**SUBARU.**

**QUALITY DRIVEN® SERVICE**

# SERVICE INFORMATION BULLETIN

**APPLICABILITY:** 2023 - 24MY Ascent
2020 –24MY Legacy & Outback
2024MY Impreza
2024MY Crosstrek
2022 - 24MY BRZ
2022 - 24MYMY WRX

**NUMBER:** 18-224-22R
**DATE:** 06/27/22
**REVISED:** 10/12/23

**SUBJECT:** Diagnostics Procedure Addition: DTC B2256 (CP1)

**INTRODUCTION:**

This Service Information Bulletin is to inform you of the diagnosis procedure of the CP1/ CP1.5 Infotainment System when DTC B2256 is detected. This update prevents unnecessary replacement of the Cockpit Control Module.

**SERVICE PROCEDURE / INFORMATION:**

DTC B2256 indicates a communication problem between the DCM and the Cockpit Control Module. The trouble tree below should be followed to prevent misdiagnosis of B2256.

**NOTE:** No diagnosis of B2256 should occur before a FULL SYSTEM SCAN has been completed and the Telematics system is confirmed to be DTC free. The presence of any Telematics DTCs would predicate diagnosing and repairing the Telematics fault before continuing the B2256 diagnosis. Failure to ensure the Telematics system is trouble-free will result in misdiagnosis and unnecessary parts replacement.

---

**1. CHECK DTC.**

**1.** Using the Subaru Select Monitor, perform the clear memory of [Cockpit Control]. **Ref. to COMMON (DIAGNOSTICS)>Clear memory**

**2.** Turn the ignition switch OFF → ON.

**3.** Read the DTC of [Cockpit Control] using the Subaru Select Monitor. **Ref to COCKPIT CONTROL (DIAGNOSTICS) >Diagnostic Trouble Code (DTC)**

**Is DTC B2256 displayed? (Current code)**

**YES: Go to Step 2: Check Connector and Cable Connection (Open Circuit)**

**NO: Even if DTC is displayed, the circuit has returned to a normal condition at this time. Reproduce the failure, and then perform the diagnosis again**.

**NOTE: In this case, temporary poor contact of connector, temporary open or short circuit of harness may be the cause.**

---

*Continued...*

## 2. CHECK CONNECTION AND CABLE (OPEN CIRCUIT).

*1.* Turn the ignition switch to OFF.

*2.* Disconnect the battery.

*3.* Disconnect the Cockpit Control Module connector.

*4.* Disconnect the DCM connector.

**NOTE: A thorough inspection of the connectors and connector pins should be performed at this time. This is critical to aid in proper diagnosis and prevent incorrect part replacement. Previous repair history should be reviewed.**

*5.* Using a DVOM, measure the resistance between the Cockpit Control Module connector and DCM connector.

Connector & terminal

(AD1) No. C1 — (AD18) No. F2:
(AD1) No. C2 — (AD18) No. F3:
(AD1) No. C3 — (AD18) No. F1:
(AD1) No. C4 — (AD18) No. F4:
(AD1) Shield connector — (AD18) Shield connector:

**Is the resistance 1 Ω or less?**

**YES: Go to Step 3: Check Cable**

**NO: Repair or replace the open circuit of harness.**


## 3. CHECK CABLE.

**1. Visually inspect the USB jumper harness between the DCM and the CCU.**

You are looking for chaffing or piercing of the harness that may provide an unexpected short to ground or power when it is installed, and the dashboard is assembled.

**Was harness damage found during the visual inspection?**

**YES: Repair or replace the open circuit of harness.**

**NO: Go to Step 4: Check USB Jumper Harness (Internal Short)**

*Continued...*

**4. CHECK USB JUMPER HARNESS (INTERNAL SHORT).**

*1. With the USB harness disconnected on both end and removed from the dash if necessary.*

*2. Using a DVOM, measure the resistance between Cockpit Control Module connector as detailed below.*

Connector & terminal

(AD1) No. C1 (+) — C2, C3, and C4:

(AD1) No. C2 (+) — C3 and C4:

(AD1) No. C3 (+) — C4:

**Is the resistance 1 MΩ or more?**

**YES: Go to Step 5: Check DCM**

**NO: Repair or replace the open circuit of harness.**

---

**5. CHECK DCM**

*1.* Connect the DCM connector.

*2.* Connect the Cockpit Control Module connector.

*3.* Connect the battery.

**NOTE: Failure to perform the proceeding order of operations for reconnecting the appropriate connectors & battery, could result in certain features not operating as designed.**

*4.* Perform the inspection according to the diagnosis for the telematics system. **Ref. to TELEMATICS SYSTEM (DIAGNOSTIC) > Basic Diagnostic Procedure.**
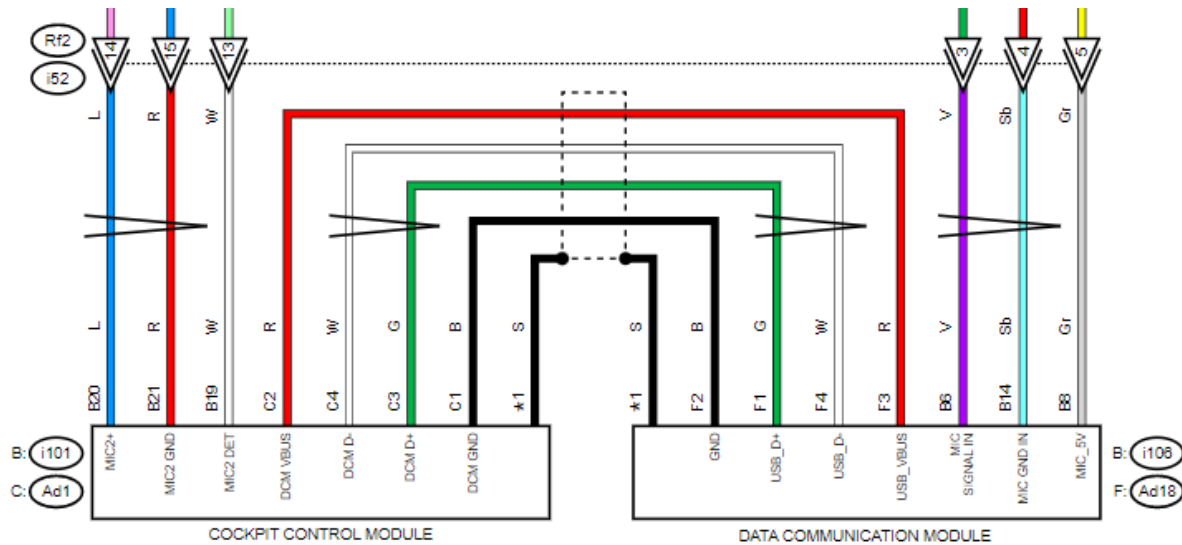
**Is the Telematics System Check, OK?**

**YES: Replace the Cockpit Control Unit. Ref. to ENTERTAINMENT & MONITORING > COCKPIT DISPLAY**

**NO: Replace the DCM. Ref. to ENTERTAINMENT AND MONITORING > DATA COMMUNICATION MODULE.**

*Continued...*

# USB CONNECTION DETAIL



## COMMON DIAGNSOTIC > Clear memory

**Operation**

*1.* On [Start] screen, select [Diagnosis].

*2.* On [Vehicle selection] screen, input the target vehicle information and select [OK].

*3.* On [Main Menu] screen, select [Each System].

*4.* On [Select System] screen, select the corresponding system and select [Enter].

*5.* On [Select Function] screen, select [DTC].

*6.* On [DTC] screen, select [Clear memory].

- For detailed operation procedures, refer to "Help" of application.

- When using the Subaru Select Monitor, turn the ignition switch to ON.

- Sub screen may appear in the system selection display. In that case, select appropriate items in accordance with the contents of the display.

- When the clear memory is performed, diagnostic code (DTC) and freeze frame data (FFD) necessary in diagnosis will also be deleted.

- Before performing the clear memory, be sure to save the diagnostic code (DTC) and freeze frame data (FFD) stored in the module.

- Initial diagnosis of electronic throttle control is performed after memory clearance. Wait for 10 seconds or more after turning the ignition switch to ON, and then start the engine.

*Continued...*

## COMMON DIAGNOSTIC > Diagnostic Trouble Code (DTC)

### Operation

*1.* On [Start] screen, select [Diagnosis].

*2.* On [Vehicle selection] screen, input the target vehicle information and select [OK].

*3.* On [Main Menu] screen, select [Each System].

*4.* On [Select System] screen, select the corresponding system and select [Enter].

*5.* On [Select Function] screen, select [DTC].

- **For detailed operation procedures, refer to "Help" of application.**

- **When using the Subaru Select Monitor, turn the ignition switch to ON.**

- **Sub screen may appear in the system selection display. In that case, select appropriate items in accordance with the contents of the display.**

- **Current code is a diagnostic code displayed when the system is judging the current code. However, if a DTC is recorded due to poor contact etc., the code remains displayed as current code during the drive cycle even after the poor contact has resolved.**

- **History code is a diagnostic code recorded when the current code is not detected but the system has detected a malfunction in the past. When the current code is recorded, it is also recorded to the history code at the same time.**

## TELEMATICS SYSTEM (DIAGNOSTICS) > General Description

1. BASIC INSPECTION

Before performing the diagnosis, check the following items which may affect the problems relating to the telematics system.

1. Check the 12V under the hood battery.

2. Check the relay and fuse condition.

3. Check the DCM harness and connectors are installed and firmly seated.

4. Verify DCM ground from terminal A14 to chassis ground.

*Continued...*

When communication with DCM is impossible

**Detecting condition:**

Defective harness connector

Power supply circuit malfunction

Defective DCM

Defective CAN communication circuit

Defective Subaru Select Monitor

**Trouble symptom:**

Communication is impossible between DCM and Subaru Select Monitor.

Please refer to the appropriate STIS manual of the same name for more detailed diagnostic information.

**ENTERTAINMENT & MONITORING > AUDIO**

*1.* Disconnect the ground terminal from the battery sensor, and wait for at least 60 seconds before starting work.

> NOTE:
> **Release the shift lock and shift the select lever to the "N" position**

*2.* Remove the cover LWR driver.

*3.* Remove the visor assembly.

*4.* Remove the driver monitoring unit assembly.

> NOTE:
> **For the model without driver monitoring system, remove the cover center UPR in the same procedure as for the driver monitoring unit assembly.**

*5.* Remove the grip and boot.

*6.* Remove the cover assembly front.

*7.* Release the clips, and remove the ornament panel mid passenger.

> NOTE:
> **For models with keyless access with push button start, disconnect the push button ignition switch connector.**

*8.* Remove the center information display assembly.

  (1) Remove the bolt and release the clip.
  (2) Disconnect the connectors, and then remove the center information display assembly.

*9.* Remove the backup unit assembly.

*10.* Remove the data communication module.

*Continued...*

DATA COMMUNICATION MODULE

*1.* Disconnect the ground terminal from battery sensor.

 **For the hybrid model, disconnect the battery negative terminal.**

*2.* Remove the grille assembly - CTR ventilation.

*3.* Remove the audio assembly or navigation assembly.

*4.* Remove the data communication module.

  (1) Disconnect the cable connected to the audio assembly.

  (2) Remove the screws and remove the data communication module.

Do not drop or apply any impact to the data communication module.

Remove the screws on LH side in the same procedure as on the RH side.


### LED illumination status list

| LED | Status | Situation |
|---|---|---|
| Solid Green | SOS ((i)) | System is normal. A subscription to the SUBARU STARLINK service has been established*. |
| Solid Red | SOS ((i)) | A system malfunction has occurred. |
| Flashing Green or Red | SOS ((i)) | SUBARU STARLINK service is currently communicating (e.g. Voice call, Stolen Vehicle Recovery, etc.). |
| No Light | SOS ((i)) | A subscription to the SUBARU STARLINK service has not been established. |
| Solid Green and Red | SOS ((i)) | SUBARU STARLINK service is currently having communication problems |

*Continued...*

# Telematics Questionnaire

## Telematics Check List for Interview - SmartPhone or Tablet

| Required Information: | | | |
|---|---|---|---|
| Date: | Model: | Year: | Odometer: |
| VIN: | RO#: | | Name: |

**Customer Concern (in the Customer's words):**

Is this first time or a repeat customer concern? ☐ FIRST VISIT    ☐ REPEAT CONCERN

If repeat, what was first repair and the results?

Did the customer report any error messages upon failure of remote service request? ☐ YES ☐ NO

What was the failure message?

Location concern occurs: ☐ HOME    ☐ WORK    ☐ PARKING GARAGE    ☐ VACATION    ☐ CAN/MEX    ☐ OTHER

Can the retailer consistently duplicate the customer's concern at their service location? ☐ YES ☐ NO

Status of Telematics LEDs:    ☐ GREEN    ☐ RED    ☐ GREEN & RED    ☐ NONE

How often is vehicle Driven? ☐ DAILY ☐ WEEKLY ☐ OTHER        Did vehicle sit unused for more than 13 days prior to concern? ☐ YES ☐ NO ☐ OTHER

| Date Customer indicates concern first occurred: | How often does concern occur? | Is concern duplicated on MySubaru App and Customer Web Portal? ☐ YES ☐ NO |
|---|---|---|

Do the failures occur at a specific time? ☐ NO    ☐ ONLY DAYTIME    ☐ ONLY NIGHTTIME    ☐ RANDOM

Is vehicle subscribed to an AT&T WiFi Hotspot? ☐ YES ☐ NO        Is it working? ☐ YES ☐ NO

What Broadcast Frequency is the AT&T WiFi Hotspot tuned too? ☐ 2.4G ☐ 5G

| When the concern occurred using the MySubaru APP, The customer was: | | Phone/Tablet Model: |
|---|---|---|
| Inside their home using the cellular network? | ☐ YES ☐ NO | Internet Provider: |
| Inside their home using private WiFi? | ☐ YES ☐ NO | |
| Outside their home using the cellular network? | ☐ YES ☐ NO | IOS or Android and currently installed software Version: |
| Outside their home using public WiFi? | ☐ YES ☐ NO | |
| In any location below street level like a train platform? | ☐ YES ☐ NO | MySubaru App version #? |
| In any remote location? | ☐ YES ☐ NO | |
| In any location in the shadow of large buildings? | ☐ YES ☐ NO | |
| In an airplane arriving at or departing from an airport? | ☐ YES ☐ NO | Internet Browser: |
| Was the customer able to access other mobile APPS at the time of the occurrence? | ☐ DID NOT CHECK ☐ YES ☐ NO | |

## Additional Information to be completed by the Technician:

**Technician verification of concern:**

Push i-Button/SOS Button: ☐ NOTHING HAPPENS        ☐ FAILS BEFORE OPERATOR

☐ FAILS WITH ERROR MESSAGE    ☐ CONNECTS TO OPERATOR NORMALLY

Error message from Telematics network fail:

List all current DTCs:

List all history DTCs:

DCM version:

Head Unit software version:

Was STARLINK called and subscription status verified? ☐ YES ☐ NO

Can STARLINK successfully send a horn honk to the vehicle? ☐ YES ☐ NO

**NOTES:**

## 1. Perform Customer Interview

*1.* Ask the customer when and how the trouble occurred using the interview check list. **Ref. to TELEMATICS SYSTEM (DIAGNOSTICS) > Check List for Interview**

**Did you interview the customer?**

**YES: Go to Step 2: Perform Basic Inspection**

**NO: Perform the Interview and proceed to step 2.**

## 2. Perform Basic Inspection

*1.* Perform Telematics Basic Inspection. **Ref. to TELEMATICS SYSTEM (DIAGNOSTICS) > GENERAL DESCRIPTION > INSPECTION**

**Are the basic inspection results as expected?**

**YES: Go to Step 3 Check SSM4 Communication.**

**NO: Repair or Replace any faulty items found in the Telematics System Basic Inspection, then proceed to step 3.**

## 3. CHECK Subaru Select Monitor Communication.

*1.* Turn the ignition switch to ON.
*2.* Connect the Subaru Select Monitor.
*3.* Turn the ignition switch to ON and configure the SSM4 for the vehicle.
*4.* Select Telematics

**Is Communication with the DCM possible?**

**YES: Go to Step 4: Check DTC**

**NO: Check the communication circuit. Ref. to TELEMATICS SYSTEM (DIAGNOS-TICS) > Diagnostic Procedure for Subaru Select Monitor Communication.**

*Continued...*

## 4. CHECK DTC.

*1.* Read the Telematics DTC using the Subaru Select Monitor. **Ref. to TELEMATICS SYSTEM (DIAGNOSTICS)>Diagnostic Trouble Code (DTC)**

**If DTC is detected, only RED LED will illuminate. For details, refer to LED illumination status list.**

**Are any DTCs? (CURRENT MALFUNCTION)**

**YES: Record the DTC, time stamp and freeze frame data, then proceed to step 5: Perform Diagnosis.**

**NO: Finish Telematics Diagnosis. Test iButton and remote services operation before releasing to the customer.**

## 5. Perform Diagnosis.

*1.* Perform the diagnosis for the displayed DTCs.

*2.* Repair or replace the cause of trouble.

*3.* Using the Subaru Select Monitor, perform the clear memory of [Telematics].

*4.* Read the DTC of [Telematics] using the Subaru Select Monitor.

**Are any Telematics DTCs displayed? (Current malfunction)**

**YES: Go to Step 5: Perform Diagnosis. Repeat step 5 until no telematics DTCs are present.**

**NO: Finish Telematics Diagnosis. Test iButton and remote services operation before releasing to the customer.**

**IMPORTANT REMINDERS:**

- SOA strongly discourages the printing and/or local storage of service information as previously released information and electronic publications may be updated at any time.

- Always check for any open recalls or campaigns anytime a vehicle is in for servicing.

- Always refer to STIS for the latest service information before performing any repairs.