

Part Number: PT938-18130-XX

Kit Contents

Item #	Quantity Reqd.	Description
1	1	Spoiler
2	2	Strut
3	1	Hardware Bag

Hardware Bag Contents

Item #	Quantity Reqd.	Description
1	2	M6 x 1 – Nut with washer
2	4	M6 x 1 x 14 – Torx head bolt
3	2	Hole plug

Additional Items Required For Installation

Item #	Quantity Reqd.	Description
1	1	Installation Kit P/N: PT938-18131
2		
3		

Conflicts

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Recommended Tools

Personal & Vehicle Protection	Notes
Safety Glasses	
Blankets	
Wrist & Belt Protectors	
Masking Tape	2" wide
Special Tools	Notes
Non-Intrusive IR Temperature Probe/Gun	
Installation Tools	Notes
Drill	½" chuck
Twist drill bit	3mm, 25/64", and 11/32"
15/16" hole saw	Morse (15/16" AV15 24mm) or equivalent
Drill Stop	3mm, 25/64", 11/32", and 15/16"
Deburring tool	
Socket	10mm deep socket
Torx bit	T-30 (magnetic)
Flat head screwdriver	5mm tip width
Flexible magnetic pick up	Snap-On #SET900WF or equivalent
Torque wrench	Approx 10-50 in-lb range
Center punch	
Pliers	Needle Nose
Shop Vacuum	Needed during drilling

Special Chemicals	Notes
Sealant	3M™ Ultra-Pro Body Sealant
Cleaner	3M™ Prep Solvent 70

General Applicability

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Recommended Sequence of Application







Item #	Accessory
1	Rear Spoiler – Can be installed in any sequence with other accessories
2	

*Mandatory

Vehicle Service Parts (may be required for reassembly)

Item #	Quantity Reqd.	Description
1		
2		
3		

Legend

	STOP: Damage to the vehicle may occur. Do not proceed until process has been complied with.
	OPERATOR SAFETY: Use caution to avoid risk of injury.
	CAUTION: A process that must be carefully observed in order to reduce the risk of damage to the accessory/vehicle and to ensure a quality installation.
	TOOLS & EQUIPMENT: Used in Figures calls out the specific tools and equipment recommended for this process.
	REVISION MARK: This mark highlights a change in installation with respect to previous issue.
	SAFETY TORQUE: This mark indicates that torque is related to safety.



Care must be taken when installing this accessory to ensure damage does not occur to the vehicle. The installation of this accessory should follow approved guidelines to ensure a quality installation.

These guidelines can be found in the "Accessory Installation Practices" document.



This document covers such items as:-

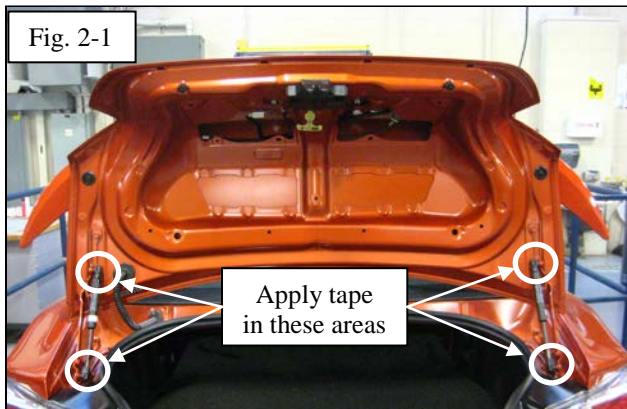
- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.).
- Safety (eye protection, rechecking torque procedure, etc.).
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.).
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.).

Please see your Toyota dealer for a copy of this document.





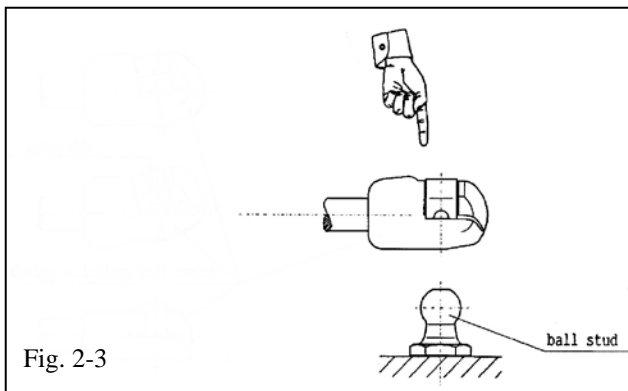
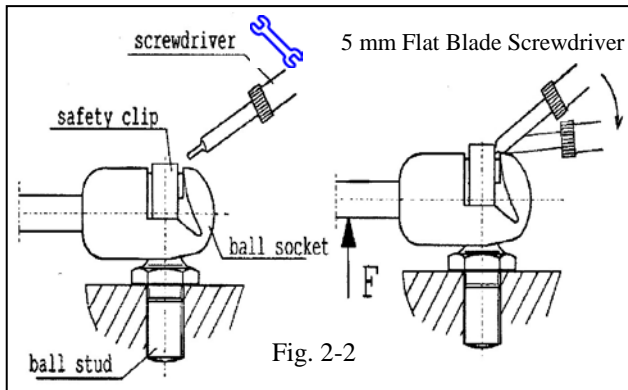
1. Vehicle Preparation

-  (a) Installation of the rear spoiler should not take place until the following have been completed:
 - (1) Car wash completed.
 - (2) The trunk and spoiler should be a minimum of 60°F for proper set-up of adhesive tape. Use a hot air blower to heat the surface if the temperature is below 60°F.
-  (b) Open the trunk lid and place blankets to protect the rear fenders and in the trunk area (Fig. 1-1).



2. Strut Replacement

- (a) Open the trunk lid fully.
 - (b) Apply protective masking tape to the painted surfaces behind the gas strut ball ends to avoid any potential scratching of the painted surface (Fig. 2-1).
-  **CAUTION: It is important that only one strut be removed and replaced at a time.**
-  **Removing both struts can cause the trunk lid to fall quickly in the event force is applied rearward.**



(c) Insert a 5 mm wide screwdriver into the gap between the retaining clip and the top of the ball socket. Lift the retaining clip by turning the screwdriver until the ball socket can be easily detached from the ball stud by applying a low hand force in direction shown as F (Fig. 2-2).

+ (d) Remove one side of the OE trunk lid struts and replace it with one of the (both trunk lid struts are the same, there is no LH/RH) trunk lid struts included with the spoiler kit. When removing, start with the trunk lid end. When installing the kit strut, start with the lower end and position the ball socket onto the ball stud. Insert manually, so that the ball stud snaps in safety clip securely. Finish by snapping the upper end in place. (Fig. 2-3)

NOTE: Be sure that the new strut is installed in the same orientation as the strut that was removed.

- (e) Repeat for trunk lid strut on other side.
- (f) Close the trunk lid. Apply masking tape to the trunk lid surface in the area of the hole locations (Fig. 2-4).
- (g) Place blankets around the back perimeter of the trunk lid just below the area where the holes will be drilled for the spoiler and secure them with masking tape (Fig. 2-5).

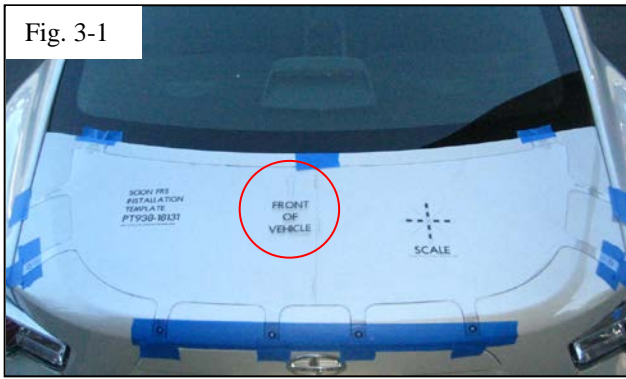


Fig. 3-1

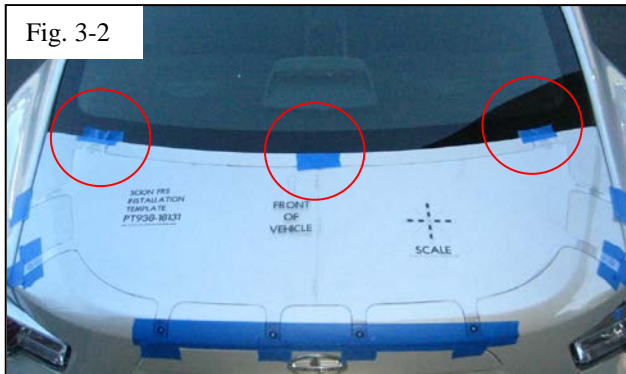


Fig. 3-2

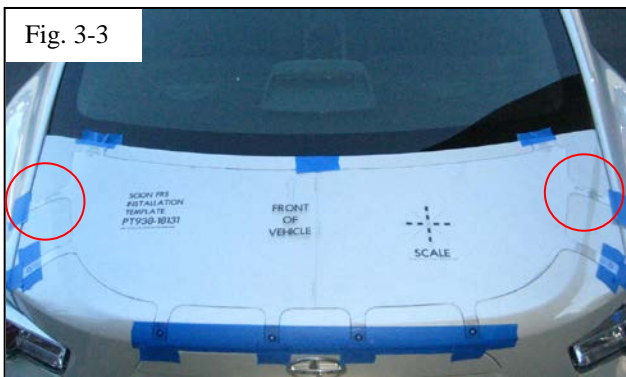


Fig. 3-3

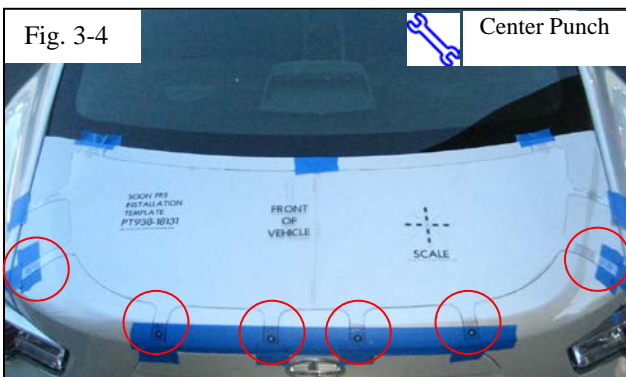


Fig. 3-4

Center Punch

3. Mylar Template Installation

- (a) Place the installation template onto the trunk lid surface with the FRONT arrow pointed toward the front of the vehicle (Fig. 3-1).

NOTE: It is very important that the template does not have any wrinkles when positioned to ensure the holes are drilled in the proper location. The installation template should lay flat and tight against the vehicle surface.

- (b) Align the three front alignment tabs such that the edge indicated with arrows aligns with the leading edge of the trunk lid (Fig. 3-2).

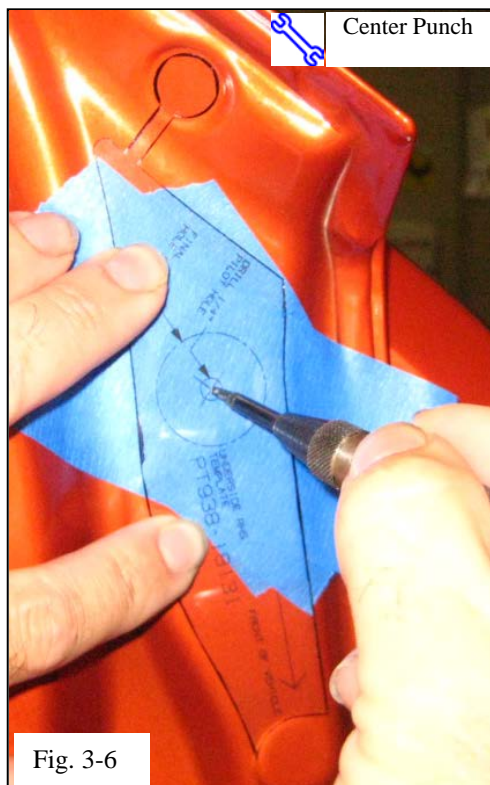
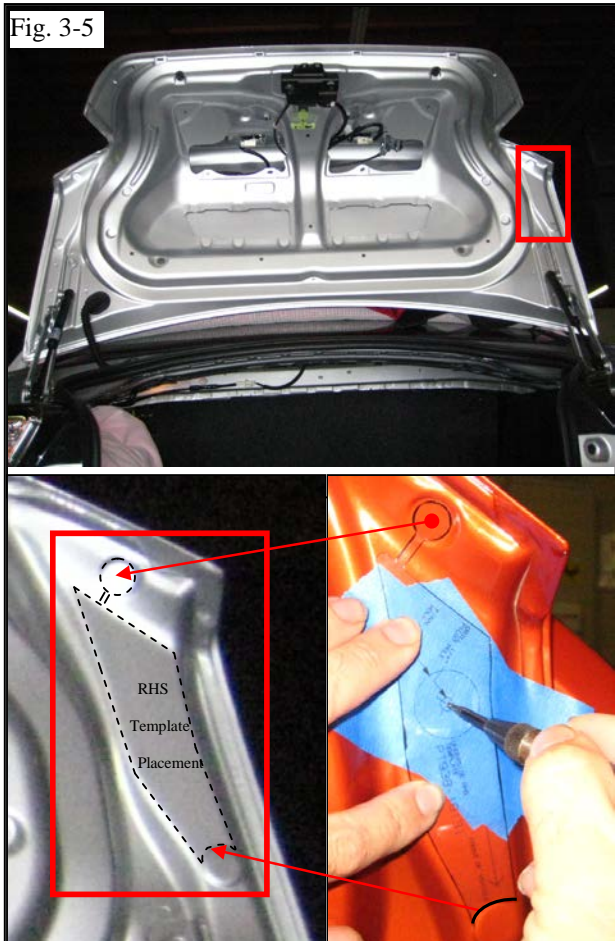
- (c) Align the template left to right using the left and right alignment tabs by ensuring that the edges indicated with arrows are equidistant from their respective trunk lid edges. The template should be centered left to right on the trunk lid (Fig. 3-3).

- (d) Apply tape to the three front alignment tabs and the left and right alignment tabs such that they secure the template to the trunk lid.

CAUTION: When all tape has been applied, ensure no shifting of the template occurred by double checking the position of all alignment tabs.

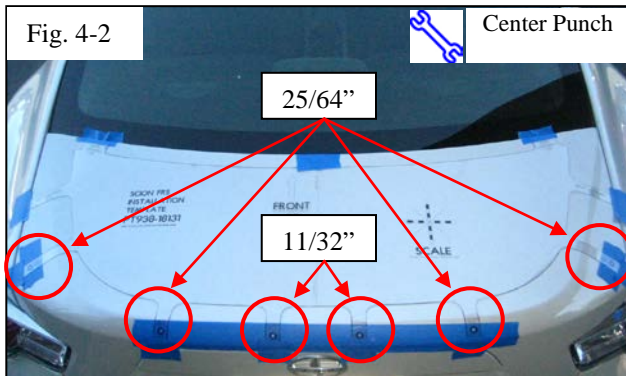
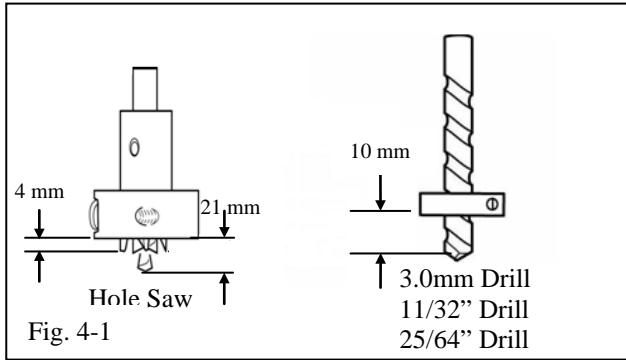
- (e) Apply tape to the ends of the six tabs containing the cross-hairs for the hole locations (Fig. 3-4).

- (f) Center punch through the installation template creating an indentation on the masking tape at each of the six cross hair locations. This indentation in the masking tape will be used to accurately position the drill bit and prevent the drill bit from “walking”.

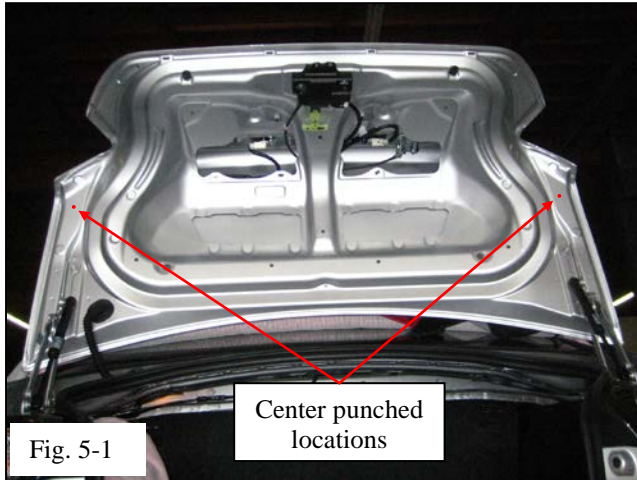


- (g) Carefully remove the installation template.
- (h) Open the trunk lid.
- (i) Note that there are two small underside installation templates required to back drill a 15/16" hole to install the outer most spoiler attachment bolts. There is a RH (RHS) and LH (LHS) template.
- (j) Beginning with the RHS underside installation template, locate the general installation area on the inner sheet metal of the trunk lid (Fig. 3-5).
- (k) Firmly place three (3) layers of masking (one on top of the other) over the area where the 15/16" hole will be drilled in order to protect the painted surface from scratching during the drilling process.
- (l) Position the RHS underside installation template onto the underside of the trunk lid sheet metal (Fig. 3-5). It is critical that:
 - 1) The top circular portion of the template is placed in the corresponding sheet metal circular depression.
 - 2) The bottom curve of the template follows the top perimeter of the lower corresponding boss.
- (m) Center punch through the installation template. This indentation will be used to accurately position the drill bit and prevent the drill bit from "walking" (Fig. 3-6).
- (n) Remove the RHS underside installation template.
- (o) Repeat steps (j) to (m) with the LHS underside installation template.

4. Topside Trunk Lid Hole Drilling



- +** (a) Eye protection must be worn during all hole drilling.
- !** (b) Set the drill depth for each drill (Fig. 4-1):
 - (1) 3.0mm, 11/32", 25/64" – drill depth of 10mm.
 - (2) Hole saw – pilot drill depth of 10mm relative to hole saw edge. Hole saw depth of 5mm.
- !** **NOTE:** The drill stop depth may have to be adjusted slightly. The goal is to stop the drill just after completely drilling each hole.
- (c) Using a 3mm drill bit, drill a pilot hole at each of the six locations (Fig. 4-2).
- !** **CAUTION:** Make sure when drilling, the bit cannot drift from the marked locations.
- (d) Using an 11/32" drill bit, drill the two (2) center hole locations (Fig. 4-2).
- (e) Using a 25/64" drill bit, drill the remaining four (4) holes (Fig. 4-2).
- (f) Deburr all six drilled holes and remove all masking tape.



5. Underside Trunk lid Hole Drilling

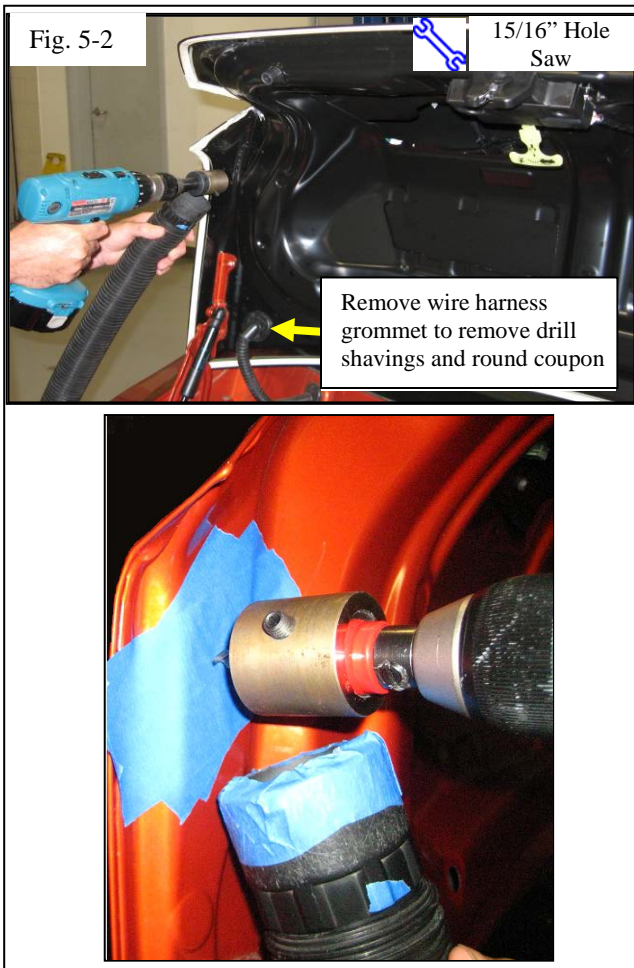
- (a) Open the trunk lid and locate the previously center punched locations on the inside of the trunk lid (Fig. 5-1). Starting from either side, drill a 3.0mm pilot hole. Use the shop vacuum to collect the shavings when drilling the holes.

CAUTION: Apply tape to the vacuum nozzle tip and any area that may contact the vehicle.

- (b) Using the 15/16" hole saw, insert the hole saw pilot drill into the previously drilled 3.0mm pilot hole. Carefully drill until the hole saw has cut the 15/16" hole (Fig. 5-2). Use the shop vacuum to collect the shavings when drilling the holes.

CAUTION: Ensure that the drill stop is accurately positioned or damage to the topside trunk lid surface may occur.

- (c) Repeat the above steps for the opposite side.
- (d) Deburr both 15/16" holes and remove the three layers of masking tape.
- (e) Grab the trunk lid and with an up and down motion, vigorously shake the trunk lid to dislodge any metal shavings remaining from the drilling process. Use a magnet with a flexible shaft to remove any remaining chips.
- (f) For the 15/16" hole drilled on the LH side, remove the wire harness grommet and insert a flexible magnetic pick-up to remove any drill shavings and the round metal coupon produced by the hole saw if it fell into the trunk lid (Fig. 5-2).
- (g) Reinstall wire harness grommet.



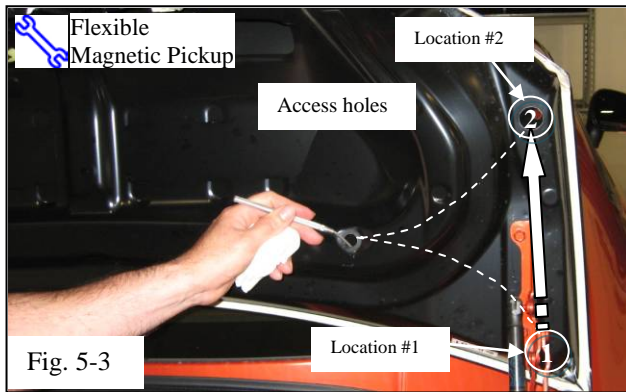


Fig. 5-3

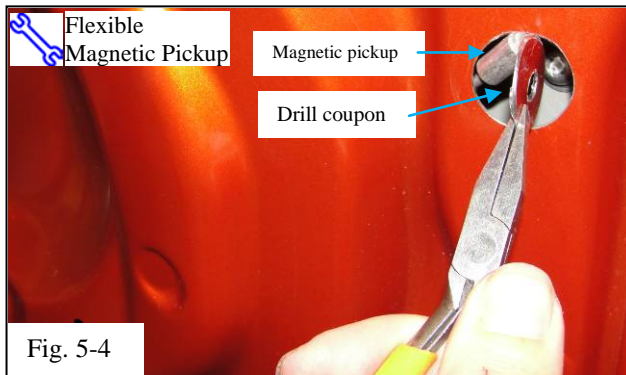


Fig. 5-4



Fig. 5-5

(h) For the 15/16” hole drilled on the RH side, drill shavings can be removed by inserting a flexible magnetic pick-up through the lower access hole (Fig. 5-3). If the round metal coupon from the hole saw has fallen into the trunk lid, insert the magnetic pickup through the lower access hole (Fig. 5-3) and move it to Location #1. When the magnetic pick-up has located the coupon move it upward to Location #2 and retrieve the coupon using needle nose pliers (Fig. 5-4).

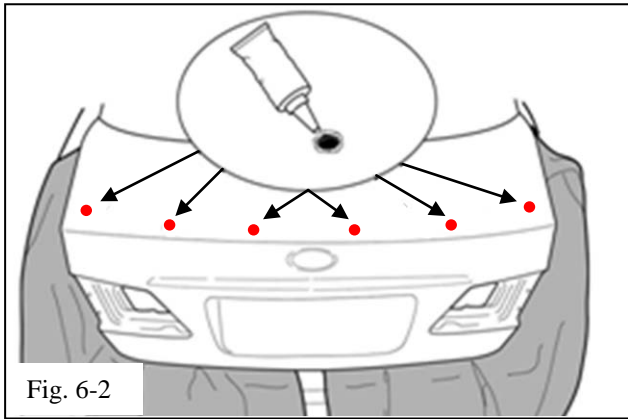
(i) Remove any remaining drill shavings by running the flexible magnetic pick-up through all access locations on the inner trunk lid as shown in (Fig. 5-5).



Fig. 6-1

6. Spoiler Installation

(a) Using masking tape, peel back the tape liners slightly and with masking tape secure them to the outer perimeter of the spoiler. This is done to ensure that they do not slip underneath the spoiler during installation (Fig. 6-1).



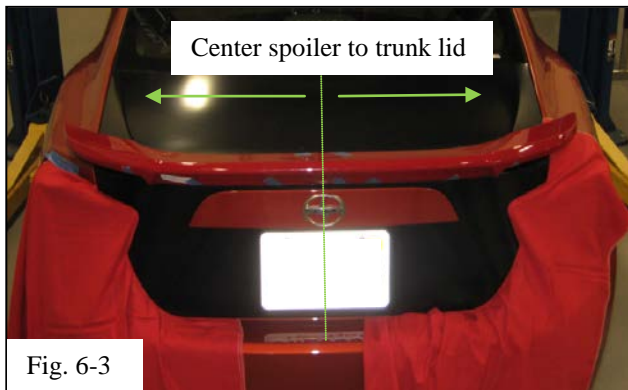
- (b) The trunk lid where the spoiler attaches must be cleaned with 3M Prep Solvent 70 using a lint free cloth.
- (c) After cleaning, carefully apply 3M Ultra Pro Body Sealant to the six holes on the top surface of the trunk lid (Fig. 6-2).



CAUTION: Be sure that all bare metal has been covered by the Sealant.

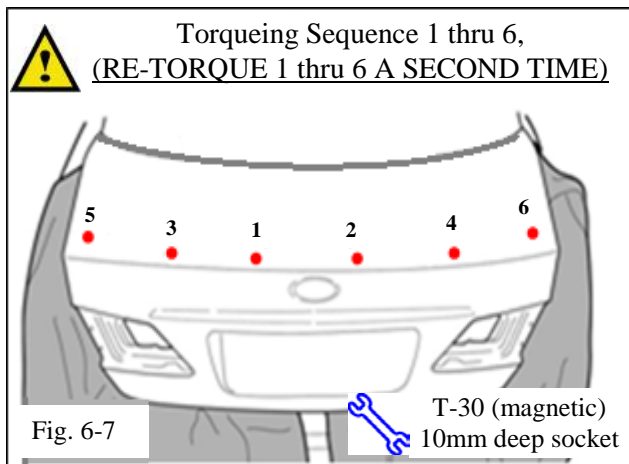
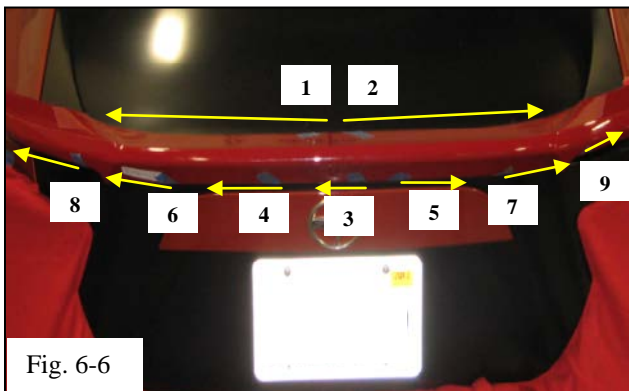
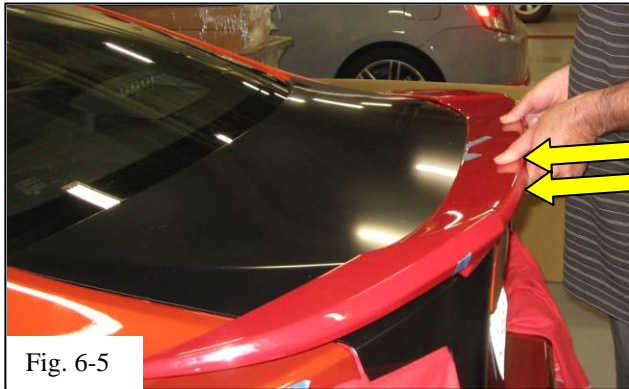


NOTE: Do not apply sealant to the holes excessively, i.e. sealant must not be visible between spoiler and trunk lid after installing the spoiler.



- (d) Place the spoiler onto the trunk lid and carefully position it so that it is centered left to right on the trunk lid (Fig. 6-3).
- (e) Open the trunk lid and loosely hand tighten the two M6 nuts onto the studs and the four M6 T-30 Torx bolts into the nuts in the spoiler (Fig. 6-4).





(f) Verify that the spoiler is centered to the trunk lid. Gently push forward on the spoiler (Fig. 6-5) and begin removing the tape liners 1 and 2 in the sequence shown (Fig. 6-6). Once tape liners 1 and 2 are removed, gently push forward and down on the front center of the spoiler to adhere the tape to the sheet metal on the leading edge of the spoiler.

(g) Continue removing tape liners 3 to 9 in the sequence shown in (Fig. 6-6). Apply a gentle forward and downward force as the liners are being removed.

⚠ CAUTION: Take care when pulling the tape liner from the spoiler edges to prevent trapping and tearing of the tape liner.

(h) Open the trunk lid and tighten all six fasteners to 4 N·m (35 in·lbf). The fasteners should be tightened from the center outward, beginning with the two center 10mm hex head M6 nuts (1 and 2), followed by the two middle M6 T-30 Torx bolts (3 and 4), and then followed by the two outer M6 T-30 Torx bolts (5 and 6). (Fig. 6-7)

⚠ Torque: 4 N·m (35 in·lbf)

(i) Re-torque all 6 fasteners using the same sequence as step (i) above. Tighten from the center outward beginning with the two center 10mm hex head M6 nuts (1 and 2), followed by the two middle M6 T-30 Torx bolts (3 and 4), and then followed by the two outer M6 T-30 Torx bolts (5 and 6). (Fig. 6-7)

⚠ Torque: 4 N·m (35 in·lbf)

⛔ NOTE: DO NOT PROCEED UNTIL ALL 6 FASTENERS HAVE BEEN TORQUED A SECOND TIME.

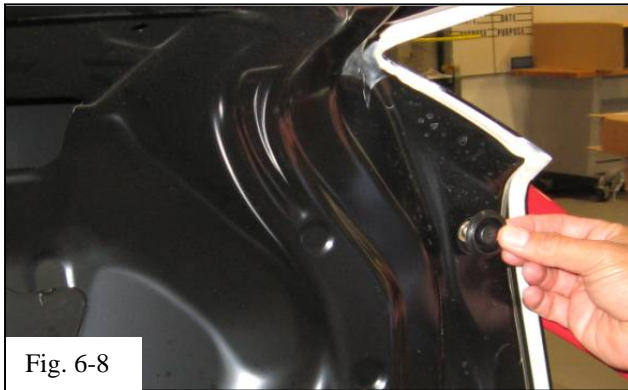


Fig. 6-8



Fig. 6-9

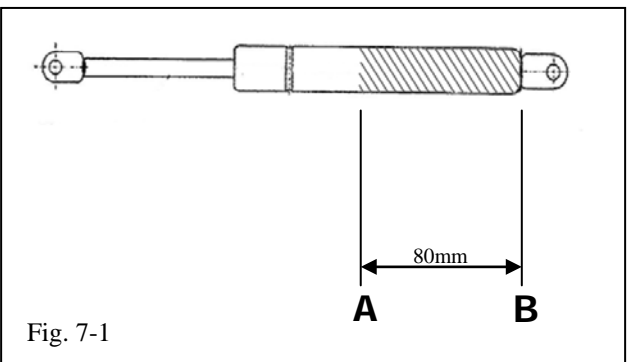


Fig. 7-1

- (j) Apply 3M Ultra Pro Body Sealant to the two holes 1" diameter drilled holes on the inner trunk lid sheet metal. Install the two hole plugs into the two 1" holes on the inner trunk lid sheet metal (Fig. 6-8).

CAUTION: Be sure that all bare metal has been covered by the Sealant.

NOTE: Immediately wipe away visible sealant after installing the grommet. (Fig. 6-9)



- (k) Close the trunk lid and apply pressure to the topside of the spoiler a second time to ensure all of the tape is adhered to the trunk lid.
- (l) Remove blankets and any remaining tape. Clean off remaining finger prints on the spoiler and trunk.

7. Gas Lift Strut Disposal

- +** (a) Due to internal pressure, metal chips and oil can be ejected. Eye Protection (goggles and face shield) must be used when venting the Gas Lift Struts.
- (b) Without deforming the Gas Lift Strut, clamp it between two V-Blocks with the piston rod fully extended.
- (c) Using a metal saw slowly cut a groove between A and B as shown in (Fig. 7-1).
- (d) Drain the oil from the unpressurized gas lift strut. Dispose of the oil in accordance with local waste disposal regulations.
- (e) The unpressurized gas lift strut must be disposed of in accordance with local waste disposal regulations.

Checklist - these points **MUST** be checked to ensure a quality installation.

Check:	Look For:
<p><u>Accessory Function Checks</u></p> <p><input type="checkbox"/> Check for visual alignment</p> <p><input type="checkbox"/> Check for full tape adhesion</p> <p><input type="checkbox"/> Check Rubber Grommet</p> <p><input type="checkbox"/> Check trunk to spoiler clamping face</p> <p><input type="checkbox"/> All Fasteners are torqued per instructions.</p>	<p>The spoiler should appear visually centered on the vehicle.</p> <p>Full adhesion of tape.</p> <p>Should be no excess sealant protruding from Grommet.</p> <p>Sealant should not be visible between the trunk lid and the spoiler clamping face.</p> <p>Verify during installation.</p>

FOR TORQUE AUDIT PURPOSES ONLY			
Fastener Description	Audit Torque Range	Target	Page #
2 center M6 Nuts - Trunk/Spoiler	 2.4-6 N·m (21-53 in·lbf)	4 N·m (35 in·lbf)	8
4x M6 T-30 Torx Bolts - Trunk/Spoiler	 2.4-6 N·m (21-53 in·lbf)	4 N·m (35 in·lbf)	8

Check:	Look For:
<p><u>Vehicle Function Checks</u></p> <p><input type="checkbox"/> Verify trunk lid operation.</p> <p><input type="checkbox"/> With trunk lid open, check for metal chips.</p>	<p>When opened, the trunk lid should initially pop up slightly and remain in the fully raised position when opened fully.</p> <p>Check entire trunk area for metal chips and vacuum as necessary.</p>

Check:	Look For:
<p><u>Vehicle Appearance Check</u></p> <p><input type="checkbox"/> After accessory installation and removal of protective cover(s), perform a visual inspection.</p>	<p>Ensure no damage (including scuffs and scratches) was caused during the installation process.</p> <p>(For PPO installations, refer to TMS Accessory Quality Shipping Standard.)</p>