*Electronic Cruise Control for*

# Yamaha FJR1300 to 2005

Cruise kit: MCS 6850/1 for model years to 2002
Cruise kit: MCS 6850/2 for model years 2003~2005 with vehicle speed signal
Cruise kit: MCS 6850 WSS for model years 2003~2005 without vehicle speed signal

**NOTE: - There are three versions of this cruise control kit depending on what connections are available on the bike. The last pages of this document show how to determine what connections your bike has for the rear brake light switch and if it has an accessible speedometer signal connection and what cruise kit to order to ensure that the cruise will fit your bike.**

The following provides a brief description of the power consumption and component locations of the MotorCycle Setup electronic cruise control.

Installed weight of the cruise control is approximately 2.0kg.

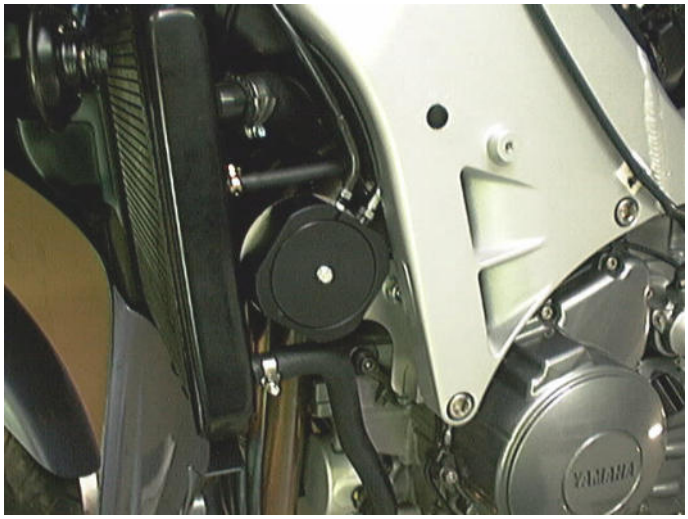
Current draw while the cruise is switched on, but not engaged, is approximately 0.250 amp (3 watts). Current draw while the cruise is engaged is nominally 0.50~0.80 amp (6~10 Watts).

By comparison, a head light bulb typically draws about 4 amps (55 Watts), and a tail light bulb (running light) draws about 0.4 amp (5 Watts).

Refer to the line drawing over a couple of pages to identify the components from the numbers in the text.

The **Computer (1)** mounts under the passenger seat using Velcro self-adhesive tape.

The **Electric Throttle Servo (2)** is mounted inside the left side passenger's footrest 'hanger'.



The **Cable Interface Unit (3)** is located inside the left side fairing panel, behind the radiator and has a new **cable (4)** running from it to the fuel injection throttles.

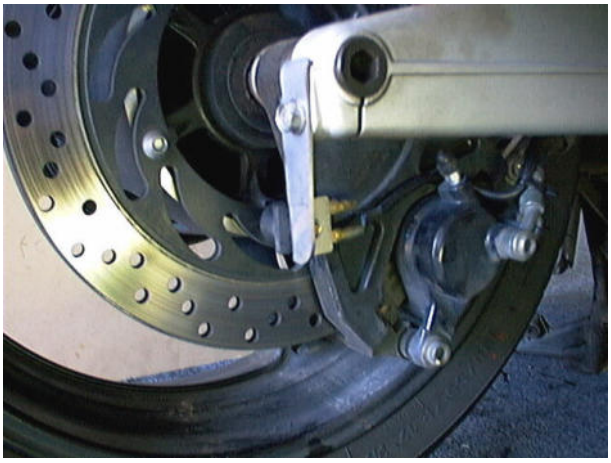
The **Control Switch (5)** can be mounted to the left hand (clutch) master cylinder handlebar clamp. The bracket mounts between the top faces of the clamp and the master cylinder. The clamp must have about 1~1.5mm (0.040”~0.060”) filed from the bottom face to allow for the thickness of the switch bracket.



An alternative mounting for the **Control Switch (6)** is available so the switch is mounted below the handlebars. The bracket mounts between the bottom faces of the clamp and the master cylinder. The clamp must have about 1~1.5mm (0.040”~0.060”) filed from the bottom face to allow for the thickness of the switch bracket.

If you use a tank bag, the control switch may contact the bag when the bars are turned to full left lock.

The new **Slim Control Switch (7)** is also available for this model. This switch mount directly on to the handlebar between the bike’s switch block and the clutch lever mount.



The **Optional Wheel Speed Sensor (8)** is mounted on the end of the right hand side of the swing arm under the axle pinch bolt. Nickel plated magnets are placed in the heads of the bolts that mount the brake disc. **NOTE: - Not all models need this, see the last pages of this document for details.**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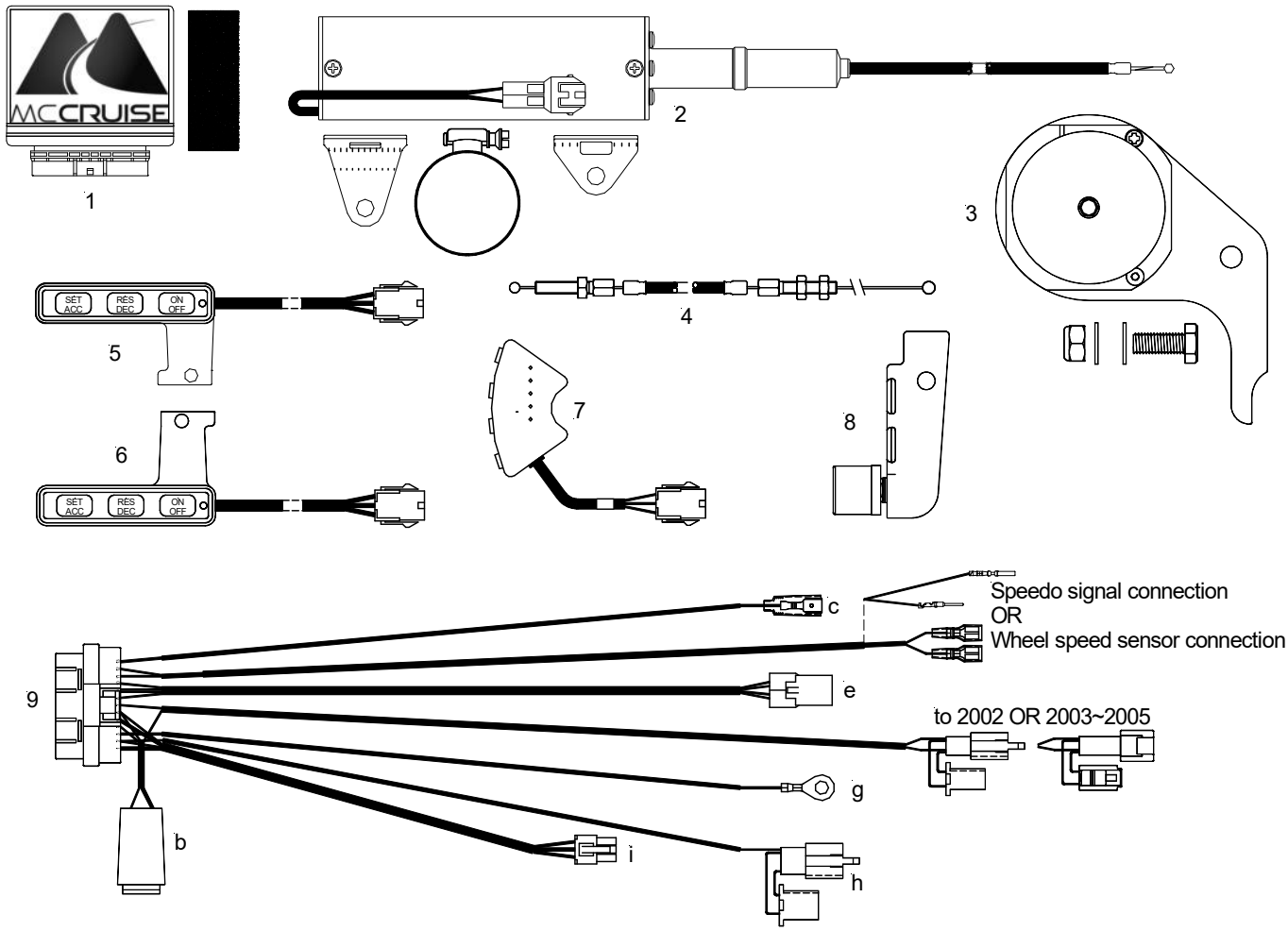
The **Wiring Harness (9)** has the same type of plugs or terminals that are already used on the motorcycle. Power for the cruise control and brake sensing is taken off the brake light switches by unplugging the rear brake light switch. Matching connectors on the cruise control harness are plugged in to the switch and the bike's harness. Tach (engine speed) sensing is detected from the bike's ignition coils. This is used to disengage the cruise if the clutch is operated. The bike's clutch switch is also connected to the cruise control to disengage the cruise control. The cruise control is grounded on the negative battery terminal. Speed signal for the cruise is sourced either from the bike's speedo signal or if that is not available from a rear wheel speed sensor provided in the kit.




# How to determine the brake light switch plug type & if you can access vehicle speed signal from the bike's speedometer signal

During development of the cruise control for the FJR1300 we have become aware that there are two different types of brake light switch connecting plugs. At this stage it is thought that this change was made during the model year change from 2002 to 2003. The early model bikes do not have a fairing storage pocket; the later models have a lockable pocket in the left side of the fairing cockpit. We believe that the brake switch connector change occurred at the same time as the introduction of the fairing pocket.

To supply the correct wiring harness for the bike, we need to know what type of plug your bike has and if speedo speed signal is available. This is easy to determine by following the instructions below.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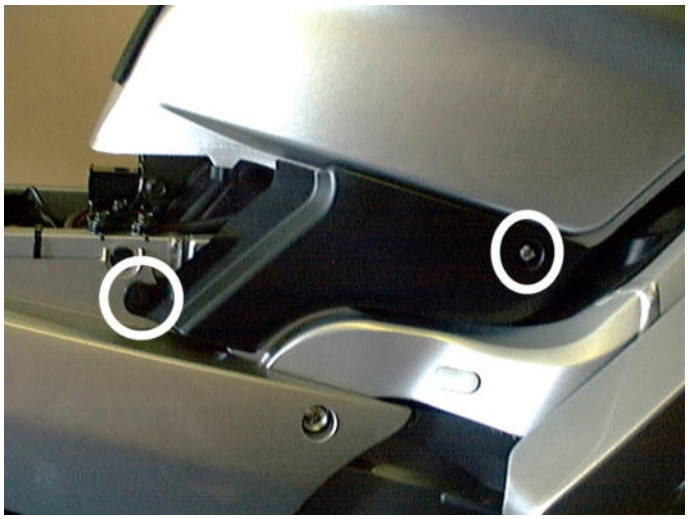
The connecting plug for the rear brake light switch is concealed inside the right side cover, near the rear brake fluid reservoir. The connection for speed signal is concealed under the left side cover, behind the air filter cover.

There are two different panel-fasteners holding the side cover on this bike and they require different removal techniques.

**Remove the seat.**

- Release the key lock and remove the rider's seat. Remove the passenger seat.

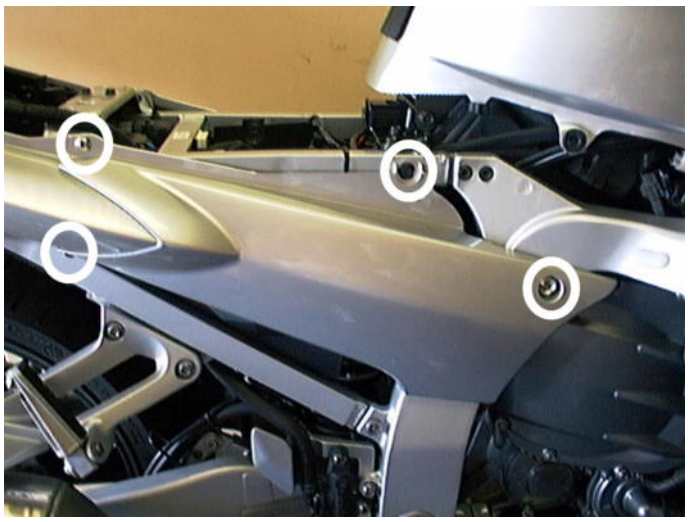


**Remove the right side fuel tank trim panel.**

- Remove the covers at the bottom of the fuel tank on the right side. There is a screw at the front edge, a clip at the back and a plug and rubber grommet at the top centre of the panel.

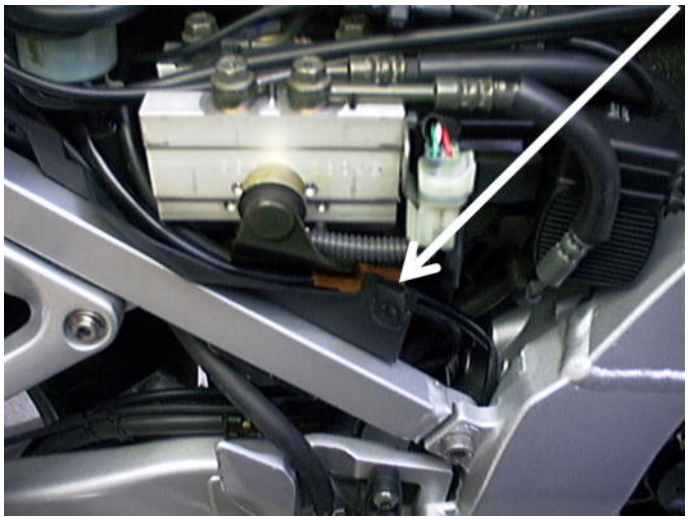
**Repeat on the left side trim panel.**

**Remove the right side cover.**



- Remove the right side cover. There is a screw at the front edge, a clip at the top front, another screw and nut at the rear top and a clip at the rear bottom edge and another clip about 3/4 of the way to the front on the bottom edge.
- Pull the cover forward to release the tabs at the back edge and remove the cover.

**Repeat on the left side cover.**



- Locate the bike's rear brake light switch plug. The brake light switch is behind the rear brake master cylinder. Follow the wire from the switch to the plug, which should be below the ABS actuator assembly (on bikes with ABS brakes).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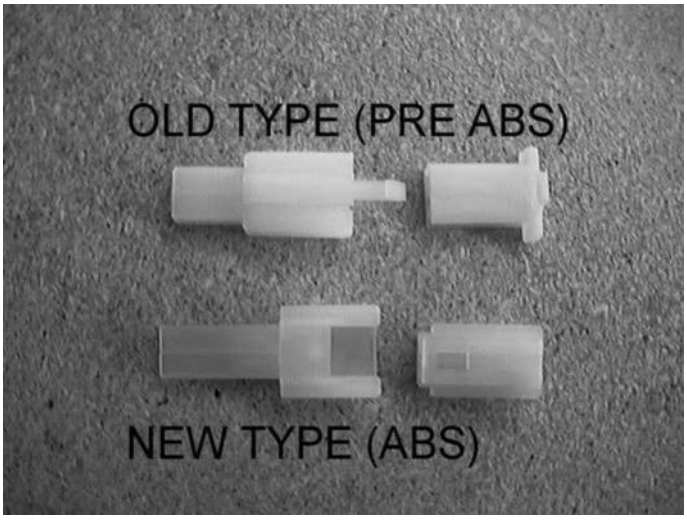
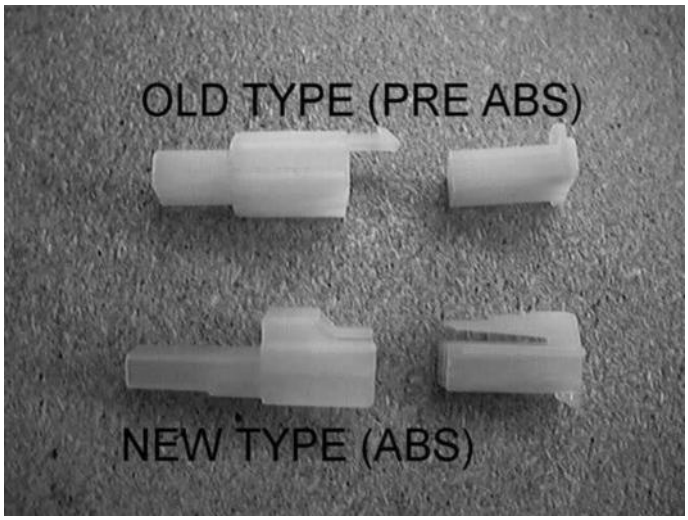
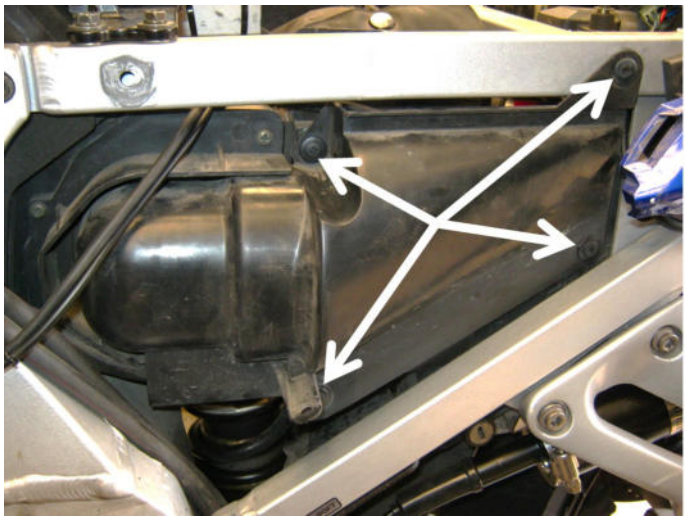
These photos show both types of connector.



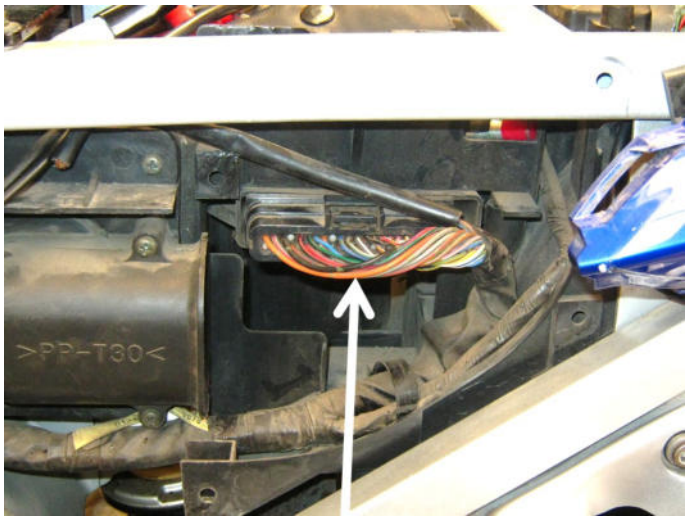




Both wires from the brake light switch are black. The wires from the bike's wiring harness are yellow and brown. These colours apply to all models.

Please determine what type of connectors are fitted to your bike and order the appropriate kit.



- Remove the air duct cover on the left side of the air filter housing.
- Remove the four screw clips and remove the cover.




- Under the cover is the engine ECU connector. This is a sealed 44-way plug.

**CAUTION: - Do NOT disconnect this plug unless you have already disconnected the battery.**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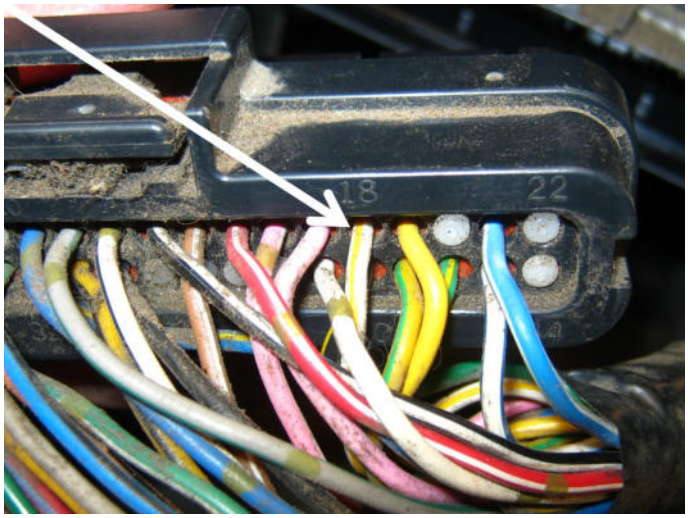
- The wire in position 18 is a white/yellow wire (white with a yellow stripe). If your bike has this wire in this type of connector, then the cruise control can source speed signal from the bike's speedo signal, and you do not need the wheel speed sensor.

- At this time, we only know this is present on the early models up to 2002, we suspect it will be the same on the 2003 to 2005 models without ABS, but the ABS version may be different.




**<u>OTPION 1 – MCS6850/1 kit</u> - If you have the old type brake switch connector, order kit MCS 6850/1. This should only be on 2001~2002 models and it should have the white/yellow speedo signal wire and this type of ECU connector.**

**<u>OPTION 2 – MCS6850/2 kit</u> - If you have the new type brake switch connector and the white/yellow speedo signal wire in position 18 in this type of ECU connector, order kit MCS 6950/2. NOTE – you <u>may</u> need to perform speed signal calibration with this option, we don't think so but you may need to on bikes with ABS, less likely on non-ABS bikes. Instructions are provided in the installation manual, it is easy to do, takes 5 minutes to do.**

**<u>OPTION 3 – MCS6850WSS kit</u> - If you have the new type brake switch connector but no white/yellow speedo signal wire or the bike does not have this type of ECU connector, or you don't want to bother checking for the white/yellow wire then order kit MCS 6950 WSS. The cruise control will be configured for this type of speed sensor.**

If you have any other combination, contact us for assistance.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