



## BMW F-Chassis XDrive Rear Differential Brace Installation Instructions



Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

## INSTALLATION NOTES

- **RH** refers to the *passenger side* of the vehicle.
- **LH** refers to the *driver side* of the vehicle.
- Always use the proper torque specifications.
- If applicable to this installation, torque specifications will be listed throughout the document and at the end as well.
- Please read all of these instructions and familiarize yourself with the complete process **BEFORE** you begin.

## GENERAL PREPARATION AND SAFETY INFORMATION

Turner Motorsport cares about your health and safety, please read the following safety information. This information pertains to automotive service in general, and while it may not pertain to every job you do, please remember and share these important safety tips.

- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- **ALWAYS** wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.
- Whether lifting a vehicle using an automotive lift or a hydraulic jack, be sure and utilize the factory specified lift points.
- Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear.
- **ALWAYS** support the vehicle with jack stands.
- **ALWAYS** read and follow all safety information and warnings for the equipment you are using.



**NEVER** get underneath a vehicle that is supported only by a jack, and **ALWAYS** make sure that the vehicle is securely supported on jack stands.

## INSTALLING THE DIFFERENTIAL BRACE

### Step 1: E12 Torx Socket & Ratchet

If equipped, remove the bolt (arrow) which secures the vibration damper to the underside of the rear subframe.



### Step 2: T55 Torx Socket & Ratchet

Remove the two lower bolts (circled in **RED**) from the back of the rear differential.





## INSTALLING THE DIFFERENTIAL BRACE

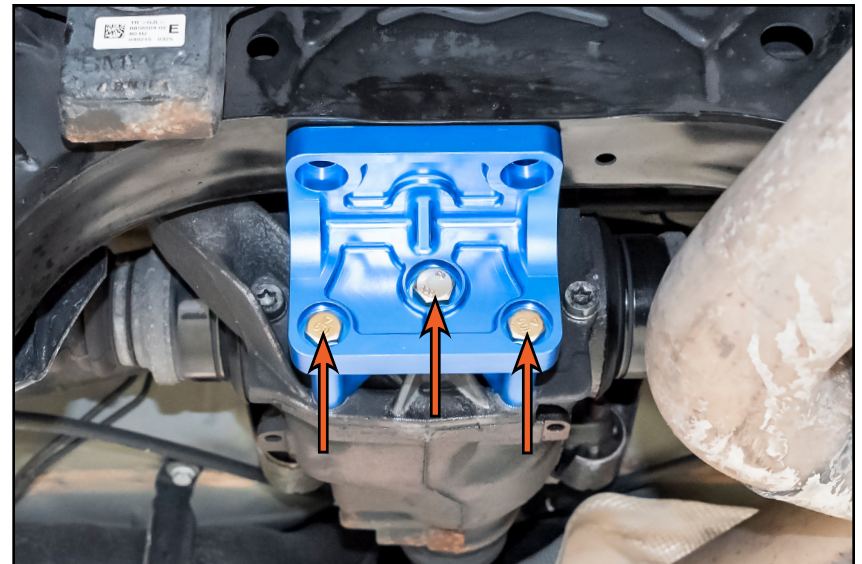
### Step 3: M12 x 1.5 Thread Chaser

If equipped, remove the vibration damper from the back of the rear differential. Before installing the brace, inspect the threaded hole in back of the differential. Clean and chase the threads as needed.



### Step 4: 17mm, 19mm Socket & Torque Wrench

Lift the brace up into place and install the provided M10 and M12 bolts (arrows) to secure the brace to the back of the differential. Torque the M10 bolts to 90 Nm (66 Ft-lbs) and the M12 bolt to 100 Nm (74 Ft-lbs).

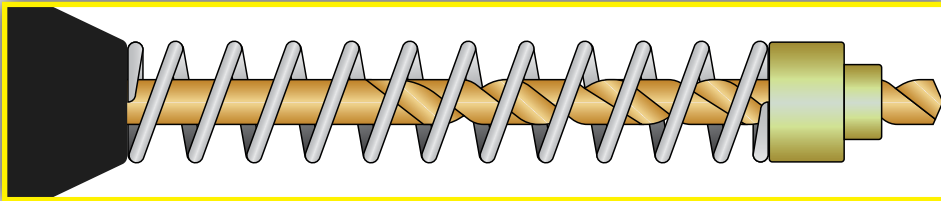




## INSTALLING THE DIFFERENTIAL BRACE

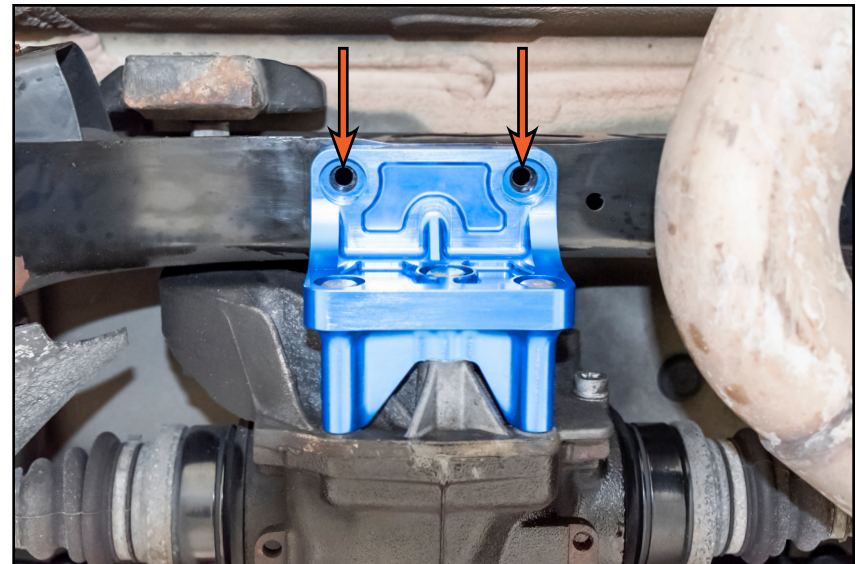
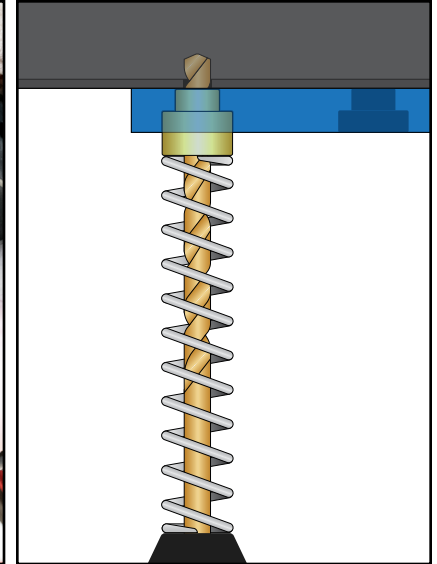
### Step 5: Drill

Slide the first drill guide and spring onto the provided 10mm drill bit as shown in the illustration below, then slide the guide into the recessed holes on the top of the brace and drill the first set of holes through the bottom of the subframe.



### Step 6: Drill

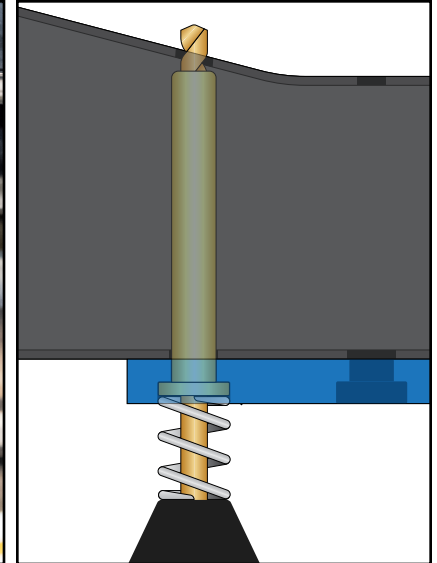
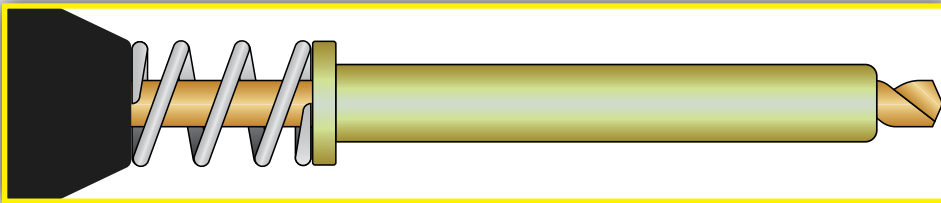
Using the provided 15mm drill bit, expand the two holes we just made (arrows).



## INSTALLING THE DIFFERENTIAL BRACE

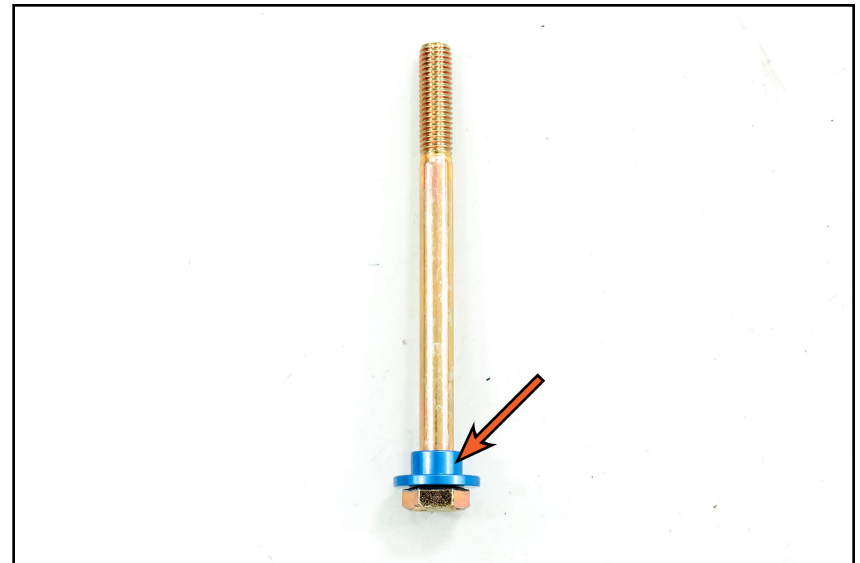
### Step 7: Drill

Slide the second drill guide and spring onto the 10mm drill bit as shown in the illustration below, then slide the guide into the recessed holes on the top of the brace and drill through the top of the subframe.



### Step 8:

Slide the provided billet plug (arrow) onto each of the M10 x 130mm bolts as shown.

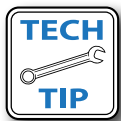




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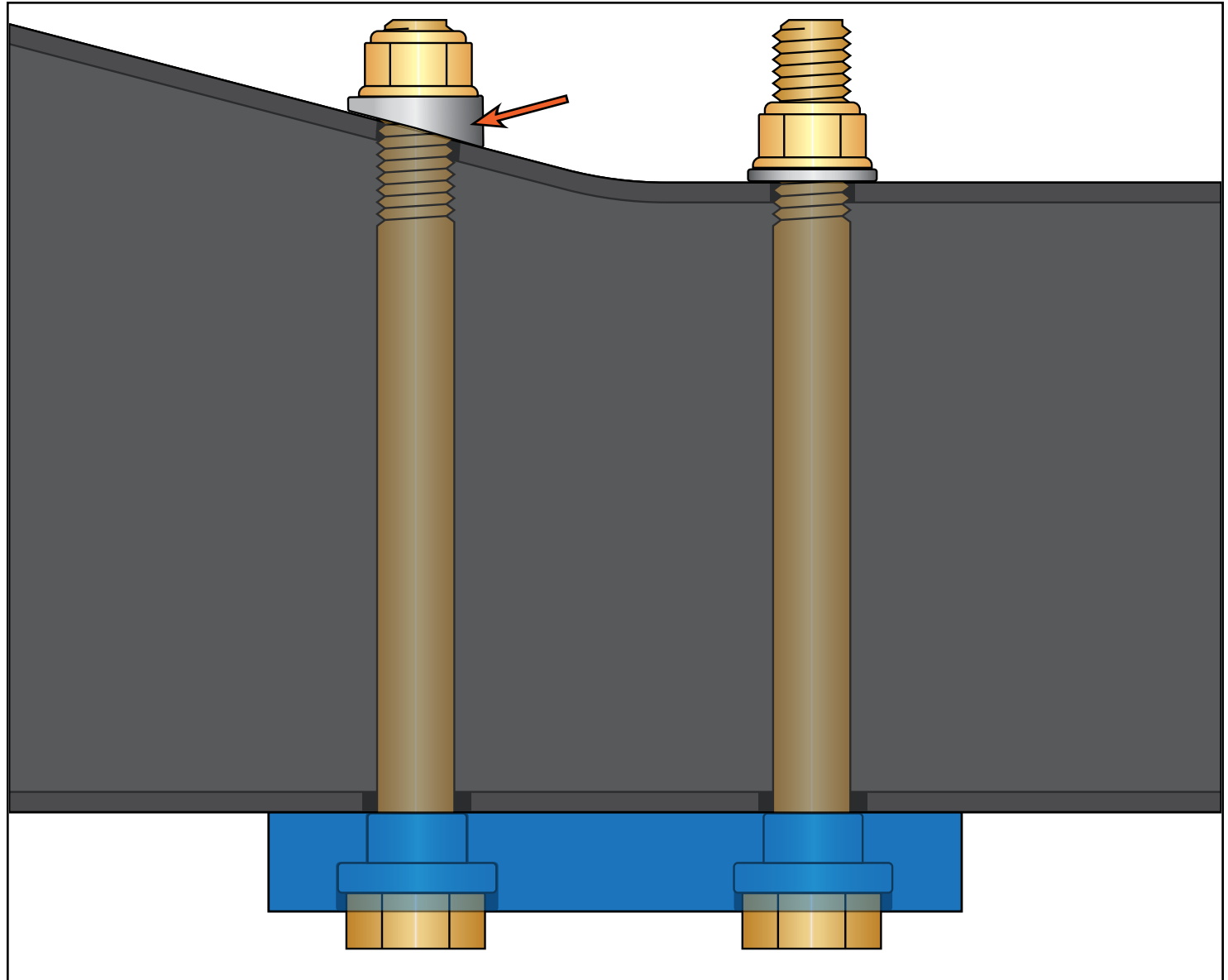
### Step 9:

Slide the bolts through the brace and up through the holes in the subframe as shown. Slide the provided flat washer and nut onto the RH bolt as shown, then install the angled washer (arrow) onto the LH bolt and rotate until the angle matches that of the subframe before installing the nut. While counter-holding the nut from above, torque each bolt to 30 Nm (22 Ft-lbs).



Apply paint to the drilled holes and allow it to dry to protect the exposed metal from corrosion.

***Congratulations,  
your installation is  
complete!***



## Your Differential Brace installation is complete!



### These instructions are provided as a courtesy by Turner Motorsport

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