



NOTE: - FOR SERVICE REPAIRED SERVOS.

The first production run of these servos used M4 x 12 screws (arrowed) to retain the nose of the servo.

Subsequent runs of the servos changed to larger M5 x 12 screws.

When you receive your repaired and updated servo back, the holes for these screws will be tapped with an M5 thread, and new M5 x 12 screws will be supplied with the servo.



The holes in the servo nose (still fitted to the bike) may be too small for these screws. It is necessary to **CAREFULLY** drill these holes with a 5 to 5.5 mm (13/64" to 7/32") diameter drill bit.

CAUTION: - Drill at high speed to prevent the drill 'catching' in the plastic while enlarging these holes.

CAUTION: - To prevent water entry into the servo:

Apply suitable 'O' ring grease to the 'O' ring when installing the servo nose to prevent water entry. Apply a thread locker/sealant to the threads of the 3 screws. The screw holes are **NOT** blind holes, they lead into the servo. If suitable thread locker or sealant is not used when installing these screws, water can enter the servo via the threaded holes causing the servo to fail. Use Loctite 222 (low strength - pink) or 243 (medium strength - blue) or equivalent thread locking compound on the threads of the screws to seal them.

Typical Cable Adjustment Procedure

Note: - The procedure below is a standard procedure for most cruise control installations using a CIU (Cable Interface Unit with the MCS850 Compact Electric Throttle Servo. This procedure may need to be modified slightly for some installations.

NOTE: - in most cases carburettor cable and throttle cable adjustments will not have been disturbed during servo removal, so this part of the procedure may not need to be done. This should only be done if the adjusters on the throttle cable and ‘carburettor’ cable have been moved.

If the other cable adjusters have not been disturbed, move ahead to the bottom of page 2, Servo cable final adjustment.

Servo cable initial adjustment.

Slide the rubber boot off the end of the servo.

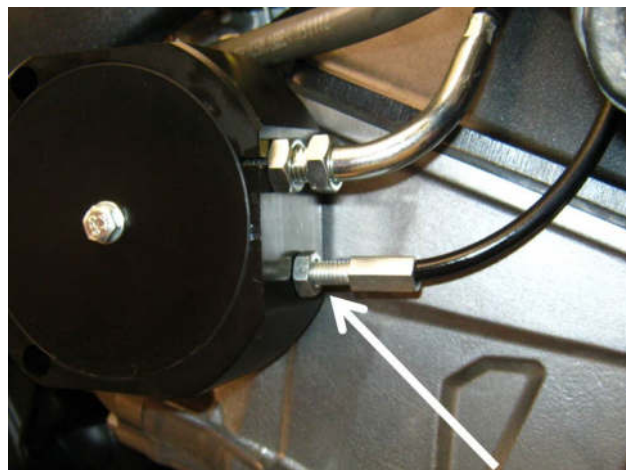
Remove the cable retaining clip from the adjuster (arrowed) with a pair of pliers.

NOTE: - Don't lose the clip. There is a spare in the parts bag if it is lost.

Screw the adjuster out about 8~10 turns, so about 8~10 threads are visible.

Push the cable firmly into the adjuster.

Replace the cable clip if desired, but it will have to be removed again later.



‘Carburettor’ cable adjustment.

Screw the adjuster on the CIU end of the carb cable out until there is about 1~2mm (1/16”) of free play in the cable.

Throttle cable adjustment.

Screw the adjuster out on the throttle cable at the TWIST GRIP OR CIU OR BOTH adjusters so there is 2~3mm of free play at the outside diameter of the twist grip (refer to your owner's manual).

Use the twist grip to apply full throttle and closed throttle several times firmly, twist the grip almost as hard as you dare without breaking something, to seat all the components fully.

Re-check the free play in the 'carb' cable first and adjust if necessary using the adjuster on the CIU end of the carb cable out until there is about 1~2mm (1/16") of free play in the cable.

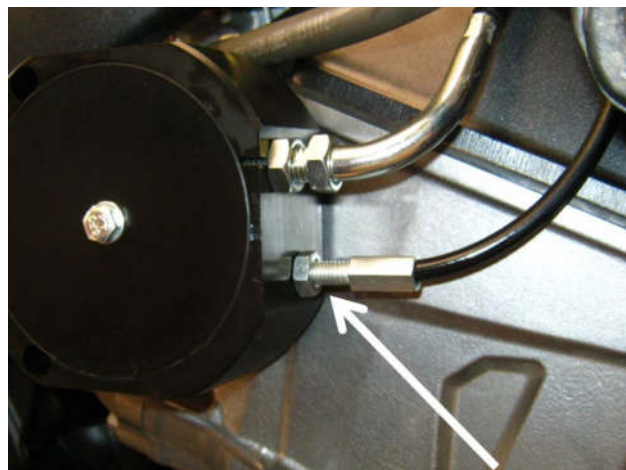
Check the free play in the twist grip.

If necessary move the adjuster on the throttle cable at the twist grip so there is 2~3mm of free play at the outside diameter of the twist grip (see your owner's manual).

Servo cable final adjustment.

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

Remove the cable retaining clip (arrowed) – 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.



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

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

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

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

Start the engine.

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

Wait for the engine idle speed to settle to 'normal' idle, this usually takes a 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, while counting the number of presses. This will probably take 15 to 30 presses of the SET button.

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

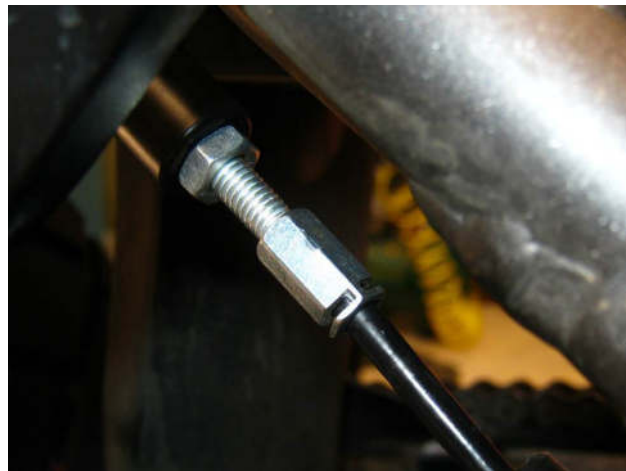
Screw the adjuster on the servo cable out until the engine rpm just starts to lift off idle speed.

Slowly screw the adjuster back in until the engine just returns to idle speed.

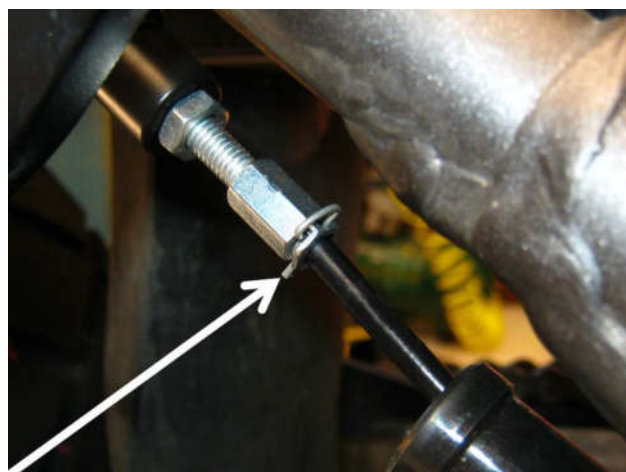
Make sure the cable is fully seated in the adjuster (push it in to the adjuster) and screw the adjuster out and in to find the point where the engine idles normally, but there is NO free play in the cable.



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



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



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

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

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

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

Press the SET/ACC button, the revs should start to increase within 1~3 presses. If it takes more than 3 presses to get any increase in engine speed, screw the servo cable adjuster OUT a bit to remove free play.

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

MotorCycle Cruise © - MCS850 throttle servo removal

Using this method, the engine revs should increase within 1~3 presses of the SET button, and RES should reliably return the engine speed to idle.

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

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

Apply and release the brakes.

The engine should instantly drop to idle.

Turn the ignition off.

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

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



Your cruise control is now ready for testing!