

FREIGHT WING INC.™

Driving Fuel Efficiency Into Tomorrow



2012 Gap Fairing Installation Manual

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8 AM - 5 PM Pacific**

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Introduction

Thank you for outfitting your trailer with the Freight Wing Gap Fairing. We look forward to helping you save fuel and increase profitability.

The following installation manual will guide you through the standard installation procedure. If this is your first time installing a gap fairing, you can expect the procedure to take from 3 to 4 man hours. One person can complete the assembly of the fairing, although some steps are easier with two people. Mounting the fairing on the trailer requires two people. Before getting started, take a look at the "What You Will Need" section below to make sure you have the necessary tools and equipment.

If we may be of assistance during installation or at any time, please give us a call:

TOLL FREE INSTALLATION HELP LINE: 866-464-9464

What You Will Need

The following tools are needed to install the Freight Wing Gap Fairing:

1. A rivet tool capable of placing 1/4 structural rivets (preferably pneumatic)
2. A drill with a 1/4 inch bit
3. Impact wrench with 7/16" socket (preferably light duty)
4. 7/16" wrench
5. Tape measure
6. A ladder for mounting the fairing on the trailer. (a scissor lift is good for volume installs)

You may need:

7. Degreaser Cleaner. Simple Green, Spray Nine, Purple Power, Lysol 3/1, and Pine-Sol 100% concentration are the best basic options.

Hardware

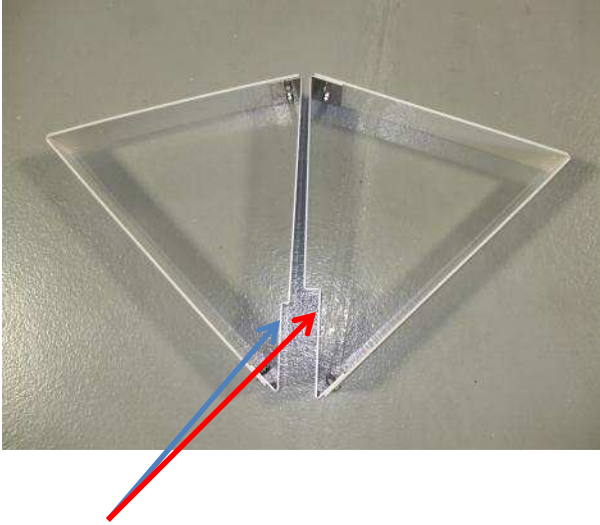
The following hardware is included to complete the Gap Fairing installation:

Hardware	Quantity
1/4" x 3/4" hex bolts	94
1/4" aluminum structural rivet	30
1/4" rubber bonded washer	94
1/4" nyloc nuts	94
1/4" flat washers	12

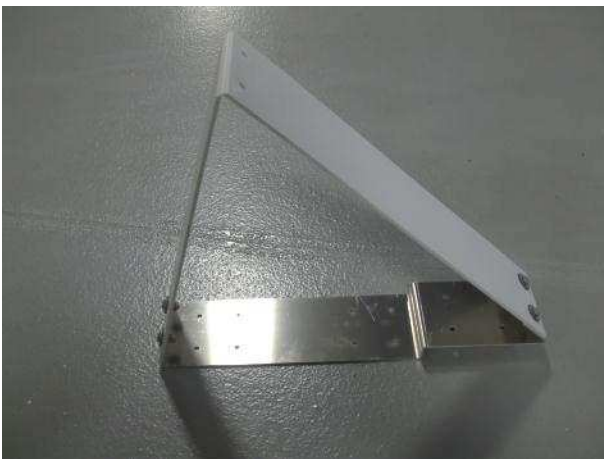
Installation Instructions

Step 1: Brace Assembly

- 1a. Gather the plastic strips, aluminum mounting plates, $\frac{1}{4}$ " bolts, $\frac{1}{4}$ " nuts, and $\frac{1}{4}$ " rubber bonded washers and complete the brace assemblies as shown below.



Blue arrow shows smaller offset side mounting plates/braces (4 per unit) and red arrow shows larger offset top mounting plates/braces (2 per unit)



The long arm of the plastic goes on the offset end of the mounting plates. **The cut hinge of the plastic arm faces outwards.** The connection is made with $\frac{1}{4}$ " bolts, followed by the $\frac{1}{4}$ " bonded washer (metal side out), through the plastic, through the aluminum, and fastened by $\frac{1}{4}$ " nyloc nuts.

Step 2: Top Panel Assembly

2a. Gather the top panel (widest panel), 90 degree aluminum channel, 1/4" bolts, 1/4" nuts, rubber bonded washers, 1/4" aluminum flat washers and mount 90 degree aluminum channel as shown below.



As pictured, the bend of the aluminum channel is slightly adjacent to the cut hinge of the plastic and the cut side of the hinge is on the other side. **This is a symmetric connection so don't turn any of the pieces around the wrong way. As with the plastic brace, the cut side of the panel joints face outwards.** Fasten from the outside of the panel with 1/4" bolts, followed by 1/4" rubber bonded washers (metal side out), through the plastic, through the aluminum channel and fastened on the back with 1/4" nyloc nuts.

2b. Fasten top braces to aluminum panel as shown below.

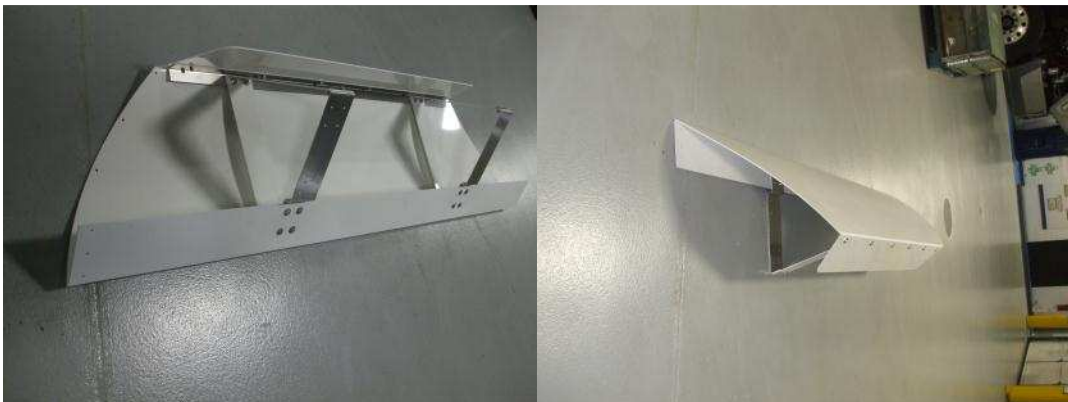


As shown, the top braces are connected to the aluminum channel using the holes on the top of the long arm of the plastic, fastening to the inside of the aluminum channel. 1/4" bolts (no washers) are placed through the aluminum channel, through the plastic, followed with a 1/4" flat washer and fastened with 1/4" nyloc nuts.

2c. Attach braces to the other side of the top plastic panel to complete the assembly.



First you will want to relax the plastic living hinge by pre bending to the inside of the panel shape. Then as shown (sitting on top of the panel helps), you can bend the whole panel in a slightly curved shape, line up the 4 panel holes with the 4 holes on the aluminum mounting plate, and fasten down the connection. Fasten down with $\frac{1}{4}$ " bolts, followed by $\frac{1}{4}$ " rubber bonded washers (metal side out), through the plastic, through the aluminum and fastened with $\frac{1}{4}$ " nyloc nuts. Finished top panel section is shown below:



Step 2: Side Panel Assembly

2a. Pre bend (relax) the outside lip of the side panel and connect the side braces. **As with the plastic brace and top panel, the cut side of the panel joints face outwards.**



As shown, the side braces are connected to the outer side panel by using the holes on the top of the short arm of the plastic, fastening to the inside of the holes on the plastic panel edge. $\frac{1}{4}$ " bolts are used, followed with a $\frac{1}{4}$ " rubber bonded washer (metal side out), through the panel, through the plastic brace, followed with a $\frac{1}{4}$ " flat washer and fastened with $\frac{1}{4}$ " nyloc nuts.

2b. Relax the plastic living hinge by pre bending to the inside of the panel shape at the second inside hinge line. Then as shown (sitting on top of the panel helps), you can bend the whole panel in a slightly curved shape, line up the 4 panel holes with the 4 holes on the aluminum mounting plate, and fasten down the connection. Fasten down with $\frac{1}{4}$ " bolts, followed by $\frac{1}{4}$ " rubber bonded washers (metal side out), through the plastic, through the aluminum and fastened with $\frac{1}{4}$ " nyloc nuts. Finished side panel section is shown below:



2c. Repeat for both sides and the finished panel is shown below:



Step 3: Complete Panel Assembly

3a. Now you will complete the gap fairing assembly. Start by taking the top panel and connecting the L shaped connector as done below.



You can turn this L shaped connector either way to fit. This connector goes on the inside of the angle and you may have to bend the plastic to fit it in. Fasten down with $\frac{1}{4}$ " bolts, followed by $\frac{1}{4}$ " rubber bonded washers (metal side out), through the plastic, through the aluminum and fastened with $\frac{1}{4}$ " nyloc nuts.

3b. Lay out the top and side panels as shown below.



3d. Fasten the side panels to the L shaped connector using the same fasteners and procedure for the top panel (demonstrated below).



3e. Secure the corner tabs. The corner edges of the top and side panels are each secured with three small bent tabs. Each tab has a different angle to mate properly with the panels. Lay the tabs on a flat surface as illustrated below to identify the tabs with the most to the least angle.



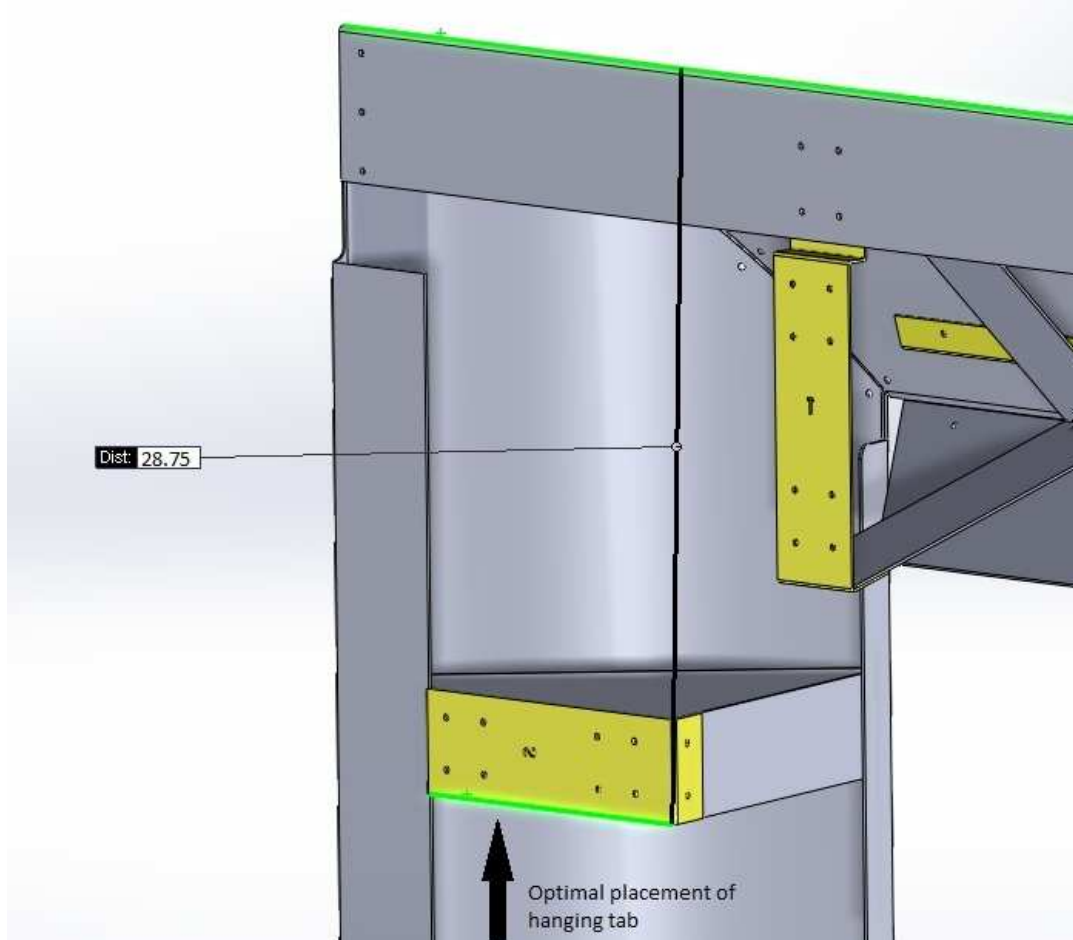
The tab with the most angle is used in the back, follow by the middle angle and then the smaller angle out front as shown below. Best way to make this connection is by fastening all tabs to one side of the panels and then connecting the other side, starting from the back. Fastening order is 1/4" bolt, followed by 1/4" rubber bonded washer, through the outside panel, through the aluminum tab, and secured by a 1/4" nyloc nut on the backside.



Assembly of the gap fairing is now complete and you are ready to mount on the trailer.

Step 4: Mount Gap Fairing on the Trailer

4a. Start by measuring from the very top edge of the fairing to the bottom edge of the top side bracket. (28 3/4"). This will give you the trailer mounting location measured from the top of the trailer. Use this measurement and mark from the top edge of the trailer and approximately 14" from the side edge on both sides of the trailer. This is the mounting location for the lip of the mounting tabs. **Note:** please confirm your measurement on site to account for possible variance of this dimension. You can also add 1/2" to this measurement to locate the drill hole in the mounting tab.



4b. Rivet your mounting tabs at the vertical and horizontal marks made previously. This will set up the fairing flush to the top of the trailer and in an approximate middle location.



4c. With both mounting tabs in place, with a helper, lift up the gap fairing and hook the top side mounting brackets over the mounting tabs.



4d. You will now check and fine tune the positioning of the fairing. Center up and straighten the sides as close as possible. Check the top of the fairing to confirm it is even with the top of the trailer (go back and reposition mounting tabs if out of proper position). With top position confirmed, measure the top inside edge of the side panels to a set point (rivet line, etc.) that is the same for both sides of the trailer to make sure the top is centered up. Drill and rivet a 1/4" hole in the top side mounting bracket to fix top position. Measure the bottom of the panel to confirm the side panels are straight and then drill and rivet a hole in the bottom bracket to fix this position of the fairing on the trailer face.



4e. Complete installation by drilling and riveting 4 - 1/4" holes per mounting bracket. This will leave some extra holes that are present for alternate placements if the primary location is obstructed. The preferred and recommended rivet locations are on the outside edge (2 rivets) and second line from the inside (2 rivets).

4 rivets per bracket shown as shown.

Congratulations! The Freight Wing Gap Fairing is ready to start saving fuel.



Maintaining the Fairing

To insure the long life and safe operation of the fairing, perform a detailed inspection of the fairing approximately every 6 months and complete the following:

- Make sure all the fasteners are tight and secure, and replace any loose or worn fasteners. Note it is important that bonded washers are used at the panel corner connections.
- Inspect all the components, and make sure they are in good condition with no significant wear or damage.

In the event of accidental damage: the fairing is modularly designed so individual parts can be easily replaced. Typically, this is accomplished by removing old fasteners and following the relevant instructions in this manual to replace the damaged part. Please call for further instructions if there are any questions on how to complete repairs.

Replacement parts and fasteners can be purchased from Freight Wing dealers. Please contact Freight Wing for more information on ordering replacement parts.

If you have any questions regarding fairing maintenance or repairs, please call our toll free help line: TOLL FREE HELP LINE: 866-464-9464