

## **TECHNICAL INSTRUCTIONS**

### **SAFETY RECALL 21TA07**

#### **VEHICLE MAY LOSE MOTIVE POWER WHILE DRIVING**

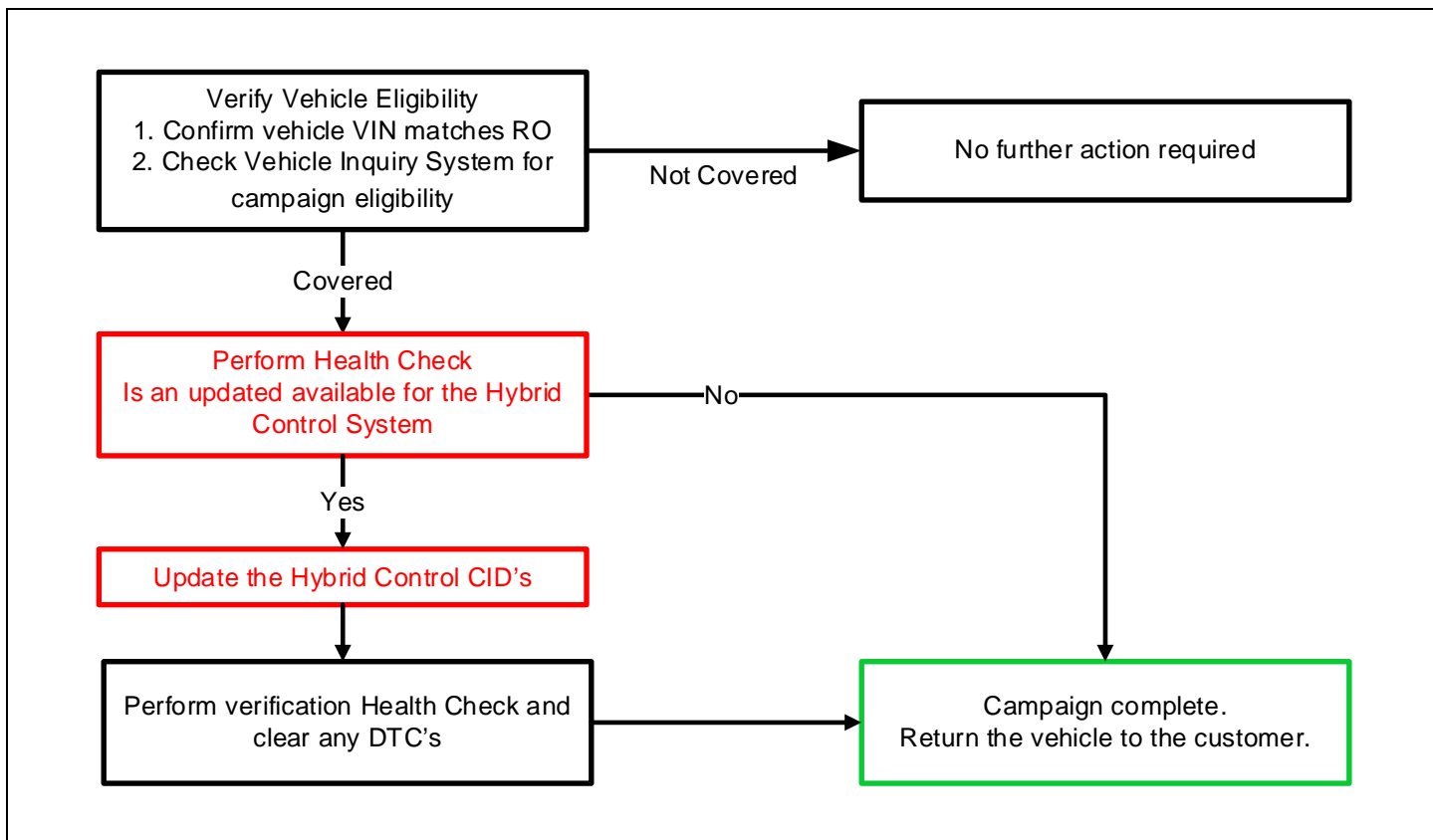
#### **CERTAIN 2022 MODEL YEAR PRIUS AND PRIUS PRIME VEHICLES**

The repair quality of covered vehicles is extremely important to Toyota. All dealership technicians performing this repair are required to successfully complete the most current version of the E-Learning course "Safety Recall and Service Campaign Essentials". To ensure that all vehicles have the repair performed correctly; technicians performing this recall repair are required to currently have completed all of the following courses:

- T623 - Toyota Electrical Circuit Diagnosis

It is the dealership's responsibility to select technicians with the above certification level or greater to perform this recall repair. Carefully review your resources, the technician skill level, and ability before assigning technicians to this repair. It is important to consider technician days off and vacation schedules to ensure there are properly trained technicians available to perform this repair at all times.

## I. OPERATION FLOW CHART



## II. IDENTIFICATION OF AFFECTED VEHICLES

- Check the TIS Vehicle Inquiry System to confirm that each VIN is eligible for this Special Service Campaign, and that it has not already been completed prior to dealer shipment or by another dealer.

Note: TMNA warranty will not reimburse dealers for repairs completed on vehicles that are not affected or were completed by another dealer.

## III. PREPARATION

### 1. PARTS

Part Number	Part Description	Quantity
00451-00001-LBL*	Authorized Modification Label	1

\*Labels can be ordered in packs of 25 from the MDC through the Dealer Daily Website

### 2. TOOLS, SUPPLIES & EQUIPMENT

- Standard Hand Tools
- Techstream ADVi / Techstream 2.0 / Techstream Lite
  - i. MUST BE UPDATED TO WINDOWS 10**
  - ii. MUST BE Techstream SOFTWARE V16.10.017 OR NEWER**
- DCA-8000P Battery Diagnostic Tool
- T-SB-0134-16

## **IV. BACKGROUND**

In the involved vehicles, a software error can cause a control computer (hybrid vehicle ECU) to erroneously determine that it does not have the correct information about the transmission position if the position changes during a short window of time when the computer is checking this information. If this occurs, warning lights will illuminate and the hybrid system will shut down resulting in loss of motive power while driving. If the vehicle loses motive power while being driven at a higher speed, there could be an increased risk of a crash.

## V. DETERMINE CALIBRATION UPDATE STATUS



### 1. PERFORM HEALTH CHECK

- Using a Techstream, perform a Health Check to check for any Diagnostic Trouble Code.

**Note:** This Campaign covers only the Calibration ID update to the Hybrid Control systems, as detailed in these instructions. It does not cover the diagnosis or replacement of any other issues on the vehicle.

### 2. CHECK CURRENT CALIBRATION

- Locate the **Update** column for the **Hybrid Control** System's in the **Stored Data** tab for this vehicle.
- Determine the status of an available update for the Hybrid Control Systems; indicated by a YES or NO

System Select **Stored Data**

2021 PRIUS  
2ZR-FXE

001553 mile

000000000000000000

PRIUS\_2ZR-F ^

- File Notes
- Health Check
- Data 1-
- Data 2-
- Engine
- Hybrid Control
- Motor Gen
- Rear Motor
- Radar Cru
- Radar Cru
- Pre-Collision
- ABS/VSC/
- EMPS
- Rear Cam
- Air Condition

Sort

**Tire Pressure / Threshold Value [psi(gauge)]**

Sensor 1: 33.42 / 28.43    Sensor 2: 33.17 /  
Sensor 3: 0.00 / 1.75    Sensor 4: 0.00 /  
Sensor 5: N/A / N/A

**Health Check Results**

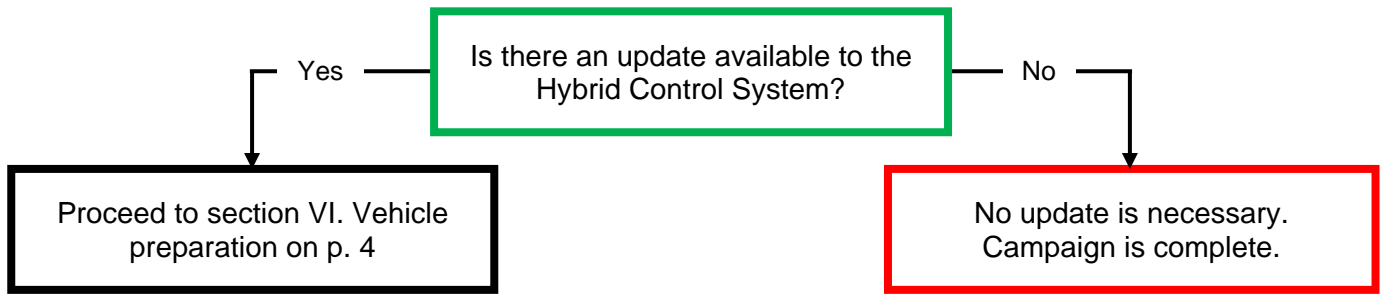
- Health Check does not display live data.
- Changes in vehicle condition will not update automatic
- To update Health Check, click the Refresh button on the

Enhanced | Generic

Campaign Status: **Yes**  
PERMANENT: **NO**  
ECU Security Key: -

System	List	Test Failed	RoB	Calibration	Update	Configure
<b>Hybrid Control</b>			●	8998347R3000	<b>Yes</b>	No
Lane Control			●	8998547R3000	No	No
Front Recognition Camera			●	8646F4710000	No	No
Front Radar Sensor			●	8646G2601500	No	No
Road Sign Assist			●	8821F3301400	No	No
Pre-Collision System			●	-	No	No
Front Recognition Camera (Front Lighting Control)			●	-	No	No
Engine				8966347C2000	No	

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Note: If the Hybrid System's ECU already has the updated Calibration ID, the campaign is complete. No further action is required. Submit the warranty claim to complete this vehicle.

## VI. VEHICLE PREPERATION

The ECU reprogramming procedure is detailed in [T-SB-0134-16](#). Reference this Bulletin for additional detailed procedures and information.


### 1. VEHICLE PREPARATION

a. Confirm the following conditions:

- Vehicle in the IG position (engine off).
- Transaxle in Park.
- Parking brake engaged.
- Turn off all electrical accessories (i.e. climate control, audio system, etc.)
- Headlight switch in the DRL OFF position.
- Windshield wiper switch in the OFF position.

### 2. CONNECT THE 12v BATTERY TO A POWER SUPPLY (DCA-8000)

- a. Connect the DCA-8000 or other type of a power supply (not a battery charger) to the 12v battery.
- b. Select the Reflash icon from the Main Menu screen of the DCA-8000.

	<p><b>A power supply <i>MUST</i> be used during reprogramming. ECU damage will occur if the battery voltage is not properly maintained during this re-flash procedure.</b></p>
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**Note:** A power supply must be connected directly to the 12v battery terminals and NOT the remote jump posts under the hood (if equipped).

### 3. VERIFY TECHSTREAM SETUP

a. Verify that the Techstream meets the following conditions:

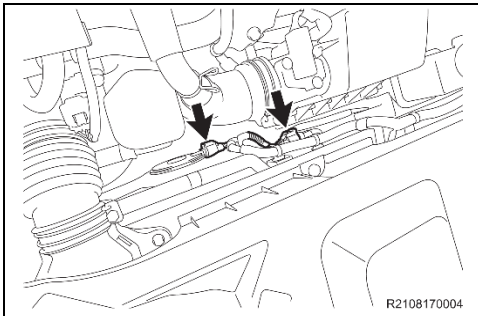
- The latest version of software is loaded.
- The Techstream battery is fully charged. If not, connect the Techstream to a 120v source.
- The DLCIII cable is in good condition.



**The Techstream battery must be maintained during the update procedure. If necessary, plug the Techstream into a 120v outlet to ensure that a failure does not occur.**

**Note:** If the Techstream's communication with the vehicle fails during the update procedure, the ECU will be damaged.

The CID Update Procedure is detailed in [T-SB-0134-16](#). Please reference this Bulletin for more detailed procedures and information.



#### 1. DISCONNECT COOLING FAN

- a. Disconnect the 2 electrical connectors from the cooling fan on the radiator fan shroud.



**If the cooling fans run during the Calibration update procedure, the battery voltage will be inconsistent and could cause damage to the control module(s).**

## VII. UPDATE CALIBRATION ID

### 1. UPDATE THE CALIBRATION ID FOR THE HYBRID CONTROL SYSTEMS.

- a. Identify the current Calibration ID for the Hybrid Control System ECU on the Stored Data tab.

The screenshot shows the 'Stored Data' tab for a 2021 Prius. The left sidebar lists various systems, with 'Hybrid Control' circled in red. The main area displays 'Tire Pressure / Threshold Value [psi(gauge)]' and 'Health Check Results'. Below this is a table of systems with columns for 'System', 'RoB', 'Calibration', 'Update', and 'Configure'. The 'Hybrid Control' row is highlighted, and its 'Calibration' value '8998347R3000' is circled in red and pointed to by a callout box labeled 'Original CID'.

System	RoB	Calibration	Update	Configure
Hybrid Control	●	8998347R3000	Yes	No
Lane Control	●	-	No	No
Front Recognition Camera	●	8646F4710000	No	No
Front Radar Sensor	●	8646G2601500	No	No
Road Sign Assist	●	8821F3301400	No	No
Pre-Collision System	●	-	No	No
Front Recognition Camera (Front Lighting Control)	●	-	No	No
Engine	●	8966347C2000	No	No

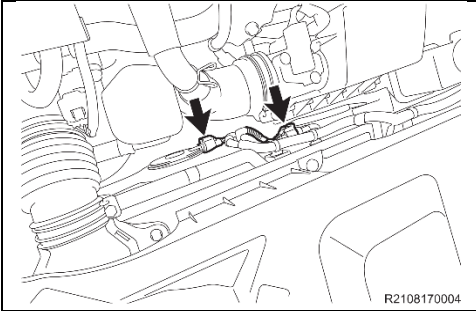
- b. Locate the vehicles Current CID in the chart below.
- c. Select the corresponding NEW CID link to load the update.
- d. Follow the on-screen instructions to complete the calibration update procedure.

Vehicle Specification		Hybrid Vehicle Control ECU Calibrations	
MODEL	Drive	ORIGINAL CID	NEW CID (Hybrid Control)
PRIUS	FWD	8998347R4000	<a href="#"><u>8998347R4100</u></a>
		8998347T4000	
		8998347R5000	<a href="#"><u>8998347R5100</u></a>
		8998347T5000	
	AWD-e	8998347R3000	<a href="#"><u>8998347R3100</u></a>
		8998347T3000	
PRIUS PRIME	FWD	8998347P9000	<a href="#"><u>8998347P9100</u></a>
		8998347Q6000	

**Note:** If the Hybrid Control ECU has the New CID's, no update is necessary.

The CID Update Procedure is detailed in [T-SB-0134-16](#). Please reference this Bulletin for more detailed procedures and information.

## VIII. COMPLETE REPAIR



### 1. CONNECT COOLING FAN

- a. Connect the 2 electrical connectors to the cooling fan on the radiator fan shroud.



### 2. PERFORM VERIFICATION HEALTH CHECK

- a. Using a Techstream, perform a Health Check.
- b. Clear DTC's that may have set during the re-flash procedure.
- c. **Re-run the Health Check to confirm that no DTC's reappear.**



**THIS VERIFICATION HEALTH CHECK IS NECESSARY to update the results and CID's to the National database.**

### 3. CONFIRM CID UPDATE

- a. On the Stored Data tab, confirm the following for the **Hybrid Control** Systems:
  - The Calibration number has the "New CID" number.
  - The "Update" column says "No"

The screenshot shows the Techstream interface with the 'Stored Data' tab selected. The vehicle is a 2021 PRIUS 2ZR-FXE with 001553 miles. The 'Health Check Results' section shows that the health check does not display live data and that changes in vehicle condition will not update the health check. The 'Enhanced' view is selected, showing a table of system data.

System	RoB	Calibration	Update	Configure
<b>Hybrid Control</b>	●	8998347R3100	No	No
Lane Control	●	8998547R30000	No	No
Front Recognition Camera	●	8646F4710000	No	No
Front Radar Sensor	●	8646G2601500	No	No
Road Sign Assist	●	8821F3301400	No	No
Pre-Collision System	●	-	No	No
Front Recognition Camera (Front L)	●	-	No	No
Engine	●	8966347C2000	No	No

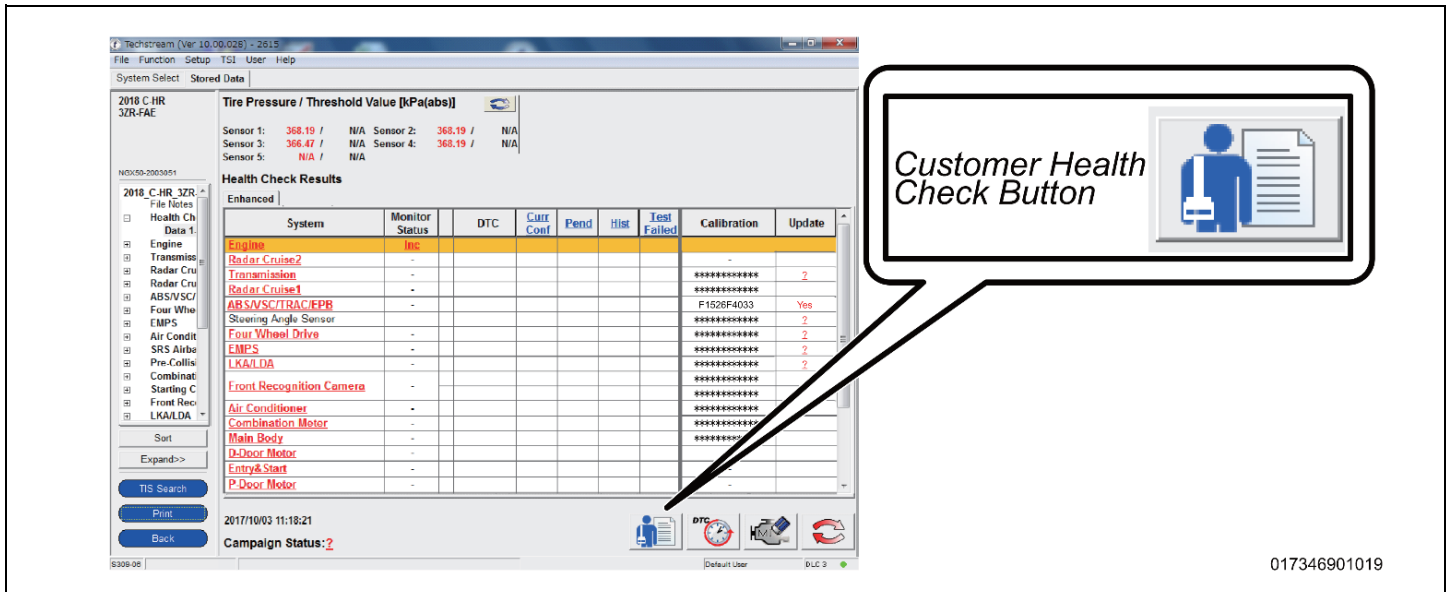
Annotations in the image include a green circle around 'Stored Data' in the top left, a green circle around 'Hybrid Control' in the system list, and a green circle around the '8998347R3100' calibration number and 'No' update status. A green arrow points from the text 'New CID's MUST be displayed' to the '8998347R3100' calibration number, and another green arrow points from the text 'Update must say "No"' to the 'No' in the 'Update' column.

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#### 4. PRINT CUSTOMER HEALTH CHECK REPORT

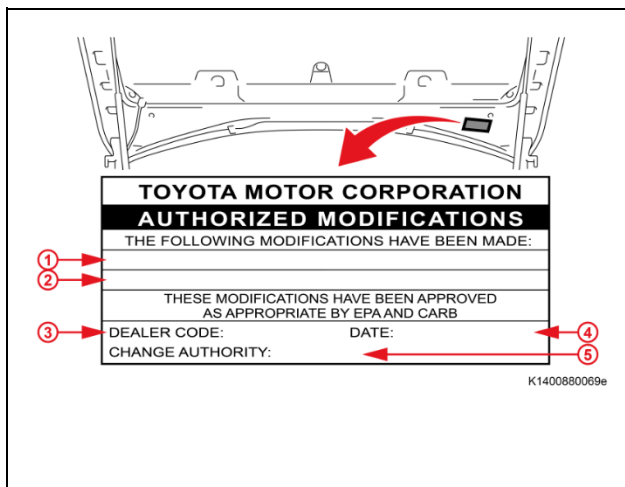
- a. From the Stored Data tab, select the Customer Health Check Report button (TIS will launch when button is pressed).



- b. Log in to TIS.
- c. Input Vehicle Mileage and Repair Order number.
- d. Check the “Performed” campaign button for the applicable campaigns.
- e. Select the Report button.
- f. Confirm Customer Health Check Report information is correct.
- g. Print Customer Health Check Report from TIS.
- h. Sign and provide to the customer.

#### 5. ATTACH THE AUTHORIZED VEHICLE MODIFICATION LABEL

- a. Fill out the label.
- b. Affix the label to the under-side of the hood.



The authorized modification label only needs to have the Hybrid Vehicle Control ECU Information.

1	Repair ECU P/N*
	89981-#####
	89981-#####
	89981-#####
<b>Part # varies by depends on the vehicle model and specifications.</b>	
2	New Hybrid Vehicle Control ECU Calibration ID
3	Dealer Code
4	Date Completed
5	Campaign Code (xxx)

## IX. REASSEMBLY

### 1. REMOVE THE POWER SUPPLY FROM THE BATTERY

#### ◀ VERIFY REPAIR QUALITY ▶

- Confirm the cooling fans are re-connected.
- Confirm the system Calibration has been updated successfully.
- Confirm there are no DTC's after the Calibration update.

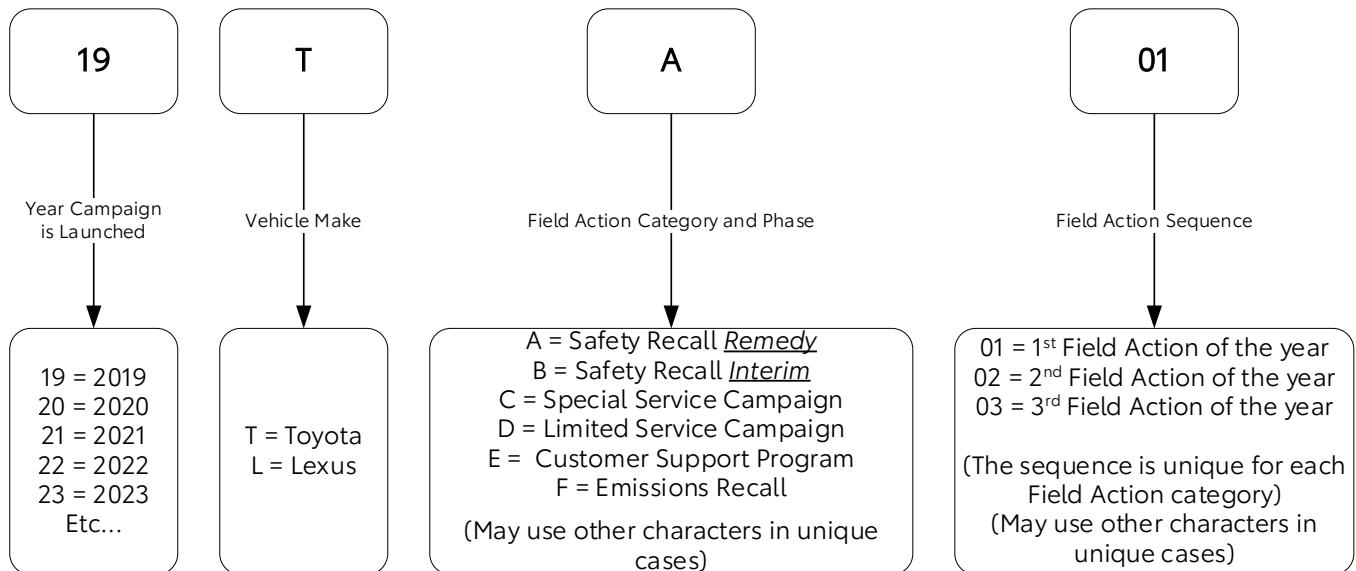
## X. APPENDIX

### A. PARTS DISPOSAL

In accordance with Federal law, please make sure all recalled parts (original parts) removed from the vehicle are disposed of in a manner in which they will not be reused, ***unless requested for parts recovery return.***

## Campaign Designation / Phase Decoder

19TA01



#### Examples:

19TA01 = Launched in 2019, Toyota, Safety Recall Remedy Phase, 1st Safety Recall Launched in 2019  
20TC02 = Launched in 2020, Special Service Campaign, 2nd Special Service Campaign Launched in 2020  
21TE05 = Launched in 2021, Customer Support Program, 5th Customer Support Program Launched in 2021