



Diesel Fuel for Clarke Fire Pump Drivers

All diesel fire pump drivers manufactured by Clarke are designed, tested and warranted for use only with No. 2-D Diesel Fuel conforming to ASTM International D-975-11b or British Standard BS2869:2010+A1:2011 Fuels oils for agricultural, domestic and industrial engines and boilers - Specification.

Although the above referenced fuel specifications allow limited amounts of Biodiesel, 100% petroleum fuel is preferred and should be used whenever possible. Biodiesel in any amount greater than that allowed by the above referenced specifications should not be used. The use of fuels not referenced above, or Biodiesel in amounts greater than allowed in the above referenced specifications, may affect performance and reliability, and may result in a non-warrantable engine condition.

To insure engine reliability and performance, the fuel provided for Clarke fire pump drivers must be maintained in a quality condition. Refer to NFPA 25 2014, reprint provided below, for guidance to the minimum requirements for fuel maintenance for all Clarke fire pump engine installations.

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8.3.4 Diesel Fuel Testing and Maintenance

8.3.4.1 Diesel fuel shall be tested for degradation no less than annually.

8.3.4.1.1 Fuel degradation testing shall comply with ASTM D975-11b Standard Specification for Diesel Fuel Oils, or ASTM D6751 -11b Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels as approved by the engine manufacturer, using ASTM D 7462 -11 Standard Test Method for Oxidation Stability of Biodiesel (B100) and Blends of Biodiesel with Middle Distillate Petroleum Fuel (Accelerated Method).*

8.3.4.2 If diesel fuel is found to be deficient in the testing required in 8.3.4.1.1, the fuel shall be reconditioned or replaced, the supply tank shall be cleaned internally, and the engine fuel filter(s) shall be changed.*

8.3.4.2.1 After the restoration of the fuel and tank in 8.3.4.2, the fuel shall be retested each 6 months until experience indicates the fuel can be stored for a minimum of one year without degradation beyond that allowed in 8.3.4.1.1

8.3.4.3 When provided, active fuel maintenance systems shall be listed for fire pump service.

8.3.4.3.1 Maintenance of active fuel maintenance systems shall be in accordance with the manufacturer's recommendations.

8.3.4.3.2 Maintenance of active fuel maintenance systems shall be performed at a minimum annual frequency for any portion of the system that the manufacturer does not provide a recommended maintenance frequency.

8.3.4.3.3 Fuel additives shall be used and maintained in accordance with the active fuel maintenance system manufacturer's recommendations.

A.8.3.4.1.1 Commercial distillate fuel oils used in modern diesel engines are subject to various detrimental effects from storage. The origin of the crude oil, refinement processing techniques, time of year, and geographical consumption location all influence the determination of fuel blend formulas. Naturally occurring gums, waxes, soluble metallic soaps, water, dirt, blends and temperature all contribute to the degradation of the fuel as it is handled and stored. These effects begin at the time of fuel refinement and continue until consumption. Proper maintenance of stored distillate fuel is critical for engine operation, efficiency, and longevity.

Storage tanks should be kept water-free. Water contributes to steel tank corrosion and the development of microbiological growth where fuel and water interface. This and the metals of the system provide elements that react with fuel to form certain gels or organic acids, resulting in clogging of filters and system corrosion. Scheduled fuel maintenance helps to reduce fuel degradation. Fuel maintenance filtration can remove contaminants and water and maintain fuel conditions to provide reliability and efficiency for standby fire pump engines. Fuel maintenance and testing should begin the day of installation and first fill.

A.8.3.4.2 Where environmental or fuel quality conditions result in degradation of the fuel while stored in the supply tank, from items such as water, micro-organisms and particulates, or destabilization, active fuel maintenance systems permanently installed on the fuel storage tanks have proven to be successful at maintaining fuel quality. An active fuel maintenance system will maintain the fuel quality in the tank, therefore preventing the fuel from going through possible cycles of degradation, risking engine reliability, and then requiring reconditioning.

Clarke Fire Protection Products, Inc.
100 Progress Place
Cincinnati, OH 45246
U.S.A.
Tele: +1.513.475.3473
Fax: +1.513.771.0726

Clarke Fire Protection Products, Ltd.
Unit 1, Grange Works
Lomond Rd, Coatbridge, ML5 2NN
United Kingdom
Tele: +44(0)1236 429946
Fax: +44(0)1236 427274