

**CHAPTER 99 — AUXILIARY EQUIPMENT KIT
PARTICLE SEPARATOR**

A B 206-706-200

A B 206-706-201

CONTENTS — MAINTENANCE PROCEDURES

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PARTICLE SEPARATOR**A B 206-706-200****A B 206-706-201****1. DESCRIPTION.**

The particle separator kit provides protection for engine when helicopter is operating in severe environmental conditions. Particle separator will permit flight operations in falling snow or blowing sand and dust with a minimum of power loss. The separator consists of a grouping of tube assemblies arranged in parallel and fixed between two aluminum sheets and is located forward of the engine air inlet. Each tube assembly consists of a vortex tube, vortex generator and outlet tube. Foreign particles entering each tube assembly are separated by the swirling action of the air passing through the vortex generators. This airflow, called scavenge flow, carries foreign particles into the scavenge chamber to ejection boxes to be purged overboard by using engine bleed air and thereby allows only remaining cleaned air to enter the engine. The kit consists of the particle separator, bleed air tubing and hose, and hardware.

WARNING

THE PARTICLE SEPARATOR SHALL BE REMOVED WHEN FLIGHT OPERATIONS ARE TO BE CONDUCTED IN VISIBLE MOISTURE AT AMBIENT TEMPERATURES BELOW 35° F (5° C).

2. REMOVAL.

- a. Remove transmission fairing.
- b. Remove engine cowlings.

NOTE

Tag all parts, including attaching hardware, removed to gain access to particle separator. Protect parts from damage until installed.

- c. Remove screws and washers retaining particle separator floor assembly from aft side of forward firewall.

- d. If installed, disconnect water/alcohol tube assemblies from fittings located on forward side of forward firewall.

- e. Disconnect bleed air tube assemblies from unions installed in bottom of particle separator.

- f. Remove induction fairing with particle separator attached by releasing fairing fasteners.

- g. Install a protective cover over engine inlet.

3. DISASSEMBLY.

- a. Remove eductor covers from induction fairing.

- b. Remove screws retaining eductors to particle separator and remove eductors.

- c. Remove screws and washers along contour of induction fairing retaining particle separator to fairing.

- d. Remove screws and washers along both sides of induction fairing retaining particle separator to fairing.

- e. Remove screws and washers retaining particle separator to floor panel and remove particle separator from induction fairing.

- f. Install eductors on particle separator with screws removed in preceding step b.

4. CLEANING.**CAUTION**

AVOID USING WATER OR HEAT, 140° F (60° C) AND ABOVE, TO AVOID DAMAGE TO VORTEX GENERATORS AND EJECTORS.

Clean particle separator using a mild detergent and lukewarm water.

5. INSPECTION.

Inspect for cracked, loose, clogged, or damaged vortex generators. If damaged, replace particle separator.

6. REPAIR.

Return particle separators needing extensive repair or overhaul to the manufacturer:

Pall Land and Marine Corporation
7070 Moon Lake Road
New Port Richey, Florida 33552
Phone: 813/849-9999

7. INSTALLATION.

- a.** Remove screws which secure eductors to particle separator and remove eductors.
- b.** Position particle separator on inside of induction fairing and secure particle separator floor panes to fairing nutplates with screws and washers, using existing hardware.
- c.** Use screws and washers to install particle separator to each side of induction fairing.

NOTE

Adjust the particle separator as necessary to ensure the eductor cavities align with cutouts in induction fairing.

- d.** Use screws and washers to install particle separator to contour of induction fairing in matching attachment holes.
- e.** Install particle separator eductors removed in preceding step a. Install eductor covers over left and right side openings of air induction fairing using previously removed hardware.
- f.** Remove protective cover from engine air inlet.
- g.** Position fairing assembly with previously removed screws, then align and fasten particle separator floor assembly to firewall using screws and washers.
- h.** Connect bleed air tube assemblies to unions installed in bottom of particle separator.
- i.** If included, connect water/alcohol tube assembly to fittings installed in forward firewall. Tighten all connections.
- j.** Close both engine side cowlings.
- k.** Install transmission fairing.