

MILLER
W.A.R.
FLASH TUNE SYSTEM



W.A.R. FTS Installation and Software Manual

Table of Contents

1. General Information.....	5
1.1 Introduction.....	5
1.2 W.A.R. Gear	5
1.3 Gear Included.....	6
1.4 Tools Required.....	6
1.5 Computer Software	6
1.6 Safety and Precautions.....	7
2. Wiring Modification to allow Read & Write	8
2.1 Add Jumper to 20 Pin Port wires	8
3. W.A.R. Flash Tune Software.....	13
3.1 Introduction.....	13
3.2 Installation	13
3.3 Reading your ECU for the first time.....	14
3.4 Emailing your stock file.....	15
3.5 Writing your tuned file.....	16
4. ECU Selection Table.....	18
4.1 Use to select proper type of ECU for read/write	18
5. Troubleshooting	19
5.1 Possible problems	19
5.2 Seeking Help.....	19
NOTES.....	19

Limited Lifetime Warranty

Miller Performance Ltd. warrants that NON ELECTRONIC products manufactured by Miller Performance Ltd will be free from defects in materials and workmanship for the life that you own your vehicle. If any such product proves defective during the applicable warranty period, Miller Performance Ltd., at its option, either will repair the defective product with charge for parts and labor or will provide a replacement in exchange for the defective product. **NON ELECTRONIC items not manufactured by Miller Performance Ltd. Have a limited warranty of 30 days past the date of purchase.**

In order to obtain service under this warranty, the customer must notify Miller Performance Ltd. of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. In all cases the customer will be responsible for packaging and shipping the defective product back to the service center specified by Miller Performance Ltd., with shipping charges prepaid. Miller Performance Ltd. shall pay for the return of the product to the customer if the shipment is within North America, otherwise the customer shall be responsible for all shipping charges, insurance, duties and taxes, if the product is returned to any other location.

This warranty shall not apply to any defect, failure or damage caused by improper use or failure to observe proper operating procedures per the product specification or operators manual or improper or inadequate maintenance and care. Miller Performance Ltd. shall not be obligated to furnish service under this warranty 1) to repair damage resulting from attempts by personnel other than Miller Performance Ltd's representatives to repair or service the product; 2) to repair damage resulting from improper use or connection to incompatible equipment; 3) to repair damage resulting from operation outside of the operating or environmental specifications of the product.

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W.A.R. Flash Tune System Disclaimer

THIS IS A HIGH PERFORMANCE PRODUCT. USE AT YOUR OWN RISK.

Do not use this product until you have carefully read the following agreement.

This sets forth the terms and conditions for the use of this product. The installation of this product indicates that the BUYER has read and understands this agreement and accepts its terms and conditions.

DISCLAIMER OF LIABILITY

Miller Performance Ltd. and its distributors, jobbers, and dealers (hereafter SELLER) shall in no way be responsible for the product's proper use and service. **THE BUYER HEREBY WAIVES ALL LIABILITY CLAIMS.**

The BUYER acknowledges that he/she is not relying on the SELLER's skill or judgment to select or furnish tunes suitable for any particular purpose and that there are no liabilities which extend beyond the description on the face hereof and the BUYER hereby waives all remedies or liabilities, expressed or implied, arising by law or otherwise, (including without any obligations of the SELLER with respect to fitness, merchantability and consequential damages) or whether or not occasioned by the SELLER's negligence.

The BUYER is responsible to fully understand the capability and limitations of his/her vehicle according to manufacturer specifications and agrees to hold the SELLER harmless from any damage resulting from failure to adhere to such specifications.

The SELLER disclaims any warranty and expressly disclaims any liability for personal injury or damages. The BUYER acknowledges and agrees that the disclaimer of any liability for personal injury is a material term for this agreement and the BUYER agrees to indemnify the SELLER and to hold the SELLER harmless from any claim related to the item of the equipment purchased. Under no circumstances will the SELLER be liable for any damages or expenses by reason of use or sale of any such equipment.

The BUYER is responsible to obey all applicable federal, state/provincial and local laws, statutes, and ordinances when operating his/her vehicle, and the BUYER agrees to hold SELLER harmless from any violation thereof.

The SELLER assumes no liability regarding the improper installation or misapplication of its products. It is the installer's responsibility to check for proper installation and if in doubt, contact the manufacturer.

1. General Information

1.1 Introduction

Congratulations on purchasing your Miller W.A.R. Flash Tune System. You are now ready to flash your ECU in the convenience of your own garage. You can modify your engine without worrying about what tune to run. We got you covered!

W.A.R. stands for “Write and Remap” and FTS stand for Flash Tune System. Stemming from our highly popular W.A.R. Chip for OBD1 cars, the W.A.R. FTS is designed to be used with OBD2 cars (1996 and newer). OBD2 cars do not have removable chips and for a long time have been inconvenient to flash in the comfort of your own home. Gone are the days of sending your ECU off to your tuner and having at least 2 days down time. Now, you can have your new tune loaded in minutes!

1.2 W.A.R. Gear

The Miller W.A.R. Flash Tune System features the following:

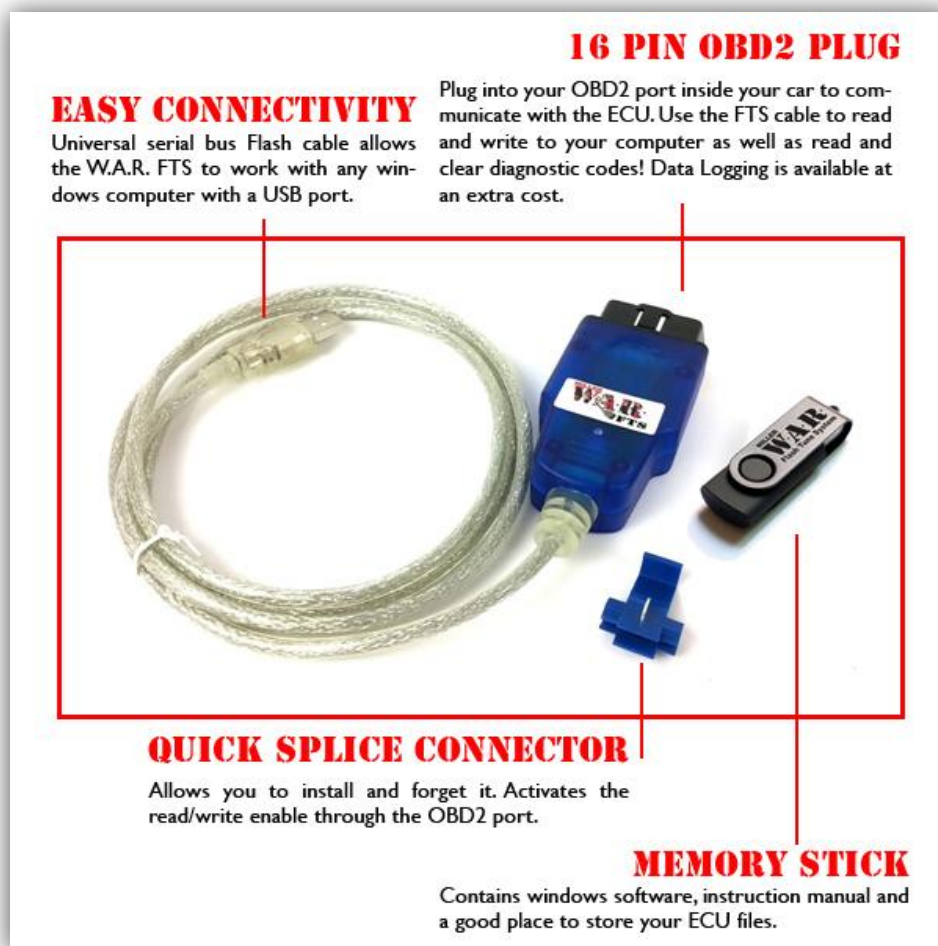


Figure 1

1.3 Gear Included

Standard Issue:

- W.A.R. Flash Cable
- Jumper connector for 20pin port
- USB Memory Stick
- Instruction Manual (On USB Stick)
- W.A.R. Flash Software for Windows (On USB Stick)

1.4 Tools Required

The Following tools and supplies (not included) or similar tools and supplies are required for fast and proper installation of this Miller Performance product:

Minimum requirements:






- Flathead screwdriver
- Adjustable pliers
- Multi-meter
- Laptop computer
- Battery charger or booster pack recommended

1.5 Computer Software

System requirements:

- Windows Based Computer with **Windows XP, Windows 7 or Windows 8**
- Internet connection
- USB 1.0 or 2.0

1.6 Safety and Precautions

	Warning: Ensure vehicle cannot roll when working on the vehicle
	Warning: Do not mix and match ECUs and Tunes. It WILL result in a bricked ECU that will need to be shipped in for recovery.
	Warning: Never run the engine unless the work area is well ventilated. Carbon monoxide kills!
	Caution: Before starting each procedure, ensure that you have all the necessary tools and parts on hand. Read all instructions thoroughly; do not attempt shortcuts use only parts and materials that are included in this kit or approved by Miller Performance.
	Caution: Miller Performance does not recommend “street tuning.” The safest place to tune your car is on a chassis dynamometer.

2. Wiring Modification to allow Read & Write

2.1 Add Jumper to 20 Pin Port wires

Before you can read and write with your W.A.R. Flash Tune cable, you must install the supplied jumper connector to your wiring on your 20 pin, circular diagnostic port in the engine bay.

1. Locate and detach the round diagnostic connector so it is easy to work with. There is a tab that will allow the connector body to release and slide out.



Figure 2



Figure 3



Figure 4

2. Pull the rubber boot on the bottom of the connector body back and away from the connector. Use a flat head screw driver to carefully do this.



Figure 5

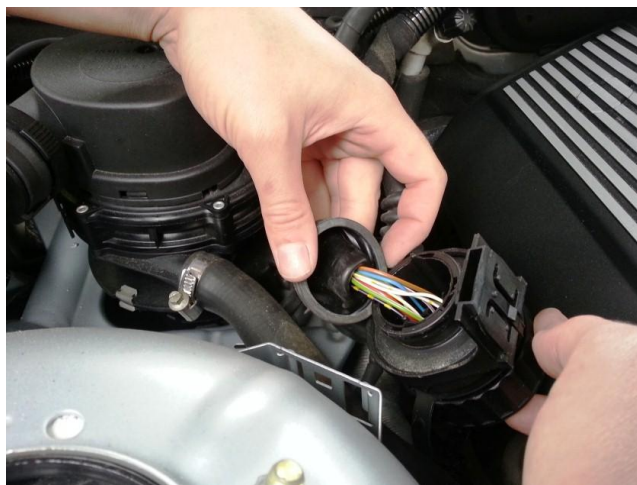


Figure 6

3. Locate pin 14 and 18. Usually a solid red wire and a Blue/Green stripe wire. The wire colors are only to aid in finding the wires, always go by pin number REGARDLESS of color. The connector has very small numbers indicating what pin number each hole is.



Figure 7

4. Push the blue/green wire over to the red one. You will have to weave it through the other wires. It makes the next step easier.



Figure 8

5. Using the supplied jumper insert the wires from pin 14 and 18. This is done and can be left this way forever. It is easier to put the thicker (red) wire in first.



Figure 9

6. Clamp the connector lid down using an adjustable pair of pliers. You will hear the connector click. We recommend squishing it down further after the click to ensure a proper connection.

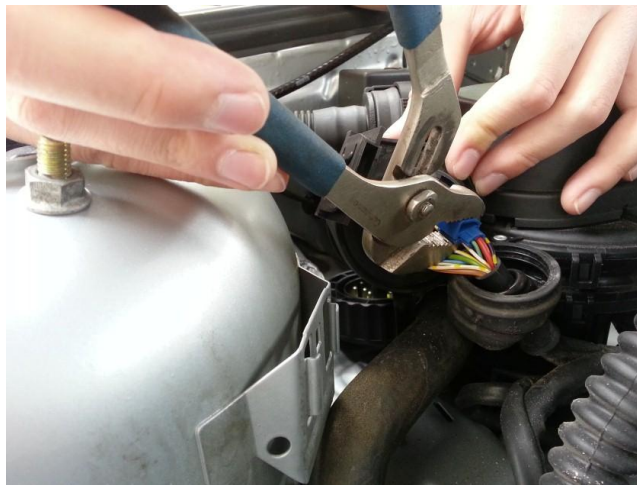


Figure 10

7. The Clamp should look like this once you have crimped and shut it.

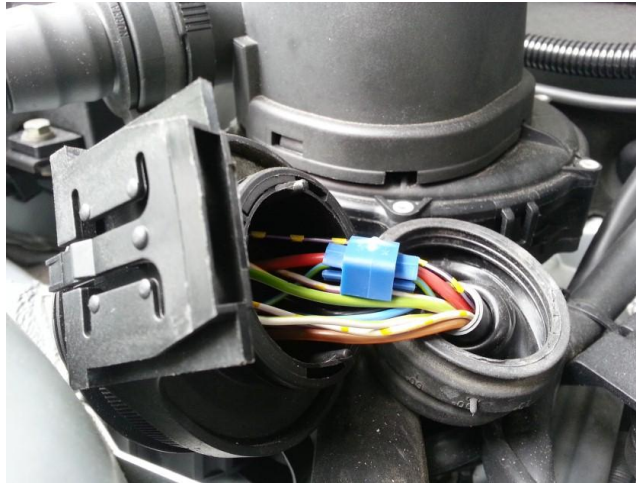


Figure 11

8. Reassemble the 20 pin connector boot. And test the connection. It is important to test the connection with the boot and plug reassembled to ensure the connector did not come loose. **Make sure you have conductivity between pin 14 and 18.** If you do not have conductivity, pull the boot back and squish the blue connector down with your pliers some more. Refer to figure 7 for pin out.



Figure 12

You are now ready to move on to the installation of the W.A.R. Flash communication suite where you will be able to read and write to your ECU!

3. W.A.R. Flash Tune Software

3.1 Introduction

The W.A.R. Chip software for Windows is where all the communication to your car's ECU takes place; as well as the file uploading/downloading from remote tuning assistance. The W.A.R. Software is a powerful tool giving you total access to many features in the ECU such as control of your fuel and ignition, RPM limit, idle speed etc. This section is going to explain installation and use of the software.

3.2 Installation

The W.A.R. Flash Tune software is on the USB memory stick included with this product.

1. Double click on the W.A.R Flash Tune installer
2. Follow the installation procedure.
 - a. Agree to terms and conditions, click next
 - b. Select your installation directory, click next
 - c. Finish installation
3. Once installed, it is suggested to restart your computer.
4. Once restarted plug your W.A.R. flash cable into your computer. **When it detects the new hardware, it will ask for the driver.** Navigate to the directory you installed your program to and point to the folder named. **“DRIVERS_EOBD2_2K_XP”**

You are now ready to communicate to your ECU. In the next section we will detail how to read and write so you can upload a tune to your vehicle.

3.3 Reading your ECU for the first time.

You need to read your ECU and send us the stock file in order for us to send you a tune.

1. Plug in your W.A.R. Flash Cable to your OBD2 port. This is located in the driver side foot well. Connect the USB plug into your laptop.



Figure 13

2. Open the W.A.R. Flash Tune program
3. Select “BMW” under Manufacturer

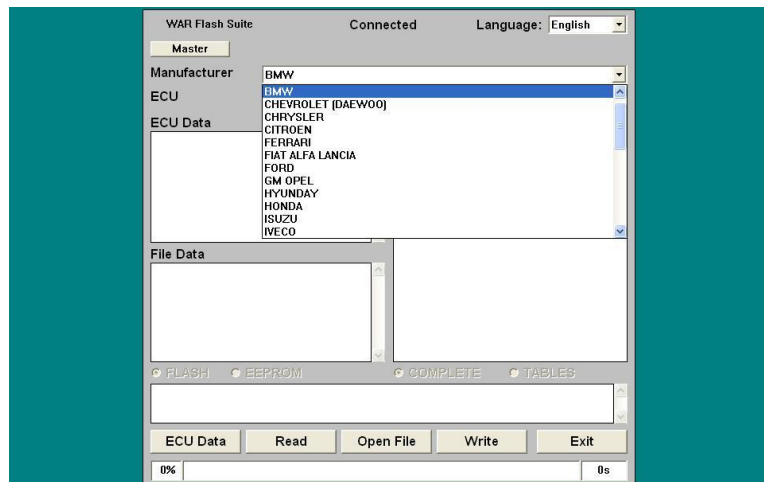
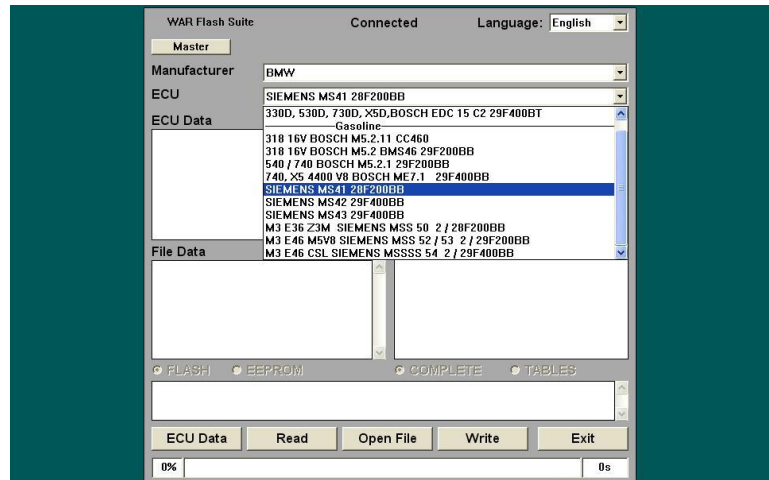


Figure 14

4. Under ECU select the appropriate computer your car has by **Referring to ECU Selection Table on page 18**



5.

Figure 15

6. Turn your key to the ON position and click ECU Data. Some random numbers should appear in the ECU data box.
7. After it finishes, click read. You will be prompted to name and save the file. Name it anything you like and save it in a place where you can easily find it.
8. After a minute or so, the read process will be complete. You will be able to exit the program and turn off your car.

You are now ready to email us your stock File.

3.4 Emailing your stock file

Email your stock file to: Jordan@millerperformancecars.com

In your email include what modifications you have to your engine. We don't care about suspension, transmission or body modifications. They have nothing to do with the engine! In your email also include any special features you would like such as, secondary air pump (SAP) delete, O2 sensor delete, EVAP delete, EWS delete etc.

We try our best to return a tune the same day. If you wish to call or email us ahead of time, we can arrange to be available immediately when you send us your stock file.

3.5 Writing your tuned file

Shortly after we receive your stock file we will make the necessary changes to the calibration and email your new tune back. This is usually done in the same day and usually within the hour. On rare occasions it may take up to 48 hours.

1. Plug in your W.A.R. Flash Cable to your OBD2 port. This is located in the driver side foot well. Connect the USB plug into your laptop.



Figure 16

2. Open the W.A.R. Flash Tune program
3. Select “BMW” under Manufacturer

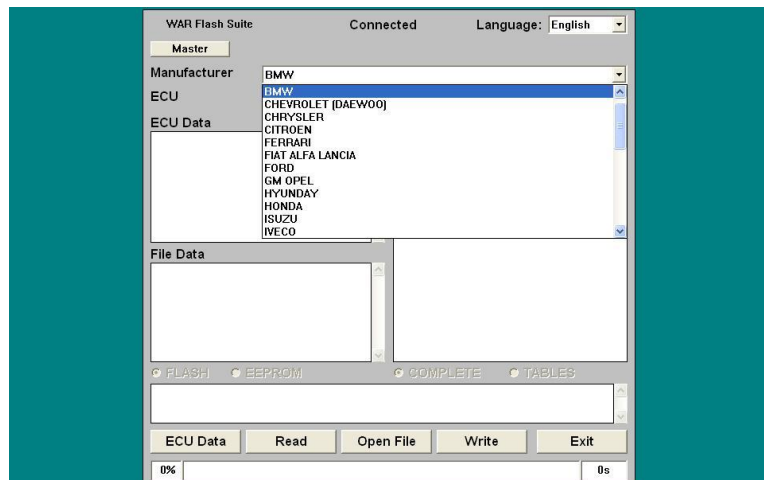


Figure 17

4. Under ECU select the appropriate computer your car has by **Referring to ECU Selection Table on page 18**

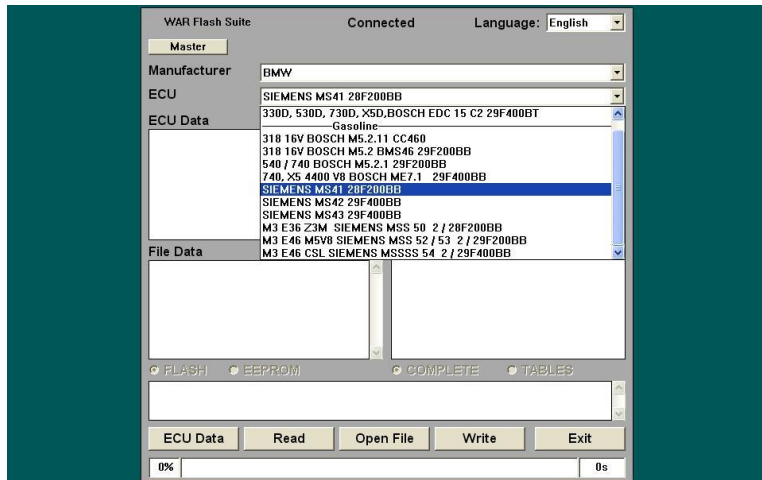


Figure 18

5. Turn your key to the ON position and click ECU Data. Some random numbers should appear in the ECU data box.
6. Click “Open File” and select the tuned file you just received and downloaded from your email
7. Click “Write.” It will take 1 to 4 minutes depending on the ECU.
8. A box will pop up asking you to “Turn off ignition for 10 seconds” Turn your key off, click OK and count to 10.
9. Click “OK” and exit the program.
10. You are now ready to enjoy your new tune!

******It is suggested to connect your car to a battery charger, booster pack or something similar. If the voltage drops below a certain threshold it could result in a bricked ECU which would need to be sent to us for repair. You do not absolutely have to do this, but we must warn our customers of the possible consequences.******



Warning:

Do not mix and match ECUs and Tunes. It WILL result in a bricked ECU that will need to be shipped in for recovery.

4. ECU Selection Table

4.1 Use to select proper type of ECU for read/write

1996 to 1998 BMW e36 328 / M3	Siemens MS41 28f200BB
E46 M3 / E39 M5	E46 M3 M5V8 SIEMENS MSS 52/53 2/29F200BB
1999 to 2006 e46 323 / 325 / 328	Siemens MS42 29F400BB
1999 to 2003 e46 330	Siemens MS43 29F400BB
~1998 540/740 (no vanos)	540/740 BOSCH M5.2.1 29F200BB
540 / 740 / X5 (vanos)	740,X5 4400 V8 BOSCH ME7.1 29F400BB

Use the above table to identify and select what ECU to choose from the WAR Flash Tune software selection list.

