INSTALLATION INSTRUCTIONS FOR DEALER TECHNICIAN v2.2

This document describes how to install TracKey (Ford Racing part number **M-14204-MBTKA**) on a Boss 302. For the latest version of this document, please visit the "Dealer Links" section at www.trackey.ford.com before starting the installation procedure. If this is your first TracKey installation, please read this document in it's entirety before starting the installation. If you have any questions or comments, contact the Ford Racing Techline at **1-800-FORD-788** between 8:30 am and 5 pm Eastern time, Monday through Friday. Before calling, please be prepared to provide the VIN of the vehicle and the customer supplied TracKey voucher number for assistance.

The TracKey installation procedure consists of two separate parts. The first is programming the red medallion ignition key to make it into a TracKey, and the second is to reflash the PCM with the Ford Racing software and calibration. Once both of these have been completed, the PCM will recognize when the TracKey is in the ignition and will enable the unique TracKey functionality. Installation of TracKey will clear any MyKey's that have been programmed for the vehicle. The TracKey can, however, be used as an administration key to program the regular key as a MyKey after the TracKey installation is complete.

> **CAUTION: After the TracKey PCM software is installed, no TSB's requiring PCM reflashing should be performed on the vehicle unless specifically instructed by the Ford Racing Techline.**

Tools Required:

- Battery charger
- VCM or VCM-II (requires IDS version 81.04 or higher)
- Laptop running Windows XP or Windows 7 with IDS version **78.02A or higher**, Internet Explorer, and **reliable** internet connectivity (we strongly recommend using a wired connection and plugging the laptop into an AC power source)

Vehicle Requirements Before Starting Procedure:

- **Must** be a Boss 302 or Boss 302 Laguna Seca with no engine related aftermarket modifications (such as a cold-air kit, headers, etc) installed
- **Must** have two ignition keys (generally one "regular" key with a silver medallion, and one "TracKey" with a red medallion)
- **Must** have customer's mailing address and phone number
- **Must** have a valid unused voucher ID (included in the M-14204-MBTKA package)
- **Must** have premium (91 or higher octane) fuel in the fuel tank

If any of the above requirements is not met, do not continue the installation procedure, and advise the customer that the issue or issues must be rectified before TracKey installation can commence.

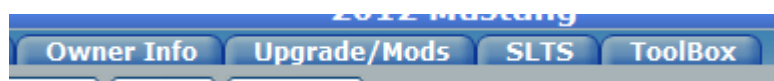Procedure for a vehicle that has never had TracKey installed before:

1) Write down the **rear** tire size (ie: 285/35-19) here _____
2) **Connect a battery charger to the battery and set to lowest current setting.**
3) Connect VCM to vehicle DLC and to laptop with internet access and IDS version 78.02A or higher.
4) **Turn off all vehicle accessories, including HVAC, radio, and lights. Close trunk and both doors. Remain in vehicle until procedure is complete. This is critical to avoid accidentally bumping the DLC connector and severing the VCM connection which can result in having to send the PCM back to Ford Racing at your expense.**
5) Using Internet Explorer, go to **www.proservicetech.com**, or use FMC dealer to get to PTS, and click on the "Vehicle ID" tab.
6) Insert TracKey (red medallion) in ignition and turn to ON position.
7) Once the VCM has successfully made a connection to the PCM, click the green box labeled "Read VIN and DTCs", as shown below:
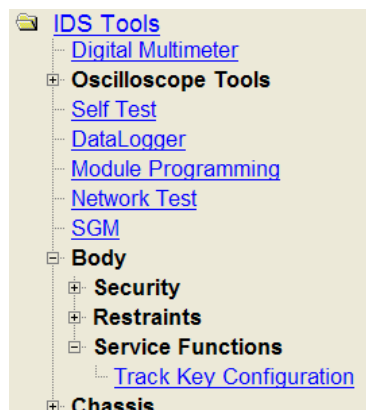
Step 1:
Vehicle ID Options - Use to run OASIS and/or access Service Publications

| Manual VIN Entry | Previous VINs ▼ | By Year & Model | Read VIN & DTCs |

8) Write down the odometer mileage here _____
9) Write down any DTC's displayed. **Resolve root cause of all DTC's before continuing to the next step.**
10) Click the box labeled "GO", as shown below:

Step 3:
Click GO to Receive Available Service Information   GO

11) Click the "ToolBox" tab, as shown below:

2012 Mustang

| Owner Info | Upgrade/Mods | SLTS | ToolBox |

12) Under "IDS Tools" on the left side of the screen, click "Body" then "Service Functions" then "Track Key Configuration", as shown below:

IDS Tools
  Digital Multimeter
  ⊞ **Oscilloscope Tools**
  Self Test
  DataLogger
  Module Programming
  Network Test
  SGM
  ⊟ **Body**
    ⊞ **Security**
    ⊞ **Restraints**
    ⊟ **Service Functions**
        Track Key Configuration
  ⊞ **Chassis**

13) An IDS window will launch and display "use track key to turn on ignition". Since the key should already be in the ON position, click the checkmark in the lower right corner of the screen.
14) Click "Enable track key" once, then click checkmark.
15) Turn ignition key to OFF position, then back to ON position.
16) Message center on instrument cluster should now display "TRACKEY ACTIVE TRACK USE ONLY" as shown below. If so, click the checkmark. If not, click the return arrow and go back to step 13. Consult "Troubleshooting" section if the message isn't displayed after 2 attempts.
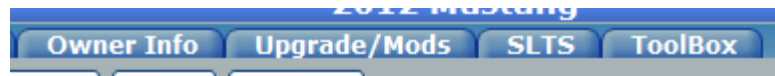

TRACKEY ACTIVE TRACK USE ONLY

2012

TracKey Active Track Use Only

OK
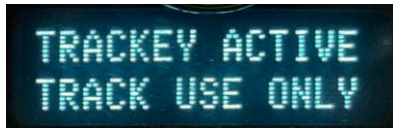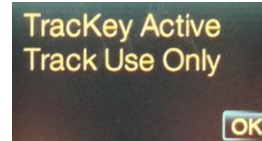
2013

17) At this point, the programming of the key is complete, but the PCM needs to be reflashed before TracKey functionality will be enabled. Click on the "Upgrade/Mods" tab as shown below, to begin the PCM reflashing process:

Owner Info   Upgrade/Mods   SLTS   ToolBox

18) Click "Ford Racing Calibration programming for a customer who has purchased an upgrade kit that requires PC reprogramming", as shown below:

- GAP 1 to GAP 2 Radio Replacement
- Ford Racing Calibration programming for a customer who has purchased an upgrade kit that requires PCM reprogramming.

19) Ensure ignition key is in the ON position, and click the box labeled "Read PCM":

Read PCM

20) Enter the customer supplied voucher ID exactly as it appears on the voucher card (ie: XXXX-XXXX-XXXX). Note that a voucher ID can only be used once:

This vehicle's current calibration is [CR3A-14C204-ABA].

To continue, please enter your voucher ID.

Voucher ID :

21) Click "Next Step" as shown below:
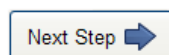
Next Step

22) Pick "M-14204-MBTKA" from the drop down box as shown below, then click "Next Step":

Please select the Ford Racing kit number being installed.

Kit Number :   M-14204-MBTKA

23) Enter the customer information in the boxes provided along with the odometer reading that you wrote down in step 8. Please be sure that the customer information is accurate since a CARB Executive Order (EO) label will be sent to the address provided. Click "Next Step" when complete.

So that we can mail an E.O. label to the customer, please provide the customer's mailing address.

VIN :   **1ZVBP8CU**
First Name :   (required)
Last Name :   (required)
Address Line 1 :   (required)
Address Line 2 :
Address Line 3 :
City :   (required)
State/Province :   :: Please Select ::   (required)
Postal Code :   (required)
Country :   :: Please Select ::   (required)
Phone Number :   (required)
Current Mileage :   (required)

24) If presented with the question "Do you wish to activate octane adjust?", select "No".   Refer to "Frequently Asked Questions" section for more details. Click "Next Step" when complete.

Do you wish to activate octane adjust?

Please choose one...

◉ No
○ Yes (only pick this option if vehicle exhibits spark knock)

25) Using the information you wrote down in step 1, select the appropriate tire width, aspect ratio, and rim diameter from the 3 drop down boxes as shown below. Click "Next Step" when complete.

What is the size of this vehicle's **driven** tires?

Width :   -- Select --
Aspect Ratio : -- Select --
Rim Diameter : -- Select --

Rim Diameter

Aspect Ratio

Width

P215/65R15
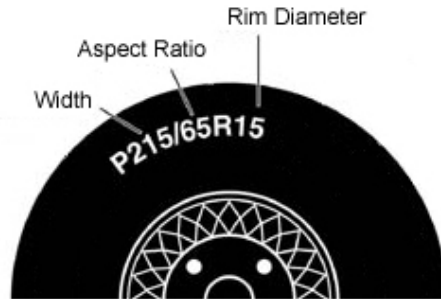
26) Using the drop down box, select the axle ratio currently installed on the vehicle. If the customer has not had the axle ratio changed, it will be 3.73. Click "Next Step" when complete.

What is the axle ratio on this vehicle?

⚠ If you are going to change the axle ratio, please select the ratio you will have after you install the parts and **not the ratio currently installed** on this vehicle.

Axle Ratio : 3.73

:: Please Choose One ::
3.08
3.27
3.31
3.41
3.55
3.73
3.82

27) Verify the battery charger is connected and then click "Start Module Programming" as shown below. **DO NOT under ANY circumstances interrupt the programming process once it has started!! DO NOT switch the key off or disconnect the VCM from either the DLC or the laptop until the programming process has completed!!**
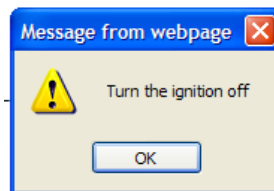
PCM File Name: CR3A-SEMABM-5BC

The module is now ready to be programmed. Please be sure to do the following...
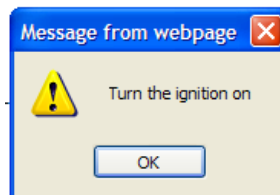
Attach Battery Charger to the Battery

Turn the ignition on

Previous Step | Start Module Programming

28) When prompted, turn the ignition key to the OFF position and click "OK"

Message from webpage

⚠ Turn the ignition off

OK

29) Wait at least 3 seconds, and then when prompted, turn the ignition key to the ON position and click "OK".

Message from webpage

⚠ Turn the ignition on

OK

30) The programming process will start, and display a progress bar while the PCM is being reflashed. **DO NOT DISCONNECT THE VCM OR LAPTOP OR TOUCH THE IGNITION KEY UNTIL IT IS COMPLETE!!!!!**

PCM File Name: CR3A-SEMABM-5BC

Programming Module - Please do not interrupt

23%

Your calibration files are being installed. There are 3 files that need to be installed. Please Wait...

31) When the programming process has completed, a message will be displayed saying "You're all done". At this point, turn the ignition key off, wait at least 3 seconds, and then turn it back on.

Ford Racing Performance Dealer Download - Complete

Thanks! You're all done.

Be sure to visit us at FordRacingParts.com.

32) Reprogramming of the PCM is now complete, but it is often necessary to relearn the misfire monitor neutral profile in order to eliminate false P0300 codes. To relearn the neutral profile, click the "ToolBox" tab as shown below:

| Owner Info | Upgrade/Mods | SLTS | ToolBox |
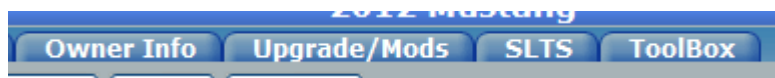
33) Under "IDS Tools" on the left side of the screen, click "Service Functions" then "Misfire Monitor Neutral Profile C".
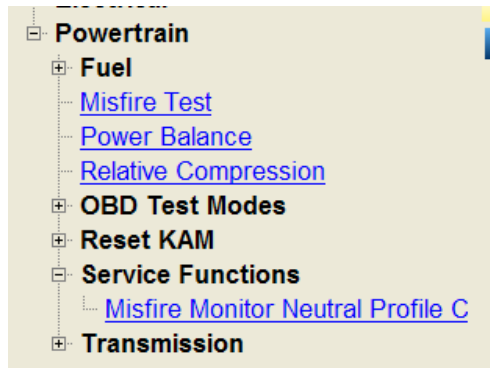
34) An IDS window will launch. Follow the on-screen directions to complete the procedure.

35) Programming the PCM will generate CMDTCs in the other networked modules. To clear the codes in these modules, go back to the "ToolBox" tab and under "IDS Tools" on the left side of the screen, click "Self Test", as shown below:
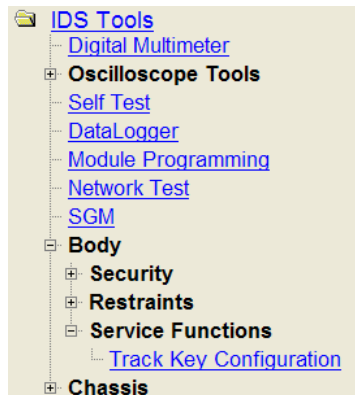
36) An IDS window will launch. Click "All CMDTCs", then click the checkmark:

37) Click on the eraser on the right side of the screen, then click the checkmark to clear all CMDTCs". All modules should now indicate a PASS. Close IDS window.

38) Close all IDS and PTS windows.

39) Start the engine and wait at least 30 seconds. On 2012 vehicles, hit the "OFF" button on the left side of the steering wheel, followed by the "RESUME" button within 2 seconds. On 2013 vehicles, hit the "RSM" button twice within 1 second. The green speed control indicator on the cluster should blink continuously twice per second. Press "RESUME" or "RSM" again and green light should go out. If this does not happen, consult the Troubleshooting section.

2012

2013

40) Shut off engine, remove TracKey and start engine with regular (silver medallion) key. Verify message center does **NOT** display "TRACKEY ACTIVE TRACK USE ONLY".
41) Turn off engine and disconnect battery charger.
42) Advise customer that a self-adhesive EO label will be shipped to their address. Once it arrives they are to install it under-hood on the driver's side shock tower. Failure to display this label in a prominent place can result in state vehicle emissions test issues, depending on the state of residence of the customer. Also remind customer that use of the TracKey requires premium (91 or higher octane) fuel.

Troubleshooting:

"Track Key configuration" does not appear in Service Functions Menu:
- Verify vehicle is a Boss 302 or Boss 302 Laguna Seca
- Verify IDS version **78.02A or higher** is installed on the computer connected to the VCM
- If issue is still unresolved, call Ford Racing Techline at 1-800-FORD-788, with vehicle VIN and customer voucher ID

"TRACKEY ACTIVE TRACK USE ONLY" does not appear after programming TracKey:
- Close trunk and both doors, switch ignition key off then back on
- Some vehicles may not program the key correctly until an IDS patch is installed. To install this patch, go to www.trackey.ford.com and click on "TracKey Installation Patch for Dealers" in the "Dealer Links" box on the right side of the page. Click on RUN to execute the program. When complete, click FINISH, then restart Internet Explorer, re-enter PTS, and repeat the procedure
- If issue is still unresolved, call Ford Racing Techline at 1-800-FORD-788, with vehicle VIN and customer voucher ID

For resolution of all other issues, call the Ford Racing Techline at 1-800-FORD-788, with vehicle VIN and customer voucher ID.

<u>Frequently Asked Questions:</u>

Can more than one TracKey be programmed for a vehicle?
- No. Only one TracKey can exist for a given vehicle at a time.

What if a customer loses the TracKey after programming?
- A new blank TracKey can be ordered from FCSD (SKU 164-R8021) at the customer's expense. It will then need to be cut, have PATS re-synched, and programmed as a TracKey by performing steps 2 through 16, also at the customer's expense. The PCM does not need to be reflashed again, and the customer does not need to purchase another M-14204-MBTKA kit from Ford Racing. If the old TracKey is found, it will no longer work as a valid TracKey after the new key is programmed.

If I have a custom calibration in the PCM already, will TracKey erase it?
- Yes. In addition, there may be warranty concerns if the custom calibration has caused engine damage that later results in a failure.

Why can I not perform TSB's that require PCM recalibration?
- TracKey is a Ford Racing Performance Parts product and as such is not distributed through the normal IDS production calibration download system. If a TSB requiring a PCM recalibration is performed, the TracKey software will be overwritten and the unique functionality will be lost. The "TRACKEY ACTIVE TRACK USE ONLY" message would still appear on the message center, but no action would be taken by the PCM because the unique TracKey software has been overwritten by the reflash for the TSB. If there is any doubt whether or not a certain TSB should be performed, call the Ford Racing Techline at 1-800-FORD-788, with vehicle VIN, customer voucher ID, and TSB number.

How do I tell if the installation has been successful?
- If the TracKey itself has been successfully programmed, the message "TRACKEY ACTIVE TRACK USE ONLY" will appear on the message center when the ignition is turned to the ON position with the TracKey. If **both** the PCM **and** the TracKey have been successfully programmed, the green speed control light on the dash will blink continuously twice per second when the engine is running and Pit Lane Speed Control has been activated. To activate Pit Lane Speed control on a 2012 vehicle, press the "OFF" button followed by the "RESUME" button within 2 seconds. To activate Pit Lane Speed Control on a 2013 vehicle, make sure the speed control indicator light is off (not orange or green) then press the "RSM" button twice within 1 second. To deactivate Pit Lane Speed Control, press the "RESUME" or "RSM" button once. **Note that if the PCM is not programmed correctly, the "TRACKEY ACTIVE TRACK USE ONLY" message can still be displayed on the message cluster but no action will be taken by the PCM so none of the TracKey functionality will work.**

What if I need to replace a PCM after TracKey has been installed?
- Order PCM, perform Programmable Module Installation normally, then call Ford Racing Techline at 1-800-FORD-788 for further instruction. Customer will not need to purchase another M-14204-MBTKA kit from Ford Racing.

What if a customer changes tire size or axle ratio after TracKey has been installed?
- Perform steps 1 through 10, then steps 17 through 19. Instead of asking for a voucher ID, the system will recognize that the PCM has already been programmed with Ford Racing software and will present the following choices:

Ford Racing Performance Dealer Download

This vehicle already has an FRPP calibration [CR3A-SEMABM-5BB] installed on it. Do you want install a new FRPP kit or change tire size and/or axle ratio?

Please choose one...

○ Install a new FRPP kit
○ Change octane adjust, tire size and/or axle ratio

- Select "Change octane adjust, tire size and/or axle ratio", click "Next Step", and then complete steps 23 through 31 followed by steps 35 through 41. Customer will not need to purchase another M-14204-MBTKA kit from Ford Racing.

My cluster says "TRACKEY IDLE ENABLED" but some cars say "TRACKEY ENGINE ENABLED". What's the difference?
- Depending on the build date of the vehicle, the instrument cluster may display one of those two messages once lopey idle mode is enabled. The TracKey software and calibration is identical on all cars regardless of which of the two messages is displayed.

What if the " TRACKEY IDLE / ENGINE ENABLED" message is displayed but the idle is not very lopey?
- First, verify that the engine oil level is correct. Make sure to use only 5W50 oil, as cam control can vary dependent on oil viscosity. Secondly, turn off all accessories such as air conditioning, rear window defrost, etc. If the idle still isn't lopey, the PCM may need to relearn the zero (or "home") position of the cams. To facilitate this learning process, shut the engine off, restart the engine using the black (non-Track) key and let the engine idle for 5 minutes with the vehicle stationary. Do not touch the accelerator pedal during this time. Once the zero position is learned, it should not need to be relearned unless the battery is disconnected or the PCM is reflashed.

What if the " TRACKEY IDLE / ENGINE ENABLED" message is never displayed but all other TracKey features work?
- For lopey idle to be enabled, three conditions must first be satisfied. The first condition is that 130 seconds must have elapsed since the engine coolant temperature reached 170 °F (77 °C) while the engine is running. The second condition is that the engine must not currently be idling (Note that it is sufficient

just to rev it up in neutral or drive away once the other conditions have been met and lopey idle mode will be enabled). The third condition is that there must be no detected failures of any PCM sensors. Specifically, this means lopey idle will be disabled if any of the following is true:

- ➢ Misfire detected
- ➢ Air charge temperature sensor failure detected
- ➢ Cylinder head temperature sensor failure detected
- ➢ Ignition coil failure detected
- ➢ Crank sensor failure detected
- ➢ Throttle body control failure detected
- ➢ Cam position sensor failure detected
- ➢ Vehicle speed sensor failure detected
- ➢ Accelerator pedal sensor failure detected
- ➢ Mass Air Flow sensor failure detected

If lopey idle is not being enabled because the PCM is detecting misfires, it may be necessary to perform the neutral profile learn procedure. If the neutral profile learn procedure does not resolve the misfire codes, then the root cause of the misfires must be determined and repaired before lopey idle will be enabled.

I hear slight "pinging" on engine acceleration from low speed. Should I be alarmed?

- TracKey alters the ignition timing and knock sensor calibrations taking full advantage of premium fuel to deliver the maximum torque and throttle response available from the engine. Some slight "pinging" on acceleration from low engine speed may be audible initially but should rapidly subside.

What if a customer complains about excessive pinging?

- Verify that **only** 91 or higher octane fuel is in the fuel tank.
- Verify coolant mixture is at least 50% water.
- Verify that oil consumption is not excessive. If it is, there may be oil in the intake manifold which is causing the pinging.
- If pinging persists, perform steps 1 through 10, then steps 17 through 19. Instead of asking for a voucher ID, the system will recognize that the PCM has already been programmed with Ford Racing software and will present the following choices:

Ford Racing Performance Dealer Download

This vehicle already has an FRPP calibration [CR3A-SEMABM-5BB] installed on it. Do you want install a new FRPP kit or change tire size and/or axle ratio?

Please choose one...

○ Install a new FRPP kit
○ Change octane adjust, tire size and/or axle ratio

- Select "Change octane adjust, tire size and/or axle ratio", click "Next Step", and then complete steps 23 through 31 but select "Yes" in step 24 when asked "Do you wish to activate octane adjust?". Finally, complete steps 35 through 41.
- If customer complaint is still present, call the Ford Racing Techline at 1-800-FORD-788.

Vehicle has P0300 or other P030x misfire DTC's. How do I proceed?

- First, warm up the engine, perform steps 32-38 above, and drive the vehicle. If the misfire codes re-appear, perform normal diagnostic procedures (other than TSB's that require PCM reflash) for determining the root cause of the misfire[**].

Note: If you have any comments or suggestions on how to improve this document, please call the Ford Racing Techline. We welcome your feedback and strive to make the installation process as painless as possible.

[**] CAUTION: Do not reflash the PCM back to a production calibration unless specifically directed to do so by the Ford Racing Techline (not FCSD). Once the PCM has been flashed back to a production calibration you will not be able to re-install TracKey without a new voucher number.

NOTE: The TracKey software and calibration are copyrighted works of Ford Motor Company and are protected under US copyright law. They may not be uploaded or copied for any purpose including, but not limited to, calibration modification and/or distribution.