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Carter® Brand Ground Fueling Equipment

Applicable additional manuals:

None

Maintenance Manual

Unisex Couplings, Valved

Model 64020
Model 64320

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Maintenance, Overhaul & Test Instructions
Model 64020 & Model 64320
Valved Unisex Coupling

1.0 INTRODUCTION

This manual furnishes detailed instructions covering the maintenance and overhaul of Eaton's Carter® brand Model 64020 and Model 64320 Valved Unisex Couplings and the various options listed in Section 3.0.

2.0 EQUIPMENT DESCRIPTION

Model 64020 and Model 64320 valved unisex couplings are 2 inch hose couplings that are universally connectable to either another 64020 or 64320 valved unisex coupling, to Model 64019 or 64319 non-valved unisex couplings, to other derivatives of Eaton's Carter brand family of unisex couplings or to similar couplings made by Eaton's Aeroquip brand. The units are qualified in accordance with A-A-59377, Class A (which supercedes MIL-C-53071). Other units to which the 64020 and 64320 will mate are listed in Section 3.0.

The basic valved couplings would be procured under part number 64020 or 64320 with various options that determine the desired inlet or hose mounting configuration. The table in paragraph 3.0 and the figures at the end of this manual include the various options available.

3.0 TABLE OF OPTIONS AND ORDERING INFORMATION

Model 64020 is available with various inlet or hose mounting configurations as described in the tables below. In addition to the units that are available under the 64020 family of part numbers there are several units that carry a different part number yet utilize the 64020 basic unit. These units are "T's", elbows, "Y's" and crosses that use multiple valved unisex couplings. The units are available in two colors to meet the customer's requirements, tan (standard) and green (option V).

Options to be added to 64020 Valved Unisex Coupling

Option Letter	Description	Option Letter	Description
A	Adds 40-mesh strainer	R	Adds 1½" female NPT inlet
B	Adds 60-mesh strainer	S	Adds 2" female NPT inlet
C	Adds 100-mesh strainer	T	Adds MS33786-32 flanged inlet
D	Adds 3" hose barb inlet	U	Adds MS33656-24 (1½") inlet
E	Adds 2" hose barb inlet	V	Changes exterior color to green
F	Adds 2" male camlock inlet	W	Female Flared -32 end inlet
G	Adds 2" female camlock inlet	X	Male Flared MS33656-16 end
H	Adds 1½" male NPT inlet	Y	Adds 3 inch NPT female adapter
J	Adds 2" male NPT inlet	1	Adds 4" hose barb inlet
K	Adds 3" female camlock inlet	2	Adds 1-1/2" male camlock inlet
L	Adds 3" male camlock inlet	3	Adds 2" male BSPP inlet
M	Adds 4" female camlock inlet	4	Adds 2" female BSPP inlet
N	Adds D-1/D-2 Inlet flange	5	Adds 1-1/2" male MBSPP inlet
P	Adds 4" male camlock inlet	6	Adds 1-1/2" female FBSPP inlet
Q	Dust cap/plug, camlock type	7	Adds 1-1/4" female NPT inlet

Note: One or more of the above options letters must be included with the basic part number 64020 to receive a completed unit.

Example: 64020F - Valved unisex coupling, meets tan color requirements, with 2" male camlock inlet fitting.

64020JV - Valved unisex coupling, meets green color requirements, with 2" male NPT inlet fitting.

Options to be added to 64320 Valved Unisex Coupling

Option Number	Description	Option Number	Description
A	Adds 40-mesh strainer	46	Adds male flared MS33656-24 inlet
B	Adds 60-mesh strainer	50	Adds 1-1/ 2" female BSPP Inlet
C	Adds 100-mesh strainer	51	Adds 2" female BSPP Inlet
Q	Dust cap/plug, camlock type	52	Adds 2-1/ 2" female BSPP Inlet
V	Changes exterior color to green	53	Adds female, 37º flared inlet, size -32
Z	Changes mating lugs to stainless steel	60	Adds1-1/ 2" camlock, male
20	Adds 1” male NPT Inlet	61	Adds 2" camlock, male
21	Adds 1-1/2" male NPT Inlet	62	Adds 3" camlock, male
22	Adds 2" male NPT Inlet	63	Adds 4" camlock, male
30	Adds 1-1/4” female NPT Inlet	70	Adds 2" camlock, female
31	Adds 1-1/2” female NPT Inlet	71	Adds 3" camlock, female
32	Adds 2” female NPT Inlet	72	Adds 4" camlock, female
33	Adds 2-1/2” female NPT Inlet	80	Adds1-1/ 2" hose barb
34	Adds 3” female NPT Inlet	81	Adds 2" hose barb
40	Adds1-1/ 2" male BSPP Inlet	82	Adds 3" hose barb
41	Adds 2" male BSPP Inlet	83	Adds 4" hose barb
44	Adds SAE J514-32 fitting	90	Adds D-1/D-2 flange inlet
45	Adds male flared MS33656-16 inlet	91	Adds flanged inlet per MS33786-32

Note: One or more of the above options letters must be included with the basic part number 64320 to receive a completed unit.

Example: 64320B61 - Valved unisex coupling, meets tan color requirements, with 60-mesh strainer and 2" male camlock inlet fitting

64320V22 - Valved unisex coupling, meets green color requirements, with 2” male NPT inlet fitting

Multiple Valved Unisex Coupling Units
Using basic 64020 Couplings

Configuration	Part Number (Tan Color)	Part Number (Green Color)
Tee - three unisex couplings	64022D	64022DV
Elbow - two unisex couplings	64023D	64023DV
"Y" - three unisex couplings	64029D	64029DV
Cross - four unisex couplings	64030D	64030DV

Use the information in this manual to repair any of the basic couplings used on the above multiple units. The housing is not expected to be in need of repair. If there is a problem with one of the housings, contact Eaton for more information.

4.0 DISASSEMBLY

4.1 Refer to Table 1 for item numbers listed in Sections 4 through 7, except as noted. Remove Screw (1) using a torque wrench, checking the running torque. If the running torque is less than 3.5 in-lb. Discard Screw (1). Note: Screw (1) is self-locking and is designed to be reused up to 15 times before replacement is necessary. If a torque wrench is not used to remove it, Screw (1) should be replaced. Remove and discard Packing (2). Holding the unit over a suitable container to collect the Balls (3) in the swivel joint, with the screw hole toward the container, rotate the inlet fitting to allow the Balls (3) to fall into the container. There should be 41 Balls (3). When all 41 Balls (3) have been collected pull the Inlet (see Figures 2 & 3) from the main unit. Remove and discard Packings (25

& 26). Be careful not to lose any of the Springs (23). Remove and discard Upstream Seal (24). Set the Inlet (see Figures 2 & 3) and Springs (23) aside for later use.

Remove the Screen Assembly (Figure 2, item 62) (Option A – C only) by removing the split ring and pulling both from the ball.

4.2 Rotate Ball (27) to closed position to align the slots in the upper and lower sections to allow for removal. Remove Ball (27) from inlet of Body (51).

4.3 Remove Stop Pin (29) and Wave Washer (28) along with Packing (30) (lower Ball support). Discard Packing (30).

4.4 Reach into Body (51) cavity and remove Downstream Seal (31) and Packing (32). Discard both.

4.5 Remove Screws (33) from Arm (35). Arm Assembly (34) can now be removed. If this part of the unit is not damaged and is functioning properly, it is not necessary to disassemble it further. If necessary to disassemble then using an Allen key remove Screw (36), Spring (37) and Grip (38).

4.6 Shaft (39) can be removed from the inside of the Body (51). Remove and discard Packing (30).

4.7 Remove and discard seal (41) from interface end of body (51).

4.8 If the Dust Cap (46) or the Cable (50) is to be replaced cut the Cable (50) to remove.

Remove and discard Seal (41) from Dust Cap (46)

4.9 Remove the Bumper (42) only if replacement is needed or if it is necessary to replace the Lugs (44) or (45).

4.10 Remove Screw (43) to replace Lugs (44) and/or (45).

4.11 Do not try to disassemble the Body (51) to remove the spring loaded Ball (56), Spring (55) or Retainer (57) permanently affixed in the face of the unit. If the ball is damaged, replacement of the Body (51) will be necessary.

4.12 Do not remove the interlock mechanism, Lockout Pin (54), Screw (52) and Spring (53) unless replacement is needed. If necessary use an Allen key to remove Screw (52) then Spring (53) and Lockout Pin (54).

5.0 INSPECTION

It is recommended that all Packings (2), (14), (25), (26), (30), (32), Seals (24), (31), (41), (48) and Gaskets (18), 20), and (22), if present, be discarded and replaced at each overhaul.

Inspect all metal parts for dings, gouges, abrasions, etc. On all parts except for the Ball (27), 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. If Ball (27) is scratched or damaged it should be replaced.

Inspect the Bumper (42) for evidence of cracking or wear. Replace as necessary.

Check Lugs (44) and (45) to assure that they are not loose. If loose, remove Bumper (42) to check the tightness of the Screws (43). Screws (43) should be tightened to 6 in-lb.

Count the Balls (3) to make sure that all 41 are present.

Check the hole in the face of the unit adjacent to the large Lug (43) to be sure it is clear and free of contamination.

Check the groove (round bottom) in the Inlet (4 through 21) for burrs on the corners. If groove is worn such that burrs exist, use 320 grit paper to smooth and remove sharp edges. Burrs will make it difficult to re-install the part.

Inspect the Dust Cap (46) for soundness and completeness. If cracked or broken, replace.

Inspect the small spring loaded ball located in the face of the unit. Push the ball in and be sure that it pops back into place. The purpose of this ball is to provide electrical continuity between mating units.

Inspect the Screw (36) and Arm (35) for damage that could have been caused by dropping the unit. If either part is bent replace it.

Inspect the Screen Assembly (Figure 2, item 62) (Option A – C only) for any damage. If damaged replace it. Clean the screen of any dirt or debris.

6.0 REASSEMBLY

Reassemble the parts in the reverse order of disassembly noting the following:

6.1 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 or equivalent, and dry thoroughly with a clean, lint-free cloth or compressed air.

WARNING

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

6.2 Install the Seal (48) in Dust Cap (47) using a finger to be sure that the seal is properly seated in its groove. This Seal (48) and Seal (41) are identical. (Seal (48) is also interchangeable with the same type of part made for Eaton's Aeroquip brand of Unisex Couplings).

6.3 If the Cable (50) was cut to remove it from the Dust Cap (47), rebuild it by looping one end of the Cable (50) (approximately 18" long before assembly) through the hole in the Dust Cap (47). Make a loop approximately one inch long. Retain the loose end of the Cable (50) with Sleeve (49). Crush the Sleeve (49) to retain the Cable (50) using a pair of vise grips or heavy battery pliers. Make a one inch loop on the opposite end of the Cable (50) and secure it with another Sleeve (49) affixing it as above. The loop in the Cable (50) is treaded onto the Ring (40) to affix it to the unit.

6.4 If removed during disassembly, install Lugs (44 and 45) in their proper positions. Match the holes in the Lugs (44 and 45) with the hole pattern in the Body (51). Tighten Screws (43) to 6 in-lb. to retain.

6.5 Install Bumper (42) onto Body (51) such that the thin lip seal end is facing away from the unit.

6.6 Install the Seal (41) into the groove in the face of the Body (51) making sure that its outer face is smooth and free of any wrinkles.

6.7 Insert Downstream Seal (31) with Packing (32) in place into Body (51). Press firmly into place.

6.8 Place one Packing (30) onto Shaft (39) and insert into the hole in the Body (51) from the inside of the Body (51). Press firmly to seat the part into the Body (51).

6.9 If disassembled, reassemble Grip (38), Spring (37) and Arm (35) with Screw (36). Tighten the Screw (36) to bottom out only, do not over tighten. Place assembly onto the Shaft (39) aligning the two holes and affix with the two Screws (33), torque to 8 in-lb. Rotate the Arm (35) into the closed position.

6.10 Place Packing (30) in groove in Stop Pin (29) and install Stop Pin (29) in hole in Body (51) being sure that the hump on the Stop Pin (29) is to the left when the inlet opening of the Body (51) through which you are working is facing you and the stop pin hole in the Body (51) is closest to you. Place the Wave Washer (28) into the groove in the Stop Pin (29).

6.11 Align the proper slots in the Ball (27) with the tangs on the Shaft (39) and the Stop Pin (29) and insert the Ball (27) into the Body (51). Some slight movement may be necessary to accomplish this.

6.12 Rotate the Arm (35) to the open position. And retain the Ball (27) in place.

6.13 If the Lockout Pin (54) was not removed from the unit, keep the Ball (27) and the Arm (35) in the open position, and check to see if the Lockout Pin (54) can be depressed. If it cannot be fully depressed into its cavity in the Body (51), the Stop Pin (54) was installed correctly. Otherwise, the Stop Pin (29) was installed with the hump to your right and not to your left. Remove the Ball (27) and correct the Stop Pin (29) installation.

If the Lockout Pin (54) was removed from the unit, keep the Ball (27) and the Arm (35) in the open position, and visually check to see if the Lockout Pin (54) is installed correctly by looking at the Stop Pin (29) through the lockout pin hole on the interface end of the Body (51). If the hump of the Stop Pin (29) was rotated to a position closest to the interface end of the Body (51), the Stop Pin (29) was installed correctly. Otherwise, the Stop Pin (29) was installed with the hump to your right and not to your left. Remove the Ball (27) and correct the Stop Pin (29) installation.

6.14 If the Lockout Pin (54) was removed from the unit install Screw (52) into Body (51), then drop Spring (53) over Screw (52). Place Lockout Pin (54) in place and start the Screw (52) with an Allen key. Tighten Screw (52) until the ramp edge of Lockout Pin (54) is even with or slightly below the adjacent ledge of the Body (51). Then pull the Grip (38) back and slowly turn the Arm (35) towards the closed position. If the Arm (35) will not rotate or is too tight to rotate, loosen the Screw (52) by one-quarter turn at a time until the Arm (35) can be rotated freely.

In the Lockout Pin (54) adjustment process, ensure the Ball (27) is securely seated in the Body (51) at all times. After the adjustment process is completed, rotate Arm (35) to the

open position and retain the Ball (27) in place while completing the remainder of the operation.

6.15 Inlets (Figure 2, items 4 through 22) have various hose connections on one end and the other end contains two grooves and a series of eight holes. Inlets (see Figure 3, items 58 thru 61) are set up to accept the main coupling on more than one end. The groove (rounded bottom) nearest the end is for the ball race connection. The second groove (square bottom) is where Packing (26) is to be installed. Lubricate the Packings (25) and (26) with a light coat of petrolatum, Federal Specification VV-P-236. Place Springs (23) into the eight holes in the Inlet (Figure 2, items 4 through 22), install Packing (25) into groove inside Inlet and upstream Seal (24).

6.16 Press Inlet (Figure 2, items 4 thru 22 & Figure 3, items 58 through 61) into Body (51) to line up the groove in the Body (51). **DO NOT** use any form of grease on Balls (3). Insert the correct number of Balls (3) in the hole of the Body (51) to retain the joint together. Insert Screw (1) and Packing (2) into hole and tighten to 25 in-lb.

6.17 On Options A-C insert the Screen (Figure 2, item 62) into the ball and insert split ring to retain.

7.0 TEST

7.1 The following test procedures will be accomplished after overhaul:

7.2 Test conditions

Test media shall be JP-8 MIL-T-83133, Jet A, odorless kerosene or Stoddard type solvent MIL-PRF-7024E Type II.

7.3 Functional Test

7.3.1 Using the test unit and a similar valved unisex coupling, make sure that they will connect correctly while both couplings are in closed condition. After connecting the couplings, open the test unit and try to disconnect by applying a counterclockwise motion. The coupling, in open position, will prevent any disconnect attempt. Then close the test unit and disconnect by applying a counter-clockwise motion.

7.3.2 Connect the test unit to another unisex coupling with inlet capped. Connect fluid pressure source capable of 100 psi pressure to the inlet of the test unit. With the Arm (35) in the open position, apply pressure of 5 and 100 psig to the system and observe for external leakage. There should be no leakage over a period of at least one minute. Reduce the system pressure.

7.3.3 Connect fluid pressure source capable of 100 psi pressure to the inlet of test unit. With the test unit in disconnected condition and the Arm (35) in the closed position, apply pressure of 5 and 100 psig to the system and observe for external leakage. There should be no leakage over a period of at least one minute. Reduce the system pressure.

7.3.4 Remove test unit from the test system and install the dust cap.

8.0 ILLUSTRATED PARTS CATALOG

Table 1.0 tabulates the parts and sub-assemblies comprising the 64020 valved unisex coupling. The item numbers of the table are keyed to the exploded view of the nozzle diagrammed in Figure 1.

Various inlets and options are listed in Tables 2 & 3, shown in corresponding Figures 2 & 3.

Table 1.0
Ref. Figure 1

Fig	Item	Part Number	Description	Units/ Assy	64020 Option	64320 Option	Spares/10 Units/Yr
1	1	GF35206-276	Screw	1	All	All	-
	2	MS29513-010	Packing	1	All	All	10
	3	220265	Ball	41	All	All	-
	4 – 22	See Table 2					
	23	220153	Spring	8	All	All	-
	24	220157	Seal, upstream	1	All	All	10
	25	MS29513-133	Packing	1	All	All	10
	26	MS29513-228	Packing	1	All	All	10
	27	220152	Ball	1	All except A, B, C	All except A, B, C	-
		220775	Ball	1	A, B, C	A, B, C	-
	28	W0367-006-S	Wave washer	1	All	All	-
	29	220150	Pin, stop	1	All	All	-
	30	MS29513-014	Packing	2	All	All	20
	31	221284	Seal, downstream	1	All	All	10
	32	MS29513-032	O-Ring	1	All	All	10
	33	PL24693C50	Screw	2	All	All	-
	34	47085	Arm assembly	1	All	All	-
	35	220147	Arm	1	All	All	-
	36	220204	Screw	1	All	All	-
	37	220145	Spring	1	All	All	-
	38	220142	Grip	1	All	All	-
	39	220154	Shaft	1	All	All	-
	40	220482	Ring	1	All	All	-
	41	220146	Seal	1	All	All	10
	42	220161	Bumper	1	All	All	5
	43	GF16997-20L	Screw	4	All	All	-
	44	220159-1	Lug, long (aluminum)	1	All but Z, ZV	All but Z, ZV	-
		220805-1	Lug, long (CRES)	1	Z, ZV	Z, ZV	
	45	220159-2	Lug, short (aluminum)	1	All but Z, ZV	All but Z, ZV	-
		220805-2	Lug, short (CRES)	1	Z, ZV	Z, ZV	
	46	47062	Dust cap assembly	1	All	All	2
	47	220162	Cap	1	All	All	-
	48	220146	Seal	1	All	All	10
	49	28-2-G	Sleeve	2	All	All	-
	50	82499-1800	Cable	1	All	All	-
	51	220163-3	Body (tan)	1	All but V	All but V	-
		220163-4	Body (green)	1	V	V	-
	52	GF16997-24L	Screw	1	All	All	-
	53	220149	Spring	1	All	All	-
	54	220151	Pin, lockout	1	All	All	-
	55	220335	Spring	1	All	All	-
	56	220265	Ball	1	All	All	-
	57	220334	Retainer	1	All	All	-

Fig	Item	Part Number	Description	Units/ Assy	64020 Option	64320 Option	Spares/10 Units/Yr
		KD64020-1	Kit of parts to replace seals in any single coupling option except for options G, K, M & N. Contains items 2, 24, 25, 26, 30, 31, 32 & 41.				
		KD64020-2	Kit of seals for 64023D Elbow. Contains items 2, 24, 25, 26, 30, 31, 32 & 41 in appropriate quantities.				
		KD64020-3	Kit of seals for 64022D Tee & 64029D "Y". Contains items 2, 24, 25, 26, 30, 31, 32 & 41 in appropriate quantities.				
		KD64020-4	Kit of seals for 64030D Cross. Contains items 2, 24, 25, 26, 30, 31, 32 & 41.				
		KD64020-5	Kit of seals for 64020N. Contains items 2, 14, 24, 25, 26, 30, 31, 32 & 41 in appropriate quantities.				
		KD64020-6	Kit of seals for 64020G. Contains items 2, 18, 24, 25, 26, 30, 31, 32 & 41.				
		KD64020-7	Kit of seals for 64020K. Contains items 2, 20, 24, 25, 26, 30, 31, 32 & 41.				
		KD64020-8	Kit of seals for 64020M. Contains items 2, 22, 24, 25, 26, 30, 31, 32 & 41.				
		KD64020-9	Kit of cap, bumper and interface seal for any single coupling option. Contains items 48, 42 & 46.				

Note:

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 and "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 actual quantity required will vary from location to location.

Table 2.0

Ref. Figure 2

Fig	Item	Part Number	Description	Units/ Assy	64020 Option	64320 Option	Spares/10 Units/Yr
2	4	220132-1	Inlet, 2" male NPT, tan	1	J	22	-
		220132-2	Inlet, 2" male NPT, green	1	JV	V22	-
	4A	221568-1	Inlet, 2" male BSPP, tan	1	3	41	-
		221568-2	Inlet, 2" male BSPP, green	1	3V	V41	-
		221320-1	Inlet, 1-1/2” male BSPP, tan	1	5	40	
		221320-2	Inlet, 1-1/2” male BSPP, green	1	5V	V40	
	5	220131-1	Inlet, 1½" male NPT, tan	1	H	21	-
		220131-2	Inlet, 1½" male NPT, green	1	HV	V21	-
	6	220498-1	Inlet, 2” female NPT, tan	1	S	32	-
		220498-2	Inlet, 2” female NPT, green	1	SV	V32	-
		221675-1	Inlet, 1-1/4” female NPT, tan	1	7	30	-
		221675-2	Inlet, 1-1/4” female NPT, green	1	7V	V30	-
	6A	220499-1	Inlet, 2” female BSPP, tan	1	4	51	-
		220499-2	Inlet, 2” female BSPP, green	1	4V	V51	-
	7	220502-1	Inlet, 1-1/2” female NPT, tan	1	R	31	-
		220502-2	Inlet, 1-1/2” female NPT, green	1	RV	V31	-
		220500-1	Inlet, 1-1/2” female BSPP, tan		6	50	-
		220500-2	Inlet, 1-1/2” female BSPP, green		6V	V50	-
	8	220124-1	Inlet, 2" male camlock, tan	1	F	61	-
		220124-2	Inlet, 2" male camlock, green	1	FV	V61	-
	9	47036-1	Inlet assembly, D-1/D-2 flange, tan	1	N	90	-
		47036-2	Inlet assembly, D-1/D-2 flange, green	1	NV	V90	-
	10	220136-1	Inlet, D-1/D-2 flange, tan	1	N	90	-
		220136-2	Inlet, D-1/D-2 flange, green	1	NV	V90	-
	11	GF35308-334	Screw	6	N, NV	90, V90	-
	12	GF960C516	Washer	12	N, NV	90, V90	-
	13	GF21083C5	Nut	6	N, NV	90, V90	-
	14	201201-151	Packing	1	N, NV	90, V90	-
	15	220130-1	Inlet, 2" hose barb, tan	1	E	81	-
		220130-2	Inlet, 2" hose barb, green	1	EV	V81	-
	16	220129-1	Inlet, 3" hose barb, tan	1	D	82	-
		220129-2	Inlet, 3" hose barb, green	1	DV	V82	-
	17	20D-AL-TN	Inlet, 2" female camlock, tan	1	G	70	-
		20D-AL-GN	Inlet, 2" female camlock, green	1	GV	V70	-
	18	MS27030-6	Gasket	1	G, GV	70, V70	10
	19	3020D-AL-TN	Inlet, 3" female camlock, tan	1	K	71	-
		3020D-AL-GN	Inlet, 3" female camlock, green	1	KV	V71	-
	20	MS27030-8	Gasket	1	K,KV	71, V71	10
	21	40208-AL-TN	Inlet, 4" female camlock, tan	1	M	72	-
		40208-AL-GN	Inlet, 4" female camlock, green	1	MV	V72	-
	22	MS27030-9	Gasket	1	M, MV	72, V72	10
	23 – 57	See Table 1					
	58 – 61	See Table 3					

Fig	Item	Part Number	Description	Units/ Assy	64020 Option	64320 Option	Spares/10 Units/Yr
2	62	47115-40	Screen assembly – 40 mesh	1	A	A	-
		47115-60	Screen assembly – 60 mesh	1	B	B	-
		47115-100	Screen assembly – 100 mesh	1	C	C	-
	63	221517-1	Inlet, 1-1/2” male camlock, tan	1	2	60	-
		221517-2	Inlet, 1-1/2” male camlock, green	1	2V	V60	-
	64	220134-1	Inlet, 3" male camlock, tan	1	L	62	-
		220134-2	Inlet, 3" male camlock, green	1	LV	V62	-
	65	220137-1	Inlet, 4" male camlock, tan	1	P	63	-
		220137-2	Inlet, 4" male camlock, green	1	PV	V63	-
	66	220728-1	Inlet, male flared MS33656 -16 end, tan	1	X	45	-
		220728-2	Inlet, male flared MS33656 -16 end, green	1	XV	V45	-
		220582-1	Inlet, male flared MS33656 -24 end, tan	1	U	46	-
		220582-2	Inlet, male flared MS33656 -24 end, green	1	UV	V46	-
	67	220581-1	Inlet, female flared -32 End, Tan	1	W	53	-
		220581-2	Inlet, female flared -32 End, Green	1	WV	V53	-
	68	220471-1	Inlet, flange per MS33786-32, Tan	1	T	91	-
		220471-2	Inlet, flange per MS33786-32, Green	1	TV	V91	-
	69	GF27028-11-TN	Dust cap, 2” male camlock, tan	1	FQ	Q61	-
		GF27028-11-GN	Dust cap, 2” male camlock, green	1	FQV	QV61	-
	70	GF27028-15-TN	Dust cap, 3” male camlock, tan	1	LQ	Q62	-
		GF27028-15-GN	Dust cap, 3” male camlock, green	1	LQV	QV62	-
	71	GF27028-17-TN	Dust cap, 4” male camlock, tan	1	PQ	63	-
		GF27028-17-GN	Dust cap, 4” male camlock, green	1	PQV	QV63	-
	72	GF27029-11-TN	Dust cap, 2” female camlock, tan	1	GQ	Q70	-
		GF27029-11-GN	Dust cap, 2” female camlock, green	1	GQV	QV70	-
	73	GF27029-15-TN	Dust cap, 3” female camlock, tan	1	KQ	Q71	-
		GF27029-15-GN	Dust cap, 3” female camlock, green	1	KQV	QV71	-
	74	GF27029-17-TN	Dust cap, 4” female camlock, tan	1	MQ	Q72	-
		GF27029-17-GN	Dust cap, 4” female camlock, green	1	MQV	QV72	-
	75	221244-1	Inlet, 4” hose barb, tan	1	1	83	-
		221244-2	Inlet, 4” hose barb, green	1	1V	V83	-
	76	221138-1	Inlet, 3” female NPT, tan	1	Y	34	-
		221138-2	Inlet, 3” female NPT, green	1	YV	V34	-

Table 3.0

Ref. Figure 3

Fig.	Item	Part Number	Description	Units/ Assy	Option	Spares/10 Units/Yr
3	58	220166-1	Elbow, tan	1	64023D	-
		220166-2	Elbow, green	1	64023DV	-
	59	220165-1	Tee, tan	1	64022D	-
		220165-2	Tee, green	1	64022DV	-
	60	220168-1	Cross, tan	1	64030D	-
		220168-2	Cross, green	1	64030DV	-
	61	220167-1	"Y", tan	1	64029D	-
		220167-2	"Y", green	1	64029DV	-

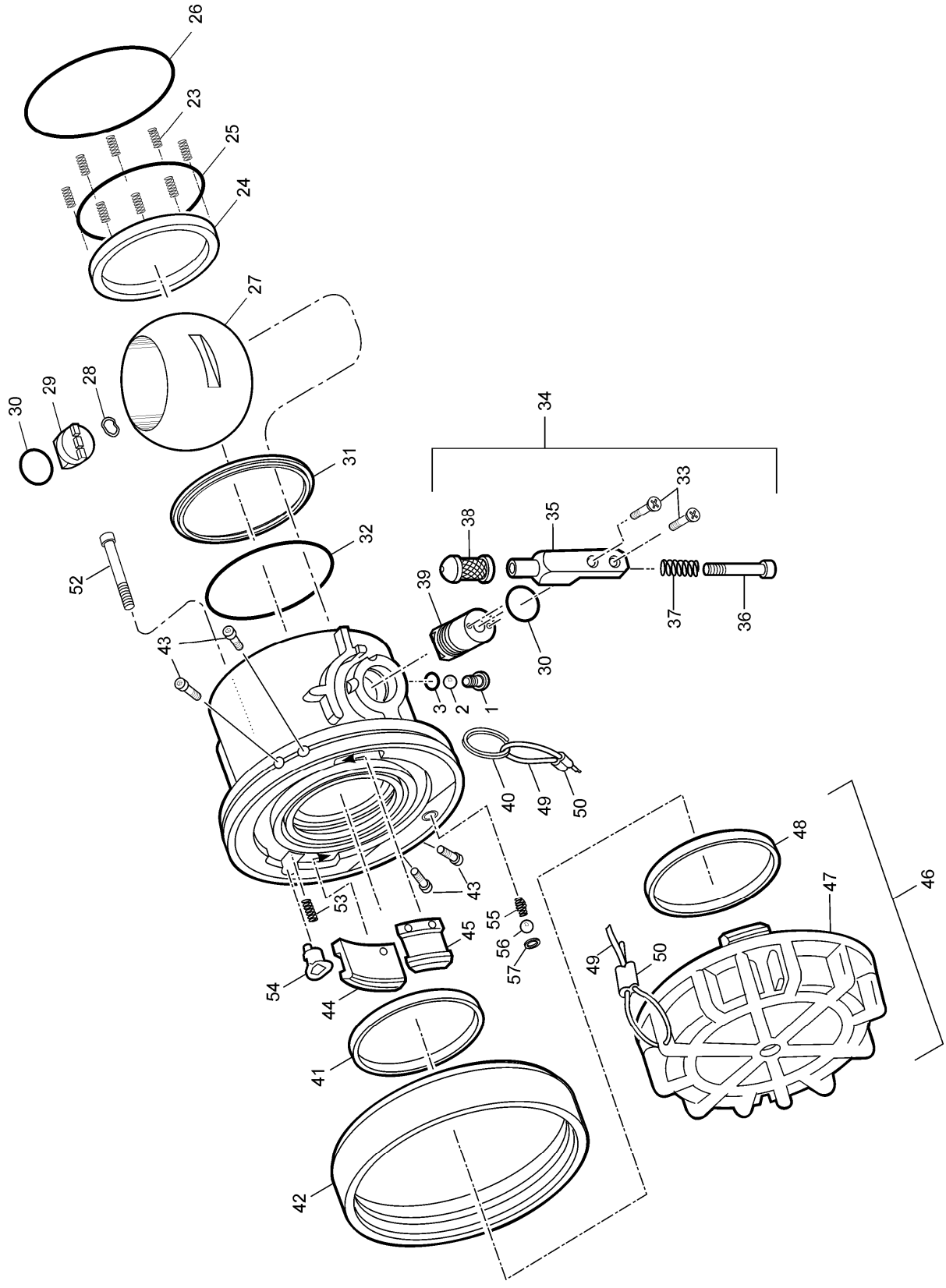
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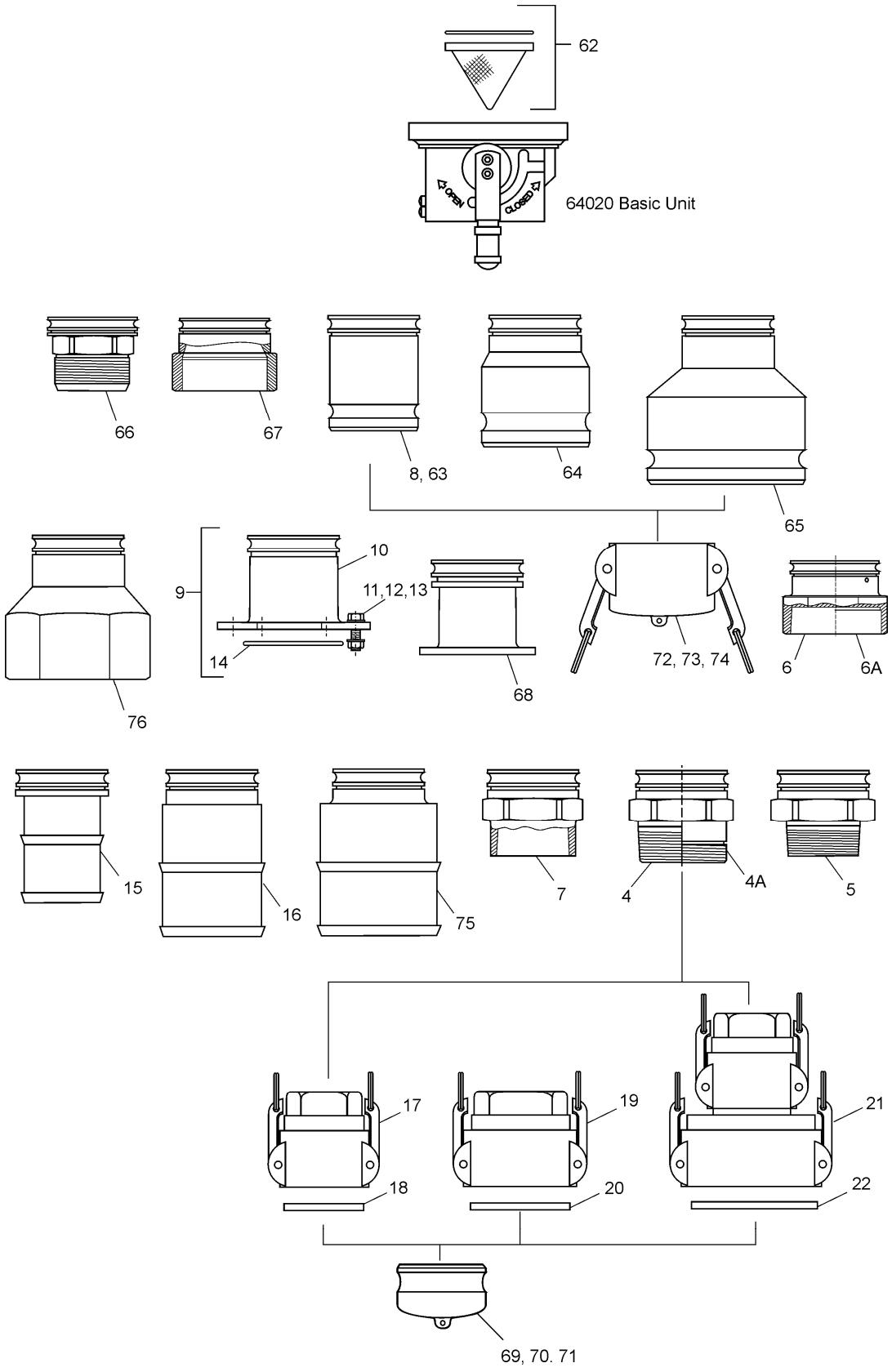
Figure 1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64020 Basic Unit
OPEN
CLOSED
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8, 63
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9
11,12,13
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76
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72, 73, 74
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6A
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69, 70. 71

Figure 2

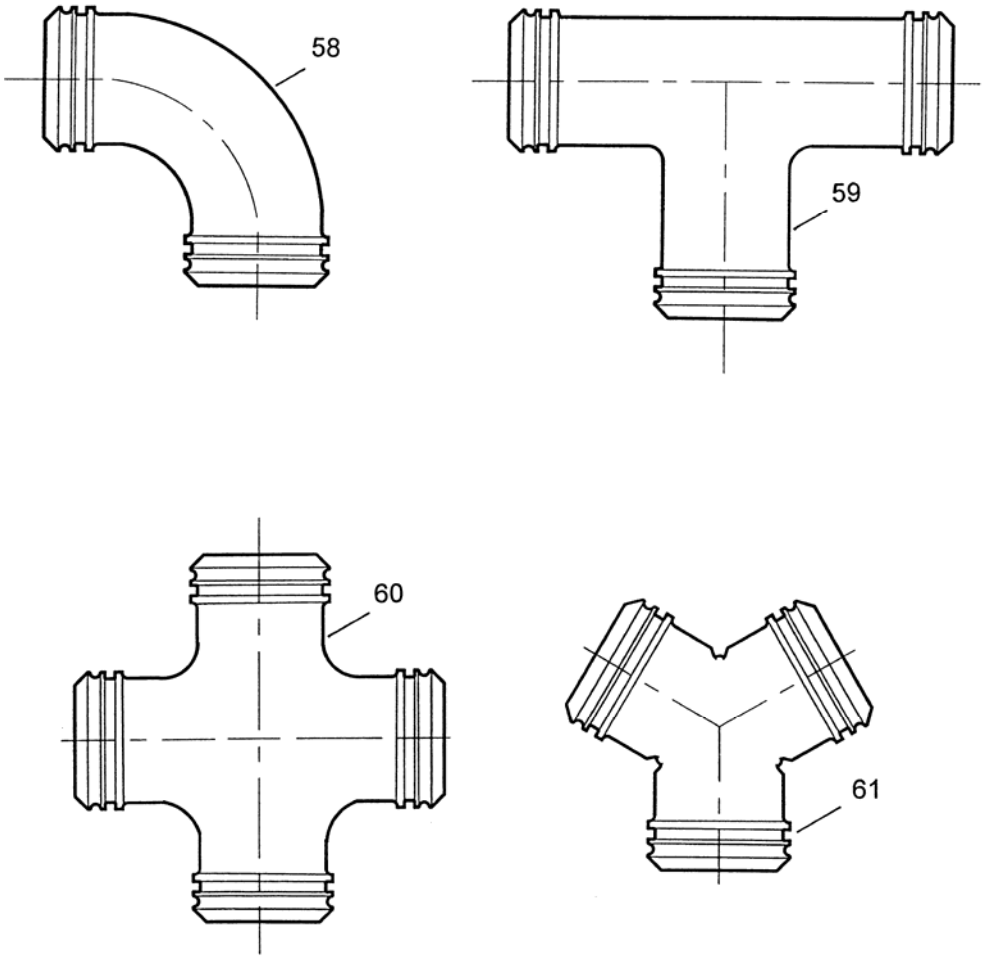

Figure 3

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