Packing list for:
HONDA CBR500R 2024-2025
MCS 6560A Kit

Slim Switch □
Standard Switch □

Aftermarket LED Brake Light □
(this model has factory LED brake lights)

Multiple Order □

Pack in small kit carton (MCS 002)

Qty	Part Number	Description	
1	MCSCC 150	Carburettor cable	
1	MCS 850HE	Electric throttle servo assembly (large parts bag)	
Including			
1	MCSSC 500	Servo cable	
1	MCS 850B	Servo cable-sealing boot	
1	MCS 054	Wire ring, cable retainer	
1	MCS 8000C	Computer configured for CBR500R	HW:_____ SW:_____
2 lengths		Self-adhesive Velcro 7cm long	
1	MCS 6565	Cable Interface Unit (CIU) assembly (medium parts bag)	
Including			
1		10mm x 20mm flat washer (CIU mounting).	
1	MCS 6564-830B	Above Bar Switch assembly (medium parts bag)	Standard Switch □
OR			
1	GT-1014-160	Slim Control Switch assembly	Slim Switch □
1	MCS048E	Double Sided Tape	
2	CT300BLK	Cable Ties	
1	Parts bag	(See below for contents)	
1	MCS 6563	Wiring harness -	+ LED Mod □
1	Installation Manual for CBR500R from 2024		
1	QR Code for MCS8000		

Parts bag contents (medium parts bag)

2	HoseClamp40	Hose clamp 52~76mm (cover with 18cm HST10) (throttle servo)
2	MCS 6562A	Self-adhesive rubber strip – 6mm x 20mm x 5cm long (throttle servo)
8cm	HST48	4mm heat shrink tube (speed sensor connection)
1	MCS 054	Wire ring, cable retainer (spare)
1 bottle		Throttle cable oil
10		100mm cable ties
10		150mm cable ties
6		200mm cable ties
4		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 Honda CBR500R
Model years 2024-2025

17 November 2026

MOTORCYCLE CRUISE CONTROLS

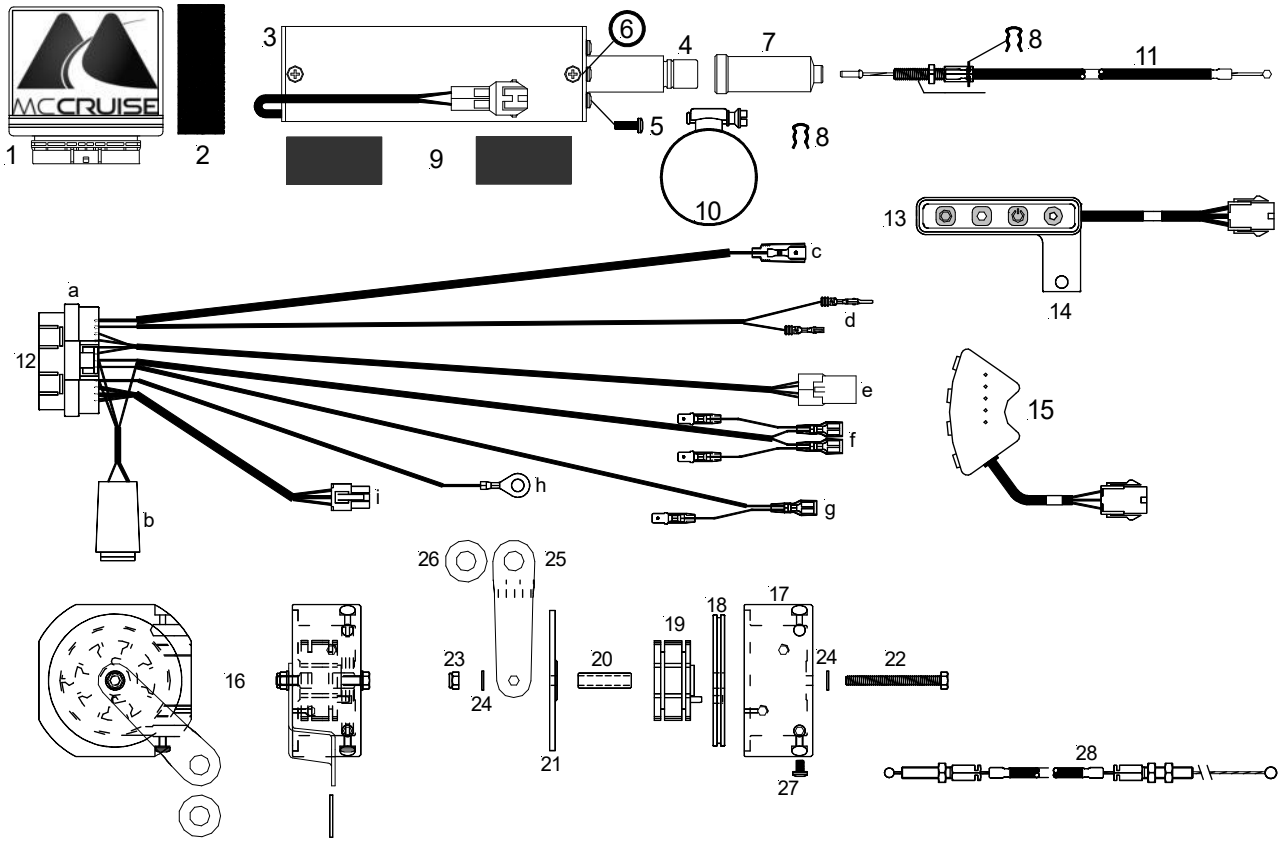
MotorCycle Setup Pty. Ltd.
A.B.N. 94 798 167 654
AUSTRALIA

HONDA CB5R00R 2024 to 2025

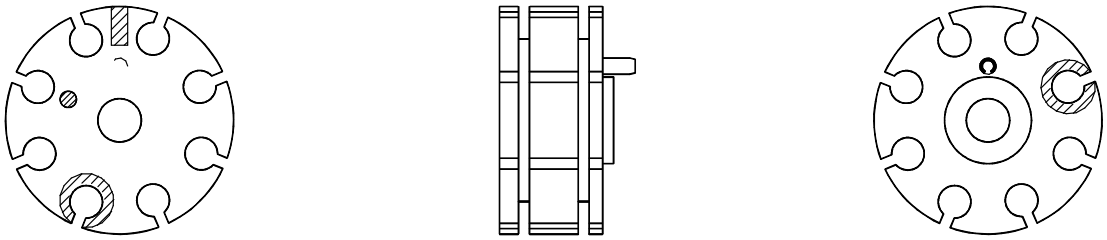
Parts list for MCS 6560A kit

Item	Qty	Part Number	Description
1	1	MCS 8000C	Computer
2	2 lengths		Self-Adhesive Velcro 7cm long
		MCS 6562	Electric throttle servo assembly
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	2	MCS6562A	Self-adhesive rubber strip 5cm long
10	2	HoseClamp40	Hose clamp 52~76mm
11	1	MCSSC 500	Throttle servo cable
12	1	MCS 6563	Wiring harness
a			Computer plug (26 pin)
b			Fuse holder (3 amp fuse)
c			Tach signal (yellow wires)
d			Speed sensor (blue/black wires)
e			Servo plug (4 pin)
f			Power & brake sensor (orange and grey wires)
g			Clutch sensor (blue wire)
h			Ground connector (black wire)
i			Control switch plug (6 pin)
		MCS 6564-830B	Control Switch Assembly
13	1	MCS 820-160	Control Switch
14	1	MCS 830B	Switch bracket (above bar)
	4		4 gauge x 1/2" pan head self tap screw
OR			
15	1	GT-1014-160	Slim Control Switch
	8cm		Foam mounting tape
	2		300mm cable ties
16		MCS 6565	Cable Interface Unit (CIU) assembly
17	1	MCS 6565A	CIU housing
18	1	MCS 003M	Throttle Servo spool
19	1	MCS 6566	Dual spool
20	1	MCS 003H	Bush
21	1	MCS 003J	End Cap
22	1		M5 x 45 pivot bolt
23	1		Pivot nut M5 Nyloc nut
24	2		5mm plated flat washer
25	1	MCS6355 B	CIU mounting bracket
26	1		10mm x 20mm flat washer
27	1		M4 x 8 pan head screw (servo cable retainer)
28	1	MCSCC 150	Carburettor cable

8cm	HST4	4mm heat shrink tube (speed sensor connection)
10		100mm cable ties
10		150mm cable ties
6		200mm cable ties
4		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 installations and can be very heavy when full of fuel.

NOTE: - If the bike is fitted with a flasher device or an aftermarket LED brake light 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 brake light with the Honda OE brake light. Contact us for ways to enable both your brake light flasher or aftermarket 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.

NOTE: - Many of the photos in this manual are from the previous model CBR500R. Where there are significant differences, we have provided new photos. Where there is no significant difference the photos from the previous model have been used.

Remove the passenger seat.

Pull the strap forward off the front of the seat (arrow).

Use the key to release the seat, lift the front of the seat and pull the seat forward to remove it.



Remove the rider's seat.

Lift the rear corner of the seat padding to reveal the mounting bolts, one each side.

Undo the bolts on both sides, lift the rear of the seat and pull it to the rear to remove it.



Disconnect the negative terminal of the battery.

Disconnect the ground cable from the negative terminal of the battery.

Make sure the cable cannot touch the battery terminal.



Remove the side covers.

Remove the expansion clip at the top rear edge and the screw near the lower edge (upper left arrows).

Gently pull the rear of the side cover away from the bike to release the two post and grommet fasteners (lower left arrows – see next photo).

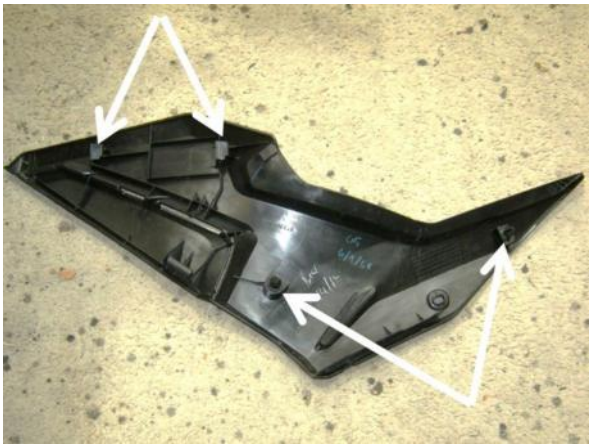
Pull the cover to the rear to release the two mounting tabs (upper right arrows) and remove the side cover.

Repeat to remove the left side cover.



The two post and grommet fasteners toward the rear and middle of the side cover (lower right arrows).

The two tabs at the front of the side cover (upper left arrows).

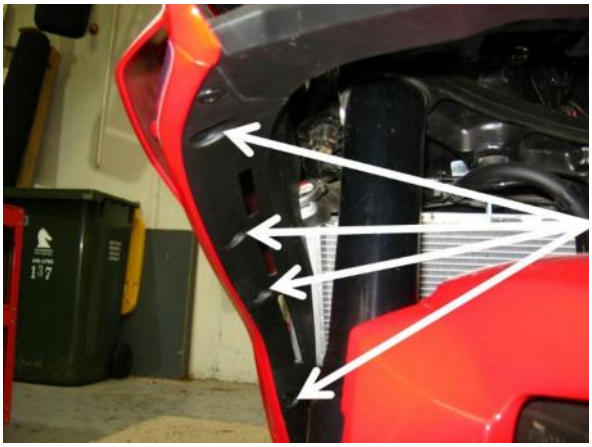




<u>Remove the right-side main fairing panel.</u>

Remove the 3 bolts indicated (see next photos).

Remove the expansion clips (see next photos).



NOTE: - The following method leaves the black inner trim panel on the bike. This may NOT be the most effective method.

Remove the 4 expansion clips that are in the recessed holes.

Push the centre pin on these clips in to release the clip.



Pull the rear edge of the panel away from the bike to release the post and grommet fastener (arrowed).

NOTE: - There is a photo on the next page showing all the connection points on the fairing panel.

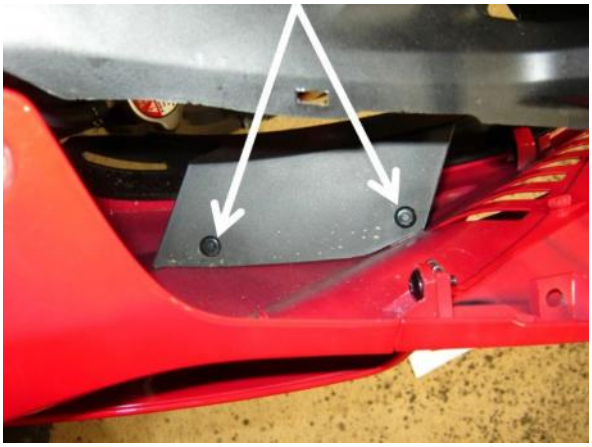


Genlty lift to top rear edge of the panel and ease it away from the bike, this will released the tab connections between the inner panel and the main panel (arrowed).

Ease the faring forward to release the two tabs at the joint behind the headlight.



Remove the two clips inside the panel that hold the inner trim panel to the main panel.



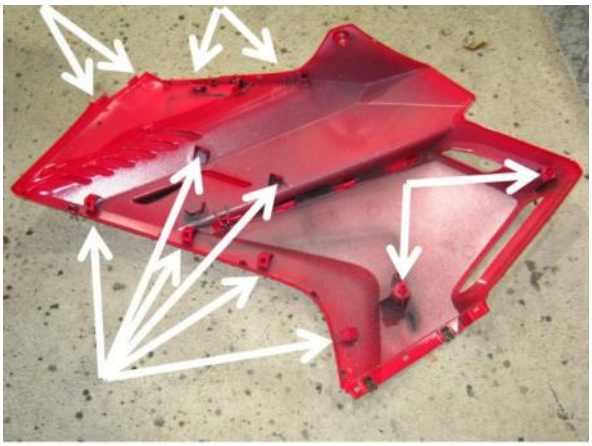
Gently pull the top of the panel away from the bike to release the post and grommet fastener near the bottom joint (middle white arrow).

Push the bottom in to release the two tabs from the holes on the bottom joint (black arrows in this photo and the tabs arrowed in the next photo).



The two tabs on the belly pan that go into the two holes (black arrows) in the previous photo.





The two post and grommet fasteners (lower right arrows).

The holes for the expansion clips connecting the inner trim panel (lower left arrows).

The tabs connecting the upper edge to the inner panel (upper right arrows).

The tabs on the inside of the fairing panel (upper left arrows).

Repeat the operation on the left side main fairing panel.



Remove the fuel tank.

Loosen the bolt at the back of the fuel tank, but don't remove it.



Remove the two bolts and collars at the front of the fuel tank.



On the right side of the bike, there is a breather hose for the fuel tank.

There is a joiner in the hose, near the right rear corner of the cylinder head.

Disconnect this joiner.



On the left side of the bike, there is an overflow hose for the fuel tank. This hose has a ‘T’ connector in it (right arrow).

The front-most hose (left arrow) connects to the fuel tank.



Disconnect the front hose from the ‘T’ connector.



Raise the tank slightly and put a suitable support such as a block of wood under the front of the tank to hold it up.

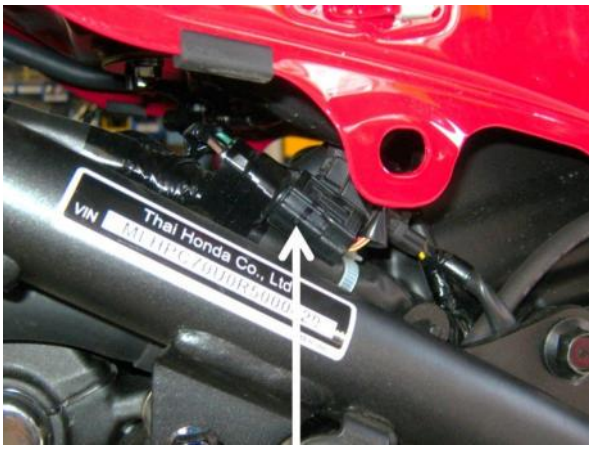
Do not raise the tank more than about 40 to 50mm (1 ½” to 2”).



Follow the wires from the fuel pump in the bottom of the fuel tank to the electrical plug on the left side, above the frame.

This connector is for the fuel pump and fuel gauge.

Disconnect this plug.



Raise the tank higher at the front, about 75~100mm or 3~4” (left photo).

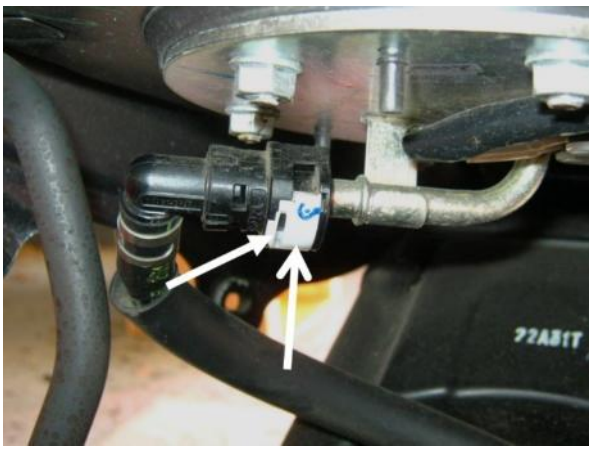
Check for any other attachments to the fuel tank, if only the fuel pressure hose is still connected you should be able to prop the tank higher (right photo).



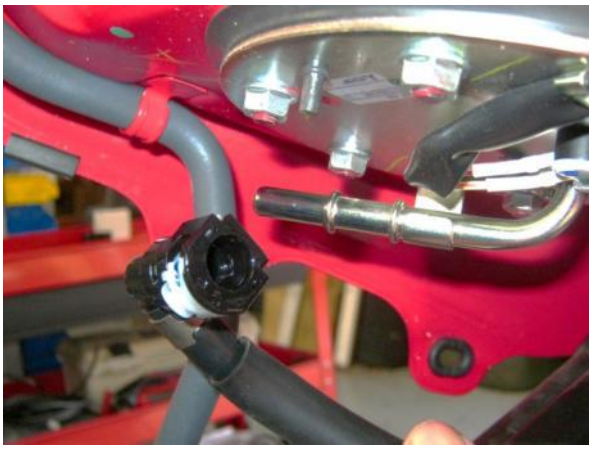
Disconnect the quick release coupling on the fuel pressure hose.



Push the small white tab towards the rest of the white latch as shown by the left arrow, then push the entire white latch in as shown by the right arrow to release the coupling.



Carefully pull the coupling off the fuel pipe. Take care not to bend or kink the fuel pressure hose.



Take out the support holding the front of the fuel tank up.

Remove the rear mounting bolt.

Lift the tank off the bike.



<u>Disconnect the opening or ‘pull’ cable from the throttle bodies.</u>

Slide the rubber ‘boot’ off the throttle cable adjuster at the twist grip.

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



The ‘pull’ cable is the rearmost cable of the two cables (arrowed).

Loosen the lock nuts on the adjuster and remove the adjuster from the throttle body bracket.

Disconnect the cable nipple from the throttle spindle.



Draw the cable towards the front of the bike, above the cylinder head.



Route the cable out to the right side of the bike, beside the cylinder head.

Take care to ensure the cable is not wrapped around any of the bike's cables, hoses or parts of the wiring harness, the cable must have a straight run from beside the steering head to beside the cylinder head to avoid kinking the cable and to ensure it will be long enough to reach the CIU.



Usually the threads on the end of the adjuster are flattened.

Place a drop of oil on the thread of the adjuster.

Screw both lock nuts off the end of the adjuster to 'repair' the flattened threads on the adjuster.



Screw the first lock nut all the way up the adjuster and tighten gently.

Screw the second lock nut most of the way up the adjuster.



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.

If the bike is new and cables and twist grip are in good condition and no friction, a quick alternative is to just lubricate the opening or pull cable.

While we don't recommend this, on a new bike in good condition this does work for some time. We recommend lubricating all the cables and under the twist grip.

Lubricating ONLY the opening throttle cable (new bikes only).

Unscrew the adjuster in the opening cable at the twist grip.



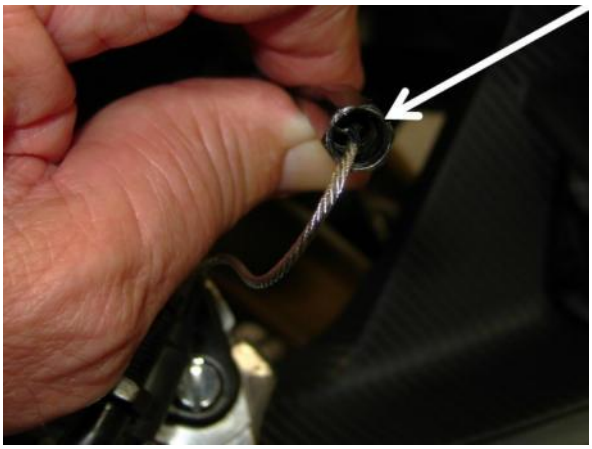
Carefully raise the end the cable and adjuster, take care to NOT kink the throttle cable.

Wrap a cloth around the bottom of the adjuster where the cable enters the adjuster to stop oil running out.

Run 10 drops or more of the supplied oil into the adjuster and allow it to run into the cable.

Clean up any spills and screw the adjuster back together.

This will ensure the pull cable is adequately lubricated.



Lubricating the throttle cables and throttle twist grip.

Remove the twist grip housing screws and 'split' the housing.
Disconnect the cables from the twist grip.
Use the 'throttle cable oil' (singer sewing machine oil) supplied in the kit to lubricate both the cables.

Run several drops (at least 10 drops) of the supplied 'throttle cable oil' down each throttle cable.

This oil 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.

If possible, remove the twist grip from the handlebar.

Carefully clean the bar and inside the twist grip.

Lubricate the bar with silicone lubricant spray or a thin film of engine oil or an oil/grease mixture.

RE-assemble the twist grip.

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 to the throttle bodies.

Locate the short 'carburettor' cable in the kit.

Fit the cable to the throttle bodies, where the original cable was attached.



Use the end of the cable with the adjuster with two lock nuts and has the barrel nipple on the cable.

Connect the cable to the throttle spindle.

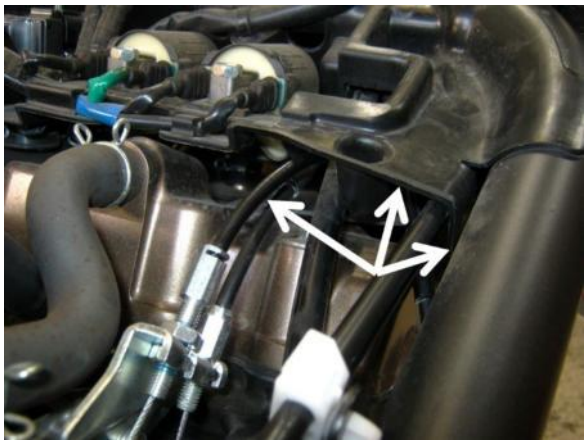
Apply a drop of low or medium strength thread locking compound to the threads of the adjuster.

Set the adjuster so the lock nuts are roughly halfway on the threads of the adjuster.

Tighten the lock nuts gently.

Caution: the adjuster is made of alloy and will break if overtightened. This type of damage will not be covered by warranty.

Draw the cable out to the right side of the bike, above the cylinder head.



Draw the cable out to the right side of the bike, between the frame tube and the cylinder head, next to the bike's throttle cable.

Make sure both the new 'carburettor' cable (upper arrow) AND the bike's throttle cable (lower arrow) come out below the frame tube and ABOVE the rubber hose shown in this picture.



This photo shows the final assembly with the CIU installed, the 'carburettor' cable (left arrow) and the bike's throttle cable (right arrow) are above the rubber hose.



Installing the electric throttle servo.

The servo will be mounted on the left side of the bike, attached to the left front frame downtube with hose clamps.

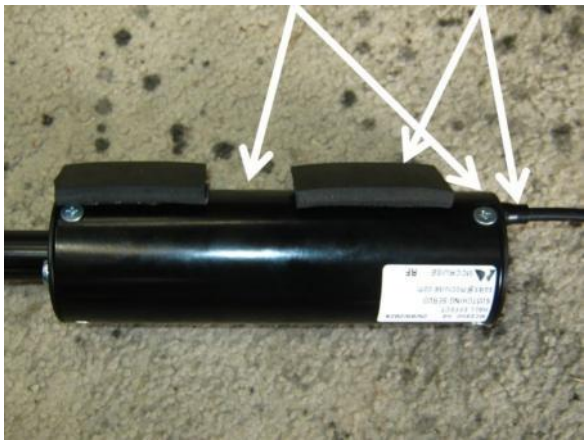


Locate the rubber pads and the throttle servo in the kit.

Clean the body of the throttle servo with suitable solvent such as methylated spirits or denatured alcohol.



Peel off the backing paper off the mounting tape and place the pads on the servo so they are roughly in line with the electrical cable at the bottom of the servo (right arrows).



Place the upper pad, so the end of the pad is level with eh upper end of the servo.

Place the second pad so the bottom end of the pad is about 20mm (3/4”) up from the bottom of the servo.

This will leave two gaps (left arrows).

Undo the two large hose clamps.



Put a drop of oil on the screws on the clamps, this makes tightening the clamps much more effective.

Place one around the frame tube on the left side of the motor, behind the radiator.

Place the clamp above the frame cross tube (hidden behind the servo in this photo).

Position the servo so the rubber blocks are against the frame tube.



Re-join the ends of the hose clamp 3 or 4 turns of the screw and position it around the upper end of the servo.

Put the second hose clamp around the frame tube at the bottom of the servo (arrow).



Re-join the ends of the lower hose clamp and position it around the lower end of the servo.

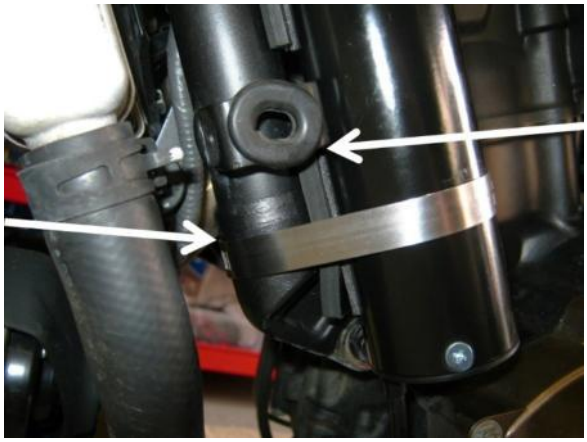
Position the screws on the clamps so they are sitting on the inside face of the servo close to the engine.

Position the servo so the rubber pads sit between the servo and the frame tube.



Rotate the servo in towards the engine, until it contacts the forged bracket on the bottom of the frame tube.

Re-position the hose clamp screws if necessary to ensure you can access the screws.



Position the servo so the end of the lower rubber pad sits against the welded frame bracket (right arrow).

Position the lower hose clamp so that it is around the forged bracket on the bottom of the frame tube (left arrow).

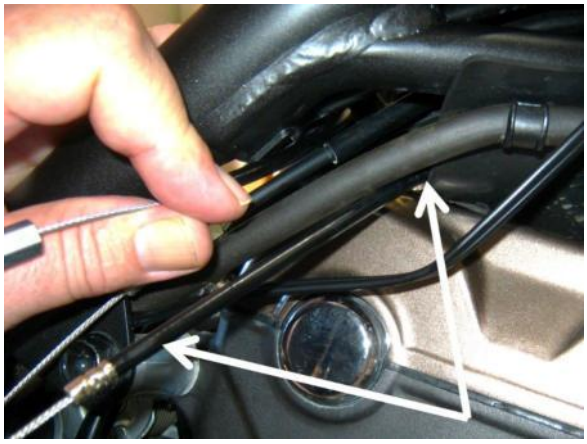
When you are happy with the positioning of the servo, firmly tighten the hose clamps.

CAUTION: - Don't overtighten the clamps and break them.



Feed the servo cable into the space above the engine, just below the upper frame tube.

It may take a couple of attempts to get the servo cable routed out to the other side, the cable MUST NOT bend around other objects, it must have an even curve with no kinks to the other side of the engine.

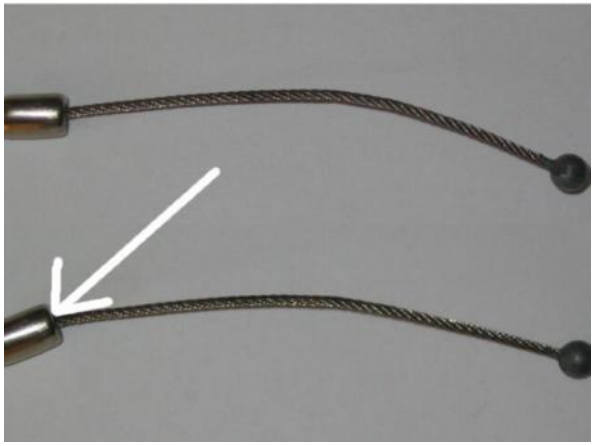


Draw the cable out near the other two cables, so it is coming out above the rubber sheet (upper arrow), and below the rubber hose and out beside the cylinder head (lower arrow).

Check that the cable is not bent around any objects above the cylinder head.

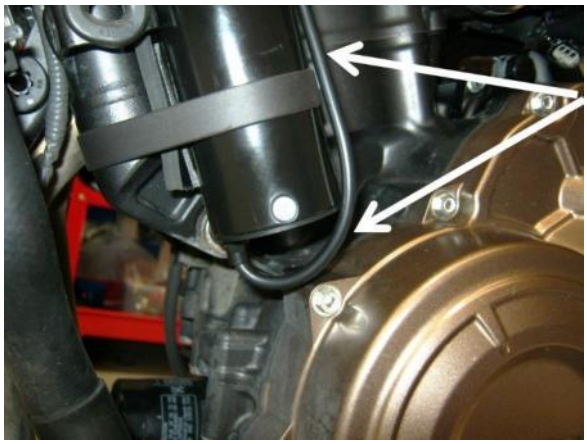
CAUTION: - Take care to check the throttle servo cable movement at this point.

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 will 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 it 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.



Route the throttle servo electrical cable to the rear and up beside the servo tube.

Make sure the cable is clear of the engine cases.



Fit a cable tie to hold the cable to the side of the servo.

The electrical plug should be here, it will be connected to the cruise control harness later.



Installing the Cable Interface Unit (CIU).

The CIU is mounted on the right side of the bike, next to the cylinder head, using the right rear engine stay bolt.

Disassemble the CIU noting the location of the components.



Insert the end of the servo cable into the hole with the retaining screw in the CIU housing. Back the screw out a few turns and insert the cable all the way into the shoulder in the hole.

Gently tighten the retaining screw being careful not to strip the threads.

Push and pull the inner cable a few times to check that it is totally free to move.



Insert the servo cable nipple into the hole in the thin servo cable spool and position the spool in the housing so the groove is facing out.

Rotate the spool a few times to check that the cable is free to move.

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

CAUTION: - Take care not to kink the servo cable (wire rope) at all while fitting the servo spool. It is CRITICAL to good performance of the cruise control that this cable is completely free running and has no kinks.

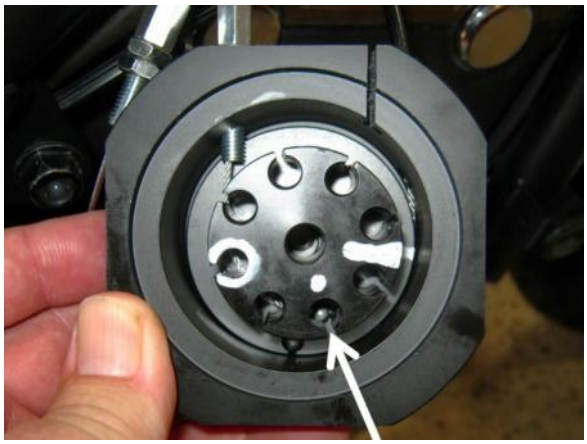


Route the ‘carburettor’ cable (the cable you attached to the throttle bodies) to the CIU housing and insert the cable into the un-slotted threaded hole.

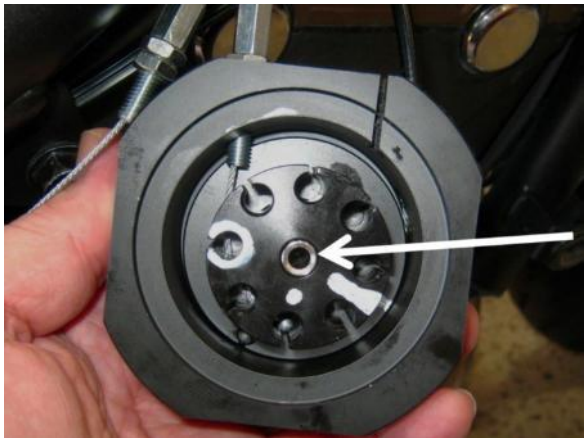
Screw the adjuster most of the way into the hole.



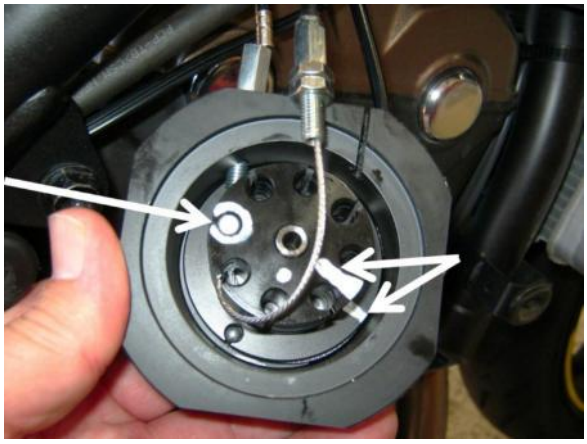
Place the ball nipple in the marked hole on the bottom (roll pin) side of the dual spool. The hole is also marked with a dot on the top side of the spool (arrowed).



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



Place a drop of the supplied throttle cable oil on the bush and insert the bush in the two spools.



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

These lines MUST be aligned for the CIU to work correctly. Route the bike's original throttle cable to the CIU.

Place the cable nipple in the marked hole in the top of the dual spool (arrowed).



Run the cable around the spool.

Put the cable and adjuster in the hole with the slot.



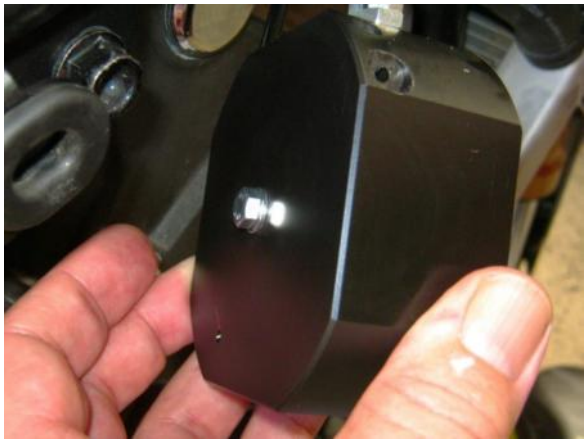
Screw the adjuster all the way into the slotted hole in the CIU.

Check again that the line on the dual spool lines up with the line on the servo spool.



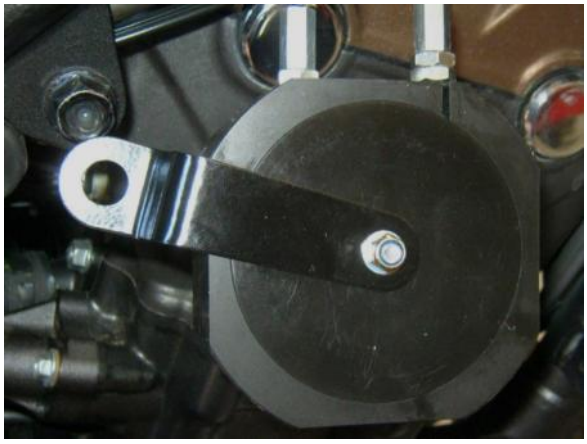
Place the end cap on the CIU.

The raised shoulder on the end cap goes inside the CIU.



Place a flat washer on the CIU through bolt.

Insert the bolt into the CIU from the back.



Place the mounting bracket, then a flat washer and the Nyloc nut on the bolt on the top side of the CIU.

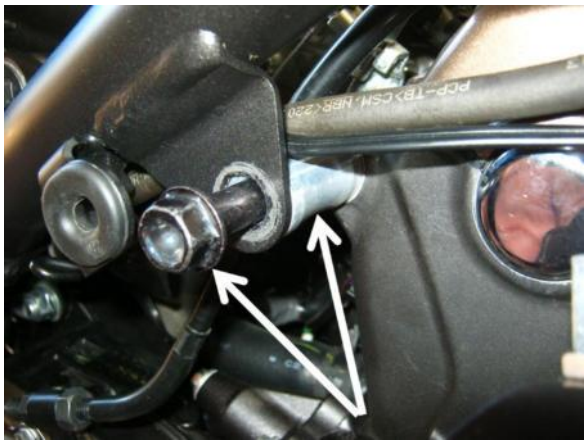
Gently tighten the nut.

Take care not to over-tighten the nut, this may cause the components in the CIU to bind.

NOTE: - When you first tighten the nut, you will feel resistance from the nylon insert in the nut. As the components seat you will feel an increase in effort required to turn the nut. After the effort starts to increase turn the nut 1/3 to 1/2 of a turn further and no more.

The CIU bracket goes on the engine hanger bolt.

Loosen the bolt and remove it, take care not to drop and lose the spacer behind the bolt (arrowed).



Apply a drop of low or medium strength thread locking compound to the threads of the bolt.

Locate the large (10 x 20mm or 3/8”x ¾”) flat washer in the kit.

Place the washer on the engine hanger bolt (arrowed).

Insert the bolt into the CIU mounting bracket and put the bolt back in the frame and screw it into the engine.



Align the bottom edge of the CIU so it is parallel with the join between the cylinder head and the cylinders (arrowed).

The bottom flat face of the CIU housing should be roughly level with the small cylinder head bolts and parallel to the cylinder head joint.

Tighten the engine hanger bolt. Refer to the workshop manual for the correct tightening torque.



The CIU mounted on the bike.





Servo cable initial adjustment.

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



Remove the cable retaining clip from the slots in the adjuster.

Note: - Take care not to lose the clip.

Screw the adjuster out about 8 to 10 turns so about 8 to 10mm of thread length (8 to 10 threads) are visible.

Push the cable firmly into the adjuster to ensure it is fully inserted into the adjuster and replace the retaining clip (arrowed).

If desired you can replace the boot, however you will have to make another adjustment again at the end of the installation.

Carburettor' cable adjustment.



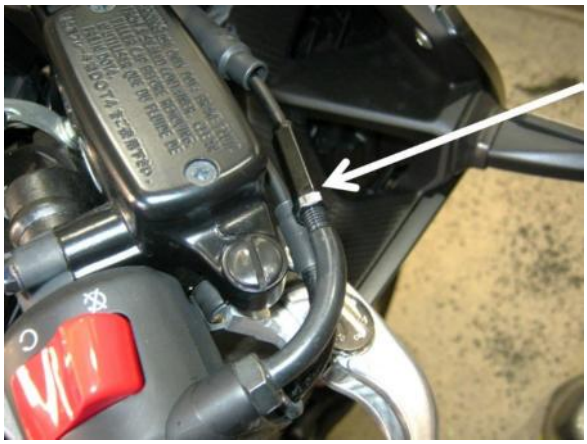
Check the free play in the 'carburettor' cable by pulling the end of the outer cable out of the adjuster. This can be done at the CIU end of the cable OR at the throttle body, the throttle body end is probably easier. Check how far it moves before the throttle spindle starts to move from idle position.

Use the adjuster at the CIU end of the 'carburettor' cable (arrowed) to change the free play in the cable.

Set the free play to about 2mm (3/32").

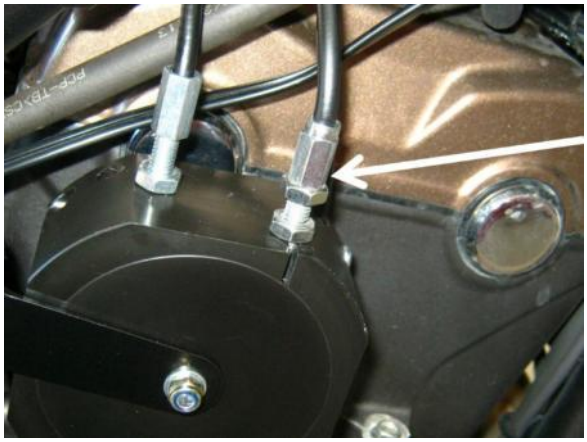
Make sure that you can move the cable in and out of the adjuster about 2mm without the throttle spindle moving from idle.

Gently tighten the lock nut on the adjuster.



Throttle cable free play adjustment.

Screw the adjuster in the bike's throttle cable at the twist grip out ~5 turns (~5 threads visible).



Screw the adjuster in the bike's throttle cable at the CIU (arrowed) out to achieve 2~3 mm free play in the twist grip at the outside diameter of the grip.

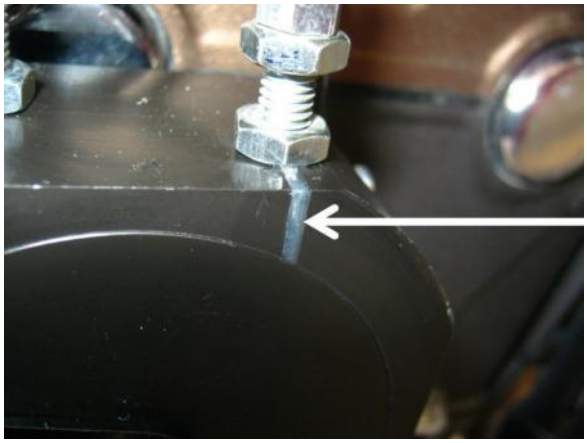
Note: - There MUST be free play in the twist grip or the cables will bind and prevent the cruise control working effectively.

Twist the grip to full open and closed throttle several times firmly. Twist the grip almost as hard as you dare several times, then re-check the free play in the 'carburettor' cable and adjust if necessary.

Repeat this operation until the free play in the 'carburettor' cable does not change.

Re-check the throttle grip free play and adjust if necessary.

Check the throttle grip operation and free play in all steering positions, full left, full right and straight ahead.



Force a small amount of silicone sealant (general purpose, rain gutter or bathroom sealant is ideal) into the slot in the CIU to seal it from water and dirt ingress.

Control Switch Installation.

There are two options for the control switch on this model.



New Slim switch.

If the new slim switch is supplied in the kit, it can be installed on the handlebar between the left side switch block and the clutch lever mount.

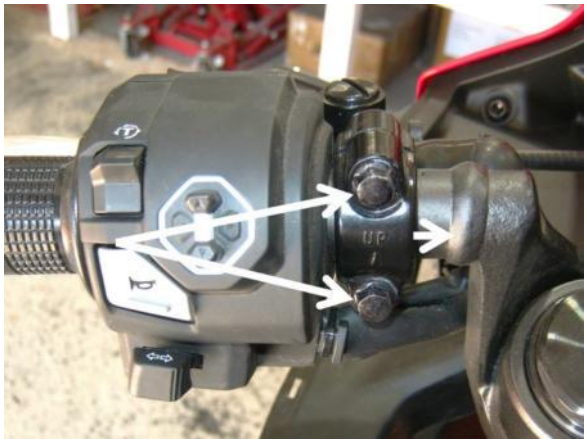


Original style switch.

Clutch lever mount, above handlebar.

The control switch bracket is attached using the clutch lever mounting clamp, using the upper bolt in the clamp. The bracket fits between the face of the clamp and the clutch lever assembly. This requires ~1.5mm of material must be filed from the inner face of the mounting clamp to provide space for the switch bracket.

Installing the control switch.
New Slim switch.



Loosen the two bolts on the clutch lever mounting clamp.

Slide the mount away from the bike's switch block to create a gap of at least 12mm (1/2") between the clutch lever mount and the bike's switch block (right arrow).

Clean the side of the bike's switch block and the handlebar with suitable solvent, such as methylated spirits or wood alcohol.



Trial fit the switch to the handlebar, we suggest aligning the bottom RESUME button to the bike's indicator switch.

Pull in the clutch lever and check that the lever contacts the handlebar grip before or at the same time it contacts the bike's switch block (arrow).

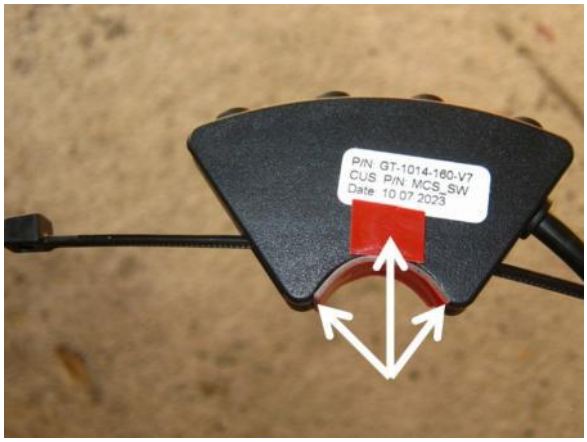


Clean the faces of the switch before fitting the adhesive tape.

Cut a length of the mounting tape to fit in the curve on the inside face the slim switch.

Fit a small piece of tape on the side of the switch that will contact the bike's switch block (middle arrow).

Insert one of the cable ties through the hole in the switch.



NOTE: - We round it easier to remove the clutch assembly from the handlebar before mounting the switch.

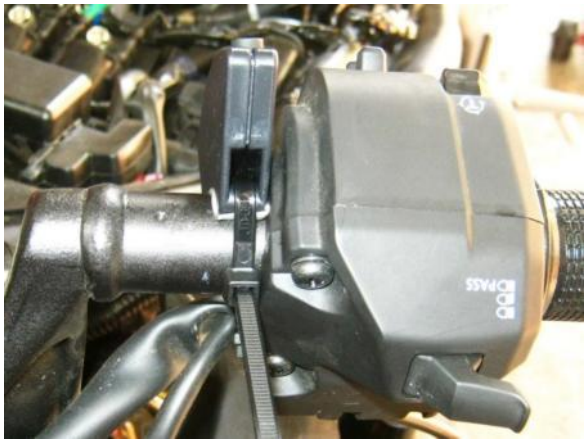
Remove the plastic film from the mounting tape.

Position the switch on the handlebar and wrap the cable tie around the handlebar, taking care to not 'capture' any of the bike's wires with the cable tie.



Tighten the cable tie to mount the switch firmly on the handlebar.

The clutch lever has been removed in this photo.



Trim the excess length of the cable tie.



Replace the clutch lever assembly on the bar if you removed it.

Push the clutch lever mount across to firmly ‘sandwich’ the switch between the clutch lever mount and the bike’s switch block.

Tighten the clutch mounting bolts.



<u>Original style switch.</u>

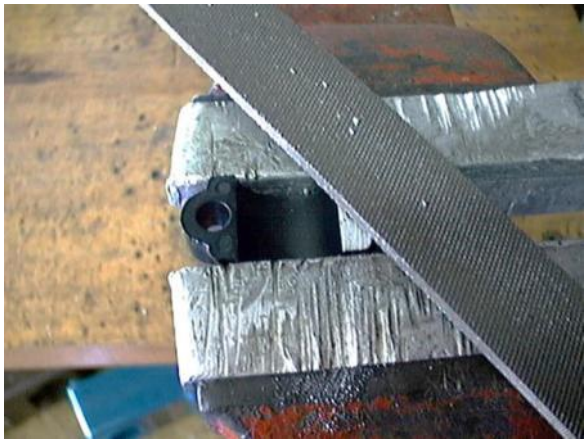
Remove the two bolts clamping the clutch lever assembly to the left handlebar and remove the clamp.

Rest the clutch lever assembly on a cloth on the fairing.



Use a flat file and a vice with soft jaws (the fastest and easiest way to do this), sandpaper or a grinder to remove material from the **top** inner face of the clutch lever clamp equivalent to the thickness of the control switch bracket (2.0mm or 0.080”).

There is an arrow on the front of the clamp to identify which way is up. File material from the ‘up’ side of the clamp. Ensure that the new surface is flat and parallel to the original surface.



Position the clutch lever assembly back on the handlebar and loosely install the clamp and the lower clamp bolt.

Position the cruise control switch bracket between the upper clamp faces and insert the upper bolt. Align the clutch lever assembly with the punch mark on the handlebar and tighten the upper bolt.



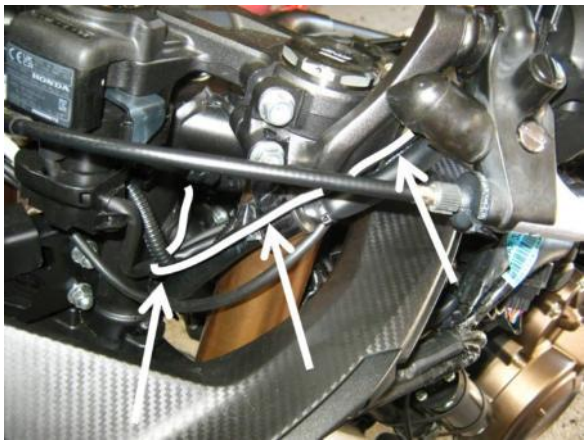
Check that there is a gap between the lower faces of the clamp. The gap should be as small as possible, while still allowing the clamp to grip the handlebars tightly. Check that the clutch lever assembly is firmly attached to the handlebars and will not rotate around the bars.

If it is not firmly clamped to the bars, remove the clamp and remove more material from the upper face of the clamp.

CAUTION: - Do not remove material from the lower face of the clamp.

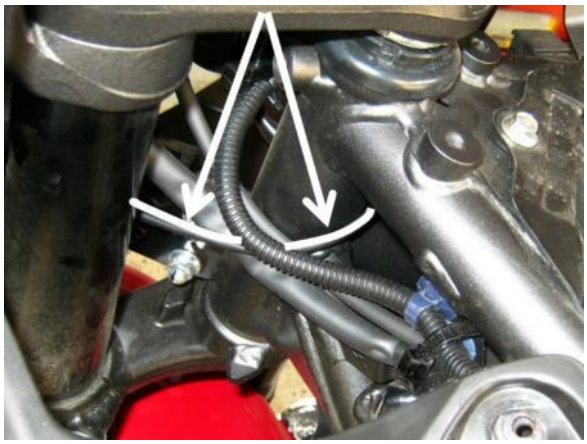


Route the switch wire down with the rest of the bike's wires from the left side handlebar switch block.



Route the switch wire down with the rest of the bike's wires from the left side handlebar switch block.

Route the switch wire behind the steering head and across to the right side of the bike.



Draw the plug out on the right side of the steering head.

Route the control switch wire to the rear on the right side of the bike, below and on the outside of the upper frame tube.



Route the control switch wire to the rear on the right side of the bike, below and towards the outside of the upper frame tube, behind the ‘carburettor’ and throttle cables at the CIU.

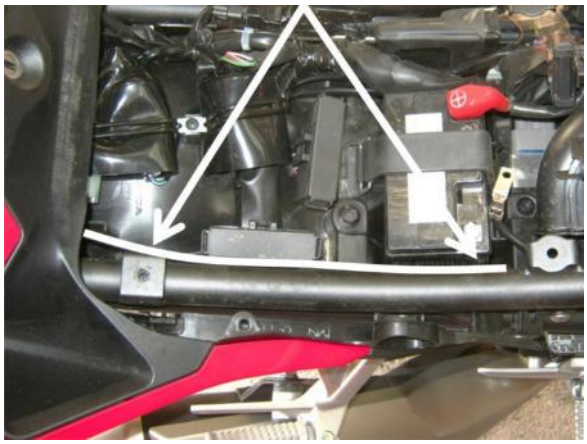
Then under and to the inside of the frame tube after the CIU.



Route the switch wire to the rear of the bike on the right side past the air filter housing and the batterybattery.



Route the switch wire to the rear of the bike on the right side past the battery and the fuse box.



Route the switch wire into the storage area under the passenger seat.



<u>Mounting the cruise control computer (electronics module).</u>

The computer is mounted in the storage area under the passenger seat, behind the tool kit.

Velcro mounting tape is provided in the kit to mount the computer.



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

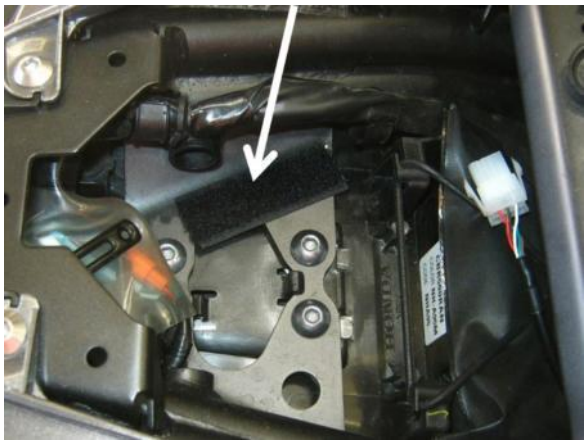
Attach two pieces of the ‘hook’ side of the Velcro tape to the underside of the computer.

Make sure they are both close to the back end (opposite the connector) of the box so there is an uncovered area at the connector end of the box.



Clean the metal frame in the bottom of the storage area with a suitable solvent such as methylated spirits or denatured alcohol.

Apply one length of the ‘loop’ side of the Velcro mounting tape to the metal frame as shown.



Feed one of the long cable ties under the metal frame.



Place the cruise control computer on the tape on the floor of the compartment.

Wrap the cable tie around the computer and pull it tight.

Cut off the excess cable tie length.

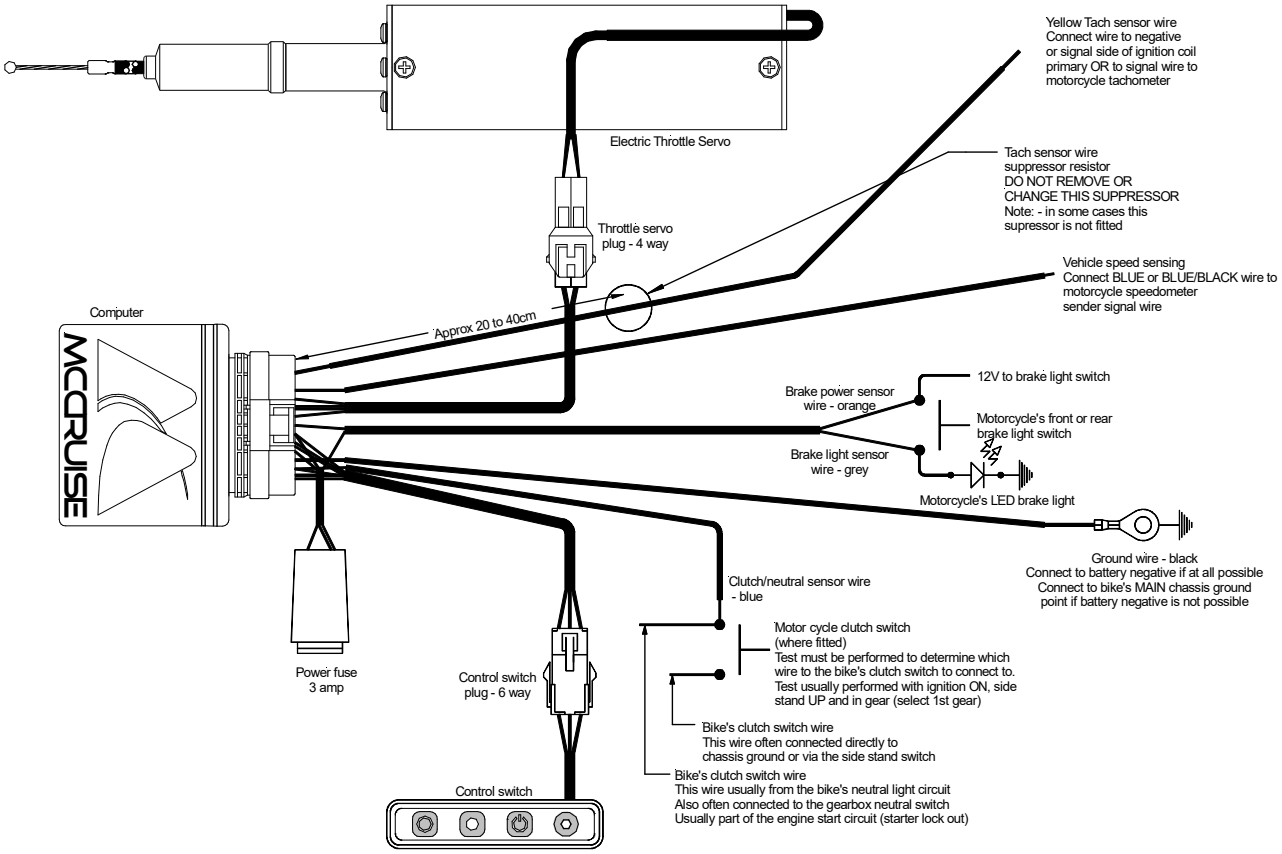


Installing the wiring harness

Locate the wiring harness in the kit.

The diagram below shows the connections to be made for most cruise control installations.

Details of the connections for this model follow this diagram.



<u>Computer connection.</u>

Connect the wiring harness to the cruise control computer.

The throttle servo branch (4-way plug) and speed sensor wire (2 terminals on blue/black wires) are taped together separately from the other branches, route these wires to the left behind the tool bag, then forward beside the left side frame tube (upper arrow).

The rest of the branches are taped together. Route these branches to the right side of the under-seat area and forward beside the right frame tube with the control switch wire (lower arrow).





Route the throttle servo and speed sensor branches (upper line in the photo) forward past the battery.

Route all the other branches (lower line in the photo) past the fuse box and battery with the control switch wire. Leave them for the moment.

Control switch connection.



Connect the plug on the wires from the control switch to the matching plug on the cruise control harness.

NOTE: - Take care when connecting this plug. You need gently 'wriggle' the two plugs while pushing them together to ensure the terminals connect properly. We have occasionally seen the terminals on this plug being pushed out of the plug backwards when the plugs are pushed together too quickly and roughly. The terminals are small and delicate, some sensitivity is required when connecting these plugs.

Throttle servo and speed sensor branch routing.



There are several suggestions for cable tie locations in the following text. Fit the cable ties, but do not tighten them until after the connection is completed.

The throttle servo branch runs behind the tool kit then forward on the left side.

Fit a cable tie (arrow) to hold the branch to the bike's wiring harness.



Route the servo and speed sensor branches as shown past the battery.

Fit a cable tie (arrow) to hold the branch to the bike's wiring harness.



Feed the plug under the frame tube….

… then behind the tab on the frame next to the air filter housing…



…then up between the frame and the air filter housing.

Repeat this route with the speed sensor branch.



Fit a cable tie to hold the branch to the frame tube.



Route the branches forward next to the air filter, then up and over the bike's harness and connectors.



Thread the servo plug through the loop formed by the fuel tank connector wires…



…then under the rubber sheet and under the frame tube to the left side of the engine cylinder head.

Repeat this route with the speed sensor branch.



This photo shows the routing for the servo and speed sensor branches.

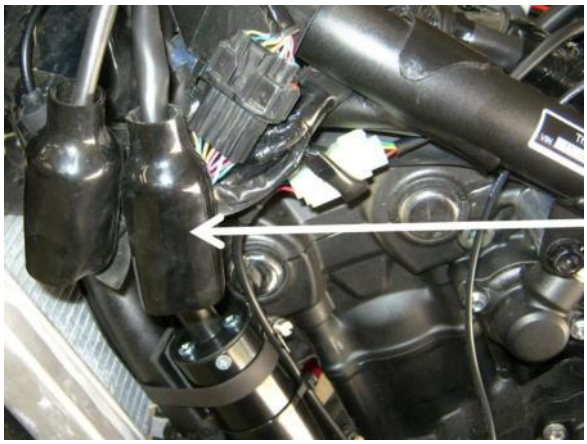


<u>Throttle servo connection.</u>

Connect the plug on the servo branch the plug on the electrical cable from the throttle servo.

Fit a cable tie to hold the plug to the bike's wires.

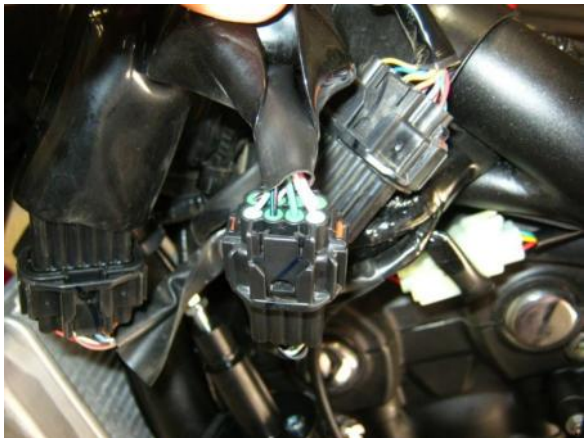




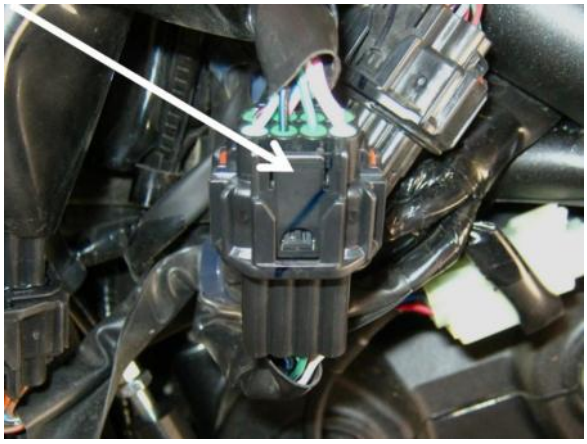
Speed Sensor Connection.

This plastic pouch contains an 8-way plug that goes to the instrument cluster, speed signal is available on this plug.

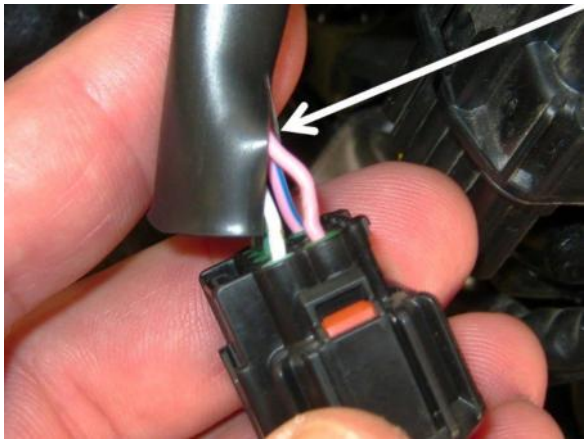
Slide the pouch up to access the plug.



The 8-way plug in the pouch.

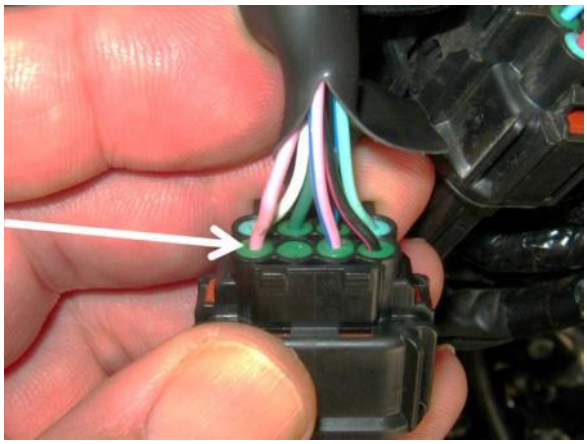


Depress the tab to release and disconnect the plugs.



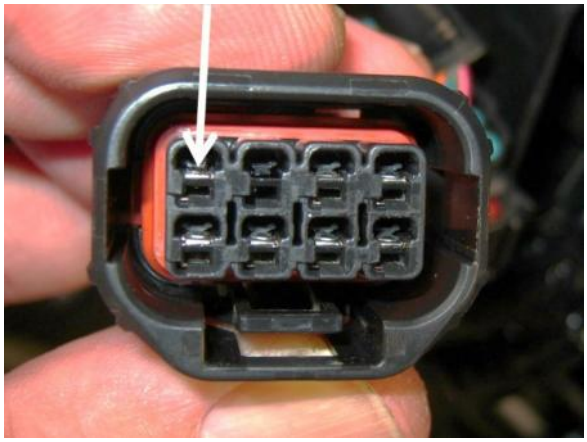
Carefully slit the plastic tube to allow better access to the back of the plug housing on the upper plug, the housing with the receptacle (female) terminals.

The pink wire on the left end of the bottom row (the row opposite the release latch) is the speed signal wire to the speedometer.



To make the connection the pink wire and terminal must be backed out of the plug.

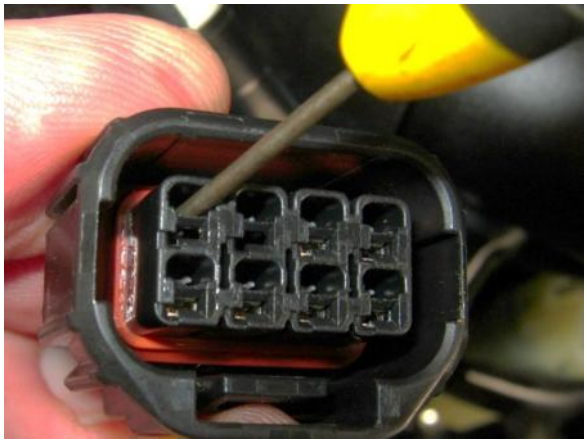
The arrow is pointing a latch that is on top of the terminal.



Push the pink wire INTO the housing to ensure the latch does not have any pressure on it.

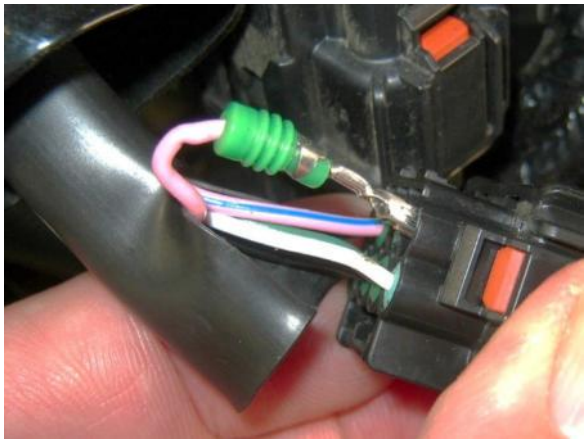
Use a small jeweller's screwdriver to gently lift the latch away from the terminal.

Gently pull the pink wire and termina out of the housing. It should not need any significant force to pull the wire out, if it will not come out, the latch is not fully released.

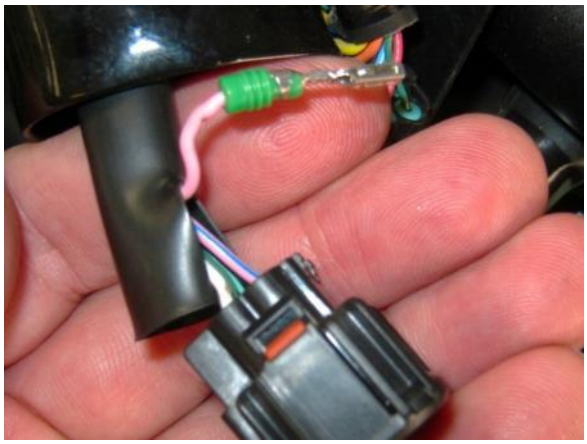


The pink wire and terminal coming out of the housing.

Take note of the orientation of the terminal.



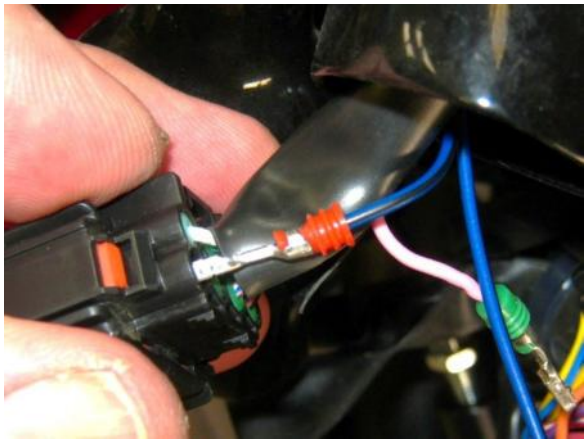
The pink speed sensor wire and terminal out of the housing.



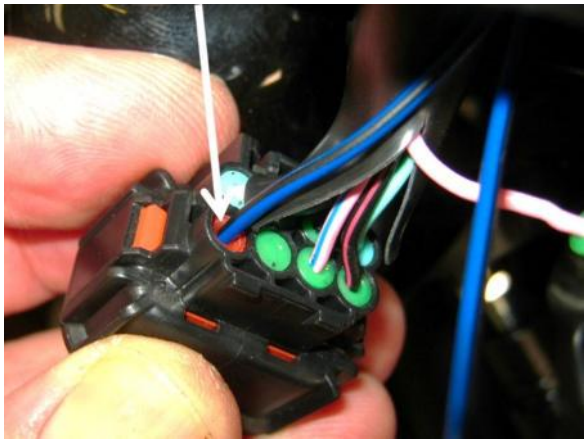
Route the cruise control blue/black speed sensor branch wires forward next to the frame tube, then down through the upper hole in the plastic pouch and out the bottom of the pouch.



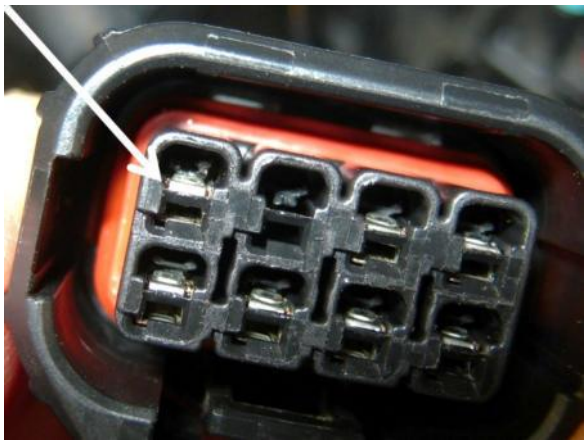
Insert the receptacle terminal on the cruise control blue/black wire into the hole in the plug that had the pink wire.



The blue/black wire and terminal fully inserted into the plug.

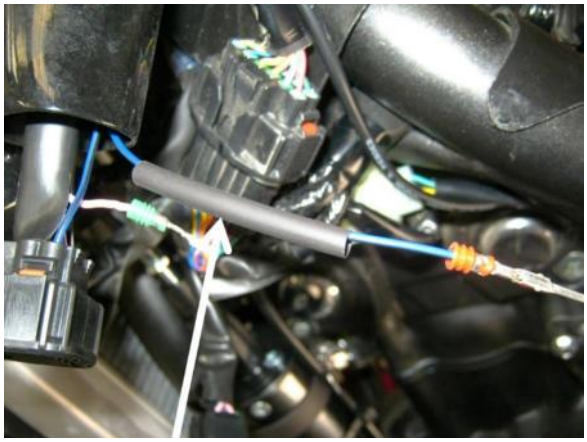


Check that the end of the terminal is visible and the terminal is locked into the plug.



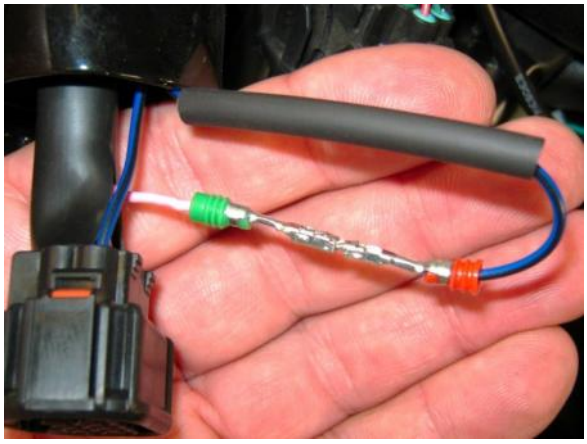
Cut a suitable length of the supplied heat shrink tube to cover the speed signal temrinasl when they are connected.

Slide the heat shrink tube over the cruise control tab terminal and up the blue/black wire.



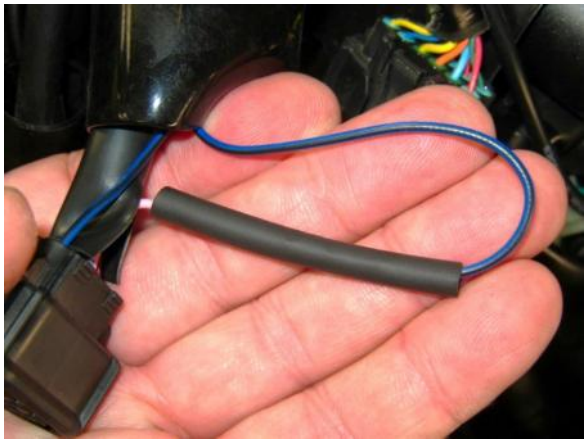
Connect the cruise control blue/black wire and terminal to the bike’s pink wire and terminal.

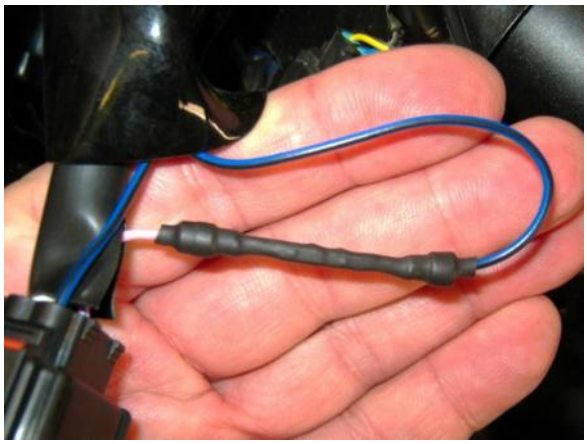
Make sure the terminals are fully pushed together.



Slide the heat shrink tube over the terminals.

Make sure the terminals are fully pushed together.





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



Re-connect the bike's 8-way plugs.

Position the heat shrink covered terminals beside the plug.



Slide the plastic pouch over the plug and wires.

Check the routing of the servo and speed sensor branches and GENTLY tighten the cable ties. Do NOT pull the cable ties tight.

<u>Connecting the right-side harness branches.</u>

The rest of the branches of the harness are on the right side of the bike. Identify the following branches of the wiring harness.

The ground branch (black wire fitted with a ring terminal).

The tach sensor branch (yellow wire fitted with a piggy back spade terminal).

The power/brake sensor branch (orange and grey wires fitted with spade terminals).

The clutch sensor branch (blue wires fitted with spade terminals).



Ground connection.

Route the black ground wire to the negative terminal of the battery (arrowed).

NOTE: - Do NOT connect any wires or cables to the battery terminal yet.



Route the remaining branches forward on the right side, below the frame tube past the air filter housing with the control switch wire.

When all branches are routed, fit cable ties to hold the wires to the frame tube (arrows).



Tach Sensor Connection.

There are two ignition coils on top of the motor.

The cruise control tach sensor wire will be connected to the right-side coil.

Usually, the coil terminal on the right with the green marking will be the active terminal (right arrow).



Check the wire colour by pulling the black plastic tubing back to reveal the wire colour, it should be yellow with a blue stripe or trace.

The cruise control tach sensor wire MUST be connected to the yellow/blue wire.

Disconnect this wire and terminal from the ignition coil.

Route the cruise control yellow tach sensor wire forward beside the bike's metal brake lines, under the plastic engine cover, then up through the hole in the cover and across to the ignition coil.

Cable tie all the remaining cruise control harness branches to the brake line (lower arrow).



Connect the male 'piggy back' terminal on the cruise control yellow wire to the receptacle terminal on the bike's yellow/blue coil wire.



Connect the cruise control yellow wire and terminal to the ignition coil terminal.

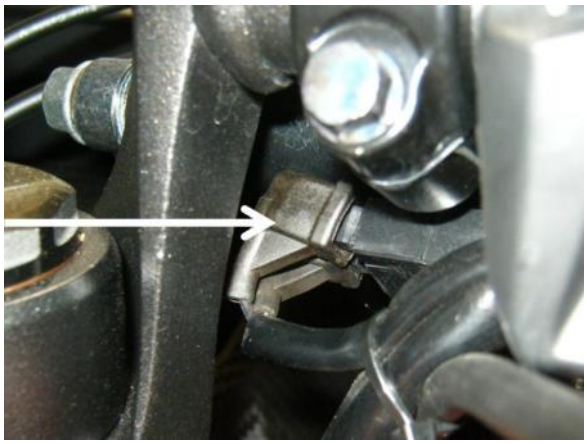


<u>Power/brake sensor connection.</u>

Locate the front brake light switch and connectors.

The switch is under the front brake lever assembly.





The two terminals on the brake light switch.

Disconnect the two terminals and wires from the switch.



The bike’s brake light switch wires disconnected from the brake light switch.



The brake light switch is also accessible from the brake lever (front) side.



Route the cruise control orange and grey power/brake sensor wires forward with the cruise control switch wires, then up to the right handlebar with the bike’s wires.

Connect the receptacle terminals on the orange and grey wires to the tab spade terminals on the bike’s brake light switch.

It does NOT matter which wire connects to which terminal.

Draw the two short wires with the tab terminals through to the bike's brake light switch wires.



Connect the **orange** wire to the bike's **black/yellow** wire. This connection supplies power to the cruise control.

Connect the **grey** wire to the bike's **black/red** wire. This connection provides brake signal to the cruise control.



Tuck the connectors back with the bike's wires.



The connection viewed from the front of the handlebar.

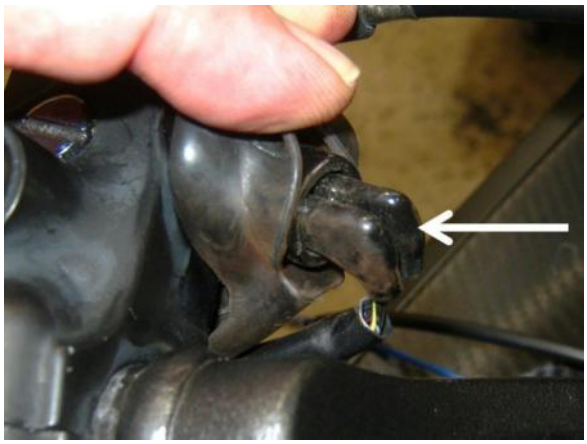
We suggest placing a small cable tie around these wires and the bike's wires to hold them in place.



<u>Clutch sensor connection.</u>

Locate the bike's clutch switch on the clutch lever assembly.

Pull the rubber cover back to reveal the two wires and terminals connected to the switch.



Disconnect the wires and terminals from the clutch switch.

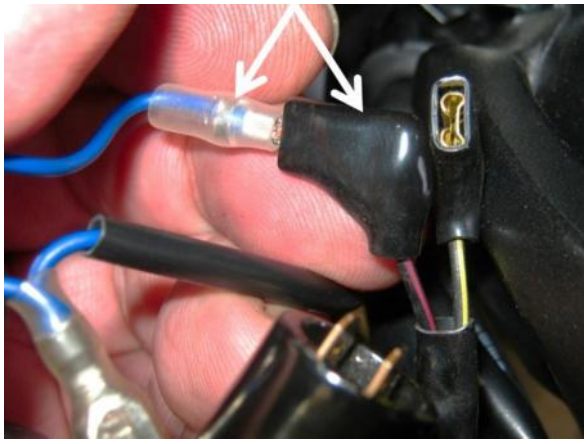
The wire colours are black/yellow (black with a yellow trace or stripe) and black/red (black with a red trace or stripe).



Route the blue cruise control clutch sensor wire with the control switch wire behind the steering head, then up to the left handlebar.

Route the clutch sensor wire up to the clutch lever assembly with the cruise control switch wire.

Connect the male terminal on the blue cruise control wire to the bike's black/red wire (arrows).



Temporarily connect the bike's black/yellow and the female terminal on the blue cruise control wire to the terminals on the bike's clutch switch, just push them on enough to hold in position, don't push them all the way on to the switch terminals.

NOTE: - We have since seen examples where the bike's wire colours have been swapped. Later during diagnostic testing, if testing the clutch sensor does not work, try swapping the positions of the bike's wires.

After testing is done, the rubber cover can be put back over the terminals.



Finishing up.

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

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

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

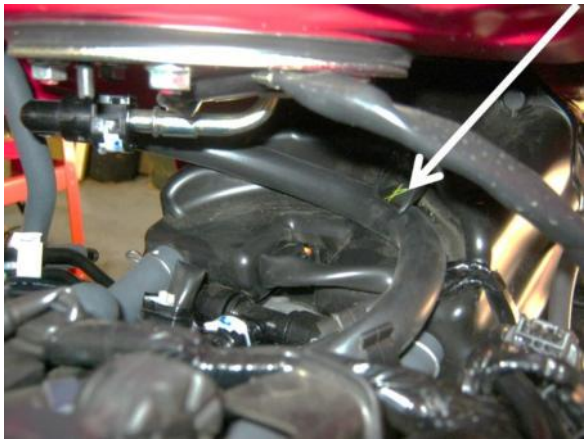
CAUTION: Take extra care to ensure that no wires or cables will be chafed or damaged when the fuel tank is fitted to the bike.

Check the routing of the throttle and 'carburettor' cables and the location of the Cable Interface Unit.

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

Re-fit the fuel tank to the bike.

Use the instructions at the start of this manual to re-install the fuel tank.



Take care with the following points.

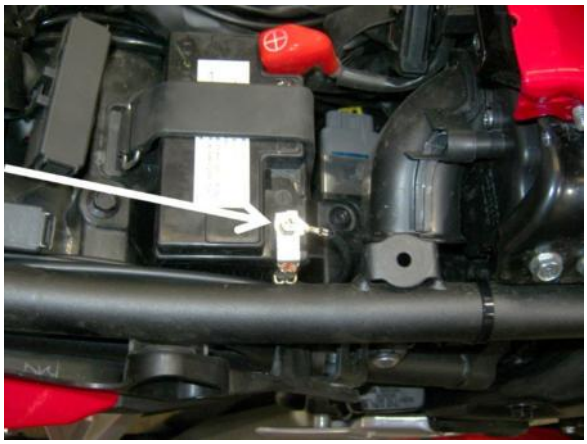
Re-connect the fuel pressure hose on the tank outlet.

Make sure the connector is 'locked in' properly.

Make sure the pressure hose is sitting in the recess (arrowed) on the top of the air filter housing while lowering the tank.

CAUTION: - Check carefully that the fuel tank will not damage any wires or hoses

Ground connection.



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

Check for any other wires that were connected to the battery ground and re-connect them as well.



Servo cable final adjustment.

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

Slide the rubber boot off the servo and up the servo cable to get access to the servo cable adjuster.



We suggest you remove the cable retaining clip at this point.

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



Screw the adjuster on the servo in most of the way to put more free play in the cable.

Push the cable into the adjuster to ensure it is fully seated in the adjuster.

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), 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 in diagnostic mode.

Apply and 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 on and turn off with brake operation, turn the ignition switch off and start again.

Start the engine.

Apply and 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 couple of minutes.

The throttle servo has three 'end points' in its travel:
HOME – after brake application/cruise disengage, the servo fully returns to the HOME position and the cable is released as far as it can go.
IDLE – when the servo cable is pulled in there is ~5mm of movement during which the cable can only be pulled, it cannot be released unless the cruise disengages or brakes are applied.
FULL TRAVEL – The cable is pulled in (throttle applied) as far as the servo can go.

Between the IDLE position and up to FULL TRAVEL, the servo cable pull and release the cable, but it cannot return to the HOME position until the cruise control disengages or the brakes are applied.

The purpose of the following adjustment procedure is to ensure that at the IDLE position, there is no free play in the servo cable AND the throttle is not opened at all, i.e. the engine is idling normally.

The servo cable adjustment procedure.

Press and release the SET/ACC button repeatedly and regularly (1 to 2 presses per second) until the engine revs start to increase, **count the number of presses**. This will probably take 15 to 30 presses of the button. This pulls the cable from HOME to past IDLE.

As soon as the engine rpm starts to increase stop pressing the SET button 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 quickly 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, then press it 10 times more **to ensure the servo goes all the way back to the IDLE position.**

DO NOT APPLY THE BRAKES.

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

Slowly screw the adjuster back in until the engine just 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.



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



Apply and release the brakes. The servo will return to the HOME position. Wait a couple of seconds for it to complete the return to HOME sequence.

Press the SET/ACC button and count the presses. After about 7 to 12 presses (rough figure, this number is NOT what you are trying to achieve), 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. **Press the RES/DEC button at least 10 times more.** If the engine 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 SET/ACC button, the revs should start to increase within 1~2 presses. If it takes more than 2 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~ 2 presses or the SET button, and RES should reliably return the engine speed to idle. Don't forget to press RES at least 5 more times after the engine drops to idle. This is the desired result of this adjustment procedure. If this is not achieved, the cruise control performance will suffer.

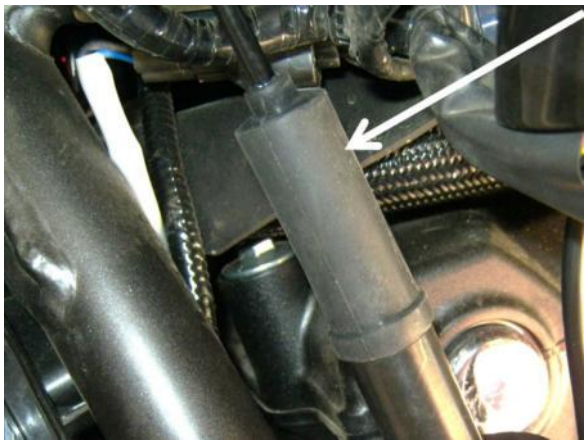
Apply and release the brakes.

Press the SET/ACC button, **after brake application** 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 drop it idle instantly.

Turn the ignition off.

Replace the rubber ‘boot’ on the throttle servo.



Your cruise control is now ready for 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.

Notes: