## Foundation for Cross-Connection Control and Hydraulic Research

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## **Corrections**

## Manual of Cross-Connection Control, Tenth Edition Fifth Printing, 2020

The USC Foundation has published a fifth printing of the Manual of Cross-Connection Control, Tenth Edition, dated 2020. The fifth printing includes corrections from the original printing, dated December 2009.

Page No.	Deletion / Addition					
CHAPTER 9 - FIELD TEST PROCEDURES						
224	9.2.1.3.2 Continuously Discharging Differential Pressure Relief Valve					
	SECOND BULLET, SECOND SUBBULLET					
	If No. 1 check valve reading is less than 5.0 psid this indicates a failing leaking No.1 check					
	valve.					
CHAPTER 10 - STANDARDS						
367	Table 10-7					
		Rated Flow				
		(2)				
		(gpm)	(L/s)	_		
		1	<del>(0.31)</del> (0.6)			
		3	<del>(0.50)</del> (0.19)			
		<del>5</del> 1 <u>5</u>	<del>(0.75)</del> (0.95)			
412	412 <i>10.2.6.2.2.1 Accuracy Test</i>					
	STEP 10					
	Decrease the high side pressure source until the VRS reads 7.5 8.0 (55.15KPa).					
		APPENDIX	. <b>A</b>			
494	A.6.1.1 RP – FIVE NEEDLE VALVE FIELD TEST KIT					
	TEST NO. 1 – RELIEF VALVE OPENING POINT					
	STEP 1j					
	FIRST BULLET					
	-		, record opening point of relief v	alve when first		
	drip is detect	ed				
	SECOND BULL					
If <del>low control needle valve must be opened more than 1/4 turn, close le</del>						
	valve and go to step T1 reading does not drop to relief valve opening point, close low					
	control needle	e valve, go to T1.				

494	A.6.1.1 RP – FIVE NEEDLE VALVE FIELD TEST KIT			
	DIAGNOSTIC			
	STEP T1			
	Attach temporary bypass hose <del>from test cock No. 1 to test cock No. 4. Bleed air from hose</del>			
	and to test cock No. 1, and open to bleed air from hose. Close test cock No. 1. Attach ot			
	end of temporary bypass hose to test cock No. 4, then open test cocks No. 1 and No. 4.			
495	A.6.1.1 RP – FIVE NEEDLE VALVE FIELD TEST KIT			
	Diagnostics			
	STEP T2			
	FIRST BULLET			
	If reading holds steady or drops, there is no backpressure. Open No. 2 test cock. Go to 2e.			
495	A.6.1.2 RP – TWO NEEDLE VALVE FIELD TEST KIT			
	TEST NO. 1 – Relief Valve Opening Point			
	STEP 1k			
	FIRST BULLET			
	Record opening point of RV If reading drops, record opening point of relief valve when first			
	drip is detected.			
	SECOND BULLET			
	If <del>low bleed needle valve must be opened more than 1/4 turn, go to step T1</del> reading does not			
	drop to relief valve opening point, close low bleed needle valve, go to T1.			
496	A.6.1.2 RP – TWO NEEDLE VALVE FIELD TEST KIT			
	TEST NO. 2 – Tightness of No. 2 Check Valve			
	STEP 2e			
	Open <del>bypass</del> high bleed needle valve.			
496	A.6.1.2 RP – TWO NEEDLE VALVE FIELD TEST KIT			
	TEST NO. 3 – Tightness of No. 1 Check Valve			
	STEP 3b			
	Close test cocks, open No. 2 shutoff valve, remove equipment.			
496	A.6.1.2 RP – TWO NEEDLE VALVE FIELD TEST KIT			
	DIAGNOSTIC			
	STEP T1			
	Attach temporary bypass hose from test cock No. 1 and to test cock No. 4. Bleed air from			
	hose open to bleed air from hose. Close test cock No. 1. Attach other end of temporary			
	bypass hose to test cock No. 4, then open test cocks No. 1 and No. 4.			
496	A.6.1.2 RP – TWO NEEDLE VALVE FIELD TEST KIT			
	DIAGNOSTIC			
	STEP T2			
	FIRST BULLET			
	If reading holds steady or drops, there is no backpressure. Open test cock No. 2. Go to 2e.			

497	A.6.1.3 RP - THREE NEEDLE VALVE FIELD TEST KIT		
	TEST NO. 1 – Relief Valve Opening Point		
	STEP 1j		
	FIRST BULLET		
	Record opening point of RV If reading drops, record opening point of relief valve when first		
	drip is detected.		
	SECOND BULLET		
	If <del>low bleed needle valve must be opened more than 1/4 turn, close low bleed needle valve.</del>		
	Go to step T1 reading does not drop to relief valve opening point, close low bleed needle		
	valve, go to T1.		
497	A.6.1.3 RP - THREE NEEDLE VALVE FIELD TEST KIT		
	TEST NO. 2 – Tightness of No. 2 Check Valve		
	STEP 2e		
	THIRD BULLET		
	If reading drops to relief valve opening point, loosen low side hose on No. 3 test cock (to		
	raise reading above apparent reading), then tighten hose.		
498	A.6.1.3 RP - THREE NEEDLE VALVE FIELD TEST KIT		
	TEST NO. 3 – Tightness of No. 1 Check Valve		
	STEP 3b		
	Close test cocks, open No. 2 shutoff valve, remove equipment.		
498	A.6.1.3 RP - THREE NEEDLE VALVE FIELD TEST KIT		
	DIAGNOSTICS		
	STEP T1		
	Attach temporary bypass hose from to test cock No. 1 and to test cock No. 4. Bleed air		
	from hose open to bleed air from hose. Close test cock No. 1. Attach other end of		
	temporary bypass hose to test cock No. 4, then open test cocks No. 1 and No. 4.		
498	A.6.1.3 RP - THREE NEEDLE VALVE FIELD TEST KIT		
	DIAGNOSTICS		
	STEP T2		
	FIRST BULLET		
	If reading holds steady or drops, there is no backpressure. Open test cock No. 2. Go to 2e.		
498	A.6.2 DOUBLE CHECK VALVE ASSEMBLY (DC)		
	TEST NO.1 – TIGHTNESS OF NO.1 CHECK VALVE		
	STEP 1b		
	Install fittings <del>and bleed valve arrangement</del> .		

498 A.6.2 DOUBLE CHECK VALVE ASSEMBLY (DC)

TEST NO.1 - TIGHTNESS OF NO.1 CHECK VALVE

STEP 1e

Bleed air from gage and fill tube Open No. 2 test cock and open and close high bleed needle valve to bleed air.

STEP 1f

Close No. 2 shutoff valve locate gage at proper elevation, then close No. 1 shutoff valve Open No. 3 test cock to fill tube, then close No. 3 test cock.

ADDED NEW STEP 1g

Close No. 2 shutoff valve. Locate field test kit at proper elevation, then close No. 1 shutoff valve.

STEP 1g (FOURTH PRINTING) is now STEP 1h (FIFTH PRINTING)

STEP 1h (FOURTH PRINTING) is now STEP 1i (FIFTH PRINTING)

499 A.6.2 DOUBLE CHECK VALVE ASSEMBLY (DC)

TEST NO.2 - TIGHTNESS OF NO.2 CHECK VALVE

STEP 2b

Bleed air from gage and fill tube Open No. 3 test cock and open and close high bleed needle valve to bleed air.

STEP 2C

Close shutoff valve No. 1 Open No. 4 test cock to fill tube, then close No. 4 test cock.

**ADDED NEW STEP 2d** 

Locate field test kit at proper elevation, then close shutoff valve No. 1.

STEP 2d (FOURTH PRINTING) is now STEP 2e (FIFTH PRINTING)

STEP 2e (FOURTH PRINTING) is now STEP 2f (FIFTH PRINTING)

STEP 2f (FOURTH PRINTING) is now STEP 2g (FIFTH PRINTING)

499	A.6.2 DOUBLE CHECK VALVE ASSEMBLY (DC)				
	DIAGNOSTICS				
	STEP T1				
	SECOND BULLET				
	If not possible to adjust bleed valve Repair No. 1 shutoff arrangement so the flow ca				
	reduced to a drip, then repair No. 1 shutoff valve. If that doesn't work repair both check				
	valves and No. 2 shutoff <u>valve</u> .				
500-501	A.6.4 Spill RESISTANT PRESSURE VACUUM BREAKER ASSEMBLY (SVB)				
	TEST NO.1 – CHECK VALVE CLOSING POINT				
	STEP 1d				
	Attach high side hose to bleed valve arrangement				
	Open test cock.				
	Bleed air through high bleed needle valve.				
	Close high bleed needle valve				
	STEP 1e				
	Open test cock				
	STEP 1f				
	Bleed air through high bleed needle valve				
	STEP 1g				
	Close high bleed needle valve				
	STEP 1e (FOURTH PRINTING) is now STEP 1h (FIFTH PRINTING)				
	STEP 1f (FOURTH PRINTING) is now STEP 1i (FIFTH PRINTING)				
	STEP 1j (FIFTH PRINTING) is a continuation of STEP 1i (FIFTH PRINTING)				
501	A.6.4 Spill RESISTANT PRESSURE VACUUM BREAKER ASSEMBLY (SVB)				
	DIAGNOSTICS				
	STEP T3				
	SECOND BULLET				
	If it is not possible to reduce <u>flow at vent valve</u> to drip, record that No. 1 shutoff valve is				
	leaking too much. Go to 2d.				