# LEXUS ES 350/300h PREPARATION

## 2014 TVIP V9 REMOTE ENGINE STARTER PLUS (RES+)

## Part #: PT398-33140

### Conflicts:

### Kit Contents

Will not program with Techstream Lite.



Service Part #'s

### **Recommended Tools**

Personal & Vehicle Protection	Description
Safety Glasses	
Safety Gloves	(Optional)
Vehicle Protection	Blankets, Parts Boxes
Special Tools	
Techstream	Use latest Version on TIS (Do not use Techstream Lite)
Squeegee	4" 3M™ Orange Applicator #71607
Installation Tools	
Screwdriver	#2 Phillips
Nylon Panel Removal Tool	e.g. Panel Pry Tool #1 Toyota SST# 00002-06001-01
Side Cutters	
Torque Wrench	Battery: ES300h=48 in•lbf (5.4 N•m), ES350=61 in•lbf (6.9 N•m) Airbag: 88.5 in•lbf (10 N•m)
Ruler	
Utility Knife	
Needle Nose Pliers	
Tapes	Clear, Electrical, Masking
Socket	10mm, extension
Special Chemicals	
Cleaner	VDC Approved Cleaner
Glass Cleaner	Household Glass Cleaner

#### **Additional Items**

(may be required)

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ltem#	Description

# Recommended Sequence of Application

ltem#	Description

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Accessory Installation Practice (read before installation)

#### Legend

Do not proceed until process has been completed.	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.
Follow steps carefully to avoid damaging the Vehicle or Accessory	These guidelines can be found in the "Accessory Installation Practices" document.
Use caution to avoid injury.	<ul><li>This document covers such items as:</li><li>Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.)</li></ul>
Used in Figures to call attention to specific tools recommended for the process.	<ul> <li>Safety (eye protection, checking torque procedure, etc.)</li> <li>Vehicle Disassembly/Reassembly (panel removal, part storage, etc.)</li> <li>Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.)</li> </ul>
installation with respect to previous issue.	Please see your LEXUS dealer for a copy of this document.
Indicates that torque is related to safety.	
Wire Tie location and number.	
Foam Attachment Tape location	

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Lexus ES 350/300h RES+	TVIP	Vehicle	Description	
Vire Harness Outline*	A	H151	8P White	
	С	-	1P Blue	
	D	-	1P Gray	
	E	-	24P White (for RES+ ECU)	
	М	-	1P White (for Registration)	
	N	_	1P White (for Registration)	
	W	_	White Tape Marker	
	Z	-	RES+ ECU	
				,
Color of Harness on Overview corresponds with Colored Tape near Connectors on Harness.				

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#### LEXUS ES 350/300h PROCEDURE

#### TVIP V9 REMOTE ENGINE STARTER PLUS (RES+

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1	Battery Cover (For HV only)				
2	PS Step Cover				
3	PS Cowl Cover				
4	PS Dash Side Trim				
5	PS Dash Side Cover				
6	Glove Box Under Cover				
7	PS Knee Airbag (Do not disconnect Knee Airbag's connectors)				
8	Glove Box Trim				
9	Glove Box				
10	PS A-Pillar Trim				
Dis Cor	Disconnect all Corresponding Connectors.				

#### 1. Vehicle Disassembly.

- a. Place the Vehicle in Park with the Parking Brake set.
- For Hybrid Vehicles the battery is in the trunk.
  - b. Remove the Battery Cover. (for Hybrid Vehicles only)
- For Gas Vehicles the battery is in the Engine Compartment.
  - c. Disconnect the Negative Battery Terminal.
    - Note the Battery Cable Position as it will be re-installed in the same position.

**CAUTION:** Do not touch the Positive Terminal.

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d. Remove the Passenger's Side Step Cover.

e. Remove the Passenger's Side Cowl Cover.

Remove 1 Nut.

f. Remove the Passenger's Side Dash Side Trim.

g. Remove the Passenger's Side Dash Cover.

- h. Dislodge the Glove Box Under Cover.
  - Disconnect Vehicle Connector.

- i. Dislodge the Passenger's Knee Airbag carefully.
  - · Remove 3 Bolts.



**CAUTION:** Do not disconnect the Airbag's Connector.

j. Wrap the Airbag in a Blanket and place it on top of the TVIP box.



**CAUTION:** Prevent stress on the Airbag Wire.

k. Remove 2 Screws from the bottom of the Glove Box.

I. Open the Glove Box.

m. Remove the Glove Box Trim.

- n. Dislodge the Glove Box.
  - Remove 3 Screws.

- o. Remove the Vehicle's Harness clamp on the top left side of the Glove Box.
  - Rotate Clamp 90° then pull up.
- p. Disconnect the Vehicle's Connectors.
- q. Rotate to remove the Glove Box Lamp.
- r. Remove the Glove Box.
- s. Dislodge the Passenger's side A-Pillar Trim.
  - Apply Protection tape on top of dash and don't remove until the Trim is re-installed.

**CAUTION:** The trim will only loosen as shown. Trying to remove it without dislodging the internal clip will cause it to break. If the clip is damaged (i.e. scar) or removed from the body, replace with a new one. Confirm latest clip P/N on electronic parts catalog.

- t. With the jaws of the pliers wrapped in tape to prevent damage, rotate the end of the Clip by 90° and then pull the Trim out to disengage the Clip.
- u. Remove the A-Pillar Trim.



#### 2. GPS and GSM Antenna Installation.

- a. Use Household Glass Cleaner to clean the inside of the Passenger's side Windshield.
- b. Line up the Antenna Template to the edges of the Headliner and A-Pillar on the Passenger's side Windshield.
  - Use clear tape to attach Template to the Windshield.



**NOTE:** Make sure not to apply tape over areas where the Film Antennas will be placed.

- c. Use the Blue Tab to remove the partial protective backing from the GPS Film Antenna.
- d. Attach the GPS Film Antenna on the specified Template location on the Windshield.



Line up the Film Antenna to the Headliner edge.



Use the Green Tab to peel off e. remaining protective backing to attach the whole GPS Film Antenna on the Windshield.

Slowly peel off the protective backing.

NOTE: Make sure to use a squeegee when attaching Film Antenna on the Windshield to eliminate any Air Bubbles.



- f. Carefully and Slowly peel off the top protective sticker leaving only the GPS Film Antenna on the Windshield.
- g. Use a soft cloth to press on the Film Antenna for it to fully adhere to the Windshield and to eliminate any Air Bubbles.
- **CAUTION:** Do not use hard tools like spatulas, squeegee, etc., once the top protective film has been removed.

**CAUTION:** Do not touch the GPS Film Antenna Terminal.

Fig. 2-5 Fig. 2-5 i. At on loc GSM NOTE squee Antenn elimina



- h. Use no. 1 Tab to remove the partial protective backing from the GSM Film Antenna.
- i. Attach the GSM Film Antenna on the specified Template location on the Windshield.
  - Line up the Film Antenna to the Headliner edge.
- **NOTE:** Make sure to use a squeegee when attaching Film Antenna onto the Windshield to eliminate any Air Bubbles.
- j. Use the no. 2 Tab to peel off remaining protective backing to attach the remaining part of the GSM Film Antenna on the Windshield.

Slowly peel off the protective backing.

**NOTE:** Make sure to use a squeegee when attaching Film Antenna onto the Windshield to eliminate any Air Bubbles.

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- k. Carefully peel off the top Protective sticker leaving only the GSM Film Antenna on the Windshield.
- Use a soft cloth to press on the Film Antenna for it to fully adhere to the Windshield and to eliminate any Air Bubbles.



- **CAUTION:** Do not touch the GSM Film Antenna Terminal.
- m. Cut 2 Foam Tapes into 1/2 pieces.





n. Cut out 6 pieces of 20x80mm size from the Foam Attachment Tape as shown.







- Wrap the GPS Antenna Wire with 1/2 piece of Small Foam Tape 50mm away from the GPS Antenna.
- p. Wrap 2 more 1/2 pieces of Foam Tapes 50mm away from each other.

- q. Peel the protective backing off the GPS Antenna.
- r. Attach the GPS Antenna to the GPS Film Antenna on the Windshield.

**NOTE:** Make sure to align the GPS Antenna to the broken line guide on the GPS Film Antenna.

**CAUTION:** Do not touch the Terminal and adhesive face of the GPS Antenna.

**CAUTION:** Do not re-attach the GPS Antenna.

s. Wrap the GSM Antenna Wire with the remaining 1/2 piece of Foam tape 50mm away from the GSM Antenna.



- t. Peel the protective backing off the GSM Antenna.
- u. Attach the GSM Antenna to the GSM Film Antenna on the Windshield.

**NOTE:** Make sure to align the GSM Antenna to the Line guide on the GSM Film Antenna.

**CAUTION:** Do not touch the Terminal and adhesive face of the GSM Antenna.

**CAUTION:** Do not re-attach the GSM Antenna.

v. Tuck both Antenna Wires in between the Headliner and the Windshield routing them toward the Passenger side A-Pillar area.





w. Route the Antenna Wires on top of Vehicle Harness and secure them together using 2 (20x80mm) pieces of Foam Attachment tapes.

x. Secure the Antenna Wires to the Vehicle's Harness using

Attachment tapes.

2 (20x80mm) pieces of Foam



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- y. Cut the Protection Sheet in half, then cut a 40x50mm piece from the other half.
  - Do not discard the remaining pieces of Protection Sheet.

z. Wrap both Antenna Wires with the 40x50mm piece of Protection Sheet in the area of the Vehicle Bracket.



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- aa. Secure the Protection Sheet using Electrical Tape.
- ab. Secure the Antenna Wires to the Vehicle Harness with 1 (20x80mm) piece of Foam Attachment Tape.
- ac. Secure the Antenna Wires to the Vehicle Harness Clamp.

ad. Wrap both Antenna Wires starting from the bottom of the A-Pillar with the remaining pieces of Protection sheet and secure with Electrical Tape as shown.

- ae. Route the Antenna Wires into the hole on the bottom of the A-Pillar.
- af. Route the Antenna Wires through the hole in the Passenger side dash area.

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ag. Secure the Antenna Wires to the Vehicle Brace using 2 Wire Ties.

- ah. Secure Antenna Wires to the Vehicle Body using 1 (20x80mm) piece of Foam Attachment Tape.
- ai. Secure the Antenna Wires to the Vehicle Harness with 1 Wire Tie.
- **CAUTION:** Prevent contact between Antenna Wires and Vehicle Bracket.

∕!∖

# 3. RES+ ECU Preparation and Installation.

- a. Attach the RES+ ECU Bracket to the RES+ ECU.
- b. Attach to 2 Foam Tapes to the RES+ ECU.





c. Attach 1/2 piece of Foam Tape to the RES+ ECU.



- d. Connect V9 24P Connector to the RES+ ECU.
- e. Connect both GPS and GSM Antenna Connectors to the RES+ ECU.

- f. Install the RES+ ECU using the supplied Bolt.
- **NOTE:** Make sure the Guide Pin is seated correctly and Verify that the Bolt is tightened securely.





- 4. V9 Harness and Antenna Wire Routing.
  - a. Connect the V9 White 8P Connector to the Vehicle's Black 8P Pre-Connector.

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Fig. 4-2

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b. Wrap 1/2 Foam Tape to the V9 Harness branch.







- c. Secure the 8P Connectors to the Vehicle Harness with 1 Wire Tie.
- Secure the V9 Harness to the Vehicle Brace Hole with 1 Wire Tie.

- e. Route the V9 Harness and the Antenna Wires along the HVAC Wire hooks.
- f. Secure the V9 Harness and Antenna Wires to the Vehicle Harness using 2 Wire Ties.

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- g. Secure the V9 Harness and Antenna Wires to the Vehicle Harness with 1 Wire Tie.
  - Place Wire Tie near the Vehicle Harness branch.
  - Rotate the Ratchet End of the Wire Tie as shown.
- h. Secure the V9 Harness and Antenna Wires to the Vehicle Harness with 1 Wire Tie.
  - Rotate the Ratchet End of the Wire Tie as shown.

i. Secure the V9 Harness and Antenna Wires to the Vehicle Harness using 1 Wire Tie.

**CAUTION:** Do not secure to the Airbag Harness.

- j. Route the V9 Harness and Antenna Wires down toward the Passenger Cowl area.
- k. Bundle up the excess Antenna Wires and use Electrical Tape to secure them together.
- I. Secure the bundle with the V9 Harness to the Vehicle Harness using 2 Wire Ties
  - Rotate the Ratchet End of the Wire Ties toward front of vehicle.





on Fig. 5-1.

plugged in.

a. Reassemble the Vehicle

NOTE: When reinstalling Knee Airbag, make sure to tighten the Bolts to 88.5 in lbf (10 N·m).

VERIFY: That all Connectors are

VERIFY: That Panels fit together

properly, with no uneven gaps.

except for the parts indicated



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#### Verify that the Short Pin is b. Installed.

• If not Install now.

#### LEXUS ES 350/300h PROCEDURE



#### 6. Registration.

- a. Open the Hood.
- **NOTE:** Do not close the Hood throughout the Registration Procedure
- For Hybrid Vehicles the battery is in the trunk.
- For Gas Vehicles the battery is in the Engine Compartment.
  - b. Temporarily reconnect the Negative Battery Cable.
- CAUTION: Do not touch the Positive Terminal.
  - c. Locate the 1P RES Diagnostic Connectors in the Passenger Cowl Area and connect them.

**NOTE:** Once connected you will have 10 minutes to complete this section, steps d–z.

d. Close all doors.

e. With the Remote Control Key in your possession, cycle the "Engine Start Stop" Button from OFF to ON 5 times.

**NOTE:** One cycle consists of: OFF  $\rightarrow$  Accessory  $\rightarrow$  ON. This is equivalent to pressing the "Engine Start Stop" Button 14 Times.

**LOOK:** For the Hazard Lights to flash Once.





- j. Start the TIS Techstream Application by clicking on the shortcut located on the Desktop.
- k. Click "Connect to Vehicle."



- I. Confirm that the information displayed on the Vehicle Connection Wizard is correct for the vehicle. If not verify that the Techstream is properly connected.
- m. Select option depending on Vehicle's Specification.
- n. Click "Next>".

TIS techstream - 106	45						
le Function Setup TIS	User Help						
System Select Store	ed Data						
Health Cheak	System Se Select desired : Note: An astrisi	election Me system and th k (*) indicates	en press Live a system that Chassis	Data to access the ECL is unsupported or not r	l. esponding.		
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Customize	Combination N	Meter Smari	Access	occupant Detection			
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Reprogramming							
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TIS techstream - 1064	15		_ 🗆 ×
File Function Setup TIS System Select Store	User Help ed Data Customize		
	Likility Colontion Manua		
	Select desired Utility and then press Next button.		
	Custimine	Communication Check(Key Diag Mode)	
	ECU Communication ID Registration	S art Code Erasure	
Trouble Codes	Smart Code Registration	omart Code Reset	
Data List			
Active Test			
Monitor			
Utility			

- o. Select "Smart Access."
- p. Click 🛋 ·

- q. Click on "Utility."
- r. Select "ECU Communication ID Registration."
- s. Click 🛋

t. Click "Next>".



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		Fig. 6-12
TIS techstream - 10645 File Function Setup TIS U System Select Stored I	Jeer HelpX	
Trouble Codes Deta List Active Test Menter Utility Print Close		

- u. Select "Remote Engine Starter."
- v. Click "Next>".

**CONFIRM:** That the ECU Communication ID was completed successfully.

w. Click "Exit."





- For Hybrid Vehicles the battery is in the trunk.
- For Gas Vehicles the battery is in the Engine Compartment.
  - b. Position the Negative Battery Cable at the original factory position and torque the nut.
- 7 ES300h Torque: 5.4 N•m (48 in•lbf)



**CAUTION:** Do not touch the positive terminal.

<u>(</u>S/

- c. Clean up and Remove trash.
- d. Sealed in its protective bag, place the Owner's Manual in the Glove Box.

#### LEXUS ES 350/300h PROCEDURE



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Fig. 8-2

#### 8. Tag and Labels.

- a. Using VDC approved cleaner and cleaning method, clean the area indicated in the Engine Compartment Cover.
- b. Attach the Engine Room Warning Label as shown.

CAUTION: Do not touch the adhesive surface.

Attach the Key Tag. C.

**REPEAT:** step c with the other Smart Key.

- d. Attach the RES+ Key Tag with serial number to the Large Key Ring.



- Use Household Glass e. Cleaner to clean the inside of the Front Door Window.
- f. Use a piece of Clear Tape to lift the Label off its protective backing.

CAUTION: Do not touch the adhesive surface.

g. Attach the Label as shown.

NOTE: Make sure to Align according to Etching or Other Label.

STOP

**REPEAT:** steps e-g with the other Window.

#### Accessory Function Checks

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

Close the hood, enter the vehicle and close all doors. Place the shift lever in the "P" (Park) position, set the parking brake and make sure the Vehicle is off.

	Perform	Look For
1	Press the remote control's lock button twice within 2 seconds, then press and hold the lock button for 3 seconds.	The hazard lights flash after 3 seconds. The engine starts. The hazard lights flash repeatedly for 10 seconds.
2	With the engine running, pull the hood release handle. <b>NOTE:</b> <i>Wait 30 seconds before pulling the hood release handle for the security alarm to trigger.</i>	The engine stops. The hazard lights flash once. The security alarm triggers. (Only if equipped with OE Factory Alarm, not Genuine Accessory alarm, and only if armed)
3	Move the shift lever out of "P" (Park). Attempt to start the Vehicle using the remote. (Not Applicable to Hybrid Vehicles)	The engine does not start.

#### Vehicle Appearance Check

	Perform	Look For
	After accessory installation and removal of protective cover(s), perform a visual inspection of the vehicle.	Ensure no damage (including scuffs and scratches) was caused during the installation process. (For PPO installations, refer to TMS Accessory Quality Shipping Standard.)

## LEXUS ES 350/300h

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

#### **Vehicle Function Checks**

	Function

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#### Enter the Vehicle

Dome/Courtesy Lights

#### Start the Vehicle

	Starter			Gauges	
	Check Engine Light If the warning light remains on, it may indicate a system malfunction.	ICHECK		ABS Light (if equipped) If the warning light remains on, it may indicate a system malfunction.	(ABS)
	Lamp Failure Sensor If the warning light remains on, it may indicate a system malfunction.			Track/Skid Control Light (if equipped) If the warning light remains on, it may indicate a system malfunction.	2
	Seat Belt Warning Light If the warning light remains on, it may indicate a system malfunction.			Tire Pressure Monitoring System (TPMS)	
	Air Bag Warning Light If the warning light remains on, it may indicate a system malfunction.	20		Service (PDS) of the Vehicle the TPMS light will blink when IG is turned on. After TPMS activation and PDS of the Ve- hicle the TPMS light will illuminate for a few seconds and go off when IG is turned on.	
	Cruise Control Light (if equipped)				
		Image: Starter         Image:	Image: Starter       Starter         Image: Starter       Check Engine Light         If the warning light remains on, it may indicate a system malfunction.       Image: Starter         Image: Starter       Lamp Failure Sensor         If the warning light remains on, it may indicate a system malfunction.       Image: Starter         Image: Starter       Seat Belt Warning Light         If the warning light remains on, it may indicate a system malfunction.       Image: Starter         Image: Starter       Air Bag Warning Light         If the warning light remains on, it may indicate a system malfunction.       Image: Starter         Image: Starter       Air Bag Warning Light         If the warning light remains on, it may indicate a system malfunction.       Image: Starter         Image: Starter       Cruise Control Light (if equipped)	Image: Starter       Image: Starter         Image: Starter       Image: Sta	Starter       Gauges         Check Engine Light       ABS Light (if equipped)         If the warning light remains on, it may       indicate         Image: Indicate a system malfunction.       Image:

#### Using a Mirror or Assistant check the following.

	Trunk/Tailgate/Bed Lights (if equipped)	Tail Lights
	Brake Lights	Daytime Running Lights (if equipped)
	Backup Lights	Marker Lights
	Clearance Sonar (if equipped)	

#### Stop the Engine, Place the Vehicle's IG in the ON position.

	Hazard Lights	Turn Signal Lights
	Head Light	Fog Lights (if equipped)
	High Beams	Accessory Controls/Illumination (if equipped)
	Power Side Mirrors (if equipped)	Convenience Memory Settings (if equipped)
	Power Sliding Door (if equipped)	Rear Sunshade (if equipped)

# LEXUS ES 350/300h

CHECKLIST – these points **MUST** be checked to ensure a quality installation.

	Function		Function
	Front Wiper/Washer		Rear Wiper/Washer (if equipped)
	Power Sun/Moon Roof (if equipped)		Rollover Side Curtain Air Bag Switch (RSCA) (if equipped)
	Clock (if equipped)		Navigation System (if equipped)
	Audio/Video (if equipped)		USB Connections (if equipped)
	Steering Wheel Audio Control (if equipped)		HVAC
	Front Windshield Defogger (if equipped)		Rear Window Defogger (if equipped)
	Side Mirror Defogger (if equipped)		Accessory Power Socket (if equipped)
	Massage Seats (if equipped)		Heated/Vented Seats (if equipped)
	Glove box Light (if equipped)		Trunk Cancel Switch (if equipped)
	Power Locks (if equipped)		Power Windows (if equipped)
	Power Seats (if equipped)		Key Sensor Buzzer