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**E N G I N E E R I N G**  
**M E M O R A N D U M**

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**DATE:** November 20, 2006  
**TO:** Distributors/Dealers  
**FROM:** Don Timme – Equipment Engineer  
**RE:** Bio Fuel

Bio-fuel can be used with the ISUZU Tier II diesel engine and burner that Crafcoco, Inc. supplies with the Crafcoco SuperShot and EZ- Pour melters. However, please do take note of the following:

1. The standard diesel energy content is 129,500 BTU for #2 diesels as compared to bio-fuel at 127,260 BTU (1.73% lower).
2. ISUZU diesel engine warranty
  - a) ISUZU will not cover parts warranty that have to do with poor workmanship or material.
  - b) In addition no warranty coverage due to use of inferior fuel.
  - c) The above items would fall under the fuel manufacturer.
3. Make sure the fuel meets D6751 standards
4. It may be necessary to change fuel filters more frequently since the bio-fuel may release deposits on fuel storage tanks and pipes. These deposits may end up in the engine fuel filter.
5. The cold weather characteristics of bio-fuel are similar to standard diesel fuel so precautions should be taken so fuel gelling does not take place. This should include cold flow additives, blending with #1 fuel, fuel heaters, and/or storage in or near a building.
6. Per the particular proportioning: they say B5 is okay (5% bio, soy or whatever, and 95% diesel). The industry is working on higher blends like B-20, but it will be a while before it is certified for use.
7. Due to the bio-fuel unstableness as compared to diesel, the industry is working on stabilizers to solve this issue. Another issue is that bio-fuel tends to have more solvent tendencies.