

INCREASING THE AREA UNDER THE CURVE

Twisted Tuning BMW X-Drive T-Case Mount Inserts

Installation Manual

V0.02



Our X-Drive Mount insert were designed to combat a specific issue with the BMW X-drive drive-train and that's reduce transfer case and transmission movement at the center of the car. On the XI the actual mount is super soft and offset to the passenger side of the drive-train. Under torque the trans and t-case twist. This will reduce the twisting that happens in turn keeping the front driveshaft/t-case output from being at weird angles under torque.

What comes in the Kit??

- One set of Mount inserts made from Aluminum 6061-T6
- Installation Hardware

Vehicle Fitment:

- 3' E46 (09/1999 — 05/2005)
- 3' E90 (02/2004 — 08/2008)
- 3' E90 LCI (07/2007 — 12/2011)
- 3' E91 (03/2004 — 08/2008)
- 3' E91 LCI (07/2007 — 05/2012)
- 3' E92 (05/2005 — 02/2010)
- 3' E92 LCI (11/2008 — 06/2013)
- 5' E60 (07/2004 — 02/2007)
- 5' E60 LCI (10/2005 — 12/2009)
- 5' E61 (09/2004 — 02/2007)
- 5' E61 LCI (11/2005 — 05/2010)
- 5' F07 GT (05/2009 — 06/2012)
- 7' F01 (03/2010 — 06/2012)
- X1 E84 (09/2008 — 11/2015)
- X3 E83 (01/2003 — 07/2006)

TOOLS NEEDED:

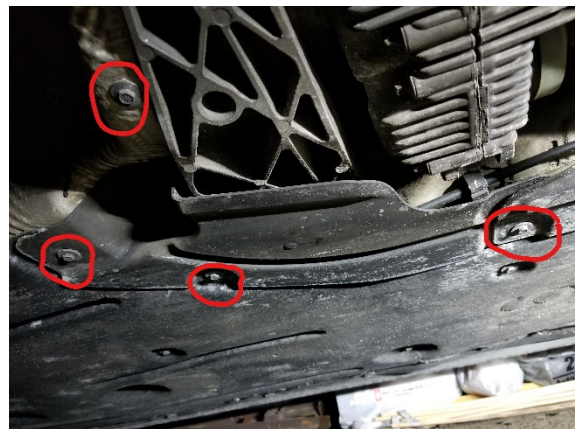
- Torque Wrench (capable of an accurate 115in/lbs)
- Sandpaper or a Dremel with finishing wheel attachment
- 8mm (5/16") socket
- 10mm (3/8") socket
- 11mm (7/16") deep well socket
- 11mm (7/16") open/box end wrench (preferred gear wrench)
- 13mm (1/2") socket
- 18mm (11/16") socket x2
- Ratchet and/or breaker bar x2 (impact gun can be substituted for either)
- Jack and/or lift
- Jack stands x2
- White Lithium Grease or Some sort of Waterproof grease
- Knife, Razor, or Xacto Knife (or similar)

INSTALLATION INSTRUCTIONS:

NOTE: Always think safety first. Your vehicle will be raised off the ground for this entire installation. So we advise using as many failsafes as possible to protect yourself. IE- chock blocks, jackstands, emergency brakes on, transmission locked in gear and etc.

NOTE: These instructions are based on this process being done by the average enthusiast without access to an actual lift. In the event of using a lift, some of these instructions can change or not be used at all. Proceed with what makes sense.

1. Park vehicle on level and solid ground. Refrain from jacking the car up on soft gravel, dirt, grass and etc. As the car can sink once the weight is placed on the jackstands.
2. Put transmission in PARK for AT/DCT equipped vehicles and MT equipped vehicles place in 1st or Reverse Gear.
3. Apply the Emergency Brake firmly and place a chock block or equivalent on both sides of one wheel on the rear driverside wheel.
4. Locate an approximate point on the passenger side of the car to jack up that one side fairly easy as high as you can get it. Then place two jackstands to support the vehicle.
5. Remove the plastic cover on the driverside of the t-case by removing four 8mm screws and one 10mm nut.
6. Remove 8mm screw from the heat shield on the rear of the t-case support bracket.

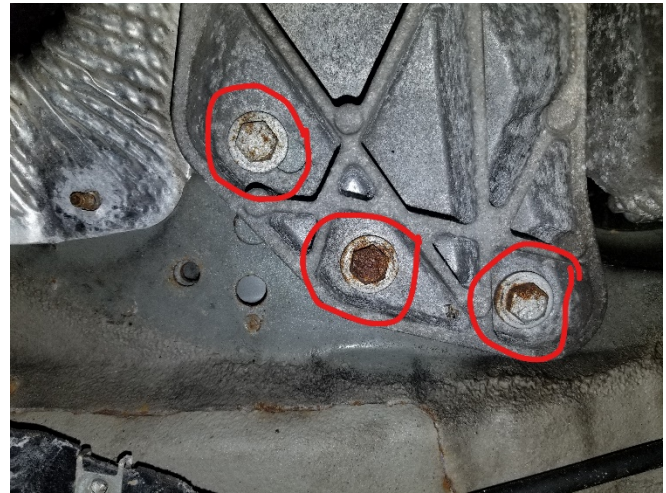
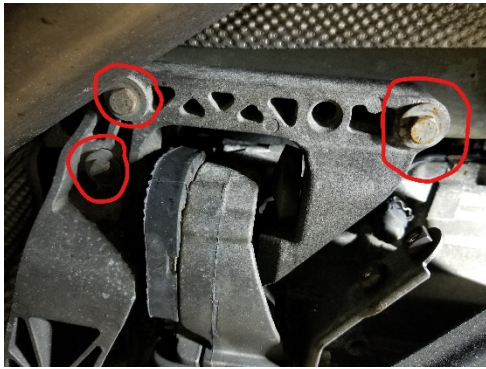


7. Place a jack or other usable support device under the transfer case to support it once the transfer case support mount is removed.
8. Pump the jack until the transfer case is seated on the jack pad with the jack supporting the weight of the t-case and transmission. **NOTE:** once the transfer support bracket is removed, there is nothing supporting the assembly in the center of the car. With that said, if the jack fails or you raise the jack too much. It will tilt the entire assembly.
9. Remove the 18mm mounting bolt and nut from the center of the actual t-case mount which is used to hold the mount in place with the t-case support bracket.

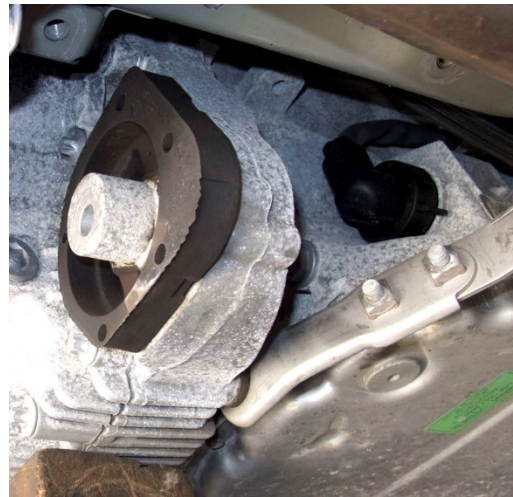


NOTE: the nut end is tucked away and a bit recessed behind the edge of the t-case support bracket arm. Owners with the stock exhaust or an exhaust that still utilizes the silver bracket that is attached to the t-case may need to remove that part if they can't reach the nut.

10. Remove three 13mm bolts from the driverside of the t-case support bracket. And Three more 13mm bolts on the passenger side of the t-case support bracket. Be careful taking out the 6th bolt as the support bracket will now be free to drop down away from the vehicle.



11. With the support bracket now out of the way. You must now clean the stock mount shaft. The inserts center bore is made to very close tolerances the center shaft of the stock mount needs to be cleaned. Oxidation and just overall grime build up on the Aluminum mount shaft which is exposed to the element. Use the sandpaper or the Dremel tool to get rid of all the debris and oxidation from the center of the mount shaft.



12. Look inside the stock mount. You will see that there is still a thin membrane of rubber in the breaks that was left during the casting of the factory mount. Using a knife, razor, or an x-acto knife. Puncture the thin membrane and remove as much as possible. It does not all need to be removed. Just to where most is gone not to impede insertion of the inserts.

13. Using some kind of grease, preferably white lithium or some type of waterproof grease. Coat liberally the inside of both sides of the factory t-case mount. This is to add in ease of installation of the Mount insert.

14. Insert the mount inserts into the mount. If the center shaft is cleaned enough you will be able to insert them by hand with a little force by squeezing them into place. If not remove and clean the stock mount center shaft some more and try again.

NOTE: Through some research we have found that there are two variations of the oem mount. We purchased another 4 mounts from 3 different places and what I found was that 1 of 4 of these new mounts (OEM part numbers) had some small difference in the stock mount shaft diameter. 3 of the 4 mounts the casting is a straight cast from the start down to the rubber. one of the mounts however started the exact same size, but as it moved down to the rubber portion of the mount. The diameter of the shaft was actually larger by 0.49mm (we'll round up to .5mm) so its tapered. So looks like the same part number has a variance in casting somehow.

The photo below is his mount and where it stopped on a customer's installation



If you've taken a look at the published install manual, you know that the mount insert is supposed to seat pretty much flush with the OEM mount as seen below....



Being that We cannot predict which mount casting you guys may have in the car since they are the same OEM part number. It's virtually impossible for us to know which style you as the customer has in the car. The only way to know is to either measure the mount with a micrometer or do a test install.

These inserts will be able to be squeezed into place by hand. So, if the mount stops, you more than likely have the tapered mount and the center/rear of the front mount insert needs to be opened up a bit. This can easily be done with a Dremel by adding a few minutes to the install by using a Dremel sanding bit to remove some material evenly around the center bore of the Front mount insert. Again, we are talking .49mm which is about the thickness of a fingernail.



So, in the event of someone having the tapered mount. We offer them being able to send the insert back and we open it up and send back. Or you guys can do it yourself.

15. Squeeze the inserts into place until they are inserted enough to be able to put the bolts through and use those to pull the inserts completely into place. Fully inserted mount inserts will look like the inserts in the following photos.



16. Once fully inserted. The mount insert bolts should be tightened to 115in/lbs. Again, 115in/lbs, not foot pounds.

17. You have now successfully installed your new Twisted Tuning Transfer Case Mount Inserts. Now reinstall all other parts in reverse fashion and enjoy firmer shifting, and reduced drivetrain slop.

CONGRATULATIONS!!!!

EXTRA PHOTOS:



