
# Spoiler Service Guide

**Offered by**
**Signature Automotive Products**
**For 2011**

## Glass Panel

**Removal:**

Cycle the glass panel into the open position. Allowing access to the four (4) T-25 torx screws.

Remove four (4)  T-25 torx screws, save for new glass installation.

Remove the Glass Panel.

**Install:**

Install the new glass panel using the existing four (4) T-25 glass screws. Apply a thread lock material before reattaching the screws.

## Sunshade Panel (450 HS only)

**Removal:**

Cycle the glass panel to full slide open position.

Pull the sunshade forward.

With a hook tool release the side blocks from one side, lift and pull the sunshade from the sunroof housing.

Wrap the new sunshade with matching headliner material
(see C10. Wrapping the Sunshade)

**Install:**

With the sunshade in position, insert the sliding blocks on one side, pull opposite the sliding blocks inward and engage into the mechanism guides.

Re-install the Glass Panel (see D.2.1).

## Locking Sliders

**Removal**

Remove Glass Panel (see D.2.1)

Remove both locking sliders from the mechanism by sliding it to the front. If at one side the locking slider is not broken break the part as shown in image.

**Install**

Slide the new locking slider from the front side in a backwards movement on the mechanism.

Click the front hook of the locking slider on the mechanism.

Prior to re-installing the glass panel, fully cycle the mechanism. Return the mechanism to the full open position afterwards.

Re-install the Glass Panel (See D.2.1)

## Mechanism LH/RH

**Removal**

Remove Glass Panel (see D.2.1).

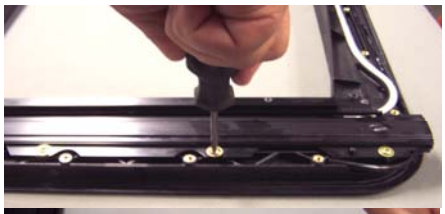
Remove the Headliner substrate assembly.

Remove the motor connector from the SCU.
Remove the clamp frame and motor; take the frame assembly out of the vehicle and lay the frame assembly upside down on a bench.

Clean the roof skin of the vehicle

Remove the four plastic pop rivet caps using a hook tool.
(450 Series only)

Drill out the four rivets, retaining the mechanism guides to the mainframe.
(450 Series only)



Remove the mechanism guide and drive cable center plate T-25 torx screws.

Remove the drive cable from the mainframe.

Lift the guide and cable mechanism from the mainframe.

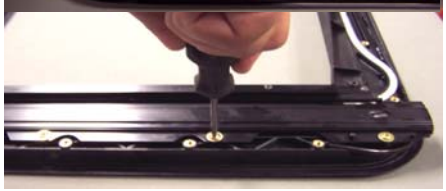
**Install**

Replacement component.
Position the new mechanism assemblies, drive cables and tubes. Ensure the mechanisms are in the fully closed position. Align the drive tubes and return tubes correctly.

Apply super glue along the sides of each of the four tubes, bonding the tubes to the frame.

Re-install the guide screws and the Drive Cable Center Plate.

Re-install the frame assembly in the vehicle and mount clamp frame
(See- C7 Mainframe / Clamp Frame Installation)



Re-install the motor, ensure the mechanisms still are in the full closed position (locking sliders fully forwards) and re-connect the connector to the SCU.

Cycle the unit, checking for correct operation and alignment.

Re-install the glass panel (See D.2.1)

Re-install the substrate and headliner or trim ring
(See- C.9.2 Substrate mounting.)

## Motor Removal / Install


Tools required to remove the SCU & motor.

For 450 HS use the screwdriver tool.


Disengage the switch from the headliner/trim ring.


Using a hook tool pull the material from backside of the hardboard. (450HS only)



Carefully peel back the headliner material to gain access to the attachment screws. (450 HS only)


Remove the T-25 screws retaining the bezel to the mainframe. (450 HS only)


Remove enough screws so the bezel can be deflected downwards, to gain access to the motor assembly. (450 HS only)

## Motor Removal / Install cont.


Remove the motor from the mainframe by removing the three(3) T-25 screws.

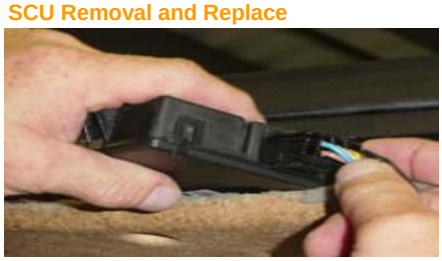

Retain the three(3) T-25 screws for the motor replacement.


Remove the motor assembly.

Re-install the motor following steps 10 thru 1.

Re-install the headliner.

## SCU Removal and Replace



Follow the motor removal procedure steps 1 thru 7.

Disengage the SCU from the mainframe.

Unplug the harness connector from the SCU.

Unplug the motor connector from the SCU and replace the SCU.

Follow the removal procedures for reattaching the SCU and motor assembly.

Re-install the headliner.

Tuck the headliner material into position.

## Seal Removal

**Removal**

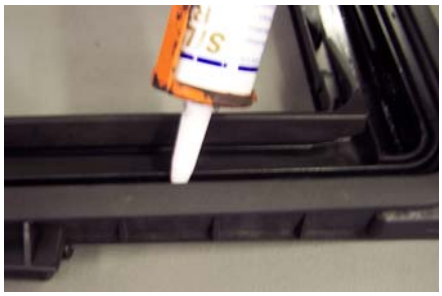
Cycle the Glass Panel to full slide open position.

Using a screwdriver, lift the seal section from the mainframe.

Remove the seal section from the mainframe.

Clean and remove any excess silicone from the seal retaining channel.

**Install**



Apply a 3mm bead of silicon adhesive in the outer corner of the frame groove.

Apply an additional bead of silicon adhesive in the inner corner of the groove along the front of the frame.

Insert the new seal, starting in the four corners. equally dividing the seal.

Insert the Seal in between the corners. Ensure that the seal is not pulled out or pressed down in the corners. Cycle the glass panel during the mounting of the seal; to achieve easy access.

Cycle the glass panel to closed position and allow for a minimal of 4 hours currying time.

# Spoiler Trouble Guide

## Mechanical Failures

| Problem | Possible Cause | Solution |
|---|---|---|
| Panel misaligned LH/RH | Timing of drive cables incorrect | Re-time drive cables |
| Glass panel stopping prematurely. | Obstacle in mechanism or guide rail | Remove obstacle |
| Cable ratcheting | Check the motor and cable tube at motor bracket and motor insert | Align cable tube to motor bracket and re-install motor properly. |

## Electrical Failures

| Problem | Possible Cause | Solution |
|---|---|---|
| Operating of the sunroof is possible, no auto close, no one touch | SCU in degraded mode due to malfunction | Refer to B.2. Re-initilization Procedure |
| SCU makes clicking noise but panel will not move | Low voltage | Check power supply |
| Panel is sliding too slowly. With a 13.5v power supply, the panel should not take more than 7sec. To close from fully opened position. | Weak battery<br>Misaligned panel creating drag<br>Weak motor<br>Dirty mechanism | Change or replace motor<br>Clean and grease mechanism or replace. |

## Rattling Noise

| Problem | Possible Cause | Solution |
|---|---|---|
| Hardshade | Loose attachment screws | Tighten all T-25 attachment screws |
| Sunshade rattling | Check for felt pads on sunshade | Add felt pads to sunshade |
| Rattle in motor area | Loose screws on motor | Tighten screws or replace |

## Wind Noise

| Problem | Possible Cause | Solution |
|---|---|---|
| Excessive wind noise when the panel is in the closed position | Panel seal not tight to glass panel | Locking slider broken, replace Locking Slider |
| | | Seal deformed, replace seal |

## Water Leaks

| Problem | Possible Cause | Solution |
|---|---|---|
| Water coming through panel opening area or headliner wet | Panel seal not tight to glass panel | Locking slider broken, replace Locking Slider |
| | | Seal deformed or damaged, replace seal |

# Spoiler Trouble Guide

## Testing Electrical Components

Make sure that during the test of electrical components the Inalfa EVENT Spoiler is connected to a 12V source.

If the roof is installed in a car, the battery needs to be connected and operable. During test period, the ignition/accessory switch must be on. This test can be accomplished with a voltage meter or test light.

Inspect and make sure that the fuses are not blown.

Cable harness and motor inspection requires the removal of the headliner.

## Wire Harness SCU to Battery

| Connector | Power on wire if ignition is off | Power on wire if ignition is on |
|---|---|---|
| Wire number 1 (red) | 12V | 12V |
| Wire number 2 (black) | Ground | Ground |
| Wire number 3 (blue) | 0V | 12V |

## Motor

Disconnect the motor wire from the SCU. If the mechanism is jammed remove the motor from the frame. Use a double wire of sufficient length, connect directly to battery and inspect the motor for proper operation in both directions. This is done by reversing the connection of the double wire. The motor has an inbuilt thermal cut-out device that automatically switches the motor off during periods of overload. After a cooling down period the motor will function properly.

## SCU

Testing is covered in the electronic trouble chart. The following failures could be a result of a defective SCU

No action on continues operation
One Touch operation inoperative
Auto Close function inoperative

No action on continues operation
One Touch operation inoperative

After replacing the SCU, the SCU must then be re-initialized. Proceed with the electronic trouble chart if the problem is not solved by initialization.

## Re-initialization of the SCU

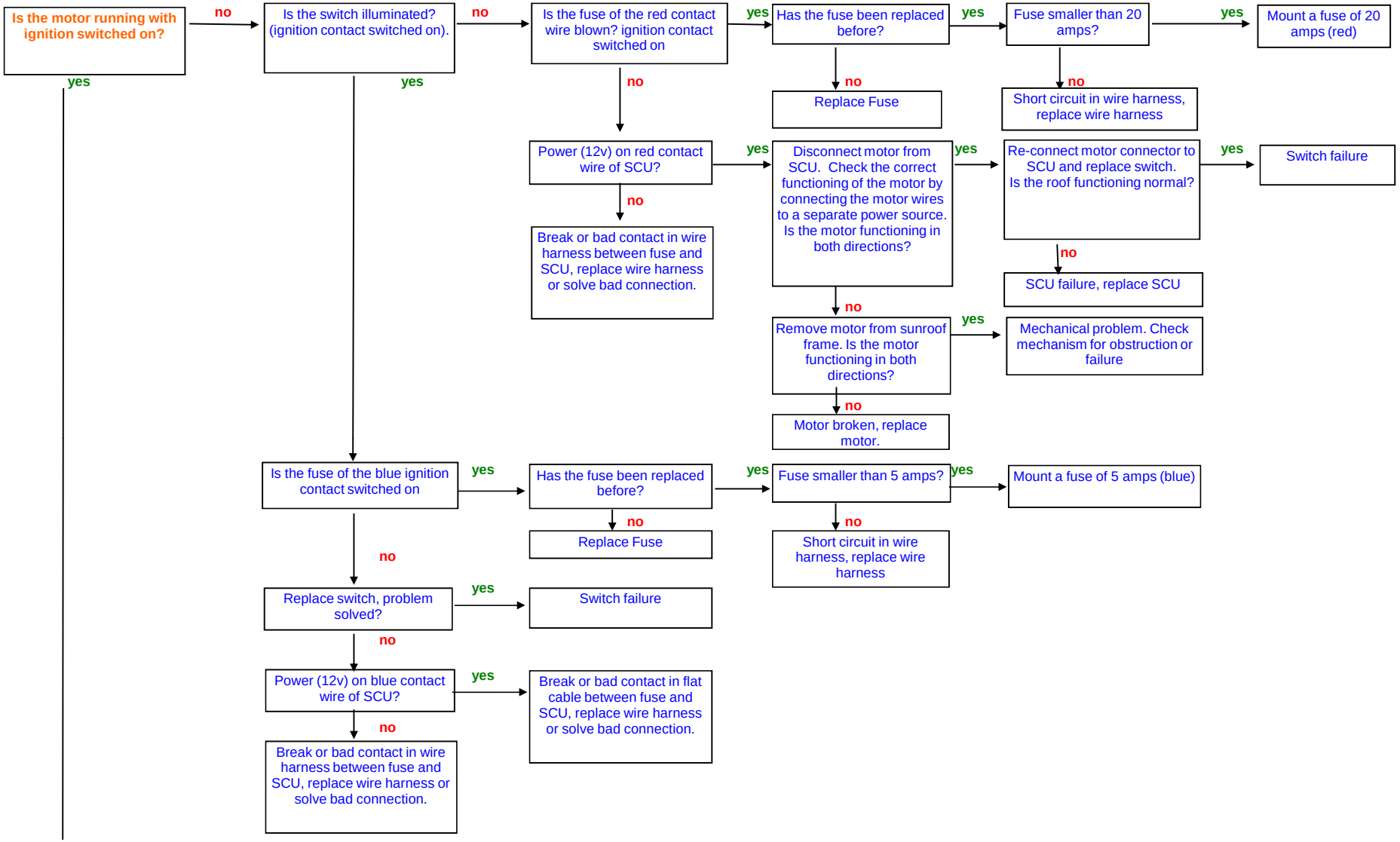
To re-initialize, the following closed position must be defined.

Turn on ignition.

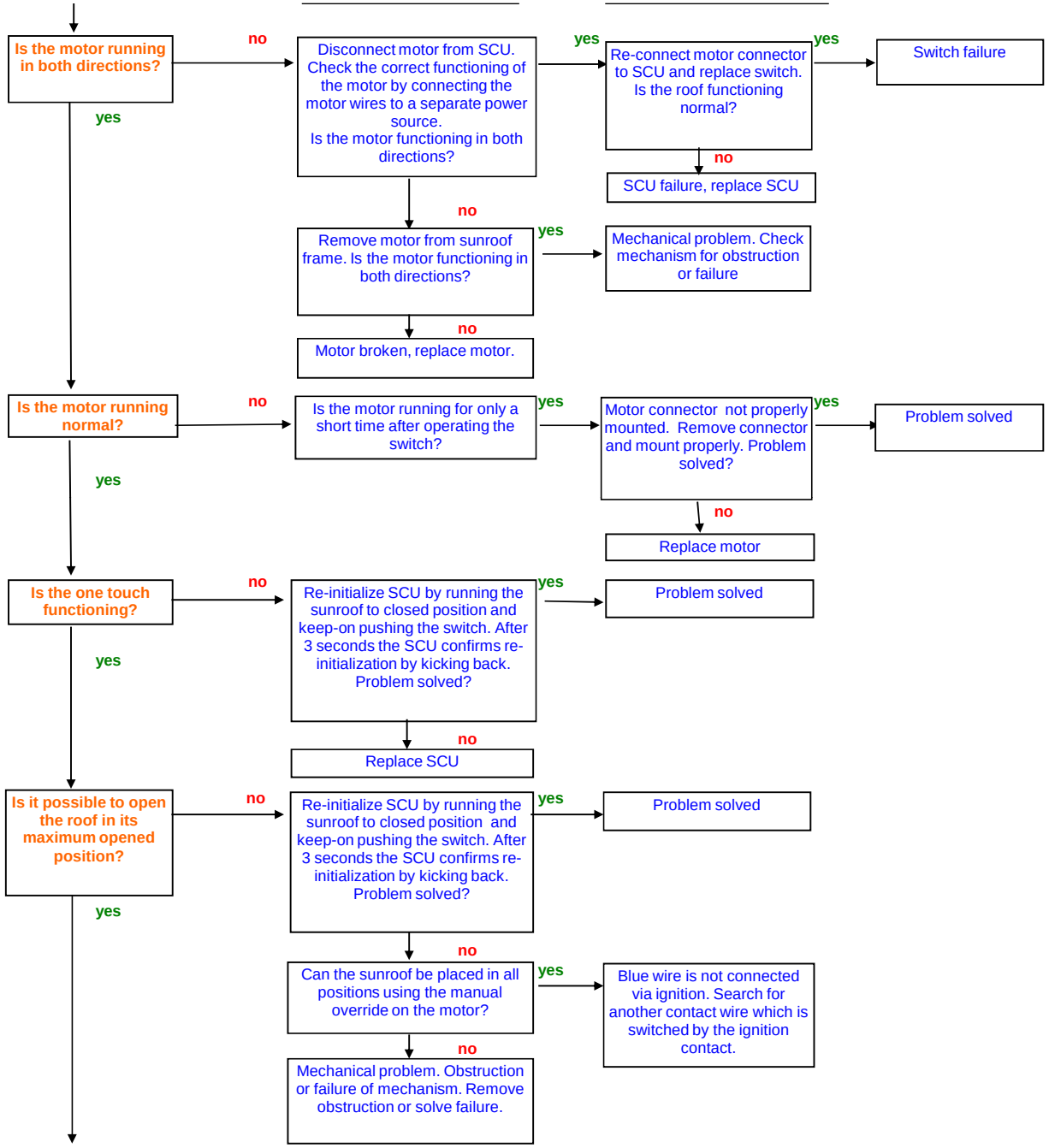
In the closed position operate the front button of the switch until the relay clicking noise is noticed (Max 5 seconds).

To complete the reinitalization process, the glass panel must be moved to the fully opened position using One Touch™ mode.

## Spoiler Trouble Chart



# Spoiler Trouble Chart



## Spoiler Trouble Chart