

LR3:

>THE SUM OF ITS PARTS

There is a lot more to the LR3 than first meets the eye. In this session you will experience the supremacy of LR3. Innovative new features, how they function, and the benefit to your customers are all explored. We will go beyond the F/F/B information to a practical presentation of how to communicate and demonstrate those benefits to your customer.

LR3 is a totally new vehicle. It shares nothing with its predecessor: Series II Discovery. Exterior features such as active/reactive headlamps and memory adjusted mirrors and interior features like electronic parking brake system and unique safety equipment are just the beginning of the new era that is LR3's *"purpose driven design."*

COURSE OBJECTIVE:

After viewing this presentation and reviewing the associated materials, you will be able to identify and express the unique features, functions, and benefits of the new technologies that mark the bold new design of the 2004 Land Rover LR3.

**Aventure Nordique: New LR3 Training
September, 2004**



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EXTERIOR

- Asymmetrical exterior design
 - Right side of LR3
 - Air intake vent — fully functional engine air intake
 - Fuel filler — moved to right side
 - Left side of LR3 — clean line without interruption
 - One side is functional, the other side is clean
 - Tailgate
 - Spare tire moves under the rear of LR3
 - Cleaner appearance
 - Easier to deploy
 - Less incidental damage in case of an accident — potentially reduced repair expense
 - Improved functionality
 - Easier reach into cargo area
 - Can be used as a seat
 - Can be used as a standing platform for 2 adults
 - Serves as a mount and resonance box for the subwoofer
 - Stepped roof
 - Classic Discovery design cue
 - Third row headroom



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- **Moon roof**

- Enlarged from prior generation
- Opens outward
- One touch open and close with anti-trap
- Separate sliding sunshade

- **Alpine Roof Optional**

- 5mm laminated glass
 - Strong
 - Quiet
- Special solar coating to reduce solar heat transfer
- Cross member bracing
 - Preserves body strength and rigidity
 - Invisible from the exterior
 - Provides an interior feature that divides second and third row seats



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- **Headlamps**

- Styling that fits the family line
- Bi-Xenon
- Active headlamps (HSE)
 - Reaction varies by speed and condition

Mode	When it operates	Headlamp action
Maneuvering	Speeds below 19 mph (30 km/h)	Only one lamp swivels: the lamp on the side of the vehicle in the direction of turn (that is, the right-side lamp when turning right).
Normal	Speeds over 19 mph (30 km/h)	Both lamps swivel, the inboard lamp swiveling more than the outboard one.
Reversing	When reverse gear is engaged	Lamps always return to the straight-ahead position.

- Automatic functions
 - On/Off
 - Delay off
 - Programmable through settings
 - 30/60/120/240 second delay choices
 - By remote — Programmable choice using the Land Rover button



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- **Exterior Mirrors**

- Large and useful
 - Excellent visibility and angle of view
- Switch within easy reach, forward of window switches in the door
- Intelligent heat timing based on ambient temp and wiper usage
- Up to three mirror position settings per key
- Reversing positions memorized with driver settings
- *What is the purpose of multiple mirror settings per driver and when would this feature come in to play for an LR3 driver?*

- **Wiper System**

- All on one stalk
- Rain sensing system
 - Full automatic mode
 - Speed dependent-adjusts the frequency of sweep based on road speed when the system is not in full automatic mode
- Rear wiper
 - Engaged by pulling stalk
 - Automatic engagement if reverse is selected with front wipers on
 - Synchronized operation with front wipers
- Washers
 - Heated jets
 - Headlamp power wash
 - A quick (1/2 second tap) will operate washer without wipers



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INTERIOR

- Magnesium cross car beam and reinforcement
 - Support structure for dashboard and components
 - Precise fit and finish is enhanced
 - Rigidity assures that interior will stay quieter from squeaks and rattles for years.
- **Seating**
 - Front seats
 - Command driving position
 - Excellent visibility
 - Larger seat than Discovery
 - Heated front seats with two temperature settings
 - Seat power adjustment and memory
 - 8-way power adjustment
 - Switches & 3 memory buttons on the outboard side of the seat
 - Up to 3 seat and mirror settings per remote
 - Back seats
 - Stadium seating arrangement
 - Second row seats
 - Heated outboard seats
 - Two temperature settings
 - Switches at the rear of the console
 - 5-seat version
 - 65/35 split
 - Fold flat



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- Back seats (cont.)
 - 7-seat version
 - 35/30/35 split
 - Fold to form flat load floor
 - Any second row seat can be folded to form a table
 - Jackknife action of outboard seats allows easier access to third row from side door rather than tailgate.
 - *In what types of situations will the occupants appreciate the flexibility of the new second row seat arrangements?*
 - Third row seats
 - Fold completely flat into the floor
 - Made to fit 95th percentile adult
 - Accessed via rear doors rather than tailgate
 - Climate and audio controls
 - *Practice, practice, practice. Make it look easy*



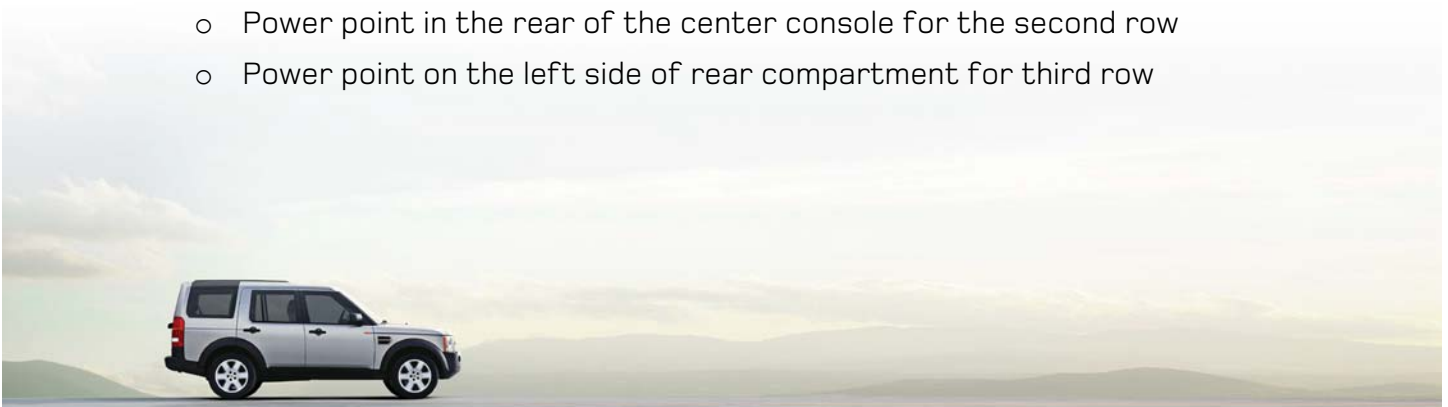
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- **Stowage and storage**

- Versatile rear cargo arrangement
 - Full-length flat cargo floor with seats folded.
 - Over 6 feet (19.5cm) of cargo length maximum and nearly 4 feet (11.5cm) width between the wheel houses
 - Easier loading via asymmetric tailgate
 - Under floor stowage well in 5-seat models
- For front seat occupants
 - Three trays in console
 - Large center cubby box to hold up to 4 500ml (16 oz.) drinks (cooler option)
 - Two cupholders in center console
 - Door bins to hold another 1.5-liter bottle
 - Two glove boxes
 - Shelf (one or two depending on Nav or not)
 - Coin tray
- Rear seat
 - Two cupholders in back of the console
 - Door mounted bins with bottle holders
 - Stowage bins with lids for each third row passenger
 - Cupholder for each third row passenger next to stowage bin

- **Power points**

- Power point and lighter at base of center stack for front seat area
- Power point in the rear of the center console for the second row
- Power point on the left side of rear compartment for third row



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- **Controls**

- Remote handset
 - Customizable
 - Land Rover button (Choose one)
 - Headlamp convenience
 - Same headlamp delay off as switch
 - 30/60/120/240 seconds
 - Air suspension height for entry
 - Panic alarm
 - Settings menu
 - Individualized preferences
 - Tied to remote handset

SETTINGS	CHOICE
TRIP DISTANCE UNITS	MILES/KM
FUEL USAGE UNITS	MPG L/100 km Km/l
EXTERNAL TEMPERATURE	TEMP DISPLAY UNITS (C or F)
OVERSPEED WARNING	Off 20 - 250 km/h or 15 to 140 mph in 5-unit steps (Units set as trip distance)
HEADLAMP OFF DELAY	30/60/120/240 seconds
AUTO DOOR LOCK	ON/OFF
REVERSE MIRROR DIP	ON/OFF
EASY ENTRY	ON/OFF
RESTORE DEFAULT SETTINGS	YES/NO



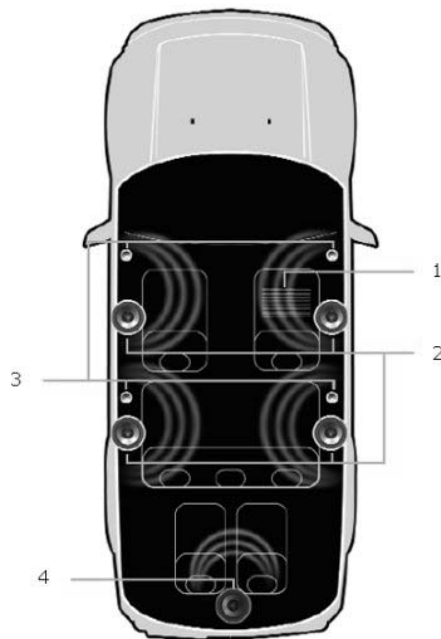
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- **Controls** (cont.)
 - Automatic climate control
 - Automatic temperature control settings from 60° F (16° C) to 83° F (28° C)
 - Dual zone
 - Rear climate control (optional)
 - Can be controlled from front panel or rear controls
 - Rear control above second row seats in headliner
 - Unit in left rear corner
 - Variable displacement air conditioner compressor
 - More power efficient
 - More refined, clutchless operation



LR3 : > THE SUM OF ITS PARTS

- harman/kardon audio systems
 - SE
 - Includes 6-disc in-dash changer
 - 300 Watts (6 x 50)
 - 9 speakers
 - 165 mm (6.5-inch) Mid/Bass (#2) speaker and 25mm tweeter (#3) in each door
 - 260mm (10-inch) Subwoofer in tailgate (#4)



- Rear auxiliary input next to power point in rear of center console
- Rear controls for second and third rows located on right side



LR3 : > THE SUM OF ITS PARTS

- harman/kardon audio systems (cont.)
 - Steering wheel controls
 - Convenient
 - Functionality
 - Mode-audio source
 - Volume
 - Seek up/down (Radio or CD track)
 - Telephone
 - Answer/Send
 - End
 - Reduced driver distraction



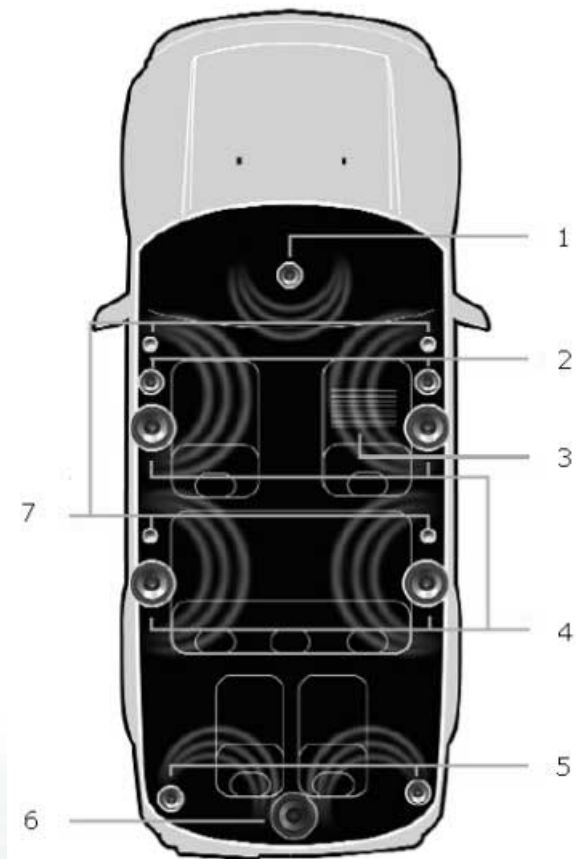
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- HSE-Logic7
 - Includes 6-disc in-dash changer
 - 600 watts of power (12 x 50)
 - 14 speakers
 - 1-100mm (4-inch) metal matrix cone midrange center fill in the top surround (#1)
 - Individual low, mid and high range speakers in each front door (3 per door, 6 total)
 - 2-165mm (6.5-inch) bass speaker (#4)
 - 2-100mm (4-inch) metal matrix cone midrange speakers (#2)
 - 2-25mm (1-inch) metal dome tweeters (#7)
 - Low and high range speakers in each rear door (2 per door, 4 total)
 - 2-165mm (6.5-inch) bass speaker (#4)
 - 2-25mm (1-inch) metal dome tweeters (#7)
 - 2-100mm (4-inch) metal matrix cone midrange rear surround sound speakers (#5)
 - One 260mm dual voice coil, low profile subwoofer in tailgate (#6)



LR3 : > THE SUM OF ITS PARTS

- HSE-Logic7 (cont.)
 - Low and high range speakers in each rear door (2 per door, 4 total)
 - 2-165mm (6.5-inch) bass speakers (#4)
 - 2-25mm (1-inch) metal dome tweeters (#7)
 - 2-100mm (4-inch) metal matrix cone midrange rear surround sound speakers (#5)
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- Logic7
 - Discrete translation means the replay will be exactly as the recording was made in the studio
 - Front and rear can be treated as 2 separate areas within the larger area so rear passengers are treated to the special sound as well
 - 7.1 channel playback gives home theater surround sound in the car
 - Can be turned off for a very effective demonstration of the difference Logic7 makes
 - *How could you demonstrate this system to illustrate its advantages?*
- MOST-Media Oriented Systems Transport
 - Fiber optic network loop
 - Capable of handling 15 high-fidelity channels simultaneously
 - Systems connected by MOST
 - Audio
 - Navigation
 - Voice Activation
 - Telephone
- Voice Activation
 - Speaker independent
 - No voice training required
 - Capable of reading through most genuine accents



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- Voice Activation (cont.)
 - Rules of use
 - Speak normally — don't shout or lag
 - Use the correct commands — be accurate
 - Keep interior noise levels down
 - Close windows and sunroof
 - Quiet other occupants
 - Pull Voice lever on left side of steering wheel, pause for a second, then speak the command
 - If the system asks you to repeat a command, listen for the tone, pause a second, then respond
 - Systems accessible via Voice Activation
 - Audio system
 - Navigation system
 - Notepad
 - Telephone system



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- Navigation system and touchscreen
 - DENSO supplied
 - NAVTEQ/DENSO unified database on DVD
 - Touchscreen
 - 800x480 pixel — 4 times the previous resolution
 - 7-inch VGA color
 - Multiple choices of screen map views and orientations
 - Three tracking modes to maintain guidance accuracy
 - GPS
 - When GPS signals are insufficient
 - Map matching
 - Dead reckoning
 - Uses wheel speed sensors and steering wheel angle inputs to estimate vehicle movement and maneuvers
 - User-friendly programming
 - Several choices of how to identify destinations
 - Store up to 5 Special Memory Points on screen preset buttons
 - Store up to 100 Memory Points
 - Select from up to 20 previous destinations
 - Enter destinations by address, points of interest, location on the map or nearby intersection
 - Special off-road features may allow locating a point by coordinates or by location of an off-road destination by map point.
 - Return route retracing
 - Automatic rerouting to detour around a congested area or construction



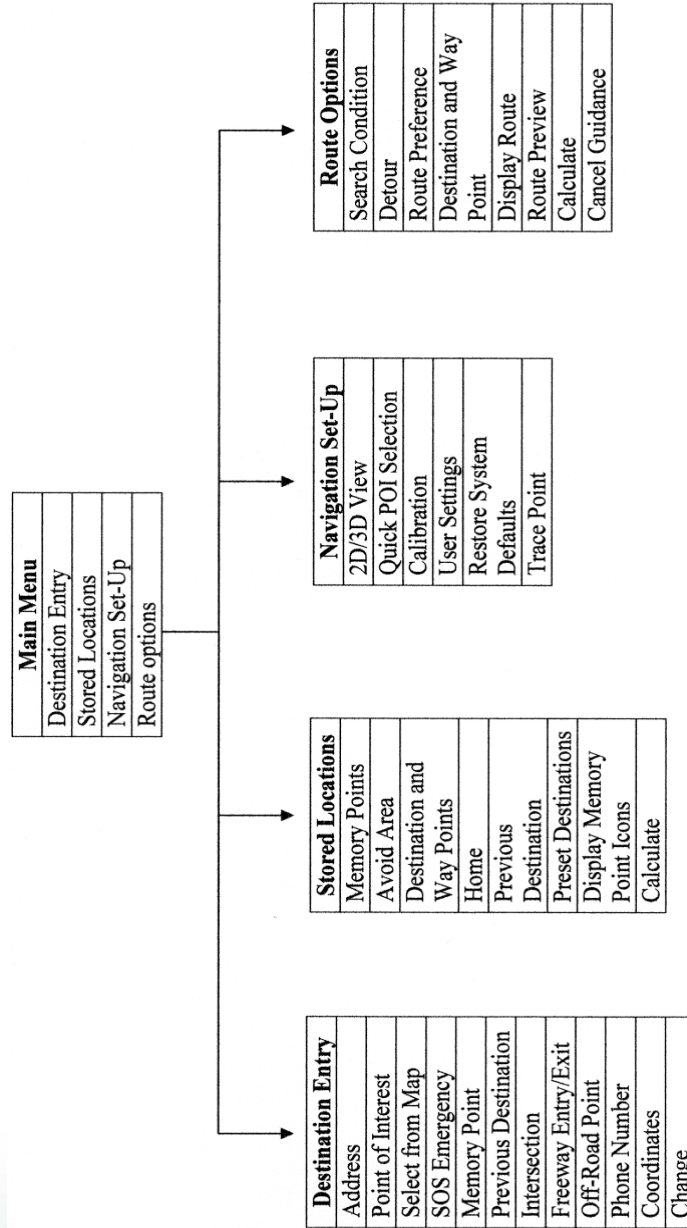
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- Navigation system and touchscreen (cont.)
 - Voice activation
 - Speaker independent — no need to program to a specific person's voice
 - Reduced driver distraction
 - 4x4 Interface
 - Displays key information in one high visibility location
 - Current gear selection and transfer box (High/Low) range selection
 - Electronic locking differential status
 - Terrain Response setting and Hill Descent Control status
 - 3D view of chassis showing wheel heights, position and suspension clearance
 - Angle that the front wheels are pointing
 - *How can you highlight this system without overwhelming the customer?*



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LR3 NAVIGATION MENUS



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LR3 NAVIGATION MENUS (cont.)

Special Touchscreen Buttons

Home — Recall your home address with one touch

Presets — Store up to five additional frequently used destinations for one-touch recall

Destination Entry Programming Choices

- **Address** — Enter region, city, street & house number
- **Point of Interest** — Locate by name, city, or category
 - Restaurants — by food type Recreation
 - Shopping Community
 - Automotive Travel
 - Hotel Other
 Each category also has several subcategories
 Selections can be sorted by distance or alphabetically
- **Select from Map** — Indicate destination by pointing to it on the map
- **SOS Emergency** — Fast access to information on the nearest police, hospital or Land Rover retailer
- **Memory Point** — A previously entered and stored destination
- **Previous Destination** — Recalls a list of the 20 most recently-used destinations
- **Intersection** — Enter two crossing roadways
- **Freeway Entry/Exit** — Scroll through a list of interchanges for the freeway ramp you seek
- **Off Road Point** — Indicate off-road destination by pointing to it on the map
- **Phone Number** — Enter phone number of a location that is in the navigation system database and the system will display address and calculate route
- **Coordinates** — Enter latitude and longitude of destination
- **Change** — Change search area to one of 10 regions of the US or Canada

Destination Entry
Address
Point of Interest
Select from Map
SOS Emergency
Memory Point
Previous Destination
Intersection
Freeway Entry/Exit
Off-Road Point
Phone Number
Coordinates
Change



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LR3 NAVIGATION MENUS (cont.)

Stored Locations

Locations are entered, stored and edited in this section so they may be recalled quickly via the Destination Entry Menu

Stored Locations
Memory Points
Avoid Area
Destination and Way Points
Home
Previous Destination
Preset Destinations
Display Memory Point Icons

- **Memory Points** — Enter, edit and categorize up to 100 destinations to store in memory
- **Avoid Area** — Enter and edit up to 10 areas to be avoided if possible when route calculations are made
- **Destination and Way Points** — Program and store up to 5 Way Point to be held in memory
- **Home** — Enter and store home address for use on the HOME button
- **Previous Destinations** — Lists the last 20 destination consecutively
- **Preset Destinations** — Enter and store destinations to be recalled by the 5 presets
- **Display Memory Icons** —
- **Calculate** —



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LR3 NAVIGATION MENUS (cont.)

Navigation Set-Up

This menu is used to set preferences in the system so information delivery will suit the driver's taste.

Navigation Set-Up
2D/3D View
Quick POI Selection
Calibration
User Settings
Restore System Defaults
Trace Point

- **2D/3D View** — Traditional map or “bird's eye” angled perspective
- **Quick POI Selection** — Select which of the nearly 40 POI categories will be selected for this Quick Pick category
- **Calibration** — Allows manual adjustment of vehicle position and condition
 - Repositioning — Allows adjustment to vehicle position in the event of ferrying, trucking or otherwise changing the position of the vehicle while not under its own power.
 - Tire Recalibration — Adjusts the system to new tires/wheels of different height than the originals. Needed to maintain accuracy in map matching and dead reckoning modes
- **User Settings** — Allows user to select preferences in information output
 - Arrival — Time or duration of trip
 - Low Fuel Warning pop-up — On/Off
 - Text size on map — S/M/L
 - Keyboard layout — Alphabetical or keyboard style
 - Guidance Screen — Close up of turns pops up when near-On/Off
- **Restore System Defaults** — Put all settings back to original
- **Trace Point** — Marks map with icons along the route as you travel
 - Makes retracing a route easier
 - Programmable for distance between icons and length of icon trail
 - Can be turned on/off



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LR3 NAVIGATION MENUS (cont.)

Route Options

This menu allows you to program, alter, state preferences for or display a planned route.

Route Options
Search Condition
Detour
Route Preference
Destination and Way Point
Display Route
Route Preview
Calculate
Cancel Guidance

- **Search Condition** — Allows choice of Quick, Normal or Short route to destination
- **Detour** — Asks system to recalculate alternative routes
- **Route Preference** — Sets preferences to use or avoid toll roads, major roads, ferries, etc.
- **Destination and Way Point** — Same as in the destination menu
- **Display Route** — Shows the programmed route and list of turn instructions for the driver's review before the route is started
 - Shows the full length of the route on map
 - Displays step-by-step turn list for entire route
 - Avoid Road — Roads on the turn list can be listed to be avoided
 - Reroute — System will recalculate route in an attempt to avoid the listed road
- **Route Preview** — Allows the driver to go forward or back while a routed drive is in progress
- **Calculate** — System will begin its route calculations according to the new/altered preferences
- **Cancel Guidance** — Stops the routing and instructions and ends the guidance



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DRIVING CONTROLS

- Transmission shifter
 - Electronic modes–Sport/Normal
 - Command Shift
- Transfer box shift

Low to High Range	Transmission in Neutral Speed below 38 MPH (60 km/h)
High to Low Range	Transmission in Neutral Speed below 24 MPH (40 km/h)

- Electronic Park Brake
 - Center console to the left of the gearshift
 - Manual
 - Apply — pull up
 - Release — Apply brakes, press down lever
 - Auto-releases when throttle is applied after selecting a gear
 - Benefits
 - Takes up less space
 - More engagement pressure and leverage
 - Less cable to be damaged or corrode



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- Air suspension mode setting adjustments
 - On-road
 - Access/Crawl
 - Off-road

Mode	What it does	Operation
On-Road	Keeps the vehicle at the normal operating height	None
Access	Lowers the body height by 50mm to provide easier entry, exit and loading	Can be pre-selected when the vehicle is moving, but vehicle will only start to lower if the speed is less than 12 mph (20 km/h); vehicle will lower to full access mode height only if speed is at or below 5 mph (8 km/h)
Crawl	Allows the vehicle to be driven at access height at speeds up to 25 mph (40 km/h)	Can be selected at speeds up to 19 mph (30 km/h)



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- Off-Road Suspension Operating Modes

Mode	What it does	Operation
On-Road	Keep the vehicle at the normal operating height	None
Off-Road	Raises the body height by 55mm to provide greater ground clearance	Vehicle will be raised if the speed is less than 25 mph (40 km/h). The air suspension automatically lowers to standard height when the vehicle goes over 31 mph (50 km/h). If the vehicle is in low range in one of the Terrain Response special programs, the air suspension will raise again if the speed drops below 12 mph (20 km/h).
Extended mode (activated automatically)	Increases the volume of air in the air springs to raise the vehicle clear of an obstruction.	Activates automatically if the vehicle becomes grounded and the traction control operates. To exit, press the air suspension switch briefly or drive the vehicle at a speed of more than 12.5 mph (20 km/h)



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- Terrain Response
 - Like having an expert driver along for help
 - Adjusts the reactions of systems to make it easier to get best results
 - Gradual response to change of mode for more refined transition
 - What changes and what to expect

System	Terrain Response™ control
Engine management	Alters throttle maps, improving drivability by suiting torque delivery to the chosen terrain
Transmission mapping	Optimizes gear-change points
Air suspension	Automatically adjusts to give maximum height whenever the driver selects one of the special programs in low range
Dynamic Stability Control	Adjusts so appropriate torque is maintained (for example, in off-road situations where torque feed is still desirable, even when traction is being lost)
Electronic Traction Control	Adjusted to offer optimum traction
Hill Descent Control	Automatically engaged on some special programs. Downhill speed rates vary depending on which surface is selected (for example, the lowest speed is used in 'rock crawl' to prevent vehicle damage)
Electronic differentials	Applies different slip or locking rates for the different terrains



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Mode	Engine management	Automatic transmission	Differential	HDC	Gear range	ETC, DSC	Air suspension
General	Normal	Normal (ASIS)	Normal	Off	High range	All operational	Normal
Grass/ gravel/ snow	More gradual torque delivery to avoid causing wheel slip	Starts in 2 nd (High range) or 3 rd (Low range); early shift up	Increased pre-loading	On (low range only)	High or Low range	High sensitivity to slip	Off-road (low range)
Mud and ruts	Progressive torque delivery	Tuned appropriately for mud driving	Increased pre-loading; aggressive response to slip	On (low range only)	High or Low range	Low sensitivity to slip	Off-road (low range)
Sand	More aggressive response to throttle	Holds onto gears longer; downshifts sooner	Normal	Off	High or Low Range	DSC control modified to reduce engine intervention	Off-road (low range)
Rock crawl	Cautious torque delivery allowing good speed control	Starts in 1 st gear; late shift up	Increased pre-loading; aggressive response to slip	On	Low only	High sensitivity to slip	Off-road



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- **Passive Safety Equipment**

- Seat belt pre-tensioners on both front seats
- Airbags
 - Dual stage front
 - Seat belt usage sensing
 - Driver position sensing
 - Passenger occupant (weight sensing)

Seat Occupancy status	Passenger airbag status	Indicator lamp
Empty	Deactivated	Off
Low Weight	Deactivated	On
High Weight	Active	Off

- Side curtain head protection for all outboard seating positions
- 6 airbags for 5-seat version and 8 airbags for 7-seat
- Seat mounted side airbags in front seats
- Boron steel reinforcements
 - A and B pillars
 - Door guard beams

