



## INSTRUCTION – PREHEAT KIT INSTALLATION

**Subject:** Rotax 912, 914, or 915 series Engine Preheat Kit  
p/n: TSP4CYL-2579-115 and TSP4CYL-2579-230

**Document No:** TNP2579  
**Revision:** H  
**Date:** JAN-07-2022

### RECORD OF REVISIONS

*When updated, this document is changed in its entirety.*

REV	DATE	DESCRIPTION	BY	CKD
H	JAN-07-2022	Revise 115V resistance values Table 4.1.	DNE	GDO
G	OCT-01-2021	1000 series docs, indicator light, and plug bracket kit.	DNE	GDO
F	OCT-31-2018	Add info on TU02846 straps	GDO	DNE

Current revision approval: \_\_\_\_\_

### 1. PURPOSE

This instruction is for Subject part listed. Refer to Installation Guide: TNG1000 for acronyms, descriptions, regulatory guidance, and fundamental technical procedures.

### 2. REQUIREMENTS

Subject kit Top-Level Drawing (TLD): 02579-115 or 02579-230, parts and documents as listed.

Users of this instruction are to be familiar w/ this document, related documents listed in TLD, and Installation Guide: TNG1000.

- a) Threaded Element Instruction: TN02639.
- b) Bonding Instruction: TN02788, Pad Element Bonding Sealant supplied separately.
- c) Tools, consumables, power supply, and extension cords not supplied.
- d) Standard M6-1.0 tap or equivalent.

### 3. INSTALLATION

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

#### 3.1 Inventory

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

#### 3.2 Weight and Balance

Weigh kit and intended installation hardware before starting installation. Approximate installed weight: 0.75 lb / 0.46 kg.

#### PROPRIETARY DATA

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### 3.3 Elements

Locate elements w/ reference to narratives below and examples in § 4.

- a) Measure resistance of each element before installing; refer to Electrical Values § 4.
- b) After locating/installing elements secure leads midway between element and connector.
- c) Questions regarding element installation contact Tanis engineering.

Pad Heat Element: Locate pad element on oil tank below nominal oil level w/ Bonding Sealant. Secure in place during sealant cure w/ large Cable-Ties (supplied w/ kit) remove ties after cure and seal around element edge when needed, refer to Figure 4.2.

⚠ **Only use** approved Bonding Sealant, refer to Instruction: TN02788.

Threaded Heat Elements: Locate one threaded element in each cylinder head, preferred location is in mounting boss and locate one threaded element in crankcase, preferred location rear of propeller reduction gear box (PRGB) or location to be determined (TBD) by user refer to Figures 4.1, 4.3, and 4.4.

Alternate threaded element locations referenced in Instruction: TN02639.

⚠ **Before starting installation *thoroughly review* Threaded Element Instruction: TN02639. Before Threading Element** into engine run M6-1.0 clearing tap through intended installation site and thoroughly clean hole after taping.

Options supplied separately: AV/Cabin Heat Kit p/n: TU03323 and Battery Heat Kit p/n: TSB2800, refer to Cable Kit wire diagram drawing: 03342 and Installation Guide: TNG1000.

### 3.4 Electrical

Locate electrical components w/ reference to § 4.

- a) Routing suggested, final routing to be determined (TBD) by user.
- b) Verify engine to airframe bonding strap is installed.
- c) 230-volt kit supplied w/ extension cord plug adaptor, refer to instruction TN02829.
- d) Pursuant AC 43.13-1 (as amended) Chapter 11. 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.
- e) To compensate for routing leads may be race-tracked, shortened, or lengthened w/ appropriate splice or connector, refer to TNG1000.
- f) To limit slipping of cable-ties, when needed, suggest use of self-fusing silicone tape (SFT) on connectors and cabling. SFT p/n: TU03076-05R or equivalent available separately.
- g) Only connect power after completing Functional System Check w/ ohmmeter, § 3.5.

Shore plug (inlet) and indicator light: Plug and light require hard mounting. Location and mounting method TBD user. Suggest positioning plug for access through oil door or other cowl opening, on engine mount, other suitable structure, or field fabricated bracket. Bracket Kit (cushioned clamps and hardware) supplied. Substitute clamps as needed for secure fit, refer to Figure 4.6. For additional plug mounting options and examples refer to Installation Guide: TNG1000.

**Cable Kit:** Route w/ existing lines and wires, secure with cable-ties. Terminate power lead and ground wire in rear of plug. When plug is located remotely, off engine, route wiring w/ slack for engine mount movement. Final routing and TBD user. Refer to Cable Kit wire diagram drawing: 03342.

Ground: Attach to engine using existing ground lug or other appropriate bonding location, connection not to exceed .003 ohms, refer to Figure 4.5.

**Placard:** Affix supplied placard p/n: TU02615-115 or TU02615-230 (supplied by voltage) or equivalent stating at a minimum “Tanis” and required voltage, in visible location near shore power plug Figures 4.1 and 4.7.

### 3.5 Completion

1. **Inspect:** Visually inspect and verify kit is installed IAW this instruction.
2. **Check:** Perform Functional System Check, refer to Installation Guide TNG1000.
3. **Record:** Pursuant 14 CFR part 43.9, and/or other procedures set in place record installation.
  - a) Wt & BI and equipment list, amend as required under aircraft certificate.
  - b) Record and Retain Data as indicated in ICA: TCA1000 and Operating Guide: TPG1000.
  - c) Complete Registration/Warranty Card, go to: <https://www.tanisaircraft.com/warranty-card-registration>

## 4. TABLES AND FIGURES

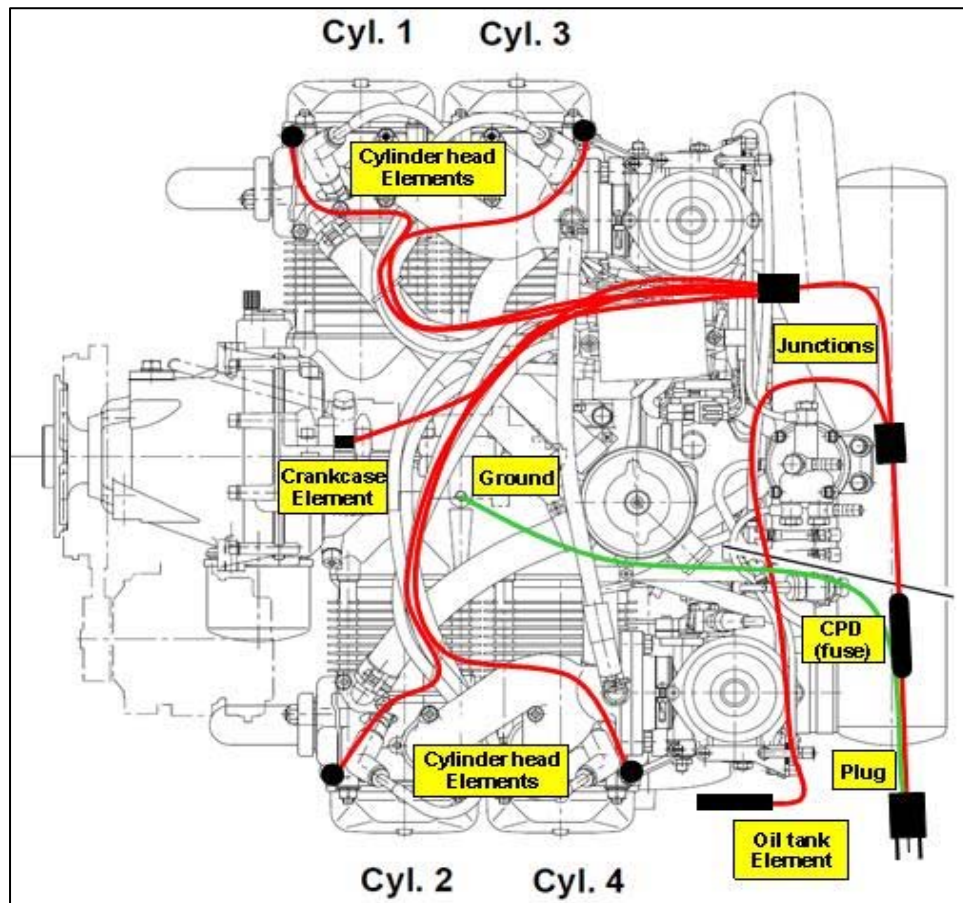
Section contains technical information and examples of typical installation; actual installation may vary due to existing equipment or operating requirements.

**Table 4.1.** Electrical Values.

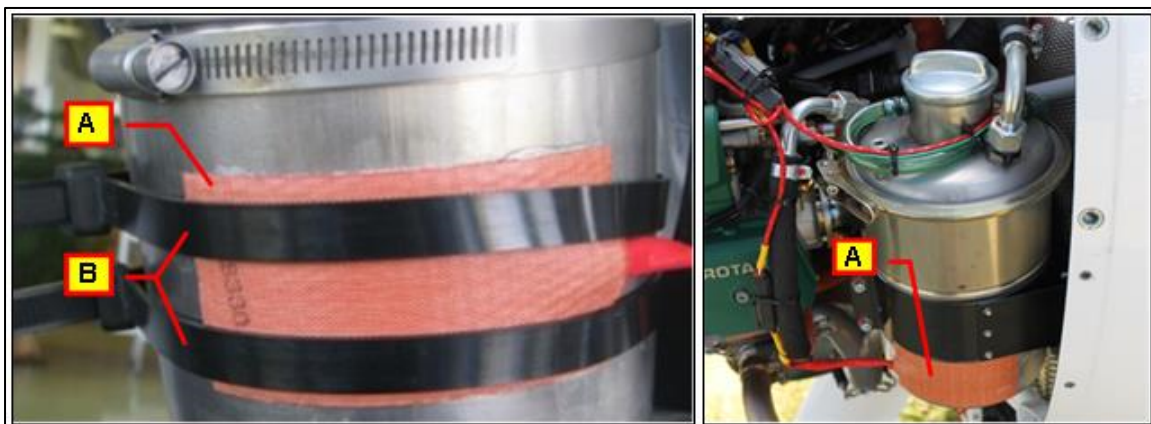
System and individual element value tolerances, +/- 10%.

115-Volt Kit			Total:	1.9 Amps	220 Watts	60.1 Ohms
Qty	Element P/N:	Type and Location		Watts	Ohms	
1	TEP3272-115/20	Pad – Oil tank		each:	20	661.3
5	TTP2639-115/40	Threaded – Cylinder Head and RGB		each:	40	330.6

230-Volt Kit			Total:	1.0 Amps	220 Watts	240.5 Ohms
Qty	Element P/N:	Type and Location		Watts	Ohms	
1	TEP3272-230/20	Pad – Oil tank		each:	20	2645.0
5	TTP2639-230/40	Threaded – Cylinder Head and RGB		each:	40	1322.5



**Figure 4.1.** Preheat Kit layout. Route cabling with existing lines and wires, secure with cable-ties. Final routing and plug location TBD by user.

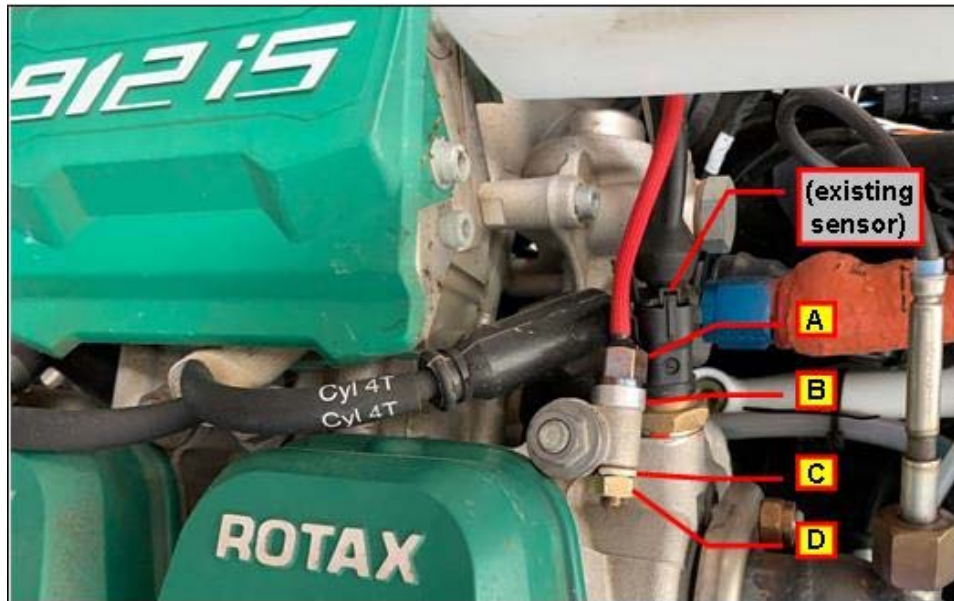


**Figure 4.2.** Example: Pad Element located on oil tank below nominal oil level, refer to § 3.3.

A. Pad Heat Element p/n: TEP3272-115/20 or TEP3272-230/20 (supplied by voltage).

B. Cable-Tie p/n: TU02864 (supplied for use as needed during sealant cure).

⚠ Before starting installation *thoroughly review* Instruction: TN02788.

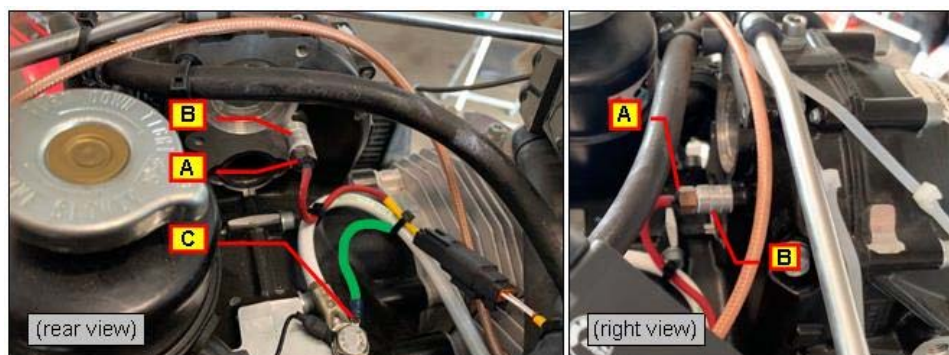


**Figure 4.3.** Example: Threaded Element located in cylinder head mounting boss, preferred location on Rotax 912, 914, and 915 series engines, refer to § 3.3.

Alternate locations called out in Instruction: TN02639.

⚠ Before starting installation *thoroughly review* Instruction: TN02639.

- A. Threaded Element p/n: TTP2639-115/40 or TTP2639-230/40 (supplied by voltage).
- B. Spacer p/n: TU02846 (Alt: 25N18R50AP)
- C. Modified Spacer p/n: TU02846-03M (Alt: AN960PD-416, NAS1149D0463J).
- D. Nut p/n: 90592A016 (Alt: 38CR20, ROTAX 242-211).

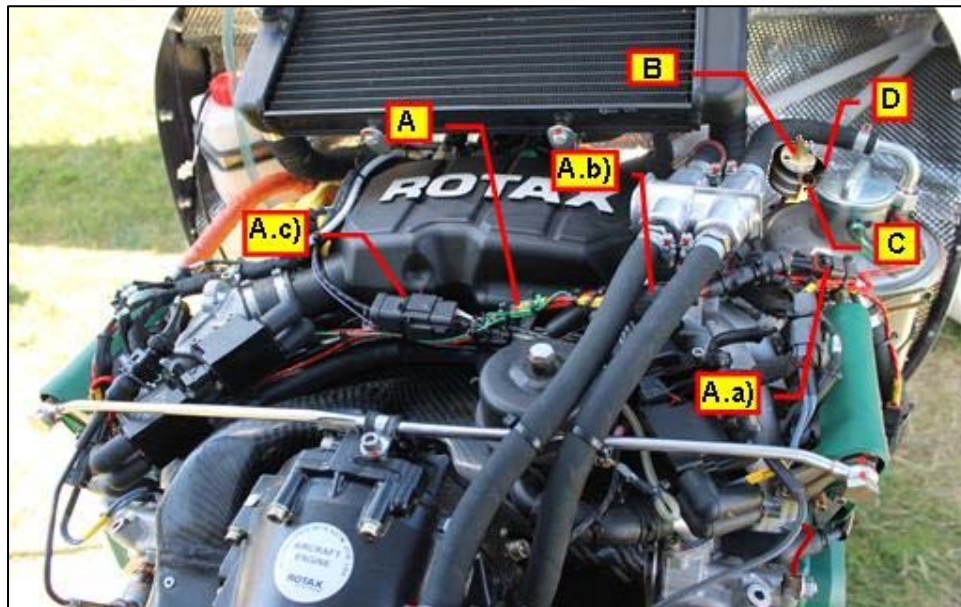


**Figure 4.4.** Example: Threaded Element located in accessory pad of PRGB.

Alternate locations called out in Instruction: TN02639.

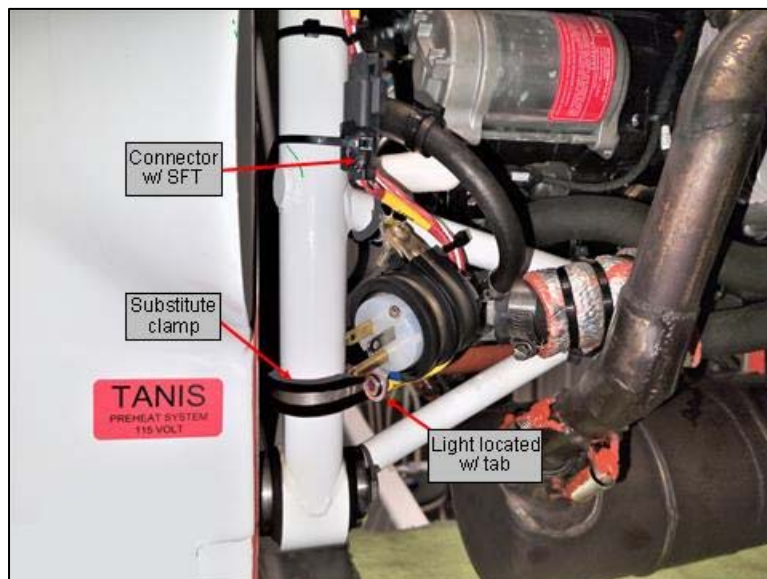
⚠ Before starting installation *thoroughly review* Instruction: TN02639.

- A. Threaded Element p/n: TTP2639-115/40 or TTP2639-230/40 (supplied by voltage).
- B. Spacer p/n: TU02846 (x 3).
- C. Ground Wire p/n: 22759-181, green wire w/ ring crimp (supplied w/ cable kit).



**Figure 4.5.** Example: Cable kit routing. Secure w/ cable-ties on/with existing lines and wires. Routing suggested, final routing and shore plug location TBD by user.

- A. Cable Kit      p/n: TC03342 Refer to Cable Kit wire diagram drawing: 03342  
a) J-A junction, b) CPD fuse link, c) J-B junction.
- B. Shore Plug      p/n: TP02770-115 or TP02980-230 (supplied by voltage).
- C. Indicator Light      p/n: TLP3039-06-115 or TLP3039-06-230 (supplied by voltage).
- D. Plug Bracket Kit p/n: TU03345 (substitute clamps as needed for secure fit).



**Figure 4.6.** Example of plug located on engine mount w/ Plug Bracket Kit p/n: TU03345. Use of Bracket Kit may require clamp substitution to fit larger engine mount tubes. For additional examples and options refer to Instruction: TN03345 and Installation Guide: TNG1000.

\*\*\*\*\* NOTHING FOLLOWS \*\*\*\*\*