



INSTRUCTION – PREHEAT KIT INSTALLATION

Subject: TSTGEM601-3231-115 and TSTGEM601-3231-230
ENGINE PREHEAT KITS FOR M601 / H80 SERIES ENGINES

Document No: TNT3231

Revision: A

Date: JUN-08-2018

RECORD OF REVISIONS

When updated, this document is changed in its entirety.

REV	DATE	DESCRIPTION	BY	CKD
A	JUN-08-2018	Initial release	DNE	GDO

Current revision approval: _____

1. PURPOSE

This instruction provides guidance for installation of subject kits listed above.

2. REQUIREMENTS

Installation requires parts and documents as listed in applicable subject kit top-level drawing, 03231-115 (115-volt kit) or 03231-230 (230-volt kit).

Tools, hardware, and consumables not supplied:

- Pad element bonding sealant supplied separately, refer to TN02788.
- Shore plug mounting hardware not supplied, options listed in this instruction and TNG1000.

3. INSTALLATION

⚠ Caution: Energized elements can cause 2nd and 3rd degree burns. Before connecting power, complete installation and perform Functional System Check.

Technicians and users of this instruction should be familiar with Installation Guide TNG1000.

3.1 Inventory

Start with parts and document inventory, refer to subject kit top level drawing.

3.2 Weight and Balance

Weight kit before installation, refer to TNG1000 for change requirements.

Approximate installed weight: 1.0 pounds (lbs.) / 0.45 Kilograms (Kg).

Use engine arm for CG calculations.

PROPRIETARY DATA

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3.3 Elements

Before locating elements:

- a. Refer to section (§) 4 Table 1, using ohmmeter verify element resistant values.
- b. Locate elements with reference to § 4 and instruction TN02788 or TNDC730.
- c. Element positioning and/or lead orientation may vary from figures and narratives.
- d. Should alternates or additional element(s) be required contact Tanis engineering.
- e. Perform Functional System Check before connecting to power, refer to TNG1000.

3.4 Electrical

Electrical routing suggested, final routing to be determined by installer, refer to cable kit wire diagram drawing 03232, figures and narratives § 4, and Installation Guide TNG1000.

1. Power Plug (inlet), Indicator Light, and Circuit Protection Devices (CPD):

- a. Hard mount circular plug with clamps and/or bracket in accessible area near oil filler, on engine, engine mount, or baffle (plug mounting hardware not supplied refer to § 2), or install optional plug, refer to TNG1000.
- b. Indicator light, locate with or near plug, light bracket TU03145 supplied for use as needed, refer to instruction TN03039.
- c. CPD, locate in accessible area near junction or plug, secure with cable ties and/or clamp(s).

Note: 230-volt kit supplied with extension cord plug adaptor refer to instruction TN02829.

2. Grounding: Attach ground wire to engine or aircraft structure with proper metal-to-metal bonding. Resistance of ground connection not to exceed .003 ohms.

3. Junction, connectors, and leads:

Locate junction in area that allows leads to reach corresponding components. Secure electrical system components with cushioned clamps and/or lacing/cable-ties.

4. Placard TU02615:

Affix supplied placard or alternate near shore power plug or on inside or outside of door.

5. Inspect:

Visually inspect and verify components are connected and secure.

6. Complete:

Perform Functional System Check refer to TNG1000.

3.5 Completion

1. Inspect: Visually inspect and verify components are connected and secure.
2. Check: Perform Functional System Check, refer to Installation Guide TNG1000.
3. Record: Record and retain data as indicated in Instructions for Continued Airworthiness TCA1000 and Operating Guide TPG1000.

4. TABLES AND FIGURES

This section contains technical information and examples of typical installations, actual installation may vary due to existing equipment or operating requirements.

Table 1. Electrical values.

115-volt and 230-volt system and individual element values.

Resistance tolerance +/- 10%.

115-volt TSTGEM601-3231-115			Total:	5.0 Amps	573 Watts
Qty	Element Part Number	Element type and location		Watts	Ohms
1	TEP2682-115/13	Pad, FCU	each:	13	1017.3
1	TEP2687-115/150	Pad, AGB RH	each:	150	88.2
1	TEP3175-115/150	Pad, PRGB LH	each:	150	88.2
1	TEP3190-115/120	Pad, PRGB RH	each:	120	110.2
1	TEP3243-115/140	Pad, AGB Sump	each:	140	94.5

115-volt TSTGEM601-3231-230			Total:	2.5 Amps	573 Watts
Qty	Element Part Number	Element type and location		Watts	Ohms
1	TEP2682-230/13	Pad, FCU	each:	13	4069.2
1	TEP2687-230/150	Pad, AGB RH	each:	150	352.7
1	TEP3175-230/150	Pad, PRGB LH	each:	150	352.7
1	TEP3190-230/120	Pad, PRGB RH	each:	120	440.8
1	TEP3243-230/140	Pad, AGB Sump	each:	140	377.9

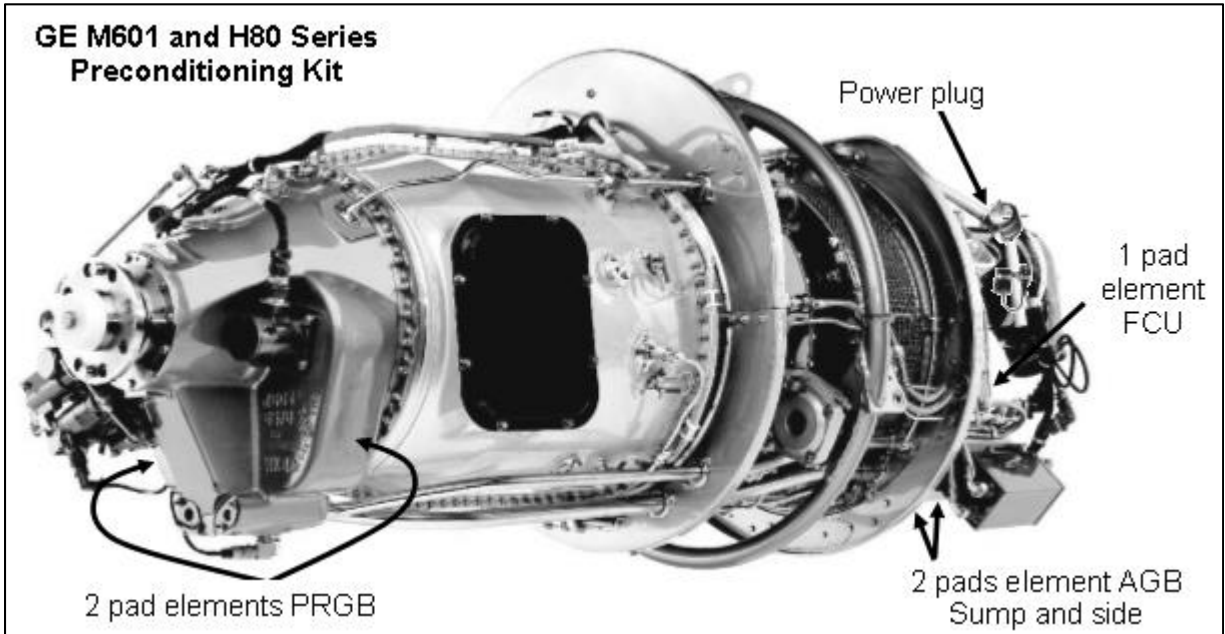


Figure 1. Overview of engine preconditioning kit.

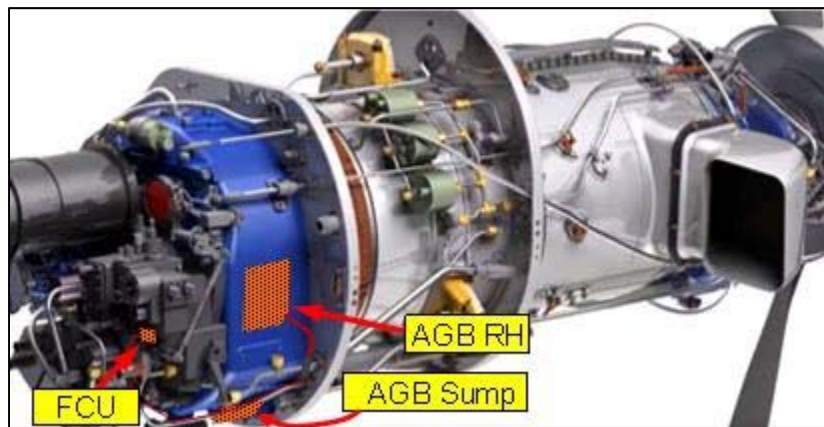


Figure 2. Right view. AGB and FCU element locations, locations shown are approximate.

TEP2682- FCU element, locate on flat surface low on control unit near fuel intake line when possible.

TEP2687- AGB RH element, locate low on right side, position for lead routing.

TEP3243- AGB Sump element, locate on bottom of tank section, lead aft.

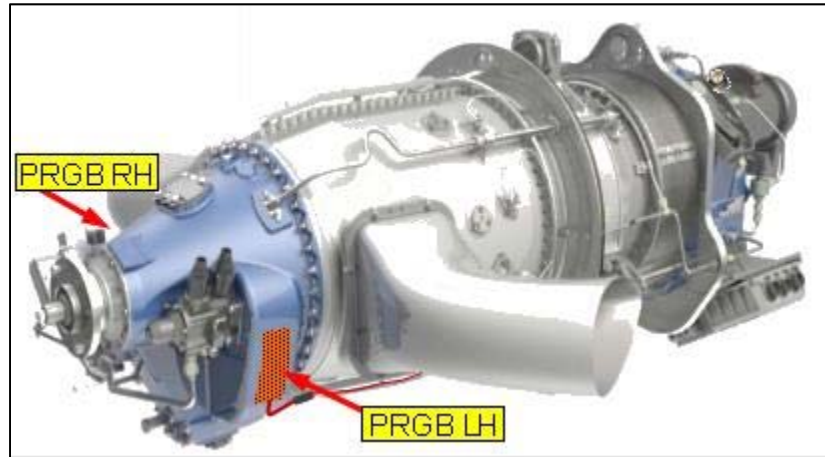


Figure 3. Left engine view. PRGB element locations.

TEP3175- PRGB LH element, locate vertical on left side lead down.

TEP3190- PRGB RH element, locate vertical on right side, lead down.

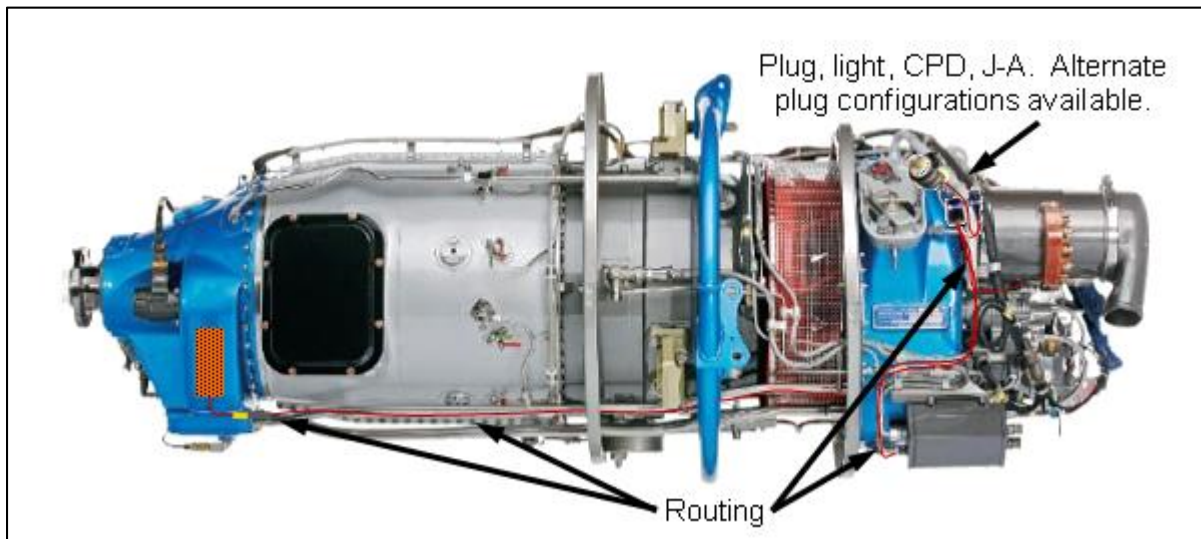


Figure 4. Routing is suggested. Refer to TNG1000 for wiring, clamp positing, and alternate plug configurations. Avionics cabin heater and battery heaters supplied separately.

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