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Installation

Maya is available for Microsoft Windows©. Official compatible versions are:

Windows[©] XP (Service Pack 2, Service Pack 3)

Windows© Vista (32 - 64 bit ,Service Pack 1, Service Pack 2)

Windows© 7 (32 - 64 bit)

Maya is distributed as a *.exe self installing:

Maya_Install_<Version number >.exe

To install Maya you need to follow screen instructions:

• Create a new folder, rename it as MayaWorkspace inside Documents in Windows©

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- Run Maya_Install_<Version number>.exe (double click) contained in Software in MayaWorkspace folder.
- NOTE: Windows© Vista and/or 7 could show some other permission requests. To continue, chose Agree.
- Accept the user licence to proceed:



😙 Installazione di Maya Installer	
Licenza d'uso Prego leggere le condizioni della licenza d'uso prima di installare Maya Installer.)
Premere Page Down per vedere il resto della licenza d'uso.	
Maya is not regulated by a proper license agreement and comes with 3 different access method: Basic, Advanced and Professional	
Maya is distributed as-is and is intended to be used in conjunction with an Athena and/or Athena Evolution device. It is under users responsability to use Maya to adjust Devices calibration according to their needs	
Se si accettano i termini della licenza d'uso scegliere Accetto per continuare. È necessario accettare i termini della licenza d'uso per installare Maya Installer.	
i accept i decline	
Sistema di installazione Nullsoft v2.46Avanti >Annulla	

• Select software components to install (see figure below).

🕞 Installazione di Maya Install	er			
Selezione dei componenti Selezionare i componenti di Maya Installer che si desidera installare.				
Selezionare i componenti che si	desidera installare.			
Selezionare i componenti da installare:	 Maya (required) Visual Studio Redistributal HASP key driver (required USB-Serial driver (optional 	Descrizione Posizionare il puntatore del mouse sul componente per vederne la descrizione,		
Spazio richiesto: 30.8MB	۰ ااا			
Sistema di installazione Nullsoft v2.46				

NOTE: if you are running the installation for the first time it is necessary to select all components. If you are running an update it is possible to install only Maya

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• Chose installation path (or accept the default one – strongly suggested) and click Install to start the installation process. During this process you could create a link to Desktop.

🕡 Installazione di Maya Installer				
Scelta della cartella di installazione Scegliere la cartella nella quale installare Maya Installer.				
Questa procedura installerà Maya Installer nella cartella seguente. Per installare in una cartella diversa, selezionare Sfoglia e sceglierne un'altra. Per avviare l'installazione, selezionare Installa.				
Cartella di destinazione C:\Program Files (x86)\Athena\Maya Sfoglia				
Spazio richiesto: 30.8MB Spazio disponibile: 76.2GB Sistema di installazione Nullsoft v2.46 < Indietro Installa Annulla				



Programming Cable Driver Installation

The following steps describe how to correctly configure the programming cable:

• Connect the programming cable to your USB port as in the picture



• Open the "Maya Diagnostic Tool" folder and click on "FTDI_setup"





Communication with the ECU

• Connect the programming cable to the diagnostic interface connector (behind the front fairing in the RS/SM models or under the left side cover in the Silver Vase, Gran Milano and Gran Turismo)



• DO NOT connect the jumper wire



• Turn the key in the "on" position (and lift up the side stand in the Silver Vase, Gran Milano and Gran Turismo) -> you should hear the fuel pump turning

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• Click on File -> Preferences -> Communication and then click on the "Scan ports" icon

Setup Maya	
General Communication	3D view
Serial COM port	COM5
Acquisition refresh delay	Scan ports
Communication port delay	0
COM port baud rate	Use device default

• Click on the Next button in the following windows



Serial port detection w	izard	×
	This wizard will guide you to the selecti of the right port name to which the ECU connected. Follow the instructions in ea page. Now click "Next" button	on is ach
Serial port detection w	< Back Next > Cance	
	Select the type of connector you use or your PC. It can be a physical RS232 lin or a USB to serial converter. Select the port type and then click the "Next" button	n e
	Port type	

< Back

Next >

Cancel



Serial port detection wit	zard	×
	Now verify the following points: 1. Connect the ECU to the right port 2. Connect the ECU power and ensure it is on 3. Click the "Next" button	
	< <u>B</u> ack <u>N</u> ext > <u>C</u> ance	

•Click on the Finish button. If the connection is ok, you'll receive a message telling you the COM port on which the ECU was found:





In the Silver Vase, Gran Milano and Gran Turismo you will receive the message "No ECU found" and you have to select the last COM port available in the drop down list in the Communication settings (see the picture below):

Setup Maya	
General Communication	3D view
Serial COM port	COM5
Acquisition refresh delay	COM1 COM3 COM4
Communication port delay	0
COM port baud rate	Use device default 🔹
	OK Cancel

• If there is a connection problem you'll receive an error like the one in the following picture:





In this case you need to check the procedure (installation of the programming cable's driver, key on, presence of power, kill switch in open position, ecc...)

Downloading Map to ECU

To download a map to the ECU the Maya software and the programming cable have to be correctly installed and configured.

First open Maya software then choose the corresponding device of the bike you need to map:

- If you are mapping a RS/SM 650 RS/SM 500 RS300 you need to load the device in the "Device_rs_sm_650_500_300" folder (inside the "Maya Diagnositc Tool" folder)
- If you are mapping a Silver Vase 440 Gran Milano 440 Gran Turismo 440 you need to load the device in the "Device_GM_SV_GT_440" folder (inside the "Maya Diagnositc Tool" folder)

To load the device:

• Click on "File" -> "Open Device" -> then open the device folder and choose the file





Map #1

PASSWORD

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features of device elements

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Nome	<	 ✓ Maya Device Descriptor (*.mya) ✓ Apri Annulla

To download the map to the ECU there are two different procedures in case the bike you are mapping is a RS/SM 650 – RS/SM 500 – RS300 or a Silver Vase 440 – Gran Milano 440 – Gran Turismo 440:

RS/SM 650 – RS/SM 500 – RS300 procedure:

- Connect the programming cable in the interface connector and follow the "Communication with ECU" procedure
- When Maya find the ECU's COM port, turn the key in the off position
- Connect the jumper wire:





• Right click on "Map0" in Maya -> Open



• Search the "Maps" folder under the "Maya Diagnostic Tool" folder



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Documenti	Device GM SV GT 440	19/07/2016 09:49	Cartella di file	
🔚 Immagini	Device rs sm 650 500 300	19/07/2016 09:49	Cartella di file	
👌 Musica	FTDI Setup	11/04/2016 15:19	Applicazione	1.6
H Video	Mava Install 0.10.0-beta1	22/06/2016 11:52	Applicazione	25.6
Cucchi Matteo	MU Maya ENG	11/04/2016 15:20	Adobe Acrobat D	12.5
1 Computer	MU_Maya_rev10_ITA	11/04/2016 15:20	Adobe Acrobat D	12.7
Sisco locale (C:)	Maps	19/07/2016 09:49	Cartella di file	
E Unità DVD RW (D:)				
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1. Bialbero				
2.440				
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Maya Diagnostic Tool				
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Maps Ultima modifica: 19/07/2016 09:49 Cartella di file				

• Open the bike model's folder you need (e.g. RS-SM 500)

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• Load the "_Map0" file



- Follow the same proceure to load the "_Map1" file in Maya
- Click on the "Download Map to ECU" icon

File Communication Lools Correction	is Acquisition Layout License Help	
	🖌 🚽 Map #0 🔹 🕨	🕘 🔝 🇞 🍳 🤡 🍼
Device		Device Help X
GP1EVO-M86-C50-F86 ⊕ Addresses ⊕ Map #0 ⊕ Map #1 ⊕ Packet □ PASSWORD		Device Helper This is the help for explaining the features of device elements



Silver Vase 440 – Gran Milano 440 – Gran Turismo 440:

- Connect the programming cable in the interface connector and follow the "Communication with ECU" procedure
- When Maya find the ECU's COM port, turn the key in the off position
- DO NOT Connect the jumper wire
- Right click on "Application"



• Open -> Select the "APC" file in the bike model's folder (under the "Maps" folder in the "Maya Diagnostic Tool", e.g. Gran Milano as in the picture below)

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• Right click on "Map1"



🛦 Maya 0.10.0-beta1 Evo - Map 1	
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→ MB2SWM-M43-C20-F44-GET15 ↔ Addresses ↔ Application ↔ Application ↔ Packet	

• Open -> Select the "CORE" file in the bike model's folder (under the "Maps" folder in the "Maya Diagnostic Tool", e.g. Gran Milano as in the picture below)

▲ Select a file			
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 Risorse recenti Desktop Raccolte Documenti Immagini Musica Video Cucchi Matteo 	CORE_MB2SW/ <u>MAA_AG_SV_15</u> Tipo - File MYP Dimensione - 13,7 KB Ultima modifica - 23/06/2	2016 15:30	File MYP
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<u>N</u> ome	file: CORE_MB2SWM44_440_GM_7	 Maya Maps (Apri 	*.myp) Annulla



• Click on the "Download Map to ECU" icon



TPS Calibration

- Connect the programming cable to the interface connector and turn the key in the "on" position (lift up the side stand for 440 models)
- Open Maya, load the device file of the bike model you're checking and follow the "Communication with ECU" procedure
- Click on the "End of Line Settings" icon:



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• Click on the "Start Calibration Read" button with the throttle in full close position (zero TPS):

End of line parameters				
MINPTV	32	- +	CTPS	0.000
MAXPTV	196	- +		
SPARK_OFFSET_1	0.50	- +		
SPARK_OFFSET_2	0.75	- +		
INJ_OFFSET_1	1.016	- +		
INJ_OFFSET_2	1.016	- +		
LIMITER_ADJ	200	- +		
FRAME_CODE		- +		
ENGINE_CODE		- +		
UNLOCK_CODE		- +		
GPA_1	0	- +		
GPA_2	0	- +		
	50386	6		
GEAR_CUT_TIME	46	- +		
			Start Calibration Read	Stop Calibration Read
Set End of Line	Read E	nd of Line	Reset End of Line	Close

• You will see that the number in the TPS1 box (in the up-right corner of the window) starting to change. You have to put an average value of those you see, in the TPS_1_MIN box, like in the picture below:

IDLE_INTLEARN	0		+	TPS1	540,0
LTSA_MATRIX	Matrix	•	+		
DAY	0	•	+		
MONTH	0	-	+	Í I	
YEAR	0	-	+		
SAVED_BARO	976		+	1	
TPS_1_MIN	542	•	+		
TPS_1_MAX	3070	•	+	ļĻ	
		St	art Cal	libration Read	Stop Calibration Read
Set End of Line	Read End of Line		Reset	End of Line	Close



• Fully open the throttle position and do the same procedure putting an average value of those you see in the TPS_1_MAX box, like in the picture below:

IDLE_INTLEARN	0	-		TPS1	3082,00
LTSA_MATRIX	Metrix	-	+	Ī	
DAY	0	-	•	IN IN	
MONTH	0	-	+	Ī	
VEAR	0	-	+	Í	
SAVED_BARO	976	-	+	ī I	
TPS_1_MIN	542	-	+	Ī	
TPS_1_MAX	3070).	+	j 📮	
		St.	art Ca	libration Read	Stop Calibration Read
Set End of Line	Read End of Line		Reset	End of Line	Close

• Click on the "Stop Calibration Read" button and then to the "Set End of Line" button like in the two following pictures:

IDLEJINTLEARN		0	+	* TPS1	551,000
LTSA_MATRIX	Matr	ix 👘	+		
DAY		0 +	+		
MONTH		0 _	+	i l	
YEAR		0	+	E	
SAVED_BARO	97	- 16	+		
TPS_1_MIN	54	12 -	+		
TPS_1_MAX	307	- 10	+	.	
		St	ert Cal	libration Read	Stop Calibration Read
Set End of Line	Read End of Line		Reset	End of Line	Close



End of line parameters						- • •
SPARK_OFFSET_1	-32,00		Â	TPS1		0,000
INJ_OFFSET_1	0,00					
LTSA_MATRIX	Matrix					
DAY	0		Е			
MONTH	0					
YEAR	0					
TPS_1_MIN	0	- +				
TPS_1_MAX	0	- +	Ŧ			
		Start C <u>a</u> li	brat	ion Read	Stop	Cali <u>b</u> ration Read
Set End of Line	Read <u>E</u> nd of Line	<u>R</u> eset E	ind	of Line		Close

Checking Diagnostic

- Connect the programming cable to the interface connector and turn the key in the "on" position (lift up the side stand for 440 models)
- Open Maya, load the device file of the bike model you're checking and follow the "Communication with ECU" procedure
- Click on the "Open Diagnostic Window" icon:





• Turn the key in the "on" position and then click on the "Read" button



• If there are red lights press the "Reset" button and the "Read" again to check the actual status of the ECU. it is possible that an error that is visualized in the error window is not anymore seen by the ECU. The ECU in any case stores in its memory events occurred during functioning, therefore in the diagnosis window the error is stored (false error).

Diagnostic Flags			
Error Code	Description		Status
\varTheta P0117	Engine Temperature Sensor Low Input	OK	
😝 P0118	Engine Temperature Sensor High Input	OK	
\varTheta P0122	TPS Low Input / TPS Short to Ground	OK	
\varTheta P0123	TPS High Input / TPS Open Circuit	OK	
\varTheta P0562	System Voltage Too Low	OK	
\varTheta P0563	System Voltage Too High	OK	
\varTheta P1201	Injector 1 Malfunction	OK	
\varTheta P1202	Injector 2 Malfunction	OK	
\varTheta P0351	Coil 1 Malfunction	OK	
\varTheta P0112	Air Temperature Sensor Low Input	OK	
\varTheta P0113	Air Temperature Sensor High Input	OK	
Read	Reset		Close



Checking Parameters

To open the engine functioning parameters' window, click on "Layout" \rightarrow "New Activity":



Then click on "OK" button when the following window appears:

👠 Maya 0.10.5 Pro - Map 1		
File Communication Tools Corrections Acquisition I	ayout License Help	
🛅 🔚 🔛 📥 🖂 🖂 🥅		
AR2SWM_MSTC20F53_F01_GE115.mya		Device нер ×
- Constants		
- Addresses		
Application	Setup new activity	
B- Packet	Activity Name	
	Activity 1	
	Layout type	
	Single ① 1+1 Vertical ① 1+1 Horizontal	
	○ 1+2 Vertical ○ 2+1 Vertical ○ 2+2 Vertical	
	1+2 Horizontal 2+1 Horizontal 2+2 Horizontal	
	1924-6455	
	OK Cancel	
		IT 🔺 🔀 🍡 🚽 🌒 13:49
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Now click on "Open Scalar Display":

Maya 0.105 Pro - Map 1				
Perder: Ma2SWM-M51-C20-F53-G6T15 mya Ma2SWM-M51-C20-F53-G6T15 Gonzants Application Mop1 Packet	Activity 1 ×	Device Help X		
	Open Matrix Here			
	Open Vector Here			
	Open Scalar Display Here			
	Open Analog Display Here			
	Open Scope view Here			
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and then select the parameters in the scroll list:

👠 Maya 0.10.5 Pro - Map 1		_ _ _ ×		
File Communication Tools Corrections Acquisit	ion Layout License Help			
🚺 📓 🖬 📥 📥 📑 🗔 🛛				
Device: MB2SWM M51C20F53 r01 GET15.mva		Device Help X		
M825WM-M51-C20-F53-GET15				
	Open Matrix Here			
	Display variables selection			
	Please select a the variables to display			
	FRCOUNTER RPM RPM PMA BAP BAP BAP BARO, RROM, MAP KLAMBDA,1 INJ,1 INJ,2 SPARX,1 SPARX,2 PHASE,1 OK Cancel			
📀 🤌 😭 🔕 📀		T 🔺 🔀 🎼 🦂 🌒 13:51 09/06/2017		



Below you'll find the list of the most import parameters and for some of them, the normal values that they assumed during engine functioning:

- **RPM**: Engine speed
- **MAP**: Mainfold Air Pressure
- **BAP**: Barometric Air Pressure
- **BARO_FROM_MAP**: Barometric Air Pressure obtained from the input of the MAP sensor
- **K_LAMBDA1**: O2 sensor correction on injection time. Usually is a value close to **1** and may moves from **0,7** to **1,2**. If you see a costant value of **0,6** or **1,3** there may be a problem on the sensor or on the throttle body (see the decription of the MAP_BAP_RATIO parameter)
- **INJ_1**: Actual injection time on cylinder 1
- **SPARK_1**: Actual spark advance on cylinder 1
- **PHASE_1**: Actual injection angle before TDC
- **LAMBDA_OFF_COUNT:** Time interval after which the O2 sensor starts to work
- **THROTTLE_16**: Actual position of the ThrottleValve in % (must vary from a minimum value of **0** to a maximum value of **100**)
- **AIR_T**: Actual intake air temperature in °C
- **ENGINE_T:** For water cooled engines is the actual water temperature in the engine cooling jacket. For air cooled engines is the actual cylinder head temperature
- **BATT_V1**: Actual battery voltage (it should be around **12.5 V** in key on and raise to **14 V** when the bike is running; on 440 classic models it should raise to **13.3 V** with engine running)
- **GEAR**: Actual gear used. When this value is **0** the Neutral indicator on the dashboard must be active. On models with a Gear Poition Sensor (RS300, RS/SM500, RS650, SD650) it gives every gear number. On RS/SM125 and 440 classic models it's only a neutral indicator
- **STEPPER**: Actual position of the stepper motor or of the idle solenoid valve. This values should decrease when the engine starts to run from key on
- **MAP_BAP_RATIO**: It's the ratio of MAP and BAP values. It's calculated when the bike is kept in idle and gives an information about the air flow when the throttle valve is in close position. It's really important for the good working of the bike that it's value is close to the ones in following list for each model:

MODEL	MAP_BAP_RATIO
RS300	400
RS/SM 500	315
RS/SD 650	300
RS/SM 125	750



OFFSET CHECKING:

Another important check to do is the offset check.

To do it click on the EOL settings window (as in the TPS calibration procedure) and go in the upper side:



You'll find the 2 parameters SPARK_OFFSET_1, INJ_OFFSET_1

Their correct values should be respectively:

SPARK_OFFSET_1 = 0,00

 $INJ_OFFSET_1 = 0,00$ (or eventually 1)

If you see a different value (like -32,00 in the image) you must change it to the correct one.

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If the software don't let you change the values please contact us.

This values are always checked by SWM during the EOL bike test, but in rare cases (especially on 440 Euro 3 classic models) they change when a voltage battery drop happens (full discharge of battery or fuse break).