

Oteco Inc. Houston, Texas
3" Reset Relief Valve Maintenance
Issued: B.H. Date: 11/30/12

Manual: **OS-130349 Rev.B**
Revision Date: 5/27/15
Approved: BH Date: 11/30/12

OTECO INC.
3" RESET RELIEF VALVE
3 1/8"-5,000 PSI FLANGE INLET & OUTLET
SOUR GAS
INSTALLATION & MAINTENANCE
MANUAL
PART NO. 130349

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1.0 PERIODIC MAINTENANCE

WEEKLY

1. Unseat valve by striking release button at rear of valve. Release pressure in system to 0 PSI and reset valve with reset lever.

6 MONTHS

1. Lubrication-Remove 1/8 plastic pipe plug located behind right load spring on bottom of bonnet. Pump grease through grease fitting until new grease comes out of 7/16 hole. Replace 1/8 plastic pipe plug.
2. Replace seals as required.

12 MONTHS

1. Lubrication-Clean bonnet assembly and repack with new grease.
2. Replace parts and seals as required

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2.0 SPARE PARTS LIST

SEALS FOR 6 MONTHS NORMAL OPERATION

QUANTITY	DESCRIPTION	PART NO.
1	Cushion Ring	142131
1	Outer Seal	302767
1	"O" Ring	143151
1	Inner Seal	302766
	(4 above parts, Oteco repair kit <u>143219</u>)	
1	Stem Bushing O-ring, outside	302750
1	Stem Bushing O-ring, inside	302752

REPAIR PARTS FOR 12 MONTHS NORMAL OPERATION

QUANTITY	DESCRIPTION	PART NO.
2	Cushion Ring	142131
2	Outer Seal	302767
2	"O" Ring	143151
2	Inner Seal	302766
	(4 above parts, Oteco repair kit <u>143219</u> , qty.2)	
2	Stem Bushing O-ring, outside	302750
2	Stem Bushing O-ring, inside	302752
1	Top Crank Pin	142200
2	Link Pins	142403
2	Bearing f/Upper Link and Piston	142423
2	Bearing f/Bonnet	142424
2	Bearing f/Crank	142422
1	Bearing f/Bonnet Cover	142425
5	Spiral Pin 1/8 X 5/8	142432
1	Spiral Pin 1/4 X 1-1/2	142435
1	Spiral Pin 5/16 X 1-3/8	142434

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2.0 SPARE PARTS LIST (continued)

REPAIR PARTS FOR MAJOR REBUILD

QUANTITY	DESCRIPTION	PART NO.
1	Cushion Ring	142131
1	Outer Seal	302767
1	"O" Ring	143151
1	Inner Seal	302766
1	Piston/Bearing assy.	143007
1	Stem Bushing	143140
1	Inner Retainer	143010
1	Outer Retainer	143006
	(8 above parts, Oteco major repair kit <u>143217</u>)	
1	Top Crank Pin	142200
2	Link Pins	142403
2	Bearing f/Bonnet	142424
2	Bearing f/Crank	142422
1	Bearing f/Bonnet Cover	142425
5	Spiral Pin 1/8 X 5/8	142432
1	Spiral Pin 1/4 X 1-1/2	142435
1	Spiral Pin 5/16 X 1-3/8	142434

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3.0 REPLACEMENT OF SEALS: Ref. Drawings 18650 and 21110

DISASSEMBLY

1. Remove pressure from relief valve.
2. Remove valve from piping system and grip in vise.
3. Remove (4) cap screws (item 7). Lift piston and bonnet assembly away from body (item 37).
4. Unscrew sub (item 48) from body (item 37). Remove inner retainer (item 43), inner piston seal (item 44) from sub.
5. Remove internal parts from body (items 45, 46 and 47).
6. Thoroughly clean body, sub and parts. CAUTION: If grit blast is used, protect threads and seal surfaces from erosion.
7. Inspect all parts for wear or damage. Replace with new parts as needed.

3.0 REPLACEMENT OF SEALS: (continued)

ASSEMBLY

1. Apply a light coat of grease to items 43, 44, 45, 46 and 47.
2. Install piston inner seal (item 44) onto sub (item 48). Secure seal with inner retainer (item 43), tighten inner retainer to 55 ft-lbs torque.
3. Install outer retainer (item 45), outer seal (item 47) and "O" ring (item 46) into body (item 37).
4. Install body sub (item 48) into body (item 37). Tighten body sub to 600 ft-lbs. torque.
5. Apply a light coat of grease to small diameter of piston (item 42) extending from bonnet assembly. Install cushion ring (item 41) onto piston (item 42). Beveled end of cushion should be facing toward large diameter of piston.
6. Install bonnet assembly onto body assembly. Use screw driver to start entry of cushion ring into body.
7. Install (4) socket head screws (item 7). Tighten to 50 ft.-lbs. torque.
8. Pressure test valve for correct operation before installing into system. Precautions should be taken to protect personnel while testing.

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4.0 REPAIR OF BONNET ASSEMBLY: Ref. Drawings 18650 and 21110

DISASSEMBLY

1. Remove pressure from relief valve.
2. Remove valve from piping system and grip in vise.
3. Remove adjusting nut (item 1) and upper spring retainer (item 4).
4. Remove load springs (item 31).
5. Remove (4) socket head cap screws (item 7) from bonnet (item 34).
6. Remove bonnet cover assembly (item 9).
7. Remove (4) socket head cap screws (item 7) from body (item 37) and lift bonnet assembly from body.
8. Remove old grease from bonnet assembly and bonnet cover assembly. Clean with solvent.
9. Inspect and replace worn parts as needed.

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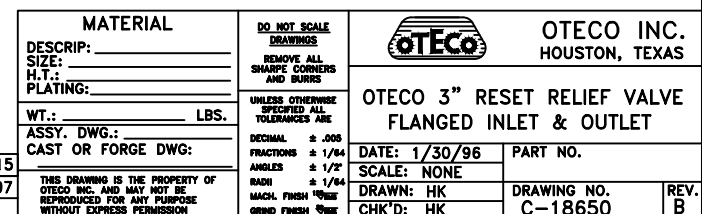
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4.0 REPAIR OF BONNET ASSEMBLY (Continued)

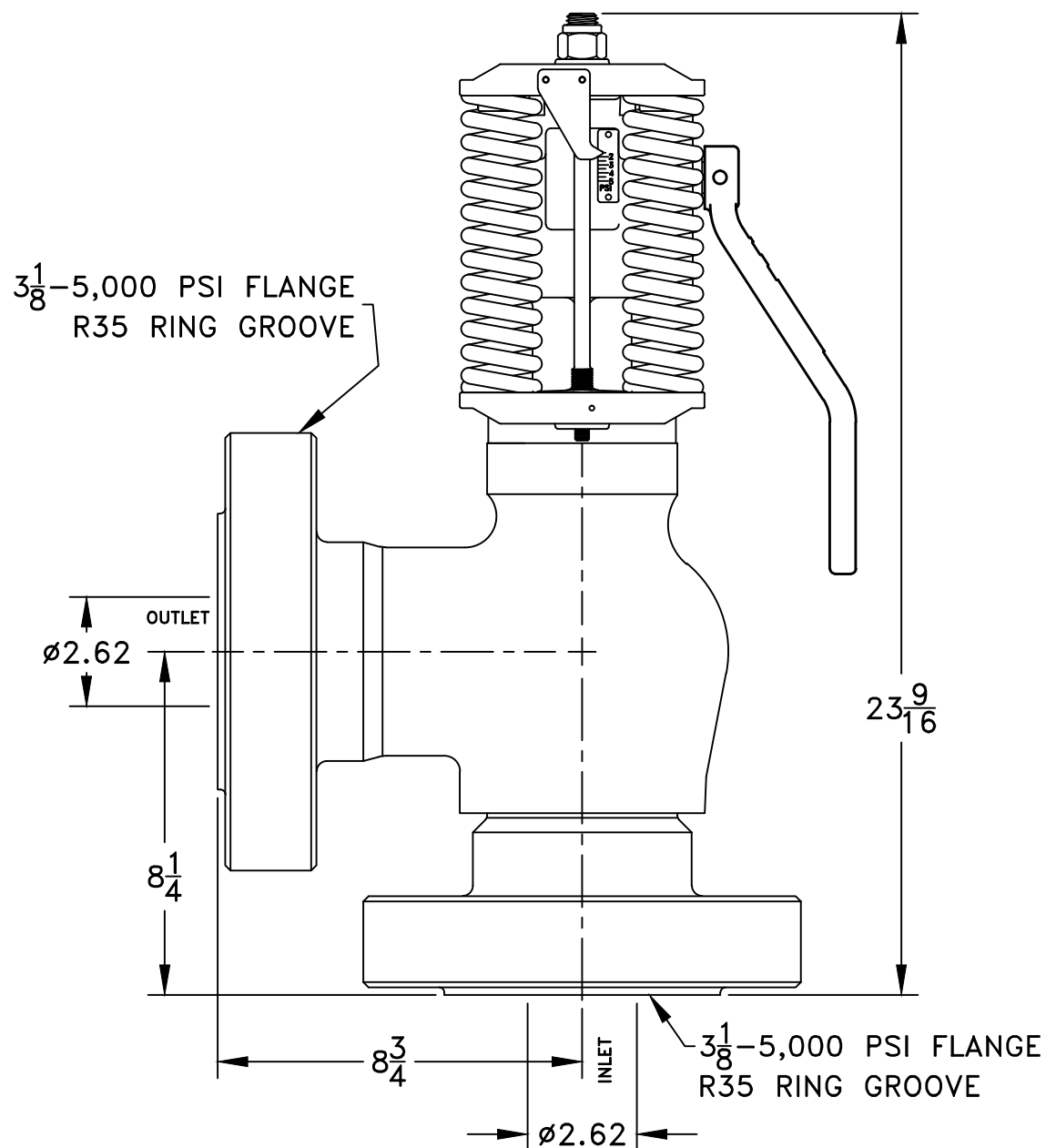
ASSEMBLY:

1. Apply a light coat of grease to small diameter of piston (item 42) extending from bonnet assembly. Install cushion ring (item 41) onto piston (item 42). Beveled end of cushion should be facing toward large diameter of piston.
2. Install bonnet assembly onto body assembly. Use screwdriver to start entry of cushion ring into body.
3. Install (4) socket head screws (item 7). Tighten to 50 ft-lbs. torque.
4. Repack upper part of bonnet assembly (item 34) with Lubriplate Lo – Temp grease, or equivalent. Approximately 16 oz. is required.
5. Install bonnet cover assembly (item 9) onto bonnet assembly (item 34) using (4) socket head cap screws. Tighten to 50 ft-lbs. torque.
6. Install (2) load springs (item 31).
7. Install upper spring retainer (item 4).
8. Install adjusting nut (item 1). Tighten nut to obtain desired relief pressure as indicated by pressure relief scale.
9. Pressure test valve for correct operation before installing into system. Precautions should be taken to protect personnel while testing.

ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION		
1	1	301786	ADJUSTING NUT	32	1	142427	RETAINER, LOWER SPRING		
2	1	142414	STUD, ADJUSTING	33	1	301616	FITTING, GREASE		
3	1	142435	PIN, SPIRAL	34	1	142401	BONNET/BEARING ASSEMBLY		
4	1	142426	RETAINER, UPPER SPRING	34-A	2	142424	BEARING, BONNET		
5	1	142418	INDICATOR, RELIEF PRESSURE	34-B	1	142431	PLUG		
6	4	301729	SELF TAP SCREW	35	1	142421	INSTRUCTION PLATE		
7	4	143310	SOCKET HEAD CAP SCREW	36	1	143140	STEM BUSHING		
7-A	4	143312	SOCKET HEAD CAP SCREW	36-A	1	302750	STEM BUSHING O-RING, OUTSIDE		
8	1	142420	NAMEPLATE	36-B	1	302752	STEM BUSHING O-RING, INSIDE		
9	1	142419	COVER, BEARING ASSEMBLY	37	1	143038	3" FLANGE BODY		
9-A	1	142425	BEARING, BONNET COVER	38	1	142404	UPPER LINK/BEARING ASSEMBLY		
10	1	143220	SCREW, LOAD	38-A	2	142423	BEARING, F/UPPER LINK, PISTON		
11	1	142430	RELIEF PRESSURE SCALE	39	2	142402	LINK, LOWER		
12	1	142439	"O" RING, RESET LEVER	40	2	142403	PIN, LINK		
13	1	143186	HANDLE, RESET	41	1	142131	CUSHION RING		
14	1	142437	PIN, SPIRAL	42	1	143341	PISTON/BEARING ASSEMBLY		
15	1	142405	PIN, CRANK PIVOT	43	1	143010	RETAINER, INNER		
16	2	142406	SPRING, SPIRAL	44	1	302766	SEAL, PISTON INNER		
17	2	142422	BEARING, CRANK	45	1	143006	RETAINER, OUTER		
18	1	143210	CRANK/BEARING ASSEMBLY	46	1	143151	"O" RING		
19	1	142433	PIN, SPIRAL	47	1	302767	SEAL, OUTER		
20	1	142200	PIN, TOP CRANK	48	1	143040	3" FLANGE SUB		
21	1	143320	BUTTON, RELEASE				B	2132	5/27/15
22	1	142407	SPRING, RELEASE BUTTON				REV	ECN NO.	DATE
23	1	143330	SHAFT, RELEASE BUTTON	NOTE: SEE DRAWING 18650 FOR EXPLODED VIEW OF VALVE ASSEMBLY AND ITEM NUMBERS.			 OTECO INC. HOUSTON, TEXAS		
24	1	142408	BUSHING, RELEASE BUTTON						
25	1	142440	ROLLER, RESET CRANK	THIS DRAWING IS THE PROPERTY OF OTECO INC. AND MAY NOT BE REPRODUCED FOR ANY PURPOSE WITHOUT EXPRESS PERMISSION			3"- 5,000 PSI OTECO RESET RELIEF VALVE PARTS LIST, 3 1/8-5000 PSI FLANGE, SG INLET & OUTLET		
26	5	142432	PIN, SPIRAL						
27	1	142442	CRANK, RESET				DATE: 11/30/12		
28	1	142340	ROD, SPRING GUIDE				SCALE: NONE		
29	1	142412	KEEPER, SPRING				DRAWN: BH		
30	1	142413	SPRING, RESET CRANK				CHK'D: BH		
31	2	142417	LOAD SPRING				PART NO. 130349		
							DRAWING NO. A-21110		
							REV. B		



ITEM #	TRIM
130348	STANDARD
130349	SOUR GAS



B	1367	8/13/96
A	1144	3/11/94
REV	ECN NO.	DATE



OTECO INC.
HOUSTON, TEXAS

3" 5,000 PSI RRV ASSEMBLY
WITH 3/8-5,000 PSI FLANGES

DATE: HK	PART NO. CHARTED	
SCALE: NTS		
DRAWN: B.H.	DRAWING NO. A-17661	REV. B
CHK'D: HK		

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