Applies To

Assembly and installation of 70M-1240 WHEEL RETRO KIT ALUM STREAMLINE

Parts Required

QTY	ID	Description
1	70M-1240	Wheel Retro Kit Alum Streamline

Includes:

2	15J-3032	WHEEL STREAM BASE 4IN
1	20G-1837	WHEEL BRKT STREAM BASE LT
1	20G-1838	WHEEL BRKT STREAM BASE RT
2	10N-1740	CLINCH NUT 1/4 MS21042-4 (1 ea installed in above wheel brackets)
2	20G-1839	WHEEL CAP STREAM BASE BRKT
2	10K-2027	SCREW SOCKET CAP 1/4-28 X 1.5 SS
1	45G-3032	BAGS - STREAMLINED WHEELS PAIR

Tools Required

Phillips screwdriver

¼" wrench

3/16" hex wrench

Tools That May Be Required

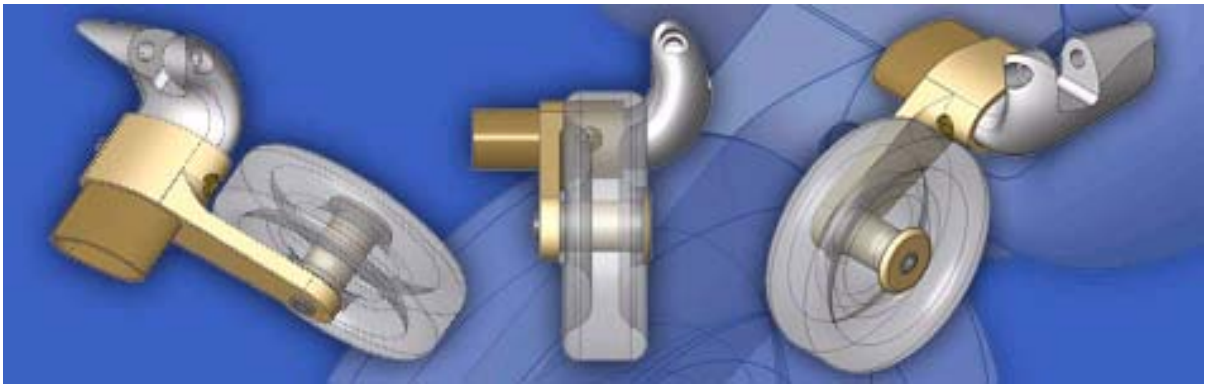
Electric drill motor

File or sandpaper

0.136" diameter drill bit

Procedures

Note that the wheel support brackets are not symmetrical. The wheel brackets should be installed so that the support arm is to the inside (towards the center of the basetube) and angles down (towards the ground) relative to the basetube chordline. See the illustration below.



To install the wheel brackets on the basetube, remove the 3/16" clinch nuts and the NAS 623-3-30 bolts that secure the basetube to the basetube end brackets. Note that on basetubes produced prior to January 15th 2003 you will need to re-position the VG cleat 0.5" inward of its original location, as it will otherwise interfere with the bracket. Use the 0.136" drill bit listed above to drill the new screw holes to re-secure the VG cleat.

You will use the same screw and nut that you removed above during re-assembly to secure the wheel bracket to the basetube. Note that the larger of the two holes in the bracket is designed to accommodate the outside diameter of the head of this bolt, such that the underside of the bolt head will bear against the front surface of the basetube, as it did prior to installation of the wheel bracket. Note also that this is intended to be a close tolerance fit, and that the heads of these bolts can vary in diameter by several thousandths. Try the fit of the bolt in the bracket and determine whether or not the bolt head will pass into the hole in the bracket. If it will not, chuck the bolt in an electric drill, and using a file or fine grit sandpaper, carefully remove a few thousandths from the outside diameter of the bolt head until it just fits in the bracket hole.

Install the brackets onto the basetube in the proper orientations, as described earlier. Tighten the nut securely. Note that the bolt will not protrude past the top surface of the nut, but it should come flush with the nut, and the nut should be secure and tight.

The wheels themselves also are not symmetrical, and the asymmetry in the wheels is more difficult to see. On one side of the wheel the hub extends outside of the plane of the outer rim of the wheel, on the other side, the hub is recessed inside of the plane of the outer rim. The wheel must be installed on the wheel bracket with the protruding side of the hub facing the arm of the bracket. If it is installed backwards, the outer rim of the wheel will contact the bracket support arm, restricting the rotation of the wheel, and the socket cap screw that secures the wheel to the bracket will not fully engage in the clinch nut.

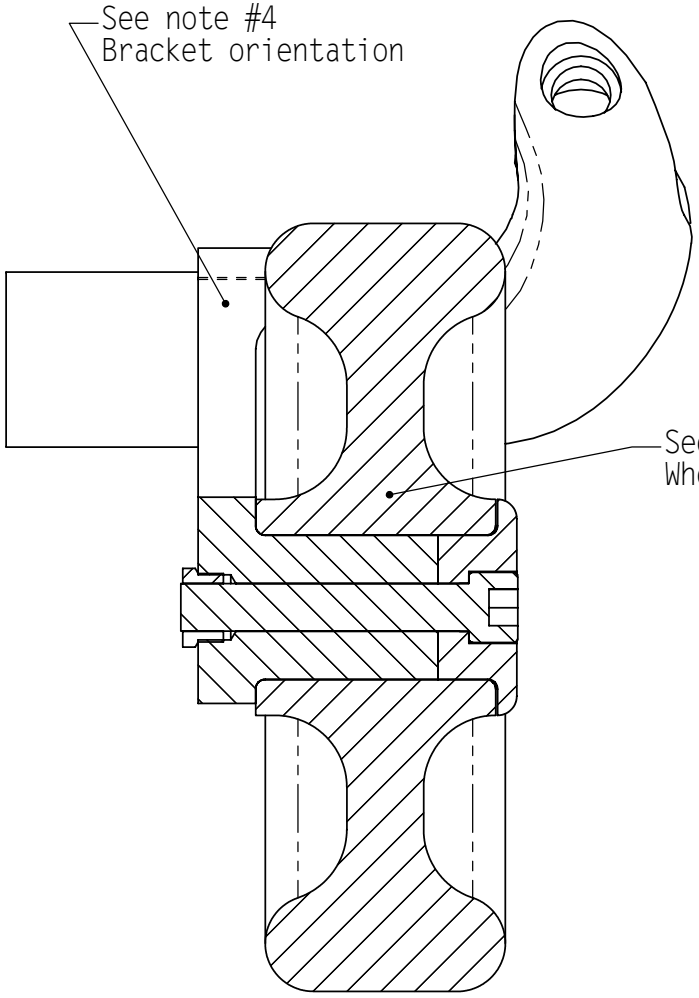
To install the wheel on the wheel bracket, orient the wheel properly as described above, slide the wheel over the axle portion of the bracket, insert the wheel cap into the other side of the wheel, and install and tighten the socket cap screw. The wheel should turn freely, and not contact the bracket support arm.

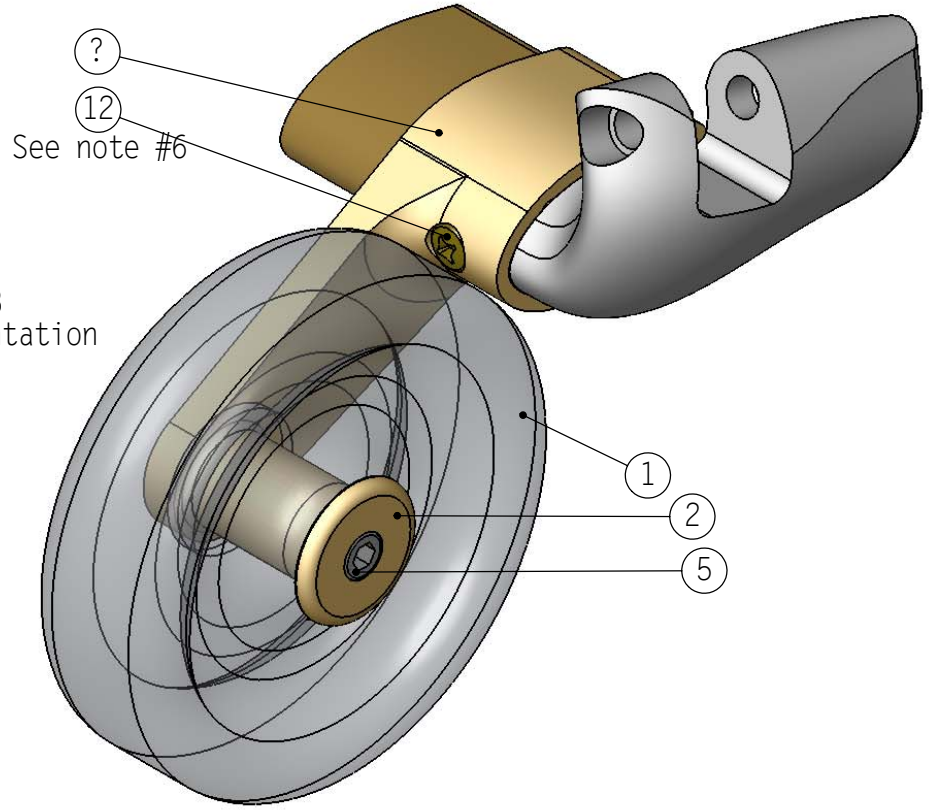
Glider Breakdown and Packing

With the wheels and wheel brackets installed, the control bar will not fold up in the glider bag in the normal manner. The easiest way to pack up the glider is to leave the wheel brackets and wheels installed at all times on the basetube, remove the ball lock pins from both ends of the basetube, and unfold and lay the basetube out straight behind the control bar downtubes in the bag. Make sure there is a knot in the end of the VG rope before you disconnect that end of the basetube – otherwise you may lose the end of the rope inside the downtube. Wheel kits delivered after January 2004 include a set of bags to protect the sail when the basetube is stowed in the sail. If you don't have these bags, you can order them from Wills Wing or you can use the control bar bag to cover the free end of the basetube, and you should wrap a small towel or other item of padding around the hardware at the VG cleat end of the basetube and lower ends of the downtubes, to protect the sail.

Item	pc/gdr	part no	desc
1	2	15J-3032	WHEEL SLIPSTREAM 4IN
3	1	20G-1837	WHEEL BRKT SLIPSTREAM LT
NS	1	20G-1838	WHEEL BRKT SLIPSTREAM RT
2	2	20G-1839	WHEEL CAP SLIPSTREAM BRKT
5	2	10K-2027	SCREW SOCKET CAP 1/4-28 X 1.5 SS
4	2	10N-1740	CLINCH NUT 1/4 MS21042-4
12	2	10C-4301	NAS623-3-30

Notes:
1. The left side wheel assembly is shown below
2. The right side is a mirror image of the left
3. The wheel is NOT symmetric--the extended hub mates to the bracket and the recessed hub mates to the cap.
4. The orientation of the support arm is opposite the basetube corner bracket
5. VG cleats on basetubes produced before Jan 15th, 2003 interfere with the bracket and must be repositioned inboard 0.5in. Use ∅ 0.136 drill for screw holes
6. Gliders produced before 3/2003 require (2 pc) item 12 NAS623-3-30.





WILLS WING
500 BLUERIDGE AVE ● ORANGE, CA 92865 ● PH/FAX (714) 998-6359 / 998-0647

TITLE:	PART NO:	REVISION:
Wheel Retro Kit Alum Streamline	70M-1240	A

SLDDWF ID:	MATERIAL:	DRAWN:	REVISED:	STATUS:	BY:
Wheel			4/21/2003		PEARSON

T.U.S. .X ± .05
.XX ± .015
.XXX ± .003
.XXXX ± .0005
ANGLES ± 1/2°