

Detroit Speed
Detroit Speed C7 Rear Full Floater Kit
 P/N: 070512DS & 070513DS

Thank you for purchasing the Detroit Speed C7 Rear Full Floater Kit. The Detroit Speed Full Floater Kit provides improved handling through predictable and consistent brake pedal height and tire contact patch. The elimination of axle deflection reduces brake “knockback” and increases bearing life. It utilizes a C7 bearing pack allowing the use of the factory ABS system and is compatible with a stock GM C7 rear brake system and can be assembled with or without the C7 park brake assembly.



PN: 070512DS

Item #	Description	Quantity
1	Detroit Speed Hub Axle End, LH and RH (P/N: 070512DS Only)	2
2	Detroit Speed C7 Hub Assembly	2
3	Detroit Speed C7 Hub Spacer - LH	1
4	Detroit Speed C7 Hub Spacer - RH	1
5	Detroit Speed C7 Caliper Mount - LH	1
6	Detroit Speed C7 Caliper Mount - RH	1
7	Detroit Speed C7 Park Brake Shim	2
8	Detroit Speed C7 Park Brake Cable Mount Assembly	2
9	Detroit Speed Center Cap Assembly	2
10	Hardware Kit	1
11	Instructions	1

Hardware Checklist – Detroit Speed C7 Rear Floater Kit			
Part Number	Description	Quantity	Check
	Detroit Speed Rear Floater Hardware Kit	1	
950130FS	M12-1.75 x 55mm Flange Head Bolt	4	
960092FS	M12-1.75 Flange Nylock Nut	6	
950096FS	M6-1.0 x 25mm Socket Head Bolt	4	
950095FS	7/16"-20 x 1-3/4" L Socket Head Bolt	4	
950088FS	10-32 x 1/2" L Socket Head Bolt	6	
99070036	ABS Sensor Plug	2	
070436	Inner Axle Seal	2	
99070027	Outer Axle Seal	2	
920033FS	DSE Center Cap O-Ring	2	

Fastener Torque Specifications – Detroit Speed C7 Rear Floater Kit		
Application	Torque (ft-lb)	Threads
M12-1.75 Flange Nylock Nut	95	
M6-1.0 x 25mm Socket Head Bolt	6	Blue Loctite 242
7/16"-20 x 1-3/4" L Socket Head Bolt	65	Red Loctite 262
3/8"-24 Nylock Nut	35	

NOTE: If you are using the factory GM C7 rear brake system, see that table below for the complete list of parts required with the Detroit Speed C7 Rear Floater Kit.

GM C7 Z51 (J55) Rear Brake Parts List			
Part Number	Description	Quantity	Check
GM 22847810	C7 Z51 (J55) Rear Caliper, LH, Black	1	
GM 22847805	C7 Z51 (J55) Rear Caliper, RH, Black	1	
GM 22968938	C7 Caliper Pin Mount	2	
GM 11570091	C7 Caliper Mounting Bolts (M12 x 1.75 x 43mm)	4	
GM 20981822	C7 Z51 (J55) Rear Rotor	2	
GM 22847818	C7 Rear Pad Set	1	
GM 22742185	C7 Rear ABS Sensor, LH	1	
GM 22784992	C7 Rear ABS Sensor, RH	1	
GM 11588711	C7 ABS Sensor Mounting Screw	2	
C7 Rear Park Brake Parts			
GM 23147374	Park Brake Backing Plate, LH	1	
GM 23147375	Park Brake Backing Plate, RH	1	
GM 22857917	Park Brake Cable Lever	2	
GM 22857908	Park Brake Spring Kit	2	
GM 22857916	Park Brake Adjuster	2	
GM 22857904	Park Brake Shoe Set	2	

NOTE: Optional Wheel Stude Kit – ARP 100-7708 – M12-1.5 x 2.5" L GM Wheel Stud Kit

NOTE: All work should be performed by a qualified welder and technician.

Installation Instructions:

1. If you have purchased Detroit Speed P/N: 070513DS proceed to step 2. For Detroit Speed P/N: 070512DS, weld the left and right hand Detroit Speed C6 Hub Axle Ends to your rear axle tubes (Figure 1). **NOTE:** The caliper mount bracket surface should be facing the front of the vehicle.



Figure 1 - Detroit Speed C7 Hub Axle End

2. Clean the inside of the axle housing. Use compressed air to blow any loose debris from the housing followed by brake cleaner to remove any oil or grease.
3. Install the axle seals into the Detroit Speed floater housing ends. Place a thin bead of RTV silicone on the outside edge of the seal before installing (Figure 2). The seal installs with the flat side of the seal facing outward. Use the appropriate axle seal installer (KD-Tools P/N: 41630) to install the seals on both sides (Figure 3). **CAUTION:** Make sure the seal installs straight.



Figure 2 - Use RTV on the Axle Seals



Figure 3 - Install Axle Seals

4. Grease the inside of the axle seal lip (Figure 4).

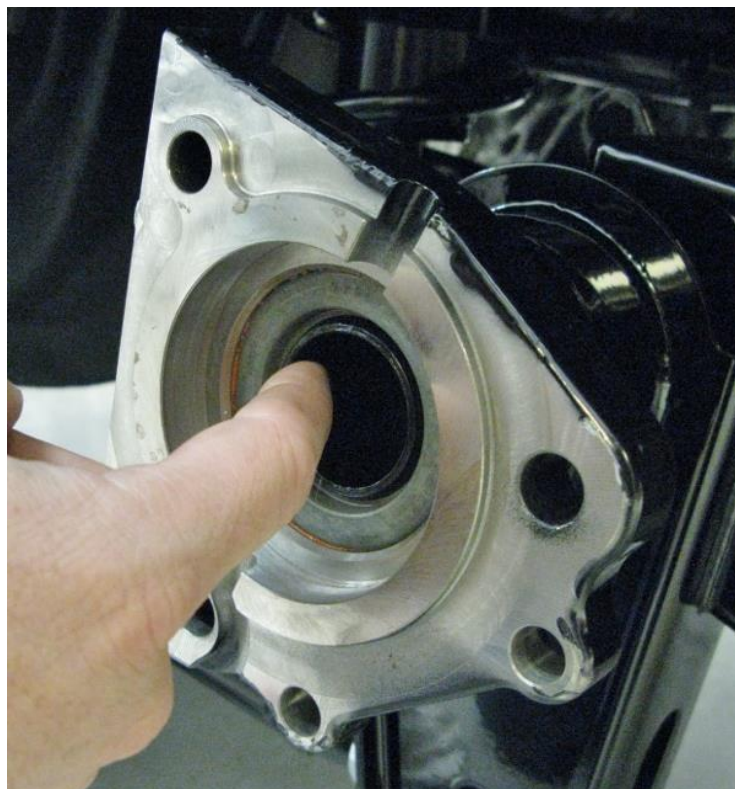


Figure 4 - Grease Axle Seal Lip

5. Next, you will need your park brake assembly from your C7 rear brake system (Figure 5). Place the C7 park brake assembly onto the Detroit Speed Hub Assembly. If you are not using the park brake assembly from your C7 brake kit, continue on to **Step 9**.



Figure 5 - C7 Park Brake Assembly

6. Place the Detroit Speed C7 hub spacer onto the park brake/hub assembly. Position the hub spacer so that the flat with the two tapped holes lines up with the park brake opening on the C7 shield/park brake assembly (Figure 6 on the next page).

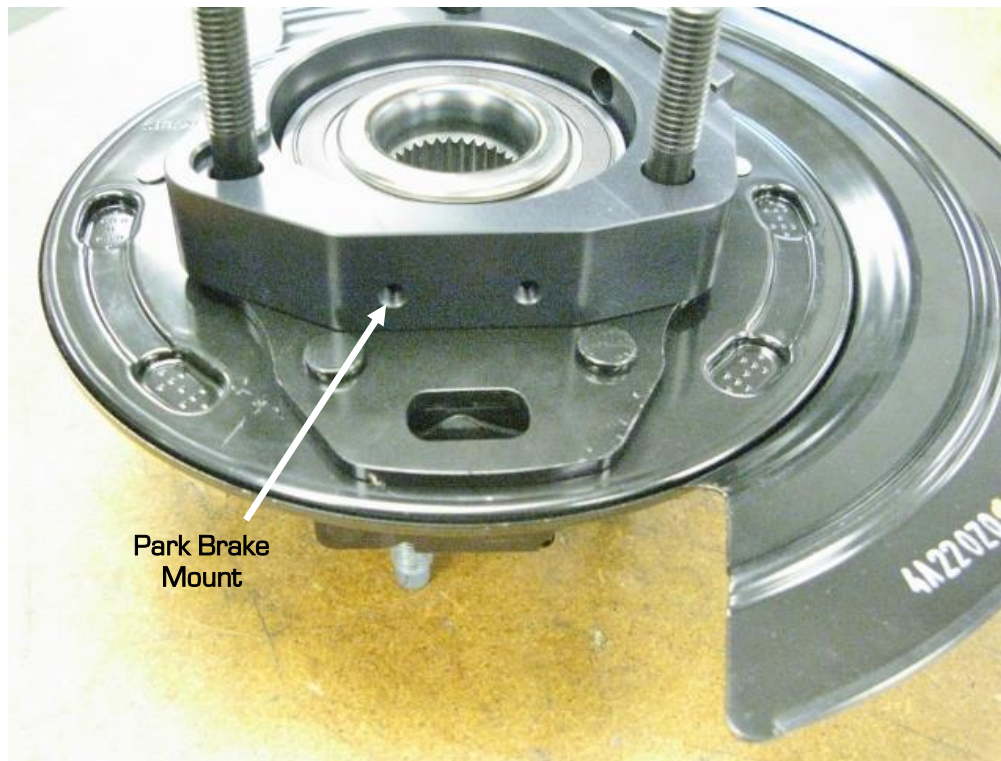


Figure 6 - Install Hub Spacer

7. Install the Detroit Speed Hub Assembly onto the Detroit Speed Housing End. On the driver side of the vehicle, the park brake mount (Figure 6 above) will be at the 1 o'clock position. On the passenger side the park brake mount, will be located at the 11 o'clock position.
8. Install the provided M12-1.75 flange Nylock nuts onto the three studs that are installed into the hub assembly. Torque the M12 Nylock nuts to 95 ft-lbs. with an 18mm socket.
9. Install the park brake mount assembly onto the hub spacer with the provided M6-1.0 x 25mm socket head cap screws. Before installing these two bolts, use medium strength blue Loctite 242 on the threads (Figure 7). Torque the M6 bolts to 6 ft-lbs. Repeat Steps 4 through 8 for the opposite side of the vehicle. Continue to **Step 12**.



Figure 7 - Install Park Brake Mount

10. If you are not using the C7 park brake assembly, install the provided park brake shim over the hub assembly (Figure 8).



Figure 8 - Install Hub Shim

11. Next, place the Detroit Speed C7 hub spacer on top of the hub shim on the hub assembly. Install the Detroit Speed Hub Assembly onto the DSE Housing End. **NOTE:** Position the Detroit Speed Hub Assembly so that the flat with the tapped hole for the ABS Sensor lines up with the two open holes on the housing end. (Figure 9).

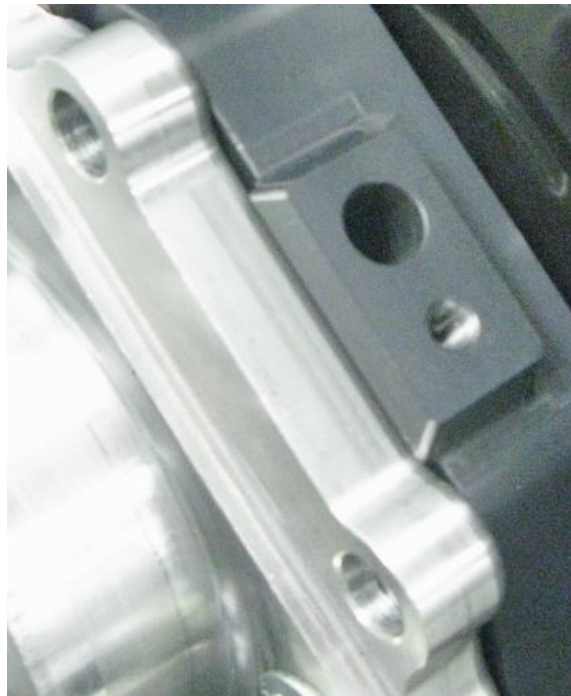


Figure 9 - Install Hub Spacer

12. Install the provided M12-1.75 flange Nylock nuts onto the three studs that are installed into the hub assembly. Torque the M12 Nylock nuts to 95 ft-lbs. with an 18mm socket. Repeat Steps 9 through 11 for the opposite side of the vehicle.

13. If you do not plan on using ABS, install the provided ABS sensor plug (Figure 10). If you do plan on using ABS, install the GM ABS sensor and hardware into the Detroit Speed hub spacer (Figure 11).



Figure 10- ABS Sensor Plug



Figure 11 - ABS Sensor

14. Install the Detroit Speed C7 caliper mount to the front side of the housing end using the two provided 7/16"-20 x 1-3/4" socket head cap screws. **NOTE:** There is a left hand and right hand caliper mount bracket, be sure to install the correct bracket on the correct side. The caliper mount bracket will shift the caliper outboard. Before installing these two bolts use high strength red Loctite 262 on the threads (Figure 12).

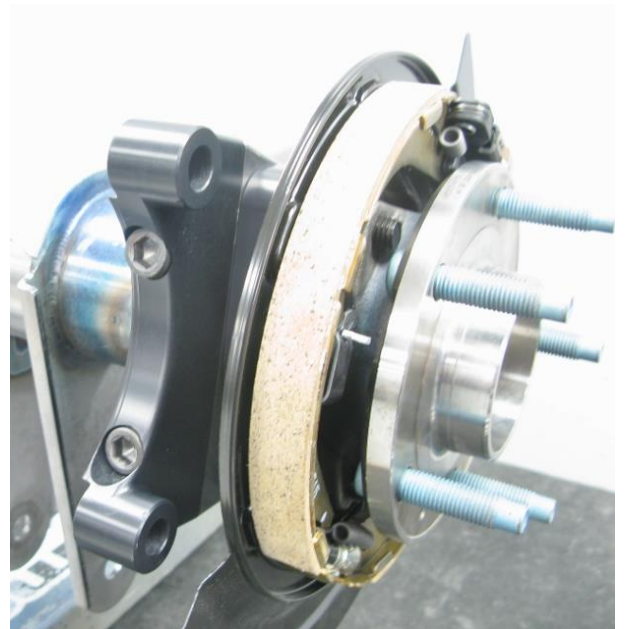


Figure 12 - Install Caliper Mount (Driver Side)

NOTE: The image in Figure 12 may not resemble the actual part.

15. Torque the 7/16"-20 socket head cap screws to 65 ft-lbs. Repeat Steps 12 through 14 for the opposite side of the vehicle.

16. Test fit the inner axle seals before applying grease to make sure they will fit correctly. They are designed to work with a 2.560" inner axle tube diameter. **NOTE:** The flats that are machined into the seal, need to go straight up and down to clear the bead of weld between the axle tubes and the center housing. Grease the inner axle seals on the outside o-rings as well as the inside where the axles will slide through. Install the axle seals into the housing tubes from the center section opening (Figure 13).



Figure 13 - Grease the Inner Axle Seals

NOTE: If you are not using a Detroit Speed axle housing or have something different than a 2.560" inner axle tube diameter see the chart below (Figure 14). Visit www.sealsit.com.

Seals-It Inner Axle Seals			
Part Number	Color	Tubing Size	Housing Size
AS9250	Gold	2.500"	2.470"
AS9218	Blue	2.560"	2.540"
AS9188	Red	2.625"	2.605"
AS9125	Silver	2.750"	2.720"

Figure 14 - Inner Axle Seals

17. Use the appropriate axle seal installer (KD-Tools P/N: 41630) to install the seals on both sides (Figure 15). **CAUTION:** Make sure the seal installs straight.



Figure 15 - Install Inner Axle Seals

18. Place the third member gasket over the studs. Use RTV silicone on both sides of the gasket. Install the third member into the axle housing. Thread the 3/8"-24 Nylock nuts onto the studs using the 3/8" AN washers. Torque the 3/8"-24 Nylock nuts to 35 ft-lbs.

19. Grease both axes on both ends at the splines as well as the the axle shaft where the inner seal will be in contact. This will be the area of the axle shaft behind the longer axle splines (Figure 16).



Figure 16 - Grease Axle Shafts

20. Slide the axle shafts into the C7 hub assembly with the longer set of splines into the axle housing first (Figure 17). **NOTE:** The axles are specific for each side. The shorter axle is for the driver side and the longer axle is for the passenger side.

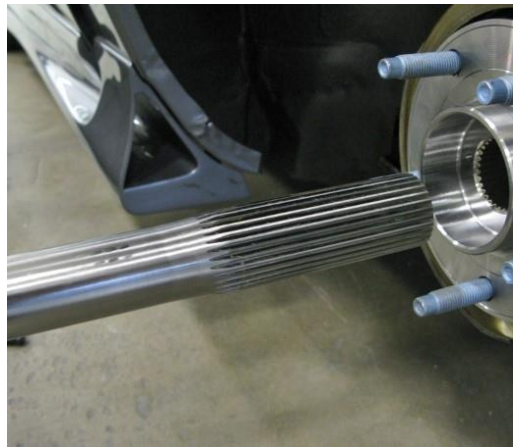


Figure 17 - Install Axle Shafts

21. In order to seat the axle shafts all the way in, you can install a 3/8"-24 bolt into the tapped hole in the end of the axle and use a rubber hammer to fully install. You should be able to feel the axle shaft bottom out into the 3rd member. You should have about a 1/8" of end play in the axle shaft between the hub face and the end of the axle (Figure 18).

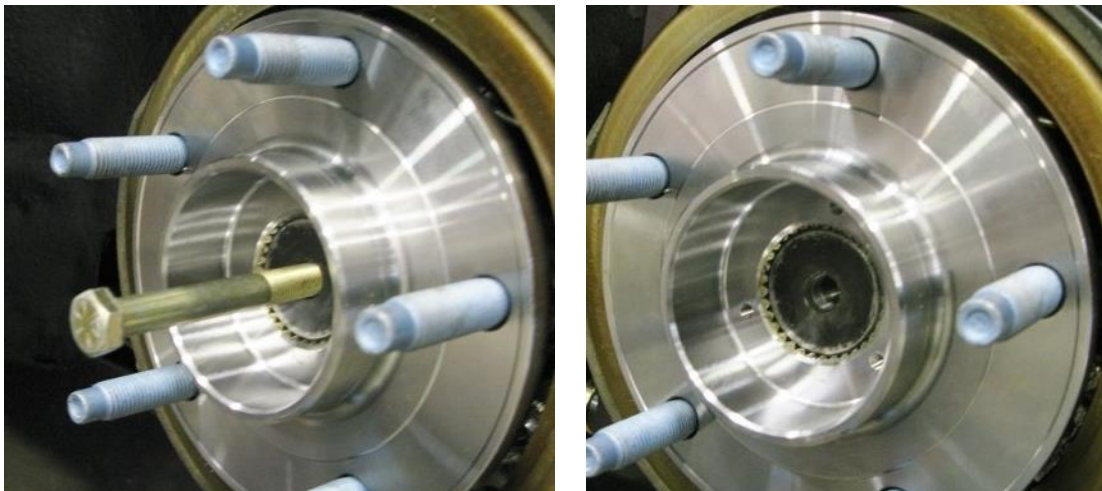


Figure 18 - Check Axle Shaft End Play

22. Grease the Hub Cap O-ring and install it into the Detroit Speed Hub Cap (Figure 19).



Figure 19 – Install O-Ring

23. Install the Detroit Speed Hub Cap to the hub assembly using the three provided 10-32 x 1/2" L socket head cap screws. Before installing these bolts, use medium strength blue Loctite 242 on the threads. Tighten the 10-32 bolts. (Figure 20 on the next page). Repeat steps 22 and 23 for the opposite side of the vehicle.



Figure 20 – Install Detroit Speed Hub Cap

24. Refer to your rear brake system instructions to complete your rear axle assembly. **NOTE:** Use the provided M12-1.75 x 55mm flange head bolts to install your C7 brake calipers to the caliper mounting brackets.

25. Upon completion of the rear axle and brake system assembly, Detroit Speed recommends a break-in procedure for good service life of the gear set. Some aftermarket gear sets are noisier than others. The complete break-in procedure must be performed before checking the gear set. The information below lists the step by step procedure to correctly break-in your newly purchased Ford 9" axle assembly.

CAUTION: DO NOT use any type of synthetic oil during the break-in period.

26. Fill the differential with approximately 2-1/2 to 3 quarts of conventional 80W-90 gear oil.
NOTE: The differential is full when the gear oil starts to run out of the center section side fill plug. Be sure to use the fill plug located at the side of the differential (Figure 21).

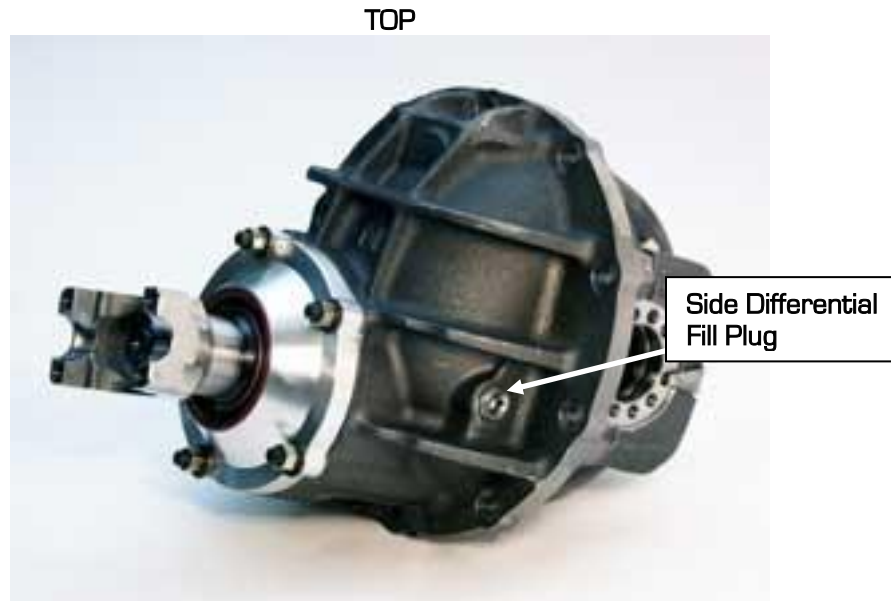


Figure 21 - Differential Fill Plug Location

27. With the rear differential full of fluid and the vehicle on jack stands, run the car in forward and reverse for approximately two to three minutes. **WARNING:** Operator must remain in the driver's seat and always make sure the front wheels are blocked and jack stands are secured before attempting this procedure. Never exceed 2,000 rpm with the wheels off the ground. Failure to follow this warning could result in serious damage or physical injury.
28. Test drive the vehicle. If no noise is heard, continue with the break-in procedure. If excessive noise is heard from the gear. **DO NOT CONTINUE DRIVING.** Contact your 3rd member vendor.
29. Continue driving on a ten mile round trip at normal operating speeds. Accelerate and decelerate several times conservatively.
30. After the first road trip, let the rear axle completely cool before driving again.
31. Repeat steps 26 through 29.
32. After 500 miles, the gear oil must be changed. If desired by the customer, synthetic oil may be used at this time.
33. The break-in procedure is now complete.

If you have any questions before or during the installation of this product, please contact Detroit Speed at tech@detroitsspeed.com or 704.662.3272