



Piper Aircraft Corporation  
Vero Beach, Florida, U.S.A.

# SERVICE *No. 648A* BULLETIN

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\* PIPER CONSIDERS \*  
\* COMPLIANCE MANDATORY \*  
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FAA Approved

Date April 27, 1987

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(Service Bulletin No. 648A supersedes and voids Service Bulletin No. 648 dated October 4, 1979.)

This Service Bulletin is divided into three (3) PARTS. Check each PART for Models Affected and Subject.

REASON FOR REVISION:

Add Models Affected and Add  
PART III

## PART I

SUBJECT:

Scott Fuel Selector Valve  
Inspection (Scott Part Number  
800412-00, Piper Part Number  
492-109)

MODELS AFFECTED:

PA-31-300/310 Navajo  
PA-31-350 Navajo Chieftain  
PA-31P Pressurized Navajo

SERIAL NUMBERS AFFECTED:

31-2 through 31-7300951  
31-5001 through 31-7305052  
31P-3 through 31P-7300147

COMPLIANCE TIME:

Section A.

1. Fuel Selector Valves should be checked prior to each flight.
2. If the fuel selector valves do not operate smoothly and easily, the cause should be corrected prior to further flight by compliance with Section B of the Instructions.

Section B.

Affected valve(s) shall be serviced in accordance with Section B of the Instructions at the next 100 hour inspection, annual or programmed inspection event not to exceed 100 hours.

Section C.

Scott fuel selector valve "O" rings must be replaced at each one thousand (1000) hours of operation.

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- NOTES:
1. This Bulletin does not affect Dukes Valve (Dukes Part Number 3487-00-1/ Piper Part Number 492-239).
  2. Dukes Valve (Dukes Part Number 3487-00-1/ Piper Part Number 492-239) may be installed to relieve the "O" ring replacement requirements of PART I.

PURPOSE: Field reports indicate Scott Fuel Selector Valves may malfunction at the spool valve "O" rings. The fuel selector valve may exhibit sticking or binding, during valve operation. This condition, if allowed to continue, could possibly lead to inadvertent fuel shutoff and subsequent engine stoppage.

PART I of this Service Bulletin provides instructions and material requirements for the inspection and replacement of Scott Fuel Selector Valve "O" rings.

INSTRUCTIONS:

Refer to the appropriate Service Manual, Fuel System.

Section A.

Fuel Selector Valves should be checked prior to each flight (i.e., during preflight or while taxiing as noted in Pilot's Operating Handbook), by operating the fuel selector control in the cockpit. If indications of binding or sticking exist, proceed to Section B before flying aircraft.

Section B.

If the fuel selector valve does not operate smoothly and/or compliance time in accordance with this bulletin is reached:

1. Gain access to the fuel selector valves and remove them from the aircraft.
2. Disassemble the valves and remove the existing spool "O" rings and install Piper Kit No. 760-504.
3. Reassemble the fuel selector valves.
4. Leak check the fuel selector valves in accordance with the Maintenance Manual, Fuel System.
5. Install the fuel selector valves in the aircraft.
6. Make final check for fuel leaks from the fuel selector valves and fittings.
7. Install the access panels and make proper logbook entry indicating compliance with PART I of this Bulletin.

Section C.

At each 1000 hours of operation, replace "O" rings as in Section B, above.

MATERIAL REQUIRED:

One (1) each (per aircraft) Fuel Selector Valve "O" Ring Kit, Piper Part Number 760-504. One kit contains sufficient material for two fuel selector valves.

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## PART II

SUBJECT:Fuel Selector Valve Control  
Cable InspectionMODELS AFFECTED:PA-31-300/310/325 Navajo  
PA-31P Pressurized NavajoSERIAL NUMBERS AFFECTED:31-5 through 31-7912023  
31P-3 through 31P-7730004COMPLIANCE TIME:

1. If during preflight inspection from PART I, the fuel selector valves do not operate smoothly and easily, the fuel selector valve control cables should be checked in addition to the valves and the cause should be corrected prior to further flight.
2. Should the fuel selector valves operate without difficulty, the affected cables shall be inspected in accordance with this Service Bulletin at the next 100 hour inspection, annual or programmed inspection event, not to exceed 100 hours of operation and each 100 hours thereafter.

PURPOSE:

Field reports indicate fuel selector valve control cables may fail due to fatigue at the swivel fittings. This is attributed to sticking or binding of the fuel selector valve, or kinking of the control cables. This condition, if allowed to continue, could lead to fuel shutoff and subsequent engine stoppage.

PART II of this Service Bulletin provides instructions to inspect the Fuel Selector Valve control inner wire.

INSTRUCTIONS:

Refer to appropriate Maintenance Manual, Fuel System.

1. Gain access to control cable swivel fittings.
2. Visually check control cable wires at the related swivel fittings, for indications of binding, kinking, or bending: have someone in the cockpit operate fuel controls while mechanic inspects the swivel fittings for indications of binding, kinking or bending.
  - a. Replace cable(s) exhibiting any of the above conditions.
  - b. Check system rigging per Maintenance Manual.
  - c. Lubricate the external parts at the selector valve sprocket and control cables swivel fittings with Mil-G-23827 grease or (Mil-G-3278).
  - d. Make proper logbook entry indicating compliance with PART II of this Service Bulletin.

MATERIAL REQUIRED:

Fuel control cables to be replaced per service Instructions Number 2a above, may be identified in each respective aircraft model parts catalog and procured accordingly.

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## PART III

SUBJECT: Fuel Selector Valve Control Cable Replacement

MODELS AFFECTED: SERIAL NUMBER AFFECTED:

PA-31-300/310/325 Navajo  
PA-31P Pressurized Navajo

31-5 through 31-7912023  
31P-3 through 31P-7730004

COMPLIANCE TIME: At the next annual or scheduled maintenance event, but not to exceed one hundred (100) hours of operation.

PURPOSE: Field reports continue to be received of fuel selector valve control cable failures and subsequent isolation of the fuel selector valve. PART III of this Service Bulletin announces the availability of a Fuel Selector Valve Control Cable Kit which, when installed, will greatly increase the service life of the fuel selector actuation system.

Installation of these kits will relieve the repetitive inspection requirement of PART II of this Service Bulletin.

INSTRUCTIONS: All instructions necessary to comply with PART III of this Service Bulletin are contained in the Fuel Selector Cable Kit, Piper Part Number 765-311 for the PA-31-300/310/325 or 765-312 for the PA-31P.

MATERIAL REQUIRED: One (1) each Fuel Selector Cable Kit, Piper Part Number 765-311 for the PA-31-300/310/325 or 765-312 for the PA-31P, per aircraft.

AVAILABILITY OF PARTS: Your Piper Field Service Facility.

EFFECTIVITY DATE: This Service Bulletin is effective upon receipt.

SUMMARY: Please contact your Factory Authorized Piper Field Service Facility to make arrangements for compliance with this Service Bulletin in accordance with the compliance time indicated.

NOTE: If you are no longer in possession of this aircraft, please forward this information to the present owner/operator and notify the Factory of address/ownership corrections. Changes should include aircraft model, serial number, current owner's name and address.

Corrections/Changes should be directed to:

Piper Aircraft Corporation  
Attn: Product Support  
P.O. Box 1328  
Vero Beach, FL 32961-1328