■ FUNCTION

1. General

The main functions of navigation with AV system are listed below.

Function		Outline
Navigation Screen		Through the use of the GPS (Global Positioning System) and map data which is stored on a DVD, the navigation system analyzes the position of the vehicle and indicates that position on the map that is displayed on this screen.
Audio System		Displays the following operations: • Radio Operation • CD Changer Operation
Telephone Operation Screen Display		When a Bluetooth-compatible cellular telephone is registered on the radio and player with display, the driver can make and receive calls or talk hands-free on the cellular telephone by operating the switches on the screen/steering pad.
Hybrid Information Display	Energy Monitor Screen Display	The following information is displayed in accordance with the signals from the hybrid vehicle control ECU (and meter ECU). • Energy transmission direction • HV battery state of charge
	Fuel Consumption Screen Display	The following information is displayed in accordance with the signals from the meter ECU (and hybrid vehicle control ECU). • Average fuel consumption per minute • Possible cruising distance • Recovered energy
	Warning Display	When a warning is necessary, the warning display interrupts the display.
Rear View Monitor System [See page BE-91]		Displays a view of the area behind the vehicle that is captured by the television camera mounted on the tailgate when the shift lever is moved to the reverse position.
Maintenance Information		Can be used to inform the driver of inspection or replacement timing of the following items based on the calendar function and vehicle speed signal. **Engine Oil**: Replace engine oil **Oil Filter**: Replace engine oil filter **Rotation**: Rotate tires **Tires**: Replace tires **Battery**: Replace battery **Brake Pad**: Replace brake pads **Wipers**: Replace wiper blades **LLC**: Replace engine coolant **Brake Oil**: Replace brake fluid **ATF**: Replace ATF **Service**: Scheduled maintenance **Air Filter**: Replace air filter **Personal**: New information items can be created separately from the provided items
Calendar with Memo		It is possible to enter memos for particular dates on the calendar.
Speech Command System		Operates the navigation system based on voice commands. However, only English can be recognized by this function.
Help Screen		The help screen can show the command list and operation guide.
Screen Adjustment		The brightness or contrast of the screen can be adjusted to suit the brightness of surroundings.

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Function	Outline
Screen Setting	The following screen settings are available: **Automatic Transition**: Enables automatic return to the navigation screen from the audio screen. **Switch Color**: Color of touch-screen button can be selected.
Beep Setting	The beep sound can be turned off.
Language Select	The language of the touch-screen buttons, pop-up messages and the voice guidance can be changed. English, French and Spanish are available.
Delete Personal Data	The following personal data can be deleted or returned to their default settings: • Maintenance conditions • Maintenance information “off” setting • Memory points • Areas to avoid • Previous points • Route trace • User selection settings • Phonebook data • Dialed numbers and received calls • Speed dial • Bluetooth phone data • Security code
Diagnosis	This contains the following items: • Service Check • Display Check • Navigation Check • Bluetooth TEL Check

2. Navigation Screen

The navigation ECU calculates the present position, direction of travel, and distance the vehicle has driven based on the following information sources. This information is displayed on the navigation screen.

- DVD map data
- GPS (Global Positioning System) Satellites
- Built-in Gyro Sensor
- Vehicle Speed Signal

The functions of the navigation screen display are shown below.

Item		Function
Map Display	Linear Touch Scroll	Enables smooth scrolling by connecting the touch points on the screen.
	On-route Scroll	Scrolls the center of the cursor forward and reverse constantly along the route.
	Heading Up	• Displays the map so that the direction of the route progression heading faces up during route guidance. • Displays a map in the direction of travel of the vehicle in an enlarged form.
	Map Color Change	Depending on the position of the light control switch, the screen changes to the day mode or night mode.
	Step-less Scale Display	Changes the scale of the map from the basic 13 steps to an even finer display.
	Direct Scale Change	Directly selects and displays the map scale.
	Multi-step Scale Display	Changes and displays the map scale in 13 stages.
	Split-view Display	Displays different modes on a screen that is split into two views.
	Points-of-interest Display	Displays selected types of points of interest as marks on the map.
	Taillight-interlocked Map Color Change	Changes the color of the map screen that is displayed when the taillights are turned ON.
	Road Number Sign Board Display	Displays the road number on the map.
	Compass Mode Screen	Displays the direction of travel and detailed data of the present location.
	Map Coverage Information Display	Displays the map area that is recorded on DVD.
	Street Name Indication on Scrolled Map	Displays the street name and the city name even when the map screen is being scrolled.
	Footprint Map	Displays a map on a scale of 75 feet (25 m). (For specific areas in the following cities: Detroit, Chicago, New York, and Los Angels.)
	Building Tenant Information (For footprint map areas)	Displays information on the tenants in the building.
Destination Search	Last Destination Memory	Stores 20 locations of coordinates, names and times that have been set as destinations in the past.
	Hybrid Points-of-interest Search	Narrows the search by names of the points-of-interest, category, and areas.
	Points-of-interest Pinpoint Display	Pinpoints and displays the position of points-of-interest.
	House Number Search	Searches for a house number.
	Special Memory Point	Sets a pre-registered point as a destination point while driving.

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Item		Function
Destination Search	Nearest Point-of-interest Search List Display	Searches nearest points-of-interest and displays a list.
	Intersection Search	By specifying two streets, the point at which they intersect is set as the destination point.
	Emergency Search	Performs a specific search for hospitals, police stations and dealers.
	Freeway Entrance or Exit Search	Searches for the destination by the name of the street that connects to a freeway entrance or exit.
	Coordinate Search	The user can input a destination by entering its coordinates.
	Telephone Number Search	Searches for a facility by its telephone number.
	POI, brand icon indication	Displays an icon for point of interest.
	Voice-recognition Address Search	The user can set up the destination by voice input of the city or street name.
Route Search	Multiple Destination Setting	Sets multiple destinations. It can also rearrange the sequence of the destinations.
	Route Search	Searches for multiple routes.
	Search Condition Designation	Searches for the recommended, shortest, and other routes.
	Regulated Road Consideration	Performs searches which consider regulated roads.
	Avoidance Area	Searches for a route that avoids a designated area.
	National Border Conscious Search	Searches for routes that do not cross the border between the U.S.A. and Canada.
Guidance	Destination Direction Arrow Display	Displays the direction from the current position to the destination in case of being off the route during the guidance.
	Off-route Arrow Display	Displays the route ahead on the route guidance line in case of being off the route during the guidance.
	Rotary Guidance	To guide with a special voice phrase in a rotary (traffic circle).
	Right or Left Turn Guidance	Voice guidance to instruct the direction of travel to be taken.
	Freeway Direction of Travel Guidance	Voice guidance to instruct the direction of travel to take on the freeway.
	Distance Display Destination	Displays the distance from the present location to the destination.
	Freeway Branch Type Specimen Guidance	Type specimen for guidance to a freeway branch.
	Intersection Zoom-in Display	Zoom-in display when approaching an intersection.
	Estimated Arrival Time Display	Displays estimated arrival time to the user.
	Route Trace Display	Displays route trace.
	Turn List Display	Displays a turn list on the right side of the two-screen display when approaching an intersection.
	Freeway Mode Screen	Displays the distance to the next junction and exit, or POIs in the vicinity of the freeway exit.

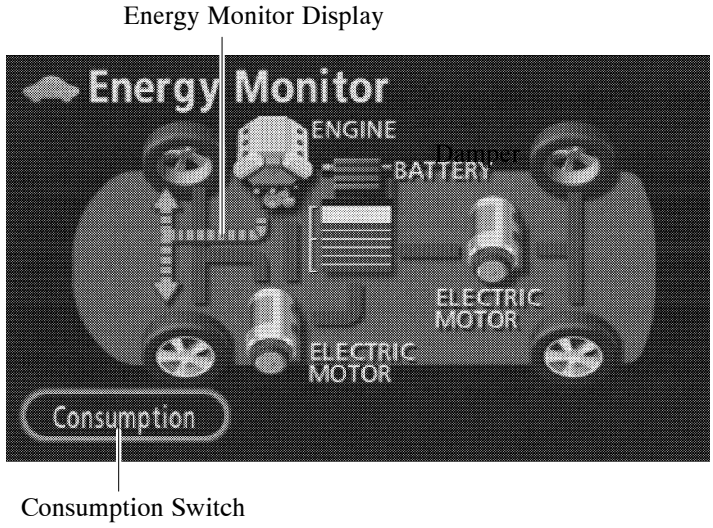
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Item		Function
Others	Voice Recognition	Recognizes pre-programmed system commands spoken by the user to operate the navigation system.
	Help	Explains a user what operation can be performed when a "?" on the display is pushed.

3. Hybrid Information Display

Energy Monitor Screen Display

The energy monitor screen is displayed as illustrated below. This screen has the display functions listed below.

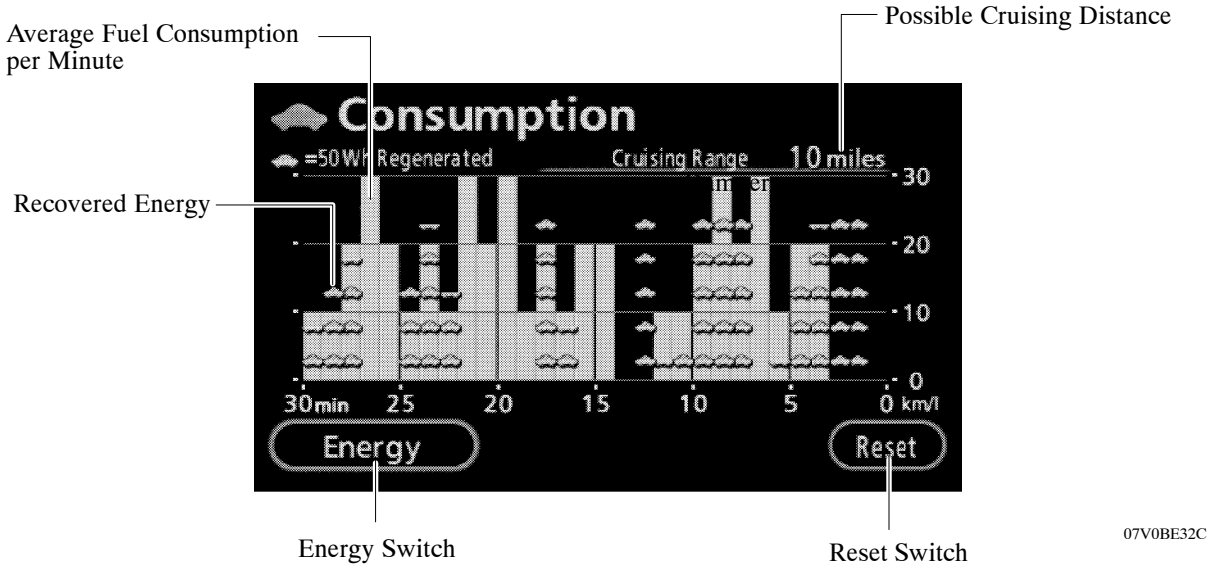


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Item	Outline
Energy Monitor Display	• Indicates the energy transmission direction for checking the current drive method (engine, motor, or both), the power generation status by the engine, and status of regenerative energy use. • The SOC (state of charge) of the battery can be checked on the meter with an 8-level display, which is provided below the illustration of the battery. • Displays the energy monitor status that has been calculated by the hybrid vehicle control ECU.
Consumption Switch	Pressing this switch changes the energy monitor screen to the fuel consumption screen.

Fuel Consumption Screen Display

The fuel consumption screen is displayed as illustrated below. This screen has the display functions listed below.

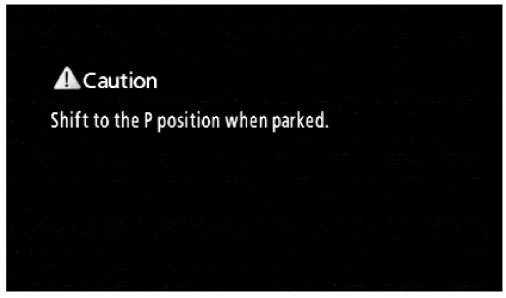


Item	Outline
Reset Switch	Resets the average fuel consumption, the average fuel consumption per minute and the recovered energy.
Energy Switch	Pressing this switch changes the fuel consumption screen to the energy monitor screen.
Average Fuel Consumption per Minute	• Displays the value that has been calculated by the combination meter assembly based on the driven distance and the fuel consumption volume (fuel injection signal from the No. 1 injector), provided that the power switch is turned ON. • The display is updated every 60 seconds.
Possible Cruising Distance	• Displays the value that has been calculated by the combination meter assembly based on the driven distance, the fuel consumption volume (fuel injection signal from the No.1 injector), and the fuel sender gauge level, provided that the power switch is turned ON. • The display is updated every 10 seconds.
Recovered Energy	• Indicates the recovered energy for 5 minutes with symbols. • The recovered energy status is calculated by the hybrid vehicle control ECU.

Shift Position Warning Display

When the condition indicated below has been met, the master warning light blinks on the combination meter, a message appears on the multi-information display, and a warning message appears on the display.

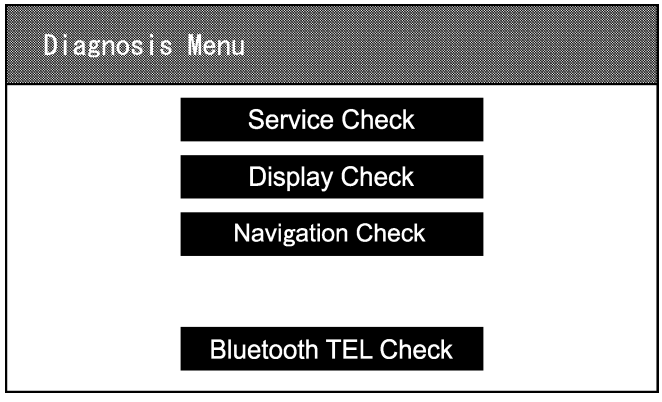
- While THS II is OFF and the shift lever is in a position other than P, and the driver's door is opened.



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4. Diagnosis Screen

The following check menus are included in the diagnosis screen.



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Check Mode	Detail
Service Check	Performs a system check and gathers DTCs (Diagnostic Trouble Codes) in memory, and, based on their results, shows the past and present inspection results of the connected devices.
Display Check	Shows a screen for checking specific portions of the display.
Navigation Check	Shows a screen for checking specific portions of the navigation ECU.
Bluetooth TEL Check	Shows a screen for setting the voice quality for a Bluetooth-enabled hands-free phone system.

For details on the procedure required to enter the diagnosis menu screen, see the 2008 HIGHLANDER HYBRID VEHICLE Repair Manual (Pub. No. RM07V0U).