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Revision: A  
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## FLIGHT MANUAL SUPPLEMENT

Tanis preheat system for piston aircraft

Registration No. \_\_\_\_\_

Serial No. \_\_\_\_\_

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APPROVED by \_\_\_\_\_

This supplement must be attached to the FAA Approved Flight Manual when a Tanis Preheat System is installed. The information contained herein supplements or supersedes the basic manual only in those areas listed. For limitations, procedures, and performance not contained in this supplement, consult the basic flight manual.

### LIST OF EFFECTIVE PAGES

Revisions to this document are distributed to all operators of Tanis preheat equipment. Notify Tanis Aircraft Products in writing of any change of ownership and/or address. This will ensure that you, the current operator, will receive the latest available information.

The latest revision of this document is indicated by the highest revision letter as listed below in the Revision History and List of Effective Pages. Changes to the current revision will be indicated within the document by change bars in the left margin. This document will be completely replaced at each revision. All superseded documents should be discarded.

### REVISION HISTORY

"A" Initial Release \_\_\_\_\_

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### LIST OF EFFECTIVE PAGES

All pages are revised when any page is changed so that all pages maintain the same revision level.

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### SECTION I: GENERAL

Refer to the Pilot's Operating Handbook/Airplane Flight Manual for specific instructions that apply to your aircraft regarding cold weather operation. Cold weather operating procedures can also be found in Teledyne Continental Service Bulletin SIL03-1 and Textron Lycoming Service Bulletin SIL-1505.

Preheat is required before starting a cold soaked engine. Teledyne Continental Motors defines this as an engine that has been exposed to temperatures of 20° F (-7° C) or lower for a period of two hours or more.

As a rule of thumb, engine preheat should be used whenever ambient temperatures are 40° F (4° C) and below. The combination of proper engine preheat, frequent aircraft use (at least one hour per week), regular oil changes at recommended intervals, and correct oil selection promotes safe operations and reduced engine wear.

When an aircraft is not flown for extended periods, engine preservation is required. Useful information pertaining to preservation can be found in Teledyne Continental, SIL99-1 and Textron Lycoming, SL180B.

Refer to your Pilot's Operating Handbook/Flight Manual and Engine Manufacturers Operation and Technical Manuals for further preheat, preservation, and oil recommendations.

### SECTION II: LIMITATIONS

No change from the basic flight manual

### SECTION III: NORMAL PROCEDURES

#### Operation

Connect to appropriate shore/ground power source using a 16 gauge or heavier extension cord. The preheat system should be operated four to five hours or overnight before engine operation. The system is not intended to rapidly preheat an engine or accessories. For best results, Tanis recommends the use of cowl plugs and an insulated engine cover in conjunction with the preheat system. It is not recommended that the system use a thermostat or timer. The system is not designed to cycle on and off.

#### Before Aircraft Operation

Be sure to use the proper grade of oil as recommended by your engine manufacturer. Unplug the system and remove cowl plugs or covers before starting the aircraft.

#### After Aircraft Operation

Allow the engine to cool before installing cowl plugs and engine covers. The preheater system may be plugged in immediately or four to five hours before next aircraft operation.

### SECTION IV: EMERGENCY AND MALFUNCTION PROCEDURES

The system should have power removed if any malfunctions occur and should be repaired by a competent appropriately rated and certified mechanic with airframe and power plant experience in this type of aircraft. See installation instructions for more information

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### SECTION V: PERFORMANCE

No change from the basic flight manual

### SECTION VI: WEIGHT AND BALANCE (NON-FAA APPROVED DATA)

Actual weight changes shall be determined after the Tanis Preheat System is installed. It is the operator's responsibility to verify that empty weight C.G. remains within allowable limits.

### MANUFACTURER'S DATA (NON-FAA APPROVED DATA)

No change from the basic flight manual.

#### PLACARDS AND MARKINGS

A placard should be affixed at the aircraft ground shore power connection that identifies the system and other required information.

All the wires in the Tanis system are red or covered with red sleeve, with exception of the ground which is green. All wires are marked with wire type and "Tanis". Connections should be identified with what they are heating. All markings are in accordance with AC43.13 1b.

#### INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

The inspection program for this Tanis preheat system installation is 100 hour or equivalent scheduled maintenance. A minimum of 1 check per 12-month cycle is required. This inspection is a complete visual and operational inspection requiring only a single logbook entry. Inspections shall be accomplished by an appropriately rated mechanic assigned to this aircraft.

1. Examine the system for security of attachment.
2. Inspect the system power plug, cable leads, and junctions.
3. Follow cable leads to each element.  
If any portion of the cabling shows signs of fatigue due to chafing, flexing, airflow, or vibration, re-secure or repair as required conforming to AC43:13.1b.
4. Inspect all pad heat elements for proper installation and bonding. If any portion of a pad heat element comes loose, it may be re-bonded. Use only silicone conforming to MIL-A-46106. If a pad heat element develops a gray colored area it will require replacement. Reference Tanis Bonding Instruction NO. 186. For information on North American flush mount plug repairs reference Tanis drawing 2586.

For more information, refer to manufacturer's installation and maintenance instructions and Tanis Service Bulletins, available on line at [www.tanisaircraft.com](http://www.tanisaircraft.com).