

**STC**  
**SA02809CH**

**Aircraft Registration Number: \_\_\_\_\_**

**Aircraft Serial Number: \_\_\_\_\_**

**INSTRUCTIONS**  
**FOR CONTINUED AIRWORTHINESS**

***INSTALLATION OF***  
***AEROSPACE WELDING MINNEAPOLIS***  
***STAINLESS STEEL EXHAUST SYSTEM***  
***ON***  
***CESSNA AIRCRAFT***  
***MODELS 206 / 207 / 210***

**DATE: \_\_\_\_\_**

# INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

## LOG OF REVISIONS

Revision Number	Revision Date	Review	Affected Pages	Description of Revision
IR	12/29/09	BWM	5	Initial Issue
A	1/21/16	TLM	2	Added pages 12 & 13, related to addition of "HP" suffix part numbers

### PROPRIETARY INFORMATION

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## **1.0 INTRODUCTION**

This document outlines the compliance with FAR 23.1529 "Instructions for "Continued Airworthiness" for Aerospace Welding Stainless Steel Exhaust System.

Installation of the Exhaust System on Cessna Aircraft Models 206, 207 and 210 aircraft with this Supplemental Type Certificate obligates the aircraft operator to include the maintenance information provided by this document in the Operator's Aircraft Maintenance Manual and the Operator's Aircraft Scheduled Maintenance Program.

## **2.0 SCOPE**

Appendix G, Section G23.1, of 14 CFR Part 23 specifies ***"Instructions for Continued Airworthiness for each airplane must include the Instructions for Continued Airworthiness for each engine and propeller (hereinafter designated 'products'), for each appliance required by this chapter, and any required information relating to the interface of those appliances and products with the airplane."*** Guidance for ICA as related to Supplemental Type Certificates is provided by Chapter 3, Section 3-3.d. (1) (2) (3) of FAA Order 8110.54 which states ***"ICA for an STC or Amended STC should cover only the items changed or affected by the design change for which application is made. This includes other systems, parts, or areas of the aircraft."***

In accordance with the above regulatory requirements and related guidance, the information and requirements provided within this document comprise the required ICA as related to those ***"changed areas"*** in the aircraft models affected by STC SA02809CH. For those ***"not changed areas"***, refer to the original airplane manuals, service information, and operational procedures.

The ***"changed areas"*** consist of the exhaust manifolds from the engine to the exhaust mating point of the mufflers / heater. The original muffler / heater are retained along with the tailpipes.



**Original Cessna Exhaust – Left Side Shown**



## **AWI Replacement Exhaust – Left Side Shown**

### **3.0 Eligibility**

Cessna Aircraft Models:

206, P206, P206A, B, C, D, &E  
U206, U206A, B, C, D, E, F&G

207 & 207A

210B,C,D,E,F,G,H,J,K,L,M,N,&R  
21—5 & 210-5A

The above model aircraft modified by STC's to replace the IO-520 series engine with the IO-550-F, L, N & P or TCM / PowerLite IO-520-F, L-CF or IO-550-F, L-CF aircraft engines.

### **Referenced Documents:**

<b>Author</b>	<b>Document Number</b>	<b>Document Title</b>
Federal Aviation Administration	Advisory Circular 43.13-1()	Acceptable Methods, Techniques, and Practices. Chapter 8, Section 3, Exhaust Systems
Aerospace Welding	AW0708-3	Installation Instruction
Aerospace Welding	AW0708-7	Master Parts List
Cessna Aircraft	Subscription	Service Documents
Cessna Aircraft	Aircraft Specific	Maintenance Manuals

**Note:** Owner and operators Cessna Aircraft should contact the Cessna Distributor or authorized Service Center to obtain the latest information pertaining to their products.

The list of valid Cessna manuals, service bulletins, AD's and their latest revision can be reviewed or hardcopies ordered from your nearest Cessna Service Center. For a listing of Cessna Service Centers, go to: <http://www.customer.cessna.com/se/locator.shtml>

Or contact

**Aerospace Welding Minneapolis, Inc.**

**1045 Gemini Road**  
**Eagan, MN 55121**

**Phone 651 379-9888**

#### **4.0 DESCRIPTION**

The modification removes the existing exhaust collectors as used with the Teledyne Continental Motors IO-470, IO-520-A, D, F & L and aircraft modified by STC's to replace the IO-520 series engine with the more modern IO-550-D, F, L, N & P or TCM / PowerLite IO-520-F, L-CF or IO-550-F, L-CF aircraft engines

The original exhaust mufflers / heat exchanger & tail pipes are unchanged and will retain there original installation position.

The AWI exhaust system incorporates slip joints between cylinders and one slip joint for vertical alignment. See Appendix A for assemble drawings. **The exits of the collector are in the same position as the original OEM units which allows for original muffler, muffler heat exchanger and tail pipes to be use.**

#### **5.0 CONTROL, OPERATION INFORMATION / SPECIAL PROCEDURES**

Unlike the stock OEM system, these stacks are designed for relative movement between cylinders horizontal as well as one slip joint allowing for vertical alignment.

The system meets FAR 23.1123 (a) (b) (c). The material is 321 stainless which meets the fire proof and corrosion-resistant requirement. With the slip joint futures, the design will allow for movement and expansion between cylinders.

**Engine operating parameters are not affected.**

#### **6.0 SERVICING INFORMATION**

Cessna Aircraft maintenance publications contain the information necessary to operate, maintain, and perform scheduled maintenance.

The list of valid Cessna manuals, service bulletins, AD's and their latest revision can be downloaded from the homepage of Cessna Aircraft's Web Site,  
<http://www.customer.cessna.com/se/locator.shtml>

The list of valid Teledyne Continental Motors manuals, service bulletins, AD's and their latest revision can be downloaded from TCM Link. Telephone: (251) 438-3411  
([WWW.TCMLINK.COM](http://WWW.TCMLINK.COM))

## **7.0 MAINTENANCE INSTRUCTIONS**

All required maintenance, inspections, time intervals and procedures are provided in Cessna Aircraft Maintenance Manual.

Ground testing (engine run up) should be conducted prior to cowling installation. Any exhaust leaks or any other unsafe condition be should be corrected before flight.

When an inspection of the exhaust system is required to detect cracks & leaks, proceed as follows;

- Remove engine cowling.
- Conduct a visually inspection using command inspection mirror. Inspect the back side of the riser pipes. Pay careful attention to area adjacent to welds and slip joints.
- Visually inspect for gas deposits in surrounding area, indicating that exhaust gases are escaping through a crack or around the slip joints.
- If an area upon initial inspections reveals a suspect area or concerns, the system should be removed for a detail inspection and testing.
- Any repairs should be accomplished in accordance with Advisory Circular 43.13-1(), Chapter 8, Section 3. – Exhaust Systems.

## **8.0 REMOVAL AND REPLACEMENT INFORMATION**

The WAI Exhaust System should be installed in accordance with STC installation instruction AW0708-3

## **9.0 DIAGRAMS**

**See appropriate instruction manuals – Manuals are unchanged**

## **10.0 LIST OF SPECIAL TOOLS**

**See appropriate instruction manuals – Manuals are unchanged.**

## **9. ADDITIONAL INFORMATION FOR COMMUTER CATEGORY AIRCRAFT**

**Not Applicable.**

## **10. RECOMMENDED OVERHAUL PERIODS**

There are no Recommended Time Between Overhaul (TBO) limits for exhaust systems. It is WAI recommendations that the exhaust system have conditional inspections, repaired and or replaced as necessary whenever the cowling is remove for any routine maintenance.

AWI recommends consideration should be giving to replace the exhaust system, heater and muffler at the engine TBO.

Recommended Time Between Overhaul (TBO) limits for TCM engines are provided in Service Letter SIL98-9A or later approve revision.

## **11. Airworthiness Limitations**

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

There are no mandatory replacement times for any components.

## **12. REVISIONS**

Any Revisions to this document will be logged in the Log of Revisions sheet and a copy of the revised document should be distributed as required.



# Appendix A







