

Model Mk 3
Ford TFI Relocation and
Heat Sink Kit



Thank you for purchasing a MRM Mk 3 TFI ICM Relocation Kit. The kit in your hands is the result of over five years of development and testing on our own modified Ford-powered V8 Miatas. Over 300 kits have been sold to date and have been installed on everything from the aforementioned V8 Miatas to Factory 5 Cobras to Escort station wagons to Taurus's to Mercurs to even Australian Ford Falcons.

PLEASE NOTE:

READ ALL INSTRUCTIONS BEFORE UNPACKING

When the kit was packed for shipment, the relocated TFI end was plugged into the dummy TFI end as you will plug it into your active TFI module. Keep the three jumper wires in the same order color-wise and you'll be fine. Everything else is plug-n-play.

Parts in the Kit

Before starting to work, it's important to become familiar with the parts you'll be using. The kit comes with the following parts:

Quantity	Item	Description
1	TFI ICM Jumper Harness	This harness is used to connect the three pins on the top of your TFI module to the sockets in your distributor they were originally in. Under its external wrap the harness is wrapped in copper RF shielding. Avoid bending the harness any tighter than it is when shipped. Any bend tighter than it was bent for shipment could crack the RF shielding.
1	Heat Sink with Artic Silver heat transfer grease	This is the heart of the system you'll be installing. Unlike the original Ford TFI heat sinks this heat sink was designed to cool much hotter computer electronic components. The heat sink grease that is included is better than the standard "white" transfer grease and as such is rather expensive. Don't accidentally wipe it off or remove it, it will cost you about \$15 to buy the smallest quantity you can get!
4	Aluminum Heat Sink Standoffs	These will hold the heat sink above whatever surface you choose to attach it to and allow air to circulate completely around it and the TFI module. You don't need to use all four but at least two is recommended.
4	Stainless Steel #12 Self-Drilling Mounting Screws	You'll use these screws to attach the heat sink to the unibody of your car. While they can drill their own holes we recommend drilling pilot holes for them so that they do not break and are correctly positioned where you want them.
4	Stainless Steel #12 Washers	These are used to keep the heads of the mounting screws above the fins of the heat sink.
2	M4 Stainless Allen Cap Screws Shipped screwed into the heat sink to hold the packaging away from the Artic Silver grease	Use these to replace the Ford 5.5mm hex screws. Unlike the original screws these stainless screws will not rust in place making it difficult to remove the TFI module next time. Also unlike the originals, they can be installed and removed without the use of a "special tool".
4	Zip Ties	Use these mini zip ties to secure the Jumper harness once it's in place.
1	3mm Allen key	Use to install the above Allen cap screws when installing your TFI module on your MRM heat sink
1	Drilling Template Sheet	Use this template as a guide for the drilling alignment of the heat sink posts. The template is shipped as the cardboard wrap on the heat sink.

Required Tools

The kit was designed to require a very minimum of tools and knowhow to install. We believe that if you wanted to use a soldering iron, crimper, and wrap wires in RF foil you would not be purchasing our kit. To make life easier for you and get you Ford's TFI system working cooler as fast as possible we've done all the soldering, heat shrinking, etc. for you. That said, there is one specialized tool you will need in this process. The TFI module is attached to your car's distributor with two small M4, 5.5mm sized hex screws. To make life difficult, Ford decided to mount these screws in a hole that only their special TFI removal tool can get at.

You'll need this special tool to remove your old TFI from the car's distributor. If you do not have this tool it can be purchased from several sources or "rented" from us at the time of purchase of your kit.

If you choose to purchase your own tool they can be found at the following source:

www.LatemodelRestoration.com (or at lmr.com) – Part #LRS-TX646

PLEASE NOTE:

RENTAL TOOL OPTION – RETURN FOR REFUND

If you went with the rental TFI tool option, then please remember to return the tool within 30 days of the arrival of your kit for a 90% refund.



In addition to the tool mentioned above you'll also need the following:

Small flathead screwdriver or straight pick	Used to help pull the plug off the TFI module without breaking its attachment tongs.
Drill with a 11/64ths bit	Used to drill mounting holes for the heat sink somewhere in the engine bay of your car.
Ratchet or socket handle with a 5/16ths socket	Used to screw the heat sink attachment bolts in the holes you make with the drill above.
Wire cutters, small "nipper" or even a set of nail clippers	Use to cut the excess off the zip ties - neatness is important!

Installation Instructions

Step One: Old TFI Removal

The old TFI ICM needs to be removed from the distributor to allow access to the stator coil's contacts even if a new TFI module will be used (recommended). First, remove the TFI plug from the module. If the tongs seem brittle or hard then try using a small screw driver or pick to GENTLY pry them aside and slide the plug off the module. Once the plug is removed, use your Ford TFI removal tool to remove the two screws holding the module to the distributor. Do not try to pull the module out and away from the distributor. Once both screws are removed push down on the module to unplug it from the stator coil in the distributor. Once unplugged, the module will be free.

Step Two: Decide where to locate the TFI module heat sink

The Mk 3 relocation harness uses the same points of location for the TFI plug and stator coil contacts. Since this is an "in place" replacement, you only need to find a location for the heat sink that is within the range of the TFI harness. The TFI harness comes in a standard length, but special order build lengths are available on request. Please contact us if interested.

Once you see what your options are as far as distance look for a location that is optimal for the module itself. DO NOT relocate the module to an area that is prone to moisture (e.g., the windshield cowl). Some people who have written on this topic suggest the front of the radiator, and **we do not recommend this location**. While that is the coolest location, it could allow the TFI to get fairly wet while driving in the rain or through a carwash. We suggest the right or left side of the engine bay (not the firewall) of most cars or trucks. Cobra owners/builders may have to look for a location that is less moisture optimal (not really an issue as most Cobras are not typically driven in the rain).

Step Three: Unpack the heat sink

The heat sink comes with a one-time use application of Artic Silver 5 Heat transfer compound. This silver heat transfer grease is far superior to the white grease that was originally used by Ford or the type included with a new TFI module. In order to keep the application of grease from being disturbed during shipping your heat sink is packed in a very specific way that will require some care in unpacking. To make sure the heat sink grease is not disturbed please follow the directions below:

1. Carefully remove the heat sink from the plastic bag WITHOUT removing it from the cardboard wrap. The cardboard wrap cannot be allowed to touch the heat transfer grease.
2. Carefully remove the cardboard wrap from the heat sink. DO NOT touch the flat surface of the heat sink or the Artic Silver grease. The cardboard wrap is also the template you will use in step four to drill the mounting holes for your heat sink. Do not throw it away.
3. Note the two 4mm cap screws that were holding the cardboard away from the grease. These are the two screws that you will use to attach your TFI module to the heat sink. **To keep the grease safe do not remove these screws until you are ready to attach your TFI module to the heat sink.**

Step Four:

Attach the TFI module to the heat sink

Notice that the TFI module could be oriented one of two ways on the bottom of the heat sink. One orientation will result in most of the module being under the heat sink, the other will result in the entire plug end of the module sticking out. While either orientation will work, we designed the heat sink to cover the entire module to protect it from moisture and make the install cleaner. We recommend installing it so that it is entirely covered.

If you are reusing a previously installed module you must completely clean the old white heat transfer compound from it. Mass Air Flow meter cleaner or other electronics cleaner works well for this.

Use the kit's Allen key to remove the mounting screws from the heat sink. Carefully position the TFI module in the desired orientation on the heat sink. You do not have to spread the Artic Silver around, the module will "squish" it into a thin film when tightened down. Use the Allen key to screw the two cap screws through the module's mounting holes and into the heat sink to mount the module. Tighten enough to "squish" the Artic Silver and keep the module in place. Do not use a wrench to over-torque, the Allen key and your hand are all you need to make it tight enough.

PLEASE NOTE:

WE RECOMMEND USING A NEW TFI ICM MODULE.

Even an off-brand, non-Motorcraft new module is better than an old Motorcraft one that has already shown signs of going bad. Our experience has shown that once they start going bad they will continue to go bad even if relocated to a heat sink. The heat sink may buy you time but it will still go in a matter of months. Since replacement will require you to purchase your own Artic Silver at \$15 a tube we recommend you spend the money now and replace the TFI module with a new one. Motorcraft modules are the best and insanely priced. We have experience with Accel modules are more than adequate and much more reasonably priced.

WE RECOMMEND USING A NEW TFI ICM MODULE.

Step Five:

Drill the heat sink mounting holes

Use the included template (on the heat sink cardboard wrap) to mark and punch guides for the holes you are planning to drill. Again, you do not need to use all four screws, but we do recommend at least two to keep the heat sink secure. Before drilling, make sure there are no wires behind the surface you are drilling into. The mounting screws will protrude about ½ inch behind the surface where the heat sink is mounted. Make sure the screws protrusions will not interfere with the movement of any part of your car when installed. Once the holes are drilled, use one of the #12 mounting screws to "tap" each of the holes before final installation of the heat sink.

Step Six:

Attach and route the TFI Jumper harness

❖ At the Distributor End with Dummy TFI ICM:

Since the Mk 3 kit is a plug-n-play solution, attaching the dummy TFI ICM unit is a straightforward replacement. Prior to attaching the dummy TFI ICM module on to the distributor, you may want to consider using a light coating of electrical connection grease

on the contacts before installation to prevent corrosion and improve contact (NO-OX-ID is one such product).

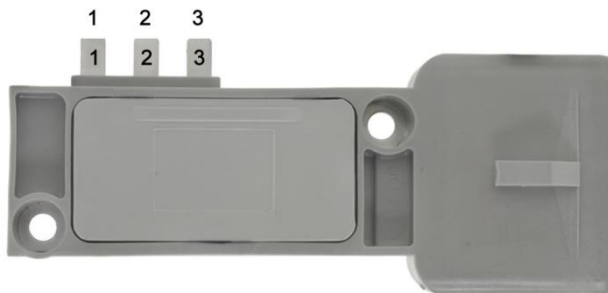
- ✓ Align the dummy TFI unit with the stator coil connectors and gently push the ICM unit up into the distributor connection.
- ✓ Use the included Allen wrench to install the two cap screws that will hold the dummy module to the distributor (these are included in your hardware pack).
- ✓ Insert the TFI plug into the dummy module.

❖ At the Active Module End:

The module end of the harness is sealed with blue heat shrink tubing and consists of three female terminals and one ring terminal. The three red female terminals will attach to the module's three prongs, the ring terminal lead grounds the RF shield and needs to be grounded to the car's body. Attach the three female terminals to the three prongs on the side of the module which would have pushed into the bottom of the distributor. Take very careful note of the wire colors and check the distributor end to make sure that the colors are oriented exactly the same. Leave the RF ground wire free for the time being.

When the kit was packed for shipment, the relocated TFI end was plugged into the dummy TFI end as you will plug it into your new TFI module. Keep the three jumper wires in the same order color-wise and you'll be fine. The three module connection jumper wires are wrapped in their own bundle. Everything else is plug-n-play.

Active ICM Module Wire Attachment



1 – Black (Ground)

2 – Red (Power)

3 – Green (Signal)

Step Seven: Mount the Heat Sink

Use the included #12 self-tapping screws, the #12 washers and the 1" aluminum spacers to mount the Heat Sink. Slide a washer over the screw, insert the screw through one of the heat sink's mounting holes, slide a spacer over the free end of the screw and then loosely screw the screw into one of the mounting holes made in Step Five. Repeat for the remaining mounting screws.

When all screws are in place, tighten all the mounting screws securely.

The grounding eyelet can be attached to one of the mounting screws holding the heat sink, or separately to the body of the car with another screw.

Step Eight:

Route and Attach the TFI Plug

Route the TFI plug branch of its harness to the new TFI location. Plug the TFI plug into the Active TFI module.

Step Nine:

Check and Start

Double check to make sure your orientation of the TFI Jumper harness is positioned and attached correctly, that the TFI plug is fully inserted into each end of the modules, and that the blade connections are attached properly to the active ICM module.

IMPORTANT NOTE:

BEFORE STARTING – REVIEW LOCATION AND CLEARANCE OF WIRE HARNESS

Make sure the TFI branch and the TFI Jumper harness are not routed in the way of any moving or “hot” parts of the engine bay.

Jump in the car and turn the key. Once the car is running smile and slap the included McCully Racing Motors sticker somewhere on the exterior of your car.

If The Car Does Not Start

In over 300 installations of our kit we’ve only had a handful of customers contact us with no-start issues. They were all solved after rectifying one of the following situations:

Reason	Solution
Reused old heat soaked ICM module	Buy a New ICM Module
The distributor end terminals were not properly plugged in.	Check to make sure the terminals are plugged INTO the female counterparts and not next to them. If in doubt, mark your distributor’s orientation (remove the cap and mark the rotor’s location on the body of the distributor), pull it and check to make sure.
The wires of the TFI jumper harness are not oriented correctly	Verify that the orientation of the wire colors at each end of the harness match. Visualize the module plugged into the distributor and confirm that the jumper wires at the distributor are attached to the pin on the module that would have been in that location.
You removed the distributor cap during installation and forgot to reattach the coil wire.	Replace the coil wire.

Again, thank you for your business. Please feel free to contact us with any questions or comments you have about our products or any issues you may run into during installation.

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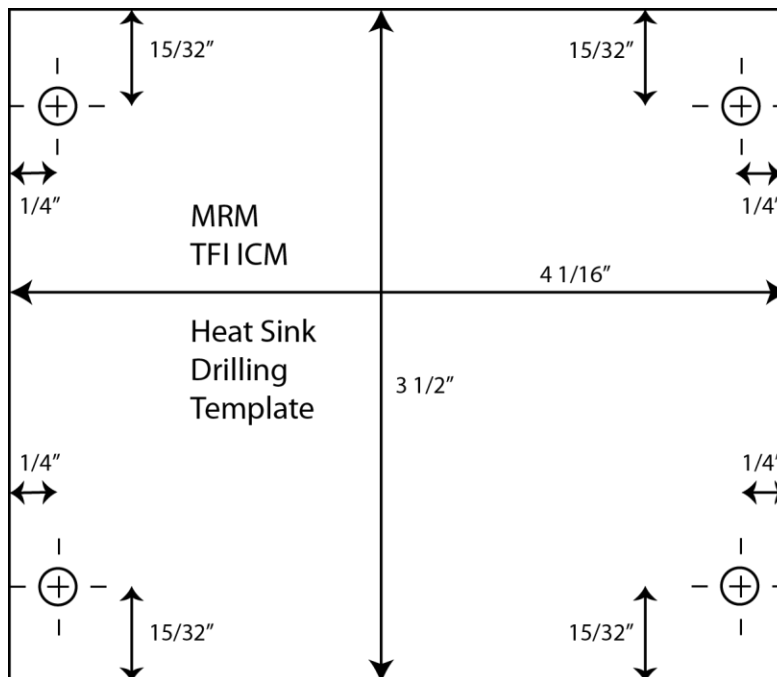


Also ...

We'd like to build a "Customer's Rides" section on our website. Please send us a picture of your vehicle if you'd like to be part of it, and maybe a short phrase regarding your experience.

Drilling Template Outline Sheet

Note: Before printing, set your printer options to print the template in "Actual Size" mode. After printing, use a ruler to ensure that the dimensions are as printed since printers have different resolutions that may affect output size. Remember, "Measure twice, you drill only once."



Limited Warranty

MRM McCULLY RACING MOTORS (MRM) warrants only to the original purchaser of the Product from MRM (the "Customer") that the product purchased from MRM (the "Product") will be free from defects in materials and workmanship under the normal use and service for which the Product was designed for a period of:

Sixty (60) days from the date of purchase of the Product by the Customer.

Customer's exclusive remedy under this Limited Warranty shall be the repair or replacement, at MRM's sole option, of the Product, or any part of the Product, determined by MRM to be defective. In order to exercise its warranty rights, Customer must notify MRM in accordance with the instructions described under the heading "Obtaining Warranty Service".

This Limited Warranty does not extend to any Product damaged or worn by reason of application conditions, incorrect sizing, alteration, accident, abuse, neglect or misuse or improper or inadequate handling; improper or inadequate wiring utilized or installed in connection with the Product; installation, operation or use of the Product not made in strict accordance with the specifications and written instructions provided by MRM; use of the Product for any purpose other than those for which it was designed; ordinary wear and tear; disasters or Acts of God; unauthorized attachments, alterations or modifications to the Product; the misuse or failure of any item or equipment connected to the Product not supplied by MRM; improper maintenance or repair of the Product; or any other reason MRM determines in its sole discretion to be excessive or improper.

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liability or any other legal theory, or other losses or expenses incurred by the Customer or any third party.

To obtain warranty service, the Customer must first contact MRM McCULLY RACING MOTORS to determine the problem and the most appropriate solution. The Customer is responsible for Product shipping charges to MRM McCULLY RACING MOTORS.