



INSTRUCTION – PREHEAT KIT INSTALLATION

Subject: P/N: TSTPW500-2556-115, Engine Preheat Kit – 115 Volt
TSTPW500-2556-230, Engine Preheat Kit – 230 Volt
Honeywell PWC500 Series Turbofan Engines

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Revision: B
Date: OCT-23-2019

RECORD OF REVISIONS

When updated, this document is changed in its entirety.

REV	DATE	DESCRIPTION	BY	CKD
B	OCT-23-2019	Reformat for PWC500 series engines (530, 535, 545).	DNE	GDO
A	JUL-20-2012	Initial Release.	DNE	RCK

Current revision approval: _____

1. PURPOSE

This instruction provides guidance for installation of 115- and 230-volt kits listed above.

2. REQUIREMENTS

Subject kit top-level drawing, 2556-115 or 2556-230, parts and documents as listed.

- Tools, hardware, and consumables, power supply and extension cords, not supplied.
- Pad element bonding sealant supplied separately, refer to TN02788.

3. INSTALLATION

⚠ Caution: Energized elements can cause 2nd and 3rd degree burns. **Do Not** connect power to elements or system before completing Functional System Check, TNG1000.

Abbreviations: Alternating current (AC), Accessory gearbox (AGB), Center of gravity (CG), Circuit protection device (CPD), Fuel control unit (FCU), Maintenance Manual (MM), Original equipment manufacturer (OEM), Removal and replacement (R&R), Section (§), Service Bulletin (SB), To be determined (TBD), Top-level drawings (TLD), Transfer gearbox (TGB).

- Technicians and users of this instruction should be familiar with Installation Guide TNG1000 and related document listed in TLD.

3.1 Inventory

Start with parts and document inventory, refer to subject kit TLD for item list.

3.2 Weight and Balance

Weigh kit and intended installation hardware before installation. Approximate installed weight: 1.0 lb / 0.5 kg. When required use engine arm for calculations. Refer to TNG1000 for change requirements.

PROPRIETARY DATA

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3.3 Elements

Measure resistance of each element before installing, refer to § 4. Table 4.1.

- a) Locate elements with reference to narratives and examples in § 4.
- b) Elements bonded to engine with sealant, refer to TN02788.
- c) Should alternate or additional elements be required contact Tanis engineering.

3.4 Electrical

Locate electrical components with reference to narratives and examples below and in § 4.

- a) Routing suggested. Final routing TBD by installing authority.
- b) Plug mounting TBD by installing authority refer to this instruction and TNG1000.
- c) Locate electrical components with reference to cable kit wire diagram 2542, plug and light instructions TN02070 and TN03039.
- d) Wire termination refer to connector and junction instructions TN02793 and TN03012.
- e) Wires and cables are to be supported by suitable cable ties, clamps, grommets, or other devices at intervals of not more than 6-inches / 15.25-centimeters, except when contained in ducts or conduits. Refer to TNG1000 and AC 43.13-1 (as amended) Chapter 11.
- f) Only connect power after completing Functional System Check with ohmmeter, § 3.5.

Shore plug (inlet) and indicator light: Location and mounting method TBD by installing authority
Supplied plug and light for flush mounting by voltage, Plug: TP02070-M-115 or TP02839-S-230, Light: TLP3039-115 or TLP3039-230. For examples refer to Figures 4.1. and 4.5.

Left and right engine kits may be operated from single plug, refer to cable kit wire diagram for plug and circuit limitations.

Cable kit TCT2542 with CPD (fused link): Locate CPD and junction J-A in serviceable areas that allow leads to reach corresponding components and route accordingly refer to cable kit wire diagram and Figures 4.1. through 4.5.

Ground wire: Green 22759-181 wire with ring crimp. Verify OEM engine/airframe bonding strap is installed. Attach ring crimp end to applicable ground on airframe or engine, terminate in shore plug. Connection not to exceed .003 ohms, refer to TNG1000.

Firewall Connector Kit: TU03125, firewall bulkhead passthrough, use as needed. Location TBD or use existing, not used with engine mounted plug. Refer to Figures 4.1., 4.4 and 4.5.

Placard: Affix supplied TU02615- placards or placard with equivalent stating at a minimum “Tanis”, and the system voltage near shore plug, refer to Figure 4.5.

Optional Battery Heater: Supplied separately refer to cable kit diagram 2542 and 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: Retain data and record 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 4.1. Electrical Values.

System and individual element value tolerances, +/- 10%.

115-volt system total			Total:	4.6 Amps	525 Watts	25.2 Ohms
Qty	Element Part Number	Element Location		Watts	Ohms	
1	TEP2675-115/95	AGB Tank	each:	95	139.2	
2	TEP2687-115/150	Eng Inlet Case LH and RH side	each:	150	88.2	
2	TEP2923-115/65	AGB Bottom and Side	each:	65	203.5	

230-volt system total			Total:	2.3 Amps	525 Watts	100.8 Ohms
Qty	Element Part Number	Element Location		Watts	Ohms	
1	TEP2675-230/95	AGB Tank	each:	95	556.8	
2	TEP2687-230/150	Eng Inlet Case LH and RH side	each:	150	352.7	
2	TEP2923-230/65	AGB Bottom and Side	each:	65	813.8	

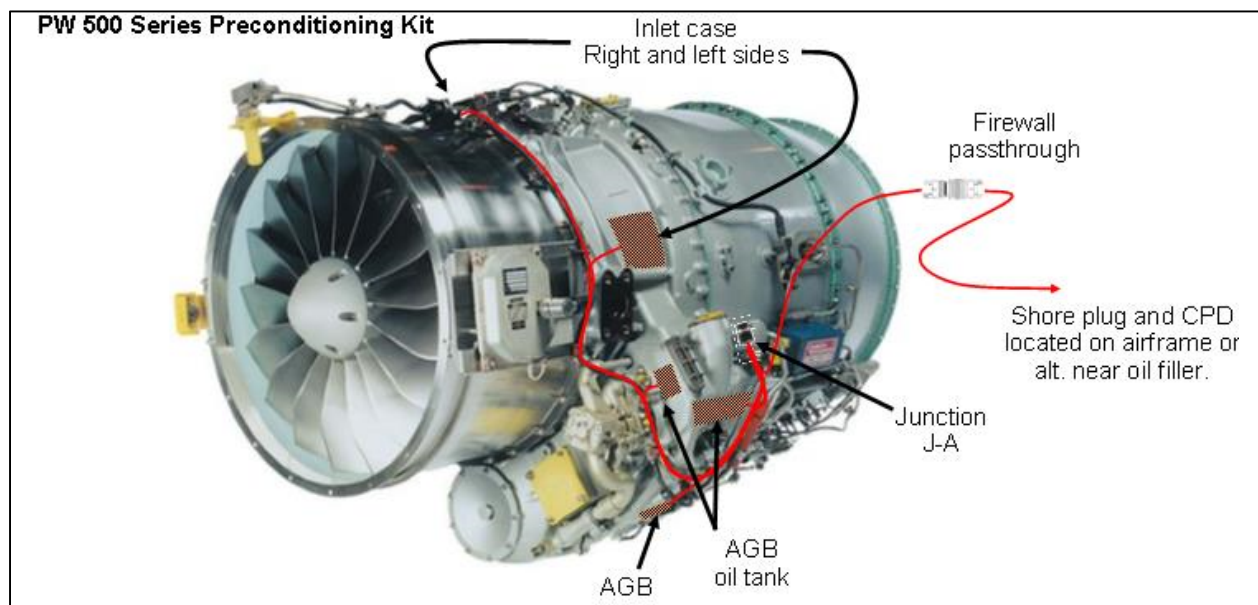


Figure 4.1. Generic example of preconditioning kit layout.

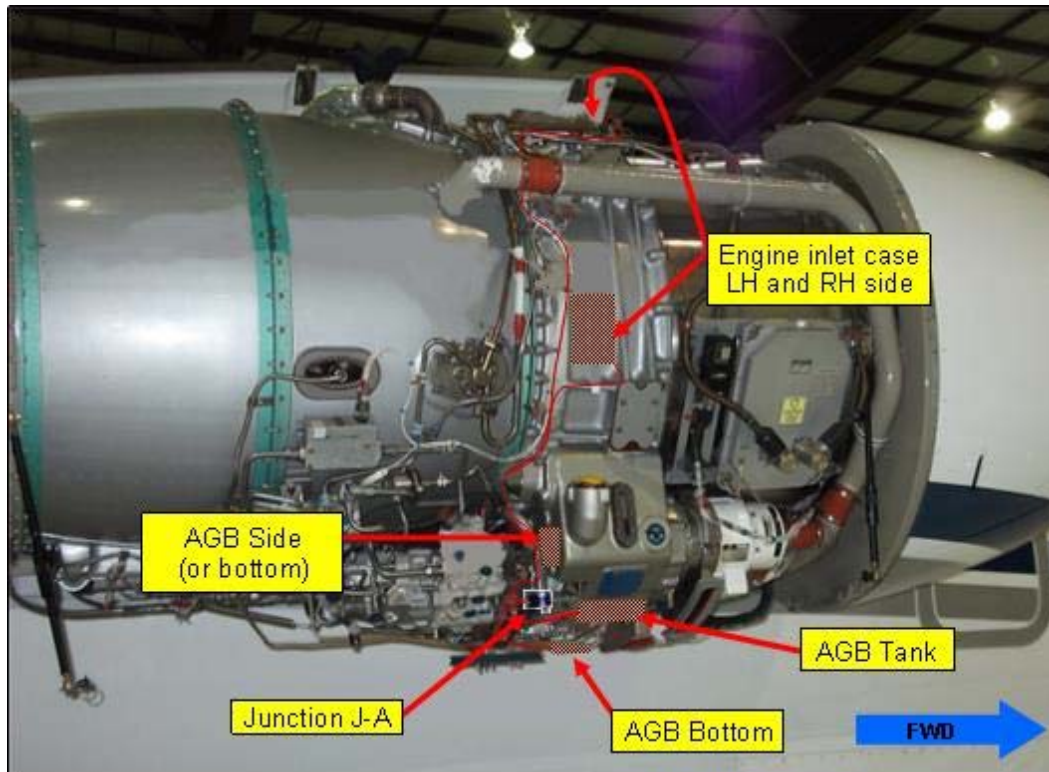


Figure 4.2. Right side view of elements. Actual installation will vary due to model and space availability. Elements bonded to engine with sealant, refer to TN02788.

TEP2675- pad element, locate on AGB Tank below placard position for lead routing.

TEP2687- pad elements, locate two on engine inlet case, one on left side and one on right side. When possible locate low on case and position for lead routing.

TEP2923- pad elements, locate two on AGB, best fit bottom and/or side.

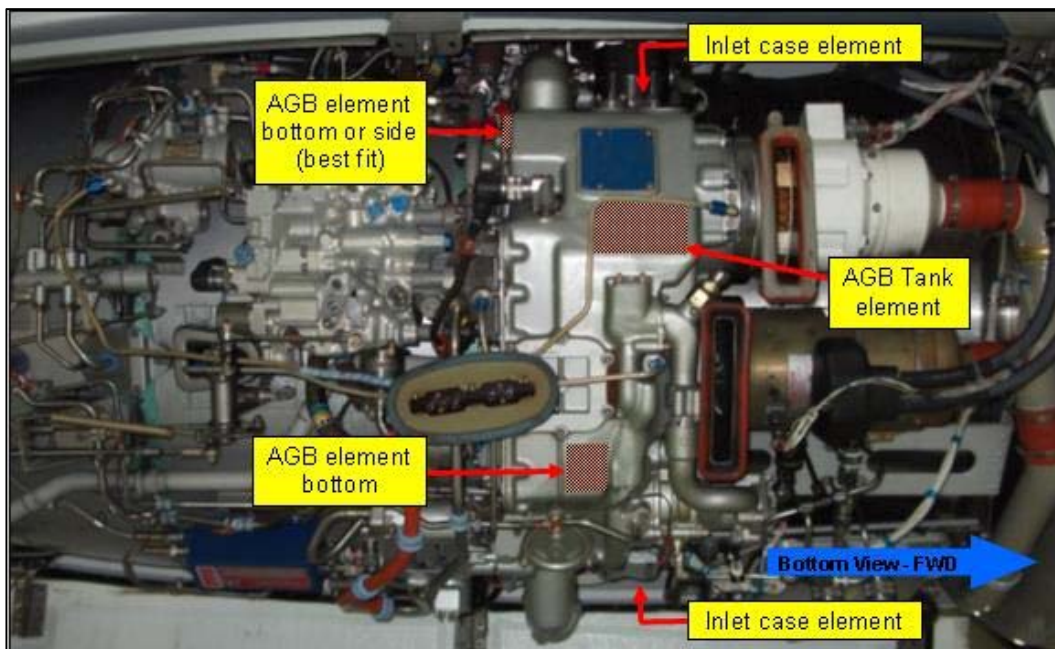


Figure 4.3. Bottom view of engine element locations.

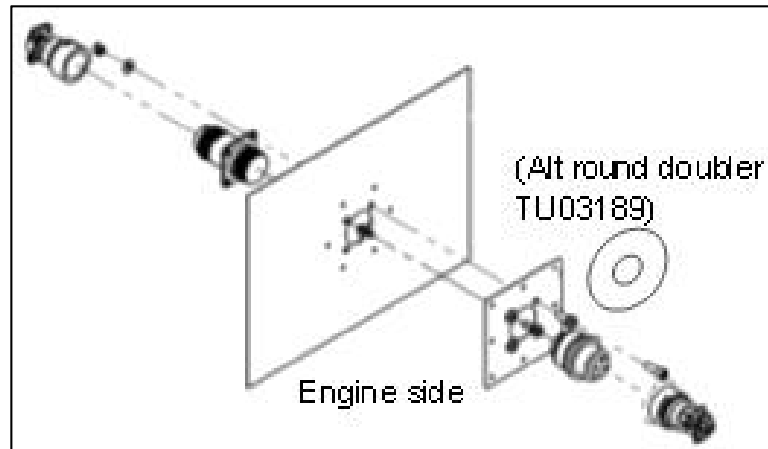


Figure 4.4. Firewall Connector Kit TU03125 supplied for use as needed. Location TBD by installing authority, seal with PS 700 per drawing 03125, refer to Figure 4.1



Figure 4.5. Examples for locating plug. Mounting and method TBD by installing authority. Supplied plug and light for flush mounting by voltage, Plug: TP02070-M-115 or TP02839-S-230, Light: TLP3039-115 or TLP3039-230.

Left: Plug located in inspection panel with optional doubler TD02838.

Middle: Plug located in inspection panel with optional plug door kit TD02840.

Right: Optional circular plug located near engine oil filler with AS/MS21919 cushioned clamps.

Locate electrical components with reference to cable kit wire diagram 2542, plug and light instructions TN02070 and TN03039.

Kits may be interconnected calculate and size components accordingly.

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