



# Eagle Tugs Service Bulletin

## ESB-02-08

**Date:** October 14, 2008

**Affected Models:** Diesel powered TT series tow tractors

**Subject:** Tier 3/Stage IIIA diesel engine fuel requirements

**Background:**

The EPA mandated change to Tier 3 diesel engines and EC directives for Stage IIIA diesel engines with higher emission requirements has caused some changes to recommended and acceptable fuels. This document will clarify those requirements as they pertain to Eagle Tugs' products.

**Tier 2:**

Eagle Tugs is currently phasing out Tier 2 engines as part of EPA and EC mandated controls. These engines will no longer be available for sale unless part of a military exemption, or being exported to non-conforming countries.

Tier 2 engines will run on standard diesel fuels 1-D and 2-D with sulfur content up to 5000ppm without modification.

Tier 2 engines will run on jet fuels Jet-A and JP8 with either lubricity filter / additives, or OEM fuel system modifications to accommodate the lower lubricity jet fuels.

**Tier 3 / Stage IIIA:**

Eagle Tugs is currently phasing in Tier 3 / Stage IIIA conforming engines per EPA and EC mandates.

Tier 3 engines will run on fuels with sulfur content of less than 500 ppm or .05% without modification. This includes fuels commonly referred to Low Sulfur Diesel (LSD) and Ultra Low Sulfur Diesel (ULSD).

Tier 3 engines will NOT run properly on Jet-A or JP8 fuel due to the high sulfur content. The EGR system on tier 3 engines allows sulfur in the fuel to recirculate from the exhaust back into the intake where it is converted to sulfuric acid which corrodes internal engine components. In the future as jet fuel standards are directed towards lower sulfur content, this may change.

**Tabulated Data:**

	High-Sulfur Diesel Fuel	LSD or ULSD Fuel	JetA and JP8
Tier 2	No modification necessary	No modification necessary	Requires lubricity enhancement or engine modification
Tier 3 / Stage IIIA	Not acceptable	No modification necessary	Not acceptable

If you have any questions, please contact Eagle technical support at 734-442-1000.