THANK YOU FOR PURCHASING AN OV-TUNE!

<u>Steps below will he instructions for: Registering the software , Datalogging setup , and flashing a new</u> <u>file, Errors and fixes, PLEASE READ ENTIRELY!</u>

INSTRUCTION STEP 1: DOWNLOADING AND INSTALLING YOUR MAZDAEDIT SOFTWARE

NOTE: YOU CAN ONLY REGISTER TO ONE LAPTOP PC IF YOU NEED TO REGISTER TO ANOTHER YOU MUST CONTACT EPIFAN!!

Step 1:

Download the mazdaEdit software with the link provided in the email

Step 2:

Install the software once the download is complete.

Step 3:

Once the download has completed, double click the MazdaEdit software icon, and open the program

Step 4:

When the software opens, a window will pop up with a hardware finger print, and requesting a registration name and key.

The hardware fingerprint code shown on this window (example FED1-99AC)

PLEASE SEND ME THIS HARDWARE FINGERPRINT CODE VIA EMAIL

PLEASE ONLY SEND THE REGISTRATION INFORMATION TO ME IF THE LICENSE WAS PURCHASED THROUGH ME, IF YOU BOUGHT IT DIRECTLY FROM EPIFAN, PLEASE SEND ALL REGISTRATION INFORMATION DIRECTLY TO HIM.

INSTRUCTION STEP 2:REGISTERING YOUR MAZDAEDIT SOFTWARE

Step 1:

Once you have sent the HARDWARE FINGERPRINT CODE, you will be given your registration information and License key.

Example of registration information:

Registration name: Jon Doe

Registration key: DLSK4-01351-32LDJA-130DS-0000-1110-2133-XXXX

Please INPUT your registration name in the required "REGISTRATION NAME" box

Please INPUT your License key in the "REGISTRATION KEY" box

Then press apply.

NEXT: REGISTERING YOUR TACTRIX AND VEHICLE TO THE MAZDAEDIT SOFTWARE

Step 1:

Open the mazdaEdit software and CONNECT THE TACTRIX OPEN PORT 2.0 to the Laptop PC.

Step 2:

In the Software, go to HELP> DEVICE LINK (SEE PIC)





A window will pop up with "Device Info" and "device key" (see pic)

WHERE IT SHOWS "XXXXXXXXXXXXXXXX WILL BE A CODE. PLEASE SEND ME OR EPIFAN THAT CODE VIA EMAIL ALONG WITH YOUR VEHICLES <u>VIN NUMBER</u>

IF THERE IS NO CODE, PLEASE DOWNLOAD THE LATEST TACTRIX DRIVERS @ www.Tactrix.com

Enter Device I	(ey string exactly as it was given to you	
Device info:	XNONINOVXXXXXXX	
Device Key:		



You will receive an email from me or Epifan with your tactrix and and VIN registration codes which will need to be entered into the mazdaEdit software.

Example of codes:

Asjflkasjdflkajtkjslktjalskjrweohrwho134i0293ier09falksjdofno333420()+)(#\$HK#

To enter the keys:

For the TACTRIX KEY, open mazdaedit and CONNECT THE TACTRIX TO THE PC, Go to HELP> DEVICE LINK (like above) enter the Key in the "DEVICE KEY" region (as shown above in picture) and press apply.

For the VIN KEY: Go to HELP> VIN REGISTER, enter the key in the dialog box and press APPLY.

Your MazdaEdit is now fully registered.

INSTRUCTION STEP 3: OBTAINING THE 1:1 ECU DUMP COPY

Step 1:

Go to your Vehicle (bring the Tactrix, and laptop with mazdaEdit)

Connect the Tactrix to the laptop and the OBDII port

Open MazdaEdit.

Turn the vehicle key to ON, but DO NOT START THE CAR

In the MazdaEdit program, press the Flash Utility button (it has a Red ARROW on it)





The Flash Utility window will pop up. FIRST YOU NEED TO SELECT THE PROPER TEMPLATE FOR YOUR VEHICLE. For Skyactiv Select Skyactiv Mitsu or Denso. It will be one or the other





Next, you need to go to OPTIONS: READ ECU FOR EPIFANSOFTWARE (see pic)

ONCE IT HAS COMPLETED, PRESS THE SAVE BUTTON/ICON AND SAVE THE DUMPED INFORMATION. NAME THIS FILE "yourname_STOCK.Dump"





Email me this File.

(IF YOU GET ERRORS, PLEASE SEE ERROR SECTION FOR "CAN'T FIND PORTS" OR j2534 ERROR)

INSTRUCTION STEP 4: OBTAINING A DATALOG

Step 1:

Setting up the logger.

Open MazdaEdit, and Click the appropriate Logger option from FILE>

(If you have a 2nd or 3rd gen 2.0 or 2.5 skyactiv/ MZR, select MAZDA 2ND GEN CAN LOGGER)

(If you have a 1rst gen 2.0 or 2.3L, select Mazda CAN LOGGER)



Step 2:

The logger window will pop up.

Go to Connect > DEMO MODE (located at the bottom) Note** you only use DEMO MODE to setup the logger NOT to record logs. TO RECORD A LOG PRESS CONNECT TO ECU, NOT DEMO MODE!





The Logger will now be in "demo mode" and will show the possible Logger options to select from for datalogging. Make sure to select SHOW ALL (see pic). The LOGGER OPTIONS are what need to be selected (checked) or NOT selected, dependent on your engine / car (see list below). NOTE: SOME THINGS MAY NOT BE LISTED IN DEMO MODE, BUT WILL BE AVAILABLE WHEN YOU CONNECT TO THE CAR.

Is it important to know that you select Connect > Connect to ECU, NOT demo mode, when you are connected to the vehicle, to record a log.

S Logger [Mazda 2nd gen CAN]		
Connect Logging Display Options Capture Opt	ions Tools Help	
Data & Graph [Alt+1] Dashboard [Alt+2] Custo	ım Dash [Alt+3] DTi	C [F4] Console [Alt+0]
Show Ale Selected	Min Current Max	
A/C Request Signal		on/off 🔺
Accelerator pedal position 1		%
C Accelerator pedal position 2		%
C Accelerator pedal position sensor 1		V =
C Accelerator pedal position sensor 2] 🗸 🔰 📗
▼ Actual AFR □		AFR
Air conditioning compressor cycling switch		on/off
I I Air fuel ratio □		AFR
C Ambient Air Temperature		c l
Barometric pressure 🛛		Bar
Barometric pressure sensor	LOGGER] 🗸 🔰 🔚 💆
🗖 Brake Switch Signal Status 🛛 🛛	OPTIONS LI	ST
Clutch pedal position switch		on/off
Clutch pedal position switch/Neutral switch cir 🗉		on/off
Desired Catalust temperature B1 S1]c
Desired RPM 🛛		RPM
Desired SEGRP valve position		%
✓ Desired equivalence ratio		AFR
Difference between target and actual VVT timi 🗉		deg
Distance travelled since MIL was activated 🛛 🛛		km
ECU Module Voltage] 🗸 👘 👘
EGR valve stepping motor position		
Electronic throttle control actual		deg 👻
Mazda 2nd gen CAN DEMO Pause		

VEHICLE LOGGING PARAMETERS SELECTION

Skyactiv 2.0L and 2.5L

~	Accelerator pedal position 1	% ^
~	Accelerator pedal position 2	
~	Actual AFR	AFR
7	Air fuel ratio	AFR
~	Athmospheric Pressure	Bar
7	Barometric pressure	Bar
~	Battery Voltage	V
~	Commanded EGR	%
~	Desired equivalence ratio	AFR
~	Difference between target and actual WT timing	deg
~	ECU Module Voltage	V
~	Electronic throttle control actual	deg
~	Engine coolant Temperature	C
7	Engine coolant temperature	C
~	Engine coolant temperature 2	C
~	Engine load	%
~	Engine speed	BPM
~	Fuel Injection amoung	mg/cyl
~	Fuel Pressure	kPa
~	Fuel Rail Pressure (relative to manifold vacuum)	kPa
~	Fuel pressure	mPa
~	Fuel pressure desired Fuel pressure	mPa
~	Fuel pulse width	ms

✓ Fuel pressure		mPa
✓ Fuel pressure desired		mPa
▼ Fuel pulse width		ms
✓ Fuel system status (OL/CL)		
✓ I-Stop Status		
✓ Ignition timing		deg
✓ Intake air temperature		C
✓ Intake air temperature 2		C
✓ KCS Learning Value		deg
✓ Knock retard		deg
✓ Long fuel trim 1		%
✓ Long fuel trim 2		%
🔽 Manifold Air temperature		C
✓ Manifold absolute pressure		Bar
✓ Mass air flow		g/s
Ass air flow sensor		V
✓ Oil Temperature		C
✓ Primary Wastegate Duty		%
Short fuel trim 1		%
Short fuel trim 2		%
▼ Throttle position 1		Short fuel trim
▼ Throttle position 2		%
VVT Exhaust Actual Position		deg
VVT Exhaust Desired		deg
VVT Intake Actual Position		deg
Vehicle speed	a	kph
Mazda SkyActiv Petrol CAN DEMO Pause	Logging	Directory is C:\Users\Math
ver 3.6.16.946 100% Registered to: OrangeVirus Tuning		

Mazda MZR 2.0L 2.3L 2.5L (mazda 2)

Snow All Selected	Mir	n Lurrent	мах
Accelerator pedal position 1			%
Accelerator pedal position 2	•		%
Actual AFR			AFR
Athmospheric Pressure	•		Bar
Rarometric pressure			Bar
Commanded EGR	0		%
C Desired equivalence ratio			AFR
☑ Difference between target and actual WT timing			deg
CU Module Voltage			V
Electronic throttle control actual			deg
🔽 Engine coolant Temperature			С
Engine coolant temperature	•		C
Engine coolant temperature 2			C
🔽 Engine load	0		%
✓ Engine speed			RPM
✓ Fuel Injection amoung	0		mg/cyl
✓ Fuel pulse width			ms
▼ Fuel system status (OL/CL)	0		
🔽 Ignition timing			deg
✓ Intake air temperature	0		C
✓ Intake air temperature 2			С
🔽 Knock retard	0		deg
Cong fuel trim 1			%

Mazda MPS 2nd gen CAN DEMO Pause	Logging Direc	tory is C:\Users\Mathew
Vehicle speed		kph 🔹
VVT Intake Actual Position		deg
▼ Throttle position 2		~ %
Throttle position 1		%
Short fuel trim 1		%
I ✓ Mass air flow sensor	Mass air flow	V
IV Mass air flow		g/s
✓ Manifold absolute pressure		Bar
🔽 Manifold Air temperature		C
🔽 Long fuel trim 1		%
V Knock retard		deg

Mazda Skyactiv Diesel 2.2L

Show All Selected	Min L'urre	ent Max
Accel Pedal Position Sensor 1		%
Actual Coolant Control Valve		deg
Acutal Camshaft and Crankshaft Diff Pos w/o Adaptation		%
🔽 Ambient Air Temp		С
Athmospheric Pressure		Bar
🔽 Baro Pressure		Bar
✓ Brake Booster Press		Bar
✓ Desired Coolant Control Valve		deg
CU Module Voltage		V
Electrical Water Pump		%
🔽 Engine Load		%
Engine Oil Dilution Amount		g
🔽 Engine Oil Level		?mm
Engine Oil Pressure		Bar
🔽 Engine Oil Temp		С
Engine coolant Temperature		C
Engine coolant temperature		С
Engine speed		BPM
🔽 Exhaust Gas Differential Pressure		?Pa
🔽 Exhaust Gas Differential Pressure Average		?Pa
🔽 Exhaust Shutter Valve Position Actual		?%
✓ Exhaust Shutter Valve Position Desired		%
Frequency of Completed Turbocharger Learning		
Fuel Injection Amount Desired		mm3/st
✓ Fuel Injection Leming Value (Inj #1 at 100MPa)		
✓ Fuel Injection Leming Value (Inj #1 at 140MPa)		
Mazda SkyActiv Diesel CAN DEMO Pause	Logging Dire	ctory is C:\Users\Mat
er 3.6.16.946 🔲 100% Registered to: OrangeVirus Tuning		

Fuel Injection Leming Value (Inj #1 at 100MPa)	^
✓ Fuel Injection Leming Value (Inj #1 at 140MPa)	
✓ Fuel Injection Leming Value (Inj #1 at 197MPa)	
✓ Fuel Injection Leming Value (Inj #1 at 35MPa)	
Fuel Injection Leming Value (Inj #1 at 65MPa)	
✓ Fuel Injection Leming Value (Inj #2 at 100MPa)	
✓ Fuel Injection Leming Value (Inj #2 at 140MPa)	
✓ Fuel Injection Leming Value (Inj #2 at 197MPa)	
✓ Fuel Injection Leming Value (Inj #2 at 35MPa)	
✓ Fuel Injection Leming Value (Inj #2 at 65MPa)	
✓ Fuel Injection Leming Value (Inj #3 at 100MPa)	
Fuel Injection Leming Value (Inj #3 at 140MPa)	
Fuel Injection Leming Value (Inj #3 at 197MPa)	
✓ Fuel Injection Leming Value (Inj #3 at 35MPa)	
✓ Fuel Injection Leming Value (Inj #3 at 65MPa)	
Fuel Injection Leming Value (Inj #4 at 100MPa)	
Fuel Injection Lerning Value (Inj #4 at 140MPa)	
✓ Fuel Injection Leming Value (Inj #4 at 197MPa)	
Fuel Injection Leming Value (Inj #4 at 35MPa)	
🔽 Fuel Injection Lerning Value (Inj #4 at 65MPa)	
Fuel Injection Pump Flow Control	A
Fuel Injection Pump Suction Control Valve	mA
Fuel Rail Pressure (diesel)	kPa

✓ Fuel Rail Pressure (diesel)	kPa
✓ Fuel Rail Pressure (relative to manifold vacuum)	kPa
🔽 Glow Plug Coil Duty Cycle	%
Glow Plug Voltage	?∨
✓ Injector #1 Correction Value	Imm3/st
✓ Injector #2 Correction Value	Imm3/st
✓ Injector #3 Correction Value	Imm3/st
✓ Injector #4 Correction Value	Imm3/st
Intake Air Temperature	C
🔽 Long Term Fuel Trim B1 (OBD)	%
✓ Long Term Fuel Trim B2 (OBD)	%
MAF Flow	g/s
Manifold Absolute Pressure	Bar
✓ Manifold Absolute Pressure Desired	Bar
✓ Oxygen Concentration in Exhaust Gas	%
✓ Short Term Fuel Trim B1 (DBD)	%
I▼ Short Term Fuel Trim B2 (OBD)	%
IV T/C Comressor Inlet Pressure Sensor A	Bar
T/C Comressor Inlet Pressure Sensor B	Bar
✓ Turbocharger VTG Position Actual	%
✓ Turbocharger VTG Position Desired	%
✓ Turbocharger VTG Position Desired #2	%

Choose logging Directory. This will make finding your logs easy. When sending a log via email ONLY send the .CSV File. The Text file is not needed.

<u>C</u> onnect	<u>L</u> ogging	Display Options	Ca <u>p</u> ture Options	_ <u>T</u> ools <u>H</u> elp
Data & Gra	Log	Data to File	Ins	sh [Alt+3] DTC
Show All	Oper	n Last Log File	Ctrl+0	
SHOW AI	Auto	Write to File		
	Save	full Session Log		
	Trigg	ger (to file) on	×	
	Incre	ement Logger's Mark	er F2	
	Save	Logger Scheme	Ctrl+W	
	Ope	n Logger Scheme	Ctrl+H	
	Rece	nt Logger Schemes	+	
	Cho	ose Logging Director	y 🍞	
				N

LOGGER SETUP IS NOW COMPLETE

RECORDING A LOG!!!!:

Steps:

1. Connect tactrix to vehicle and to laptop. Vehicle should be running

2. Open mazdaEdit

3. Connect to ECU (noted below).

4. Personally it is easier to connect to the ecu, set it all up and put the laptop in the passenger seat. When you are ready to record, turn it on when you can safely. IT IS OKAY IF YOU TURN THE LOGGER ON AND RECORD EARLY, FOR INSTANCE IF YOU TURN IT ON BEFORE YOUR DSTINATION TO PERFORM A WOT LOG, THAT IS FINE, THE UNNECESSARY PARTS CAN BE REMOVED BY US.

Notice in the picture above you see the grayed out "Log data to file" Once you are CONNECTED TO ECU (see instruction above) you press LOG DATA TO FILE to START logging, you will notice a GREEN bar below, this means it IS RECORDING. Ensure you are NOT in DEMO MODE, it will also show a green bar at the bottom.

You press "log data to file" again to STOP recording. The recorded log will be saved in your logging directory chosen.

WHAT LOGS ARE NEEDED? (please make seperate logs if you can) :

Please Record:

1 log- WARMED UP IDLE- 2-3 minutes

1 log- Driving around town 5-10 minutes

2x log- Wide open throttle 2nd gear or higher from lowest possible rpm (about 1500) to Redline. If you are automatic trans, Record as high as it lets you until it shifts. Newer skyactivs with KICK DOWN SWITCH. It is easiest to record the logs if you DO NOT activate the kick down switch, but have the pedal right before it and record the engire gear pull.

INSTRUCTION STEP 5: FLASHING A NEW FILE TO THE ECU

Step 1:

Connect the Tactrix to the vehicle and to the laptop.

Turn the car ON, but DO NOT START

Open MazdaEdit program

Click the "Flash Utility button"

ENSURE THE TEMPLATE IS CORRECT FOR YOUR VEHICLE

Select the OPEN FOLDER Icon (see pic) and Select the File sent



Step 2:

Once the file has been loaded, AND THE VEHICLE IS ON BUT NOT STARTED. PRESS THE FLASH UTILITY BUTTON (RED ARROW) TO BEGIN THE FLASHING PROCESS. FOLLOW THE ON SCREEN PROMPTS UNTIL FLASHING IS COMPLETE. THEN AFTER. ATTEMPT TO START THE CAR TO ENSURE THE FLASH WAS SUCCESSEUL ONLY ATTEMPT TO FLASH THE CAR WHEN YOU HAVE AT LEAST 24 HOURS OF TIME DEDICATED THAT YOU DO NOT NEED TO DRIVE! INCASE THERE ARE ANY **ISSUES, SO YOU CAN GET AHOLD OF US AND WE CAN REMEDY THE SITUATION. FLASHING BEFORE WORK IN** THE MORNING IS NOT RECOMMENDED, SINCE ON RARE **OCCASSIONS THE SOFTWARE CAN "ERROR OUT" DURING FLASHING AND IF IT DOES THE CAR IS UN-**STARTABLE. IF IT ERRORS, COMPLETELY CLOSE **MAZDAEDIT, RESTART THE COMPUTER, AND TRY TO** FLASH AGAIN. ENSURE YOU HAVE ENOUGH TIME **BEFORE YOU NEED TO DRIVE TO GET AHOLD OF US IF ANYTHING DOES NOT GO SMOOTHLY. (NOTE, the ECU is** not "bricked" if it errors out)



Step 3:

Once the Flash has been completed, and vehicle successfully starts. The Flashing process is complete, and you are ready to begin logging for the next updated file for your tune. PLEASE MAKE SURE THAT YOU DRIVE AT LEAST 20-25 MILES AFTER A FLASH BEFORE BEGINNING TO RE-LOG FOR THE NEXT UPDATE SO THAT THE FUEL TRIMS HAVE SETTLED PROPERLY.

THE FLASHING PROCESS IS NOW COMPLETE.

ERRORS-TROUBLESHOOTING SECTION:

ERRORS:

Incorrect license / registration name.

Fix: The license and registration name is created ONLY for that HARDWARE FINGERPRINT, which is UNIQUE to that pc. You cannot put it on another PC with a different HARDWARE FINGERPRINT. IF you still have the same fingerprint and have this error, email me immediately for a resolution.

Device link not installed error

Fix: When putting the device key in, if you get a device link not installed error, make sure the tactrix is plugged into the laptop. If it is plugged in, please ensure the drivers are up-to-date FROM TACTRIX and retry with the license again. THE KEY WILL NOT INSTALL if the device info says "no supported device" which means tactrix is not plugged in / drivers updated.

Flashing error "can't Find Ports"

Fix: With the flash window open go to OPTIONS> Choose port> make sure "auto select" is checked. IF it is checked, make sure you have the updated tactrix drivers. If the updated tactrix drivers are installed, then go back to your HELP> DEVICE LINK> and RE-ENTER your Device Key. IF you are still having problems, please email me immediately for a resolution.

Flashing Error "Can't find map description for ECU ID, please make request to epifansoftware"

Fix: Your MazdaEdit version ECU Definitions do not currently have your ECU specific Definitions.

Download fixed defs file:

http://www.epifansoft.com/download/mep/mep.eed

and copy it over old one (C:\Program Files\mazdaEdit Personal\) They will OVERWRITE an existed MEP file.

Flashing Error J2534 DLL ERROR can't find port

Fix: Please email me for the appropriate DLL to fix this flashing error.

Flashing Error "File associated with Different VIN"

Fix: please email me and let me know right away if you experience this error, this is a checksum error when a ROM is locked to a VIN. that needs to be handled for proper flashing.

VEHICLE DOES NOT START AFTER FLASH OR ERROR DURING FLASHING

Fix: First, attempt to reflash the same file again. Usually if an Error occurs during flashing, that means there was a loss of connection with the tactrix. If you continue to get errors, Email me immediately. If the flash is successful and the vehicle does not start, attempt 1 more time to flash the same file again. If it still does not after, email me immediately for a resolved file AND / OR FLASH BACK TO YOUR STOCK FILE. NOTE: the ECU IS NOT DEAD IF THE FLASH FAILS / CAR DOES NOT START. THERE IS ALWAYS A FIX.

SKYACTIV 3RD GEN PUSH START / KEY START SPECIFIC ISSUES:

Car does not turn off when selected to turn off after flashing ROM. This is O.K. You don't actually have to turn the car off. The second part of the Flash is just clearing the ECUs memory.

CANBUS Related items don't work after successful ROM FLASH. (example, lights are on the dash, power steering inoperable, check engine light, etc)

FIX: Currently this is an issue with the software and the CANBUS communication protocols. Almost everything in the car is networked via the CANBUS, and when you flash there is a momentary signal loss to other nodes. To fix this issue : Unplug the negative battery cable and hold the brake pedal down for 10-15 seconds. Then reconnect the negative battery cable after letting the car sit for ~ 5 minutes. You may still have a CEL (check engine light) but it will go away after a short drive.

IF YOU GET AN ERROR NOT SPECIFIED IN THIS SECTION, PLEASE EMAIL ME ABOUT THIS ERROR FOR RESOLUTION.