

Packing list for:
SUZUKI GSX1300R Hayabusa from 1999 to 2007
(1st Generation)
MCS 6460G1 Kit

Pack in small kit carton (MCS 002)

<u>Qty</u>	<u>Part Number</u>	<u>Description</u>
1	MCS 6469	Carburettor cable (200mm with 8mm adaptor and 6mm flat washer)
1	MCS 850	Electric throttle servo assembly (large parts bag)
1	MCSSC 750	Servo cable
1	MCS 850B	Servo cable-sealing boot
1	MCS 054	Wire ring, cable retainer
1	MCS 8000C	Computer configured for GSX1300R Gen 1 (medium parts bag) HW_____
2 lengths		Self-adhesive Velcro 7cm long SW_____
1	MCS 6467	Cable Interface Unit (CIU) assembly (medium parts bag)
1	MCS 6845C-WR	CIU mounting bracket
1		M6 X 25 bolt
1		6mm flat washer
1	MCS 6464-830B	Switch assembly (medium parts bag)
1	Parts bag	(See below for contents)
1	MCS 6463	Wiring harness
1		Installation Manual for GSX1300R Gen 1
1		2D Barcode MCS8000 (MCS6000) Incl Diagnostic Manual

Parts bag contents (medium parts bag)

1	Sum MT6180-1181	1 way receptacle housing (see drawing MCS6463/1)(speed sensor)
5cm	HST3	3mm heat shrink tube (tach sensor)
2	HoseClamp32	Hose Clamp 40~67mm (Servo mounting)
1 length		Foam tape, 15cm long (Servo mounting)
1	MCS 054	Wire ring, cable retainer (spare)
1 bottle		Throttle cable oil
10		100mm cable ties
10		150mm cable ties
10		200mm 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 1999 to 2007 (1st Generation)**

6 October 2026

MOTORCYCLE CRUISE CONTROLS

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

SUZUKI GSX1300R Hayabusa from 1999 to 2007 (1st Generation)**Parts list for MCS 6460G1 kit**

Item	Qty	Part Number	Description
1	1	MCS 8000C	Computer
2	2 lengths		Self-Adhesive Velcro 7cm long
		<u>MCS 6462 G1</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 750	Throttle servo cable
10	1 length		Foam tape 15cm long (servo mounting)
11	2	HoseClamp32	Hose Clamp 40~64mm (servo mounting)
12	1	<u>MCS 6463</u>	<u>Wiring harness</u>
a			Computer plug (26 pin)
b			Fuse holder (3 amp fuse)
c			Tach sensor connectors (yellow wires)
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 820-160	Control Switch
14	1	MCS 830B	Switch bracket
	4		4 gauge x 1/2" pan head self tap screw
15		<u>MCS 6467</u>	<u>Cable Interface Unit (CIU) assembly</u>
16	1	MCS 6467A	CIU housing
17	1	MCS 003F	Throttle Servo spool
18	1	MCS 6467D	Dual spool
19	1	MCS 003H	Bush
20	1	MCS 003K	End Cap
21	1	MCS6835C-WR	CIU Bracket
22	1		Pivot nut M5 Nyloc nut
23	2		5mm plated flat washer
24	1		M5 x 45 pivot bolt
25	1		M6 x 25 bolt
26	1		6mm flat washer
27	1		M4 x 10 pan head screw (servo cable retainer)
		<u>MCS 6469</u>	<u>Carburettor cable assembly</u>
28	1	MCSCC 200	Carburettor cable
29	1	MCS 003Z	6mm to 8mm adaptor washer
30	1		6mm flat washer

MotorCycle Cruise © - Suzuki GSX1300R Hayabusa 1st Generation – from 1999 to 2007

10	100mm cable ties
10	150mm cable ties
10	200mm cable ties

1 bottle

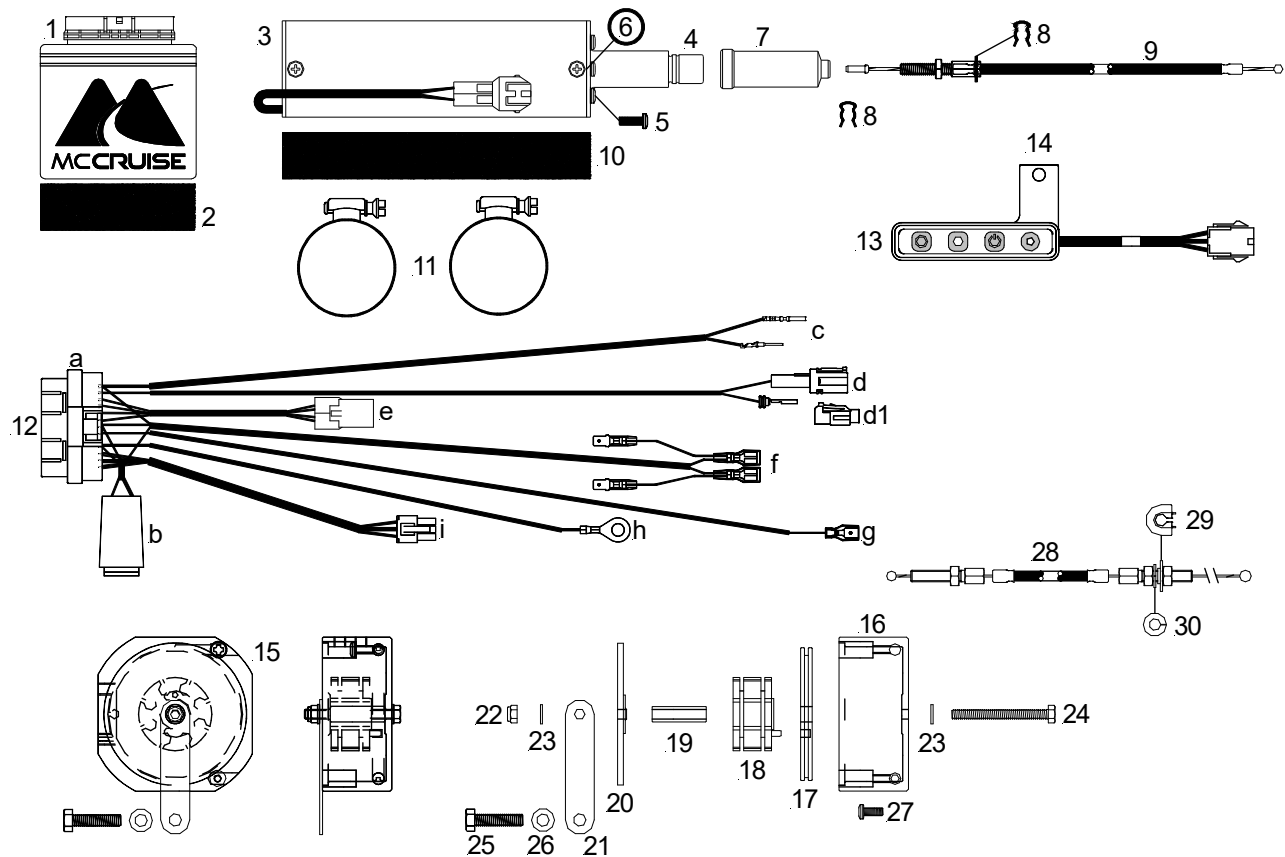
Throttle cable oil (Singer industrial sewing machine oil)

Information, Set up and Operation Manual

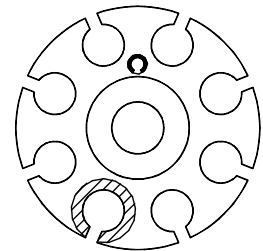
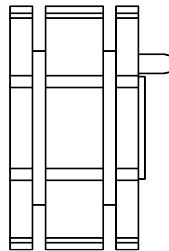
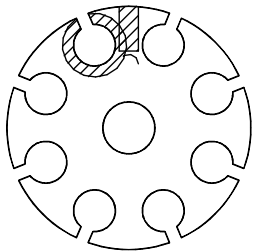
Operation and User Manual

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 rear of the seat.



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



Loosen and remove the two bolts (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.

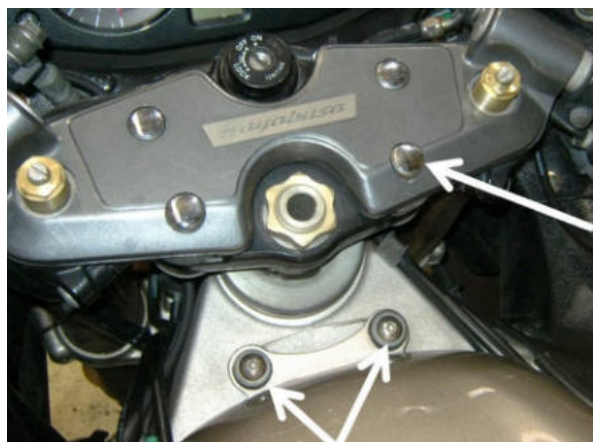
Ensure that the lead cannot touch the battery terminal.



Raise the fuel tank.

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

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

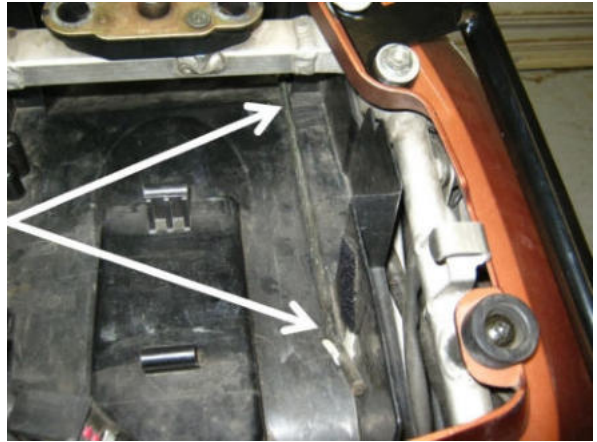


There is a 'prop' for the fuel tank in the rear compartment under the passenger seat.

Remove the tool bag.



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



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 fairing panels.

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

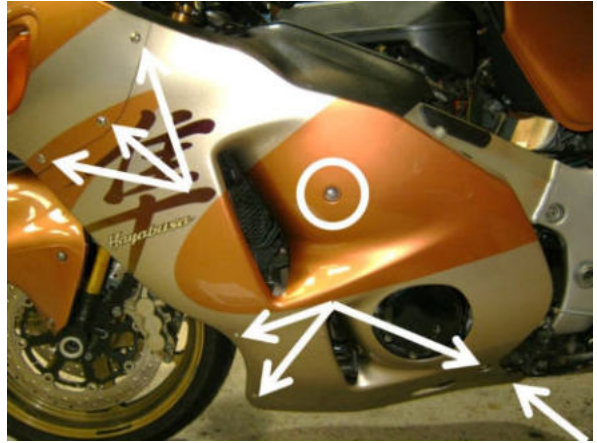
Remove the bolt on the inner panel joint.



Loosen but don't remove the larger bolt in the middle of the panel (circled).

Undo/remove the various bolts indicated by the arrows on the left side fairing panel.

There is a bolt at the bottom rear of the panel (bottom right arrow), see the next photo for more detail.



Undo and remove the bolt at the bottom rear edge of the panel.



Remove the centre bolt (right arrow).

Gently pull the bottom of the panel away from the bike to disconnect it from the right-side fairing panel at the joint under the engine.

Lift the rear of the panel to release the post and grommet fastener at the rear of the upper black trim panel (upper arrow), see the next photo.



Pull the inner edge of the inner panel up to release the post from the grommet.

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

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 seat surround fairing. – NOTE: - This bike has a rack fitted, but the bolt removal is the same.

Remove the bolt at the front edge of the panel (lower left arrow).

Remove the 'bungy strap hook' bolt (front of the rack – lower centre arrow).

Undo the screw in the rubber seat support (upper right arrow).

Undo the mounting bolts for the passenger grab handle (lower right arrows).

Release one or both of the clips on the small centre panel (upper left arrow), see next photo.

Repeat on the right side of the bike.



Remove the one or both clips for the small centre fill panel. Only one needs to be removed.

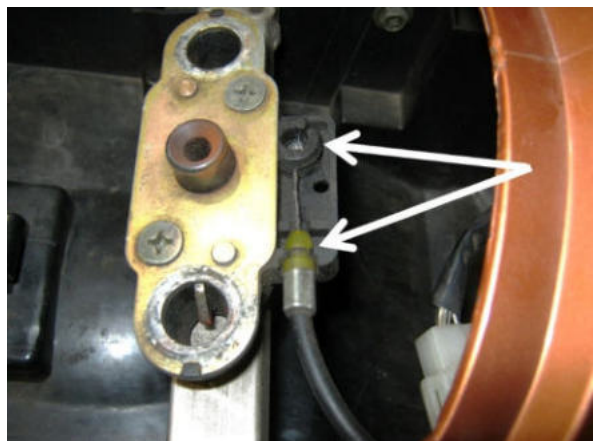


Remove the three clips on each side at the bottom edge of the panel.



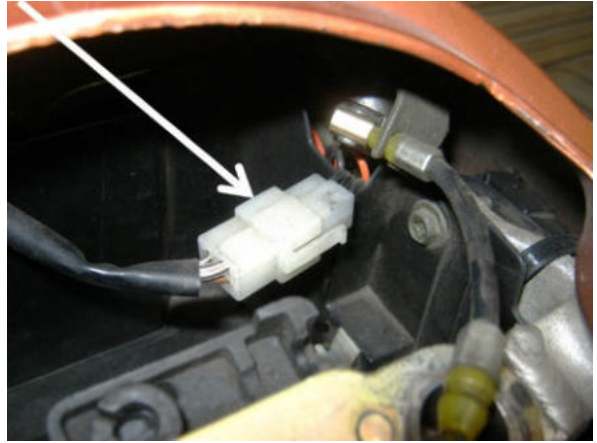
Lift the seat lock cable out of the lock (lower arrow).

Disconnect the cable nipple from the seat lock (upper arrow).



Disconnect the multi-way plug for the rear lights. You may have to start to remove the panel to locate the plug.

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



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

Screw the cable adjusters in BOTH cables all way in (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 right end of the throttle bodies.

The lower cable is the 'pull' or opening cable.



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

Disconnect the cable nipple from the throttle body spindle (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.

Leave the cable there for the moment.



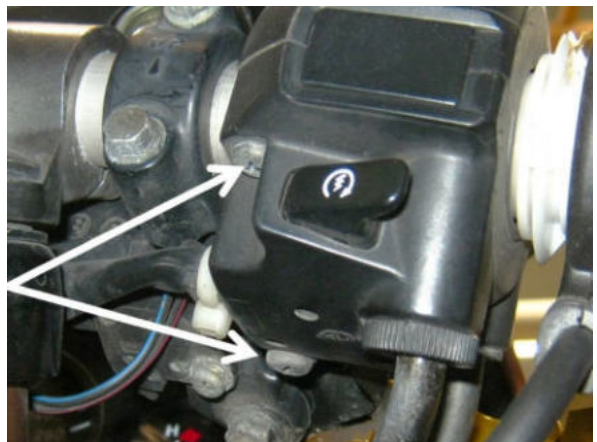
Lubricating the throttle cables and throttle twist grip.

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.



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.

You can unscrew the cable adjusters below the twist grip 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 handlebar.

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

Push both washers up to the first lock nut.

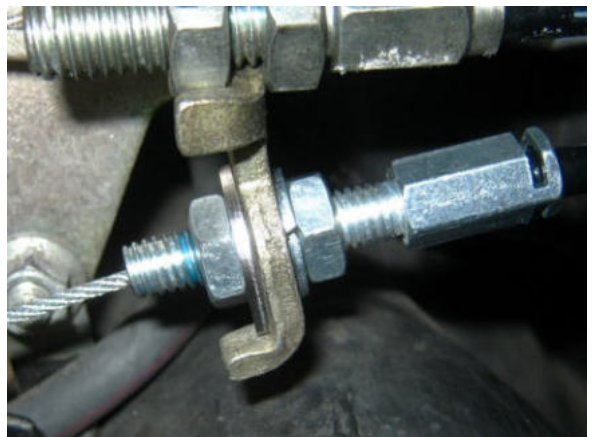
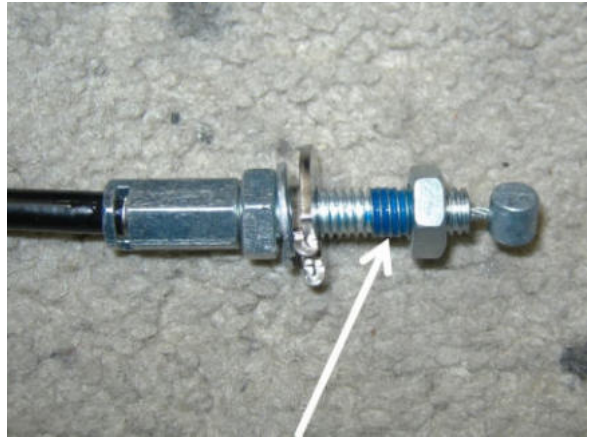
Apply a drop of low or medium strength thread locking compound to the threads below the second nut (arrowed).

Fit the adjuster to the throttle body bracket so the stepped washer is sitting on the bent over tabs on the bracket.

The flat washer should be on upper side of the bracket.

Move the lock nuts so the adjuster is roughly in the mid-point of its adjustment.

Gently tighten the locknuts, don't do them up very tight as this may break the adjuster.



Fit the cable nipple to the throttle body spindle.

Lift the unconnected end of the cable up and run a couple of drops of the throttle cable oil down the cable.



Installing the Electric Throttle Servo.

The servo will be mounted on the right side of the bike, at the rear on the seat sub-frame, below the right side of the passenger seat.

It is attached to the upper frame rail with hose clamps.



Apply the length of foam tape to the side of the throttle servo tube.

Take care to position the tape so the wiring harness outlet is to the side of the centre line of the servo.

This is to ensure the wires are not pressed against the frame when the servo is installed – more detail on the next page.



Fit one of the hose clamps around the right-side upper frame tube, next to the passenger seat.

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



Insert the servo wires through the clamp, then feed the end of the servo into the hose clamp so the foam tape is against the frame tube above the servo.



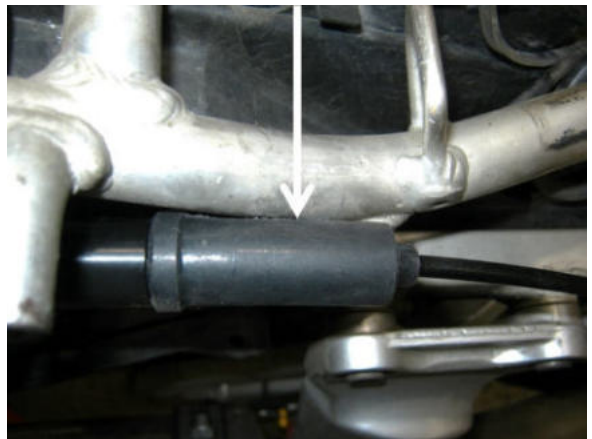
Undo the second hose clamp and place it around the rear sub-frame frame tube and the servo at the front of the servo.

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.



Check that the nose of the servo is not quite touching the frame at the front of the servo.



Check that the electrical wires are not touching the frame at the rear of the servo.

Position the servo as far inward as possible.

Tighten the hose clamps so they hold the servo in place firmly.

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



Route the servo cable forward inside the frame.



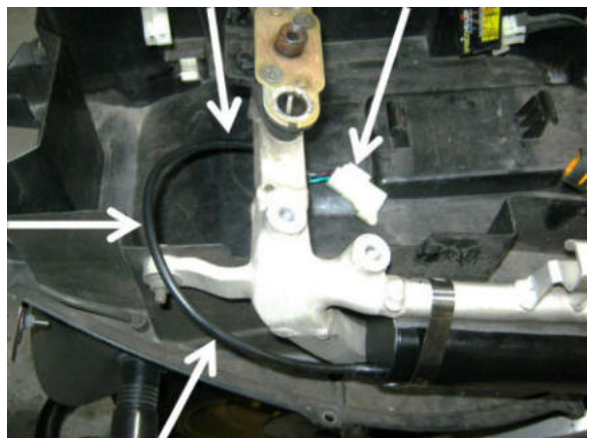
The servo cable routing, down and just below the brake fluid reservoir, on the top inner corner of the lower frame tube, the forward inside the frame and into the engine compartment.



Route the servo cable forward under the rear of the fuel tank and on top of the main right side frame spar.

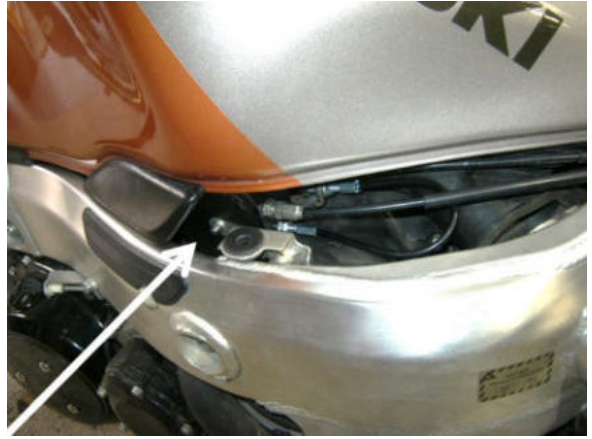


Route the electrical wire into the under-seat area below the seat lock mechanism.



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.



This photo shows the servo with the fuel tank removed.

Locate the CIU in the cruise control kit.

Disassemble the CIU noting the location of the components.

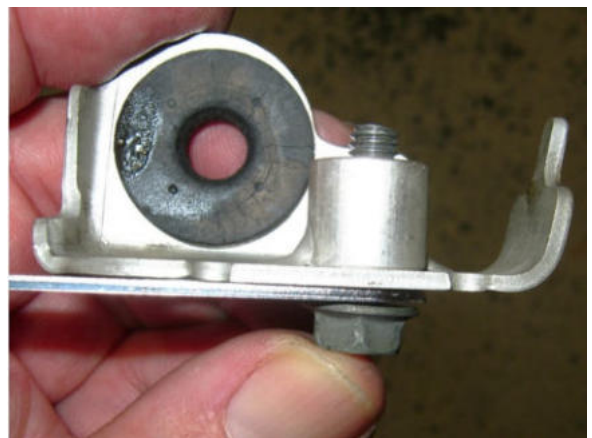


Undo the bolt holding the fairing panel support to the frame.

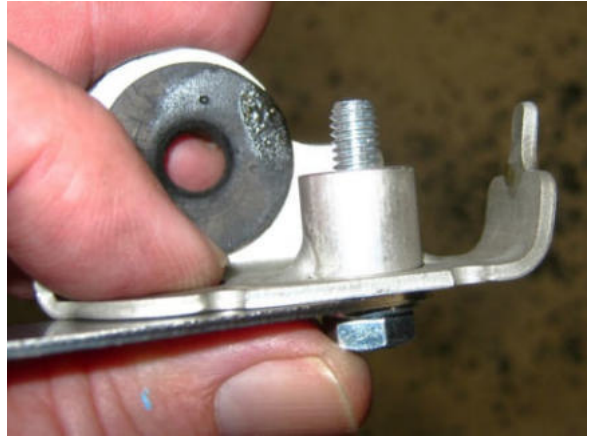


Place the CIU mounting bracket on the side of the fairing bracket.

This photo shows the original bolt, which is too short, it does not have enough thread engagement with the bike's frame.



Use the new longer bolt and flat washer supplied with the CIU.



The CIU bracket and new bolt and washer fitted to the fairing support bracket.



We suggest applying a drop of low or medium strength thread locking compound such as Loctite 243 to the threads of the bolt.

Replace the assembly on the bike's frame.

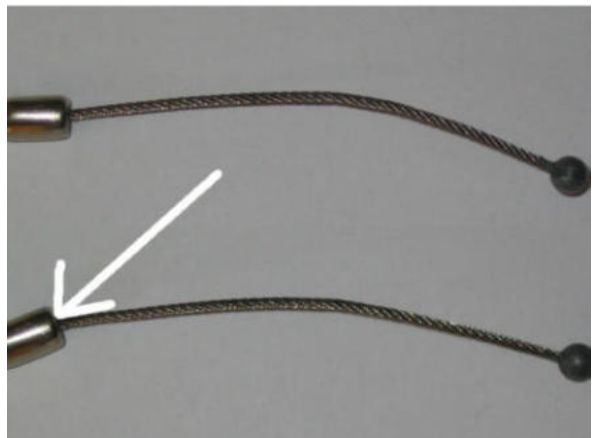
Tighten the bolt lightly, so the CIU bracket can still be moved if necessary.



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 affect cruise control performance.



Slide the rubber boot off the end of the servo nose to expose the cable adjuster.

Check that the adjuster is screwed almost all the way into the servo (2 threads or less visible).



Loosen the retaining screw a few turns.

Insert the servo cable into 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.
Make sure it is holding the cable from coming out of the CIU housing.

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 anticlockwise 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 – it will do a 'U' turn into the CIU.

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 (upper left arrow).

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.

Check that the line on the dual spool lines up with the line on the servo spool (lower right arrows).

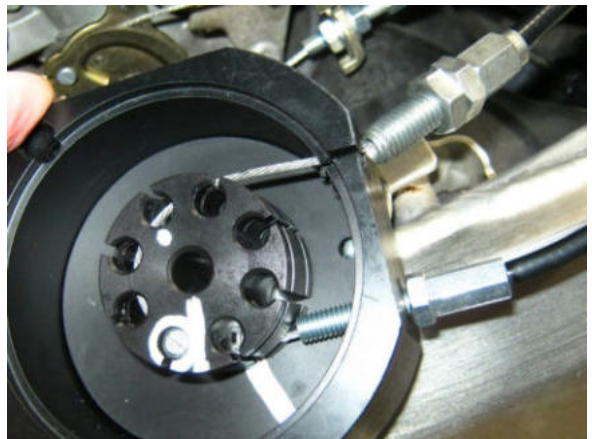


Route the bike's original throttle cable to the CIU.

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 and slide the cable into the slotted threaded hole.



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



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

Insert the bush into the two spools.

Make sure the lines on the two spools still line up.



Place the end cap on the CIU.



Place a flat washer on the through bolt.

Insert the bolt through the CIU from the back.



Put the end of the through bolt into the mounting bracket.



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

Gently tighten the nut.

CAUTION: - While tightening the nut you will feel resistance from the nylon insert in the Nyloc 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. Over tightening this bolt can bind the spools in the CIU.

Position the CIU so the cable runs are as straight as possible and push it down so it is almost touching the engine and tighten the mounting bolt for the CIU bracket and fairing mount.

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. 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).

Push the cable firmly unto the adjuster.

Replace the retaining clip (NOTE: - not shown in the photo).

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 in and out of the adjuster to check the free play. You should only be able to pull the cable 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.



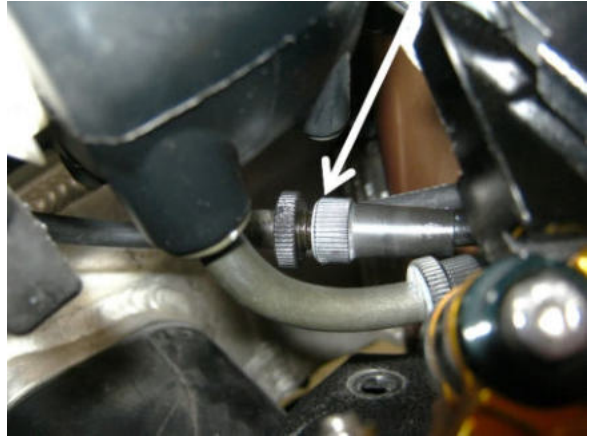
Throttle cable/twist grip free play adjustment.

Try to rotate the throttle grip to CLOSE the throttle. It should come up against a hard stop inside the twist grip.

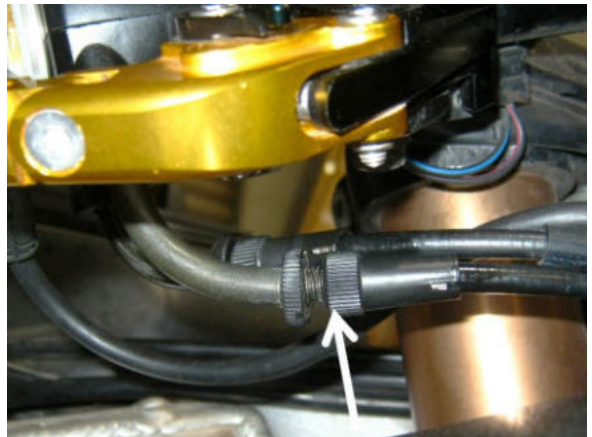
Screw the adjuster in the closing (rear most) throttle cable (arrowed) out until you feel the twist grip start to move.

The twist grip should now have some ‘spring’ at the end of its travel when pushing the grip home. This ensures that the grip can physically close the throttle if necessary.

Screw out the lock nut and tighten against the adjuster.



Screw the adjuster in the opening (front most) throttle cable (arrowed) out about 5 turns.



Screw out the lock nut and tighten against the adjuster.



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 against the CIU housing.

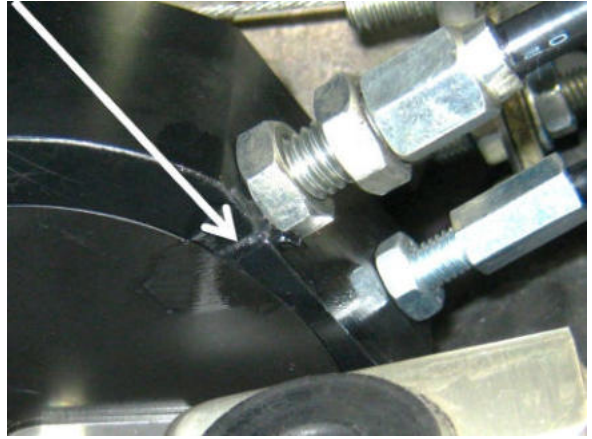
Apply full throttle and closed throttle hard several times using the twist grip (turn the grip as hard as you dare without breaking it) to seat all the cables and ‘pre stretch’ them a little.

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

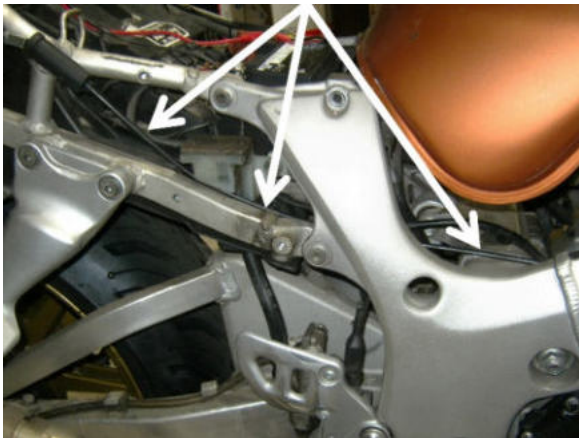


Force some silicone sealant (general purpose gutter or household sealant is ideal) into the slot in the CIU to seal it.

Rotate the CIU on its mounting bracket to get the best cable runs into the CIU.



Check the routing of the servo cable.



Installing the control switch.

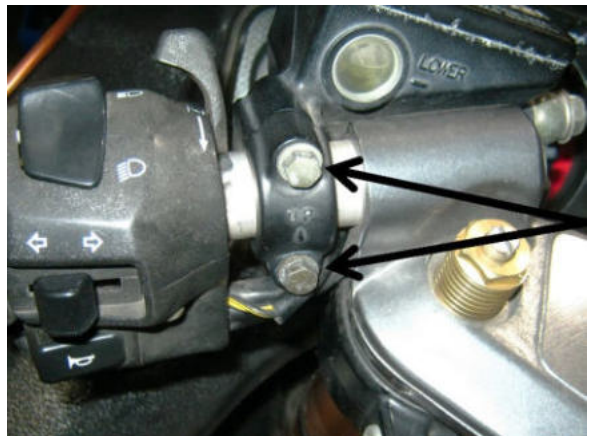
The control switch is mounted below the handlebars. It is mounted on the clamp that holds the clutch lever assembly to the handlebars.

The mounting bracket fits between the face of the clamp and the face of the clutch lever assembly.



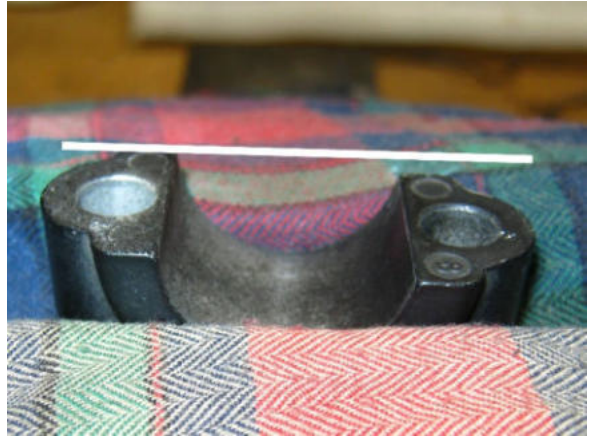
Undo the two bolts that hold the clutch lever assembly to the handlebar.

Remove the clamp from the handlebar.



The faces of the clamp are not level.

The lower face below the level of the upper face.



Use a flat file and a vice with soft jaws (the fastest and easiest way to do this), or sandpaper or a grinder to remove material from the inner face of the clutch 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. Take care to not trap any parts of the bike's wiring.

Insert the second bolt, position the clutch 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.

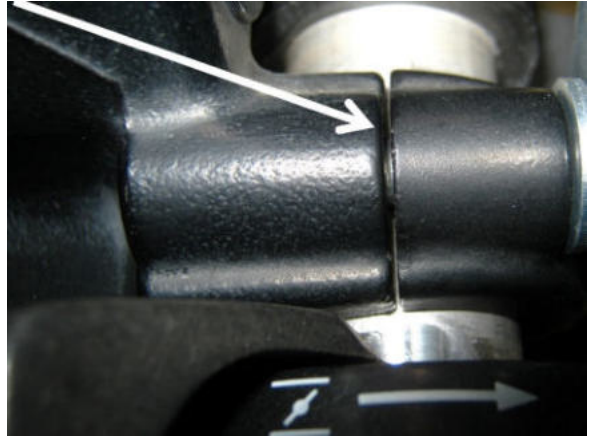


The switch should have 2 to 3mm of clearance to the bottom of the bike's switch block.



Check that the clutch lever assembly is firmly clamped to the handlebar and that there is a small gap between the upper faces of the clamp (arrowed).

If there is no gap, remove the clamp and file more material from the face of the clamp.



Check the switch wire is not jammed against the fork tube or upper triple clamp/triple tree.



Route the switch wire around the front of the left fork leg, then to the rear on the left side of the steering head.



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



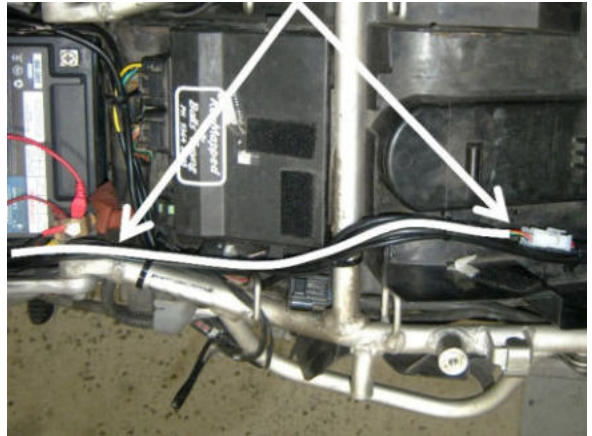
Route the wire to the rear of the bike on the inside of the frame rail.



Route the wire to the rear beside the battery, then beside the bike's ECM.

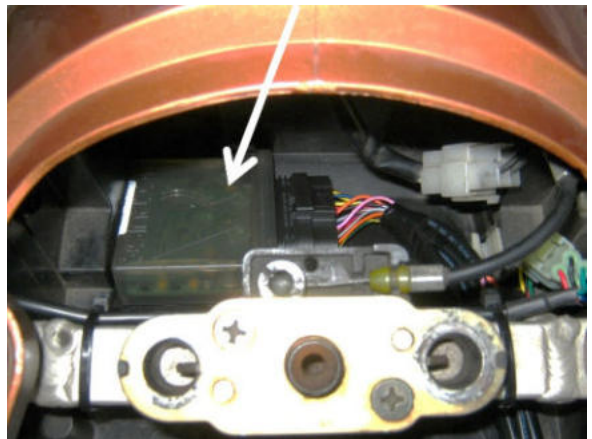
Route the wire into the rear under seat compartment.

The plug on the end of the wire should be roughly halfway to the rear in the storage compartment.



Installing the cruise control computer.

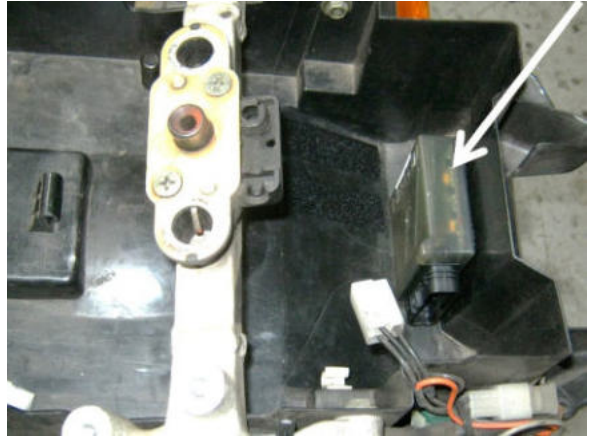
The computer is mounted in the rear storage compartment, in front of the brake/taillight. It is mounted using Velcro tape.



It can be mounted on the floor of the compartment....



...or on the back wall of the compartment.



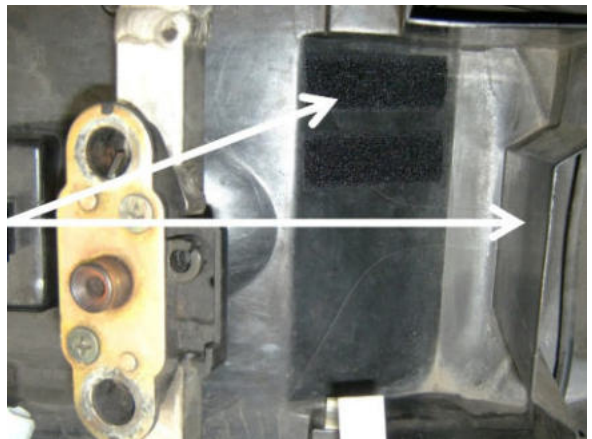
Clean the underside of the computer with a suitable solvent such as methylated spirits or denatured alcohol.

Apply the two strips of Velcro tape to the computer.

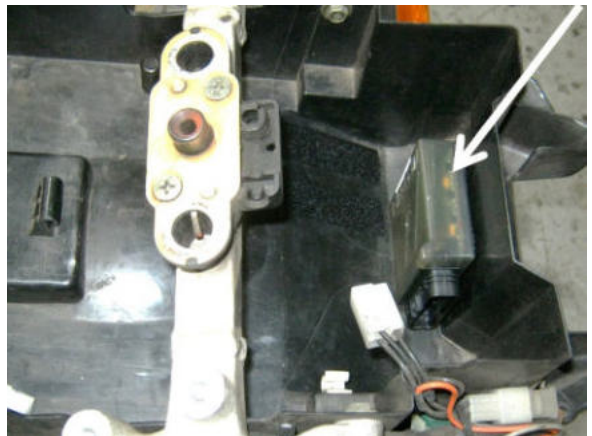


Clean the inside the rear storage compartment with a suitable solvent.

Apply the Velcro tape to the floor or back wall of the compartment.

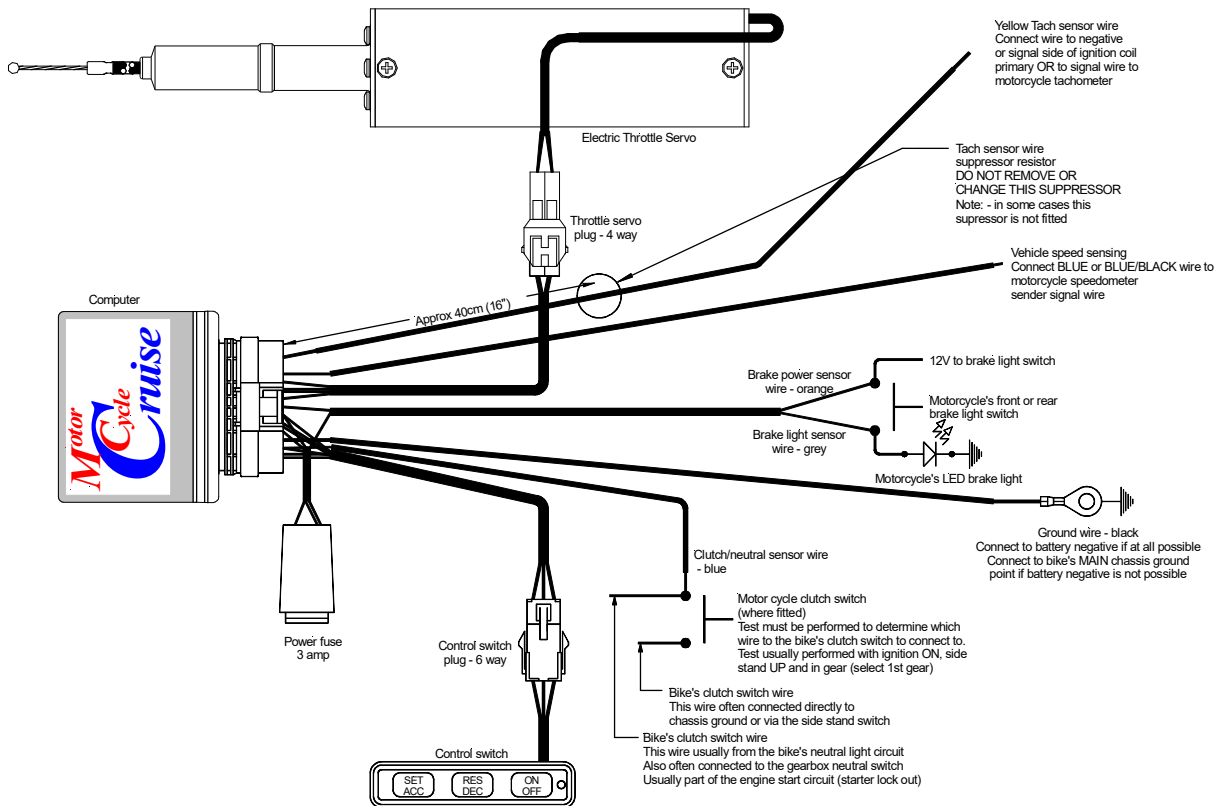


Position the computer and use the Velcro to mount the computer in the compartment.



MotorCycle Cruise © - Suzuki GSX1300R Hayabusa 1st Generation – from 1999 to 2007
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 (right arrow).

Route the harness forward on the left side of the compartment.

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 (left arrow).



Throttle Servo Connection.

Connect the plug on the wires from the throttle servo the matching plug on the cruise harness.

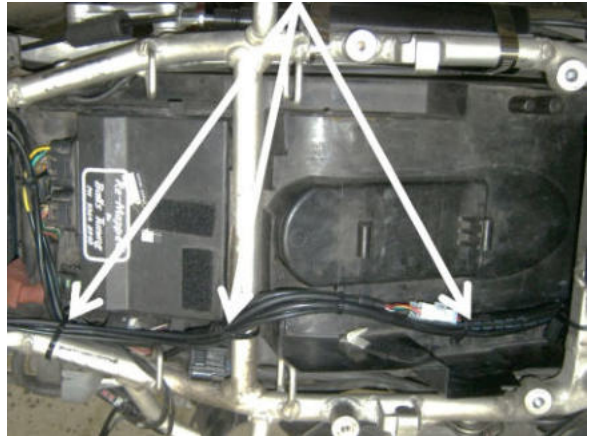


Attach the servo wire to the seat lock frame using a couple of cable ties.



Route all branches of the wiring harness forward on the left side of the under-seat area.

Fit cable ties to bundle the branches and attach them to the frame (arrows).



Tach sensor connection.

The tach sensor will be connected to one of the ignition coil wires in the ECM.



The easiest way to do this is disconnect both plugs from the ECM and remove the ECM.

Lift the ECM out of its mount and press the release latch (arrowed) on the plugs and disconnect both plugs from the ECM.



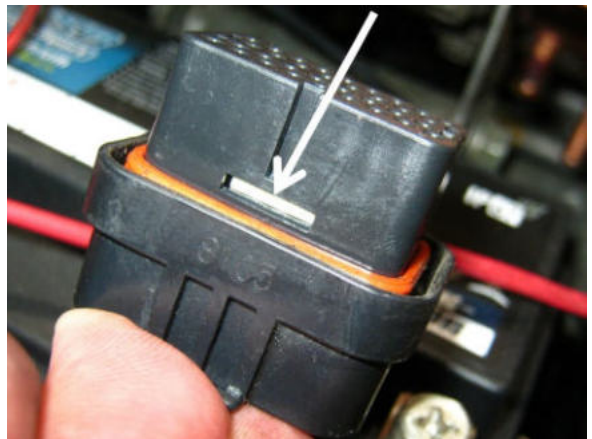
The plugs with the EMC removed.



The white/blue wire in the top left corner of the plug that is closest to the right side of the bike must be backed out of the plug.



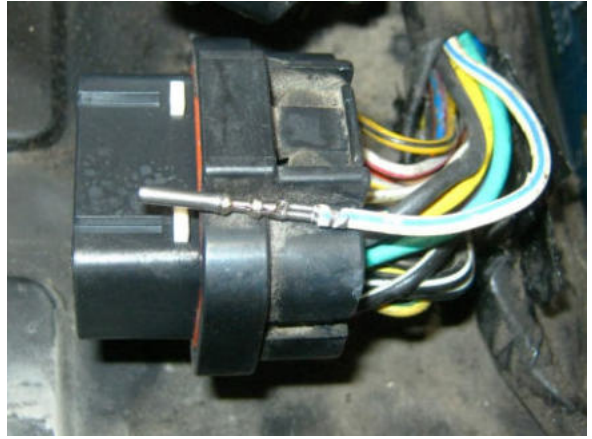
Turn the plug upside down and depress the white rectangle. It will push in about 3mm (1/8"). This releases the terminal lock inside the plug, do NOT pull on the wires.



The two small tabs on the top side of the plug will rise about 3mm.



Gently pull on the white/blue wire in the top left corner to pull the wire and terminal out of the plug.



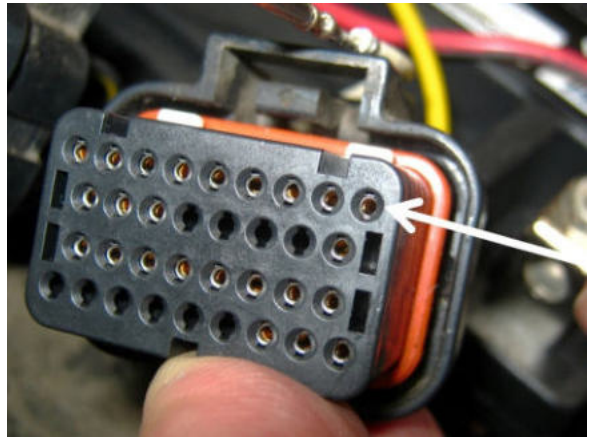
Identify the tach sensor branch of the cruise control wiring harness, this branch has two thick yellow wires fitted with bare terminals.

Route this branch to the plug, behind the battery.

Insert the wire with the receptacle terminal into the empty hole in the plug.

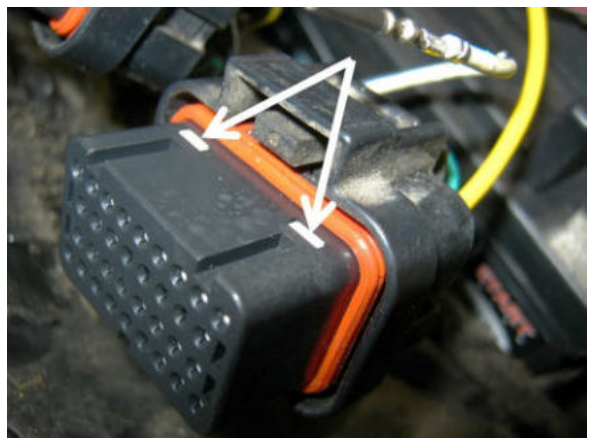


Check that you can see the end of the terminal in the plug, so you know the terminal is fully inserted into the plug.



Depress the two small tabs so that they are level with the plug.

NOTE: - If they do not depress easily, check that all the terminals and wires are fully inserted. If any are not fully inserted, the terminal lock will not depress.

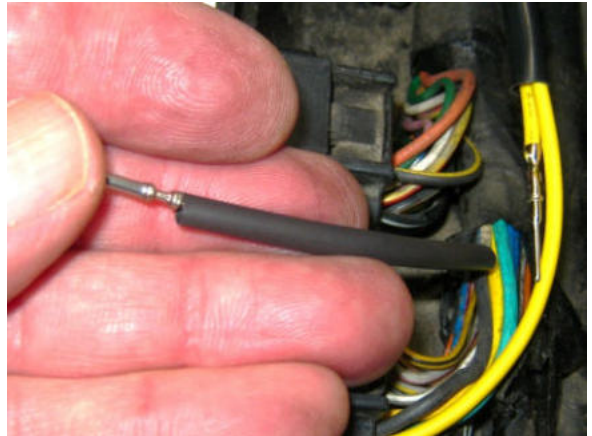


Reconnect the plug to the ECM and replace the ECM in the holder.



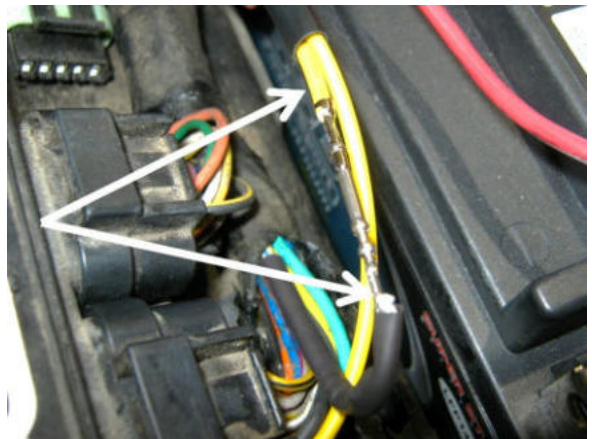
Cut a suitable length (about 4 to 5cm) of the supplied 3mm heat shrink tube.

Slide the heat shrink tube over the bike's white/blue wire.



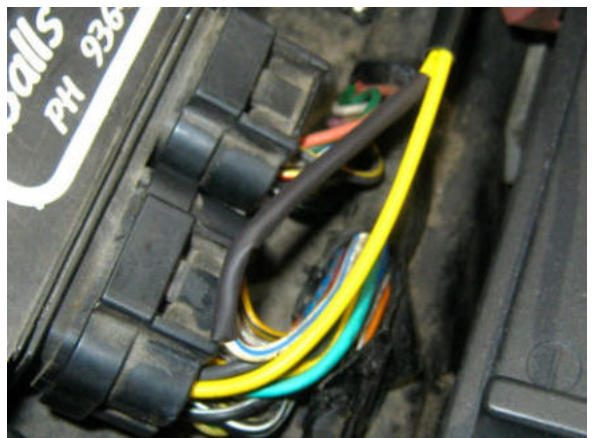
Connect the terminal on the white/blue wire to the pin terminal on the cruise control's other yellow wire.

Ensure the terminals are fully connected.



Slide the heat shrink tube over the two terminals.

Ensure the terminals are fully connected.



Use a suitable heat source such as an electrical hot air paint stripper gun to shrink the tube over the terminals.

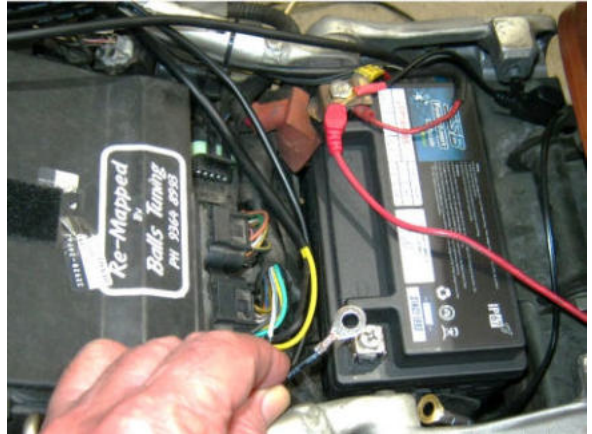


Ground connection.

Identify the ground wire on the cruise control harness.

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

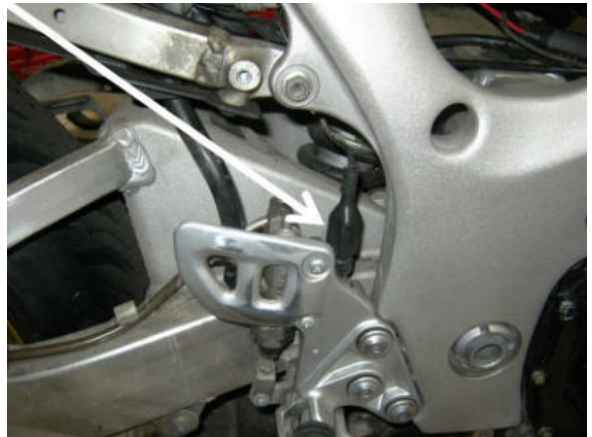
Route the ground wire to the negative terminal of the battery, but DO NOT CONNECT IT YET.



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, above the rider's footrest.



Disconnect the rear brake light switch plug from the brake light switch.



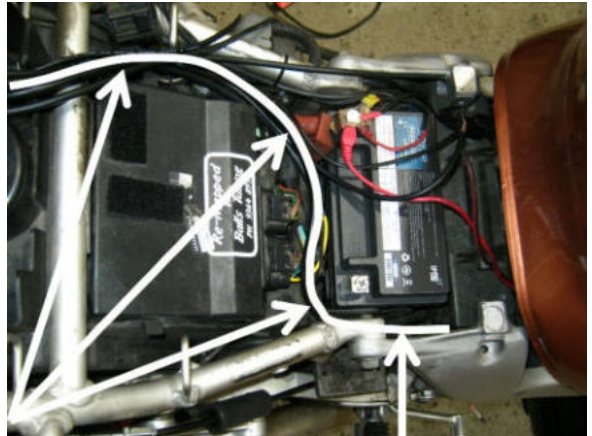
Draw black plastic cover up the wires to reveal the wires into the plug.



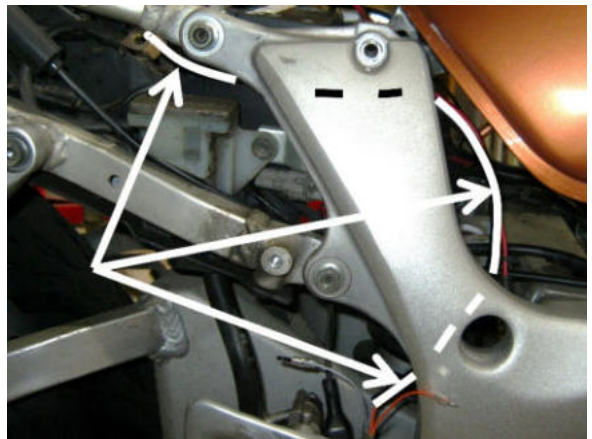
Identify the cruise control brake connection.

This has two wires, orange and grey, fitted with a tab and receptacle terminals.

Route this branch past the battery to the right side of the bike, then forward between the battery and the frame on the right side.



Route this branch forward into the area below the rear of the fuel tank, then back to the rear brake light switch.



Connect the cruise control receptacle terminals to the tab terminals on the brake light switch.

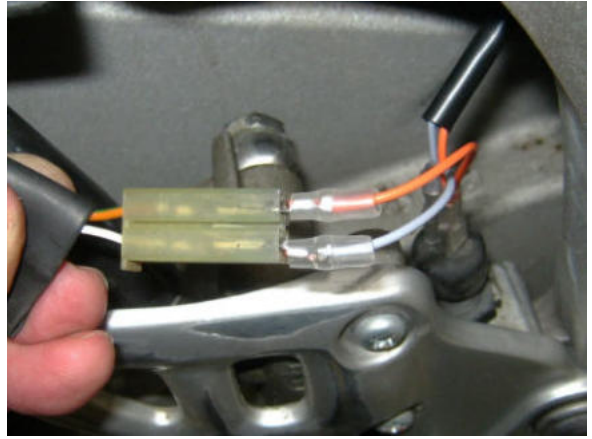
It does not matter which wire is connected to which terminal.



Connect the cruise control tab terminals to the bike's brake switch plug.

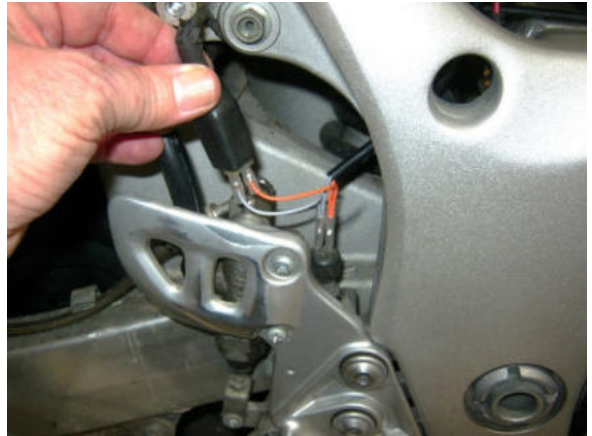
Connect the **cruise orange wire** to the **bike's orange/green wire**. This connection provides power to the cruise control.

Connect the **cruise grey wire** to the **bike's white/black wire**. This connection provides brake sensing for the cruise control.



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

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



Position the plug next to the brake light switch and hold it in place with a cable tie.



Fit a cable tie around the bike's wires from the ECM plug and around the cruise tach sensor wires, ground wire and brake switch wires and the terminals that are covered with heat shrink tube.

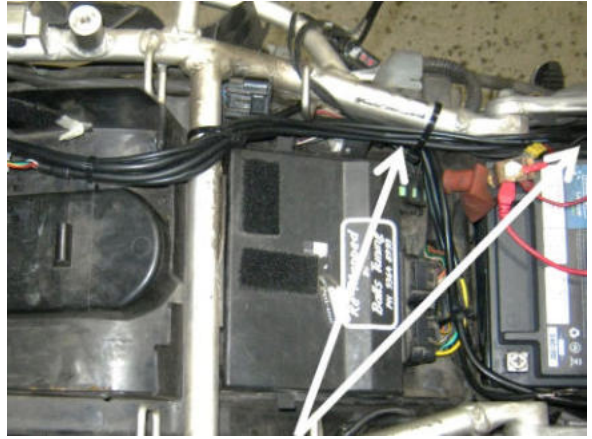
Do NOT pull the cable tie tight, just enough to hold the wires in place.



Routing the harness.

Route all other branches of the harness forward on the left side of the battery, next to the frame with the control switch wires.

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



Speed sensor connection.

The bike's speedo sender is bolted to the front sprocket cover.



The bike's speedometer sender plug is tucked behind the front of the coolant tank.

Identify the bike's speedometer sender plug. This is a black three-way plug.

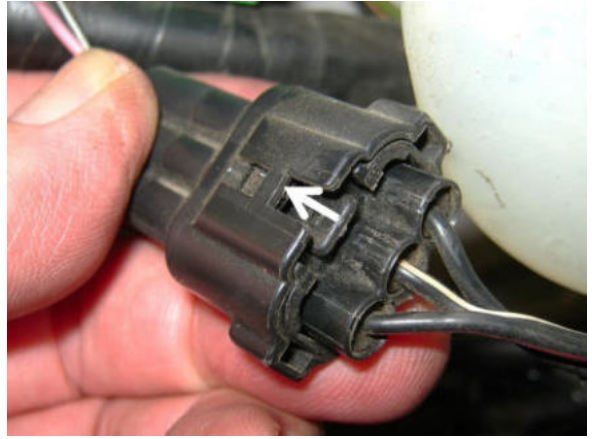


This plug has black/red and black/white wires and the third wire could be either pink or white, these three wires going to the bike's harness. The wires to the bike's speedometer sender are black/red, black/white and black.

If you can't find it, follow the wires from the speedometer sender to the plug.



Lift the tab (arrow) and disconnect this plug.



The speedo sender plug disconnected.



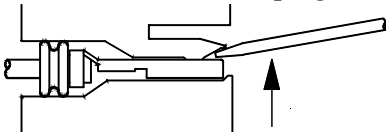
The black wire on the 3-way plug to the speedo sender is the signal wire.



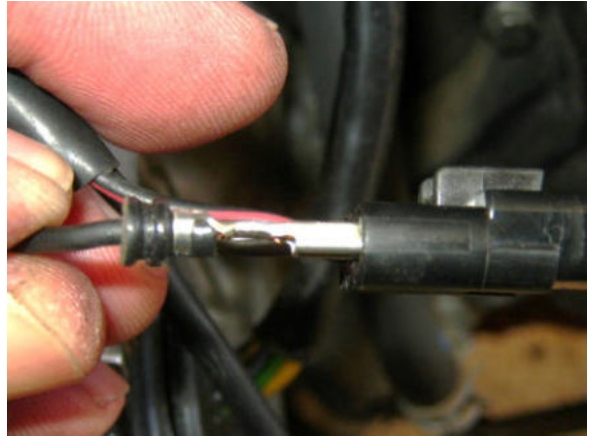
Back out the terminal on the black wire.

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

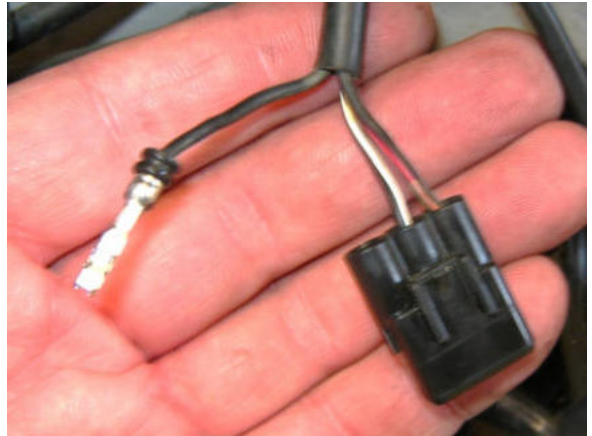
Push the tab away from the terminal and gently pull the wire and terminal out of the plug.



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

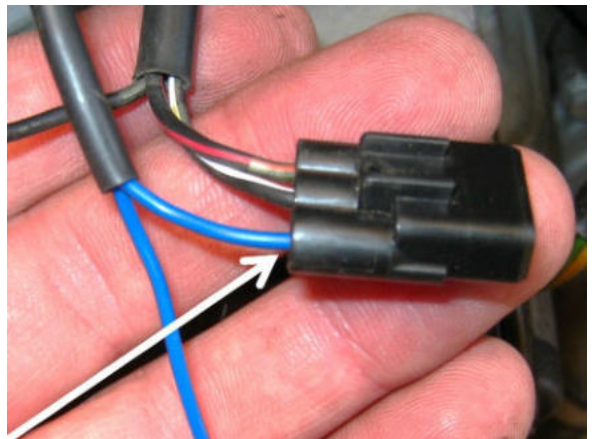


The black wire and terminal out of the plug.



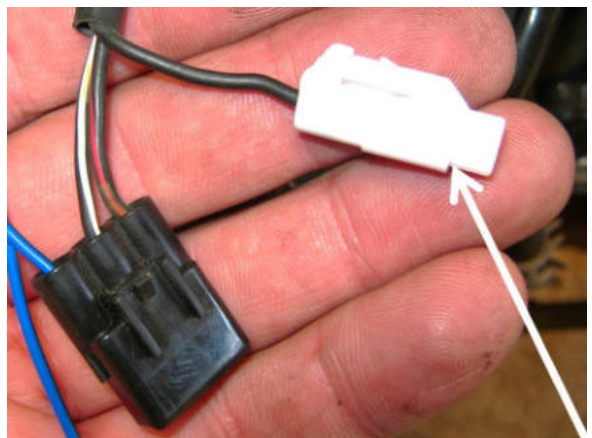
Route the cruise control blue/black speed sensor wire to the bike's speedo sender plug.

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.



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

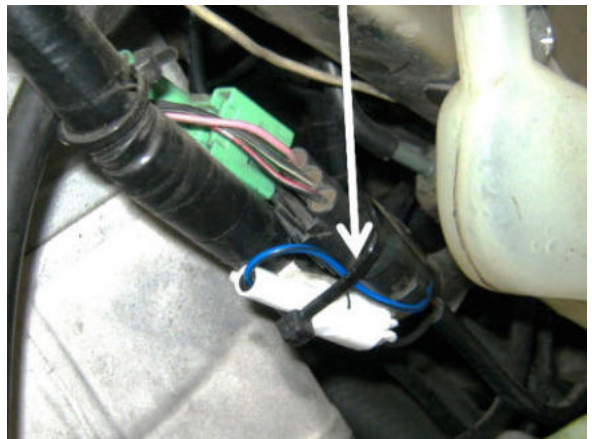


Connect the 1-way plugs to connect the cruise control blue/black wire to the bike's black wire.

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.

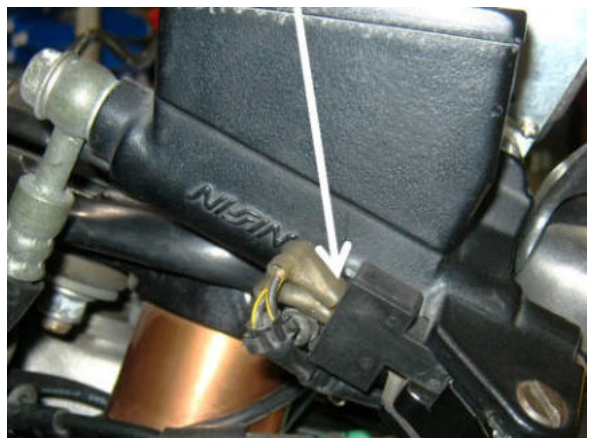


Clutch sensor connection.

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

The switch has two wires to it, on our bike these were both black with a yellow trace fitted with spade terminals (arrowed).

Disconnect one or both terminals from the clutch switch.



This photo shows both terminals removed from the switch.

The later model had one black/yellow and one black/white wire. If your bike has these colours, usually the black/white wire will be re-connected to the clutch switch.

If both are black/yellow, you will have to test to find out which wire must be connected to the cruise control.



Connect the black/white (if it has one) or one of the black/yellow wires 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 spade terminal on the blue clutch sensor wire to the bike's upper clutch switch terminal.



Connect the other of the bike's clutch switch wires to the piggy-back terminal on the blue clutch sensor wire.

This will be tested for correct connection later.



Finishing up.

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

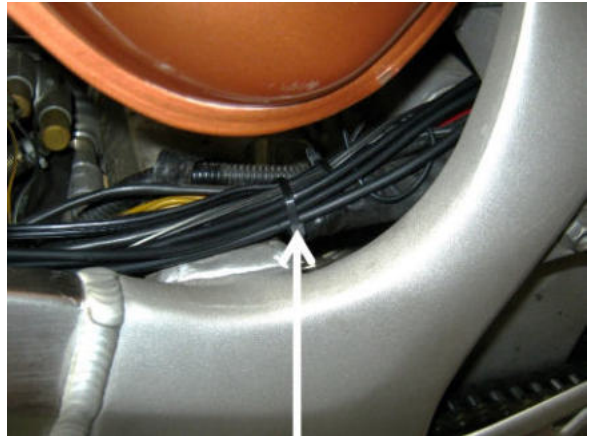
Check carefully for moving or stationary object that might damage any wires and cables.

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 wiring harness and clutch hydraulic hose and pipe – see details below.



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



Cable tie the wires together and to any other of the bike's wires or hoses.



Cable tie the wires to the bike's clutch fluid line.



Cable tie the wires to the bike's clutch fluid line.



Sit the rear body fairing on the back of the bike so the throttle servo cable adjuster is still accessible.

Make sure it is stable and will not fall off the bike, the engine will be running during the servo cable adjustment procedure.

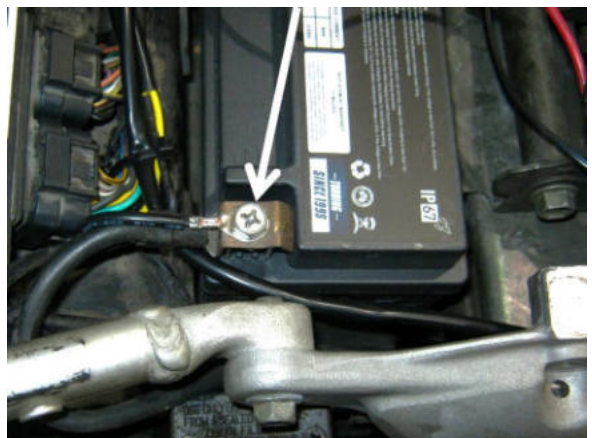


Reconnect the multi-way plug for the rear lights.

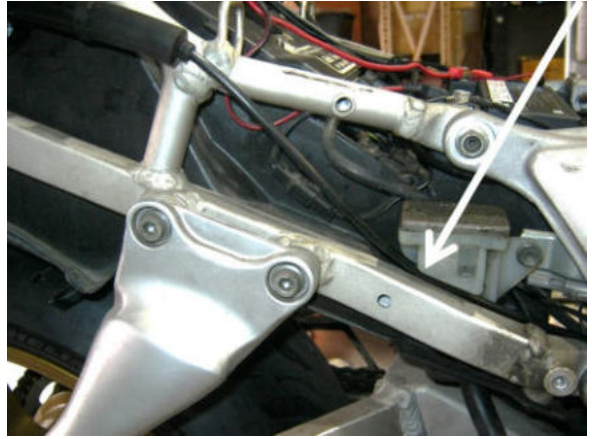


Ground wire connection.

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



If the cruise control servo cable is still tucked below the brake fluid reservoir, we recommend taking it out of that position...



...and moving it to above the reservoir, this improves the routing of the cable.



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

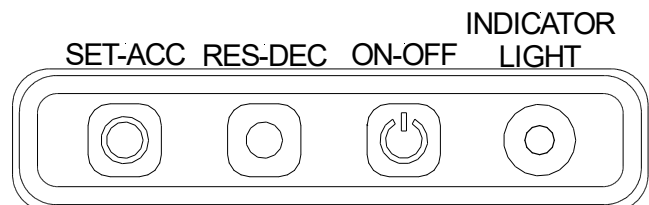
Check throttle operation at all steering positions to make sure the fuel tank has not changed cable adjustments or caused cable binding.



Control switch buttons.

The control switch has pictographs on the buttons.

NOTE: - When this control switch is mounted on the right side of the bike, the switch is inverted, so the button positions are reversed.



These diagrams show the button positions and meanings.

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

The other buttons have a circle (SET button) and a dot (RESume button).

Note: - The control switch has an indicator light next to the ON-OFF button. This light has three colours, RED and GREEN and YELLOW. RED indicates power on. YELLOW indicates cruise

MotorCycle Cruise © - Suzuki GSX1300R Hayabusa 1st Generation – from 1999 to 2007
control engaged. GREEN is used to confirm the cruise control functions during the diagnostic checks and some calibration procedures.

Clutch sensor test for correct wire connection.

Turn the ignition on.

Press and release the ON-OFF button to turn the cruise control on. The light on the switch should start flashing red/green alternating.

Apply and release the brake (front or rear). The light should change to red.

Observe the cruise control computer, there should be a red light flashing inside the computer near one end of the harness plug. Apply the brake, a green light should turn on inside the computer, near the other end of the harness plug. Release the brake, the green light should turn off.

Put the bike in gear and the side stand up (retracted).

Operate the clutch lever, if the clutch switch connection is correct the green light in the computer should come on when the clutch is pulled in and turn off when the clutch is released. The light will normally not come on until the clutch lever is pulled in most of the way.

If the light does not come on, disconnect the bike's two black/yellow wires from the clutch switch and swap the positions so the other wire is connected to the cruise control blue clutch sensor wire.



Operate the clutch lever, if the clutch switch connection is correct the green light in the computer should come on when the clutch is pulled in and turn off when the clutch is released. The light will normally not come on until the clutch lever is pulled in most of the way.

Turn the ignition off.

That completes the clutch sensor wiring test.

Throttle Servo cable final adjustment.

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 way in (little or no thread visible).

Push the cable into the adjuster firmly.



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. This puts the cruise control into diagnostic mode.

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 in diagnostic mode. It also may be too quiet to hear unless you move close to the servo.

Apply and then 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 then 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.

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 6 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. This drives the servo back to the 'idle' position – this is a stop point where the cable is not quite fully released. 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 5 times more to ensure it is at the idle position and will not release the cable any further.

Press the SET/ACC button, the revs should start to increase within 1~3 presses. If it takes more than 3 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 5 times extra after the revs return to idle.

Using this method, the engine revs should increase within 1~3 presses of the SET button, and RES should reliably return the engine speed to idle. **To get the best performance from the cruise control, ideally the rpm should lift slightly (100~300rpm) on the 1st press and then more on the 2nd press.**

Apply and release the brakes, wait a couple of seconds after releasing the brakes. The servo will return to the 'home' position and release the cable all the way.

Press the SET/ACC button; it should take roughly 7 to 12 presses of the SET button to lift engine speed off idle as it moves from the 'home' position to the 'idle' position. Press the SET button a couple more times to raise rpm to 2000~3000rpm.

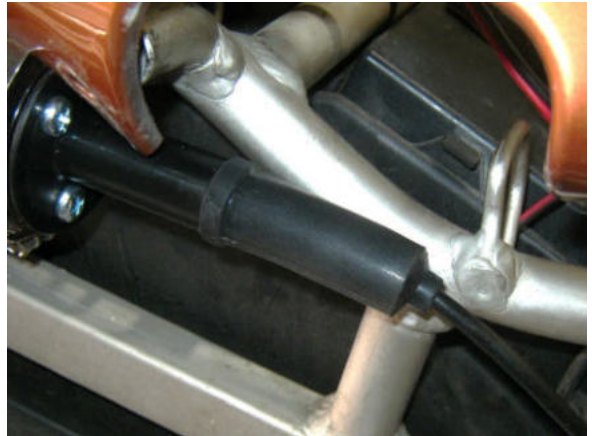
Apply and release the brakes. The engine should instantly drop to idle.

Repeat this process a few times to ensure the results are consistent and predictable.

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.

Don't forget to re-connect the seat lock release cable to the lock mechanism.

Test that the key lock operates the seat lock before fitting the seat to the bike.

Notes:

