

# ***dodson***<sup>®</sup>


## **INSTALLATION INSTRUCTIONS**

**PDK 4WD 991.1 & 991.2 DIFF COVER KIT**

**DMS-00-0049 REVISION 002**

**19 MAY 2023**

**PREPARED BY: GREG BUCHANAN  
DATE: 19MAY2023**

**RELEASED BY:   
DATE: 19MAY2023**

## **REVISION UPDATE NOTES:**

The following table indicates the changes we have made in either the disassembly or assembly of the product you have received. All changes are indicated by a revision bar in the margin.

If you have any questions email us at [technical@dodsonmotorsport.com](mailto:technical@dodsonmotorsport.com)

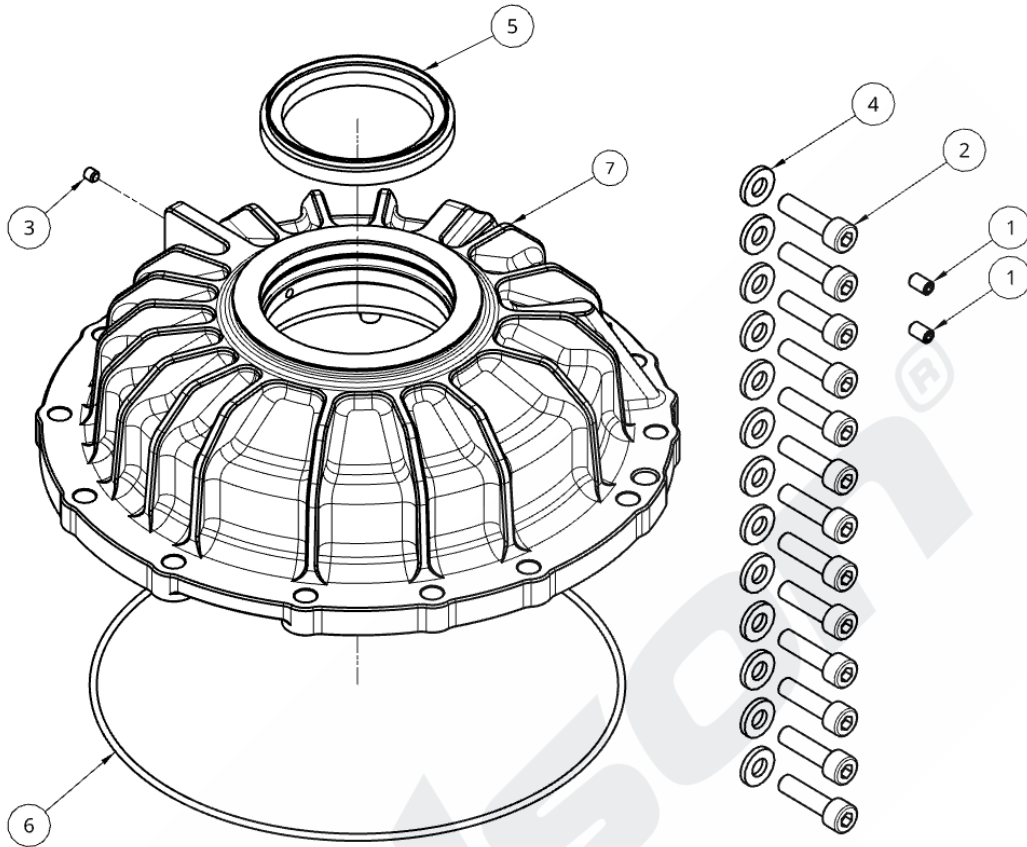
<b>Revision</b>	<b>Date</b>	<b>Description</b>
REV.002	19MAY2023	- Page 13: Updated Grub screw fitment information
REV.001	17NOV2022	- Initial release

## **IMPORTANT:**

- Any important steps will be highlighted in Yellow.

Please contact [technical@dodsonmotorsport.com](mailto:technical@dodsonmotorsport.com) for more information.

## PDK 4WD 991.1 & 991.2 DIFF COVER KIT (DMS-7255)



Item Number	Part Name	DMS Code	Qty
1	M6 X 10 GRUB SCREW	DMS-0098	2
2	M8 X 30 SOCKET CAP 12.9 GRADE	DMS-0164	13
3	M5 X 5 GRUB SCREW	DMS-0169	1
4	M8 X 2.5 WASHER	DMS-0170	13
5	DIFF COVER OIL SEAL	DMS-2023	1
6	DIFF COVER O-RING	DMS-2024	1
7	BILLET DIFF COVER	DMS-6351	1

## **PDK DIFF COVER INSTALLATION INSTRUCTIONS**

### **STEP 1**

Remove the short half shaft with the necessary tools (e.g sliding hammer). Leave the long half shaft in the housing to keep the crown wheel in place.



### **STEP 2**

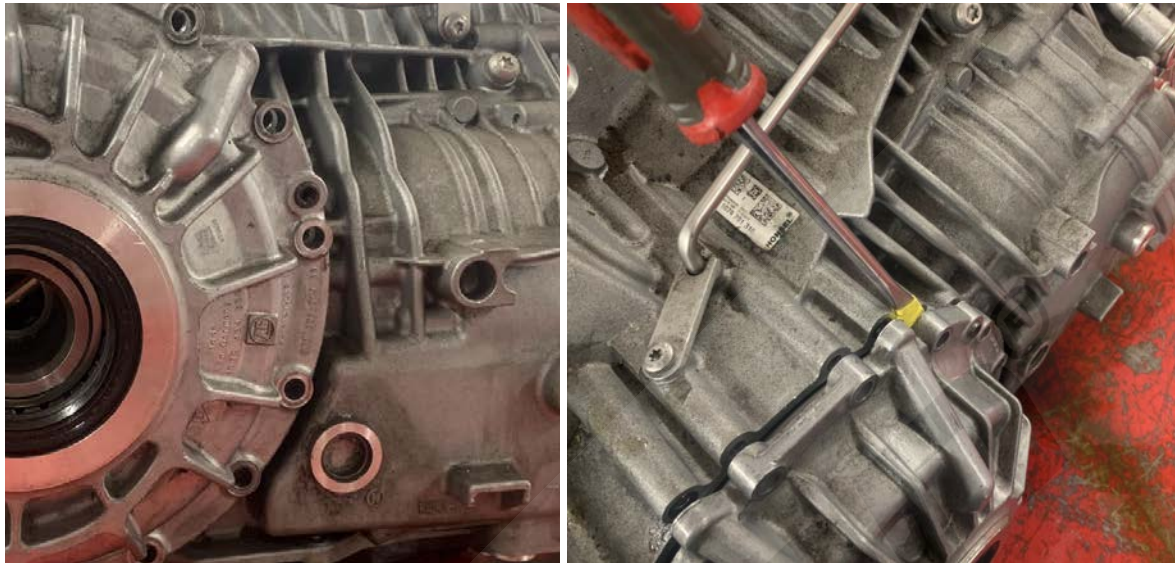
Remove the bolts from the diff cover.





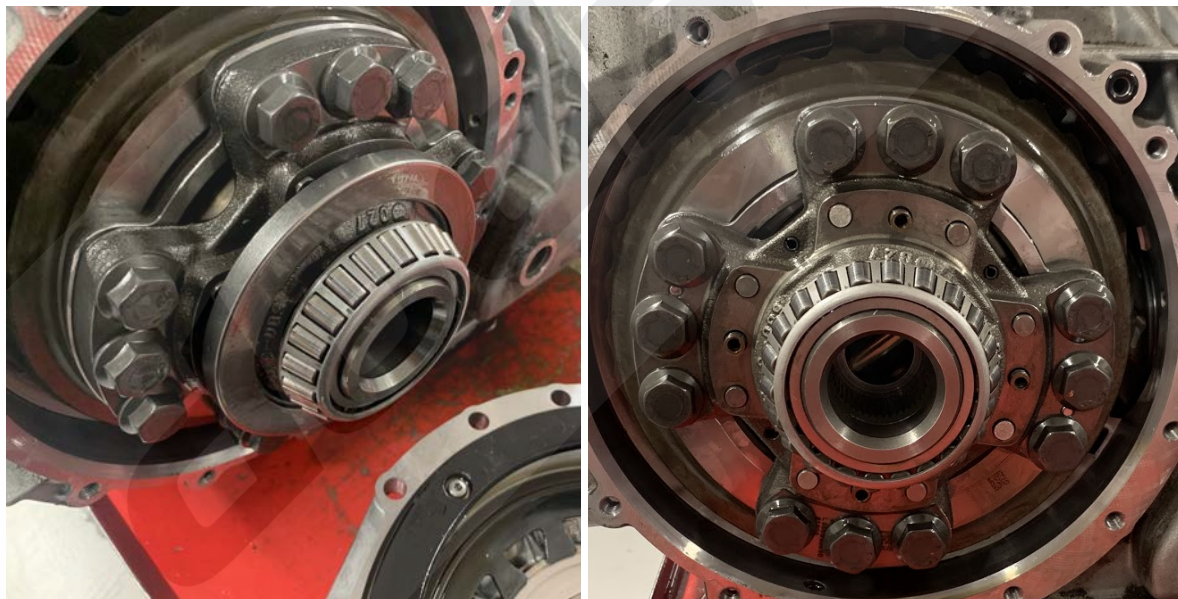
## **STEP 3**

Use a screwdriver or pry bar to gently remove the dowel (that aligns the diff cover) from the housing.



## **STEP 4**

Remove the diff cover and set aside. If the thrust bearing, pins or springs fall out, place them back together as shown.





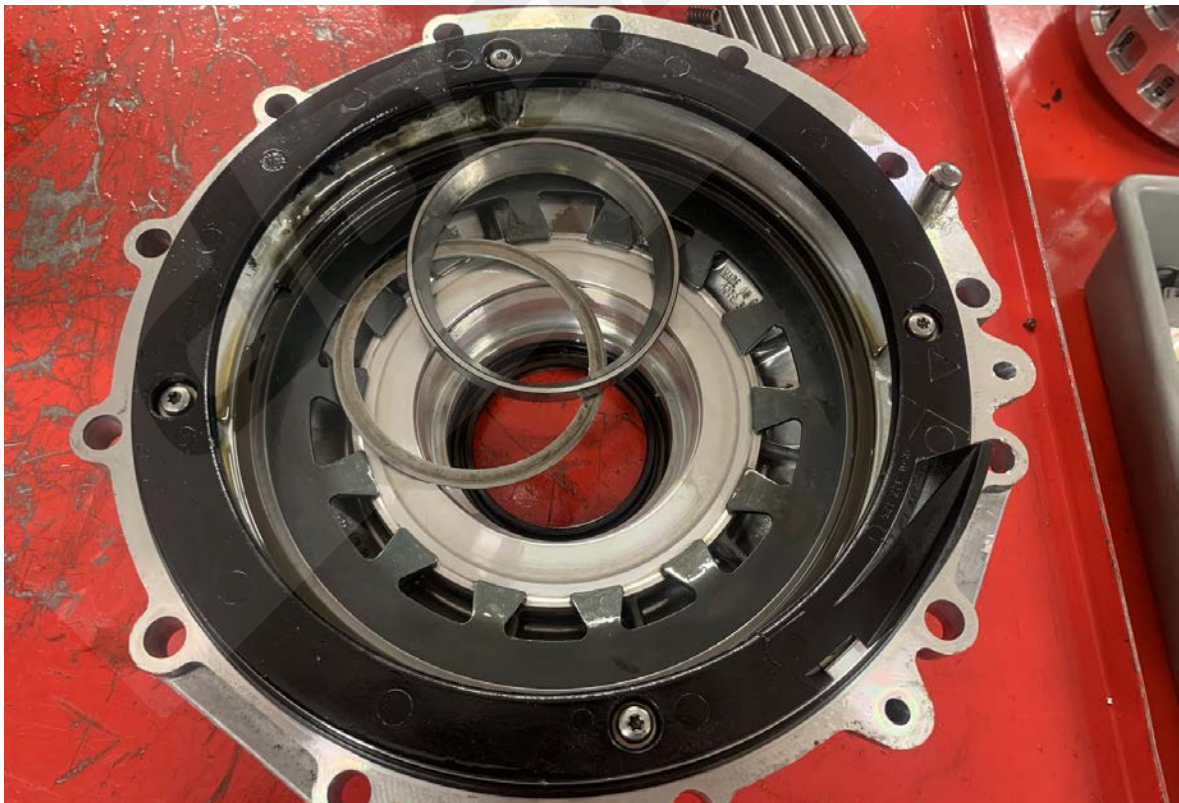
## **STEP 5**

Also ensure the O-rings for the hydraulic passage remain in the housing.



## **STEP 6**

Remove the plastic shield, bearing race and shim from the diff cover and set aside. These will be used in the Dodson diff cover.





**Steps 7-18 apply to OEM differentials only**  
**For Wavetrac LSDs skip to Step 19**

## **STEP 7**

To remove the circlip retaining the diaphragm spring, use a large piece of billet and a hydraulic press to apply a load to the diaphragm spring and remove the load from the circlip. Then remove the circlip using a pick or screwdriver.



## **STEP 8**

Take the diff cover out of the press and remove the circlip, shim and diaphragm spring.





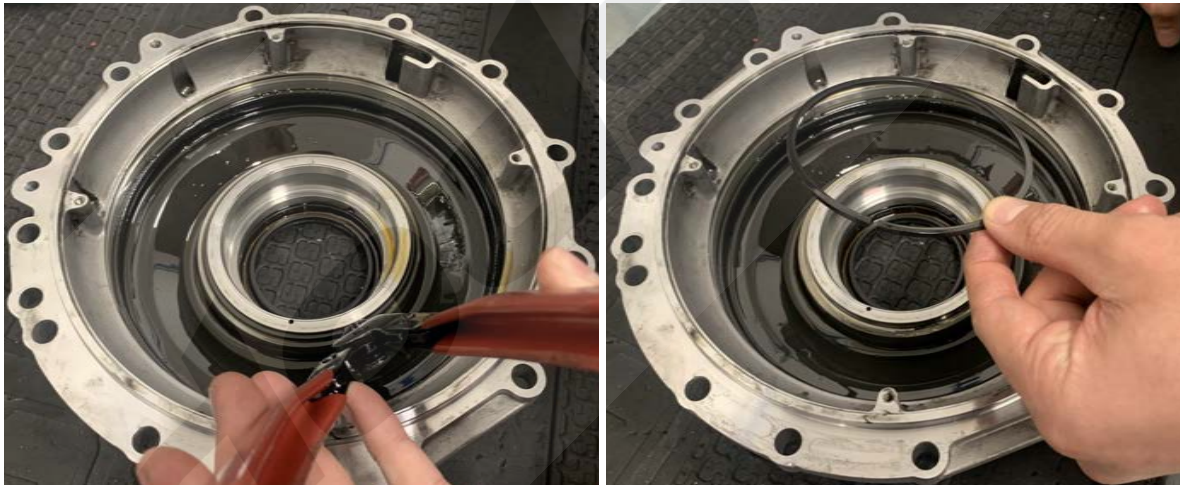
## STEP 9

Block one side of the hydraulic passage and blow compressed air through the other side. This will actuate the piston and eventually blow the outside of the seal and piston apart. **Keep some distance from the diff cover as the piston may fly out uncontrollably.**



## STEP 10

Remove the circlip retaining the inner ring of the diaphragm.





## STEP 11

To remove the inner diaphragm ring, place the outer ring back over the diaphragm and push down evenly.



## STEP 12

Place the diff cover back in the hydraulic press and apply enough load to hold the outer ring over the diaphragm without pressing the ring back into the diff cover. Blocking the hydraulic passage and blowing compressed air through the other side should push out the inner ring. **This may take a couple of attempts.**



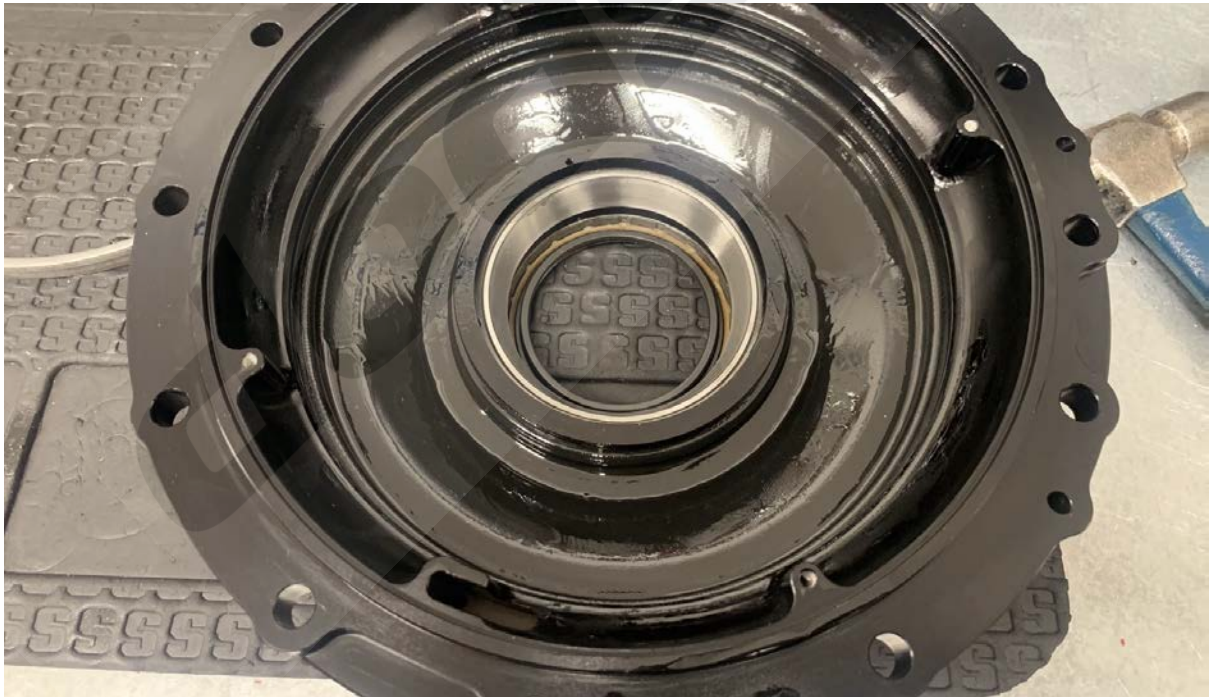
## **STEP 13**

Clean and inspect all of the components that are being reused in the billet diff cover.



## **STEP 14**

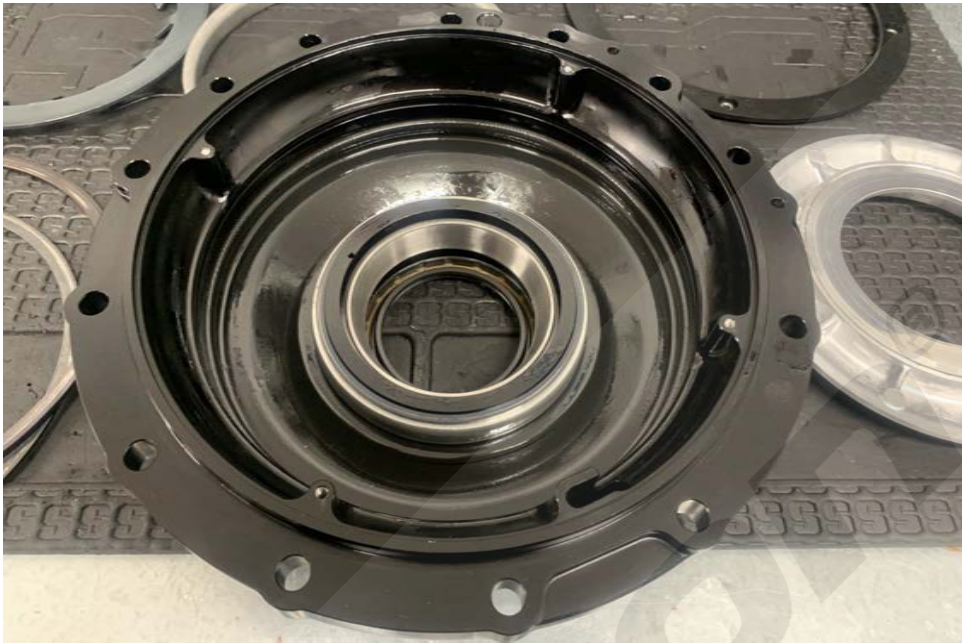
Press the thrust bearing race and shim into the billet diff cover.





## **STEP 15**

Place the diaphragm seal into the billet diff cover and press the inner ring over the seal.



## **STEP 16**

Install the retaining circlip



## **STEP 17**

Assemble the piston, outer diaphragm ring, diaphragm spring and large shim into the diff cover.



## **STEP 18**

Use a hydraulic press to compress the diaphragm spring and install the large circlip.

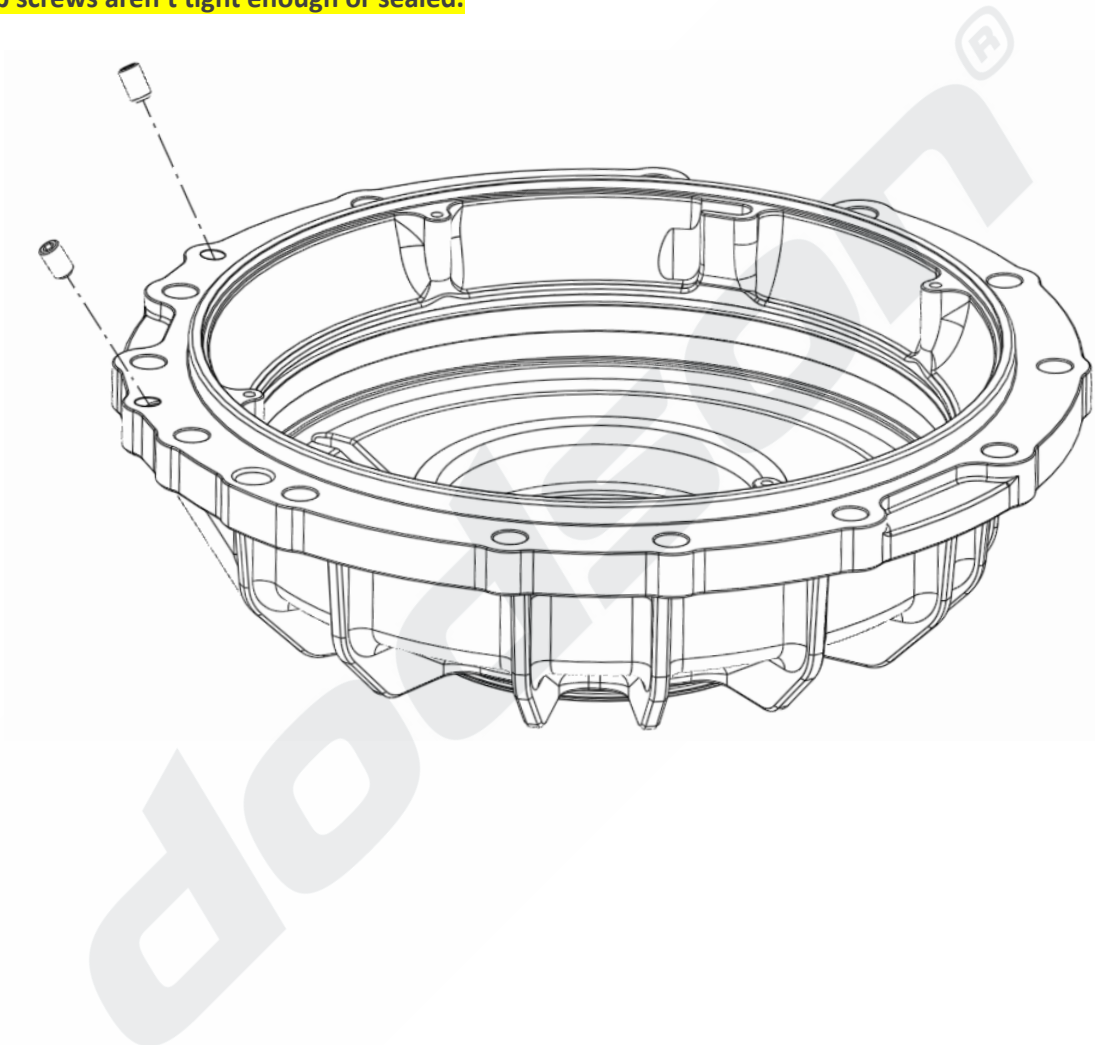




**STEP 19 is for Wavetrac LSDs only****STEP 19**

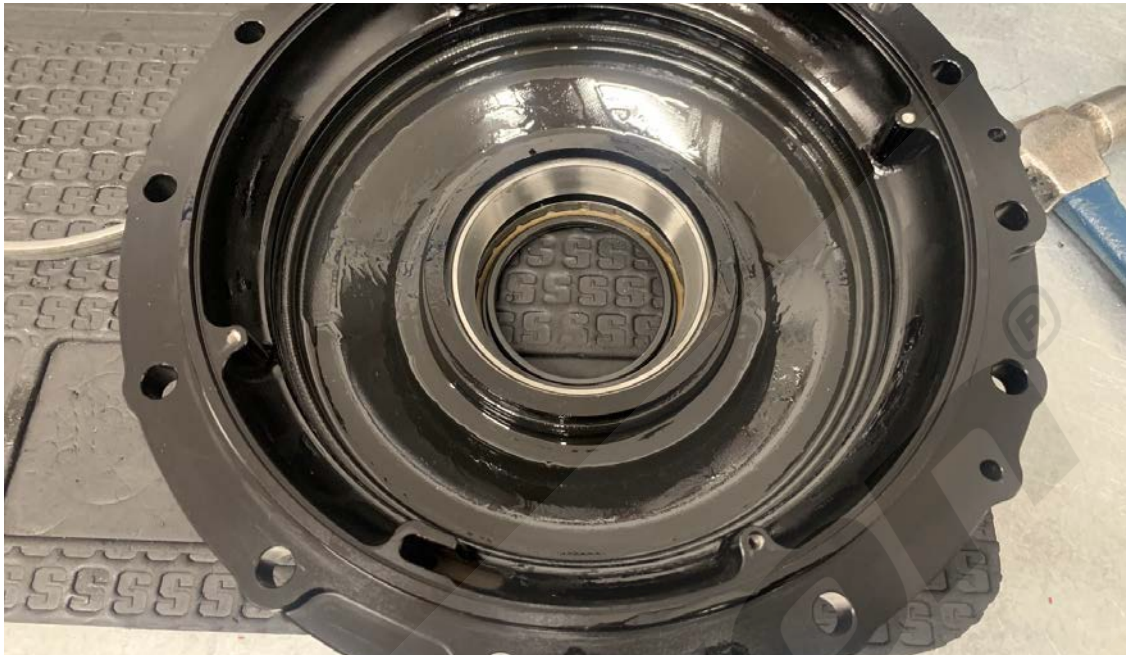
Apply thread locker (pipe sealant, Loc-Tite, teflon tape, or equivalent) to the threads of the M6x30 grub screws and install them as shown below torqued to **8Nm**. This will seal off the hydraulic passages which are not required for a Wavetrac LSD.

**Ensure the grub screws are fully seated in the Diff cover. Once the screws are fitted and any thread locker is thoroughly cured, place a small amount of oil in the diff cover and test that they have sealed by applying compressed air to the grub screw opening. Bubbles will form in the oil if the grub screws aren't tight enough or sealed.**



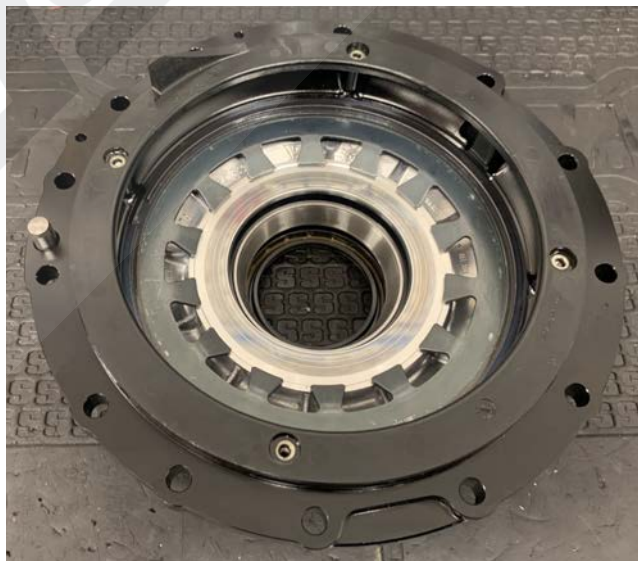
## **STEP 20**

Press the outer bearing race and shim into the billet diff cover if you haven't done so already.



## **STEP 20**

Install the dowel pin and plastic shield.





## STEP 20

Place the billet diff cover on the transmission housing and assemble the M8x30 cap screws and washers.



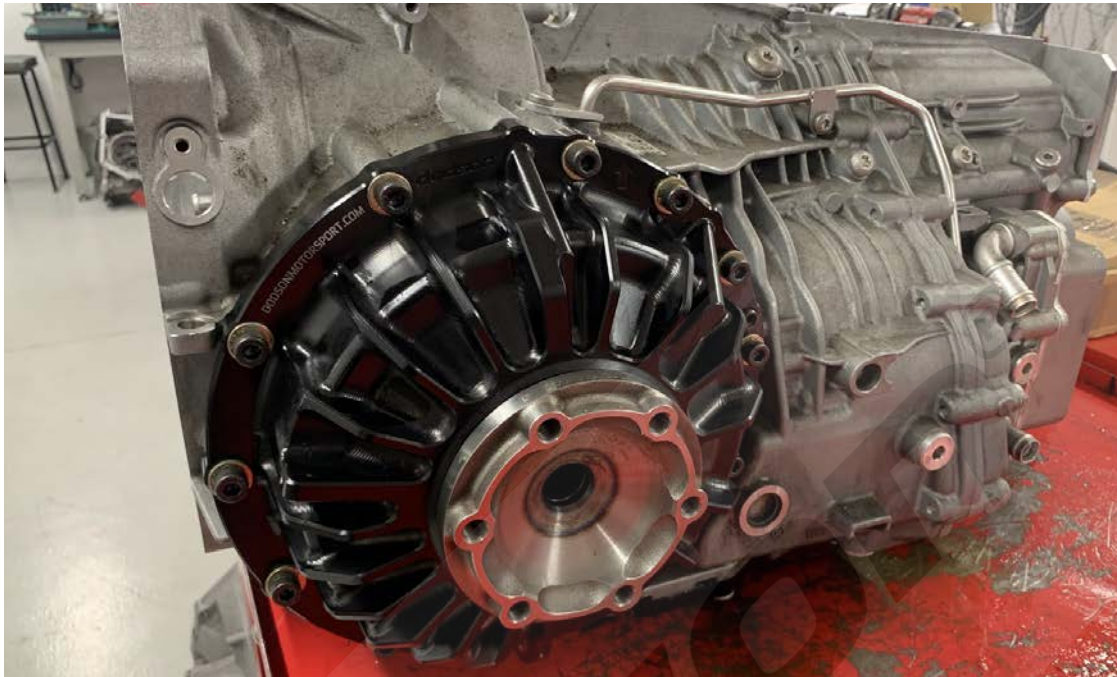
## STEP 21

Tighten all bolts and torque them to 40 Nm.



## **STEP 22**

Re-install the short half shaft by gently tapping it with a rubber or nylon mallet.



If you have any questions email us at [technical@dodsonmotorsport.com](mailto:technical@dodsonmotorsport.com)