

**Part Number: PT29A-21110-XX
PT29A-21140-XX**

Kit Contents

Item #	Quantity Req'd.	Description
1	1	Painted Spoiler Assembly
2	1	Hardware Bag

Hardware Bag Contents

Item #	Quantity Req'd.	Description
1	4	M6 Hex Nuts
2	2	2 Plastic Grommets

Additional Items Required For Installation

Item #	Quantity Req'd.	Description
1	1	P/N: PT29A-21110-WO; Without Rear Wiper ; 1 ea./LH & RH Gas Struts
1	1	P/N: PT29A-21110-WW; With Rear Wiper ; 1 ea./LH & RH Gas Strut
1	1	P/N PT29A-21110-IK; Installation Kit for Hole Locations

Conflicts

None

General Applicability

All Scion tC Models

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.



Recommended Tools

Personal & Vehicle Protection	Notes
Wrist and Belt Buckle Protectors	
Blankets	
Shop Rags	
Masking Tape	
Special Tools	Notes
Non Intrusive IR Temperature Probe/Gun	
Installation Tools	Notes
Drill Motor	1/2"
Twist Drill Bit	1/8", 3/32", 3/16", 9/32", 23/64", 7/16", 19/32"
Drill Stops	3/32", 3/16", 9/32", 23/64", 7/16", 19/32"
Hex Nut Driver	10 mm
Deep Well Socket	10 mm
Socket Extension	3"
Ratchet	
Universal for Extension	
Torque Wrench	0-100 lbf-in
Fastener Removal Tool	
Nylon Removal Tool	e.g. Panel Pry Tool #1 Toyota SST # 00002-06001-01
Shop Vacuum	
Hole Deburring Tool	
Magnet With Flex Shaft	
Screwdriver	Phillips Head #2
Small Parts Bin	
Heat Gun	
Center Punch	
Special Chemicals	Notes
Sealant	3M Ultra-Pro Body Sealant
Cleaner	3M Prep Solvent-70

Recommended Sequence of Application

Item #	Accessory
1	None

*Mandatory

Vehicle Service Parts (may be required for reassembly)

Item #	Quantity Req'd.	Description
1		Fastener P/N 90467-07042-C0
2		White Panel Fastener, P/N 67771-89104

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.

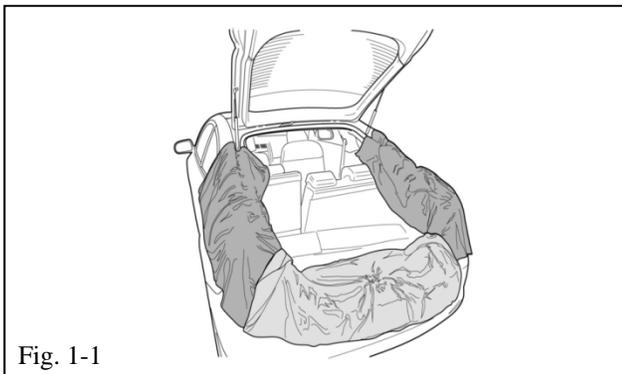
This document covers such items as:-

- 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.).

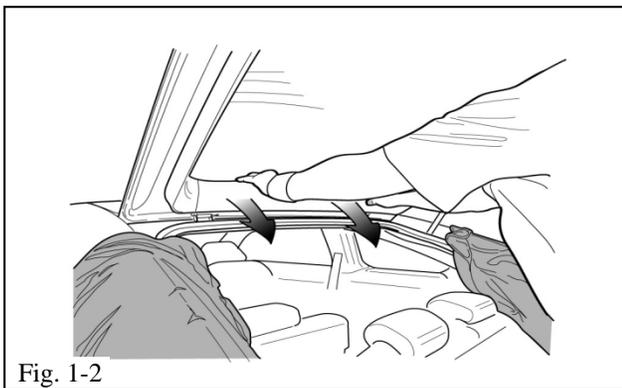
Please see your Toyota dealer for a copy of this document.

1. Remove the Trim Panel.

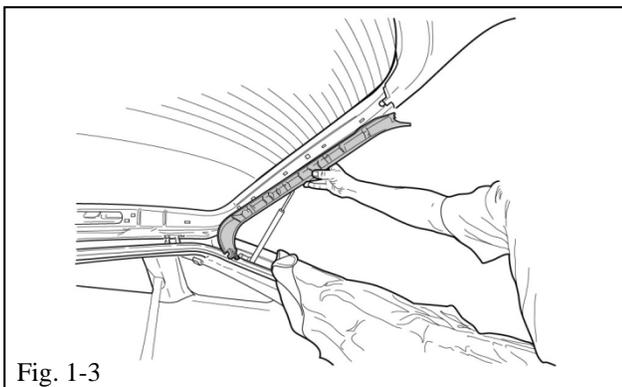
- (a) Open the lift gate.
- (b) Place blankets inside the cargo area and the lift gate opening (Fig. 1-1).

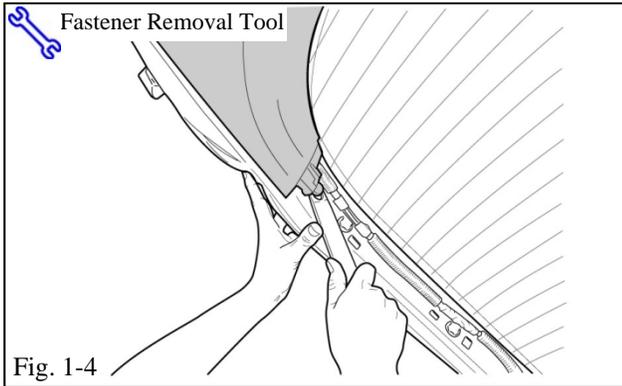


- (c) Remove the trim panel across the inside of the lift gate window (Fig. 1-2).

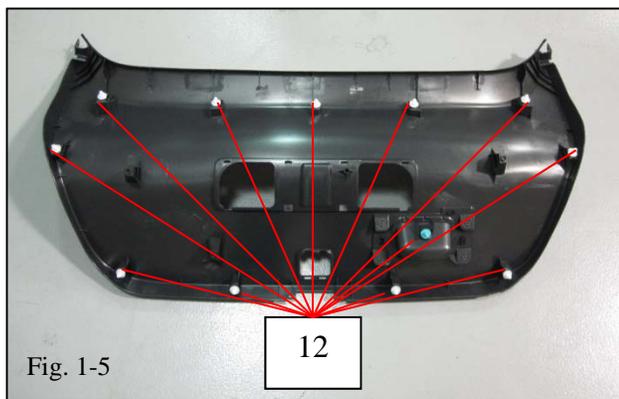


- (d) Remove the LH and RH trim panels on the sides of the lift gate window (Fig. 1-3).





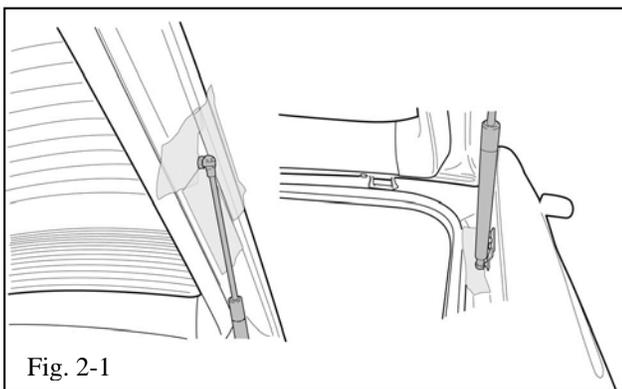
- (e) Remove the two plastic fasteners at the top of the lift gate trim panel and remove the panel. Retain the plastic fasteners for reinstallation (Fig. 1-4).



- (f) There are 12 plastic clips holding the trim panel to the sheet metal. Once the trim panel is removed, make sure to remove any of the clips from the sheet metal and reinstall them in the trim panel (Fig 1-5).

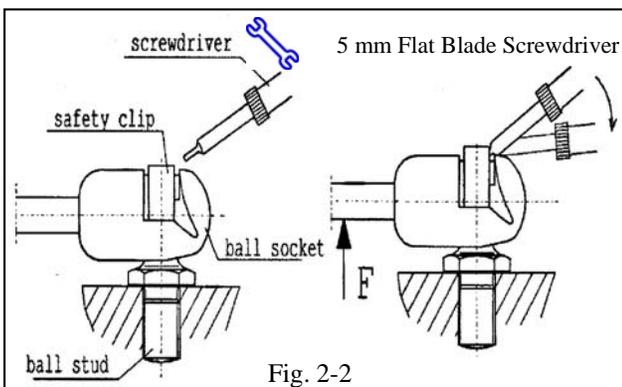
- (g) Leave the protective blankets in place and close the lift gate.

2. Replace the Gas Lift Struts.

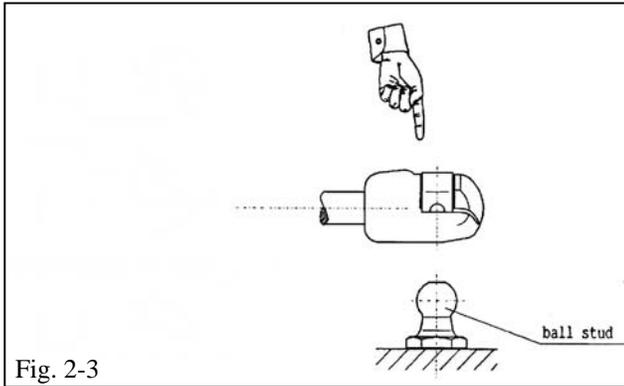


- (a) Apply protective masking tape to the painted surfaces behind the gas strut ball ends (Fig. 2-1).

NOTE: If a helper is not available to hold the lift gate open, the lift gate **MUST** be propped open.



- (b) 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 the direction shown as F in Fig. 2-2.



(c) Remove and replace the LH and RH gas filled lift struts. When removing, start with the lift gate end. When installing the new struts, 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: The gas struts are RH and LH specific so the strut sockets are correctly oriented to the ball studs. The strut marked “L” is for the LH side and the strut marked “R” is for the RH side (Fig 2-4).



3. Drill the Mounting Holes.

+ (a) Eye protection must be worn during all hole drilling.

STOP (b) Set all drill stops to as shown in Fig. 3-1.

NOTE: Masking tape wrapped around the drills may be used in lieu of hard metal drill stops.

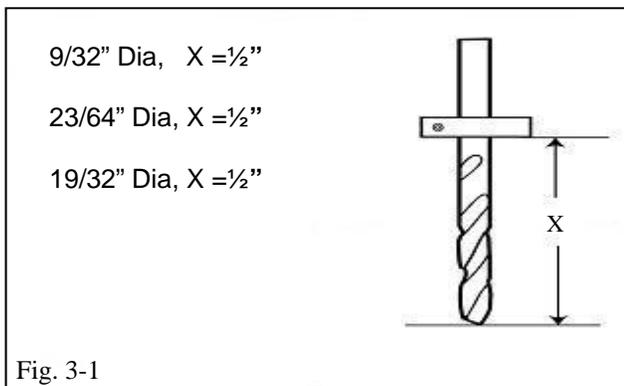




Fig. 3-2

- (c) Apply masking tape to the lift gate surface in the areas of the hole locations and where the templates will contact the lift gate (Fig. 3-2).

NOTE: The above step is not necessary if the lift gate surface is covered with protective polywrap.



Fig. 3-3

- (d) Place the hard plastic drill template placement fixture along the driver's edge of the lift gate and make a mark on the tape as shown (Fig. 3-3 & Fig. 3-4).

- (e) Repeat Step 3(d) for the passenger's side of the lift gate. These two marks on each side of the lift gate will be used to align and locate the Mylar Template in the next steps.

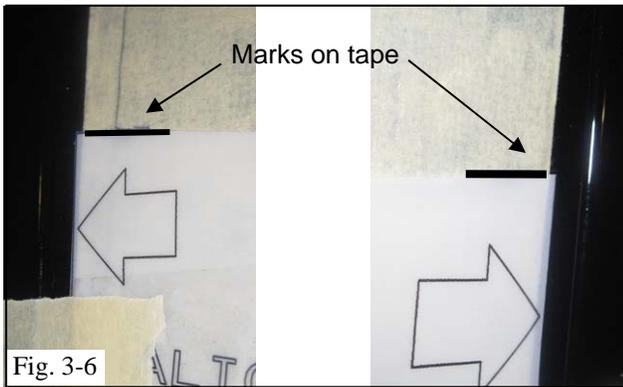


Fig. 3-4



Fig. 3-5

- (f) Lay the Mylar Template on the lift gate as shown (Fig. 3-5).



(g) Align the forward edge of the Mylar Template with the two marks from Steps 3(d) & 3(e). Center the Template from side to side and then tape it in place (Fig. 3-6).

(h) Locate the six (6) hole locations on the template.

NOTE: The hole centers are punch marks within the segmented circles. The punch marks must be located and used for proper spoiler alignment.

(i) Use a center punch to punch the centers of the six (6) hole locations.

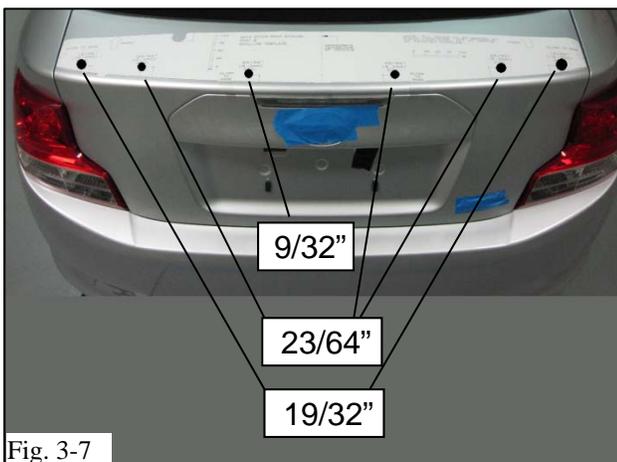
(j) Remove the template. Make sure you can see all six (6) punch marks.

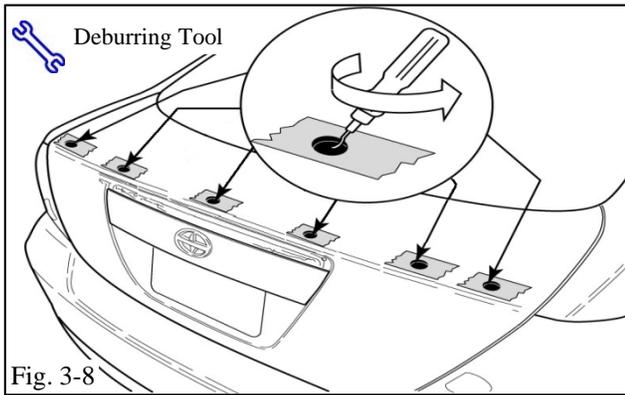
NOTE: It is helpful to draw a cross through the center of each punch mark and write the final hole diameter on the tape next to each punch mark.

(k) Use the 3/32" drill bit to drill a pilot hole at all six (6) hole locations.

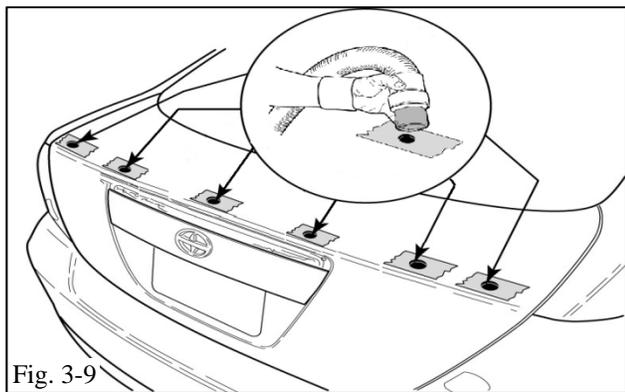
CAUTION: Make sure the holes are not allowed to drift from the punched center locations.

(l) Enlarge each hole in small increments until the final diameter for each hole is achieved (Fig.3-7).

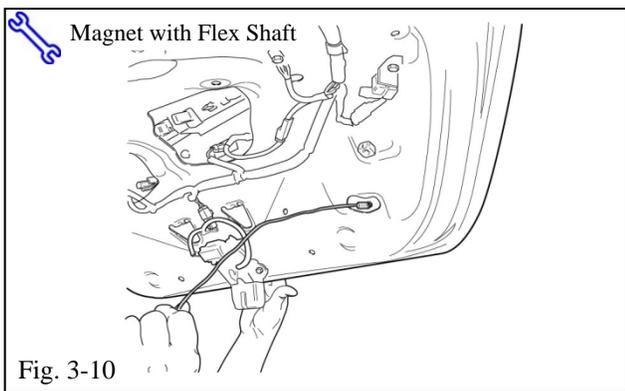




(m) Use a deburring tool to carefully deburr the six (6) drilled holes (Fig. 3-8).



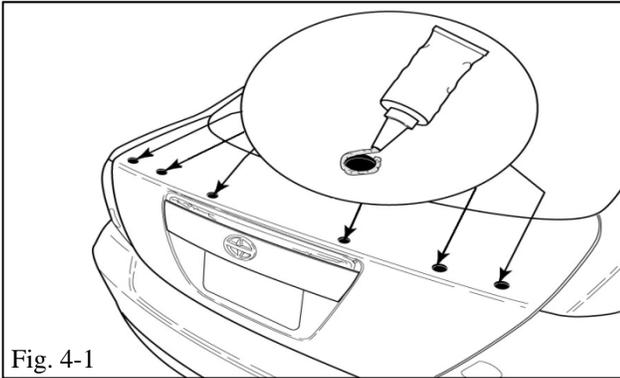
(n) Vacuum the surface of the trunk lid and the surrounding drilled areas and then remove masking tape (Fig. 3-9).



(o) Open the lift gate and use a magnet with a flexible shaft to remove any remaining metal chips from the drilling process (Fig. 3-10).

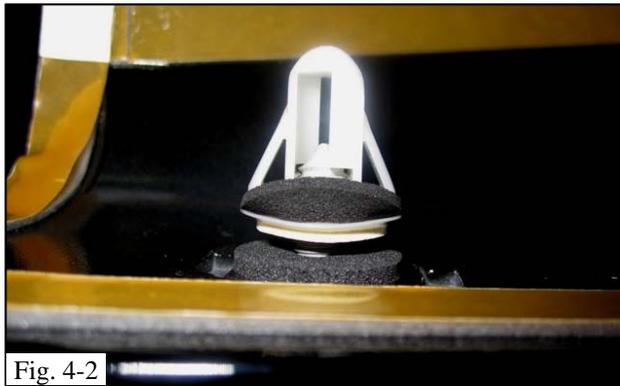
4. Prepare for Spoiler Attachment.

- (a) If the lift gate has protective polywrap applied, remove enough of the polywrap to create an approximately 1" clearance all the way around the area where the spoiler installs.
- (b) The trunk lid where the spoiler attaches must be cleaned with 3M Prep Solvent-70 and a lint free cloth.



(c) After cleaning, carefully apply 3M Ultra-Pro Body Sealant to all six (6) drilled hole edges (Fig. 4-1).

(d) 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.



(e) Screw a white plastic grommet on each of the two outer metal studs **two turns** as shown (Fig 4-2).



Fig. 4-3



Fig. 4-4



Fig. 4-5



Fig. 4-6

- (f) At all locations where there is a tape pull, lift the end of the liner, fold it back onto the exterior surfaces, and hold the tape pull in place with masking tape as shown (Fig. 4-3, Fig. 4-4, Fig. 4-5 and Fig. 4-6).

⚠ NOTE: Do not completely remove the tape liner at this time.



Fig. 5-1



Fig. 5-2



Fig. 5-3

5. Attach the Spoiler to the Lift Gate.

- ⚠ (a) Position the spoiler over the lift gate with the drill holes aligned to the spoiler studs (Fig. 5-1).
- ⚠ (b) Lower the spoiler down into place and press down on the tips to fully engage the two end plastic grommets (Fig. 5-2).
- ⚠ (c) Open the lift gate and loosely install the four (4) nuts to the studs. Do not tighten these nuts completely, but get them on the studs far enough so that the spoiler will not come off. There are four tool access holes in the inner panel for installation of these nuts.
- (d) Close the lift gate and while carefully flexing the spoiler out away from the lift gate painted surface, slowly pull each tape liner segment from between the spoiler and the lift gate as shown (Fig. 5-3). Repeat this until all tape liners have been removed.



Fig. 5-4



Fig. 5-5

- (e) Press the spoiler against the lift gate, working across the back and then across the front edge as shown (Figs. 5-4 & 5-5).
- (f) Open the lift gate and tighten the four flange nuts. Use a torque wrench to tighten the nuts to 6.0 Nm (53 lbf-in).

6. Reassemble the Vehicle.

- (a) Reinstall all removed panels and parts. Be sure that all the panel clips are engaged.
- ⚠ (b) Check that there are no drill shavings/chips in vehicle trunk area and rear bumper.

7. Dispose the Gas Lift Struts.

- ⊕ (a) Due to high 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 in such a way that the dimension X is at least 25 mm (Fig. 7-1).
- ⊕ (c) For venting, slowly drill or saw open the gas lift strut at the two points shown. Drilling with a 1/8" diameter drill bit is the preferred method (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.

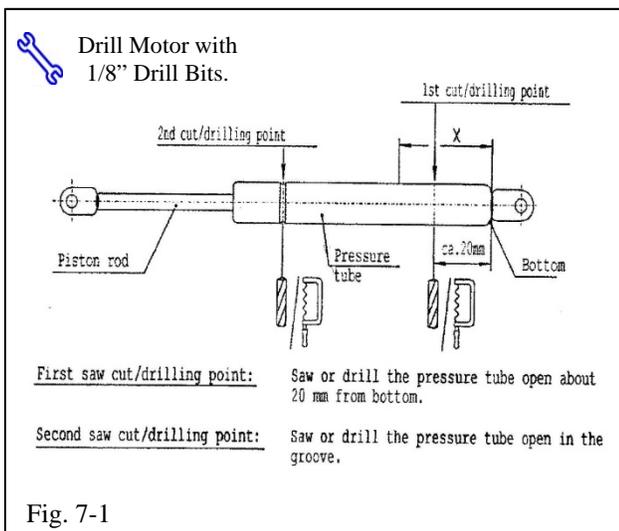


Fig. 7-1

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

<u>Check:</u>	<u>Look For:</u>
<u>Accessory Function Checks</u> <input type="checkbox"/> Check for spoiler alignment. <input type="checkbox"/> Check for full tape adhesion.	Centered from side to side (+/- 2 mm.) Full adhesion with no gaps.
<u>Vehicle Function Checks</u> <input type="checkbox"/> None Required	
<u>Vehicle Appearance Check</u> <input type="checkbox"/> After accessory installation and removal of protective cover(s), perform a visual inspection.	Ensure no damage (including scuffs and scratches) was caused during the installation process. (For PPO installations, refer to TMS Accessory Quality Shipping Standard.)