CLEAN AIR FILTER® CO

ENVIRONMENTAL ENCLOSURE TEST PROTOCOL

Using optical particle counters (OPC's)

Follow all necessary safety precautions

Pre-Test: two OPC units side by side inside an enclosure to determine match.
Label high count OPC as HC, for use inside.
Label low count OPC as LC, for use outside.
This process replaces rotating units to minimize testing.

Test A: is designed for indoor testing without engine running. NO exhaust.
Test B: is field test with engine running. For outside operation or ventilated exhaust

Set both OPC's for a 30 minute test.
Test range: 0.3 micron to 0.4 micron but <0.5 micron.

STEP 1.
Thoroughly clean the inside of the cab.

STEP 2. Determine if testing indoors (test A) or outdoors (test B)
Test A: Connect variable power supply, set at operating voltage.
Test B: Set engine to run at sufficient RPM to maintain proper voltage to HVAC
STEP 3.
Securely place OPC HC inside the cab on the seat. Objective is to place the intake of the OPC as close to the "seat index point" as possible.
STEP 4.
Securely place OPC LC outside so its inlet is close to the outside air inlet but not obstructed .
STEP 5.
Test A: Turn on key or switch. Turn on power supply. Set all fans to the high setting.
Test B: Start engine running. Set all fans to the high setting.
STEP 6.
Start outside OPC LC
Start inside OPC HC
Close the door.
DO NOT ENTER cab for 30 minutes - until testing is complete.
Avoid close proximity to outside OPC LC during testing.
STEP 7.
Document Voltage.

STEP 8. After OPC's have stopped (30 minutes test is complete)
Test A: Turn off power supply. Turn off key or switch.
Test B: Stop engine, turn off key.
STEP 9.
Retrieve both OPC's
Testing is complete.
Download DATA.

To process data: Average the counts from the last 20 minutes of the 30 minute tests.

Divide the average inside counts by the average outside counts times 100 equals % Leakage
(OPC HC average counts@0.3µm ÷ OPC LC average counts@0.3µm x 100 = % Leakage @0.3µm)