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Title: ADVANCED DRIVER ASSISTANCE SYSTEM: FRONT CAMERA SYSTEM: VEHICLE CONTROL HISTORY (RoB);							
2023 - 2024 MY Prius Prius Prime [03/2023 -]							

VEHICLE CONTROL HISTORY (RoB)

NOTICE:

Make sure to record any output Vehicle Control History codes before clearing them and checking the Vehicle Control History again.

CHECK VEHICLE CONTROL HISTORY (RoB) (FRONT CAMERA SYSTEM)

(a) Read the Vehicle Control History (RoB) according to the display on the GTS.

Chassis > Front Recognition Camera > Utility

TESTER DISPLAY
Vehicle Control History (RoB

Vehicle Control History (RoB)

MULTI- INFORMATION DISPLAY	CODE	TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
System Malfunction Visit Your Dealer	X2000	Yaw Rate Sensor Malfunction	History of yaw rate sensor malfunction signals output from the yaw rate sensor being received	Refer to How to Proceed with Troubleshooting in Electronically Controlled Brake System.
System Malfunction Visit Your Dealer	X2001	Steering Angle Sensor Malfunction	History of steering sensor malfunction signals output from the No. 2 skid control ECU (brake actuator assembly) being received	Refer to How to Proceed with Troubleshooting in Electronically Controlled Brake System.
System Stopped See Owner's Manual	X2003	Brake Control System Malfunction	History of brake system malfunction signals output from the No. 2 skid control ECU (brake actuator assembly) being received	Refer to How to Proceed with Troubleshooting in Electronically Controlled Brake System.
System Malfunction Visit Your Dealer	X2004	Speed Sensor Malfunction	History of vehicle speed sensor malfunction signals output from the No. 2 skid control ECU (brake actuator assembly) being received	Refer to How to Proceed with Troubleshooting in Electronically Controlled Brake System.

MULTI- INFORMATION DISPLAY	CODE	TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
System Malfunction Visit Your Dealer	X2014	Front Recognition Camera Optical Axis Not Adjusted	History is stored when the forward recognition camera judged that the optical axis of the forward recognition camera has not been adjusted	HINT: Forward recognition camera beam axis alignment can be performed by using "One Time Recognition", "Driving Adjustment" or "Camera Axis Adjustment Value Write". One Time Recognition: NFO Driving Adjustment: NFO Camera Axis Adjustment Value Write: NFO
System Stopped Front Camera Low Visibility See Owner's Manual	X2015	Front Recognition Camera Dirt	History is stored when the forward recognition camera judged that the vehicle has poor visibility or is obscured	 Perform the following inspections: Be sure to use Toyota genuine front wiper blades Be sure that the wiper rubber is not deteriorated Be sure that there are not stickers, accessories, luggage, etc. within the field of view of the forward recognition camera Be sure that there is not snow, ice, fog, dirt, frost, dust or oil film on the front part of the windshield glass camera Be sure that the front part of the windshield glass camera Be sure to install a Toyota genuine windshield glass Be sure that the vehicle was not damaged or cracked Be sure that the vehicle was not driven in bad weather (In darkness, backlight, snow, fog, etc. When the surrounding conditions of forward recognition camera is operable, the warning display will disappear) Be sure that the hood was not open (Depending on the hood, poor visibility may be output due to obstruction of forward recognition camera. When the visibility is improved and the forward recognition camera is operable, the warning display will disappear)

MULTI- INFORMATION DISPLAY	CODE	TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
				Cause: When the area around the forward recognition camera is dirty or covered with foreign matter, the camera lens or windshield is fogged up, or an obstruction is in front of the camera Measures: If the inside of the windshield glass is dirty, clean it using glass cleaner.
System Stopped Front Camera Out of Temperature Range Wait until Normal Temperature	X2016	Front Recognition Camera Outside Guaranteed Operating Temperature	History is stored when the forward recognition camera was temporarily unavailable due to high or low temperature	 1. Check the following items on the data monitor (Front Recognition Camera) using GTS. Camera Low Temperature Flag Camera High Temperature 1 Flag 2. If the value is "ON", perform the data monitor remarks To Cause: When the following conditions of the forward recognition camera occur When the following conditions of the forward recognition camera occur When the ambient temperature is -30°C (-22°F) or less such as after leaving the vehicle in an extremely cold environment When the ambient temperature is 80°C (176°F) or higher such as after leaving the vehicle in the hot sun
System Stopped See Owner's Manual	X2017	Camera Outside Guaranteed Operating Voltage	History is stored when the forward recognition camera was temporarily unavailable due to low or high voltage	Check the supply voltage (IGB) of the forward recognition camera. Refer to the ECU terminal arrangement to check terminals and reference values. If the symptoms do not disappear while the power source voltage is within the

MULTI- INFORMATION DISPLAY	CODE	TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
DISPLAT				 specified range, the forward recognition camera may be malfunctioning. Cause: When the following conditions of the forward recognition camera occur When the input voltage is approximately 6 V or less, immediately after starting the hybrid system When the input voltage is approximately 16 V or higher, immediately after starting the hybrid system
System Malfunction Visit Your Dealer	x2020	Front Radar Sensor Destination Malfunction	History is stored when a destination malfunction of the millimeter wave radar sensor assembly is received	Refer to How to Proceed with Troubleshooting in Front Radar Sensor System.
System Malfunction Visit Your Dealer	X2021	Front Radar Sensor Malfunction	History is stored when abnormal signals of the millimeter wave radar sensor assembly output from the millimeter wave radar sensor assembly are received	Refer to How to Proceed with Troubleshooting in Front Radar Sensor System.
System Malfunction Visit Your Dealer	X2022	Front Radar Sensor Optical Axis Misalignment Malfunction	History is stored when misalignment error signals of the millimeter wave radar sensor assembly output from the millimeter wave radar sensor assembly are received	If this code is output, perform millimeter wave radar sensor assembly beam axis adjustment, clear the Vehicle Control History and then check that this code is not output again. HINT: Beam axis alignment of the millimeter wave radar sensor assembly can be performed using either Triangle Target, Flat Surface Target or Driving Adjustment. Triangle Target: NFO Flat Surface Target: NFO Driving Adjustment: NFO
System Malfunction Visit Your Dealer	X2023	Front Radar Sensor Optical Axis Not Adjusted	History is stored when beam unaligned signals of the millimeter wave radar sensor assembly output from the	If this code is output, perform millimeter wave radar sensor assembly beam axis adjustment, clear the Vehicle Control History and then check that this code is not output again.

MULTI- INFORMATION DISPLAY	CODE	TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
			millimeter wave radar sensor assembly is received	HINT: Beam axis alignment of the millimeter wave radar sensor assembly can be performed using either Triangle Target, Flat Surface Target or Driving Adjustment. Triangle Target: Flat Surface Target: Driving Adjustment:
System Stopped Front Radar In Self Calibration See Owner's Manual	X2025	Front Radar Sensor Temporary Unavailable (Horizontal Direction Optical Axis Misalignment)	History is stored when optical axis deviation temporary disabled signals of the millimeter wave radar sensor assembly output from the millimeter wave radar sensor assembly is received	Perform beam axis adjustment for the millimeter wave radar sensor assembly. HINT: Beam axis alignment of the millimeter wave radar sensor assembly can be performed using either Triangle Target, Flat Surface Target or Driving Adjustment. Triangle Target: Flat Surface Target: Driving Adjustment:
System Stopped Front Radar Sensor Blocked Clean Radar Sensor	X2026	Front Radar Sensor Dirt	History is stored when dirty signals of the millimeter wave radar sensor assembly output from the millimeter wave radar sensor assembly are received	Refer to How to Proceed with Troubleshooting in Front Radar Sensor System.
System Stopped Front Radar Sensor Out of Temperature Range Wait until Normal Temperature	X2027	Front Radar Sensor Outside Guaranteed Operating Temperature	History is stored when abnormal temperature signals of the millimeter wave radar sensor assembly output from the millimeter wave radar sensor assembly are received	Refer to How to Proceed with Troubleshooting in Front Radar Sensor System.
System Stopped See Owner's Manual	X2028	Front Radar Sensor Outside Guaranteed Operating Voltage	History is stored when the millimeter wave radar sensor assembly detects a sensor voltage malfunction due to low voltage	 After vehicle control history cleared, drive the vehicle at 5 km/h (3 mph) or more and check if the vehicle control history is output. If the history is output, check that the voltage between ECU terminals IGB and SGND is within the standard voltage range.

MULTI- INFORMATION DISPLAY	CODE	TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
				 3. As the millimeter wave radar sensor assembly may be malfunctioning, check if DTC U023587 is output 60 minutes or more after the ignition is turned to ON. 4. After inspecting the Lost Communication with Cruise Control Front Distance Range Sensor Single Sensor or Center Missing Message "U023587", replace the millimeter wave radar sensor assembly. Cause: When any of the following conditions of the millimeter wave radar sensor assembly occur: When the input voltage is approximately 6 V or less, immediately after starting the hybrid system
System Stopped Front Radar In Self Calibration See Owner's Manual	X2029	Front Radar Sensor Temporary Unavailable (Optical Axis Misalignment)	History is stored when misalignment error signals of the millimeter wave radar sensor assembly output from the millimeter wave radar sensor assembly are received	Perform beam axis adjustment for the millimeter wave radar sensor assembly. HINT: Beam axis alignment of the millimeter wave radar sensor assembly can be performed using either Triangle Target, Flat Surface Target or Driving Adjustment. Triangle Target: NFO Flat Surface Target: NFO Driving Adjustment: NFO
System Malfunction Visit Your Dealer	X2030	Front Side Radar Sensor Malfunction	History of abnormal signals of the front side radar sensor output from the Front Side Radar Sensor being received	Refer to How to Proceed with Troubleshooting in Front Side Radar Sensor System.
System Stopped See Owner's Manual	X2031	Front Side Radar Sensor Optical Axis Misalignment Malfunction	History of misalignment error signals of the front side radar sensor output from the Front Side Radar Sensor being received	Perform beam axis adjustment for the Front Side Radar Sensor. HINT: Front side radar sensor beam axis alignment can be performed by using "Triangle Target", "Driving

MULTI- INFORMATION DISPLAY	CODE	TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
				Adjustment" or "ECU DATA SAVE/WRITE". Triangle Target: NFO Driving Adjustment: NFO ECU DATA SAVE/WRITE: NFO
System Stopped See Owner's Manual	X2035	Front Side Radar Sensor Temporary Unavailable	History of temporary unavailable signals of the front side radar sensor output from the front side radar sensor being received	Refer to How to Proceed with Troubleshooting in Front Side Radar Sensor System.
System Malfunction Visit Your Dealer	X2036	Front Side Radar Sensor Optical Axis Not Adjusted	History of beam unaligned signals of the front side radar sensor output from the front side radar sensor being received	If it is output, adjust the front side radar sensor and delete the vehicle control history (RoB), and then check that it is no output again. HINT: Front side radar sensor beam axis alignment can be performed by using "Triangle Target", "Driving Adjustment" or "ECU DATA SAVE/WRITE". Triangle Target: NFO Driving Adjustment: NFO ECU DATA SAVE/WRITE: NFO
System Malfunction Visit Your Dealer	X2038	Rear Side Radar Sensor Malfunction	History of abnormal signals of the blind spot monitor sensor output from the blind spot monitor sensor being received	Refer to How to Proceed with Troubleshooting in Blind Spot Monitor System.
System Stopped See Owner's Manual	X2039	Rear Side Radar Sensor Optical Axis Misalignment Malfunction	History of misalignment error signals of the blind spot monitor sensor output from the blind spot monitor sensor being received	Adjust the optical axis of the blind spot monitor sensor. HINT: Blind spot monitor sensor beam axis alignment can be performed by using "Triangle Target", "Driving Adjustment" or "ECU DATA SAVE/WRITE". Triangle Target: MFO Driving Adjustment: MFO ECU DATA SAVE/WRITE: MFO
System Stopped See Owner's Manual	X203A	Rear Side Radar Sensor Temporary Unavailable	History of temporary unavailable signals of the blind spot monitor sensor output from the	Refer to How to Proceed with Troubleshooting in Blind Spot Monitor System.

MULTI- INFORMATION DISPLAY	CODE	TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
			blind spot monitor sensor being received	
System Malfunction Visit Your Dealer	X203B	Rear Side Radar Sensor Optical Axis Not Adjusted	History of beam unaligned signals of the blind spot monitor sensor output from the blind spot monitor sensor being received	If it is output, adjust the blind spot monitor sensor and delete the vehicle control history (RoB), and then check that it is not output again. HINT: Blind spot monitor sensor beam axis alignment can be performed by using "Triangle Target", "Driving Adjustment" or "ECU DATA SAVE/WRITE". Triangle Target: NFO Driving Adjustment: NFO ECU DATA SAVE/WRITE: NFO
System Malfunction Visit Your Dealer	X204A	Acceleration Sensor Malfunction	History of G sensor malfunction signals output by the No. 2 skid control ECU (brake actuator assembly)	Refer to How to Proceed with Troubleshooting in Electronically Controlled Brake System.
System Stopped Front Camera Out of Temperature Range Wait until Normal Temperature	X204D	Front Lighting Control System Inoperative Condition by Front Recognition Camera High Temperature	History is stored when a high temperature signal of the forward recognition camera output from the forward recognition camera is received	Move the vehicle to a cool place such as a shade to cool the forward recognition camera. Cause: When the forward recognition camera temperature becomes high
System Stopped Front Camera Low Visibility See Owner's Manual	X204E	Front Lighting Control System Inoperative Condition by Front Recognition Camera Adverse Environment	History is stored when a bad weather signal output from the forward recognition camera is received	The system returns to normal when the inclement weather of the surrounding environment becomes normal (no heavy rain, snow, fog, etc.). Measures: If the inside of the windshield glass is dirty, clean it using glass cleaner.
-	X2076	Wiper Malfunction	History is stored when a wiper malfunction signal is received from the main body ECU (multiplex network body ECU)	Refer to How to Proceed with Troubleshooting in wiper and washer system.
-	X2077	Ambient Temperature Sensor Circuit	History is stored when an ambient temperature sensor malfunction signal is	Refer to How to Proceed with Troubleshooting in air conditioning system. for HEV Model:

MULTI- INFORMATION DISPLAY	CODE	TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
			received from the air conditioning amplifier assembly	for PHEV Model:
System Stopped See Owner's Manual	X2082	Power Steering Control System for Steering Assist Steering Angle Malfunction	History is stored when an actual steering angle abnormality of the power steering system output from the power steering system is received	Refer to How to Proceed with Troubleshooting in power steering system
System Stopped See Owner's Manual	X2083	Navigation Function Invalid	History is stored when a navigation system sensor malfunction signal output from the radio and display receiver assembly is received	Refer to How to Proceed with Troubleshooting in audio and visual system.
System Malfunction Visit Your Dealer	X2084	Meter Speed Tolerance Malfunction	History is stored when a meter speed tolerance error signal output from the combination meter assembly is received	Refer to How to Proceed with Troubleshooting in meter / gauge system.
System Malfunction Visit Your Dealer	X2085	Electric Parking Brake Control Module Malfunction	History of EPB malfunction signals output from the No. 2 skid control ECU (brake actuator assembly) being received	Refer to How to Proceed with Troubleshooting in electric parking brake system.
System Malfunction Visit Your Dealer	X20B9	Communication Error from Steering Switch Control Module to Instrument Panel Cluster Control Module	History is stored when a communication error between the steering ECU and combination meter assembly is received from the combination meter assembly	Refer to How to Proceed with Troubleshooting in meter / gauge system.
System Stopped See Owner's Manual	X2162	Communication Error by ECU Security Key Not Registered (Hybrid/EV Powertrain Control Module)	History is stored when an ECU security key update incomplete signal is received from the hybrid vehicle control ECU	Refer to the ECU security key registration
System Stopped See Owner's Manual	X2163	Communication Error by ECU Security Key Not Registered (TCM)	History is stored when an ECU security key update incomplete signal is received from	Refer to the ECU security key registration

ADVANCED DRIVER ASSISTANCE SYSTEM: FRONT CAMERA SYSTEM: VEHICLE CONTROL HISTORY (RoB); 2023 - 2024 M...

MULTI-	CODE	TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
INFORMATION DISPLAY				
			the hybrid vehicle control ECU	
System Stopped See Owner's Manual	X2164	Communication Error by ECU Security Key Not Registered (MET)	History is stored when an ECU security key update incomplete signal is received from the combination meter assembly	Refer to the ECU security key registration.
System Stopped See Owner's Manual	X2166	Communication Error by ECU Security Key Not Registered (Power Steering Control Module "A")	History is stored when an ECU security key update incomplete signal is received from the power steering ECU (rack and pinion power steering gear assembly)	Refer to the ECU security key registration.
System Stopped See Owner's Manual	X2167	Communication Error by ECU Security Key Not Registered (VSC)	History is stored when an ECU security key update incomplete signal is received from the No. 2 skid control ECU (brake actuator assembly)	Refer to the ECU security key registration.
System Malfunction Visit Your Dealer	X216E	Front Recognition Camera => BRK Communication Invalid	History is stored when a communication error signal between the No. 2 skid control ECU (brake actuator assembly) and forward recognition camera is received from the No. 2 skid control ECU (brake actuator assembly)	Refer to How to Proceed with Troubleshooting in Electronically Controlle Brake System.
System Malfunction Visit Your Dealer	X216F	Front Recognition Camera => FRD Communication Error	History is stored when a communication stop signal of the forward recognition camera is received from the millimeter wave radar sensor assembly	Refer to How to Proceed with Troubleshooting in Front Radar Sensor System.
System Stopped See Owner's Manual	X21A0	IG OFF Status	History is stored when the IGP OFF signal is received from ECM when the vehicle speed is 8 km/h (5 mph) or more	Refer to How to Proceed with Troubleshooting in SFI System. for M20A-FXS: NFO for 2ZR-FXE: NFO
System Malfunction Visit	X21BA	BH System Malfunction	History is stored when a brake hold malfunction	Refer to How to Proceed with Troubleshooting in Electronically Controlle

MULTI- INFORMATION DISPLAY	CODE	TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
Your Dealer			signal is received from the No. 2 skid control ECU (brake actuator assembly)	Brake System.
System Stopped See Owner's Manual	X2351	PDA (DA) Brake Control Invalid Condition	History is stored when an assist system braking control inability signal or a braking control inability signal is received from the No. 2 skid control ECU (brake actuator assembly)	Refer to How to Proceed with Troubleshooting in Electronically Controlled Brake System.
-	X2352	+B Relay Stuck (Drive Recorder)	History is stored when the voltage is applied to the forward recognition camera for 80 seconds after the ignition switch off Judgment* HINT: *: Forward recognition camera performs ignition switch off judgment based on input signals from the millimeter wave radar sensor assembly and steering sensor.	 Perform a health check, and confirm that DTC is not output. HINT: If DTC is output, perform the DTC troubleshooting first. Check the supply voltage (IGB) of the forward recognition camera. Refer to the ECU terminal arrangement to check terminals and reference values. Cause: During the ignition switch off judgment, power source voltage (11 to 14V) is applied to the forward recognition camera
System Malfunction Visit Your Dealer	X2400	Lateral Control System Malfunction	History is stored when a lateral control system unachievable signal is received from the No. 2 skid control ECU (brake actuator assembly)	Refer to How to Proceed with Troubleshooting in Electronically Controlled Brake System.
System Malfunction Visit Your Dealer	X2401	Automatic Brake Malfunction (Main)	History is stored when an assist system braking control inability signal or a braking control inability signal is received from the No. 2 skid control ECU (brake actuator assembly)	Refer to How to Proceed with Troubleshooting in Electronically Controlled Brake System.
System Malfunction Visit	X2402	Powertrain System	History is stored when a drive control	Refer to How to Proceed with Troubleshooting in Electronically Controlled

ADVANCED DRIVER ASSISTANCE SYSTEM: FRONT CAMERA SYSTEM: VEHICLE CONTROL HISTORY (RoB); 2023 - 2024 M...

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MULTI- INFORMATION DISPLAY	CODE	TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
Your Dealer		Malfunction	upper/lower limit request impossible signal is received from the No. 2 skid control ECU (brake actuator assembly)	Brake System.
System Malfunction Visit Your Dealer	X2403	Automatic Brake Malfunction (Sub)	History is stored when an assist system braking control inability signal or a braking control inability signal is received from the No. 2 skid control ECU (brake actuator assembly)	Refer to How to Proceed with Troubleshooting in Electronically Controlle Brake System.
System Malfunction Visit Your Dealer	X2404	Driver Brake Malfunction	History is stored when a driver brake malfunction signal is received from the No. 2 skid control ECU (brake actuator assembly)	Refer to How to Proceed with Troubleshooting in Electronically Controlled Brake System.
System Malfunction Visit Your Dealer	X2405	Parking Brake Malfunction	History is stored when a parking brake request unachievable signal is received from the No. 2 skid control ECU (brake actuator assembly)	Refer to How to Proceed with Troubleshooting in Electronically Controlle Brake System.
System Malfunction Visit Your Dealer	X2406	Brake Hold Fail	History is stored when a brake hold malfunction signal is received from the No. 2 skid control ECU (brake actuator assembly)	Refer to How to Proceed with Troubleshooting in Electronically Controlle Brake System.
System Malfunction Visit Your Dealer	X2501	CXPI Communication Error (CMB)	History is stored when a communication error between the multiplex network steering ECU and combination meter assembly is received from the combination meter assembly	Refer to How to Proceed with Troubleshooting in meter / gauge system.
System Malfunction Visit Your Dealer	X2502	Drive Monitor ECU Malfunction	History of driver monitor camera malfunction signal received from driver monitor ECU assembly	Refer to How to Proceed with Troubleshooting in driver monitor camera system.
System Stopped See Owner's	X2503	Drive Monitor Temporary Not	History of driver monitor camera	Refer to How to Proceed with Troubleshooting in driver monitor camera

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ADVANCED DRIVER ASSISTANCE SYSTEM: FRONT CAMERA SYSTEM: VEHICLE CONTROL HISTORY (RoB); 2023 - 2024 M...

MULTI- INFORMATION DISPLAY	CODE	TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
Manual		Available	temporarily suspended signal received from driver monitor ECU assembly	system.
System Malfunction Visit Your Dealer	X2904	ABS Not Operating Condition	History of ABS/BA control disable signals output from the No. 2 skid control ECU (brake actuator assembly) being received	Refer to How to Proceed with Troubleshooting in Electronically Controlled Brake System.
System Malfunction Visit Your Dealer	XF01B	ECU Security Key Not Registered	ECU security key has not been registered	Refer to the ECU security key registration.

CLEAR VEHICLE CONTROL HISTORY (RoB) (FRONT CAMERA SYSTEM)

NOTICE:

By performing this procedure, all stored Vehicle Control History items will be cleared.

(a) According to the display on the GTS, clear the Vehicle Control History (RoB).

Chassis > Front Recognition Camera > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

CHECK VEHICLE CONTROL HISTORY (AIRBAG SYSTEM)

(a) Part of the control history can be confirmed using the Vehicle Control History.

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