

Based on the detailed repair list and accompanying parts inventory, here is a comprehensive itemized summary of the extensive overhaul and upgrades completed on the ARFF truck.

2004 Oshkosh T-1500 4x4 Aircraft Rescue Truck, ARFF

This project involved a full mechanical restoration, including a complete engine overhaul and transmission replacement, alongside significant safety and lighting modernizations. All firefighting systems were upgraded to current standards, including a new foam suppression system and updated monitoring electronics.

Mechanical & Powertrain

- **Engine & Cooling:** Performed a complete Detroit 8V92 engine overhaul. This included replacing the heads, exhaust manifolds, turbo boost sensors, and rebuilding the water pump. The radiator was professionally recored, and the radiator cap and coolant filters were replaced.
- **Transmission & Transfer Case:** Installed a remanufactured Weller HT750DRD transmission. The transfer case was rebuilt using a full set of new gaskets and seals.
- **Driveline & Suspension:** Replaced six universal joints across the driveline and overhauled all axle seals and bearings. Installed a new steering assist cylinder.
- **Fuel System:** Removed and cleaned the fuel tank, followed by a professional relining. All fuel jumper tube O-rings and primary filters were replaced.

Firefighting & Suppression Systems

- **Foam System Upgrade:** Removed the legacy NoFoam system and replaced it with a modern ECOLOGIC foam suppression system. Installed a Fire Research 12V hard-mounted foam power fill system and a new electric transfer pump.
- **Turret & Valve Overhaul:** Performed a full overhaul of both the roof and bumper turrets. Rebuilt the LH 2.5-inch intake valve and serviced multiple swing-out valves (1.5", 2", 2.5", and 3") using field service kits.
- **Monitoring:** Installed FRC Tankvision LED water and foam level gauges in both the cab and at the fill station.

Electrical, Lighting & Safety

- **Modernized Lighting:** Replaced all exterior light bulbs with LED units, including a 4-light LED headlight set and a Whelen Pioneer Plus dual-brow light (16,000 lumens). Added dual Streamlight LED Vulcan lanterns with cab chargers.
- **Electronic Safety:** Installed a digital wireless backup camera system with a custom-fabricated diamond plate shield. Integrated an LG Alert Rollover Warning System and a wireless three-station FIRE COMM headset system.
- **Cabin Safety:** Installed a new seat monitoring kit (VDR 6-S display) and replaced the seat belts with 3-point red belted systems.

Body, Cab & Exterior

- **Paint & Markings:** The apparatus received a full two-tone "Candy Apple Red" and white paint job. This included a complete re-lettering ("U.S. NAVY"), installation of Navy emblems, and application of fluorescent lime and red chevron striping.
- **Cab Interior:** Fabricated and installed new aluminum tread-brite diamond plate flooring and replaced the sun visors.
- **Compartment Upgrades:** Installed "Dri-Dek" flooring in all tool compartments and added three new slide-out trays. Replaced all compartment lighting with 28" and 42" LED tube assemblies.
- **Exterior Hardware:** Replaced all four tires with Michelin XZL 24Rx21 units. Installed new stainless steel scuff plates on fenders and replaced all cab steps (upper and lower).

Brake & Air System

- **Brakes:** Performed a full R&R of the front brake shoes, drums, and hardware.
- **Air System:** Replaced the air system dryer and installed a new air dryer service kit. Replaced the windshield wiper blades and the washer nozzles.