

III. TROUBLESHOOTING

SYMPTOM	CAUSE	CORRECTIVE ACTION
Check valve fails to hold 1 psid.	<ol style="list-style-type: none"> 1. Shut-off valve not closed completely. 2. Check valve fouled with debris. 3. Check poppet stem not moving freely in guide. 	<ol style="list-style-type: none"> 4. Close #2 shut-off valve or inspect for possible through leakage. 5. Inspect and clean seat disc and seat. 6. Inspect for debris or deposit on poppet stem or guide.

IV. MAINTENANCE INSTRUCTIONS

2-1/2" - 6" SIZES

Open test cocks #2, #3, and #4 to relieve pressure from the device. Both shut-off valves must be closed.

A. CHECK REMOVAL

Note: If the first check seat disc needs only to be cleaned, it is not necessary to remove the entire check module from the valve body. See the next section, "Check Maintenance", for seat disc cleaning instructions. Note: The first check must be removed for maintenance of the second check.

1. Remove the cover clamp by backing off the nut until the latch can be disengaged from the T-bolt. Pull the clamp apart and slide away from the valve. See Figure 2.
2. Lift off the cover. A flat screwdriver will aid in lifting the cover out of the body. Screwdriver slots are provided on the perimeter of the cover. The first check must be removed first and then the second check may be removed.
3. Remove the check-retaining clip by pinching the clip ears together. This will disengage the clip from its groove. Remove clip and check-retaining ring. Pull check module straight out of body. The check module is sealed in place with an o-ring. See Figure 3.

FIGURE 2

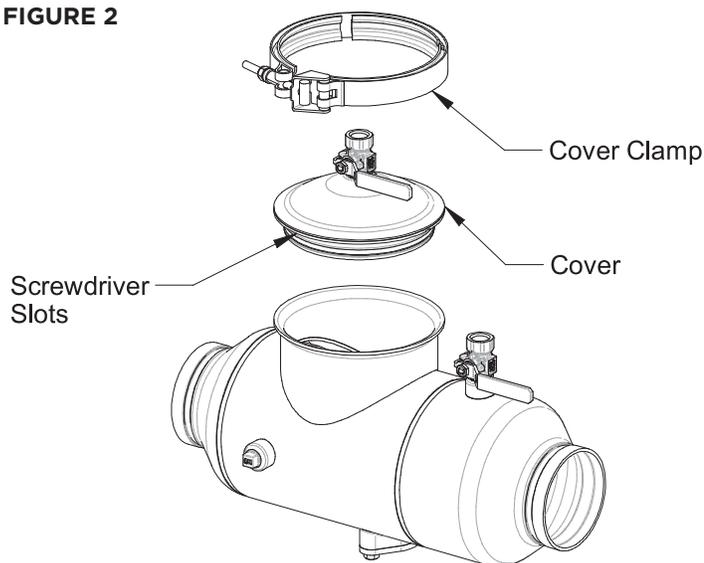
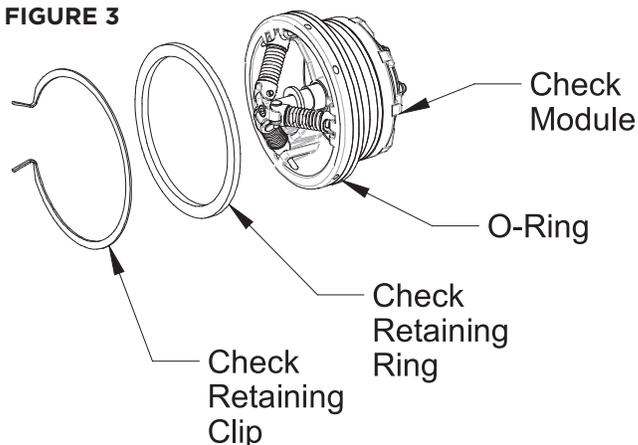


FIGURE 3



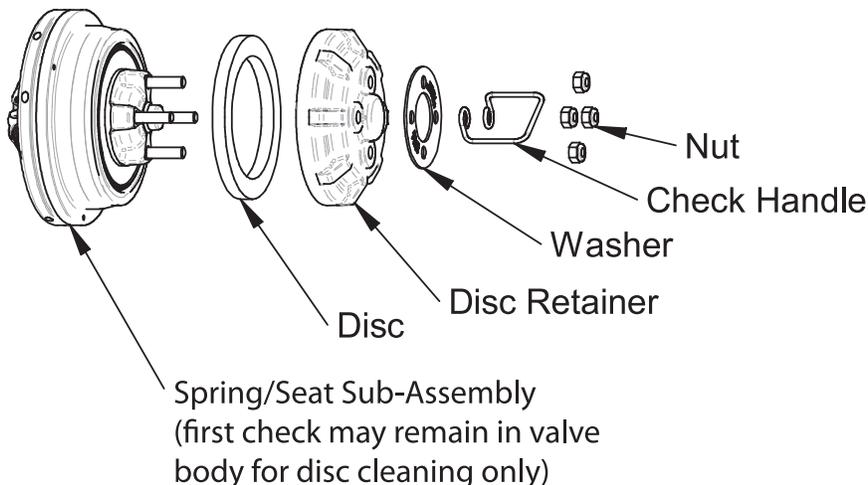
IV. MAINTENANCE INSTRUCTIONS

B. CHECK MAINTENANCE

If only cleaning of the first check is necessary, simply remove the three (3) nuts for 2-1/2" & 3" valves/ four(4) nuts for 4" & 6" valves on the black plastic disc retainer (See Figure 4). Remove the check handle and washer and lift the disc retainer and disc out of the body. Rinse the disc with clean water or replace if necessary. The disc may be flipped over for a temporary repair, but should be replaced if damaged. Replace the disc, disc retainer, washer, handle, and nuts. **Do not over tighten locknuts.**

NOTE: The springs are factory installed and should not be removed or adjusted. Serious injury could occur if springs are disassembled.

FIGURE 4
2-1/2" - 6" SIZES



8" - 12" SIZES

Open test cocks #2, #3, and #4 to relieve pressure from the device. Both shut-off valves must be closed.

A. CHECK REMOVAL

Note: If the first check disc needs only to be cleaned, it is not necessary to remove the entire check module from the valve body. See the next section, "Check Maintenance", for disc cleaning instructions.

1. Take off the cover coupling by removing the two bolts and nuts. The gasket may remain on the valve body.
2. Lift off the cover. See Figure 5.
3. Remove the six (6) nuts for 8" valves/ eight (8) nuts for 10" & 12" valves with a 3/4" socket and ratchet.
4. Slide the entire check module off the body studs and remove from body (see Figure 6).

Either check may be removed without disturbing the other (8" - 12" sizes only).

IV. MAINTENANCE INSTRUCTIONS

FIGURE 5

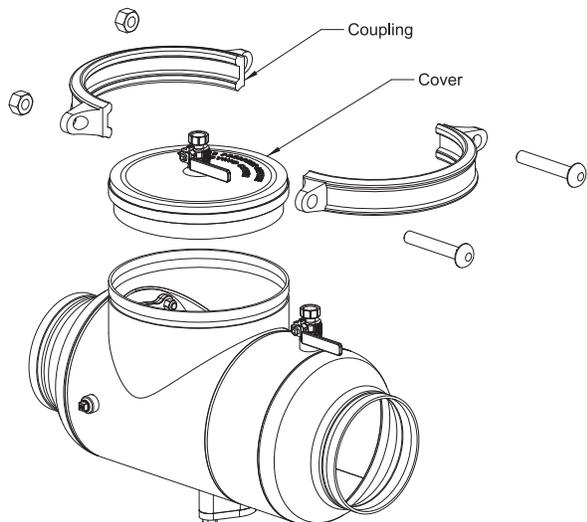
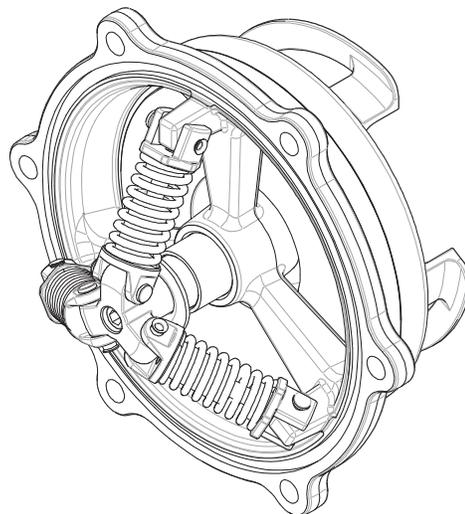


FIGURE 6

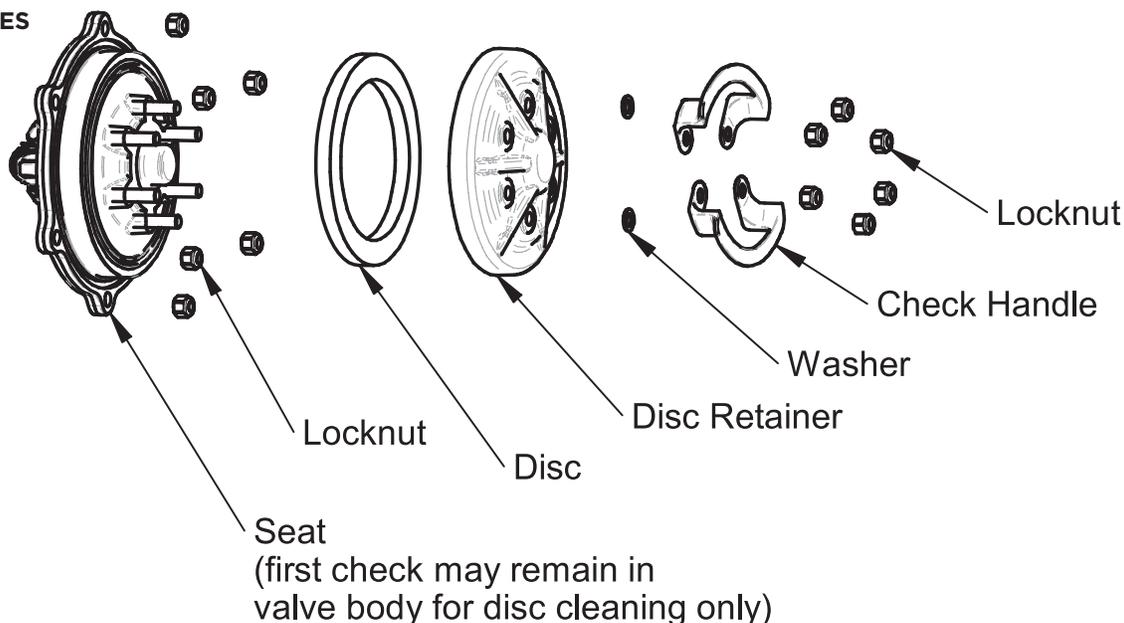


B. CHECK MAINTENANCE (CAN BE ACHIEVED WITHOUT REMOVING ENTIRE CHECK.)

If only cleaning of the first check is necessary, simply remove the six (6) nuts for 8" valves / eight (8) nuts for 10" & 12" valves on the black plastic disc retainer (See Figure 7). Remove the check handles and washers and lift the disc retainer and disc out of the body. Rinse the disc with clean water or replace if necessary. The disc may be flipped over for a temporary repair, but should be replaced if damaged. Replace the disc, disc retainer, washer, handle, and nuts. **Do not over tighten locknuts.**

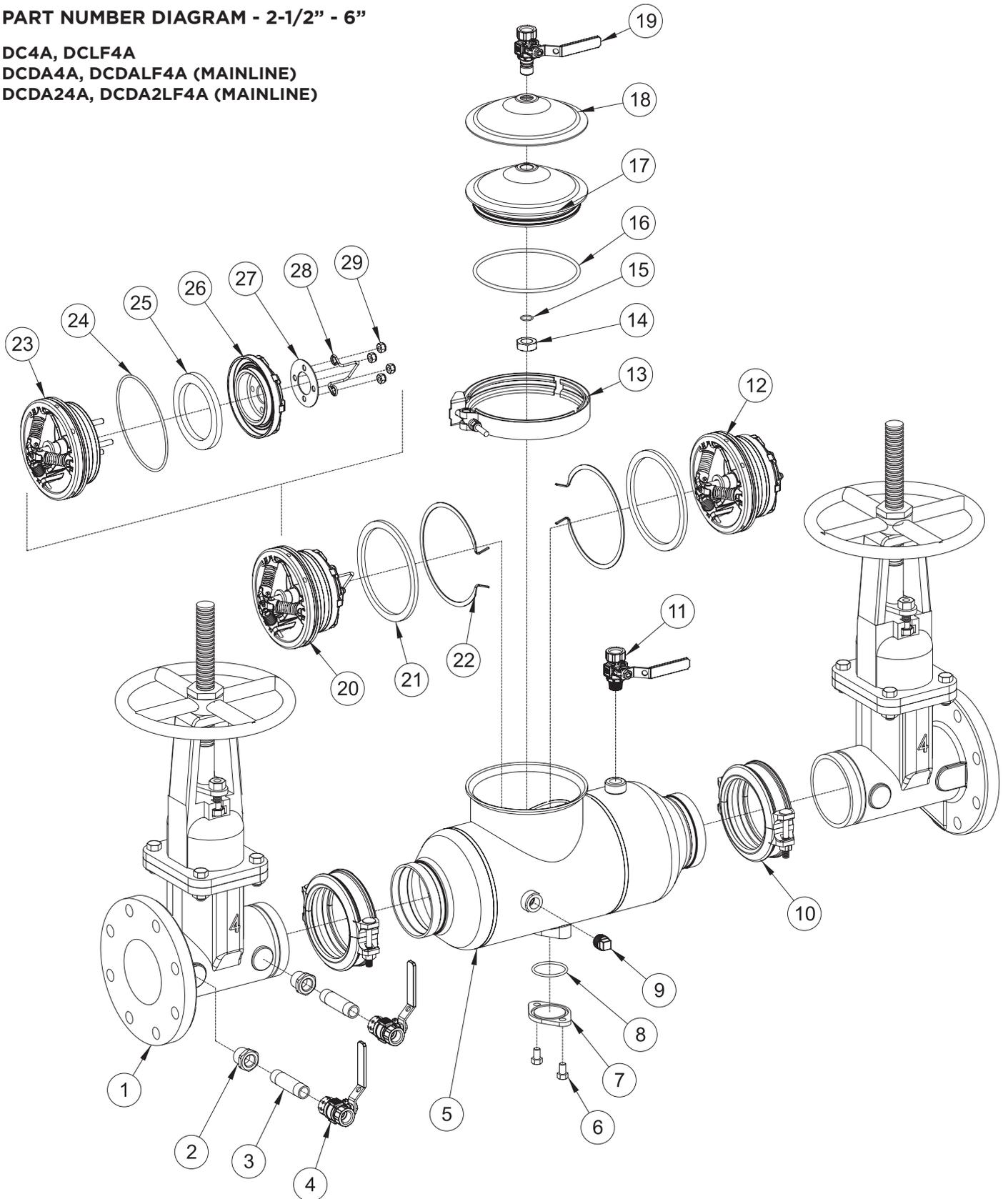
NOTE: The springs are factory installed and should not be removed or adjusted. Serious injury could occur if springs are disassembled.

FIGURE 7
8" - 12" SIZES



PART NUMBER DIAGRAM - 2-1/2" - 6"

DC4A, DCLF4A
DCDA4A, DCDALF4A (MAINLINE)
DCDA24A, DCDA2LF4A (MAINLINE)



PARTS LIST - 2-1/2" - 6"

DC4A/DCDA4A (MAINLINE) / DCDA24A (MAINLINE) PARTS LIST

DCLF4A/DCDALF4A (MAINLINE) / DCDA2LF4A (MAINLINE) PARTS LIST

ITEM #	DESCRIPTION	QTY.	PART NUMBER			
			2-1/2"	3"	4"	6"
1	Shut-off Valve	2	See Pages 29-31			
2	Reducer Bushing	2	K-4605-00			N/A
3	Nipple	2	K-3406-00			K-3412-00
4	Test Cock, FxF	2	77CLF-103-10			77CLF-104-10
5	Valve Body	2	Consult Factory			
6	Screw, 3/8-16 x .63	2	B-1921-00			
7	Cover, RV Port	1	F-3875-00			
8	O-ring, RV Port	1	D-4866-00			
9	Plug, 1/2" NPT	2	K-4594-05			
10	Coupling	2	W-5237-00	W-5238-00	W-5239-00	W-5240-00
11	Test Cock, MxF	1	77CLF-803-10			77CLF-804-10
12	Second Check Module	1	W-9857-05		W-9667-05	W-9671-05
13	Cover Clamp	1	W-9293-00		W-9183-00	W-9221-00
14	Retaining Nut	1	C-2635-00			C-1756-00
15	O-ring, Test Cock	1	D-4892-00			D-3904-00
16	O-ring, Cover	1	D-4976-00		D-4870-00	D-5001-00
17	Cover, Inner	1	F-3900-00		F-3864-00	F-3865-00
18	Cover, Outer	1	E-2903-00		E-2865-00	E-2866-00
19	Test Cock, Cover	1	77CLF-803-A0			77CLF-804-A0
20	First Check Module	1	W-9856-05		W-9668-05	W-9669-05
21	Check Retaining Ring	2	E-2960-00		E-2868-00	E-2869-00
22	Check Retaining Clip	2	L-8063-00		L-7996-00	L-8037-00
23	Seat/Spring Sub-Assy	1	W-9715-05		W-9717-05	W-9719-05
24	Check Seat O-ring	1	D-5171-00		D-4869-00	D-5000-00
25	Disc	1	D-4958-00		D-4862-00	D-4890-00
26	Disc Retainer	1	L-7800-00		F-3862-00	F-3863-00
27	Washer	(QTY)	E-2905-00 (1)		E-2920-00 (1)	E-2878-00 (4)
28	Handle	1	H-3814-00		H-3792-00	H-3793-00
29	Locknut	(QTY)	C-1900-00 (3)		C-2052-00 (4)	C-2053-00 (4)

Individual parts are only available for bulk sales. Please refer to the appropriate repair kits below and on page 13.

Note: All bronze components listed are lead-free*

*LEAD FREE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with CA AB1953, VT Act 193, MD HB372, LA HB471, and Federal Public Law 111-380.

REPAIR KITS (MAINLINE) 2-1/2" - 6"

CHECK RUBBER ONLY KIT (ONE KIT REPAIRS ONE CHECK)		SIZE		
		2-1/2" & 3"	4"	6"
REPAIR KIT MODEL NUMBER		RK4A3CMR	RK4A4CMR	RK4A6CMR
ITEM #	ORDERING NUMBER	4A-000-01	4A-00A-01	4A-00C-01
not shown	Lubricant	I-9016-00		
25	Disc	D-4958-00	D-4862-00	D-4890-00
24	Check Seat O-ring	D-5171-00	D-4869-00	D-4890-00
8	Relief Valve Port O-ring	D-4866-00		
16	Cover O-ring	D-4976-00	D-4870-00	D-5001-00
15	Test Cock O-ring	D-4892-00		

Note: All bronze components listed are lead-free*

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REPAIR KITS (MAINLINE) 2-1/2" - 6"

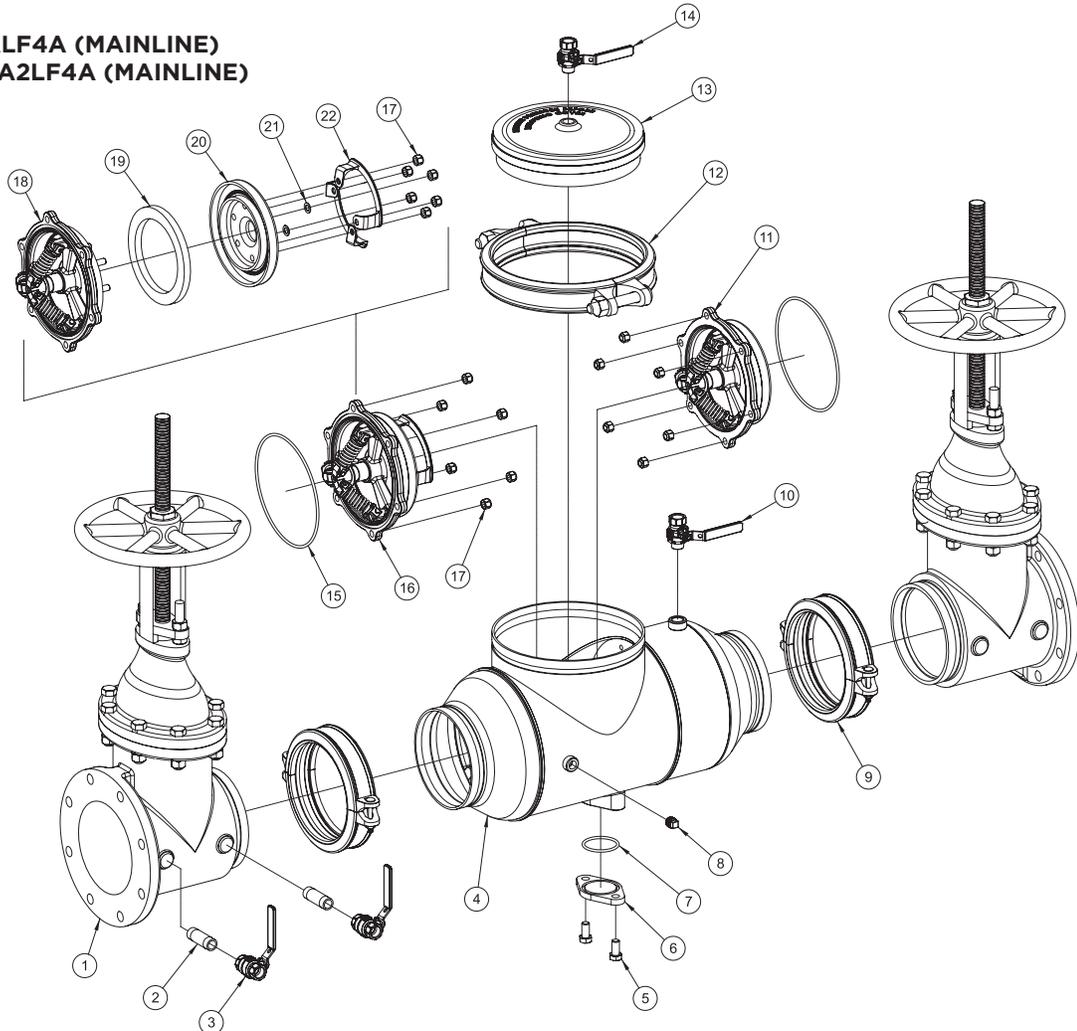
DC 1ST CHECK COMPLETE KIT (ONE KIT REPAIRS ONE CHECK)		SIZE		
		2-1/2" & 3"	4"	6"
ITEM #	REPAIR KIT MODEL NUMBER	RK4A3CMC	RK4A4CMC	RK4A6CMC
	ORDERING NUMBER	4A-000-02	4A-00A-02	4A-00C-02
not shown	Lubricant		I-9016-00	
20	1st Check Module S-Assy	W-9856-05	W-9668-05	W-9669-05
24	Check O-ring	D-5171-00	D-4869-00	D-5000-00
16	Cover O-ring	D-4976-00	D-4870-00	D-5001-00
DC 2nd Check Complete Kit (One kit repairs one check)		Size		
		2-1/2" & 3"	4"	6"
	Repair Kit Model Number	RK4A3DCRP2CMC	RK4A4DCRP2CMC	RK4A6DCRP2CMC
Item #	Ordering Number	4A-000-14	4A-00A-14	4A-00C-14
not shown	Lubricant		I-9016-00	
12	2nd Check Module S-Assy	W-9857-05	W-9667-05	W-9671-05
24	Check O-ring	D-5171-00	D-4869-00	D-5000-00
16	Cover O-ring	D-4976-00	D-4870-00	D-5001-00

Note: All bronze components listed are lead-free*

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PART NUMBER DIAGRAM - 8 - 12"

DC4A, DCLF4A
DCDA4A, DCDALF4A (MAINLINE)
DCDA24A, DCDA2LF4A (MAINLINE)



PARTS LIST & REPAIR KITS - 8" - 12"

DC4A/DCDA4A (MAINLINE) / DCDA24A (MAINLINE) PARTS LIST

DCLF4A/DCDALF4A (MAINLINE) / DCDA2LF4A (MAINLINE) PARTS LIST

ITEM #	DESCRIPTION	QTY.	PART NUMBER		
			8"	10"	12"
1	Shut-off Valve	2	See Page 29-31		
2	Nipple	2	K-3412-00		
3	Test Cock, FxF	2	77CLF-104-10		
4	Valve Body	2	Consult Factory		
5	Screw	2	B-2348-00	B-1690-00	
6	Cover, RV Port	1	F-3898-05	F-3922-00	
7	O-ring, RV Port	1	D-4963-00	D-2304-00	
8	Plug, 1/2" NPT	2	K-4594-05	N/A	
	Cap, 1/2" NPT	2	N/A	K-4656-00	
9	Coupling**	2	W-5241-00	W-5242-00	40-00H-BP
10	Test Cock	1	77CLF-804-10	77CLF-104-10	
11	Second Check Module	1	W-9673-05	W-9862-05	
12	Cover Clamp	1	W-9243-00	W-9355-00	
13	Cover	1	E-2898-05	Q-7064-19	
14	Test Cock, Cover	1	77CLF-804-10	77CLF-104-10	
15	Check O-ring	2	D-4935-00	D-4997-00	
16	First Check Module	1	W-9672-05	W-9861-05	
17	Locknut, 1/2-13	(QTY)	C-2638-00(24)	C-2638-00(32)	
18	Seat/Spring Sub-Assy	1	W-9721-05	W-9723-05	
19	Disc	1	D-4934-00	D-4960-00	
20	Disc Retainer	1	F-3899-00	F-3903-00	
21	Washer	(QTY)	E-2897-00 (2)		
22	Handle	2	H-3828-00	H-3813-00	

Individual parts are only available for bulk sales. Please refer to the appropriate repair kits below.

Note: All bronze components listed are lead-free*

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**Coupling is provided for 8" and 10" only. Bolt pack provided for 12".

REPAIR KITS (MAINLINE) 8"-12"

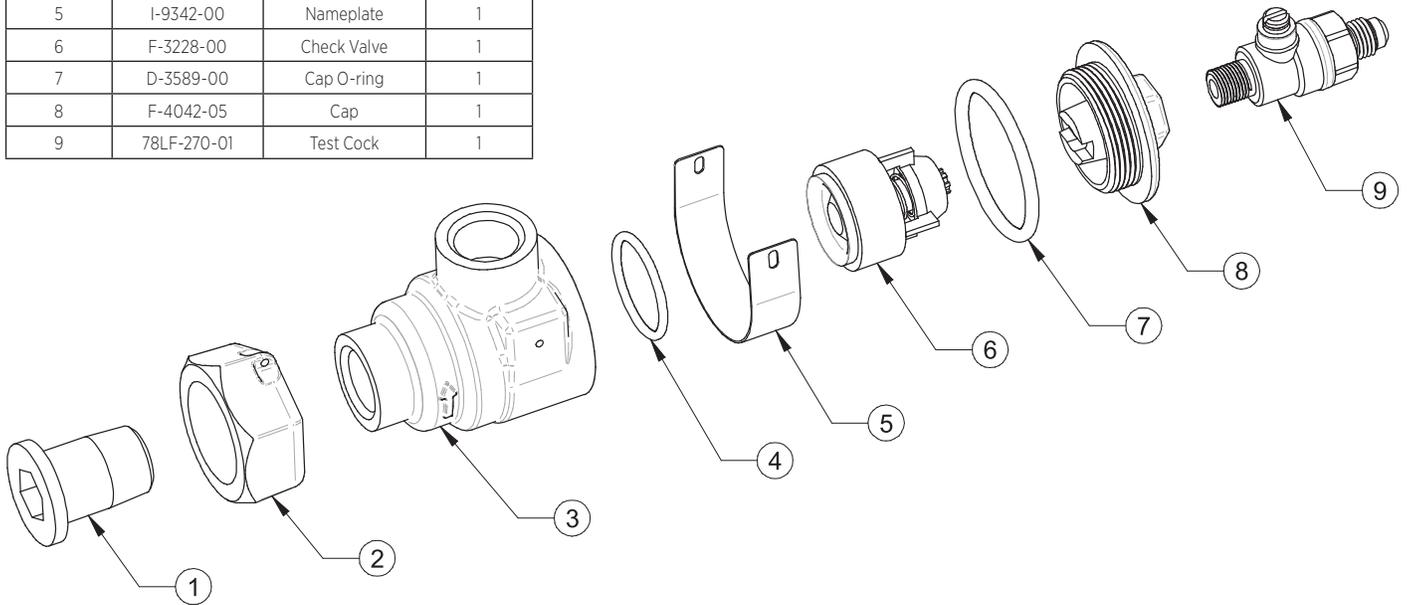
CHECK RUBBER ONLY KIT (ONE KIT REPAIRS ONE CHECK)		SIZE	
		8"	10" & 12"
ITEM #	REPAIR KIT MODEL NUMBER ORDERING CODE	RK4A8CMR 4A-00E-01	RK4A12INCMR 4A-00H-01
not shown	Lubricant	I-9016-00	
19	Disc	D-4934-00	D-4960-00
15	Check O-ring	D-4935-00	D-4997-00
7	Relief Valve Port O-ring	D-4963-00	D-2304-00
DC 1st Check Complete Kit (One kit repairs one check)		Size	
	Repair Kit Model Number	8"	10" & 12"
Item #	Ordering Code	RK4A8CMC 4A-00E-02	RK4A12INCMC 4A-00H-02
not shown	Lubricant	I-9016-00	
16	1st Check Module S-Assy	W-9672-05	W-9861-05
15	Check O-ring	D-4935-00	D-4997-00
DC 2nd Check Complete Kit (One kit repairs one check)		Size	
	Repair Kit Model Number	8"	10" & 12"
Item #	Ordering Code	RK4ABDCRP2CMC 4A-00E-14	RK4A12INDCRP2CMC 4A-00H-14
not shown	Lubricant	I-9016-00	
16	2nd Check Module S-Assy	W-9673-05	W-9862-05
15	Check O-ring	D-4935-00	D-4997-00

Note: All bronze components listed are lead-free*

*LEAD FREE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with CA AB1953, VT Act 193, MD HB372, LA HB471, and Federal Public Law 111-380.

PART LIST - BYPASS SINGLE CHECK (TYPE 2)
W977005 SINGLE CHECK VALVE (LEAD FREE*)

ITEM	PART #	DESCRIPTION	QTY
1	K-4587-06	Tailpiece	1
2	C-1844-05	Union Nut	1
3	Q-7281-05	Body	1
4	D-3885-00	Check O-ring	1
5	I-9342-00	Nameplate	1
6	F-3228-00	Check Valve	1
7	D-3589-00	Cap O-ring	1
8	F-4042-05	Cap	1
9	78LF-270-01	Test Cock	1



Individual parts are only available for bulk sales. Please refer to the appropriate repair kits below.

BYPASS SINGLE CHECK REPAIR KITS

4A-003-12

Check Repair Kit: Includes items 4, 6, and 7 (1 ea.)

4A-003-13

Check Complete Kit: Includes items 1-9 (1 ea.)

*Note: All bronze components listed are lead-free**

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VIII. MAINTENANCE INSTRUCTIONS - BYPASS SINGLE CHECK (TYPE 2)

A. DISASSEMBLY - CHECK VALVE MODULE

1. Close #2 bypass line shut-off valve, then close #1 bypass line shut-off valve.
2. Bleed pressure from the assembly by opening the upstream test cock (located on the bypass line #1 shut-off valve) and the downstream test cock (located on the check valve cap).
3. Unscrew cap using hex head provided.
4. Pull check module straight out of body. Needle-nose pliers will aid in removing check valve. Check o-ring may remain in valve body

NOTE: Check valve modules are not user serviceable. In the event of check failure, replacement modules are sold individually. However, debris caught in the check may be rinsed out.

B. ASSEMBLY - CHECK VALVE MODULE

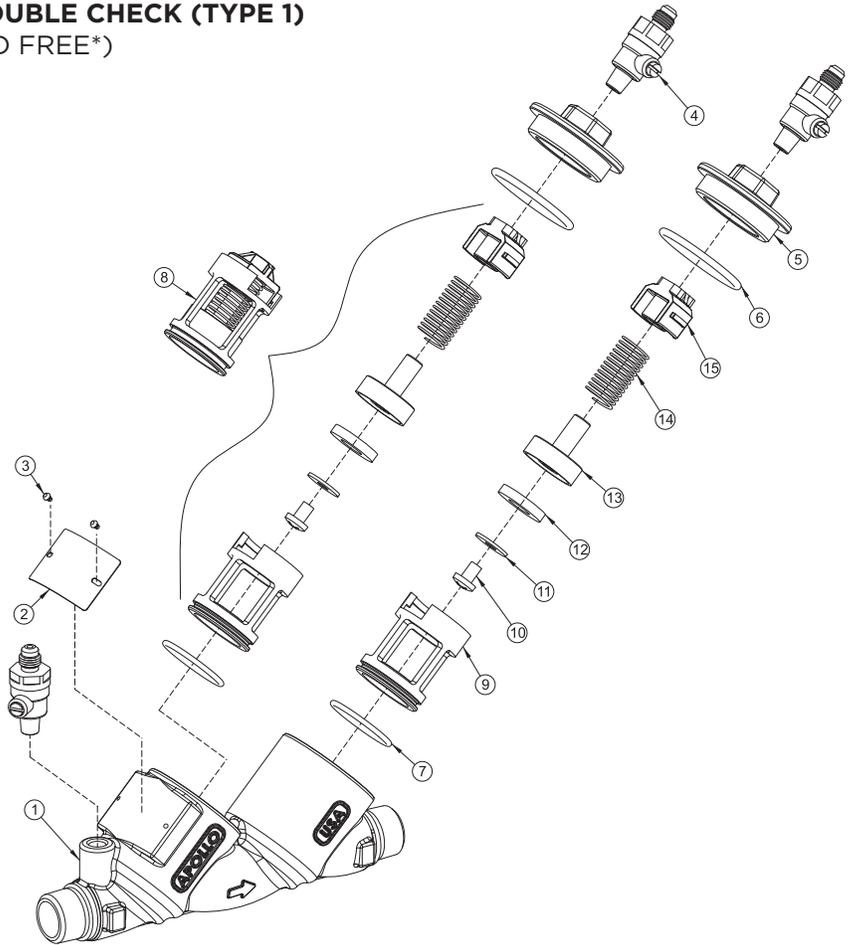
1. Install new or cleaned check valve module into body (ensure check o-ring is in place).
2. Apply a thin coat of Apollo® supplied lubricant, DOW 111 or equal, on cap o-ring.
3. Install cap.

BYPASS LINE KITS

SIZE	METER OPTION	TYPE 1 BYPASS KIT PART NO.	TYPE 2 BYPASS KIT PART NO.
2-1/2"	GALLONS PER MIN	4ALF-600-BPE	4ALF-620-BPE
	CUBIC FT PER MIN	4ALF-600-BPC	4ALF-620-BPC
	NO METER	4ALF-600-BPG	4ALF-620-BPG
3"	GALLONS PER MIN	4ALF-600-BPE	4ALF-620-BPE
	CUBIC FT PER MIN	4ALF-600-BPC	4ALF-620-BPC
	NO METER	4ALF-600-BPG	4ALF-620-BPG
4"	GALLONS PER MIN	4ALF-60A-BPE	4ALF-62A-BPE
	CUBIC FT PER MIN	4ALF-60A-BPC	4ALF-62A-BPC
	NO METER	4ALF-60A-BPG	4ALF-62A-BPG
6"	GALLONS PER MIN	4ALF-60C-BPE	4ALF-62C-BPE
	CUBIC FT PER MIN	4ALF-60C-BPC	4ALF-62C-BPC
	NO METER	4ALF-60C-BPG	4ALF-62C-BPG
8"	GALLONS PER MIN	4ALF-60E-BPE	4ALF-62E-BPE
	CUBIC FT PER MIN	4ALF-60E-BPC	4ALF-62E-BPC
	NO METER	4ALF-60E-BPG	4ALF-62E-BPG
10"	GALLONS PER MIN	4ALF-60G-BPE	4ALF-62G-BPE
	CUBIC FT PER MIN	4ALF-60G-BPC	4ALF-62G-BPC
	NO METER	4ALF-60G-BPG	4ALF-62G-BPG
12"	GALLONS PER MIN	4ALF-60H-BPE	4ALF-62H-BPE
	CUBIC FT PER MIN	4ALF-60H-BPC	4ALF-62H-BPC
	NO METER	4ALF-60H-BPG	4ALF-62H-BPG

PARTS LIST & REPAIR KITS - BYPASS DOUBLE CHECK (TYPE 1)
W978705 DOUBLE CHECK VALVE (LEAD FREE*)

ITEM	PART #	DESCRIPTION	QTY
1	Q-6869-05	Body	1
2	I-9024-00	Nameplate	1
3	I-2614-00	Nameplate Tack	2
4	78LF-292-01	Test Cock	3
5	F-3846-05	Cap	2
6	D-4881-00	Cap O-ring	2
7	D-4880-00	Check O-ring	2
8	W-9075-05	Check Module	2
9	L-7815-00	Check Seat	1
10	B-3279-00	Screw	1
11	E-2372-00	Disc-retaining Washer	1
12	D-4771-00	Seat Disc	1
13	K-4491-00	Poppet	1
14	A-2505-00	Spring	1
15	L-7814-00	Spring Retainer	1



Individual parts are only available for bulk sales. Please refer to the appropriate repair kits below.

*Note: All bronze components listed are lead-free**

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BYPASS DC REPAIR KITS

CHECK RUBBER REPAIR KIT

4A-003-01: Kit includes items 6, 7, and 12 (1 ea.)

DC CHECK REPAIR KIT

4A-003-02: Kit includes items 6, 7, and 8 (1 ea.)

DC COMPLETE REPAIR KIT

4A-003-08: Kit includes items 6, 7, and 8 (2 ea.)