



## AAA CENTER FOR DRIVING SAFETY & TECHNOLOGY



### 2017 SUBARU CROSSTREK 2.0I PREMIUM



Standard and Optional Features in the 2017 Subaru Crosstrek

○ Optional

● Standard

	2.0i	2.0i Premium	2.0i Limited
Android Auto			
Apple CarPlay			
Mobile App Support	●	●	●
Text Messaging			
Navigation			○
Touch Screen	●	●	●
Gesture Control			
Heads-Up Display			
Voice Commands	●	●	●
Console Control			

#### STRENGTHS

- The touch-screen menus utilize large buttons that are easy to select.
- While the vehicle is in motion, the dial pad on the touch screen is locked out.

#### INFOTAINMENT SYSTEM\* DEMAND RATING

Very High Demand



The Subaru Crosstrek with STARLINK™ infotainment system placed very high demand on drivers using it to place phone calls and adjust audio entertainment. In its current state, drivers may become frustrated by the system's non-intuitive and time-consuming processes, especially when using voice commands.

#### ABOUT THE STUDY

Researchers evaluated 30 new 2017 vehicles' infotainment systems\* to measure overall demand\*\* placed on a driver when using voice command, touch screen and other interactive technologies to make a call, send a text message, tune the radio or program navigation, all while driving down the road.

#### WEAKNESSES

- Voice command system has poor interpretation accuracy and slow processing times.
- Placing phone calls using either voice or the touch screen requires long interaction times.
- Audio entertainment system includes various multifunctional buttons that some drivers may find confusing.

\* Infotainment System: Vehicle system that combines entertainment and information content

\*\*Overall demand measured: visual (eyes-off road), cognitive (mental), and time-on-task

## VEHICLE OVERVIEW: CONTROLS AND DISPLAYS



VOICE COMMANDS



STEERING WHEEL COMMANDS



INSTRUMENT CLUSTER



CENTER STACK

# INFOTAINMENT SYSTEM

The STARLINK™ In-Vehicle Infotainment System offers the following features:

## CALLING AND DIALING



The STARLINK™ infotainment system in the Crosstrek lets drivers call contacts and dial numbers once a phone is paired. Drivers can access calling and dialing via the touch screen or voice commands. While the vehicle is in motion, the dial pad on the touch screen is locked out.

Voice commands to access calling and dialing functions placed high demand on drivers in our on-road study. Drivers were met with high cognitive (mental) demand for an average of 38 seconds♦ to complete each task. The voice system in the Crosstrek is inconsistent at interpreting commands correctly and has long system lag times.

Drivers accessing calling and dialing functions via the touch screen were met with very high demand. The process of searching through the extensive and complex menu subjected drivers to very high levels of visual (eyes-off-road) and high levels of cognitive (mental) demand. The system's tendency to lag when processing driver input likely contributed to the 26 seconds♦ it took drivers on average to place calls.

The Crosstrek's calling and dialing system imposed very high demand and had poor performance during on-road testing, likely due to the voice system's poor accuracy and slow processing time.

## AUDIO ENTERTAINMENT



The Crosstrek's audio entertainment system includes: AM and FM radio; CD; Bluetooth; USB; and auxiliary input. It supports Pandora and Aha music applications, if available, on a paired device. Android devices can connect via Bluetooth, and Apple devices can connect via USB. Drivers can access audio using the center stack, steering wheel buttons and voice commands. No functions are locked out while driving.

Drivers using voice commands to access audio entertainment in the on-road study experienced very high demand. The noticeably long processing time of the voice system drove up interaction times to 38 seconds♦, on average. Commands were rigid and required several steps to switch between sources and select audio. Even when commands were given in the correct format, the system frequently misinterpreted commands as phone numbers.

Touch-screen interactions for accessing audio entertainment were also associated with very high demand on drivers. Interaction times were lengthy (26 seconds♦ on average) and imposed very high cognitive (mental) and visual (eyes-off-road) demand. Although buttons on the touch screen were large, drivers exhibited difficulty navigating the three different preset menus and the USB device menu, which are placed in multiple submenus.

Audio entertainment functions in the Subaru Crosstrek placed very high demand on drivers, with poor voice command recognition, slow processing times, and non-intuitive menus on the touch screen.

♦ Compared to a recommended maximum of 24 seconds

## VEHICLE CONTROLS AND DISPLAYS

### VOICE COMMANDS



The Crosstrek has a voice command system that lets drivers place phone calls and access audio entertainment. Drivers can activate the voice system by pressing the steering wheel's designated voice command button. When activated, the system plays back a robotic female voice.

### INSTRUMENT CLUSTER



The Crosstrek's instrument cluster, located behind the steering wheel, has a monochrome LCD display that shows vehicle information. It is surrounded by familiar analog gauges and dials. The instrument cluster controls are accessible via a selection knob on the left side of the cluster.

### STEERING WHEEL CONTROLS



The steering wheel contains 13 buttons and one switch. Drivers can use steering wheel buttons to access the vehicle's voice command system, phone calls, cruise control, audio entertainment and certain features on the center stack display.

### CENTER STACK



A 6.2-inch full-color touch-screen display in the center stack provides access to the Crosstrek's audio entertainment, phone functions, applications and settings. Drivers can access each function using the touch screen and the accompanying four buttons and two dials located in the center stack on either side of the screen. Some touch-screen functionality is also available using steering wheel buttons, depending on the active menu.

An auxiliary monochrome LCD display set in the dashboard above the center stack shows the current time and outside temperature, as well as vehicle information. Drivers can select the information to display using a stem button on the right side of the instrument cluster. Below the touch screen, three multi-use dials allow drivers to adjust vehicle climate settings.

## VEHICLE SALES SUMMARY

The 2017 Subaru Crosstrek is the 56th best-selling vehicle in the United States, with 95,677 vehicles sold during 2016<sup>1</sup>.

<sup>1</sup>Source: Automotive News at [autonews.com](http://autonews.com); Wall Street Journal at [wsj.com](http://wsj.com) – data updated to 2/25/2017.