



**FAA APPROVED
FLIGHT MANUAL SUPPLEMENT**

TFMS2584

REVISION A

FOR

**TANIS HELI-PREHEAT SYSTEMS
TSH429-2584-115 AND TSH429-2584-230
ON THE**

**BELL HELICOPTER
TEXTRON CANADA LTD.
MODEL 429 WITH
PW207D1/D2 ENGINES**

Aircraft Reg. No. _____ Serial No. _____

This supplement must be attached to the FAA Approved Flight Manual when the aircraft is modified by the installation of the Tanis Heli-Preheat System in accordance with STC No. SR03168CH

The information contained herein supplements or supersedes the basic flight manual only in those areas listed. For limitations, procedures, and performance not contained in this supplement, consult the aircraft's approved flight manual.

FAA Approved E. Michael Ward

for

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RECORD OF REVISIONS

When updated, this document is changed in its entirety.

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TABLE OF CONTENTS

RECORD OF REVISIONS	2
TABLE OF CONTENTS	2
PART I, FAA/AUTHORITY APPROVED	3
SECTION 1. LIMITATIONS	3
Placards and Markings	3
Figure 1 - Shore power plug located behind door, placarded with voltage requirement.....	3
Figure 2 - Shore power plug configurations.....	3
Figure 3 - System Placard with voltage requirement, located on inside of door.	3
Figure 4 - Extension Cord Specifications.....	4
SECTION 2. NORMAL PROCEDURES	4
SECTION 3. EMERGENCY AND MALFUNCTION PROCEDURES.....	5
SECTION 4. PERFORMANCE.....	5
SECTION 5. OPTIONAL EQUIPMENT SUPPLEMENTS.....	5
PART II, MANUFACTURER'S DATA	5
SECTION 6. WEIGHT AND BALANCE	5
SECTION 7. SYSTEM DESCRIPTION.....	5
SECTION 8. HANDLING, SERVICING AND MAINTENANCE	5
SECTION 9. SUPPLEMENTAL PERFORMANCE INFORMATION.....	5

PART I, FAA/AUTHORITY APPROVED

SECTION 1. LIMITATIONS

The Tanis Heli-Preheat System installed on this aircraft does not operate in flight, is not connected to or dependent on aircraft systems. The system is only capable of operation when connected to a ground based AC power source. The aircraft is not to be fueled and engines are not to be operated while the system is plugged in or connected to an extension cord.

The installation of the preheat system does not change existing environmental restrictions. Before operating the aircraft under cold weather conditions reference appropriate Flight Manual and or Flight Manual Supplements, and FAA Advisory Circulars, (AC) for specific instructions that apply to this aircraft regarding cold weather operations and starting procedures.

Placards and Markings

The system's aircraft shore power connection is located behind an accessory door located on the starboard side aft of the rear skid strut (Figure 1). System voltage requirement can be identified by plug type (Figure 2), and placard (Figure 3).

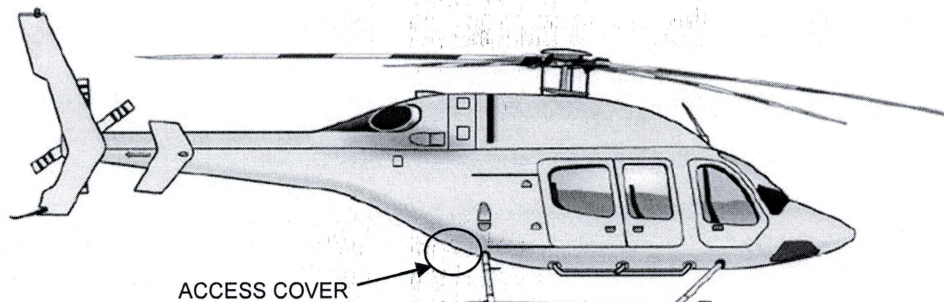
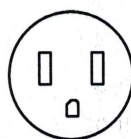
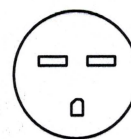


Figure 1 - Shore power plug located behind door, placarded with voltage requirement.



115 Volt Plug
(5-15P)



230 Volt Plug
(6-15P)

Figure 2 - Shore power plug configurations.

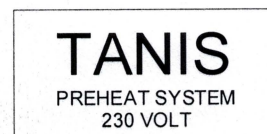


Figure 3 - System Placard with voltage requirement, located on inside of door.

Extension cord specifications		
Conductor gauge/wires:	Max amps:	Max length:
16/3	13A	50'
	10A	100'
14/3	15A	50'
	13A	100'
12/3 10/3	15A	100'
	15A	100'

(System circuit protection 10A)

Figure 4 - Extension Cord Specifications.

SECTION 2. NORMAL PROCEDURES

The preheat system does not operate in flight, is not connected to or dependent on aircraft systems. The system is only capable of operation when connected to a ground based AC power supply. Only operate the aircraft with the preheat system unplugged and the plug door fully closed and latched.

Use proper fluids and oils as recommended by the manufacturer for conditions of flight.

Only operate the preheat system with aircraft fluids at operational levels.

The system may be operated as soon as practical following full engine shut down.

Reference SECTION 1. LIMITATIONS Figures 1 thru 4 for power and extension cord requirements.

2.1. Preheat System Operation and Control

- 2.1.1. Operation and control of the preheat system is accomplished by simply plugging in and unplugging the system.
- 2.1.2. When the system is connected to power, the system's red indicator light located adjacent to shore power plug illuminates.
- 2.1.3. The system may be operated at all times while in standby status.
- 2.1.4. For the system to be of maximum benefit when temperatures are at or below 0°C (32°F), it should be in continual use for a minimum of 6 hours before engine start.
- 2.1.5. When operating at minus -12°C (+10°F) and below the use of insulated engine and airframe cowl plugs and or covers increases the efficiency of preheating operation, retaining heat and acting as a windbreak.

2.2. Preflight Procedures

- 2.2.1. Check to see that the indicator light is on and the system has been in operation during standby.
- 2.2.2. Remove engine and airframe cowl plugs and or covers if used.
- 2.2.3. Perform preflight procedures and walk around.
- 2.2.4. Unplug the aircraft preheat system from the extension cord.

- 2.2.5. Latch the plug door on the aircraft.
- 2.2.6. Appropriately stow extension cord.
- 2.2.7. Start the aircraft following normal starting procedures.

2.3. Post Flight Operation

The preheat system may be plugged in as soon as practical after full engine shut down.

- 2.3.1. Once the aircraft has been secured open the plug door and plug in the system.
- 2.3.2. Verify system operation by checking to see that the indicator light is on.
- 2.3.3. If used, install engine and airframe, cowl plugs and or covers per manufacturer's instructions.

SECTION 3. EMERGENCY AND MALFUNCTION PROCEDURES

The Tanis Heli-Preheat System installed on this aircraft does not operate in flight, is not connected to or dependent on aircraft systems, and is only capable of operation when connected to a ground based AC power source.

Should a malfunction be detected, disconnect the system from power source, flag as inoperable and inspect before flight. Repairs are to be conducted by an appropriately rated and certified mechanic with airframe and power plant experience on this type of aircraft.

SECTION 4. PERFORMANCE

No change from the basic flight manual.

SECTION 5. OPTIONAL EQUIPMENT SUPPLEMENTS

No change from the basic flight manual.

PART II, MANUFACTURER'S DATA

SECTION 6. WEIGHT AND BALANCE

Weight and balance figures recalculated at time of system installation.

SECTION 7. SYSTEM DESCRIPTION

Surface mounted electrical resistance pad heat elements sized and shaped to fit various aircraft components preheat fluid reservoirs, critical driveline components, and battery, when connected to ground based AC shore power.

Preheating is a cold weather aviation flight safety procedure that reduces torque oscillation, thermal stress, spool-up and launch times.

The system is placarded adjacent to the plug (Figure 1). Placard states "Tanis Preheat System" with voltage requirements called out (Figure 3). Voltage requirement are verified by plug configuration (Figure 2). Design is for operation at plus or minus 10% of system voltage requirement. Airframe mounted circuit protection is 10 amps.

SECTION 8. HANDLING, SERVICING AND MAINTENANCE

For detailed information regarding maintenance, illustrations and electrical values reference Instruction for Continued Airworthiness (ICA) TICA2584 for the Bell 429.

SECTION 9. SUPPLEMENTAL PERFORMANCE INFORMATION

No change from the basic flight manual.

***** NOTHING FOLLOWS *****