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## ROTORCRAFT FLIGHT MANUAL SUPPLEMENT

Tanis preheat system for helicopters

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

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

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APPROVAL by \_\_\_\_\_

This supplement must be attached to the FAA Approved Rotorcraft Flight Manual when 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 rotorcraft 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 All superseded documents should be discarded.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 \_\_\_\_\_

07-21-2010 GLEN OLIN

### 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

Tanis Preheat Systems are not used in flight and are powered by ground shore power. Complete systems vary depending on aircraft configuration. Generally, preheating is provided for engine oil sump(s), hydraulic reservoir(s), reduction gearbox(s), accessory case(s), main gearbox, intermediary driveshaft supports/gearboxes(s), tail rotor gearbox, and the aircraft battery(s). Systems are ground/shore powered by 115V or 230V. Systems amperage draw varies from just a few amps to upwards of 15 amps.

Consisting of a ground power plug, and depending on system configuration, may also incorporate such options as flush mount plug, plug door, annunciator pilot light, appropriately sized circuit protection, electrical cabling, heat elements, fire seals, and hardware as needed.

Precaution: Check systems AC power requirements. There are both 115V, with North American NEMA 5-15P plug type and 230V with Europe CEE 7/7 plug type.

### 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 system's power receptacle is commonly located in conjunction with or near other ground power receptacles which may be behind a flush mounted access door or engine service access door.

The Tanis Preheat System is designed for continual operation in all weather conditions while on the ground in standby status. In order for the system to be of maximum benefit it is recommended the system be in continual use for a minimum of 6 hours before engine start. Recommended temperature for operations is 4°C (40°F) and colder. In extreme climates, use engine (cowl) plugs and insulated aircraft covers.

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 engine plugs or covers before starting the aircraft.

#### After Aircraft Operation

Install engine plugs and engine covers per manufactures instructions. Preheater system may be plugged in immediately or four to five hours before next aircraft operation.

### SECTION IV: EMERGENCY AND MALFUNCTION PROCEDURES

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.

### SECTION V: PERFORMANCE

No change from the basic flight manual

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### 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 component they are heating. All markings are in accordance with AC43.13 1b.