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TECHNICAL BULLETIN

ENGINE BUILDERS ASSOCIATION

August 2007

TB 2469

Use of BioDiesel Fuel in Current Mack
E-Tech™, ASET™, MP7 and MP8 Diesel Engines

The AERA Technical Committee offers the following information regarding the use of BioDiesel fuel in Mack E-Tech™, ASET™, MP7 and MP8 diesel engines. With the advent of different fuels becoming more available, Mack Trucks has recently released the following information.

BioDiesel Description:
There is a trend in the trucking industry toward the use of BioDiesel fuel; a processed fuel derived from renewable biological resources such as vegetable oil. The most common such fuel available in the United States is derived from soybean oil (a product called “Soy Methyl Ester” [SME or SOME]). In its pure form, BioDiesel fuel is designated B100 (or “Neat BioDiesel”), which means that the fuel is 100% BioDiesel. The 100% product is then blended with petroleum-based Ultra Low Sulphur Diesel (ULSD) fuel in concentrations of 2% BioDiesel to 98% petroleum-based diesel, 5% BioDiesel to 95% petroleum-based diesel, 20% BioDiesel to 80% petroleum-based diesel, and higher. The resultant BioDiesel fuel blends are then designated as B2 (for a 2% blend), B5 (for a 5% blend), B20 (for a 20% blend) and so on.

Mack Trucks, Inc. Approval of BioDiesel Products:
The only BioDiesel fuel approved by Mack Trucks, Inc. for use in E-Tech™, ASET™ , MP7 (both US04 and US07 emission-compliant) and MP8 engines is Soy Methyl Ester (SME or SOME) in blends up to a B5 concentration (5% blend).

NOTE: Although higher concentrations are available, concentrations up to B5 (maximum) are the only blends currently approved by Mack Trucks, Inc. Mack engines are certified to comply with U.S. EPA and California Air Resources Board (CARB) emissions standards based on the use of reference test fuels commonly available in the United States and specified in the Maintenance and Lubrication

Reference:	

Manual, TS494. Use of alternative fuels, including BioDiesel, may affect engine emissions. Mack Trucks, Inc. does not warrant, and is not responsible for ensuring that the engines will comply with U.S. EPA and CARB emissions standards when operated on fuels not specified by Mack Trucks, Inc.

ASTM Standards:
The American Society for Testing and Materials (ASTM) standard D 6751 defines B100 BioDiesel. Any B100 product used in the manufacture of the blend intended for use in a
Mack vehicle must conform to the ASTM D 6751 standard. ASTM standard D 975 defines the minimum accepted values for the properties of petroleum-based diesel fuel. Any petroleum-based diesel fuel used in a Mack vehicle, either alone or when blended with B100 BioDiesel for the maximum approved concentration (up to B5), must meet the ASTM D 975 standard.

Certified BioDiesel Required:
The National BioDiesel Accreditation Commission conducts quality certification and accreditation programs for producers and marketers of BioDiesel products. For details on these programs, visit the BQ-9000 Quality Management Program web site at www.bq-9000.org. The B100 BioDiesel used in the approved blend must be produced by a BQ-9000 Accredited Producer and the blend must be supplied by a Certified Marketer.

Storage of BioDiesel:
The standard storage and handling procedures used for petroleum-based diesel fuel apply to BioDiesel (reference the Maintenance and Lubrication Manual, TS494, for information concerning the handling and storing of diesel fuel). Compared to petroleum-based diesel fuel, BioDiesel fuel has lower oxidation stability, and there are greater concerns for water contamination and microbial growth. BioDiesel should be stored in a clean, dry, dark environment. Acceptable storage tank materials include aluminum, steel, fluorinated polyethylene, fluorinated polypropylene or Teflon®. Storage containers which contain copper, brass, lead, tin or zinc should not be used. Every effort should be taken to make sure that the BioDiesel product is used within six months of the date of manufacture.

Fuel Filter Change Intervals:
BioDiesel has solvent qualities better than those of petroleum-based diesel fuel. Because of this, BioDiesel will break down petroleum-based diesel fuel residuals found on the insides of fuel tanks, fuel lines, etc., and as a result, fuel filters will become clogged with particulates. It is recommended that fuel filters be changed at

half the normal interval for the first two filter changes when the transition to BioDiesel fuel is made. After that, the standard specified filter change intervals can be used or shorter intervals if a reduced filter change interval was being used prior to the changeover to BioDiesel.

The AERA Technical Committee

Reference:	