



# TECHNICAL INSTRUCTIONS

## (74-50183-00) Supra Option Connector Rework

**Models: Supra S6 – S10**

**Serial Number Range: Prior to VFH91727718**

Purpose: The intent of this technical instruction is to provide guidelines for replacing the heat shrink tubing on the LIV, RRAT, RSAT, and Drain Water Resistor (DWR) wires. Additional connectors will be installed for the FLS, FHR, and Power Options. The F7 fuse will be removed from the TPC.

A 12 volt wire harness, used for the fuel heat option within the affected TRUs, may be exposed and missing heat shrink. The exposed, energized 12 volt wires, can, under certain conditions, lead to electrical arcing and possibly a fire. Failure to perform the inspection and installation work described in this letter as soon as possible could result in property damage or personal injury.

### Kit Parts







Part	Quantity	Part Number	Part Description
A	2	22-01585-04	Connector (Cap) Male, 4 Pin
B	2	22-02392-03	Connector Female, 4 Pin
C	5	22-02393-00	Terminal, Male 14-16 AWG (3.6 mm) <sup>1</sup>
D	5	22-02393-01	Terminal, Male 18-20 AWG (3.0 mm) <sup>1</sup>
E	3	22-02394-00	Seal, Cable (Grey)
F	3	22-02394-02	Seal, Cable (Green)
G	6	22-02394-03	Seal, Cable (Purple)
H	10	22-50078-55	Plug, Cavity
I	5	22-50078-58D	Terminal, 12 AWG (4.6 mm) <sup>1</sup>
J	4	66-U---1--3882	Cable Tie
K	8	66-U---1--8292-5	Cap
L	3	Alcohol Wipe	Wipe

1. Terminal dimension (mm) is the width between conductor crimp wings. Refer to option bundle step 4.

### Additional Required Parts

Part	Quantity	Part Number	Part Description
A1	1	02-00137-00M25	Tape, Harness

## Required Tools

Tool	Part Number	Part Description
	07-00487-00	Heat Gun
	07-00370-00	Crimper, Weather Pack
	Obtain Locally	Pliers, Flush Cut
	Obtain Locally	Scissors
	Obtain Locally	Wire stripper
	Obtain Locally	M10 Socket/Wrench



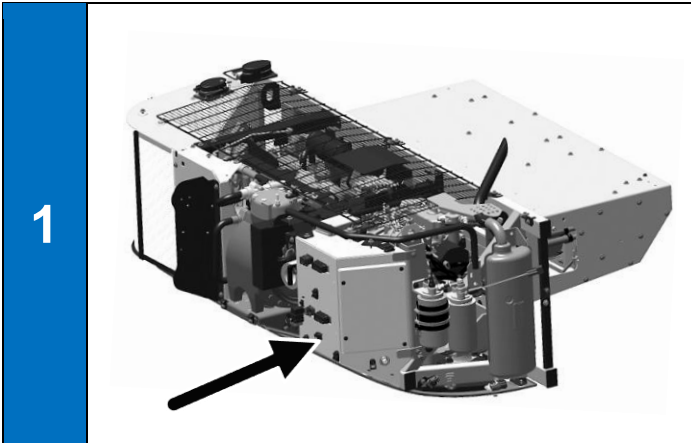
Unit may start automatically at any time even if switch is in the OFF position. Use proper lockout / tagout procedures before inspection / servicing. All unit inspection / servicing to be performed by properly trained personnel only.

## Option Bundle

Two connectors will be used in place of heat shrink for the wires at the option bundle. The wires installed in the connectors will vary depending on the model. Refer to the following table for wire/connector position and seal/terminal part reference. For units with an option installed the rework is not required for that option.

S6-S9						S10					
	Position	Wire	Color/mm <sup>2</sup>	Seal	Terminal		Position	Wire	Color/mm <sup>2</sup>	Seal	Terminal
Connector 1	A	FHR-1	White (3.0)	E	I	Connector 1	A	PWR OPT-A	White	F	C
	B	FHR-2	White (1.5)	G	D		B	Plug		H	
	C	FHR-5	Green (1.5)	G	D		C	Plug		H	
	D	FHR-4	Green (3.0)	E	I		D	PWR OPT-B	Green	F	C
Connector 2	A	FLS-A	White (1.0)	G	D	Connector 2	A	FLS-A	White (1.0)	G	D
	B	FLS-B	Green (1.0)	G	D		B	FLS-B	Green (1.0)	G	D
	C	FLS-C	White (1.0)	G	D		C	FLS-C	White (1.0)	G	D
	D	Plug		H			D	Plug		H	

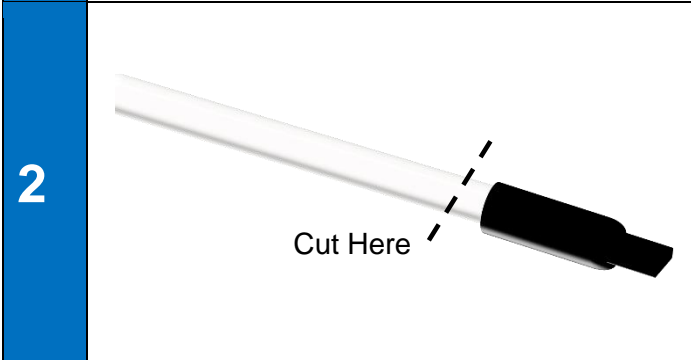
Table 1. Option Bundle Connector Wire/Part Reference



Locate the harness option bundle near the control box

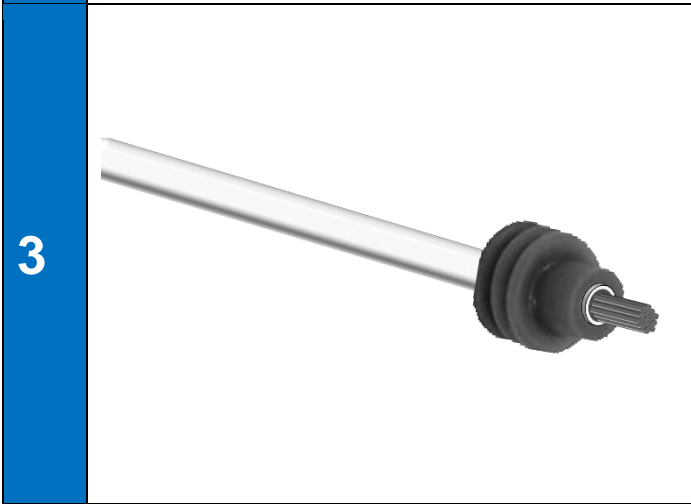
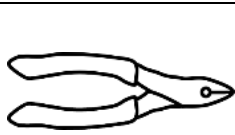
Inspect to verify if any of the options are installed. If an option is installed, rework for that option is not required.

Rework ALL unused options listed in table 1



Locate the wires with heat shrink installed that are listed in table 1

Cut the wire ends to remove the existing heat shrink

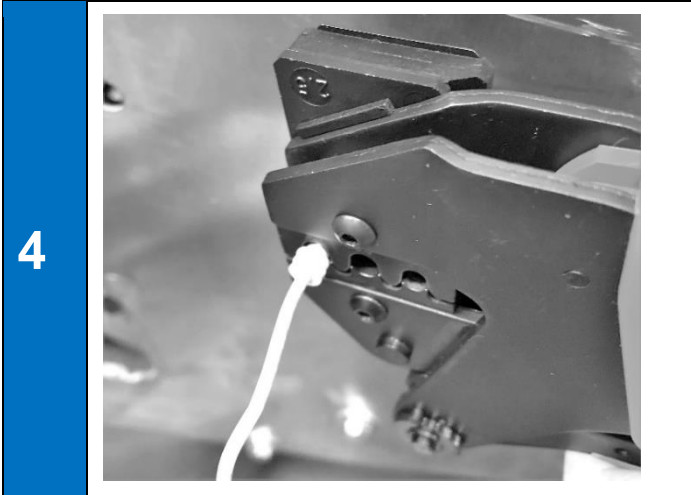
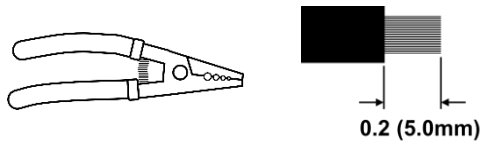


Install seals on the wires

**Note: Three sizes of seals are included in the kit. Select seal based on table 1.**

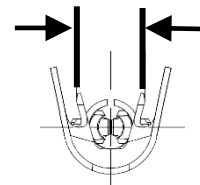
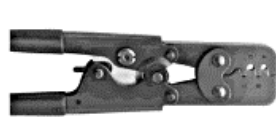
Strip the wire ends

Position seal at end of insulation



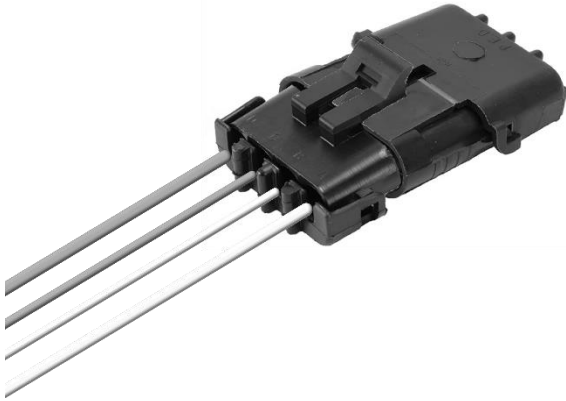
Crimp terminals and seals to the wire. Use the appropriate die position for the size terminal being crimped.

**Note: Three sizes of terminals are included in the kit. Select terminal based on table 1. Terminal size is measured at width of conductor wings.**



mm	Item
3.0	D
3.6	C
4.6	I

5



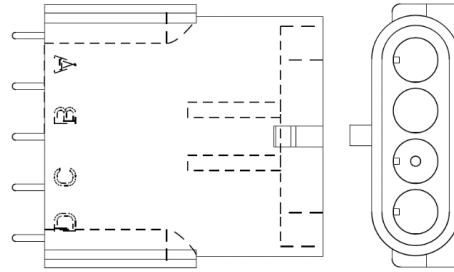
Fill each cap (A) with 4 plugs (H) and secure cap lock.

Insert plugs and seals/terminals in connector (B) per table 1.

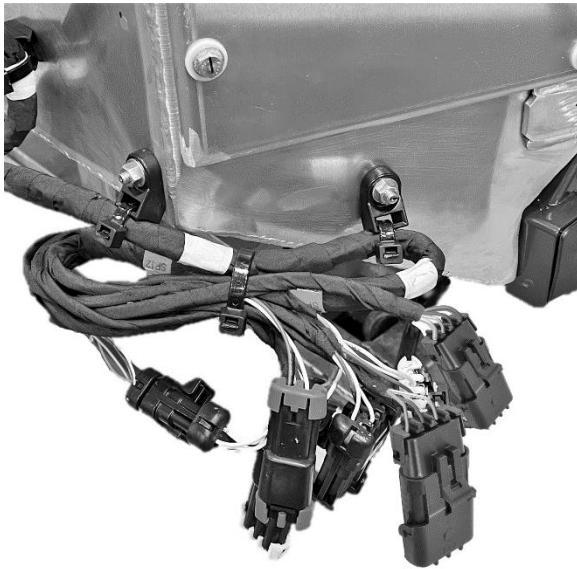
Pull on wires to verify crimp and terminal installation



**Pull on wires to verify crimp and terminal installation. Terminals MUST be securely crimped on the wire and terminals fully seated in the connector**



6

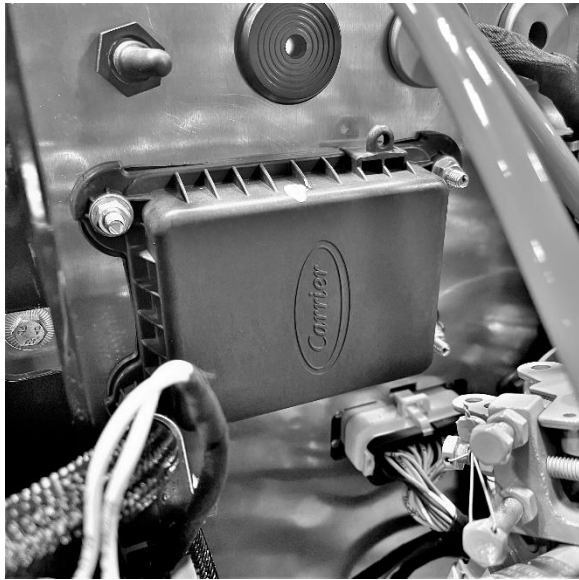


Secure connectors to harness with cable tie between wire tie bases on the control box.



## F7 Fuse Removal

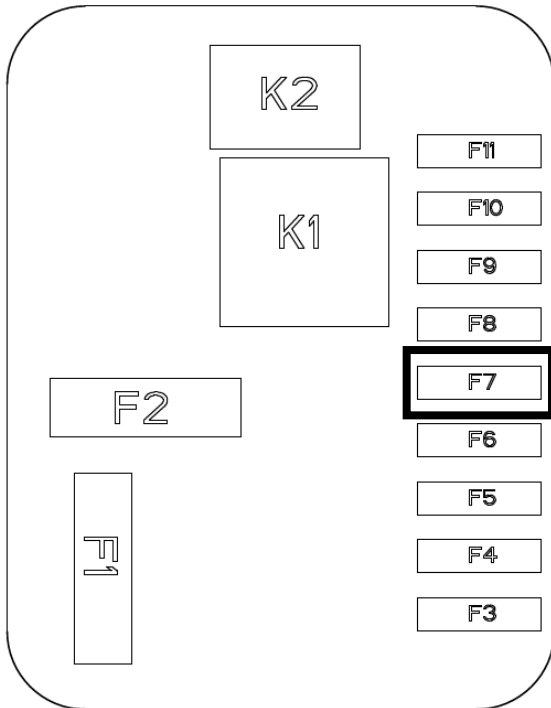
1



Locate the TPC cover at the rear of the control box.  
Remove the four nuts securing the cover.



2



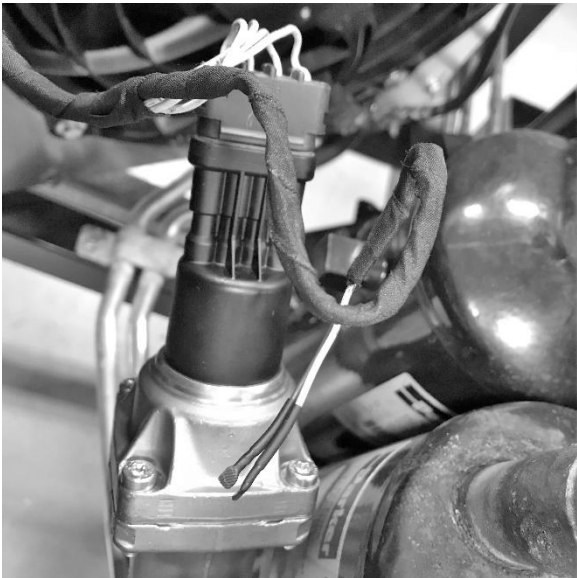





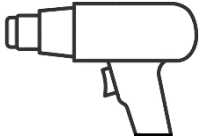
Remove the fuel heat (F7) fuse and discard.  
Reinstall the TPC cover and tighten the nuts.



44 in-lbs (5 Nm)

# LIV

The heat shrink on the LIV wire will be removed and replaced.

1		<p>Locate LIV wires at CSMV and cut cable tie securing to harness.</p>	
2		<p>Cut wires so that 3.00 (75mm) extends out of the harness and the existing heat shrink is removed.</p> <p>Clean the wire ends with alcohol wipe (L)</p>	 
3		<p>Install heat shrink caps (K) on both of the wires and use heat gun to seal.</p> <p>Allow the heat shrink to cool and pull on cap to verify that it is secure. If cap comes off install new cap and heat to seal</p> <p><b>CAUTION</b></p> <p>Allow the heat shrink to cool and pull on cap to verify it is secure. If cap comes off install new cap and heat to seal. Cap must be secure.</p>	



4



Apply tape (A1) to harness to secure LIV harness leg/wires to the harness main .



### Evaporator

The heat shrink on the DWR, RRAT, and RSAT wires will be removed and replaced.

1



Locate the option bundle in evaporator section.

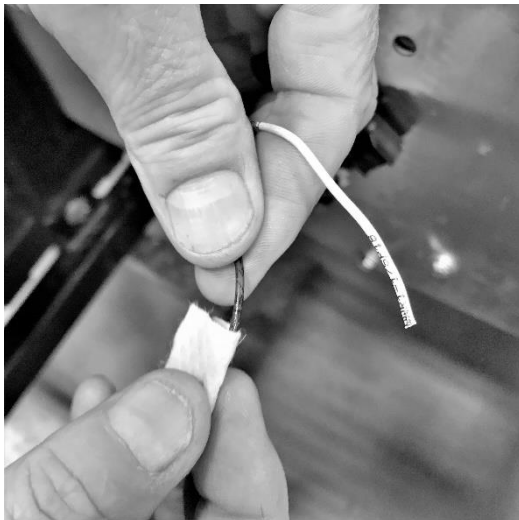
Inspect to verify if any of the options are installed. If an option is installed, rework for that option is not required.

Rework the DWR, RRAT, and RSAT options if not installed.

Cut cable ties at the locations shown to access the bundle.

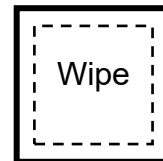


2

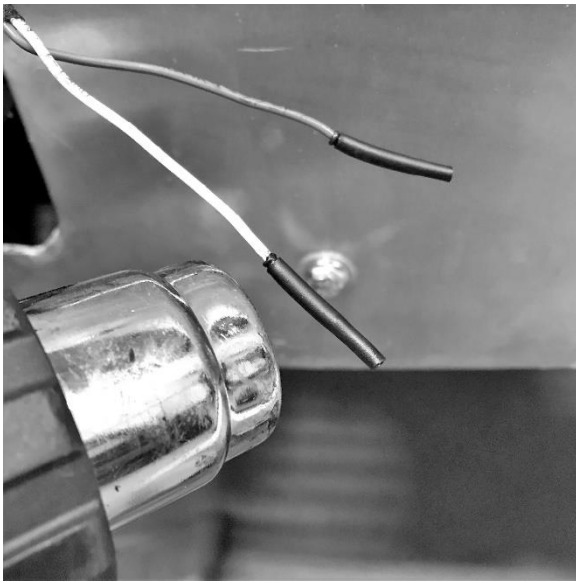


Cut the ends of the RRAT, RSAT, DWR1-1, DWR1-2, DWR2-1, and DWR2-2 wires so that 3.00 (75mm) extends out of the harness and the original heat shrink is removed.

Clean wire ends with alcohol swab (L).



3

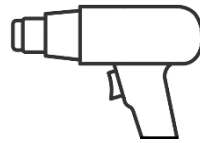


Install heat shrink cap (K) on each of the wires and use heat gun to seal.

Allow the heat shrink to cool and pull on cap verify it is secure. If cap comes off install new cap and heat to seal.

 **CAUTION**

Allow the heat shrink to cool and pull on cap to verify it is secure. If cap comes off install new cap and heat to seal. Caps must be secure.



4



Wrap wire ends together with tape (A1) . Continue wrapping tape to end to cover heat shrink.



5



Bundle harness as shown and secure harness with cable tie (J) to cable tie base.

