8300 North Austin Avenue · Morton Grove IL 60053 · 847-663-1701 · Fax 847-663-1702 · www.strangeengineering.net

Installation Instructions

Kit # L4050WC 11.5" Carbon Brake Kit

Applications: Strange Top Loader

IMPORTANT NOTES:

- L4020 Tool kit is **required** for this installation. Contact Strange Engineering for tools.
- L4050B (11.5" carbon rotors) have a minimal thickness of 0.325"
- L4050H (carbon brake pads) have a minimal thickness of .200"
- Also consult installation instructions for Strange Ultra Four Piston Brake Caliper

BEFORE YOU BEGIN INSTALLATION:

Drive hub bearings (item# 21) must be reused
Read these instructions thoroughly and save for future reference.
If after reading these installation instructions, you have any questions or comments, please do not hesitate to call us.

KIT CONTENTS

Item #	Part #	Qty.	Description
1	L7006GL	4	1/4"-28 x 1" Axle Nut Retaining Bolt
2	L4002U	2	Live Axle End Cap
3*	L4020C	1	Axle Nut Wrench
4	L4001T	2	Axle Nut
5	L4001S	2	Axle Nut Spacer Ring
6	L4000T	16	1/4-28 Jet Nut
7*	B5042	2	Strange Ultra Four Piston Brake Caliper w/ 2 Piece Pistons
8*	L4050H	4	Four Piston Carbon Brake Pads
9*	B5000Z	4	3/8"-24 x 1.187" Caliper Mounting Bolts
10*	L4020T	5	Female Threaded Hex Nut
11*	L4020B	2	Breaker Bar
12*	L4020F	1	Jackscrew
13*	L4020GG	1	Hub Push/Pull Plate
14*	L4020N	1	Jackscrew Bullnose
15*	L4020O	1	Bullnose Bearing Retainer *(pre-installed on jackscrew bull nose)*
16*	L4020Q	1	Jackscrew Thrust Bearing *(pre-installed on jackscrew bull nose)*
17*	L4020D	5	Push/pull Plate Spacer
18*	L4020E	3	Hub Bearing Removal Rod
19	L4000W	2	Snap Ring
20	L4001F	2	Steel Brake Kit Drive Hub Bearing Retainer
21	L4000V	2	Drive Hub Bearing
22*	L4050I	20	1/4-20 x 3/4" 12 Point Screw
23*	L4050G	2	Carbon Rotor Retainer Ring
24*	L4050B	2	Carbon Rotor 11.5"
25	L4001R	2	Drive Hub
26*	L4050L	2	Carbon Rotor Adapter
27	L4002XK	1	3/8" Locknut Assembly
28	L4001N	2	Drive Hub Bearing Backup Ring
29*	L4050E	2	Caliper Mount
30*	B1301E	4	3/8-24 Press Nut
31*	L4050J	2	Carbon Brake Kit Drive Hub Bearing Retainer
32*	L4002W	1	3/8"-16 Hex Nut
33*	L4020R	1	3/8"-24 x 2" Screw
34*	L4020A	1	Drawbar
35*	N1922B	1	Drawbar Nut

Note: only item #'s listed with a "*" are included with this kit and the required tool kit

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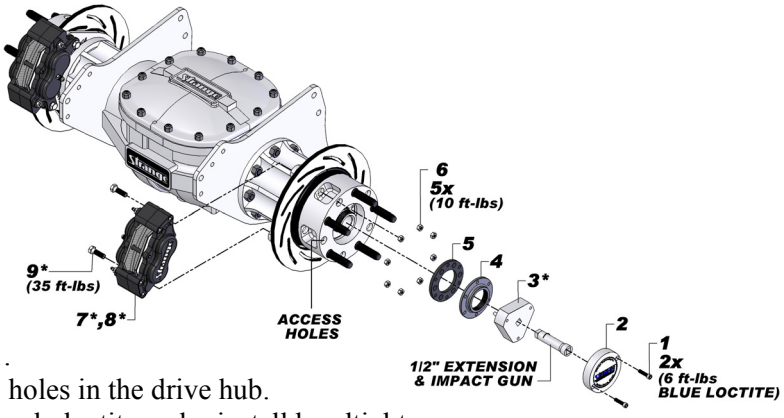
(install kit completely on one side before continuing to the next side)

Axle Nut Removal



1. Remove the brake caliper (7) by removing the two caliper mounting bolts (9).

2. Unscrew the two axle nut retaining bolts (1) and remove the live axle end cap (2).

3. It is important to **scribe a mark on the axle nut (4) and hub** to serve as a reference for reinstallation and tightening of the axle nut. Do not confuse this mark with the pre-scribed mark that indicates original hub spline and axle spline position as described in step 21.

4. Remove the eight jet nuts (6) by way of access holes in the drive hub.

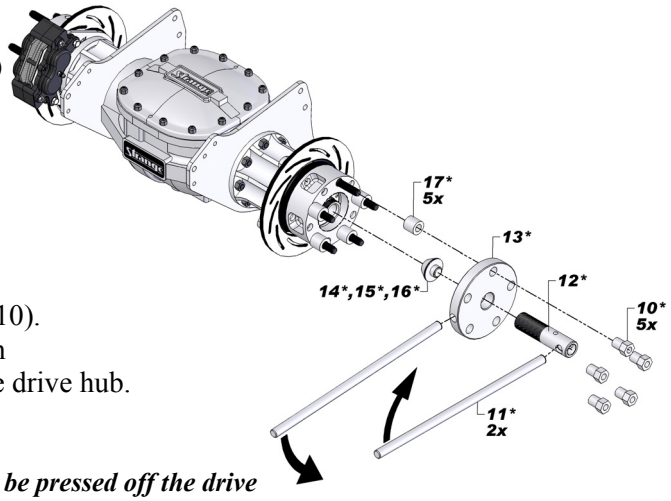
■ **Notes:** If the housing tube studs unscrew, apply loctite and reinstall handtight.

5. Remove the axle nut (4) using an impact gun and 1/2" extension with the the axle nut wrench (3). Set aside the axle nut (4) and spacer ring (5) for reinstallation later.

■ **Notes:** If necessary hold the pinion by the pinion nut using a socket and a breaker bar to keep axle from turning.

Drive Hub Removal

Notice the marks on the axle and hub indicating original spline position. Ensure to reinstall identically when reassembling (step 21)



6. Coat the threads of the jackscrew (12) with an anti-sieze compound and thread it into the push/pull plate (13) so that the threads just start to protrude from the plate.

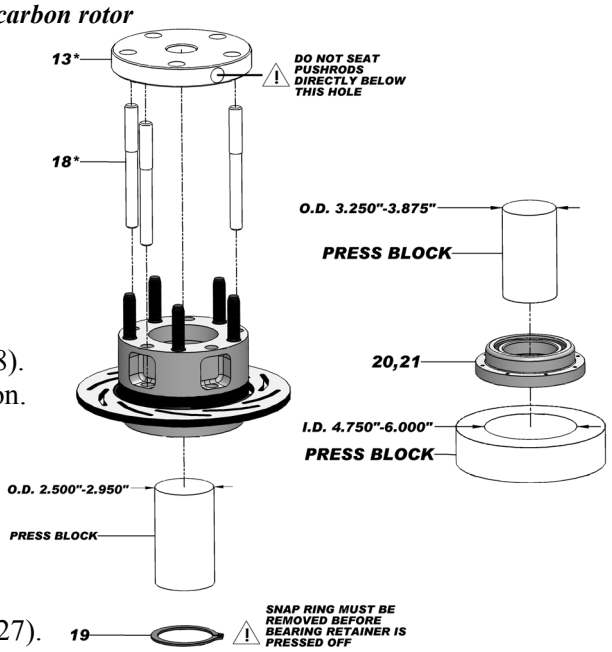
7. Push the bullnose assembly (14-16) into the jackscrew.

8. Set the five push/pull plate spacers (17) around the wheel studs and slide the jackscrew/push/pull plate assembly over the wheel studs. Secure with five female threaded hex nuts (10).

9. While holding the push/pull plate breaker bar stationary, turn the jackscrew breaker bar clockwise as shown to remove the drive hub.

Drive Hub Bearing Removal & Swap

The steel brake kit hub bearing retainer (20) and bearing (21) must be pressed off the drive hub in order to remove steel brake rotor. This allows for installation of the carbon rotor adapter(22) and carbon brake kit drive hub bearing retainer (26).



10. Remove the snap ring (19) from the drive hub stem. Then set the drive hub assembly in an arbor press, drive studs up, with the drive hub stem on top of the press block.

■ **Notes:** Press block is not supplied. Just about any cylindrical object, 2.500"-2.950"outside diameter, will work for press block (larger capacity wrench sockets).

11. Drop the bearing removal rods (18), small end first, thru the access holes in the hub.

12. Rest the push/pull plate (13) on top of the bearing removal rods (18).

13. Press down on the plate. Set backup ring (28) aside for reinstallation.

14. Now press the drive hub bearing (21) out of the steel brake kit bearing retainer (20).

■ **Notes:** Inspect the drive hub bearing (21) for damage.

15. Press the drive hub bearing (21) into the new carbon brake kit bearing retainer (31). The bearing is symmetric so it can be installed either way.

16. Remove the old rotor by uninstalling the 3/8" locknut assemblies (27).

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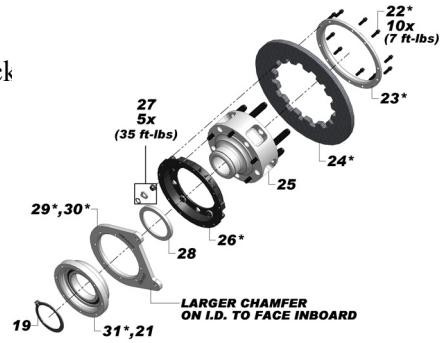
Drive Hub and Carbon Brakes Kit Assembly



17. Align the carbon rotor adapter (26) with the drive hub (25). Secure with lock assembly (27).Torque lock nut assembly (27) to 35 ft-lbs.

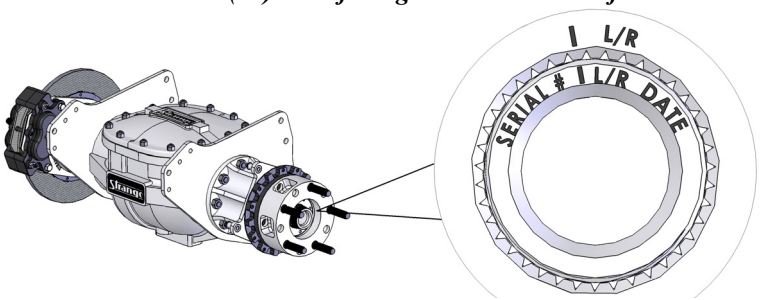
18. Slide the caliper bracket (29) and bearing backup ring (28) onto drive hub.
- **Notes:** Larger chamfer on I.D. of caliper mount must face inboard.

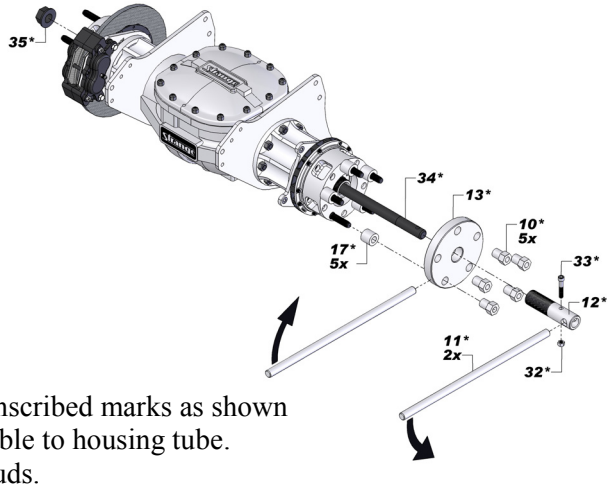
19. Press the carbon brake kit bearing retainer (31) and drive hub bearing (21) on the drive hub until fully seated.
- **Notes:** Press only on the inner race of the bearing.

20. Reinstall the snap ring (19) on the hub stem.

Drawing the Unit Together

Axle end cap must be removed when drawing the unit together so the drawbar nut (35) seats flat against the axle end face.





21. Align the hub assembly with the axle ensuring that the pre-inscribed marks as shown above line up. Push the drive hub assembly as close as possible to housing tube.

22. Set the five push/pull plate spacers (17) around the wheel studs.

23. Thread the jackscrew all the way into the push/pull plate then slide the jackscrew (12) and push/pull plate, threaded end first, onto the un-threaded end of the drawbar (34) and secure with a bolt (33) and nut (32).

24. Slide the threaded end of the drawbar assembly thru the axle tube from the hub side that you are going to draw in, with the push/pull plate over the studs flush to the spacers. Secure push/pull plate with the five female threaded hex nuts (10).

25. Thread the drawbar nut (35) onto the threaded end of the drawbar protruding from the end of the axle snug to axle end.

26. Slip the breaker bars (11) into the holes in the push/pull plate and the jackscrew. Hold the breaker bar in the push/pull plate while turning the jackscrew/drawbar counter-clockwise. Back off the jackscrew and tighten the nut (35) until hub assembly is fully seated.

27. Secure assembly by reinstalling the eight jet nuts (6). Brake caliper can be aligned multiple positions by rotating the caliper bracket (29). Torque the eight jet nuts (6) to 10 ft-lbs.

28. Slide the axle nut spacer ring (5) over the axle.
- **Notes:** Coat the threads of the axle end and mating surfaces of axle nut and spacer with anti-seize compound.

29. Thread the axle nut on until snug. Use scribed lines from step 3 as a reference to tighten axle nut (4) using axle nut wrench (3) with a low torque impact wrench. Also, ensure two holes 180° apart are lined up.

30. Slide the carbon rotor (24) over the drive hub assembly and secure to the carbon rotor adapter (26) with carbon rotor retainer ring (23) and the ten flat head socket cap screws (22). Torque the 12 point screws (22) to 7 ft-lbs

31. Re-install the brake caliper (7) by securing with the caliper mounting bolts (9). Torque mounting bolts to 35 ft-lbs.

32. Consult Strange Ultra Four Piston caliper kit installation instructions for installing brake pads.

33. Repeat installation for the opposite side. Once entire unit is complete ensure the axle protrudes evenly from both hubs and there is no play in the axle bearings. Re-install both axle end caps and apply blue loctite to screws securing the caps.

Important Notes Regarding Carbon Brakes:

- Keep carbon away from all chemicals. If contamination occurs the carbon component must be baked for 8 hours at 500° F -(Bake carbon only! Remove aluminum hat and hardware before baking)- If badly contaminated an odor will occur.
- The hotter the rotors become, the more effective braking becomes.

Carbon brakes will stop your vehicle far better at the “top end” and will not “hold” as well at the starting line, compared to steel brakes.

We recommend that when you first drive or “tow” your vehicle to the starting line, you apply the brakes several times to get the “feel” of carbon at low speeds. After you become comfortable with the vehicle at “pit area” speeds, you may want to “drag” the brakes to create rotor and pad heat to better hold the vehicle at the starting line. We recommend a few 1/2 or 3/4 passes, so as to become aware of how your carbon brakes perform at higher M.P.H.. Remember carbon works better at higher temperatures. The longer the brakes are applied the more aggressive braking will become.