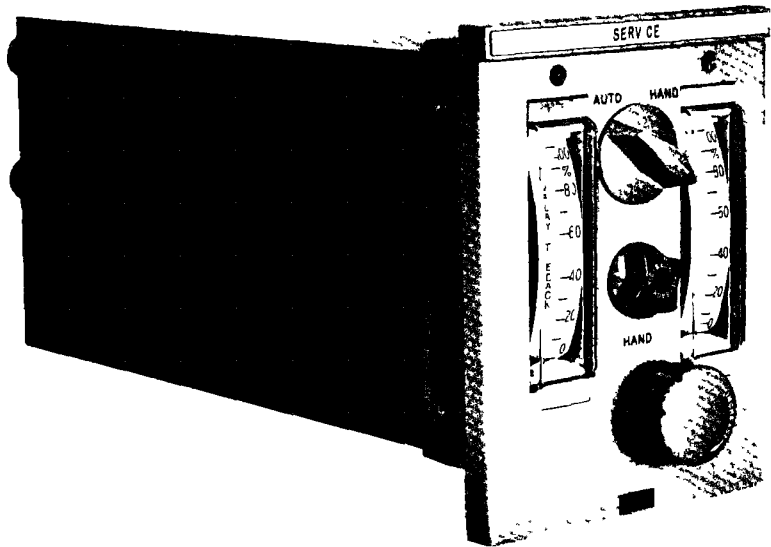


# Bailey

SECTION  
P91-6

## PRODUCT INSTRUCTIONS

**MINI-LINE\* 500 HAND/AUTOMATIC STATION  
WITH ADJUSTABLE TIE-BACK**



\*REG. U.S. PAT. OFF.

**BAILEY METER COMPANY • WICKLIFFE, OHIO 44092**



## INDEX

	<u>Page</u>
<b>INSTALLATION</b>	4
Pre-Service Adjustment Check	4
Mounting H/A Station on Panel	4
Installing Connecting Tubing	4
Cleaning Scale Cover	4
<b>OPERATION</b>	6
Transfer from AUTO to HAND	6
Transfer from HAND to AUTO	6
<b>ROUTINE MAINTENANCE</b>	7
<b>CORRECTIVE MAINTENANCE</b>	8
Vertical Gage Unit Adjustment	8
Hand Relay Disassembly	8
Hand Relay Adjustment	9
Front Plate Disassembly	9
Shut-Off Valve Disassembly	10
Valve Operator Lever and Shaft Disassembly	10
Drive Shaft Disassembly (Control Knob to Relay)	10
<b>SCHEMATIC OPERATION</b>	10
Typical Application of Tie-Back Station	10
Hand Relay	11
<b>REPLACEMENT PARTS</b>	12
Spare Parts Kits	12
Ordering Individual Parts	12
<b>EXPLANATION OF NOMENCLATURE</b>	12

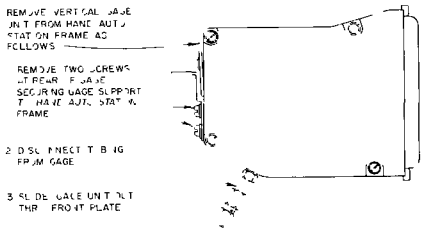


FIGURE 1 Removing Vertical Gage Unit from H/A Station

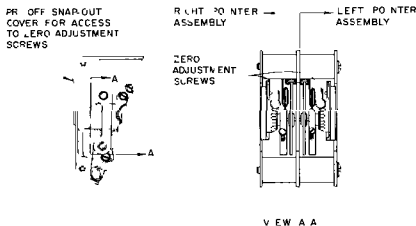


FIGURE 2 Vertical Gage Unit Zero Adjustment Screw

## INSTALLATION

### Pre Service Adjustment Check

**IMPORTANT** Before placing H/A Station in service, check adjustment of vertical gage units as outlined below. For convenience, perform this check at a test bench before the H/A Station is installed in the panel.

1 Position H/A Station at angle at which it will be mounted in service. Apply pressure corresponding to 10% scale to H/A Station input connection. If pointer reads correctly, proceed to step 4.

2 If pointer does not read correctly, remove vertical gage unit from H/A Station as outlined in Figure 1.

3 Remove snapout cover (Figure 2) and turn zero adjustment screw until pointer reads correctly. Reinstall cover.

4 Apply pressure to gage unit corresponding to 90% and 50% scale. If pointer readings are correct, proceed to step 5. If readings are incorrect, refer to "Vertical Gage Unit Adjustment", page 8.

### Mounting H/A Station on Panel

Hand Automatic Stations are designed for plug in mounting in a panel mounted enclosure (Figure 3). Install enclosure as follows:

5 Make panel cutout in accordance with Figure 3.

6 Loosen mounting screws on front plate which secure H/A Station to enclosure and remove station.

7 Slide enclosure thru cutout from front of panel.

8 Place mounting clips (in bag tied to enclosure) in position on enclosure. Tighten clips securely against panel.

9 Slide H/A Station into enclosure and secure with mounting screws in front plate.

### Installing Connecting Tubing

10 Connect external tubing to manifold connections on rear of enclosure (Figure 3). Connection posts are 1/4" 18 NPT female. Use 1/4" inch O.D. copper, aluminum, or plastic tubing.

### Cleaning Scale Cover

11 Remove protective tape from scale cover. Clean cover with toothpaste or "Plastar", plastic cover cleaner and polish (obtainable from Bailey Meter Company in 10 ounce jar, specify Part Number 199274-1).

**CAUTION** Do not use a solvent which will scratch cover finish or react with plastic cover.



### OPERATION

Before transfer, conditions within the control system must be set so there is little or no variation in control pressure to the power unit as transfer takes place. Procedures for transferring from AUTO to HAND and from HAND to AUTO are outlined below. Refer to Figures 4 and 5.

#### Transfer from AUTO to HAND

1. With HAND control knob, set transfer pressure (gauge C) equal to control pressure (gauge D).

2. Turn transfer switch to HAND

#### Transfer from HAND to AUTO

1. With TIE BACK control knob, slowly set control pressure (gauge D) equal to transfer pressure (gauge C). If relay pressure (gauge A) is not equal to tie back pressure (gauge B), control system set point is not being held. To correct, adjust set point, or, with HAND control knob, adjust control pressure (gauge D) until gauge A equals B when gauge C equals gauge D.

2. Turn transfer switch to AUTO

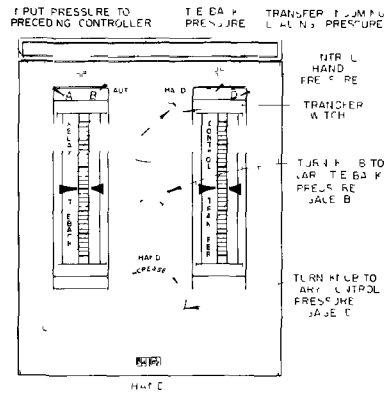
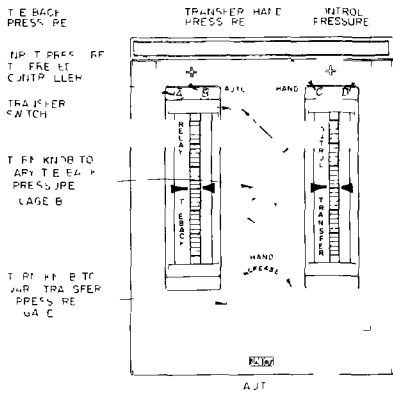


FIGURE 4 - H/A Station Controls and Gages

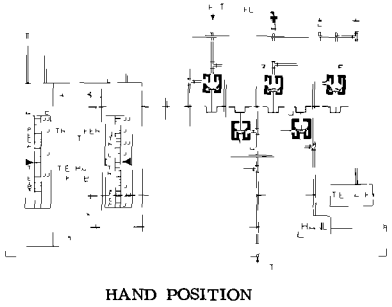
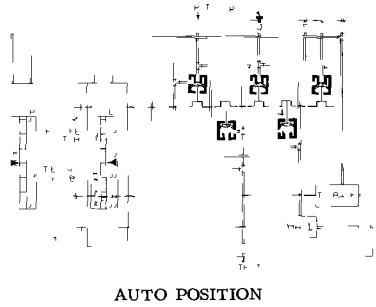


FIGURE 5 Schematic of H/A Station

## ROUTINE MAINTENANCE

1. Maintain a clean air supply, free of oil or moisture.

2. Check filter in supply inlet port at manifold shortly after installation. If filter (Items 3b and 3c, Figure 11) must be replaced, remove wire mesh disc, felt pad, and second wire mesh disc. Install new filter, making certain wire mesh disc is inserted in inlet port before inserting felt pad.

3. Periodically depress orifice clean out plunger (Figure 6) on rear of hand relay to insure that the orifice remains open and clean.

**CAUTION:** This operation should only be performed when relay is being bench tested since depressing the plunger while relay is in service may disrupt the process.

4. Whenever necessary, clean plastic scale cover as follows:

a. Remove (and replace) scale cover as shown in Figure 7

b. Clean cover with a soft cloth which will not scratch the plastic surface. Use toothpaste or "Plastar", plastic cover cleaner and

polish (obtainable from Bailey Meter Company, in 10 ounce jar specify Part No. 199274 1). Do not use a solvent which will scratch cover finish or react with plastic cover.

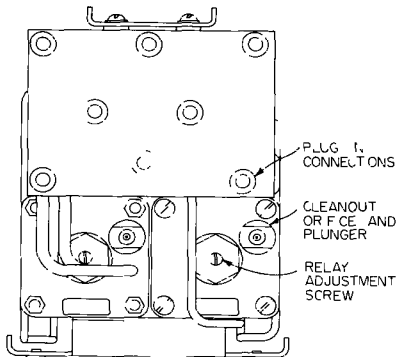
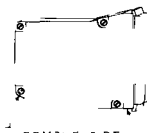


FIGURE 6 Rear View of H/A Station (Removed from Enclosure)

### REMOVE SCALE COVER

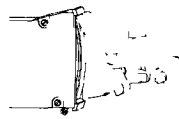


REMOVE SIDE COVER SCREW AND

INSERT SCREW IN TAPPED HOLE IN SPRING

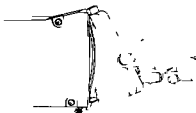


TURN SCREW IN FAR ENOUGH ABOUT 3 TURNS TO PULL SPRING CLIP OUT OF SLOT IN BOTTOM OF SCALE COVER



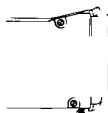
SWING BOTTOM OF COVER UNTIL CLIP IS TOP OF SLOT. DISENGAGE ALL OVER FF

### INSTALL SCALE COVER



INSERT THE EDGE OF COVER AT A 90 DEGREE ANGLE BETWEEN SCALE AND CASE PUSH IN AS FAR AS POSSIBLE

SWITCH TO LOWER POSITION AND TIGHTEN SCREW IN THE COVER UNIT



PUSH BOTTOM MEDIAN SPRING CLIP INTO SLOT



TIGHTEN SCREW ON TOP OF SPRING CLIP ALLOWING LEFT END OF COVER TO BE LOWER

FIGURE 7 - Removing and Replacing Vertical Gage Unit Scale Cover

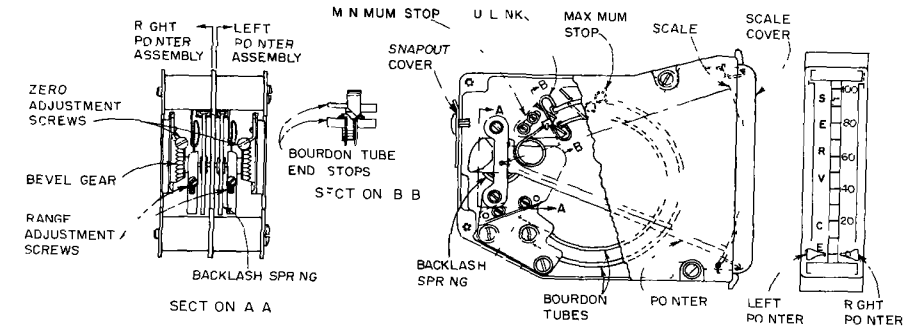


FIGURE 8 - Vertical Gage Unit Adjustments

## CORRECTIVE MAINTENANCE

### Vertical Gage Unit Adjustment

If operational faults occur which are traced to the vertical gage units, make the following adjustment checks:

1 Remove gage unit from H/A Station as shown in Figure 1. Pry off snapout cover and remove side cover for access to gage unit adjustments (see Figure 2).

2 Apply pressure to Bourdon tube and check block assembly for leakage with a soapsuds solution. If a leak is found, replace entire gage unit. The damaged unit may be returned to the factory for repair.

3 Check all links to see that they are properly connected and that they move freely with Bourdon tube movement.

4 Make certain that indicating pointer does not rub against side or face of scale. If necessary, bend pointer slightly until it clears scale.

5 Check pointer adjustment as outlined below:

a Apply pressure to gage equivalent to first major scale division above 0% scale. If pointer does not read correctly, turn zero adjustment screw (Figure 8) until desired reading is obtained.

b Apply pressure to gage equivalent to first major scale division below 100% scale. If pointer does not read correctly, turn range adjustment screw (Figure 8) until desired reading is obtained.

c Repeat steps 5a and 5b until pointer reads correctly at both scale divisions.

d Apply pressure to gage equivalent to midscale division. If pointer does not read correctly, but does read correctly in steps 5a and 5b above, alter the shape of U link at free end of Bourdon tube as follows: 1) If midscale pointer reading is low, spread link slightly, or 2) If midscale pointer reading is high, close link slightly.

6. Repeat steps 5a thru 5d until pointer reads correctly over full scale.

7 Apply 2 psig to Bourdon tube (pointer will read slightly below minimum scale mark). Loosen minimum stop screws (Figure 8) and position minimum stop next to Bourdon tube end stop, tighten screws.

8 Apply pressure to Bourdon tube corresponding to maximum scale value plus 0.25 psig (pointer will read slightly above maximum scale mark). Loosen maximum stop screws and position maximum stop next to Bourdon tube end stop, tighten screws.

9 To return gage unit to service reverse the order of the operations outlined in step 1 above.

### Hand Relay Disassembly

To disassemble the Hand Relay (Part No. 5321995 □) for cleaning or replacement of parts, proceed as follows:

1 Refer to Figure 11. Disconnect tubing and remove two screws (26) holding gage support (13) to support bracket assembly (30).



H/A Station with Adjustable Tie-Back

2. Remove two fillister head screws (39) holding manifold to Relay and slide manifold and support bracket rearward.

3. Remove two socket head screws (36) holding Relay to support bracket (30) and remove Relay.

4. Refer to Figure 12. Unscrew valve cap (7) and remove valve stem (11), inlet valve seat (13), and valve seat spring (15).

**CAUTION:** Do not disturb setting of relay adjustment screw (Figure 6) at center of valve cap. This setting is factory set and should not be disturbed unless control bellows has been removed or replaced (see "Hand Relay Adjustment").

5. Unscrew orifice clean-out assembly (4) and orifice (14).

6. Relieve spring compression by rotating center adjustment gear (27) counterclockwise until it turns easily.

7. Remove four nuts (at corners of valve housing face) and screws securing spring housing (23) to valve housing (9) and separate housings.

8. Pull control bellows assembly (16) from valve housing (9). Control bellows assembly is held by exhaust valve diaphragm which snaps into place around valve seat.

9. If desired, unscrew loading spring assembly (19) from adjustment shaft (left-hand thread).

10. To reassemble, reverse above procedure, observing the following precautions:

a. When replacing control bellows assembly (16), make certain exhaust valve diaphragm (29) is properly snapped into place around exhaust valve seat.

b. When replacing orifice clean-out assembly (4), make certain that clean-out wire is not bent and passes cleanly thru the orifice.

c. Make certain that all O-rings are undamaged and properly installed. Apply lubricant to O-rings when reassembling relay.

Hand Relay Adjustment

1. Connect output pressure line of Relay,

thru a petcock, to a volume chamber equipped with a suitable pressure gage (0-30 psig) for indicating chamber pressure. Volume chamber may be any pressure tight container with volume of about 300 cubic inches.

2. Open petcock and adjust H/A Station control knob to obtain 3 psig pressure in volume chamber.

3. Close petcock and adjust control knob to obtain 27 psig (for 3-27 range) or 15 psig (for 3-15 range) output pressure from Relay (read output pressure on H/A Station gage).

4. Open petcock and note time rate of pressure increase in volume chamber.

5. Close petcock and adjust control knob to obtain 3 psig output pressure from Relay.

6. Open petcock and note time rate of pressure decrease in volume chamber.

7. If inlet valve seat is properly adjusted, the time rate of pressure increase as noted in step 4 will be equal to the time rate of pressure decrease as noted in step 6. If these rates are not equal (or if the control bellows or nozzle bellows has been replaced), it will be necessary to make the following adjustment:

a. If time rate of pressure increase is greater than the rate of pressure decrease, turn adjustment screw (Figure 6) counterclockwise.

b. If time rate of pressure decrease is greater than the rate of pressure increase, turn adjustment screw clockwise.

**NOTE.** By turning the relay adjustment screw (Figure 6) on the rear of the H/A Station, the inlet valve seat position can be changed with respect to the neutral position of the exhaust valve seat, in effect, controlling the relative openings of the inlet valve and exhaust valve for a given position of the control bellows.

Front Plate Disassembly

1. Remove vertical gage units as shown in Figure 1.

2. Refer to Figure 11. Remove HAND control knob (22) by driving out steel lockpin (28) and pulling knob off shaft. Remove tie-back control knob by inserting a small screw driver in slot behind knob and pushing outward (from front plate) on spring holding knob on shaft.

Then slide knob off shaft. AUTO HAND transfer switch need not be removed

3. Remove two screws (15) at rear of front plate (17) which secures plate to H/A Station frame.

4. To reassemble, reverse the above procedure, observing the following precautions.

a. When placing front plate (17) on H/A Station frame, fit pins at top and bottom of plate into corresponding slots in frame, and align transfer switch and valve operator lever (22) so that transfer switch pin fits into hole at top of lever (22).

b. When replacing control knobs, slide knobs on respective shafts. Replace lockpin in HAND control knob shaft.

#### Shut Off Valve Disassembly

1. Refer to Figure 11. Disconnect tubing at vertical gage units and remove screws (39) at Relays.

2. Remove four screws (12) and (14) (two at front end of plate and two at rear end next to nameplate) which secure shut-off valve mounting plate (top of H/A Station) to frame. Do not disturb screws holding valves to plate

3. Set transfer switch (23) (or valve operator lever (22) if front plate has been removed) in vertical position between AUTO and HAND.

4. Slide shut off valve assembly (10) (plate, valves, and tubing) to rear to disengage valve stems from valve operator shaft. When disengaged, assembly can be lifted from H/A Station.

5. To disassemble individual shut off valve, unscrew plug (10e) at bottom of valve and remove spring (10d), stem (10b), and diaphragm (10f). To reassemble, reverse the above procedure. Valve stems must be in alignment to engage valve operator shaft.

#### Valve Operator Lever and Shaft Disassembly

1. Remove vertical gage units (shown in Figure 1), front plate (see above), and shut-off valve assembly (see above).

2. Refer to Figure 11. Remove hex nut (25) at front end of shaft and slide valve operator lever off shaft.

3. Unscrew bearing (9) which supports end of shaft.

4. Slide shaft to rear until front end clears supporting bearing. Remove shaft from frame.

5. To reassemble, reverse the above procedure.

#### Drive Shaft Disassembly (Control Knob to Relay)

1. Remove vertical gage units (as shown in Figure 1) and front plate (see above)

2. Refer to Figure 11. Remove retaining ring (34) at rear end of shaft.

3. Back off cone point set screw (32) in perimeter of gear (33) until gear is free of shaft.

4. Slide shaft out thru front of unit and remove gear

5. To reassemble, reverse the above procedure.

## SCHEMATIC OPERATION

### Typical Application of Tie Back Station

Figure 9 shows a typical control application. A readjusting signal is applied to the B bellows of a Proportional Plus Integral Controller. The output pressure is combined with the primary signal, in a Proportional Controller, and applied thru the H A Station (when in AUTO) to the power unit.

When operating in MANUAL, this pressure is cut off and the power unit is controlled by the Hand Relay. Tie-back pressure is then applied from connection 3 to the Proportional Plus Integral Controller. Adjustment of the tie back knob then varies C chamber pressure in the Proportional Plus Integral Controller, in turn varying the output pressure of the Proportional Controller. Bumpless transfer from manual to automatic may then be accomplished by adjusting

H/A Station with Adjustable Tie-Back

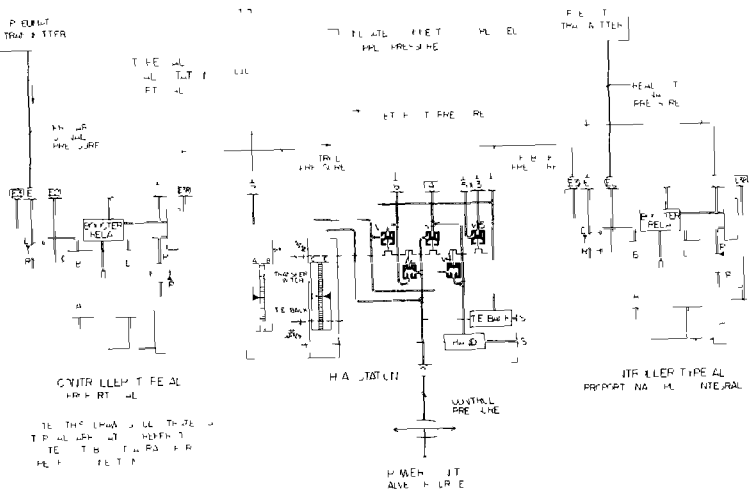


FIGURE 9 Typical Application of H/A Station

the tie back relay until gage A pressure equals gage B pressure.

Hand Relay

Hand and tie back pressures are established by identical Hand Relays (Figure 10). Compression of the loading spring is opposed by pressure in the control bellows so that forces due to spring compression and output pressure are always equal when the unit is balanced. Pressure in the control bellows is regulated by the inlet valve assembly. At balance, the inlet valve is held closed by the difference between supply pressure and control bellows (output) pressure.

Turning the control knob (HAND or TIE BACK) in the "increase" direction compresses the loading spring, compressing the control bellows, closing the exhaust valve, opening the inlet valve, and admitting supply air to the control bellows. Control bellows pressure increases until bellows expansion is sufficient to restore the inlet exhaust mechanism to its original position (inlet valve closed, exhaust valve floating). Output pressure is then propor-

tional to the increased loading spring compression.

Turning the control knob in the "decrease" direction reverses the operation described above.

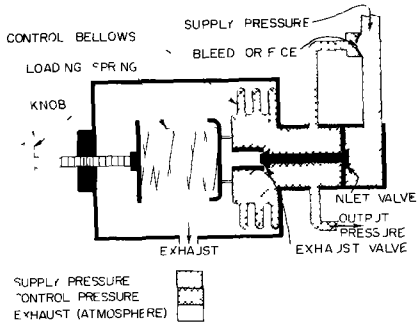


FIGURE 10 Schematic of Hand Relay

### REPLACEMENT PARTS

#### Spare Parts Kits

The Spare Parts Kits shown in Figure 11, 12, and 13 should be carried in stock. Specify the Spare Parts Kit part number to order a complete kit

#### Ordering Individual Parts

Figures 11, 12, and 13 are Parts Drawings of the Tie-Back H/A Station. Normally, these drawings apply to the unit furnished. However,

there may be individual differences in specific units because of

a. design changes made since the printing of this Instruction Section, or

b. special design of the Tie Back H/A Station to make it suitable for special application.

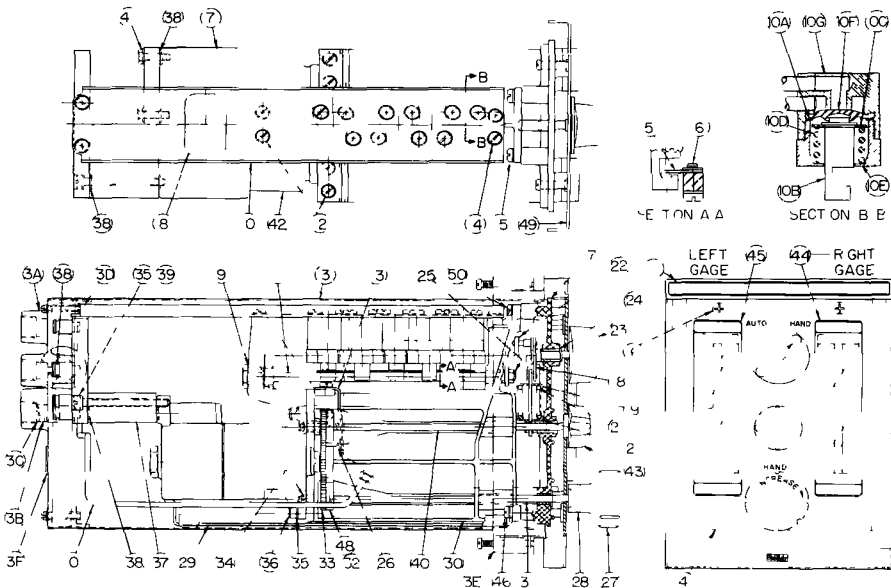
Therefore, when ordering parts, assure the receipt of correct replacements by specifying the H/A Station Module Part Number.

### EXPLANATION OF NOMENCLATURE

H/A STATION MODULE PART NO	H/A STATION NOMENCLATURE*	RANGE (PSIG)	LEFT GAGE SCALE LEGEND	
			LEFT INDICATOR	RIGHT INDICATOR
5321865 5	AJ02D10	3-27	RELAY	TIE-BACK
5321865 6	AJ01D10	3-15	RELAY	TIE BACK

\***NOMENCLATURE** appears only on the H/A Station Specification Sheet included in Instruction Books furnished on system or contract jobs. A "5" in the third position of the Nomenclature indicates that the H/A Station module is complete with enclosure, Part No. 5322407 2. An "X" in any Nomenclature position indicates that the instrument is special.

H/A Station with Adjustable Tie-Back



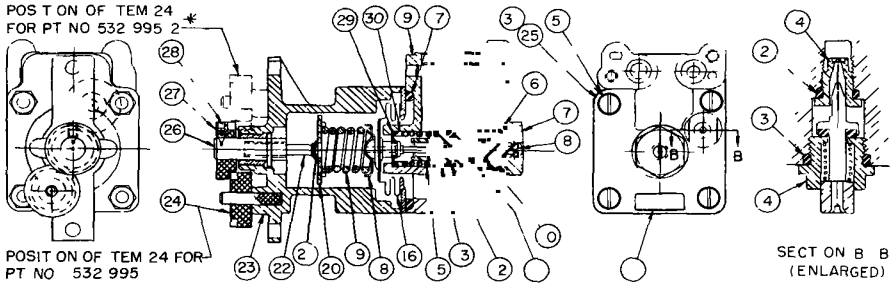
ITEM	PART NO	NAME	ITEM	PART NO	NAME	ITEM	PART NO	NAME
1	1961431	DESIGNATION PLATE	10P	5314574	AIR VALVE DIAPHR 5 REQD	41	5322128	DRIVE SHAFT
3	5322407	ENCLOSURE INCLUDES	10G	5314976	AIR VALVE BODY	37	621617	HEX SOC HD CONE PTS 2 REQD
3A	5371474	CONNECTION MANIFOLD	11	5314644	VALVE OPERATING SHAFT	33	7316742	ADJUSTMENT GEAR 2 REQD
3B	5320414	FELT PAD 2 REQD	13	10 32x3 8	PAN HD SEMS INT 6 REQD	34	198173	RETAINING RING 9 REQD
3C	53204	WIRE MESH DISC 4 REQD	13	5316433	GAGE SUPPORT BRKT 1 REQD	35	53100	SHAKEPROOF LK WASH 6 REQD
3D	10 32x3 16	PAN HD SEMS INT 4 REQD	14	10 32x3 8	FILL HD SEMS INT 2 REQD	36	10 32x3 8	HEX SOC HD SCREW 4 REQD
3E	5314674	MOUNTING CL P 4 R QD	15	10 32x3 8	PAN HD SEMS EXT 2 REQD	37	5322798	SPACER MANIFOLD
3F		NAME PLATE SPECIFY TYPE AND MODEL FOR CORRECT ENGRAVING	16	5322889	RELIAL MTO SCREW 2 REQD	38	731 4 4 3	O-RING (ASSET) 14 REQD
4		SEE TABLE HAND AUTOMATIC STATION ASSY INCL ITEMS 5 THRU 9	7	5322629	FRONT PLATE	39	10 32x2 1 4	FILL HD SCREW 3 REQD
5	531671	VALVE OPERATOR	18	5322035	KNOB SHAFT ASSEMBLY	40	532178	DRIVE SHAFT
6	10 32x3 8	PAN HD SEMS INT 5 R QD	19	5316725	SPRING GUIDE ASSEMBLY	41	6 32x5 8	HEX HD SEMS EXT 1 REQD
7	5321895	HAND RELAY ASSEMBLY	20	5314652	VALVE OPERATOR SPRING	43	5321995	HAND RELAY ASSEMBLY
8	1982359	NAME PLATE	21	5314661	SPR NG HOLDER	47	5322943	ADJUSTMENT KNOB
9	5314645	VALVE SHAFT BEARING	22	5314651	VALVE OPERATOR LEVER	44		SEE TABLE VERT CAL GAGE (RIGHT)
10	322612	PIPING ASSEMBLY INCLUDES	23	5322944	SELECTOR KNOB	45		SEE TABLE VERT CAL GAGE (LEFT)
10A	531486	DIAPHRAGM WASHER 5 REQD	24	198173	RETAINING RING	46	10 32x1 1	PAN HD SEMS INT 2 REQD
10B	7314870	VALVE STEM 5 REQD	25	197120	ELASTIC STOP PLT	48	40x1 6	HEX EOC HD CONE PTS 2 REQD
10C	531488	THRUST WASHER 6 REQD	26	10 32-1 4	PAN HD SEMS INT 4 REQD	49	5241785	FRONT PLATE ASSEMBLY
10D	5316092	SPR NG 5 REQD	27	532197	CONTROL KNOB	5	6 32x 2	PAN HD SEMS EXT 3 REQD
10E	4314868	AIR VALVE PLUG 5 REQD	28	533349	ROLL PIN			
			29	5323253	BRACKET ASSEMBLY			
			30	5323253	SP. PORT BRACKET ASSEMBLY			

\*FOR DETAILS OF HAND RELAY PT NO 532 945 0 SEE PDS DWG P91 7  
\*\*FOR DETAILS OF VERTICAL GAGE UN T SEE PDS DWG P12 5

TARIF			
ITEM	RATE PS G	ITEM	ITEM
332 805 5	3 2	53 4945 2	5314945 21
5 212465 6	3 5	531814 1	5319134 18

SPARE PARTS KIT	
K T PT NO	256125 1
QUANTITY	ITEM NO
2	76
2	75
4	7C
1	10D 1 F
14	78

FIGURE 11 Parts Drawing P91-12, Hand/Automatic Station with Adjustable Tie Back

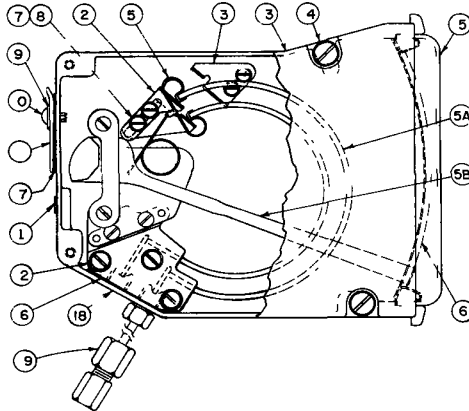


ITEM	PART NO	NAME	ITEM	PART NO	NAME
1	CODE LABEL	SPECIFY NO ON LABEL WHEN ORDERING PARTS	16	5316802 1	CONTROL BILLOWS ASSY
2	5311428 2	O RING GASKET	17	5311428 24	O RING GASKET
3	5311428 11	O RING GASKET	18	5316817 1	SPRING SUPPORT
4	5316478 1	ORIFICE CLEANOUT	19	5316819 1	LOADING SPRING
5	10 32-2 1 4	PL HD SCREW 4 REQD	20	5316816 1	GUIDE & SPRING SUPPORT
6	5311428 7	O RING GASKET	21	198179 3	RETAINING RING
7	5316809 1	VALVE CAP	22	5316814 1	ADJUSTMENT SCREW
8	5316808 1	VALVE ADJ SCREW	23	5323245 2	SPRING HOUSING
9	5321892 1	VALVE HOUSING	24	5316998 1	ADJUSTMENT GEAR
10	5311428 20	O RING GASKET	25	NO 10	PL PATT MFD LK WASH 4 REQD
11	5316811 1	VALVE STEM	26	5316815 1	ADJUSTMENT SHAFT
12	5311428 23	O RING GASKET	27	5316793 2	ADJUSTMENT GEAR
13	5316977 1	VALVE SEAT ASSY	28	661617 1	CONE PT SET SCR
14	5316464 1	ORIFICE ASSEMBLY	29	5316812 1	EXHAUST VALVE DIAPHRAGM
15	5316844 1	VALVE SEAT SPRING	30	5316813 1	DIAPHRAGM CLAMP
			31	10 32	MED HEX NUT 4 REQD

\*FOR HAND RELAY PT NO 5321995 2 ROTATE ITEM (24) 180° TO POSITION SHOWN BY DASHED LINES

SPARE PARTS KIT NO 256127 1  
INCLUDES ITEMS 2 4 6 10 12 15 17 19 21 29

FIGURE 12 Parts Drawing, P91 7, Hand Relay, Part No 5321995 □



ITEM	PART NO	NAME
1	CODE LABEL	SPECIFY NO WHEN ORDERING PARTS
2	SEE TABLE	MINIMUM STOP
3	SEE TABLE	MAXIMUM STOP
5	SEE NOTE	MECHANISM ASSY INCLUDES ITEMS 5A & 5B
5A	SEE NOTE	BOURDON TUBE & BLOCK ASSY
5B	SEE NOTE	POINTER, SEE TABLE
6	SEE NOTE	SCALE ASSY
7	#3 48x3/16	PAN HD STL SCR 4 REQD
8	NO 1203	SHK LK WASH 4 REQD
9	5316456 1	WASHER, 2 REQD
10	5314337 1	FASTENER, 2 REQD
11	5314336 1	COVER PLATE ASSY
12	6 32x7/8	PAN HD EXT SEMS 3 REQD
13	SEE NOTE	COVER
14	6 32x1/4	PAN HD EXT SEMS 4 REQD
15	5314294 1	SCALE WINDOW
16	SEE TABLE	GASKET
17	532235 1	GASKET
18	SEE NOTE	CASE ASSY
19	5320314 2	TUBING ADAPTER ASSY (REQD FOR PM MULTI POINT GAGES ONLY FOR TUBING FOR OTHER INSTRUMENTS SEE APPLI CABLE PARTS DRAWING )

SPARE PARTS KIT NO 256028 1	
QUANTITY	ITEM NO
2	15

	POINTER	GAGE UNIT RANGE	ITEM 2	ITEM 3	ITEM 16
	DOUBLE	3 27 OR 5 25 PSIG	5315411 1	5315411 2	5322195 2
	SINGLE	3 27 OR 5 25 PSIG	5315411 1	5315411 2	5322195 1
	SINGLE	3 15 OR TYPE PM MODEL DO*	5315701 1	5315411 1	5322195 1
	DOUBLE	3 15 OR TYPE PM MODEL DO*	5315701 1	5315411 1	5322195 2
	SINGLE	*TYPE PM MODEL V ONLY*	5315411 1	5315701 1	5322195 1

\*RANGE PER ENGINEERING DATA (SEE NOTE)

NOTE SPECIFY TYPE MODEL SERIAL NUMBER AND RANGE OF INSTRUMENT  
ALSO FOR POINTER (ITEM 5B) SPECIFY WHETHER LEFT RIGHT OR BOTH LEFT AND RIGHT ARE DESIRED  
ALSO FOR SCALE (ITEM 6) SPECIFY LEGEND AND RANGE FIGURES

FIGURE 13 - Parts Drawing P12 5, Vertical Gage Unit

# BAILEY METER COMPANY DISTRICT OFFICES, U.S.A.

<b>CALIFORNIA</b>		<b>NEW YORK</b>	
San Francisco Code 415	Phone 989 6140	Buffalo Code 716	Phone 839 3662
Los Angeles Code 213	Phone 283 1187	New York Code 212	Phone 986 8770
<b>COLORADO</b>		Schenectady Code 518	Phone 374 7991
Denver Code 303	Phone 757 5408	<b>NEW JERSEY</b>	
<b>GEORGIA</b>		East Orange Code 201	Phone 674 6830
Atlanta Code 404	Phone 378 4348	<b>NORTH CAROLINA</b>	
<b>ILLINOIS</b>		Charlotte Code 704	Phone 334 9161
Chicago Code 312	Phone 427 7324	<b>OHIO</b>	
<b>LOUISIANA</b>		Cincinnati Code 513	Phone 281 0132
New Orleans Code 504	Phone 488 0841	Cleveland Code 216	Phone 851 8600
<b>MASSACHUSETTS</b>		<b>PENNSYLVANIA</b>	
Boston Code 617	Phone 426 0465	Philadelphia Code 215	Phone 664 3282
<b>MICHIGAN</b>		Pittsburgh Code 412	Phone 921 6356
Detroit Code 313	Phone 357 0440	<b>TEXAS</b>	
<b>MINNESOTA</b>		Dallas Code 214	Phone 363 6295
St Paul Code 612	Phone 645 7757	Houston Code 713	Phone 774 9605
<b>MISSOURI</b>		<b>WASHINGTON</b>	
Kansas City Code 816	Phone 361 4902	Seattle Code 206	Phone 324 9300
St Louis Code 314	Phone 962 5532	<b>WISCONSIN</b>	
		Milwaukee Code 414	Phone 461 1310

## BAILEY METER COMPANY LTD., CANADA

<b>ALBERTA</b>		<b>ONTARIO</b>	
Edmonton Code 403	Phone 488 3436	Ottawa Code 613	Phone 722 1373
<b>BRITISH COLUMBIA</b>		Toronto Code 416	Phone 444 8488
Vancouver Code 604	Phone 731 3709	<b>QUEBEC</b>	
<b>MANITOBA</b>		Montreal Code 514	Phone 489 3881
Winnipeg Code 204	Phone 943 1481	<b>NOVA SCOTIA</b>	
Halifax Code 902	Phone 455 0574		

# Bailey

**Bailey Meter Company • Wickliffe, Ohio 44092**  
**In Canada: Bailey Meter Company Limited, Montreal, Canada**