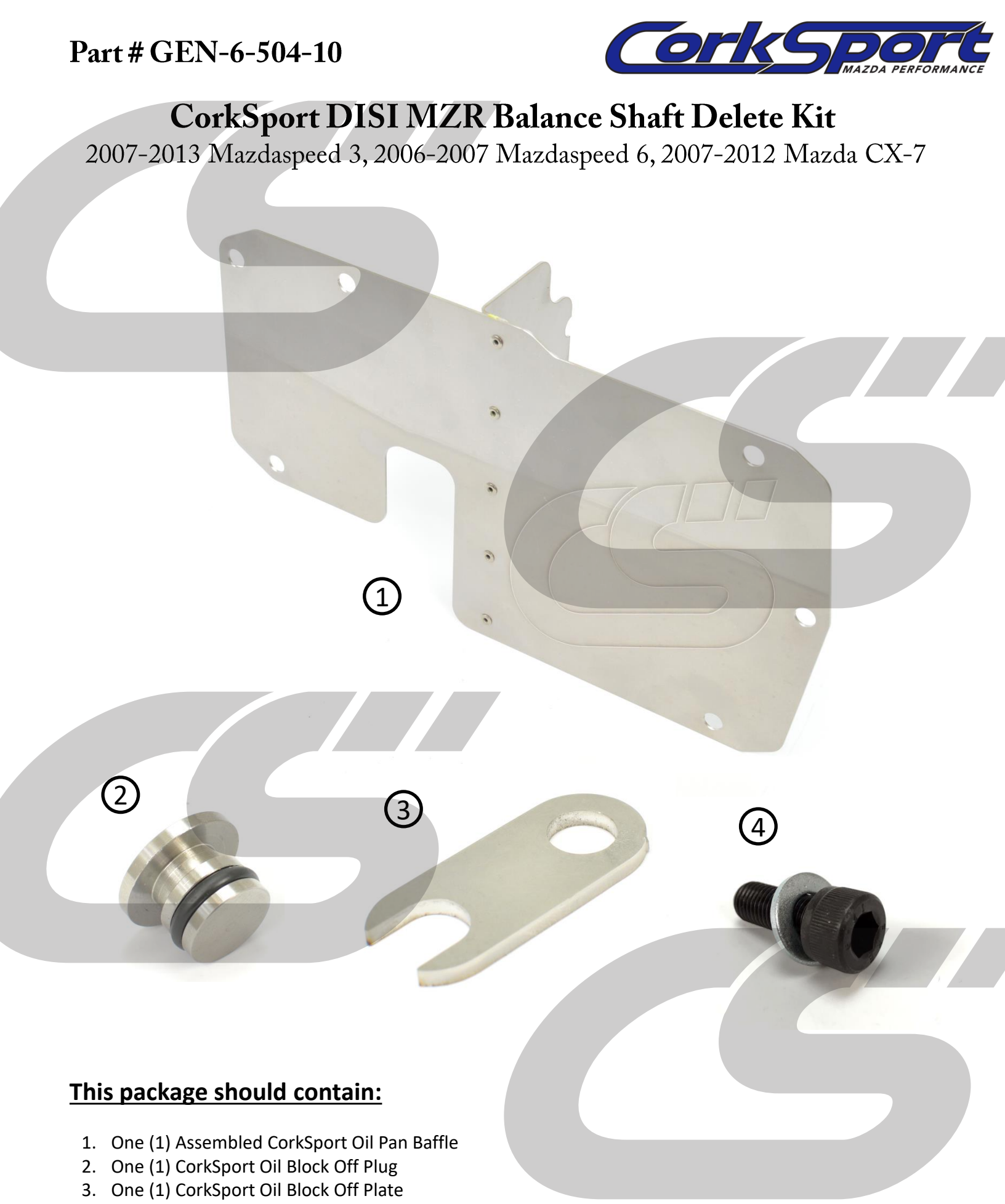
Part # GEN-6-504-10

CorkSport DISI MZR Balance Shaft Delete Kit

2007-2013 Mazdaspeed 3, 2006-2007 Mazdaspeed 6, 2007-2012 Mazda CX-7



This package should contain:

1. One (1) Assembled CorkSport Oil Pan Baffle
2. One (1) CorkSport Oil Block Off Plug
3. One (1) CorkSport Oil Block Off Plate
4. One (1) M10x1.25x 25mm Bolt w/Washer

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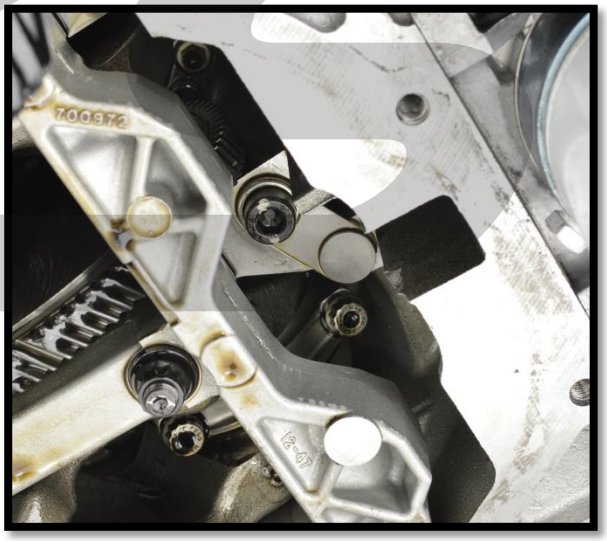

Thank you for purchasing the CorkSport DISI MZR Balance Shaft Delete Kit for Mazdaspeed 3, Mazdaspeed 6, and Mazda CX-7. This kit includes everything you need to get that little bit of extra response you want while keeping your engine healthy during aggressive driving. Crafted out of stainless steel, the CorkSport BSD kit will stay sturdy and looking good as long as your Speed does. Please let us know what you think by submitting a review at: https://corksport.com/balance-shaft-delete-kit-for-2006-2013-disi-mzr.html

Pre-Installation Notes:

Make sure your vehicle is completely cooled down prior to starting installation. If you are going to work on your car within an hour or two of having driven it, use a fan to cool off the car.

These instructions were written for reference only and the use of a factory service manual is recommended. Please read these instructions thoroughly prior to starting installation.

These instructions were written using a 2009 Mazdaspeed 3. 2007-2013 Mazdaspeed 3, 2006-2007 Mazdaspeed 6, and 2007-2012 Mazda CX-7 will be similar.

Materials and Time:

General Info.

Part #: GEN-6-504-10
Time Est: 5 Hours
Wrench Rating: 4/5

Tooling List

Flathead Screwdriver
6mm Allen Socket
8mm Socket
10mm Socket
14mm Socket
17mm Socket
Torque Wrench
3/8" Drive Ratchet
6" Extension
Small Pry Bar
Razor Blade
Floor Jack
Jack Stands
Silicone Gasket Maker
-(Ultra Gray or similar)
Red Thread Locker
-(Loctite or similar)
Degreaser
-(Brake parts cleaner or similar)

Parts List (Provided)

1. One (1) Assembled CorkSport Oil Pan Baffle
2. One (1) CorkSport Oil Block Off Plug
3. One (1) CorkSport Oil Block Off Plate
4. One (1) M10x1.25x 25mm Bolt w/Washer

Parts List (Required, Not Provided

1. Seven (7) Quarts Oil
2. One (1) Oil Filter (Recommended)

Part # GEN-6-504-10

Order of Operations & Table of Contents

Part # GEN-6-504-10
Detailed Instructions

1. Support the Car on Floor Jack/Jackstands or Lift

a) **Use a floor jack and jackstands** to gain access to the underside of the vehicle. You will need to access to the engine bay and the underside of the car.

Always refer to the floor jack and jackstand manufacturers instructions as well as the factory owners manual for your vehicle to determine jacking points and support points. Alternately, use an automotive lift to gain access to the underside of the vehicle. Redundant support mechanisms are recommended.

2. Removing the Engine Undertray

a) **Using a 10mm socket, remove seven (7) bolts** attaching the rear section of the plastic undertray. Circled in red in Figure 2a. Then remove the rear section of the undertray.

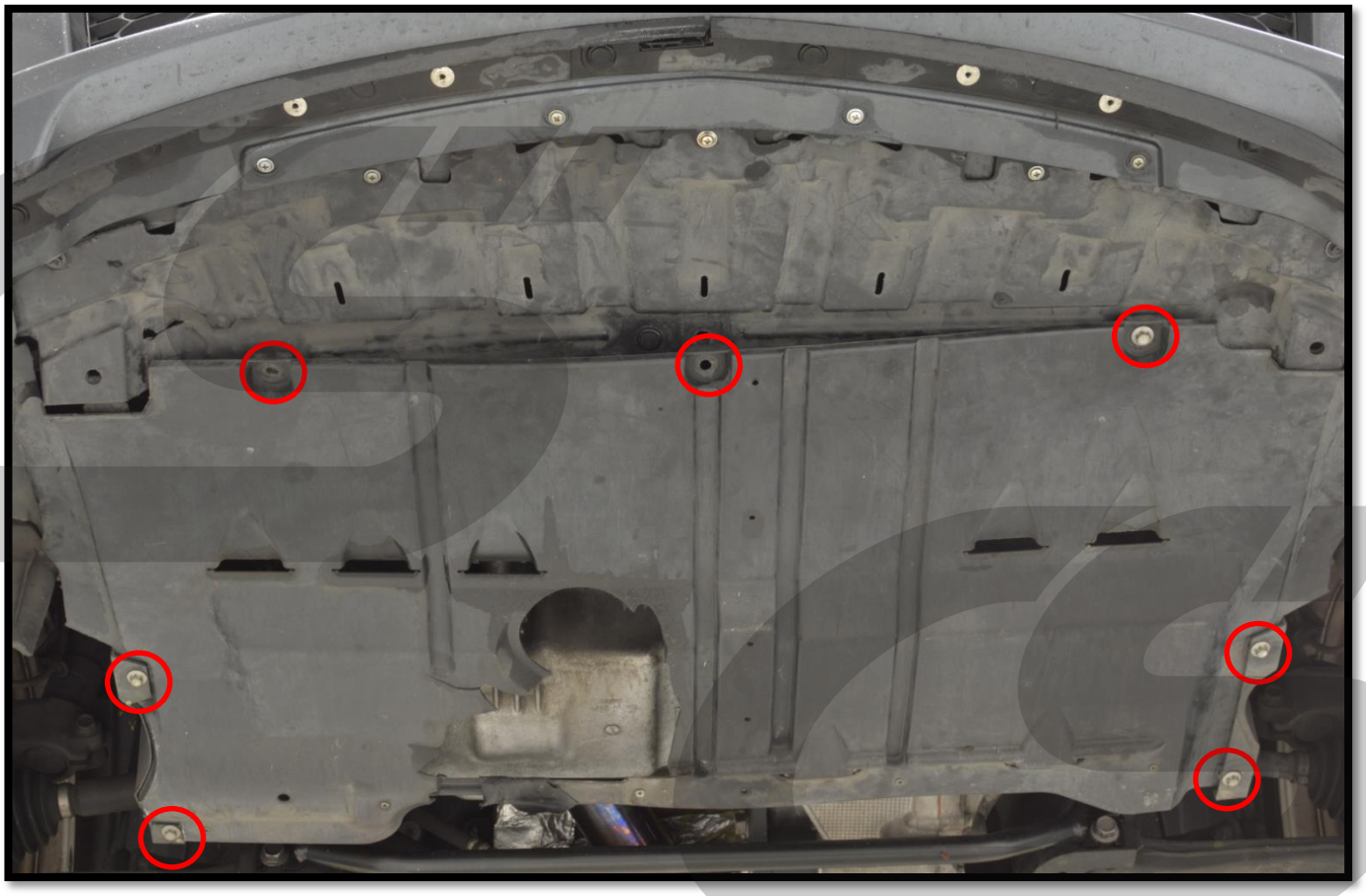

Figure 2a

3. Removing the Oil Pan

a) **Drain the oil by removing the one (1) 17mm drain plug.** Circled in Red in Figure 3a.

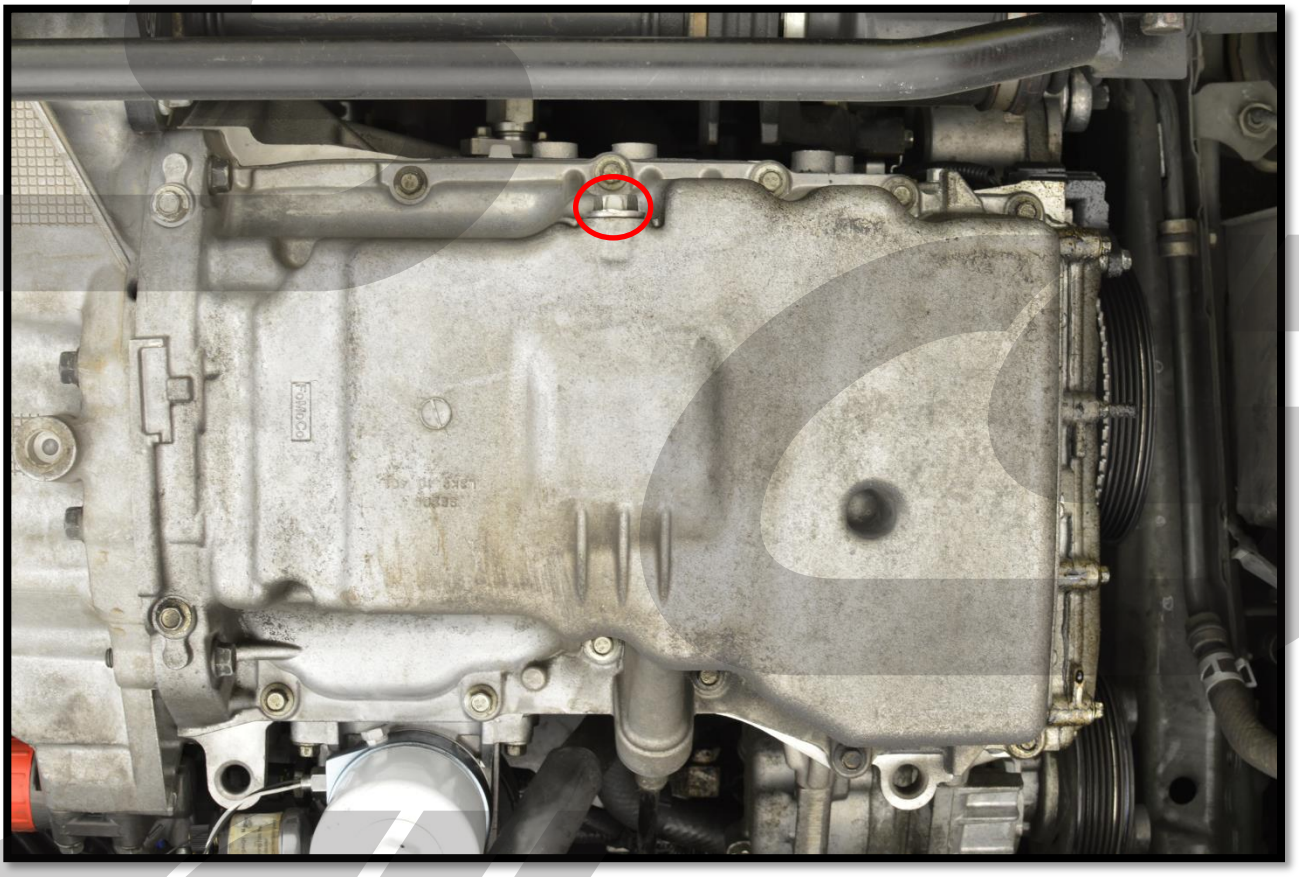

Figure 3a

Removing the oil fill cap from the top of the engine will help the oil to drain faster. Also, this is a great time to perform an oil change on you car.

b) **Disconnect and remove the oil dipstick tube (red line in Figure 3b).** There is one (1) 8mm bolt that attaches it to the intake manifold and a clip that attaches it to a coolant line. Circled in red and blue respectively in Figure 3b.

c) **Loosely reinstall the oil drain plug to prevent drips during pan removal.**

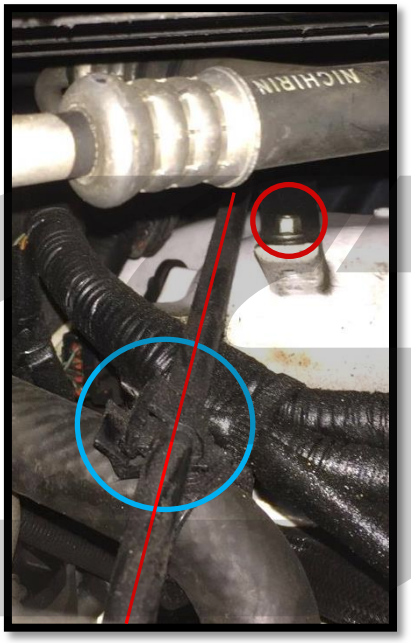

Figure 3b

3. Removing the Oil Pan (continued)

d) Remove four (4) 8mm bolts from the bottom of the timing cover. Circled in red in Figure 3c.

e) Remove four (4) 14mm bolts from the transmission. Circled in blue in Figure 3c.

f) Remove thirteen (13) 10mm bolts from around the edge of the oil pan. Circled in green in Figure 3c.

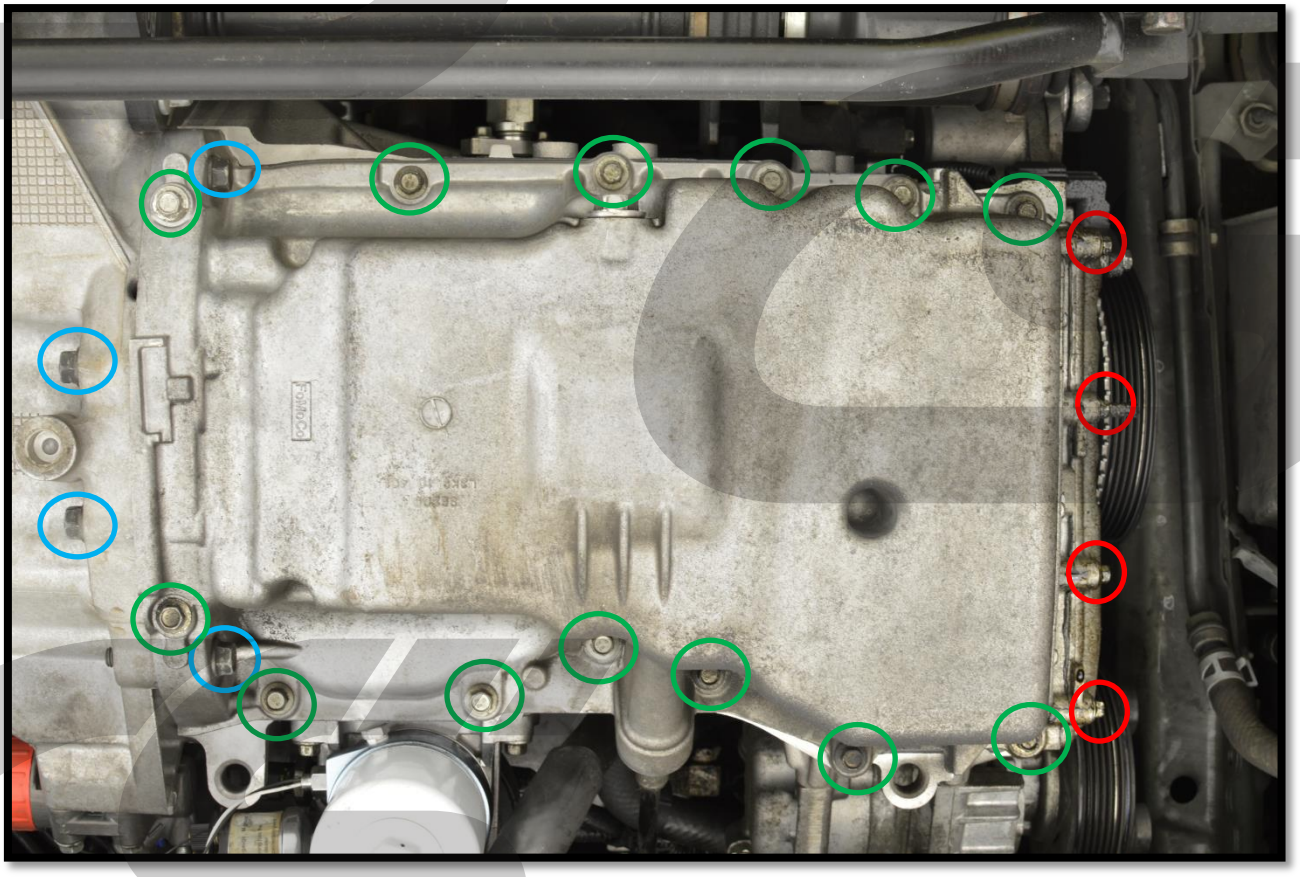

Figure 3c

g) Use a screwdriver or small pry bar to gently pry on the small tabs around the oil pan to loosen the pan from the sealant. Example of tab Circled in red in Figure 3d.

h) Once free from the sealant, remove the oil pan from the vehicle. It will likely have to be maneuvered around to free it from engine components.

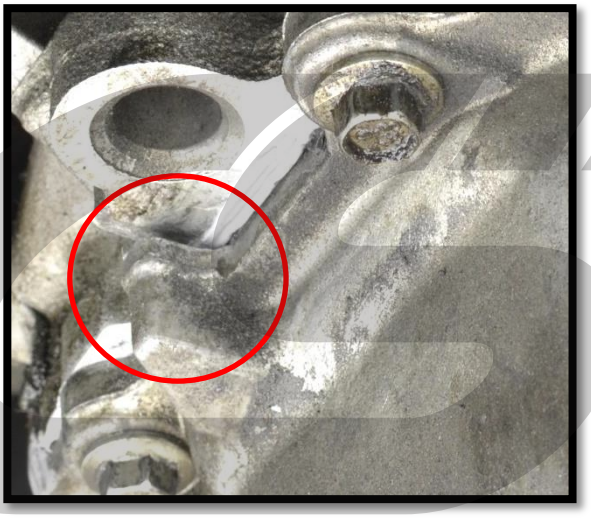

Figure 3d

There will still be some residual oil in the pan and on the bottom of the engine. Use a drip tray or cardboard under the engine to prevent spillage.

4. Removing the OE Balance Shaft

a) **Remove two (2) 8mm bolts from the oil strainer.** Then remove the oil strainer. Bolts are circled in red in Figure 4a.

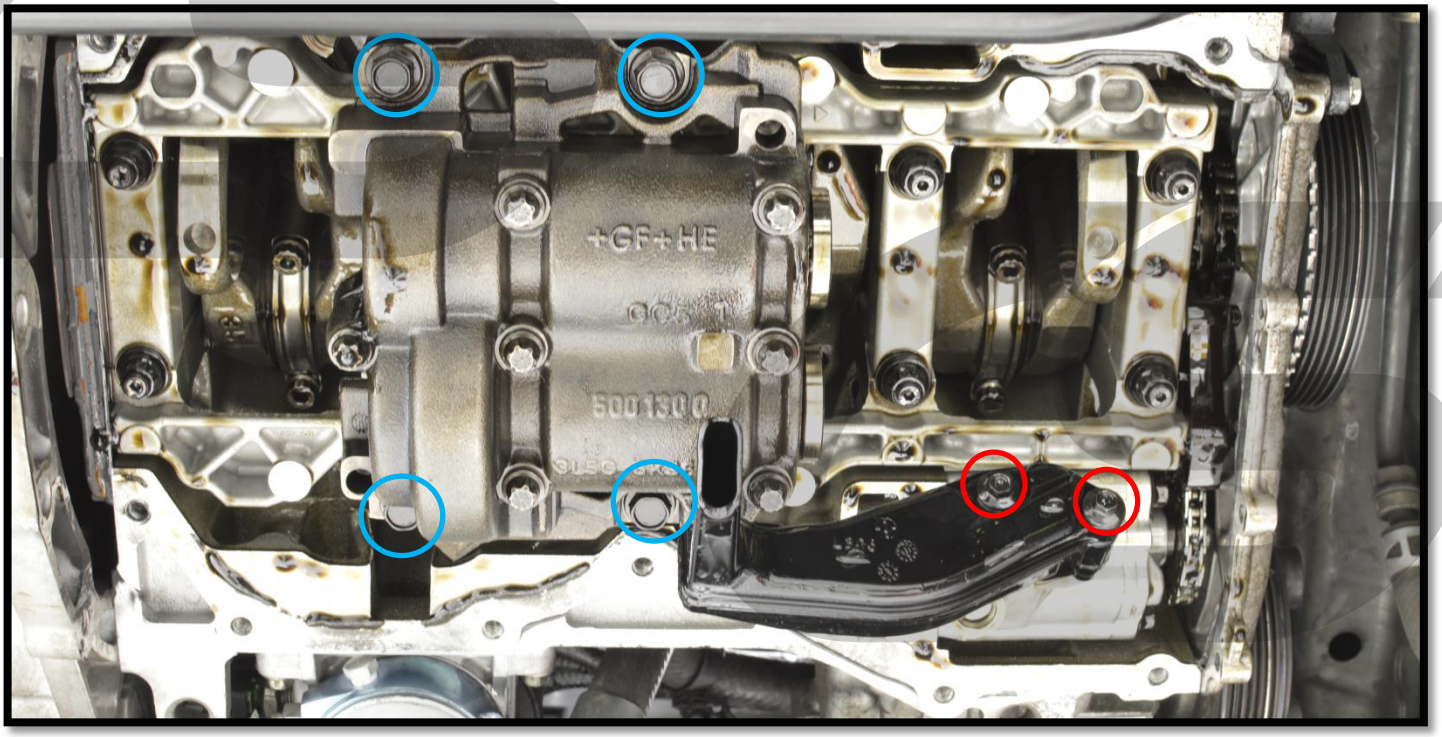

Figure 4a

The balance shaft is heavy. Be careful in the next step so that it does not fall and injure you. Use a jack or friend to support it if needed.

b) **Remove four (4) 14mm bolts from the balance shaft.** Then remove the balance shaft. Bolts are circled in blue in Figure 4a.

5. Installing the CorkSport Oil Block Off

a) **Using brake parts cleaner or other degreaser, clean the balance shaft mounting hole next to the oil supply hole.** Correct hole shown circled in red in Figure 5a. Once clean, dry using compressed air or a rag. Ensure this hole is clean and dry so that the thread locker can work properly.

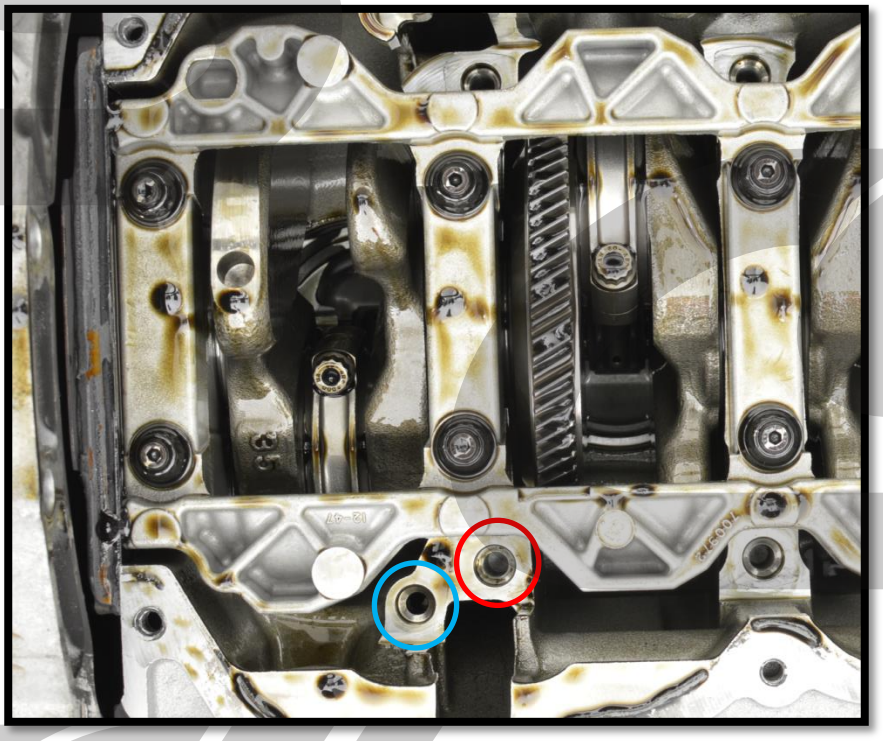

Figure 5a

b) **Slide the CorkSport Oil Block Off Plate into the groove on the Oil Blockoff Plug** as shown in Figure 5b. Also verify the O-ring is present and not damaged.

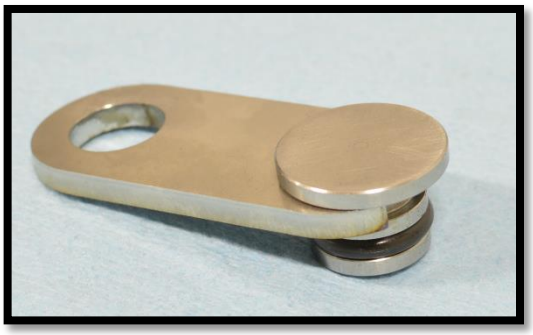

Figure 5b

c) **Insert the CorkSport Oil Block Off Plug into the oil feed passage with the plate still attached.** Correct location shown with blue circle in Figure 5a. Gently push until it fully seats in the passage (it will stay in the engine when fully seated).

d) **Apply red thread locker to the supplied hardware and install in hole cleaned in step 5a. Torque to 32-35 ft-lbs.** Figure 5c shows the Oil Block Off fully installed.

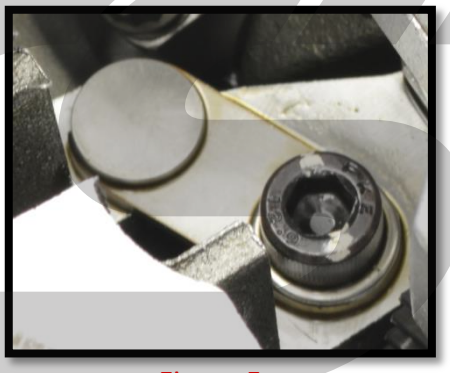

Figure 5c

e) **Reinstall the OE oil strainer using the two (2) OE 8mm bolts. Tighten to 71-102 in-lbs.**

6. Installing the CorkSport Oil Pan Baffle

a) **With the Oil Pan on a Bench, remove the seven (7) 12mm bolts from the OE oil pan baffles.** Then remove the OE baffles. Bolts circled in red in Figure 6a.

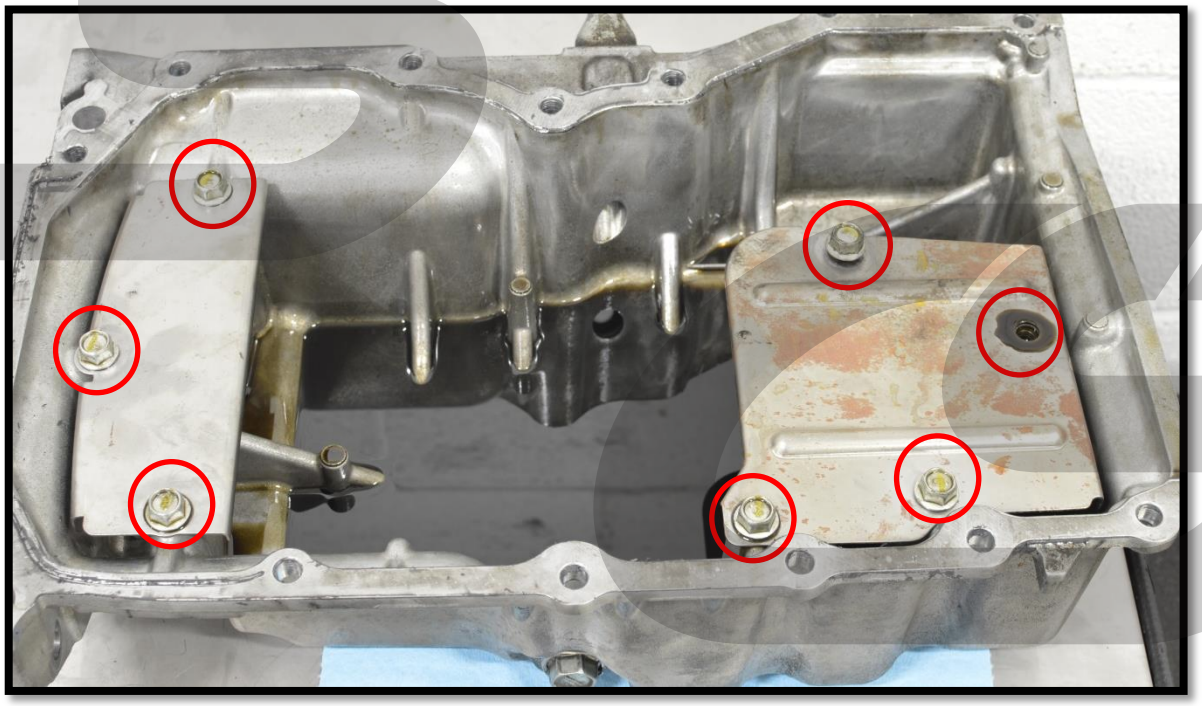

Figure 6a

b) **Install the CorkSport Oil Pan Baffle into the OE pan.** Secure with six (6) of the OE 12mm bolts. Tighten to 20-25 ft-lbs. Proper installation shown in Figure 6b.

Cleaning the mounting holes and using thread locker is a good idea to ensure the baffle does not come loose over time.

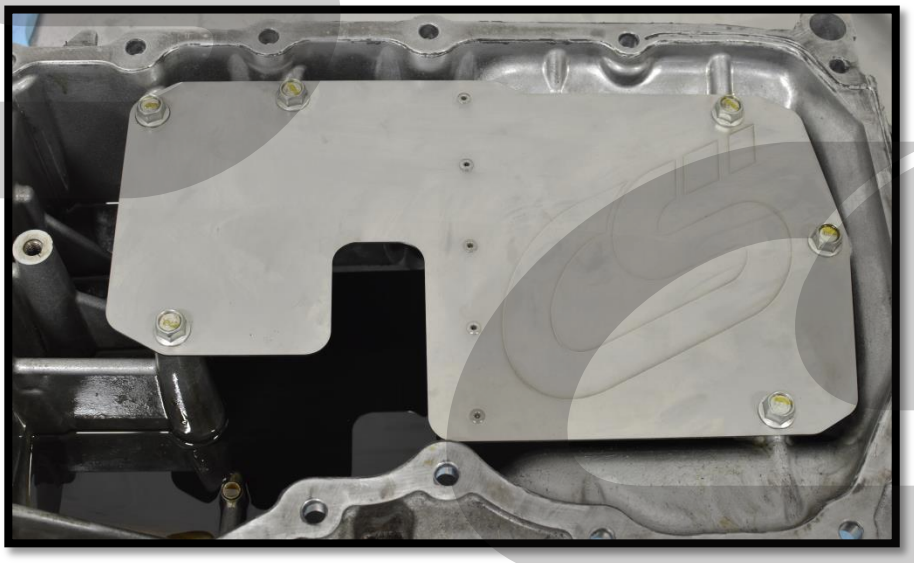

Figure 6b

7. Reinstalling the OE Oil Pan

a) **Remove the OE gasket material from the oil pan and engine block.** Ensure you get all areas including where the pan seals to the timing cover.

The easiest way to do this is to use a razor blade. However, you have to be careful to not cut into or otherwise damage the sealing surfaces of the oil pan or engine block.

Do not leave any sealing material in the bottom of the oil pan where it could be sucked into the oiling system of the engine and damage it.

b) **Apply a bead of sealant around the oil pan.** The bead should be about 3mm wide and follow the path marked in red in Figure 7a. We recommend using Ultra Gray Silicone gasket maker but other silicone gasket makers can be used as long as they are safe at high temperatures and with motor oil.

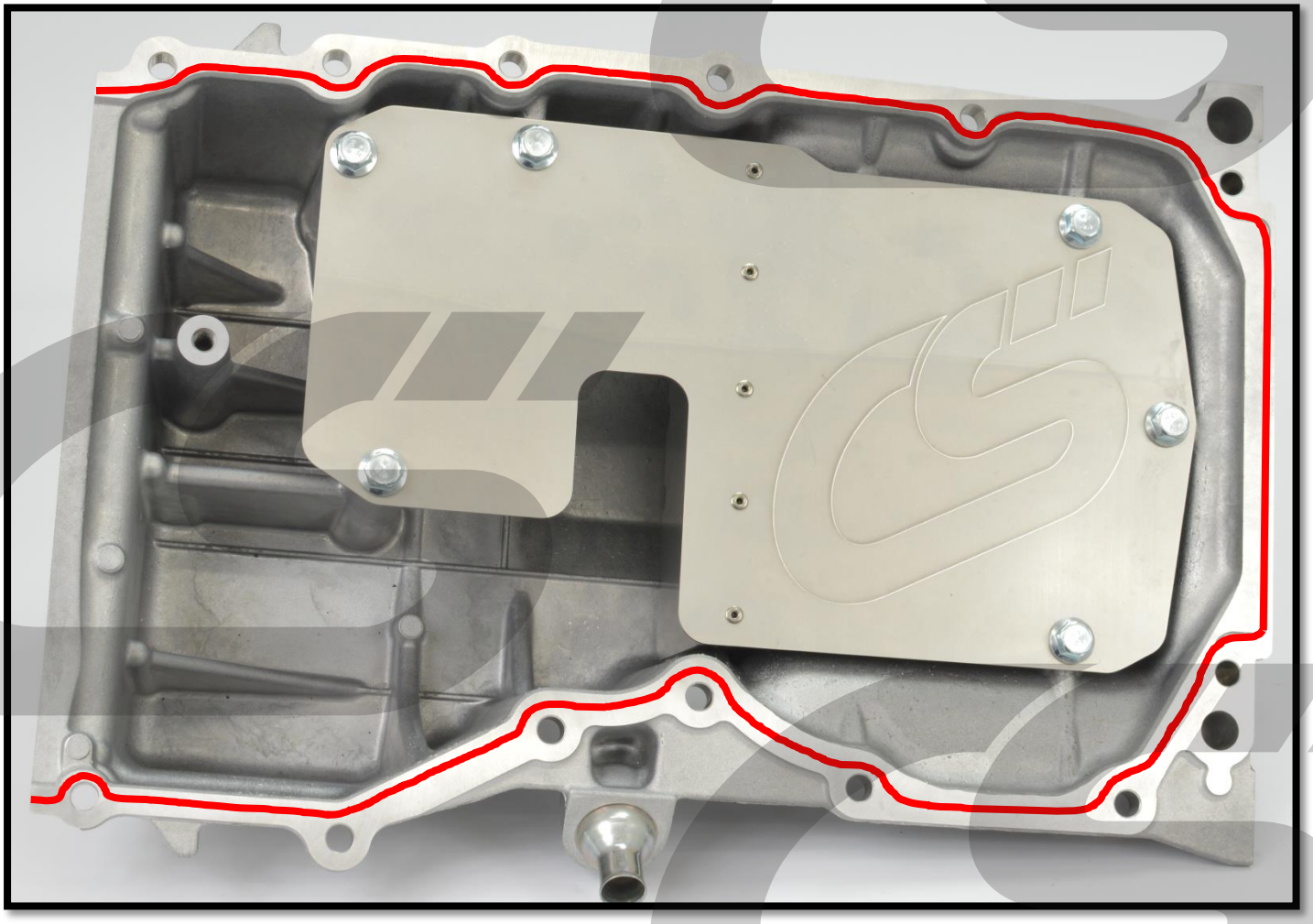

Figure 7a

7. Reinstalling the OE Oil Pan (continued)

c) **Apply another bead of sealant on the surface where the oil pan attaches to the timing cover.** Apply to **both** the oil pan and timing cover to ensure it will seal properly. Paths shown with red line in Figure 7b & 7c. Apply a little extra at the corners to ensure a full seal (marked with blue dots in Figure 7b & 7c).

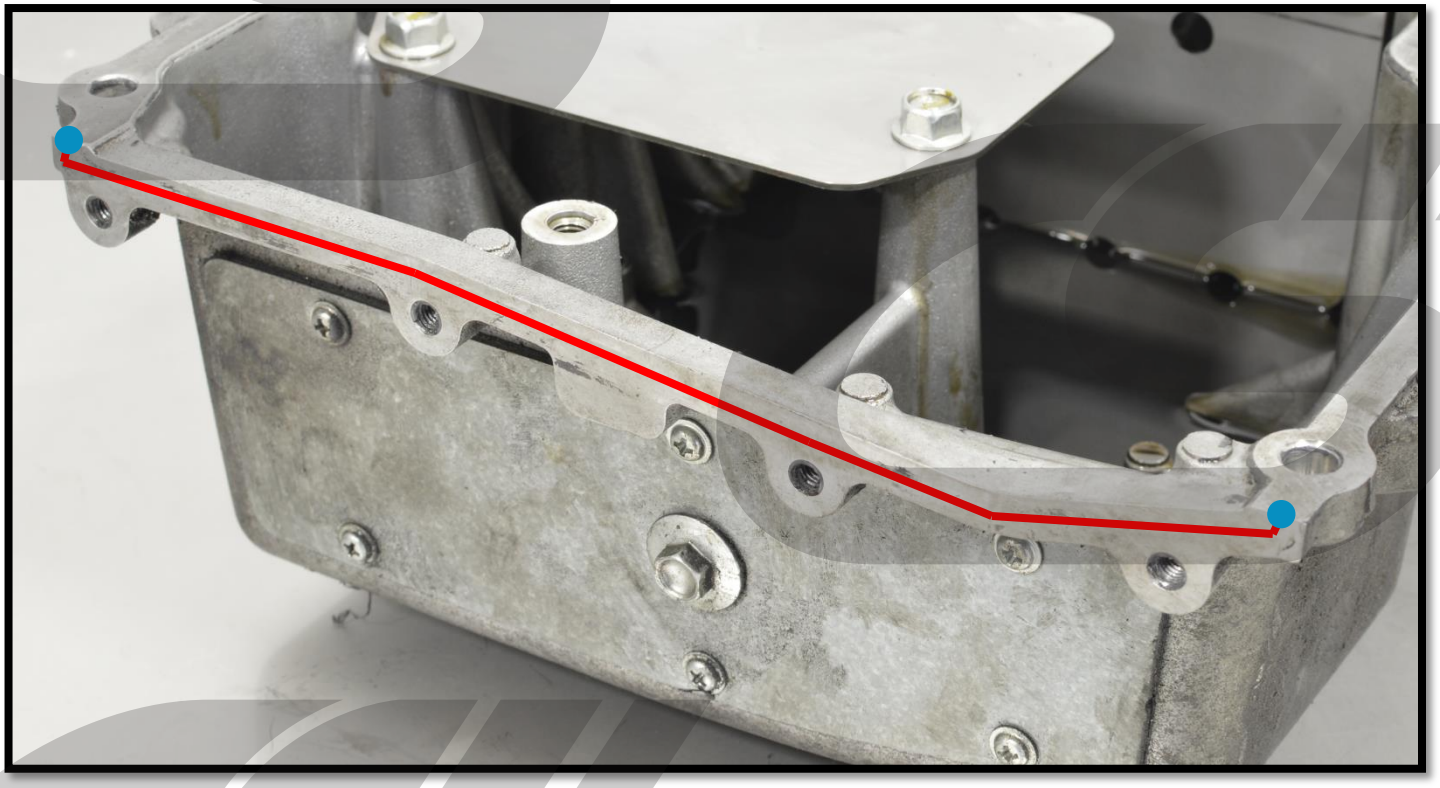

Figure 7b

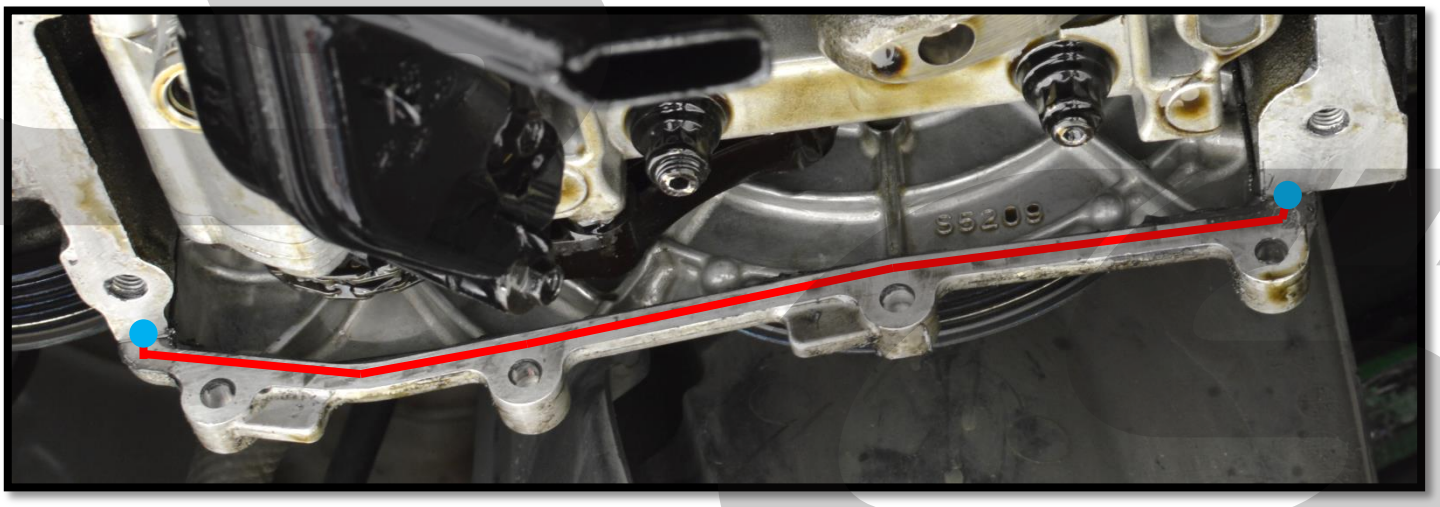

Figure 7c

7. Reinstalling the OE Oil Pan (continued)

d) Position the oil pan on the engine. You will need to maneuver the oil pan around the OE oil strainer as you lift the pan into position due to the new oil baffle. Do your best to not wipe off all the sealant at the timing cover as the pan is fitted.

NOTE

You may need to tap the pan into position with the palm of your hand in order to get it fully seated to the bottom of the engine.

e) Secure the oil pan with the thirteen (13) 10mm bolts removed earlier. Follow the order shown in Figure 7d. Torque each bolt as you go to **12-17 ft-lbs.** Bolts 10 and 11 are the long bolts.

NOTE

Clean any old sealant from the bolts as you install them to prevent damage to the threaded holes on the engine.

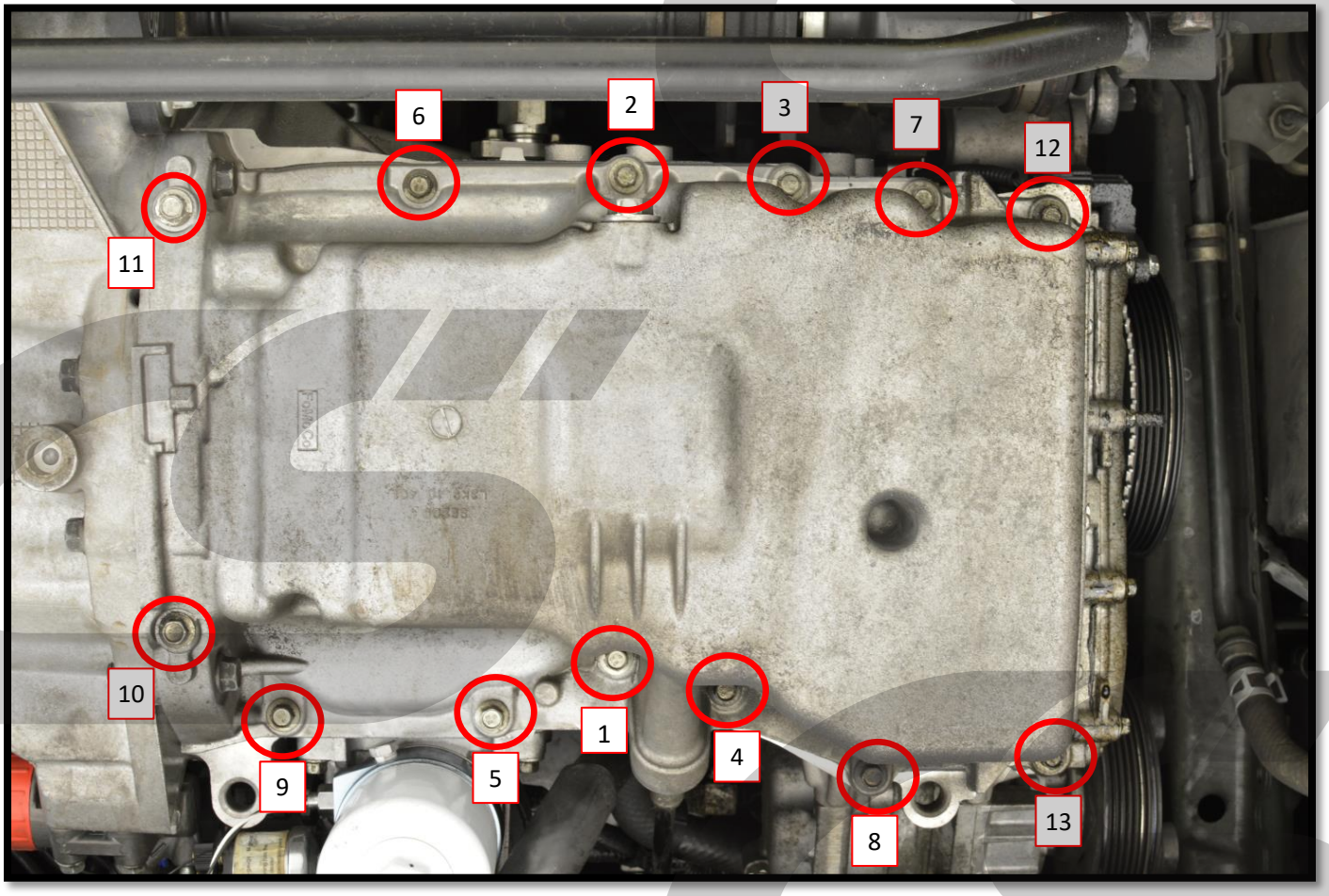

Figure 7d

f) Attach the oil pan to the transmission with the four (4) 14mm bolts removed earlier. Tighten to **28-38 ft-lbs.**

7. Reinstalling the OE Oil Pan (continued)

g) **Secure the oil pan to the timing cover using the four (4) 8mm bolts removed earlier. Follow the order shown** in Figure 7e and tighten to **71-102 in-lbs.**

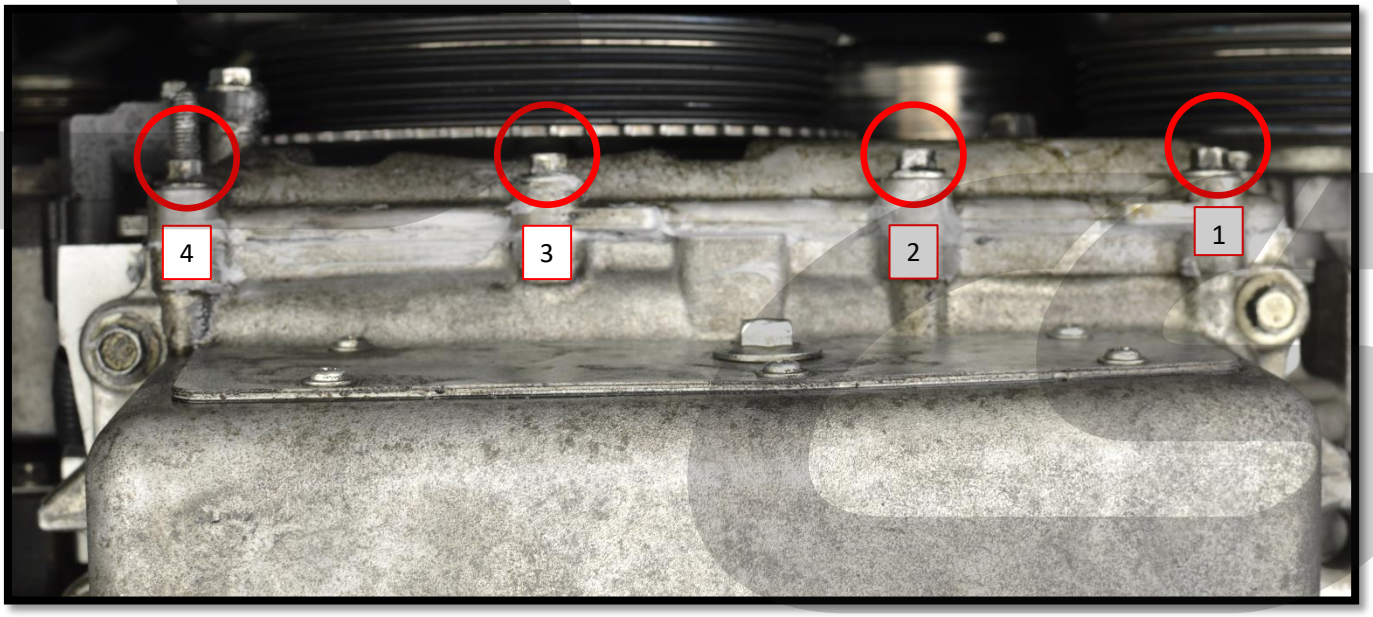

Figure 7e

h) **Tighten the oil drain plug to 23-30 ft-lbs.** If needed, replace the oil drain plug gasket.

i) **Reinstall the oil dipstick tube by following the reverse of step 3b.** Ensure the O-ring is present and in good condition where the dipstick tube attaches to the oil pan.

j) **Allow the oil pan gasket material to fully cure.** If using ultra gray, this is 24 hours. Other sealants will vary.

k) **Refill the engine oil.** Check for leaks as you go. You will need 5-6 quarts of oil to reach an appropriate level. Removing the OE balance shaft will change the oil capacity of the engine so check the dipstick as you go to ensure you do not under or overfill the engine.

l) **Upon first start, carefully watch oil pressure and check for oil leaks around the oil pan.**

This completes the installation of your CorkSport Balance Shaft Delete Kit. Monitor your oil pressure and engine oil level over the next few weeks to ensure there are no leaks and the BSD is working correctly.

What's Next:

CorkSport Mazdaspeed 3/6 Intake Manifold

Introducing the long-awaited CorkSport Intake Manifold for the DISI-MZR engine found in the Mazdaspeed 3 and Mazdaspeed 6. First impressions will quickly tell you this is a very different design and design goal than typically found in the performance aftermarket options for the MS3 and MS6; that's for good reason. The CorkSport Intake Manifold is a combination of performance and OE fitment without compromise. Equal flow, higher flow, tighter packaging, and TMIC fitment are aspects that define the CorkSport Intake Manifold.

CorkSport Mazdaspeed 3/6 Turbo

Experience a boost in performance with our drop-in Mazdaspeed turbocharger. It easily bolts in and replaces your undersized OEM turbo with NO mechanical modifications. The CorkSport turbo supports a range of 250-450 horsepower in your Mazdaspeed. If your Mazdaspeed 3 or Mazdaspeed 6 turbo is worn out or is smoking, you need our turbo. Add the power without the hassle today!

CorkSport Mazdaspeed 3/6 Throttle Body

Introducing the first and only performance throttle body for the MZR DISI that offers no sacrifices. By taking a ground-up approach we were able to succeed in making a throttle body that performs better than OE while retaining OE fitment and daily drivability. With easy installation and drop in fitment, you are sure to enjoy the gains from the CorkSport Throttle Body.