

OVERFILL PROTECTION FOR P/N 908-0315-01 & DR009B-B5D5B66A

DEF RESERVOIR ASSEMBLIES

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1.0 INTRODUCTION:

CAUTION: Do **NOT** overfill the DEF Reservoir Assembly, especially while in colder climates. DEF will expand approximately 10-15% of its standard room temperature volume when completely frozen, and will cause damage to the Reservoir Assembly if it has been overfilled.

1.1 PURPOSE:

The purpose of this document is to inform the operator of the risks associated with overfilling the DEF Reservoir Assembly.

1.2 APPLICABLE UNITS:

- 15 Gal DEF Reservoir Assemblies, P/N 908-0315-01 and DR009B-B5D5B66A.

2.0 BACKGROUND:

2.1 DIESEL EXHAUST FLUID:

It is imperative that the DEF reservoir assemblies are **NOT** overfilled; this is even more critical when the vehicle is located or exposed to climates at or below 12°F (-11°C). Diesel Exhaust Fluid will freeze and expand at temperatures below 12°F (-11°C). The Shaw DEF Reservoir System is equipped with a heating component that thaws frozen DEF and allows continued use at lower temperatures.

If the reservoir is overfilled and freezes, the expansion of frozen DEF will cause catastrophic damage to the DEF Reservoir System and/or vehicle SCR system. The recommended fill volume for vehicles that may be subjected to temperatures at or below 12°F (-11°C) is approximately **75%** of the total volume at auto-shutoff, which is approximately 11 gallons for the Reservoir Assemblies, P/N's DR009B-B5D5B66A & 908-0315-01.

2.2 FILLING THE RESERVOIR:

2.2.1 STATION FILLING:

Make sure that the nozzle tip has been inserted as far as possible into the fill port adapter to ensure proper auto-shutoff levels (See images below). Filling the DEF reservoir with a fill station nozzle is similar to filling a tank with a standard refueling nozzle, and it is recommended that the reservoir be filled on level ground. Insert the DEF station nozzle per ISO/DIS 22241-4 into the fill port and fill with DEF until the nozzle automatically shuts off and the pump stops. Do **NOT** overfill, top-off, or try to fill the reservoir any further after the nozzle has automatically shut off, this may cause issues with DEF expansion during cold weather.

During filling, the 15 gallon landscape reservoir, P/N's DR009B-B5D5B66A and 908-0315-01 will automatically shut off slightly below the Fill Port, or a little under 15" from the outside bottom of the reservoir (See images below).

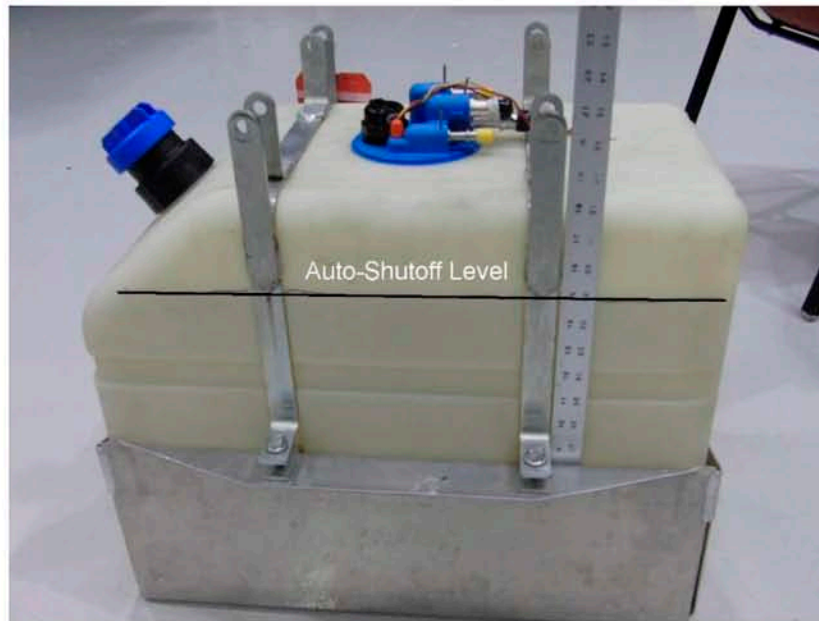
Auto-shutoff for the 15 gallon landscape reservoir, P/N's DR009B-B5D5B66A & 908-0315-01, is approximately 14.8 and 14.9 gallons respectively.

2.2.2 BOTTLE FILLING:

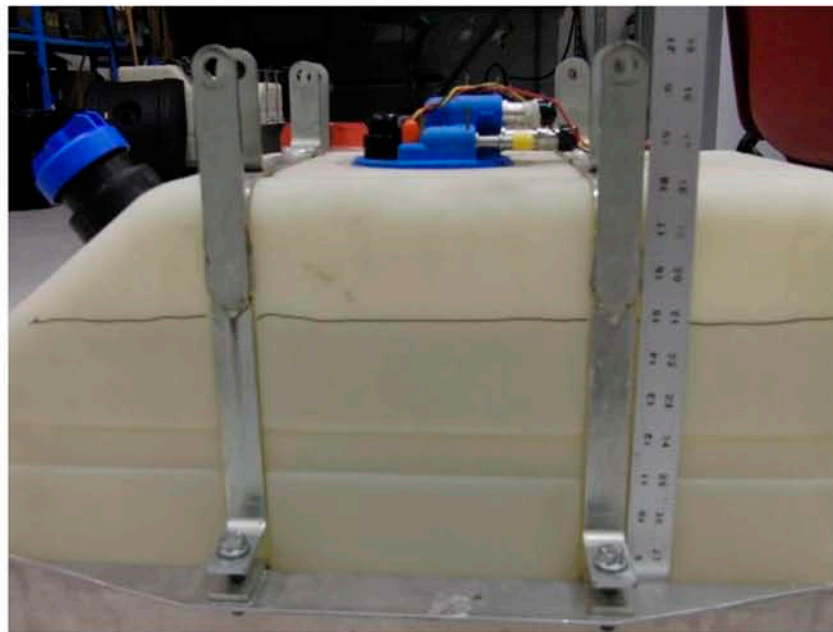
When bottle filling, ensure that the spout to the bottle has been inserted through the fill port completely before filling and it is recommended that the reservoir be filled on level ground. Fill slowly to avoid overfilling, as the bottle has **no** method for auto-shutoff. Try to stop bottle filling around the same height as the auto-shutoff levels found through station filling. Utilize bottle filling only when necessary.

On the Rear Engine Remote Fill style reservoir systems, the hose and fill neck assembly as part of the 908-0315-01 reservoir has a built in level restrictor. The restrictor should prevent the reservoir from being overfilled whether bottle or station filled. However, the recommended volume in cold weather is still **75%**, or approximately 11 gallons total, as when the tank is filled by means of bottle filling, fluid could become trapped in the fill hose and freeze, impacting the venting and refill properties of the reservoir system.

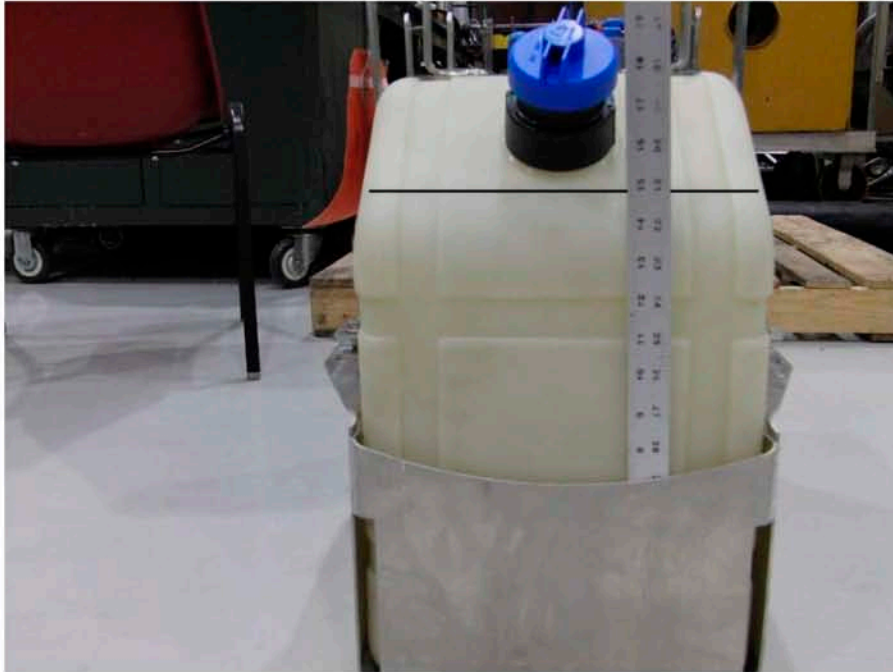
3.0 IMAGES:



(Figure 2.1)
Reservoir Assembly, P/N DR009B-B5D5B66A, installed into hanging bracket unit showing auto-shutoff level



(Figure 2.2)
Auto-shutoff fluid level in reservoir system, P/N DR009B-B5D5B66A



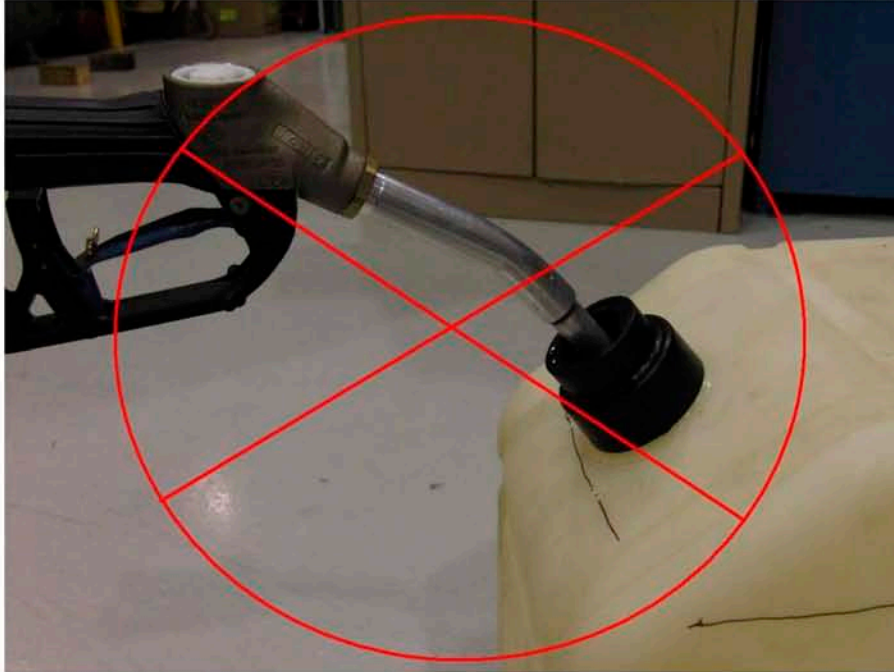
(Figure 2.3)

Auto-shutoff fluid height can be seen in comparison to the Fill Port on the front of the DEF Reservoir Assembly, P/N DR009B-B5D5B66A



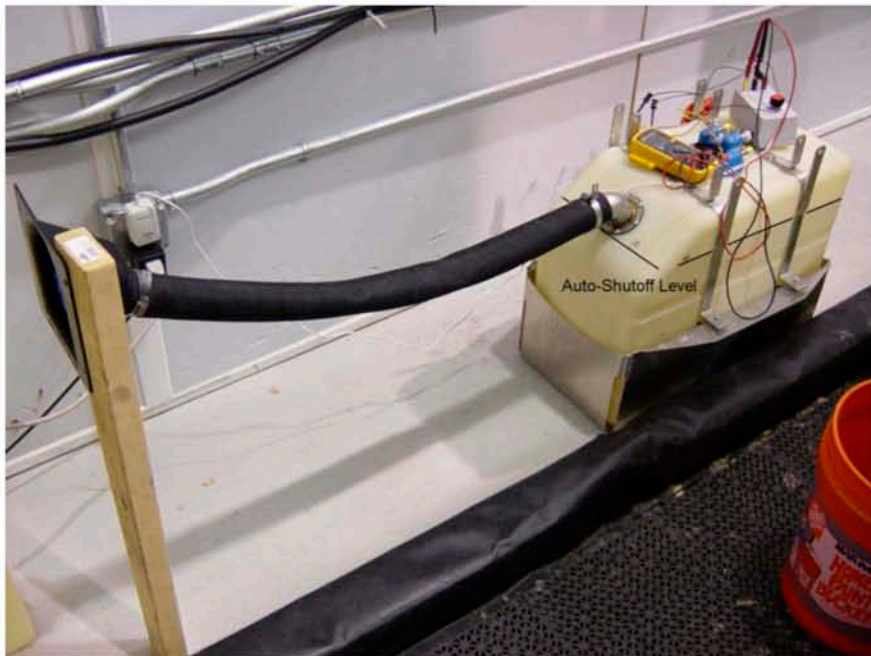
(Figure 2.4)

Correct fill station nozzle insertion



(Figure 2.5)

Overfill the reservoir may cause damage to the system in colder climates



(Figure 2.6)

Reservoir Assembly, P/N 908-0315-01, installed into hanging bracket unit showing auto-shutoff level