

HERSEY 6CM / 2 REPAIR PROCEDURES

II. MAIN AND CHECK VALVES

A. MAIN OR CHECK VALVE ASSEMBLIES, DISCS, SEATS, & O-RINGS. 2 1/2", 3", 4", & 6" MODEL 6C-M & HERSEY NO. 2

1. Close inlet and outlet shutoff valves.
2. Open testcocks 2, 3, & 4 to release pressure.
3. Remove main valve cover bolts and nuts (the 2 1/2" bronze 6C-M has hex cap screws only).
4. Remove the main valve cover and gasket.
5. Insert the proper eyebolts into the threaded holes on the top of the spring retainer, and lift the entire main valve assembly out of the body.
6. a) Remove the eye bolts and place the assembly so it rests on a flat surface with its guide fingers pointing up, to permit cleaning of the disc.
b) Remove the hex cap screw and guide to release the main valve disc, if it is to be replaced.
7. Replace the guide and tighten the hex cap screw. Replace the eyebolts in the spring retainer. Place the assembly aside.
8. Remove the main valve seat, unscrewing it counter-clockwise with the 6C-M seat removal tool (Be careful not to damage the seat face when seating the tool).
9. Replace the seat and the seat o-ring, if required. (Lubricate o-ring to hold it in place).
10. Tighten the seat (again being careful not to damage the seat face), until resistance is felt.
11. Carefully lower the main valve assembly into the body (being careful the the guide fingers do not damage the seat face).
12. Remove the eyebolts from the spring retainer; replace the cover gasket and cover.
13. Tighten the cover bolts and nuts and repeat steps 3 thru 13 for the check valve assembly.
14. Close testcocks.
15. Open inlet and outlet valves.

B. MAIN OR CHECK VALVE SPRING, SPRING RETAINER AND DISC HOLDER 2 1/2", 3", 4" & 6" MODEL 6C-M & HERSEY NO. 2

NOTE: This operation should not be performed unless replacement of one of the above parts is required. The spring exerts a strong force against the spring retainer and caution is advised when this operation is done.

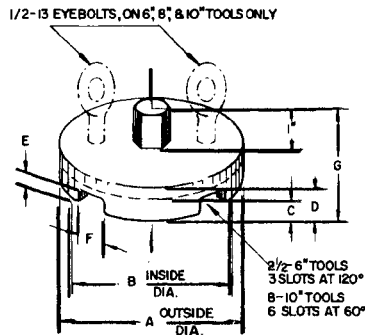
1. Close inlet and outlet shutoff valves.
2. Open testcock 2, 3, & 4 to release pressure.
3. Remove main valve cover bolts and nuts (The 2 1/2" bronze 6C-M has hex cap screws only).
4. Remove the main valve cover and gasket. Leave the check valve assembly in the body.
5. a) Attach the two threaded rods of the spring removal tool to the main valve flange with the nuts and washers provided.
NOTE: The 2 1/2" bronze 6C-M has threaded holes on the main valve flange. The rods must be screwed in the flange of this type of unit.
b) Fully tighten the nuts on the top and bottom of the main valve flange.
6. Slide the spring removal plate down on the rods to rest on the nuts, and securely tighten the nuts and washers on the top of the plate.
7. Remove the spring retainer nut.
8. Gradually loosen the top rod nuts to allow the spring to relax. Caution! *Check rods to make sure they are not turning. Retighten flange nuts if necessary.*
9. When the spring is fully relaxed, remove the plate. The spring, spring retainer or the disc holder can now be replaced.
10. To reassemble, reverse steps 1 thru 9.
11. Repeat procedure for check valve.

IV MAIN AND CHECK VALVE ASSEMBLIES AND SEATS 8" & 10" MODEL 6CM & HERSEY NO. 2

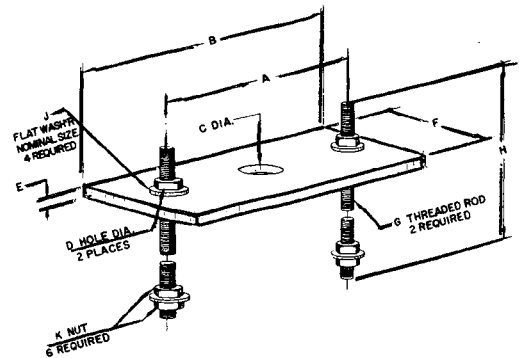
1. Close inlet and outlet shutoff valves.
2. Open testcocks 2, 3 and 4 to relieve pressure.
3. Remove valve cover bolts and nuts.
4. Remove valve cover and gasket, using eyebolt provided.
5. Insert eyebolts into the threaded holes on the top of the spring retainer, and lift the entire valve assembly out of the body (at this point, the valve seat may be replaced if necessary).
6. a) Remove the eyebolts and place the assembly so that it rests on a flat surface with its guide fingers pointing up, to permit cleaning of the disc.
b) Remove the hex cap screw and guide. The disc can now be replaced, if necessary.
7. Reassemble the guide to the disc holder.
8. To remove and replace spring, follow procedure below:
 - a) Place valve assembly back in body of device.
 - b) Attach the two threaded rods of the spring removal tool to the valve flange with the nuts and washers provided, and tighten the nuts fully.

- c) Slide the spring removal plate down on the rods to rest on the hex nuts, and tighten the top nuts and washers against the plate.
- d) Remove the spring retainer nut from the valve assembly.
- e) Gradually loosen top rod nuts to allow spring to relax (use extreme caution until the spring is fully relaxed).
- f) Remove the tool plate, spring retainer and spring.
- g) Place new spring on disc holder. Place spring retainer on spring.
- h) Reassemble tool plate, nuts and washers to threaded rods.
- i) Tighten nuts until spring is compressed sufficiently to permit replacement of spring retainer nut.
- j) Loosen tool plate nuts and remove tool.
- k) Replace gasket and cover; close testcocks 2, 3, 4; and open shutoff valves.

MODEL 6CM MAIN & CHECK VALVE SEAT REMOVAL TOOLS



HERSEY PART NO.	SIZE DEVICE	A IN.	B. IN.	C IN.	D IN.	E IN.	F IN.	G IN.
63553	2 1/2"	3 1/16	3 3/8	1 1/8	1 5/8	1/4	9/16	1 5/16
63353	3"	4 5/16	4	1 1/8	1 5/8	5/16	1 3/16	1 5/8
63463	4"	5 7/16	5	1 3/16	1 7/8	3/8	1 1/8	2 1/16
63653	6"	7 15/16	7 7/16	1 5/8	1 7/8	3/4	1 1/8	2 3/8
63853	8"	10 3/4	9 5/8	1 5/8	1 7/8	3/4	1 1/8	2 3/8
63953	10"	12 1/2	11 19/32	1 7/8	1 7/8	1"	1 5/8	2 9/16



HERSEY PART NO.	SIZE DEVICE	A IN.	B IN.	C IN.	D IN.	E IN.	F IN.	G IN.	H IN.	J IN.	K IN.
63560	2 1/2"	6	7 1/2	1 1/2	1 1/2	1/8	4	7/16-14	12 1/2	7/16	7/16-14
63360	3"	7	8 1/2	1 3/4	1 5/8	1/8	4	1/2-13	17	1/2	1/2-13
63460	4"	8 1/4	9 3/4	2	1 7/8	1/8	4	1/2-13	17	1/2	1/2-13
63660	6"	11	13	2	2	1/8	6	1/2-13	17	1/2	1/2-13
63860	8"	14 5/8	17	2	2	1/8	6	3/4-10	30	3/4	3/4-10
63960	10"	18	21	2 1/2	2	1/8	6	3/4-10	30	3/4	3/4-10

SPRING REMOVAL TOOLS

III RELIEF VALVE ASSEMBLY AND HOUSING ASSEMBLY

2 1/2", 3", 4" & 6" MODEL 6C-M

1. Close inlet and outlet shutoff valves.
2. Open testcocks 2, 3 and 4 to relieve pressure.
3. Remove all but two relief valve cover bolts and nut, loosen these.

Note: If cover adheres to body, strike cover at junction of body and cover to break it free. Should diaphragm adhere to body or cover separate it by running knife around flange between diaphragm and body of cover. At this point, relief valve assembly should drop on cover.

4. Support cover and remove remaining bolts to release cover and valve assembly from body.

Note: If relief valve did not drop on cover, remove cover. Grasp diaphragm on opposite sides and slowly pull down (adhesion of lower seat o-ring to relief valve housing may cause valve to remain in position).

5. To disassemble relief valve:
 - a) Place the assembly on a flat surface, with the guide fingers pointing down.
 - b) Press down on lower diaphragm plate to maintain spring in compression. At the same time, loosen the clamp nut (to facilitate this operation, it may be desirable to have one person hold the spring in compression and a second remove the nut). Release pressure on diaphragm plate. Plate should rise against nut. If it does not, tap upper diaphragm plate to release adhesion of diaphragm plate gasket. Press down on diaphragm plate and remove clamp nut.
 - c) Slowly release pressure on the diaphragm plate until spring extends fully. Remove diaphragm plates, diaphragm, spring and diaphragm plate gasket from balance of assembly.
 - d) Remove assembly screw and separate upper seat guide, upper disc, upper stem, lower disc, lower stem and lower seat. Discs and other parts may now be cleaned or replaced.

Note: Rubber discs may tend to stick to stems after assembly screw is removed.

6. To reassemble relief valve:
 - a) Place discs on lower and upper stems, and assemble lower seat to upper stem, and upper stem to lower stem (projection on stem goes into hole in disc). Place guide on upper stem (projection on guide goes into hole on disc). Replace assembly screw.
 - b) Rest assembly on flat surface, guide fingers pointing down. Place diaphragm plate gasket and spring on lower stem.
 - c) Place diaphragm between diaphragm plates and rest upper plate on spring.
 - d) Press on lower diaphragm plate until threaded end of lower stem appears in hole on plate. Replace lockwasher and clamp nut, and release plate.

Note: Apply vaseline to lower seat o-ring (seal) before assembling to seat. If original o-ring is left in place, apply vaseline to it.

7. To disassemble RV housing assembly, first unscrew housing nut (do not apply pressure to elbow). Then remove the assembly by sliding it in and down, out of the body. The RV housing gasket which fits over the two locating pins on the housing flange can now be replaced.
8. Remove the three screws and lock washers that hold the upper seat in the housing. The o-ring (upper seat seal) or the seat itself can now be replaced. Note: Apply vaseline to o-ring before assembling to seat.
9. To reassemble:
 - a) Press upper seat into place and fasten screws.
 - b) Place housing in body, being careful to align pins with holes on body. Attach housing nut. Be sure elbow points down. Reattach drain funnel assembly if device is so equipped.
10. Rotate relief valve so that hole in diaphragm for internal passageway in body aligns with body opening. Lift RV assembly up into body, inserting upper seat guide fingers into upper seat opening. Note: Avoid contact of guide fingers with upper seat.
Hold relief valve in position, and assemble RV cover and cover bolts to body.
11. Close testcocks 2, 3, and 4 and open shut off valves.

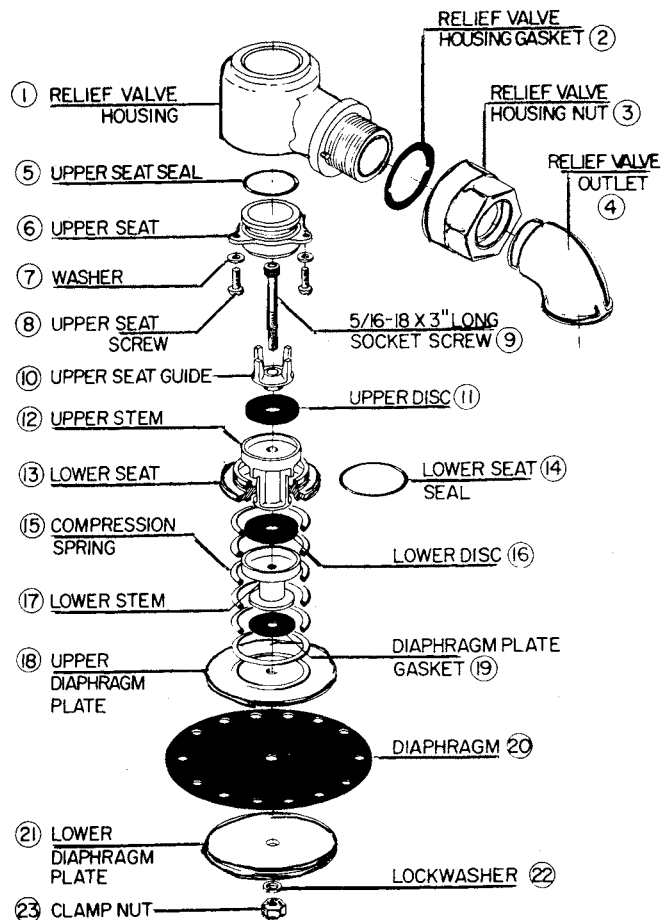


FIGURE 10
RELIEF VALVE ASSEMBLY
AND HOUSING ASSEMBLY
2 1/2"-6" MODEL 6CM

**V RELIEF VALVE ASSEMBLY AND HOUSING ASSEMBLY
8" AND 10" MODEL 6C-M**

Relief valve assembly and housing assembly, 8" and 10" Model 6CM.

1. Close inlet and outlet shutoff valves.
2. Open testcocks 2, 3 and 4 to relieve pressure.
3. Remove all but two relief valve cover bolts and nuts, loosen these.
Note: If cover adheres to body, strike cover at junction of body and cover to break it free. Should diaphragm adhere to body or cover separate it by running knife around flange between diaphragm and body or cover. At this point, relief valve assembly should drop on cover.
4. Support cover and remove remaining bolts to release cover and valve assembly from body.
Note: If relief valve did not drop on cover, remove cover. Grasp diaphragm on opposite sides and slowly pull down (adhesion of lower seat o-ring to relief valve housing may cause valve to remain in position).
5. To disassemble relief valve:
 - a) Place assembly in an arbor press with the guide facing up.
Caution: Do not attempt to disassemble by compressing spring by hand. Substantial spring force could cause injury if spring compression is released suddenly.
 - b) Press on lower seat, compressing spring slightly to release tension on assembly screw.
 - c) Holding spring in compression, remove assembly screw.
 - d) Slowly release pressure until spring is fully extended. Remove guide, upper spacer, lower seat, discs and spring from the balance of the assembly. The discs and lower seat seal (o-ring) may now be replaced. (lubricate o-ring).
 - e) If diaphragm is to be replaced, remove clamp nut from lower spacer. Separate lower spacer, diaphragm plate gasket, diaphragm and diaphragm plates. If diaphragm or gasket sticks to other parts, insert knife between them to separate.
6. To reassemble relief valve:
 - a) Reassemble lower spacer, diaphragm, diaphragm plates, diaphragm plate gasket and nut as illustrated.
 - b) Place these parts in arbor press, lower spacer facing up.
 - c) Place lower disc on lower spacer.
 - d) Place spring and lower seat on upper diaphragm plate.
 - e) Insert upper spacer into lower seat, and rest seat on spring.
 - f) Place upper disc on upper spacer, and guide on upper disc (base of guide fits into hole in disc). Insert assembly screw in guide.
 - g) Apply pressure to lower seat until spring is sufficiently compressed to permit engagement of assembly screw threads. Tighten screw in place after checking that upper spacer is properly seated in hole in lower disc. Release pressure on spring.

7. To disassemble relief valve housing assembly:
 - a) Unscrew housing nut (do not apply wrench to elbow), and slide housing in and down, out of the body.
 - b) Unscrew upper seat from housing, if replacement of seat o-ring is indicated.
8. To reassemble relief valve housing assembly:
 - a) Apply vaseline to new or existing housing o-ring and place it on housing.
 - b) If seat was removed, also apply vaseline to o-ring prior to reassembly of seat.
 - c) Slide housing through hole in body, carefully aligning locating pins with holes in body. Replace nut and elbow. Be sure elbow faces downward. Reattach drain funnel assembly if device is so equipped.
9. Rotate relief valve so that hole in diaphragm for internal passageway in body aligns with body opening. Lift RV assembly up into body, inserting upper seat guide fingers into upper seat opening. Note: Avoid contact of guide fingers with upper seat.
10. Hold relief valve in position, and assemble RV cover and cover bolts to body.
11. Close testcocks, 2, 3, and 4 and open shut off valves.

