



# Service Letter

Service letter Number	Issue Date	Revision	Revision Date
RASL-001	4/13/2004	C	6/11/2009

**Subject:** Pneumatic pump vane inspection with S.M.A.R.T Stick

**Applicability:**

This inspection procedure applies to all new FAA PMA approved pneumatic pumps manufactured by Rapco, Inc. that are equipped with a vane wear inspection port.

**Inspection Compliance:**

The inspection procedure listed below should be accomplished after 500 hours time in service on all 200 series pumps and after 200 hours time in service on all 400 series pumps. After the initial inspection, the pump should be re-inspected after 100 hours time in service or annually (which ever occurs first).

This inspection procedure is recommended to be accomplished in conjunction with a 100 hour or annual inspection.

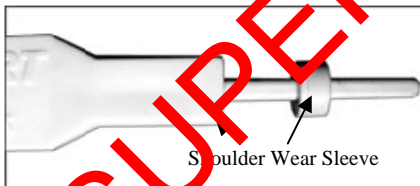
**NOTE:** No other vane wear measuring devices are approved for use with this inspection procedure.

**Procedure:**

**NOTE:** Before accomplishing this inspection it is important to make sure that the Aircraft Engine Magnetos are in the off position.

1. Remove inspection port cap screw and lock washer.
2. Rotate Propeller by hand while looking into the inspection port with a flashlight.
3. Line up a vane slot with the inspection port. **NOTE:** If vane slot to inspection port alignment is incorrect it will result in an incorrect vane wear measurement.
4. Remove the S.M.A.R.T stick wear sleeve from the S.M.A.R.T stick handle and place it on the S.M.A.R.T stick probe end. Leave about 1/4" of the probe end exposed.
5. Holding the handle of the S.M.A.R.T stick, push the probe into the inspection port slowly until it comes into contact with the vane face. **NOTE:** The S.M.A.R.T stick wear sleeve will slide on the S.M.A.R.T stick probe during this process. Be sure that the S.M.A.R.T sleeve is in contact with the pump cavity.
6. Remove the S.M.A.R.T stick from the inspection port.
7. Read the position of the wear sleeve. (See figures below)
8. Determine if pump is within serviceable limits.
9. If the pump is determined not to be within serviceable limits it should be **removed** from service. If pump is determined to be serviceable, it may be **returned to service** pending that the next inspection is accomplished after 100 hours time in service or at the next annual inspection.
10. Re-install cap screw and washer (MS35338-43) and torque to 14 inch lbs.

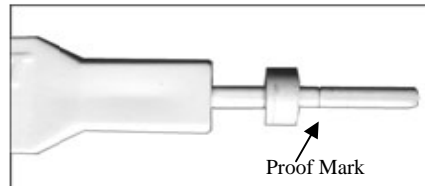
S.M.A.R.T Stick U.S Patent No.: US 7,216,526 B2



### Improper Installation

No Proof Mark Visible

Re-align vane slot to inspection port and re-install S.M.A.R.T Stick



### Proper Installation

Wear Sleeve is Between Proof Mark and Shoulder  
Pump wear is within Serviceable Limits  
Ok to Return Pump to Service



### Proper Installation

Wear Sleeve is Touching Shoulder  
Pump is worn beyond Serviceable limits  
Remove Pump from Service

