



April 24, 2024

Sharon Yukevich  
 Chief, Office of Defects Investigation  
 National Highway Traffic Safety Administration  
 1200 New Jersey Ave., SE  
 Room W46-409  
 Washington, DC 20590

*VIA EMAIL*  
 G249459  
 PE25-001

**Subject: General Motors LLC's Responses to NHTSA's February 12, 2025, Information Request in Investigation PE25-001**

Dear Ms. Yukevich:

This letter contains General Motors LLC's ("GM") responses (the "**Responses**") to the information requests in your February 12, 2025, letter (the "**Requests**") relating to National Highway Traffic Safety Administration ("**NHTSA**") Preliminary Evaluation PE25-001. PE25-001 is a NHTSA investigation of "allegations of loss of motive power due to engine failure" from "engine seizure due to internal engine component failure" (as defined in the Requests, the "**Alleged Defect**")<sup>1</sup> in certain 2019-2024 model year ("**MY**") Chevrolet Silverado 1500, Chevrolet Suburban, Chevrolet Tahoe, GMC Sierra 1500, GMC Yukon, GMC Yukon XL, Cadillac Escalade, and Cadillac Escalade ESV vehicles equipped with the 6.2L liter V8 engine (RPO L87) (as defined in the Requests, the "**Subject Vehicles**").

GM provided its initial Responses on March 26, 2025, which included Responses to Requests 1, 7, 8, 11, and 12.<sup>2</sup> GM requested and was granted two extensions to provide its responses to the remaining Requests by April 25, 2025. This letter contains GM's Responses to Requests 1-14. GM recently concluded an investigation that is responsive to Request 9; GM will promptly supplement its Response to Request 9 to produce documents related to that investigation. Unless otherwise defined herein, GM's Responses rely on the defined terms in the Requests.

### **PRELIMINARY STATEMENT**

GM prepared its Responses by: (i) identifying, in consultation with the appropriate GM business personnel, the primary electronic databases and document repositories in GM's custody and control that store potentially responsive documents and information in the ordinary course of business, as more fully identified in the Responses below; and (ii) conducting a reasonable search,

<sup>1</sup> In its Responses, GM has interpreted the Alleged Defect to encompass engine failure resulting in engine replacement of the L87 6.2 liter V8 engine assembly (as defined in the Requests, the "**Subject Component**") due to crankshaft, connecting rod, or engine bearing failure. GM confirmed its understanding of the Alleged Defect with NHTSA in a phone call with Sharon Yukevich on February 17, 2025, followed by an email correspondence on February 18, 2025.

<sup>2</sup> For the sake of completeness, GM's previously submitted Responses to Requests 1, 7, 8, 11 and 12 are included in this letter.

as appropriate, of these databases and document repositories for responsive documents and information. GM objects to the definitions of “document” and “GM” in the Requests as overbroad, unreasonably burdensome, and not reasonably tailored to records that might be expected to bear relevant and responsive information. GM’s document production does not contain: (i) attorney-client privileged information or information protected as attorney-work product; and (ii) documents generated or archived in these locations after the dates that GM conducted its final searches. GM construes the Information Request as pertaining to vehicles manufactured for sale in the United States and its territories.

GM’s document production is contained in folders titled Cover Letters, Q1-Q5, Q8-Q10 and Q13. Certain portions of these documents are exempt from public disclosure under the Freedom of Information Act (5 U.S.C. § 552(b)(4)) (“FOIA”) and 49 CFR part 512. GM has submitted redacted and unredacted public copies of the requested information and unredacted nonpublic confidential copies of the requested information in the folders titled Q1-Q5, Q8-Q10 and Q13 to the NHTSA Office of Chief Counsel and the Office of Defects Investigation under 49 C.F.R. part 512.

Some of the documents in GM’s production contain personally identifiable information (“PII”) (e.g., vehicle registration information or VIN, employee names, and customer/employee contact information). GM today submits documents with unredacted PII with the understanding that NHTSA (or GM, if NHTSA prefers) will redact any PII before disclosing these documents to the public.

## **REQUESTS AND RESPONSES**

### **REQUEST 1:**

State, by model and model year, the number of subject vehicles GM has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by GM, state the following:

- a. Vehicle identification number (VIN);
- b. Make;
- c. Model;
- d. Model Year;
- e. Subject component part number and design version installed as original equipment;
- f. Date of manufacture (MM/DD/YYYY);
- g. Date warranty coverage commenced (MM/DD/YYYY); and
- h. The State in the United States where the vehicle was originally sold or leased or delivered for sale or lease (postal abbreviation).

Provide the table in Microsoft Access 2010, or a compatible format, entitled “Q\_01\_PE25-001\_PRODUCTION DATA.”

**GM RESPONSE:**

Table 1-1 summarizes the number of Subject Vehicles that GM has manufactured for sale or lease in the United States.

MAKE	MODEL	MODEL YEAR						TOTAL
		2019	2020	2021	2022	2023	2024	
Chevrolet	Silverado 1500	20282	26962	38694	35421	23604	27588	172551
GMC	Sierra 1500	45905	45998	39877	39870	40135	52847	264632
Chevrolet	Tahoe	0	0	14309	11040	19944	13303	58596
Chevrolet	Suburban	0	0	6713	5200	9311	6887	28111
GMC	Yukon	0	0	35665	19549	29770	26012	110996
GMC	Yukon XL	0	0	19838	14215	24040	18070	76163
Cadillac	Escalade	0	0	26110	17952	30676	23657	98395
Cadillac	Escalade ESV	0	0	15217	11291	18066	12247	56821
<b>TOTAL</b>		<b>66187</b>	<b>72960</b>	<b>196423</b>	<b>154538</b>	<b>195546</b>	<b>180611</b>	<b>866265</b>

TABLE 1-1: SUBJECT VEHICLES<sup>3</sup>

GM has produced the information requested in subparts (a) through (h) in the folder labeled “Q1”. Refer to the Microsoft Access 2010 file labeled “Q\_01\_PE25-001\_PRODUCTION DATA.”

In response to subpart (e), GM has provided the part number for the Subject Component for all VINs where the Subject Component part number was traceable (99.1% of VINs). For information on part number and/or design changes to the Subject Component, please see GM’s Response to Request 10.

**REQUEST 2:**

State the number of each of the following, received by GM, or of which GM is otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles:

- a. Consumer complaints, including those from fleet operators;
- b. Field reports, including dealer field reports;
- c. Reports involving a crash, injury or fatality;
- d. Reports involving a fire;

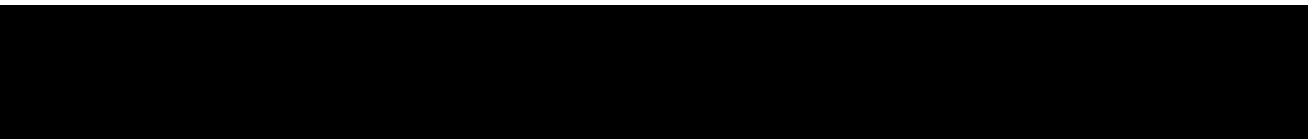
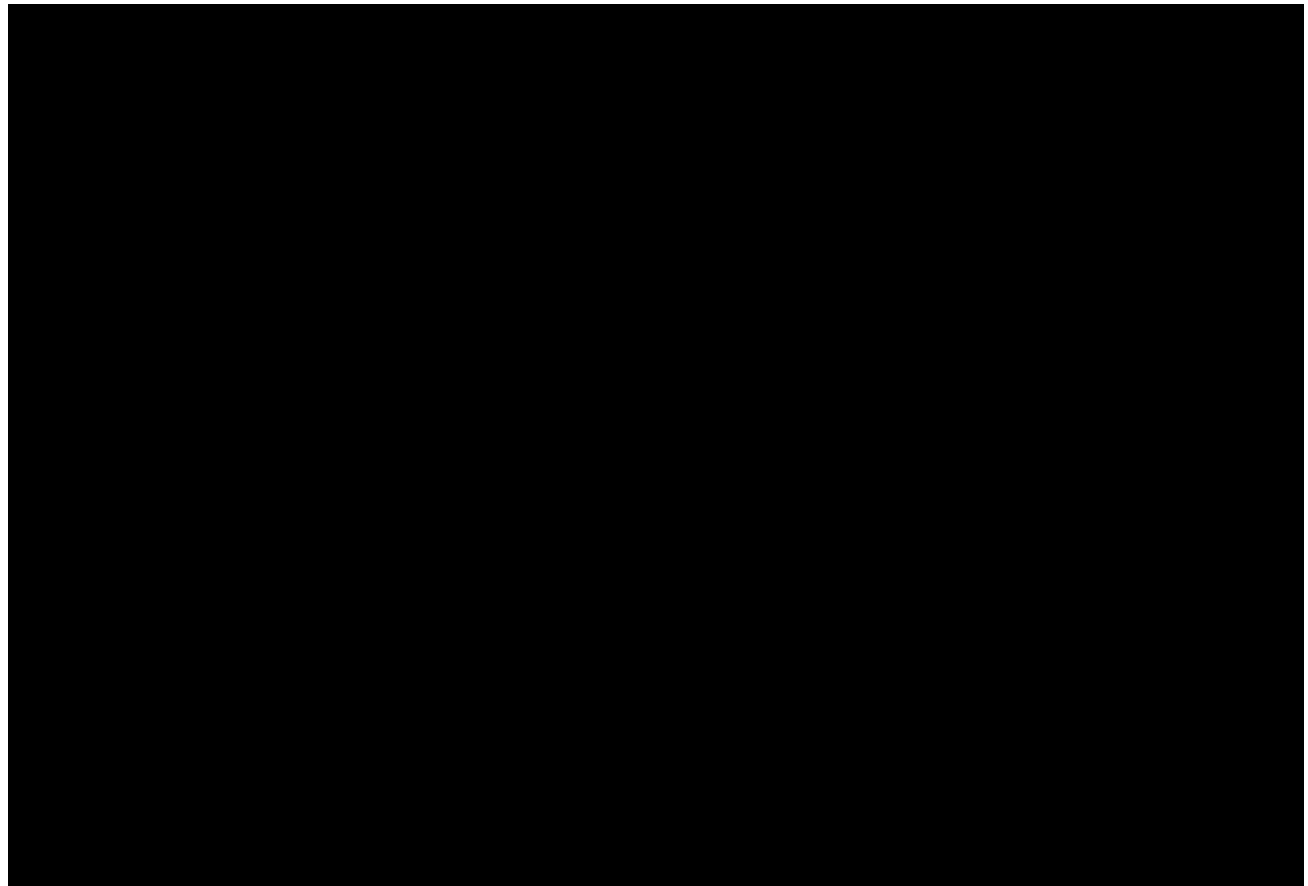
<sup>3</sup> Some numbers in Table 1-1 have been updated to correct typographical errors in the March 26, 2025, submission.

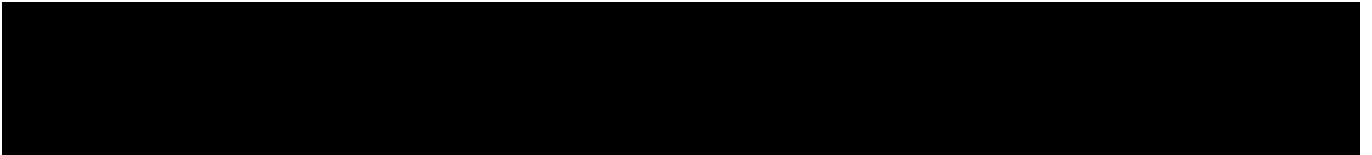
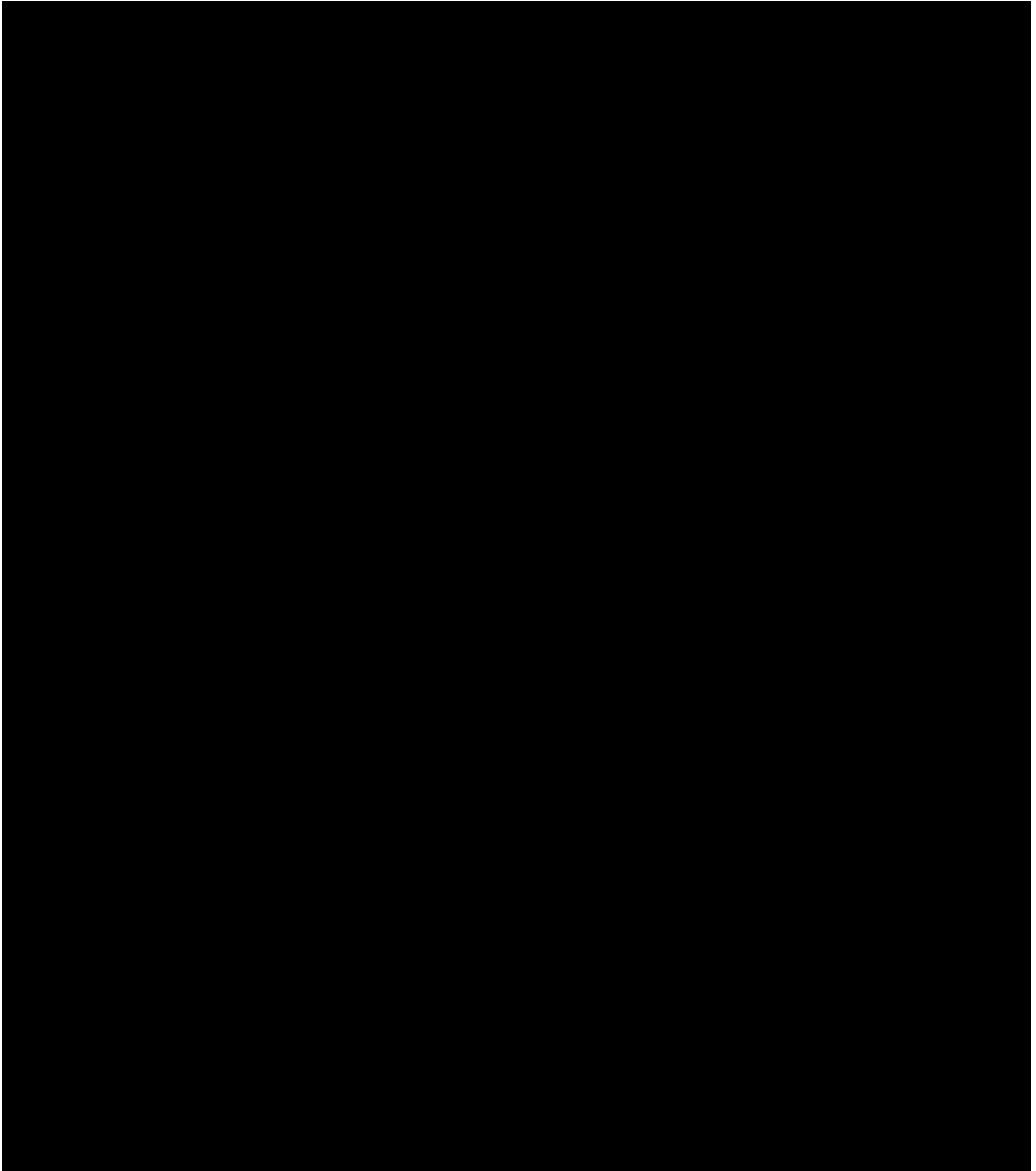
- e. Property damage claims;
- f. Third-party arbitration proceedings, both pending and closed, where GM is or was a party to the arbitration; and

For subparts “a” through “f” state the total number of each item (e.g., consumer complaints, field reports, etc.) separately. Multiple incidents involving the same vehicle are to be counted separately. Multiple reports of the same incident are also to be counted separately (i.e., a consumer complaint and a field report involving the same incident in which a crash occurred are to be counted as a crash report, a field report and a consumer complaint).

In addition, for items “c” through “f” provide a summary description of the alleged problem and causal and contributing factors and GM’s assessment of the problem, with a summary of the significant underlying facts and evidence. For items “e” and “f” identify the parties to the action, as well as the caption, court, docket number, and date on which the complaint or other document initiating the action was filed.

**GM RESPONSE:**





**REQUEST 3:**

Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 2, state the following information:

- a. GM's file number or other identifier used;
- b. The category of the item, as identified in Request No. 2 (i.e., consumer complaint, field report, etc.);
- c. Vehicle owner or fleet name (and fleet contact person), email address and telephone number (please use distinct fields for each data type);
- d. Vehicle owner or fleet address, city, state (postal abbreviation), and zip code (please use distinct fields for each data type);
- e. Vehicle Identification Number (17-character VIN);
- f. Vehicle's make, model and model year (please use distinct fields for each data type);
- g. Vehicle's mileage at time of incident (numeric data type);
- h. Incident date (MM/DD/YYYY);
- i. Report or claim date (MM/DD/YYYY);
- j. Whether a crash is alleged;
- k. Whether a fire is alleged;
- l. Whether property damage is alleged;
- m. Number of alleged injuries, if any; and
- n. Number of alleged fatalities, if any.

Provide this information in Microsoft Access 2010, or a compatible format, entitled "REQUEST NUMBER TWO DATA."

**GM RESPONSE:**

GM has produced the requested information for the Subject Vehicles in the folder labeled "Q3". Refer to the Microsoft Access 2010 file labeled "Q\_03\_REQUEST NUMBER TWO DATA."

#### **REQUEST 4**

Produce copies of all documents related to each item within the scope of Request No. 2. Organize the documents separately by category (i.e., consumer complaints, field reports, etc.) and describe the method GM used for organizing the documents. Describe in detail the search methods and search criteria used by GM to identify the items in response to Request No. 2.

#### **GM RESPONSE:**

GM CAC, PAC, TAC and Legal records are GM's primary repositories of potentially responsive documents in the ordinary course of business. GM identified responsive documents by conducting a keyword search of these records for potentially responsive claims. GM is producing the responsive, nonprivileged documents associated with responsive claims listed in Table 2-1 in the Microsoft Access file labeled "Q\_03\_REQUEST NUMBER TWO DATA" in the folder labeled "Q3". GM has organized the records by the GM file number.

Additionally, this response was compiled and prepared upon review of documents produced by various GM sources. This response does not include documents generated or received at those GM sources after these searches.

#### **REQUEST 5**

State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by GM to date that relate to, or may relate to, the alleged defect in the subject vehicles: warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign. Separately, for each such claim, state the following information:

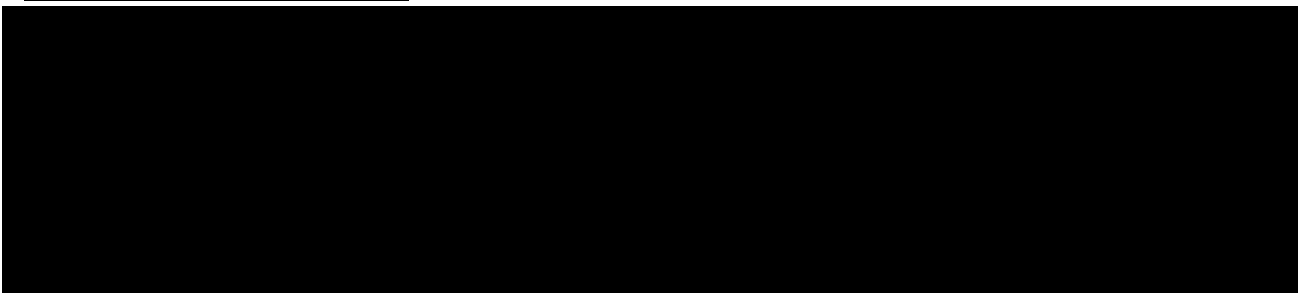
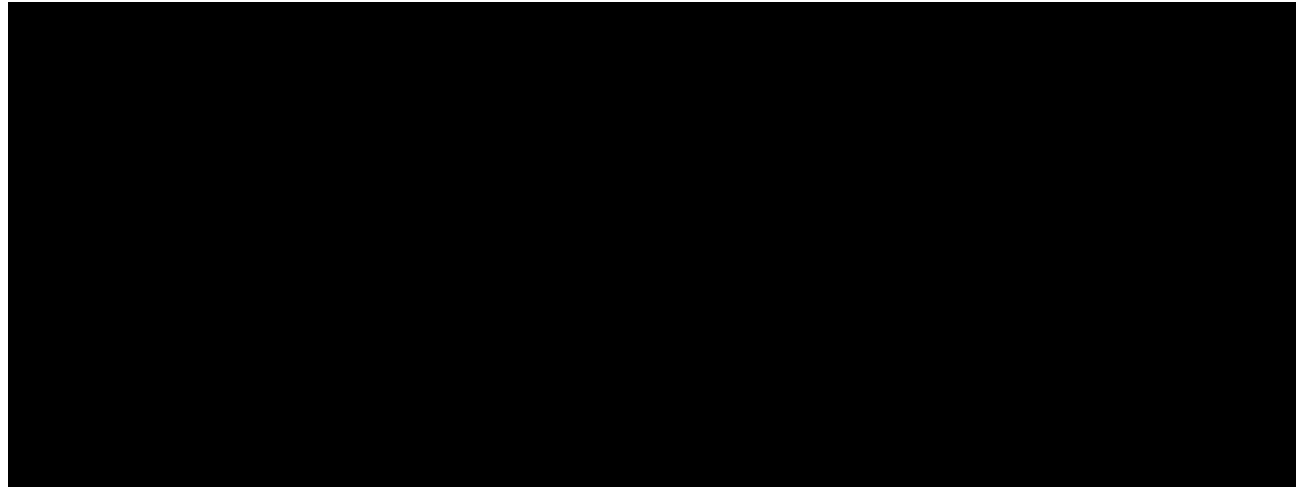
- a. GM's claim number;
- b. Vehicle owner or fleet name (and fleet contact person), email address and telephone number (please use distinct fields for each data type);
- c. Vehicle owner or fleet street address, city, state (postal abbreviation), and ZIP code (please use distinct fields for each data type);
- d. Vehicle Identification Number (17-character VIN);
- e. Repair date (MM/DD/YYYY);
- f. Vehicle mileage at time of repair (numeric data type);
- g. Repairing dealer's or facility's name, telephone number, city and state or ZIP code (please use distinct fields for each data type);
- h. Labor operation number(s);

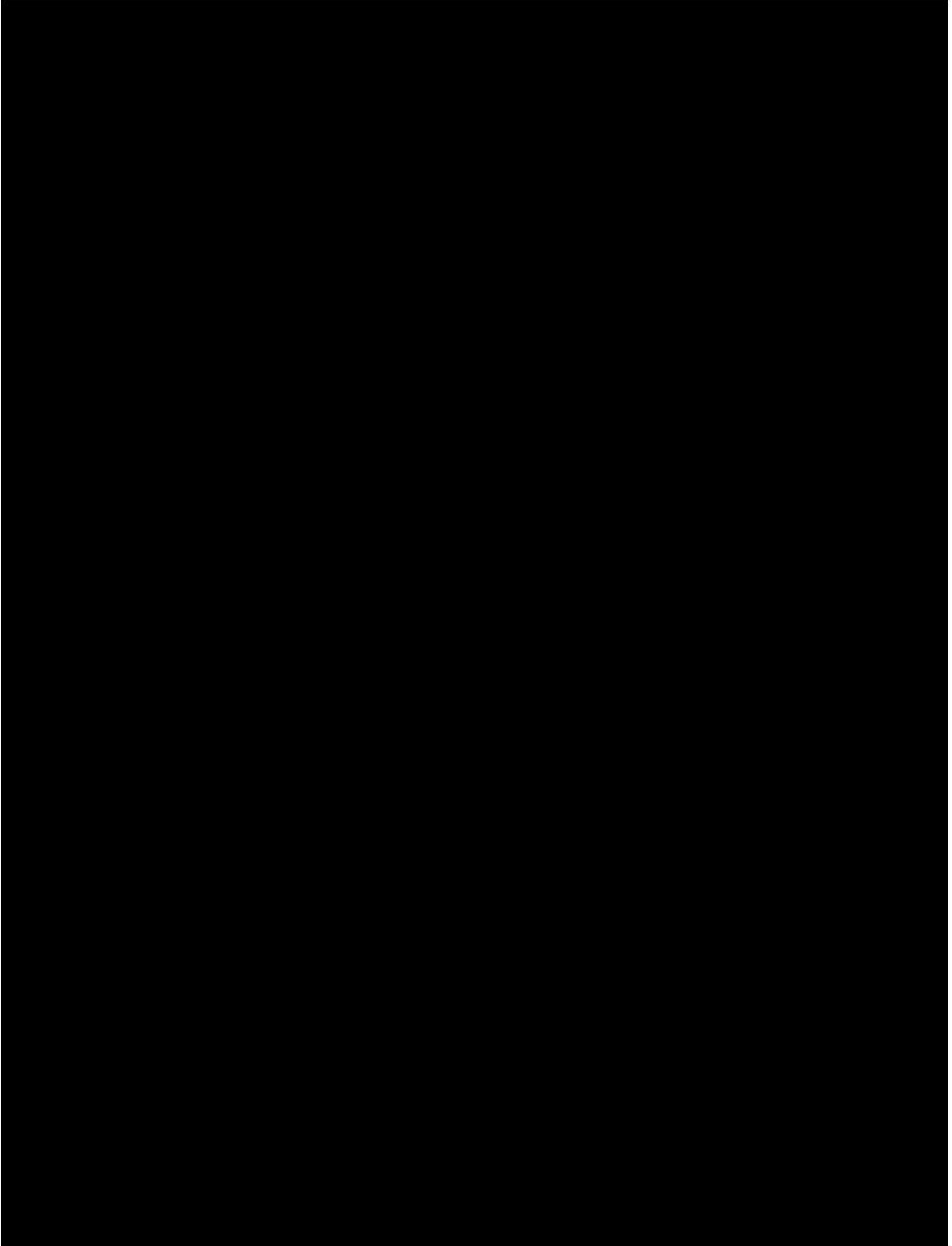
Letter to Sharon Yukevich  
PE25-001 Response  
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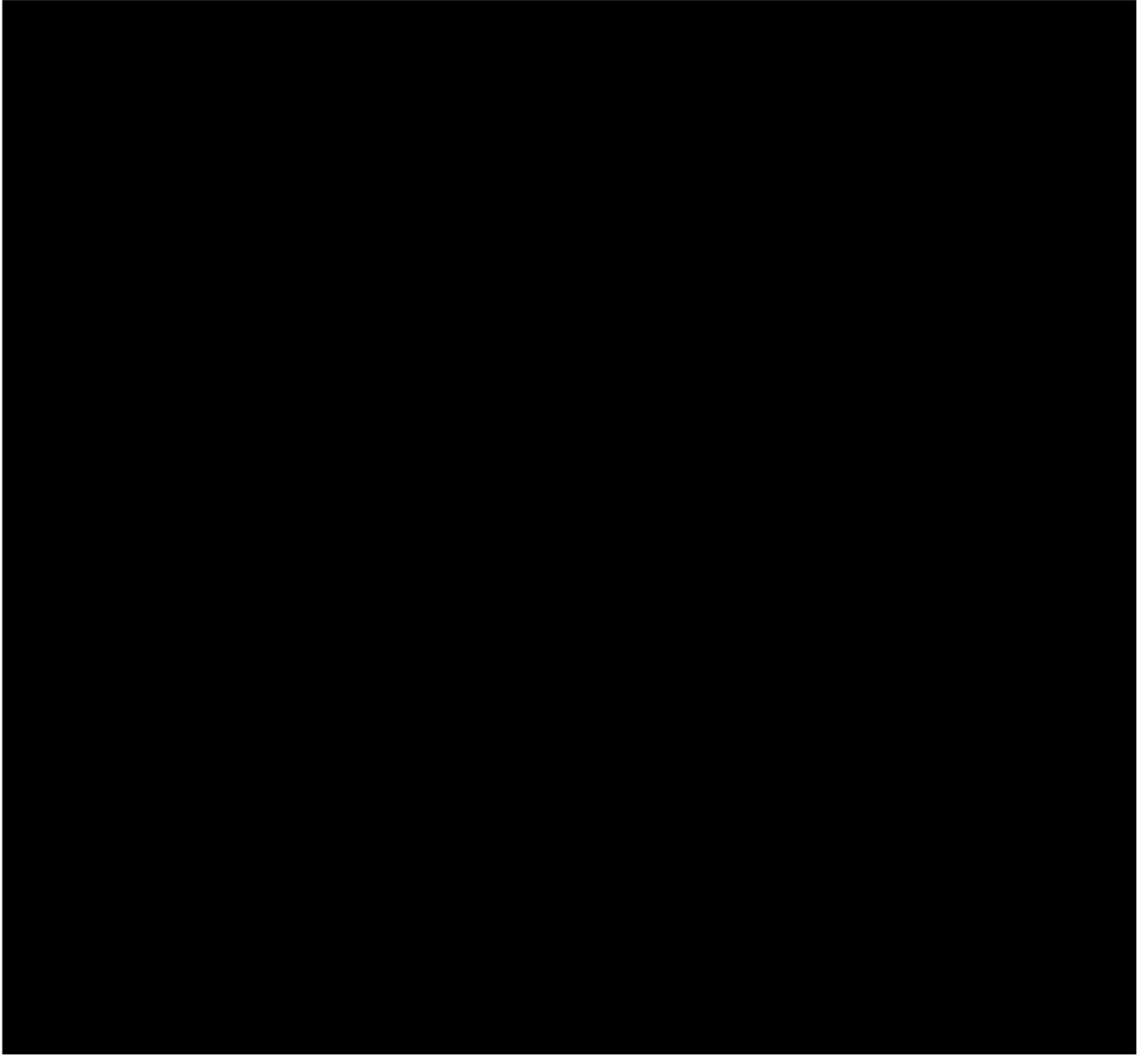
- i. Problem codes;
- j. Replacement part number(s) and description(s);
- k. Concern stated by customer;
- l. Cause as stated on the repair order;
- m. Correction as stated on the repair order; and
- n. Additional comments, if any, by dealer/technician relating to claim and/or repair.

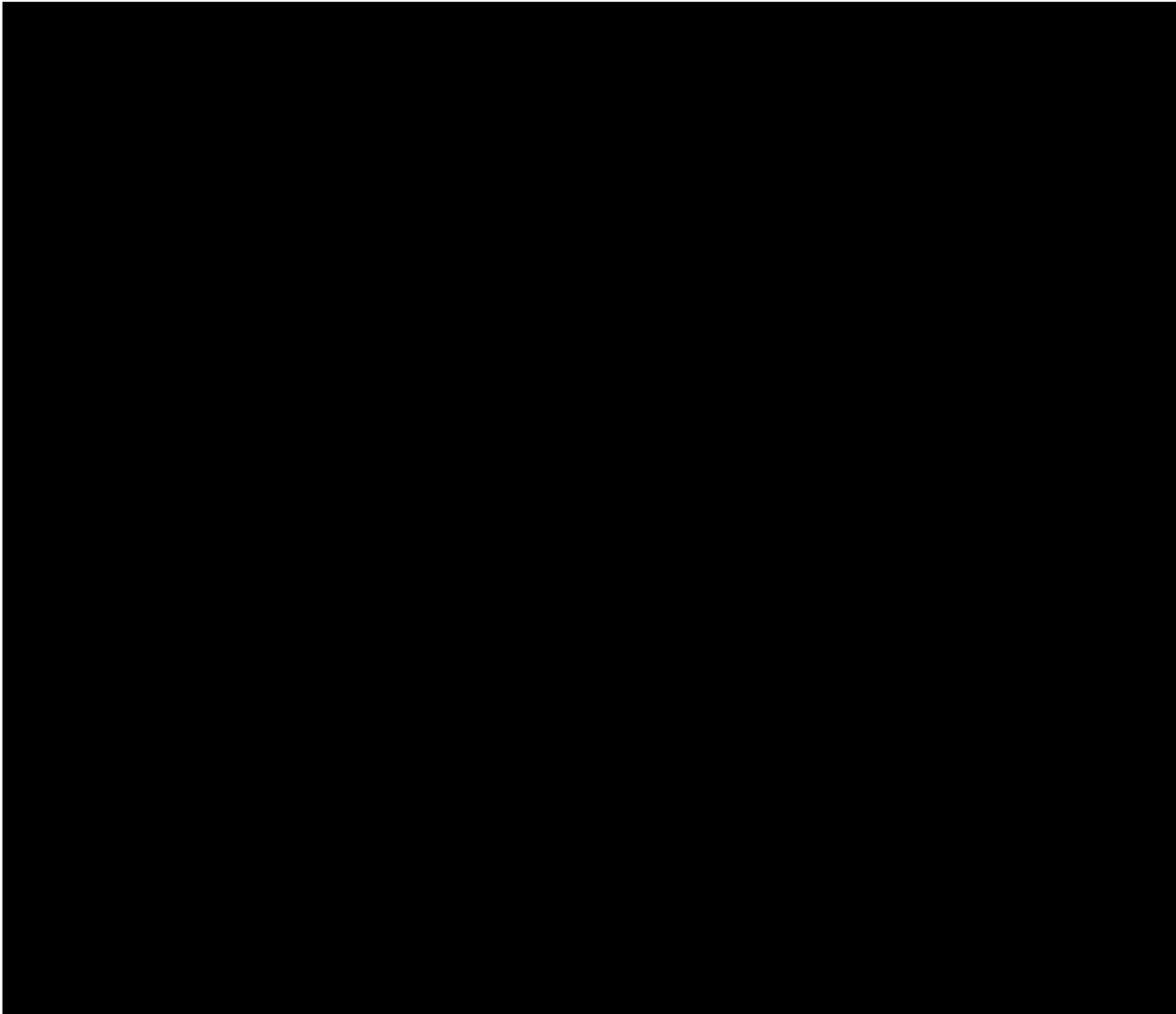
Provide this information in Microsoft Access 2010, or a compatible format, entitled "WARRANTY DATA."

**GM RESPONSE:**









**REQUEST 6**

Describe in detail the search methods and search criteria used by GM to identify the claims in response to Request No. 5, including the labor operations, problem codes, diagnostic trouble codes, part numbers and any other pertinent parameters used.

**GM RESPONSE:**

To populate Table 5-1, GM searched the QDAP warranty database for the labor codes that GM identified as potentially related to the Alleged Defect in the Subject Vehicles. These labor codes are summarized in Table 6-1. Each warranty record may have up to five verbatim fields. All verbatim claim fields were analyzed, and a claim was determined to be responsive if the verbatim indicated that the claim may have been relevant to the Alleged Defect in the Subject Component.

LABOR CODE	LABOR CODE DESCRIPTION
4067490	Engine Replacement
4066750	Crankshaft Replacement
4066690	Connecting Rod Bearing Replacement

**TABLE 6-1: LABOR CODES USED IN QDAP WARRANTY SEARCH**

As discussed in detail in GM’s Response to Request 2, a validated machine learning model was trained to classify all L87 engine replacement records instead of manual reading and classification.

**REQUEST 7**

State, by make and model year, the terms of the new vehicle warranty coverage offered by GM on the Subject Vehicles (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered). Describe any extended warranty coverage option(s) that GM offered for the Subject Vehicles and state by option, model, and model year, the number of vehicles that are covered under each such extended warranty.

**GM RESPONSE:**

Table 7-1 summarizes the terms of new vehicle warranty coverage offered by GM on the Subject Vehicles:

MODEL YEAR	MAKE	MODEL	WARRANTY TYPE	WARRANTY TERMS
2019-2024	Chevrolet	Silverado 1500	Powertrain Warranty	5 year / 60,000 miles
2019-2024	GMC	Sierra 1500	Powertrain Warranty	5 year / 60,000 miles
2021-2024	Chevrolet	Tahoe	Powertrain Warranty	5 year / 60,000 miles
2021-2024	Chevrolet	Suburban	Powertrain Warranty	5 year / 60,000 miles
2021-2024	GMC	Yukon	Powertrain Warranty	5 year / 60,000 miles
2021-2024	GMC	Yukon XL	Powertrain Warranty	5 year / 60,000 miles
2021-2024	Cadillac	Escalade	Powertrain Warranty	6 year / 70,000 miles
2021-2024	Cadillac	Escalade ESV	Powertrain Warranty	6 year / 70,000 miles

**TABLE 7-1: NEW VEHICLE WARRANTY COVERAGE OFFERED BY GM ON SUBJECT VEHICLES**

Many different optional extended warranty plans were available for the Subject Vehicles through GM dealerships. These plans were offered at different prices and for varying lengths of time, based on a customer’s preference.

**REQUEST 8**

Produce copies of all service, warranty, and other documents that relate to, or may relate to, the Alleged Defect in the Subject Vehicles, that GM has issued to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities. This includes, but is not limited to, bulletins, advisories, informational documents, training documents, or other documents or communications, with the exception of standard shop manuals. Also include the latest draft copy of any communication that GM is planning to issue within the next 120 days.

**GM RESPONSE:**

The documents that are responsive to Request 8 are in the folder labeled “Q8.”

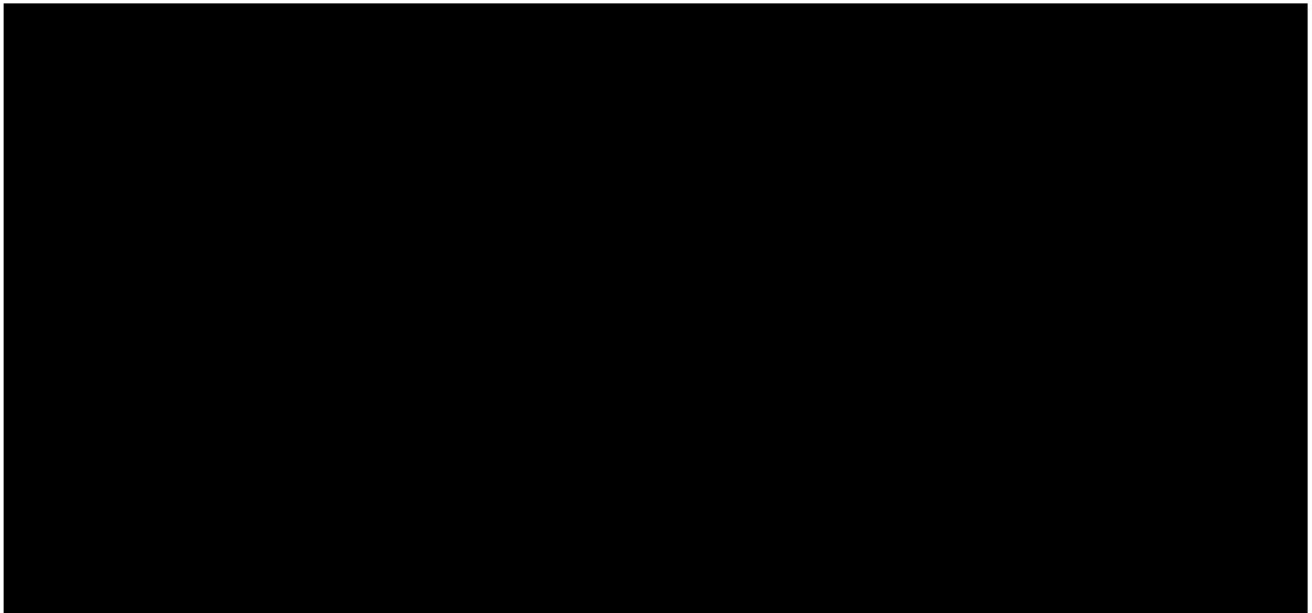
**REQUEST 9**

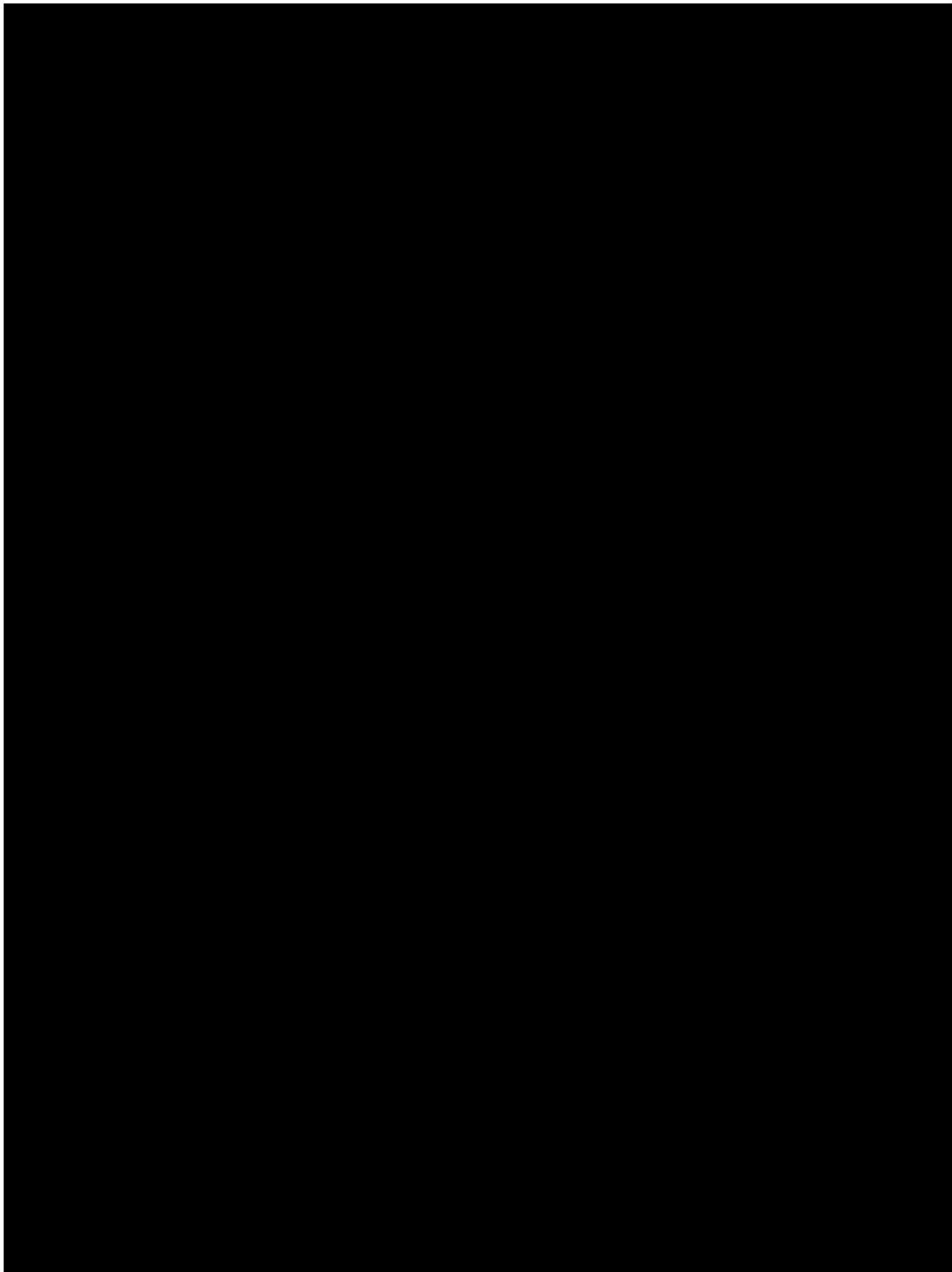
Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, “actions”) that relate to, or may relate to, the alleged defect in the subject vehicles that have been conducted, are being conducted, are planned, or are being planned by, or for, GM. For each such action, provide the following information:

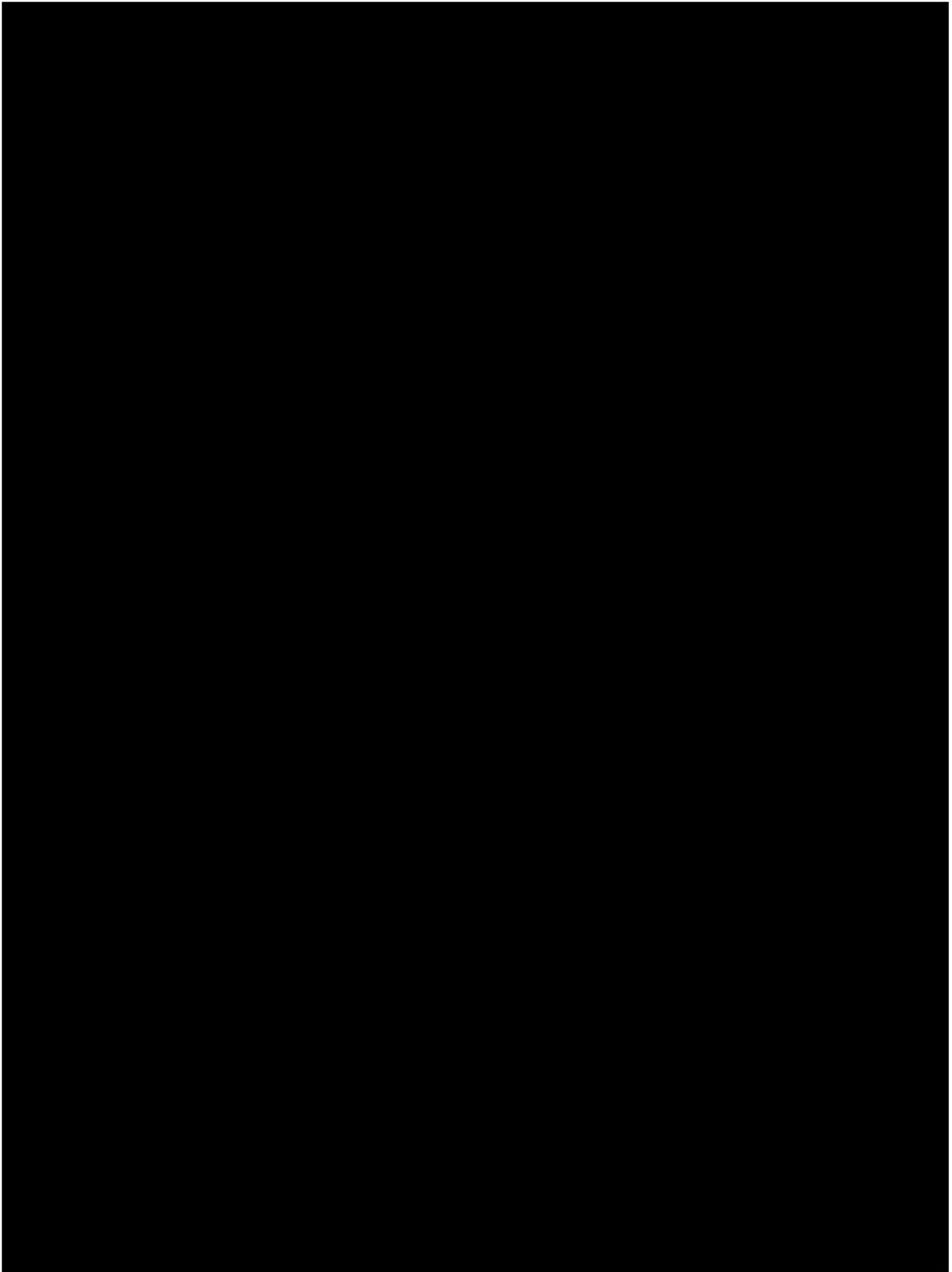
- a. Action title or identifier;
- b. The actual or planned start date;
- c. The actual or expected end date;
- d. Brief summary of the subject and objective of the action;
- e. Engineering group(s)/supplier(s) responsible for designing and for conducting the action; and
- f. A brief summary of the findings and/or conclusions resulting from the action.

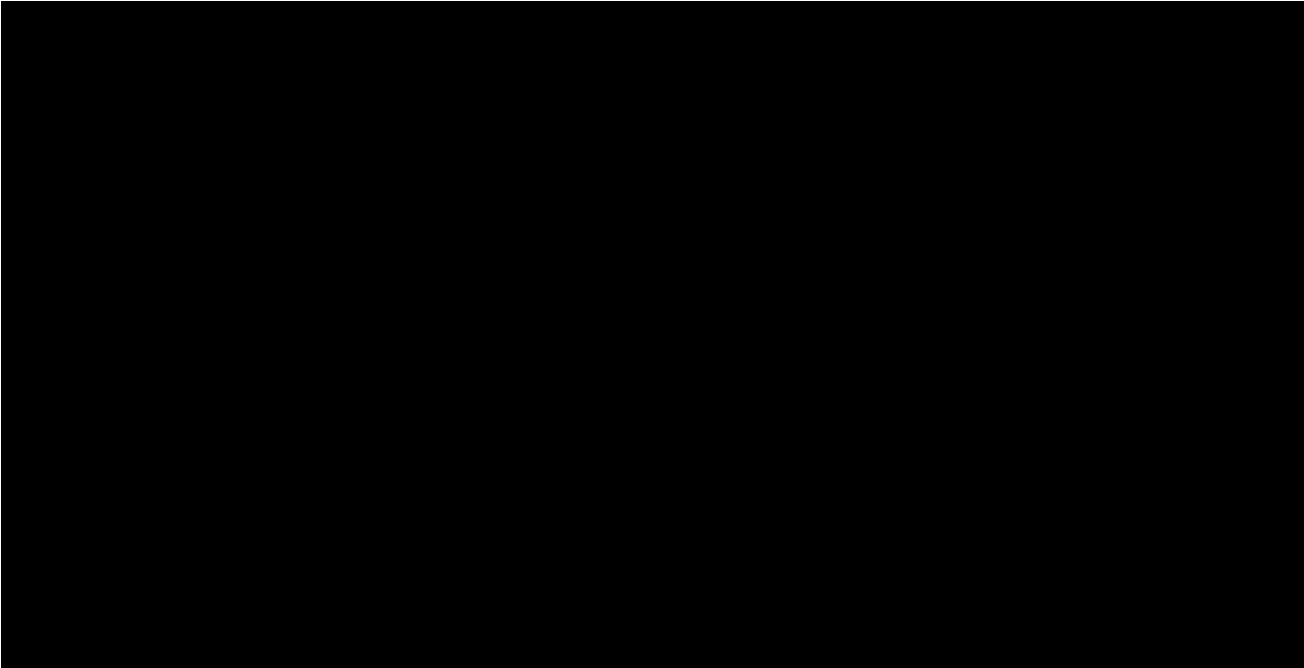
For each action identified, provide copies of all documents related to the action, regardless of whether the documents are in interim, draft, or final form. Organize the documents chronologically by action.

**GM RESPONSE:**









**REQUEST 10**

Describe all modifications or changes made by, or on behalf of, GM in the design, material composition, manufacture, quality control, supply, or installation of the subject component, from the start of production to date, which relate to, or may relate to, the alleged defect in the subject vehicles. For each such modification or change, provide the following information:

- a. The date or approximate date on which the modification or change was incorporated into vehicle production;
- b. A detailed description of the modification or change;
- c. The reason(s) for the modification or change;
- d. The part number(s) (service and engineering) of the original component;
- e. The part number(s) (service and engineering) of the modified component;
- f. Whether the original unmodified component was withdrawn from production and/or sale, and if so, when;
- g. When the modified component was made available as a service component; and
- h. Whether the modified component can be interchanged with earlier production components.

Also, provide the above information for any modification or change that GM is aware of which may be incorporated into vehicle production within the next 120 days.

**GM RESPONSE:**

A spreadsheet summary of GM engineering work order history on the Subject Components in the Subject Vehicles is provided in the folder labeled “Q10”. Service part numbers were only included for engine part numbers.

**REQUEST 11**

GM changed the recommended octane rating from 93 octane listed in the MY2019-2021 owner’s manual, to 91 octane in the MY2022-2024 owner’s manual.

- a. Please state the reason(s) for this change; and
- b. Describe in detail how the recommended octane rating change may contribute to the Alleged Defect in the Subject Vehicle Subject Component.

**GM RESPONSE:**

In accordance with applicable regulations, engine certification testing is conducted utilizing high-octane fuel, typically 96 octane. GM is obligated to certify that the use of lower octane fuels remains within prescribed tolerances, with no adverse impact on engine performance. For MY 2019-2021 Subject Vehicles, the owner’s manual specified a minimum fuel requirement of 93 octane. Beginning with MY 2022, the owner’s manual was amended to recommend a minimum fuel rating of 91 octane. This modification was made after reports from consumers in certain regions of the Western United States that it was difficult to obtain 93 octane fuel, whereas 91 octane fuel is widely available in these regions. The difference in engine performance between 93 octane and 91 octane fuel is negligible.

The change to the recommended minimum octane rating for MY 2022 Subject Vehicles and newer has been tested across the entire range of fuel octane ratings. This change is not expected to have any impact on the Alleged Defect in the Subject Component.

**REQUEST 12:**

Describe in detail how the Dynamic Fuel Management (DFM) system operates in the Subject Vehicles including, but not limited to, how the system may contribute to the Alleged Defect in the Subject Component.

**GM RESPONSE:**

Dynamic Fuel Management (“**DFM**”) is an active fuel management technology with the ability to deactivate any combination of cylinder valves for an internal combustion engine. DFM combines millisecond-accurate torque control with cylinder deactivation to optimize fuel consumption of spark ignited engines. The control of every cylinder event optimizes engine operation such that peak efficiency is obtained throughout the range of engine operation. DFM extends cylinder deactivation to all cylinders, which allows for a large variety of firing sequences.

DFM can have rotating cylinder deactivation patterns as well as fixed patterns. For rotating patterns, which cylinders are being deactivated can change with each subsequent engine cycle. Transitions between firing sequences is done in a continuous fashion, making the transitions seamless and transparent to the vehicle operator.

The fuel injectors will be turned off during cylinder deactivation to prevent fuel buildup in the cylinder. To help prevent spark plug fouling, the ignition system secondary voltage or spark is still present across the spark plug electrodes on the deactivated cylinders. If all enabling conditions are met and maintained for cylinder deactivation operation, the ECM calibrations will limit an individual cylinder's deactivation to a predetermined number of continuous cycles, then reactivate that cylinder (normal operation) for a predetermined number of engine cycles before allowing deactivation again. The engine will operate normally on all cylinders during engine starting, engine idling, and medium to heavy throttle applications.

The DFM system works directly with the lifter solenoid valves and valve lifters to deactivate cylinders during engine operation. It does not involve the crankshaft, connecting rods, or engine bearings. The DFM system would accordingly not be expected to have any effect on the Alleged Defect in the Subject Component.

**REQUEST 13:**

State the number of each of the following that GM has sold that may be used in the subject vehicles by component name, part number (both service and engineering/production), model and model year of the vehicle in which it is used and month/year of sale (including the cut-off date for sales if applicable):

- a. Subject component; and
- b. Any kits that have been released, or developed, by GM for use in service repairs to the subject component/assembly.

For each component part number, provide the supplier's name, address, and appropriate point of contact (name, title, and telephone number). Also identify by make, model and model year, any other vehicles of which GM is aware that contain the identical component, whether installed in production or in service, and state the applicable dates of production or service usage.

**GM RESPONSE:**

The requested sales information for the Subject Component in both production and service versions is provided in the folder labeled "Q13." There are two files, one for dealer repair orders and one for customer paid part ticket sales. The dealer repair order file summarizes the sales volume by make, model and model year and date of sale. The make, model and model year are not provided in the customer paid file because VIN information is not available.

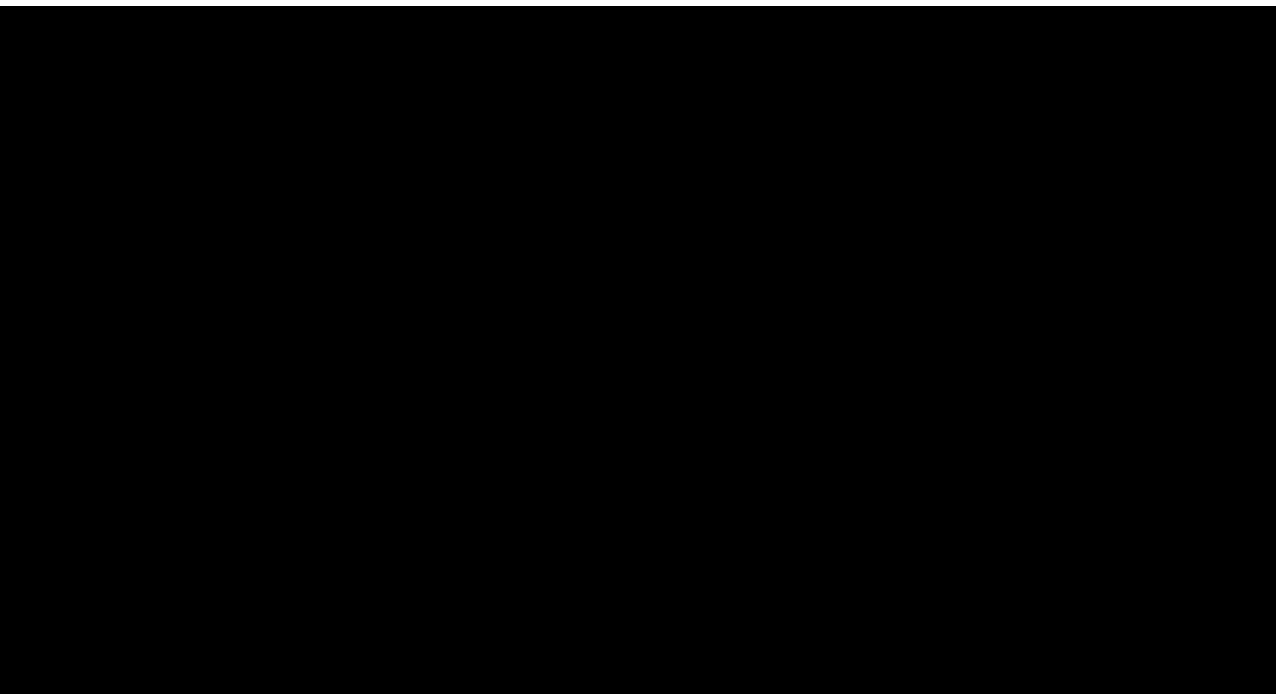
This data has limited analytical value in analyzing the field performance of a motor vehicle component, because the records do not contain sufficient information to establish the reason for the part sale or, in the case of a dealer sale, whether the part was actually used to repair a customer vehicle or is being held as dealer stock. The Subject Component may also be replaced for reasons unrelated to the Alleged Defect, including cylinder wall damage caused by broken lifters, broken valve springs, engines starved of oil due to an oil leak outside of the engine, flood damage where there was water ingestion into the motor, or accident damage. Therefore, it is difficult to draw any conclusions regarding the performance of the Subject Component from these sources.

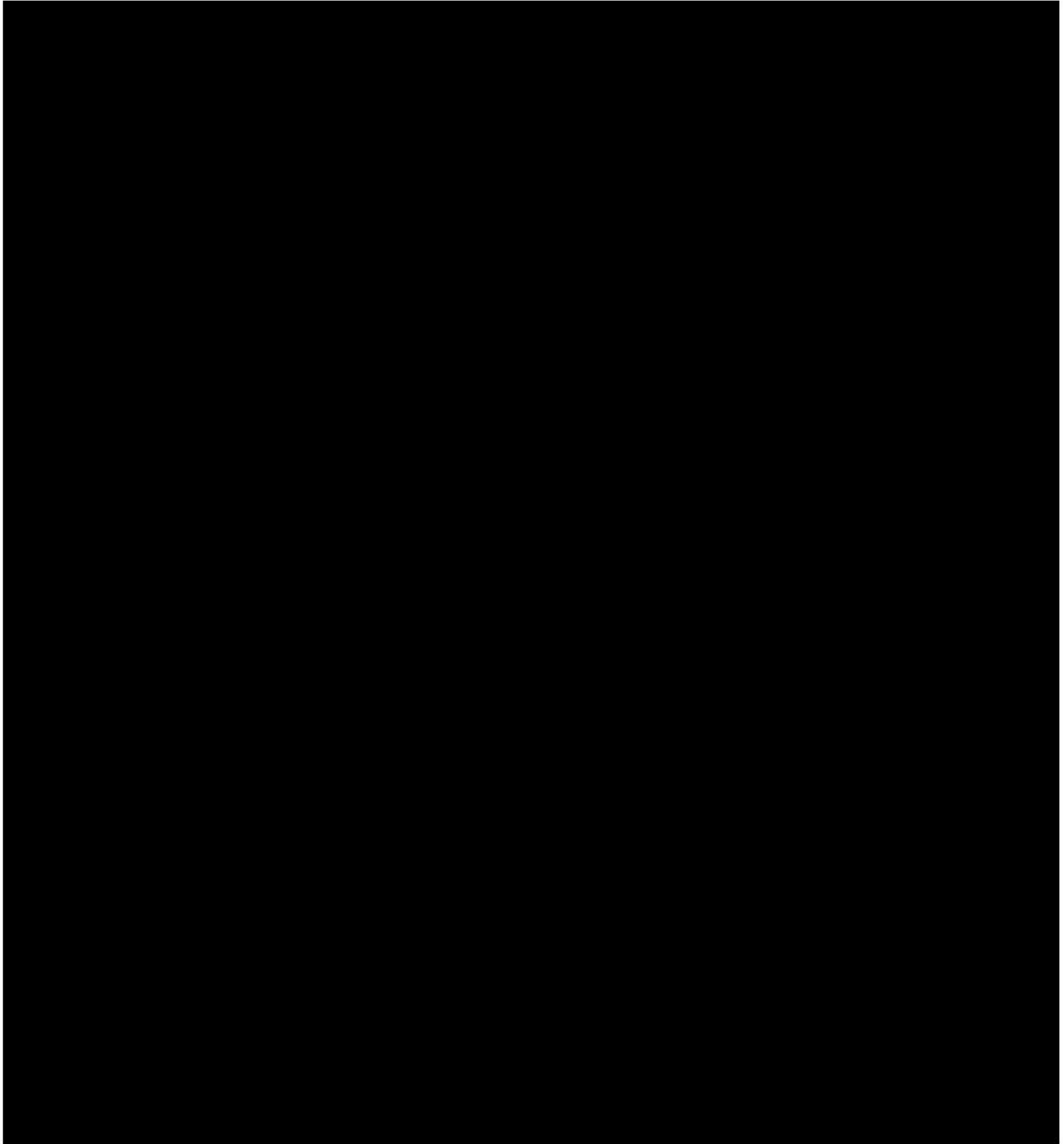
**REQUEST 14:**

Furnish GM's assessment of the Alleged Defect in the Subject Vehicles, including:

- a. The causal or contributory factor(s);
- b. The failure mechanism(s);
- c. The failure mode(s);
- d. The risk to motor vehicle safety that it poses;
- e. What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the Alleged Defect was occurring or Subject Component was malfunctioning; and
- f. The reports included with this inquiry.

**GM RESPONSE:**





**CONCLUSION**

GM's Responses are based upon its investigation to date and reflect its current information and assessment. GM reserves the right to supplement or amend its Responses as appropriate.

Please contact me if you require further information about this response or the nature or scope of our searches.

Letter to Sharon Yukevich  
PE25-001 Response  
April 24, 2025

Sincerely



Jeff Ronne, Director – Emerging Issue Identification  
& Product Safety Analytics

cc: Peter Simshauser, Chief Counsel  
Steve Perry, ODI Staff

**Enclosures**

Public copy of GM's document production