

Service Bulletin

April 26, 1999

SEB99-5

TITLE

WING FUEL TANK VENT CHECK VALVE INSPECTION

EFFECTIVITY

The following airplanes equipped with a part number S2359-1 Fuel Vent Check Valve or part number 0716125-2, 0523553-5, or 0523553-6 Fuel Vent Tube Assembly that was shipped from Cessna on July 1, 1998 thru March 22, 1999.

<u>Model Series</u>	<u>Year</u>	<u>Serial Numbers</u>
150	1960	17001 thru 17999
150	1960	59001 thru 59018
150		617, 628, 644, 649
150	1961 thru 1977	15059019 thru 15079405
A150	1970 thru 1977	A1500001 thru A1500734
A150		15064970
152	1978 thru 1985	15279406 thru 15286033
A152	1978 thru 1985	A1520735 thru A1521049
A152		A1500433
A152		681
172	1956 thru 1959	28000 thru 29999
172	1956 thru 1959	36000 thru 36999
172	1956 thru 1960	46001 thru 47746
172		610, 612, 615, 622, 625, 630, 639, 638
172	1961 thru 1986	17247747 thru 17276654
172Q	1983 thru 1984	17275869 thru 17276211
175	1958 thru 1960	55001 thru 56777
175		28700A, 619
175	1961 thru 1962	17556778 thru 17557119

To obtain satisfactory results, procedures specified in this publication must be accomplished in accordance with accepted methods and prevailing government regulations. The Cessna Aircraft Company cannot be responsible for the quality of work performed in accomplishing the requirements of this publication.

The Cessna Aircraft Company, Product Support, P.O. Box 7706, Wichita, Kansas 67277, U.S.A. (316) 517-5800, Facsimile (316) 942-9006

<u>Model Series</u>	<u>Year</u>	<u>Serial Numbers</u>	
P172	1963	P17257120	thru P17257188
R172	1967 thru 1969	R172-0001	thru R172-0409
R172	1969 thru 1976	R1720410	thru R1720620
R172	1974	P17257189	
R172	1977 thru 1981	R1722000	thru R1723454
R172		680	
172RG	1980 thru 1985	172RG0001	thru 172RG1191
172RG		691	
180	1953 thru 1957	30000	thru 32999
180		604, 614, 624, 645	
180	1957 thru 1960	50001	thru 50911
180	1961 thru 1981	18050912	thru 18053203
182	1956 thru 1958	33000	thru 34999
182	1958 thru 1960	51001	thru 53007
182		613, 631, 634, 675	
182/T182	1961 thru 1986	18253008	thru 18268586
R182/TR182	1978 thru 1986	R18200001	thru R18202039
185	1961 thru 1969	185-0001	thru 185-1599
185	1970 thru 1985	18501600	thru 18504448
185		632, 652	
188/A188	1966 thru 1969	188-0001	thru 188-0572
188/A188		653	
188/A188	1970 thru 1983	18800573	thru 18803973
A188	1972 thru 1983	18800967T	thru 18803973T
A188		678T	
T188	1979 thru 1983	T18802839T	thru T18803974T
210-5 (205)	1963	205-0001	thru 205-0577
210-5 (205)		641	
206	1964	206-0001	thru 206-0275
U206	1965 thru 1969	U206-0276	thru U206-1444
U206/TU206	1970 thru 1986	U20601445	thru U20607020
U206/TU206		676	
P206/TP206	1965 thru 1969	P206-0001	thru P206-0603
P206/TP206	1970	P20600604	thru P20600647
207/T207	1969 thru 1984	20700001	thru 20700788
210	1960	57001	thru 57575
210	1961 thru 1966	21057576	thru 21058818
210		618, 616	
T210	1966	T210-0001	thru T210-0197

<u>Model Series</u>	<u>Year</u>	<u>Serial Numbers</u>	
A-150	1972 thru 1973	A-1501001	thru A-1501039
A-A150	1972 thru 1973	A-A1500001	thru A-A1500009
A182	1966 thru 1976	A182-0001	thru A182-0148
A-A188	1972 thru 1976	A-A1880001	thru A-A1880034
F150	1966 thru 1969	F150-0001	thru F150-0529
F150	1970 thru 1977	F15000530	thru F15001428
FA150	1970 thru 1977	FA1500001	thru FA1500336
FRA150	1972 thru 1977	FRA1500121	thru FRA1500336
F152	1978 thru 1986	F15201429	thru F15201980
FA152	1978 thru 1986	FA1520337	thru FA1520425
FP172	1963	FP172-0001	thru FP172-0003
F172	1963 thru 1969	F172-0001	thru F172-0654
F172	1970 thru 1986	F17200655	thru F17202254
FR172	1968 thru 1981	FR17200001	thru FR17200675
F182	1976 thru 1980	F18200001	thru F18200169
FR182	1978 thru 1980	FR18200001	thru FR18200070

PURPOSE

A report has been received which indicates that a part number S2359-1 Fuel Vent Check Valve was obstructed and caused a greater than ambient pressure to occur in the wing fuel tank (wing fuel tank pressurization).

An inspection is required of affected part number S2359-1 Fuel Vent Check Valves to ensure the valves are not obstructed and that the wing fuel tank is venting properly.

This condition, if not corrected, may allow pressurization of the wing fuel tank which could result in a wing and/or wing fuel tank structural failure.

COMPLIANCE

Mandatory; shall be accomplished within the next 10 hours of operation or 10 days, whichever occurs first.

APPROVAL

FAA approval has been obtained on technical data in this publication that affects airplane type design.

For Reims Aviation Airplanes, DGAC approval has been obtained on technical data in this publication that affects airplane type design.

MAN-HOURS

INSPECTION:

For airplanes with one (1) affected valve installed, 1.4 man-hours per airplane.

For airplanes with two (2) affected valves installed, 1.6 man-hours per airplane.

AFFECTED S2359-1 FUEL VENT VALVE REPLACEMENT, IF REQUIRED:

For wet wing and bladder tank airplanes:

replacement of one (1) affected valve, 3.1 man-hours per airplane.

replacement of two (2) affected valves, 4.9 man-hours per airplane.

For airplanes with metal fuel tanks:

replacement of one (1) affected valve, 4.3 man-hours per airplane.

replacement of two (2) affected valves, 7.0 man-hours per airplane.

MATERIAL

The following is available from Cessna Parts Distribution through an appropriate Cessna Service Station for the suggested list price shown.

<u>Part Number</u>	<u>Description</u>	<u>Qty/Airplane</u>	<u>Price</u>
S2359-1	Fuel Vent Check Valve	(as required)	\$ 80.10 (A) ea.
0523554-1	Gasket	(as required)	\$ 9.10 (SE) ea.
0523554-2	Gasket	(as required)	\$ 9.11 (SE) ea.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

ACCOMPLISHMENT INSTRUCTIONS

1. Refer to the applicable airplane service manual.
2. Electrically ground airplane and confirm the battery switch/master switch is in the "OFF" position.

WARNING: DURING ALL FUEL SYSTEM SERVICING PROCEDURES, FIRE FIGHTING EQUIPMENT MUST BE AVAILABLE. INSTALL TWO GROUND WIRES FROM AIRPLANE TIE DOWN RINGS TO AN APPROPRIATE ELECTRICAL GROUND STAKE. ENSURE BATTERY/MASTER SWITCH IS IN THE "OFF" POSITION.

WARNING: FUEL AND/OR FUEL VAPORS CAN BE HARMFUL IF INHALED, INGESTED OR SWALLOWED.

3. (Refer to Figure 1.) Locate the applicable wing fuel vent port of the affected S2359-1 Fuel Vent Check Valve.

CAUTION: DO NOT USE A MECHANICAL MEANS OF PRESSURIZING THE FUEL TANK.

- A. Using a rubber hose or other suitable tubing, place one end over the wing fuel vent (located under the wing aft of the lift strut) and physically blow into the fuel vent. Continue to blow into the fuel vent until resistance is felt (the resistance should be similar to the resistance felt while inflating a balloon).

NOTE: This method should be accomplished with the fuel tank less than 3/4 full of fuel

NOTE: If the airplane is equipped with a fuel vent under each wing, temporarily plug the vent that is not being supplied with air.

- B. After fuel vent system has been pressurized to above ambient pressure, insert end of rubber hose into a container of water and watch for a continuous stream of bubbles. A continuous stream of bubbles indicates the valve assembly bleed hole is open and is relieving pressure in the fuel tank.
- C. If there has been air flow into the fuel vent, but there is no pressure (no bubbles) in the fuel vent system, check system for leaks and repeat Step 3.B.
- D. If a continuous stream of bubbles is observed escaping the fuel vent, proceed to Step 5.

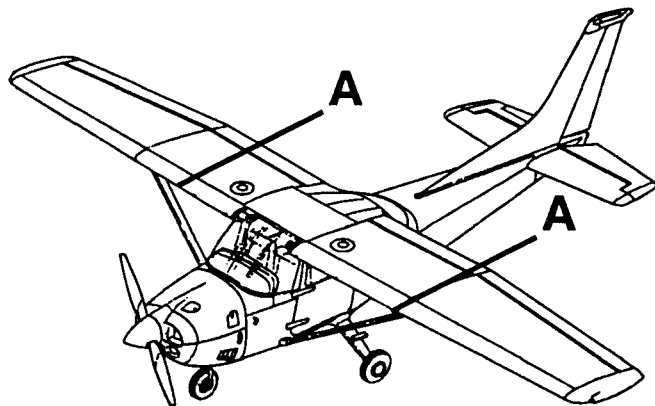
CAUTION: REMOVE THE FUEL CAP SLOWLY, CONTENTS OF THE WING FUEL TANK MAY BE UNDER PRESSURE

- E. If there has been air flow into the fuel vent, but air/fuel vapor is not observed escaping the fuel vent, slowly remove the wing fuel cap to relieve any pressure that may be in the fuel tank.
- (1) If fuel tank was found to have pressure, proceed to Step 3.F.
- F. Disconnect all electrical power from the airplane. Attach maintenance warning tags to the battery and external power receptacle stating:

WARNING: DO NOT CONNECT ELECTRICAL POWER - MAINTENANCE IN PROGRESS

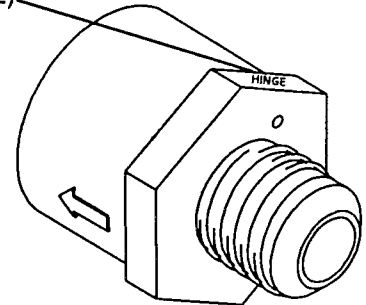
- G. Drain fuel from wing fuel tank and gain access to the S2359-1 Fuel Vent Check Valve. Remove and replace the S2359-1 Fuel Vent Check Valve.
- (1) The following procedures applies to airplanes equipped with metal fuel tanks. Refer to Figure 1., gain access to the top of the fuel tank. Disconnect the external vent line from the fuel tank vent line.
- (2) Remove wing access panels as required, using a stiff wire rod, insert rod inside the exposed end of the fuel tank vent line fitting. Loosen and slide the AN924-6D nut and washer securing vent line to fuel tank over wire rod. Retain AN924-6D nut and washer, discard 0523554-2 gasket. Attach/wrap safety wire (0.021 wire recommended) to outside threaded portion of vent line. Using the wire rod, carefully push the fuel tank vent tube and safety wire to the fuel tank filler opening.
- (3) Remove fuel tank vent line and gasket, discard gasket, and pull safety wire through fuel tank and secure end of safety wire.
- (4) Replace S2359-1 Fuel Vent Check Valve and install on fuel tank vent line as shown in Figure 1.
- (5) Using the safety wire, pull new 0523554-1 gasket, fuel tank vent line and check valve through fuel tank and position as shown in Figure 1.

- (6) Remove safety wire and secure check valve, fuel tank vent line to fuel tank with new 0523554-2 gasket and retained AN924-6D nut and washer.
 - (7) Reconnect external vent line to fuel tank.
 - H. Repeat Steps 4. B., 4.C., and 4.D.
 - I. If applicable, remove plug installed in Step 4.A.
 - J. Refuel wing fuel tank.
 - K. Check for leaks and reinstall items removed in Step 4.G.
- 5. Remove maintenance warning tags and reconnect the airplane battery.
 - 6. Make an entry in the airplane logbook stating compliance with this Service Bulletin and method of compliance.

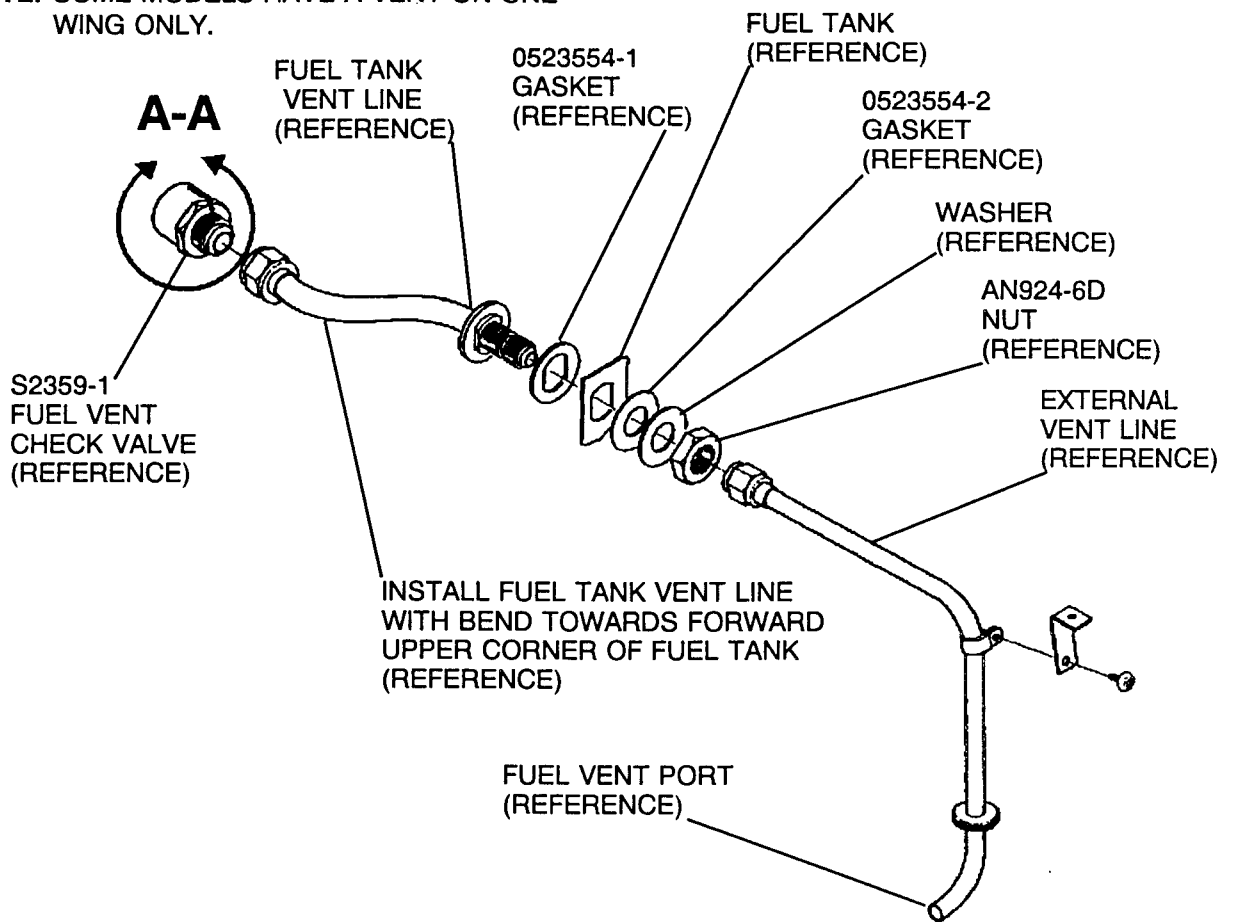


MODEL 182 SHOWN, OTHER MODELS SIMILAR
NOTE: SOME MODELS HAVE A VENT ON ONE WING ONLY.

INSTALL CHECK VALVE WITH "HINGE" FACING TOP OF FUEL TANK (REFERENCE)



VIEW A-A
TYPICAL FUEL VENT CHECK VALVE



DETAIL A
TYPICAL FUEL VENT CHECK VALVE INSTALLATION
 (LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE)

Figure 1. Fuel Vent Check Valve Inspection (Sheet 1 of 1)

CREDIT

If required, applicable parts credit will be provided.

The following labor allowance credit will be provided:

INSPECTION:

For airplanes with one (1) affected valve installed, 1.4 man-hours per airplane.

For airplanes with two (2) affected valves installed, 1.6 man-hours per airplane.

AFFECTED S2359-1 FUEL VENT VALVE REPLACEMENT, IF REQUIRED:

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replacement of two (2) affected valves, 4.9 man-hours per airplane.

For airplanes with metal fuel tanks:

replacement of one (1) affected valve, 4.3 man-hours per airplane.

replacement of two (2) affected valves, 7.0 man-hours per airplane.

To receive credit, the work must be completed and a Quick Claim must be submitted by a Single Engine Service Station before the dates shown below:

NOTE: The removed S2359-1 Fuel Vent Check Valve along with a copy of the logbook entry for the installation of an affected S2359-1 Fuel Vent Check Valve or an assembly containing the S2359-1 Fuel Vent Check Valve must be included with the Quick Claim.

Domestic	August 26, 1999
International	October 26, 1999

Service Stations that have a part number S2359-1 Fuel Vent Check Valve or part number 0716125-2, 0523553-5, or 0523553-6 Fuel Vent Tube Assembly in stock that was shipped from Cessna on July 1, 1998 thru March 22, 1999 should return the affected part(s) to Cessna Parts Distribution via normal procedures for applicable part(s) replacement.

OWNER NOTIFICATION

On April 26, 1999, the following Owner Advisory message will be sent to applicable owners of record in SEB99-5A.

Dear Cessna Owner:

An inspection is required to check if a part number S2359-1 Fuel Vent Check Valve has been installed on your airplane that was shipped from Cessna Parts Distribution on July 1, 1998 thru March 22, 1999.

A report has been received which indicates that a part number S2359-1 Fuel Vent Check Valve was obstructed and caused a greater than ambient pressure to occur in the wing fuel tank (wing fuel tank pressurization). An inspection is required of affected part number S2359-1 Fuel Vent Check Valves to ensure the valves are not obstructed and that the wing fuel tank is venting properly. This condition, if not corrected, may allow pressurization of the wing fuel tank which could result in a wing and/or wing fuel tank structural failure.

Compliance is mandatory; shall be accomplished within the next 10 hours of operation or 10 days, whichever occurs first.

A labor allowance credit will be provided for inspection, and if required, replacement of affected S2359-1 Fuel Vent Check Valve(s). If required, applicable parts credit will also be provided for replacement valve(s).

Please contact a Cessna Single Engine Service Station for detailed information and make arrangements to have Cessna Service Bulletin SEB99-5 accomplished on your airplane.

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