



## INSTRUCTION - CIRCULAR PLUG

**Subject:** Tanis Circular Plug Series

Plug, p/n: TP02770-115, Receptacle, p/n: TP02872-115

Plug, p/n: TP02980-230, Receptacle, p/n: TP02829-230

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### RECORD OF REVISIONS

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

REV	DATE	DESCRIPTION	BY	CKD
D	DEC-14-2023	Change title and expand to include additional 1-½ plugs	DNE	MFHB
C	DEC-15-2015	Add outlet reference and Appendix w/Figures	DNE	GDO
B	OCT-01-2014	Change description section.	GDO	DNE

Current revision approval:

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## **1. PURPOSE**

The purpose of this instruction is to help guide the installation, maintenance, replacement, and/or removal, of the Subject parts listed on the cover page and detail the installation of the 230V extension cord Adapter in the Appendix.

## **2. DESCRIPTION**

This series of 1-½ inch circular plugs (inlet) and plug receptacles (outlet) are Hard Service Rated and approved for use on Tanis Aircraft Products cable leads, and user-supplied extension cords.

The function of these plugs is to connect and disconnect a load-consuming device, with a maximum of 15A under a voltage of 125V/250V to an electric power supply, while protecting the user from direct contact with live parts.

For additional support information, refer to Installation Guide: TNG1000.

## **3. RATINGS**

3-Wire Straight Blade Extra-Hard Service Rated Plug Series

Amperage/Voltage: 15A/125V 15A/250V

Dimensions: 1.5 in x 2.75 in

Weight: 2.4 oz. / 4.3 gm

Material: Nylon and Thermoplastics

Cord Grip: 0.23 to 0.72 in / 5.8 to 17.5 mm diameter

Wire Size: #18 AWG min. to #10 AWG max.

Listings: UL94 V2, UL498, CAS C22.2 No.42, IP20, Conform to NEMA WD-1

## **4. REQUIREMENTS**

### **4.1 Tools**

Standard aviation hand tools are required and are not supplied.


### **4.2 Materials**

Listed materials are supplied through the next higher assembly (NHA) or separately when required.

Self-Fusing Tape (SFT) p/n: TU03076-05 or equivalent that meets MIL-1-46852C, AA-59163 Class -1, ASTM D-1000-76, or D-495-71. FST is used to increase the diameter of a cable or extension cord when it is below the minimum rated Cord Grip diameter.

Dielectric Grease p/n: TU03126, Dow Corning DC 4, or equivalent that meets MIL-S-8660C, or ASTM D-149. Dielectric grease is used on plug contacts to help ensure the integrity of the connection.

## 5. INSTALLATION

 **Warning: Before working on any electrical device, test that the power is off. Only connect to power after a continuity test.**

These instructions are for the 115V and 230V circular plugs listed in Figure 8.1. For additional information on the 230V extension cord Adaptor, refer to the Appendix.

Technicians and users of this manual should be familiar with the Installation Guide: TNG1000.

Note: The recommended torque for all plug screws is approximately 14 in-lb. / 1.6 Nm;  
Terminal, contact assembly, and cord clamp screws.

1. Disassemble: Loosen screws on the face of the contact assembly then pull it forward and out from the cover assembly.
2. Wire Preparation: Strip jacket and conductor wire insulation. Refer to Figure 8.3.
3. Wire Termination: Insert cable or extension cord through cover assembly beginning from cord clamp end. Insert each of the stripped conductors fully into the proper wire termination holes of the contact assembly. Tighten contact screws and torque. Then perform a hand pull test to verify wires are secured in the contact assembly. Refer to kit-specific cable kit drawing for pinout, and Figures 8.2, and 8.4.
4. Assemble: If needed add SFT to increase the diameter of the cable to accommodate Cord Grip refer to § 4.2. Slide the cover assembly up the cord and over the contact assembly. Tighten and torque screws on the face of the conductor assembly, attaching the body to the cover, then tighten and torque the cord clamp screws. Refer to Figure 8.4.
5. Check Continuity: For extension cords use, a Multimeter to check for continuity through the extension cord and corresponding plug contacts. For the Tanis shore power plug (inlet), refer to the Functional System Check Section of Installation Guide: TNG1000 and/or kit-specific installation instructions.
6. Dielectric Grease: After installing or replacing an aircraft shore power plug (inlet), the application of a thin layer of Dielectric Grease over each of the plug contacts (blades and ground pin) is recommended. Apply using a cotton-tipped swab or equivalent applicator. Refer to § 4.2.

## 6. MAINTENANCE

Under normal conditions, a visual inspection is the only form of maintenance required.

Parts life is based on condition per inspection. Suspect or damaged parts are to be replaced.

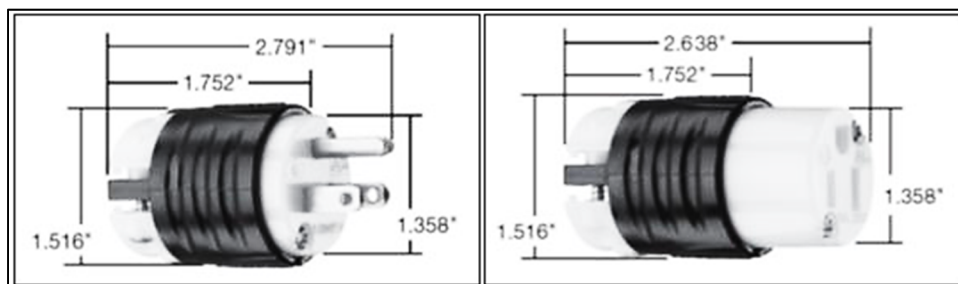
For Periodic Maintenance Instructions refer to ICA: TCA1000.

## 7. REMOVAL

**⚠ Warning: Before working on any electrical device, test that the power is off.**

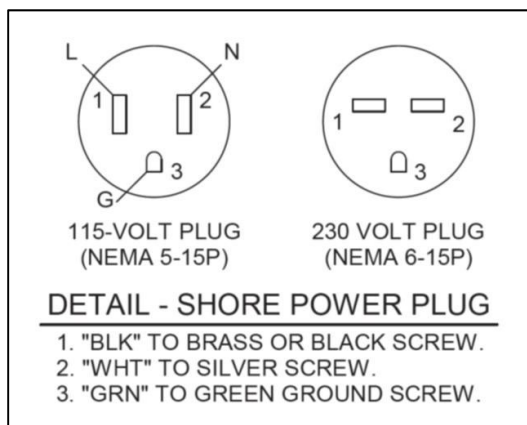
1. Loosen cord clamp screws to release the cord.
2. Loosen screws on the face of the conductor then pull it forward and out from the cover assembly to expose terminal screws.
3. Loosen terminal screws, pull conductor wires from the contact assembly, and then slide the cable from the clamping section.
4. For the installation of a new plug refer to § 5.

## 8. FIGURES



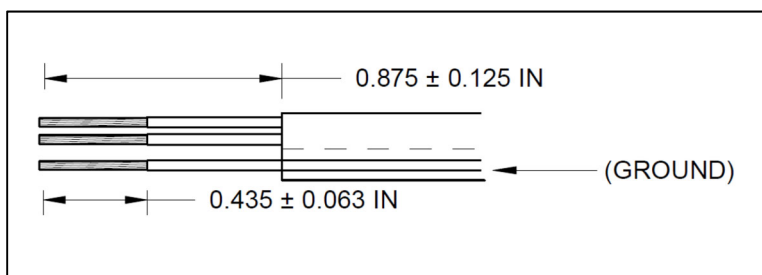
**Figure 8.1.** Example: 115V plug and plug receptacle. 230V plugs have the same dimensions and weight.

115-Volt: Plug (inlet) p/n: TP02770-115	Plug Receptacle (outlet) p/n: TP02872-115.
230-Volt: Plug (inlet) p/n: TP02980-230	Plug Receptacle (outlet) p/n: TP02829-230



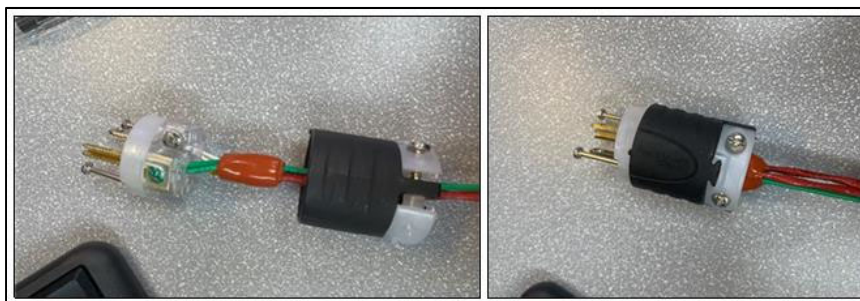
**Figure 8.2.** Plug pinout. Plug Receptacle (outlet) viewed from face/front. Wire color-coding for the country and/or region of operation may vary from the diagram above.

Note: The Black load lead of Tanis cable may appear gray due to the dye limitations of the Teflon conductor insulating material and within specification for the material type. For additional wiring information, refer to the kit-specific cable kit drawing or contact Tanis Aircraft Products customer support.



**Figure 8.3.** Power cable and extension cord preparation. Note: **Do Not** Tin wire.

- 1) Remove approximately 1.0 in. / 25 mm of the outer protective jacket.
- 2) Strip approximately 0.50 in. / 12.5 mm from each conductor wire.



**Figure 8.4.** Example circular plug during assembly with cable routed through the clamp and cover assembly and wires terminated in contact assembly.

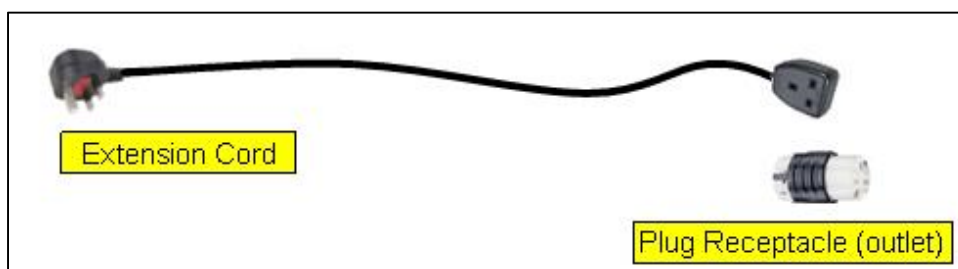
Note: The diameter of the cable was increased using SFT refer to §§ 4.2 and 5.4.

## APPENDIX (230V Adapter)

230V Plug Receptacle (outlet) p/n: TP02829-230. This plug is used as an Adapter on user-supplied extension cords to connect Tanis preheat systems. It does not convert power it configures an extension cord to connect 210-240V external power with a 230 Volt Tanis system.

For extension cord requirements, refer to Tanis Operating Guide: TNG1000.

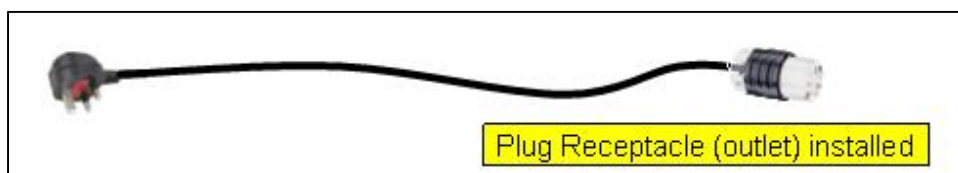
The same procedures are used for 115 and 230V plugs and receptacles, for removal and termination procedures, refer to §§ 5 and 7.



**Figure A.1.** Parts: User-supplied extension cord, and Plug Receptacle (outlet).



**Figure A.2.** Preparation: Remove or cut the existing receptacle from the extension cord.



**Figure A.3.** Assembly: Extension cord configured with Plug Receptacle.