CARB HD Inspection and Maintenance Rule / Clean Truck Check

- **This rule applies to vehicles operating in California and their owners/operators.**
- **Trucks that operate in California must be registered** in CARB's HD I/M database.
  - A 5-day exemption per year can be obtained.
- Owners/operators **must obtain and maintain** a **vehicle compliance certificate**. Annual $30 fee applies.
- Owners/operators must perform periodic **compliance tests on each vehicle by a specific deadline** specified by CARB for each vehicle:
  - Bi-annual OBD data snapshot with **certified tools,** conducted **by a CARB-certified technician**

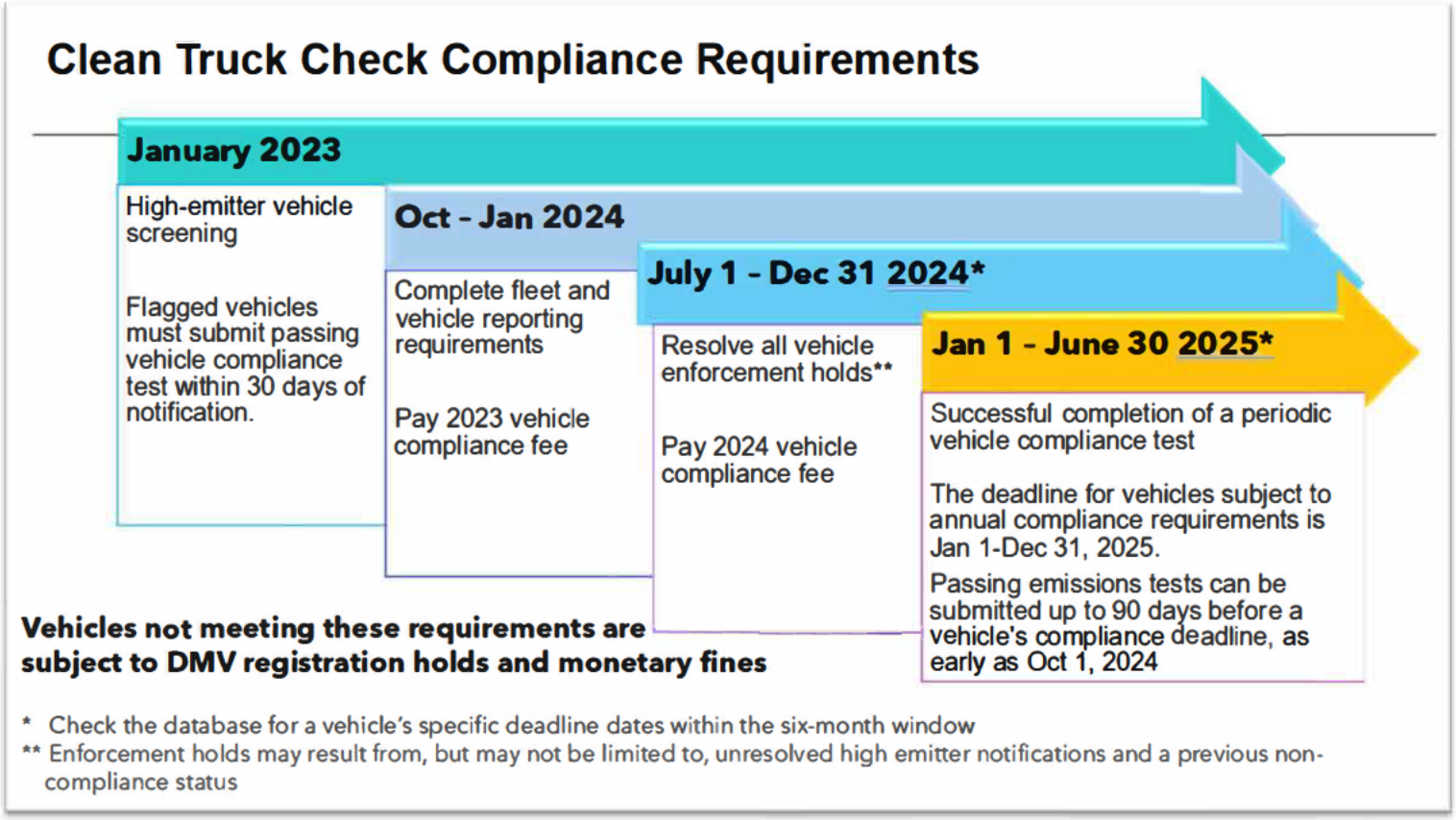
  – OR –
  - via a **certified continuously connected OBD telematics device**
- A vehicle with an **illuminated MIL**, with an **outstanding recall** or with emissions control **components** that are **not in their "proper configuration" will not meet the compliance** requirements. Improper or late submission will also lead to non-compliance.

CLEAN TRUCK CHECK

Failure to comply may result in fines, registration holds, and even vehicle impoundment.

- Robust enforcement efforts, including plate readers and roadside emissions checks. 30 days to respond to NST.

CARB's Latest Clean Truck Check Timeline



https://ww2.arb.ca.gov/clean-truck-check-requirements-vehicles-subject-semi-annual-compliance

Potential Solutions: **Offline Tools, Truck in Shop**

Offline Tools (Twice per year):

1. CARB Certified 3rd party hard wired tool:
    a. Requires the vehicle to go into a shop
    b. Snapshot twice/year

2. Similar tool built into Diagnostic Link (Does not exist today):
    a. Connect to the 9-pin connector
    b. Snapshot twice/year

Potential Solutions: **Online Tools, Over-The-Air**

Online OTR and Continuously (Downloads ever 7 days):

3. Third party device connected to 9 pin, i.e. Zonar certified

4. Third party device connected RP1226 (Does not exist today)
   a. Will CARB accept this?

5. DTNA Detroit Connect through cTP (Does not exist today)
   a. Will CARB accept this?

Note: OTA streaming is required every 7 days to CARB.

CARB Clean Truck Check Criteria – Second Phase

MIL-on fault code an emissions relevant diagnostic trouble code (DTC) stored when an OBD system has confirmed that a malfunction exists and has commanded the MIL on.

Permanent Faults

Permanent Fault Code (PFC) – Stores with any MIL-on fault code - but is NOT cleared when faults are cleared via a tool or battery disconnect. PFCs remain active (with no lights) to allow return to MIL-on at next DTC fail decision. Cleared with DTC pass decision.

Warm-up cycle (For Diesel Engines) an ignition cycle with sufficient vehicle operation such that the coolant temperature has risen by at least 40 degrees Fahrenheit or 22.2 degrees Celsius from engine start and reaches a minimum temperature of at least 140 degrees Fahrenheit or 60 degrees.

Pass Scenario for CARB Clean Truck Check – Second Phase

Permanent Faults

☑ My vehicle does NOT have an active emissions relevant (MIL-on) fault

☑ My vehicle does NOT have a store Permanent Fault Code Stored

+

☑ My vehicle HAS accumulated at least 3 WUCs Since DTC Clear

FAIL scenario for CARB Clean Truck Check – Second Phase

My vehicle has an active emissions relevant (MIL-on) fault

- **DTC info available via the Technical Literature Portal**

Not Ready for CARB Clean Truck Check – Second Phase

Permanent Faults

☑ My vehicle does NOT have an active emissions relevant (MIL-on) fault

☑ My vehicle does NOT have a store Permanent Fault Code stored

+

☒ My vehicle HAS accumulated at least 3 WUCs since DTC clear

The affected vehicle must be operated until it has accumulated 3 Warm-Up Cycles since the last time DTCs were cleared

Not Ready for CARB Clean Truck Check – Second Phase

Permanent Faults

☑ My vehicle does NOT have an active emissions relevant (MIL-on) fault

☒ My vehicle does NOT have a stored Permanent Fault Code stored

+

☒ My vehicle HAS accumulated at least 15 WUCs since DTC clear

The affected vehicle must be operated until it has accumulated 15 Warm-Up Cycles since the last time DTCs were cleared

DETROIT – Fault Code Information

Production Year 2024

Powertrain	Engine		Aftertreatment		Total	
	DTC	MIL-on	DTCs	MIL-on	DTCs	MIL-on
DD13	**415**	**323**	**261**	**219**	**676**	**542**
DD15	**404**	**313**	**261**	**219**	**665**	**532**
DD16	**399**	**313**	**249**	**210**	**648**	**523**

- DTC lists can be unique to production year and product configuration
- DTC information for all DETROIT powertrains is available on the Technical Literature Portal

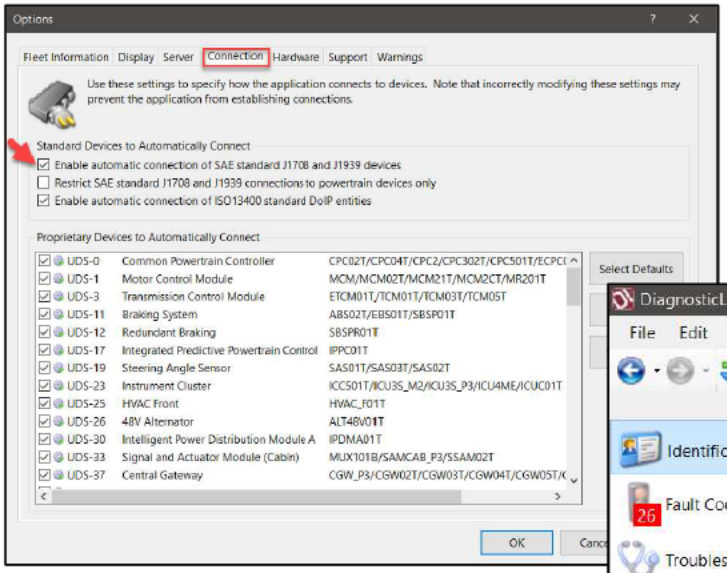
CARB Clean Truck Check

Preliminary

- DiagnosticLink is NOT an approved tool by CARB for California's Heavy Duty Vehicle Inspection and Maintenance Program
- Any panels in DiagnosticLink cannot be used for certification with CARB's Clean Truck Check
- Do NOT use DiagnosticLink to clear codes prior to a check
- The following slides will provide information on how to use DiagnosticLink to check for MIL status, fault code status, and warm up cycles which CARB uses to determine a pass/fail/not ready result
  - OBD Readiness Criteria: https://ww2.arb.ca.gov/obd-readiness-criteria
  - Clean Truck Check (CTC) HD/IM:
    - https://ww2.arb.ca.gov/our-work/programs/truckstop-resources/truckstop/regulations/clean-truck-check-hd-im
    - https://ww2.arb.ca.gov/our-work/programs/heavy-duty-diesel-inspection-periodic-smoke-inspection-program
    - https://cleantruckcheck.arb.ca.gov/

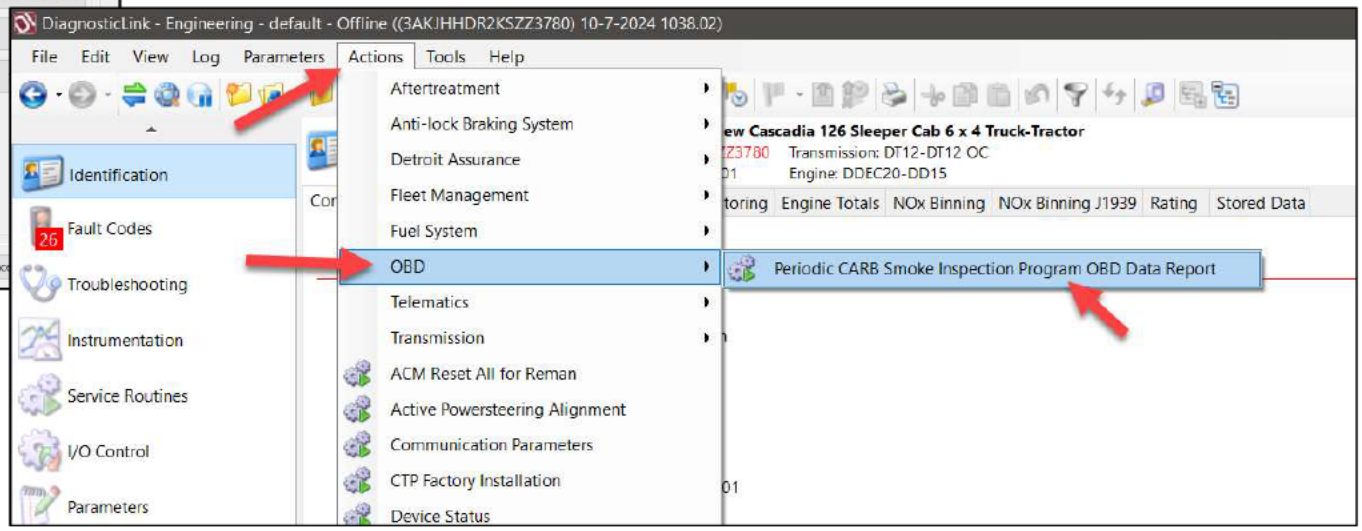
Opening Panel for CARB Clean Truck Check Data

Preliminary



DO NOT CLEAR CODES!

Clearing codes will reset the warm up cycle counter to 0

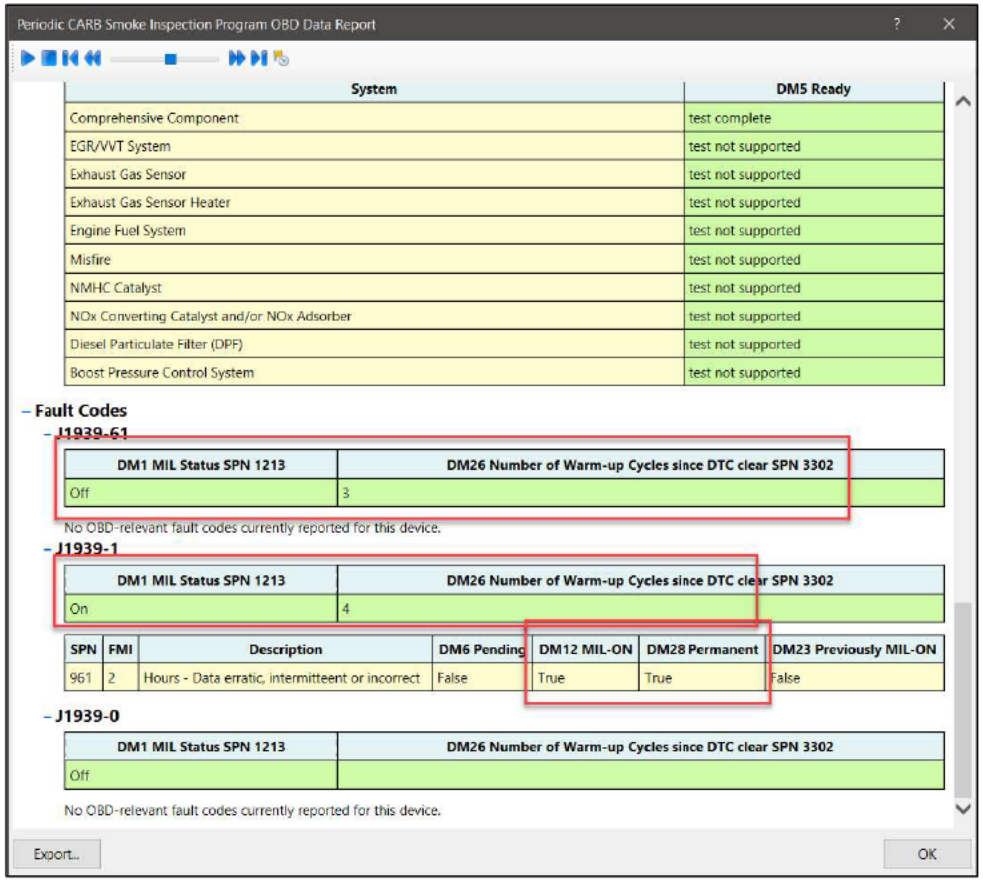


- Ensure J1939 connection is enabled in Tools > Options
- Navigate to ‘Actions’ in the toolbar and then under the ‘OBD’ option select ‘Periodic CARB Smoke Inspection Program OBD Data Report’

Source of Information for Clean Truck Check in Diagnostic Link:

Actions > OBD > Periodic CARB Smoke Inspection Program OBD Data Report

Preliminary



Periodic CARB Smoke Inspection Program OBD Data Report

System	DM5 Ready
Comprehensive Component	test complete
EGR/VVT System	test not supported
Exhaust Gas Sensor	test not supported
Exhaust Gas Sensor Heater	test not supported
Engine Fuel System	test not supported
Misfire	test not supported
NMHC Catalyst	test not supported
NOx Converting Catalyst and/or NOx Adsorber	test not supported
Diesel Particulate Filter (DPF)	test not supported
Boost Pressure Control System	test not supported

– Fault Codes

– J1939-61

DM1 MIL Status SPN 1213	DM26 Number of Warm-up Cycles since DTC clear SPN 3302
Off	3

No OBD-relevant fault codes currently reported for this device.

– J1939-1

DM1 MIL Status SPN 1213	DM26 Number of Warm-up Cycles since DTC clear SPN 3302
On	4

SPN	FMI	Description	DM6 Pending	DM12 MIL-ON	DM28 Permanent	DM23 Previously MIL-ON
961	2	Hours - Data erratic, intermitteent or incorrect	False	True	True	False

– J1939-0

DM1 MIL Status SPN 1213	DM26 Number of Warm-up Cycles since DTC clear SPN 3302
Off	

No OBD-relevant fault codes currently reported for this device.

Export... OK

Note: CARB pass/fail criteria are subject to change – contact DTTS for assistance

As of October 2024, Expected Pass/Fail Criteria:

PASS:

1) **No MIL on, no Permanent codes AND**
2) Meets readiness threshold for number of warmup cycles since DTC clear **(5 WUC)**

OR:

1) **No MIL on, BUT a Permanent code present, AND**
2) Meets readiness threshold for number of warmup cycles since DTC clear **(15 WUC)**

FAIL:

1) **MIL ON**

NOT READY:

1) **No MIL on, no Permanent codes, BUT**
2) **Readiness threshold not met (5 WUC, etc.)**

OR:

1) **Permanent code present**
2) **Readiness threshold not met (15 WUC, etc)**

What to do

Preliminary

If you fail the test due to a MIL-on

- Diagnose and repair the cause of the MIL
- Using TechLit, execute the verification of the fault code to clear the code
- Do NOT use DiagnosticLink to clear codes

If you do not pass the test – "Not Ready" results

- Review the reason for the "Not Ready"
  - If no MIL or permanent codes perform 5 warm up cycles
  - If permanent code present perform either:
    - Fault code verification to allow module to clear permanent code
    - 15 warm up cycles

What is a warm up cycle?

- A warm up cycle requires the module/ECU to see a 40F (22C) coolant temperature rise AND minimum coolant temp of 158F (70C)
- You may have to disconnect and reconnect DiagnosticLink to see the counter increment
- **The recommended procedure to complete a warm up cycle:**
  - Key on, engine off ensure coolant temperature is below 120F (49C)
  - Start engine and run until coolant temperature exceeds 170F (77C)
  - Stop engine, allow modules to disconnect
  - Reconnect DiagnosticLink and check warm up cycle count
  - Allow engine to cool under 120F and repeat as needed

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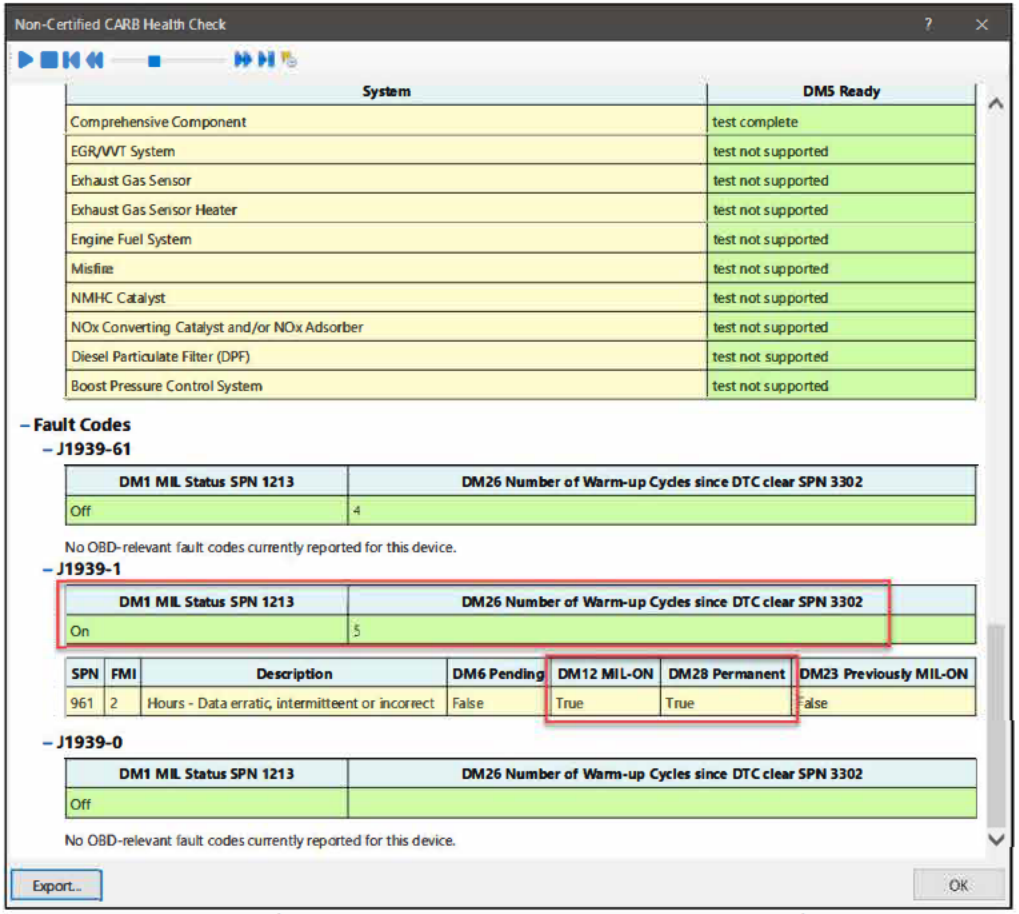
    - https://cleantruckcheck.arb.ca.gov/

Source of Information for Clean Truck Check in Diagnostic Link:

Actions > OBD > Non-Certified CARB Health Check



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OR:

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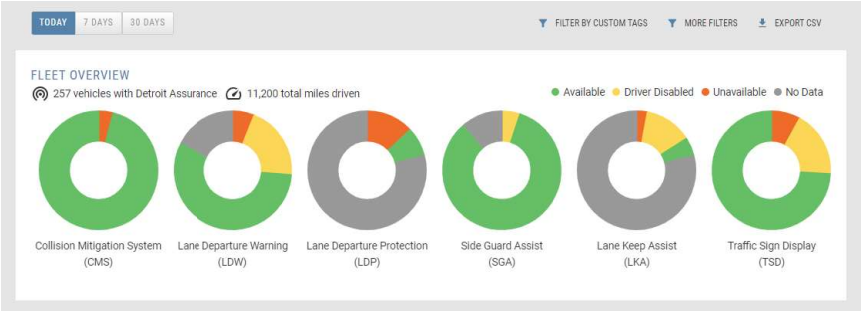
2) **Readiness threshold not met (15 WUC, etc)**

Customer Inquiries CTC

- Our National Account team is fielding calls daily from the large fleets on this topic
- Expect local fleets that support operations in CA will also be impacted and have questions
- I caution not to make any legal recommendations
  - Recommend the customers have their legal team read and interpret the regulation for their individual business operation
  - The legislation is the same for all. However, how they need to apply it to their business model will be unique for their business needs.
- We are working on material to help with this, but it's a work in process.

Detroit Connect Portal Page - Fleet View



- Under Development (Initial concept requirement gathering)
- Customer involvement essential
- Similar view as Safety System Health Check
- Three Health Status
  - Green: Units without any CARB CTC related faults in over 30 days
    - Assumption: No faults in >30days should have No MIL, Nothing Active, High Warm Up Cycles
    - Units should be routed to CTC test site without any intervention
  - Yellow: Units without any CARB CTC related faults between 7 and 30 days
    - Assumptions: No faults between 7 and 30days
    - Units should be checked with DiagnosticLink prior to routing to CTC test site
      - Most likely recently repaired or self-healing event
      - Should have No MIL
      - Use DiagnosticLink to verify system health for a passing CTC test, expected high likelihood unit will be acceptable to test
  - Red: Units with current faults or faults <7 days old
    - Units should be repaired or checked with DiagnosticLink prior to routing to CTC test site
- Limitations:
  - We don't get visibility into Warm Up Cycles
  - Criteria based on reasonable assumptions
  - Dependent on availability of signals
    - Feasibility assessment underway