

Oteco Inc. Houston, Texas
3" Reset Relief Valve Maintenance
Issued: B.H. Date: 8/18/08

Manual: **OS-130384 Rev.B**
Revision Date: 5/27/15
Approved: WU Date: 8/18/08

OTECO INC.
3" RESET RELIEF VALVE
3 1/16"-10,000 PSI FLANGE INLET & OUTLET
INSTALLATION & MAINTENANCE
MANUAL
PART NO. 130384

Oteco Inc. Houston, Texas
3" Reset Relief Valve Maintenance
Issued: B.H. Date: 8/18/08

Manual: **OS-130384 Rev.B**
Revision Date: 5/27/15
Approved: WU Date: 8/18/08

TABLE OF CONTENTS

1. PERIODIC MAINTENANCE
2. SPARE PARTS LIST
3. PROCEDURES FOR REPLACEMENT OF SEALS
4. PROCEDURES FOR MAINTENANCE AND REPAIR
OF BONNET ASSEMBLY
5. PARTS LIST
6. EXPLODED DRAWING
7. INSTALLATION DRAWING

Oteco Inc. Houston, Texas
3" Reset Relief Valve Maintenance
Issued: B.H. Date: 8/18/08

Manual: **OS-130384 Rev.B**
Revision Date: 5/27/15
Approved: WU Date: 8/18/08

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

Oteco Inc. Houston, Texas
3" Reset Relief Valve Maintenance
 Issued: B.H. Date: 8/18/08

Manual: **OS-130384 Rev.B**
 Revision Date: 5/27/15
 Approved: WU Date: 8/18/08

2.0 SPARE PARTS LIST

SEALS FOR 6 MONTHS NORMAL OPERATION

QUANTITY	DESCRIPTION	PART NO.
1	Cushion Ring	143130
1	Outer Seal	302686
1	"O" Ring	143150
1	Inner Seal	302687
	(4 above parts, Oteco repair kit <u>143215</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	143130
2	Outer Seal	302686
2	"O" Ring	143150
2	Inner Seal	302687
	(4 above parts, Oteco repair kit <u>143215</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

Oteco Inc. Houston, Texas
3" Reset Relief Valve Maintenance
 Issued: B.H. Date: 8/18/08

Manual: **OS-130384 Rev.B**
 Revision Date: 5/27/15
 Approved: WU Date: 8/18/08

2.0 SPARE PARTS LIST (continued)

REPAIR PARTS FOR MAJOR REBUILD

QUANTITY	DESCRIPTION	PART NO.
1	Cushion Ring	143130
1	Outer Seal	302686
1	"O" Ring	143150
1	Inner Seal	302687
1	Piston/Bearing assy.	143110
1	Stem Bushing	143140
1	Inner Retainer	143160
1	Outer Retainer	143170
	(8 above parts, Oteco major repair kit <u>143216</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

Oteco Inc. Houston, Texas
3" Reset Relief Valve Maintenance
Issued: B.H. Date: 8/18/08

Manual: **OS-130384 Rev.B**
Revision Date: 5/27/15
Approved: WU Date: 8/18/08

3.0 REPLACEMENT OF SEALS: Ref. Drawings 20647 and 18650

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), and 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.

Oteco Inc. Houston, Texas
3" Reset Relief Valve Maintenance
Issued: B.H. Date: 8/18/08

Manual: **OS-130384 Rev.B**
Revision Date: 5/27/15
Approved: WU Date: 8/18/08

4.0 REPAIR OF BONNET ASSEMBLY: Ref. Drawings 20647 and 18650

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.

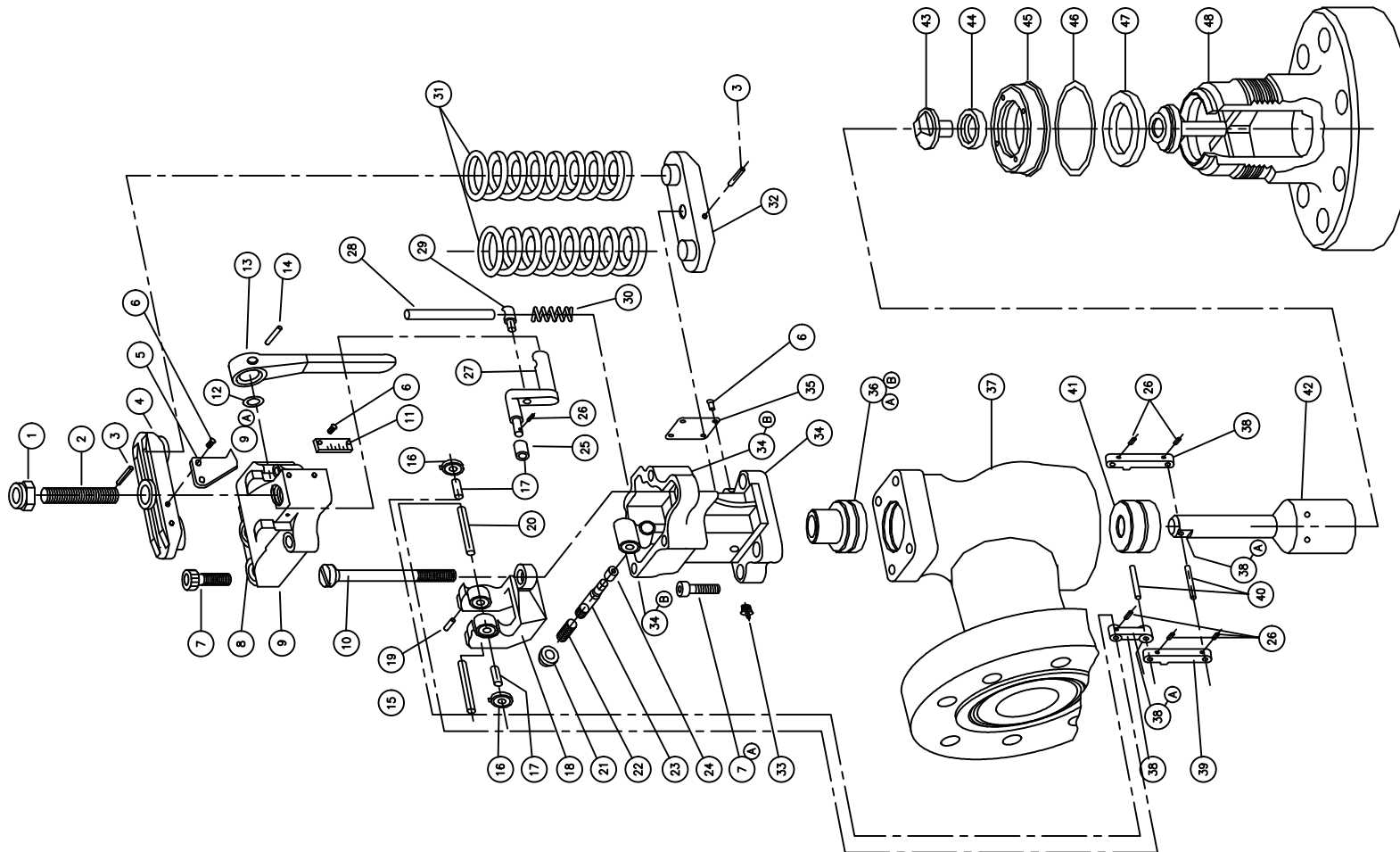
Oteco Inc. Houston, Texas
3" Reset Relief Valve Maintenance
Issued: B.H. Date: 8/18/08

Manual: **OS-130384 Rev.B**
Revision Date: 5/27/15
Approved: WU Date: 8/18/08

4.0 REPAIR OF BONNET ASSEMBLY (Continued)

ASSEMBLY:

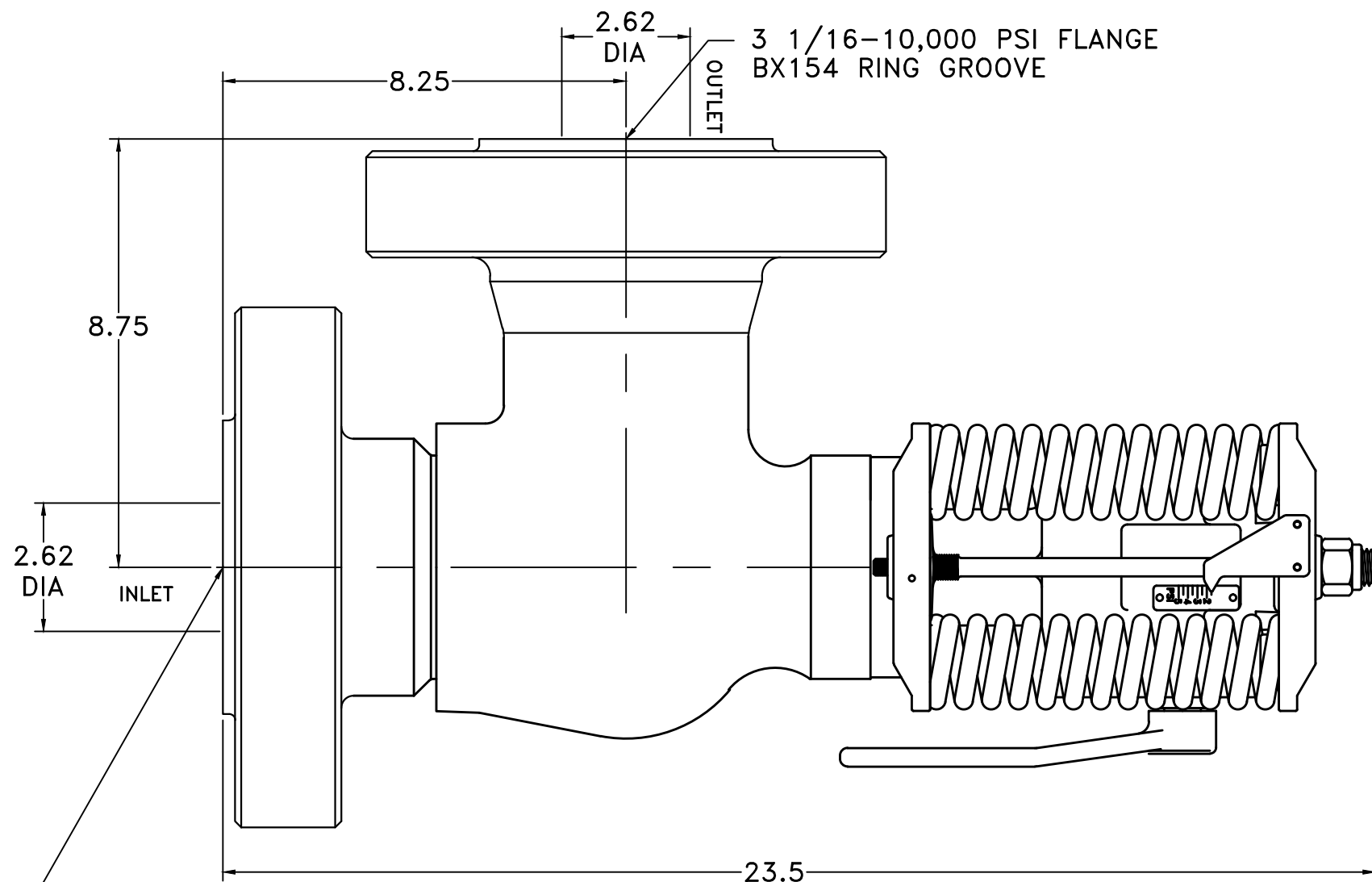
1. Apply a light coat of grease to small diameter of piston (item 42) extending from bonnet assembly. Install cushion ring (item 41) onto piston (item 42). Beveled end of cushion should be facing toward large diameter of piston.
2. Install bonnet assembly onto body assembly. Use screwdriver to start 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.



MATERIAL DESCRIP: _____ SIZE: _____ H.T.: _____ PLATING: _____ WT.: _____ LBS. ASSY. DWG.: _____ CAST OR FORGE DWG: _____	DO NOT SCALE DRAWINGS REMOVE ALL SHARPE CORNERS AND BURRS UNLESS OTHERWISE SPECIFIED ALL TOLERANCES ARE DECIMAL ± .005 FRACTIONS ± 1/64 ANGLES ± 1/2° BASH ± 1/64 MACH. FINISH "FINE" GRIND FINISH "FINE"	 OTECO INC. HOUSTON, TEXAS OTECO 3" RESET RELIEF VALVE FLANGED INLET & OUTLET
THIS DRAWING IS THE PROPERTY OF OTECO INC. AND MAY NOT BE REPRODUCED FOR ANY PURPOSE WITHOUT EXPRESS PERMISSION	DATE: 1/30/96 SCALE: NONE DRAWN: HK CHK'D: HK	PART NO. DRAWING NO. C-18650 REV. B

B	2132	5/27/15
A	1407	1/30/97
REV	ECN NO.	DATE

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	12	301729	SELF TAP SCREW	35	1	142421	INSTRUCTION PLATE			
7	8	143310	SOCKET HEAD CAP SCREW	36	1	143140	STEM BUSHING			
8	1	142420	NAMEPLATE	36-A	1	302750	STEM BUSHING O-RING, OUTSIDE			
9	1	142419	COVER, BEARING ASSEMBLY	36-B	1	302752	STEM BUSHING O-RING, INSIDE			
9-A	1	142425	BEARING, BONNET COVER	37	1	143059	3" FLANGE BODY			
10	1	143220	SCREW, LOAD	38	1	142404	UPPER LINK/BEARING ASSEMBLY			
11	1	142430	RELIEF PRESSURE SCALE	38-A	2	142423	BEARING, F/UPPER LINK, PISTON			
12	1	142439	"O" RING, RESET LEVER	39	2	142402	LINK, LOWER			
13	1	142409	HANDLE, RESET	40	2	142403	PIN, LINK			
14	1	142434	PIN, SPIRAL	41	1	143130	CUSHION RING			
15	1	142405	PIN, CRANK PIVOT	42	1	143110	PISTON/BEARING ASSEMBLY			
16	2	142406	SPRING, SPRIAL	43	1	143160	RETAINER, INNER			
17	2	142422	BEARING, CRANK	44	1	302687	SEAL, PISTON INNER			
18	1	143210	CRANK/BEARING ASSEMBLY	45	1	143170	RETAINER, OUTER			
19	1	142433	PIN, SPRIAL	46	1	143150	"O" RING			
20	1	142200	PIN, TOP CRANK	47	1	302686	SEAL, OUTER			
21	1	143320	BUTTON, RELEASE	48	1	143017	3" FLANGE SUB			
22	1	142407	SPRING, RELEASE BUTTON				B	2068	7/25/11	
23	1	143330	SHAFT, RELEASE BUTTON	C			2132	5/27/15	REV	
24	1	142408	BUSHING, RELEASE BUTTON				ECN NO.	DATE		
25	1	142440	ROLLER, RESET CRANK	NOTE: SEE DRAWING 18650 FOR EXPLODED VIEW OF VALVE ASSEMBLY AND ITEM NUMBERS.			 OTECO INC. HOUSTON, TEXAS			
26	5	142432	PIN, SPRIAL				3"- 5,000 PSI OTECO RESET RELIEF VALVE PARTS LIST, 3 1/16-10,000 PSI FLANGE INLET & OUTLET			
27	1	142442	CRANK, RESET				DATE: 11/11/05		PART NO. 130384	
28	1	142340	ROD, SPRING GUIDE				SCALE: NONE		DRAWING NO. A-20647	
29	1	142412	KEEPER, SPRING				DRAWN: HK		REV. C	
30	1	142413	SPRING, RESET CRANK	THIS DRAWING IS THE PROPERTY OF OTECO INC. AND MAY NOT BE REPRODUCED FOR ANY PURPOSE WITHOUT EXPRESS PERMISSION			CHK'D: HK			
31	2	142417	LOAD SPRING							



3 1/16-10,000 PSI FLANGE
BX154 RING GROOVE

NOTES: 1. SEE DRAWING 20647 FOR PARTS LIST.
SEE DRAWING 18650 FOR EXPLODED VIEW.



OTECO INC.
HOUSTON, TEXAS

3" RRV ASSY 5,000 PSI
3 1/16"-10,000 FLANGE
INLET & OUTLET

DATE: 11/11/05

PART NO.

SCALE: NONE

DRAWN: HK

DRAWING NO.
A-20645

REV.
A

CHK'D: HK

THIS DRAWING IS THE PROPERTY
OF OTECO INC. AND MAY NOT BE
REPRODUCED FOR ANY PURPOSE
WITHOUT EXPRESS PERMISSION