SUBARU®

GENUINE ACCESSORIES

Remote Engine Start Systems Troubleshooting Guide

Applicable to 2015-2016MY Legacy and Outback "Turn Start" Ignition Vehicles

!IMPORTANT!

- Test and diagnose any vehicle diagnostic trouble codes (DTC) prior to proceeding with any remote engine start (RES) part replacements.
- Make sure the vehicle has a fully-charged battery before proceeding, around 12.63 volts.
- Ensure that all harness connectors are securely seated per respective installation instructions.
- Make sure the vehicle has a sufficient amount of fuel.
- This guide references back to the respective system's installation instructions, please have a copy of the installation instructions on hand during troubleshooting.

"This Troubleshooting Guide is intended for use by professional technicians ONLY. It is 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 in this guide, DO NOT assume that your vehicle will have that condition."

TSM SAL
Rev 04/25/16

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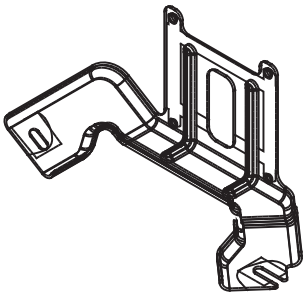
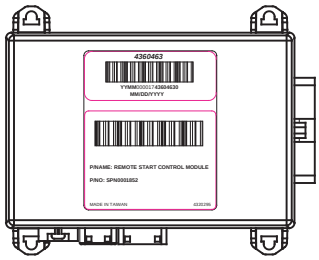
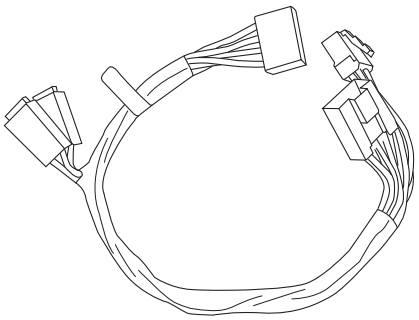
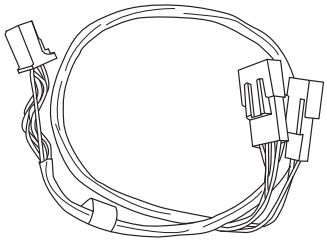
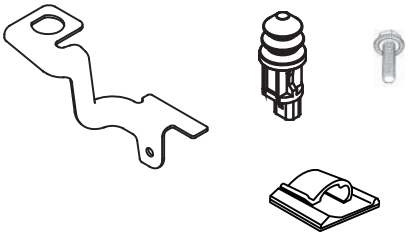
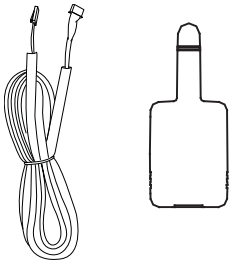
Remote Engine Start System Part Matrix

	Legacy / Outback
	2015-2016MY
Complete RES Kit----------	**H001SAL001***
Service Part Number	
H001SAL010 RES ECU Mounting Bracket	X
H001SAL020 RES ECU Replacement Kit	X
H001SSG460 RES Bi-Directional Fob (qty 1)	X
H001SAL030 Ignition Harness Replacement Kit	X
H001SSG030 Pre-Arranged Jumper Harness Kit	X
H001SAL040 Hood Switch / Bracket Replacement Kit	X
H001SAL050 Antenna Replacement Kit	X

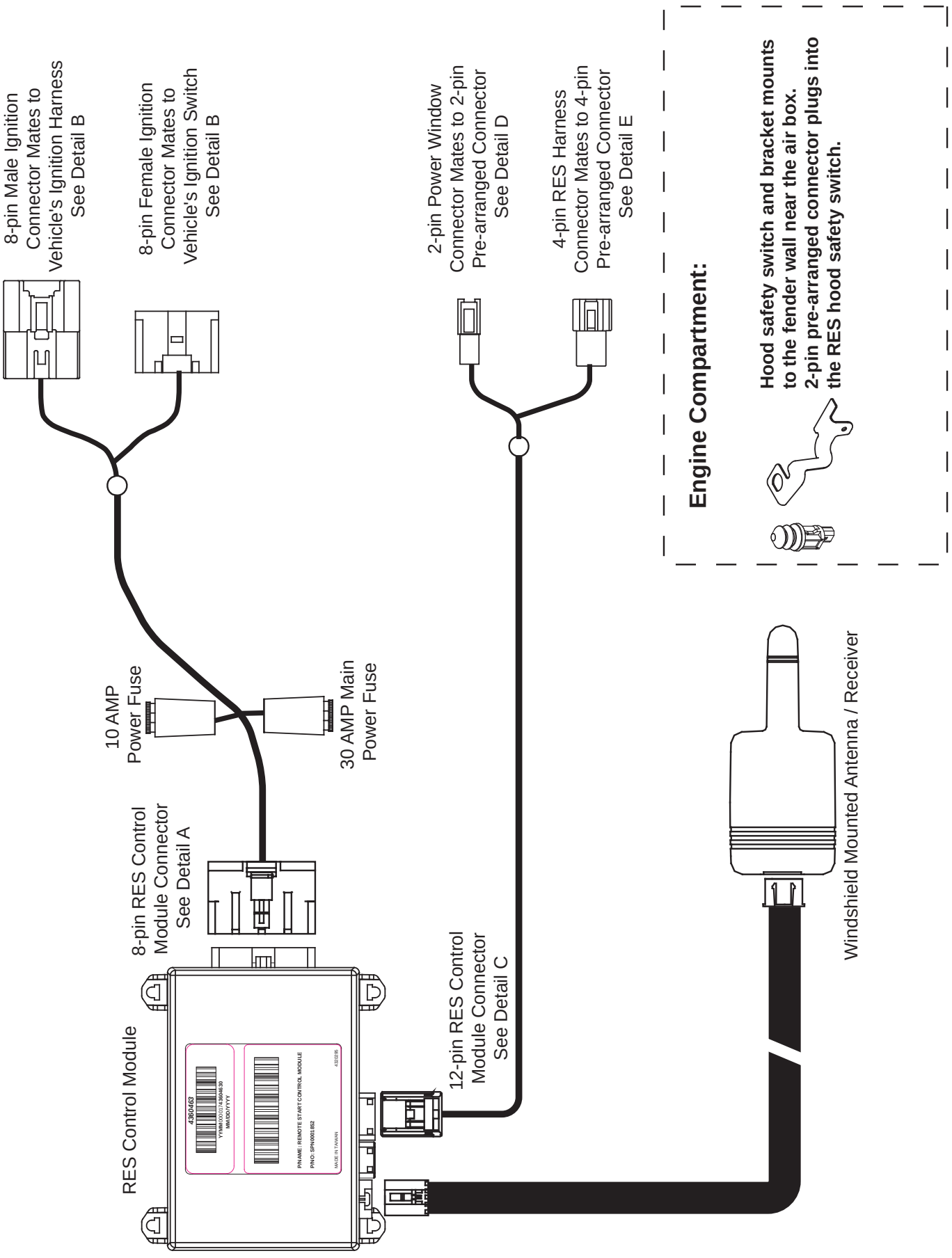
* H001SAL001 replaces H001SAL000. H001SAL000 kit is still applicable until inventory is exhausted.

Please Note: The service part numbers referenced above are current as of the revision of this document. Please check with your parts department for verification.

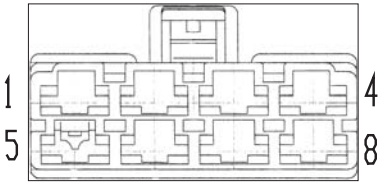
Service Part Detail

H001SAL010 **RES ECU Mounting Bracket** 	**H001SAL020** **RES ECU Replacement Kit** 	**H001SSG460** **RES Bi-directional Fob** 
H001SAL030 **Ignition Harness Replacement Kit** 	**H001SSG030** **Pre-Arranged Juper Harness Kit** 	**H001SAL040** **Hood Switch / Bracket Replacement Kit** 
H001SAL051 **Antenna Replacement Kit** 		

System Layout



"Detail A" 8-pin RES Control Module Connector



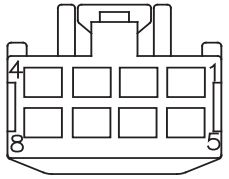
VIEW FROM WIRE END

NOTE: Connector Layout Applies to all: 2015-2016MY Lagacy and Outback Vehicles

Pin	Wire Color	Function	In / Out	Pol.	Description
1	Open	Open	Output	+	Not populated at vehicle ignition switch
2	Blue (20 AWG)	Battery 2	Input	+	Battery (12 volt) input to RES Control Module (10 Amp fused)
3	Yellow	Accessory Output	Output	+	Output to power ignition switch accessory circuit during RES operation
4	Gray (20 AWG)	Starter 1	Output	+	Starter Crank Output to vehicle crank relay coil
5	Green	Ignition 1	I/O	+	Ignition switch Ig 1 Input, RES ignition 1 output
6	Open	Open			
7	Red/Black	Starter 2	Output	+	Starter crank 2 output to vehicle crank relay
8	White	Battery 1	Input	+	Battery (12 volt) input to RES Control Module (30 Amp fused)

"Detail B" 8-pin RES Ignition Switch Connectors

8-Pin Female Connector
Mates to Vehicle's
Ignition Switch

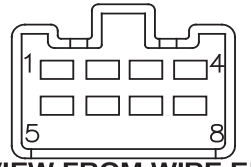


VIEW FROM WIRE END

NOTE: Connector Layout Applies to all: 2015-2016MY Legacy and Outback Vehicles

Pin	Wire Color	Function	In / Out	Pol.	Description
1	Green	Ignition 1	I/O	+	Ignition switch Ig 1, RES ignition 1 output
2	Yellow	Accessory	Output	+	Ignition switch accessory, RES accessory output
3	White/Black	Starter 1	Output	+	Starter crank output
4	White	Battery	I/O	+	Ignition switch battery + feed
5	Blue	Battery 2	I/O	+	Ignition switch battery + feed
6	Open Cavity	Open	-	NA	NA
7	Gray	Starter 2	Output	+	Starter 2 Output
8	Open Cavity	Open	--	NA	NA

8-Pin Male Connector
Mates to Vehicle's
Ignition Switch Harness

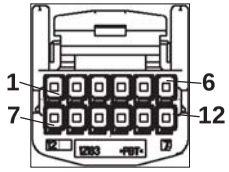


VIEW FROM WIRE END

NOTE: Connector Layout Applies to all: 2015-2016MY Legacy and Outback Vehicles

Pin	Wire Color	Function	In / Out	Pol.	Description
1	Green	Ignition 1	I/O	+	Ignition switch Ig 1, RES ignition 1 output
2	Yellow	Accessory	Output	+	Ignition switch accessory, RES accessory output
3	White/Black	Starter 1	Output	+	Starter crank output
4	White	Battery	I/O	+	Ignition switch battery + feed
5	Blue	Battery 2	I/O	+	Ignition switch battery + feed
6	Open Cavity	Open	-	NA	NA
7	Gray	Starter 2	Output	+	Starter 2 Output
8	Open Cavity	Open	--	NA	NA

"Detail C" 12-pin RES Control Module Connector



VIEW FROM WIRE END

NOTE: Connector Layout Applies to all: 2015-2016MY Legacy and Outback Vehicles

Pin	Wire Color	Function	In / Out	Pol.	Description
1	Black	Chassis Ground	Input	-	Chassis ground input to RES system
2	Open	NA	NA	NA	NA
3	Open	NA	NA	NA	NA
4	Blue	CAN Low	NA	Data	High Speed CAN data transmit / receive
5	Open	NA	NA	NA	NA
6	Tan	Power Window Inter.	NA	NA	Interrupts ground trigger to power window ignition relay during RES
7	Open	NA	NA	NA	NA
8	Open	NA	NA	NA	NA
9	Yellow/Black	Hoood Safety Switch Input	Input	-	Registers ground with hood is open, rests neutral when hood is closed
10	Red	CAN High	NA	Data	High Speed CAN data transmit / receive
11	Tan/Red	Power Window Inter.	NA	NA	Interrupts ground trigger to power window ignition relay during RES
12	Open	NA	NA	NA	NA

"Detail D" 2-pin RES Power Window Interrupt Connector

2-Pin Male Connector
Mates to Vehicle's 2-Pin
Female Pre-arranged
Connector

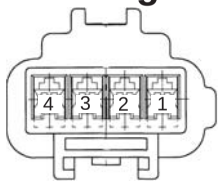
VIEW FROM WIRE END

NOTE: Connector Layout Applies to all: 2015-2016MY Legacy and Outback Vehicles

Pin	Wire Color	Function	In / Out	Pol.	Description
1	Tan	Power Window Inter.	NA	NA	Interrupts ground trigger to power window ignition relay during RES
2	Tan/Red	Power Window Inter.	NA	NA	Interrupts ground trigger to power window ignition relay during RES

"Detail E" 4-pin RES Pre-Arranged Connector

4-Pin Female Connector
Mates to Vehicle's 4-Pin
Female Pre-arranged
Connector



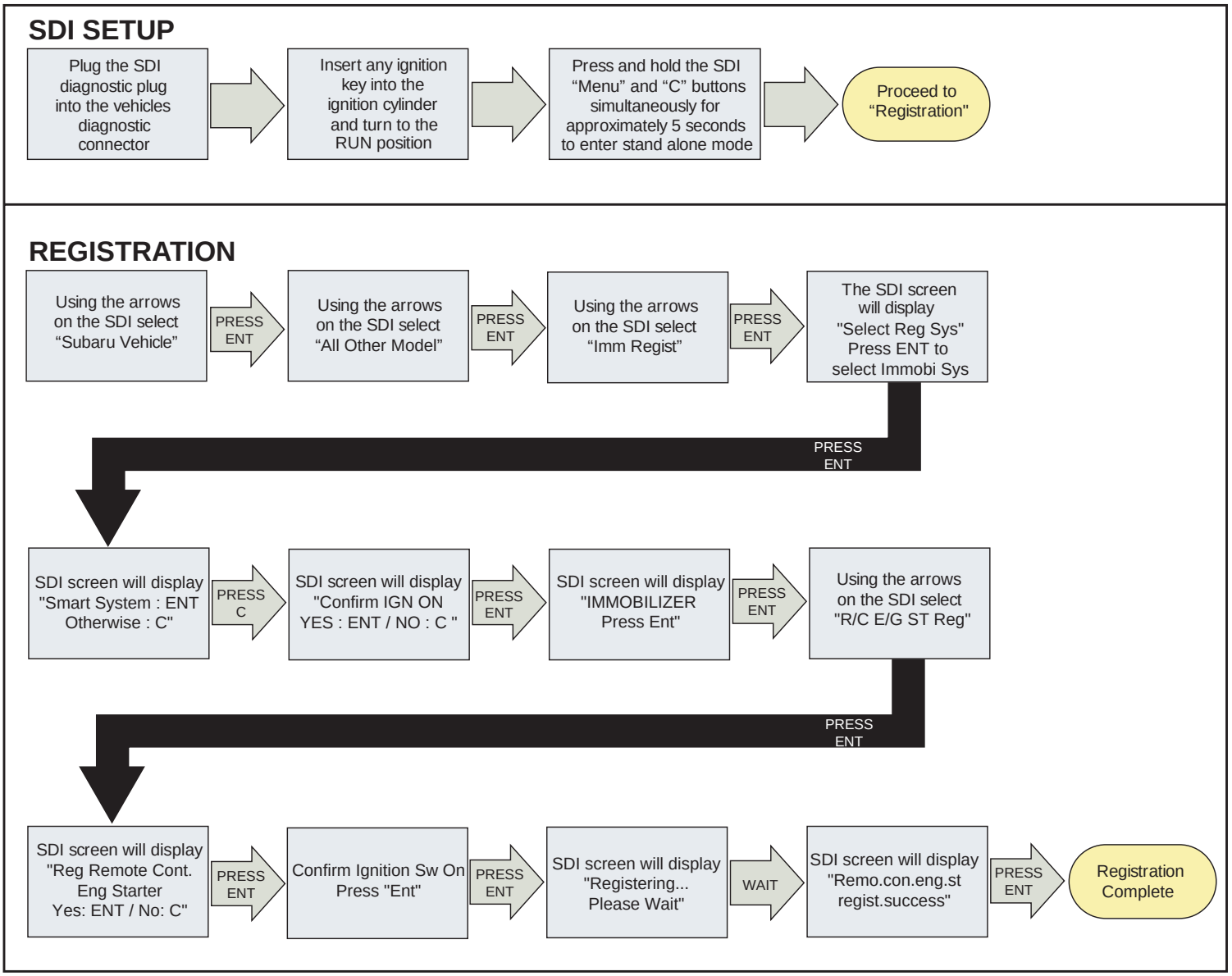
VIEW FROM WIRE END

NOTE: Connector Layout Applies to all: 2015-2016MY Legacy and Outback Vehicles

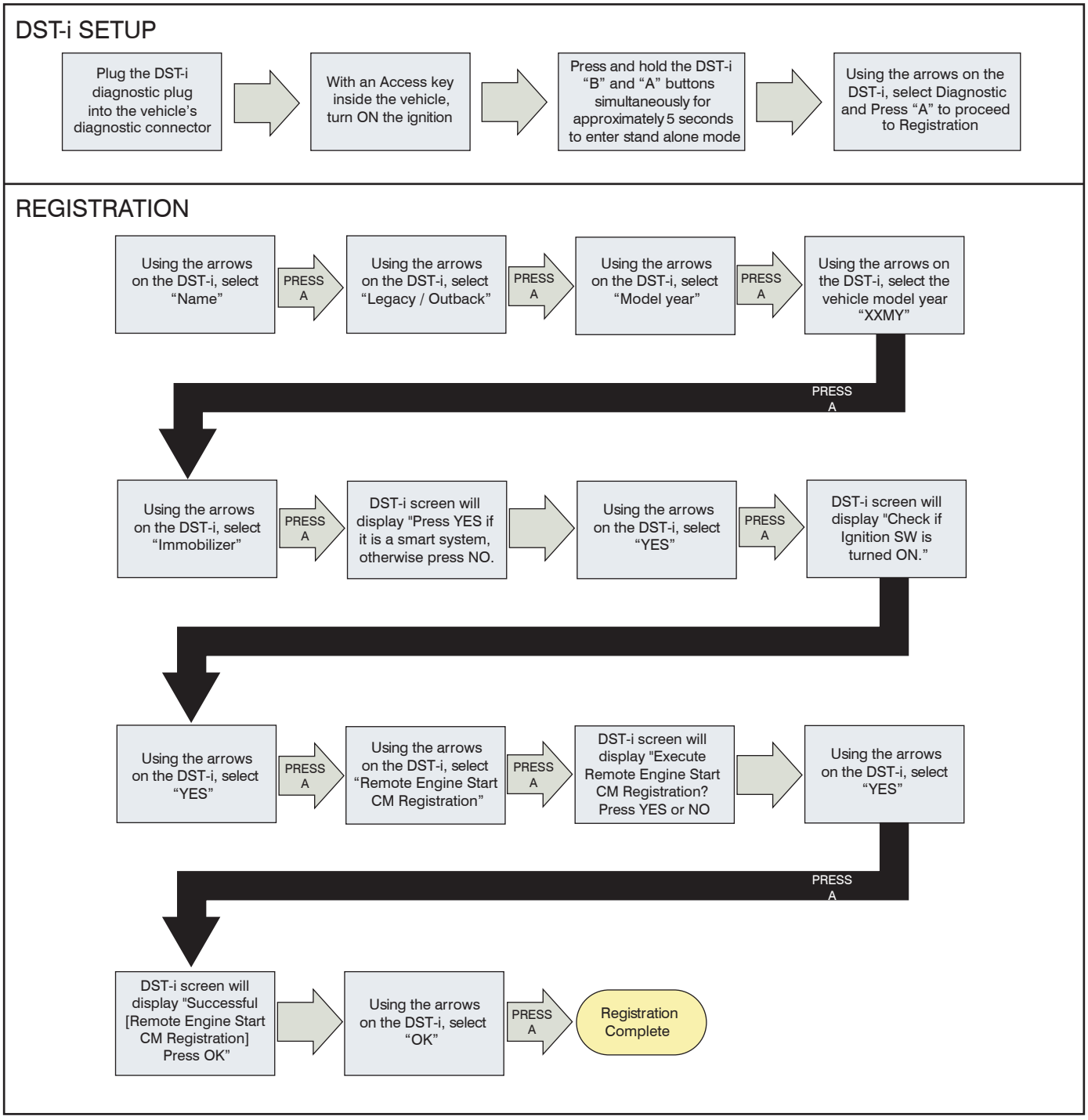
Pin	Wire Color	Function	In / Out	Pol.	Description
1	Yellow/Black	Hood Safety Switch Input	Input	-	Registers ground with hood is open, rests neutral when hood is closed
2	Black	Chassis Ground	Input	-	Chassis ground input for RES system
3	Blue	CAN Low	NA	Data	High Speed CAN data transmit / receive
4	Red	CAN High	NA	Data	High Speed CAN data transmit / receive

Remote Engine Start Control Module Registration Procedure - SDI/SSMIII

1. Use of Subaru Diagnostic Interface (SDI) is required.
2. Verify SSM III (SDI) software is current.



Remote Engine Start Control Module Registration Procedure - DST-i



Remote Engine Start Bi-directional Transmitter Programming Procedure

NOTE: Up to eight (8) transmitters can be programmed to the remote engine start system.

1. Open the driver's door (the driver's door must remain open throughout the entire process).
2. Depress and hold the vehicle's brake pedal.
3. Turn the ignition to the "on" and leave on for approximately 2 seconds then "off", "on" then "off", "on" then "off", then back "on" and leave "on" throughout the programming process. (Four ignition key cycles ending in "on", total duration from point of second ignition "on" cycle must not exceed five (5) seconds)
4. The system will flash the side marker lights, tail lights, front position lights and honk the horn three (3) times indicating that the system has entered transmitter learn mode.
5. Press and release the "  " button on the transmitter you wish to program.
6. The system will flash the side marker lights, tail lights, front position lights and honk the horn one (1) time, indicating that the system has learned the transmitter. Upon successful programming, the remote start confirming transmitter button will flash one (1) time (within five (5) seconds).
7. Repeat step five (5) for any additional transmitters (the system will accept up to eight (8) transmitters).
8. The system will exit transmitter programming mode if the ignition key is turned to the OFF position, the door is closed or after two (2) minutes.

Remote Engine Start Run Time Selection

The system is preprogrammed to run for fifteen (15) minutes before automatically stopping. The programmed run period can be changed to alternate times using the following procedure.

1. Enter the vehicle and close all vehicle doors, trunk or rear gate.
2. Verify that the transmission shifter is in the "park" position.
3. Turn the ignition to the "on" and leave on for approximately 2 seconds then "off", "on" then "off", "on" then "off", then back "on" and leave on throughout the programming process. (Four ignition key cycles ending in "on", total duration from point of first ignition "on" cycle must not exceed eight (8) seconds).
4. The system will honk the horn the number of times corresponding to the current run time setting.
5. Open and close the driver's door to advance to the next run time setting. The system will honk the horn the number of times corresponding to the new run time setting.
6. Run time selection mode will exit via turning the ignition key off or thirty (30) seconds of inactivity. Upon exit the current run time selection will be stored.

Horn Honks	Run Time
1	Three (3) Minutes
2	Five (5) Minutes
3	Ten (10) Minutes
4	Fifteen (15) Minutes (Default Setting)

Remote Engine Start Activation Horn Honk Diagnostics

When activating the remote engine start system will respond with various horn honk and exterior vehicle light flashes. The sequence of the horn honks/light flashes can help to differentiate between normal and abnormal operation and aid in troubleshooting. Below is a description of the various horn honk/light flash sequences and description of function.

Horn Honk/Light Flash Sequence	System Operation / Failure Mode
One (1) horn honk/light flash immediately after activation from RES fob then one (1) horn honk/light flash following ignition power, starter crank and vehicle start.	Normal operation - Indicates RES system has received remote start request from RES fob, all safety parameters are correct and vehicle has successfully started.
Two (2) horn honks/light flashes immediately after activation from RES fob.	A safety check determined a failure which prevents the system from operating. Possible causes are: 1. Vehicle hood is open or safety switch is active. 2. Ignition key is resting in the ignition cylinder or the “key chime” circuit is active.
One (1) horn honk/light flash immediately after activation from RES fob. Followed by a pause and then two additional horn honks /light flashes.	A safety check determined a failure which prevents the system from operating. Possible causes are: 1. Vehicle hood is open or safety switch is active. 2. Vehicle brake pedal is ON or active. 3. Ignition key is resting in the ignition cylinder or the “key chime” circuit is active. 4. Transmission shifter is not in the PARK position
Three (3) horn honks/light flashes immediately after activation from RES fob.	The RES system has detected one of the following operational failures: 1. Remote start has exceeded the maximum 20 minute run duration between physical ignition key cycles. Cycle ignition key ON then OFF to clear max run timer. OR 2. A vehicle related issue (DTC) is requiring RES to abort operation. Correct vehicle issue and retry activation.
Four (4) horn honks/light flashes immediately after activation from RES fob.	Indicates that the RES system was either not registered or not successfully registered to the vehicle using the Subaru Select Monitor tool.
Five (5) horn honks/light flashes immediately after activation from RES fob.	RES system is in “Service Mode”. Refer to the vehicle owner’s manual or RES quick reference card for details.
One (1) horn honk/light flash immediately after activation from RES fob. Followed by a pause and then six (6) additional horn honks/light flashes.	Indicates that a vehicle door, trunk or rear gate was open when activating RES. All doors, trunk or rear gate must be closed for RES system to operate.

Remote Engine Start Diagnostic Mode

The remote engine start module is equipped with a diagnostic mode that will aid in troubleshooting abnormal failure to start or abnormal shut down conditions. The diagnostic mode saves the last abnormal failure to start or abnormal shut down in memory. This is particularly helpful in determining a past failure when the system may not be currently exhibiting the observed failure mode. Normal shut downs will not be included in the diagnostic table. Normal shutdowns include: run time expiration, shut down or failure to start when the vehicle door is opened, shut down via RES transmitter and failure to start when the service mode is active.

Accessing diagnostic mode:

1. Enter the vehicle and close all vehicle doors, trunk or rear gate.
2. Verify that the transmission shifter is in the “park” position.
3. Turn the ignition to the “on” and leave on for approximately 2 seconds then “off”, “on” then “off”, “on” then “off”, “on” then “off”, “on” then “off”, then back “on” and leave on throughout the programming process. (Six ignition key cycles ending in “on”, total duration from point of second ignition “on” cycle must not exceed eight (8) seconds)
4. The system will flash the side marker lights, tail lights, front position lights and honk the horn a number of times corresponding with the table below.

Horn Honks	Shutdown Condition	Diagnosis
No Honk	Normal Operation	Normal remote start operation. No abnormal shut downs have occurred since installation of the system.
1 Honk	Hood Safety Switch Active	Verify that hood is closed and latched. Check for damaged or mis-aligned hood switch/bracket.
2 Honks	Brake Pedal Depressed	Check for damaged or inop brake switch in vehicle or connection issue between BIU and brake pedal switch. This does not indicate failure of an RES component.
3 Honks	RES Stop Request	The vehicle's BIU sent a "stop request" to the RES module to indicate a vehicle related concern (DTC's, etc.). Vehicle condition must be corrected prior to restoring RES operation. This does not indicate failure of an RES component. Contact SOA for a listing of conditions and DTC's that would cause the BIU to transmit an "RES Stop Request" message.
4 Honks	RPM Over-rev	The RES module reads a CAN message to determine engine speed (> 3,500 RPM). Check vehicle systems to determine what would cause an abnormal high RPM. This does not indicate failure of an RES component.
5 Honks	Missing CAN Messages	The RES system detected missing CAN Bus messages from the BIU or TCU. Verify proper operation of both BIU and TCU. This does not indicate failure of an RES component.
6 Honks	Shifter Not in Park	This indicates that the shifter was not in park at time of RES activation or was moved out of park after RES activation. Verify operation of transmission/shifter switches. Verify operation of the BIU and TCU. This does not indicate failure of an RES component.
7 Honks	CAN Error	This fault indicates that the RES module recorded 24 or more CAN error messages. Clear any vehicle DTC's that are present and re-test. If DTC's continue to occur, remove the (2) 30 AMP fuses from the RES main harness. If DTC's return, there is an issue with another vehicle component. If DTC's do not return **or return only when RES system is running the vehicle**, replace the RES control module p/n H001SFJ010.

Advanced Troubleshooting

The RES system will not run for the full default 15-minute run time

- The RES system run time is selectable for 3 minutes, 5 minute, 10 minutes and 15 minutes. Please refer to the vehicle owner's manual, RES quick reference card or this troubleshooting for RES system run time selection.

The RES system will not operate when activated multiple times in a row

A safety feature has been added to the RES system to prevent operation for more than 20 minutes in between physical ignition key cycles. Cycling the ignition key to the RUN position and then back off will clear the 20 minute timer.

If the 20 minute max duration has been reached in between physical ignition key cycles, the vehicle's horn will honk three (3) times on subsequent activations to alert the user that the max operation time has been reached.

Advanced Troubleshooting

The RES system shuts down when any vehicle door trunk or rear gate is opened.

- This is an additional safety feature and is normal operation.

Note: The vehicle will continue to run if the trunk is opened on sedan vehicles.

The vehicle starts by itself without pressing the transmitter button

Two conditions could exist that would allow the vehicle to start without user interaction with the RES transmitter.

1. Another user's transmitter accidently programmed to the system and in range of activation.

2. Damage (usually caused by severe drop/shock) to the RES transmitter that is allowing the button to stay engaged or damage causing a self transmit.

1. Another user's transmitter accidently programmed to the system and in range of activation.

To correct this situation, the unauthorized transmitter must be de-programmed from the system. All customer RES transmitters must be available. Following the transmitter programming instructions on page 11 of this guide, when you reach step 5, you will program each transmitter multiple times to fill all 8 memory slots. For example, if 2 transmitters are available, program each transmitter four (4) times. This will de-program any unauthorized transmitter.

Does this solve the problem?

NO

2. Damage (usually caused by severe drop/shock) to the RES transmitter that is allowing the button to stay engaged or damage causing a self transmit.

If this issue is the cause of the vehicle starting on it's own, a slight touch or rub of the button on the RES transmitter would cause it to activate. If this is the case, the recommended action is to replace the RES transmitter P/N H001SSG460.

The SSMIII SDI oe DST-i screen displays “Registration Failure” when attempting to register the RES module to the vehicle.

- Are the 8-pin and 12 pin connectors at the RES control module secure?
-Are the ignitions switch T-connectors properly installed and secure?
- Are the vehicle pre-arrangement connectors secure between the RES control module and pre-arrangement connectors?

NO → Ensure that all wire harness connectors are secure at the RES control module, ignition switch and vehicle pre-arrangement connectors and re-attempt the registration process.

YES

- Verify +12 volt battery power at the white and light blue wires (pins 2 and 8) of the 8-pin RES module connector.
- Verify +12 volt battery power at the white and light blue wires (pin 4 & 5) of the 8-pin male and female ignition connectors.
- Verify that the (10 amp and 30 amp fuses on the RES ignition harness are not blown.
- Verify that no loose or damaged terminals / connectors are present at the RES control module 12-pin connector, 2-pin pre-arranged connector or 4-pin pre-arranged connector.

NO → Replace any blown fuses in the RES ignition harness as necessary

If loose or damaged terminals are found at the 8-pin RES module connector, replace the RES ignition harness as necessary (p/n H001SAL030.

If loose or damaged terminals are found at the 8-pin male or female ignition switch connectors, replace the RES ignition harness as necessary (p/n H001SAL030).

If loose or damaged terminals are found at the RES control module 12-pin connector, 2-pin pre-arranged connector or 4-pin pre-arranged connector replace the RES pre-arranged jumper harness as necessary (p/n H001SSG030).

YES

- Unplug the 5-pin antenna / receiver harness from the RES control module and re-attempt the registration process.

NO → Replace the RES ECU Replacement Kit (p/n H001SAL020).

YES

- Verify that there is no damage the antenna / receiver harness at the RES control module or any areas where it is routed to the windshield mounted antenna / receiver.

YES

Replace the antenna / receiver and wire harness as necessary (p/n H001SAL051).

CAN Diagnostic Trouble Codes ("U codes") are triggered in the vehicle.

- Temporarily remove the 10 amp and 30 amp power fuses from the RES ignition harness and unplug the 12-pin RES control module connector. Do the DTC's clear and remain cleared when the vehicle is operated using the ignition key?

NOTE: After verification, re-install the 10 amp and 30 AMP fuses and plug the 12-pin connector back into the RES control module.

NO → This problem is likely not related to the RES system.

YES

- Verify +12 volt battery power at the white and light blue wires (pins 2 and 8) of the 8-pin RES module connector.
- Verify +12 volt battery power at the white and light blue wires (pins 4 & 5) of the 8-pin male and female ignition connectors.
- Verify that the 10 amp and30 amp in-line fuses on the RES ignition harness are not blown.
- Verify that no loose or damaged terminals / connectors are present at the RES control module 12-pin connector, 2-pin pre-arranged connector or 4-pin pre-arranged connector.

NO →

Replace any blown fuses in the RES ignition harness as necessary

If loose or damaged terminals are found at the 8-pin RES module connector, replace the RES ignition harness as necessary (p/n H001SAL030

If loose or damaged terminals are found at the 8-pin male or female ignition switch connectors, replace the RES ignition harness as necessary (p/n H001SAL030.

If loose or damaged terminals are found at the RES control module 12-pin connector, 2-pin pre-arranged connector or 4-pin pre-arranged connector, replace the RES pre-arranged jumper harness as necessary (p/n H001SSG030).

YES

- Unplug the 5-pin antenna / receiver harness from the RES control module and operate the vehicle using the ignition key. Do the DTC's return?

NO →

Verify that there is no damage the antenna / receiver harness at the RES control module or any areas where it is routed to the windshield mounted antenna / receiver.

Replace the antenna / receiver and wire harness as necessary (p/n H001SAL051).

YES

Replace the RES ECU Replacement Kit (p/n H001SAL020).

The vehicle's ignition turns on when the remote engine start system is activated but does not crank the starter

- Was the RES control module successfully programmed to the vehicle using the SSMIII or DST-i?

NO → Follow the procedures for "Remote Engine Start Control Module Registration" on page 10 of the guide to register the RES control module to the vehicle.

YES

- Temporarily bypass the hood safety switch and connect a battery charger to the vehicle's battery. Attempt the remote start system again with the battery charger connected.
- Does this solve the problem?

YES → Replace or recharge the vehicle's battery as necessary.

Note: the RES system is required to cease crank output if the vehicle's ignition circuit is registering less than 9.0 volts at RES system power-up. The system will make 3 additional attempts. The system will also abort the RES process (no start re-attempts will occur) if ignition circuit is registering < or equal to 6.0 volts during the starter crank cycle.

Note: Be sure to re-connect the hood safety switch after test.

NO

- Are any CAN diagnostic ("U codes") present in the vehicle?

YES or NO

- Verify +12 volt battery power at the white and light blue wires (pins 2 and 8) of the 8-pin RES module connector.
- Verify +12 volt battery power at the white and light blue wires (pins 4 & 5) of the 8-pin male and female ignition connectors.
- Verify that the 10 amp and 30 amp in-line fuses on the RES ignition harness are not blown.
- Verify that no loose or damaged terminals / connectors are present at the RES control module 12-pin connector, 2-pin pre-arranged connector or 4-pin pre-arranged

NO → Replace any blown fuses in the RES ignition harness as necessary

If loose or damaged terminals are found at the 8-pin RES module connector, replace the RES ignition harness as necessary (p/n H001SAL030).

If loose or damaged terminals are found at the 8-pin male or female ignition switch connectors, replace the RES ignition harness as necessary (p/n H001SAL030).

If loose or damaged terminals are found at the RES control module 12-pin connector, 2-pin pre-arranged connector or 4-pin pre-arranged connector, replace the RES pre-arranged jumper harness as necessary (p/n H001SSG030).

YES

- Unplug the 5-pin antenna / receiver harness from the RES control module and re-register the RES control module to the vehicle using the SSMIII.

NO → Verify that there is no damage the antenna / receiver harness at the RES control module or any areas where it is routed to the windshield mounted antenna / receiver.

Replace the antenna / receiver and wire harness as necessary (p/n H001SAL051).

YES

Replace the RES ECU Replacement Kit (p/n H001SAL020).

The remote engine start system does not power the vehicle's ignition circuits after receiving the remote start command

- Was the RES control module successfully programmed to the vehicle using the SSMIII?

NO → Follow the procedures for "Remote Engine Start Control Module Registration" on page 10 of the guide to register the RES control module to the vehicle.

YES

- Does the vehicle start and operate properly when starting with the ignition key?

NO → - Verify that the remote engine start 8-pin ignition switch male and female connectors are securely seated.
- Verify that the RES ignition harness 8-pin connector and RES jumper harness 12-pin connector are securely seated into the remote engine start control module.

YES

-Verify that there is +12 volt output at pin 5 (Green wire) of the RES ignition harness 8-pin connector of the RES ignition harness 8-pin connector after the remote engine start system is activated.
- Verify that the 10 amp and 30 amp fuses on the RES ignition harness are not blown and replace as necessary.

→ Retest - If this did not fix the problem replace the RES ECU Replacement Kit (p/n H001SAL020).

Does this solve the problem?

NO

Replace the RES ignition harness (p/n H001SAL030).

The vehicle starts when the remote engine start system is activated, but the heater / air conditioning does not turn on

- Does the heater / air conditioning turn on when the vehicle is running with the ignition key?

NO

- Verify that the remote engine start 8-pin ignition switch male and female connectors are securely seated.
- Verify that the RES ignition harness is securely seated into the RES control module.

YES

- Are the heater or air conditioning controls in the vehicle preset to the desired setting prior to activation of the remote engine start system?

NO

- The remote engine start system does not have the ability to adjust the vehicle's climate controls, they must be preset to the desired setting prior to activation.
- For electronic climate control vehicles, the display should read "Full Auto". The blower may not come on at full speed, but the vehicle will automatically set the climate control to heat or cool the interior to a median temperature. This is normal operation.

YES

-Verify that there is +12 volt output at the RES ignition harness 8-pin connector, pin 3 (yellow wire). NOTE: There will be no output on these wires while the starter motor is energized.
- Verify that the 10 amp and 30 amp fuses on the RES ignition harness are not blown and replace as necessary.

Retest - If this did not fix the problem replace the RES ECU Replacement Kit (p/n H001SAL020).

Does this solve the problem?

NO

Replace the RES ignition harness (p/n H001SAL020).

The RES system does not respond when the transmitter button is pressed 2-times.

- Do the RES transmitter batteries have sufficient charge? Note: The 3V lithium battery should register a 3V charge while tested under load. Battery life under normal usage is approximately 1 year.

NO → Refer to the vehicle's owner's manual remote start section for battery replacement.

YES

- Do both transmitters fail to function when and an activation attempt is made?

NO → - Using the "Remote Engine Start Bi-directional transmitter programming procedure" on page 11 of this guide, attempt to re-program the non-functioning RES transmitter. Does this solve the problem?

YES

NO

Using the "Remote Engine Start Bi-directional transmitter programming procedure" on page 11 of this guide, attempt to re-program both transmitters. Does this solve the problem?

NO → Replace the RES bi-directional transmitter(s) p/n H001SSG460. Does this solve the problem?

NO

- Inspect the RES antenna / receiver harness for shorts or damage.
- Inspect the RES antenna / receiver harness connectors at the windshield mounted antenna and RES control module for

Replace the RES antenna / receiver and harness p/n H001SAL051.

The RES system bi-directional feature does not function

- Do the RES transmitter batteries have sufficient charge? Note: The 3V lithium battery should register a 3V charge while tested under load. Battery life under normal usage is approximately 1 year.

- Transmitter range and bi-directional functionality will deteriorate as batteries near end of life.

NO → - Refer to the vehicle's owner's manual remote start section for battery replacement.

YES

- Does the bi-directional feature fail to function on both transmitters after the vehicle has successfully started?

NO → - Using the "Remote Engine Start Bi-directional transmitter programming procedure" on page 11 of this guide, attempt to re-program the non-functioning RES transmitter. Does this solve the problem?

YES

- Inspect the RES antenna / receiver harness for shorts or damage.
- Inspect the RES antenna / receiver harness connectors at the windshield mounted antenna and RES control module for loose or damaged terminals.

NO

Replace the RES bi-directional transmitter(s) p/n H001SSG460.

Replace the RES antenna / receiver and harness p/n H001SAL051.

The Vehicle's Horn Honks Five (5) Times When Activating the Remote Start Fuction

- The remote start "Service Mode" is engaged. Refer to the vehicle owner's manual or RES quick reference card for proper procedure for disengaging "Service Mode"

The Vehicle's Ignition Powers and The Horn Honks Two (2) Times When Activating the Remote Start Function

- The remote engine start system is detecting one of the following safety shutdown inputs. This must be corrected prior to restoring normal remote start functionality.
1. Hood Open
2. Brake Pedal Depressed
3. Ignition key sense circuit active (key in ignition cylinder)
4. Transmission Shifter Not in Park

-Hood Open

- Verify that the hood safety switch/bracket are properly installed. Check for damage or misalignment of the switch/bracket.
- The Yellow/Black wire (pin 9) of the 12-pin RES control module connector should register ground when the hood is open and register voltage or open when the hood is closed.

- Brake Pedal Depressed

Check for damaged or inoperable brake switch in the vehicle or connection issue between BIU and brake pedal switch. The RES module reads this input through a CAN Bus message and is likely a vehicle related issue rather than a remote start component failure.

- Ignition Key Sense Circuit Active

Verify that no ignition key is resting in the ignition cylinder.

Check for damaged or inoperable key sense switch in the vehicle or connection issue between BIU and key sense switch. The RES module reads this input through a CAN Bus message and is likely a vehicle related issue rather than a remote start component failure.

-Transmission Shifter Not in Park

Verify that the transmission shifter is not in gear.

Check for damaged or inoperable shift position switch in the vehicle or connection issue between TCU or BCM and shift position switch The RES module reads this input through a CAN Bus message and is likely a vehicle related issue rather than a remote start component failure.