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# SAFETY DIRECTIVE/ALERT

## SD-092122-A

|             |  |     |  |  |
|-------------|--|-----|--|--|
| F4TAPEBLACK | TAPE, SELF-FUSING, SILICONE, .02 IN THK, 1 IN WIDE | A/N |  |  |
| N/A         | Powder-Free Nitrile Gloves                         | A/N |  |  |
| N/A         | Powder-Free Latex Gloves                           | A/N |  |  |
| N/A         | Isopropyl Alcohol                                  | A/N |  |  |

**References**

| ID             | Rev         | Issue Date | Title   |
|----------------|-------------|------------|---|
| ICA000833      | D           | 06/17/2022 | Maintenance Manual, A5  |
| IPC/WHMA-A-620 | Amendment 1 | 08/01/2013 | Requirements and Acceptance for Cable and Wire Harness Assemblies (*ICON A5 is Class 2) |

**Manhours Required:**

1. Compliance with disassembly and visual inspection of affected wire harness to terminal connections will require 2 hours.
2. Compliance with the re-crimping/replacement portion of this Safety Directive, if needed, will require two (2) hours. One person will be required to hold the wire harnesses, while the other will be required to perform the crimping.

**Special tools, fixtures, or test equipment:**

1. It is permissible to create and use tools and fixtures as required to properly carry out the instructions presented within this Safety Directive so long as they do not cause any damage to the aircraft or create any deviation of the aircraft from its intended design.
2. Special Tools Required
  - a. Appropriate equipment for cleaning and surface protection.
  - b. Crimping tool:
    - i. Molex crimper 64001-3900 (see Figure 1)
      - BARE 4 AWG die slot

# SAFETY DIRECTIVE/ALERT

SD-092122-A

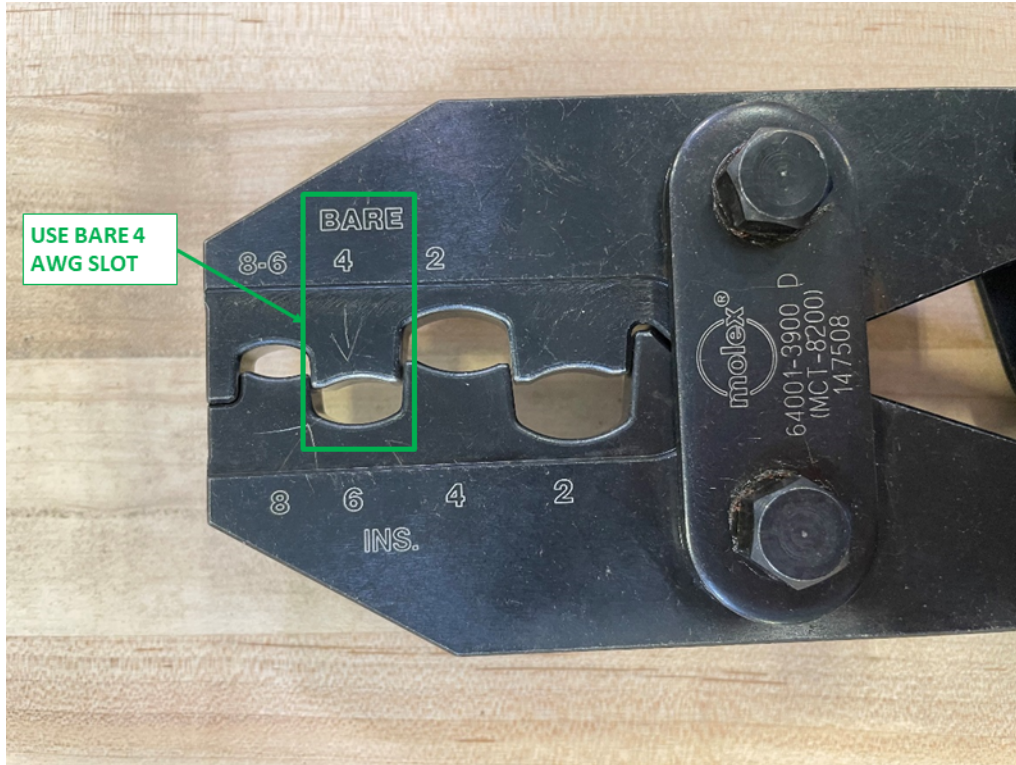


Figure 1 Crimping Tool

**IF APPLICABLE, SERVICE KITS:**

| KIT NUMBER | CONTENT PARTS | DESCRIPTION | QUANTITY |
|------------|---------------|-------------|----------|
| N/A        | N/A           | N/A         | N/A      |

**INSTRUCTIONS:**

**A. Removal of existing assemblies, subassemblies, or detail parts:**

**Note:** It is permissible to disassemble the aircraft as required to permit accessibility, inspection, adjustment, maintenance, and repair in accordance with the latest release of the Aircraft Maintenance Manual, ICA000833.

1. Remove the Right Top Instrument Panel Cover in accordance with Aircraft Maintenance Manual (Section [100547-00](#)).
2. Remove engine cowling in accordance with Aircraft Maintenance Manual (Section [100497-00](#)) steps 1 through 3 to gain access to the engine.
  - Disconnect the Induction Air Duct (Orange) to allow access to the starter solenoid and starter
    - Retain the hardware (clamps)



2141 ICON Way, Vacaville, CA 95688 - Tel: 707.564.4000 – www.iconaircraft.com

## SAFETY DIRECTIVE/ALERT

SD-092122-A

### B. Inspection Instructions:

**NOTE:** Ensure that Master Power switch is OFF before beginning the Inspection Instructions.

1. Visually inspect the crimp of each terminal listed in Step 2 below using the following criteria:

**Inspection criteria (See Figure 2)**

**Good/Pass:** Visual crimp marks seen on insulation

**Bad/Fail:** Insulation is smooth and no visible crimp marks

- a. If the terminal crimps are found to be Good/Pass, then no action is required for the specific terminal.
- b. If a terminal crimp is found to be Bad/Fail, re-crimp or replacement of the failed terminal is required. Refer to Section C “Crimping Instructions” below.

**NOTE:** If it is needed to ferry the airplane to an ICON Service Provider, prior to the flight, a qualified technician must verify that no wire termination is loose by lightly tugging the wire just aft of the termination ring. Wires may appear to have smooth insulation but be crimped enough to complete a one-time ferry flight to the ICON Service Provider location.

**SAFETY DIRECTIVE/ALERT**

SD-092122-A

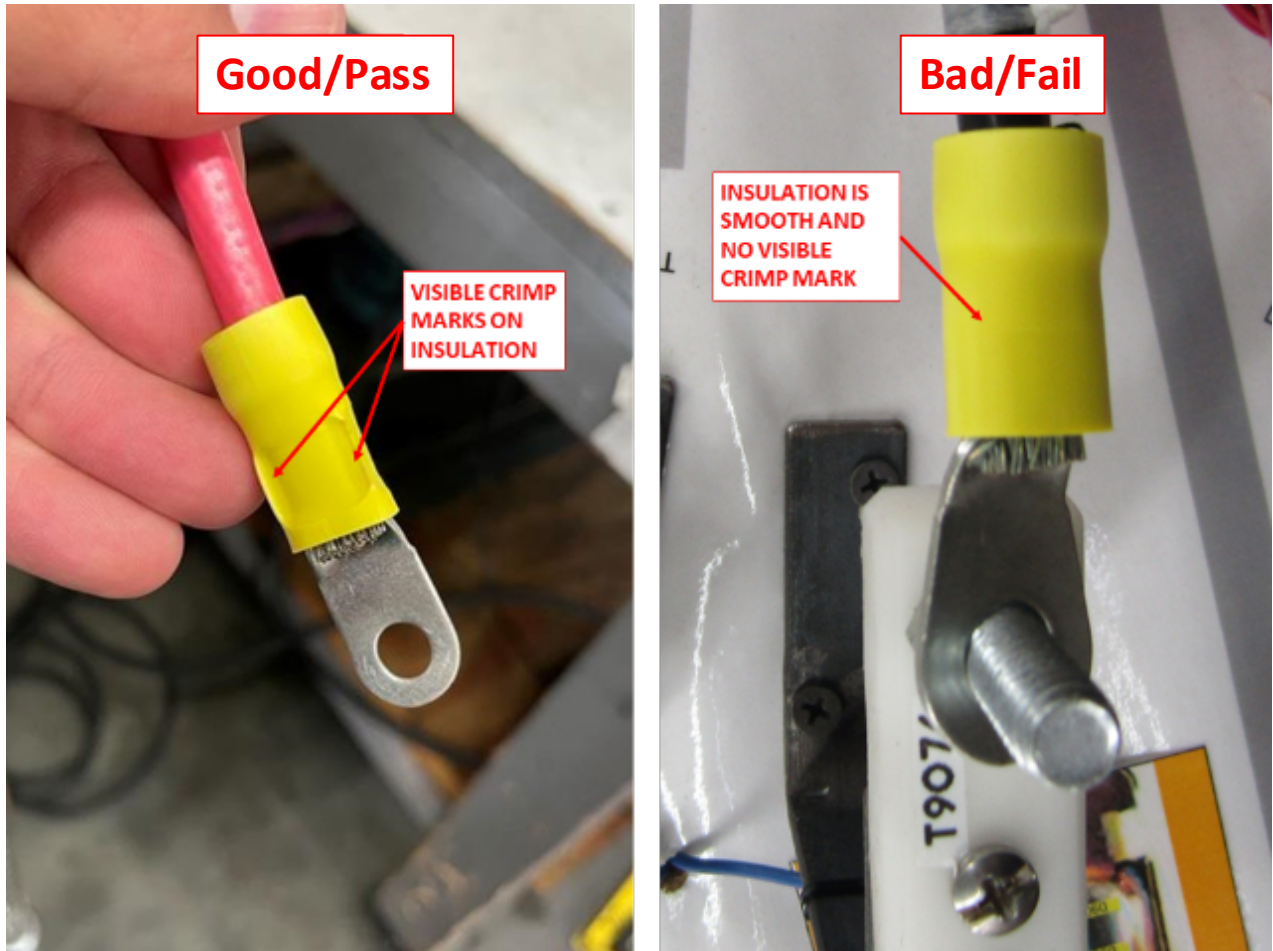


Figure 2 Terminal Inspection Criteria (Good/Pass and Bad/Fail)

**2. Inspect the following area:****a. ENGINE BAY TERMINAL INSPECTION**

- i. T9066 (Connected to RH terminal of the Starter Solenoid) See Figure 3
- ii. T9068 (Connected to LH terminal of the Starter Solenoid) See Figure 3
- iii. T9075 (Connected to Lower FWD Engine block GND) See Figure 4
- iv. T9067 (Connected to Engine Starter Motor) See Figure 5



# SAFETY DIRECTIVE/ALERT

SD-092122-A

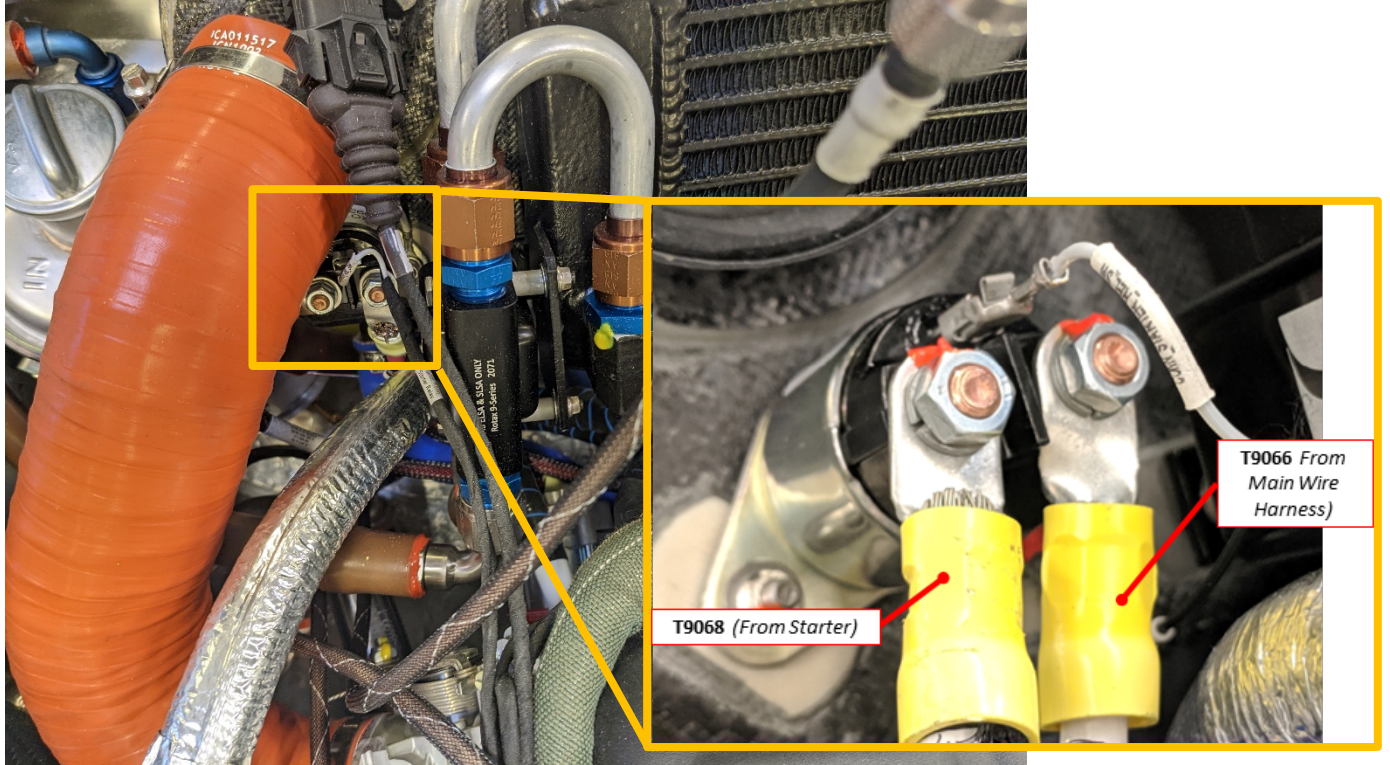


Figure 3 Starter Solenoid (T9068 & T9066)

**SAFETY DIRECTIVE/ALERT**

SD-092122-A

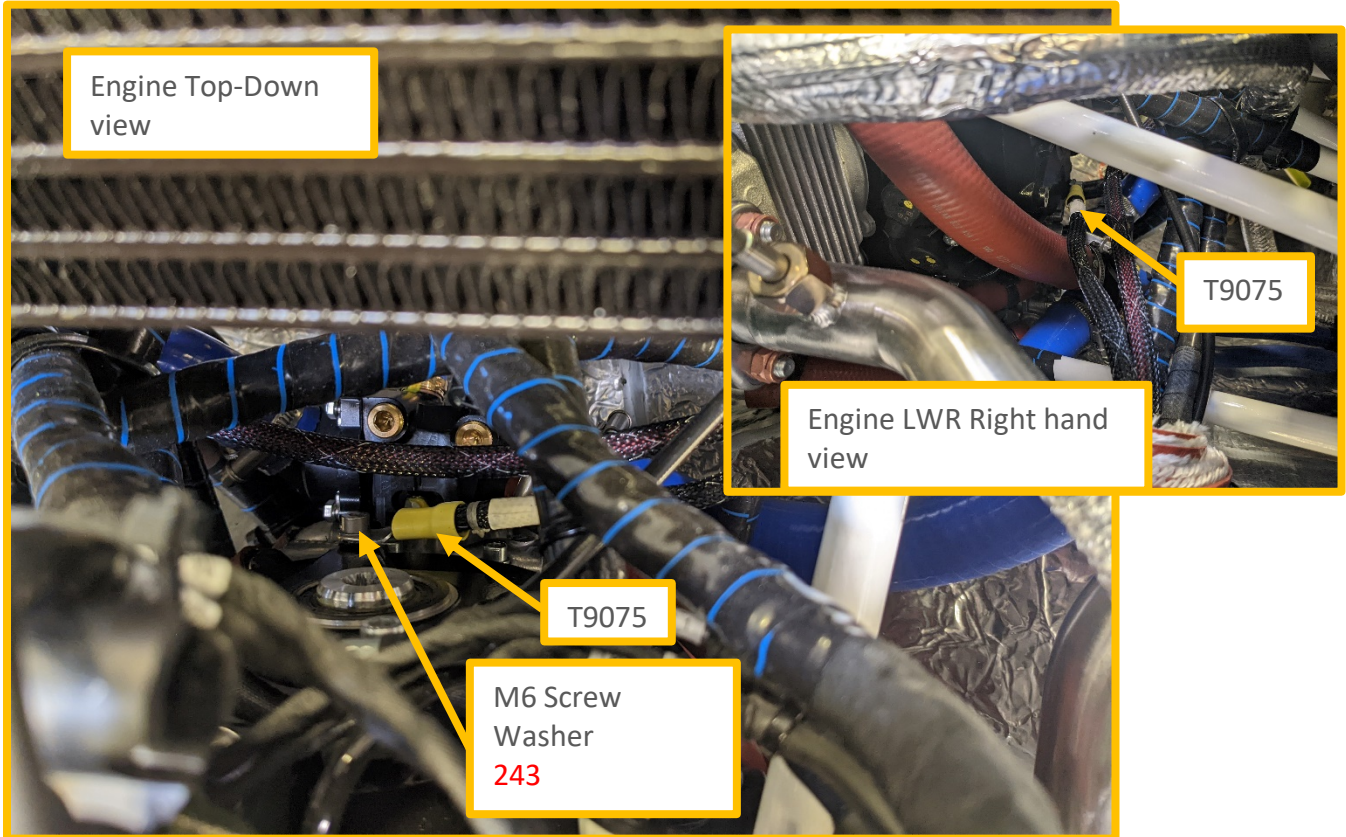


Figure 4 Engine Block Ground (T9075)



**SAFETY DIRECTIVE/ALERT**

SD-092122-A

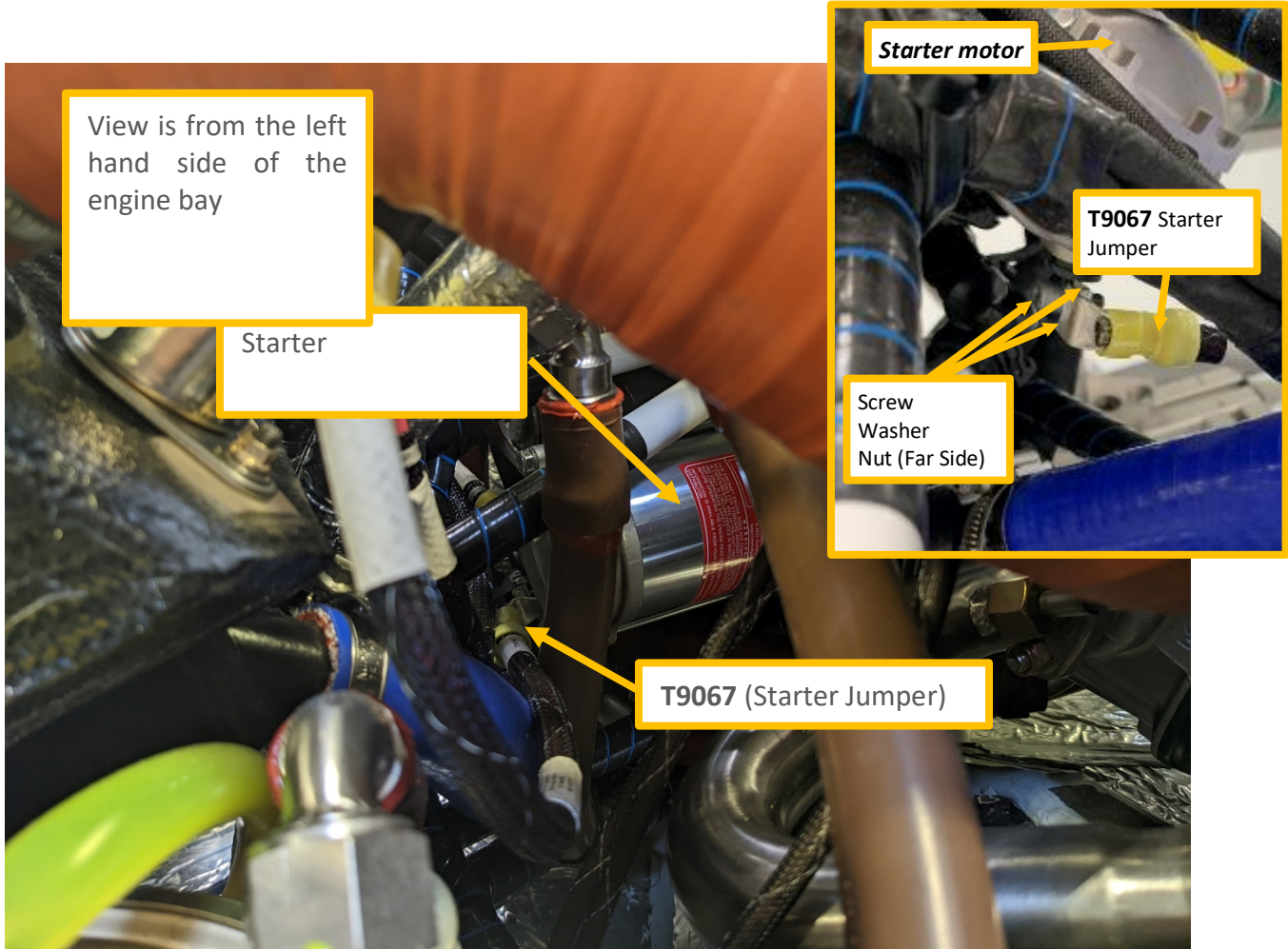


Figure 5 Engine Starter Motor (T9067)



## SAFETY DIRECTIVE/ALERT

SD-092122-A

### b. FWD RH FUSELAGE TERMINAL INSPECTION

- i. T9053 (FWD Master Solenoid) Reference Figure 6
- ii. T9065 (AFT Master Solenoid) Reference Figure 6
- iii. T9054 (Positive Battery Terminal) Reference Figure 7

**NOTE:** The insulation T9054 may have heat shrink impeding the inspection. It is permissible to carefully cut away the heat shrink. Reference Figure 8

- iv. T9076 (Negative Battery Terminal) Reference Figure 7

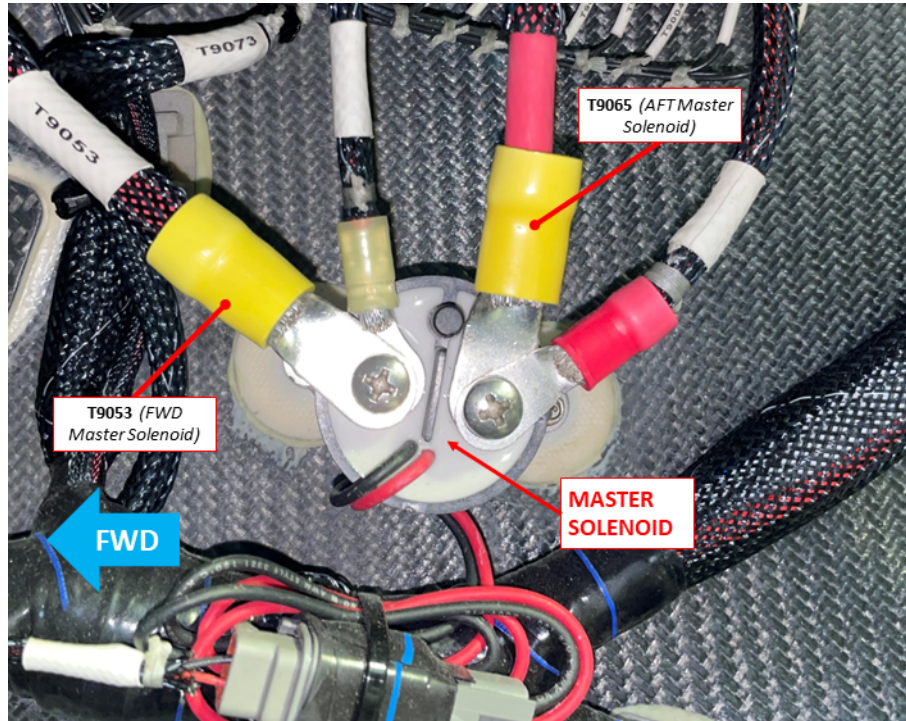


Figure 6 Aircraft Master Solenoid (T9053 & T9065)

**SAFETY DIRECTIVE/ALERT**

SD-092122-A

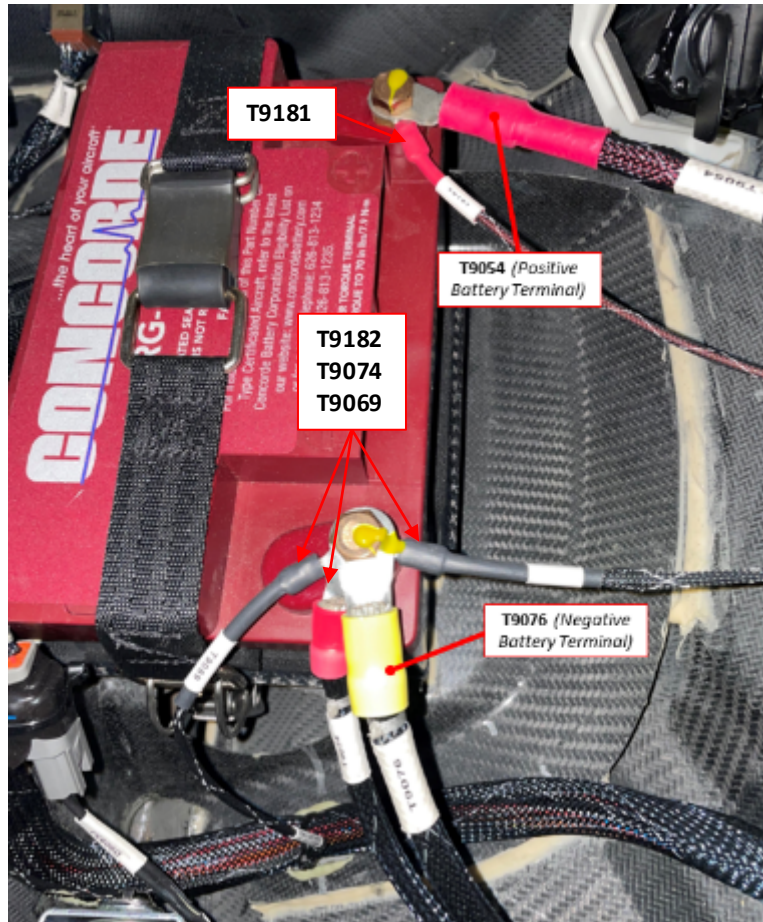


Figure 7 Battery (T9054 &amp; T9076)



Figure 8 T9054 Heat Shrink



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## SAFETY DIRECTIVE/ALERT

SD-092122-A

### C. Crimping Instructions (If a Terminal is determined to be Bad/Fail)

**NOTE: Ensure that Master Power switch is OFF before beginning the Crimping Instructions.**

**NOTE: Disconnect the battery terminals before disconnecting any other terminal.**

1. Disconnect the affected (failed) terminals prior to crimping.
  - a. Retain all hardware for reinstallation.
2. Using the Molex crimper 64001-3900, and the die slot for **BARE 4 AWG** wire, complete the crimp for each terminal. Reference IPC/WHMA-A-620 for acceptance and defects. If there's damage or insulation becomes loose after crimping, use F4TAPEBLACK to cover ring terminal insulation, do not cover terminal label.
  - a. If necessary, the wires for **T9066** and **T9075** can be routed through the engine bay to create slack for access for crimping. Ensure to make note of the routing prior so that the wire can be routed properly during re-installation.
  - b. If any wires have slipped out of the terminal, they cannot be re-crimped and will need to be replaced with a new terminal. See below for applicable terminal PN's
    - i. **T9066** and **T9067** – ICA013586 (54748-1)
    - ii. **T9068** and **T9075** – ICA011075 (PV4-14R)
    - iii. **T9053** and **T9065** – ICA011075 (PV4-14R)
    - iv. **T9076** and **T9054** – ICA011076 (PV4-56R)
  - c. If the terminal insulation has cracked, or become loose during crimping procedure, secure terminal insulation using 1.5 full wraps of F4 tape. Ensure metal portion of ring terminal and reference designator label are not covered
3. Once all affected terminals are re-crimped or replaced, re-install each terminal using the following instructions:
  - a. **T9066** and **T9068**:
    - i. Connect electrical connections to starter relay with retained hardware, see Figure 3.
    - ii. Using isopropyl alcohol, clean surfaces where thread locker will be applied. Apply LOCTITE 243 to threads of nuts.
    - iii. **T9068** ring terminal **from starter** to **LH ring terminal** on **starter relay** as shown with supplied hardware see Figure 3.
    - iv. **T9066** ring terminal **from main wire harness** to **RH ring terminal** on **starter relay** as shown with supplied hardware see Figure 3.
    - v. Torque hardware to 33-39 in-lbs.
    - vi. Verify installation is complete.
    - vii. Verify wire harness is at least 0.5 inches from sharp edges/corners on plenum box.
  - b. **T9075**:
    - i. Connect ring terminal [**T9075**] from main wire harness to threaded boss on lower LH side of ignition housing on engine using the noted M6 hardware, see Figure 4.

## SAFETY DIRECTIVE/ALERT

**SD-092122-A**

Using isopropyl alcohol, clean surfaces where thread locker will be applied. Apply Loctite 243 to screw threads.

- ii. Torque fastener to 88 in-lbs.

**c. T9067:**

- i. Attach ring terminal **T9067** from Starter Jumper to the Starter Motor using the retained M5 hardware, see Figure 5. It is permissible to bend the Ring Terminal up to 45 Deg.
- ii. Torque fastener to 53 ± 5 in-lb.

**d. T9065 & T9053:**

- i. Secure ring terminals **T9063** and **T9065** from the Main Wire Harness to the A2 side of master solenoid using noted hardware, see Figure 9.
- ii. Secure ring terminals **T9064** and **T9053** from the Main Wire Harness to the A1 side of master solenoid using noted hardware, see Figure 9.
- iii. Torque screws to 12-15 in-lbs.

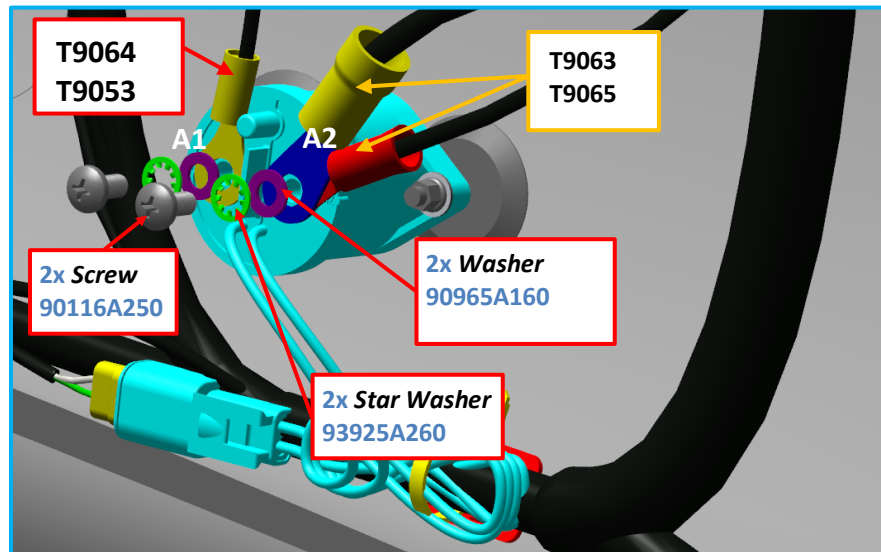


Figure 9 Master Solenoid hardware install

**e. T9054:**

- i. Connect ring terminal **T9181** (Positive Battery Jumper) and **T9054** (Master Relay Jumper) to the positive terminal of the battery.
- ii. Torque the Positive Battery Terminal to 66 to 74 in-lb.
- iii. Using isopropyl alcohol, clean surfaces where inspector lacquer will be applied.
- iv. Apply inspector's lacquer (ICA012079) to the bolt head and onto the adjacent structure.

**f. T9076:**

- i. Connect ring terminal **T9182** (Negative Battery Jumper), **T9076**, **T9074** (Main wire harness) and **T9069** (Bow hook battery jumper) to the negative terminal of the





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## SAFETY DIRECTIVE/ALERT

SD-092122-A

- battery.
  - ii. Torque the negative Battery Terminal to 66 to 74 in-lb.
  - iii. Using isopropyl alcohol, clean surfaces where inspector lacquer will be applied.
  - iv. Apply inspector's lacquer (ICA012079) to the bolt head and the adjacent structure.
4. Verification steps:
- a. Verify installation of all affected terminals.
  - b. Check for proper strain relief of electrical Connections.
  - c. Verify the wires do not exit the connector at sharp angles.
  - d. Verify the wires are not stressed (exhibit no freedom of movement).
  - e. Verify the wires are not pinched at connection points of edges near installation.
5. In accordance with the Aircraft Maintenance Manual (ICA000833):
- a. Reinstall engine cowling in accordance with Aircraft Maintenance Manual (Section 100497-00).
- NOTE:** Before reinstalling engine cowling ensure to reconnect the Induction Air Duct
- b. Reinstall the Right Top Instrument Panel Cover in accordance with Aircraft Maintenance Manual (Section 100547-00).2.

### WARRANTY INFORMATION:

ICON Certified Service Providers: If performed in the stated time of compliance, ICON will cover parts and labor for the inspection (1 person for 2 hours) and crimping (2 people for 2 hours) under Icon's warranty program. Please submit an invoice for warranty reimbursement for labor upon completion of this Safety Directive/Alert. Please reference Safety Directive number SD-092122-A.

### MAKE THE FOLLOWING LOGBOOK ENTRY:

"I hereby certify the repair and/or alteration has been completed in accordance with this Safety Directive/Alert and all the referenced documents. Potentially unclear procedures have been clarified with the Aircraft OEM. No issues were observed that might hinder return to service.

The corrective action of Safety Directive/Alert (SD-092122-A) has been complied with (ref. FAA Exemption 10829B)".



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## **SAFETY DIRECTIVE/ALERT**

**SD-092122-A**

If you have questions, comments, or concerns about this Safety Directive/Alert and/or if you are no longer owner/operator of this aircraft, please forward this information to the present owner/operator and notify ICON Aircraft at:

ICON Aircraft  
2141 ICON Way  
Suite 100  
Vacaville, CA 95688  
(855) FLY-ICON or (707) 564-4000  
[support@iconaircraft.com](mailto:support@iconaircraft.com)

Please include the aircraft registration number, serial number, your name, and if known the contact information of the new owner/operator.