ATTENTION:
GENERAL MANAGER ❑
PARTS MANAGER ❑
CLAIMS PERSONNEL ❑
SERVICE MANAGER ❑

IMPORTANT - All Service Personnel Should Read and Initial in the boxes provided, right.

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SUBARU

QUALITY DRIVEN® SERVICE

SERVICE INFORMATION BULLETIN

APPLICABILITY: All 2019-22MY Vehicles Equipped with Gen2 Telematics

NUMBER: 15-282-21R
DATE: 03/29/21
REVISED: 05/04/23

SUBJECT: STARLINK Remote Engine Start (RES) Diagnostic Information

INTRODUCTION:

This Service Information Bulletin announces additional diagnostic procedures and a detailed flow chart to be used when diagnosing customer concerns regarding the operation of the STARLINK Remote Engine Start (RES) feature.

RES is the STARLINK Telematics system's most commonly used remote service, averaging as many as two million requests per month. With this amount of usage utilized by Subaru customers, it is also the number one reason they return to the retailer with Telematics concerns.

Due to the system's complexity, a broad view of other systems in the vehicle is required to ensure proper function of the RES feature. This document will aid in the diagnosis and repair of RES concerns. This information is to be used in conjunction with the diagnostic information found on STIS and TechTIPs. Techline and, when required, the assist of RES functionality and / or clarification of testing procedures provided by District Service Quality Managers (DSQMs).

SERVICE PROCEDURE / INFORMATION:

USING RES AND RES WITH AUTOMATIC CLIMATE CONTROL ON GASOLINE ENGINE (NON-HYBRID) VEHICLES:

NOTES:

- When using RES on a vehicle with automatic climate control (a.k.a. Auto A/C), the interior temperature may not reach the desired setting depending on environmental conditions or air conditioner performance.
- For remote management of the seat heaters, the vehicle must be equipped with a 3-Mode (low- med-high) seat heater.
- RES will only operate for 20 minutes before the vehicle shuts off and need a push button start from within the car. (Example: 5 Minutes + 5 Minutes + 10 Minutes = 20 minutes total run time).

CAUTION: VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN SERIOUS INJURY TO THOSE PERSONS OR TO OTHERS.
Subaru Service Bulletins are intended for use by professional technicians ONLY. They are written to inform those technicians of conditions that may occur in some vehicles, or to provide information that could assist in the proper servicing of the vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do the job correctly and safely. If a condition is described, DO NOT assume that this Service Bulletin applies to your vehicle, or that your vehicle will have that condition.

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- Any interruption of a RES runtime will start a 5-minute timer requiring 5 minutes to elapse or a manual push button start to occur before another remote RES request can be made.
- The RES system will always change the vehicle's climate setting when equipped with Auto A/C.

Customers who describe custom climate settings for use during RES must provide all parameters presented for selection. Failure to obtain the described parameters will result in a failed RES request when selecting the custom setting. Understanding how the customer is making a request and using a predefined climate setting will verify if there is a problem with the customer profile the customer set.

ADDITIONAL RES CLIMATE CONTROL INFORMATION:

- The default setting for automatic climate control post-RES will always be AUTO. The Auto setting cannot be changed from the MySubaru App or the Customer Web Portal.
- The only purpose of the "Manual" button on the MySubaru App or Customer Web Portal is to provide the user with more choices for climate customization during RES operation. It does not turn off the FULL AUTO or AUTO lamps on the automatic climate control panel or put the automatic climate control into manual mode.
- Even if the automatic climate controls are in manual mode upon exiting the vehicle (FULL AUTO and AUTO are not illuminated), using RES with or without climate control modification will return the automatic climate controls to the AUTO mode.
- In AUTO mode, the air conditioning request signal is controlled automatically by the automatic climate control system's operating parameters.
- Any modification to climate settings using the MySubaru App or Customer Web Portal will become the current automatic climate control settings upon the next entry into the vehicle.

BEST PRACTICES:

1. Make every effort to verify the RES concern with the customer at the vehicle write-up. Observe the vehicle behavior in question and document it with pictures or videos if necessary to ensure complete understanding.
2. Most repeat repairs result from failing to fully understand the customer's concern or a failure to verify the condition has been successfully addressed post-repair.
3. Perform a direct test of the customer's concern to confirm the condition as reported. For example, if the customer says there is a RES problem, always verify the trouble while attempting the remote service request.
4. After any repair to the telematics system, the Technicians must thoroughly test and verify operation before releasing the car back to the customer. Unfortunately, the only post-replacement repair verification most often performed is an i-Button push. Pushing the i-Button and connecting with an Operator ONLY confirms the new DCM can access the voice network. A successful i-Button push DOES NOT guarantee the DCM's ability to perform remote service requests.

NOTE: Refer to TSB 15-266-20R for testing requirements and procedures.

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IMPORTANT REMINDER: Voice service (an Operator answering after pressing the i-button) is NOT an indicator of the Telematics system's ability to perform remote service requests. The i-Button push test aims to reach an Operator and confirm VIN and vehicle location information. Pushing the i-Button and canceling the call once the ring-back tone is heard does NOT validate a fully functioning Telematics system.

REQUESTING A REMOTE ENGINE START USING THE IBUTTON.

NOTE: CONFIRM the vehicle is outside with an unobstructed view of the sky.

1. It is essential that the testing occurs within 1500 feet of the Subaru Service Center address on record with Subaru of America.
   a. Please understand that this address may be the showroom street address, not the service center location if both are in multiple places. If a request fails, it would be beneficial to perform the test again closer to the showroom to ensure there is no location discrepancy preventing RES.
2. Vehicle in Park with parking brake set (EPB on).
3. The ignition is switched to ON with the engine OFF.
4. All doors (and the rear gate/hood) must be closed.
5. Push the i-Button. When the Operator connects:
   a. Identify as working at a Subaru Retailer, providing your retailer code.
   b. Request the Operator confirm the last eight characters of the VIN and the vehicle's location.
   c. Request a Remote Engine Start command be sent to the vehicle.
   d. There is a two-minute delay until the command will complete.
      i. Ensure the ignition is switched off.
      ii. Open the driver's door and exit or close it again to remain in the vehicle for the test completion.
      iii. Ensure you do not have your foot on the brake pedal if you remain in the vehicle.
      iv. After two minutes, the horn should honk, and then the engine starts.
      v. If the Remote Engine Start fails, continue the diagnosis.
8. The Telematics system is fully operational if the VIN, Vehicle Location, and Remote Engine Start requests are successful.

NOTE: Remote Engine Start operation requires additional vehicle system input for the feature to perform as expected. If the customer's concern is focused on a RES failure, testing, and successful operation, this feature MUST occur with the customer before releasing the vehicle.

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Additional Information:

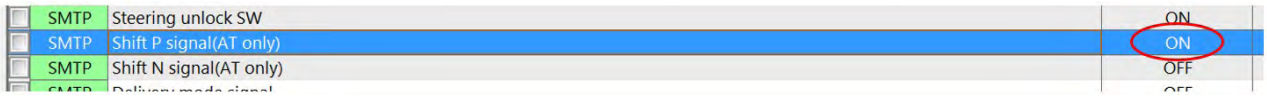
Also contained in this document is a table of Error Messages which may be experienced while using the MySubaru App or Customer Web Portal. The purpose of this table is to offer what can be done to move past the error. In some cases, due to an interruption in network connectivity or application support infrastructure, there is no way to move past those errors until full operational service has been restored. Other failures due to customer password or account issues instruct the Technician to contact one of the support centers most prepared to handle the customer concern. Due to corporate security policies, some circumstances require a certain amount of time to pass before an account can be unlocked or working through multiple verification steps may be an option. Although these processes can sometimes be confusing and frustrating, they intend to provide the highest level of security for the customer.

The Importance of Park Switch to RES Operation

An often-overlooked essential input for the successful operation of RES is verifying the Park Switch output. The Park Switch must be confirmed in the "park position" by reviewing PIDs within the BIU and KACM. Both the "P SW" PID in the BIU and the "Shift P signal" PID in the KACM must indicate "ON" when the gear selector is in the park position.

Any time there is a customer complaint of no start after RES request, technicians must take the time to ensure that the park switch is operating as expected before investigating other possible root cause points of failure.

Keyless Access Control Module (KACM)



BIU

Technician Support

Many systems provide inputs to the telematics system to enable successful Remote Engine Start. Due to the complexity of the repairs and lack of diagnostic tools, there is a high incidence of unnecessary parts replacement. Technicians that are unable to identify a root cause of failure should not replace any components until they review this TSB and their diagnostic findings with Techline or their DSQM.

When contacting Techline, please have the detailed testing results from this TSB as well as any SSM4 data containing PIDs from the DCM, KACM, and the BIU.

IMPORTANT REMINDERS:

- SOA strongly discourages the printing and/or local storage of service information as previously released information and electronic publications may be updated at any time.
- Always check for any open recalls or campaigns anytime a vehicle is in for servicing.
- Always refer to STIS for the latest service information before performing any repairs.

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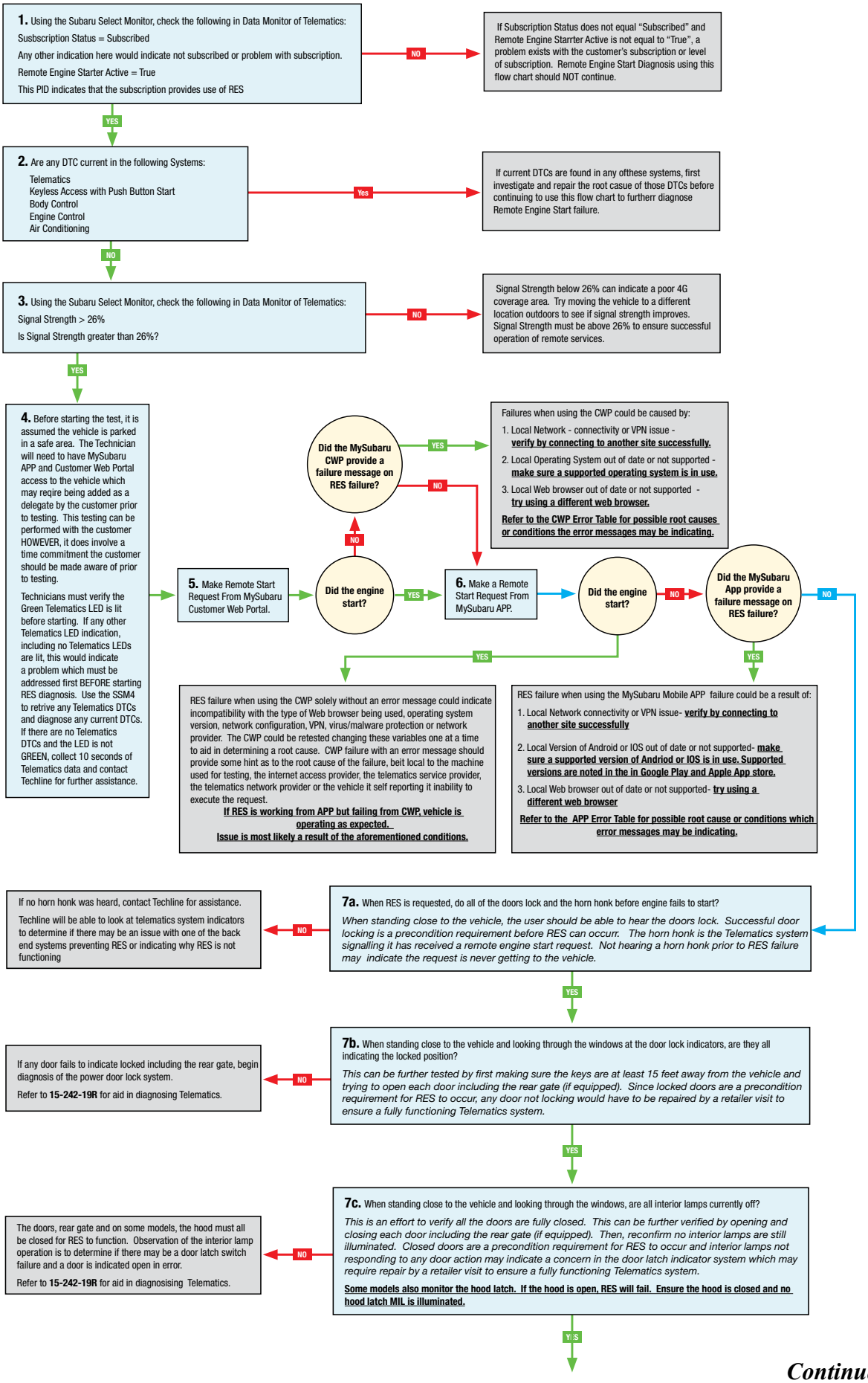
Flow Chart



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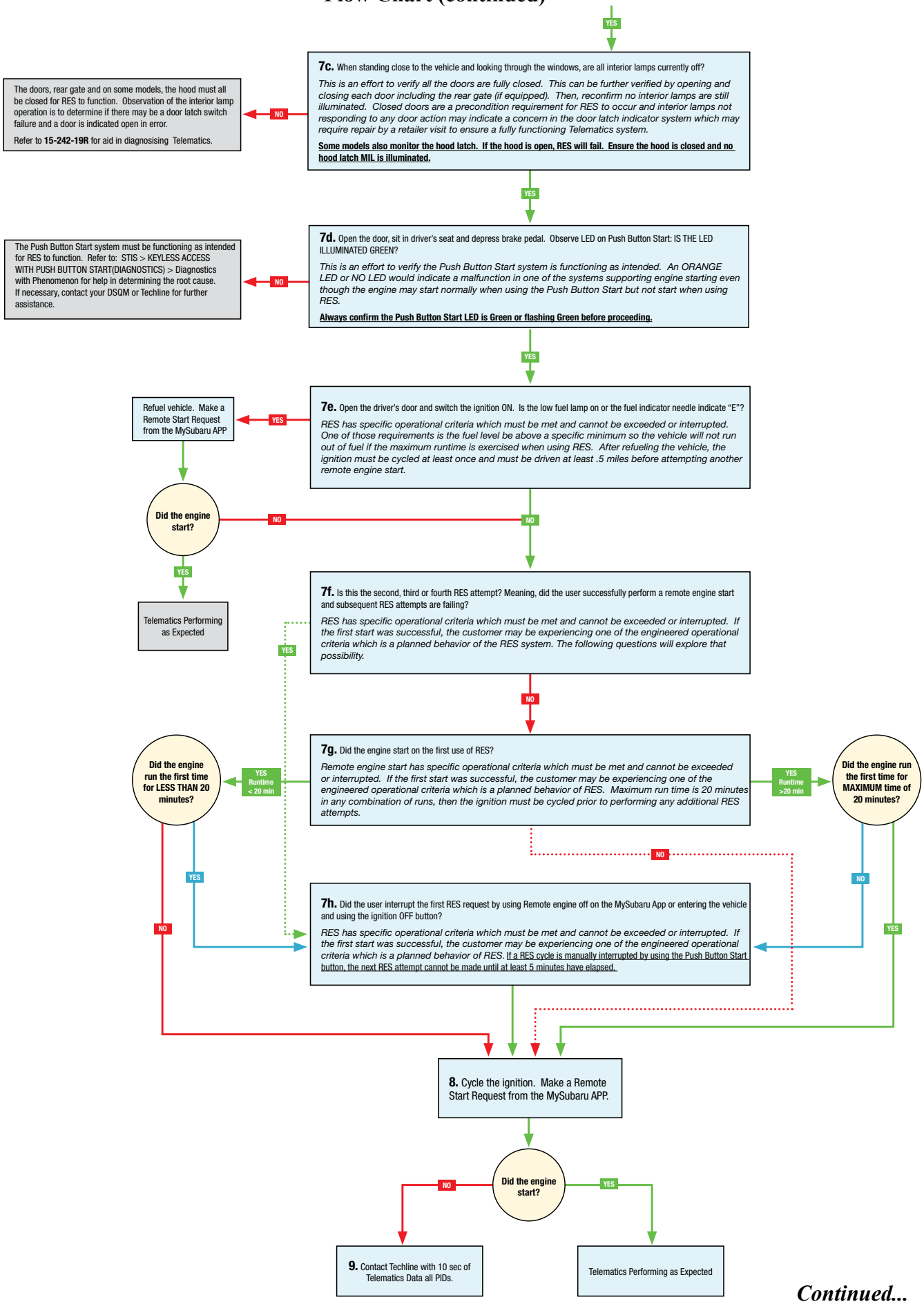
Flow Chart (continued)



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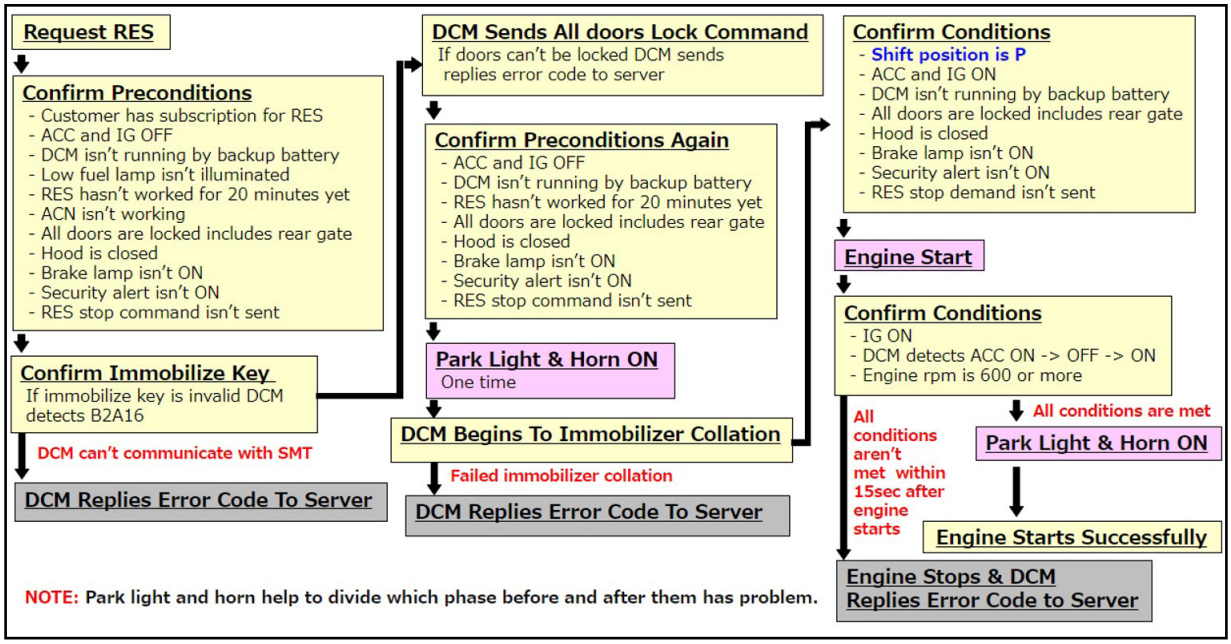
Request RES
Confirm Preconditions
- Customer has subscription for RES
- ACC and IG OFF
- DCM isn't running by backup battery
- Low fuel lamp isn't illuminated
- RES hasn't worked for 20 minutes yet
- ACN isn't working
- All doors are locked includes rear gate
- Hood is closed
- Brake lamp isn't ON
- Security alert isn't ON
- RES stop command isn't sent
Confirm Immobilize Key
If immobilize key is invalid DCM detects B2A16
DCM can't communicate with SMT
DCM Replies Error Code To Server
DCM Sends All doors Lock Command
If doors can't be locked DCM sends replies error code to server
Confirm Preconditions Again
- ACC and IG OFF
- DCM isn't running by backup battery
- RES hasn't worked for 20 minutes yet
- All doors are locked includes rear gate
- Hood is closed
- Brake lamp isn't ON
- Security alert isn't ON
- RES stop command isn't sent
Park Light & Horn ON
One time
DCM Begins To Immobilizer Collation
Failed immobilizer collation
DCM Replies Error Code To Server
Confirm Conditions
- Shift position is P
- ACC and IG ON
- DCM isn't running by backup battery
- All doors are locked includes rear gate
- Hood is closed
- Brake lamp isn't ON
- Security alert isn't ON
- RES stop demand isn't sent
Engine Start
Confirm Conditions
- IG ON
- DCM detects ACC ON -> OFF -> ON
- Engine rpm is 600 or more
All conditions are met
Park Light & Horn ON
Engine Starts Successfully
All conditions aren't met within 15sec after engine starts
Engine Stops & DCM Replies Error Code to Server
NOTE: Park light and horn help to divide which phase before and after them has problem.