

Packing list for:
SUZUKI GSX1300R Hayabusa from 2008 to 2021
(2nd Generation)
MCS 6460G2 Kit

Standard Switch ☐

Slim Switch ☐

Servo Right Side ☐

Servo Left Side ☐

Pack in small kit carton (MCS 002)

<u>Qty</u>	<u>Part Number</u>	<u>Description</u>	
1	MCS 6468	Carburettor cable (500mm with 8mm adaptor and 6mm flat washer)	
1	MCS 850_HE	Electric throttle servo assembly (large parts bag)	
1	MCSSC 650	Standard Servo cable (right side mounted servo)	Standard right ☐
OR	MCSSC 750	Optional Servo cable (left side mounted servo)	Optional left ☐
1	MCS 850B	Servo cable-sealing boot	
1	MCS 054	Wire ring, cable retainer	
1	MCS6460G2	Computer configured for GSX1300R (medium parts bag)	HW _____
2 lengths		Self-adhesive Velcro 7cm long	SW _____
1	MCS 6465	Cable Interface Unit (CIU) assembly (medium parts bag)	
1	MCS 6464-830B-160	MCS Control Switch assembly	☐
OR			
1	GT-1014-160	Slim Control Switch	☐
1	MCS048E	Double Sided Tape	
2	CT300BLK	Cable Ties	
1	Parts bag	(See below for contents)	
1	MCS 6461	Wiring harness	
1	Installation Manual for GSX1300R Gen 2		
1	2D Barcode MCS8000 (MCS6000) Incl Diagnostic Manual		
1	OPTIONAL – Slim Switch Installation Manual		

Parts bag contents (medium parts bag)

1	Sum MT6180-1181	1 way receptacle housing (see drawing MCS6461/1)(speed sensor)
1	FW-C-1F	1 way receptacle housing (see drawing MCS6461/1)(tach sensor)
1	HoseClamp36	Hose Clamp 46~70mm (Servo mounting)
1 length		Foam tape, 15cm long (Servo mounting)
1	MCS 054	Wire ring, cable retainer (spare)
1 bottle		Throttle cable oil
10cm	CF10	10mm convoluted split tubing
10		150mm cable ties
10		200mm 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 Suzuki GSX1300R Hayabusa
Model years from 2008 to 2021 (2nd Generation)**

6 October 2026

MOTORCYCLE CRUISE CONTROLS

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

SUZUKI GSX1300R Hayabusa from 2008 to 2021 (2nd Generation)**Parts list for MCS 6460 G2 kit**

Item	Qty	Part Number	Description
1	1	MCS 8000C	Computer
2	2 lengths		Self-Adhesive Velcro 7cm long
		<u>MCS 6462 G2</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	MCSSC 650	Throttle servo cable (right side servo mounting)
OR	1	MCSSC 750	Throttle servo cable (left side servo mounting)
10	1 length		Foam tape 15cm long (servo mounting)
11	1	HoseClamp36	Hose Clamp 47~70mm (servo mounting)
12	1	<u>MCS 6461</u>	<u>Wiring harness</u>
a			Computer plug (26 pin)
b			Fuse holder (3 amp fuse)
c			Tach sensor connector (yellow wires)
c1			Tach sensor receptacle connector
d			Speed sensor connector (blue/black wires)
d1			Speed sensor receptacle connector
e			Servo plug (4 pin)
f			Power & brake sensor connectors (orange and grey wires)
g			Clutch sensor connector (blue wire)
h			Ground connector (black wire)
i			Control switch plug (6 pin)
		<u>MCS 6464</u>	<u>Control Switch assembly</u>
13	1	MCS 820	Control Switch
14	1	MCS 830B	Switch bracket
	4		4 gauge x 1/2" pan head self tap screw
15		<u>MCS 6465</u>	<u>Cable Interface Unit (CIU) assembly</u>
16	1	MCS 6465A	CIU housing
17	1	MCS 003F	Throttle Servo spool
18	1	MCS 6466	Dual spool
19	1	MCS 003H	Bush
20	1	MCS 003K	End Cap
21	1		M5 x 45 pivot bolt
22	1		Pivot nut M5 Nyloc nut
23	2		5mm plated flat washer
24	1		M4 x 10 pan head screw (servo cable retainer)
25	1	MCS 6465B	CIU mounting tab
		<u>MCS 6468</u>	<u>Carburettor cable assembly</u>
26	1	MCSCC 500	Carburettor cable
27	1	MCS 003Z	6mm to 8mm adaptor washer

10cm

CF10

10mm convoluted split tubing

10

150mm cable ties

10

200mm cable ties

10

300mm cable ties

1 bottle

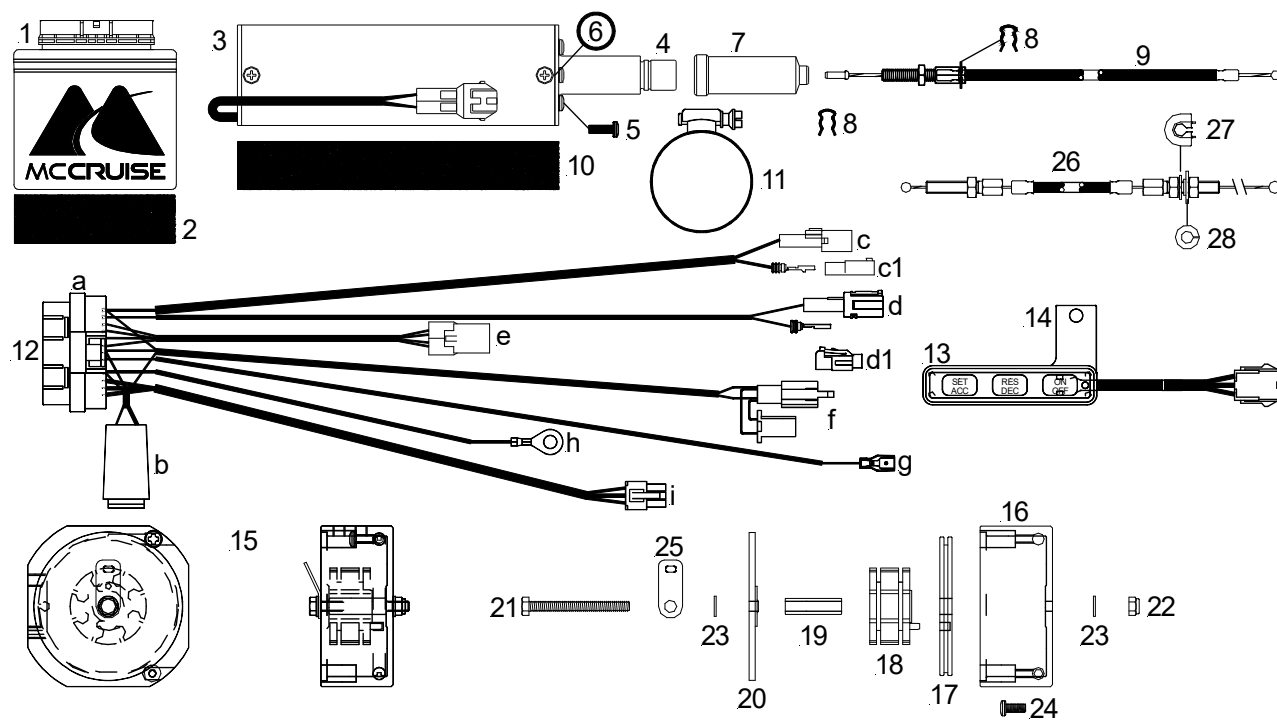
Throttle cable oil (Singer industrial sewing machine oil)

Information, Set up and Operation Manual

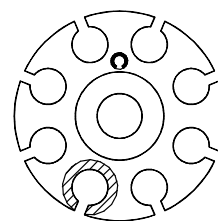
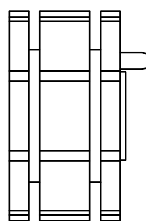
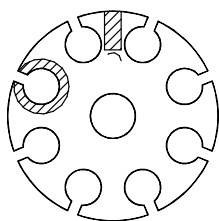
Operation and User Manual

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 motor car 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 lifted for most installation and can be very heavy when full of fuel.

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

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**

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

The following directions may be used to prepare the bike for cruise installation:

Remove the seat.

Release the key lock on the left side of the seat.



Lift the rear of the seat, then pull the seat to the rear to remove it.



Loosen and remove the two bolt (one each side) to release the rider's seat.

Lift the front of the seat and remove it from the bike.



Disconnect the negative battery lead.

Disconnect the lead from the negative battery terminal.

Ensure that the lead cannot touch the battery terminal.



Raise the fuel tank.

Undo and remove the two mounting bolts at the front of the fuel tank.



Remove the fuel tank 'stay' from the storage compartment under the passenger seat.



Remove the chrome cap from one of the bolts on the upper triple clamp (triple tree).



Carefully raise the fuel tank and fit the stay as shown.

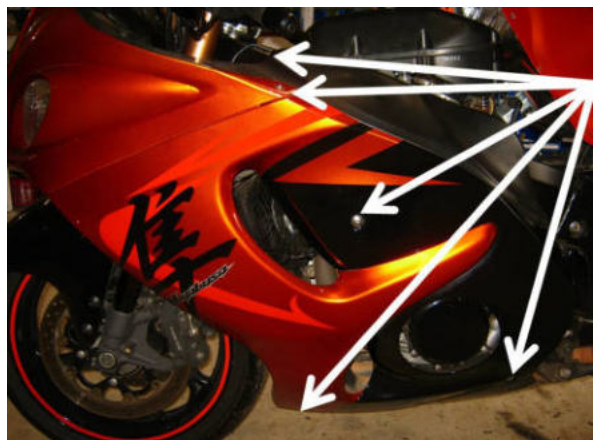
Take care to check for any wires or hoses connected to the fuel tank being pulled while raising the tank.



Remove the left and right side fairing panels.

Undo/remove the various bolts and clips on the left side fairing panel.

More detail is shown in the photos below.



Remove the clip holding the inner fill panel to the frame. Pull the centre pin of the clip out to release the clip.

Remove the bolt on the inner panel join.



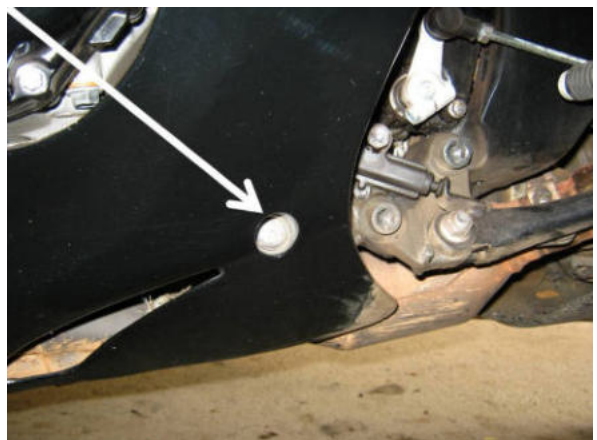
Remove the bolt at the top join.



Remove the bolt in the centre of the panel.

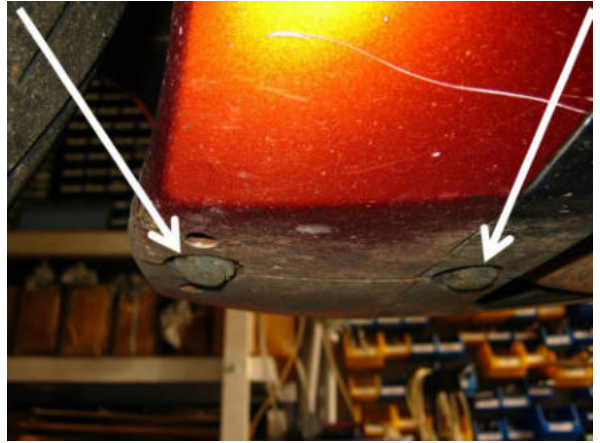


Remove the bolt at the bottom rear of the panel.



Remove the two clips at the bottom join of the fairing panels.

Pull the centre pin of the clips out to release the clips.



Release the clip on the inner panel, below the radiator.

Push the centre pin in to release this clip.



Release the inner panel from the main fairing panel at the leading edge.

These inner panels stay on the bike.



Pull the inner edge of the inner panel up to release the post from this grommet (the fairing panel is already removed from the bike in this photo).



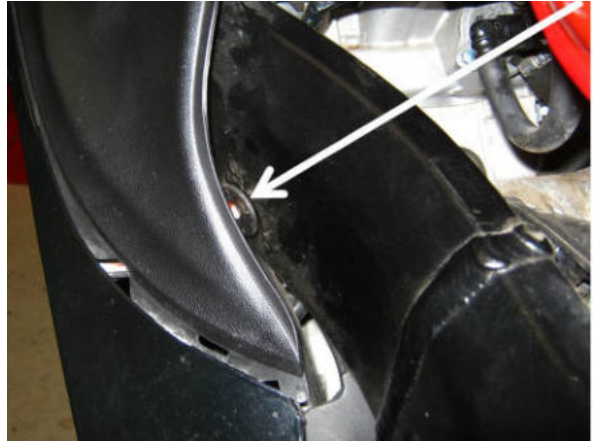
Gently ease the panel away from the frame to release the post from this grommet in the frame.

The upper black trim panel is attached to the fairing panel and comes off the bike with the fairing panel.

There is another post and grommet to release lower down, at the bottom of the motor/crankcase.

Draw the panel to the rear and down to release it from the upper fairing.

Repeat on the right side fairing panel.



Remove the rear fairing.

More detail is shown in the photos below.



Remove the bolts at the front edge of the panel on both sides.



Remove the 'bungy strap hook' bolts on both sides.

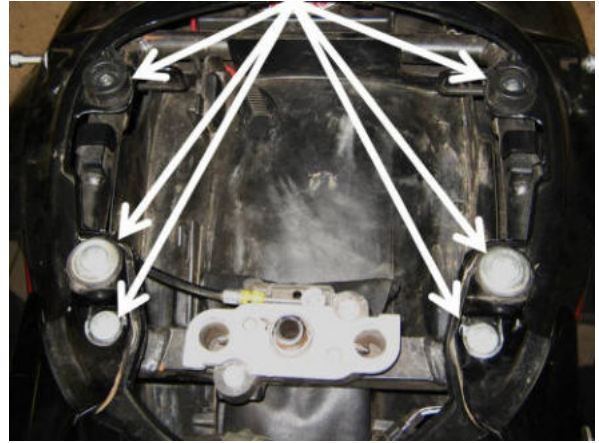
Pull the plastic plug out of the centre to reveal a hex (Allen) head fitting.

Use a hex key to undo the bolt.



Undo the two screws in the rubber seat supports (upper two arrows).

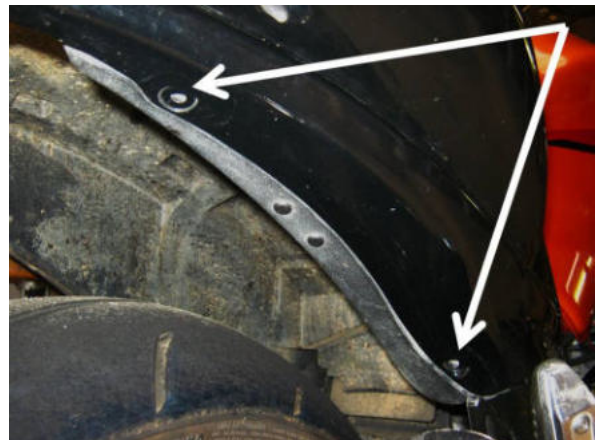
Undo the four mounting bolts for the passenger grab handle and remove the handle (lower four arrows).



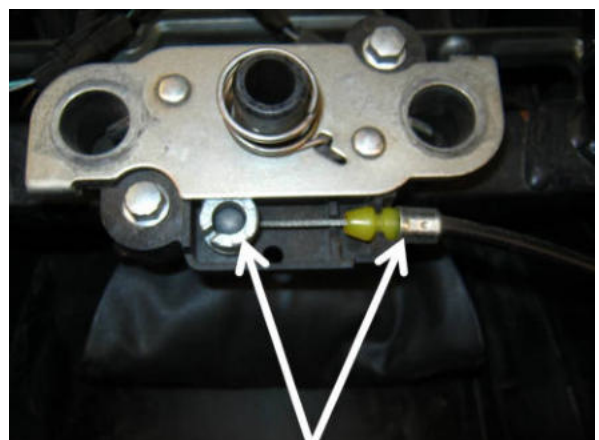
Remove the four clips and remove the fill panel above the battery.



Remove the clips on the lower edge, two clips on each side.



Disconnect the cable for the seat lock.



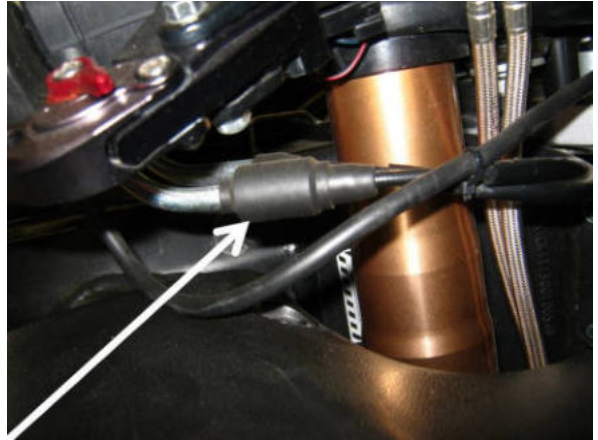
Spread the two sides of the panel apart and move it to the rear to remove it from the bike.

While removing the panel, disconnect the multi-way plug for the rear lights.



Disconnecting the opening or 'pull' throttle cable from the throttle bodies.

Locate the in-line throttle cable adjuster in the opening cable, near the twist grip.



Slide the rubber 'boot' off the adjuster.

Back the adjuster off all the way (no thread visible) to give maximum free play in the twist grip.



Locate the throttle cable attachment to the throttle bodies.

This is on the left end of the throttle bodies.

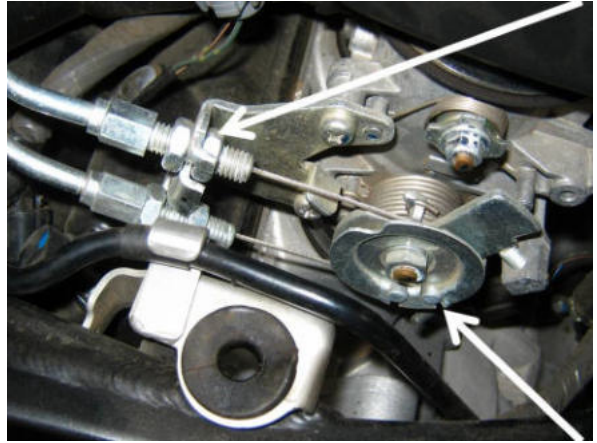


The upper cable is the ‘pull’ or opening cable (upper arrow).

Undo the adjuster locknuts and remove the adjuster from the throttle body bracket.

Disconnect the cable nipple from the throttle body spindle (lower arrow).

NOTE: - Do NOT disconnect the other (closing) cable from the throttle bodies.



The ends of the thread on the adjuster are ‘staked’ slightly.

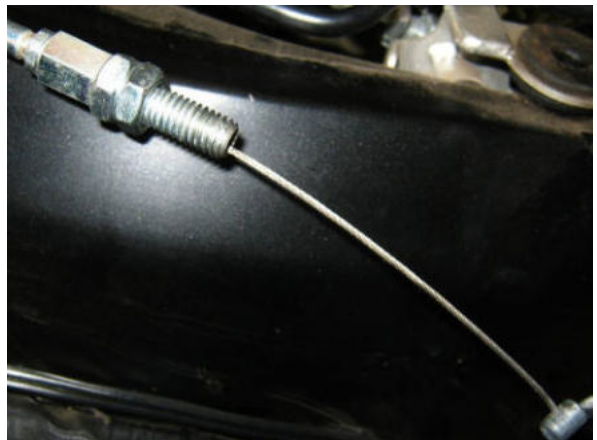
Put a drop of oil on the threads and screw both lock nuts off the adjuster to ‘repair’ the thread.



Screw both lock nuts back on to the adjuster.

Screw the first nut all the way up and tighten it.

Screw the second lock nut up to the first, but do NOT tighten it.



Draw the opening cable all the way out of the cable guide in front of the air filter housing (upper arrow).

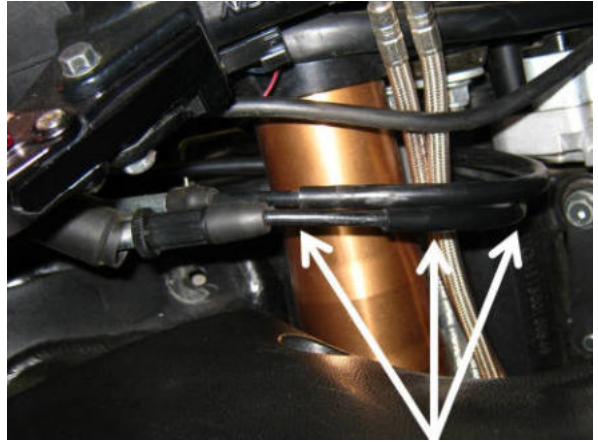
Route the cable to the right side of the air filter housing (lower arrow).



Route the cable down to the right end of the throttle bodies.



Check that the opening cable is **below** the other (closing) cable and not twisted around the closing cable at any point.



Check that the opening cable is **below** the other (closing) cable and not twisted around the closing cable at any point.

Make sure the cables do not cross each other, the opening cable **MUST** be below the closing cable all the way.



Lubricating the throttle cables and throttle twist grip.

NOTE: - This is essential maintenance to ensure smooth operation and performance of the cruise control and throttle grip. Disassemble the twist grip to lubricate the twist grip and cables.

Remove the two screws holding the twist grip housing halves together.

Split the halves.

NOTE: - you may need to loosen the brake lever mounting bolts and move the brake lever assembly up the bar to split the twist grip housing.

Disconnect both cable nipples from the twist grip.



Remove the cable retaining screw (arrowed) and remove both cables from the twist grip housing.



Run at least 6 to 10 drops of the supplied 'throttle cable oil' down each cable. It is a little difficult to get oil to go into these cable ends.

We suggest unscrewing the in line cable adjuster in the 'pull' cable and run oil down the cable from the adjuster. The adjuster can be 'filled' with oil, then let the oil run down the cable from there.

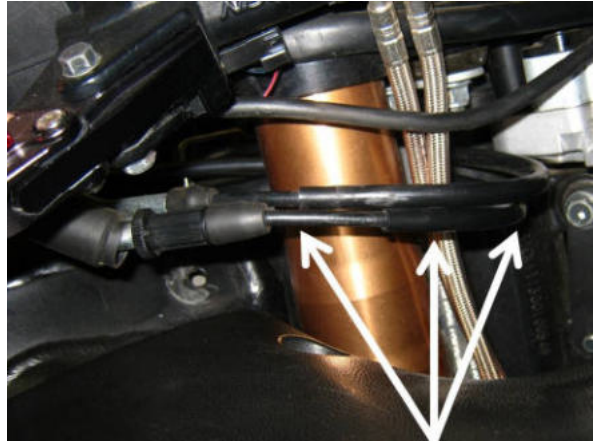
Re-assemble the cables to the housing, re-connect the cables to the twist grip and re-assemble the twist grip housing.



The oil supplied in the kit is Sewing machine oil and is ideal – **DO NOT USE ENGINE OIL. It is too heavy!** Lubricating the cable with a dewatering fluid such as CRC 5-56 or WD-40 is NOT an acceptable alternative. We have customers who have tried dewatering fluid, and it does NOT work well.

Apply a THIN film of engine oil or silicone spray lubricant to lubricate the throttle grip barrel where it contacts the handle bar.

Check that the opening cable is **below** the other (closing) cable and not twisted around the closing cable at any point.



Check that the opening cable is **below** the other (closing) cable and not twisted around the closing cable at any point.

Make sure the cables do not cross each other, the opening cable **MUST** be below the closing cable all the way.



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

Installing the ‘carburettor’ cable.

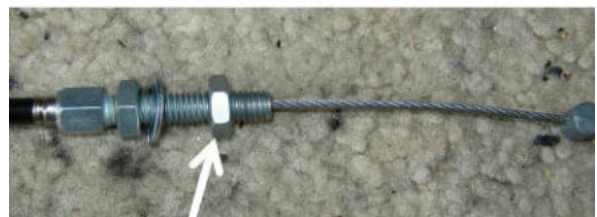
Locate the ‘carburettor’ cable in the kit.

The end of the cable with the barrel nipple should have two lock nuts, a flat washer and a stepped washer on the adjuster.

Screw one lock nut off the adjuster and remove the stepped washer from the cable.

Don’t lose the stepped washer, it will be put back on the cable.

Screw the lock nut back onto the adjuster.



The cable must go below the air filter housing, and above all wires, hoses, cables in the cavity.

If necessary, look through with a torch and push all wires and cables out of the way with a long screwdriver.

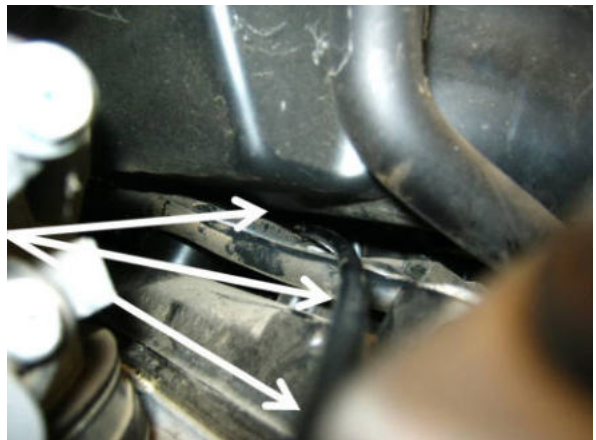
CAUTION: - Take care not to damage any of these parts.



Feed the end of the cable with the barrel nipple in below the air filter housing, above the cylinder head from the right side of the bike.



Feed the cable through directly under the air filter housing and above everything else.



Draw the cable out on the left side of the bike.



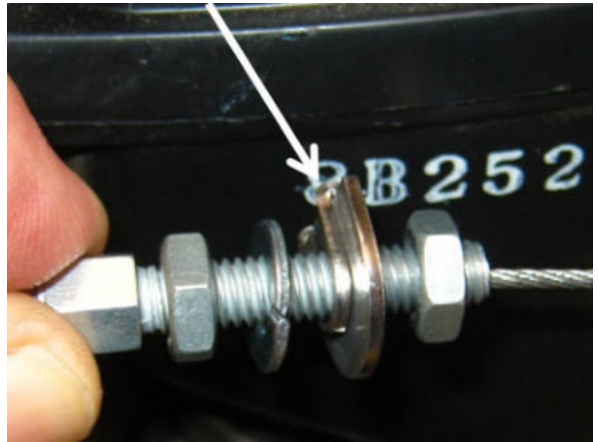
Make sure the cable is directly below the air filter housing. There must be no other components between the cable and the air filter housing.



Replace the stepped washer on the cable adjuster.

Make sure the order is the same as shown in the photo.

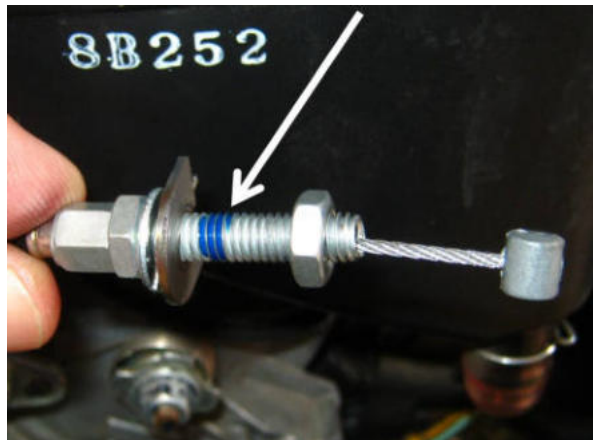
Make sure the orientation of the stepped washer is the same as the photo.



Screw the first lock nut all the way up the adjuster, don't tighten it.

Push both washers up to the first lock nut.

Apply a drop of low or medium strength thread locking compound to the threads below the washers (arrowed).

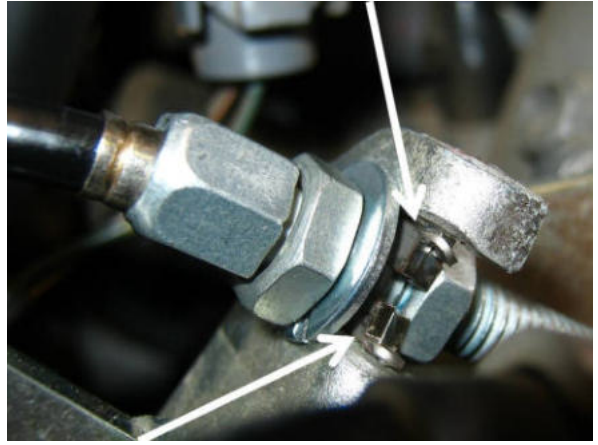


Fit the adjuster to the throttle body bracket so the stepped washer is below the bracket and the flat washer is above it.

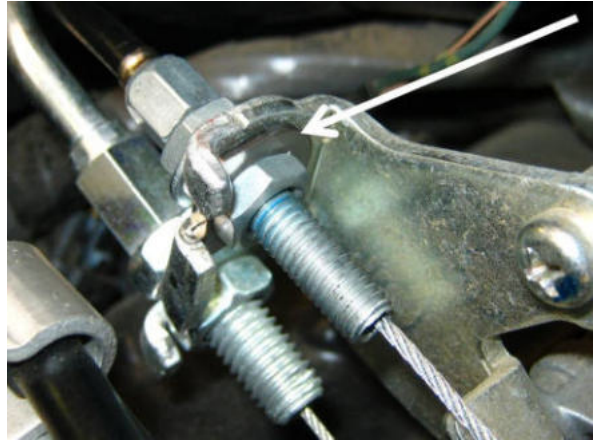
Screw the adjuster in so the second lock nut screws up the adjuster, that is so the adjuster is screwed all or most of the way in.



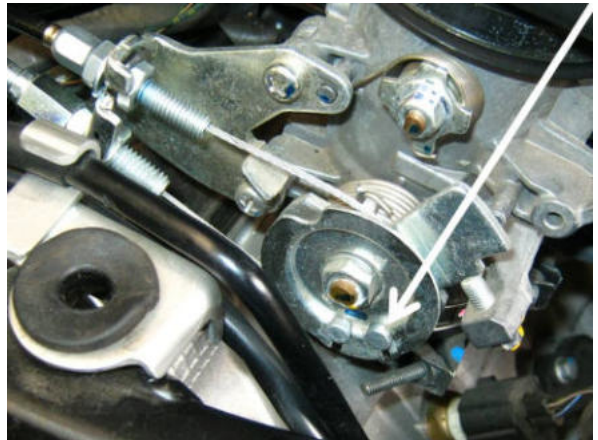
Make sure the step on the washer fits inside the slot in the bracket.



The washer MUST sit flat on the bracket.



Fit the cable nipple in the throttle body spindle.



The routing of the carburettor cable under the air filter housing.



Installing the Electric Throttle Servo.

The servo normally mounts on the right side of the bike, at the rear on the seat sub-frame (arrows).

While installing the cruise control, we observed that there are three threaded holes in the frame in this location. We do not know what these holes are for, they do not appear to be for the ABS modulator on bikes equipped with ABS brakes, so at the moment we don't know what the purpose is for these threaded holes.

If these holes are used on some models or markets, the option is there to mount the servo on the left side of the bike instead.

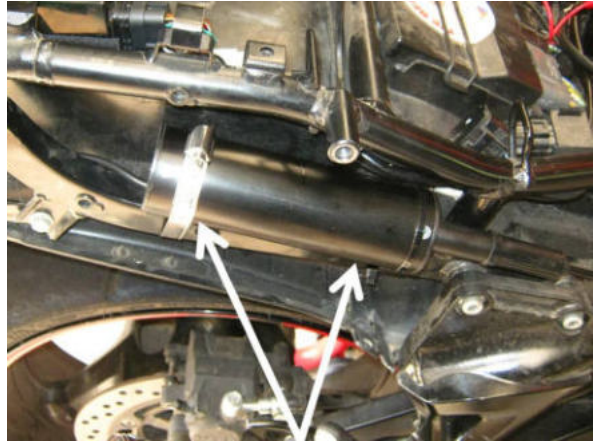
The procedure to mount the servo is the same, the electrical wiring harness is the same, but the cable from the servo is longer if the servo is mounted on the left side of the bike.

Locate the hose clamp in the parts bag in the kit.

Undo the clamp and place it around the rear sub-frame frame tube.

Place a drop of oil on the screw on the clamp. This makes tightening the clamp much easier.

Re-connect the ends of the clamp.



Apply the length of the foam tape in the parts bag either to the servo or to the frame tube where the servo and frame tube contact each other.

Place the back of the servo in the hose clamp.

Position the servo so the 'nose' of the servo is sitting against the frame (upper arrow).

The servo should be entirely on the straight section of the frame tube. It must not intrude on the curved section (lower arrow).

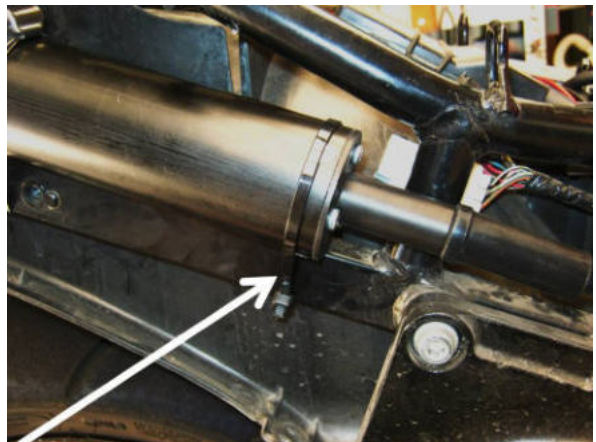


Tighten the hose clamp so it holds the servo in place firmly.

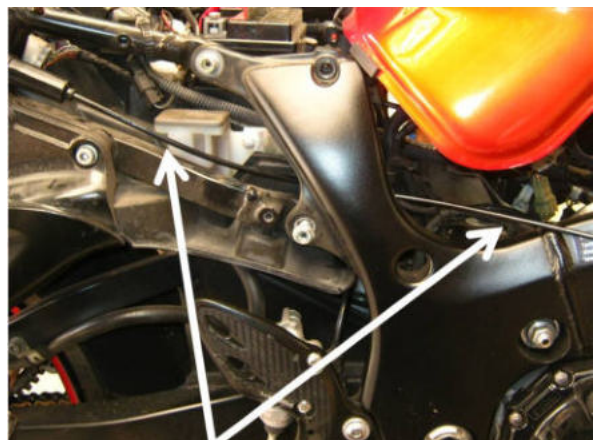
NOTE: - Do not over tighten the hose clamp. Tighten it to hold the servo firmly in place. Over tightening the hose clamp will just risk breaking the clamp.



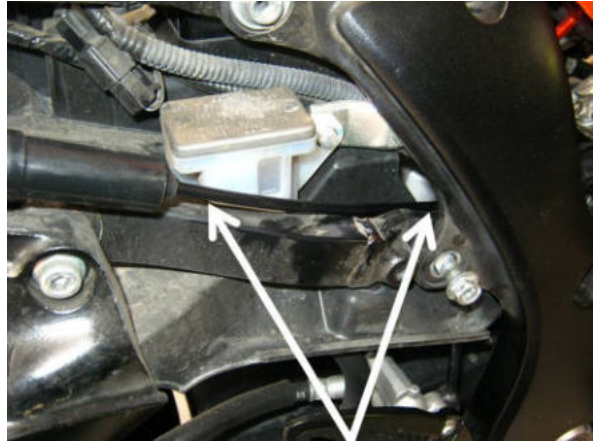
Fit a long cable tie around the front of the servo and the frame tube.



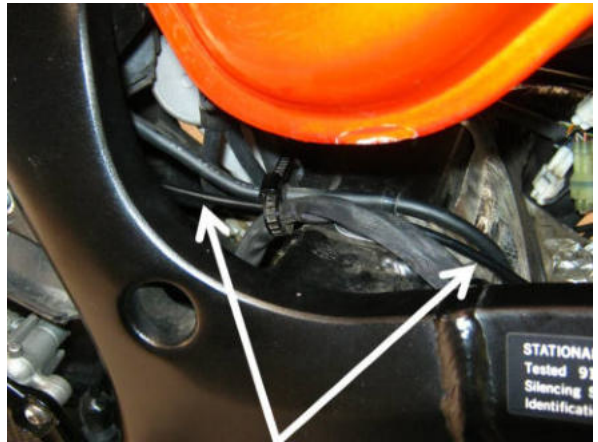
Route the servo cable forward under the rear of the fuel tank.



Detail of the servo cable routing.



Detail of the servo cable routing beside the brake fluid line.



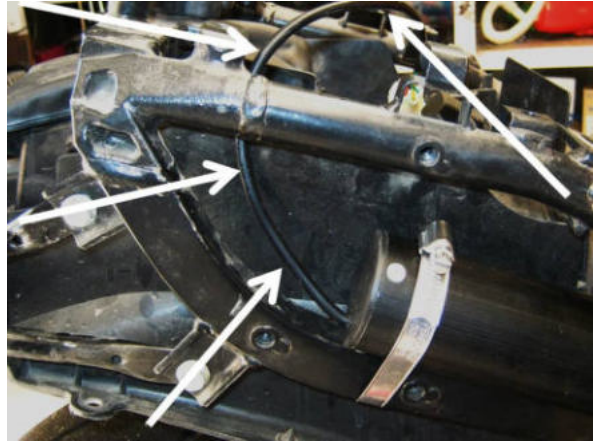
Route the cable beside the brake line, use the bike's zip tie to hold the cable in place.



Route the cable into the area behind the engine, above the gear box.



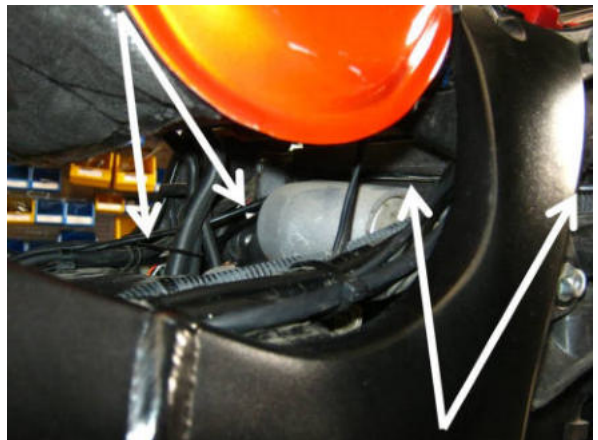
Route the electrical wires from the servo into the rear storage compartment, on the inside of the frame.



If the servo is to be mounted on the left of the bike, use the same procedure that was used to mount it on the right.



Route the servo cable across the top of the rear spring/shock under the rear of the fuel tank, to the right side the bike, then follow the same routing as was used on the right side mounting.



Route the electrical wire from the servo across to the right side of the bike, in the storage compartment.

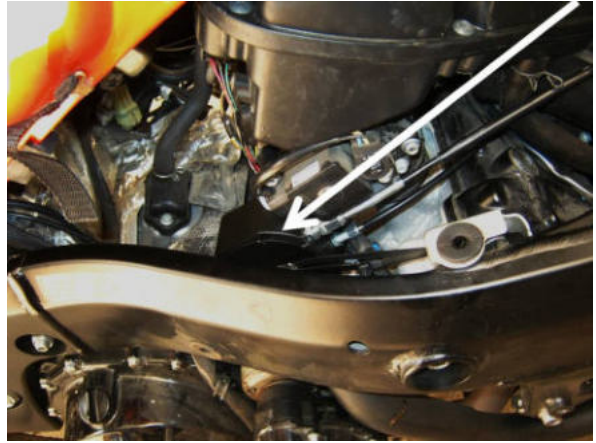


Installing the Cable Interface Unit (CIU).

The CIU will be mounted on the right side of the bike, below the right end of the throttle bodies.

Locate the CIU in the cruise control kit.

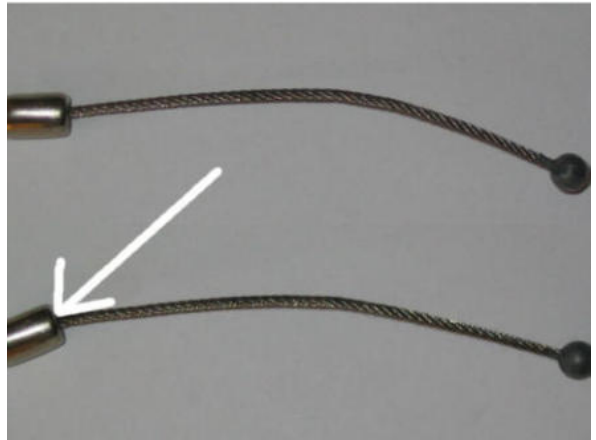
Disassemble the CIU noting the location of the components.



CAUTION: - Take great care to check the throttle servo cable at this point. Make sure that the cable is totally free to move by pushing and pulling on the wire rope (the inner cable) to check that it moves freely in the cable casing (the outer).

The upper cable is straight and will work well. The lower cable has a kink and can cause problems.

Check very carefully for any kinks in the cable, particularly at the point it enters the cable casing (arrowed). A kink here will make almost impossible for the cruise control to perform properly. Any kinks in the cable can easily be removed by gently reversing the bend by hand. Any 'catches' in the cable movement will effect cruise control performance.

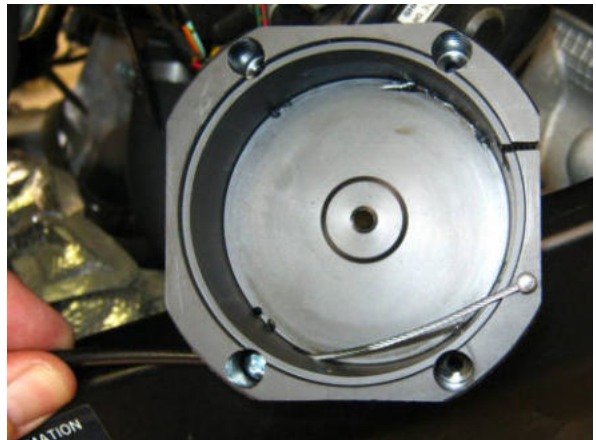


Loosen the retaining screw a few turns.

Insert the servo cable in to the hole. Push the cable in all the way so it bottoms on the shoulder in the hole.

Gently tighten the screw to retain the cable in the CIU.

Take care not to over tighten the screw and jam the cable or strip the threads of the housing.



Insert the ball nipple on the end of the servo cable into the hole in the thin servo spool.

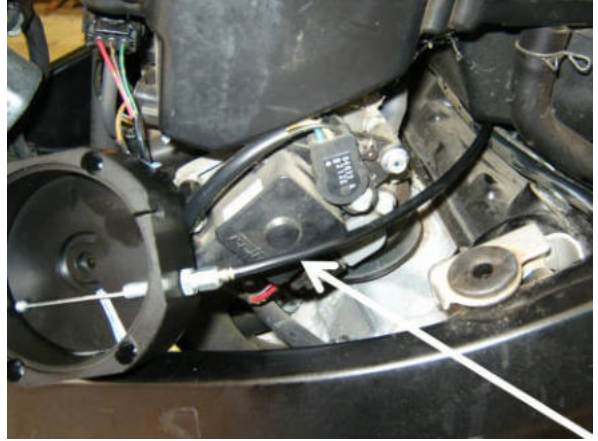
Place the spool in the CIU housing with the groove facing up.

Rotate the spool anti-clockwise as far as it will go to fully extend the cable (arrow).



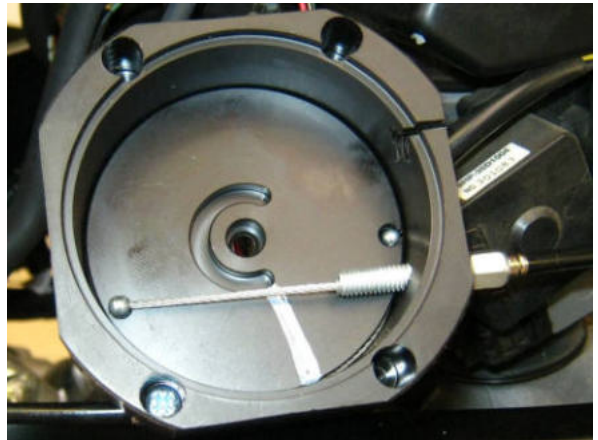
Locate the end of the new ‘carburettor’ cable with the ball nipple.

Route the ‘carburettor’ cable you previously installed on the throttle bodies to the CIU housing.



Screw the adjuster on the ‘carburettor’ cable into the un-slotted, threaded hole in the CIU.

Screw the adjuster in most of the way.



Place the nipple on the ‘carburettor’ cable in the marked hole on the bottom side (roll pin side) of the dual spool. This hole is also marked with a dot on the top side of the spool.

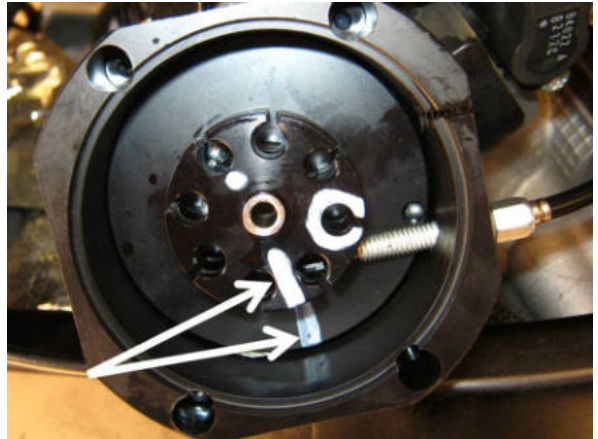
Wrap the cable around the spool in the lower groove.

Place the spool in the CIU so the roll pin engages in the slot in the servo spool.

Put a drop of the supplied throttle cable oil on the bush.

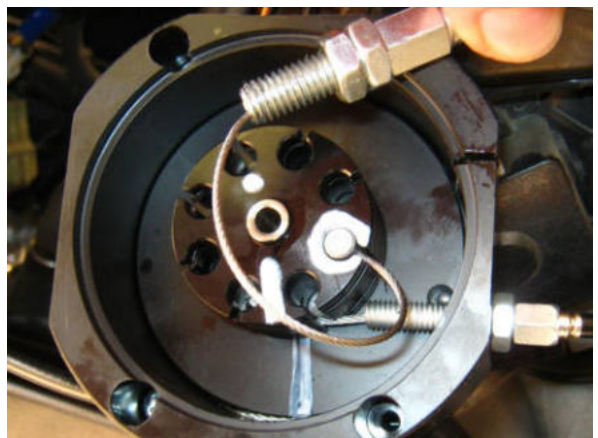
Insert the bush into the spools.

Check that the line on the dual spool lines up with the line on the servo spool (arrowed).



Route the bike’s original throttle cable to the CIU.

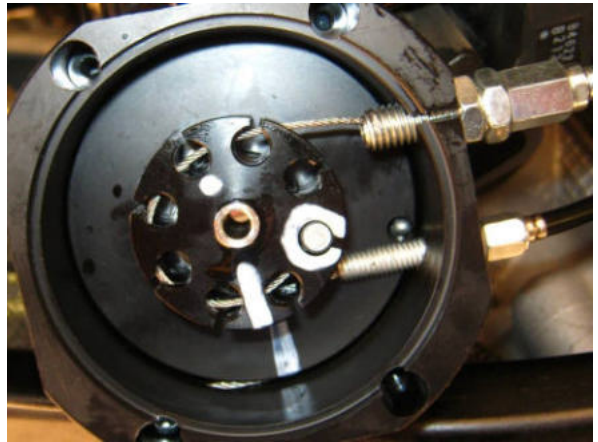
Put the barrel nipple on the throttle cable in the marked hole in the top of the dual spool.



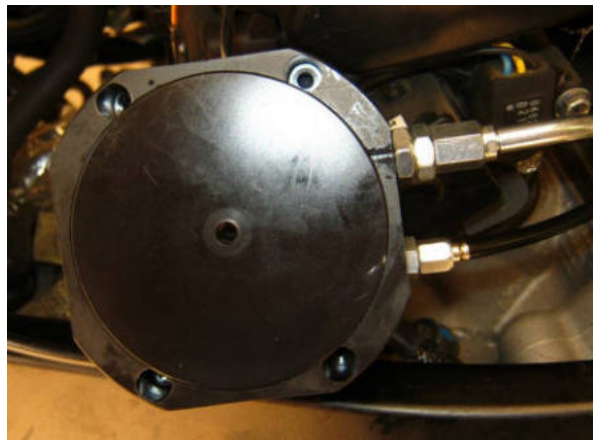
Wrap the cable around the spool in the upper groove.



Screw the adjuster all the way into the slotted hole in the CIU.

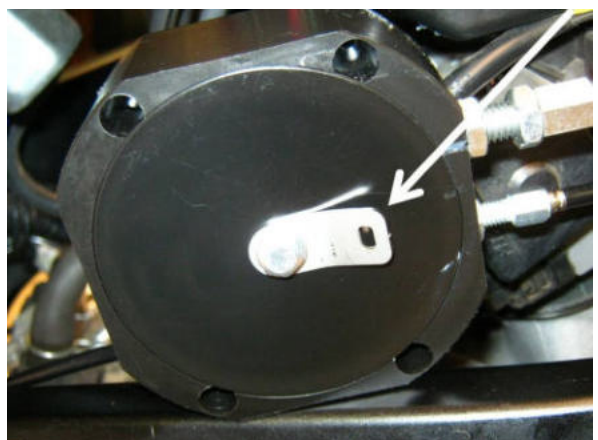


Place the end cap on the CIU.



Place a flat washer, then the mounting clip on the bolt.

Insert the bolt through the CIU.



Fit another flat washer, then the Nylok nut to the bolt.

Gently tighten the nut.

Keep the clip on the front of the CIU aligned as shown in the previous photos while you tighten the nut.

CAUTION: - While tightening the bolt you will feel resistance from the nylon insert in the Nylok nut. As soon as the resistance starts to increase as the components seat, tighten the bolt 1/3 ~ 1/2 a turn further and no more.

Adjusting the 'carburettor' cable free play.

Slide the boot off the end of the servo and along the servo cable.

Remove the cable retaining clip from the adjuster (arrow).

Take care not to lose the clip. There is a spare in the parts bag.

Screw the adjuster out about 10 turns (10 threads visible - arrowed).

Push the cable firmly unto the adjuster.

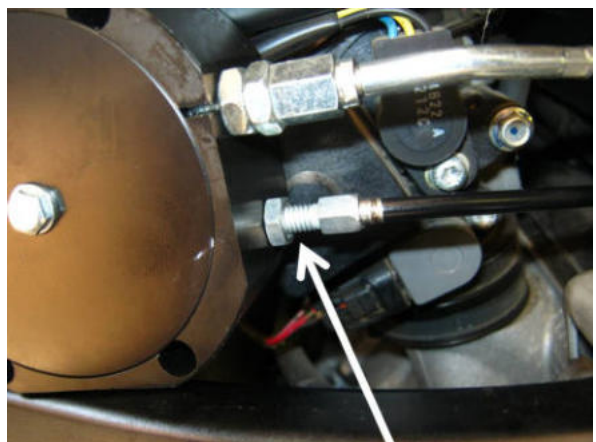
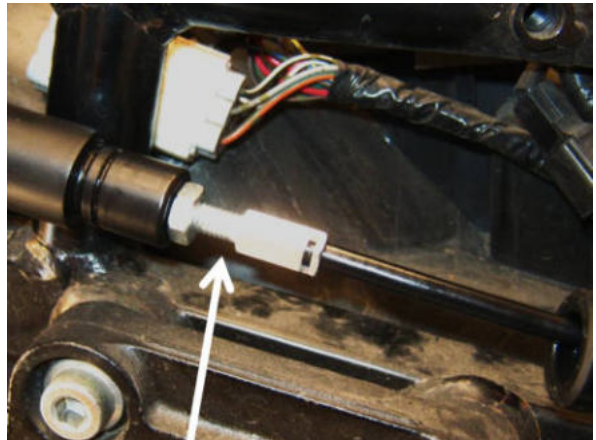
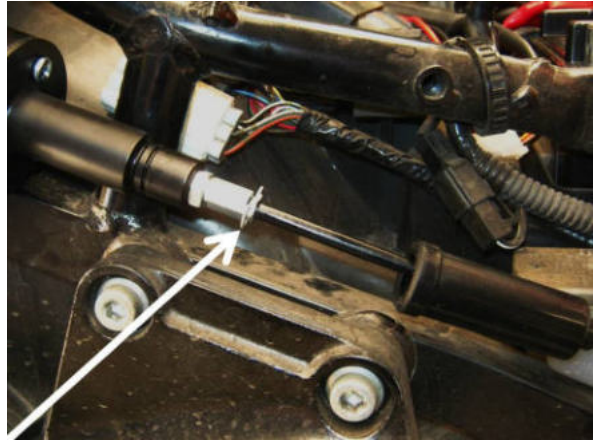
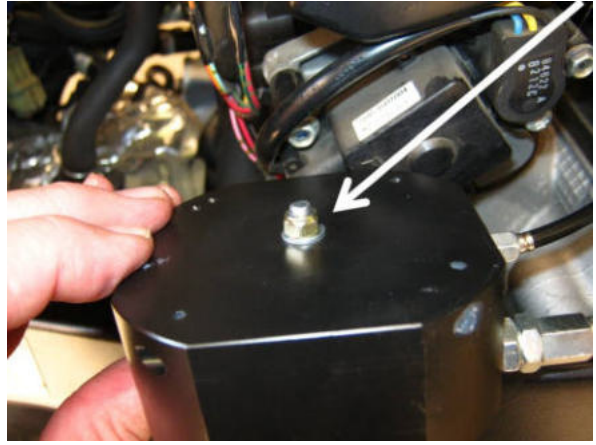
Replace the retaining clip.

Screw the adjuster out on the 'carburettor' cable adjuster until almost all the free play is taken up (1~2mm free play in the cable).

Pull the cable out of the adjuster to check the free play. You should only be able to pull the cable out 1~2mm (~1/16") before the throttle body spindle starts to move.

Gently tighten the lock nut on the cable adjuster.

NOTE: - The adjuster is made of alloy and will brake if the lock nut is over tightened. This type of breakage will NOT be covered by warranty.



Throttle cable/twist grip free play adjustment.

Screw the adjuster in the throttle cable out 4~6 turns.

Screw out the lock nut and tighten.

Screw the adjuster out on the bike's original throttle cable until there is 2~3 mm of free play in the outside diameter of the twist grip.

Gently tighten the lock nut on the adjuster.

Apply full throttle and closed throttle hard several times using the twist grip (turn the grip as hard as you dare without breaking it) to seat all the cables and 'pre stretch' them a little.

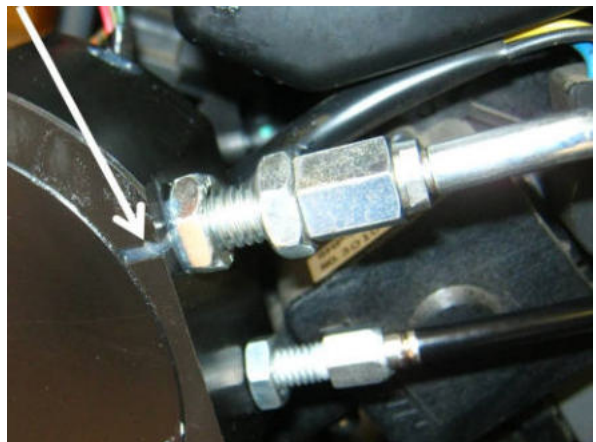
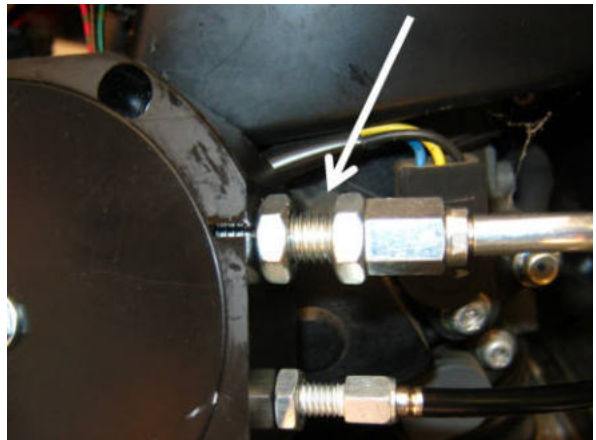
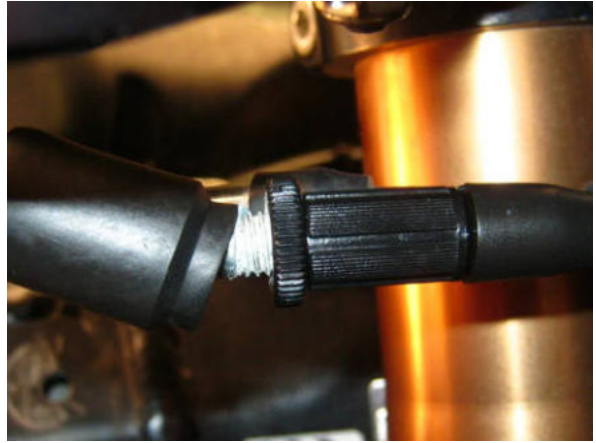
Re-check the free play in the 'carburettor cable' in particular, and re-adjust to achieve 1~2mm of free play if required. It will almost certainly need to be re-adjusted.

Force some silicone sealant (general purpose gutter or household sealant is ideal) into the slot in the CIU to seal it.

Trial fit the CIU in the space below the throttle bodies.

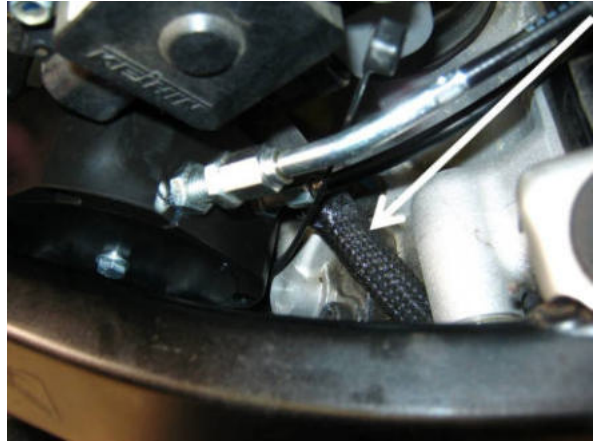
It should 'nestle' into the space under the throttle position sensor (the black square device) and the cylinder head/barrel below.

Check that the CIU will not damage the small coolant hose (arrowed).



The small coolant hose.

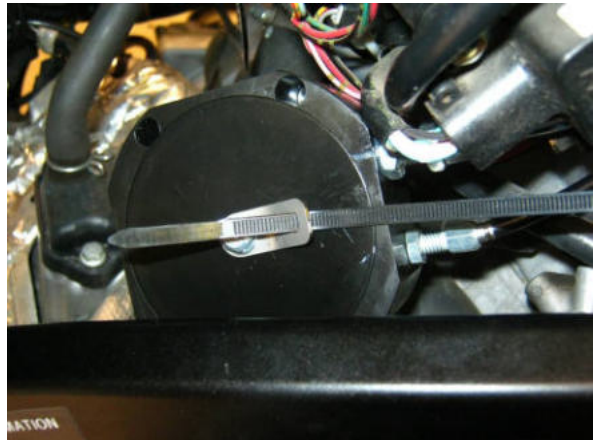
If there is risk of damage to the hose, fit a length of the convoluted split tubing supplied in the part bag to the hose to protect it.



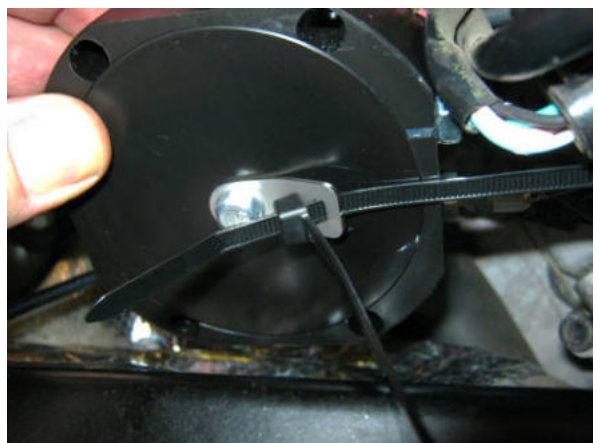
Mounting the CIU.

Get 2 of the long (300mm -12”) cable ties from the parts bag.

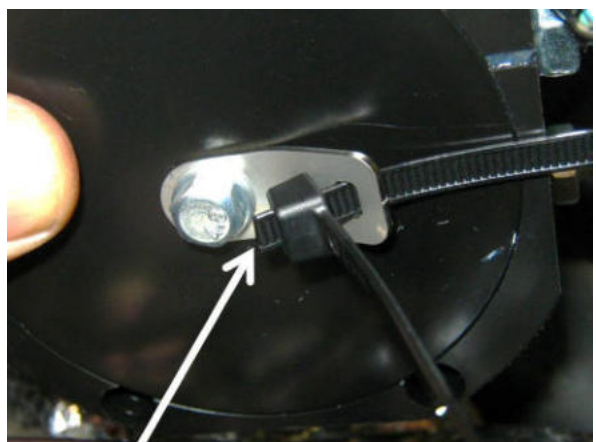
Thread the end of one cable tie through the hole in the CIU mounting tab.



Connect the **second** cable tie to the end of the **first** with only a small length of the first through the second.



Cut off the end of the first cable tie.



Draw both cable ties forward.

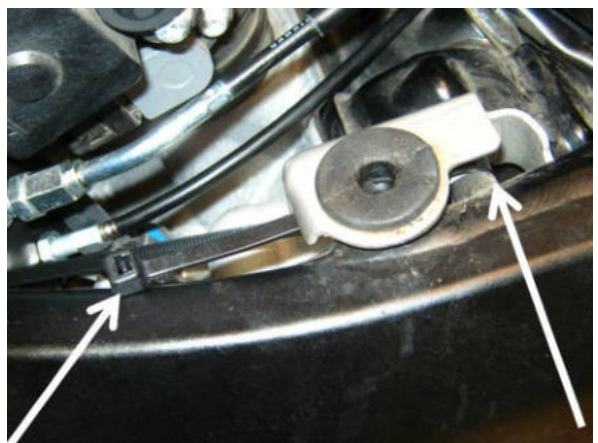
Position the CIU below the throttle bodies.



Thread the first cable tie under boss for the fairing mount bracket.



Wrap the cable tie around the frame boss (right arrow), then thread it back under the fairing bracket (left arrow).



Connect the free ends of the two cable ties.

Gently tighten the cable ties enough to stop the CIU flopping around in the space.

DO NOT APPLY A LOT OF TENSION TO THE CABLE TIES.



Trim the end of the cable tie (arrow).



Check the cable routing carefully. Make sure the cables are not under tension and that there are no kinks in the cables or very tight bends.

Operate the throttle and check for excessive friction or heaviness in the throttle action.

Move the handlebars from full left to full right lock and check for free and smooth throttle operation in all positions.

Check that the cables are not pulled during steering movement.

Installing the control switch.

The control switch is mounted below the handlebars. It is mounted on the clamp that holds the clutch lever assembly to the handlebars.



Undo the two bolts that hold the clutch lever assembly to the handlebar.

Remove the clamp from the handlebar.



Use a flat file and a vice with soft jaws (the fastest and easiest way to do this), or sand paper or a grinder to remove material from the inner face of the clutch (brake) lever clamp.

Remove material from lower face of the clamp.

Remove material equivalent to a bit less than the thickness of the control switch bracket (remove about 1.5mm or 0.060") from the lower face of the clamp. Ensure that the new surface is flat and parallel to the original surface.

Fit the clamp back on the handlebar with the upper bolt. Do the bolt up loosely.

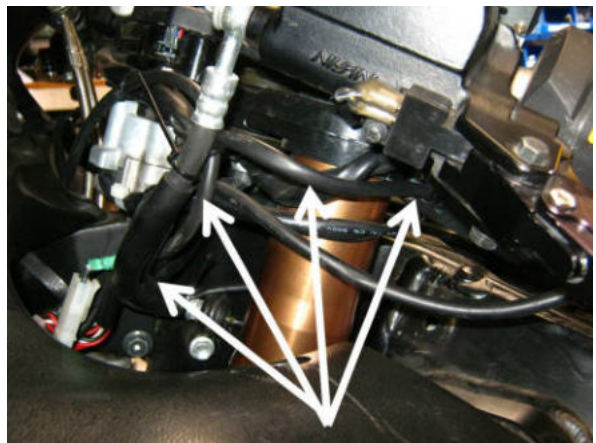
Fit the switch bracket below the handlebar between the faces of the clamp and the clutch lever.

Insert the second bolt, position the clutch/brake lever using the mark on the handlebars to get the correct position and tighten the lower bolt on the switch bracket fully to clamp the switch bracket.

Then tighten the upper bolt to clamp the lever assembly to the handlebars.

Check that the clutch/brake lever assembly is firmly clamped to the handlebar and that there is a small gap between the upper faces of the clamp. If there is no gap, remove the clamp and file more material from the face of the clamp.

Route the switch wire to the clutch hydraulic hose, then follow the hose down to the steering head stem.



Route the wire to the rear of the bike with the clutch fluid line.

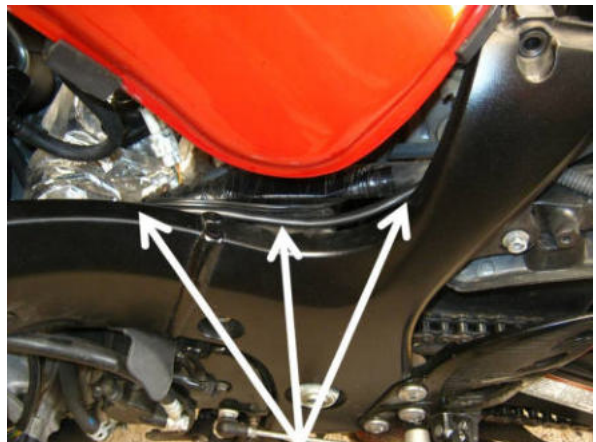


Route the wire to the rear of the bike with the clutch line, on the inside of the frame rail.

WARNING: - Make sure the wire is clear of the moving parts on the throttle spindle on the left end of the throttle bodies to throttle jams and damage to the switch wires.

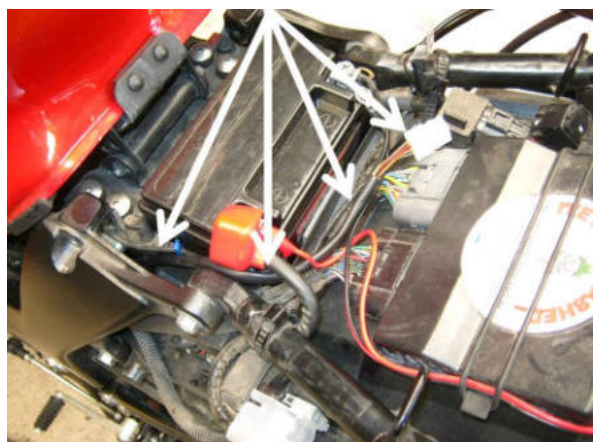


Route the wire to the rear of the bike with the bike's wiring harness on the inside of the frame rail.



Route the wire to the rear beside the battery, then across to the right side of the bike behind the battery.

The plug on the end of the wire should be behind the right rear corner of the battery.



Installing the cruise control computer.

Clean the underside of the computer with a suitable solvent such as methylated spirits or denatured alcohol.

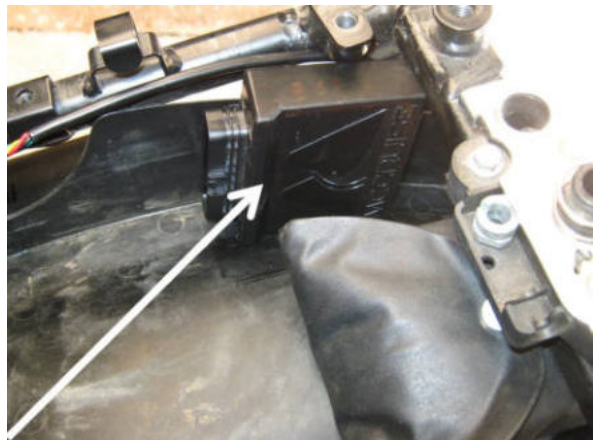
Apply the two strips of Velcro tape to the computer.



Clean the inside the right wall of the rear storage compartment with solvent.

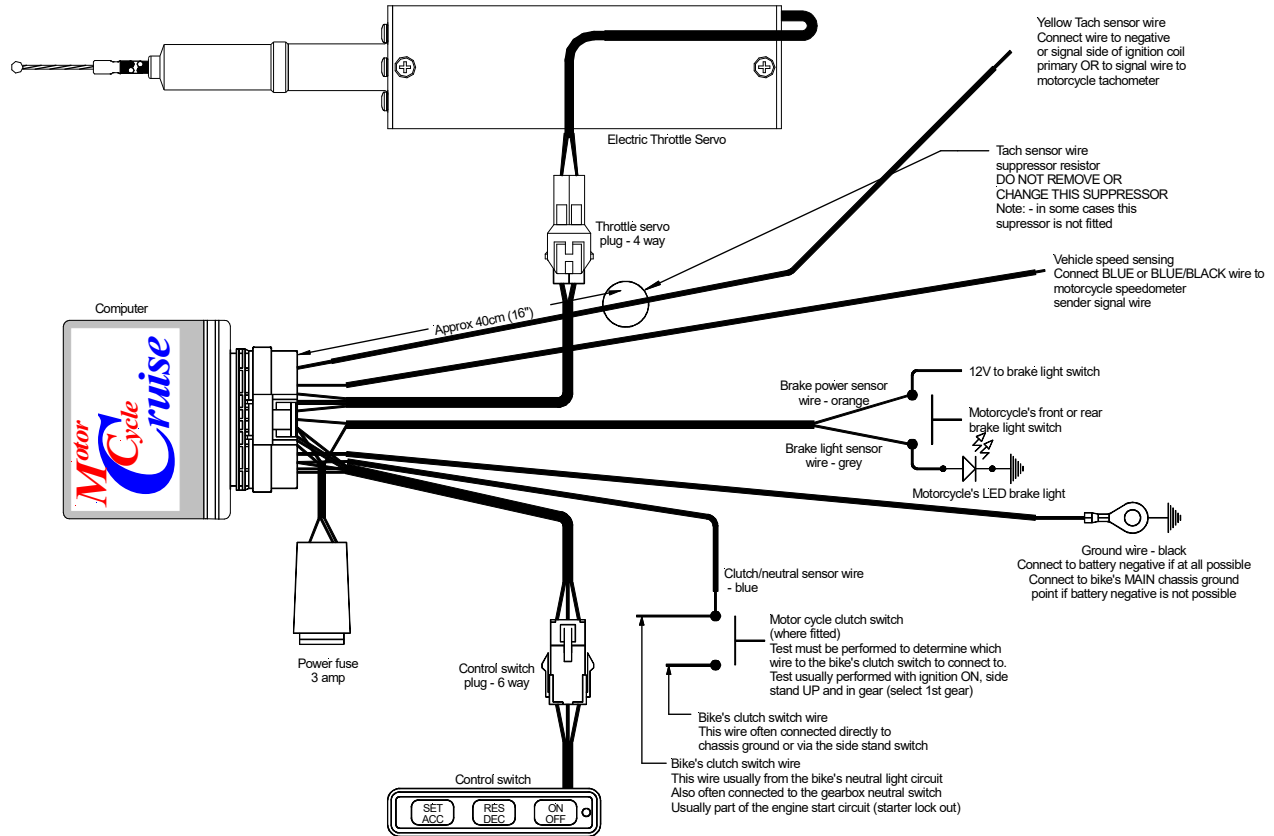


Position the computer and use the Velcro to mount the computer to the right side wall of the compartment.



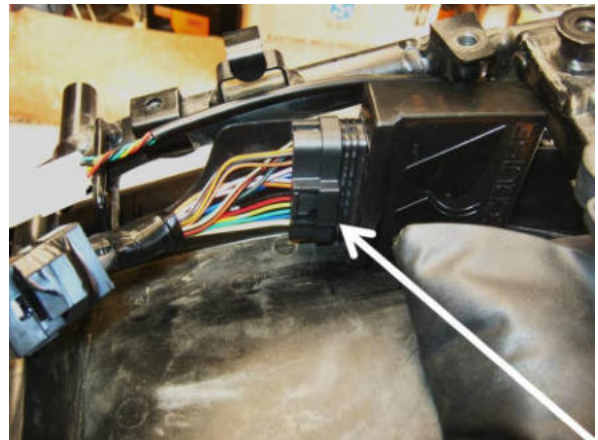
Installing the wiring harness

The diagram shows the connections to be made for most cruise control installations. Details follow this diagram.



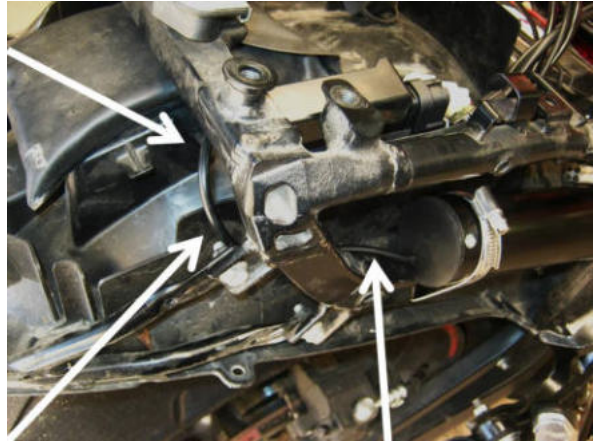
Computer connection.

Connect the wiring harness main plug to the cruise control computer.



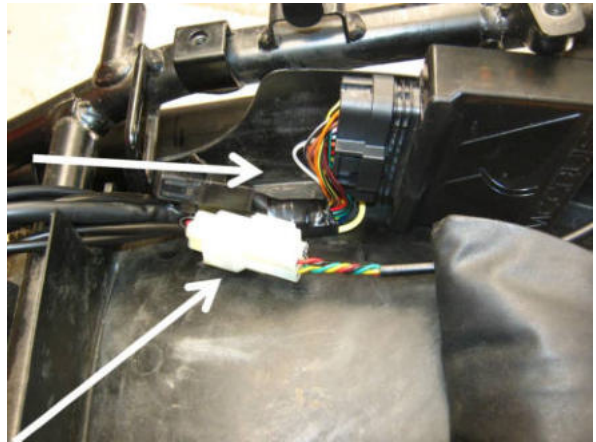
Throttle Servo Connection (right side mounting).

Route the servo wire as shown into the rear compartment.



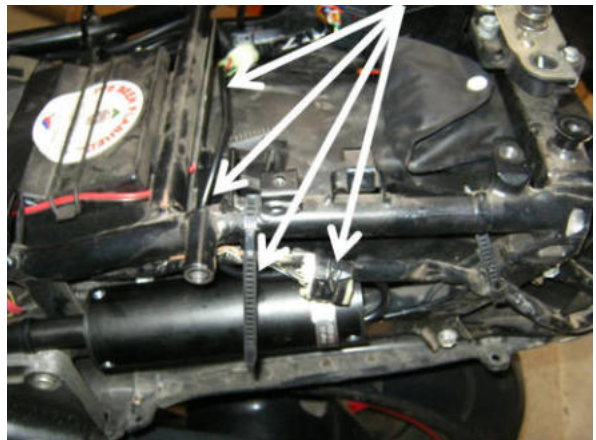
Connect the servo wire to the matching connector on the main harness (lower arrow).

Push the harness in to fold the wires under and beside the main harness plug (upper arrow).



Throttle Servo Connection (left side mounting).

Route the servo wire as shown into the rear compartment.



Route the wire across the front of the storage compartment and connect it to the matching plug on the cruise control harness.

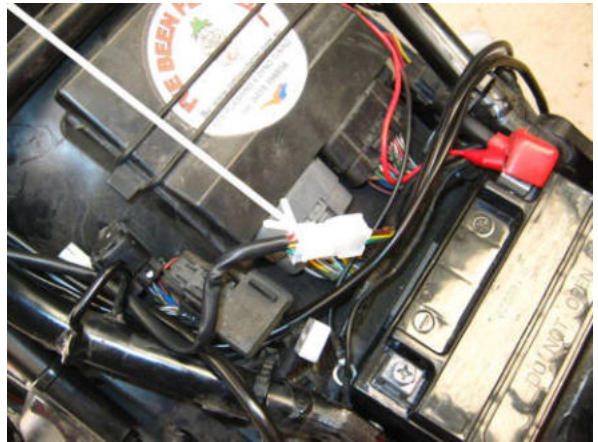


Route all branches of the harness out of the compartment through the slot in the front right corner of the compartment, and forward under the frame tube.



Control switch connection.

Connect the plug on the end of the wire from the control switch to the matching connector on the cruise control harness.



Ground connection.

Identify the ground wire on the cruise control harness.

It is a single black wire fitted with a ring terminal.

Route the ground wire to the negative terminal of the battery, but DO NOT CONNECT IT YET.



Power and brake sensor connection.

Locate the bike's rear brake light switch plug.

This plug is located behind the right side frame side plate, under the rear of the fuel tank.

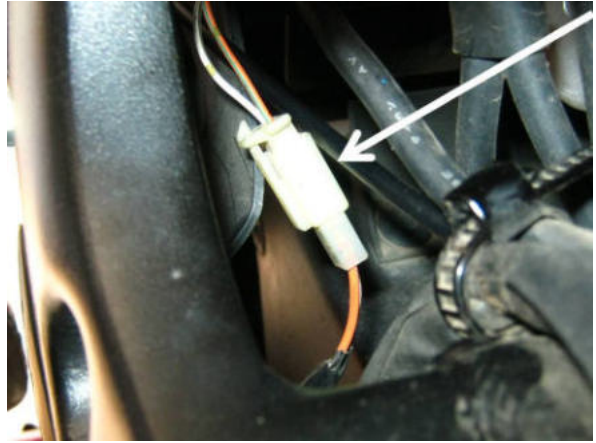


The rear brake light switch plug.

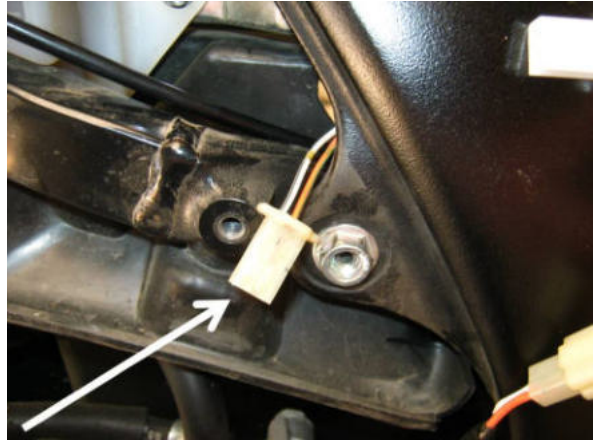
This is a white two way plug with white/black and orange or orange/green wires.

Disconnect this plug.

If you can't find it, follow the wires from the rear brake light switch to the plug.



Draw the upper half of the plug out of the frame.



Identify the cruise control brake connection.

This has two wires, orange and grey, fitted with a pair of two-way plugs.

Route this branch past the battery to the bike's upper brake light switch plug.

Connect the cruise control plug to the bike's plug.

The orange cruise wire connects to the bike's orange/green wire.

The grey cruise wire connects to the bike's white/black wire.

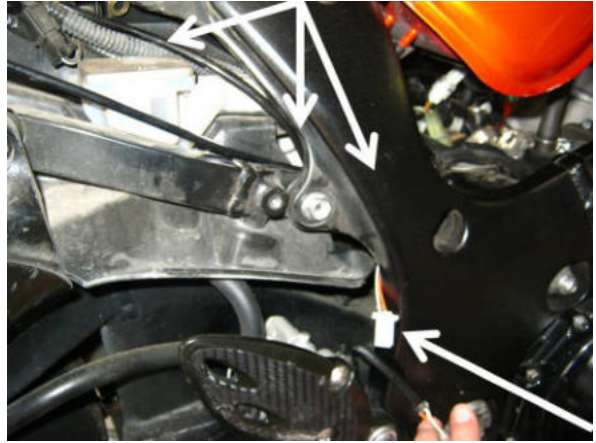


Place the connectors inside the frame side plate.

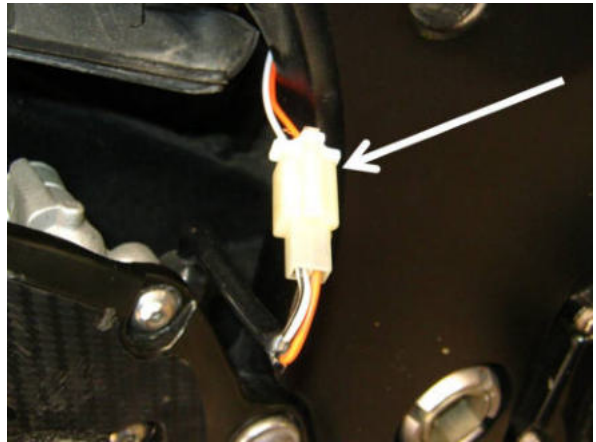


Place the connectors inside the frame side plate (upper arrows).

Draw the second plug on the cruise harness out from behind the frame (lower arrow).



Connect the wires from the brake light switch to the cruise control brake plug.



The cruise control brake connection patch, connected to the bike's brake light switch plugs.

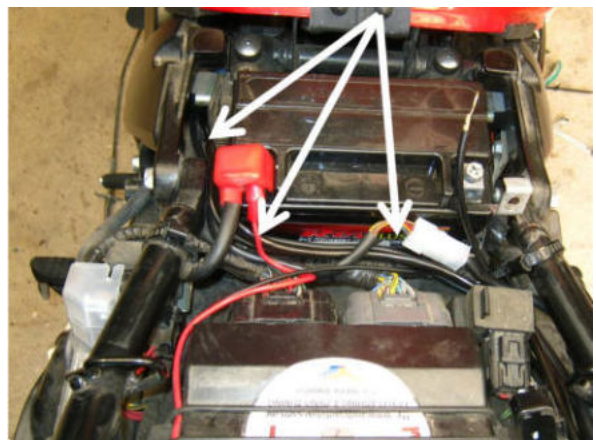
The patch will bridge the connection to the brake light switch and take power and brake signal to the cruise control.

Tuck the connectors in behind the frame.

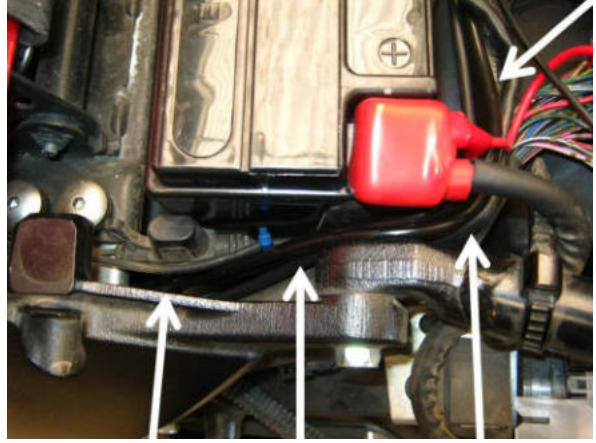


Routing the harness.

Route all other branches of the harness to the left side of the bike, behind the battery, then forward on the left side of the battery with the control switch wires.



Route all other branches of the harness to the left side of the bike, behind the battery, then forward on the left side of the battery with the control switch wires.



Route the wires forward on the left side of the bike, under the fuel tank with the control switch wires.



Route the wires to the front of the bike with the control switch wires.

Speed sensor connection.

Identify the cruise control speed sensor wire. This branch has blue/black wire fitted with a white one-way plug and a bare terminal.

Route this wire down inside the frame to.....



....the bike's speedometer sender plug.

Identify the bike's speedometer sender plug.

This is a black three-way plug on the left side of the bike.



This plug has black/red and black/white wires and the third wire could be either pink or white, these three wires going to the bike's harness. The wires to the bike's speedometer sender are black/red, black/white and black.

If you can't find it, follow the wires from the speedometer sender which is on the side of the front sprocket cover.

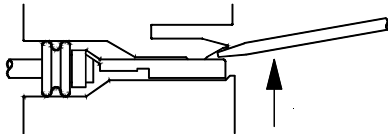
Disconnect this plug.



Back out the terminal on the black wire.

Use a jeweller's screwdriver to release the terminal lock inside the plug.

Push the tab away from the terminal and gently pull the wire and terminal out of the plug.



Gently pull the black wire and terminal out of the plug.

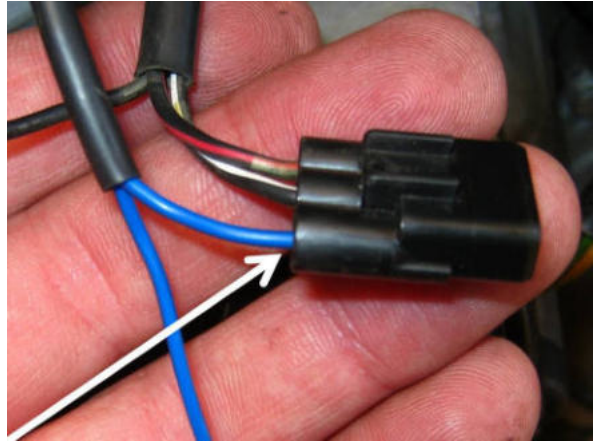


The black wire and terminal out of the plug.



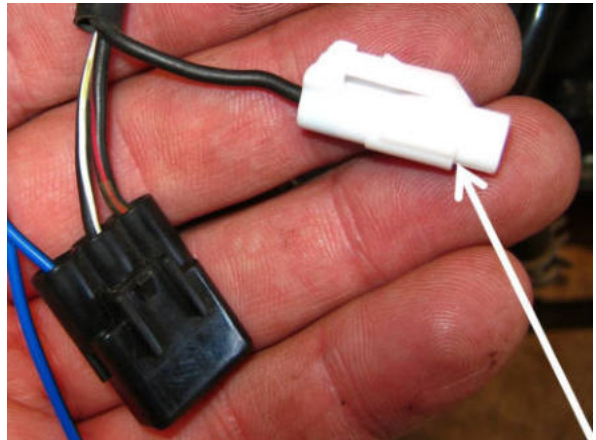
Route the cruise control blue/black speed sensor wire to the bike's speedo sender plug.

Insert the terminal on the cruise control wire into the empty hole in the bike's plug.

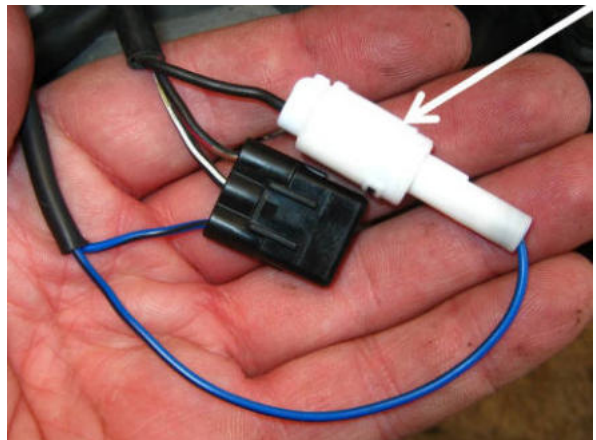


Locate the white one-way housing in the parts bag.

Fit the housing to the bike's black speedo signal wire.



Connect the cruise control blue/black wire to the bike's black wire.



Re-connect the bike's three-way plugs.

The connection will bridge the connection and take the bike's speedometer signal to the cruise control.

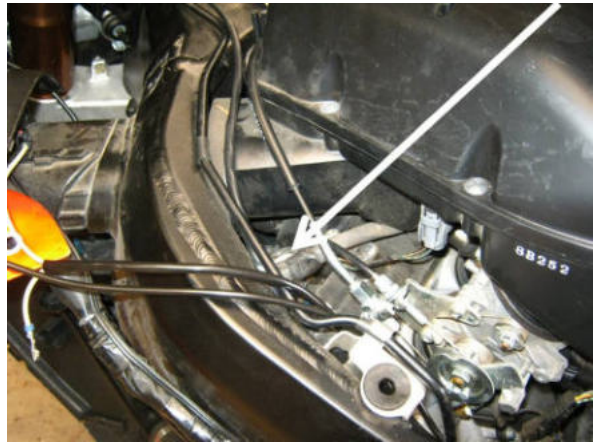


Cable tie the connectors to the bike's wiring harness.



Tach sensor connection.

Locate the left side spark plug on the top of the engine.

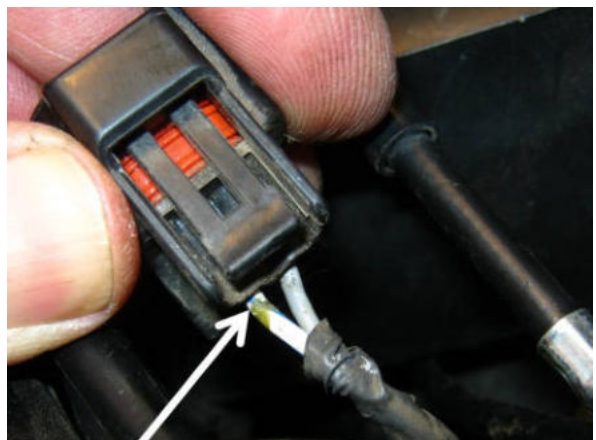


Disconnect the plug from the top of the spark plug cap/ignition coil.

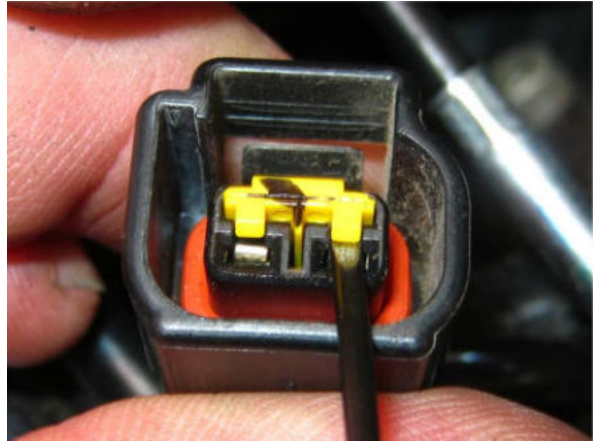


The plug has two wires, one white/blue, the other is a grey wire.

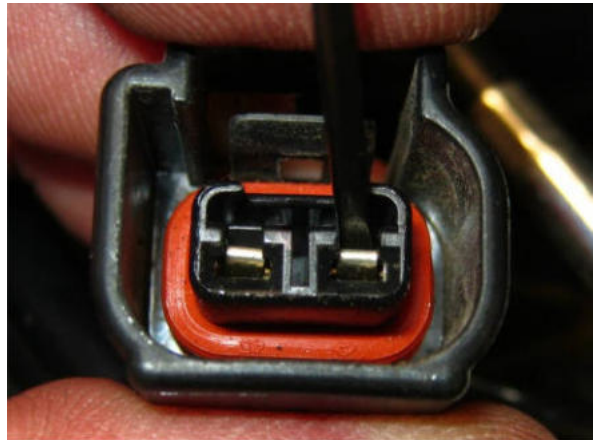
The white/blue wire and terminal (arrowed) must be backed out of the plug.



Gently lever out the yellow terminal retainer with a small jeweller's screwdriver.



Use a small jeweller's screwdriver to lift the locking tab away from the terminal on the white/blue wire, while gently pulling on the wire to pull the terminal out of the plug.



The terminal and white/blue wire out of the plug.



Locate the black one-way terminal housing in the kit.

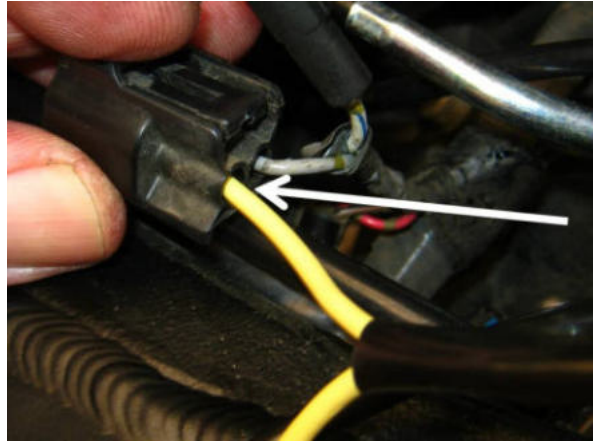
Fit the housing to the terminal on the white/blue wire.



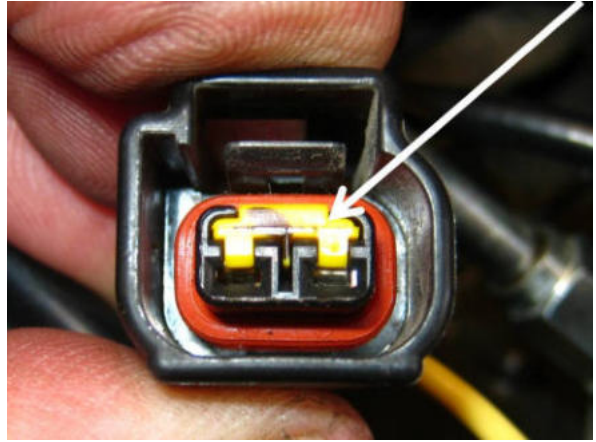
Route the yellow tach sensor wire to the ignition coil plug.

Insert the bare terminal on the yellow wire into the empty hole in the bike's ignition coil plug.

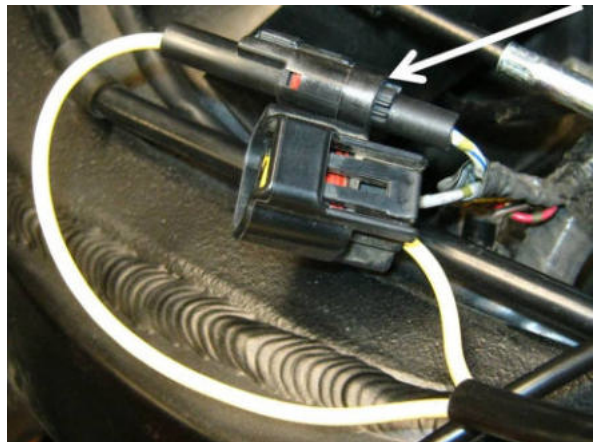
Make sure the terminal 'clicks' into place.



Replace the yellow terminal retainer in the plug.



Connect the two black one-way housings on the bike's white/blue wire and the cruise control yellow tach sensor wire.



Replace the plug on the bike's spark plug cap/ignition coil (arrowed).

If you can do it, put a cable tie around the bike's plug and the black one-way housing to hold the one-way housing.



Clutch sensor connection.

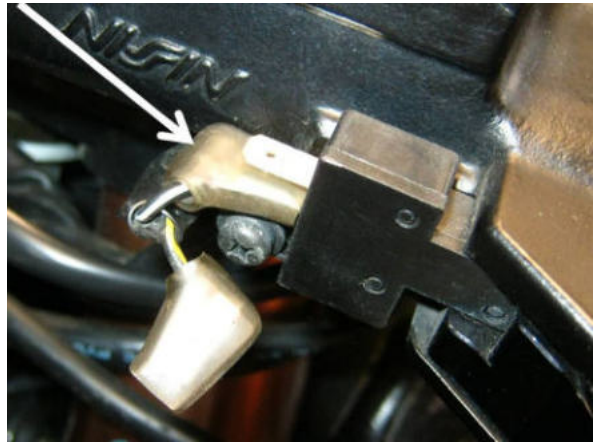
The clutch switch is located on the front of the clutch master cylinder (clutch lever housing).

The switch has two wires to it, one black/white and one black/yellow wire on spade terminals (arrowed).

Disconnect the terminals from the clutch switch.

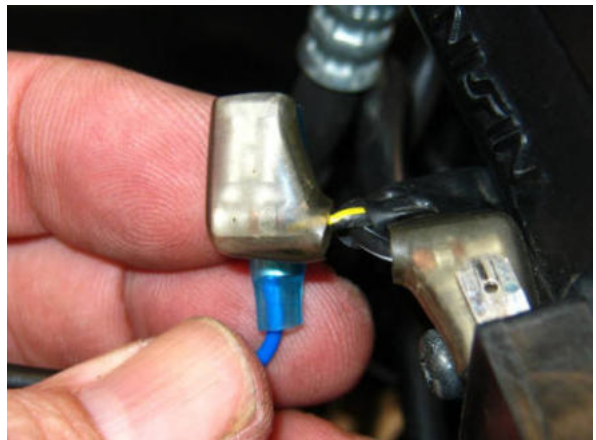


Connect the black/white wire to the lower terminal on the clutch switch.

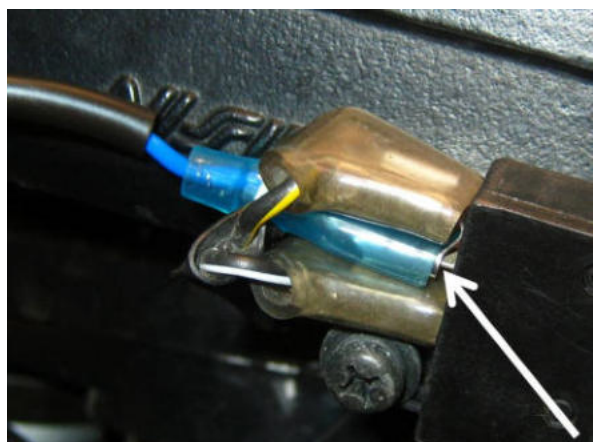


Route the cruise control blue clutch sensor wire to the bike's clutch switch following the same path as the cruise control switch wire.

Connect the piggy back spade terminal on the blue clutch sensor wire to the bike's black/yellow wire.



Connect the blue clutch sensor wire to the second terminal on the clutch switch.



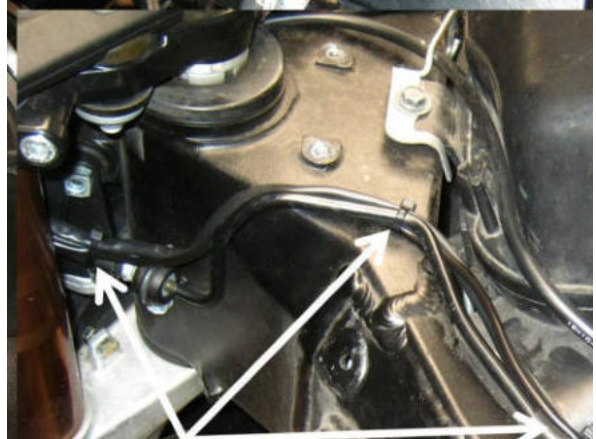
Finishing up.

Check the routing of the wires and cables and fit cable ties where necessary.

Check carefully for moving or stationary object that might damage any wires and cables.

Check that all wiring connections are complete and any cable connections are secure.

Fit cable ties at regular intervals to hold the cruise control wires (control switch and clutch sensor wires) to the bike's clutch hydraulic hose and pipe.

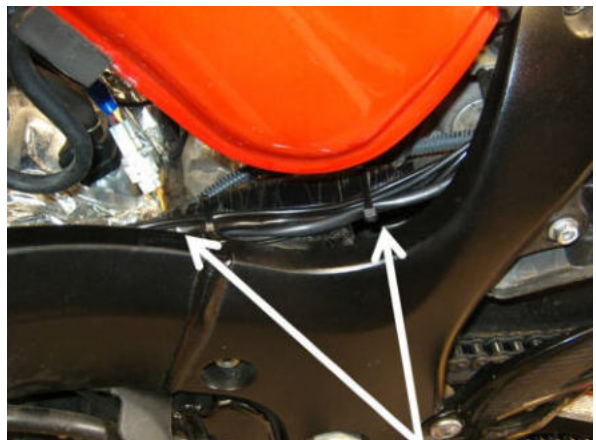


Fit cable ties at regular intervals to hold the cruise control wires (control switch and clutch sensor wires) to the bike's clutch hydraulic pipe.

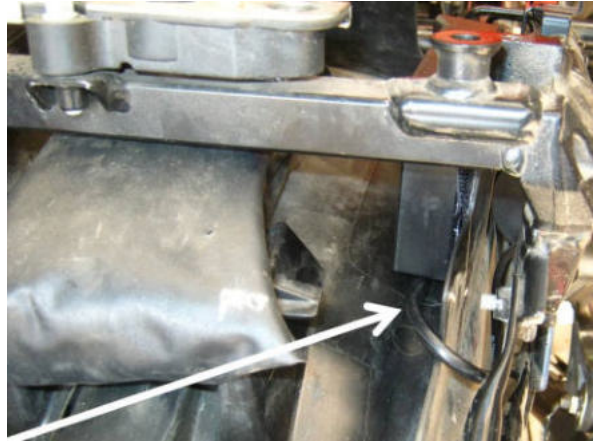


Cable tie the cruise control wires to the bike's harness under the rear of the fuel tank.

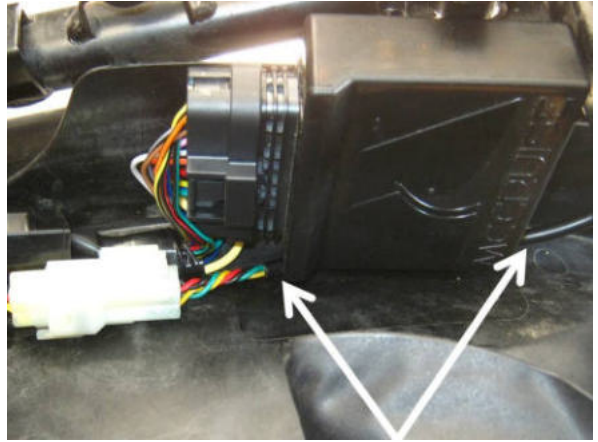
Make sure the wires cannot interfere with the operation of the throttle mechanism on the left end of the throttle bodies.



Position the wires from the throttle servo under the cruise control computer.



Position the wires from the throttle servo under the cruise control computer.



Ground wire connection.

Connect the cruise control black ground wire and the bike's negative battery cable to the negative terminal of the battery.



Throttle Servo cable final adjustment.

Temporarily lower the fuel tank. Check carefully that the cables and the CIU (Cable Interface Unit) are not changed or contacted by the fuel tank.

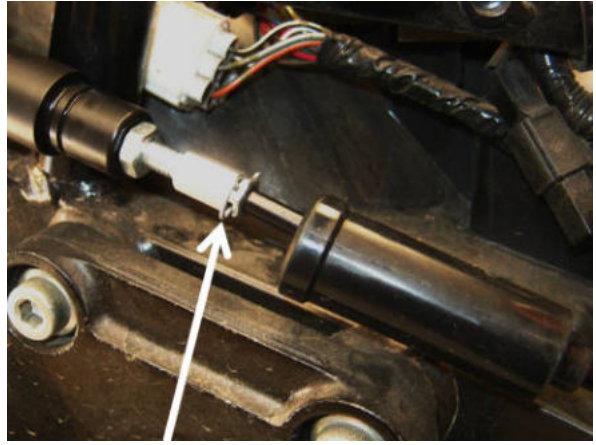
Check throttle operation at all steering positions to make sure the fuel tank has not change cable adjustments or caused cable binding.

Start the engine and allow it to reach an operating temperature where the fuel injection fast idle control is off. This usually only takes a couple of minutes running time.

Turn the ignition off after the bike has settled to normal idle speed.

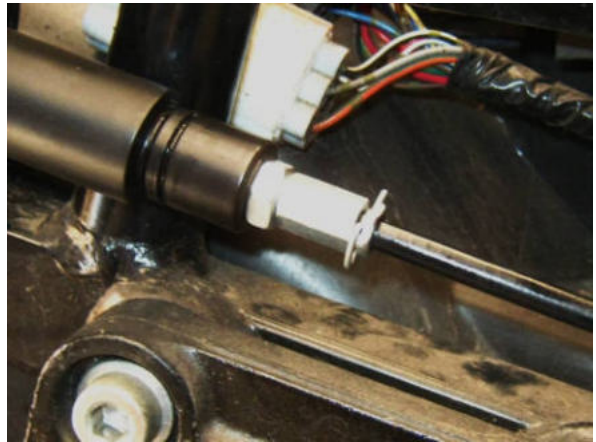
If the rubber ‘boot’ is covering the adjuster, slide the boot off the nose of the servo and along the servo cable.

Use a pair of pliers to remove the throttle cable retaining clip (arrowed).



Screw the adjuster most of the in (little or no thread visible).

Push the cable into the adjuster firmly and replace the retaining clip.



Press and HOLD the SET/ACC and ON-OFF buttons on the cruise control switch. HOLD both buttons in.

Turn the ignition on. Wait until you hear the cruise control servo operate (about 2 seconds after the ignition is turned on) OR until the lights come on behind the three buttons (back lights), then release the SET/ACC and ON-OFF buttons.

The noise from the servo is the self-test routine; the servo motor will operate for about 1 second, stop briefly (less than ½ second), then operate again for about 1 second and stop. This is normal and will happen each time the ignition is turned on. It also may be too quiet to hear unless you move close to the servo.

Apply and the release the brakes. The indicator light on the switch should come on green when brakes are applied, and go out when the brakes are released. This confirms that the cruise control is in diagnostic mode, and that the brake connections are correct. If the green light does not come and turn off with brake operation, turn the ignition switch off and start again.

Start the engine.

Apply and the release the brakes. The indicator light on the switch should come on green when brakes are applied, and go out when the brakes are released. This confirms that the cruise control is still in diagnostic mode.

Wait for the engine idle speed to settle to ‘normal’ idle, this usually takes a few seconds when the engine is already warm.

Press and release the SET/ACC button repeatedly and regularly (1 to 2 presses per second) until the engine revs start to increase, while counting the number of presses. This will probably take 15 to 30 presses of the SET button.

As soon as the engine rpm starts to increase stop pressing SET and press and release the RES/DEC button at least as many times as you pressed the SET button. The engine revs should return to idle as you press the RES/DEC button. Don't forget, press the RES/DEC button AT LEAST as many times as you pressed the SET button.

Remove the cable retaining clip from the servo cable adjuster.

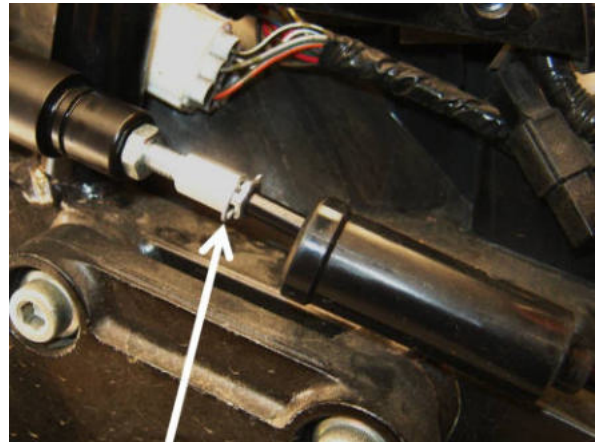
Slowly screw the throttle servo cable adjuster out until the engine revs start to increase.

Screw the adjuster back in again until the engine rpm returns to idle speed.

Make sure the cable is fully seated in the adjuster (push it in to the adjuster) and screw the adjuster out and in to find the point where the engine idles normally, but there is NO free play in the cable.

Gently tighten the lock nut on the adjuster while holding the adjuster to stop it turning.

Firmly push the cable into the adjuster and re-fit the cable retaining clip (arrowed).



Apply and release the brakes, wait a couple of seconds after releasing the brakes.

Press the SET/ACC button and count the presses. After about 7 to 12 presses, the engine speed should start to increase. Keep pressing until the engine speed is about 2000~3000 rpm.

Now press the RES/DEC button several times until the engine drops to idle. If it does not quite drop to idle, you will have to screw the servo cable adjuster IN a bit more to give more free play.

Press the RES/DEC button at least 10 times more.

Press the SET/ACC button, the revs should start to increase within 2~4 presses. If it takes more than 4 presses to get any increase in engine speed, screw the servo cable adjuster OUT a bit to remove free play.

Try going up and down with the SET and RES buttons several times, always press the RES button at least 10 times extra after the revs return to idle.

Using this method, the engine revs should increase within 2~4 presses of the SET button, and RES should reliably return the engine speed to idle.

Apply and release the brakes, wait a couple of seconds after releasing the brakes.

Press the SET/ACC button; it should take roughly 7 to 12 presses of the SET button to lift engine speed off idle.

Apply and release the brakes.

The engine should instantly drop to idle.

Turn the ignition off.

NOTE: - This adjustment is critical to good cruise control performance. It must be done correctly.

Replace the rubber 'boot' on the throttle servo nose.



Check and adjust the free play at the twist grip. There must be some free play to prevent the throttle from binding.

Check the throttle operation in all handlebar positions with engine off and engine running to ensure that handlebar movement does not cause binding or that the idle speed does not elevate.

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.

Start the bike in diagnostic mode again and perform the cable free play adjustment routine again.

Your cruise control is now ready for diagnostic mode testing!

8. DIAGNOSTIC MODE OPERATION

Refer to Chapter 8, Diagnostic Mode Operation, in the Information, Set Up and Operation Manual.

We suggest that you re-assemble the bike AFTER the diagnostic test is complete.

You will need to raise the fuel tank again to fit the fairing panels.

Notes: