

- English -

Start

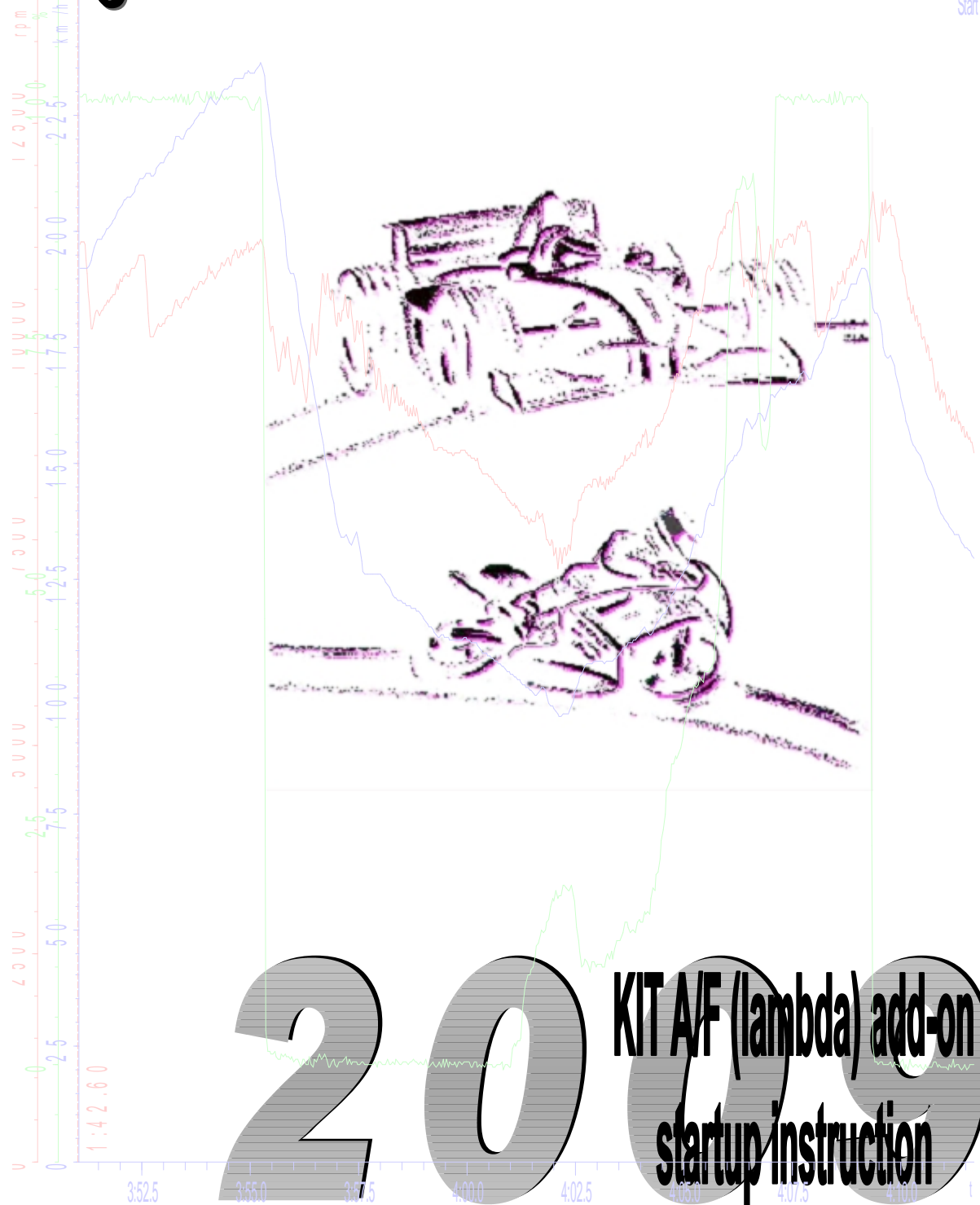


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Preface

This documentation contains the necessary information to setup and to work with the 2D kit system.

In order to achieve the optimum result when working with the 2D-Kit System, we recommend to read the instructions carefully and follow them step by step.

Symbols used in the text



In the paragraphs highlighted with this symbol, you will find tips and practical advice to work with the 2D-Kit System.



In the paragraphs highlighted with this symbol, you will find additional information and it is very important that you follow the instructions given.



Documentation reference

○ The user get an unique item number for an user manual to find further assistance



Additional information about manuals, datasheets, software updates or new calculation files can be downloaded from our homepage. The specific download area for the Kit system can be found at: <http://www.2d-kit-system.com> (=>See Downloads)



Basic Kit



Sensor options



A/F (lambda) add-on Kit (4-stroke) with 1CH or 2CH



Deto add-on Kit (2-stroke)



Possible Updates



Kit software user manual (delivered with the CD: SW-CD RaceKIT)

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1. Basic information of all modules and their features

SY-KITLSU_01-08-000: Linear A/F lambda (1 channel) add-on kit:

The 1 Channel Lambda extension kit simplifies engine setup by direct linear measurement of the lambda (A/F) value of 1 cylinder at any condition. Measures Lambda value with a high quality linear Bosch LSU 4.2 sensor. The Amplifier uses full controlled heating for temperature stabilization. Also heater off with engine off is implemented to save electrical power. The Unit is derived from the 4 Channel controller which is used in MotoGP.

Can also be used as standalone unit for bench test



SY-KITLSU_02-08-000: Linear A/F lambda (2 channel) add-on kit

This system is analog to the 1 channel LSU. Instead of 1 channel Lambda you have 2 channels.



2. The Linear A/F (lambda) add-on kit

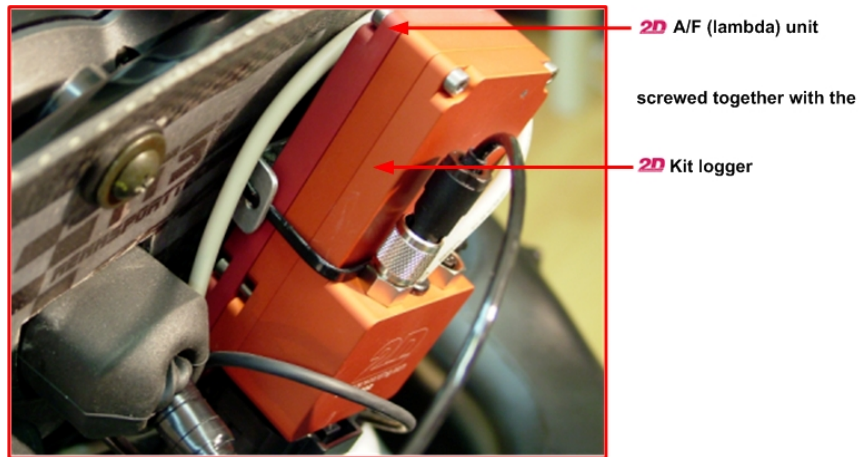
The kit consists of an Air/Fuel (lambda) controller unit and the A/F (lambda) sensor.

2.1 Mounting the A/F unit



The A/F housing should be fitted to the Kit Logger housing:

First remove all the bolts from the logger housing. To attach the controller unit to the logger as shown use the longer bolts delivered with the A/F add-on kit.



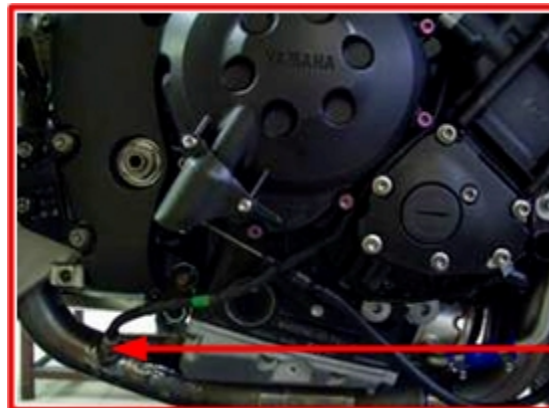
When fitting the two housings together please take care that the connectors are pointing to the same side !

2.2 Mounting the A/F (lambda) sensor



The A/F (lambda) sensor should be installed onto the exhaust collector close to the join of the four collector pipes (in the case of a 4-in-1 system)

Many exhaust systems provide already a thread to attach a lambda sensor. In order to fit the A/F (lambda) sensor determine first the exact position of the A/F sensor.



A/F (lambda) sensor



Ensure carefully that the swing arm, the linkages, the fairing or other parts will not interfere with the sensor or the cable at any position. If possible the sensor should not be mounted with it's thread at the lowest position to avoid damage from condensing water !

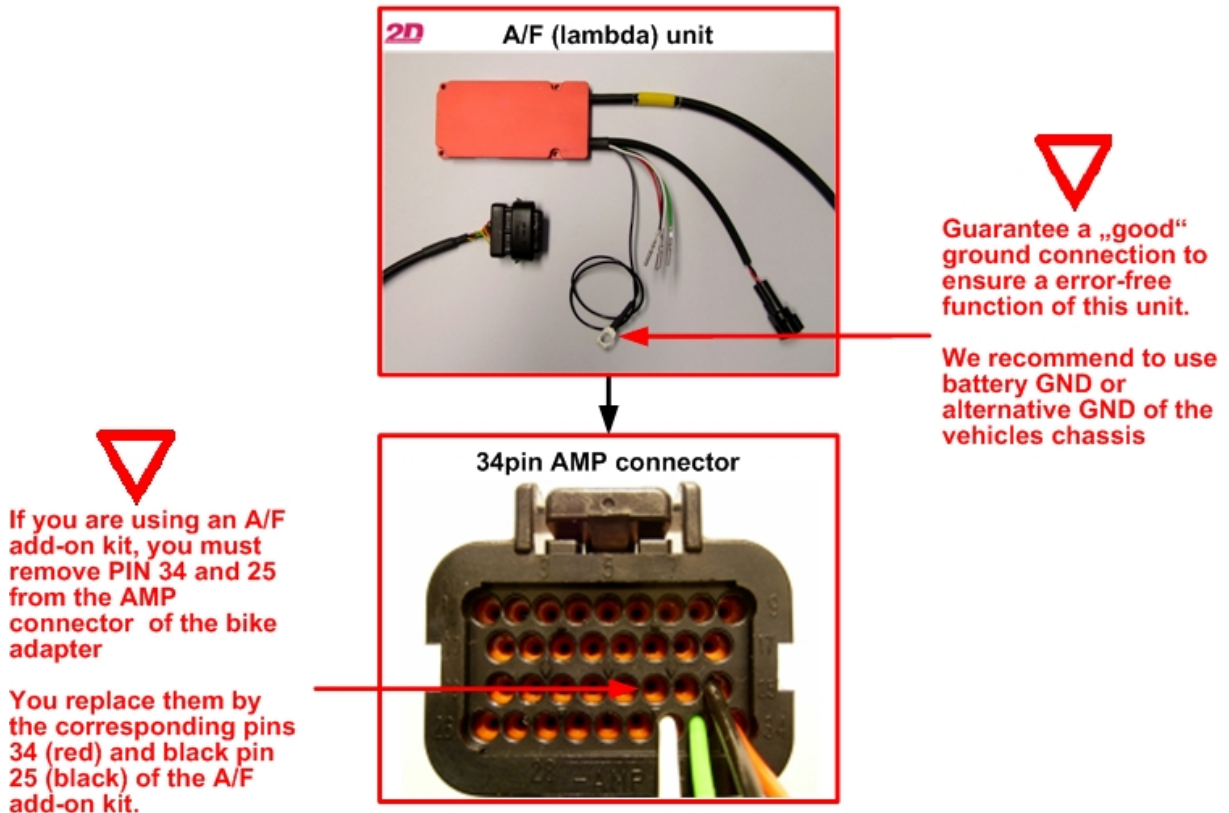
The best way to fix the A/F sensor at the selected point to the exhaust collector is to fit a screw collar (or nut) soldering it onto the exhaust collector. This screw-collar must guarantee an exact, stable and gas-seal fitting for the A/F sensor. The A/F sensor tip should reach about 15mm into the gas flow to give correct values.

Once you have fixed the screw collar a hole has to be drilled into the exhaust collector (diameter should be inner screw collar diameter) and then drilling should be cleared using a tap with the same thread as the sensor. You can also drill the hole first and then solder the collar in-line onto the pipe maintaining the correct angle for the sensor.



If you are not very experienced with soldering exhaust parts we strongly recommend to pass the part of the assembly process to a workshop with competence (and good historical) for that type of modifications. Failing to solder the adapter correctly may crack the sensor in the moment of fixing. It has to enter softly. Incorrect modifications can also damage the exhaust !

2.3 Connecting the A/F (lambda) unit



The wires of the A/F (lambda) unit are delivered from 2D with the “Tyco contact pins” already crimped. Just insert the individual contacts into the 34pin AMP connector. The following table gives you the correct positions for the pins.

Technical information	Interface unit (34pin AMP connector)	
Cable length:	1000mm	
Crimp contacts:	“Tyco crimp contacts”	
CAN_H (white)	Pin 32	>> see appendix
CAN_L (green)	Pin 33	>> see appendix
Vext (red)	Pin 34	>> see appendix
BGND (black)	Pin 25	>> see appendix

Required for:

SY-KITLSU_01-08-000: Linear A/F lambda (1 channel) add-on kit
SY-KITLSU_02-08-000: Linear A/F lambda (2 channel) add-on kit

