

<b>MOTION MOTORSPORT INSTRUCTION PROCEDURE</b>	<b>UNDERPANEL KIT INSTALLATION- E36 M3</b>	<b>Procedure: P01</b>
		<b>Revision: 1</b>

## 1.0 PURPOSE:

- 1.1. This procedure is to document intended installation of the Motion Motorsport Underpanel kit. This kit is designed to be the most robust competition grade underpanel available for the E36 chassis. It features a unique stud fastening system, 1 piece aluminum panel construction, and bracketing engineered to support in excess of 300lbs of down force when installed. The underpanel protects the underside of your automobile, smooth's initial airflow under the chassis, and aids proper airflow through the radiator as the factory intended.

## 2.0 CONTENTS:

- 2.1. 1 aluminum Underpanel
- 2.2. 2 aluminum brackets (left and right)
- 2.3. 1 pair of Motion Motorsport stickers
- 2.4. 9 square neck toothed anchors
- 2.5. 9 ¼-20 x ¾" square shank bolts
- 2.6. 26 ¼" metal nuts
- 2.7. 21 ¼" washers
- 2.8. 8 ¼-20 x ¾" screws
- 2.9. 4 plastic inserts w/ Phillips head screws
- 2.10. 4 fender liner clips
- 2.11. 2 blind rivet nuts w/ Philips head screws
- 2.12. 1 fitting tool for blind rivet nut

## 3.0 PRODUCTION AIDS:

- 3.1. 11mm box wrench
- 3.2. 11mm socket w/ ratchet
- 3.3. Phillips head screw driver
- 3.4. ¼" drill bit
- 3.5. 5/16" drill bit
- 3.6. Power drill
- 3.7. Utility knife
- 3.8. Sharpie Marker
- 3.9. File

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#### 4.0 PROCEDURE:

\*Installation of certain aftermarket trim pieces or non-OE items on the lower front bumper area may interfere with installation tolerances of underpanel, and we cannot 100% guarantee fitment of the product if these items are present.

\*Whenever working underneath a car, always park on level ground, secure emergency brake, and use jack stands.

\*Aluminum sheet can be very sharp, it is recommended to wear working gloves.

\*Please note make sure all OEM underpanel components are removed prior to installation. If present, please remove the front "pork chops" located adjacent to the wheel liners as well in order to assure proper fit of your Motion Motorsport Aluminum Underpanel. Installation video aids can be found at [www.motionmotorsport.net](http://www.motionmotorsport.net)



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#### 4.1. Installation Preparation

- 4.1.1. From the underside of the car, look up at the frame rail of the car, on each side will be 2 squared holes. If the OEM plastic inserts remain in the frame rail holes, please remove.
- 4.1.2. Install the 4 plastic inserts included with your underpanel kit. Make sure to install them such that the insert tabs are oriented against the left and right sides of the hole, and the split between the tabs follows the length of the car. **See Figure 1.**
- 4.1.3. **\*\*Please note for 1995 M3's only:** In order to create the best fitment possible you will be required to drill a hole in the frame rail since the radiator occupies the other mounting point. Place the bracket up to the existing open hole in the frame rail and make a mark using the bracket to insure the correct measurement. Using a 5/16 drill bit and a power drill proceed to drill the hole. Insert the blind rivet nut (2.11) into the hole. Place the associated Philips head screw (2.11) and place through the small hole of the blind rivet nut wrench (2.12). Insert the screw into the hole and screw until tight. Next remove the screw and proceed to follow step 4.1.4 as normal. **\*\***





- 4.1.4. With the 2 aluminum underpanel brackets, and the 4 Phillips head screws (item 2.11), prepare to install the brackets. The top of each bracket is identified by the smaller set of holes, and should point towards the outside of the vehicle. The tabs on the bottom should point towards the inside. Each bracket has a more aggressive angle on the rear edge when held in the mounted position. See the first picture of the underpanel assembly in this document. This identifies the left bracket from right.
- 4.1.5. Attach the top with the Philips head screws provided (item 2.9). **See Figure 2.** When both brackets are installed, it will resemble **Figure 3.**





- 4.1.6. Prepare to drill the front stud holes and fender liner holes by fastening the underpanel to the installed brackets, the piece is symmetrical and will mount flush regardless of which side you use as top or bottom. **\*\*Please note; on some cars the alignment between the brackets and underpanel might be slightly off. To remedy this simply take a circular file and insert it into the larger holes on your bracket and file them into a slotted shape. \*\***
- 4.1.7. Finger tighten four sets of  $\frac{1}{4}$ -20 x  $\frac{3}{4}$ " screws and  $\frac{1}{4}$ " metal nuts to attach the underpanel to the brackets. This will allow easier drilling of the front mount holes, using the underpanel as the template. **NOTE:** Inspect your fender liners to ensure the corner of the bottom tabs do not interfere with the bracket to underpanel attachment interface. If it does, trim the fender liners to fit. Only a small amount of material should have to be removed, if at all from the inside edge.



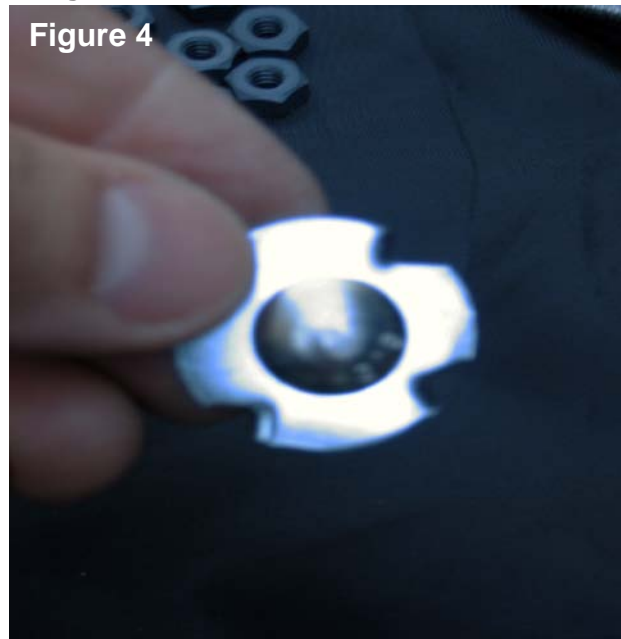
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4.1.8. Using the 1/4" drill bit and a Power Drill, proceed to drill the holes as laid out on the underpanel: 9 along the front and 2 per side on the wheel liner.

4.1.9. Once the holes are drilled, drop the underpanel back down.

## 4.2. Installation

4.2.1. Assemble the 9 1/4-20 x 3/4" square shank bolts to the 9 square necked toothed anchors as seen in **Figure 4**.



4.2.2. Insert each of the 9 stud assemblies from the top into the 9 holes drilled along the underside of the front bumper, such that the threading of the bolt comes down through the hole, and the teeth of the anchor are resting on the top surface of the bumper plastic.

4.2.3. On the bottom of each anchor install the metal 1/4 nut using the 11mm drive. **See Figure 5**. Make sure to take extra care to tighten these nuts very tightly so the teeth of the anchor really sink into the plastic of the bumper, and the nut is sucked upwards as much as possible. This will allow the underpanel to be spaced such that it is co-planar with the front lip of the OEM bumper for a smooth flow of air.



**Figure 5**

- 4.2.4. Now it is time to take your underpanel and begin the final process of bolting it on. Take the 4 fender liner clips provided and slip onto on the 4 holes drilled onto the wheel liners. **Ensure that the threaded portion of the clip is on the top side of the fender liner.**
- 4.2.5. Align the underpanel with the 9 studs on the underside of the bumper, and mount the underpanel onto the studs. See **Figure 6**.



**Figure 6**

- 4.2.6. Once underpanel is aligned correctly with all bolts poking through the appropriate holes, take the stainless steel washers and nuts. Install one washer and one nut per

stud. Proceed to tighten the nuts down with your 11mm wrench securely, making sure to tighten all pieces to ensure the best fitment and protection.

- 4.2.7. To attach fender liners to the underpanel assembly, take the 4 remaining ¼-20 x ¾" screws, along with 4 washers and screw through the underpanel holes up into the fender liner clips. Ensure that your brake ducting is mated correctly to the fender liner. Tighten screws securely. **See Figure 7.**



- 4.2.8. Lastly, fasten the underpanel to the brackets using 1 stainless screw (item 2.8), 2 washers (item 2.7), and 1 nut (item 2.6) for each hole. Use the screw and 1 washer on the underside, and the nut and 1 washer on the top side. Tightly fasten for all 4 bracket locations.
- 4.2.9. For future accessibility, this underpanel is quickly and easily removed and reinstalled thanks to its unique stud fastening system and brackets.



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4.2.10. Congratulations! You have completed the installation of the Motion Motorsport Underpanel for your E36 M3. Enjoy many miles of track and road, confident that you have the strongest panel on the market protecting and enhancing your automobile.

If any assistance is needed during install please do not hesitate to call or email us, we will be happy to help.

Thank you.

Motion Motorsport

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