

# AMSOIL Proves Superior in Clark County Field Test

In order to demonstrate the effectiveness of AMSOIL 15W-40 Synthetic Heavy Duty Diesel and Marine Motor Oil and the AMSOIL Dual-Gard filtration system in reducing operating expenses, AMSOIL and Direct Dealer Bill Andes began an ongoing field test in October 1998 with the bus fleet of the Clark County Board of Mental Retardation & Developmental Disabilities (MR/DD) in Springfield, Ohio.

Participating in the field test are three 1997 International 3800 school buses, two equipped with Detroit 466 diesel engines and one with a Detroit 466E diesel engine. Each had previously been running a conventional petroleum-based oil.

Prior to starting the field test, four goals were set:

1. The reduction of fuel consumption through the superior lubricity and reduced viscometric drag provided by AMSOIL 15W-40 Synthetic Heavy Duty Diesel and Marine Motor Oil. Verification of this goal will be obtained by comparing previously documented fuel mileage reports using petroleum oils with fuel mileage reports of the same vehicles now using AMSOIL diesel oil.
2. The extension of fluid drain intervals due to the superior synthetic chemistry and additive system of AMSOIL Synthetic Heavy Duty Diesel and Marine Motor Oil, along with the additional efficiency provided by the AMSOIL Dual-Gard filtration system.
3. The reduction of maintenance costs due to the superior wear protection and extended drain intervals provided by AMSOIL Synthetic Heavy Duty Diesel and Marine Motor Oil and the AMSOIL Dual-Gard filtration system.
4. Provide the above-mentioned benefits without compromising the mechanical integrity of the equipment.

Baseline samples of the petroleum oil already in the crankcase were obtained, tested and documented. Next, the oil was drained and the engines flushed with AMSOIL Engine Flush. AMSOIL BMK-12 Filter Mounts,



two BE-110 By-pass Filtration elements and AMSOIL 15W-40 Synthetic Heavy Duty Diesel and Marine Motor Oil were installed in each vehicle.

Oil samples from each bus are drawn and tested at 4000-mile intervals, the normal oil drain interval practiced by MR/DD when using conventional lubricants. Data obtained from the oil samples serves to determine the following:

1. Fluid and vehicle baselines
2. The mechanical condition of the vehicles
3. Ability of the equipment to continue functioning as a demonstration vehicle
4. Rate of internal equipment wear
5. Serviceability of fluids and filters

Once drawn, each oil sample is reviewed in the areas of elemental analysis (including wear metals, contaminants and additives), physical properties (including viscosity, total acid number and total base number) and contamination (including water, solids, glycol, oxidation, fuel soot and fuel dilution).

Oil condemnation limits vary due to individual engine idiosyncrasies, operating conditions and time the fluid has been in service.

## Observations

As of May 1, 2001, the buses had accumulated a total of 182,426 miles without oil changes, and several benefits associated with running the AMSOIL products have been realized. First, both labor and vehicle downtime have been reduced. While using the previous petroleum-based motor oil, the Clark County Board of MR/DD was accustomed to changing oil at 4,000-mile intervals. They now plan to extend their intervals to 10,000 miles and beyond if supported by oil analysis results. The chart below shows the comparison figures.

As for the aftermarket full flow oil filters, the original intention was to change them every 6,000 to 10,000 miles, but after careful review of oil analysis results, it was determined that because of the efficiency of the AMSOIL

Bus Number	Miles on AMSOIL without being changed	# of Petroleum oil changes (based on 4,000-mile interval)	# of AMSOIL oil changes (based on 10,000-mile interval)
4	45,465	12	5
7	71,185	18	8
22	65,776	17	7