Packing list for:
HONDA NX500 2024-2025
MCS 6560NX Kit

Slim Switch □
Standard Switch □

LED Brake Light □

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 NX500 (medium parts bag)	
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	GT-1014-160	Slim Control Switch	Slim Switch □
1	Parts bag	(See below for contents)	
1	MCS 6567	NX500 Wiring harness -	+ LED Mod □
1	Installation Manual for NX500 2024-25		
1	QR Code for MCS6000		
NOTE:	Slim switch installation manual not required – included in Installation Manual for NX500		

Parts bag contents (medium parts bag)

8cm	HST48	5mm heat shrink tube (speed sensor connection)
1		Dressmakers Pin (terminal extractor tool)
2	HoseClamp40	Hose clamp 52~76mm (cover with 18cm HST9) (throttle servo)
2	MCS 6562A	Self-adhesive rubber strip – 6mm x 20mm x 5cm long (throttle servo)
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 NX500
Model years 2024 to 2025

13 November 2025

MOTORCYCLE CRUISE CONTROLS

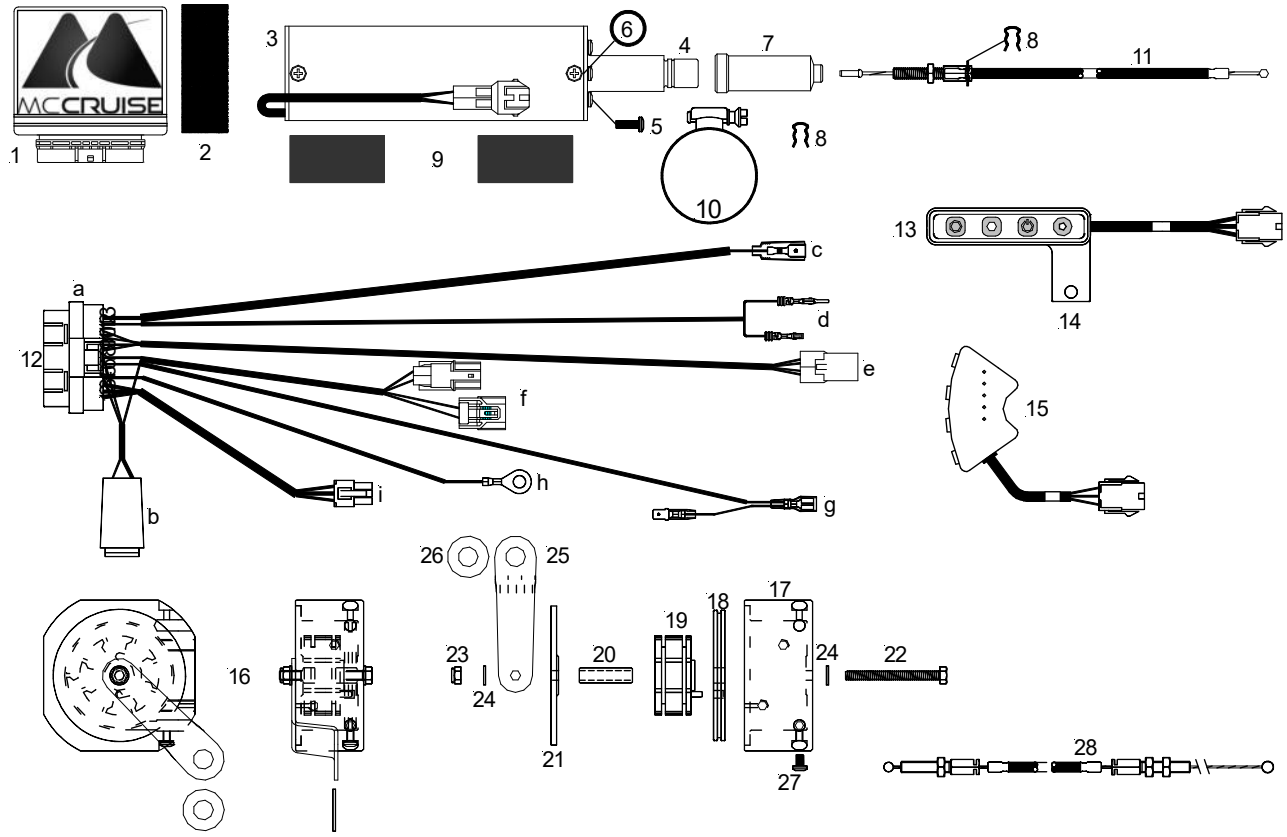
MotorCycle Setup Pty. Ltd.
A.B.N. 94 798 167 654
AUSTRALIA

HONDA NX500 2024 to 2025

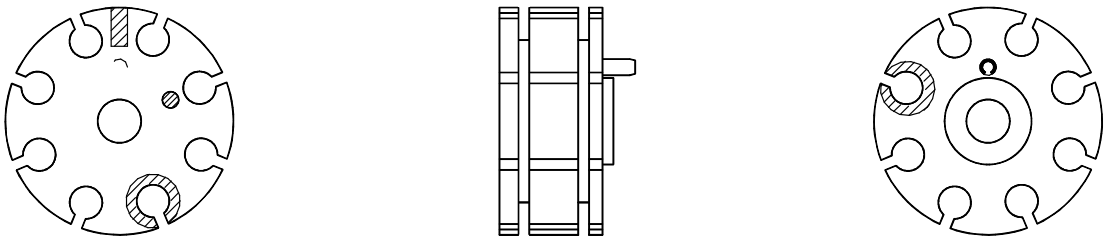
Parts list for MCS 6560NX kit

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 6567	Wiring harness
a			Computer plug (26 pin)
b			Fuse holder (3 amp fuse)
c			Tach sensor connector (yellow wire)
d			Speed sensor connectors (blue/black wires)
e			Servo plug (4 pin)
f			Power & brake sensor plugs (orange and grey wires)
g			Clutch sensor connectors (blue wire)
h			Ground connector (black wire)
i			Control switch plug (6 pin)
		MCS 6564-830B	Above Bar 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	5mm heat shrink tube (speed sensor connection)
1	Dressmakers Pin (terminal extractor tool)
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.

Remove the seat.

Use the key to release the seat, lift the back of the seat and pull the seat 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 screw near the lower edge (upper left arrowed).

Gently pull the rear of the side cover away from the bike to release the three post and grommet fasteners (3 left arrows – see next photo).

Drop the front of the cover to release the tab that hooks under the fuel tank (right arrow – see next photo) and remove the side cover.

Repeat to remove the left side cover.



The three post and grommet fasteners (3 left arrows).

The tab at the front of the side cover (right arrow).

Repeat on the left side cover.



Remove the right-side main fairing panel.

There three expansion clips (upper 2 arrows) and two bolts (lower 2 arrows) above and below the radiator (see next photos) that must be removed.



The 3 expansion clips.

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





The 2 bolts, above and below the radiator.

Undo and remove the bolts.



Remove bolt and flat washer on the top corner of the panel.



There are several fasteners holding the panel to the bike.

There are two hook and loop pads (upper right grey arrows) at the top rear of the panel and on the knee pad.

The is a post and grommet (lower right white arrow) at the bottom of the knee pad.

Two plastic tabs (upper white arrows) on the top edge.

Two tabs (mid left white arrows) at the front corner.

Three push clips (three left grey arrows) at the upper front edge. Release all these in the order shown above.



Pull the knee pad and fairing panel outward to release the hook and loop pads.

Pull the bottom of the fairing panel outwards to release the post and grommet at the bottom of the knee pad.

We found the knee pad hook and loop pad did not release, it un-glued itself from the knee pad. We just released it from the fuel tank and put it back on the inside of the knee pad.

Depress the inner trim panel at these two points to release the tabs at the upper edge.

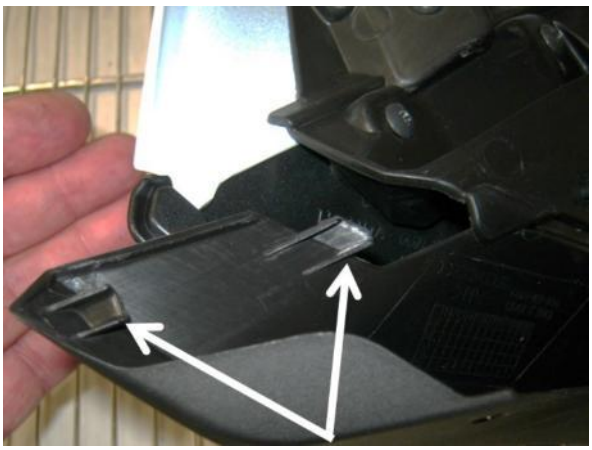
These were difficult to release.



Push the bottom of the panel forward, to tilt it slightly and push the front edge forward to release the two tabs from these holes (see next photo).



The two tabs that lock into the holes in the previous photo.



GENTLY pull the rear edge of the fairing panel away from the bike then, GENTLY wriggle and pull the bottom of the panel out to release the three clips, one at a time, starting at the bottom clip (see next photo).





The three clips.

The clip (bottom arrow) goes into a rectangular hole in the fairing panel. Pull the bottom of the panel out to release this one first.

The top two clips are on the fairing panel and go into these two rectangular holes (upper two arrows). The top clip is the most difficult to release.



Pull the panel away from the bike to access the turn signal wires.

The plug for the turn signal is inside a black plastic ‘boot’. Push the boot up to access the connector.

Depress the tab (arrowed) to release the connector.

<u>Repeat the operation on the left side main fairing panel.</u>

NOTE: - When you put the fairing back on the bike at the end of the installation, we found getting these last two clips, particularly the rear one (arrowed below left), quite difficult to get back in the hole (arrowed below right).





Remove the fairing inner trim panels.



This not essential, but it makes removing the fuel tank MUCH easier.

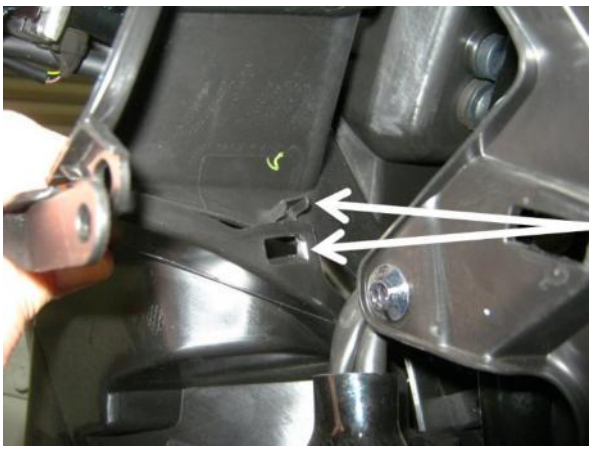
Remove the two expansion clips holding the panel. Press in the centre pin to release the clip.

The upper clip is visible (upper arrow).

The lower clip is hiding behind the 'boot' for the turn signal connector (lower arrow) – see the next photo.

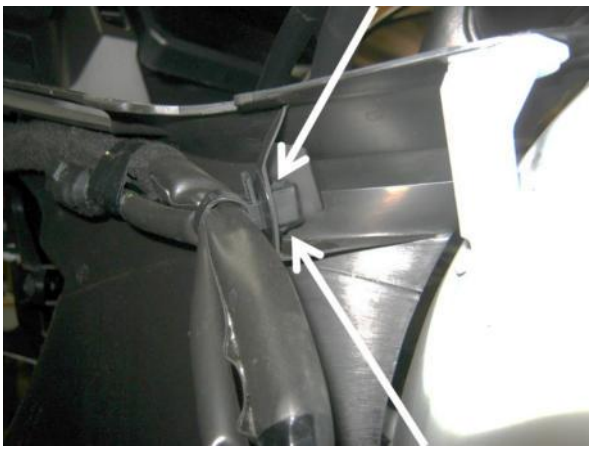


The lower clip that is hiding behind the boot.



After removing the clips, push the panel forward to release this tab where it is joined to the dashboard trim panel.

Repeat on the left side inner trim panel (see next photo).

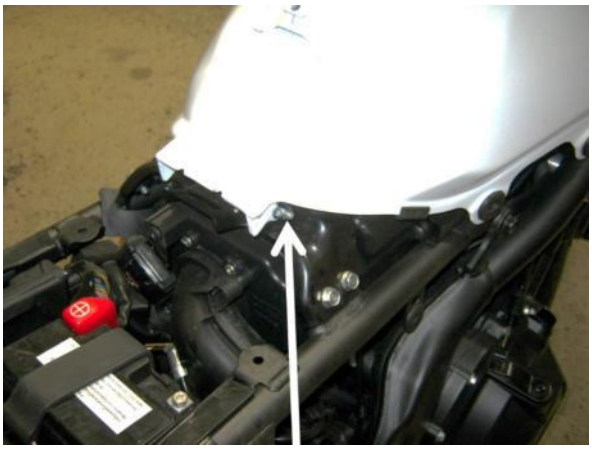


The left panel is mostly the same, except it has a section of wiring harness running along the top outer edge.

Use a pair of long nose pliers to depress these two tabs (arrowed) to release the harness clip from the panel, then you can remove the panel from the bike.

Remove the fuel tank.

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



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



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.

NOTE: If the bike has been run recently (less than 1 hour ago), reconnect the battery ground and start the engine, it will run for a few seconds and then stop. This will release pressure in the fuel hose.
Turn the ignition off.
Disconnect the battery ground cable.



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



You can disconnect the hose from the ‘T’ now.

OR

Disconnect it from the fuel tank later (next page). We found it easier to disconnect it from the fuel tank instead of at the ‘T’.

The fuel tank breather hose is on the right side of the bike; there is a joiner in the hose just behind the upper left engine mount.



Disconnect the hose joiner.



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



If you did not disconnect the overflow hose from the 'T' connector, disconnect it from the fuel tank fitting (left arrow) and release the hose from the clip under the fuel tank (right arrow).



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 right arrow, then push the entire white latch inward as shown by the bottom arrow to release the coupling.

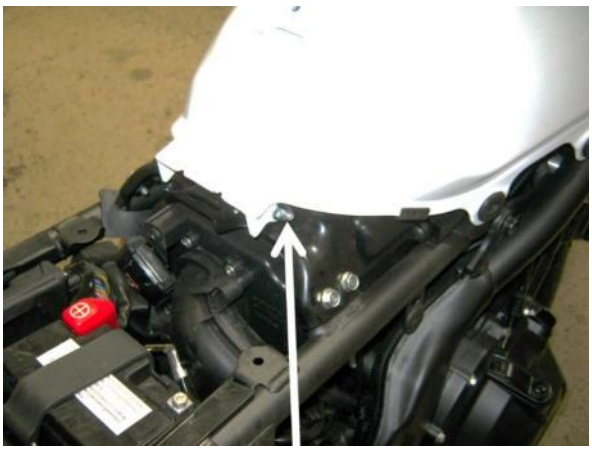
Carefully pull the coupling off the fuel pipe. Take care not to bend or kink the fuel pressure hose.



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

Remove the rear mounting bolt.

Lift the tank off the bike.



Position the fuel hose as shown to prevent damage to it during re-assembly.



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

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 (uppermost) 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 last few 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, but don't tighten it.

<u>Lubricating the throttle cables and throttle twist grip.</u>

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.

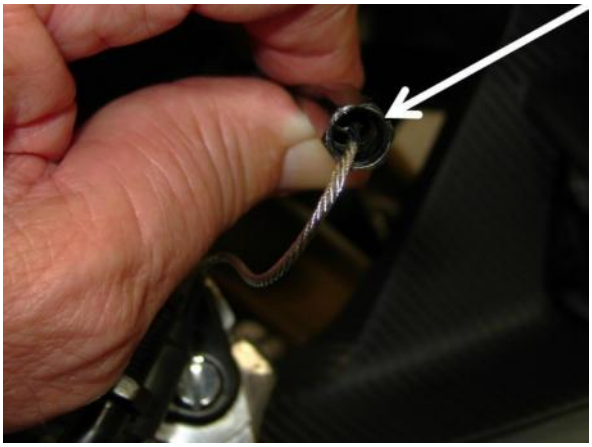
If the bike is new and cables and twist grip are in good condition and no friction, a quick alternative is to just lubricate the opening or pull cable.

While we don't recommend this, on a new bike in good condition this does work for some time.



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.

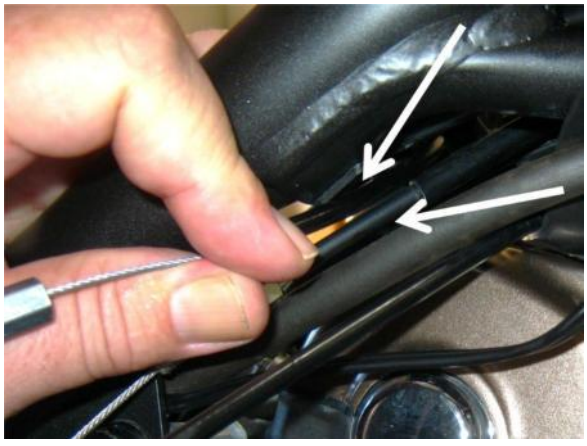
Set the adjuster so the lock nuts are roughly halfway on the threads of the adjuster.

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.



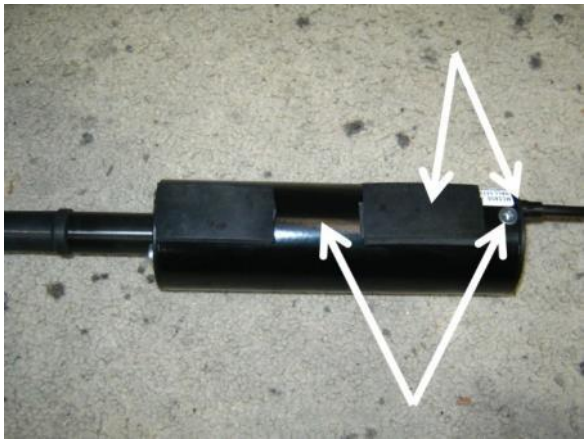
Installing the electric throttle servo.

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 screw that is close to the electrical cable at the bottom of the servo (upper arrows).

Place the upper pad, so the end of the pad is level with the 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 (lower 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 them around the frame tube on the left side of the motor, behind the radiator.

Place the upper clamp above the frame cross tube (upper arrow).

Place the lower clamp around the bottom of the downtube.

Re-join the ends of the hose clamps 3 or 4 turns of the screws.



Feed the servo, cable end up, into the upper hose clamp.

Push it up high enough to fit the lower hose clamp around 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, so the screw housing on the hose clamp is nearly touching the engine.

Re-position the hose clamp screws if necessary to ensure you can access the screws with a screw or nut driver.

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

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

Feed the servo cable into the space above the engine above the small diagonal frame tube (upper arrow).

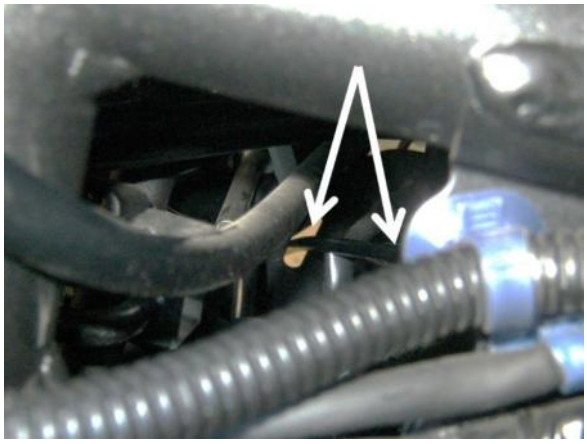


It may take a couple of attempts to get the servo cable routed out to the other side, the cable MUST NOT bend around other objects, it must have an even curve with no kinks to the other side of the engine.

This photo shows a visible hole in the rubber sheet that is above engine (arrowed).



Feed the cable through the hole in the rubber sheet (see photo below).



Draw the cable out through the hole in the rubber sheet (arrow), and below the rubber hose, then down and to the rear toward the other cables.





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.



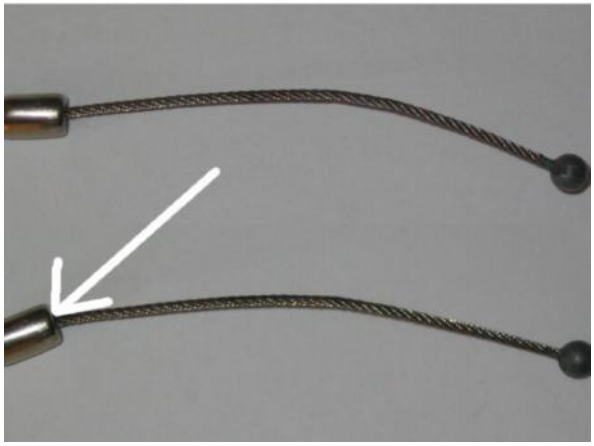
The plug should be here; it will be connected to the cruise control harness later.



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.



CAUTION: - Take 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 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.

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.

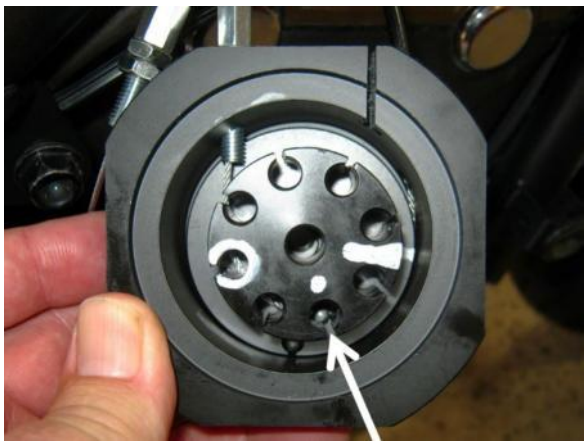
Rotate the spool clockwise as far as it will go to fully extend the cable (arrow).

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.

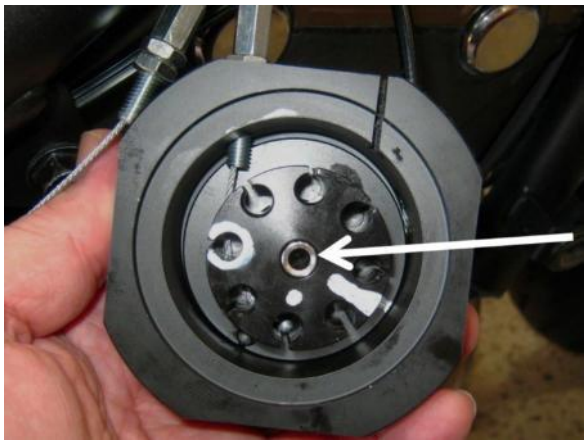
Screw the adjuster most of the way into the hole.



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.

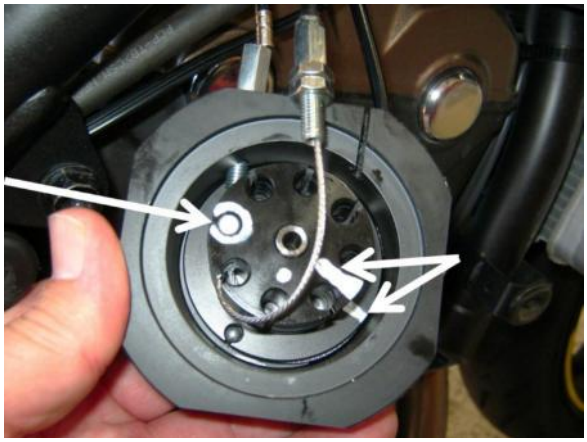
Place a drop of the supplied throttle cable oil on the bush and insert the bush in the two spools.



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.

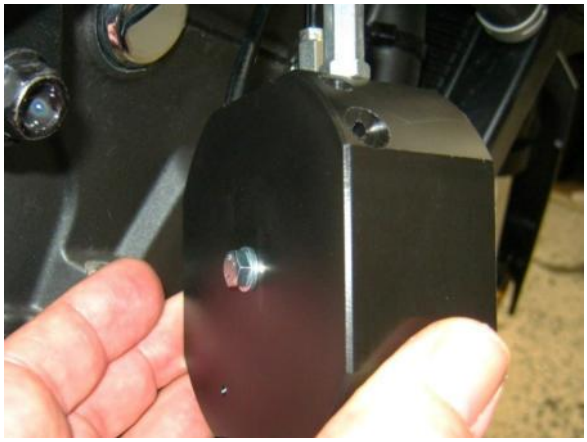
Check again that the line on the dual spool lines up with the line on the servo spool.





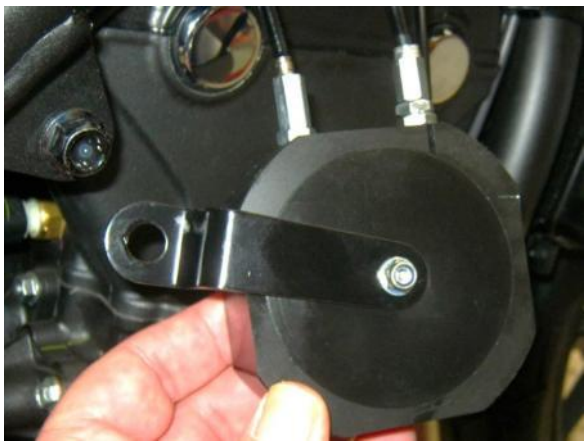
Place the end cap on the CIU.

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.

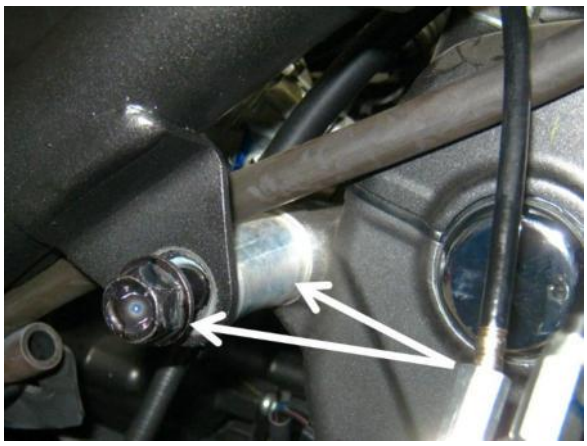


Place the mounting bracket, then a flat washer and the Nyloc nut on the bolt on the top side of the CIU.

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 so you can access the cable adjuster.



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 (arrowed) 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.

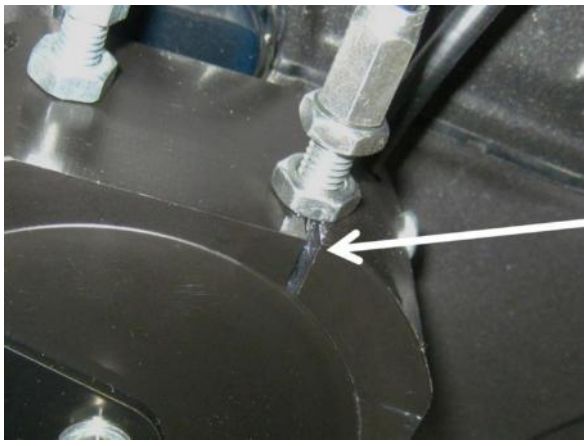
Note: - There MUST be free play in the twist grip, or the cables will bind and prevent the cruise control working effectively.

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.



<u>Control Switch Installation.</u>

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

<u>New Slim switch.</u>

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.

You will have to move the bike's clutch lever along the bar so there is a 10mm gap between the switch block and the clutch lever mount (see the next photo).

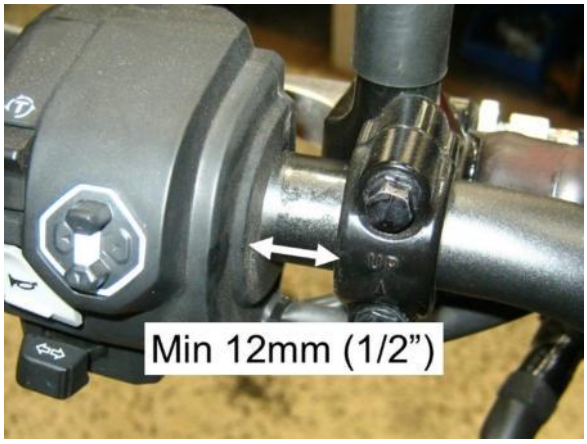
Check that there is clearance between the clutch lever and the switch block when the clutch is pulled all the way in.



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.

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



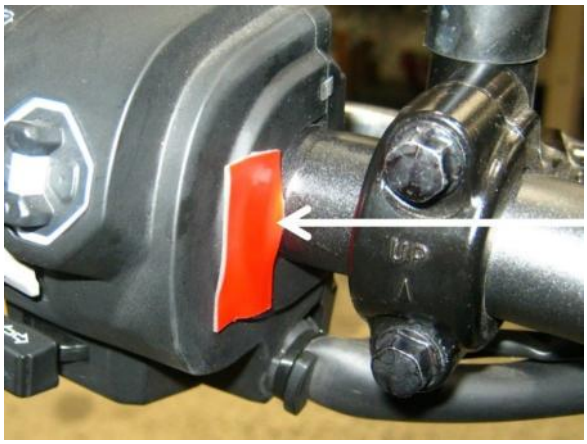
Trial fit the switch to the handlebar. We suggest aligning the switch so the bike's menu buttons are roughly ½ way between the indicator light and the SET button.



Cut a piece of the supplied mounting tape to suit that length.

Apply the tape to the side of the bike's switch block.

If desired, trim the tape to match the raised edge on the switch block.



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.



The switch comes with several cable ties.

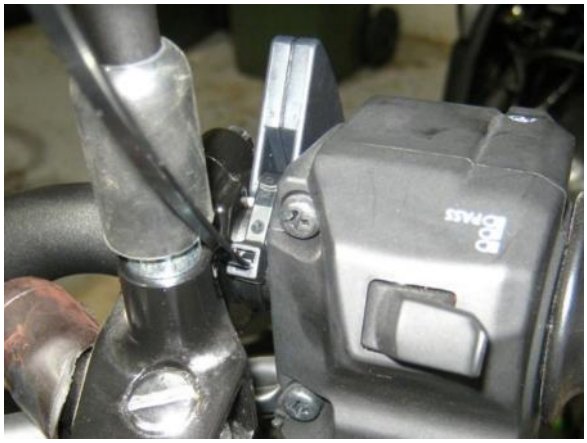
Insert one of these cable ties through the hole in the switch.

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.



Trim the excess length of the cable tie.



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>

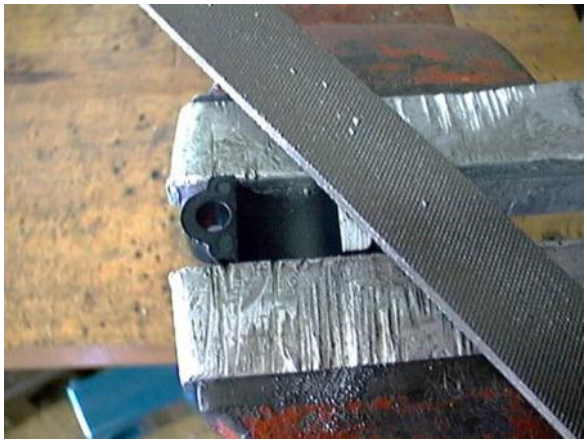
Remove the two bolts clamping the clutch lever assembly to the left handlebar and remove the clamp.

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 **upper** inner face of the clutch lever clamp equivalent to the thickness of the control switch bracket (2.0mm or 0.080” or 5/64”).

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 and clutch cable 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 below the upper frame tube on the left side of the bike, and behind the plastic mount for the electrical connectors.



Draw the plug out from behind the connector mount, then further to the rear and inside the frame above the rear of the cylinder head.



Route the control switch wire to the rear on the left side of the bike, on the inside of the upper frame tube, beside the air filter housing.



Route the switch wire to the rear of the bike, between the battery and the bike's ECU, then toward the storage area below the passenger seat.

The plug will be connected to the cruise control later.



Mounting the cruise control computer (electronics module).

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



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

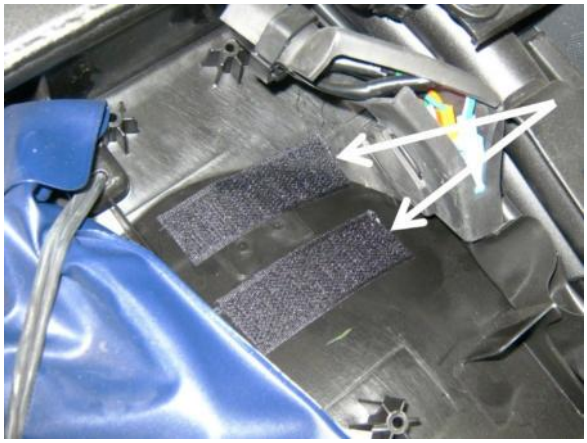


Clean the floor of the storage compartment where the computer will be mounted with suitable solvent such as methylated spirits or denatured alcohol.



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

Attach two pieces of the Velcro tape to the underside of the computer.



Apply the opposite side of the Velcro mounting tape to the floor of the storage compartment as shown.

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

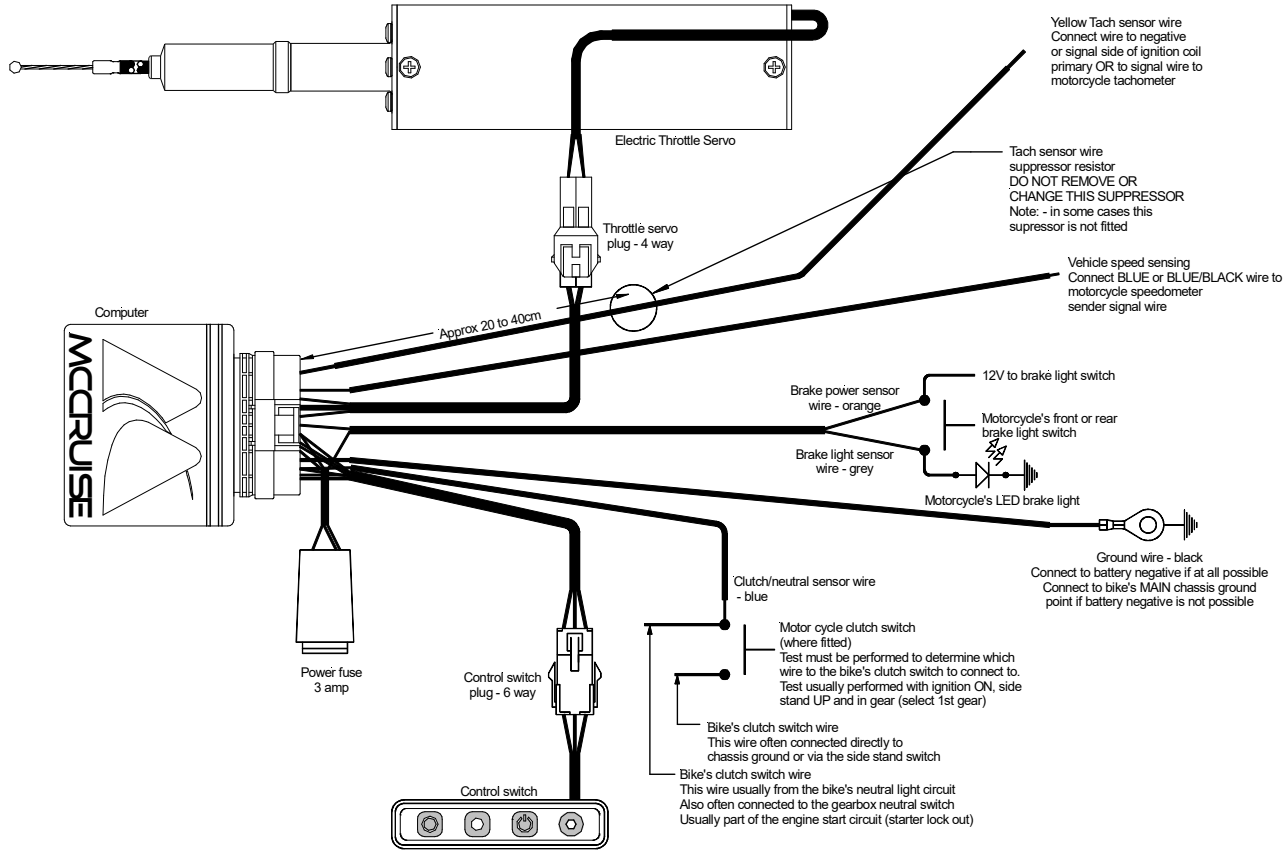


Installing the wiring harness

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.



Computer connection.

Connect the wiring harness to the cruise control computer.

Route the branches of the harness under the cross-frame tube (upper arrow).



Control switch connection.

Connect the plug on the wires from the control switch to the matching plug on the cruise control harness (lower arrow).

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.



Position the fuse holder next to the frame tube.

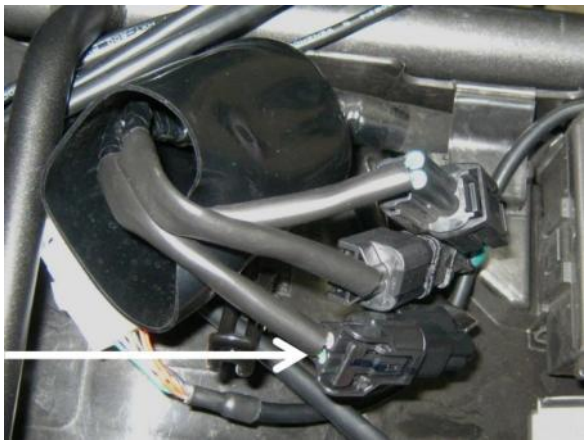


Power & Brake Sensor connection.

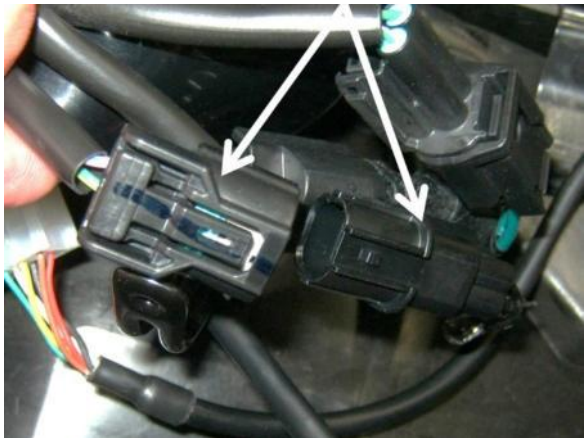
There is plastic sleeve on the left side of the under-seat area, behind the battery, this has three sets of the plugs inside the sleeve.

Slide the sleeve up the wires to expose the plugs.

The plugs for the rear brake light switch have pink/blue and green/yellow wires in the end arrowed and has 2 black wires at the other end going to the brake light switch.



Disconnect the plugs.



Identify the cruise control power/brake sensor plugs.

These plugs have orange and grey wires to them.

Route the two plugs on the cruise control harness with the orange and grey wires to the bike's plugs and connect them to the bike's plugs.

This will bridge the connection for the brake light switch and take power and brake signal to the cruise control.



Cover the plugs back with the plastic sleeve and place it under the bike's clip to hold it in place.



Ground connection.

Identify the cruise control ground wire, this is a single black wire fitted with a ring terminal.

Route the black ground wire to the negative terminal of the battery (upper arrow) following the route shown by the white line.

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



Tach sensor connection.

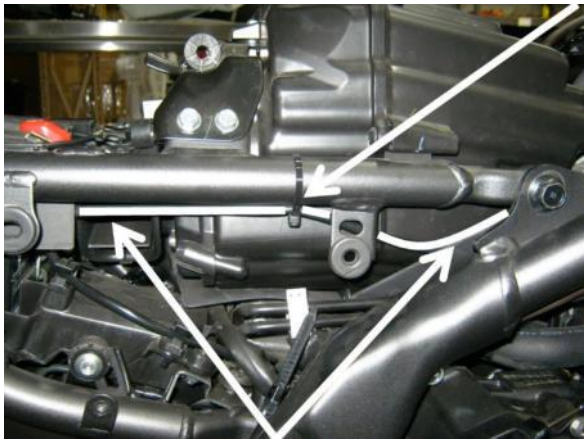
Identify the cruise control tach sensor wire, this is a single thick yellow wire fitted with a piggy-back spade connector.

Route this wire with the ground wire, then under the frame on the right side (arrow).



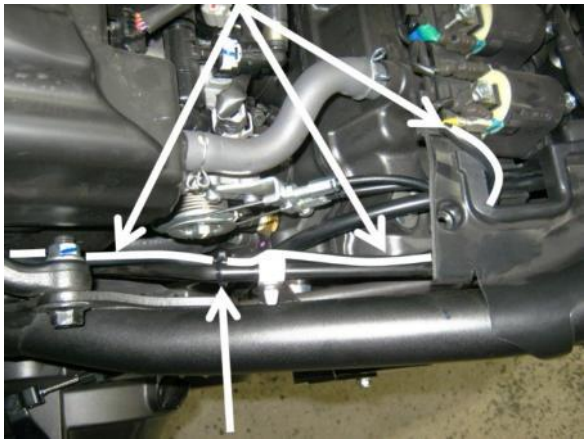
Route the tach wire forward below the upper frame tube beside the air filter housing.

Fit a cable tie to hold the branch to the frame tube (upper arrow).



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 (right arrow).

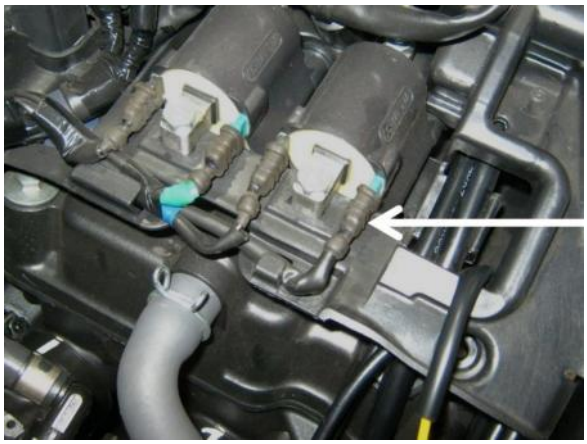
Fit a cable tie to hold the branch to the brake lines (lower arrow) to ensure it is held clear of the throttle mechanism.



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.



Connect the male ‘piggyback’ 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.



Routing the wiring harness on the left side of the bike.

Identify the last three branches of the wiring harness.

The throttle servo branch has a 4-way plug.
The speed sensor branch has a pair of bare terminals and seals fitted to blue/black wires.
The clutch sensor branch has a pair of spade terminals on blue wires.

Route these 3 branches forward on the left side of the under-seat area, beside the frame tube.



Release the plastic clip so the branches can run under the clip (arrows).

Then close the clip over the branches.



Route the three branches forward, around the bike's ECU on the left end of the battery, then outward and under the left side frame tube (bottom left arrow).



Route the three branches forward below the frame tube, next to the air filter housing, then up between the air filter housing and the end of the frame tube.



There is just enough space to fit the plug on the servo branch up past the end of the frame tube.



Route the wires forward between the frame tube and the cylinder head.

<u>Throttle Servo connection.</u>

Connect the plug on the end of the servo branch to the plug on the wires from the throttle servo (lower left arrow).

Route the other two branches forward and up beside the frame tube (upper arrows).

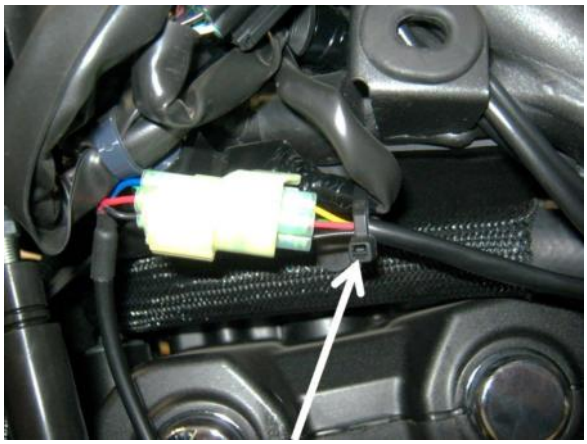


Position the wire branches above the cluster of plugs near the front left corner of the air filter housing.

Fit a cable tie to hold the branches to the bikes harness (upper arrow).



Cable tie the servo branch to the bike's harness.



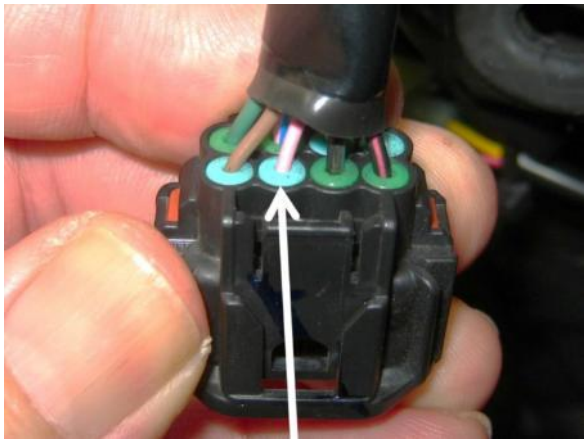


Speed sensor connection.

Identify the 8-way plug on the left side of the frame.



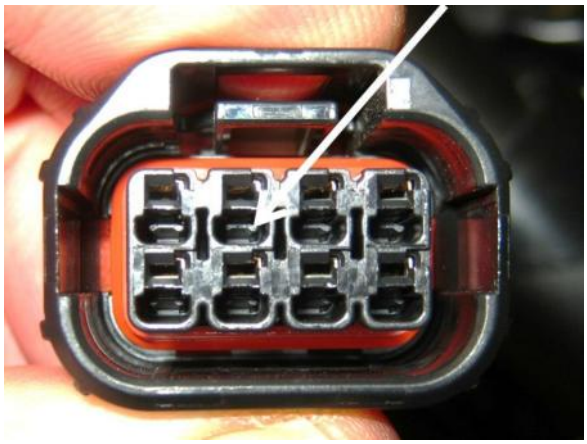
Depress the latch and disconnect the top half of the plug from the bottom half.



The speed signal wire is the pink wire in the top row (same side as the latch) between the brown and black/blue wires.

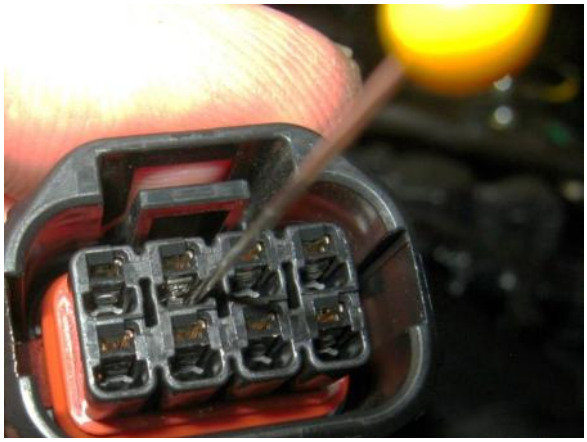
This wire and terminal must be backed out of the connector.

There is a small tab inside the connector, below the terminal. This is the latch that holds the terminal in the plug.

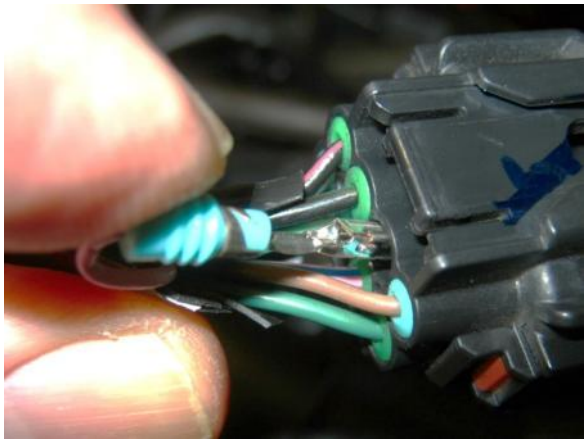


Insert the end of the supplied dressmakers pin into the space above the tab, on either side, NOT in the middle of the tab.

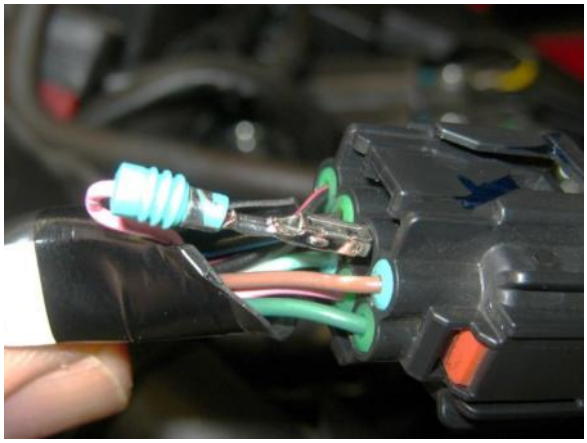
This will pull the tab away from the terminal and release the terminal.



GENTLY pull on the pink wire to pull the terminal out of the connector. There will be some drag from the wire seal, but if the terminal does not come out easily, the latch has not been fully released.



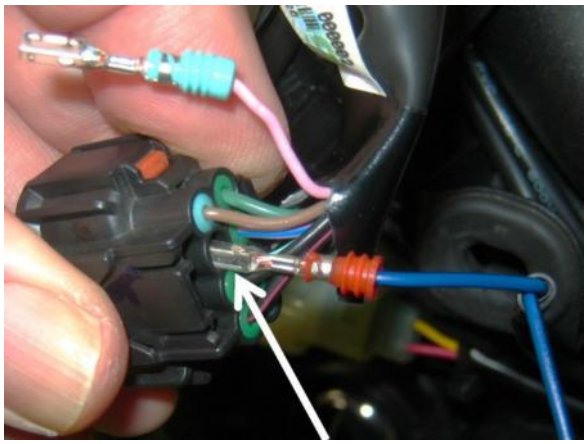
Note the orientation of the terminal as it comes out of the plug.



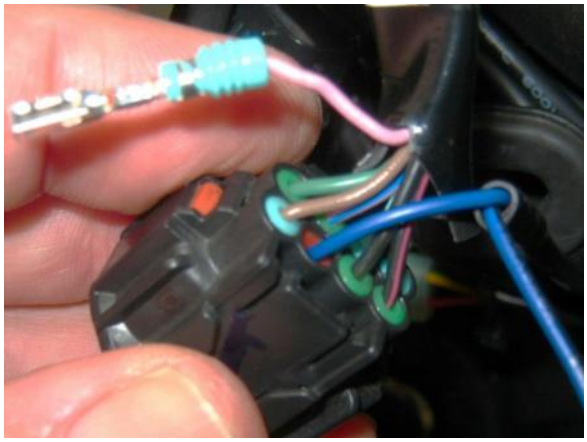
The cruise control blue/black wire has the same type of terminal on it.

Insert blue/black wire and terminal into the empty hole in the plug.

It should ‘click’ into the plug and lock in when it is fully inserted.



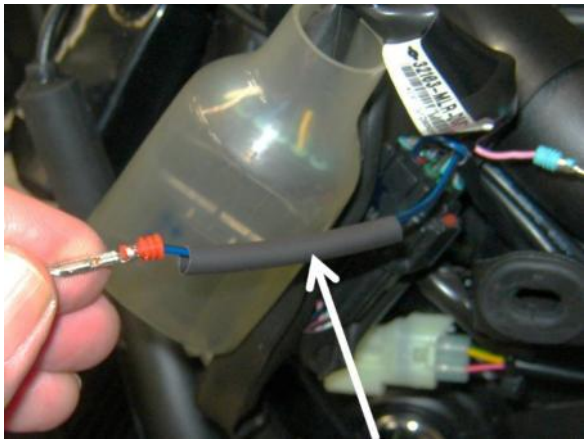
The terminal fully inserted into the plug.



Re-connect the bike’s plugs.



Place a suitable length of the supplied heat shrink tube over the other blue/black cruise control wire.



Connect the cruise control tab terminal on the blue/black wire to the bike's receptacle terminal on the pink wire.

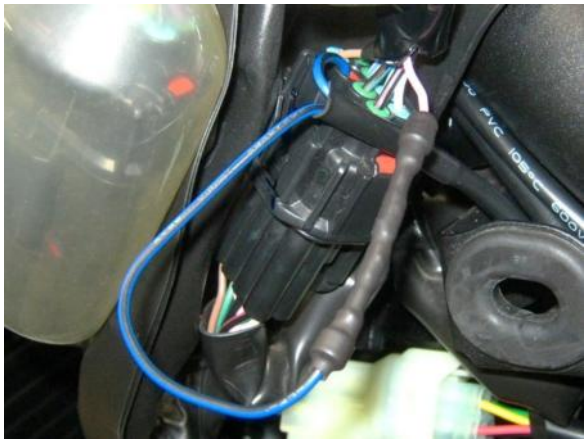


Slide the heat shrink over the terminals.

Make sure the terminals are still fully connected.



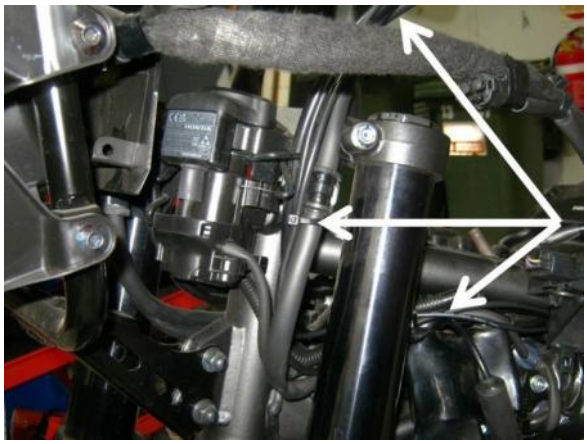
Use a suitable heat source such as an electric paint stripper heat gun to shrink the tube over the terminals.



Position the terminals beside the bike's connector. Place a small cable tie around the plug to hold the terminals to the plug.

Do not pull the cable tie very tight, this may damage the terminals.





Clutch sensor connection.

Route the last branch with the blue wire up to the clutch lever assembly with the cruise control switch wire.

Fit a cable tie to hold the control switch and clutch sensor wires to the bikes harness (middle arrow).



Route the wire to the bike's clutch switch.



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

Both wires are black, so you can test with a resistance meter to see which wire is the correct one to connect to.
OR
Leave the wires at this point and come back later to test for the correct wire using the cruise control to test. **Make sure the terminals on the cruise control blue wire are NOT touching any metal parts.**
Proceed to Finishing Up two pages ahead.

To test with a multi-meter.

Disconnect the wires and terminals from the clutch switch.

Make sure the bike's side stand is up (retracted) and the bike must be in gear – NOT in neutral.

Set the meter to read resistance in a low resistance range.

Connect one lead on the the meter to a good ground point (engine mounting bolt or similar).

Touch the other lead to one of the clutch switch wires. One wire should have almost no resistance (close to zero ohms), the other should have high resistance (no or little conductivity).

The cruise control blue wire should be connected to the bike's wire with no conductivity.

NOTE: - If you have NOT tested with a meter, do NOT make these connections below.

Connect the wire that has **low resistance** to one of the bike's clutch switch terminals.



Feed the blue cruise control wire into the rubber cover and connect the receptacle terminal to the second terminal on the clutch switch.



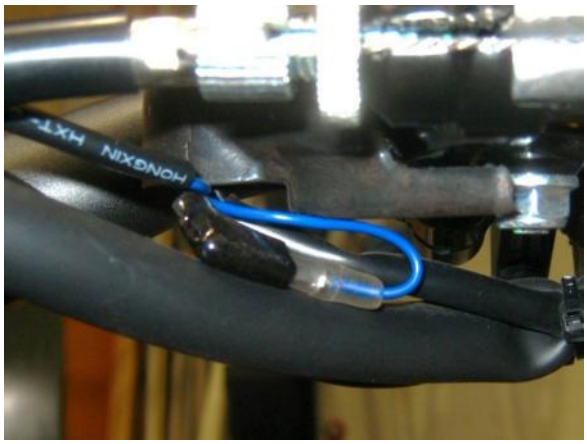
Replace the rubber cover on the switch, keeping the other of the bike's terminals – with the high resistance - outside the cover.



Connect the tab terminal on the cruise control blue wire to the bike's high resistance clutch switch wire.



Lay the outside terminals against the bike's wiring harness.



Fit a cable tie to hold the terminals in place.



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.

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.

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

If desired, remove the cable retaining clip – take care not to lose the clip. There is a spare in the parts bag if needed.



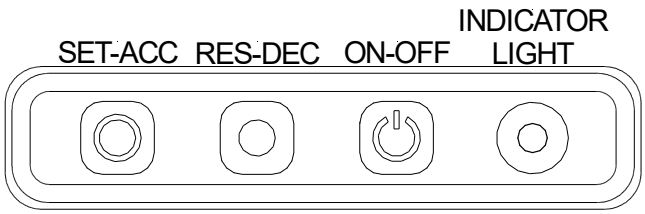
Screw the adjuster on the servo in most of the way to put more free play in the cable.

Push the cable into the adjuster to ensure it is fully seated in the adjuster. In this photo we did not remove the clip, but we suggest you remove the clip at this point.



Control switch buttons.

The control switches have pictographs on the buttons.

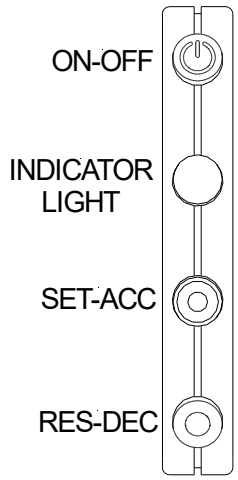


NOTE: - When this control switch is mounted on the right side of the bike, the switch is inverted, so the button positions are reversed.

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 control engaged. GREEN is used to confirm the cruise control functions during the diagnostic checks and some calibration procedures.

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.

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.

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.

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.

Press the SET/ACC button and count the presses. After about 7 to 12 presses (this number is NOT critical, just an indication of what to expect), the engine speed should start to increase. Keep pressing until the engine speed is about 2000~3000 rpm.

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

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

Press the SET/ACC button, the revs should start to increase within 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 a at least 5 more times after the engine drops to idle.

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.

Clutch switch wire connection test.

If you did not test the clutch switch wire connections with a multi-meter, use the following procedure.

Make sure the bike’s side stand is up (retracted) and the bike must be in gear – NOT in neutral.

Turn the ignition on.

Observe the cruise control computer, apply the brakes or press one of the buttons on the control switch, you should see a green light inside the computer, and it should turn off when you release the brake/button.

Disconnect both wires and terminals from the clutch switch.

Touch the terminal on the cruise control blue wire to one of the bike’s clutch switch terminals, then the other.

One terminal should make the green light in the cruise computer come on. The other should NOT make the light come on.

Mark the wire that DOES make the green light come on.

Turn the ignition off.



Connect the marked bike’s wire that **makes the cruise control green light turn on** to the bike’s clutch switch.

Feed the blue cruise control wire into the rubber cover and connect the receptacle terminal to the second terminal on the clutch switch.



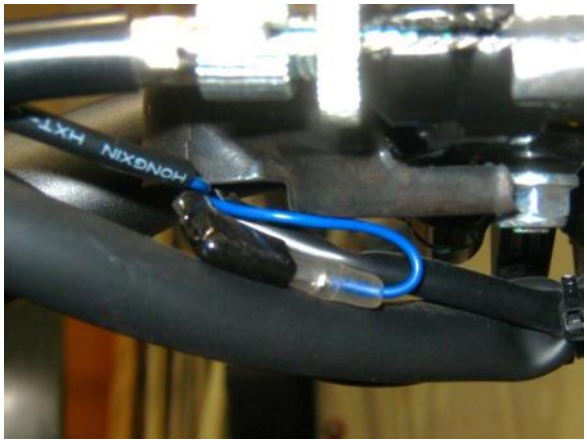
Replace the rubber cover on the switch, keeping the other of the bike's terminals that did NOT turn on the green light outside the cover.



Connect the tab terminal on the cruise control blue wire to the bike's high resistance clutch switch wire.



Lay the outside terminals against the bike's wiring harness.



Fit a cable tie to hold the terminals in place.



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: