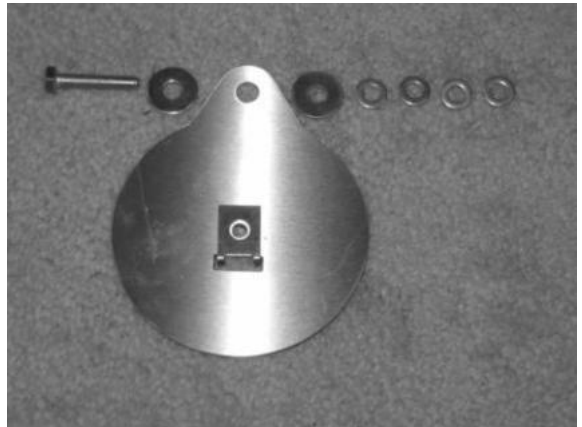
- Reposition the connectors above the bike's main harness and the fairing frame.
- Cable tie the connectors in place. Put a cable tie through the slots for the mounting tabs, then wrapped the cable tie around the wiring harness and fairing frame.



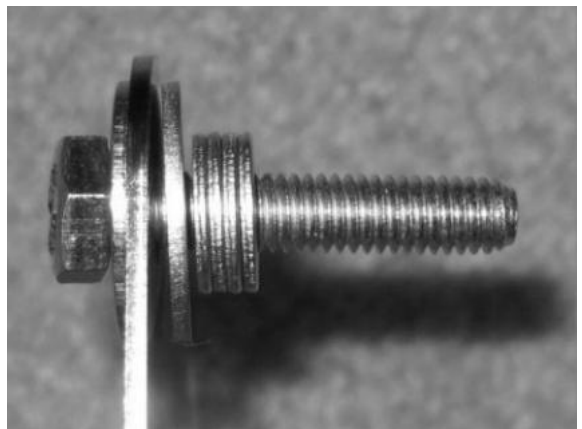
- Remove the bolt and remove the connector mounting plate (white arrow). Store the parts as they will not be re-used.
- Remove the fairing frame bolt (black arrow). Store it as it will not be re-used.



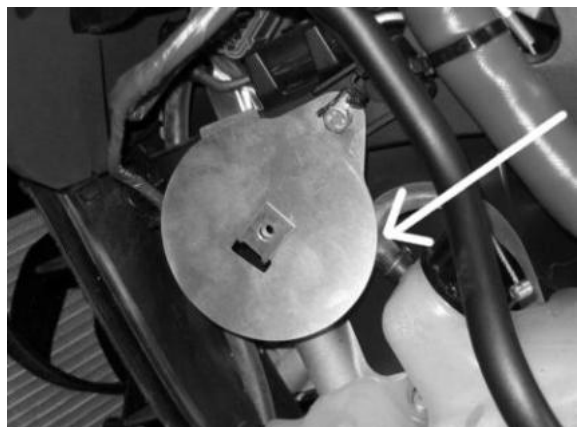
- Locate the M6 x 30mm bolt, two large 6mm flat washers and the four normal 6mm flat washers. They will be inserted in the CIU bracket in the order shown.



- Insert the bolt into the CIU bracket as shown.
- Apply thread locking compound to the threads.



- Attach the CIU mounting bracket as shown.
- While fitting the bracket, gently bend the bracket outwards so that it is not touching the coolant bottle overflow hose (arrowed).
- Make sure the connector and the wire moved on the previous page is tucked behind the CIU mounting bracket or above the frame brace.



Installing the electric throttle servo.

The throttle servo will be mounted on the right side of the bike, above the right end of the engine.



- Remove the upper mounting bolt for the foam 'barrier'.



- Locate the upper mounting 'tab' in the parts bag. Place the tab on the bolt and replace the bolt in the frame.



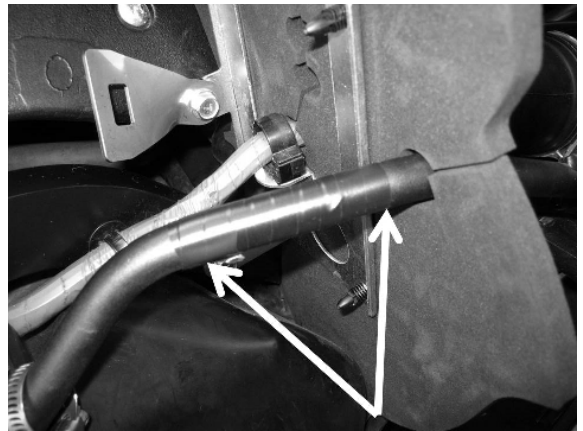
- Position the mounting tab so the end of the mounting tab so it roughly 'points' to the metal bracket on top of the frame (arrowed). Do up the bolt gently so you are able to move the bracket.



- Locate the small hose clamp in the kit. Undo the hose clamp and put around the fairing frame tube



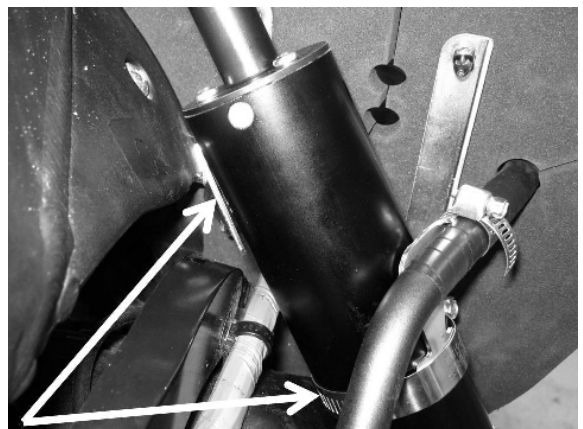
- Wrap tape around the fairing frame to prevent damage to the paint.



- Attach the right angle mounting bracket to the fairing frame loosely with the small hose clamp.
- Slide the servo in behind the bracket as shown. It may be necessary to 'push' the bike's wiring harness inwards a bit to clear the servo.
- Fit a large hose clamp around the servo so it holds the servo to the mounting bracket (arrowed).

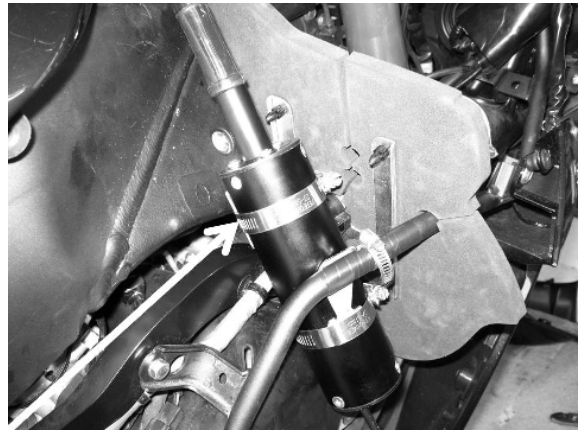


- Position the servo so it 'rests' on the upper mounting tab (upper arrow). Position the servo so that there is about 1~2cm of the servo protruding above the top edge of the upper mounting tab. Bend the tab if necessary to make it a 'good' fit with the servo.
- Gently tighten the large hose clamp on the lower bracket, so it holds the servo in place for the moment (lower arrow).



- Fit the second large hose clamp to the servo and the upper mounting tab. Undo the hose clamp so it can be 'fed' through the hole in the mounting tab.
- Tighten the hose clamp gently so it just holds the servo.

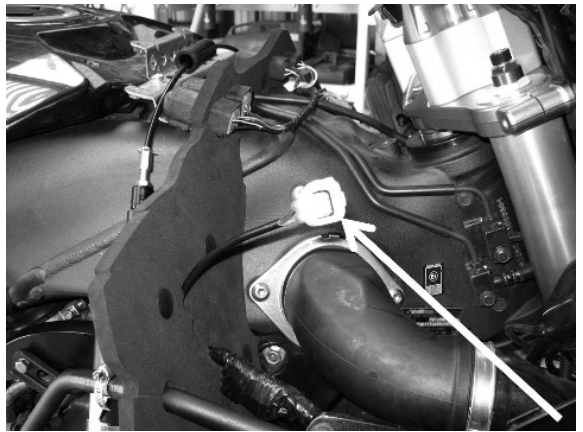
NOTE: - the hose clamps may need to be loosened later to adjust the position of the throttle servo, don't tighten them fully yet.



- Feed the wire to the servo through one of the holes in the foam 'barrier'



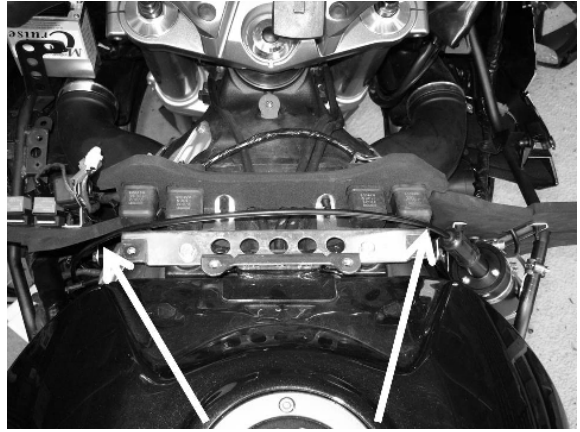
- Draw the wire out into the area above the right side inlet snorkel.



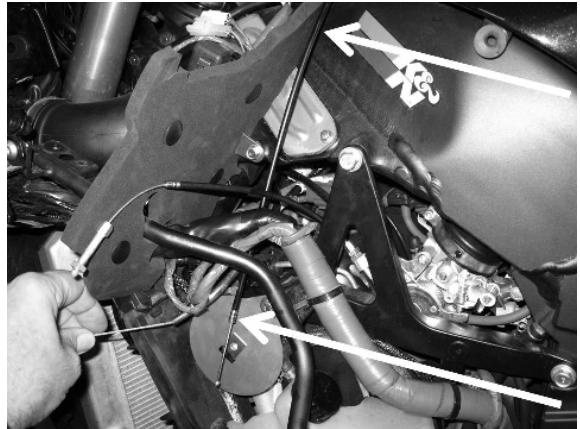
- Route the servo cable across the top of the frame to the left side of the bike.



- Route the servo cable across the top of the frame to the left side of the bike.



- Route the cable down to the CIU mounting bracket you fitted earlier (lower arrow)



- Slide the rubber 'boot' on the end of the throttle servo up along the cable a bit.
- Check that the cable adjuster is screwed all the way in to the servo. If it is not, screw it all the way in. If necessary to make turning the adjuster easier, remove the cable retaining clip, then after the adjuster is screwed all the way in, push the cable all the way into the adjuster and replace the clip.



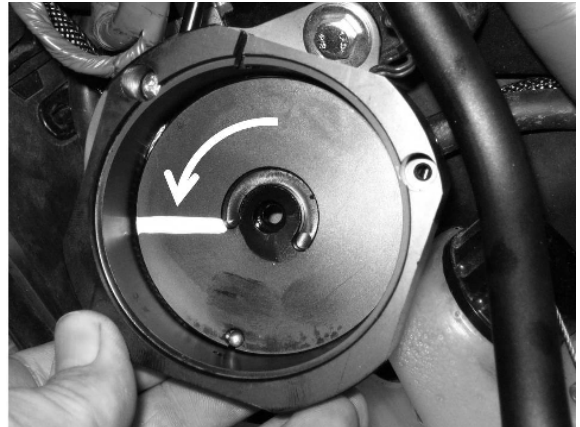
Installing the Cable Interface Unit (CIU).

- You have already fitted the CIU mounting bracket to the frame. **NOTE: - Some of these photos are from the 2009 model, so the location of the CIU is slightly different.**
- Disassemble the CIU noting the location of the components. There is an exploded view of the CIU in the parts list.

- Loosen the servo cable retaining screw a few turns (arrowed). Insert the end of the servo cable into the hole in the CIU with the locking screw. Insert the cable as far as possible into the hole, the metal ferrule (cap) on the end of the cable should disappear entirely inside the hole. GENTLY but firmly tighten the locking screw so the cable cannot be pulled out of the CIU housing.
CAUTION: - Over tightening the screw may strip the threads.



- Insert the nipple on the throttle servo cable into the nipple hole in the thin servo spool. Place the spool in the housing so the groove faces up.
- Rotate the spool counter clockwise as far as it will go to fully extend the cable.



- Route the new short 'carburettor' cable to the CIU.
- Insert the ball nipple on the new 'carburettor' cable into the threaded hole in the CIU. Screw the adjuster most of the way into the hole.

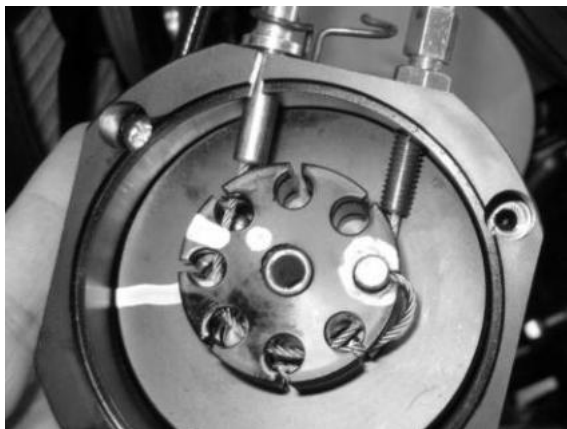


- Insert the ball nipple on the 'carburettor' cable into the marked hole on the bottom (the side with the pin) of the dual spool. The dot on the top face of the spool also shows the hole marking. The ball nipple on the cable should be visible in this hole.
- Make sure the painted line on the dual spool roughly matches up with the painted line on the throttle servo spool. If these lines match, the pin in the dual spool will be in the correct position in the groove in the throttle servo spool.

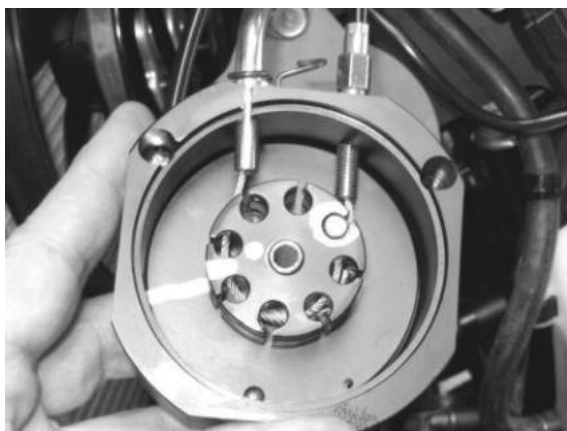


- Place a drop of the supplied oil on the bush and insert the bush in to the two spools.

- Insert the bike's original throttle cable into the unthreaded slotted hole in the CIU housing.
- Place the nipple in the marked hole in the top groove in the dual spool and wrap the cable around the spool in the groove.



- Allow the cable to 'fall' into the top groove in the dual spool.
- Check again the positions of the painted lines for the roll pin on the dual spool and the end of the groove in the throttle servo spool.



- Place the end cap on the CIU.
- We recommend placing a drop of low or medium strength thread locking compound on the end of the threads of the through bolt.
- Place the flat washer on the bolt and insert the bolt into the CIU. Screw the bolt into the CIU mounting bracket.
- GENTLY tighten the bolt.



CAUTION: - Do not over tighten the bolt. The end of the bush can be 'squashed' into the material of the CIU housing and end cap, take up the end float and tend to bind the spools in the CIU if the bolt is over tightened. This can be more of a problem in installations like this where the CIU is mounted in a 'hot' location. The plastic can soften a little and allow the bush to press into the material. Tighten the bolt until all the components are seated and then only about ½ a turn more. The thread locking compound will prevent the bolt coming loose, and this will ensure that the CIU does not 'bind'.

Servo cable initial adjustment.

NOTE: - Check that the outer sheath of the servo cable is NOT pulled tight over the top of the bike. If necessary, move the servo up a bit in its mounting to ensure the cable is not 'stretched' over the top of the bike's frame.

- Screw the adjuster on the servo out about 8 turns (8 threads visible).



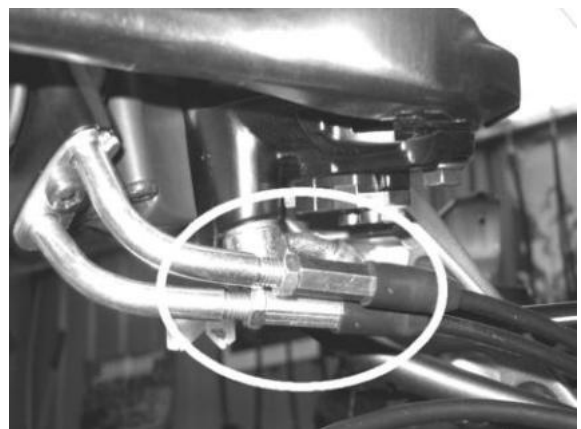
'Carburettor' cable initial adjustment.

- Make sure that there is a LOT of free play in the throttle grip.
- Screw the adjuster on the CIU end of the 'carburettor' cable out until there is about 2~3mm of free play left. To determine the amount of free play, lift the outer cable (the cable casing) out of the adjuster. Screw out the adjuster until you have about 2~3mm (1/8") of free movement before the throttles start to move.
- Gently lock up the adjuster lock nut.
- Re-check that you still have quite a lot of free play in the twist grip.
- Final adjustment of servo cable free play will be performed later with the engine running at normal idle speed. The fuel injection fast idle mechanism on this bike influences the free play adjustment.



Adjusting the throttle grip free play.

- Use the adjusters in BOTH cables under the twist grip to adjust the free play in the twist grip. Adjust the cables so that there is 1~3mm of free movement at the outside diameter of the grip.



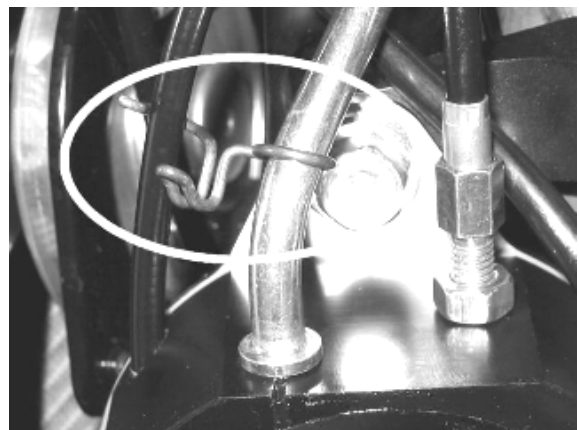
- Operate the twist grip gently from closed to full open throttle while observing the wire for the heated grips (if fitted). If the wire is pulled at either end of the travel, move the adjusters in the throttle cables to change the end points of the twist grip movement to prevent the wire being pulled and to achieve 1~3mm free movement in the twist grip.



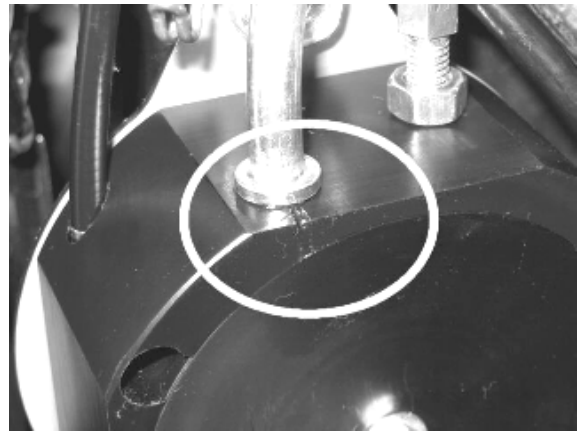
- Operate the twist grip several times from closed to full open throttle. At each end of the throttle travel, push the throttle quite firmly (apply full throttle quite hard and closed throttle quite hard) to ensure that all the cables etc are seated properly.
- Re-check the free play in the 'carburettor cable' and adjust if necessary.
- Re-check the free play at the twist grip and adjust if necessary, again with checking that the end points of travel are suitable for the heated grip wire.

CAUTION: - Do NOT remove all the free play from the twist grip. This will tend to bind the throttle cable system and induce more drag in the cables. This will make the throttle heavier and have a dramatic effect on the performance of the cruise control. There MUST be free play in the twist grip.

- Remove (bend it with pliers) or clip the original cable retainer around the servo cable or hold it with a cable tie to prevent it rattling.

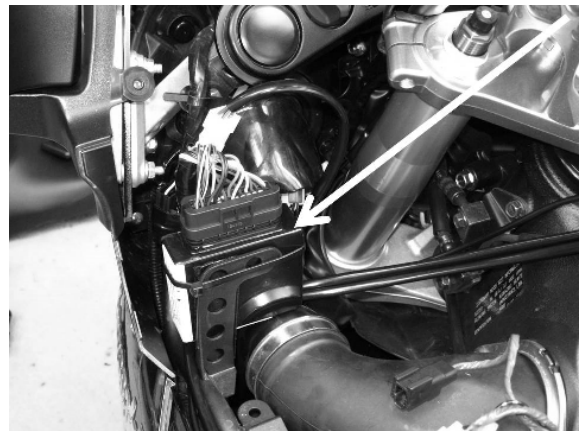


- Fill the slot in the CIU with a small amount of silicone sealant to prevent dirt or water entry.

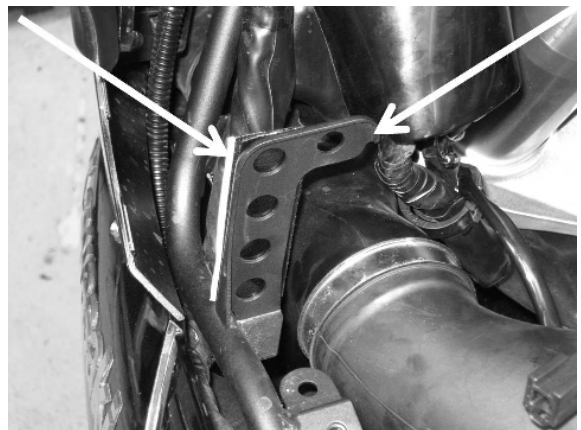


Installing the cruise computer (electronics module).

- The computer will be mounted on the back of bike's metal fairing bracket using Velcro mounting tape and cable ties.



- Place a length of the supplied Velcro tape on the front of the metal bracket on the left side of the bike, below the mirror mount (left arrow).
- Another small length on the top of the bracket is beneficial as well (right arrow)



- Remove the backing paper from the Velcro tape.
- Place the computer on the Velcro tape and use a long cable tie to help hold it in place.



Installing the control switch.

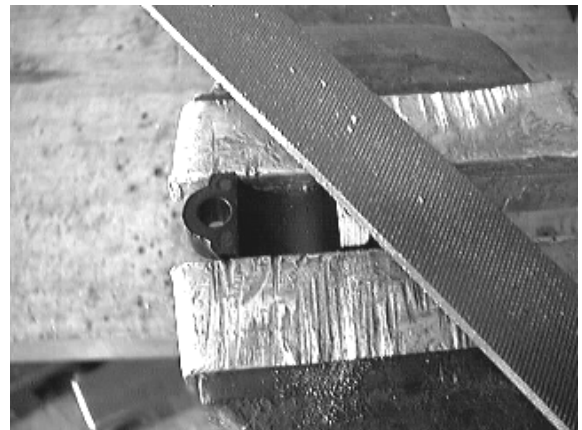
- This cruise control normally is supplied with a switch bracket to mount the control switch above the handlebars as shown. This switch bracket is part number MCS 830C



- There is another switch bracket option available that allows the switch to be mounted below the handlebar. This switch bracket is part number MCS 830Y. This optional mounting bracket may be purchased at any time or can be ordered with the cruise control kit in exchange for the standard bracket.
- When the handlebars are turned to full lock on the left, the switch has about 5mm clearance from the fuel tank, and may cause problems if a tank bag is fitted to the bike.



- Remove the clutch lever mounting clamp. Place a cloth on the fairing to prevent scratching the paint, or tie the clutch lever assembly to the handlebar.
- Using a vice, soft jaws (or a cloth) and a flat file, remove material from the **UPPER** face of the clamp if the control switch is to be mounted **ABOVE** the handlebars, equivalent to almost the thickness of the switch bracket (2mm or 0.080"). Remove material from the **LOWER** face if the switch is to be mounted **BELOW** the handlebars. Ensure that the new surface is flat and parallel to the original face of the clamp. If you do not have access to a vice and a flat file, sand paper or a grinder may be used, but these methods are much more difficult to control.
- Replace the clamp using the bottom bolt, but do not tighten the bolt.
- Insert the switch bracket between the top faces of the clamp and the clutch lever assembly and insert the second bolt.



- Tighten the bolt that the bracket is on to clamp the switch bracket while holding the clutch lever in the correct position (there is a punch mark on the handlebar to line up the lever assembly). Tighten the other bolt to clamp the clutch lever assembly to the handlebar.
- Make sure that the lever assembly is securely clamped to the handlebar. If not, remove the clamp and file off more material. Ideally, there should be a very small gap between the faces of the clamp that does NOT have the bracket after tightening.
- Route the switch wire down the handlebar with the bike's other wires.
- We released the cable clips and placed the control switch wires in the bike's cable clips. Don't close the cable clips yet, as you will have to route the clutch switch sensor wire up the same way later. If there is not enough space in the clips for the wires, cable tie the cruise wires to the bike's wires.



- Route the control switch wire to the cruise control computer.

NOTE: - This photo shows an older cruise control computer model.

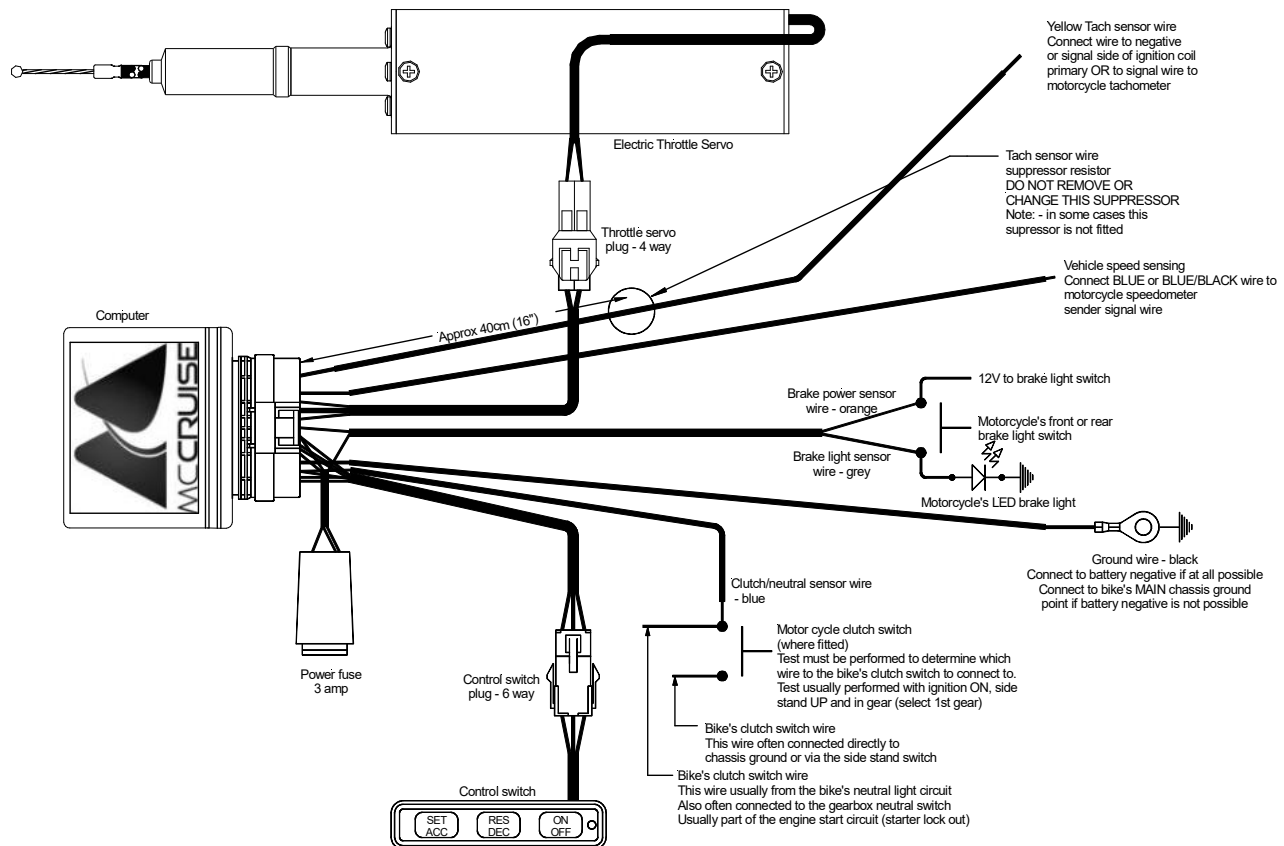


Installing the wiring harness.

- Locate the wiring harness in the kit.

The following diagram shows the basic connection required for the cruise control.

MotorCycle Cruise © - Kawasaki Concours Z1400GTR from 2010



- Identify all the branches of the harness and split them in to two groups as follows.

First group:

- Speed sensor (two blue wires with a one-way housing on one and a terminal on the other).
- Tach sensor (two thick yellow wires fitted with terminals).
- Feed these wires in behind the computer and out to the left side of the computer between the computer and the bike's fairing (arrowed).



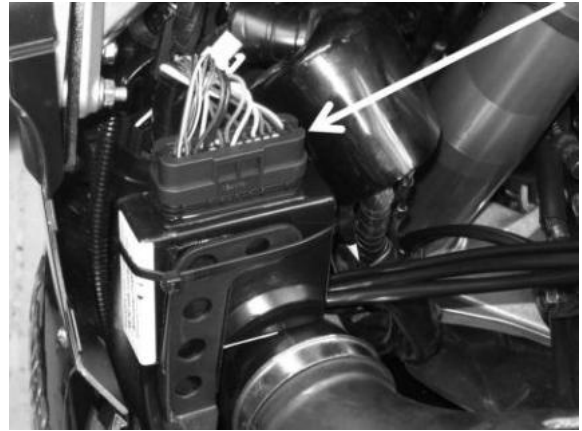
Second group - all remaining wires:

- Power and brake sensor (orange and grey wires)
- Clutch sensor (single blue wire)
- Throttle Servo (four-way plug)
- Ground (single black wire)
- Feed all these wires in behind the computer and out to the right side of the computer between the computer and the bike's wiring harness.



Computer plug connection.

- Connect the harness to the cruise control computer.



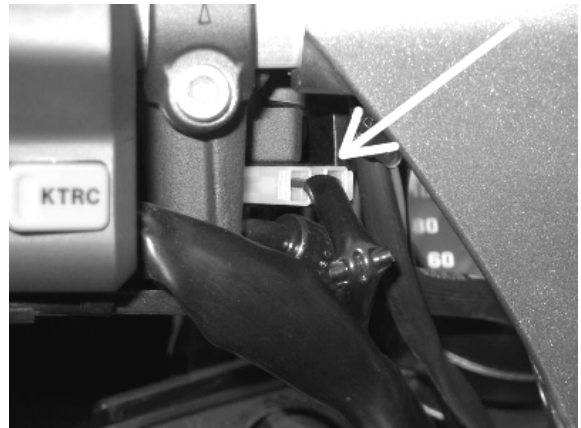
Control switch connection.

- Connect the plug on the end of the control switch wires to the matching 6-way plug on the cruise control harness (arrowed).

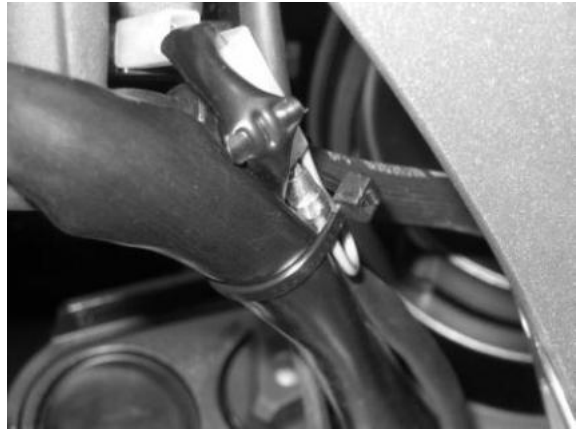


Clutch sensor connection.

- Identify the clutch sensor wire. It is a single blue wire with spade connectors.
- Locate the bike's clutch switch. It is under the clutch lever on the left side, under the clutch lever pivot.
- Check the wire colours at the switch. One wire should be black with a red trace or stripe, the other should be plain black.
- Disconnect the black wire from the clutch switch.
- Route the cruise control clutch sensor wire (blue wire) with the control switch wire and the bike's wires up to left side handlebar to the clutch switch.
- Connect the blue cruise control clutch sensor wire terminals to the clutch switch and the bike's black clutch switch wire.



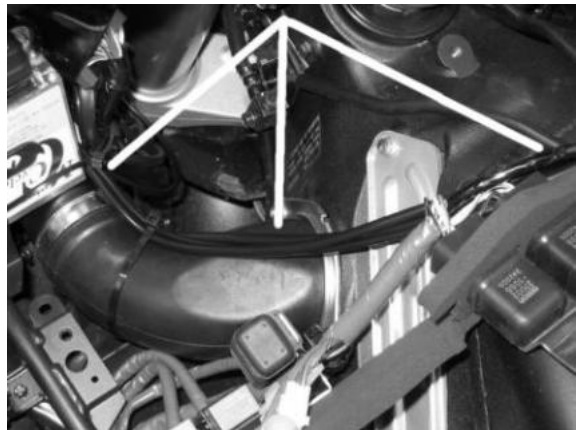
- Cable tie the wires and terminals neatly to the wires from the bike's left switch block.
- Close the bike cable clips holding the harness to the left handlebar so the cruise control switch wire and clutch sensor wire in the clips.



Routing the wiring harness.

Locate the branches with the power/brake, throttle servo and ground wires.

- Route these three branches to the right side of the bike behind the steering head.
- Cable tie the wires to the inlet snorkel.



- Route the wires to the right side of the bike.
- Cable tie the wires to the foam barrier above the relays.



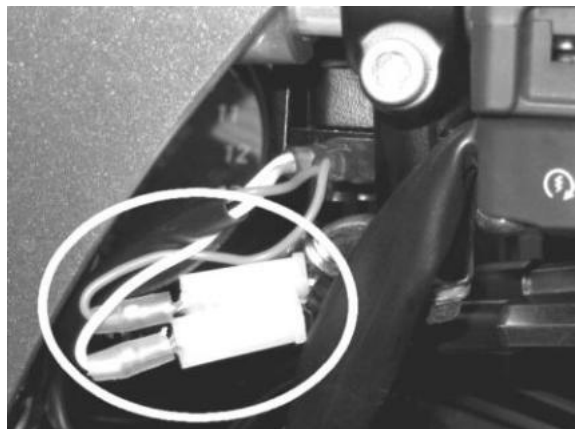
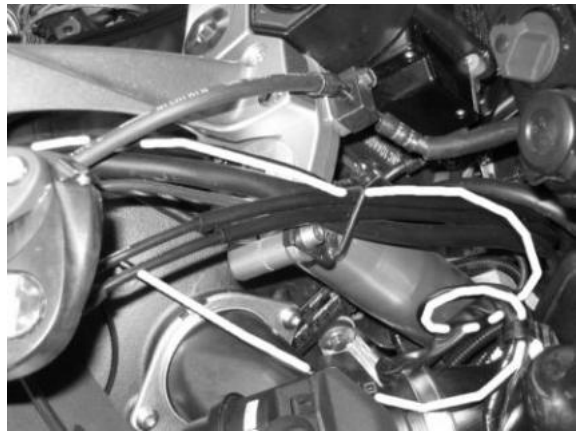
- Route the power/brake sensor branch forward above the snorkel then up to the right-side handlebar with the bikes wiring harness.
- Cable tie the wires to the inlet snorkel.



Note: - This photo shows the cruise control vacuum servo and reservoir that is no longer used in this cruise control kit.

Power/brake sensor connection.

- Locate the front brake light switch under the front brake lever.
- On the back of the switch, closest to the rider, there are two wires with spade terminals connected to the switch. Disconnect these wires.
- Route the power/brake sensor wires (the orange and grey wires) to the front brake light switch with the bike's wires for the right-side handlebar.
- We released the bike's cable clips and routed the wire through these clips, then closed them again. It is quite awkward to do because there is not much space in there.
- Connect the two female spade terminals on the cruise control wires to the brake light switch. It does not matter which wire goes to which terminal.
- Connect the cruise control orange power link wire to the bike's RED/BLUE wire (red with a blue trace or stripe). This wire is power for the brake lights and provides power for the cruise control.
- Connect the cruise control grey brake sensor link wire to the bike's BLUE/RED wire (blue with a red trace or stripe). This wire goes to the brake lights and provides brake sensing for the cruise control.



- Cable tie the connectors neatly behind the bike's wires.



Throttle Servo connection.

- Route the servo wires to the throttle servo plug and connect the four-way plug.



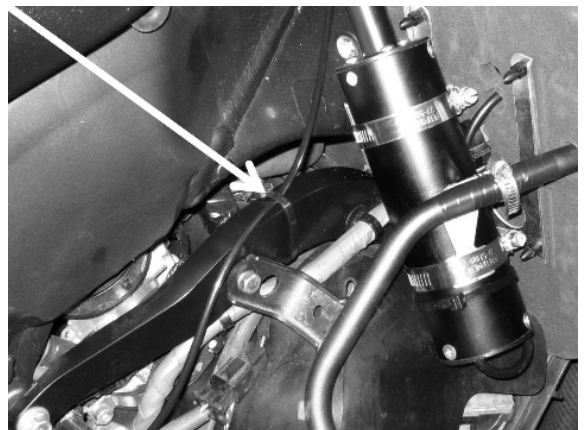
Routing the ground wire.

- Route the black ground wire down the right side of the bike to the main chassis ground point (circled).

DO NOT CONNECT THE WIRE YET. This will be done later when the rest of the wiring is finished.



- Cable tie the ground wire to the frame brace.

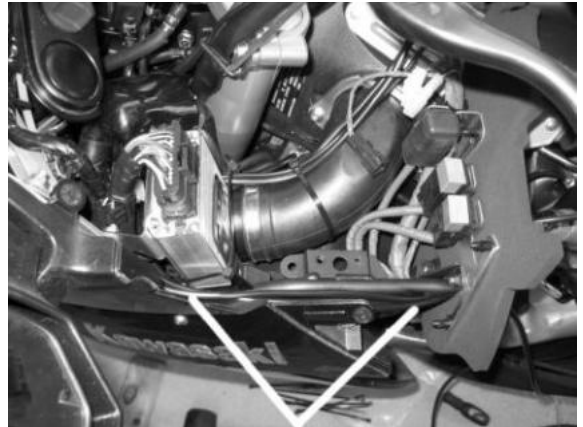


Routing the harness.

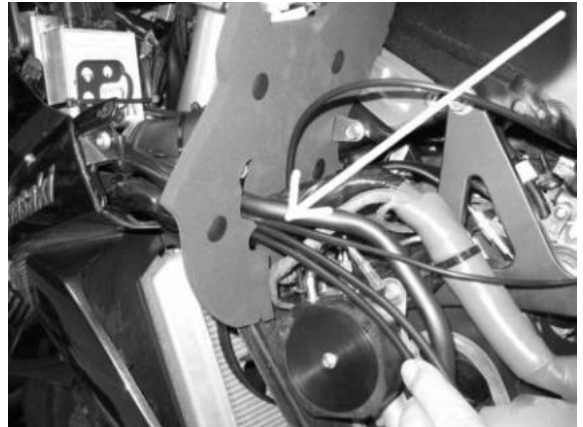
There should be two branches of the wiring harness left.

- The speed sensor branch has two blue/black wires with a one-way housing and a terminal on the ends.
- The tach sensor wire is a thick yellow wire with a pin terminals on the end.

- Route these branches to the left side of the bike from behind the cruise control computer to the rear of the bike.



- Route them through the foam barrier then to the rear of the bike along the top of the fairing frame

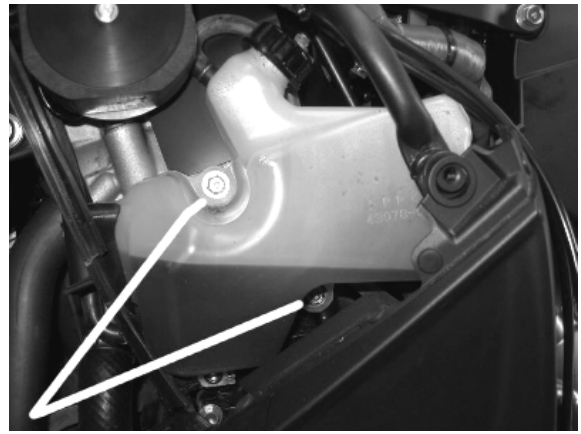


- Route the two remaining branches (speed and tach sensor) down the fairing frame to the rear of the bike.



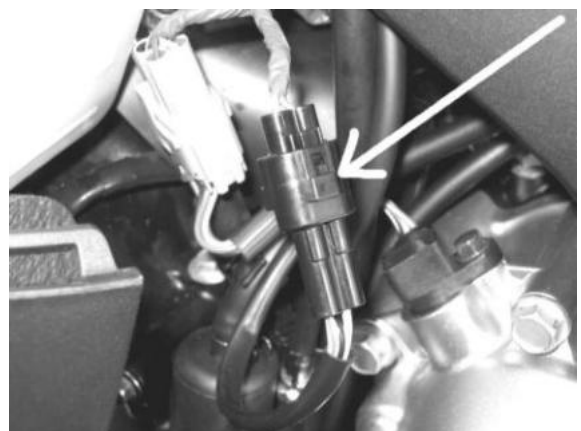
Speed sensor connection.

- Locate the bike's speedometer sender plug. It is located behind the coolant reservoir. This is a black plug with three wires, orange/red, pink and black/white.
 - Undo the two mounting bolts for the reservoir and move it aside.
-
- The plug is located behind the reservoir.

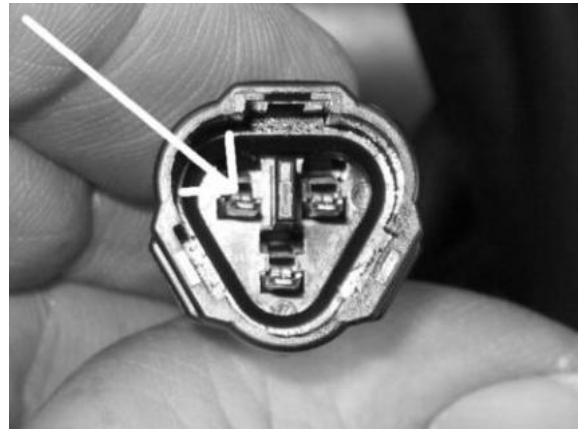


The following photos are from the earlier model. On the 2010 model the speed sensor is hidden behind the fairing lower and was difficult to photograph.

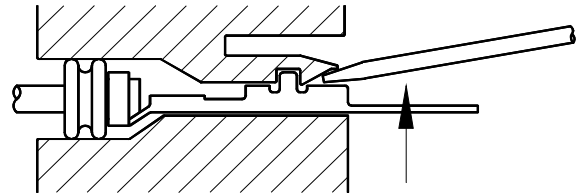
- If you cannot find the plug, locate the bike's speedometer sender. It is arrowed in the photo on top of the shaft drive bevel box, and has three wires, orange/red, pink and black/white.
 - Follow the wires from the sender to a connecting plug. This is a black three-way plug.
-
- Disconnect the plug. The latch must be pushed down to release it, and then the two halves can be pulled apart.



- The cruise control speed sensor wire must be connected to the signal wire on the bike's speedometer sender. This is the pink wire on the speedometer sender.

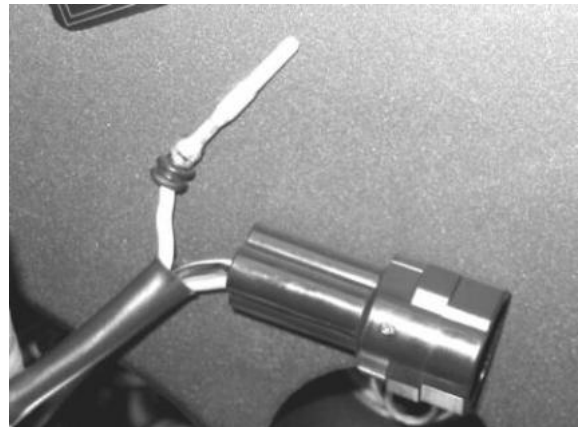


- Back out the male terminal on the pink wire from the larger of the two plugs. This should be terminal arrowed.



- Use a small flat blade or jeweller's screwdriver to lift the locking latch and gently pull the wire and terminal out of the housing.

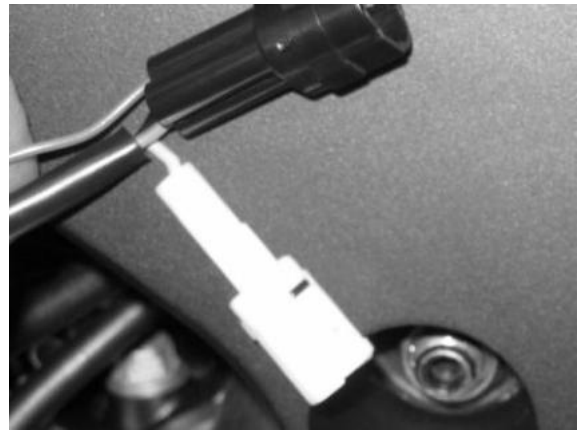
- This photo shows the pink wire and male terminal out of the speedometer sender plug.



- Insert the tab terminal on the blue/black cruise control speed sensor wire into the hole in the bike's speedometer connection plug in the hole that the bike's speedometer sender wire came from.



- Fit the one-way tab terminal housing to the bike's tab terminal on the speedometer sender wire.



- Connect the two one-way housings.
- Re-connect the bike's three-way speedometer sender housings. The cruise control wiring harness will bridge the connection and take the speed signal to the cruise control computer.
- Tuck the connectors back up into the cavity behind the motor and re-fit the coolant reservoir.



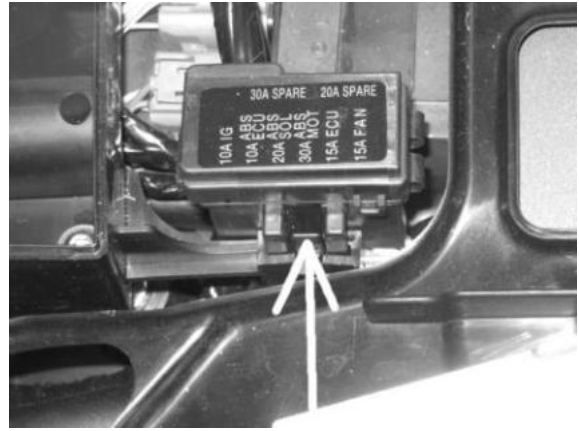
Tach sensor connection.

The last branch is the tach sensor. This is normally connected to one of the bike's ignition coils, however this bike has the ignition coils built into the spark plug caps, and access to these is VERY limited without dropping the engine out of the frame. As a result, we tap into tach signal at the bike's ignition ECU (Electronic Control Unit). It appears to be easiest place to pick up tach signal.

- Undo the four screws holding the tool compartment.
- Disconnect the fuse box (arrowed) from the tool compartment (see below) and remove the tool compartment.



- Press the tab in and lift the fuse box off the mounting on the tool compartment.
- You can then lift out the tool compartment.



- Remove the two mounting bolts at the rear of the fuel tank and raise the tank a bit and prop it with a suitable prop.



- Route the yellow cruise control tach sensor wire inside the frame on the left side.



- Route the wire along the left side of the fuel tank, down low inside the left side cover, on the inside of the rear frame tube.



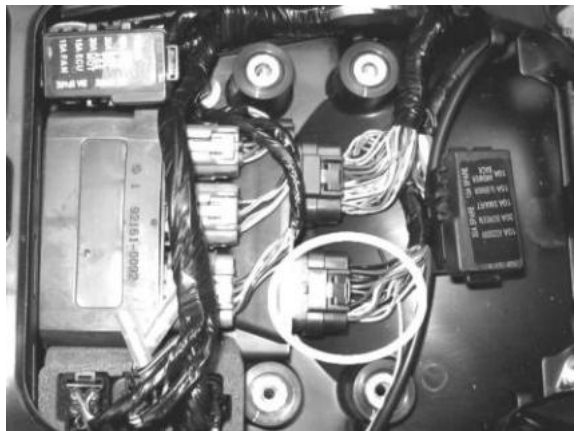
- Route the wire along the inside of the frame tube into the area of the bike's ECU.



- Route the wire under the frame cross member that holds the rear of the fuel tank, and across to the ECU.



- Disconnect the plug circled in the photo from the bike's ECU.



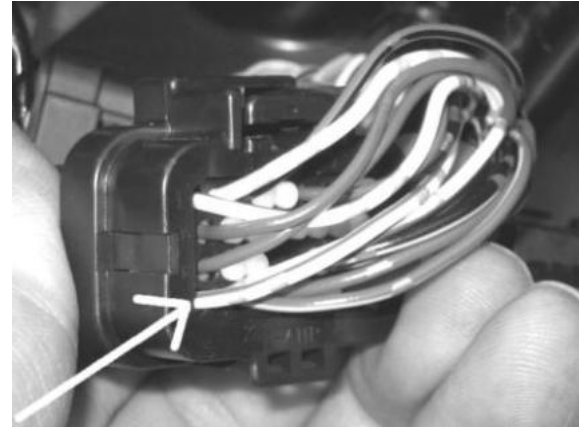
- Release the terminal lock in the plug by pushing the small white rectangular tab on the underside of the plug with a suitable tool (a small screwdriver is ideal). The tab will depress about 2mm (1/16").



- The two small tabs on the upper side of the plug will rise about 2mm (1/16"). This releases the terminal lock so the terminals can now be pulled out of the plug.



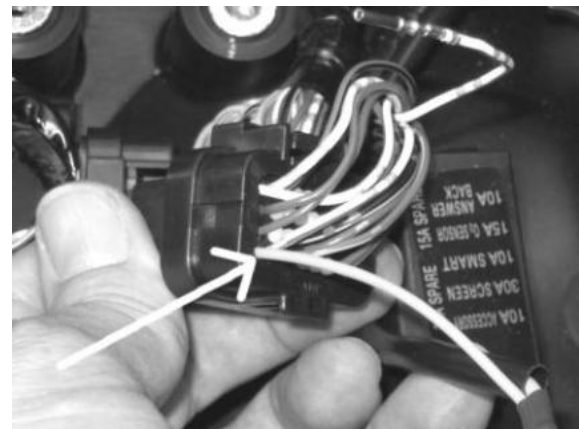
- Gently pull on the white/red (white with a red trace or stripe) wire to pull the terminal out of the plug.



- The wire and terminal removed from the plug. This wire is one of the trigger or signal wires to two of the ignition coils.



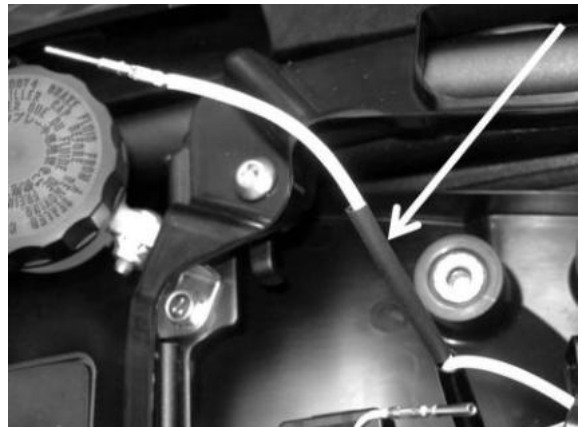
- Insert the terminal on the end of the cruise control yellow tach sensor wire into the plug, in the hole the white/red wire came from. Make sure it is inserted all the way.



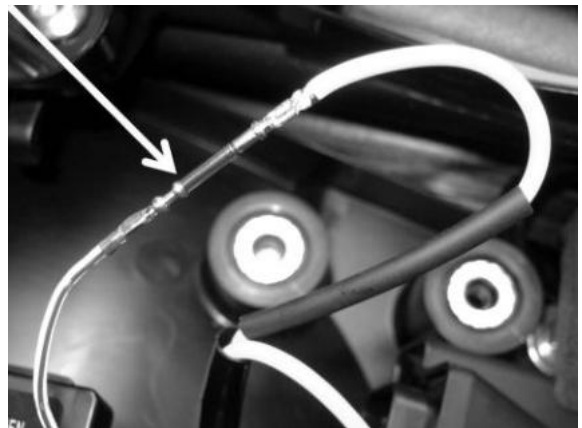
- If you can see the end of the terminal, it is inserted all the way.
- Push GENTLY down on the two tabs to close the terminal lock. It should close fairly easily. If it does not DO NOT FORCE IT. One or more of the terminals may have backed out a little.
- Check each terminal hole to ensure that it does have a wire and check that you can see the end of the terminal.
- If you can't see a terminal, push the wire in to push the terminal home, and then try the terminal lock.
- **Re-connect the plug to the bike's ECU.**



- Place the supplied piece of heat shrink tube over the white/red wire.



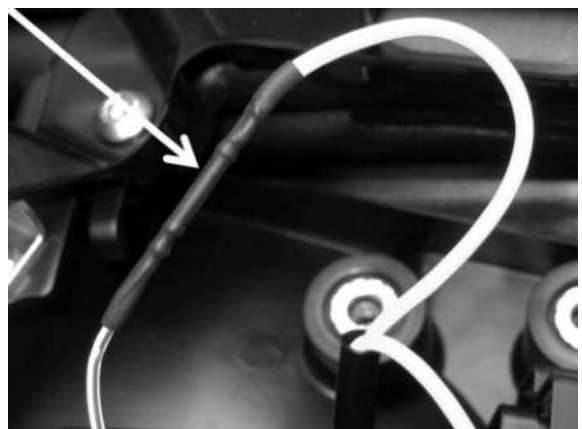
- Connect the terminal on the white/red wire to the terminal (pin) on the cruise control yellow tach sensor wire.



- Slide the heat shrink tube over the connection and use a suitable heat source such as a hot air gun to shrink the tube.

WARNING: - Use extreme caution if you decide to use any fuel operated device such as a cigarette lighter as a heat source. Make sure that there is no flammable fuel, vapour or other objects in the vicinity.

- Tuck the wires and terminals out of the way so that they will not be damaged.



Ground connection.

- Place the ring terminal on the black ground wire on one of the chassis ground bolts.
- If all other connections are completed, reconnect the battery ground lead to the frame and tighten the bolt.

This completes the wiring connections.

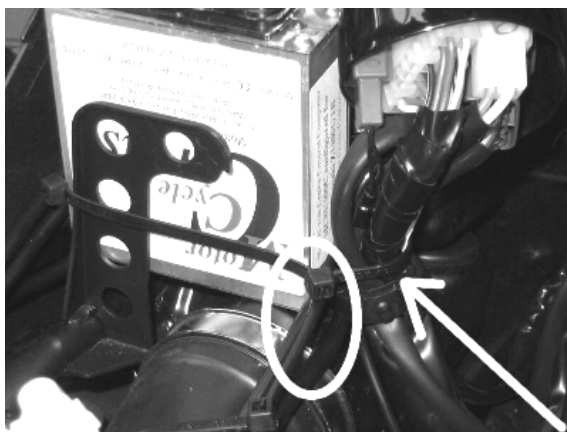


Finishing up.

- Use two long cable ties and wrap them around the cruise control computer AND the group of wires that go to the bike's left side switch block on the handlebar (arrowed).

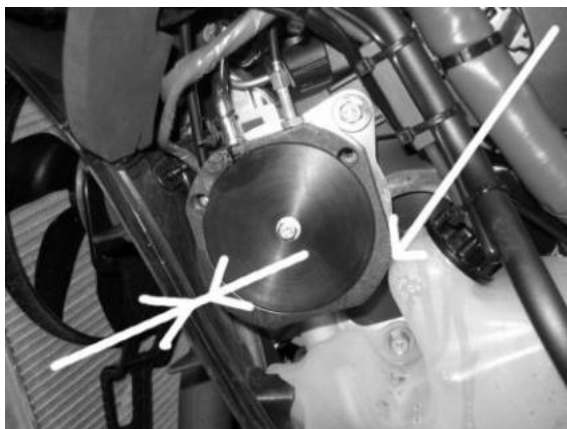
NOTE: - This photo shows an older cruise computer.

- On 'our' bike, these wires have a cable clip around them, but there was nothing on the bike to attach the clip to. We do not know if this is normal, or if the tab that this clip normally is attached to had been broken.
- Ensure that the cruise control wires that come out on the right side of the cruise control computer are below this cable tie (circled)
- Check carefully that any sharp edges on the cruise control computer or the mounting bracket will not damage either the bike's wiring or the cruise control wiring.

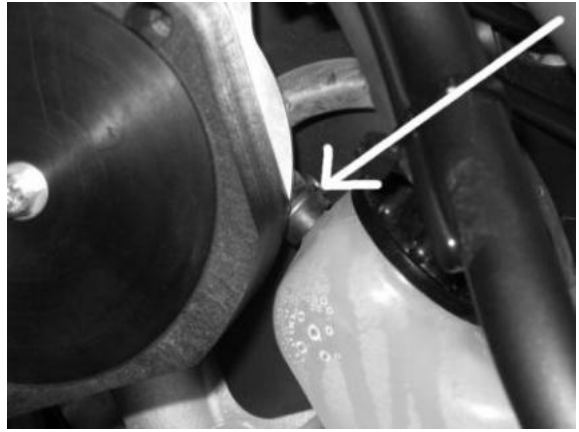


WARNING: - Move the handlebars slowly from full left to full right lock and check for any parts that may prevent full free steering movement.

- Check that there is some clearance between the front edge of the CIU housing and the rubber shield. If the CIU is too close, it makes it difficult to fit the fairing panel correctly.
- Make sure the CIU is NOT touching the coolant reservoir.

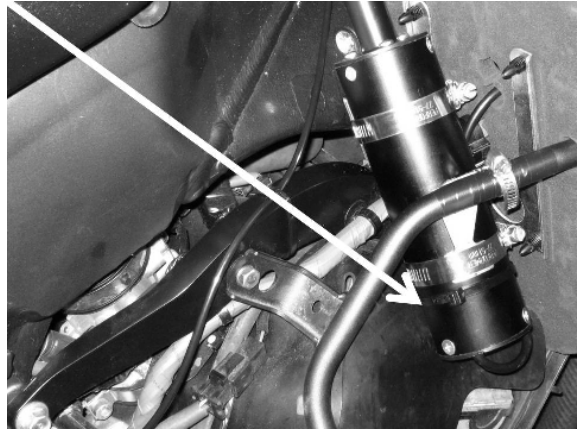


- Check that the CIU mounting bracket is NOT touching the coolant overflow hose. Bend the bracket outwards if necessary to prevent contact.



- Check all wires, cables and hoses. Fit cable ties where necessary. Ensure that no moving or stationary parts can damage any of the cruise control components.
- Check for wire pulling at all steering positions (straight ahead and full left and right lock).
- Check the operation of the throttle at all steering positions.

- Wrap a cable tie around the bottom of the servo to hold the wire against the side of the servo.



Throttle servo cable final adjustment.

Operate the throttle firmly from closed to full throttle several times to ensure that all the cables are seated correctly.

Start the engine and allow it to warm up enough for the fast idle system to turn off (a minute or so usually) and the engine to idle at normal speed. Turn the ignition off.

NOTE: - This adjustment procedure is CRITICAL to the good performance of the cruise control. Follow the instructions carefully to ensure that proper adjustment is achieved.

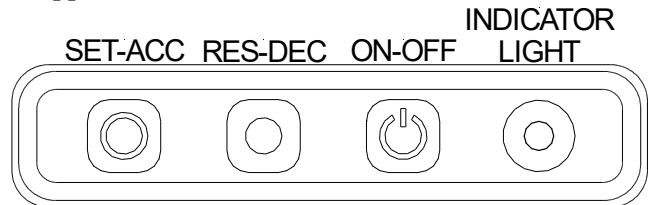
Information.

The electric servo uses an electric motor to pull the cable to operate the throttle. There is also an electric clutch that is released whenever the cruise control is disengaged. The end travel of the servo is limited at each end of its travel (throttle fully released to 'idle' and throttle fully applied) by limit switches built into the servo. After the servo stops at the limit switch the servo motor is unable to move the throttle any further, however when the clutch is released the servo will move further to a physical stop. As a result, it is important that the position of the limit switch is treated as the throttle released position, and the free play to the servo cable is adjusted at this point or the performance of the cruise control will suffer. To do this, we must use the servo to apply throttle, then back off the throttle to the idle limit switch position, and use this point to adjust

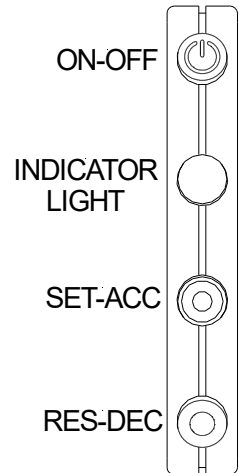
MotorCycle Cruise © - Kawasaki Concours Z1400GTR from 2010
the servo cable free play. When the servo clutch is released, there will be considerably more free play. It is **essential** that the free play be adjusted at the idle limit switch position, NOT at the clutch released position.

This procedure is done using the cruise control switch to operate the throttle servo. MotorCycle Cruise Controls has two different control switches that can be supplied with the cruise control.

This is the standard switch, it has pictographs on the buttons, the purpose of the buttons is shown here.



We also have another optional switch, the Slim Switch, which has the same pictographs.



Procedure.

Turn OFF the ignition switch.

Screw the adjuster on the end of the servo IN most of the way (no or almost no thread visible) to put more free-play in the cable.



Press and HOLD the ON-OFF and the SET buttons on the cruise control switch, turn ON the ignition switch, but do not start the engine, **hold the buttons for a further 5 seconds**, then release the SET and ON-OFF buttons. This engages diagnostic mode and enables you to operate the servo using the SET and RES buttons.

Press and release the SET, RES and ON-OFF buttons and apply the brakes in turn while watching the indicator light next to the ON-OFF button on the control switch. The light **MUST** come on GREEN and go out again with each button press and on brake application and release. This indicates that you are in diagnostic mode and it is working correctly. If the light does not come on GREEN with each button, repeat the above instructions to re-enter diagnostic mode. If the light does not come on with brake application, you may have to adjust one or all of the brake light switches or replace the brake light globes.

Start the engine and wait for the revs to drop to normal idle speed, typically this will take a minute or so.

At each press of the SET button, the servo will pull the cable a small amount. Press the button 20 times in succession or until the revs increase to about 2~3000 rpm, with at least 1/2 second between each press.

Now press the RES button 20 times. The revs should drop to idle.

Turn the adjuster on the servo cable out until the engine rpm just starts to lift off idle.

Turn the adjuster back in until the engine rpm just drops back to idle speed. Turn the adjuster in 1 turn more to put a bit more free play in the cable.

Apply and release the brakes.

Check the free play in the servo cable. There should now be about 4~5mm of free play.

Press the SET button repeatedly until the engine revs start to increase. This should take about 6 to 10 presses.

Now press the RES button repeatedly. The engine revs should drop to idle. If it does not return to idle, screw the servo cable adjuster in a bit.

Repeat the operation of increasing revs using the SET button and reducing using the RES button, then after the engine is back to idle, press RES at least 5 more times. Adjusting the servo cable until the revs drop to idle reliably and increase again within 2~3 presses of the SET button.

Apply and release the brakes. The engine rpm should drop instantly to idle.

Press the SET button repeatedly until the engine revs start to increase (usually 6 to 10 presses).

Press the RES button repeatedly until the revs drop to idle, then press RES 5 times more.

Repeat the operation of increasing revs using the SET button and reducing using the RES button and adjusting the servo cable until the revs drop to idle reliably and increase again within 2~3 presses of the SET button.

If this procedure can be repeated reliably, the servo cable adjustment is correct. Gently tighten the lock nut on the adjuster, then repeat the above test.

NOTE: - This adjustment MUST be done with the engine running at normal idle speed. As soon as the engine is turned off, the fast idle mechanism can apply a small amount of throttle and this can result in 'false' free play in the cable. Adjusting the cable with the engine stopped could result in the idle being unable to return to normal idle.

NOTE: - This adjustment is CRITICAL to good performance of the cruise control and MUST be correct.

Re-check the twist grip free play and adjust if necessary. Remember, the twist grip MUST have some free play at all steering positions. The adjusters must be set so that the wires to the heated grip are not pulled during throttle operation.

NOTE: - Turn the ignition switch OFF. Firmly twist the throttle grip to full OPEN and full CLOSED positions several times. This will ensure that all the cables are seated fully in their adjusters and 'pre-stretch' the cables a little. Now re-check the free play in the 'servo' cable and see if there is more free play and adjust if necessary using the procedure above. Then re-check the throttle grip free play and adjust if necessary.

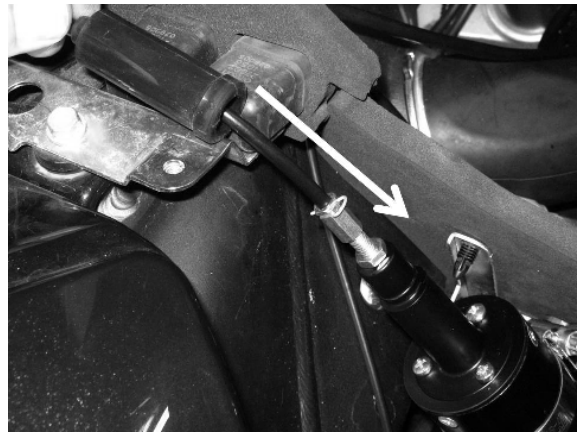
The 'carburettor' cable free play adjustment must not be moved after this. All changes in free play in the throttle must be performed using the adjusters in the original throttle cables. If incorrect adjustment is

suspected in the carburettor cable or throttle servo cable, the adjustment procedure shown above must be repeated after the adjusters in the original throttle cable are backed off to give a lot of free play in the throttle twist grip.

Push the servo cable firmly into the adjuster and fit the wire retaining clip to the servo cable adjuster.



Fit the cable boot over the adjuster and onto the 'nose' of the servo. If it is difficult to do without pulling the cable out of the adjuster, loosen the two hose clamps that mount the servo and push the servo up to allow enough 'slack' in the cable to fit the cable boot easily.



Reposition the servo as shown and firmly tighten the three hose clamps (two large and one small) and the mounting bolt on the bike's frame for the upper mounting tab. Make sure the servo cable is NOT stretched across the top of the bike. It must be slightly loose.

Trial fit the right-side fairing panel to ensure that it will fit with the throttle servo.



NOTE: - We recommend that you perform a full diagnostic test on the cruise control before re-assembling the motorcycle.

- **DIAGNOSTIC MODE OPERATION**
- **Refer to Chapter 8, Diagnostic Mode Operation, in the Information, Set Up and Operation Manual.**
- **Re-assemble the motorcycle for road testing after diagnostic testing is complete**

- **CAUTION: - Check that no wires and control cables are crushed or caught by any of the fairing panels, seat or the fuel tank during re-assembly. Check that all wires and cables are restrained and will not be damaged by any moving or stationary parts. Check that the seat will not damage the wiring harness.**
- Check that the hinged lid on the fairing pocket operates correctly and installation of the cruise control computer and wiring harness cannot jam the lid.

NOTES: -