

PFS-66000 INSTALLATION INSTRUCTIONS AND ICAW

Power Flow Systems, Inc.

CESSNA 172 EXHAUST FAIRING PFS-66000

**INSTALLATION INSTRUCTIONS
and
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS**

REPORT NUMBER: PFS-0036-00

**REVISION: E
REPORT DATE: 01/28/05**

PREPARED BY: T. Strohmayer

DISTRIBUTION: FAA ATL ACO AND END USER

This installation is approved under the same STC that approves the Power Flow Systems, Inc. Tuned Exhaust System that must be installed on the aircraft. Approval is based on STC SA01801AT or SA02228AT, depending on the model of your Power Flow Systems, Inc. Tuned Exhaust.

APPROVAL	
PFS ENG	
DATE: <u>1/28/05</u>	
FAA	
FAA APPROVED	
Date: <u>8/25/05</u>	Initials: <u>[Signature]</u>

Revision Control

REVISION	DATE	REMOVE PAGES	INSERT PAGES
IR	02/22/01	N/A	N/A
A	03/10/03	ALL	ALL
B	06/03/03	ALL	ALL
C	07/09/03	1	1
D	11/04/03	1,2	1,2
E	1/28/05	1,2	1,2

Submitted to FAA ACO

Date: 8/19/05

By: [Signature]

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Introduction

Description: The PFS exhaust fairing consists of a fiberglass assembly attached to the lower cowl. The fairing covers the hole where the exhaust system exits the cowl. During climb, higher air pressure enters the lower cowling through the existing exhaust exit hole, reducing cooling airflow for the oil cooler and the cylinders. The shape and location of the fairing reduces the high pressure at the exhaust exit hole, thus allowing greater cooling airflow in the entire engine compartment.

The fairing is manufactured from fire retardant polyester resin and gel-coat. A topcoat of 500° F white paint has been applied. If you wish to repaint the fairing, we recommend using high-temp paint.

This fairing is designed and certified for use in combination with Power Flow Systems, Inc. Tuned Exhaust Systems only. Installation with any other exhaust system is not legal, nor supported.

Note: PFS is the abbreviation for Power Flow Systems, Inc.

Please read these directions completely before starting installation.
Please call us at 386-253-8833 during normal business hours if you have any questions regarding the installation of this kit.

Kit Contents

Each Power Flow exhaust fairing is shipped with:

1 Cooling Fairing	PN: PFS-66000
7 Stainless Steel 8-32 Screw	PN: MS24693
7 Stainless Steel Countersunk #8 Washer	PN: DW08SS
7 Floating Nutplates	PN: MS21059L08
14 Blind or Solid Aluminum Rivets	

*Equivalent hardware may be used.

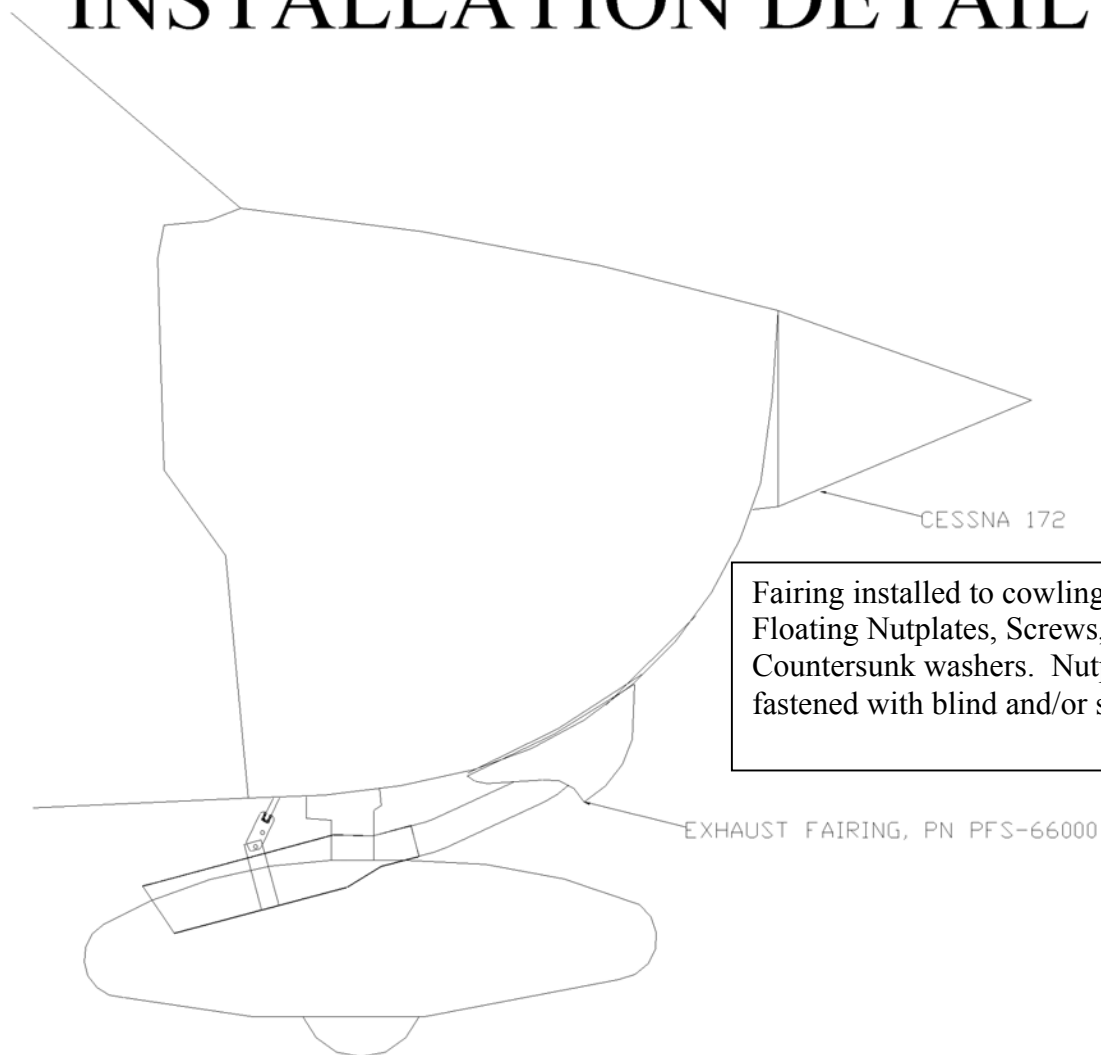
INSTALLATION

- 1** Verify that all contents listed above are included in your kit.
- 2** With the lower cowl and the PFS exhaust on the airplane, place the fairing on the lower cowl. Correct placement should have the fairing completely covering the exhaust opening and distance to the tailpipe should be maximized. Improper placement may cause heat damage to the fairing.
 - 2.1** The inboard edge of the fairing should be parallel to the longitudinal axis of the aircraft.
 - 2.2** The leading edge of the fairing should be approximately 4.5 inches forward of the exhaust pipe as it exits the cowl.
 - 2.3** Center the fairing around the exhaust tube laterally to allow best possible clearance. Keep in mind that the tailpipe may move outboard slightly under high power settings.
 - 2.4** Make sure the cowl exhaust hole is completely covered by the fairing.
 - 2.5** Tape the fairing to the cowl.
- 3** Drill evenly spaced pilot holes through the fairing and cowl, be sure to allow sufficient edge distance to the exhaust cutout in the lower cowling.

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- 4 Drill holes as required and install nutplates with the provided rivets. Blind rivets may be used if necessary.
- 5 Screw the fairing to the cowl using the provided hardware. Do NOT over-tighten the screws.
 - Typical Weight and Balance Information: Our recommendation is to show an increased weight of 0.5 pounds at station -25. This reflects the CG of the fairing and should be changed in the aircraft weight and balance information.

INSTALLATION DETAIL



Fairing installed to cowling with (7) Floating Nutplates, Screws, and Countersunk washers. Nutplates are fastened with blind and/or solid rivets.

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INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

It is the responsibility of the aircraft owner/technician to ensure that the most recent revision of these instructions is followed. The most recent revision of this report can be obtained by calling Power Flow Systems, Inc. at (386) 253-8833 or online at www.powerflowsystems.com

1.0 BASIC OPERATION

Basic operation of the airplane remains the same.

2.0 AIRWORTHINESS LIMITATIONS

“The Airworthiness Limitations section is FAA approved and specifies maintenance required under §§43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.”

2.1 Mandatory Replacement Time – None

2.2 Structural Inspection Interval – At 100 hour or Annual intervals, depending on the service regime of the aircraft.

2.3 Structural Inspection Procedure – Inspect the fairing for cracking or general deterioration, especially near fastener locations.

3.0 TROUBLESHOOTING

Problem	Possible Cause	Solution
Cracked fairing	Over tightening of Screws	Reset Screws, repair as necessary IAW the latest approved revision of AC43.13
Excessive looseness or vibration	Screws too loose.	Gently tighten screws, do not over tighten.

4.0 REMOVAL

Follow the above installation instructions in reverse order. Please note that the fairing may need to be removed in order to remove the tailpipe and cowling from the aircraft.

----- END OF REPORT -----