Fact Sheet: Fuel System Components (Fuel Control Units (FCU), Carburetors, Fuel Lines, Fuel Pumps)

Overview

- Air Carriers handling Fuel System Components including Fuel Control Units, (FCU), Carburetors, Fuel Lines, and Fuel Pumps are subject to the Department of Transportation (DOT) Hazardous Materials Regulations, (HMR; 49 CFR Parts 171-180). These regulations include how to classify, package, communicate, and handle dangerous goods for transportation in commerce.
- Fuel System Components, FCUs, Carburetors, Fuel Lines, and Fuel Pumps may be transported within the United States by aircraft in accordance with the International Civil Aviation Organization Technical Instructions or the Safe Transport of Dangerous Goods by Air (ICAO TI). Air Carriers should consult with the most recent edition of the ICAO TI for additional requirements, along with any origin/destination State Variations.
- This Fact Sheet provides awareness of the requirements for transporting Fuel System Components, FCUs, Carburetors, Fuel Lines, and Fuel Pumps under the HMR and ICAO TI.
- This Fact Sheet does not replace any regulations and is not considered training.

Understanding the Risk

- Fuel System Components and FCUs refer to common aircraft parts, often considered to be air carrier company material (COMAT) and returned to the manufacturer for maintenance.
- Fuel system components and FCUs containing residual amounts of aviation fuel or flammable cleaning solvents can become dangerous if not safely packaged, properly declared, and handled when transported by air.
- Improperly declared, improperly packaged, damaged, or improperly stored fuel system components can leak and sometimes cause fire.

Fuel System Components Packaging Requirements:

UN #	Description	HMR Packaging Requirements	HMR Special Provisions (49 CFR 172.102)	ICAO TI Special Provisions
3363	Dangerous goods in articles	173.222 and PI 962	136 and A105	A48 and A107
3363	Dangerous goods in machinery	173.222 and PI 962	136 and A105	A48 and A107
3363	Dangerous goods in apparatus	173.222 and PI 962	136 and A105	A48 and A107

- The package must meet general HMR packaging requirements in 49 CFR 173.24 and 173.24a for strength, impact resistance, cushioning, absorbency, and compatibility In addition, the fuel control unit must be capable of withstanding pressure requirements in 49 CFR 173.27(c). If the fuel control unit cannot withstand this pressure without leaking, it needs to be packed in a metal or plastic inner container that can meet the pressure requirements.
- Additionally, packaging should conform with requirements in 49 CFR 173.222; and applicable special provisions.

- Under ICAO TI, marking, labeling, and packaging must conform to Packing Instruction 962 and applicable special provisions. This includes requirements for package integrity and additional quantity limits for fuel.

Empty Fuel Control Units

- Fuel system components and FCUs sufficiently cleaned of residue and purged to remove any potential hazard and is refilled with a material that is not hazardous are not subject to either domestic or international hazardous materials regulations.
- Fuel system components and FCUs containing only the residue of a hazardous material shall be offered for transportation and transported in the same manner as when it previously contained a greater quantity of that hazardous material. (See 49 CFR 173.29(a)).