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Technology & Maintenance Council



Turning Experience Into Practice

ATA's Technology & Maintenance Council (TMC) Diesel Exhaust Fluid (DEF) Misfueling Official Survey (April 2026)

Developed by the Technology & Maintenance Council (TMC)

ABSTRACT

During the Fleet Talk session at the Technology & Maintenance Council's (TMC) 2026 Annual Meeting, several fleet attendees shared reports of diesel exhaust fluid (DEF) contamination/misfueling with diesel. Accordingly, TMC staff conducted a survey of its fleet executive level members to determine if similar issues have been experienced by a broader cross-section of fleets. The results appear to indicate a majority of those fleet representatives responding did experience at least one case of DEF misfueling in an onboard vehicle diesel tank (12 of 21; about 57 percent.)

The incidents can apparently prove costly, with most reporting experiencing repair expenses of \$10,000 or less. However, 13 such reported cases cost the fleet between \$10,001 and \$30,000. One additional reported case cost between \$30,001 and \$40,000.

While the survey response rate was not large (about 4.5 percent), the results do appear to confirm that DEF misfueling is an issue even 16 years after the introduction of downstream exhaust aftertreatment starting with the 2010 model year engines. Given this, it may be worthwhile for TMC to study the issue in greater depth and charge appropriate Council study groups with developing recommendations on how to prevent, minimize and manage the consequences of DEF misfueling. □



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INTRODUCTION

During the Fleet Talk session at the Technology & Maintenance Council's (TMC) 2026 Annual Meeting, several fleet attendees shared reports of diesel exhaust fluid (DEF) contamination/misfueling with diesel.

Accordingly, at the behest of TMC's Board of Directors, TMC staff conducted a survey of its fleet executive level members to determine if similar issues have been experienced by a broader cross-section of fleets.

Survey recipients were asked to share fleet data on the number of cases of DEF misfueling as well as any associated repair, warranty and downtime information available. The input received would help TMC develop recommended practices for eventual consideration by the appropriate Council Study Groups in this area.

METHODOLOGY

Survey alerts were initially sent via email to more than 500 TMC fleet executive members various times starting in April 1, 2026 and closing in April 30, 2026. Twenty-two fleet representatives responded to the survey.

Figure 1 illustrates how the survey notice email appeared to recipients. The survey was conducted using SurveyMonkey. Eblast alerts were generated using the Adestra email management system. Fifty individuals attempted to complete at least a portion of the survey. The survey was activated on April 1, 2026. The survey was closed April 30, 2026.

The survey was initiated by member request, and administered by TMC staff members Robert Braswell, TMC executive director, and Cori Hicks, TMC administrative coordinator.

RESULTS

The total number of responding TMC fleet members was 22. Survey respondents were asked a series of demographic questions to



[Is Your Fleet Plagued with Diesel Exhaust/Fuel Contamination? Help Us Find a Solution With Your Input?](#)

TMC Fleet Members:

Given the recent reports at TMC's 2026 Annual Meeting regarding diesel exhaust fluid (DEF) contamination/misfueling with diesel, ATA's Technology & Maintenance Council is gathering information on fleets' experiences with this phenomenon in terms of frequency and related consequences.

To complete this survey, please first gather and review your fleet data on the number of cases of DEF misfueling as well as any associated repair, warranty and downtime information available.

Your input into the following [survey](#) will help TMC develop recommended practices for eventual consideration by the appropriate Council Study Groups in this area.

Please respond by April 30, 2026. Your help is greatly appreciated.

Sincerely,

ATA's Technology & Maintenance Council

Figure 1

determine their company's geographic area of operation, vocation and fleet size (if applicable). See **Figures 2 and 3**.

Q1: Which of the following best describes your company's operation (check all that apply)?

Vocation	Number
Motor carrier (for hire)	12
Private carrier	7
Vocational	2
Intermodal	1
Leasing (full service)	1
Truckload	6
Less-Than-Truckload	4
Pickup & Delivery	1
Service Provider	1
Bus/School Bus	0

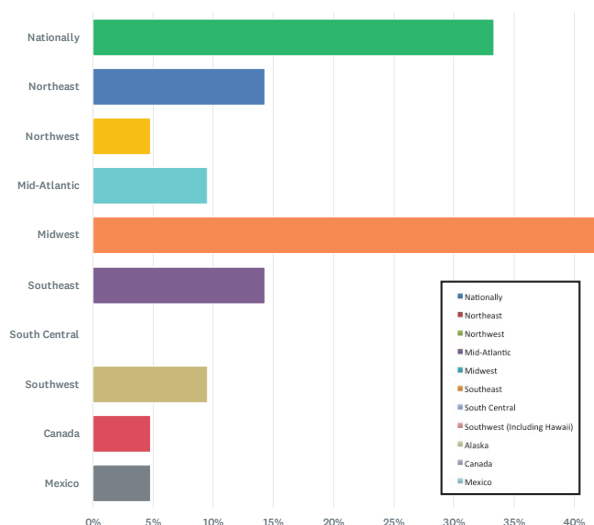
See **Figure 2**.

Q2: What types of equipment does your fleet operate?

Day Cab Tractors	19
Sleeper Cab Tractors	19
Other Tractors	5
Straight Trucks	12
Trailers	20

Q3: In what area(s) does your fleet principally operate (check all that apply)?

Region	Number
Nationally	7
Northeast	3
Northwest	1
Mid-Atlantic	2
Midwest	9
Southeast	3
South Central	0
Southwest (including Hawaii)	2
Canada	1
Mexico	1



See **Figure 2**.

Figure 2: Region

Q4: Has your operation/fleet had a truck/tractor/power unit fuel system contaminated with diesel exhaust fluid (DEF) in the past two years? For this question, 12 of 21 (57.14 percent) responding answered “yes” and 9 (42.86 percent) answered “no.”

to the fuel tanks? Seven fleet representatives responded to this question, collectively reporting 10 vehicles so involved. The range was a low of zero to a high of seven units per respondent.

Q5: How many power units in your fleet use DEF? Collectively, seven respondents indicated 11,125 vehicles used DEF. The size of the DEF-using vehicle fleets reported ranged from 125 to 5,100 units.

Q9: How many of these cases did it cost your operation between the following amounts to repair? Seven fleet representatives responded to this question, all of whom reported cost expenditures as follows:

\$0 - \$10,000	20
\$10,001 - \$20,000	7
\$20,001 - \$30,000	6
\$30,001 - \$40,000	1
More than \$40,000	0

Q6: What percentage of these power units have magnetic interlocks in the DEF tank fill neck (answer with a number between 0 and 100)? Seven fleet representatives responded to this question. Three responded affirmatively— 100, 90 and 75 percent respectively. The remainder reported zero.

Q10: Of these that were repaired, how many units had additional issues after the initial repair? Seven fleet representatives responded to this question, collectively reporting 3 vehicles so involved. The range was one unit per respondent.

Q7: How many of your fleet's power units have had DEF in the fuel system in the past two years? Seven fleet representatives responded to this question, collectively reporting 45 vehicles so involved. The range was a low of one to a high of 12 units per respondent.

Q11: Of these that had additional issues, was it found that DEF was still present in the system as though a complete system flush was not completed by the repair facility? For this question, 3 of 7 (42.86 percent) responding answered “yes” and 4 (57.14 percent) answered “no.”

Q8: On how many of these were you able to prevent major repairs because the driver did not start the vehicle or was not running the vehicle at the time and the DEF was contained

Q12: *How many of these cases were covered under warranty by the initial repairing dealer?* Seven fleet representatives responded to this question, all of whom reported no cases were covered under warranty.

Q13: *How many of these incidents occurred at a company terminal?* Seven fleet representatives responded to this question, collectively reporting 16 incidents so involved. Of the seven, four reported affirmatively, with the range being a low of zero to a high of 11 units per respondent.

Q14: *Do your terminal(s) use magnetic interface style DEF dispenser nozzles?* Seven fleet representatives responded to this question, all of whom said “no.”

Q15: *Have you tested any Truck Stop / Fuel Station nozzles to see if they are the magnetic interface style?* Seven fleet representatives responded to this question, all of whom said “no.”

Q16: *Did you find any that were not magnetic interface style?* Six fleet representatives responded to this question, all of whom said “no.”

Q17: *Have you been able to come up with a solution that has helped prevent these occurrences? If so, what is that solution?* Seven fleet representatives responded to this question, none of whom said “yes.” Three commented specifically as follows:

- *Driver education only.*
- *Communication with drivers reminding them to pay attention when adding DEF, signage at the fuel islands.*
- *Changing to on site wet hose fueling (we're intrastate and run day routes only).*

Q18: *Can you share any additional details to help TMC understand your particular case(s)?* Two commented specifically as follows:

- *When a driver is at a truck stop when they put DEF in the fuel tanks, it is nearly*

impossible to prove through surveillance because the truck stop's security team is so tied up pulling videos for criminal activities. All they get us is still images, but that doesn't tell the story. They won't give us video without a court order. On the unit that had issues again after the original repair, It appears that DEF was not completely flushed from the fuel system, but getting the initial repair facility to agree to that is nearly impossible. I can't tell them that we would never put DEF in the fuel, because they know we already have.

- *Our drivers are more delivery salespeople than true drivers so it's a challenge to get them to focus on items like maintenance, fueling, and safety. We've made some great strides, but it's still a work-in-progress.*

Q19: *Please enter any additional comments, ideas, or questions you would like to see added to a future survey like this.* One commented specifically as follows:

- *The amount of work that the OEMs require to be done if a truck still has warranty and you want to keep the warranty active is crazy. They make you replace heads, injectors, fuel pumps, etc. They claim the DEF is so corrosive that they can't clean it out of those parts. I understand the injectors, but not so much the others. We need to hold the fuel stops accountable for having the incorrect nozzles on the DEF pumps. An anti-siphon fuel tank fill tube with a way to prevent DEF from entering would be a great invention.*

CONCLUSIONS

In TMC's first study in this area, the trends appeared to indicate a majority of those fleet representatives responding did experience at least one case of DEF misfueling in an on-board vehicle diesel tank (12 of 21; about 57 percent.) The incidents can prove costly, with most experiencing repair expenses \$10,000

or less. However, 13 such reported cases cost the fleet between \$10,001 and \$30,000. One additional reported case cost between \$30,001 and \$40,000. None of the cases reported were covered under warranty.

Solutions are not generally forthcoming, according to respondents. The magnetic interlock designed to prevent such misfueling is not a reliable solution, and about half those responding did not have filling systems with the technology in place and/or properly maintained at their own facilities. Of the 45 cases reported,

16 apparently occurred at a company fueling facility as opposed to a third-party fueling station. While the response rate was not large (about 4.5 percent), the results do appear to confirm that DEF misfueling is an issue even 16 years after the introduction of downstream exhaust aftertreatment starting with the 2010 model year engines. Given this, it may be worthwhile for TMC to study the issue in greater depth and charge appropriate Council study groups with developing recommendations on how to prevent, minimize and manage the consequences of DEF misfueling. □