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Calibration Process Workflow

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Executive Summary
Calibration Process Workflow
Matching Calibration Document (Word)

- What we started with
- What we found
- What parts we replaced
- What parts we repaired
- What we flashed/reset/programmed
- What parts we removed and re-installed
- OEM service information documentation
- Diagnostic procedures performed
- Calibrations performed
- Functional QC test results
- What we did not do (pre-existing and non-related)

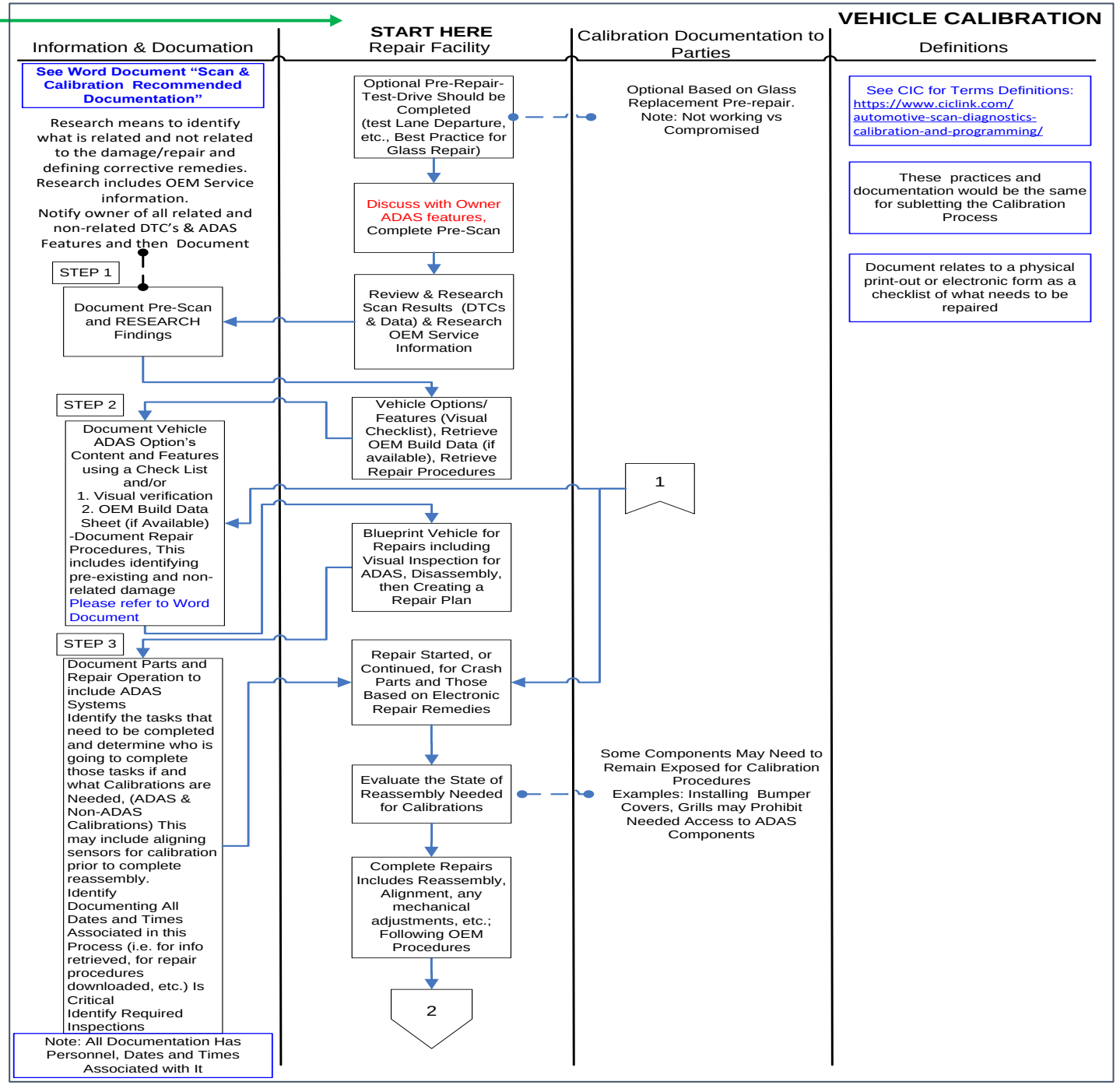
It is recognized documentation noted below will vary for each OEM.

It is important to note: Other repair, servicing or maintenance tasks may also affect the functions of the vehicle's ADAS sensors. These calibration procedures should then be followed to ensure a safe vehicle's operation.

For term definitions, view the CIC WIKI at:
https://www.ciclink.com/automotive-scan-diagnostics-calibration-and-programming/

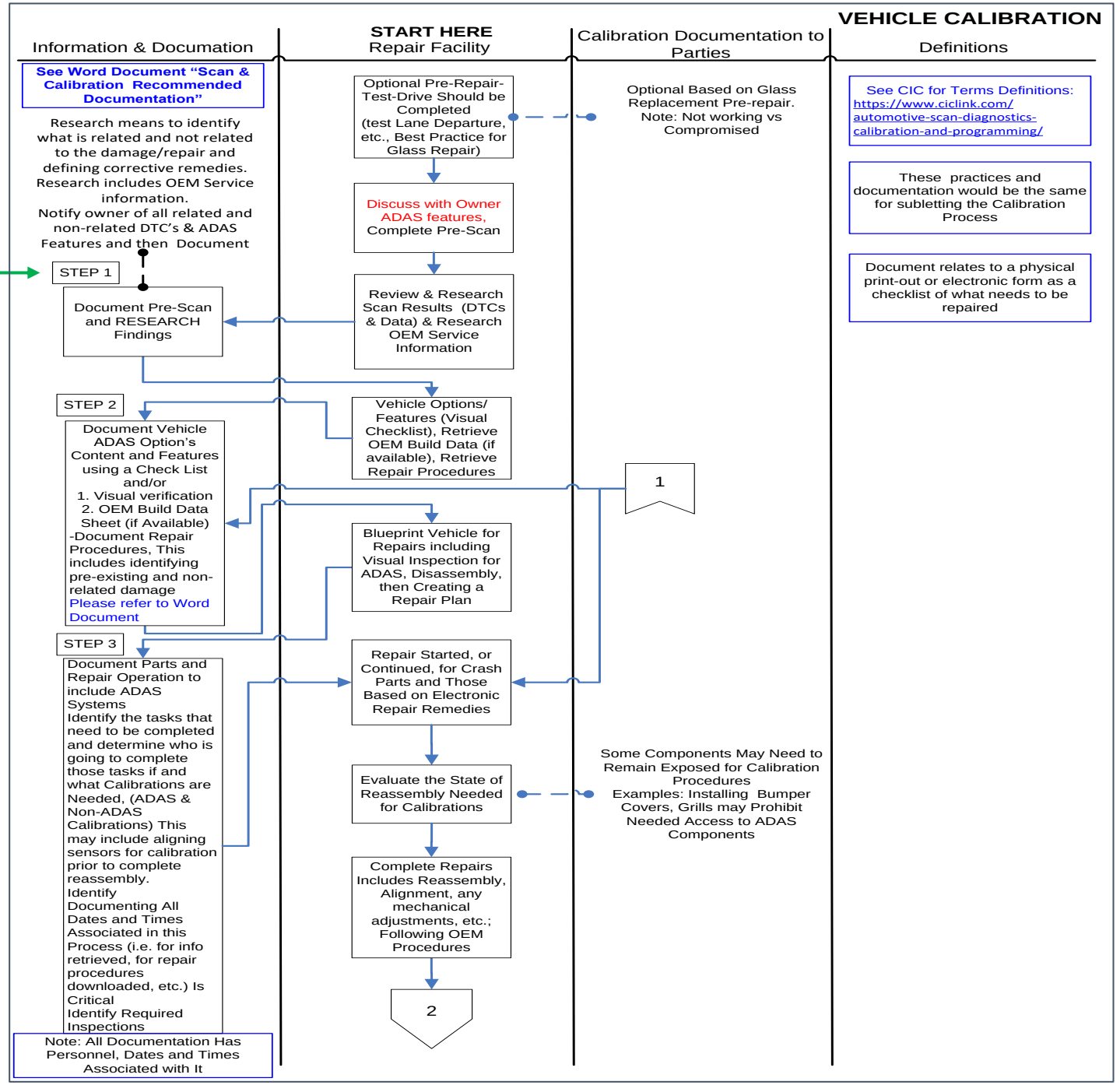
Workflow

- **Start Here:** For ease of understanding, follow **Repair Facility** column
- **Information & Documentation:** column provides information as to what information is recommended and what to document
- **Calibration Documentation to Parties:** Information, options, and tips of what has a high likely hood to be shared or obtained via other parties
- **Definitions:** are found in CIC Glossary of terms section for Automotive Scan, Diagnostics, Calibrations and programming
- www.ciclink.com/automotive-scan-diagnostics-calibration-and-programming/



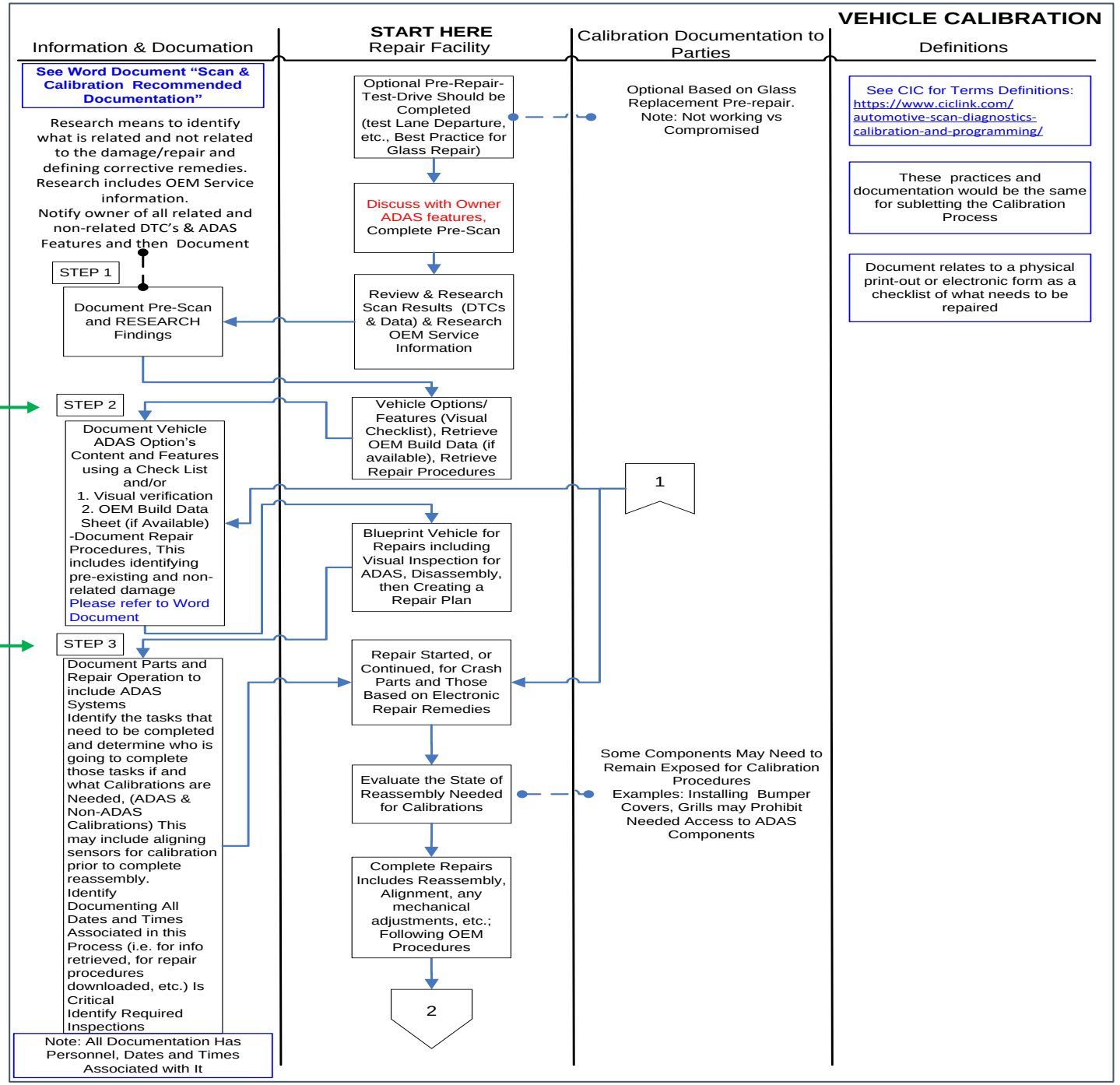
Workflow Step 1

- **STEP 1 -** Document DTCs (Document Scan Results) - Virtual Printout (*.pdf, *.jpg, etc.) of all the DTCs and all the modules tested and must include the valid VIN number associated with the scanned vehicle
  - Notify owner of known ADAS Systems and update them on these features being returned to OEM specifications
    - Refer owner to the owner's manual the factors that can impact their ADAS Systems operation (e.g., weather, tires, etc.)
  - Note: Calibration or re-learn may or may not be reported via DTCs (vehicle specific)
  - Research means to identify what is related and not related to the damage/repair, and to define corrective remedies
  - Research includes OEM service information (If OEM Procedures are Available)
    - Date, Time, Personnel, Source for Download Documented
  - Evaluate if vehicle has been altered, see STEP 9
  - Notify all parties involved (e.g., owner and insurance carrier) of all related and non-related ADAS research findings and then document



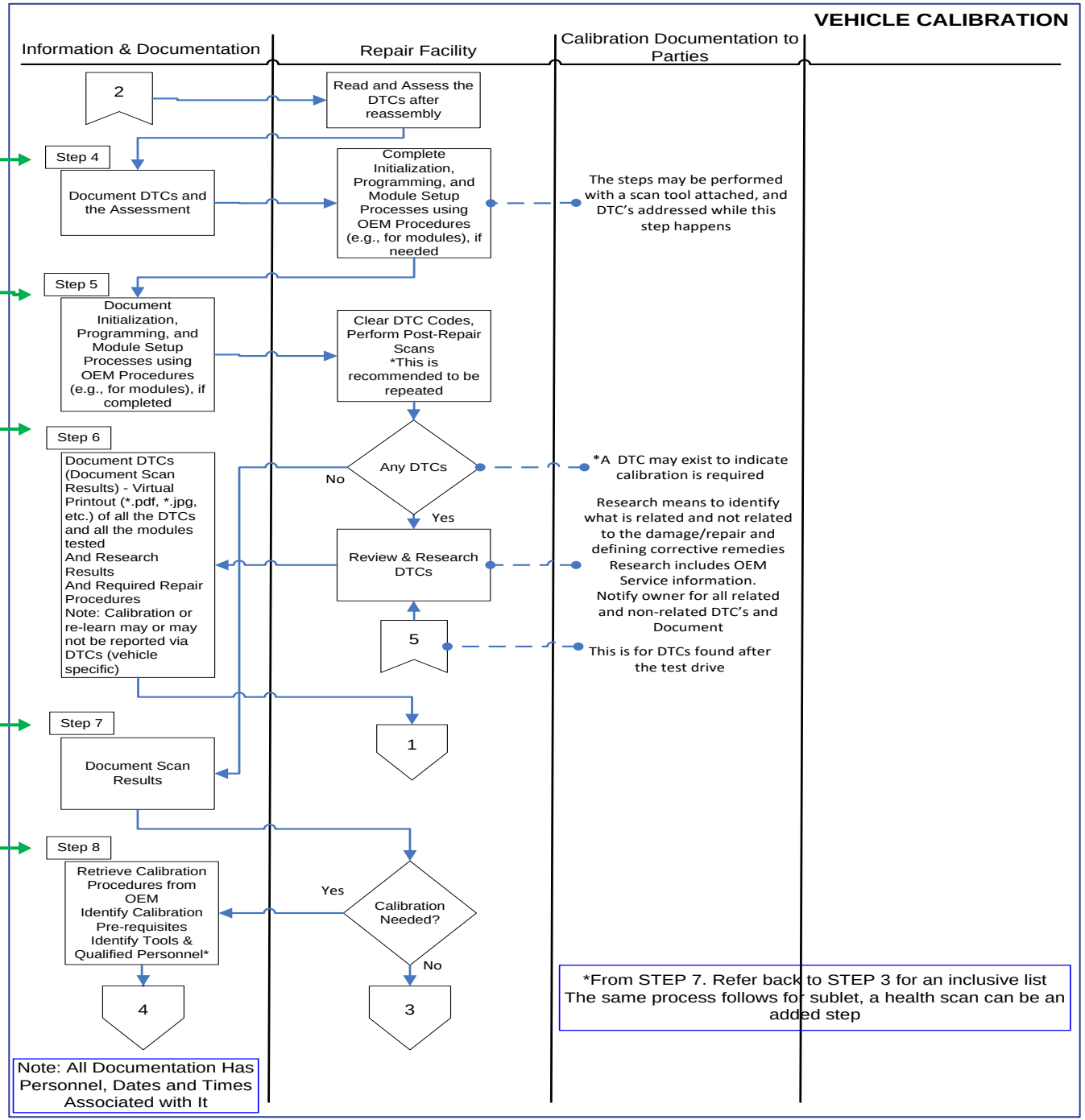
Workflow Steps 2-3

- **STEP 2 –**
  - Document Vehicle ADAS Option's Content and Features using a Check List and/or
    - Visual verification
    - OEM Build Data Sheet (if Available)
    - Document Repair Procedures (If OEM Procedures are Available)
    - This includes identifying pre-existing and non-related damage
  - This is critical information that is not easily captured.
- **STEP 3 –**
  - Document Parts and Repair Operation to include ADAS Systems
  - Identify the tasks that need to be completed and determine who is going to complete the work
  - Identify if and what Calibrations are Needed, (ADAS & Non-ADAS Calibrations)
  - Evaluate the State of Reassembly Needed for Calibrations and Document
  - Documenting All Dates and Times Associated in this Process (i.e. for info retrieved, for repair procedures downloaded, etc.) Is Critical
  - Identify Required Inspections



Workflow Steps 4-8

- **STEP 4** –
  - Document DTCs and the Assessment
- **STEP 5** –
  - Document Initialization, Programming, and Module Setup Processes using OEM Procedures (e.g., for modules), if needed
- **STEP 6** –
  - Document DTCs (Document Scan Results) - Virtual Printout (*.pdf, *.jpg, etc.) of all the DTCs and all the modules tested
  - Research Results
  - Document Required Repair Procedures
  - Note: Calibration or re-learn may or may not be reported via DTCs (vehicle specific)
- **STEP 7** –
  - Document Scan Results (see above)
- **STEP 8** –
  - Retrieve Calibration Procedures from OEM
  - Identify Calibration Prerequisites
  - Identify Tools & Qualified Personnel
    - Refer to STEP 3 for an inclusive list
  - For Sublet, please see bullet at the end of this document



Workflow Steps 9-12

- **STEP 9 –**
  - Document Calibration Procedures from OEM and that pre-conditions were met
    - Ensure and document all calibration process pre-conditions have been met, e.g., full fuel tank, check tire pressure, alignment
    - If the vehicle was altered, e.g. larger/high performance tires or modified ride heights, it may not be possible to perform a proper calibration
    - However, some OEMs may have limited procedures for related alterations

      If altered, document and advise the owner/driver that the alteration can cause the inability for some ADAS systems to operate correctly and proper calibrations to be performed successfully
- **STEP 10 –**
  - Document Completed Proper Calibration Process:
    - Retrieved OEM Calibration Processes, Steps Followed, Photos, Videos & Other Documentation (e.g., screen shots) to Provide Evidence It Was Performed Correctly
    - Again, Personnel, Dates and Times Associated with Each Step
  - Insurance Companies and OEMs may require pictures supporting calibrations
- **STEP 11 –**
  - Repair facility should have an agreement with the personnel performing the test drive and receive adequate documentation to prove it completed correctly
  - Document Personnel and Date & Time of Test Drive and Results
- **STEP 12 –**
  - Review ADAS Features with Owner, Document and Inform Owner ADAS Systems set to OEM Specifications