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Aerospace Group
Conveyance Systems Division
Carter® Brand Ground Fueling Equipment

SM44315

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Applicable additional manuals:

SM61428 Nozzle

SM64348 Nozzle

SM64200 Nozzle

Maintenance & Repair Manual

Swivel Quick Disconnect

To Mate Various Carter Brand Nozzles

Model 44315

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**MAINTENANCE, OVERHAUL & TEST INSTRUCTIONS
CARTER MODEL 44315 SWIVEL QUICK DISCONNECT**

1.0 INTRODUCTION

This manual furnishes detailed instructions covering the maintenance and overhaul of Eaton's Carter brand Model 44315, Swivel Quick Disconnect Assembly.

The 44315 Swivel Disconnect is available in many variations of inlet configurations. These are obtained by

procuring different "dash" numbers of the basic Model number 44315. Each of these variations corresponds to a different "option" letter on Model 61428, 64348, or 64200 Nozzles when procured as a part of the nozzle. Refer to paragraph 3.0 for a detailed explanation of the various options.

2.0 EQUIPMENT DESCRIPTION

Model 44315 Swivel Quick Disconnect is designed to be used as a part of Model 61428, 64200 or 64348 Nozzles to provide connection to various sizes and types of hose fittings and to provide

a quick means of disconnecting the nozzle from the hose for inspection of the strainer utilized therein. The outlet adapter that mates the nozzle is also the male half of the swivel.

3.0 TABLE OF OPTIONS

The Unit is available with various inlet thread sizes and types as shown below. The corresponding options to the 61428, 64200 or 64348 Nozzles are also shown.

<u>Model Number</u>	<u>Description</u>	<u>Nozzle Option</u>
44315-1	2 1/2" NPT Inlet Thd	6H
44315-2	2 1/2" BSPP Inlet Thd	6K
44315-3	3" NPT Inlet Thd	6L
44315-4	3" BSPP Inlet Thd	6M
44315-5	2" BSPP Inlet Thd	6N
44315-6	2" NPT Inlet Thd	6P
44373-60	60-mesh Screen	B
44373-100	100-mesh Screen	C

4.0 SAFETY INSTRUCTIONS

The Swivel Disconnect described herein has two separate safety systems built into it to assure that the unit can not be inadvertently disassembled from the hose. The unit is held together with a bayonet type joint requiring a rotation motion to disconnect one part from the other. This joint is locked by a spring loaded ring that prevents the rotation unless the ring is pulled away from the joint. In addition to the locking ring, there are two screws that are also designed to prevent rotation of the bayonet feature unless loosened. These screws are normally wire locked.

NOTE:

Do not operate the nozzle with this Swivel Disconnect connected unless the Retainer(10) is in place and the Screws (4) are fully installed and wire locked.

5.0 DISASSEMBLY

- 5.1 Remove the nozzle/swivel quick disconnect from the end of the hose. Separate the swivel quick disconnect from the nozzle. Refer to SM61428 service manual, paragraph 6.2 for instructions on this operation.
- 5.2 Remove Lockwire (3) from Screws (4). Take note of the method of lockwiring for duplication upon reassembly.
- 5.3 Remove Screws (4) and set aside. Note: Older units will have a Washer (5A) under the head of each Screw (4). Newer units will have a bump on the outer rim of the Housing (6), not have the Washer (5A) and will have an anti-rotation Pin (5) to facilitate installation of the unit. Do not remove the Pin (5) unless it is damaged and replacement is needed.
- 5.4 Holding the Unit with the threaded end in the right hand and the adapter end in the left, pull the black plastic Retainer (10) away from the Housing (6). Rotate the Housing in either direction and pull it away from the Adapter (9) to disassemble.
- 5.5 Remove the Quad Ring (7) from the Housing (6). (Older units may have a two piece seal consisting of a plastic Seal and a Spring that is mounted inside the Seal cavity. These two parts may be replaced with the Quad Ring (7).) Do not remove the Wave Washer (8) unless it is to be replaced. This washer is used to assure electrical continuity between the Housing (6) and Adapter (9). If it is necessary to remove the Washer (8) it can only be accomplished by bending it out of shape. The Washer (8) is intended to be "wavey" and the precision of the waves are of no consequence as long as the waves are sufficient to make contact between the male and female halves of the Swivel.
- 5.6 If a Screen (1) is present it may be removed for replacement or cleaning by removing its Retainer (2) first.
- 5.7 The removal of the Curved Washer (11), Shroud (12), noting the direction in which it is installed for use in reassembly, Ring (13), and Retainer (10) should only be done if any of them are to be replaced. The Shroud (12) is compressed against the Curved Washer (11) to allow removal of the Ring (13). Once the Ring is removed the other parts may be removed.
- 5.8 The Teflon Seal (15) and O-ring (14) should only be removed if the Seal (15) is damaged. The O-ring is a flurosilicone compound and is not affected by age. To remove it use an "o-ring pick" being careful not to damage the Adapter (9). Once removed, the Seal (15) must be replaced as well as the O-ring (14).

6.0 INSPECTION

It is recommended that the Quad Ring (7) (or the older Seal and Spring) be replaced upon each overhaul of the Unit. O-ring (14) should be replaced only if damaged or the Seal (15) is to be replaced. Inspect all metal parts for dings, gouges, abrasions, etc. Use 320 grit paper to smooth and remove sharp edges. Replace any part with damage exceeding 15% of local wall thickness. Use alodine 1200 to touch up bared aluminum. Carefully check the edges of the ball race in the Adapter (9) for excessive wear or burrs.

This part is dry film lubricated. If the ball groove is shiny the part should be replaced or the dry film lubricant be reapplied. An easily used aerosol can of Perma-Silk G dry film lubricant can be obtained from 3M Corporation, 6940 Farmdale Ave., North Hollywood, CA 91605. Any burrs should be removed with abrasive. Excessive burring may result in hanging up of the part within the Nozzle Body making it impossible to disassemble in the future. Check the Retainer (10) for cracks. Replace if necessary.

7.0 REASSEMBLY

7.1 Reassemble in reverse order of disassembly (Refer to Figure 1), observing the following:

applied to all o-rings and screws for ease of installation.

7.1.1 Make certain all components are clean and free from oil, grease, or any other corrosion resistant compound on all interior or exterior surfaces. Wash all parts with cleaning solvent, Federal Specification P-D-680, and dry thoroughly with a clean, lint-free cloth or compressed air.

7.1.2 Install Quad Ring (7) into Housing (6).

7.1.3 If Wave Washer (8) is being installed it will be necessary to bend it somewhat to properly install it. The shape of the "waves" are not critical and the part will be flattened out somewhat upon reassembly to the Adapter (9).

7.1.4 When installing Shroud (12) be sure that it is oriented such that it will cover up and retain the Ring (13) upon final assembly.

7.1.5 Upon reassembly of the Screws (4), Lockwire (3) should be installed to prevent loosening of the Screws (4). On newer units the rotation of the Housing (6) will be stopped at the correct location by the Pin (5).

WARNING:

Use cleaning solvent in a well-ventilated area. Avoid breathing of fumes and excessive solvent contact with skin. Keep away from open flame

NOTE: A light coat of petrolatum, Federal Specification VV-P-236 or equivalent commercial quality, can be

8.0 TEST

8.1 The Unit shall be tested as a part of a completed nozzle as instructed in SM61428 or SM54348.

8.2.1 Test media shall be Calibration Test Fluid per MIL-C-7024, Stoddard Solvent (Federal Specification P-D-680), JP-4 per MIL-J-5624D at 75° ± 15°F, Jet A or equivalent.

8.2 Test conditions

- 8.3 Functional Test
As mentioned above the Unit should be tested in accordance with the appropriate paragraphs of SM61428 or SM64348.

9.0 ILLUSTRATED PARTS CATALOG

Table 1.0 tabulates the parts and sub-assemblies comprising the 44315-* Swivel Quick Disconnect Assembly and 44373-60 or -100 Screen Assemblies. The item numbers of the table are keyed to the exploded view of the Swivel Assembly diagrammed in Figure 1.

TABLE 1.0

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Units Per Assembly</u>	<u>Nozzle Option</u>	<u>Spares/ 10 Units/Yr.</u>
1	44373-60	Screen Assy, 60-mesh	1	B	1
4	4373-100	Screen Assy, 100-mesh	1	C	1
1A	208092-60	Screen, 60-mesh.....	1	B	-
1B	208092-100	Screen, 100-mesh.....	1	C	-
1C	208091	Ring, Retainer	1	B,C	-
2	44317-*	QD Female Half Assy	1	**	-
3	GF20995C32	Lockwire	A/R	**	10
4	GF24673-9	Screw	2	**	-
5	92373A126	Pin.....	1	**	-
5A	GF960C416	Washer	2	**	-
6	207813-1	Housing, 2 1/2 NPT	1	H	-
6A	207813-2	Housing, 2 1/2 BSPP	1	K	-
6B	207813-3	Housing, 3 NPT	1	L	-
6C	207813-4	Housing, 3 BSPP.....	1	M	-
6D	207813-5	Housing, 2 BSPP.....	1	N	-
6E	207813-6	Housing, 2 NPT	1	P	-
7	210174-337	Quad Ring.....	1	**	10
8	207995	Washer, Wave.....	1	**	2
9-15	44316	QD Male Half Assy	1	**	-
9	207809	Adapter	1	**	-
10	207810	Retainer.....	1	**	-
11	207811	Washer, Curved	1	**	-
12	208001	Shroud.....	1	**	-
13	RS-318-S	Ring, Retainer	1	**	-
14	M25988/1-040	O-Ring	1	**	5
15	207807	Seal, Swivel	1	**	5

For various seal kits to overhaul or repair this item as a part of a nozzle please refer to the service manual for the appropriate nozzle, SM61429, SM64200 or SM64348.

* Use the same dash number as that used on the Housing (6).

** Used on Nozzle Options H, K, L, M, N & P.

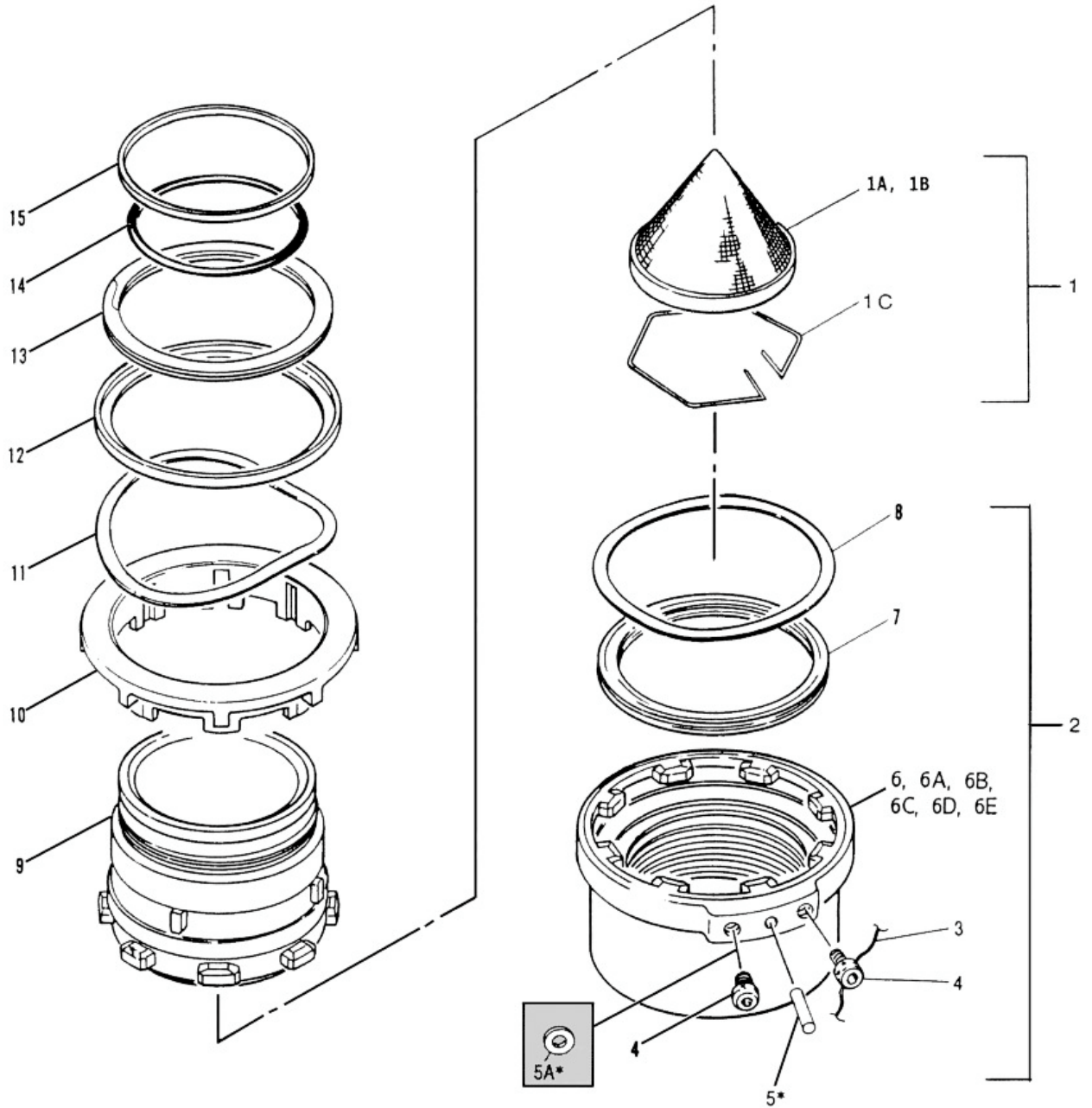


FIGURE 1

Aerospace Group
Conveyance Systems Division
9650 Jeronimo Rd
Irvine, CA 92618
Ph (949) 452-9500
Fax (949) 452-9992