

# Fill-For-Life Approved Hino Practice for Filter- Equipped Trucks

Category: Coolants  
Bulletin No. 96.004  
Date: 06/17/99



Hino, Canada, has authorized the following service recommendation regarding the use of Penray Need-Release® extended service interval (ESI) coolant filters on engines where the customer has either Japanese factory-fill coolant or Canadian heavy-duty coolant meeting the ASTM D-4985 specification.

## I. Begin with a Clean Cooling System:

Check the coolant and make sure there is no visible oil, rust, or discoloration of the coolant. If it appears clear, green, and uncontaminated, continue with Step II. If the coolant is visibly contaminated, drain the engine coolant and recycle<sup>1</sup> or dispose of the used coolant properly. Clean the cooling system with a quality cleaning product such as Penray 2001 or 2015 Twin-Pack cooling system cleaner. Flush the system thoroughly with clean water. Refill the cooling system with 50% - 60% fully-formulated, premixed coolant for best consistency. Penray recommends phosphate-free coolant that meets the TMC RP-329 specification with purified (i.e. deionized) water.

## II. Initiating the Fill-For-Life Program:

1. Evaluate the existing level of inhibitors by laboratory (preferred) or field test, checking at least the nitrite and conductivity.
2. If the conductivity of a 10% coolant and 90% distilled water solution exceeds 2,500 mhos, the solids content of the fluid may be hazardous to the water pump and should be drained, the system cleaned, and then refilled with fresh, fully-formulated coolant as described in Step I, above.
3. If the conductivity is less than 2,500 mhos, test for nitrite level (abbreviated [NO<sub>2</sub>]) and proceed as follows:

A. If [NO<sub>2</sub>] of the undiluted coolant removed from the cooling system is greater than 3,000 ppm then drain, clean and refill system with fresh, fully formulated coolant as described above.

or

B. If [NO<sub>2</sub>] is less than 1,200 ppm, add 1 pint of Pencool® 3000 for up to 75 liters of cooling system capacity. Run the engine to mix the coolant at least 30 minutes, then recheck. Repeat if necessary. Do not add more than 3 pints of Pencool 3000.

## III. Periodic maintenance:

### Test:

Test the coolant every six months to assure that adequate freeze point (-37°C recommended) and nitrite levels (1,200 to 3,000 ppm) are being maintained. Use a Penray Two-Way Heavy Duty Test Strip (TS-100 or TS-101). Experience has shown that monitoring is necessary to detect major changes in the coolant chemistry which may occur while the truck is on the road.

### Observe Need-Release Extended Service Interval (ESI):

Change the Need-Release filter every 2,000 hours, 12 months or 200,000 km, whichever comes first.

### Coolant Change Intervals:

Change the coolant when the need is indicated by high coolant conductivity of 2,500 mhos or more in a solution of 10% coolant and 90% distilled water. Thoroughly clean the system, and refill with coolant as described in Step I.

**CAUTION: IN NO CASE SHOULD AMINE COOLANTS BE MIXED WITH AMERICAN, NITRITED ANTIFREEZES OR SCAs. ENGINE DAMAGE AND/OR CARCINOGENIC CHEMICAL FORMATION MAY RESULT.**