



GROUP
General

MODEL
2020MY
Telluride (ON)

NUMBER
PS654

DATE
April 2020



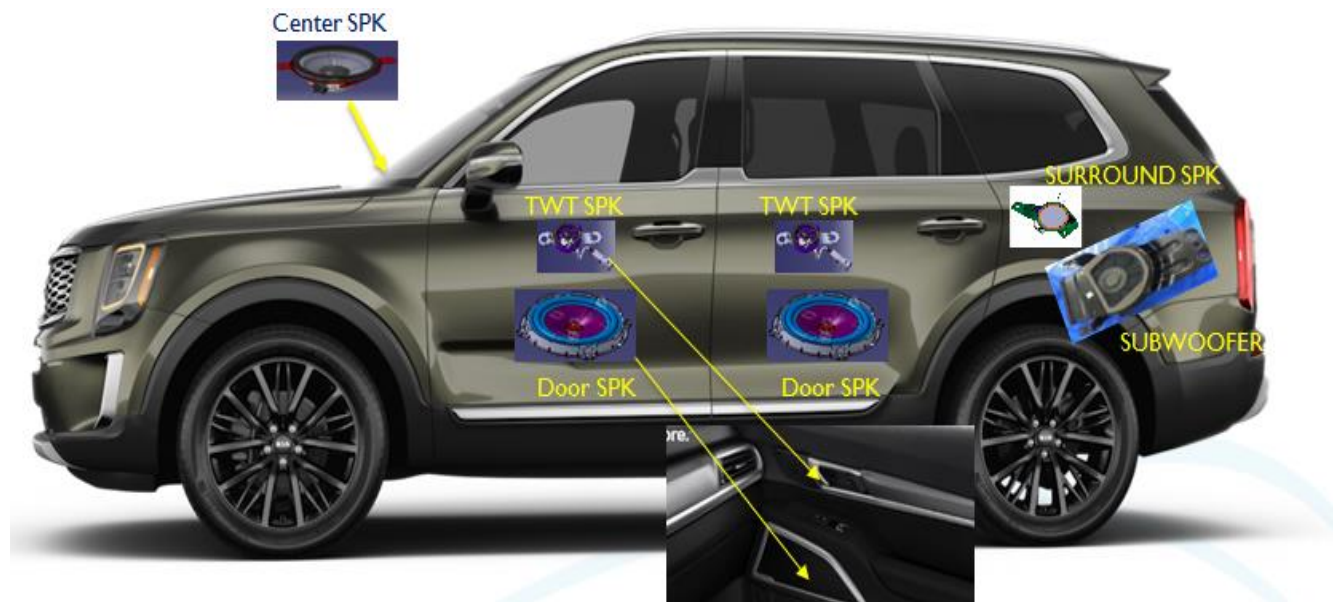
TECHNICAL OPERATIONS

SUBJECT:

DOOR SPEAKER DIAGNOSTIC GUIDE

This Pitstop provides diagnostic information to guide in diagnosis of suspected defective door speakers on some 2020MY Telluride (ON) vehicles. Follow the information outlined in this bulletin to troubleshoot speaker related sound concerns such as:

- No sound is coming from speaker(s)
- Poor sound quality (crackling, buzzing, popping, etc.)
- Rattle or trembling sound under high bass setting



* NOTICE

Always verify that the audio equipment (ex. AVN head unit, amplifier and speakers) are all genuine KIA OEM factory installed components and not aftermarket.

Audio Defect Location Isolation & Verification

Diagnosis Steps

1. Check all audio sources for performance
 - Navigation Audio
 - AM/FM Audio
 - SXM Audio
 - USB Audio
 - Bluetooth Audio
2. If noise is isolated to a specific audio mode you need to check antenna, head unit, or amplifier.
3. If noise is on all audio modes use the head unit audio controls to adjust to Left Hand /Right Hand /Front and Rear sound settings to isolate location to a specific speaker if possible.
4. If all speakers suffer from the same audio defect, investigate amplifier, head unit, or wire harness.
5. Once isolated to a specific symptom/speaker, follow one of the procedures outlined below.



No Sound is Coming From Speaker:

Symptoms:

1. No sound is heard from a specific speaker or multiple speakers.
2. There is intermittently no sound from the speakers.

Typical Causes:

1. Speaker connector is soft set, has poor contact, or pin damage.
2. Speaker, Amplifier, or head unit is defective.
3. Defect or damage to wire harness.

Diagnosis Steps

1. Remove door panel trim cover following instructions in KGIS (Body Interior and Exterior → Front/Rear Door → Front/Rear Door Module → Repair Procedures).
2. Check speaker connection for proper engagement.
3. Measure the speaker resistance and DC offset of the wire harness.
 - Measure the resistance on the male terminal of the speaker. It should measure between 1.8 to 2.4 ohms.
 - i. If the resistance is within this range, the speaker should be operating normally.
 - ii. If resistance is outside this range, continue diagnosis on the speaker.
 - Check the DC offset (voltage difference) of the wire harness terminal from the AMP output (speaker input) terminal in ACC ON state.
 - i. If DC offset is 90mV or less, replace the Speaker.
 - ii. If DC offset is greater than 90mV, check other parts in audio system.
 - Compare Head Unit or Amp with known good. Check wire harness.



Poor Sound Quality & Vibration or Trembling Bass:

Symptoms:

1. Popping, humming, or rattle noises heard from the door speaker.
2. Excessive vibration or buzzing when listening to music with high bass.

Typical Causes:

1. Speaker rattle due to cavities in the door panel.
2. Poor music source.
3. Component failure (Amplifier, wiring harness, speaker, head unit)

Diagnosis Steps:

1. Check for foreign objects around the door trim. Foreign objects may be trembling and generating abnormal noise. Listen to a song with high bass to assist in checking for rattle sounds.
2. Remove door panel trim cover following instructions in KGIS (Body Interior and Exterior → Front/Rear Door → Front/Rear Door Module → Repair Procedures).
3. After the door trim is removed, listen to same song and listen for any difference in sound quality. If no noise is present investigate other causes in door panel and surrounding area.
4. Insure the speaker connection is properly engaged, look for any foreign objects inside the connector, bent pins on the male terminal, or backed out female terminals. If you find any of the above defects, adjust accordingly and retest speaker using the same audio track.

Noise Type	Description	Typical Cause
Audible	Popcorn popping	Speaker defect
	Audio ON/OFF pops	Poor audio source
	High frequency after audio is OFF	Power current to other component
Physical	Rattle	Internal wire rattling
		Door trim loose
		Foreign object in the door trim
	Vinyl trembling	Door vinyl trim loose
	Pops sound during audio ON/OFF	Intermittent shorting of wires