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S.14 Last Mile & Vocational Vehicle Study Group Information Report: 2025-1

Utilization of TMC's Vehicle Maintenance Reporting Standards (VMRS) in Specialty Commercial Vehicle Applications

Developed by the Technology & Maintenance Council's (TMC)
Last Mile & Vocational Vehicles Study Group (S.14)

ABSTRACT

TMC's S.14 Last Mile & Vocational Vehicles Study Group undertook review of the applicability of the Council's Vehicle Maintenance Reporting Standards (VMRS) in specialty commercial vehicle applications. The Task Force assigned to this effort concluded that VMRS is directly applicable and a valuable tool in specialty commercial vehicle maintenance programs in its current format. No changes are needed to the current Recommended Practice TMC RP 802G, Vehicle Maintenance Reporting Standards, as existing processes for the addition of new codes as well as the availability of user-defined coding enables accommodation of these applications.

INTRODUCTION

TMC's S.14 Last Mile & Vocational Vehicles Study Group undertook a review of the Council's Vehicle Maintenance Reporting Standards (VMRS) to understand the utility of the system in the maintenance of specialty commercial vehicle applications; and, if needed, to propose modifications to TMC RP 802G, *Vehicle Maintenance Reporting Standards*, to accomplish these purposes.

To this end, the Study Group established a Task Force to accomplish this review. This information report presents the Task Force's findings.

BACKGROUND

Developed in 1970, VMRS provides a single, concise coding convention to manage fleets' assets and analyze maintenance operation costs. VMRS provides a vital communication link between maintenance personnel, computers, and management. It establishes a "universal" language for fleets, original equipment manufacturers (OEMs), industry suppliers, computers, and the people whose responsibility it is to specify, purchase, operate, and maintain equipment. Managed by TMC, VMRS provides the discipline necessary for different industry segments to communicate

Technology & Maintenance Council (TMC)
80 M Street, SE, Suite 800 • Washington, DC 20003 • Phone: (703) 838-1763
email: tmc@trucking.org web: tmc.trucking.org

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with each other VMRS is the shorthand of maintenance reporting, eliminating the need for extensive written communications with all the inherent problems of miscommunication normally associated with the written word.

To meet the ever-changing needs of the equipment industry, TMC serves as the official custodian of VMRS. TMC provides OEMs, manufacturers, part suppliers, and equipment users with updated codes on an "as needed" basis reflective of current equipment design and the informational needs of the VMRS user.

VMRS can be used at any level, from total operating systems down to the individual part level. The level of coding used is entirely up to the user. No matter which level the user selects, the data collected can be compared directly to data collected by others at the same or higher VMRS coding level. The coding structure encompasses most equipment found within today's transportation activities including trucks, tractors, trailers, forklifts, shop equipment, off-road vehicles, utility vehicles, etc.

SPECIALTY EQUIPMENT AND VMRS

Specialty equipment can be broadly defined as anything that does not fall under the "tractor" or "trailer" categories. It often is referred to as work-performing equipment. Specialty categories can include hydraulic equipment, vocational trucks (such as dump trucks or trash trucks), excavating equipment, refrigeration units, snow handling equipment, and military equipment.

Specialty equipment can be found defined in VMRS Code Key 1: Equipment Vocation and Code Key 2: Equipment Category. These two code keys provide the backbone to specialty equipment coding. All too often, many fleets and service providers focus on failures. However, both fleets and service providers can benefit from the detail Code Keys 1 and 2 provide.

VMRS coding for specialty equipment can be broken down into three main categories. The first provides all the information about the asset itself, such as the vocation, the category and configurations. The second handles items pertinent to fleet maintenance, such as information about the status of the asset (on rent, in storage, etc.), as well as tire management and electrical situations if applicable. Finally, the last, and largest, documents failures and repairs and goes into specifics on the failure, how it failed, the repair and where the repair was made. The following offers a brief overview of each category to see how it is used and how it can benefit specialty equipment.

A. Asset Information

There are several Code Keys that help determine equipment configuration and specification. The following Code Keys give a complete and valuable detailed description of the asset.

- Code Key 1: Equipment Vocation
- Code Key 2: Equipment Category
- Code Key 3: Axle Configuration
- Code Key 4: Cab Types (All Vehicles)
- Code Key 5: Power Source
- Code Key 47: Body Material
- Code Key 48: Special Body Type Configuration

These data elements are valuable in determining service cycles. For example, a piece of equipment that is used in earth moving/ land clearing and is in the agricultural category will likely need service items such as air filters changed more often, as well as additional preventive maintenance to help reduce the risk of dusting out the engine.

There are more than 12 unique Code Keys to help classify and identify any asset. As outlined above, understanding the asset gives valuable insight into its preventive maintenance requirements, optimal duty cycles, and life cycle. Additionally, the use of these codes gives a holistic picture of the piece of specialty equipment that allows it to be more effectively managed and increase its life span.

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B. Specialty Fleet Maintenance Management

VMRS coding for specialty equipment can aid in specialty fleet maintenance management. There are several Code Keys that allow fleet managers to more effectively manage equipment within VMRS.

Examples include:

- Code Key 20: Equipment Status Code
- Code Key 21: New & Retread Tire Out-of-Service Conditions
- Code Key 52: Part Status Code
- Code Key 54: Nominal Voltage
- Code Key 55: Current Range
- Code Key 56: Electrical Cycles (Hz)
- Code Key 57: Electrical Phase

These data elements help the fleet manager by indicating the status of the equipment, such as active (currently in service), equipment for sale, leased equipment, or even lost or stolen equipment, as well as a comprehensive look at new and retread tire "out-of-service" conditions and tire management codes such as handling complaint, injuries to close, or repairs exceed fleet specifications. These codes also define the axle type, part status (i.e., new, used, etc.) and other items such as nominal voltage, range and electrical cycles.

As a fleet manager, all of this information is just as valuable for the specialty equipment as it is for the typical over-the-road Class 8 combination vehicle. Knowing how the equipment is configured and being able to easily tell its status and condition saves time and money in the course of a piece of equipment's lifespan.

C. Failure Reporting

The most valuable section of VMRS coding for any piece of equipment concerns asset repairs. This includes everything from the physical location of the repair to the technician's repair, the area on the asset repaired, and the nine-digit code that identifies the, what, where, and why of the repair.

Code Keys used in identifying failures and repairs for Specialty Equipment include:

- Code Key 14: Reason for Repair
- Code Key 15: Work Accomplished
- Code Key 18: Technician's Parts Failure Code
- Code Key 82: Operator Vehicle/Equipment Condition Report

These data elements identify information such as reason for repair, work accomplished, whether or not the repair is scheduled or non-scheduled, where the piece of equipment was physically repaired as well as a group of codes to identify what the technician found as a failure.

The secondary set of data elements determine specific components involved in the repair and/or service as used with over-the-road Class 8 combination vehicles. These Code Keys are:

- Code Key 31: System Codes
- Code Key 32: Assembly Codes
- Code Key 33: Component Codes

Taken together, these data elements create a nine-digit numeric code that identifies the system (e.g., electrical group, accessory group, etc.) in the first three digits; the assembly in the second three digits; and the individual component in the last three digits.
For example,

013-001-015 Front Brake Shoe Guide
- 013 indicates Brakes
- 013-001 indicates Front Brakes
- 013-001-015 indicates the specific component Front Brake Shoe Guide

UNIQUE USER NEEDS

In the most recent revision to VMRS, TMC RP 802G added provision for the creation of "user-defined" codes to reflect company-specific maintenance needs. These codes, which are not to be officially adopted by TMC, are housed within System 997 of VMRS Code Key 31, its following Assembly and Component Code Keys. This means users will have the ability to

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assign thousands of codes under System 997 — spanning 997-000-000 to 997-999-999 — to anything they wish. Thus, VMRS is adaptable to any unique application.

CONCLUSION

There is much more information available in VMRS coding that is relevant and useful for specialty equipment not discussed in this information report. Utilizing VMRS coding with specialty equipment is easily accomplished and provides critical information that is easily translatable across any service situation. The use of the coding can save time for the fleet manager, and service provider by providing greater insight into the make-up of the equipment and any related failures.

In conducting this review, the Task Force did not identify any maintenance informational need that would require additional revision to RP 802G at this time. However, future needs may be addressed by TMC staff at a later date as necessary.

For more information on VMRS, contact TMC at (703) 838-1763 or visit h*ttps://tmc.trucking.org.* TMC's VMRS Services Manager Jack Poster can be reached at (703) 838-7928; email: *jposter@trucking.org* ❑

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