

# BMW F3x Non-M Poly Rear Differential Bushing Set Installation Instructions - [ES4352457](#)



**Thank you for purchasing your new Poly Rear Differential Bushing Set, we appreciate your business!**



**These installation instructions have been broken up into several sections:**

**1) Removing the Rear Subframe**

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**2) Installing the New Poly Bushings**

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**3) Reassembly**

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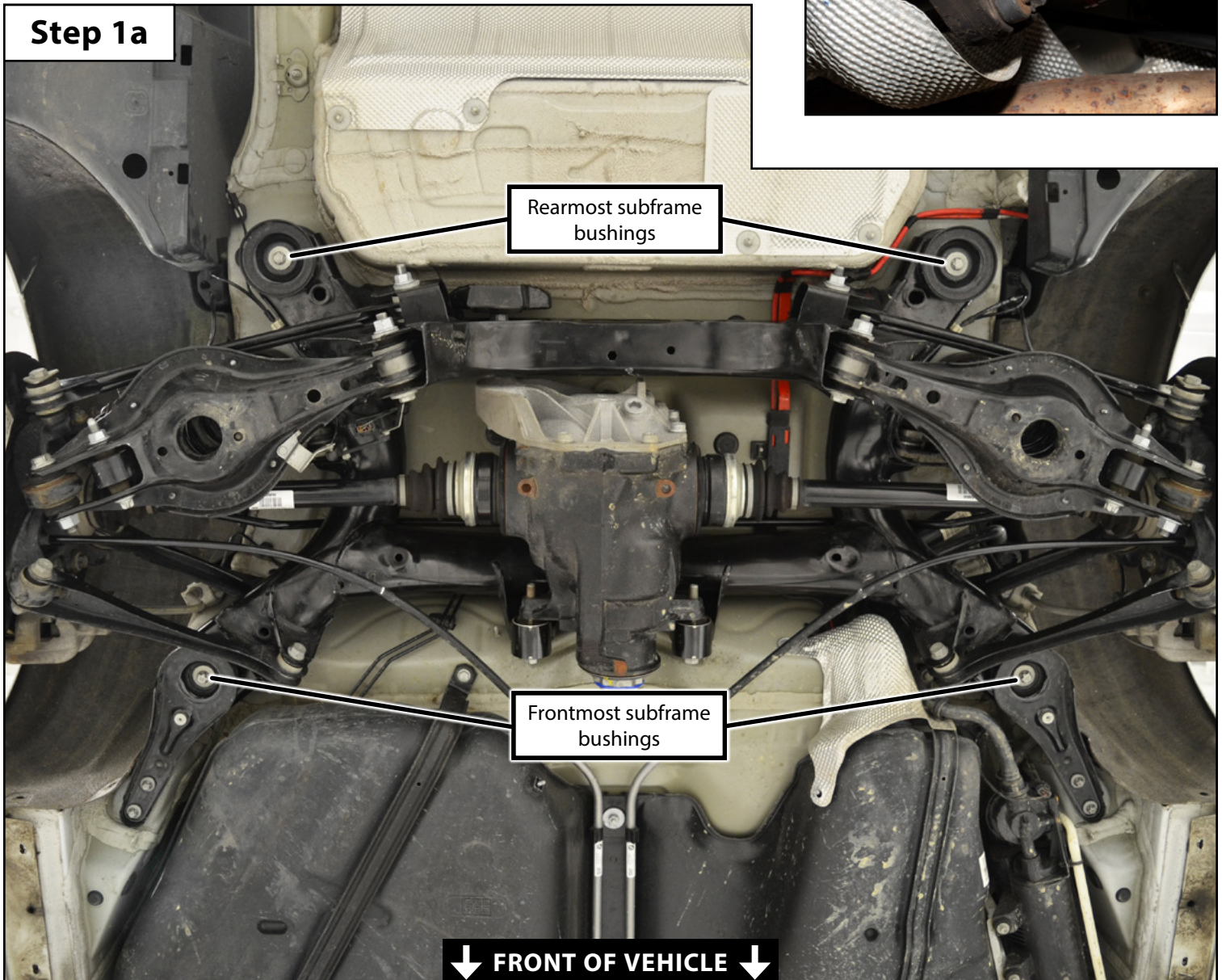
## Section 1: Removing the Rear Subframe

- Step 1**
- Remove the subframe from the vehicle (reference the **Step 1a Photo** below). This will include the following:
    - Remove the rear wheels.
    - Remove the exhaust system and heat shields.
    - Remove all applicable underbelly panels and braces.
    - Remove the driveshaft (or disconnect it from the rear differential and support it from below).
      - Some models may be equipped with a flex disc on the rear of the driveshaft, this is easier to disconnect than the large nut on the differential flange (reference the **Step 1b Photo** below).
    - Remove the rear coil springs, remove the lower shock absorber bolts.
    - Remove and safely support the rear brake calipers.
    - Disconnect the parking brake cables from the drums inside the rear rotors.
    - Disconnect all sensors from the subframe and release all harness connections/tie downs.
    - Support the subframe from below.
    - Remove the subframe bolts and brackets.
    - Lower the subframe and safely support it from below.
  - More detailed instructions on removing the rear subframe can be found under the "Installation" tab of [ES#3569759](#).

**Step 1b**



**Step 1a**

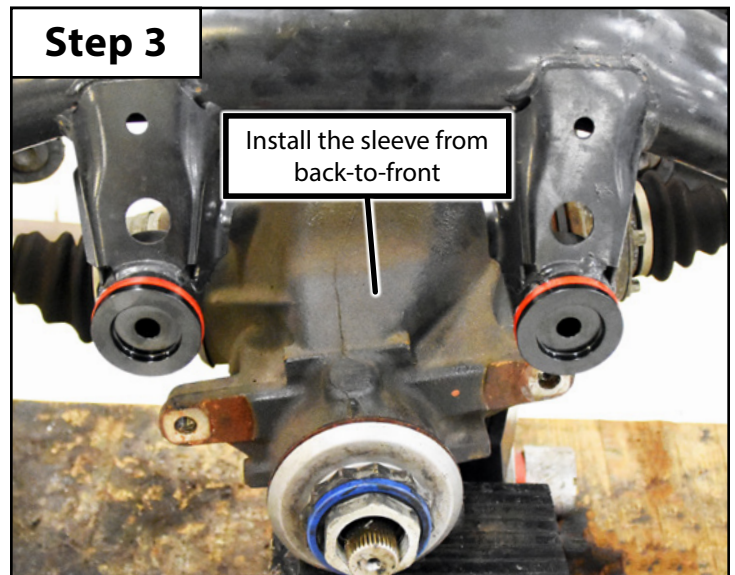
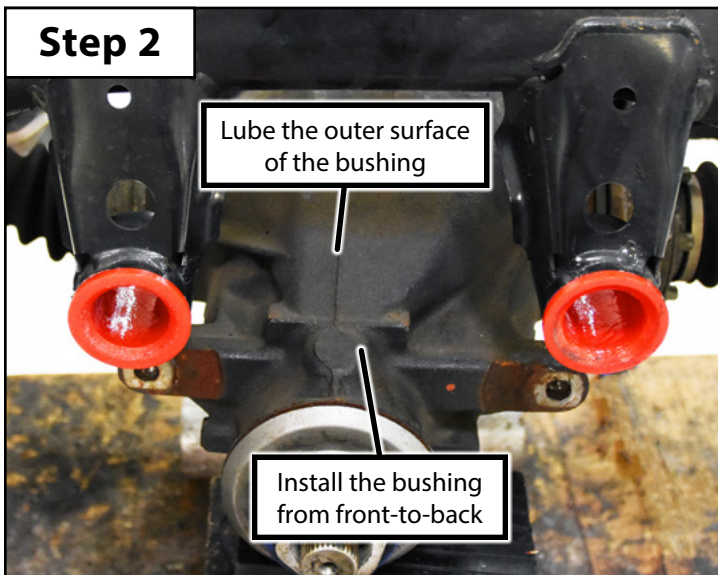
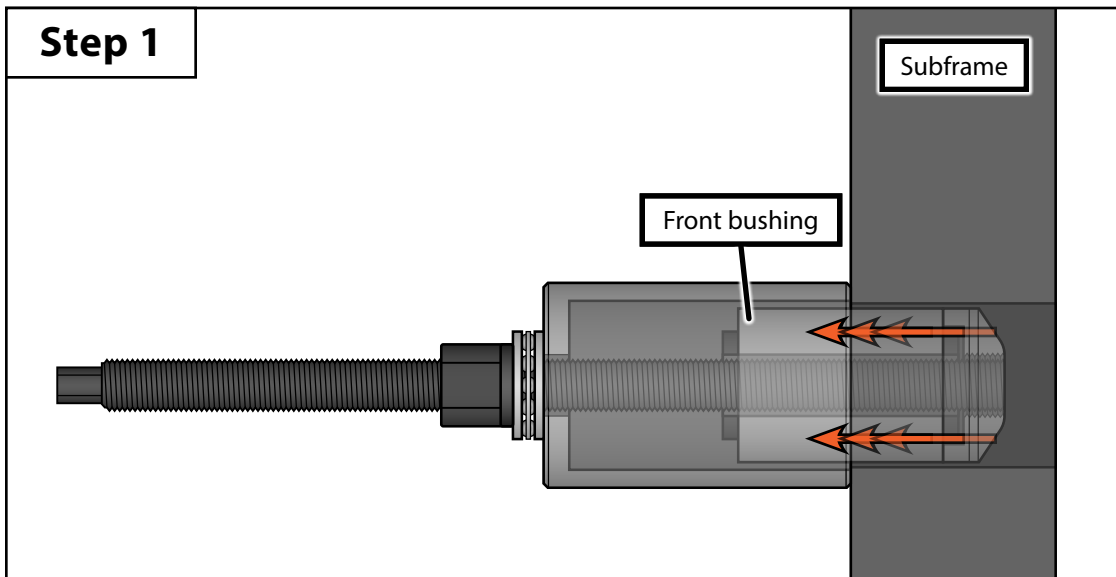


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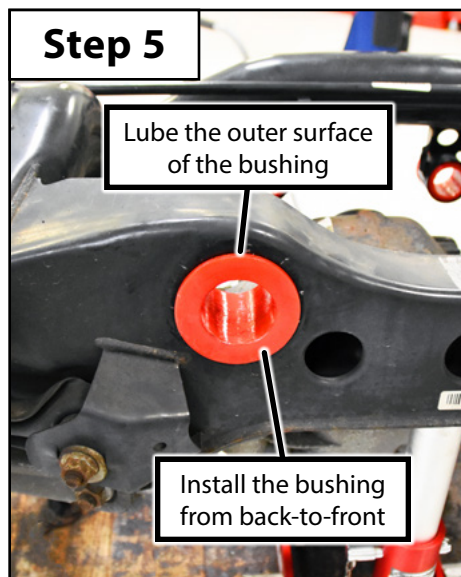
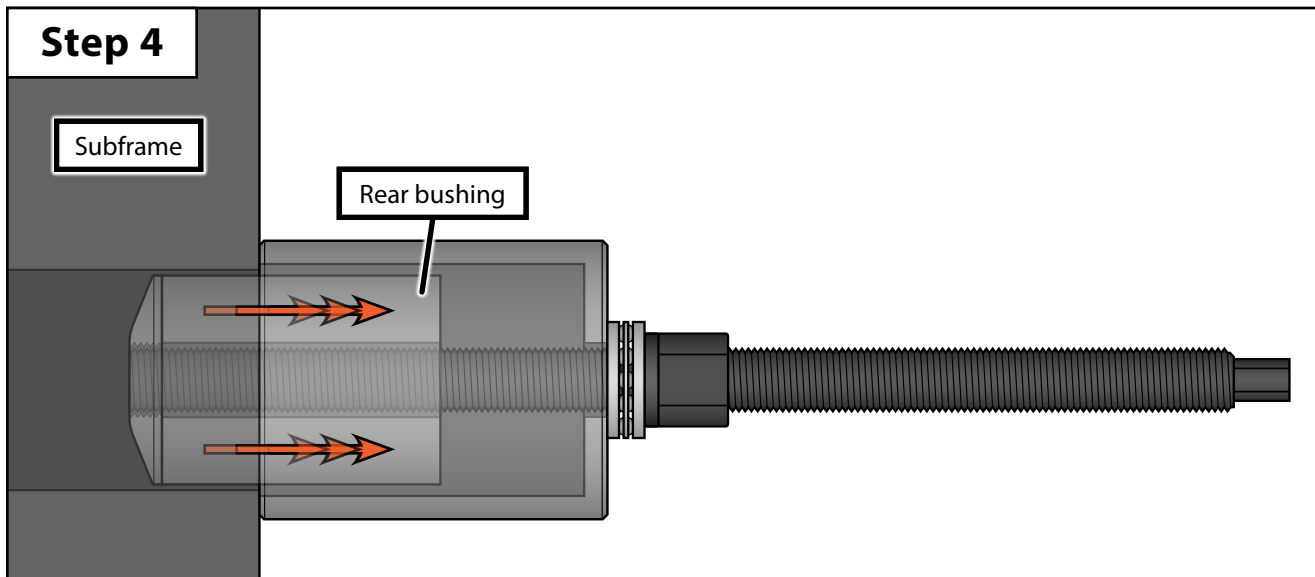
## Section 2: Installing the New Poly Bushings

- Step 1**
- Press the stock inner bushing out of the subframe (**Step 1 Photo**).
    - Our [Schwaben Subframe & Differential Bushing Tool Set](#) can be used for this.
  - Clean out the bushing bore as needed to remove any rust or leftover bushing material (not shown).
    - Scotch-Brite™ pads work very well for this.
  - Repeat this step on the other front bushing.
- Step 2**
- Remove the center sleeve from the poly bushing, apply lube to the outer bushing surface.
  - Push the poly bushing into the subframe from front-to-back (**Step 2 Photo**).
    - The lip on the poly bushing must be on the front side of the subframe.**
  - Repeat this step on the other front bushing.
- Step 3**
- Press the sleeve into the bushing from front-to-back (**Step 3 Photo**).
    - You may need to tap this sleeve in with a soft-face or deadblow hammer.
    - We do not recommend lubing the outer surface of the sleeve.**
  - Repeat this step on the other front bushing.



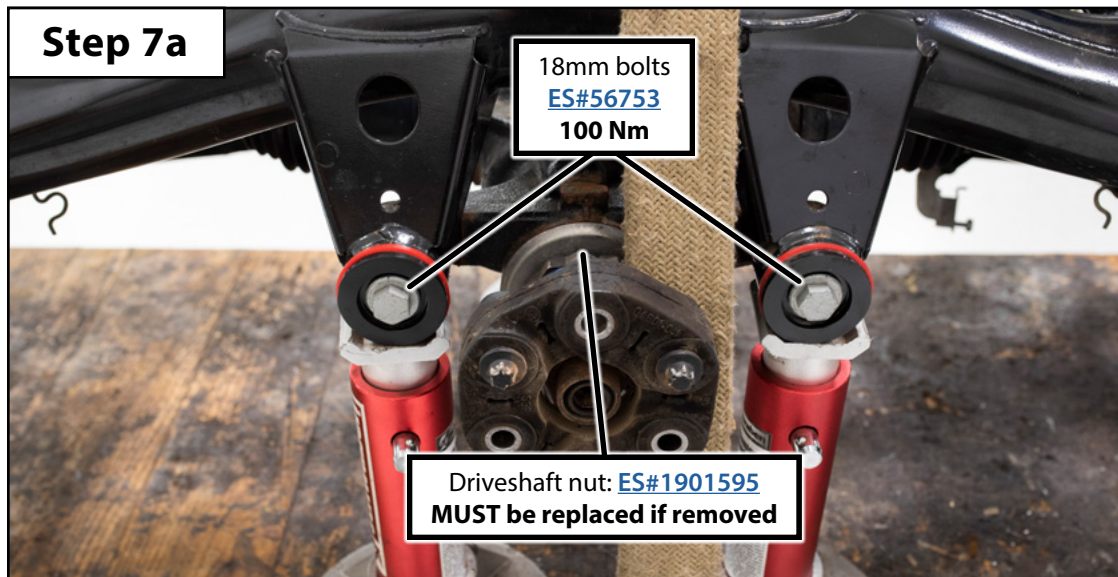
## Section 2: Installing the New Poly Bushings

- Step 4**
- Remove the stock rear bushing from the subframe using the [OEM tools](#) or equivalent (**Step 4 Photo**).
    - This bushing can be removed from either direction, but if you pull it out through the back of the subframe you won't have to worry about working around the differential housing.
  - Clean out the bushing bores as needed to remove any rust or leftover bushing material (not shown).
    - Scotch-Brite™ pads work very well for this.
- Step 5**
- Remove the center sleeve from the poly bushing, apply lube to the outer bushing surface.
  - Push the poly bushing into the subframe from back-to-front as shown (**Step 5 Photo**).
    - The lip on the poly bushing should be on the back side of the subframe.**
- Step 6**
- Press the sleeve into the bushing from back-to-front as shown (**Step 6 Photo**).
    - You may need to tap this sleeve in with a soft-face or deadblow hammer.
    - We do not recommend lubing the outer surface of the sleeve.**



## Section 2: Installing the New Poly Bushings

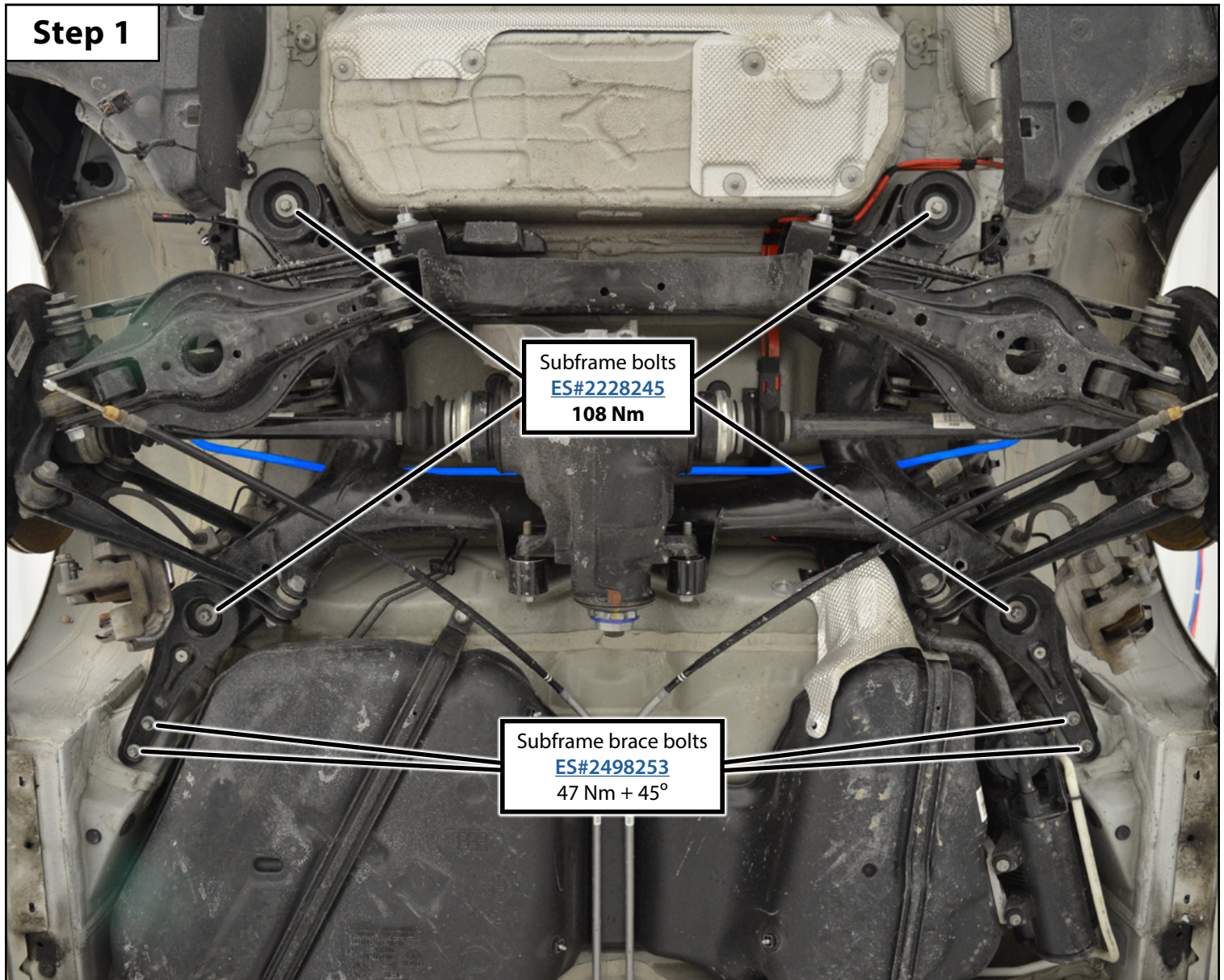
- Step 7**
- The driveshaft nut ***MUST*** be replaced if you removed it to disconnect the driveshaft (**Step 7a Photo**).
  - Loosely install the differential into the subframe by performing the following steps:
    - Lift the differential up into position in the subframe.
    - Thread in the rear mounting bolt by hand (**Step 7b Photo**).
    - Thread in the front mounting bolts by hand (**Step 7a Photo**).
    - Torque the two front mounting bolts to 100 Nm (**Step 7a Photo**).
    - Torque the rear bolt and nut to 165 Nm (**Step 7b Photo**).





## Section 3: Reassembly

- Step 1**
- Lift the rear subframe back up into place underneath the vehicle.
  - Thread all of the subframe bolts in by hand.
  - Tighten the subframe bolts to 108 Nm (**Step 1 Photo**).
  - Tighten the subframe brace bolts to 47 Nm + 45° (**Step 1 Photo**).

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## Section 3: Reassembly

- Step 2**
- If your vehicle is equipped with a flex disc on the rear end of the driveshaft:
    - Replace the flex disc bolts and nuts. Torque them to 55 Nm + 90° (**Step 2 Photo**).
  - If your vehicle is **NOT** equipped with a flex disc on the rear end of the driveshaft:
    - Replace the nut which secures the driveshaft to the rear differential. Torque it to 100 Nm (**Step 2 Photo**).
- Step 3**
- Reinstall the rear coil springs (**Step 3 Photo**).
  - Replace the lower shock bolts and nuts. Torque them to 100 Nm + 90°.
  - Replace the lower control arm outer nuts and bolts (LCA to knuckle). Torque them to 165 Nm.
    - Tighten all suspension arms and shock absorber fasteners to final torque with the suspension set to ride height.
- Step 4**
- Replace the rear caliper bracket bolts. Torque them to 30 Nm + 90° (**Step 4 Photo**).
  - Reconnect the parking brake cable.
  - Reinstall any other components in the reverse order of removal.
  - Reinstall the rear wheels.
  - Test the parking brake and adjust if needed.
  - Perform a 4-wheel alignment.

