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May 31, 2013

FLOATER KITS INSTALLATION & COMPONENTS

Strange Engineering brake kits are designed for <u>DRAG RACING ONLY</u> 4.75"& 5.00" bolt circle kits require F2058W Spindle Nut Wrench 5.50" bolt circle kit require F2056M Spindle Nut Wrench

Consult B5044 Ultra Brake Caliper Kit instructions for floater kits with carbon brakes

Floater Kits Breakdown					
Kit #	Brake Kit	Bolt Circle	Housing Tube Size		
F2206WC	Carbon	5.50"	3.50" O.D.		
F2206	Steel	5.50"	w/ 0.25" Wall Thickness		
F22065WC	Carbon	5.00"	OR		
F22065	Steel	5.00"	3.25" O.D.		
F22064WC	Carbon	4.75"	w/ 0.25" Wall Thickness		
F22064	Steel	4.75"	W/ 0.23 Wall Hilckness		

Common Components Between All Floater Kits				
Item #	Part #	Qty	Description	
3	B1301E	4	3/8-24 Press Nuts	
4	F1237D	12	3/8-24 x 3/4 FHSCS	
5	F2056B	2	Spindle Ring	
6	F2056K	2	SKF 28745 Hub Seal	
7	F2056I	note 1	Bearing Timken L610549	
11	F2056L	4	1/4-20 x 5/16 Dog Point Set Screw	
14	F2200C	4	10-24 x 3/4 FHSCS	
15	F2200B	2	O-Ring for Driveplate Cap	
16	F2054B	2	Driveplate Cap	
17	A1RS	2	Race Axle Decal	
18	A1050D	6	1/4-28 x 3/4 SHCS	
28	C1700D	20	1/4-20 x 1/2 FHSCS	
29	C1700H	2	Rotor Retainer Ring	
32	F2056J	note 1	Bearing Cup Timken L610510	

5.50" Bolt Circle Kit Components					
Item #	# Part # Qty		Description		
1	F2092A	2	FFAA Spindle		
8	F2056E	2	Preload Spacer		
9	F2056D	2	Spindle Nut Retainer		
10	F2056C	2	Spindle Nut (2 %-16 thread)		
12	F1277	2	O-Ring for 5.5 B.C. Drive Plate		
13	F2056A	2	5.50" B.C. Drive Plate		
31	F2056P	2	5.50" B.C. Floater Hub		

5.00" Bolt Circle Kit Components				
Item #	Part #	Qty Description		
19	F2093A	2	FFAA Spindle	
21	F2058E	2	Preload Spacer	
22	F1270	2	Outboard Bearing Timken L507949	
23	F2058D	2	Spindle Nut Retainer	
24	F2058C	2	Spindle Nut (2.157-18 thread)	
25	F1209C	2	O-Ring for 4.75 & 5 B.C. Drive Plate	
26	F2058A	2	5.00" B.C. Drive Plate	
33	F1271	2	Bearing Cup Timken L507910	
34	F2058H	2	5.00" B.C. Floater Hub	

Wheel Stud Options							
Part # A B C Lug Nuts							
F2058BSP	0.650	1.250	0.250	Steel			
F2058BAP	0.650	1.250	N/A	Aluminum			
F2058BLP	1.650	1.000	0.4375	Steel			
FLOATER HUB A Wheel Mounting							
A- Distance must be slightly greater than the							

Steel Brake Kit				
Item #	Part #	Qty	Description	
20	F2056O	2	Caliper Mount	
36	F2056NR	1	11.5" Slotted Steel Brake Rotor (RH)	
	F2056NL	1	11.5" Slotted Steel Brake Rotor (LH)	

 $B^- \mbox{ Wheel stud thread length} \\$

C- Spacer Width

Carbon Brake Kit				
Item #	Part #	Qty	Description	
2	F2056F	2	Caliper Mount	
30	C1790	2	11" Carbon Brake Rotor	
	B5044	1	Ultra Brake Caliper Kit	

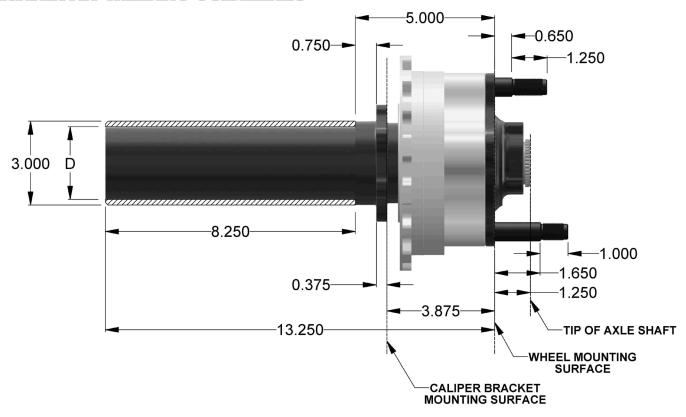
4.75" Bolt Circle Kit Components				
Item #	Part #	Qty	Description	
19	F2093A	2	FFAA Spindle	
21	F2058E	2	Bearing Preload Spacer	
22	F1270	2	Outboard Bearing Timken L507949	
23	F2058D	2	Spindle Nut Retainer	
24	F2058C	2	Spindle Nut (2.157-18 thread)	
25	F1209C	2	O-Ring for 4.75 & 5.00 B.C. Drive Plate	
27	F2060A	2	4.75 B.C. Drive Plate	
33	F1271	2	Bearing Cup Timken L507910	
35	F2060H	2	4.75" B.C. Floater Hub	

Notes:

1) 5.50" B.C. kits include a quantity of 4 F2056I Timken bearings and F2056J Timken cups. 5.00" & 4.75" kits include a quantity of 2 F2056I Timken bearings and F2056J Timken cups.

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FLOATER KIT WELDING GUIDELINES



NOTES:

- The 3.000" diameter spindle must be turned to a "D" dimension that's dependents on the particular housing tube inside diameter. See step # 2 for further instructions.
- Top wheel stud shown in the figure is included in F2056BSP and F2056BAP kits
- Bottom wheel stud shown in the figure is included in F2056BLP (see page 1 wheel stud options)

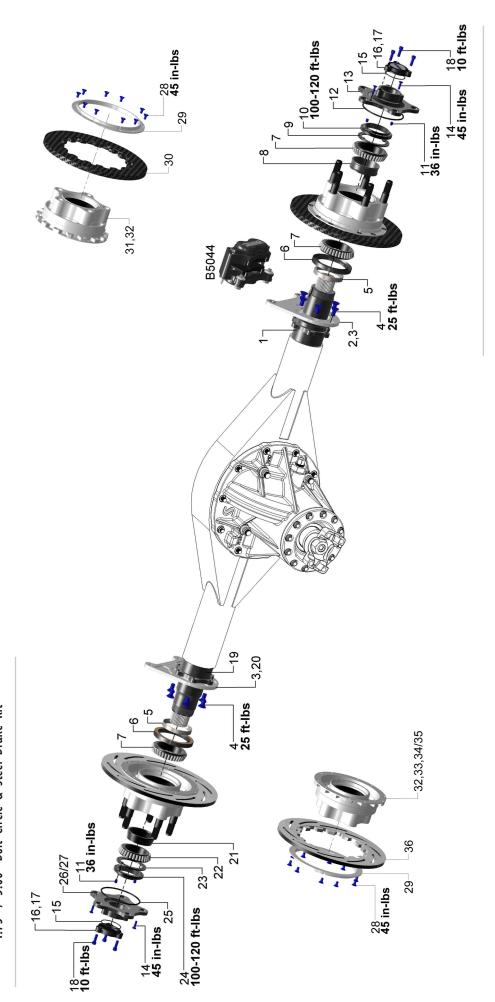
WELDING GUIDELINES:

A professional and qualified chassis shop MUST perform the welding of the spindles to the housing tubes. This is very important due to the fact that if care is not taken in this crucial step leaks can occur, the axles could bind, and erratic handling could result from misaligned spindles.

- 1. All spindles are constructed from normalized aircraft quality 4130 hot rolled steel. The spindles are black oxidized for cosmetic purposes which does not affect the welding process.
- 2. All floater spindles have a 3" O.D. on the end that fits into the housing tube as shown above. This end must be turned down in a lathe to fit the particular housing tube I.D. A suggested starting point is to turn the spindle down 0.001" smaller than the housing tube I.D. for a slip fit leaving .750" unmachined from the backside of the flange as shown above. This will provide for a stop against the housing tube and give sufficient clearance to weld the spindle to the housing tube. Once both spindles fit into the housing, a line up bar must used to verify straightness. If the line up bar does not pass through both spindles, then the O.D. of the spindles must be turned down further and checked again with the line up bar. Do not turn down more than necessary.
- **3.** Drill Ø.375" to Ø.500" holes in the housing tube only (NOT THE SPINDLE) to facilitate plug welding. Drill two holes 180 degrees to each other in two locations (four holes total per spindle) where feasible. The welds must be leak free.
- 4. Weld the spindle 360 degrees to the end of the housing tube. The weld must be leak free.

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4.75" / 5.00" Bolt Circle & Steel Brake Kit



5.50" Bolt Circle & Carbon Brake Kit



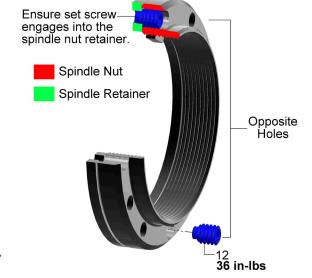
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FLOATER KITS INSTALLATION

- 1 Press nuts (3), wheel studs, and bearing cups (32,33) are pre-installed. All carbon and steel rotors are pre-installed onto the floater hubs using the FHSCS (28) and torqued to 45 in-lbs. The drive plates and caps are also installed for shipping purposes.
- **2** Begin by attaching the caliper mount (2 or 20) to the spindle using the six FHSCS (4). Torque to 35 ft-lbs. The caliper mount can be clocked at multiple positions.
- 3 Ensure the spindle ring (5) is installed and pressed onto the spindle.
- 4 Pack the inboard and outboard bearings with a high quality wheel bearing grease (NLGI #1 or #2)

 Note: A bearing packer is recommended. Otherwise, work as much grease as possible by hand around the rollers.
- 5 Place the inboard hub bearing (7) into the inboard side of the floater hub.
- 6 Press the hub seal (6) into the hub. Ensure the face stamped with the part number faces outside the hub.
- 7 Slide the floater hub assembly onto the spindle. Then slide the preload spacer (8 or 21) onto the spindle followed by the outboard wheel bearing (7 or 22).
 - Note: Steel rotors are directional. The arrow on the rotor must face the normal rotation of the rotor/wheel.
- 8 Slide the spindle nut retainer (9 or 23) onto the spindle ensuring the notches on the retainer and slots on the spindle are oriented properly.
- **9** The spindle nut (10 or 24) must now be installed using the spindle nut wrench. (see top of page 1 for tool part #) Spindle nuts are torqued to 100-120 ft-lbs.
 - Note: Ensure to align two opposite holes on the spindle nut and retainer for installation of set screws.
- 10 Thread the two set screws (11) opposite one another into the spindle nut. Ensure the set screws engage into the spindle nut retainer. See side figure. Torque set screws to 36 in-lbs
- 11 Rotate the hub several times to ensure everything is seated.
- 12 Install the drive plate (13,26 or 27) with the o-ring.
- 13 The spirolox on the axle fits flush on the drive plate. Secure the drive plate to the hub using the two FHSCS (14) and torque to 45 in-lbs
- *14* Install the drive plate cap (16) with the o-ring (15) using the three SHCS (18). Torque to 10 ft-lbs.
- 15 Consult Strange Four Piston Directional Caliper kits instructions for steel brakes. Consult Strange Ultra Four Piston Brake Caliper kits instructions for carbon brakes.
- 16 Install wheel, washers and lug nuts. Consult wheel manufacturer for proper lug nut torque.
- 17 After the initial installation of this kit, ensure that there is adequate clearance between all braking and chassis components by moving the suspension all the way up and down throughout its travel. Additionally, ensure that the brake lines are not subject to binding or kinking.

Operate the vehicle in a cautious manner until you determine that the brakes are functioning properly. Check and re-torque all bolts before every event.



Minimal Thickness

- L4050HS Carbon brake pads have **0.200**" minimum thickness.
- C1790 Carbon brake rotors have **0.300**" minimum thickness.
- F2056NL/R Steel rotors have 0.312" minimal thickness

Steel Brake Notes:

• A proper break in procedure is required for steel brakes to avoid brake fade and uneven rotor deposits from the pads. It consists of 8-10 brake applications increasing in harshness while allowing the brakes to cool slightly in between; do not keep the brakes applied between stops. After the last stop the brakes should be allowed to cool completely.

Carbon Brake Notes:

• 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" the 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 the pit area, you may want to "drag" the brakes to create rotor and pad head 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.