

# ***“Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains” Final Rulemaking***

Below is a summary of the key provisions contained in the May 1, 2015 Final Rule issued by the Pipeline and Hazardous Materials Safety Administration and the Federal Railroad Administration.

## ***Scope of Rulemaking***

- Unless stated otherwise, the rule applies to “High-hazard flammable trains” (HHFT) which means “a continuous block of 20 or more tank cars loaded with a flammable liquid or 35 or more tank cars loaded with a flammable liquid dispersed through a train.”

## ***Enhanced Braking***

- Require HHFTs to have in place a functioning two-way EOT device or a DP braking system.
- Require any high-hazard flammable unit train (HHFUT)<sup>1</sup> transporting at least one PG I flammable liquid be operated with an ECP braking system by January 1, 2021.
- Require all other HHFUTs be operated with an ECP braking system by May 1, 2023.

## ***Enhanced Standards for New and Existing Tank Cars Used in HHFTs***

- New tank cars constructed after October 1, 2015 are required to meet enhanced DOT Specification 117 design or performance criteria for use in an HHFT.
- Existing tank cars must be retrofitted in accordance with the DOT-prescribed retrofit design or performance standard for use in an HHFT.
- Retrofits must be completed based on a prescriptive retrofit schedule. The retrofit timeline focuses on two risk factors, the packing group and differing types of DOT-111 and CPC-1232 tank car.
- A retrofit reporting requirement is triggered if consignees owning or leasing tank cars covered under this rulemaking do not meet the initial retrofit milestone.

## ***Reduced Operating Speeds***

- Restrict all HHFTs to 50-mph in all areas.
- Require HHFTs that contain any tank cars not meeting the enhanced tank car standards required by this rule operate at a 40-mph speed restriction in high-threat urban areas defined the Transportation Security Administration’s regulations at 49 CFR 1580.3.

## ***More Accurate Classification of Unrefined Petroleum-Based Products***

- Document sampling and testing program for all unrefined petroleum-based products, such as crude oil.
- Certify that programs are in place, document the testing and sampling program outcomes, and make information available to DOT personnel upon request.

## ***Rail routing - Risk Assessment***

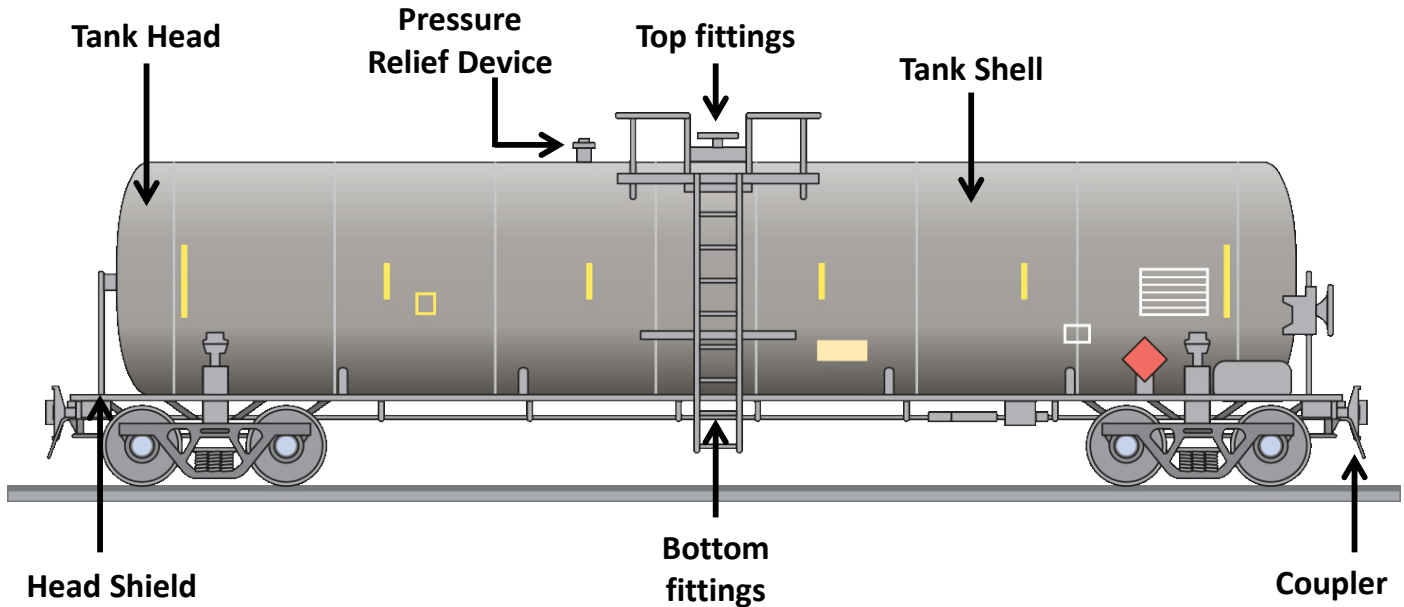
- Railroads operating HHFTs would be required to perform a routing analysis that considers, at a minimum, 27 safety and security factors and select a route based on its findings. These planning requirements are prescribed in 49 CFR § 172.820.

## ***Rail routing - Notification***

- Ensures that railroads notify State and/or regional fusion centers, and that State, local and tribal officials who contact a railroad to discuss routing decisions are provided appropriate contact information for the railroad in order to request information related to the routing of hazardous materials through their jurisdictions.

<sup>1</sup> A “high-hazard flammable unit train” (HHFUT) means a train comprised of 70 or more loaded tank cars containing Class 3 flammable liquids traveling at greater than 30 mph.

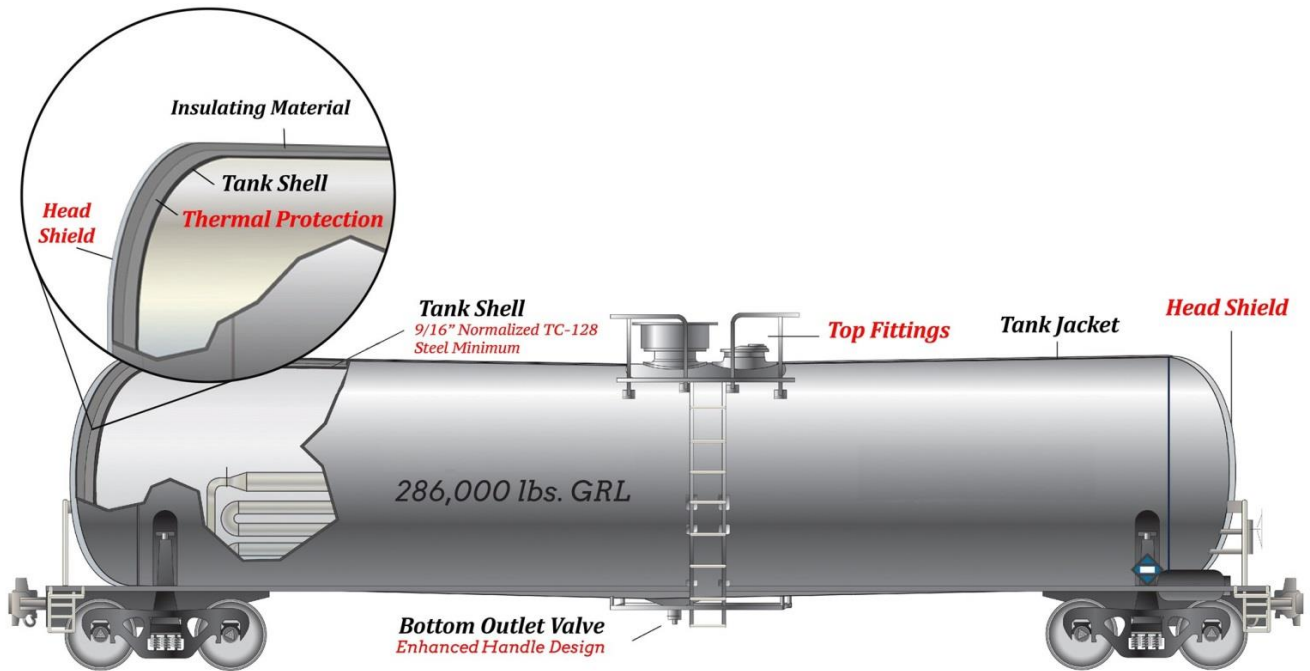
# Anatomy of a Tank Car



<b>Timeline for the Retrofit of Affected Tank Cars for Use in North American HHFTs</b>			
<b>Tank Car Type / Service</b>	<b>US Retrofit Deadline*</b>	<b>Tank Car Type / Service</b>	<b>TC Retrofit Deadline</b>
Non Jacketed DOT-111 tank cars in PG I service	( <i>January 1, 2017</i> ) <sup>2</sup> <i>January 1, 2018</i>	Non Jacketed DOT-111 tank cars in Crude Oil service	<i>May 1, 2017</i>
Jacketed DOT-111 tank cars in PG I	<i>March 1, 2018</i>	Jacketed DOT-111 tank cars in Crude Oil service	<i>March 1, 2018</i>
Non Jacketed CPC-1232 tank cars in PG I service	<i>April 1, 2020</i>	Non Jacketed CPC-1232 tank cars in Crude Oil service	<i>April 1, 2020</i>
Non Jacketed DOT-111 tank cars in PG II service	<i>May 1, 2023</i>	Non Jacketed DOT-111 tank cars in Ethanol service	<i>May 1, 2023</i>
Jacketed DOT-111 tank cars in PG II service	<i>May 1, 2023</i>	Jacketed DOT-111 tank cars in Ethanol service	<i>May 1, 2023</i>
Non Jacketed CPC-1232 tank cars in PG II service	<i>July 1, 2023</i>	Non Jacketed CPC-1232 tank cars in Ethanol service	<i>July 1, 2023</i>
Jacketed CPC-1232 tank cars in PG I and PG II service and all remaining tank cars carrying PG III materials in an HHFT (pressure relief valve and valve handles).	<i>May 1, 2025</i>	Jacketed CPC-1232 tank cars in in Crude and Ethanol service and all remaining tank cars carrying PG III materials in an HHFT (pressure relief valve and valve handles).	<i>May 1, 2025</i>

<sup>2</sup> The January 1, 2017 date would trigger a reporting requirement, and shippers would have to report to DOT the number of tank cars that they own or lease that have been retrofitted, and the number that have not yet been retrofitted.

# DOT 117 Specification Car



Safety enhancements of DOT Specification 117 Tank Car:

Full-height ½ inch thick head shield

Tank shell thickness increased to 9/16 inch minimum TC-128 Grade B, normalized steel

Thermal protection

Minimum 11-gauge jacket

Top fittings protection

Enhanced bottom outlet handle design to prevent unintended actuation during a train accident