DEF System Overview & Maintenance
DEF System Overview

• This presentation is designed to help provide an orientation and maintenance of the system used to help reduce the Nitrogen Oxides from entering the atmosphere.

• This technology is used to meet the EPA 2010 requirements of 0.2 grams of NOx per brake horsepower hour.
DEF System Overview
DEF System Overview

On the passenger side of the coach located between the drive and tag tires is the **DEF** (Diesel Emissions Fluid) fill door.
DEF System Overview

What happens to the fluid once it’s added to the coach?

• First it goes to a 22 gallon holding tank positioned right above the Drive axle.

• This tank has two sensors that monitor the DEF temperature and fluid level.

• This area is accessible by removing an access panel inside the coach located in the center aisle.
DEF System Overview

- There is a supply line that carries DEF tank to the pump, and a return line to purge unused fluid back to the tank.
- All DEF lines have heating elements to prevent DEF freezing at temperatures less than 12 degrees Fahrenheit.
DEF System Overview

- Once the fluid is drawn to the pump, it is pressurized to 66-72 PSI then sent to the DEF metering unit.
Compressed air is supplied from the coaches auxiliary tank to a water oil separator and to a pressure limiting unit, then tees off to the DEF Pump and the DEF metering unit.
The coolant used to maintain engine temperature is also used to keep the DEF system from freezing. The coolant valve will not open unless the DEF temperature drops below 23 degrees Fahrenheit.
The DEF metering unit is mounted on the back side of the exhaust emissions box. The metering unit controls the amount of DEF supplied to the Selective Catalyst Reduction unit.
DEF System Maintenance

Maintenance Schedule

• Daily: DEF level Displayed on dash

• 12,500 miles: Drain moisture from air tank

• 60,000 miles: Compressed Air Drier cartridge (or yearly)

• 150,000 miles: DEF filter in pump unit

• Annually: Water/oil air filter
  Refill air in DEF pump accumulator
Maintenance Schedule

DEF level displayed on dash

DAILY
Maintenance Schedule

60,000 Miles
(or annually)

Compressed Air Drier Cartridge
Maintenance Schedule

150,000 Miles

DEF Filter in Pump
Maintenance Schedule

- Water/Oil Air Filter

Annually
DEF System Maintenance

Before performing service work on the DEF system:

- Shift transmission to neutral
- Apply the parking brake
- Shut off the engine
- Master switch in off position
- Allow DEF system to purge
- When the dash has powered down, you will know the system has completed the purge cycle
DEF System Maintenance

Servicing the DEF Filter

The arrow indicates the location of the filter on the DEF pump.

The DEF pump is mounted on the frame, under the coach, near the left tag axle.
DEF System Maintenance

Servicing the DEF Filter

Using a 46mm socket, rotate cap counter-clockwise to remove the filter cartridge.
DEF System Maintenance

Pull the filter cartridge from the pump module.

Make sure all of filter element is removed from pump module.
DEF System Maintenance

Discard element and cartridge.

1 Element
2 Cartridge
DEF System Maintenance

Installation of Element

Element Cartridge

O-rings

Lube both O-rings with clean Diesel Exhaust Fluid (DEF) and install the DEF filter element (1), O-ring side facing out, into the DEF cartridge.
DEF System Maintenance

1. Install the cartridge into the DEF pump module. Torque to 30-34 Nm or 22-25 lb.ft.

2. Install the cartridge(2) into the DEF pump module (1) torque to 30-34 nm (22-25 ft lb).
DEF System Maintenance

Refilling Air at the DEF Pump Module

- This can be done using compressed air.
- Control the air only with a pressure regulator.
- Set the regulator at 46psi to insure the correct setting.

**CAUTION!** Pressures higher than 46 PSI may damage the unit.
For questions regarding this Webcast or for other Technical Support needs, please contact:

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