Installation – TCS-4C_CBR_1000 Fireblade_AB (revision_03, 07.02.2013)
Author – Mick Boasman

NEMESIS - TCS

Nemesis-TCS 'Traction Control System
Installation manual Honda CBR1000 Fireblade 2008 onwards with race seat fairing

Kit part No.	TCS-4C_CBR1000_0811.AA
This application is designed for use with the Honda CBR1000R 2008 onwards with race seat	

Speed pick up components	Part No	Checked	Qty
front wheel speed sensor mounting bracket	CSD1398		1
M8 x 50 Cap head screw zinc	CSF1054		2
Speed sensor	23813030401		1
M6 x 16 Zinc Hex head cap screw - Speed sensor	CSP1019		1

Traction module components	Part No	Checked	Qty
Traction Control Module - 4c	CSP1048		1
TCS Back plate - horizontal	CSD1378		1
Honda fireblade 2008 onwards, TCS mount bkt - Front	CSD1405		1
Honda fireblade 2008 onwards, TCS mount bkt - Rear	CSD1407		1
M4 x 25 button head	CSF1048		2
Spacer D-10, ID4.5 ,L-19	CSD1406		2
Spacer - D-10, ID4.2, L-6.5	CSD1390		2
Bobbin - Dia 10x17, M4 female	CSP1046		4
M4 x 16 Cap head screw	CSF1062		2
M4 x 8 SS button head allen screw	CSF1045		4
M6 plain washer	CSF1061		6
M6 nyloc nut	CSF1063		4
M6 x 30 - button head s/s cap screw	CSF1064		2
M6 x 20 cap screw	CSP1038		2
M4 spring washer	CSF1050		8

Wiring	Part No	Checked	Qty
Main Wiring	CSW1404		1
Front Wiring	CSW1371		1
Throttle signal - quick link (red)	CSP1015		2

Display module components	Part No	Checked	Qty
Display module	TC-Pod		1
Spacer - Dia 11, ID 6.5, L 6.5	CS1258		1
M6 x 35 s/s cap head screw - black	CSP1016		1
Push button assembly - blue/green TC-Pod	CS972		1
M3 x 8 Hex button head	CSP1018		2
TC-Pod mounting bracket - triple clamp	CSD1399		1

Miscelaneous components	Part No	Checked	Qty
Cable ties - 200mm x 4mm	CSP1021		10
Printed TCS over view manual			1
Printed TCS Honda CBR1000R 0811 AA manual			1
Nemesis-TCS stickers	CSP1022		6

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IMPORTANT – To be read by ALL installers and owners

Notes –
- This kit is designed for use on bikes fitted with a 'race type' seat fairing.
- Power for the TCS system is via the Kill switch. After Kill-ON (bike in Run position) the TCS system needs 3 seconds to 'boot up', the engine will not start during this period.
- This kit uses the rear speed sensor on the gearbox with 33 teeth. For customers who are not using our default sprocket ratio of 16/42 you will need the additional WinTC programming tool to change this. If using a kit gearbox with anything different from this 33 teeth on 6th gear please contact us

Terms of use

The presence of the Nemesis-TCS does not take away the responsibility of the rider to operate the bike correctly within their own abilities, the track conditions and the laws of physics.

The system is designed to achieve greater on-track performance by the use of power modulation during wheel slip events, but in no way should it be considered possible for the system to recover from every conceivable loss of grip. The onus for safety always rests with the rider to stay within his or her own abilities, and to ensure that the 'on-bike' equipment is programmed, setup correctly, and an appropriate TC level selected for the skill of the rider, the bike and the track conditions.

This equipment is intended for racing or track day performance use only and where exhaust emission controls are not applicable.

By installing and using the Nemesis-TCS you automatically indemnify Competition Systems Ltd, our suppliers and our authorised dealers from all first party or third party loss or damages. Normal components warranty is not affected

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Preparation. Remove these parts from the bike.
- All fairing panels
- Fuel tank
- Seat fairing
- Air box

TC-Display pod Fitting:
- Mount the display pod to the angled bracket using the M3x8mm screws.
- Fit this bracket to the uppermost triple clamp bolt as seen here and bend to form an angle suitable for the installation
- The wiring can be used to damp out some vibration and also a foam pad may be fitted between the bracket and the triple clamp, for the same purpose.
- Take care to ensure full steering movement without collision with the display pod
- Mount the CS972 switch assembly to the clutch lever assembly cylinder clamp using the M6x35 bolt and spacer provided. Connect the CS972 switch assembly to the TC-Pod via the 4-way connector of the TC-Pod wiring
- Do not secure any wires in place at this stage, as there will be further wires added in this region.
- If installing a pit limiter switch, mount it on the right brake lever assembly.

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Front Wheel Speed:
Your TCS kit comes with a dedicated bracket, sensor and longer bolts

- This kit uses the standard disc bolts which are made of ferrous material. **Under no circumstances should any alternative bolts be used.**
- Remove the two M8 spindle clamp bolts from the left fork and retain for future use. Use the two new longer M8x50mm bolts and bracket but do <u>not at this stage tighten these bolts.</u>
- Remove the rubber O ring from the sensor body and fit into the rebate of the sensor bracket.
- Apply a small amount of grease to the sensor body and push the sensor into the bracket. Lock in place using one of the M6x16 cap
- **Check the gap between the sensor face and the surface of one of the new disc bolts, it should be between 1mm and 3mm,** now tighten the two M8 bolts to the manufacturers recommended torque.
- The sensor maximum range is approx 4mm for smaller targets and 6mm for larger targets, therefore no other ferrous objects should be installed anywhere near this sensor
- **These are safety critical components and could result in wheel locking, brake failure or TCS damage if fasteners come loose.**

IMPORTANT – Care should be taken when using paddock stands not to damage the wiring or sensor mounting
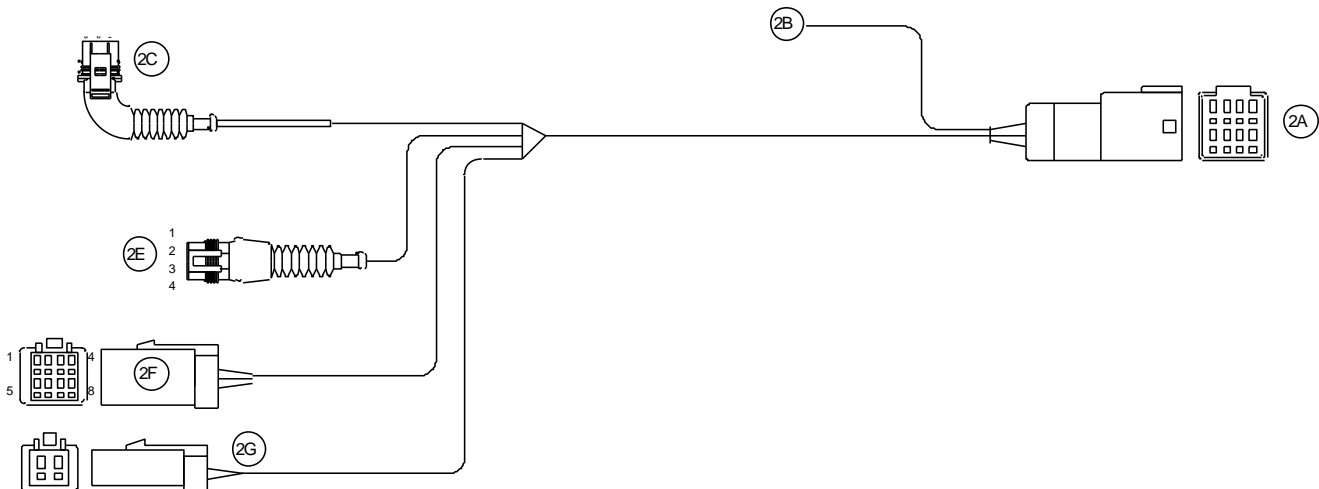
Wiring
The wiring provided in this kit comes in 2 parts to simplify the installation and enable crash damaged parts to be replaced without a major strip down.

Wiring – Front section
The front section wiring (part No.CSW1371) has connections for all of these elements
- 2C - Front speed sensor
- 2F - TC-Pod display
- 2G - Pit lane speed limiter switch
- 2E - PC communication point (4 way AMP)
- 2A - Chassis link
- 2B - Throttle signal (single wire)

This wiring to connector 2A is to be routed along the right side of the bike

Wiring / Front – TC-Pod display
Connect the front wiring loom to the TC-Pod display via the 8 way connector **2F**

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Wiring / Front - Throttle

The throttle input is the single wire 2B of this loom . This needs to be attached to the signal wire (pin B - middle) of the standard bike throttle plate position connector using the red quick link provided in the kit, as shown in the steps below and the image to the right.

Note that the signal wire is supplied long and may be shortened as necessary

The quick link is made up of three parts as seen here on the right:	
Using the green section with the slot, push it over the orange throttle signal wire of the bike loom until the wire rests at the bottom of the slot:	
The large red centre section must be fitted the correct way around or the link **will not work.** Locate the end with the sharp pointed tip protruding from the end of the outer body and screw this end onto the green section until it rests firmly against the wire. The sharp tip will pierce the outer sleeve but not sever the inner core of the wire:	
Strip back the sleeve of the throttle input wire on the TCS loom so that 8mm of inner metal core is exposed. Push this into the red cap as seen here on the right with inner core showing:	
Screw this cap and wire into the main body ensuring that metal inner core and wire cores are sandwiched and held securely. Shrink sleeving can be put over this quick link if required.	

Wiring / Front – front wheel speed

Route the front speed wiring **2C** across the front of the bike and following the same route as the brake line to the left calliper, connect it to the front speed sensor. The wiring for sensor must be routed taking all of the following into consideration.

- Movement of forks
- Rotation of the steering
- Positioning of paddock stands

### Wiring / Front – PC connector

The 4 way PC connector should remain accessible but securely cable tied to the existing harness.

Wiring / Front – Pit limiter switch

The 2 way pit limiter switch connector can be cable tied out of the way if not needed or plugged into the dedicated red switch assembly CSP1041

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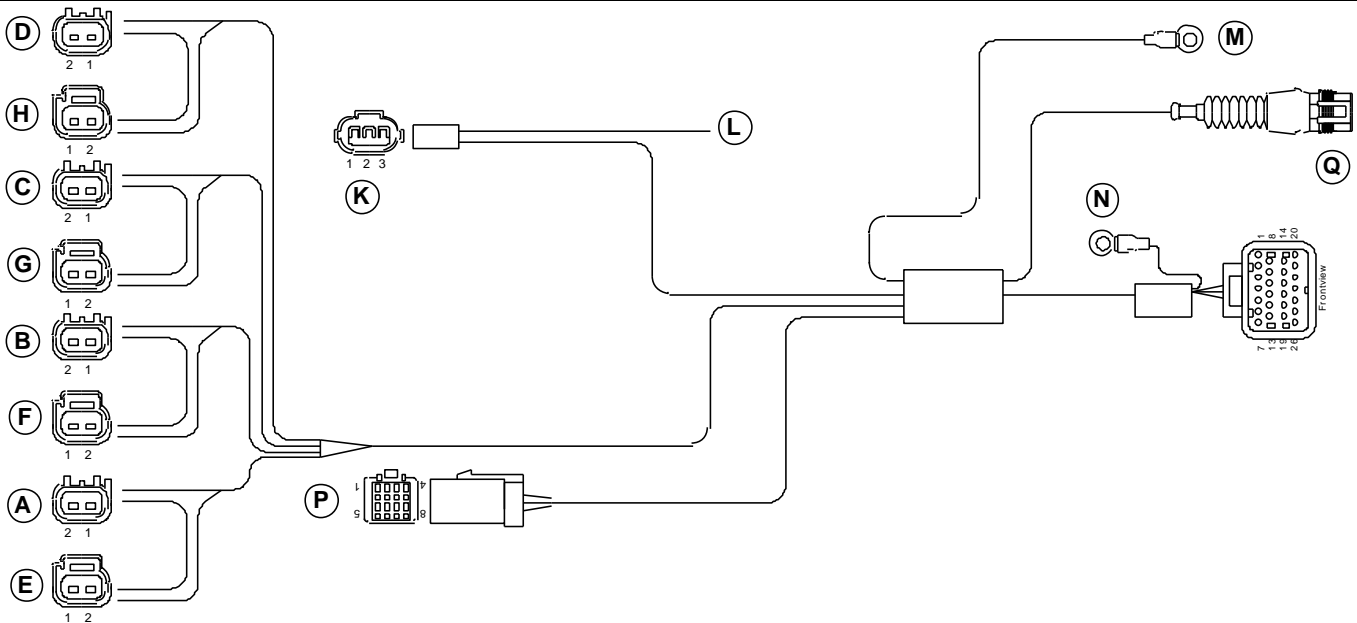
Wiring – Rear section / Ignition coils

Route this loom section along the left side of the bike following the standard wiring route. It is important to note that clearance around the left side of the fuel tank is very limited so the loom must strictly follow the standard wiring route.

The following 4 connections are all ignition coil INPUT signals from the bike to the TCS unit

A - Connect to Coil 1 wiring from bike wiring loom
B - Connect to Coil 2 wiring from bike wiring loom
C - Connect to Coil 3 wiring from bike wiring loom
D - Connect to Coil 4 wiring from bike wiring loom

The following 4 connections are all ignition coil OUTPUT signals from the TCS to the drive the ignition coils

E - Connect to Coil 1 on the bike
F - Connect to Coil 2 on the bike
G - Connect to Coil 3 on the bike
H - Connect to Coil 4 on the bike

IMPORTANT – It is vitally important that the coil inputs and outputs are connected correctly or the bike may not start on all cylinders, or may even damage the engine.

Wiring – Rear speed

Locate the rear speed sensor connector on top of the gearbox and disconnect it. Plug in connector **K** to the sensor.

In order for the dashboard to receive the speed signal connect the single wire **L** to the middle wire of the original sensor connector using the red quick link.

Refer to the section on throttle connection for guidance on installing quick links.

Cable tie these wires out of the way to ensure clearance when the fuel tank is re-fitted.

Wiring – Battery ground

This vital connection **M** <u>must</u> be connected directly to the battery negative connector, not to the engine block or any other ground source.

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IMPORTANT – Failure to fit the ground securely can lead to misfire / engine not starting / TCS module damage. This is the main power ground for the coil system.

Wiring – Front link

Connector **P** should be routed along the right side of the bike all the way to connect up with 2A from the front loom.

Wiring – Quick shifter input

Connector **Q** is available for use with most type of OFF/ON switch type quick shifter.
Pin 1 – Vbat power
Pin 2 – Ground
Pin 3 - Signal
For more information on quick shifter connections please refer to the 'System manual'

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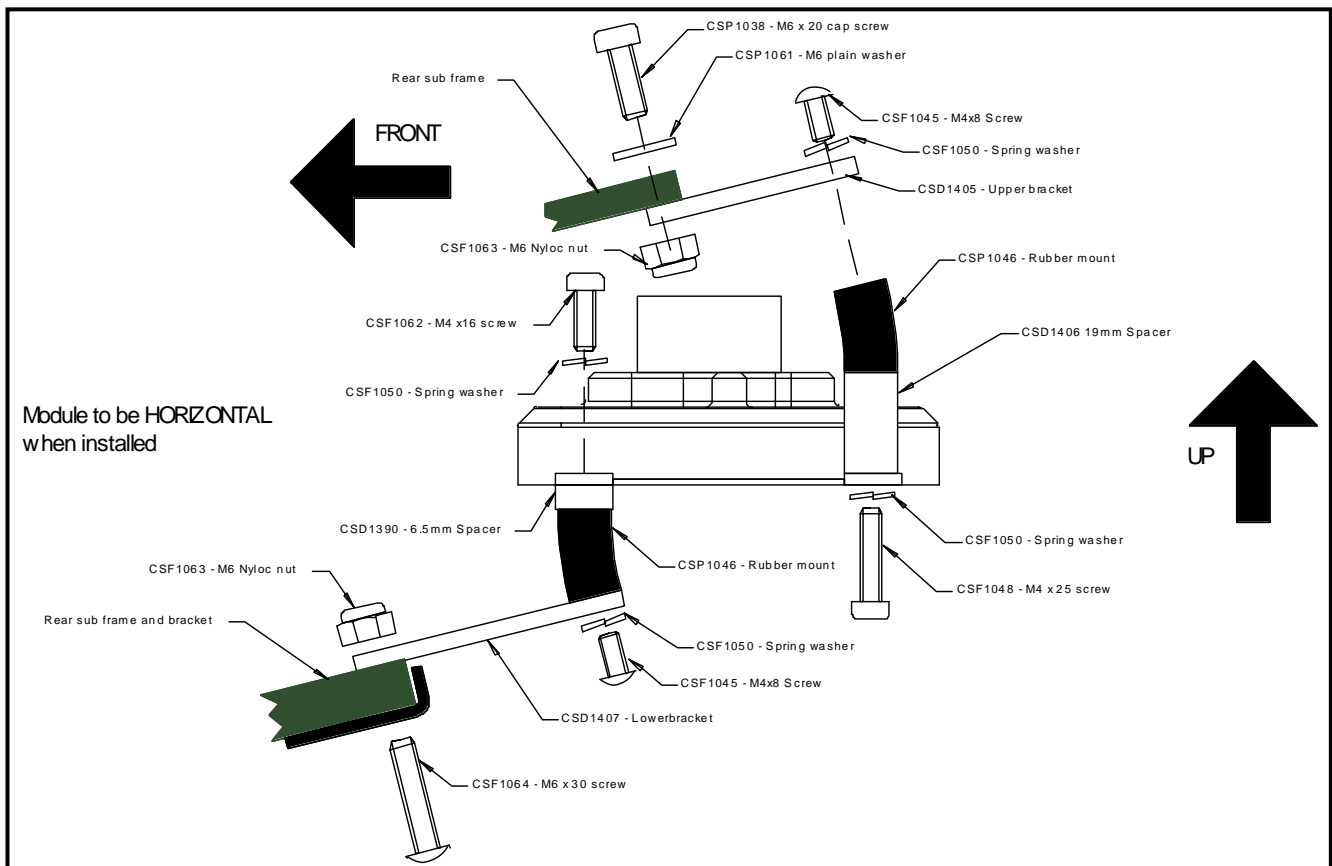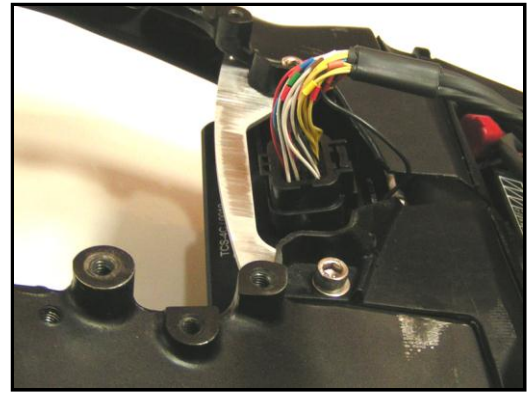Author – Mick Boasman

Wiring – TCS module and ground

Connect the main wiring loom to the TCS module. It is vitally important that the small ground wire with the 4mm eye (**N**) be connected securely to the M4 stud as seen here using the M4 Nyloc nut. Without this the module or coils could be damaged as well as TCS not functioning correctly.

The TCS module is held horizontally using the 2 brackets, spacers and rubber mounts. When installed the connector should be central and pointing upwards with the majority of the module to the left side of the bike.

IMPORTANT – Failure to fit the module in the orientation shown and mounted on a horizontal axis will significantly affect the functionality of the TCS system.

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PC Setup
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Your TCS module should be loaded with the following bike :

BIKE - Honda_CBR_FB_08_11_C.BIKE
TYRE – To suit your installation
CONFIG - TCS_4C_Base_35_02.CONFIG

Default rear sprockets for maps are: 16/42
Gear box teeth - 33

Status **Position** offset value –
Stronger - **0.21 to 0.32** – Refer to **WinTC View Data**
Normal - **0.32 to 0.37** – Refer to **WinTC View Data**
Weaker - **0.37 to 0.47** – Refer to **WinTC View Data**

Note : The WinTC installation guide can be found in the manual - Win-TC 4C manual_v2.05_a.pdf