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Aerospace Group
Conveyance Systems Division
Carter® Brand Ground Fueling Equipment

IN64129B

April 2002

Applicable additional manuals:

NONE

Installation Instructions

3 inch Internal/Bottom Loading Valves

Models 64129, & 64129A

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**INSTALLTION INSTRUCTIONS
CARTER PART NUMBERS 64129 & 64129A INTERNAL/BOTTOM LOADING VALVES**

1.0 INTRODUCTION

On April 4, 2002 a Service Bulletin was released regarding the effects of automotive gasoline on the seals in Carter brand Model 64129 Internal

Valve. This document provides instruction on how to replace the affected seals with seals made of Viton material.

2.0 EQUIPMENT DESCRIPTION

Eaton's Carter 64129 family of 3 inch valves that can be used either as a straight internal valve or for bottom loading control are units that mount directly into a 3 inch TTMA Tank Sump Ring. The 64129A is used with Carter Model 64079 Level Sensor for bottom loading control. A basic 64129 Internal Valve can be converted to a bottom-loading valve, 64129A, by adding a pilot valve.

The standard valve is equipped with seals intended for use with aviation fuels. Option B includes Viton seals at appropriate locations for use with automotive gasoline.

The units are spring loaded "overbalanced" piston valves. Fuel inlet pressure is routed to the inside of the piston chamber through a two-staged orifice in its center. If the piston chamber has no exit, the areas inside the piston chamber (outer diameter of the piston) is larger than the face seal of the piston, hence the balance of pressure forces, plus the spring force will keep the piston (valve) closed.

If the piston chamber is vented, normally only in the 64129A, through the pilot valve, the piston chamber pressure is reduced significantly by the pressure drop across the inlet orifice and the balance of forces will cause the piston to open, hence the valve.

When the piston chamber is once again closed (pilot valve closes), the balance of forces again causes the valve to close.

The 64129A although normally utilized with the 64079 Level Sensor can also be used with a solenoid valve. Either approach will provide or deprive the pilot valve of pressure (usually routed from the bottom loading adapter) to cause the opening and closing of the valve. The use of a solenoid valve allows the 64129A to be used with either the Civacon Liberty or the Scully Optic Probes.

The center rod exposed at the top of the valve can be used to connect the 64129 to a mechanically operated auxiliary vent, which will open and close, with the 64129. Note that some early versions had a shorter rod making this not possible.

The 64129A superceded the 64077A. The 64077A did not have the capability of staying closed against suction pressure. The 64077A can be converted to a 64129A by changing the piston assembly and will automatically be accomplished if a piston for the 64077A is ordered. Contact Carter for more information.

3.0 TABLE OF OPTIONS

64129 Standard Valve intended for use as emergency valve only.

OPTION LETTER	DESCRIPTION	OPTION LETTER	DESCRIPTION
A	Adds pilot valve to be used with a jet level sensor or other device for high level protection.	B	Adds Viton seals for use with automotive gasoline.

4.0 DISASSEMBLY

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| <p>4.1 Refer to Figures 1 through 4 for parts breakdown. The item numbers consist of two parts, the figure number plus the item called out on that figure. Example, 2-21 is the item 21 shown in figure 2.</p> <p>4.2 Carefully remove Spring (2-1).</p> <p>4.3 Unscrew Nut (4-2) from Screw (4-3) and remove both from assembly.</p> <p>4.4 Pull Lever (2-4) from unit. Do not disassemble Clip (2-5) from Lever (2-4) unless replacement is deemed necessary.</p> | <p>4.5 Unscrew Bushing (1-6) from unit and remove from Shaft (1-9). Remove and discard O-ring (1-7) and Quad-ring (1-10).</p> <p>4.6 Remove the eight Screws (2-14) from the Cap (2-12) and put aside for reuse.</p> <p>4.7 Pull Cap (2-12) off of unit. Remove and discard Cup Seal (2-15) and O-Ring (2-40).</p> |
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5.0 REASSEMBLY

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| <p>5.1 Reassembly is accomplished in essentially the reverse order of disassembly noting the following:</p> <p>5.1.2 Light lubrication of all O-rings, Quad-rings and seals, using petroleum jelly is recommended to facilitate installation.</p> | <p>5.1.3 Refer to Fig 3 to assure proper orientation of Cup Seal (2-15).</p> |
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6.0 TEST

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| <p>6.1 The following test procedures will be accomplished after overhaul:</p> <p>6.2 <u>Test conditions</u></p> <p>6.2.1 Test media shall be Stoddard Solvent, Odorless kerosene, JP-4, Jet A or equivalent.</p> <p><u>Functional Test</u></p> <p>6.3.1 Connect inlet to a pressure source of at least 50 psig and apply a minimum of 10 psig to the pilot port to allow the valve to bleed of trapped air. This should be accomplished in a tank that can collect the pilot and any flow from the main piston. If a basic 64129 is being tested it will be necessary to loosen the Plug (see fig 2) sufficiently to allow the valve to open and bleed trapped air.</p> | <p>6.3.2 Remove the pressure from the pilot port or tighten the Plug (see fig 2) after all air has been bled from the valve. The main piston should close to seal the inlet. Leakage at a rate of at least 10 cc/min can be expected. If the valve does not close to a leakage rate of approximately that then either the pressure supply source is inadequate to represent a normal loading condition or there is a gross leakage from either the main piston seals. Observe to see if the source of leakage can be found and replace any seals as appropriate.</p> <p>6.3.3 With no pressure applied to the valve use a spring pull scale to check that the valve can be opened with a minimum pull of 90 lbs. (41 Kg).</p> |
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7.0 ILLUSTRATED PARTS CATALOG

Table 1.0 tabulates the parts and sub-assemblies comprising both the 64129 and 64129A Valves. The item numbers of the table are keyed to Figures 1-7.

TABLE 1
64129 3" Internal Valve

Figure	Item	Part Number	Description	Units Per Assembly	Coupler Option	Spares/10 Units/Yr.
2	1	9433K113	Spring, Extension.....	1	All	2
4	2	GF21042-4	Nut.....	1	All	-
	3	GF4-13A	Screw	1	All	-
2	4	220676	Lever	1	All	-
	5	30325T27	Clip, Wire Rope Assembly	1	All	-
1	6	220668	Bushing	1	All	-
	7	MS29513-121	O-ring	1	All	10
	8	GF171651	Pin, Spring	2	All	-
	9	220686	Shaft.....	1	All	-
1	10A	Q4114-366Y	Quad Ring.....	1	A	-
	10B	Q4114-514AD	Quad Ring.....	1	A	-
2	11	221150	Body.....	1	All	-
	11A	90692A347	Pin.....	1	All	-
	12	221151	Cap.....	1	All	-
	13	220682	Spring.....	1	All	-
	14	GF35206-247	Screw	8	All	-
	15A	666-112	Cup Seal	1	All	10
	15B	666-112VITON	Cup Seal	1	All	10
	18	220675	Cam.....	1	All	-
	21	47283	Piston Assembly	1	All	-
	26	GF16624-1050	Ring, Retaining	1	All	-
	27	5710-195-30	Washer.....	1	All	-
	28	9613K17	Ball	6	All	60
	29	220690	Link.....	2	All	-
	30	MS29513-109	O-ring	1	All	10
	31	91650A420	Ring, Spiral Retaining	1	All	-
	32	5710-194-60	Washer.....	1	All	-
	33	221028	Shaft.....	1	All	-
	34	GF24665-86	Cotter Pin	1	All	10
	35	220722	Washer, Retaining	1	All	-
	36-37	Left Intentionally blank				

Figure	Item	Part Number	Description	Units Per Assembly	Coupler Option	Spares/10 Units/Yr.
2	38	221023	Retainer	1	All	-
	39	TA-2210	Spring.....	1	All	-
	40	MS29513-154	O-ring	1	All	10
	41	M25988/1-239	O-ring	1	All	10
	42	220687	Seal.....	1	All	10
	44	GF515C4-5	Screw	2	All	-
	47	GF20365D44 0	Nut.....	2	All	-
	45	220671	Screen.....	1	All	-
1	46	5406-04-02	Bushing	1	All	10

- Notes: 1. All part numbers beginning with "GF" are interchangeable with those beginning with either "AN" or "MS". If the "GF" is followed by three numbers it is interchangeable with an "AN" part, otherwise it is interchangeable with an "MS" part of the same number.
2. The recommended spare parts shown above are the number required to support 10 units for one year or each overhaul whichever is sooner. These quantities do not include replacement spares for intermediate replacement of parts required by abuse or misuse of the equipment. The recommended quantities are based on the ratio of spare parts sold for each unit during a one-year period of time. The actual quantity required will vary from location to location.

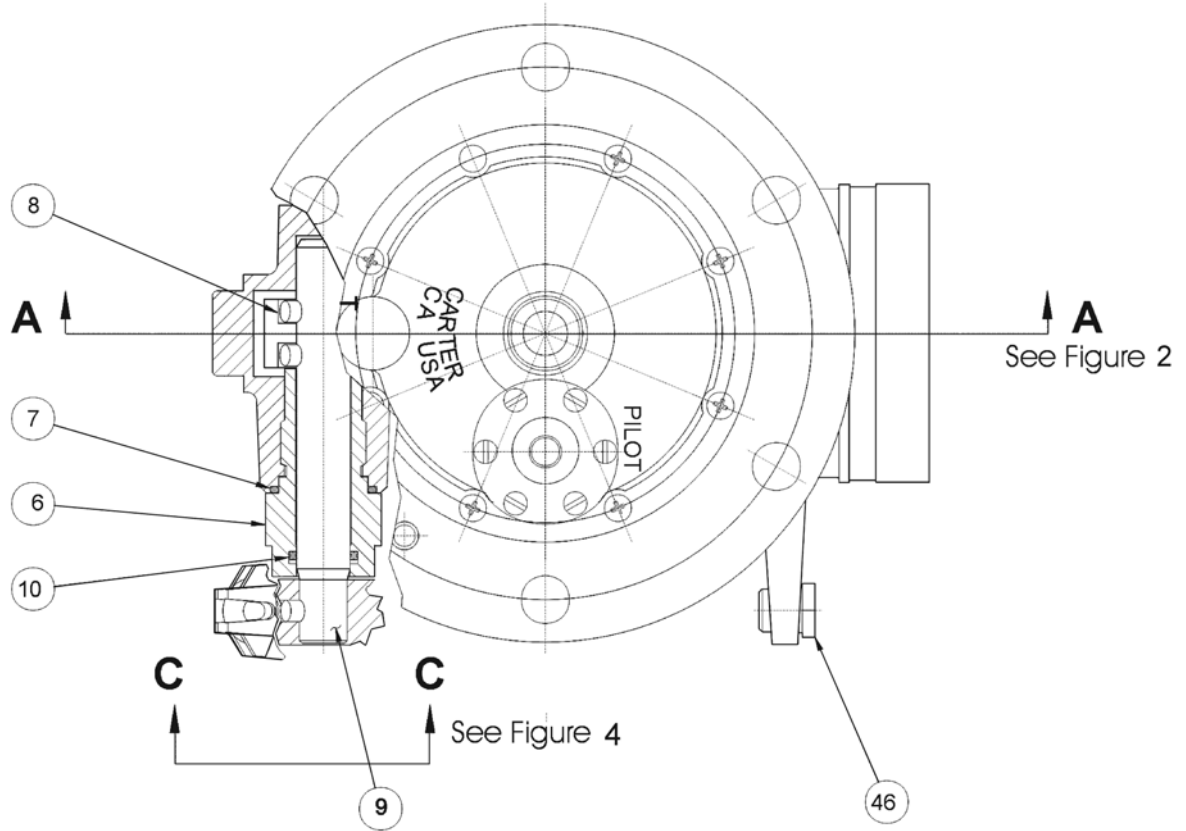


FIGURE 1 - TOP VIEW WITH PILOT

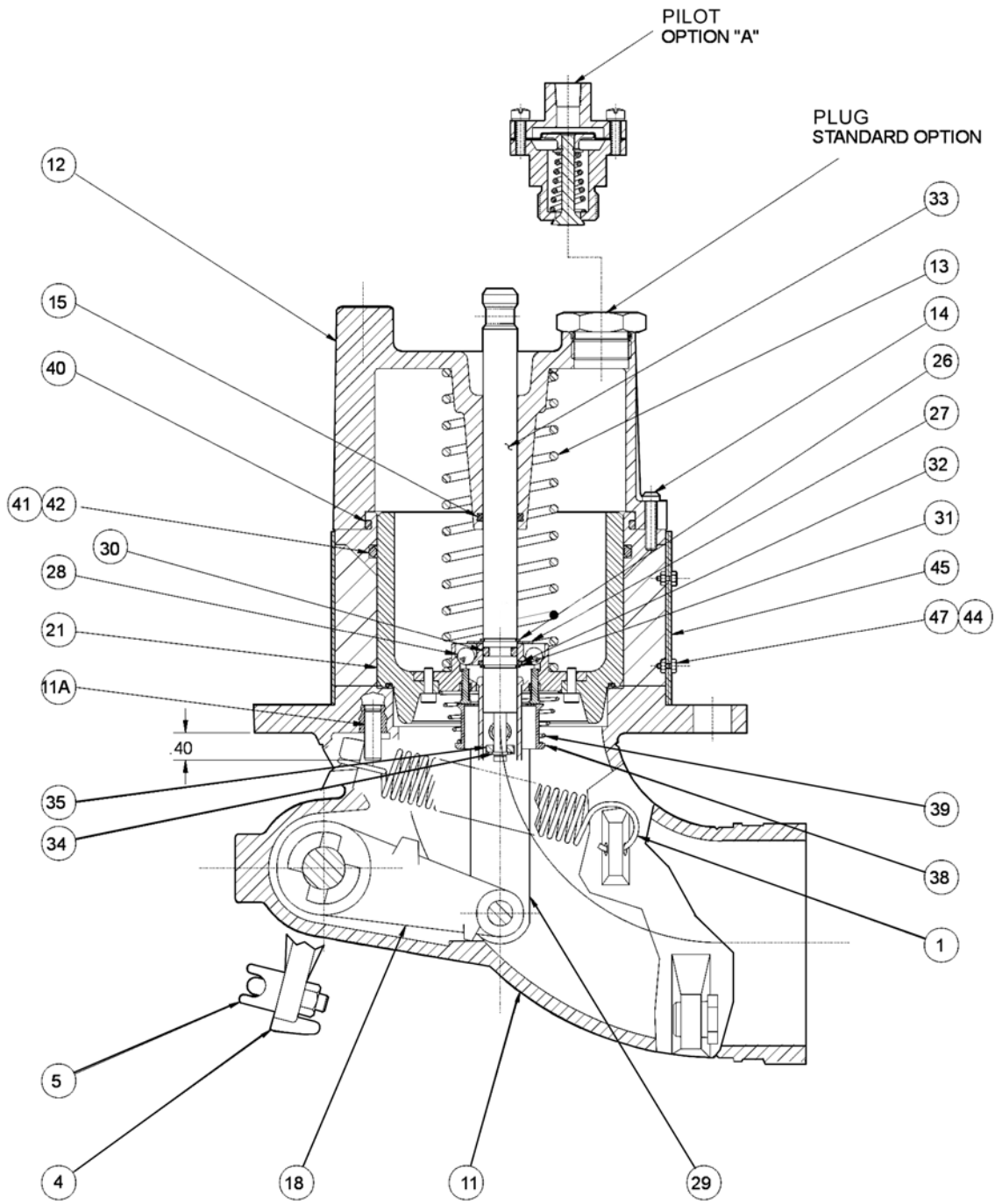


FIGURE 2 - MAIN PARTS BREAKDOWN

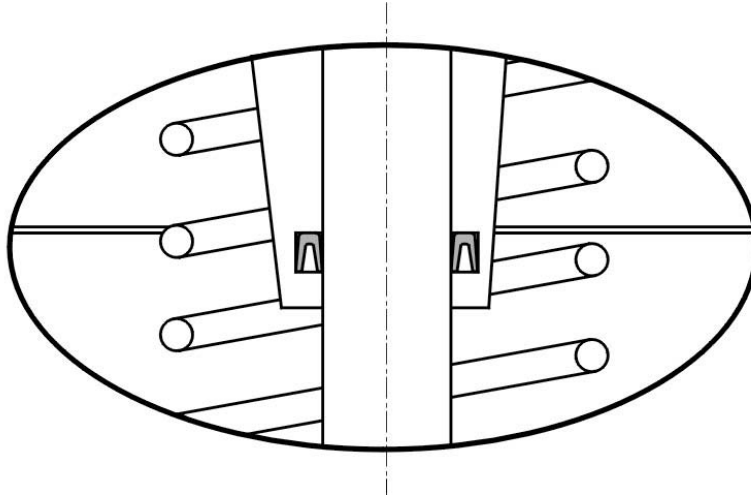


FIGURE 3 – DETAIL

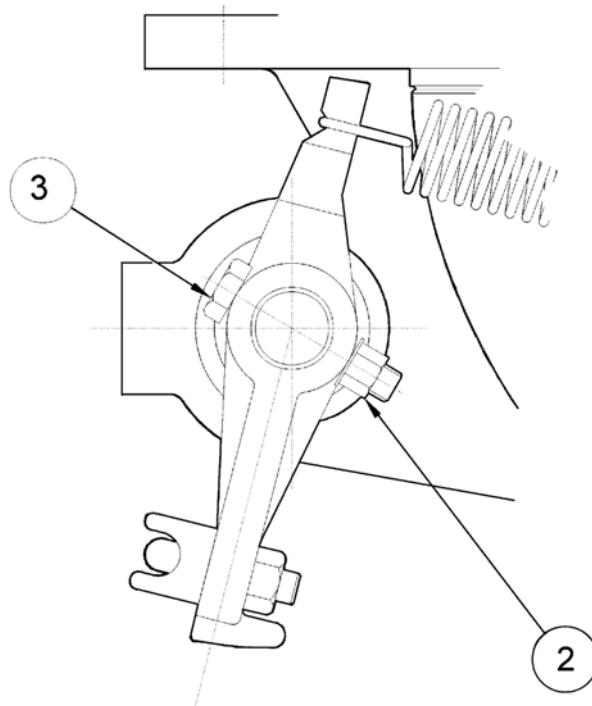


FIGURE 4 – VIEW OF OPERATING LEVER MECHANISM

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