Manufacturer Name :Toyota Motor Engineering & ManufacturingSubmission Date :FEB 21, 2024NHTSA Recall No. :24V-124Manufacturer Recall No. :24TA01 / 24LA01



24V-124

Manufacturer Information :

Manufacturer Name : Toyota Motor Engineering & Manufacturing Address : 6565 Headquarters Drive Plano TX 75024 Company phone : 1-800-331-4331

Population :

Number of potentially involved : 18,616 Estimated percentage with defect : 100 %

Vehicle Information :

Vehicle 1:	2023-2023 Toyota Mirai
Vehicle Type :	
Body Style :	
Power Train :	NR
Descriptive Information :	Although the involved vehicles are within the above production period range, not all vehicles in this range were sold in the U.S. This issue only affects the vehicles listed above which are equipped with the Parking Assist ECU containing the specific software logic from the specific supplier. 100% of the involved vehicles contain a Parking Assist ECU with the improper software programming described in Section 5 below. Whether this issue, in each case, will cause the rearview image not to be displayed within two seconds of the start of the backing event depends on whether the camera initialization process fails.
Production Dates :	DEC 05, 2022 - OCT 03, 2023
VIN Range 1:	Begin :NREnd :NRNot sequential

Vehicle 2 : Vehicle Type :	2023-2024 Lo	exus ES250				
Body Style :	ND					
Power Train :	NR					. 11
Descriptive Information :	Although the vehicles in th This issue on Assist ECU co the involved programming cause the rea backing even	involved vehi is range were aly affects the pontaining the s vehicles conta g described in rview image n t depends on v	cles are with sold in the U vehicles liste pecific softw in a Parking Section 5 be tot to be disp whether the	In the above p S.S. ed above which vare logic from Assist ECU with low. Whether blayed within t camera initiali	roduction period rang a are equipped with th the specific supplier. th the improper softwa this issue, in each case wo seconds of the star zation process fails.	e, not all e Parkinş 100% of are e, will t of the
Production Dates :	OCT 12, 2022	2 - DEC 01, 202	23			
VIN Range 1:	Begin :	NR	End :	NR	Not se	equential
Vehicle 3 : Vehicle Type : Body Style : Power Train : Descriptive Information :	NR Although the vehicles in th	exus ES300h involved vehi is range were	cles are with sold in the U	in the above p .S.	roduction period rang	je, not all
	This issue on Assist ECU co	nly affects the sontaining the s	vehicles liste pecific softw	d above which are logic from	h are equipped with th the specific supplier. th the improper softw	e Parkin 100% of
	programming cause the rea backing even	g described in rview image n t depends on v	Section 5 be ot to be disp whether the	low. Whether layed within t camera initiali	this issue, in each case wo seconds of the star zation process fails.	are e, will rt of the
Production Dates :	programming cause the rea backing even APR 15, 2022	g described in rview image n t depends on v 2 - JAN 25, 202	Section 5 be ot to be disp whether the 4	low. Whether layed within t camera initiali	this issue, in each case wo seconds of the star zation process fails.	are e, will t of the
Production Dates : VIN Range 1 :	programming cause the rea backing even APR 15, 2022 Begin :	g described in rview image n t depends on v 2 - JAN 25, 202 NR	Section 5 be tot to be disp whether the 4 End :	NSSISTECO will low. Whether layed within t camera initiali NR	this issue, in each case wo seconds of the star zation process fails.	are e, will t of the equential
Production Dates : VIN Range 1 : Vehicle 4 : Vehicle Type : Body Style : Power Train :	ne involved programminą cause the rea backing even APR 15, 2022 Begin : 2023-2024 Lo	g described in rview image n t depends on v 2 - JAN 25, 202 NR exus ES350	Section 5 be not to be disp whether the 4 End :	NR	this issue, in each case wo seconds of the star zation process fails.	are e, will t of the equential
Production Dates : VIN Range 1 : Vehicle 4 : Vehicle Type : Body Style : Power Train : Descriptive Information :	ne involved programminą cause the rea backing even APR 15, 2022 Begin : 2023-2024 L NR Although the vehicles in th This issue on Assist ECU co the involved programming cause the rea backing even	involved vehi is range were aly affects the vehicles conta g described in is vehicles conta g described in rview image n t depends on v	In a Parking Section 5 be not to be disp whether the 4 End : cles are with sold in the U vehicles liste pecific softw in a Parking Section 5 be not to be disp whether the	Assist ECU will low. Whether layed within t camera initiali NR .S. d above which vare logic from Assist ECU will low. Whether layed within t camera initiali	this issue, in each case wo seconds of the star zation process fails. Not se not se nare equipped with th the specific supplier. th the improper softwo this issue, in each case wo seconds of the star zation process fails.	are e, will t of the equential e Parking 100% of are e, will t of the
Production Dates : VIN Range 1 : Vehicle 4 : Vehicle Type : Body Style : Power Train : Descriptive Information : Production Dates :	ne involved programminą cause the rea backing even APR 15, 2022 Begin : 2023-2024 Le NR Although the vehicles in th This issue on Assist ECU co the involved programminą cause the rea backing even SEP 14, 2022	involved vehi is range were ily affects the ontaining the s vehicles conta g described in rview image n t depends on v	In a Parking Section 5 be not to be disp whether the 4 End : Cles are with sold in the U vehicles liste pecific softw in a Parking Section 5 be not to be disp whether the 4	in the above p S. dabove which vare logic from Assist ECU with low. Whether blayed within the camera initiali	this issue, in each case wo seconds of the star zation process fails. Not se not se n	are e, will t of the equential equential under t and the equential equential equential equential equential equential t of the

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Vehicle 5:	2024-2024 Lex	xus LC500			
Vehicle Type :					
Body Style :	ND				
Power Train :	NR				
Descriptive Information :	Although the in vehicles in this This issue only Assist ECU con the involved ve programming cause the reary backing event	nvolved vehicles range were sol- y affects the veh taining the spec ehicles contain a described in Sec view image not t depends on whe	are within t d in the U.S. icles listed a ific software Parking Ass tion 5 below to be display ther the can	the above production per above which are equippe e logic from the specific s sist ECU with the improp v. Whether this issue, in yed within two seconds of mera initialization proce	riod range, not all d with the Parking supplier. 100% of per software each case, will of the start of the ss fails.
Production Dates :	MAY 15, 2023	- NOV 10, 2023			
VIN Range 1: I	Begin :	NR	End: NR	2	Not sequential
Vehicle 6 : Vehicle Type : Body Style : Power Train : Descriptive Information : Production Dates :	2024-2024 Lex NR Although the in vehicles in this This issue only Assist ECU con the involved ve programming of cause the reary backing event MAY 24, 2023	nvolved vehicles range were sol grange were sol y affects the veh taining the spec ehicles contain a described in Sec view image not t depends on whe - OCT 30, 2023	are within t d in the U.S. icles listed a ific software Parking Ass tion 5 below to be display ther the can	the above production per above which are equippe e logic from the specific s sist ECU with the improp v. Whether this issue, in yed within two seconds of mera initialization proce	riod range, not all d with the Parking supplier. 100% of per software each case, will of the start of the ss fails.
VIN Range 1:1	Begin :	NR	End: NR	2	Not sequential
Vehicle 7 : Vehicle Type : Body Style : Power Train : Descriptive Information :	2023-2023 Lex NR Although the in vehicles in this This issue only Assist ECU con the involved ve programming of cause the reary	nvolved vehicles range were sol affects the veh taining the spec ehicles contain a described in Sec view image not t	are within t d in the U.S. icles listed a ific software Parking Ass tion 5 below to be display	the above production pe above which are equippe e logic from the specific s sist ECU with the improp v. Whether this issue, in yed within two seconds o	riod range, not all d with the Parking supplier. 100% of per software each case, will of the start of the
Duaduation Datas			and the tall	nera mitianzation proce	55 14115.
Froduction Dates :	001 17, 2022 -	VULI 20, 2023	-		—
VIN Dongo 1.1	Dogin .	NID	End. MD)	Not commented

Vehicle 8: 20)23-2023 Lexus LS50(Oh	
Vehicle Type :			
Body Style :			
Power Train : N	R		
Descriptive Information : All ve T As th pr ca ba Production Dates : M	Descriptive Information : Although the involved vehicles are within the above production period range, not a vehicles in this range were sold in the U.S. This issue only affects the vehicles listed above which are equipped with the Parki Assist ECU containing the specific software logic from the specific supplier. 100% the involved vehicles contain a Parking Assist ECU with the improper software programming described in Section 5 below. Whether this issue, in each case, will cause the rearview image not to be displayed within two seconds of the start of the backing event depends on whether the camera initialization process fails.		
VIN Range 1 : Be	gin: NR	End: NR	☐ Not sequential
Description of the Noncompliance :	The subject vehicles system, which consi- vehicle, including a r system uses the Parl cameras, as needed, improper programm initialization process rearview image with driver shifts into rev switched on. As a re- requirements of FM of a crash during a b	are equipped with a Panc sts of multiple individual of rearview camera, and a Pa king Assist ECU to activate in order to display the con- ning of the Parking Assist I s failure occurs, the PVM s nin two seconds of the stan verse within approximatel esult, the subject vehicles f VSS No. 111, paragraph S5 packing event.	bramic View Monitor (PVM) cameras located around the arking Assist ECU. The PVM e the signal for each of these rresponding image. Due to ECU software, if a camera system may not display a rt of the backing event if the ly four seconds after ignition is fail to comply with the 5.5.3, which may increase the risk
FMVSS 1 :	111 - Rear visibility		
Description of the Safety Risk : Due to improper programming of the Parking Assist ECU software, if a ca initialization process failure occurs, the PVM system may not display a rearview image within two seconds of the start of the backing event if the driver shifts into reverse within approximately four seconds after ignitio switched on. As a result, the subject vehicles fail to comply with the requirements of FMVSS No. 111, paragraph S5.5.3, which may increase the risk of a crash during a backing event.			Assist ECU software, if a camera system may not display a rt of the backing event if the ly four seconds after ignition is fail to comply with the 5.5.3, which may increase the
Description of the Cause :	NR	- ~	
Identification of Any Warning that can Occur :	NR		

Involved Components :

The information contained in this report was submitted pursuant to 49 CFR §573

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Component Name 1:	Computer, Parking Assist		
Component Description :	Parking Assist ECU		
Component Part Number :	86792-62120		
Component Name 2 :	Computer, Parking Assist		
Component Description :	Parking Assist ECU		
Component Part Number :	86792-33440		
Component Name 3 :	Computer. Parking Assist		
Component Description :	Parking Assist ECU		
Component Part Number :	86792-33441		
r r			
Component Name 4 :	Computer, Parking Assist		
Component Description :	Parking Assist ECU		
Component Part Number :	86792-33460		
Component Name 5 :	Computer, Parking Assist		
Component Description :	Parking Assist ECU		
Component Part Number :	86792-33461		
Component Name 6:	Computer, Parking Assist		
Component Description :	Parking Assist ECU		
Component Part Number :	86792-33441		
Component Name 7:	Computer, Parking Assist		
Component Description :	Parking Assist ECU		
Component Part Number :	86792-33461		

The information contained in this report was submitted pursuant to 49 CFR \$573

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Component Name 8:	Computer, Parking Assist
Component Description :	Parking Assist ECU
Component Part Number :	86792-11020

Component Name 9: Computer, Parking Assist Component Description: Parking Assist ECU Component Part Number: 86792-50440

Supplier Identification :

Component Manufacturer

Name : DENSO CORPORATION Address : 1-1, Showa-cho Kariya-city, Aichi-pref Foreign States 448-8661

Country: Japan

Chronology :

In February 2023, Toyota and the Parking Assist ECU supplier began a design review of all PVM systems in parallel with an investigation of an issue involving the rearview monitor on a certain vehicle model sold in Japan. Based on the review, it appeared that if there is a large amount of data being processed at vehicle startup, the camera initialization process could fail at vehicle startup on certain PVM systems. Beginning in September 2023, Toyota and the supplier specifically investigated the initialization sequence of the Parking Assist ECU and identified that when large amounts of data are processed at vehicle startup, the camera initialization process may conflict with the image drawing process, and the image drawing process would be prioritized, causing the camera initialization process to fail. Toyota and the supplier began replication testing focusing on the sequence.

In early February 2024, Toyota was able to replicate the issue. Toyota's analysis also found that if the initialization process failure occurred and the driver shifts into reverse within four seconds after the ignition is switched on, it would take more than two seconds after the start of the backing event to display the rearview image.

On February 15, 2024, Toyota determined that it is possible that the involved vehicles could experience a condition in which a rearview image does not display to the driver within two seconds of the start of a backing event and as such, does not meet the requirements of FMVSS No. 111 S5.5.3 and decided to conduct a recall.

Planned Owner Notification Date : APR 07, 2024 - APR 21, 2024

Description of Remedy :

Description of Remedy Program :	All known owners of the subject vehicles will be notified to return their vehicles to a Toyota or Lexus dealer. The dealers will update the software of the Parking Assist ECU, free of charge. As the owner notification letters will be mailed out within the active period of the Toyota or Lexus New Vehicle Limited Warranty ("Warranty") and all involved vehicle owners for this recall would have been provided a repair at no cost under Toyota's Warranty.
How Remedy Component Differs from Recalled Component :	NR
Identify How/When Recall Condition was Corrected in Production :	NR
Recall Schedule :	
Description of Recall Schedule :	Notifications to owners of the affected vehicles will occur by April 21, 2024. A copy of the draft owner notification will be submitted as soon as it is available. Notifications to distributors/dealers will be sent on February 21, 2024. Copies of dealer communications will be submitted as they are issued.
Planned Dealer Notification Date :	FEB 21, 2024 - FEB 21, 2024

* NR - Not Reported