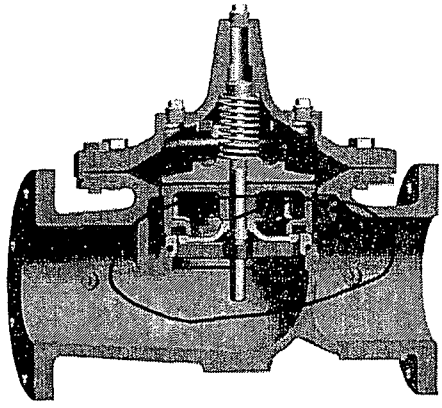
CLA-VAL™

—MODEL— 100-01 Hytrol Valve

Description

The Cla-Val Model 100-01 Hytrol Valve is a main valve for Cla-Val Automatic Control Valves. It is a hydraulically operated, diaphragm-actuated, globe or angle pattern valve.

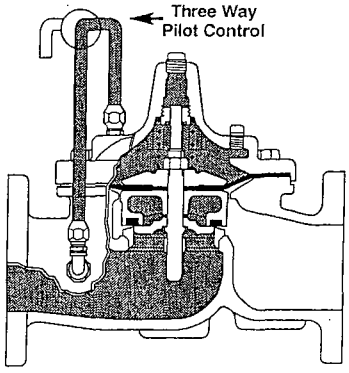
This valve consists of three major components; body, diaphragm assembly, and cover. The diaphragm assembly is the only moving part. The diaphragm assembly uses a diaphragm of nylon fabric bonded with synthetic rubber. A synthetic rubber disc, contained on three and one half sides by a disc retainer and disc guide, forms a seal with the valve seat when pressure is applied above the diaphragm. The diaphragm assembly forms a sealed chamber in the upper portion of the valve, separating operating pressure from line pressure.



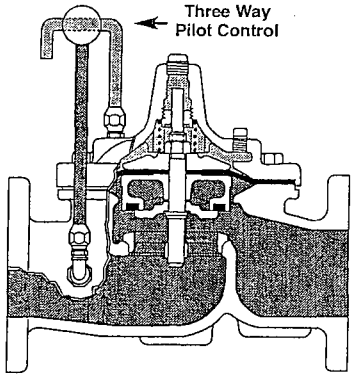
Installation

1. Before valve is installed, pipe lines should be flushed of all chips, scale and foreign matter.
2. It is recommended that either gate or block valves be installed on both ends of the 100-01 Hytrol Valve to facilitate isolating the valve for preventive maintenance and repairs.
3. Place the valve in the line with flow through the valve in the direction indicated on the inlet nameplate. (See "Flow Direction" Section)
4. Allow sufficient room around valve to make adjustments and for disassembly.
5. Cla-Val 100-01 Hytrol Valves operate with maximum efficiency when mounted in horizontal piping with the cover UP, however, other positions are acceptable. Due to size and weight of the cover and internal components of 8 inch and larger valves, installation with the cover UP is advisable. This makes internal parts readily accessible for periodic inspection.
6. Caution must be taken in the installation of this valve to insure that galvanic and/or electrolytic action does not take place. The proper use of dielectric fittings and gaskets are required in all systems using dissimilar metals.
7. If a pilot control system is installed on the 100-01 Hytrol Valve, use care to prevent damage. If it is necessary to remove fittings or components, be sure they are kept clean and replaced exactly as they were.
8. After the valve is installed and the system is first pressurized, vent air from the cover chamber and pilot system tubing by loosening fittings at all high points.

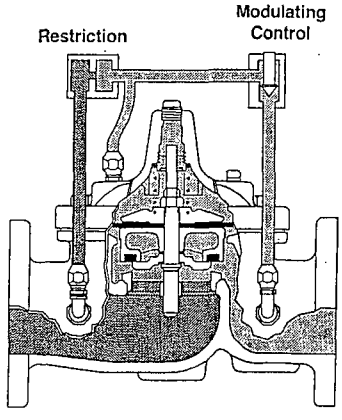
Principles of Operation



Tight Closing Operation
When pressure from the valve inlet (or an equivalent independent operating pressure) is applied to the diaphragm chamber the valve closes drip-tight.



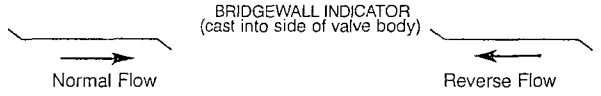
Full Open Operation
When pressure in diaphragm chamber is relieved to a zone of lower pressure (usually atmosphere) the line pressure (5 psi Min.) at the valve inlet opens the valve.



Modulating Action
Valve modulates when diaphragm pressure is held at an intermediate point between inlet and discharge pressure. With the use of a Cla-Val. "modulating control," which reacts to line pressure changes, the pressure above the diaphragm is varied, allowing the valve to throttle and compensate for the change.

Flow Direction

The flow through the 100-01 Hytrol Valve can be in one of two directions. When flow is "up-and-over the seat," it is in "normal" flow and the valve will fail in the open position. When flow is "over-the seat-and down," it is in "reverse" flow and the valve will fail in the closed position. There are no permanent flow arrow markings. **The valve must be installed according to nameplate data.**



Recommended Tools

1. Three pressure gauges with ranges suitable to the installation to be put at Hytrol inlet, outlet and cover connections.

2. Cla-Val Model X101 Valve Position Indicator. This provides visual indication of valve position without disassembly of valve.

3. Other items are: suitable hand tools such as screwdrivers, wrenches, etc. soft jawed (brass or aluminum) vise, 400 grit wet or dry sandpaper and water for cleaning.

Troubleshooting

The following troubleshooting information deals strictly with the Model 100-01 Hytrol Valve. This assumes that all other components of the pilot control system have been checked out and are in proper working condition. (See appropriate sections in Technical Manual for complete valve).

All trouble shooting is possible without removing the valve from the line or removing the cover. It is highly recommended to permanently install a Model X101 Valve Position Indicator and three gauges in unused Hytrol inlet, outlet and cover connections.

SYMPTOM	PROBABLE CAUSE	REMEDY
Fails to Close	Closed isolation valves in control system, or in main line.	Open Isolation valves.
	Lack of cover chamber pressure.	Check upstream pressure, pilot system, strainer, tubing, valves, or needle valves for obstruction.
	Diaphragm damaged. (See Diaphragm Check.)	Replace diaphragm.
	Diaphragm assembly inoperative. Corrosion or excessive scale build up on valve stem. (See Freedom of Movement Check)	Clean and polish stem. Inspect and replace any damaged or badly eroded part.
	Mechanical obstruction. Object lodged in valve. (See Freedom of Movement Check)	Remove obstruction.
	Worn disc. (See Tight Sealing Check)	Replace disc.
	Badly scored seat. (See Tight Sealing Check)	Replace seat.
Fails to Open	Closed upstream and/or downstream isolation valves in main line.	Open isolation valves.
	Insufficient line pressure.	Check upstream pressure. (Minimum 5 psi flowing line pressure differential.)
	Diaphragm assembly inoperative. Corrosion or excessive buildup on valve stem. (See Freedom of Movement Check)	Clean and polish stem. Inspect and replace any damaged or badly eroded part.
	Diaphragm damaged. (For valves in "reverse flow" only)	Replace diaphragm.

After checking out probable causes and remedies, the following three checks can be used to diagnose the nature of the problem before maintenance is started. They must be done in the order shown.

Three Checks

The 100-01 Hytrol Valve has only one moving part (the diaphragm and disc assembly). So, there are only three major types of problems to be considered.

First: Valve is stuck - that is, the diaphragm assembly is not free to move through a full stroke either from open to close or vice versa.

Second: Valve is free to move and can't close because of a worn out diaphragm.

Third: Valve leaks even though it is free to move and the diaphragm isn't leaking.

CAUTION:
Care should be taken when doing the troubleshooting checks on the 100-01 Hytrol Valve. These checks do require the valve to open fully. This will either allow a high flow rate through the valve, or the downstream pressure will quickly increase to the inlet pressure. In some cases, this can be very harmful. Where this is the case, and there are no block valves in the system to protect the downstream piping, it should be realized that ***the valve cannot be serviced under pressure.*** *Steps should be taken to remedy this situation before proceeding any further.*

Diaphragm Check (#1)

1. Shut off pressure to the Hytrol Valve by slowly closing upstream and downstream isolation valves. **SEE CAUTION.**

2. Disconnect or close all pilot control lines to the valve cover and leave only one fitting in highest point of cover open to atmosphere.

3. With the cover vented to atmosphere, slowly open upstream isolation valve to allow some pressure into the Hytrol Valve body. Observe the open cover tapping for signs of continuous flow. It is not necessary to fully open isolating valve. Volume in cover chamber capacity chart will be displaced as valve moves to open position. Allow sufficient time for diaphragm assembly to shift positions. If there is no continuous flow, you can be quite certain the diaphragm is sound and the diaphragm assembly is tight. If the fluid appears to flow continuously this is a good reason to believe the diaphragm is either damaged or it is loose on the stem. In either case, this is sufficient cause to remove the valve cover and investigate the leakage. (See "Maintenance" Section for procedure.)

COVER CHAMBER CAPACITY
(Liquid Volume displaced when valve opens)

Valve size (inches)	Displacement	
	Gallons	Liters
1 1/4	.020	.07
1 1/2	.020	.07
2	.032	.12
2 1/2	.043	.16
3	.080	.30
4	.169	.64
6	.531	2.0
8	1.26	4.8
10	2.51	9.5
12	4.00	15.1
14	6.50	24.6
16	9.57	36.2
24	29.00	109.8
30	42.00	197.0
36	90.00	340.0

Freedom of Movement Check (#2)

4. Determining the Hytrol Valve's freedom of movement can be done by one of two methods.

5. For most valves it can be done after completing Diaphragm Check (Steps 1, 2, and 3). **SEE CAUTION.** At the end of step 3 the valve should be fully open.

6. If the valve has a Cla-Val X101 Position Indicator, observe the indicator to see that the valve opens wide. Mark the point of maximum opening.

7. Re-connect enough of the control system to permit the application of inlet pressure to the cover. Open pilot system cock so pressure flows from the inlet into the cover.

8. While pressure is building up in the cover, the valve should close smoothly. There is a hesitation in every Hytrol Valve closure, which can be mistaken for a mechanical bind. The stem will appear to stop moving very briefly before going to the closed position. This slight pause is caused by the diaphragm flexing at a particular point in the valve's travel and is not caused by a mechanical bind.

9. When closed, a mark should be made on the X101 Valve position indicator corresponding to the "closed" position. The distance between the two marks should be approximately the stem travel shown in chart.

STEM TRAVEL
(Fully Open to Fully Closed)

Valve Size (inches)		Travel (inches)	
Inches	MM	Inches	MM
1 1/4	32	0.4	10
1 1/2	40	0.4	10
2	50	0.6	15
2 1/2	65	0.7	18
3	80	0.8	20
4	100	1.1	28
6	150	1.7	43
8	200	2.3	58
10	250	2.8	71
12	300	3.4	86
14	350	4.0	100
16	400	4.5	114
24	600	6.5	165
30	800	7.5	190
36	900	8.5	216

10. If the stroke is different than that shown in stem travel chart this is a good reason to believe something is mechanically restricting the stroke of the valve at one end of its travel. If the flow does not stop through the valve when in the indicated "closed" position, the obstruction probably is between the disc and the seat. If the flow does stop, then the obstruction is more likely in the cover. In either case, the cover must be removed, and the obstruction located and removed. The stem should also be checked for scale build-up. (See "Maintenance, section for procedure.)

11. For valves 6" and smaller, the Hytrol Valve's freedom of movement check can also be done after all pressure is removed from the valve. **SEE CAUTION.** After closing inlet and outlet isolation valves and bleeding pressure from the valve, check that the cover chamber and the body are temporarily vented to atmosphere. Insert fabricated tool into threaded hole in top of valve stem, and lift the diaphragm assembly manually. Note any roughness. The diaphragm assembly should move smoothly throughout entire valve stroke. The tool is fabricated from rod that is threaded on one end to fit valve stem and has a "T" bar handle of some kind on the other end for easy gripping. (See chart in Step 4 of "Disassembly" Section.)

12. Place marks on this diaphragm assembly lifting tool when the valve is closed and when manually positioned open. The distance between the two marks should be approximately the stem travel shown in stem travel chart. If the stroke is different than that shown, there is a good reason to believe something is mechanically restricting the stroke of the valve. The cover must be removed, and the obstruction located and removed. The stem should also be checked for scale build-up. (See "Maintenance" Section for procedure.)

Tight Sealing Check (#3)

13. Test for seat leakage after completing checks #1 & #2 (Steps 1 to 12). **SEE CAUTION.** Close the isolation valve downstream of the Hytrol Valve. Apply inlet pressure to the cover of the valve, wait until it closes. Install a pressure gauge between the two closed valves using one of the two ports in the outlet side of the Hytrol. Watch the pressure gauge. If the pressure begins to climb, then either the downstream isolation valve is permitting pressure to creep back, or the Hytrol is allowing pressure to go through it. Usually the pressure at the Hytrol inlet will be higher than on the isolation valve discharge, so if the pressure goes up to the inlet pressure, you can be sure the Hytrol is leaking. Install another gauge downstream of isolating valve. If the pressure between the valves only goes up to the pressure on the isolation valve discharge, the Hytrol Valve is holding tight, and it was just the isolation valve leaking.

Maintenance

Preventative Maintenance

The Cla-Val Co. Model 100-01 Hytrol Valve requires no lubrication or packing and a minimum of maintenance. However, a periodic inspection schedule should be established to determine how the operating conditions of the system are affecting the valve. The effect of these actions must be determined by inspection.

Disassembly

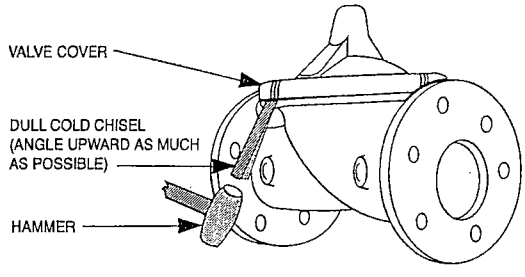
Inspection or maintenance can be accomplished without removing the valve from the line. Repair kits with new diaphragm and disc are recommended to be on hand before work begins.

WARNING: Maintenance personnel can be injured and equipment damaged if disassembly is attempted with pressure in the valve. **SEE CAUTION.**

1. Close upstream and downstream isolation valves **and independent operating pressure when used** to shut off all pressure to the valve.

2. Loosen tube fittings in the pilot system to remove pressure from valve body and cover chamber. After pressure has been released from the valve, use care to remove the controls and tubing. Note and sketch position of tubing and controls for re-assembly. The schematic in front of the Technical Manual can be used as a guide when reassembling pilot system.

3. Remove cover nuts and remove cover. If the valve has been in service for any length of time, chances are the cover will have to be loosened by driving upward along the edge of the cover with a **dull** cold chisel.



On 6" and smaller valves block and tackle or a power hoist can be used to lift valve cover by inserting proper size eye bolt in place of the center cover plug. on 8" and larger valves there are 4 holes (5/8" — 11 size) where jacking screws and/or eye bolts may be inserted for lifting purposes. **Pull cover straight up** to keep from damaging the integral seat bearing and stem.

COVER CENTER PLUG SIZE

Valve Size	Thread Size (NPT)
1 1/4"—1 1/2"	1/4"
2"—3"	1/2"
4"—6"	3/4"
8"—10"	1"
12"	1 1/4"
14"	1 1/2"
16"	2"
24"	2"
30" & 36"	2"

4. Remove the diaphragm and disc assembly from the valve body. With smaller valves this can be accomplished by hand by **pulling straight up on the stem so as not to damage the seat bearing.** On large valves, an eye bolt of proper size can be installed in the stem and the diaphragm assembly can be then lifted with a block and tackle or power hoist. Take care not to damage the stem or bearings. The valve won't work if these are damaged.

VALVE STEM THREAD SIZE

Valve Size	Thread Size (UNF Internal)
1 1/4"—2 1/2"	10—32
3"—4"	1/4—28
6"—14"	3/8—24
16"	1/2—20
24"	3/4-16
30"	3/4-16
36"	3/4-16

5. The next item to remove is the stem nut. Examine the stem threads above the nut for signs of mineral deposits or corrosion. If the threads are not clean, use a wire brush to remove as much of the residue as possible. Attach a good fitting wrench to the nut and give it a sharp "rap" rather than a steady pull. Usually several blows are sufficient to loosen the nut for further removal. On the smaller valves, the entire diaphragm assembly can be held by the stem in a vise **equipped with soft brass jaws** before removing the stem nut.

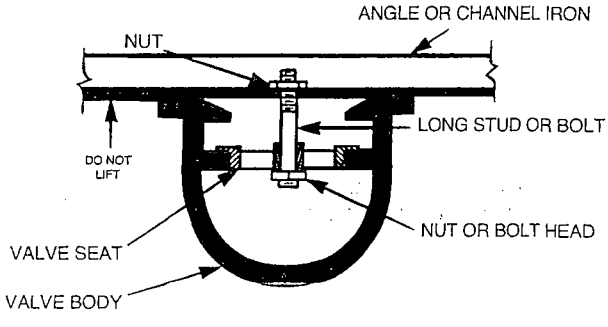
The use of a pipe wrench or a vise without soft brass jaws scars the fine finish on the stem. No amount of careful dressing can restore the stem to its original condition. Damage to the finish of the stem can cause the stem to bind in the bearings and the valve will not open or close.

6. After the stem nut has been removed, the diaphragm assembly breaks down into its component parts. Removal of the disc from the disc retainer can be a problem if the valve has been in service for a long time. Using two screwdrivers inserted along the outside edge of the disc usually will accomplish its removal. Care should be taken to preserve the spacer washers in water, particularly if no new ones are available for re-assembly.

7. The only part left in the valve body is the seat which ordinarily does not require removal. Careful cleaning and polishing of inside and outside surfaces with 400 wet/dry sandpaper will usually restore the seat's sharp edge. If, however, it is badly worn and replacement is necessary, it can be easily removed.

Seats in valve sizes 1 1/4" through 6" are threaded into the valve body. They can be removed with accessory X109 Seat Removing Tool available from the factory. On 8" and larger valves, the seat is held in place by flat head machine screws. Use a tight-fitting, long shank screwdriver to prevent damage to seat screws. If upon removal of the screws the seat cannot be lifted out, it will be necessary to use a piece of angle or channel iron with a hole drilled in the center. Place it across the body so a long stud can be inserted through the center hole in the seat and the hole in the angle iron. By tightening the nut a uniform upward force is exerted on the seat for removal.

NOTE: Do not lift up on the end of the angle iron as this may force the integral bearing out of alignment, causing the stem to bind.



Lime Deposits

One of the easiest ways to remove lime deposits from the valve stem or other metal parts is to dip them in a 5-percent muriatic acid solution just long enough for the deposit to dissolve. This will remove most of the common types of deposits. **CAUTION: USE EXTREME CARE WHEN HANDLING ACID.** Rinse parts in water before handling. If the deposit is not removed by acid, then a fine grit (400) wet or dry sandpaper can be used with water.

Inspection of Parts

After the valve has been disassembled, each part should be examined carefully for signs of wear, corrosion, or any other abnormal condition. Usually, it is a good idea to replace the rubber parts (diaphragm and disc) unless they are free of signs of wear. These are available in a repair kit. Any other parts which appear doubtful should be replaced. WHEN ORDERING PARTS, BE SURE TO GIVE COMPLETE NAMEPLATE DATA, ITEM NUMBER AND DESCRIPTION.

NOTE: If a new disc isn't available, the existing disc can be turned over, exposing the unused surface for contact with the seat. The disc should be replaced as soon as practical.

Reassembly

1. Reassembly is the reverse of the disassembly procedure. If a new disc has been installed, it may require a different number of spacer washers to obtain the right amount of "grip" on the disc. When the diaphragm assembly has been tightened to a point where the diaphragm cannot be twisted, the disc should be compressed very slightly by the disc guide. Excessive compression should be avoided. Use just enough spacer washers to hold the disc firmly without noticeable compression.

2. MAKE SURE THE STEM NUT IS VERY TIGHT. Attach a good fitting wrench to the nut and give it a sharp "rap" rather than a steady pull. Usually several blows are sufficient to tighten the stem nut for final tightening. Failure to do so could allow the diaphragm to pull loose and tear when subjected to pressure.

3. Carefully install the diaphragm assembly by lowering the stem through the seat bearing. Take care not to damage the stem or bearing. Line up the diaphragm holes with the stud or bolt holes on the body. on larger valves with studs, it may be necessary to hold the diaphragm assembly up part way while putting the diaphragm over the studs.

4. Put spring in place and replace cover. Make sure diaphragm is lying smooth under the cover.

5. Tighten cover nuts firmly using a cross-over pattern until all nuts are tight.

6. Test Hytrol Valve before re-installing pilot valve system.

Test Procedure After Valve Assembly

There are a few simple tests which can be made in the field to make sure the Hytrol Valve has been assembled properly. Do these before installing pilot system and returning valve to service. These are similar to the three troubleshooting tests.

1. Check the diaphragm assembly for freedom of movement after all pressure is removed from the valve. **SEE CAUTION.** Insert fabricated tool into threaded hole in top of valve stem, and lift the diaphragm assembly manually. Note any roughness, sticking or grabbing. The diaphragm assembly should move smoothly throughout entire valve stroke. The tool is fabricated from rod that is threaded on one end to fit valve stem (See chart in Step 4 of "Disassembly" section.) and has a "T" Bar handle of some kind on the other end for easy gripping.

Place marks on this diaphragm assembly lifting tool when the valve is closed and when manually positioned open. The distance between the two marks should be approximately the stem travel shown in stem travel chart. (See "Freedom of Movement Check" section.) If the stroke is different than that shown, there is a good reason to believe something is mechanically restricting the stroke of the valve. The cover must be removed, the obstruction located and removed. (See "Maintenance" Section for procedure.)

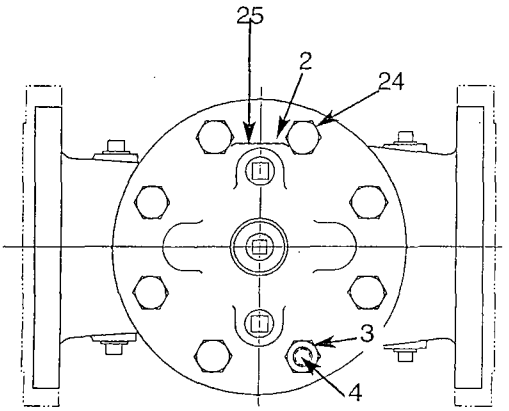
Due to the weight of the diaphragm assembly this procedure is not possible on valves 8" and larger. on these valves, the same determination can be made by carefully introducing a low pressure-less than five psi) into the valve body with the cover vented. **SEE CAUTION.** Looking in cover center hole see the diaphragm assembly lift easily without hesitation, and then settle back easily when the pressure is removed.

2. To check the valve for drip-tight closure, a line should be connected from the inlet to the cover, and pressure applied at the inlet of the valve. If properly assembled, the valve should hold tight with as low as ten PSI at the inlet. See "Tight Sealing Check" section.)

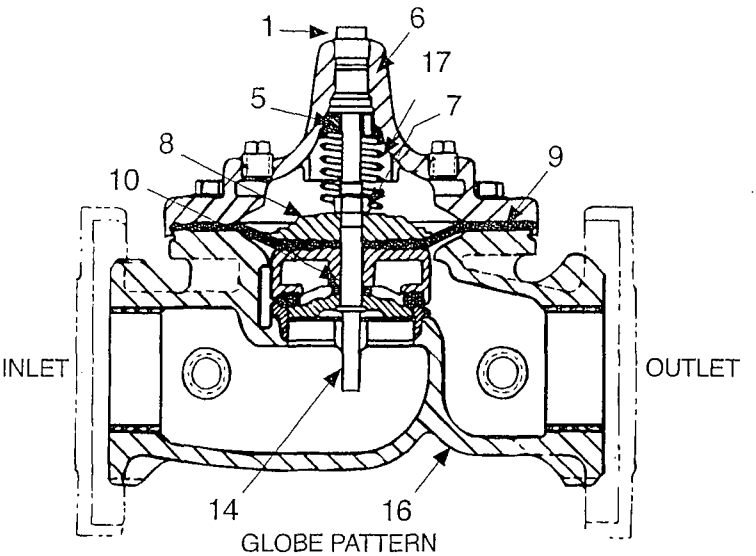
3. With the line connected from the inlet to the cover, apply full working pressure to the inlet. Check all around the cover for any leaks. Re-tighten cover nuts if necessary to stop leaks past the diaphragm.

4. Remove pressure, then re-install the pilot system and tubing exactly as it was prior to removal. **Bleed air from all high points.**

5. Follow steps under "Start-Up and Adjustment" Section in Technical Manual for returning complete valve back to service.



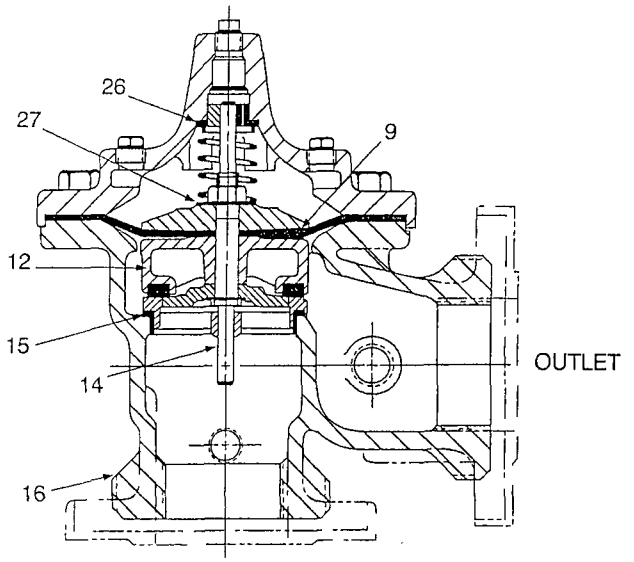
TOP VIEW



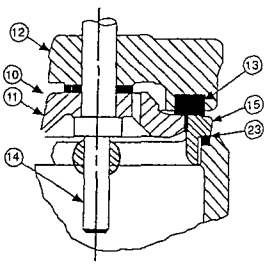
GLOBE PATTERN

PARTS LIST

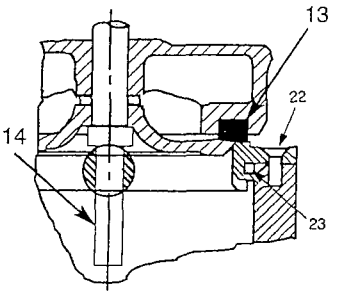
Item	Description
1.	Pipe Plug
2.	Drive Screws (for nameplate)
3.	Hex Nut (8" and larger)
4.	Stud (8" and larger)
5.	Cover Bearing
6.	Cover
7.	Stem Nut
8.	Diaphragm Washer
9.	Diaphragm
10.	Spacer Washers
11.	Disc Guide
12.	Disc Retainer
13.	Disc
14.	Stem
15.	Seat
16.	Body
17.	Spring
22.	Flat Head Screws (8" and larger)
23.	Seat O-Ring
24.	Hex head Bolt (1 1/4" thru 4")
25.	Nameplate
26.	Upper Spring Washer (Epoxy coated valves only)
27.	Lower Spring Washer (Epoxy coated valves only)
28.	Cover Bearing Housing (16" only)
29.	Cover O-Ring (16"' only)
30.	Hex Bolt (16" only)
31.	Pipe Cap (16" only)



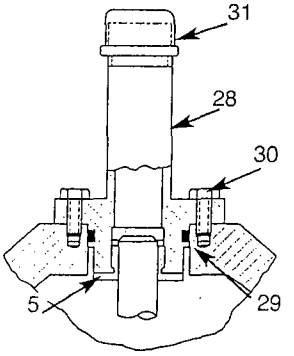
INLET
ANGLE PATTERN



1 1/4" - 6" SEAT DETAIL



8" - 24" SEAT DETAIL



16" COVER DETAIL

PRESSURE REDUCING VALVE READINGS 2008

PRV #	LOCATION	JAN		FEB		MAR		APR		MAY		JUN	
		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	NORTHERN WELL 13	90	15	80	20	85	20	85	20	90	20	85	25
2	10th AVENUE, UNIT 7	52	45	45	42	40	38	40	40	50	50	50	35
3	TULIP & ALABAMA	100	75	100	75	100	70	100	72	98	80	98	65
4	NORTHERN (W. OF UNSER RD.)	104	45	104	45	105	42	102	45	104	50	105	80
5	UNSER SUSTAINING VALVE					72							
6	RAINBOW NEW												
7	WELL 8 SUSTAINING		45		42		28		31		40		40
8	PECOS LOOP AT RAINBOW	92	60	90	62	75	56	90	90	95	85	90	85
9	SPUR AT SPUR WAY	101	40	100	42	102	40	100	39	100	48	100	37
10	695 PECOS LOOP	91	43	91	43	92	41	90	45	90	40	86	40
11	736 SPUR ROAD	105	55	105	55	105	60	105	55	105	5	102	55
12	795 LISBON	107	45	106	50	110	45	110	49	110	45	105	42
13	688 BALTIC	95	55	100	55	92	55	102	55	100	55	95	55
14	1015 BALI RD.	110	60	108	60	105	59	110	60	107	58	105	60
15	1039 SUGAR ROAD	106	59	105	55	105	58	105	55	105	55	105	55
16	LISBON AND TULIP	85	64	85	54	85	65	85	52	91	55	85	50
17	WELL #6	105	59	74	70	80	80	80	78	60	60	70	70
18	2nd & TULIP	80	60	80	62	80	62	85	60	85	56	72	55
19	528 & SABANA	98	72	96	67	97	68	98	68	95	70	95	65
20	GOLFCOURSE & SOUTHERN												
21	C.C. DR. AT St Andrews	15	15	0	0	5	5	17	17	5	5	10	5
22	FAIRWAYS CONDOS	110	60	105	52	110	55	108	52	110	52	107	50
23	LOMA COLORADO	90	42	52	42	85	42	85	45			90	42
24	GAY CIRCLE AND SARA RD	110	65	85	62	105	65	107	65	110	65	107	65
25	LOMA COLORADO & BROADMOOR	130	80	107	85	120	75	135	78			130	75
26	HIGH RESORT & SPORTS COMPLEX	81	60	115	60	80	55	85	57	82	55	80	55
27	SAGECREST AND UNSER												
28	GAZELLE AND UNSER	100	50	104	42	105	50	110	45	105	45	105	55
29	MEADOW @ SARA WAY	104	60	102	60	100	60	98	55	100	60	105	60
30	MEADOW @ CATHIE TRAIL	110	68	100	55	100	55	100	56	98	55		60
31	7TH AVE. & DAVID CT.	110	70	110	69	110	70	100	75	110	70	75	55
32	ZIRCONIA & ROCKAWAY	95	55	95	55	98	55	94	50	98	57	110	65
33	528 PRYITE	95	52	85	50	91	51	90	50	90	52	92	58

OMI 001644

EXHIBIT 3

PENGAD 800-631-6989

Plant Work Order

Work Order **200703976001** Project 2007039760 Status CL

Activity Type CM Priority Billing
Responsible Dept. PROD Initiated Date 1/31/2007 Initiated Time 09:22
Initiated By 77 MARTINEZ, RICHARD
Initiated Dept. PROD Initiated From
Work Status RS Date 2/1/2007 Time 16:07 Work Plan
Activity
Task Details:

Asset Info
Maintenance Group Isolation Required CSE Assets Involved
Asset No 001449 PRV AT ZIRCONIA AND ROCKAWAY
Asset Type Master Asset No

Location Info
Loop Tag No PRV27-SITE PRV AT ZIRCONIA AND ROCKAWAY
Loop No
Location PRV27 ZIRCONIA AND ROCKAWAY
Area
Master Loop

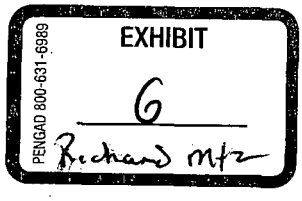
Assignment Info Resources Assigned Date Assigned Scheduled Start Date 2/1/2007

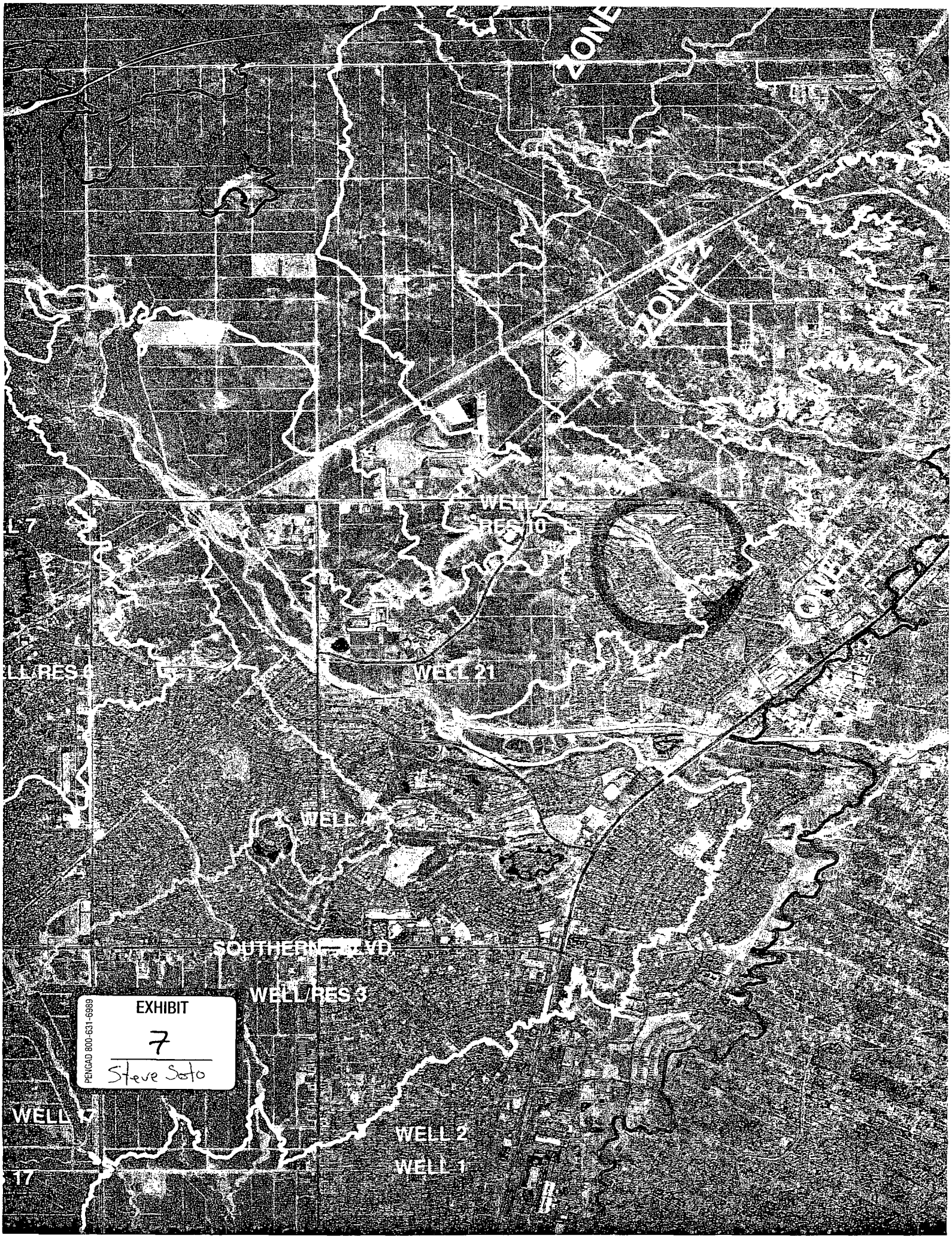
Step	Code	Name	Craft	Hours	Actual	Date
1	77	MARTINEZ, RICHARD		2.5		
1	98	MARTINEZ, PHILLIP		2.5		

Assigned By
Request No 09912057 Related Work Order
Failure Cause Down Date Down Time :

User Defined
Comments

Work Details PRV AT ZIRCONIA AND ROCKAWAY FULL OF WATER/LEAK




ZONE
ZONE
WELL
RES 10
WELL 21
WELL 4
SOUTHERN BLVD
WELL/RES 3
WELL 2
WELL 1
EXHIBIT
7
Steve Soto
PENGAD 800-631-6989

Job Safety Analysis

JOB/TASK NAME:
WATER MAIN BREAK (DURING REGULAR HOURS)
DATE: 6/15//07 ____NEW __X__REVISED PAGE_1___ OF_1___

ASSOCIATE(S) JOB TITLE PERFORMING THE JOB/TASK:	SUPERVISOR(S):	ANALYSIS PERFORMED BY:
LEAK CREW	STEVE SOTO	M. JAKYMIW
PROJECT NAME AND JOB/TASK LOCATION: CITY INFRASTRUCTURE	DEPARTMENT(S): SYSTEM MAINTANANCE	REVIEWED BY: ANDY HALL
PERSONAL PROTECTIVE EQUIPMENT: VESTS, GLOVES, SAFETY GLASSES, STEEL TOE BOOTS, HQARD HATS	SHIFT: Day/NIGHT	APPROVED BY:

	JOB STEPS	POSSIBLE HAZARDS	PROCEDURE/ACTION TO CONTROL OR ELIMINATE
1.	INITIAL ASSESSMENT	POTENTIAL FOR PUBLIC HAZARD – UTILITY LOCATION, TRAFFIC	BARRICADES, CONTACT DPS, REMAIN ON SCENE
2.	ISOLATE FLOW	EROSION, WATER WASTE	CONES, BARRICADES, LIGHTS
3.	SECURE AREA	DAMAGE TO VEHICLE/CREW	CONES, BARRICADES, LIGHTS
4.	CALL FOR SPOTS	DAMAGE TO OTHER UTILITIES	CONTACT; NEW MEXICO ONE CALL
5.	EXCAVATE SITE	CAVE-IN, DANGER TO CREW	SLOPING, SHORING, DEBRIS REMOVAL, LADDERS
6.	REPAIR	CAVE-INS, CUTS, ASBESTOS EXPOSURE, HEAVY PARTS, CONTAMINATION	SLOPING, SHORING, DEBRIS REMOVAL, LADDERS
7.	BACKFILL/COMPACTION	BACKHOE HITTING VEHICLES, FALLING IN HOLE	PPE, EXPERIENCED OPERATOR, PAY ATTENTION TO SURROUNDINGS
8.	OPEN VALVES	TRAFFIC, WATER HAMMER	OPEN VALVE SLOWLY, ALLOW AIR TO ESCAPE
9.	DISINFECT REPAIRED AREA. FLUSH LINE. COLLECT SAMPLE.	TRAFFIC, WASHOUT	BARRICADES, REMAIN ON SCENE
10.	CLEAR AREA OF DEBRIS AND REMOVE BARRICADES	DANGER TO CREW, TRAFFIC, DAMAGE TO VEHICLES, OVERHEAD UTILITIES	MAINTAIN DISTANCE FROM BACKHOE
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			

41

EXHIBIT
8
Steve Soto

PENGAD 800-631-6989

ATTACHMENT G

OMI 001656

CITY OF RIO RANCHO
SYSTEM MAINTENANCE DIVISION

PERIOD COVERED =
MAINT ACTIONS COMP'D IN PERIO

Work Activity Work Order

Work Order No 200804953401 Project 2008049534 Activity Type SERVICE REQUEST Status PR
Date 4/25/2008 Time 10:17 Original WO Date Billing

Customer Information

Customer Name
Address Street ROCKAWAY BLVD
Apartment No City RIO RANCHO
State NM Zip 87124
Subdivision
Phone No ( ) - Ext
Second Phone ( ) - Ext
E-Mail Address

Customer Id

Change Map Y/N

Problem Information

Address Street
From Cross Street ZIRCONIA DRIVE
To Cross Street
City Zip
Subdivision Map Book Map Reference

Problem MNBRK MAIN BREAK
Requested By 12 DEMPSEY, SUSAN A. Date Requested 4/25/2008
Agency
Initiated From
Utility Locate (USA) No Called Date Expiration Date

Assignment Information

Dept SYSMTN SYSTEM MAINTENANCE Priority B Estimated Hours
Crew
Assigned To 38 SALAZAR, MATT
Assigned By 35 SOTO, STEVE A.
Assigned Date 4/25/2008 To Be Comp Date
Scheduled Date Scheduled Time
Route Route Sequence

Comments
Action Taken 10" MAIN BREAK 8½ FEET SPLICE.

Completed By MS
Start Date 4/25/08 Time
Approved By Follow Up? Permit No

Job Cost Information(Y/N)
Date Completed 4/25/08 Time 7:30 hr

Problem Details
WATER MAIN BREAK

EXHIBIT
10
Steve Soto
PENGAD 800-631-6989

Vista Hills Hi Pressure Issue
4/28/08

4/28/08

I received an E-mail at 8:38 from Jessica Chavez (RRCS) regarding hi pressure in the Vista Hills area below Saratoga on Limestone Dr and Aquamarine Dr.

Pat Gallegos responded that morning and found pressure to be 118 psi.

Pat contacted Richard Martinez with the maintenance dept. to check the PRV that feeds that zone.

Richard found the PRV was malfunctioning, stuck open.

He isolated it, reducing hi pressure to the Saratoga area.

4/29/08

The maintenance team repaired the PRV on the following day restoring service and pressure to normal.