

CDL Testing for Hearing Impaired Applicants

**A Report to the Federal Motor Carrier Safety Administration
(FMCSA)**

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**Developed by the American Association of Motor Vehicle Administrators
(AAMVA) with assistance from the Test Maintenance Subcommittee (TMS)**



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Background

On February 3, 2013, FMCSA announced its decision to grant requests from 40 individuals for exemptions from the hearing requirement in the Federal Motor Carrier Safety Regulations (FMCSRs). The physical qualification standard for hearing as published in 49 CFR §391.41(b)(11) states that:

“A person is physically qualified to drive a commercial motor vehicle if the person perceives a forced whispered voice in the better ear at not less than 5 feet with or without the use of a hearing aid or, if tested by use of an audiometric device, does not have an average hearing loss in the better ear greater than 40 decibels at 500 Hz, 1,000 Hz, and 2,000 Hz with or without a hearing aid when the audiometric device is calibrated to American National Standard (formerly ASA Standard) Z24.5—1951.”

Several months after the exemptions were granted, AAMVA began to receive inquiries from State Driver License Agencies (SDLA’s) requesting guidance on administering the CDL Skills Test to hearing impaired/deaf applicants. Aside from safety concerns and communication barriers identified by the SDLAs, the regulatory requirement as written in 49 CFR §383.133 prohibits the use of interpreters during the knowledge and skills tests. Specifically, §383.133 states:

“Interpreters are prohibited during the administration of skills tests. Applicants must be able to understand and respond to verbal commands and instructions in English by a skills test examiner. Neither the applicant nor the examiner may communicate in a language other than English during the skills test.”

On behalf of the State of Kentucky, AAMVA contacted FMCSA Commercial Driver’s License (CDL) Unit to discuss one of the individuals who had been granted an exemption. The applicant was enrolled in a CDL Truck School and was scheduling an appointment to take the Skills Test. He was totally deaf, unable to speak; and his only methods of communication were reading, writing, or sign language. The guidance received from the CDL Unit was that the state: 1) not test the applicant since he is not eligible to test under current regulations; or 2) disregard the Federal testing regulations.

This guidance was problematic, leaving Kentucky two unacceptable options:

1) Refuse to test the applicant based on current regulations (interpreters prohibited).

- a. §383.133(c)(5) prohibits the use of interpreters during the skills test; and requires that applicants be able to understand and respond to verbal commands and instructions in English by a skills test examiner. It also prohibits an Examiner and the applicant from communicating in a language other than English.

- b. The applicant will have incurred significant costs to complete a training class for which he will not be eligible to obtain a license. This presents a customer service issue.

2) *Disregard the FMCSRs and conduct the test.*

- a. § 384.201 requires that States adopt and administer a program for testing and ensuring the fitness of persons to operate commercial motor vehicles in accordance with the Federal standards contained in part 383. §384.202 prohibits states from authorizing a person to operate a CMV unless they pass a knowledge and skills test for the operation of a CMV in accordance with part 383. Disregarding the FMCSRs would result in a compliance issue, a liability issue, and a highway safety issue.
- b. If the applicant was tested, issued a CDL; and then was involved in a crash, it would not reflect favorably on the State since they would have issued the CDL in violation of the Federal regulations.

As a result of these issues, FMCSA requested that AAMVA's Test Maintenance Subcommittee (TMS) meet to discuss the issue and provide recommendations to FMCSA. The Test Maintenance Subcommittee (TMS) had a face-to-face meeting in September 2013 to discuss this issue as well as others. This report is based off of the discussions regarding CDL testing for hearing impaired applicants.

TMS Considerations

The TMS discussed the pros and cons of testing a hearing impaired applicant; the safety implications for the vehicle inspection, basic control skills and road tests; and identified potential accommodations, approaches and alternatives to testing the hearing impaired.

Pros of Testing Hearing Impaired Applicants

The pros of testing hearing impaired applicants is that those who successfully complete the CDL Knowledge and Skills Tests would be issued a Commercial Driver's License (CDL); thus providing access to a new career path as a commercial motor vehicle operator for the hearing impaired applicant/driver.

Cons of Testing Hearing Impaired Applicants

The cons of testing hearing impaired applicants are quite lengthy. These cons include:

- Under current FMCSRs, a hearing impaired/deaf driver is not medically qualified to obtain a CDL. If exempted from the hearing requirements, a state cannot administer the required skills test to the applicant within the confines of the current regulatory language. Testing and issuing CDLs to these applicants could result in tort liability for

the State and CDL State/Third Party CDL Examiners. It would also become a compliance finding on a Federal CDL Compliance Audit.

- Conducting a skills test under current regulations would require that the entire vehicle inspection be done in writing (if the applicant cannot speak); or a combination of writing and speaking (Examiner would write instructions/clarifying information and the applicant would provide commentary)
- The additional time and resources required to administer tests to hearing impaired/deaf applicants will result in increased costs to the jurisdictions.
- Due to the time required to administer the tests, multiple testing appointment slots would have to be blocked for each test, which would exacerbate the problem of existing backlogs for CDL testing and would create scheduling issues in field offices.
- §383.133 requires that each test be valid and reliable to ensure that each applicant possesses the knowledge required under §383.111. The validity and reliability of the tests was established during an intensive research and development effort utilizing both novice and experienced commercial drivers that met all CDL eligibility requirements. Testing hearing impaired/deaf applicants will have an impact on the validity and reliability of CDL tests.
- Testing hearing impaired/deaf commercial drivers will require that special training be developed and that all State/Third Party CDL Examiners successfully complete the training as party of the training certification required by FMCSR §384.228
- CDL Examiners and applicants move in and around commercial vehicles while taking/administering Skills Tests, which makes hearing and responding to audible sounds, horns, whistles and voice commands of paramount importance. For example: During the vehicle inspection, the applicant/Examiner may be injured if the applicant cannot respond to an audible command to prevent them from doing something dangerous. When scoring the basic control skills portion of the test, the Examiner is scoring from outside the vehicle and may not be positioned within view of the driver. The inability of the driver to respond to audible commands may result in injury to the examiner or other persons/vehicles in the immediate area. During the Road Test, the applicant's inability to hear mechanical buzzers, warning/engine sounds, leaks, surrounding sounds within the cab, warnings from other highway users (i.e., horns, sirens/emergency vehicles) could result in a potentially dangerous malfunction of the vehicle or result in a crash.
- Some hearing impaired/deaf applicants may not have the ability to speak, write and/or read.

- After completing the Skills Test, the Examiner is required to advise the applicant whether he/she passed or failed the test; and provide instructions for the next step in the process. Debriefing the driver after the test is extremely difficult if the driver cannot speak, read and/or write.
- Interpreters (if permitted) may/may not be able to effectively convey technical language, particularly during the vehicle inspection.
- Setting the driver up for failure if they pass the required tests and are unable to gain employment due to their hearing impairment.
- Other underlying circumstances with the applicant/driver.

Safety Implications of Skills Testing

Vehicle Inspection Test

Depending upon the Vehicle Group the test vehicle falls into, there are between fifty eight (58) and ninety (90) items that must be inspected during the Vehicle Inspection Test. In order to receive credit for inspecting an item, the applicant is required to point to/touch and name each component being inspected; and adequately describe what they are checking the item for (this test is conducted as a **commentary**). There are many safety implications to look at when conducting the vehicle inspect test to a hearing impaired applicant. These include:

- The applicant's inability to hear warning devices (i.e. air leaks, low-air warning buzzer, etc.) which could result in a potentially dangerous malfunction of the vehicle.
- Driver cannot hear/respond to the Examiner's command to stop if the applicant does something dangerous.
- Giving instructions / zones of vehicle for inspection / randomization.
- Occasionally, the Examiner may need to "prompt" the driver during the test (i.e. remind driver where to begin the inspection, speed up or slow down, etc.); or "probe" the driver to provide additional information (applicant's description is too general, stop them and ask them to be more specific, etc.) to determine whether the applicant has the knowledge to determine whether the vehicle is safe to drive.
- Lights Operation Check – applicant is required to check that all external lights, turn signals, flashers, clearance lights, head lights, brake lights, etc. on the front, sides and rear of the vehicle/tractor and rear of the trailer are operational. The Examiner is allowed to assist the driver in checking the external operation of the lights. The driver is responsible for telling the Examiner exactly which lights s/he would like the Examiner to inspect. This is impossible to do without being able to communicate with the driver.

- Over accommodating the driver. Many jurisdictions impose a time limit on the vehicle inspection test. Due to the length of time that it would take to provide instruction and clarification to ensure the applicant understands; and to conduct this portion of the test would require that State's eliminate the time limit for a hearing impaired/deaf applicant. It is important to note that the largest number of test failures occur on the Vehicle Inspection portion of the Skills Test. Elimination of the time limit coupled with accommodations that are made for a hearing impaired applicant, challenge the impartiality of testing methods.

Basic Control Skills Test

The Basic Control Skills (BCS) Test evaluates the driver's skill in controlling the vehicle and judging its position in relation to other objects. It also tests basic skills essential for safe control of the vehicle. When scoring the basic control skills portion of the test, the Examiner is scoring from outside the vehicle and may not be positioned within view of the driver at all times. The inability of the driver to respond to audible commands may result in injury to the examiner or other persons/vehicles in the immediate area. This of particular concern as some jurisdictions conduct multiple tests on the BCS test range at the same time. There are many safety implications to look at when conducting the basic skills test to a hearing impaired applicant. These include:

- Driver's inability to hear examiners whistle or commands.
- Driver cannot hear/respond to the Examiner's command to stop the vehicle for encroachments.
- Driver cannot hear/respond to the Examiner's command to stop the vehicle for an unsafe act.
- Communication barriers extend the length of time that it takes to administer the test; and makes interaction between the applicant and the Examiner more difficult.
- Examiners are not in the vehicle for this portion of the test. Therefore, being unable to answer clarifying questions could result in a potentially dangerous action.
- Driver may not understand the Examiner's instructions for moving the vehicle from one exercise to the next.

Road Test

The Road Test evaluates whether the commercial driver possesses a minimum level of skill to safely operate a commercial motor vehicle in most traffic situations. There are many safety implications to look at when conducting the road test to a hearing impaired applicant. These include:

- Hearing impairment may prevent the applicant from hearing/responding to verbal commands from the Examiner when they attempt to take control of the vehicle in emergency situations.
- Driver distractions – The driver being distracted and taking their eyes off the road to look at the examiner giving instructions and queues through signs / flash cards.
- Examiner distractions – It may be difficult for the examiner to score, give directions and use flash cards; and monitor the traffic conditions all at the same time. This could result in the Examiner being distracted during critical moments of the test. It is important to remember that the road test is conducted in a dynamic traffic environment where both the applicant and examiner must be aware of what is going on around the commercial motor vehicle.
- Unable to hear mechanical buzzers, warning/engine sounds, leaks, surrounding sounds within the cab, warnings from other highway users (i.e., horns, sirens/emergency vehicles) which could result in a potentially dangerous malfunction of the vehicle or crash.
- If the driver or Examiner has a question or is attempting to clarify a response/instruction during a road test, it would require that the driver pull off the travel portion of the road to communicate. Exiting and re-entering the roadway is always a hazardous situation which should be only be performed when absolutely necessary.
- Passive Railroad Crossing – unable to listen for trains. If the surrounding landscape at a passive crossing does not provide the driver a clear view of the tracks in both directions a dangerous situation is created since the driver is unable to “listen” for the train.
- Observing and communicating required traffic sign test situations. After driving past a sign, the Examiner will ask the driver what the sign said. The driver must be able to describe the sign and message. This assesses the driver’s ability to read and interpret informational signs pertaining to commercial vehicles. The hearing impairment makes conversing with the applicant/driver extremely difficult.
- Safety of general public, examiner and applicant.
- In a dynamic traffic environment there is a potential that maneuvers may not be able to be done at designated locations (work zones, traffic, crash) and must be performed in alternative areas which may not be as safe as the designated areas.
- Difficulties in performing required simulated testing activities. During a simulated activity the driver must describe and demonstrate certain procedures.
- If the applicant fails the road portion of the Skills Test, the Examiner instructs him/her to return the vehicle to the test site via the most direct route. This is difficult when the most

direct route is not familiar to the applicant and communication between the Examiner and applicant is not clear.

- Dealing with unusual circumstances (i.e., road construction, traffic).

Accommodations Considered

TMS has identified several accommodations that may be utilized under the current regulations (Interpreters prohibited), however *the TMS is not endorsing the implementation of these accommodations.*

- **Vehicle Inspection**: Have the applicant read the script/instructions and perform the vehicle inspection providing the required commentary. If prompting or probing of the applicant is required; or if the applicant needs clarification, it could be done by writing notes between applicant and Examiner. ***This would not be possible if the applicant cannot read and speak.***
- **Basic Control Skills**: Each test site would use a map with written labels (start point, end point, exercises, boundaries, etc.) of their test course and walk the applicant through the course. Once in the starting position, the Examiner would have the applicant read the instructions for the exercise and perform it. This would be repeated for each of the three required exercises. If the applicant needs clarification, it would be done by writing notes between applicant and Examiner. ***This would not be possible if the applicant cannot read and speak.***
- **Road Test**: Prior to beginning the test, have the applicant read the script/instructions and review a map of the road test route. Direction flash cards, hand gestures, hand-held grease board or pen/paper could be used to give applicant directions during the road test. ***The options bulleted below would result in a significant cost to the States and therefore are not viable options.***
 - Electronic tablets to give applicant directions during the road test and to communicate.
 - Display system to communicate to driver. Light/signal bar to signal driver what to do next.

Note: all of the above options are of concern to TMS since they require the driver to take his/her eyes and attention off of the driving task to focus on the instructions. This “distraction” could result in a crash.

Conclusions

The American Association of Motor Vehicle Administrators' (AAMVA) Test Maintenance Subcommittee (TMS) also reviewed the Federal Register Notice¹ comments from the National Association of the Deaf (NAD), the "Executive Summary on Hearing, Vestibular Function and Commercial Motor Driving Safety,"² presented to FMCSA on August 26, 2008; as well as FMCSA's decision on the exemption applications.

National Association for the Deaf

The National Association for the Deaf (NAD), cited and relied on a study requested by the FMCSA's Medical Review Board and presented to the Agency in 2008. The Evidence Report was prepared for the purpose of providing information regarding the current state of knowledge on hearing and CMV driver safety.

- a. The NAD maintains that communication in trucking is no longer hampered by hearing loss because drivers increasingly rely on smartphones and other technology to communicate with dispatch.
- b. The NAD conducted over 100 hours of interviews with individuals who are deaf and hard of hearing and reports that deaf drivers face fewer distractions behind the wheel.

The TMS disagrees with the NAD's position that "communication in trucking is no longer hampered by hearing loss because drivers increasingly rely on smartphones and other technology to communicate with dispatch." Although drivers may "rely on smartphones and other technology to communicate with dispatch", the operation of these devices require the driver to remove his/her eyes from the forward movement of the vehicle, which increases the likelihood of being involved in a crash. Additionally, the use of these devices under certain circumstances is prohibited in accordance with §§392.80 and 392.82, which further supports the need for a commercial driver to meet the hearing standards as defined in 49 CFR §391.41(b)(11).

Communication with dispatch is not the only challenge that a hearing impaired/deaf driver would be confronted with when operating a commercial motor vehicle. Responsiveness to critical events is an important safety consideration for drivers of commercial vehicles. Drivers require a sufficient level of hearing to be aware of changes in engine or road noises that may signal developing problems, horns, rail crossings alerts, emergency signals and sirens, etc. It is of interest to note that the NAD did not comment on potential highway/public safety risks posed by a hearing impaired/deaf commercial driver.

¹ Federal Register. Volume 78, No 22 Friday, February 1, 2013 Qualification of Drivers; Application for Exemptions; National Association of the Deaf

² Price, N., Tiller, M., Reston, J., & Tregear, S., "Executive Summary on Hearing, Vestibular Function and Commercial Motor Driving Safety," presented to FMCSA on August 26, 2008. Retrieved from: <http://www.fmcsa.dot.gov/rules-regulations/TOPICS/mep/report/Hearing-Evidence-Report-Final-Executive-Summaryprot.pdf>

FMCSA's Decision

FMCSA granted 40 individuals an exemption from the regulatory requirement in §391.41(b)(11) allowing individuals who do not meet the hearing requirements to operate CMVs in interstate commerce for a 2-year period. Their decision on these exemption applications was based on the current medical literature and information and the “Executive Summary on Hearing, Vestibular Function and Commercial Motor Driving Safety,” (the 2008 Evidence Report) presented to FMCSA on August 26, 2008. The evidence report reached two conclusions regarding the matter of hearing loss and CMV driver safety:

- 1) No studies that examined the relationship between hearing loss and crash risk exclusively among CMV drivers were identified; and
- 2) Evidence from studies of the private driver license holder population does not support the contention that individuals with hearing impairment are at an increased risk for a crash.

In addition, the Agency reviewed the applicant's driving record found in the CDLIS for CDL holders, and interstate and intrastate inspections recorded in MCMIS. The Agency acknowledges there could be potential consequences of a driver being hearing impaired and/or deaf while operating a CMV under some scenarios. However, the Agency believes the drivers covered by the exemptions do not pose a risk to public safety.

The TMS questions the methodology used to determine an individual's eligibility for the exemption. From the TMS perspective, it appears that the decisions were based on the 2008 Evidence Report which concluded that:

There were no studies that examined the relationship between hearing loss and crash risk exclusively among CMV drivers identified; and that evidence from studies of private driver license holder did not support the contention that individuals with hearing impairment are an increased risk for a crash.

In a prior study conducted on behalf of the FHWA, Role of Driver Hearing in Commercial Motor Vehicle Operation: An Evaluation of the FHWA Hearing Requirement³, a Task Analysis questionnaire was completed by 80 CMV drivers. Based on the number of commercial driving tasks identified as hearing-critical, and on the number of hearing-critical incidents reported by CMV drivers completing the questionnaire, the research suggested that commercial truck driving should be classified as a hearing-critical job. Although this report is dated, the research focused on commercial drivers which lends it to consideration. The 2008 Evidence Report also focused on evidence “from studies of the private driver license holder population” which does not contend that individuals with hearing impairment are at risk for a crash. Driving a heavy

³ John G. Casali, Ph.D., Gary S. Robinson, Ph.D., and Suzanne E. Lee, Role of Driver Hearing in Commercial Motor Vehicle Operation: An Evaluation of the FHWA Hearing Requirement retrieved from <http://www.fmcsa.dot.gov/documents/tb99-001.pdf> on January 12, 2014

commercial vehicle takes considerably more skill and situational awareness to operate than a car, are driven longer distances; and for longer lengths of time. It is reasonable that these drivers should be held to more stringent requirements. Crashes involving commercial vehicle drivers are likely to have more severe consequences than those involving private vehicle operators.

In addition to current medical information and the 2008 Evidence Report, *the Agency reviewed the applicant's driving record found in the CDLIS for CDL holders, and interstate and intrastate inspections recorded in MCMIS.*

The TMS noted that a majority of the forty (40) individuals exempted from the hearing requirements currently hold non-commercial or "for-hire" licenses (taxis, limousines) ; and have very little experience operating commercial vehicles with a GVWR over 26,000 pounds. Accordingly, there would be little (if any) data available in CDLIS to aid in the evaluation process.

Recommendations

After the review and consideration of the information herein, the TMS has concluded and is recommending that hearing impaired/deaf individuals **not** be exempted from the hearing standards in § 391.41(b)(11).

- States do not have authority to test these individuals under the existing regulatory language.
- Safety and liability concerns.

Driver distraction can be defined as the voluntary or involuntary diversion of attention from primary driving tasks due to an object, event, or person. Distraction can be classified into several categories: visual (taking one's eyes off the road), manual (taking one's hands off the wheel), cognitive (thinking about something other than the road/driving), and auditory (listening to the radio or someone talking).

Accommodations that would have to be made to test these drivers create a public/highway safety issue resulting from driver distraction (reading flash -cards presented by Examiner; sign language signed by an interpreter clearly take the applicants focus off the driving task). Distraction is cause for concern for all commercial drivers. As to the source of distraction, researchers have found eyes-off-road to be a more compelling measure than the nature of the distraction⁴.

By its own admission, *the Agency acknowledges there could be potential consequences of a driver being hearing impaired and/or deaf while operating a CMV under some scenarios.*

⁴ Transportation Research Board, CTBSSP Synthesis 24 – Distracted Driving Countermeasures for Commercial Vehicles