

MultiTool decaf V1.5

Created – Oct, 2015

Manual – Oct, 2015

Windows App

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Introduction

Please note: Both the App, and this document are still a "Work In Progress"...

Very simply put, MultiTool Decaf will allow you to reset your OIL and DESMO service warnings.

Uses SERIAL or WiFi Compatible ELM327

ELM327's are everywhere these days.

This Windows based app allows connection to a SERIAL or WiFi based ELM.

Connection can be :

- Direct serial (RS232)
- Virtual com port (Blue Tooth or USB)
- WiFi (TELNET)

Serial ELM direct to your PC's comport	
USB ELM usually creates a 'virtual' com port	
<p>Blue Tooth OBDII diagnostic dongles are available "frickin' everywhere", ranging in price from about \$10AU upwards.</p> <p>In theory the more expensive ones *may* work better, however all development work for this project has been with 'cheap' knock-offs from China sourced off EBAY.</p> <p>These must be ELM327 devices (V1.3 or V1.4 or V1.5)</p> <p>My personally view is bigger is better,</p>	

as bigger *may* have a bigger antennae

If your PC has a BlueTooth adapter you may be able to create a virtual serial port to communicate to the ELM



More recently, some WiFi ELM's have become available that do support Infrastructure connections.

Eg: The **AutoDoctor007** works great !



CAUTION: leaving the dongle attached to the bike will eventually drain the battery unless the bike is ridden or charged regularly.

What's it do ?

- Reset the Oil Service warning (also resets Desmo for pre 2012 Multi's)
- Reset the Desmo Service warning (2012 Multi's onwards)

Main Requirements

This then brings us to the requirements for this Application.

- Windows 7 and Java RE (1.7.0_06)
- **Note:** XP not tested
- **WIN 8:** not tested
- **Other Java RE versions not tested**
- A serial, or USB, or BlueTooth or WiFi OBDII diagnostic adapter (ELM327)

Other Products

MultiTool Lite is a cut down version of MultiTool TB, which is designed to work in conjunction with a TuneBoy flashed ECU.

MultiTool Lite does not require a TuneBoy flashed ECU.

The differences are described here :



	Data	TuneBoy	MultiTool	MultiTool	MultiTool
		Trim	TB	Lite	Decaf
<p>Ultimately, TuneBoyTrim is the tool to use if you want to record ALL of the performance data.</p> <p>The MultiTool TB records a subset.</p> <p>However the MultiTool also records information w.r.t. the CC function, as well as GPS position data.</p> <p>MultiTool Lite does not require a TuneBoy flashed ECU as it only sends Dash commands.</p> <p>MultiTool Decaf Windows app simply does the service reminder resets</p>	RPM				
	Throttle Position %				
	Air Fuel ratio				
	Speed				
	Fuel Trims				
	Ign Trims				
	Air temp				
	Engine temp				
	ECU flags				
	CC set speed				
	CC RES speed				
	Gear				
	Last nudge button pushed				
	Kill pressure				
	Blip pressure				
	Manifold Air Pressure				
	Throttle Position Trim				
	Total Fuel Value				
	Ign Advance				
	GPS satellites				
	GPS Longitude				
	GPS Latitude				
	GPS SPEED				
	RPM break points				
	ODO wind forward				
	Service Resets Multistrada				
	Service Resets Panagale		Not tested	Not tested	Not tested
	Service Resets Diavel		Not tested	Not tested	Not tested
	TPS reset		Not tested	Not tested	Not tested
	APS reset		Not tested	Not tested	Not tested

The Screens Explained

Screen buttons

The Screen provides two CONNECTION options :

- Serial
- WiFi

Three MINOR options

- 2012+
- Miles
- Slow

A Connect Button.

Once connected, you have only three **ACTION** options:

It's just that easy !



Connection options

Connections Options:

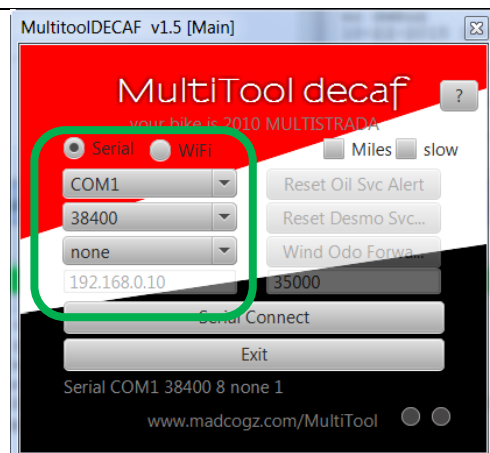
The Screen provides two connection options :

- Serial
- WiFi

Choose your connection method and fill out the appropriate settings for your connection.

(These are saved as your defaults when you exit)

Now set your 'Minor Options'



Minor options

Minor Options:

These are required to tune the app to your model and or units.

- Select Miles if you work with miles instead of Km
- Select slow if you want to see the 299kph speed on your dash while winding. (fast runs at approx 500 kph, but is not visible on the dash)

Now select "... Connect"



Additional Notes :

Note: 2012+ and Miles options are saved as your defaults when exiting. (The slow flag is not saved)

Note: due to rounding errors in converting from KM to miles and back... the miles reading may differ slightly from that shown on the dash.

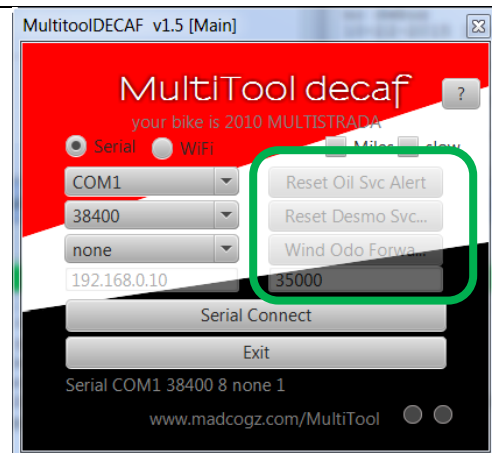
Action options

Action Options:

Once connected, you have only three options:

- Reset Oil Svc Alert
- Reset Desmo Svc Alert
- Wind ODO forward

It's just that simple !



Additional Notes :

Although the ELM327 powers up when plugged into the bike, the application won't actually 'connect' unless the bike dash and ECU is powered on. (Key On).

About button

Action Options:

This button opens the Help/About page.

- App Version Info
- App requirements
- DEBUG enable checkbox



To use DEBUG, you need to enable the **LOG file** option here, before connecting clicking the main 'Connect' button.

Debug files are stored in the same folder as the MultiToolDecaf application.

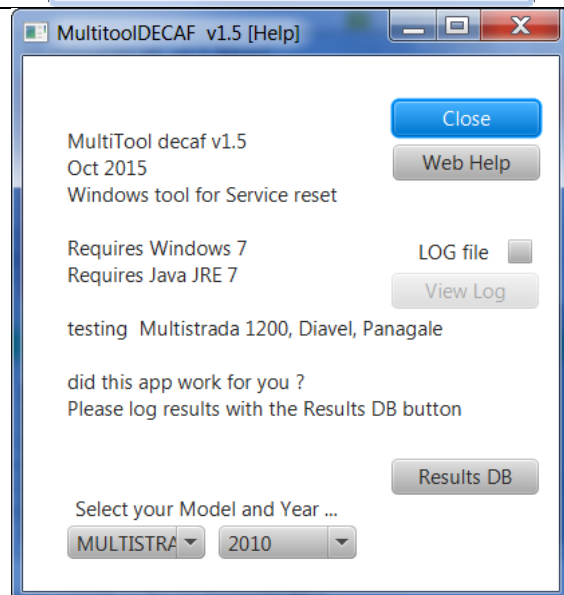
The DEBUG setting is NOT preserved. I.e it will always be disabled at startup. You must enable it if you want to use it !

If you have created a log file, then the View Log button will open that file in Notepad for viewing etc.

If you have not selected your MODEL and YEAR, do so with the drop down's at the bottom of the box.

Web Help attempts to open your browser and take you to the online help page.

Results DB allows you to enter your test results into the on-line database.



Additional Notes :

Installing MultiTool Decaf on your Windows laptop.

- Create a folder
- Copy the MultiTooDecaf.exe to the folder
- (Optional) create desktop or start menu shortcuts

It's just that easy !

Configuration Parameters

A config file is created at first run, which will initially contain default values.

Once you select values appropriate for your connection, these will be stored, so you don't have to reselect them every time ...

MultiToolDecaf has no idea what bike you have.! (or in fact what it is you have plugged into !)

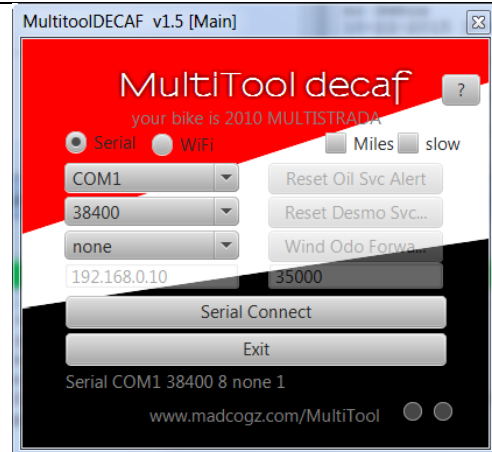
Serial Settings

Serial settings

- Com port
- Speed
- parity

Serial: allows for connection to the ELM through your PC's com ports.

- RS232
- USB (with serial drivers and virtual com port)
- BlueTooth (virtual com port)



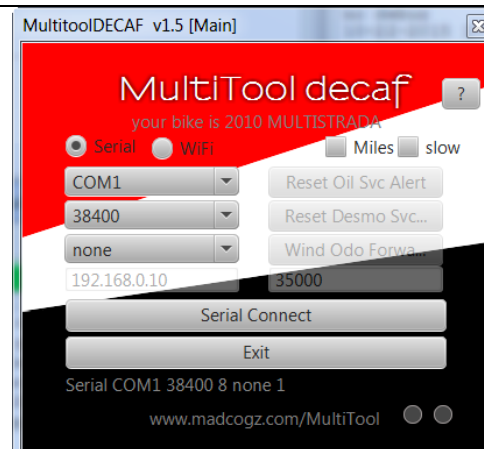
Additional Notes :

WiFi Settings

See your devices instructions w.r.t. IP address and TCP port (Default values provided are for the AutoDoctor)

- IP Address
- TCP port

Don't forget, you need to connect your PC to the devices WiFi network. (This will disconnect you from your home wifi if already connected to that).



Additional Notes :

The AutoDoctor WiFi dongle has one annoying habit.

If you don't actively use it for a period of time, it goes into PowerSaving mode, which :

- drops your WiFi link to the bike
- requires a power reset to wake up.

I've also found that even in sleep mode, after being connected to the bike for 3-4 days straight without running the bike, I had lost enough charge that I couldn't start the bike ... Doh !

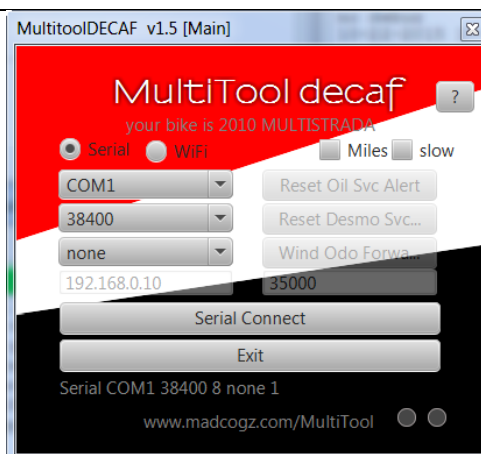
RESETS

Once configured and connected the service reset buttons will become enabled.

Simply select the reset you want, and hit it!

OIL reset, resets both OIL and Desmo alerts on pre 2013 Multi's

2013 and later Multi's use specific commands for each.



Additional Notes :

Service Resets

It is NOT possible to reset your service interval warning before it has appeared.

le: You can only reset it once you have reached a service interval, and the warning has actually been displayed. (You cannot accidentally reset it in advanced).

General

Some of the RESET commands are bike/model specific. I own only a single 2010 Multi.

	OIL	DESMO	ODO KM	ODO Miles
Multi 2010	OK	OIL resets DESMO	OK	OK **
Multi 2011	not tested	not tested		
Multi 2012	not tested	not tested		
Multi 2013	not tested	not tested		
Multi 2014	not tested	not tested		
Multi 2015	unsupported	unsupported		
Panigale	not tested	not tested		
Diavel	not tested	OIL resets DESMO		

** Miles +/- 1 mile

Wind Odo Forward

The ODO function opens a new screen with controls for entering a TARGET odo reading, and the usual stop and go buttons.

CAUTION :The ODO will stop at 99,999km (or presumably 62136 miles.) It does not count past 99,999km !

CAUTION :You cannot wind backwards, only forwards.

CAUTION : If you go past the figure you want... you are stuck with that...

The V1.0 of this app does not convert for miles. You have to convert your MILES target into Km. (The app only works in KM at present)....



The app simply trick the dash into thinking the bike is traveling at about 500kph.

Additional Notes :

The dash itself only works in Km and merely converts the ODO reading to Miles, on the display.

V1.1 converts the KM reading to Miles if you so select. Please be aware that due to rounding, the 'Miles' value displayed may vary slightly from the value shown on the dash. (+/- 1 mile?)

Eg:

I want to wind until the ODO reading is 43210 MILES... so use a target of 69539

Because 1 mile = 1.609344 km

CAUTION : To wind the ODO forward you must disconnect the bikes BBS computer ! (see below)

Note while the ODO is winding forward, the gear indicator will cycle through the gears and the DTC ring will flash. (This lets you know something is happening).. Obviously, the ODO counter will increment as well, but it ticks over fairly slowly (even at approx 500kph !!!)

Note Big jumps forward can take a while... 500kph means winding forward 20,000km will take approx 20 hours!... Best to do it in bite-sized chinks over a few nights...

BBS Disconnection

To make use of the ODO winding feature, you must first **disconnect the BBS**.

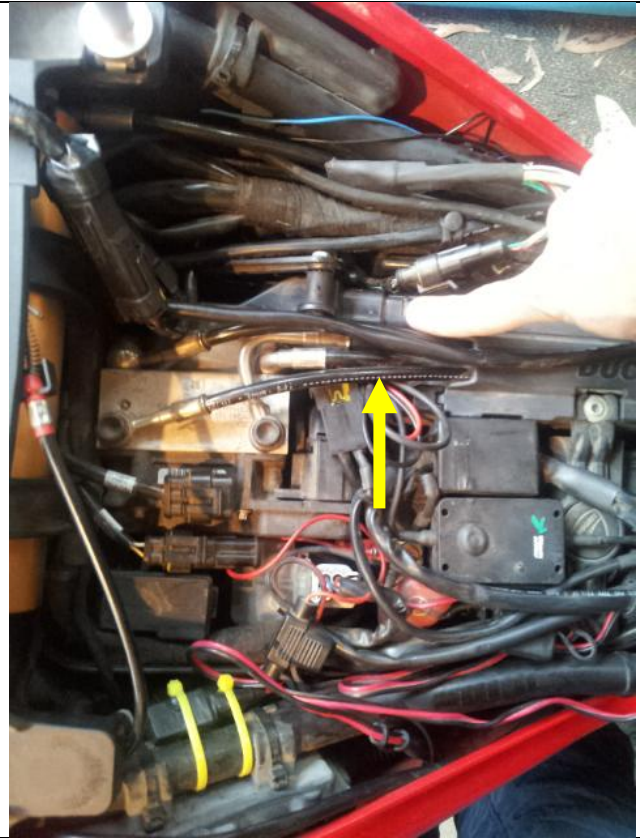
To disconnect the BBS, simply unplug the connector my, overexposed, finger is on. (see photo)

This connector has a 'push' tab on it's face, facing the center of the bike.

To release it, reach under the plastic duct and push the tab, with a finger, outwards to the LHS of the bike, while wiggling the connector itself, forward, and off.

ie: push tab in direction of arrow in photo...

Do not try and start your bike with the BBS disconnected !!!



And keeping the bike powered on.

If you turn the bike on but don't have it running, it will shut down again after only a few minutes.

One trick to keep it 'ON' is to jumper a wire from the +ve terminal of the battery to the +ve lead in the Accessory Socket. (ie the center pin).

You can easily make a jumper lead using a merit plug and an alligator clip.

Warning

Obviously if you get this wrong you could blow a fuse or something even worse...

Installation

Now that you've read all about it, why not get it ?

- Simply copy the app to a folder on your windows laptop.
- Connecting the ELM hardware to the bike, is simply done by using an adapter cable that connects the device to your bikes 4-pin diagnostic connector.
- TuneBoy users can use the same adapter cable that came with your TuneBoy hardware.
- **NOTE:** Non TuneBoy users will have to ***make their own*** adapter cable. (see "Make your own Adapter Cable" below)

Installing the EXE file on your LapTop or PC

Copy the EXE file to a folder on the PC.

(It's just that easy !)

Connecting the hardware

You will need to make or source an adapter cable to go from the 4pin Ducati Diagnostic connector to the 16 pin OBDII connector. Now plug your ELM327 into the OBDII port.

It should power up straight away, and you can connect to it with your Windows PC.



(Photos Courtesy Paul Doty: many thanks)

Make your own Adapter Cable

- TuneBoy users can use the same adapter cable that came with your TuneBoy hardware.
- **NOTE:** Non TuneBoy users will have to **make their own** adapter cable.
- Or simply **buy** one. Contact Sales@tuneboy.com.au

An adapter cable will be needed to go between the Diagnostic plug and your ELM327.

A suggested cct is provided.

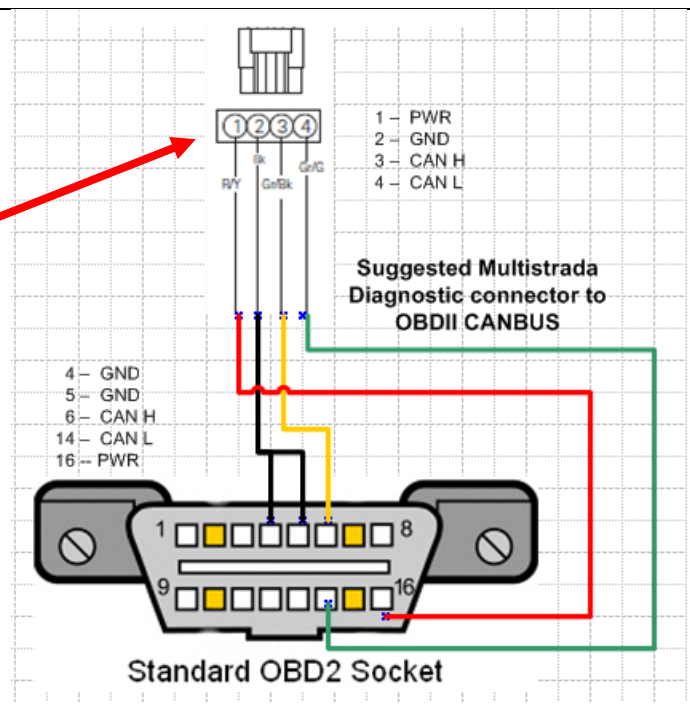
The 4-ping plug required is a :
4w Sicma Miniseal Male Black 1.5mm
By DELPHI

Any standard OBD2 socket can be used.

Warning: Pin1 (PWR) is always live on the bike.

Warning: Be very careful of the pin out.

Test it carefully with a multi meter before connection.



Warning: You are making this cable of your own free will.

Warning: the PWR pin is always live (+12v), even if the bike is off.

Warning: the color codes in the diagram are simply to allow for easier reading and may have **NO RESEMBLANCE to the colors of the wires in the cable you have purchased.**

The 4-ping plug required is a :
4w Sicma Miniseal Male Black 1.5mm
By DELPHI



Reporting Problems

You can email the group at MultiTool@googlegroups.com for group therapy.

I will only respond if you provide me with enough details. (This is not my dayjob!) :

Application Issues

- Version of APP (and specify that it's DECAF !)
- Bike model and year
- Particular function not working
- Description of the issue
- Log file (as of V1.2, MultiTool Decaf will produce a Debug or Log file if you Enable that feature on the help panel, then connect to the bike and reproduce the issue.

Personal issues

- See the Padre

Acknowledgments

This App would not have been possible without the patience, support and guidance of **Wayne** from **TuneBoy.com.au**, (<http://tuneboy.com.au>) in providing the information, and much advice and education and seeding the desire to learn more about using the ELM 327 and Canbus operation, especially for our Multi's.

Appendices

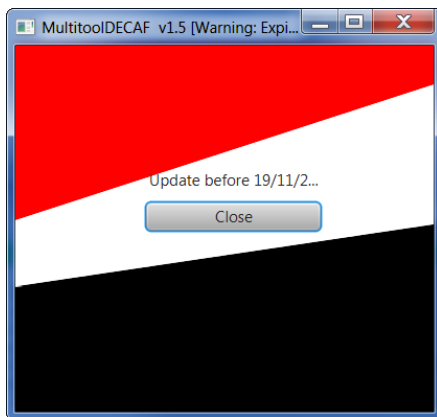
Version Control

Version Control has been an issue:

To combat this I have resorted to implementing a crude Use-By date strategy.

Warning

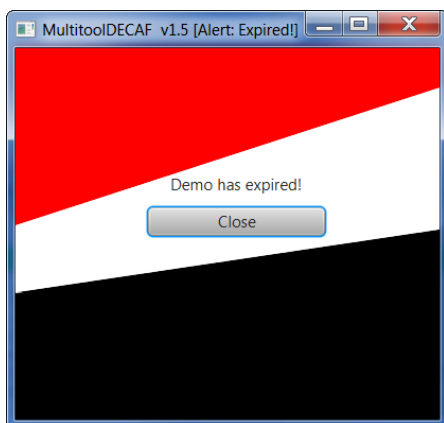
If you are with about 1 month of the expiry date you will just get a warning. This is a good time to start looking for the updated version. Close the warning window and the app will still work.



Expired

The app has reached end of life, and will no longer function. Go get the new one.

(It will be better, I promise...)



Appendix: Version History

My Version	Comment
1.0	1 st release
1.1	Adds options for MILES, SLOW speed and 2012+ models
1.2	Fixed bug in ODO winder Adds DEBUG option
1.3	Cosmetic enhancements
1.4	Cosmetic enhancements
1.5	App requires YOU to set the MODEL and YEAR correctly New reset codes for some models Use-By date Online DB access Online Help access

Appendix: Tested with :

The following Android devices are undergoing testing.

Phone	CPU	speed	API	OS name	Android	Bike/year	confirmed
Samsung Galaxy S2 (GT-I9100)	Dual core, ARM Cortex-A9	1200 MHz	15	ICS	4.0.3	MTS / 2010	Wit
Xperia Z3						MTS / 2010	Wit