

Walker Engineering Enterprises

AIRSEP KIT # KW-3393526

INSTALLATION INSTRUCTIONS FOR CUMMINS 4B SERIES ENGINE (250HP) SINGLE TURBO MARINE ENGINE

(1/31/2000)

1. List of Parts Included In Kit

<u>Parts</u>	<u>Number of Parts</u>	<u>Part #</u>
Walker AirSep (5" ST Filter) (Offset inlet -w/3/8" x 45° barb)	1	7305S3M5MLGB
Vacuum Regulator Assembly	1	VR 1000
OIL DRAIN ASSEMBLY	1	-LISTED-
Drain Check Valve	1	CD246
1/2" Hose (16.50" Long)	1	CD288 (16.50)
1/2" Hose (8.5" Long)	1	CD288 (8.5)
1/4 NPT X 1/2" Hose Barb	1	CD243
1/4 NPT X 1/2" Fem Hose Barb	1	CD529
1/2" Clamp, Hose	4	CD294
Hose End Fitting	1	CD621
Oil Pan Fitting	1	CD620
1 1/4" 'P' Clamp	1	CD622
3/4" X 1-1/4" X 12" Adapter Hose	1	CD623-1
3/4" Clamp, Hose	1	CD297
1-1/4" Clamp, Hose	3	CD299
1-1/4" X 120° "J" Hose	1	CD273
3" X 3" long Silicone Connection Hose	1	CD478
3 1/2" T-Bolt Clamp, Hose	2	CD551

2. Engine Preparation Prior To Installing The AIRSEPS

To receive optimum performance from your engine and the maximum benefits from the AirSep **it is advisable to clean the air induction system of the engine**, including the aftercooler or intercooler. IF THE ENGINE HAS MORE THAN 100 HOURS.

THIS INSTALLATION REQUIRES SWITCHING THE EXISTING OIL DRAIN PLUG WITH A FITTING. IT MAY BE CONVENIENT TO SCHEDULE THIS INSTALLATION FOR A REGULAR OIL CHANGE. DUE CARE SHOULD BE EXERCISED TO MINIMIZE OIL LEAKAGE INTO THE BILGE.

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Walker Engineering recommends that you take a Manometer reading before and after AirSep Installation. Most engines will read positive crankcase pressure before installation of the Walker AirSep and negative (or a significant reduction) after installation.

3. Installation Instructions

The following instructions must be followed for the proper installation of an AirSep on a Cummins 4 BT (250H.P.) Single Turbo engine.

(a) From the turbo charger, remove the existing air cleaner, silencer and hump hose. Disconnect and remove the existing breather tube from the breather located on the side of the engine). Also remove any existing brackets.

(1) Connect the supplied 3/4" by 1-1/4" Breather adapter hose to the engine breather. Tighten Clamp. The hose will travel up and toward the flywheel area of the engine.

(2) Connect the AIRSEP SIDE of the Vacuum Regulator Assembly to the 1 1/4" "J" hose supplied. Note that the Vacuum Regulator is marked with an arrow showing direction of installation. The hose should be pre-assembled to the regulator so that it appears to loop to the right side of the regulator tee body when viewed from the hose end of the assembly. Tighten clamp.

3) Attach the AirSep unit to the turbo inlet as indicated in the attached diagram and secure with the tee-bolt clamps provided. The 1-1/4" breather inlet on the AirSep must be on top and the 1/2" oil drain outlet must be on the bottom. It is important to note that the 1/2" drain must be in the "6 o'clock" position in relation to the AirSep (it should be pointed straight down). If the position of the 1/2" drain deviates more than 5° from perpendicular the AirSep will not operate properly.

(4) Now connect the other end of the regulator to the breather adapter hose already installed. The regulator filter element should be positioned to point in the direction of the engine block with the "J" hose pointing to the flywheel area.

(5) Attach the loose end of the "J" hose to the breather inlet of the AIRSEP.

(6) The regulator should be positioned 90° (3 o' clock) in relation to the adapter hose going to the engine breather. (When viewed from the back of the engine.

NOTE: SINCE THE ENGINE IS FULL OF OIL, CARE SHOULD BE TAKEN WHEN REPLACING THE OIL DRAIN PLUG WITH THE WALKER DRAIN FITTING.

(b) The oil separated by the AirSep must be drained from the AirSep through the check valve back into the crankcase. In most cases this can be done through an auxiliary plug located on back bottom area of the oil pan. The drain hose assembly is pre-cut. Carefully remove the oil pan plug and replace it with the elbow fitting attached to the drain hose assembly.

NOTE: Some engines may have an aftermarket oil pump out fitting installed at the aft oil pan plug. Such cases will require installing a tee fitting at the oil pan. **THIS FITTING IS NOT SUPPLIED AND MUST BE OBTAINED FROM YOUR CUMMINS DEALER OR LOCAL FITTING SUPPLY STORE.**

(c) Connect the upper end of the drain hose assembly to the AIRSEP drain barb located on the bottom of the AIRSEP. Secure hose clamps.

Make sure the check valve is installed with arrows pointed down. If the check valve is installed up side down it will not operate and oil will not drain out of the AirSep. The oil drain check valve should not be at more than a 30° angle off of vertical.

Be sure there are no low spots in the 1/2" drain line from the AirSep drain to the check valve or from the check valve to the point oil is returned to the crankcase.

(d) Secure the drain hose assembly with the 'P' clamp provided.

(e) Tighten any clamps not previously tightened. **Be very careful not to over tighten any clamp placed on the AirSep.**

(f) **Note:** The AirSep is a closed crankcase system. **Be sure all openings into the engine (such as the oil filter cap, the dip stick hole and any other openings) are closed off.** The AirSep will not operate properly if the vacuum in the crankcase is compromised.

Carefully review the enclosed maintenance requirements for the AirSep filter. If the air restriction gauge on the AirSep turns red the air filter must be cleaned or replaced. The filter supplied with the AirSep can under normal circumstances be cleaned and reoiled up to three times. Cleaning and reoiling Kits, part # DDF 9000, are sold by Walker Engineering.

If you have any questions during the installation of the AIRSEPS please call:

**Walker Engineering Enterprises
(818)252-7788 (Phone)
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Visit the Walker Engineering Web Site at: www.walkerairsep.com

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