



Race Tools Installation Instructions

Yamaha 2014-2017 MT-09 / FZ-09

Race Tools Type 2





1) Introduction

The Yamaha Race Tools Type 2 may suit other bikes however this guide is for the 2014-2017 Yamaha MT-09 / FZ-09 only.

To connect your Woolich Racing - Race Tools to your bike you need to install the strain gauge Quickshifter / Autoblipper, shift rod and also the Race Tools harness. This is a relatively simple procedure that involves:

- 1) Removing the stock shift rod and Quickshifter Sensor.
- 2) Installing the Woolich Racing Strain Gauge Quickshifter / Autoblipper and Shift Rod.
- 3) Connecting the Race Tools harness.
- 4) Race Tools Software Configuration.
- 5) Installing the Pit Limiter / Engine Warm Up harness (Optional).

The above procedure is described in detail in this guide and should take approximately 15-20 minutes to complete. No cutting or splicing of the wiring harness is required for this install.

Note: The Race Tools harness uses the O2 plug on the stock bike harness. You should disable the O2 sensor in the software before connection.

2) Hardware

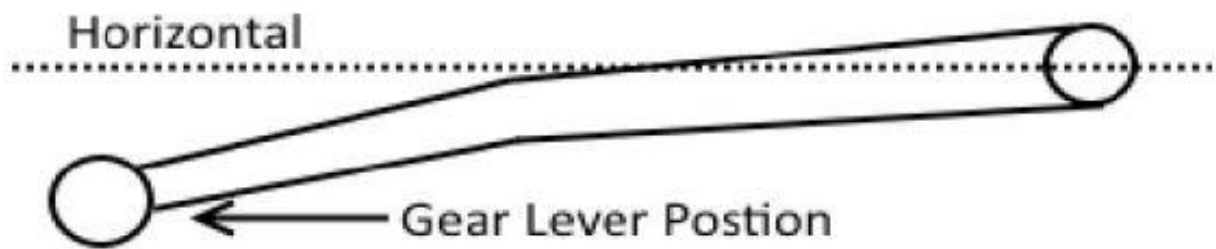
To install the Race Tools you should have the following hardware as supplied with your Woolich Racing product:

1. Woolich Racing Strain Gauge Quickshifter / Autoblipper and associated hardware.
2. Shift Rod appropriate to your bike.
3. Pit Limiter Harness (Optional).

3) Quickshifter Installation

The following steps describe the installation of the Woolich Racing strain gauge Quickshifter / Autoblipper :

- 1) Take note of the current position of the gear shift lever, this will allow you to adjust the new shift rod so the gear shift lever is in the same position after the installation.

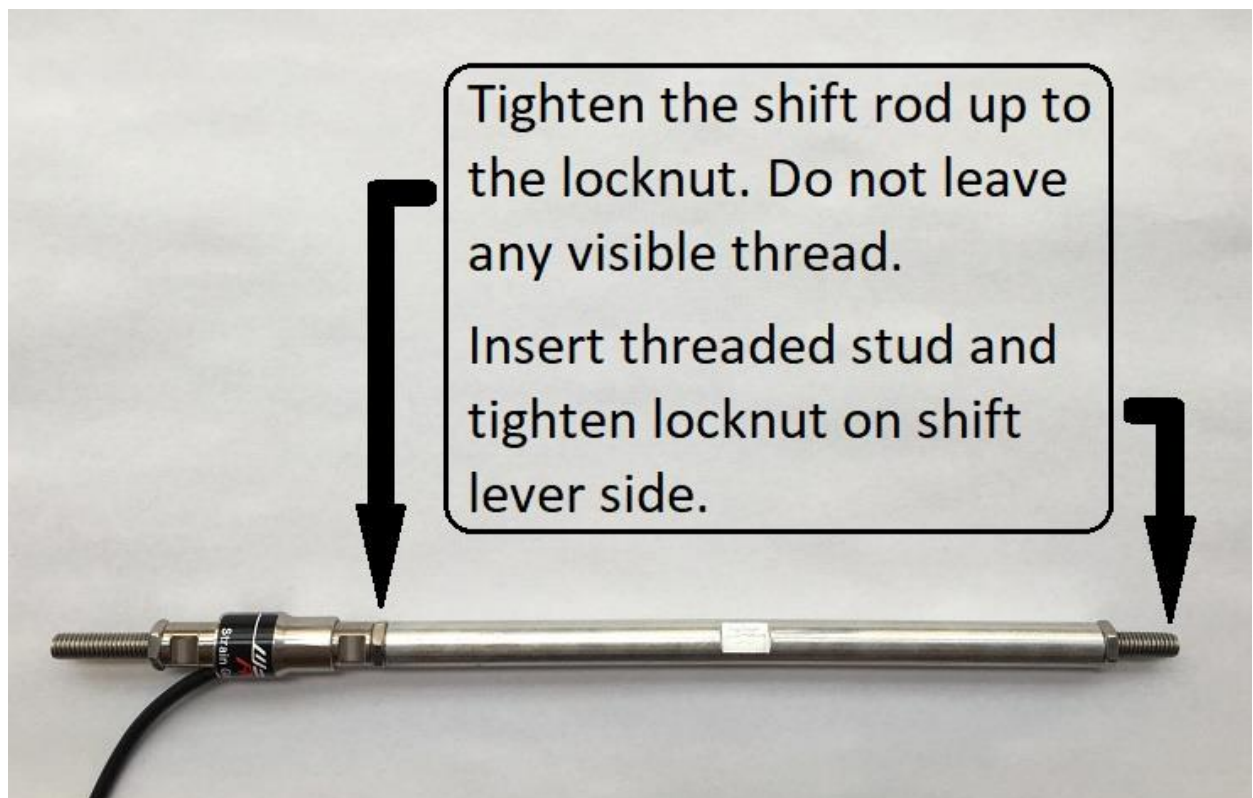
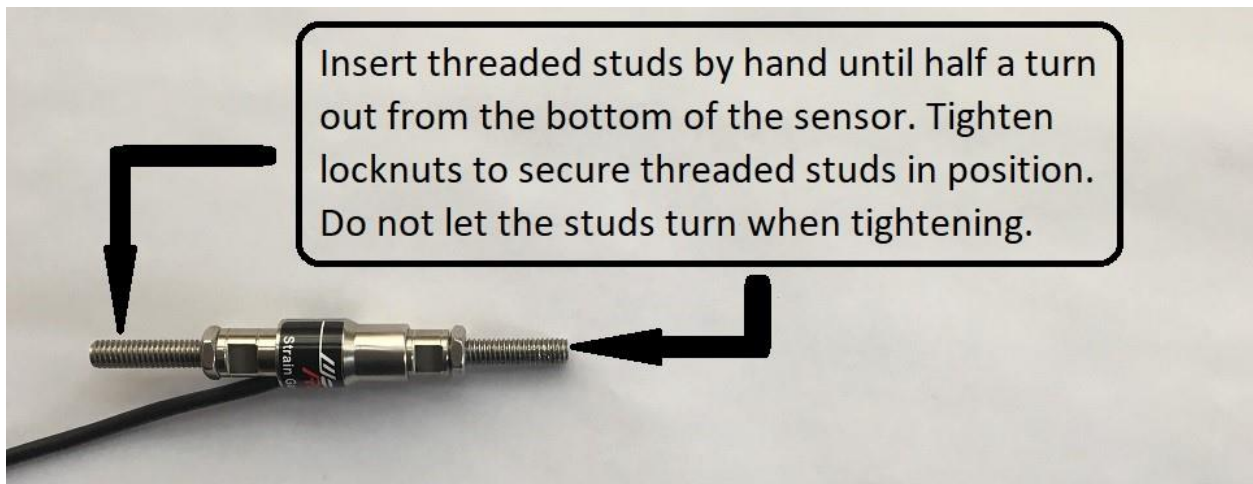


- 2) Remove the stock shift rod.





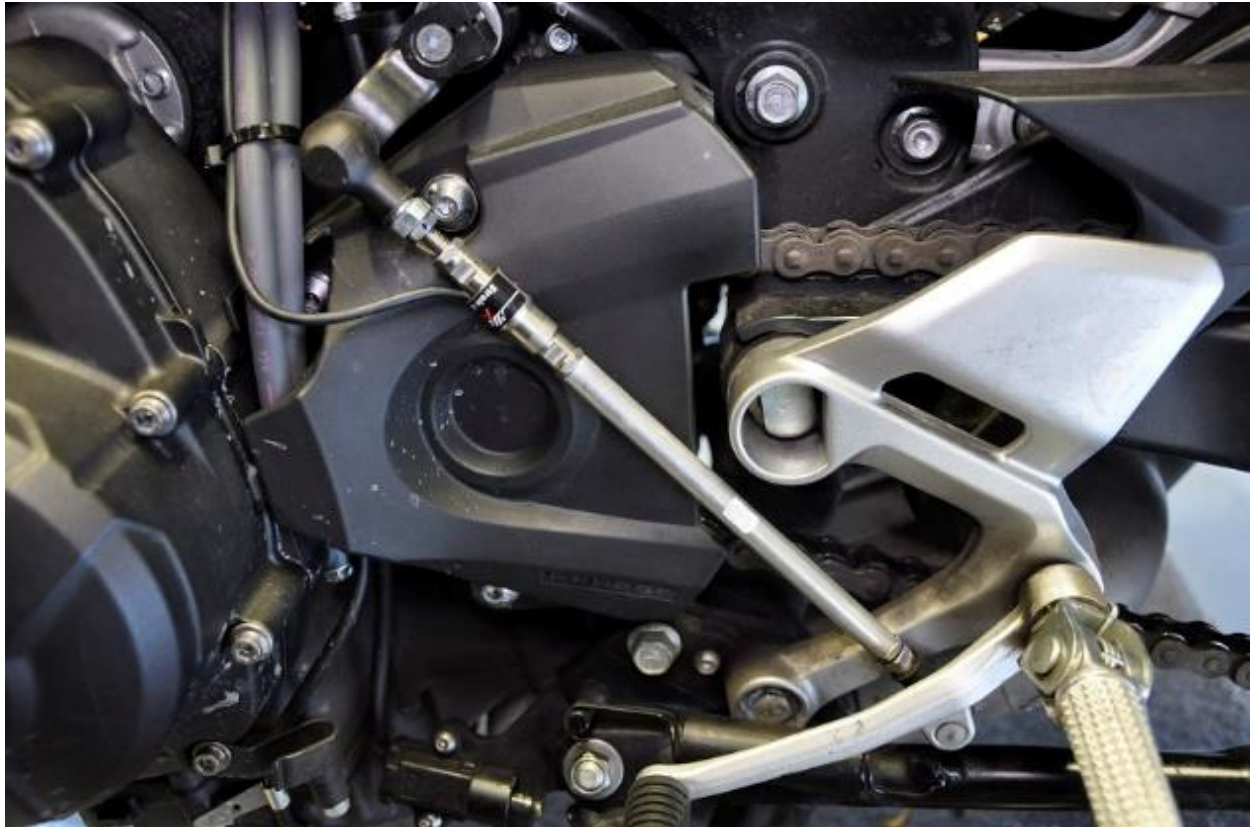
- 3) Pre-assemble the Woolich Racing Quickshifter / Autoblipper and shift rod using the appropriate studs and lock nuts from the Race Tools kit. **Do NOT bottom out the studs into the Quickshifter / Autoblipper sensor.** Tighten the locknut so the stud is half a turn out from the bottom of the Quickshifter / Autoblipper thread. Tighten the shift rod up to the locknut.



- 4) Once pre-assembled the length should match (+/- 10mm) the length of the stock shift rod.



- 5) Install the assembled Woolich Racing Quickshifter / Autoblipper onto the bike. Adjust the rod so the gear position lever is in the same position as noted above.



- 6) Locate and disconnect the O2 sensor located near the Right side foot rest and run wiring up through the inside of the frame up under the fuel tank.
- 7) Connect the Race Tools harness to O2 sensor plug and secure wiring with cable ties.





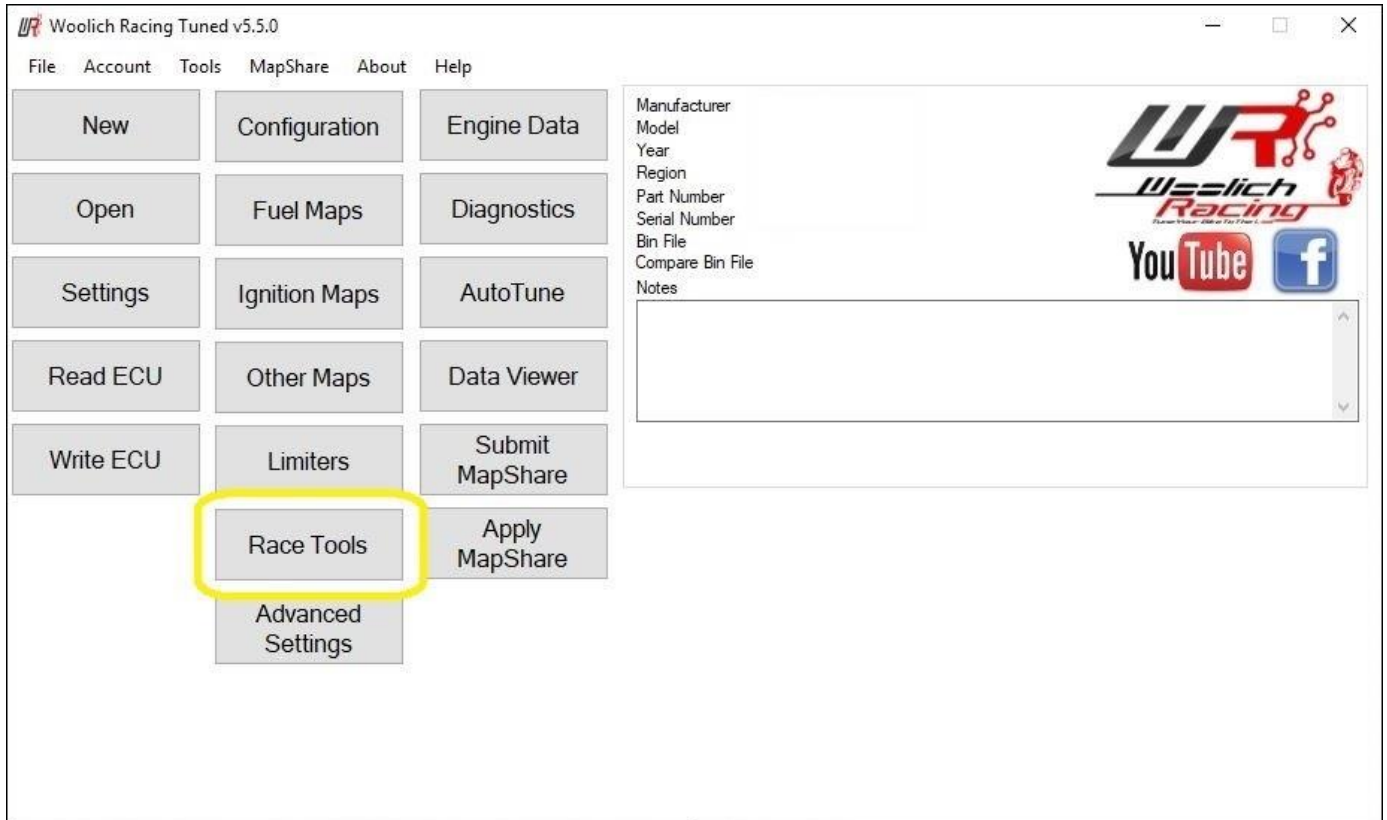
8) Connect the optional Woolich Racing Pit Limiter Harness to the Race Tools Harness.





4) Race Tools Software Configuration

- 1) The Race Tools software is configured by clicking the “Race Tools” button on the Main screen in the Woolich Racing Tuned (WRT) software.





5) Quickshifter

WR Race Tools

Quickshifter

Enable Quickshifter

Shift Direction: Normal Shift Pattern

Activation Pressure: 3 (1 = soft, 10 = hard)

Delay between Shifts: 500 ms

Minimum Activation RPM: 3,000

Autoblipper

Enable Autoblipper

Activation Pressure: 3 (1 = soft, 10 = hard)

Delay between Autoblips: 500 ms

Minimum Activation RPM: 4,000

Launch Control

Enable Launch Control

Launch Control Delay: 2000 ms

Launch RPM: 7500

Release Speed: 25 km/hr

Pit Speed Limiter

Enable Pit Speed Limiter

Pit Speed RPM: 4,500

Engine Warm Up

Enable Engine Warm Up

Max Coolant Temp: 80 °C

Strength: 5 1-10

Max RPM: 3500

Open Time: 200 ms

Close Time: 1400 ms

Maps

Quickshifter (ms) - Gear 1 -> 2 | 5.0 +/- | Add | Subtract | Copy | Paste | OK

	0	10	19	29	39	48	58	67	77	87	96
4000	80	78	78	74	72	70	70	66	66	63	63
4500	80	78	78	74	72	70	70	66	66	63	63
5000	79	77	77	74	72	68	68	66	66	63	63
5500	79	77	77	74	72	68	68	66	66	63	63
6000	79	77	77	74	72	68	68	66	66	63	63
6500	79	77	77	74	72	68	68	66	66	63	63
7000	79	77	77	74	72	68	68	66	66	63	63
7500	79	77	77	74	72	68	68	66	66	63	63
8000	77	77	77	74	72	68	68	66	66	63	63
8500	77	77	77	70	68	66	66	66	66	63	63
9000	77	77	77	70	68	66	66	66	66	63	63
9500	77	77	77	70	68	66	66	66	66	61	61
10000	77	77	77	70	68	66	66	66	66	61	61
10500	77	77	77	70	68	66	66	66	66	58	58
11000	77	75	75	66	64	64	64	64	64	58	58
11500	77	75	75	66	64	64	64	64	64	58	58
12000	77	75	75	66	64	64	64	64	64	58	58
12500	77	75	75	66	64	64	64	64	64	58	58
13000	77	75	75	66	64	64	64	64	64	58	58
13500	77	75	75	66	64	64	64	64	64	58	58
14000	77	75	75	66	64	64	64	64	64	58	58
14500	77	75	75	66	64	64	64	63	63	58	58
15000	77	75	75	66	64	64	64	63	63	58	58
15500	70	68	68	64	64	64	64	63	63	58	58
16000	70	68	68	64	64	64	64	63	63	58	58

Enable: Checkbox to enable the Quickshifter.

Shift Direction: Configurable Sensor Direction.

Activation Pressure: How much pressure is required on the gear lever to initiate the Quickshifter activation.

Delay Between Shifts: The amount of time before another shift can be initiated.

Minimum Activation RPM: The minimum RPM required to allow Quickshifter Activation.

Maps: Use the Add, Subtract, Copy and Paste controls to edit the values in the Quickshifter kill time maps.

Quickshifter (ms) Gear: These values are configurable by TPS vs RPM per gear with the values displaying kill time in milliseconds.



7) Launch Control

Maps

Quickshifter (ms) - Gear 1 -> 2 5.0 +/- Add Subtract Copy Paste OK

	0	10	19	29	39	48	58	67	77	87	96
4000	80	78	78	74	72	70	70	66	66	63	63
4500	80	78	78	74	72	70	70	66	66	63	63
5000	79	77	77	74	72	68	68	66	66	63	63
5500	79	77	77	74	72	68	68	66	66	63	63
6000	79	77	77	74	72	68	68	66	66	63	63
6500	79	77	77	74	72	68	68	66	66	63	63
7000	79	77	77	74	72	68	68	66	66	63	63
7500	79	77	77	74	72	68	68	66	66	63	63
8000	77	77	77	74	72	68	68	66	66	63	63
8500	77	77	77	70	68	66	66	66	66	63	63
9000	77	77	77	70	68	66	66	66	66	63	63
9500	77	77	77	70	68	66	66	66	66	61	61
10000	77	77	77	70	68	66	66	66	66	61	61
10500	77	77	77	70	68	66	66	66	66	58	58
11000	77	75	75	66	64	64	64	64	64	58	58
11500	77	75	75	66	64	64	64	64	64	58	58
12000	77	75	75	66	64	64	64	64	64	58	58
12500	77	75	75	66	64	64	64	64	64	58	58
13000	77	75	75	66	64	64	64	64	64	58	58
13500	77	75	75	66	64	64	64	64	64	58	58
14000	77	75	75	66	64	64	64	64	64	58	58
14500	77	75	75	66	64	64	64	63	63	58	58
15000	77	75	75	66	64	64	64	63	63	58	58
15500	70	68	68	64	64	64	64	63	63	58	58
16000	70	68	68	64	64	64	64	63	63	58	58

Enable: Checkbox to enable Launch Control.

Launch Delay: This setting is the amount of time that is required before the RPM Limiter is lowered to the Launch RPM after the clutch is pulled in.

Launch RPM: This is the lower RPM for Launch that is initiated when the clutch is pulled in.

Release Speed: This parameter allows you to specify what vehicle speed the bike should be travelling at before the RPM limiter turns off. Release speed should not exceed Launch RPM.

Launch Control Activation: To activate Launch Control when riding the bike

- 1) The bike needs to be in 1st gear, under 10 km/hr with the clutch in.
- 2) When the above conditions have been met, the Launch RPM will activate after the Launch Delay milliseconds.
- 3) If the bike changes gear or the clutch is engaged, the launch will be deactivated.



8) Pit Limiter (Optional)

WR Race Tools

Quickshifter

Enable Quickshifter

Shift Direction: Normal Shift Pattern

Activation Pressure: 3 (1 = soft, 10 = hard)

Delay between Shifts: 500 ms

Minimum Activation RPM: 3,000

Autoblipper

Enable Autoblipper

Activation Pressure: 3 (1 = soft, 10 = hard)

Delay between Autoblips: 500 ms

Minimum Activation RPM: 4,000

Launch Control

Enable Launch Control

Launch Control Delay: 2000 ms

Launch RPM: 7500

Release Speed: 25 km/hr

Pit Speed Limiter

Enable Pit Speed Limiter

Pit Speed RPM: 4,500

Engine Warm Up

Enable Engine Warm Up

Max Coolant Temp: 80 °C

Strength: 5 1-10

Max RPM: 3500

Open Time: 200 ms

Close Time: 1400 ms

Maps

Quickshifter (ms) - Gear 1 -> 2: 5.0 +/- Add Subtract Copy Paste OK

	0	10	19	29	39	48	58	67	77	87	96
4000	80	78	78	74	72	70	70	66	66	63	63
4500	80	78	78	74	72	70	70	66	66	63	63
5000	79	77	77	74	72	68	68	66	66	63	63
5500	79	77	77	74	72	68	68	66	66	63	63
6000	79	77	77	74	72	68	68	66	66	63	63
6500	79	77	77	74	72	68	68	66	66	63	63
7000	79	77	77	74	72	68	68	66	66	63	63
7500	79	77	77	74	72	68	68	66	66	63	63
8000	77	77	77	74	72	68	68	66	66	63	63
8500	77	77	77	70	68	66	66	66	66	63	63
9000	77	77	77	70	68	66	66	66	66	63	63
9500	77	77	77	70	68	66	66	66	66	61	61
10000	77	77	77	70	68	66	66	66	66	61	61
10500	77	77	77	70	68	66	66	66	66	58	58
11000	77	75	75	66	64	64	64	64	64	58	58
11500	77	75	75	66	64	64	64	64	64	58	58
12000	77	75	75	66	64	64	64	64	64	58	58
12500	77	75	75	66	64	64	64	64	64	58	58
13000	77	75	75	66	64	64	64	64	64	58	58
13500	77	75	75	66	64	64	64	64	64	58	58
14000	77	75	75	66	64	64	64	64	64	58	58
14500	77	75	75	66	64	64	64	63	63	58	58
15000	77	75	75	66	64	64	64	63	63	58	58
15500	70	68	68	64	64	64	64	63	63	58	58
16000	70	68	68	64	64	64	64	63	63	58	58

Enable: Checkbox to enable Pit Limiter.

Pit Speed RPM: Configurable RPM limiter that is only activated in 1st Gear.

Pit Limiter can only be activated below RPM Limiter set point.



9) Engine Warm Up (Optional)

Race Tools

Quickshifter
 Enable Quickshifter
 Shift Direction: Normal Shift Pattern
 Activation Pressure: 3 (1 = soft, 10 = hard)
 Delay between Shifts: 500 ms
 Minimum Activation RPM: 3,000

Autoblipper
 Enable Autoblipper
 Activation Pressure: 3 (1 = soft, 10 = hard)
 Delay between Autoblips: 500 ms
 Minimum Activation RPM: 4,000

Launch Control
 Enable Launch Control
 Launch Control Delay: 2000 ms
 Launch RPM: 7500
 Release Speed: 25 km/hr

Pit Speed Limiter
 Enable Pit Speed Limiter
 Pit Speed RPM: 4,500

Engine Warm Up
 Enable Engine Warm Up
 Max Coolant Temp: 80 °C
 Strength: 5 (1-10)
 Max RPM: 3500
 Open Time: 200 ms
 Close Time: 1400 ms

Maps
 Quickshifter (ms) - Gear 1 -> 2: 5.0 +/- Add Subtract Copy Paste OK

	0	10	19	29	39	48	58	67	77	87	96
4000	80	78	78	74	72	70	70	66	66	63	63
4500	80	78	78	74	72	70	70	66	66	63	63
5000	79	77	77	74	72	68	68	66	66	63	63
5500	79	77	77	74	72	68	68	66	66	63	63
6000	79	77	77	74	72	68	68	66	66	63	63
6500	79	77	77	74	72	68	68	66	66	63	63
7000	79	77	77	74	72	68	68	66	66	63	63
7500	79	77	77	74	72	68	68	66	66	63	63
8000	77	77	77	74	72	68	68	66	66	63	63
8500	77	77	77	70	68	66	66	66	66	63	63
9000	77	77	77	70	68	66	66	66	66	63	63
9500	77	77	77	70	68	66	66	66	66	61	61
10000	77	77	77	70	68	66	66	66	66	61	61
10500	77	77	77	70	68	66	66	66	66	58	58
11000	77	75	75	66	64	64	64	64	64	58	58
11500	77	75	75	66	64	64	64	64	64	58	58
12000	77	75	75	66	64	64	64	64	64	58	58
12500	77	75	75	66	64	64	64	64	64	58	58
13000	77	75	75	66	64	64	64	64	64	58	58
13500	77	75	75	66	64	64	64	64	64	58	58
14000	77	75	75	66	64	64	64	64	64	58	58
14500	77	75	75	66	64	64	64	63	63	58	58
15000	77	75	75	66	64	64	64	63	63	58	58
15500	70	68	68	64	64	64	64	63	63	58	58
16000	70	68	68	64	64	64	64	63	63	58	58

Coolant Temp: The coolant temperature where the Warm up feature turns off.

Strength: Strength of the Warm up feature.

Max RPM: Maximum RPM of throttle Blip.

Open Time: Amount of time the throttle stays open.

Close Time: Amount of time throttle stays closed.



Final Installation

Ensure that the Race Tools harness and Quickshifter harnesses are clear of any moving parts and adequately secured to the bike with zip ties (or similar).

Re-assemble any components or parts you may have taken off the bike during the installation.

Warranty

Woolich Racing Warranty obligations are limited to the terms set forth below. Woolich Racing warrants this product against defects in material and workmanship for the period of one (1) year. The warranty period begins with the date of original retail purchase.

This limited warranty is made only to the original end user purchaser ("you") of the product and does not extend to any subsequent purchasers or owners of the product. The "original end user" is the first user to put the product into service in any fashion. It is your responsibility to establish the warranty period by verifying the original purchase date. If you discover a defect, Woolich Racing will, at its option, repair or replace this product with a new or reconditioned product at no charge to you, provided you return it during the warranty period, with transportation charges prepaid, to Woolich Racing. Please attach your name, address, telephone number, and a copy of the receipt from Paypal as proof of date of original purchase, as well as a detailed description of the problem for which service is requested. You are responsible for packing the product to be returned. If the repairs are covered by the Limited Warranty and if the product was properly shipped to Woolich Racing, Woolich Racing will pay the return shipping charges. This warranty applies only to Woolich Racing products. This warranty does not cover damaged resulting from accident, misuse, abuse, or neglect and/or damage during any type of transportation resulting from improper packaging; damage to any product which has been altered in any fashion, including damage resulting from causes other than product defects, including and not by way of limitation, lack of technical skill, competence, or experience of the user, and/or failure to use the product in accordance with the instructions provided in the User's Manual or Installation Manual; and service performance by an unauthorized person or entity. Any implied warranties including fitness for use and merchantability are limited to the period of the expressed warranty set forth above. The remedies provided under this warranty are exclusive and in lieu of all others.

Disclaimer

This product is meant for Off-Road use only and is not street legal. Owner assumes responsibility for his or her own actions when using this product. Woolich Racing hereby expressly disclaims liability and shall not be responsible for incidental, consequential and contingent damages or any kind or nature, including, without limitation: damages to persons or property, whether a claim for such damages is based upon warranty, contract, tort or otherwise; damages due to or arising out of the loss of time; or loss of profits. Woolich Racing shall not be responsible for any damages caused by the presence of error or omission in any of its manuals, instructions or related materials.