

Oteco Inc. Houston, Texas
3" Reset Relief Valve Maintenance
Issued: B.H. Date: 7/19/11

Manual: **OS-130388 Rev.B**
Revision Date: 5/27/15
Approved: WU Date: 7/19/11

OTECO INC.
3" RESET RELIEF VALVE
750 – 2,500 PSI
3" FIG.1502 FEMALE INLET &
3" FIG.1502 MALE OUTLET
INSTALLATION & MAINTENANCE
MANUAL
PART NO. 130388

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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	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
1	Seal Union Ring	301862

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
2	Seal Union Ring	301862

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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
1	Seal Union Ring	301862

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3.0 REPLACEMENT OF SEALS: Ref. Drawings 21049 and 21050

DISASSEMBLY

1. Remove pressure from relief valve.
2. Remove valve from piping system and grip in vice.
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 seal retainer (item 43), inner seal (item 44) and union seal (item 49) 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) and union seal (item 49) 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 21049 and 21050

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.

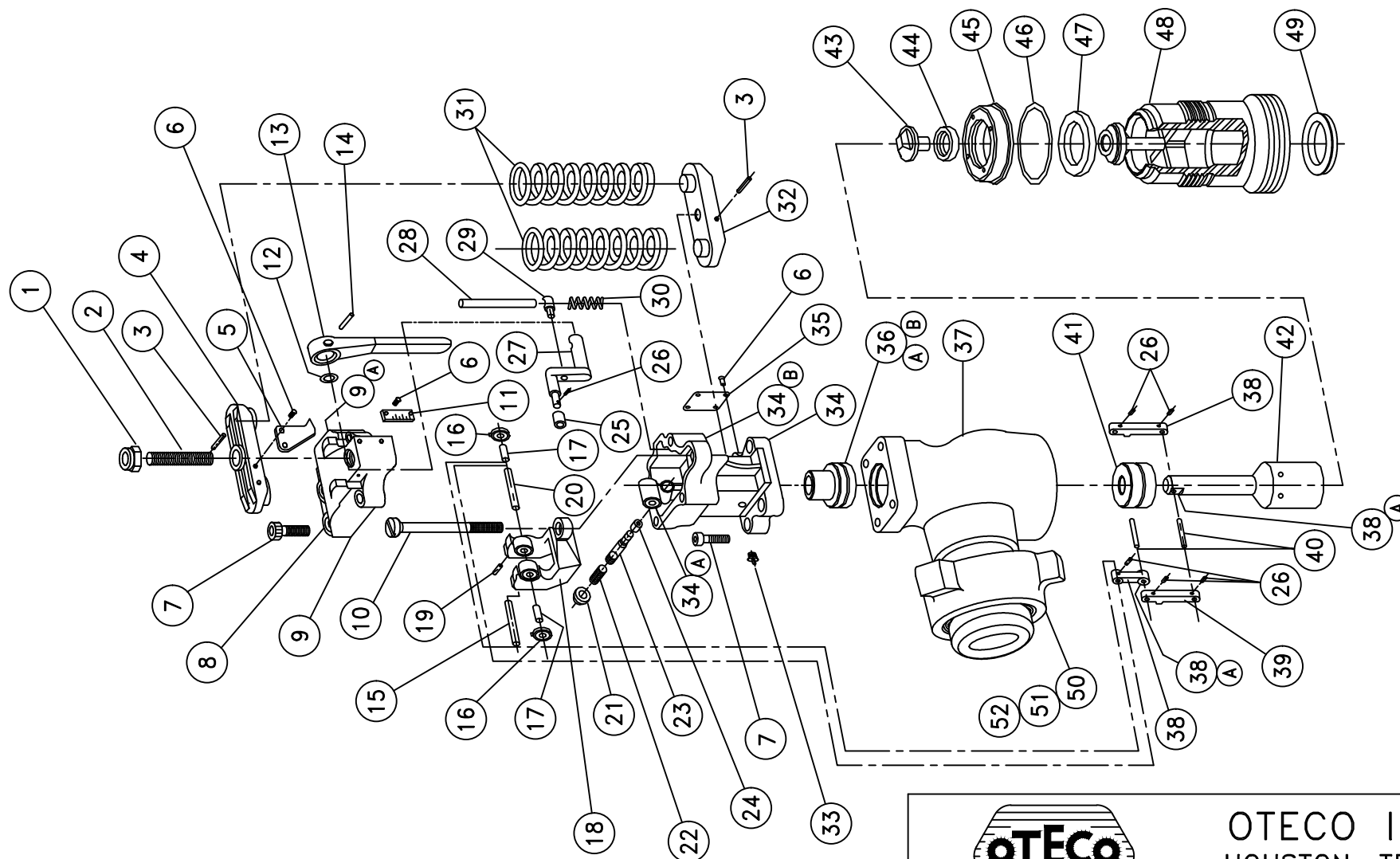
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4.0 REPAIR OF BONNET ASSEMBLY (Continued)

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.



NOTES:

- 1) SEE DRAWING 21050 FOR ITEM PART NUMBERS.

B	2132	5/27/15
REV	ECN NO.	DATE

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OTECO INC.
HOUSTON, TEXAS

3" 2,500 PSI OTECO RESET
RELIEF VALVE, 3" FIG.1502
FEMALE INLET & MALE OUTLET

DATE: 7/19/11

SCALE: NTS

DRAWN: B.H.

CHK'D: WU

PART NO.

130388

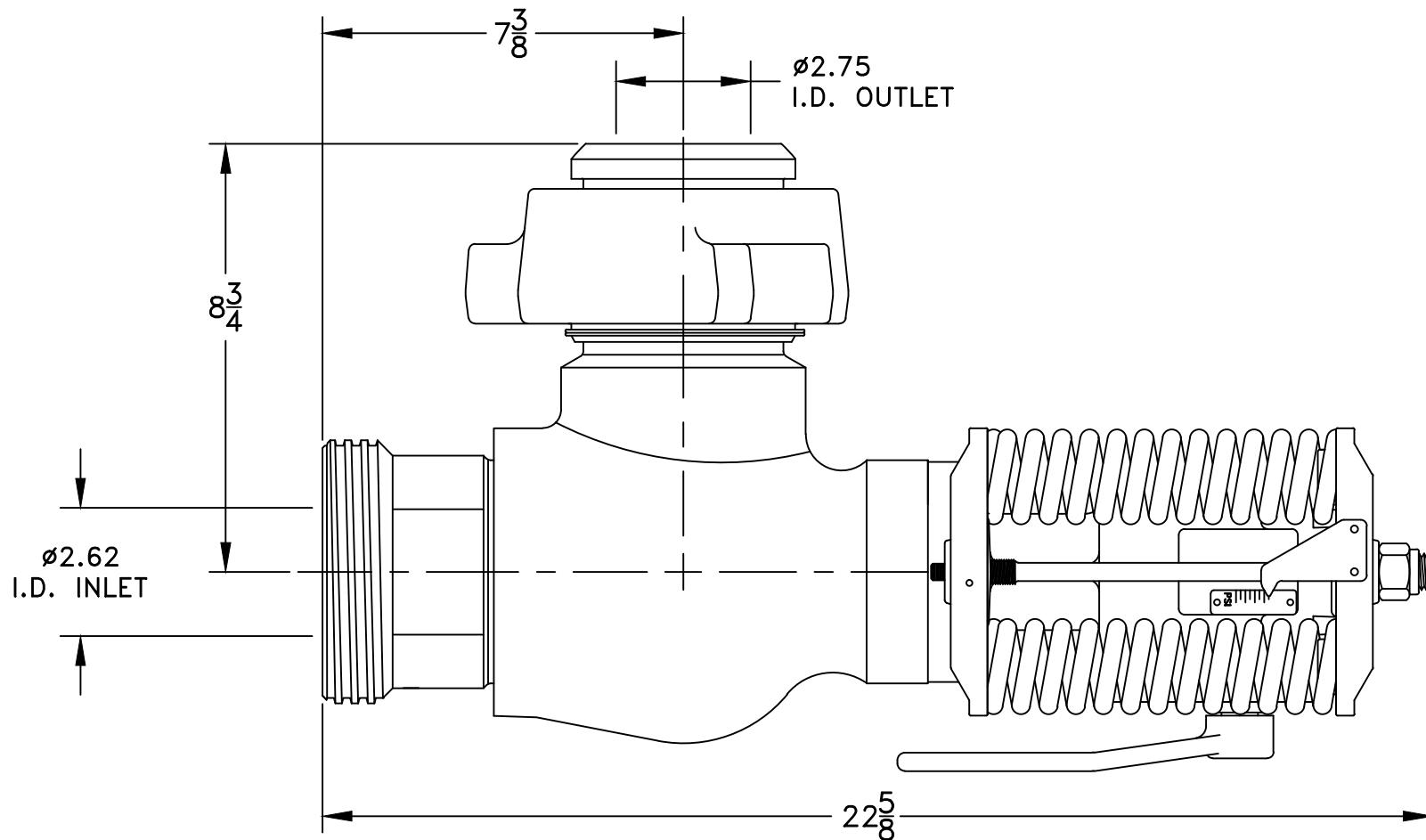
DRAWING NO.

A-21049

REV.

B

ITEM	QTY	PART #	DESCRIPTION				ITEM	QTY	PART #	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				34A	2	142424	BEARING, BONNET
5	1	142418	INDICATOR, RELIEF PRESSURE				34B	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				37	1	143192	3" FIG.1502 MALE UNION BODY
9	1	142419	COVER, BEARING ASSEMBLY				38	1	142404	UPPER LINK/BEARING ASSEMBLY
9A	1	142425	BEARING, BONNET COVER				38A	2	142423	BEARING, F/UPPER LINK, PISTON
10	1	143220	SCREW, LOAD				39	2	142402	LINK, LOWER
11	1	142429	RELIEF PRESSURE SCALE				40	2	142403	PIN, LINK
12	1	142439	"O"-RING, RESET LEVER				41	1	143130	CUSHION RING
13	1	143186	HANDLE, RESET				42	1	143110	PISTON/BEARING ASSEMBLY
14	1	142434	PIN, SPIRAL				43	1	143160	RETAINER, INNER
15	1	142405	PIN, CRANK PIVOT				44	1	302687	SEAL, PISTON INNER
16	2	142406	SPRING, SPIRAL				45	1	143170	RETAINER, OUTER
17	2	142422	BEARING, CRANK				46	1	143150	"O"-RING
18	1	143210	CRANK/BEARING ASSEMBLY				47	1	302686	SEAL, OUTER
19	1	142433	PIN, SPIRAL				48	1	142038	3" FIG.1502 FEMALE UNION SUB
20	1	142200	PIN, TOP CRANK				49	1	301862	SEAL RING, UNION
21	1	143320	BUTTON, RELEASE				50	1	302625	NUT, 3" FIG.1502 UNION
22	1	142407	SPRING, RELEASE BUTTON				51	3	302628	RETAINER SEGMENT, 3" FIG.1502
23	1	143330	SHAFT, RELEASE BUTTON				52	1	301515	RETAINER RING, 3" FIG.1502
24	1	142408	BUSHING, RELEASE BUTTON							
25	1	142440	ROLLER, RESET CRANK							
26	5	142432	PIN, SPIRAL							
27	1	142442	CRANK, RESET							
28	1	142340	ROD, SPRING GUIDE							
29	1	142412	KEEPER, SPRING							
30	1	142413	SPRING, RESET CRANK	C	2177	3/02/18				
31	2	142416	LOAD SPRING	B	2132	5/27/15				
NOTES: 1) SEE DRAWING 21049 FOR EXPLODED VIEW.				REV	ECN NO.	DATE				



OTECO INC.
HOUSTON, TEXAS

3" RRV ASSEMBLY, 2,500 PSI
WITH 3" FIG.1502 FEMALE
INLET X MALE OUTLET

DATE: 7/19/11

PART NO.

SCALE: NTS

130388

DRAWN: B.H.

DRAWING NO.

CHK'D: WU

A-21051

REV.
A

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