



Converting a vehicle coolant system using the drain, flush and fill method

Proper Coolant System Drain Procedure:

- Step 1 Shut off engine and allow engine to cool. Engine should cool sufficiently to allow work to proceed safely.
- Step 2 Follow company lockout-tagout procedures and ensure as a minimum that the wheels are chocked, emergency brake is applied and the transmission is set to neutral.
- Step 3 Allow engine to cool below 100°F (38°C) and remove the radiator cap or overflow tank filler cap.
- Step 4 Position a large receptacle under the radiator coolant drain plug or if reasonable, remove the lower radiator hose to increase drain rate.
- Step 5 Container should be large enough to hold total cooling system volume. Unscrew coolant drain plug and drain.
- Step 6 If the particular engine model has an engine block coolant drain plug, open it to drain any residual coolant from the engine block.

 Close after draining remaining coolant from the engine block.
- Step 7 While system is draining, remove the coolant SCA/chemical filter if one is installed. Ensure all coolant is drained and install back EITHER a blank (zero) chemical filter or a coolant plug in its place when switching to Delo® XLC. Always check with OEM on their recommendation.
- Step 8 Inspect cooling system hoses and clamps and adjust/tighten as necessary. Replace any worn hoses or clamps before adding new coolant to the system.
- Step 9 After coolant has stopped draining, close off all drain plugs.









Proper Coolant System Flush Procedure:

- Step 1 Fill the system with clean deionized/distilled water. (Tap water is acceptable but not preferred).
- Step 2 Start truck and throttle engine to run at 1200 1500 RPM to help thoroughly circulate the deionized water through coolant system to help flush out residual coolant still in system run for a minimum of 15 minutes.
- Step 3 Turn off truck and let engine cool down. Check radiator and hoses/clamps for any leaks and tighten/replace as needed.
- Step 4 Drain water from system and dispose of properly.

Correctly Filling the Cooling System with Delo® XLC:

- Step 1 Add a full charge of Delo® XLC Prediluted 50/50 to the radiator system.
- Step 2 Inspect the filler cap O-ring or radiator cap seal. Replace any seal that looks damaged before tightening.
- Step 3 Start the engine and set the throttle to run the engine at 1200 1500 RPM.
- Step 4 Allow engine to run for about 15 minutes or until the thermostat opens.
- Step 5 Let engine cool to below 100°F (38°C) so you can safely remove the radiator cap or the overflow tank cap.
- Step 6 Take a sample of the fresh coolant from the radiator or an active coolant flow path.
- Step 7 Using a refractometer, read the freeze point of the coolant.
 - Delo° XLC Prediluted 50/50 should give a reading of -34°F (-37°C) with a +/- of 15°F (9°C).
 - Adjust freeze point based on ambient temperature requirements using the Caltex Kool Tools freeze point adjustment charts.
- Step 8 Complete topping up the cooling system to full cold line using Delo® XLC Prediluted 50/50.
- Step 9 Replace and tighten overflow tank cap or radiator cap.
- Step 10 Identify cooling system with a Delo® XLC Prediluted 50/50 ID tag on radiator overfill tank cap.
- Step 11 Check coolant level at appropriate preventative maintenance (PM) intervals for the vehicle.
- Step 12 If top off is required, use only Delo® XLC Prediluted 50/50.
- Step 13 Check freeze point at least 2 times per year using a refractometer. Maintain freeze point between -20°F (-29°C) and -60°F (-51°C). Alternative freezing points may be used depending on location.
- Step 14 For Best In Class Coolant Maintenance Programmes, send in a coolant sample for testing a minimum of every six months.











