



## 2-71 GENERATORS "THE DEUCE"

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## 2-71 DETROIT DIESEL WILL RUN WASTE VEGETABLE OILS

Running used cooking oil or Straight Vegetable Oil (SVO) run on this older 2-71 diesel engine as long as the oil is hot and very clean. Vegetable oil needs to be stored in its own storage tank that is heated by either a heating coil or heated water from the water hose of the engine. Start the engine on diesel and when warm, switch over to SVO. Before shutting down, switch back to diesel to flush the SVO from the fuel lines and head to allow starting the next time. Used vegetable oil tends to gel.

Straight Vegetable Oil (SVO) is much thicker than mineral diesel at ambient temperatures. If the 2-71 Detroit diesel engine is to be powered by SVO, the oil must be heated in some way before it reaches the fuel filter and the engine's injectors to prevent jelling in the filter and injectors. This can be accomplished by heating the oil storage container, in-line electric style heater, or an in-line engine coolant cycled heater system. SVO can be blended with diesel fuel and be run through the 2-71 Detroit diesel engine without a noticeable change in engine performance although fuel consumption may go up slightly.

Emerson & Matkin findings on tests with used vegetable oils collected from restaurants, is that the oils tend to have water emulsified and foreign matter in the oil. The oil must be heated to remove the water content from the oil or the use of a lube oil centrifuge to extract the water from the oil. The oil must be strained to remove solid particles. We used a 226 micron paint strainer. Oil must be heated to 140 degrees F prior to entering the fuel filter.

Our testing we installed an in line 12 volt electric pump from the SVO storage tank to the SVO filter prior to entering the 2-71 fuel system. The unit is started on diesel fuel and allowed to run for 10-15 minutes on diesel fuel to warm the system. We then opened the SVO fuel valves and closed the diesel fuel valves to reduce the blending of the two fuels. The unit is then run on SVO alone. Prior to shutting down the 2-71 Detroit diesel engine the unit should be returned to diesel fuel and removed from the SVO, allowing the unit to run for approximately 10-15 minutes to allow the engine to flush the SVO from the engine's injectors. This will reduce the possibility of having starting issues the next time you want to start the unit.