JERGUSON
A Division Of The Clark • Reliance Corporation

16633 Foltz Industrial Parkway
Strongsville, OH 44149
Phone: 440-572-1500
Fax: 440-238-8828

Installation, Operating and Maintenance Instructions For Jerguson TRULEVEL Remote Liquid Level Indicator

Section: J500
Bulletin: J500.77
Date: 10/20/03
Approved By: JSC

TABLE OF CONTENTS

1. INTRODUCTION

1.1 The complete installation of a remote reading liquid level indicator consists of three (3) main components with the possible use of two (2) accessory components. The main components include a datum column, isolation valves and the indicator itself. The accessory components include an alarm unit and a repeater unit.

1.2 The indicator is a diaphragm-type differential pressure device. The movement of the diaphragm, resulting from changes in the pressure differential across the diaphragm, is transmitted to the pointer on the scale by means of a magnetic coupling drive.

1.3 The isolation valves are either two globe valves for Model 75, or a three-valve manifold for Model 175. Dirt traps are recommended to prevent dirt, scale or sediment from entering the indicator. Dirt traps and blowdown valves should be provided as indicated in the installation drawing.

1.4 The datum column is connected to the vessel and provides the means of obtaining both a variable and a fixed head for the indicator. Connecting lines running from the datum column to the manifold and thus to the indicator transmit these heads to opposite sides of the indicator diaphragm.

1.5 The alarm unit is a photoelectric device that consists of a photoconductive cell excited by a long life subminiature lamp. A shadow device, attached to the pointer, passes between the lamp and photo cell at the alarm point. The resulting change in the photo cell signal excites a switching relay which is used to energize an alarm device.

1.6 The repeater is an electric system which is used to duplicate the indicator's reading at some remote location. The repeater system consists of two units - the transmitter, which is attached to the indicator and driven by the indicator pointer, and the receiver, which is located at a monitoring station.

2 INSTALLATION

2.1 General The following are general instructions for installing the remote water level indicator for service. To insure maximum indicator accuracy and reliability, install only as shown on the installation drawing for the specific job.

2.2 Datum Column

2.2.1 Datum column chamber elevation must be exactly as shown in installation drawing.

2.2.2 The steam connection to the datum chamber must be 3/4" minimum pipe size and free of pockets. The pipe should slope down to the datum chamber. The valve used for steam connection shutoff should be installed with stem in horizontal position to avoid water seal. Steam connection should not enter drum near any active connection since velocity effect of flow may cause erratic indicator readings. Insulate steam connection in accordance with installation drawing.

2.2.3 Water connection to variable head leg must be below lowest level to be indicated. Pipe should be free of pockets and be horizontal or sloping down from variable leg toward drum. A shutoff valve should be installed between variable leg and drum.

2.2.4 Connecting tubing between datum column and indicator should run horizontally for at least two feet at the datum column in order to prevent introduction of thermal errors. (See installation drawing.) From this point, tubing should slope downward toward indicator. A minimum slope of one inch per foot is recommended. If loops or high points are necessary, install vent valves at highest points. Avoid small radius bends. Run tubes close together to insure uniform temperatures. Do not run tubing close to hot equipment or exposed hot piping.

2.3 Indicator

2.3.1 Indicator should be mounted vertically but may be tilted forward or backward up to 15° from vertical. Panel cutout and wall mountings are shown

in Figure 1.

2.3.2 Provide ample space for tubing connections at bottom and access to vent valves at top. Allow at least 5" clearance for access on left side of indicator (when facing front of indicator). Twelve inches clearance is recommended when instrument is equipped with switches or transmitter.

2.3.3 Indicator is factory-calibrated for requirements of your specific installation. No further adjustments should be required.

2.3.4 Instrument shutoff valves and drain valves should be installed as shown on installation drawing.

3. OPERATION

3.1 To place in operation with boiler down:

3.1.1 Isolate system at drum by closing both shutoff valves.

3.1.2 Close all instrument valves.

3.1.3 Introduce cold water under pressure through one drain valve. Allow to circulate through datum column by opening the other drain valve. When clear flow is evident, close second drain valve.

3.1.4 With water pressure still on the system, open both instrument valves and bleed air through vent valves, alternating right and left several times.

3.1.5 When air is expelled, close vent valves and first drain valve, remove water supply.

3.1.6 Open both shutoff valves at drum.

NOTE: When two indicators operate from one datum column, both systems can be primed from one drain valve. Prime each leg separately and close instrument valves of one indicator when other indicator is being vented.

3.2 To place in operation with boiler in service:

3.2.1 Close all instrument valves and both drain valves.

3.2.2 Open water valve (lower) between datum column and drum. Leave steam valve (upper) closed.

3.2.3 Open left drain valve (as you face instrument) and let run until full clear flow is obtained; close left valve and repeat with right drain valve.

3.2.4 When clear flow has been obtained from both drain valves, close them tight and open steam valve.

3.2.5 Wait until tubing has cooled to ambient temperature (below 150°F).

3.2.6 If instrument rating is less than 750 psi, open both instrument valves simultaneously. Open vent valves slightly, alternating right and left and purge all air from the indicator.

3.2.7 If instrument rating is more than 750 psi, open equalizing valve and then the left hand valve (as you face instrument) on the instrument valve manifold. Open vent valves slightly, alternating right and left, and purge all air from the indicator. Close equalizing valve and open right had valve.

3.2.8 Do not permit hot water to reach indicator. Crack instrument valves if tube near indicator becomes hot.

3.2.9 Allow sufficient time for temperatures to stabilize before reading instrument.

4. MAINTENANCE

4.1 Blowdown. Dirt legs should be blown down periodically to remove suspended matter from lines. Blow down the system only through the dirt legs and remove only two or three cupfuls of water from each leg. Close instrument valves before blowing down.

4.2 Care of Instrument When Equipment is Down Before draining the tank, heater or boiler drum, close main shutoff valves tightly to prevent draining indicator connecting piping. When equipment is put back into service, open shutoff valves. Indicator will function properly without re-priming.

4.3 Lamp Replacement To replace indicator lamps, remove cover screws, cover and scale screws. See Figure 2. Gently push pointer to bottom of scale and remove scale. Replace lamps and reassemble. Before replacing cover, insure pointer can travel freely over full range.

5. CALIBRATION

5.1 Remove range and zero adjustment sealing plugs (location shown in Figure 2).

5.2 Connect manometer as shown in Figure 3. Fill indicator and manometer tubing with water. Bleed all entrapped air from indicator through vent valves.

5.3 Raise adjustable reservoir above fixed reservoir until differential equals cold water head shown at 100% on calibration chart. Adjust pointer on shaft to indicate top line of scale.

5.4 Increase manometer differential to equal cold water head at 0 on the calibration chart. Adjust range screw so that pointer is at bottom line on scale.

5.5 Decrease differential to equal cold water head at 50% on calibration chart. Use zero adjustment screw to make indicator read at scale midpoint.

5.6 Repeat steps shown in 5.3 to 5.5 until indicator is accurate over the full range.

6. INSTRUCTIONS FOR OVERHAUL

6.1 These instructions may be followed for all types of overhauling, including replacement of internal parts and/or internal cleaning. Part numbers refer to Figure 4.

Note: When the indicator includes a transmitter for operating an electronic secondary indicator, overhaul procedures must be modified as described under Transmitter Instructions. If indicator includes alarm switches, modify overhaul procedures as described under alarm switch instructions.

Do not disassemble actuating unit unless the following replacement parts are at hand.

Quantity	Description	Part No.
1	Diaphragm Assembly	17
1	O Ring	15
2	Sealing Plug Gasket	20
1	Spiral Well Gasket	22

Note: The following parts, while not always necessary in indicator overhaul, are sometimes required.

Description	Part No.
Deflection Plate - Order by Indicator Serial Number	7
Spiral Well Assy	23
Fulcrum Bar	5

6.2 Turn off all electrical power to the indicator. Close instrument shut-off valves and open equalizing valve, if furnished. Open vent valves (25) to release pressure from indicator.

6.3 Remove input cable. If the indicator has secondaries, remove secondary cover and disconnect electrical leads at terminal block.

6.4 Loosen unions and remove indicator from panel.

6.5 If there are secondaries, remove them per instructions under Secondary Maintenance. Remove cover (39); scale (37); lamps (34); side cover plate (36); connecting nipples (26) and vent nipples (24).

6.6 Carefully remove pointer assembly (27).

6.7 Using a 3/4" socket wrench, remove spiral well assembly (23). (Caution - Great care must be taken to protect the exposed pointer shaft through all steps during disassembly and reassembly.)

6.8 Remove chambers from housing and place in vise with front chamber up.

6.9 Remove socket head cap screws (19) and separate chamber halves. Remove the connecting pin (14), backing plate (16) and diaphragm assembly (17).

6.10 Place front chamber (2) in vise with inside up. Remove deflection

plate-magnet assembly (6-11) and wipe clean. Clean inside of chamber and O-Ring grooves with a soft, clean cloth. The use of a household detergent is helpful.

6.11 Check spiral well assembly for excessive friction. If spiral shaft does not spin freely, replace entire spiral well assembly. Do not attempt to further disassemble this component.

6.12 Replace the deflection plate-magnet assembly (6-11). Temporarily install the spiral well assembly. Push magnet through its full travel and make sure that magnet does not scrape either the spiral well or the chamber itself. Install the new O-Ring (15).

6.13 Clean the backing plate. Install it on the front chamber so that the spiral well relief hole engages the spiral well.

6.14 Place the connecting pin in the bearing cup. Install a new diapragm onto the connecting pin. Center the diaphragm on the backing plate.

6.15 Clean the rear chamber and carefully place it over the diaphragm. Be certain the connecting holes align properly.

6.16 Insert two (2) cap screws through the front chamber and hand tighten. Remove this assembly from the vise and invert it. Clamp the rear chamber in the vise.

6.17 Install the remaining cap screws. Using a torque wrench, apply 65 ft-pounds to each cap screw. Be sure to tighten cap screws in crisscross fashion.

6.18 Place the chambers into the housing (1), starting at Step 6.7 and working backward to Step 6.1.

6.19 If the zero (3) and range (4) screws have not been moved, the indicator may be put back into service and the pointer attached such that the indicator reading is the same as the reading on a visual gage glass with the boiler operating. This will correctly 'zero' the instrument and all other readings will be accurate.

6.20 If the zero and span screws have been moved or major components have been replaced, the instrument must be recalibrated prior to placement in the panel. See Paragraph 5 for calibration instructions.

7. ALARM UNIT

7.1 General. The alarm unit is supplied as an option to the Trulevel Indicator. Its function is to provide discreet electrical indication of of liquid level to actuate alarms or control apparatus. This is accomplished by the closing or opening of relay contacts.

7.2 Customer Wiring

7.2.1 The customer's connections are made to a terminal block located on the alarm circuit board. The switch schematic of this board is shown in Figure 5. The customer may wire his circuit either normally open or normally closed, depending on his requirements. Several typical alarm systems are shown in Figure 6, including those for a Jerguson three-light alarm and horn.

7.2.2 The actual alarm capacity is limited by the relay contact capacity. The standard contact capacity is: 1A at 115 VAC Resistive; 2A at 26 VDC Resistive. Customers desiring a larger current capacity should use the Trulevel alarm switch to excite the coil on a power relay. Jerguson can supply a time delay relay, located in a separate housing, that is rated at 10A at 115 VAC Resistive.

7.3 Alarm Point Adjustment

7.3.1 The Trulevel alarm unit is a photoelectric device. A relay is actuated by a photoconductive cell which is illuminated by a subminiature lamp. Both these components are located in a moveable detector, the position of which determines the alarm point.

7.3.2 The low alarm point may be set from 0 to 35% of full scale. The high alarm point may be set from 65% to 100% of full scale. Minimum spacing between two alarm points is 12% of full scale.

7.3.3 Remove the Trulevel front cover and the secondary cover.

7.3.4 Connect a 115 VAC supply to Terminals 1 and 2 on the alarm circuit board. Connect a continuity meter between the desired alarm contacts.

7.3.5 Gently move the pointer until it reads at the desired alarm point. The pointer may be held in place with a small piece of drafting tape.

7.3.6 Loosen the knurled nut on the appropriate detector (high) or (low) and slide the detector slowly along its slot until the relay transfers position. The relay will make a click and the continuity meter will show positive.

7.3.7 Tighten the knurled nut.

7.3.8 Loosen the pointer and gently allow it to return to position.

7.4 Maintenance

7.4.1 The circuit board requires no maintenance. All the components are solid state with a design life in excess of ten years. Individual components on the board cannot be repaired; if the alarm unit should fail the entire board must be replaced.

7.4.2 The detector has a design life in excess of five years. Generally, the sub-miniature lamp will burn out, causing the alarm to actuate. Replacement of the detectors is recommended at five-year intervals. If the consequences of a false alarm are large, the detectors should be replaced at more frequent intervals.

7.5 Instructions For Overhauling

7.5.1 Follow Steps 1 through 4 in the instructions for overhauling the primary (Paragraph 6.)

7.5.2 Remove the front cover and gently move the pointer to mid scale (50%), and tape it to the scale with drafting tape.

7.5.3 Loosen the knurled nuts on the detectors and move them to the extremes of the adjustments: low to 0%, high to 100%.

7.5.4 Remove the five screws that hold the secondary bracket to the primary housing.

7.5.5 Gently remove the secondary bracket by lifting it straight away from the primary housing. If the secondary bracket contains transmitter parts, observe the caution listed under 8.6.4, Instructions for Overhaul.

7.5.6 The detectors may be removed from the bracket by removing the knurled nut and the red and white wires which attach to the circuit board. The two red wires connect to the two outside terminals and the two white wires connect to the two inside terminals.

7.5.7 If the Trulevel has a transmitter unit, continue disassembly at Step 8.6.5, otherwise continue with primary overhauling at Step 6.5.

7.5.8 Reassembly is the reverse of disassembly; the alarm points will have to be readjusted.

8. REPEATER UNIT

8.1 General. The optional repeater system consists of two units: the transmitter, which is attached to the primary indicator, and the receiver, which is located at a distant station. The transmitter monitors the position of the Trulevel's pointer by using a linear variable differential transformer (LVDT). A solid state electronic circuit supplies the LVDT with the correct input signal and transforms the LVDT's output into a 4-20 ma DC signal. The receiver is a passive electrical meter which displays the 4-20 ma signal on a scale that is similar to the primary indicator.

8.2 Customer Wiring.

8.2.1 The customer's connections are made to the terminal block located on the bottom of the secondary bracket. Generally, the output terminals are connected to the receiver as shown in Figure 7. However, the output may be monitored by any device with a total circuit resistance of 1000 ohms or less.

8.2.2 Since the transmitter's output is a current signal, it is not affected by stray electromagnetic fields. Thus the wires do not have to be magnetically shielded.

8.3 Transmitter Adjustment.

8.3.1 The transmitter is factory-calibrated to produce a 4-20 ma DC signal. It does not require adjustment upon installation.

8.3.2 If the Trulevel primary has been rebuilt in the field, the transmitter may need recalibration. Assemble the transmitter as indicated under overhauling, Paragraph 8.6.

8.3.3 Connect 115 VAC to terminals 1 and 2 and a milliampmeter to terminals 3 and 4. A Jerguson receiver may be used instead of the milliampmeter.

8.3.4 Gently move the Trulevel pointer to 'L' and hold it in place with a piece of drafting tape.

8.3.5 Slide the LVDT in its clamp until the meter reads 4 ma.

8.3.6 Move the Trulevel's pointer to 'H' and check the meter reading. If it is not 20 ma, loosen the span screw lock nut and adjust the output.

8.3.7 Move the pointer to 'L' and adjust the output to 4ma by loosening the zero screw lock nut and adjusting the output.

8.3.8 When both the 'H' and 'L' positions meet the specified output, tighten the locking nuts on the adjustments. Tighten the locking screw on the LVDT clamp.

8.3.9 Remove the milliampmeter and the 115 VAC from the transmitter terminals.

8.3.10 Reassemble the secondary bracket, starting at Step 8.6.4 under Overhauling.

8.4 Receiver Adjustments.

8.4.1 The receiver should be zero adjusted upon installation. The zero screw is located on the bottom of the receivers scale.

8.4.2 Apply 120 VAC to the transmitter.

8.4.3 Set the Trulevel's pointer to some convenient setting, (i.e. 50%).

8.4.4 Turn the zero screw on the receiver until it duplicates the primary's reading.

8.5 Maintenance.

8.5.1 The LVDT and its electronic board require no maintenance. All components are solid state with an design life in excess of 10 years. Individual components on the board cannot be replaced. If the electronic circuit should fail, the entire board must be replaced.

8.5.2 The receiver requires no maintenance. The side covers should not be removed as this would expose the mechanism to possible dust contamination.

8.6 Instructions for Overhauling.

8.6.1 If the Trulevel is equipped with an alarm unit, follow the alarm overhauling instructions first.

8.6.2 Follow Steps 1 through 4 in the instructions for overhauling the primary.

8.6.3 Place the Trulevel on its side and remove the secondary cover.

8.6.4 Remove the five screws that hold the secondary bracket to the Trulevel Housing. Gently pull this bracket straight away from the housing. Caution: The LVDT's electronic cable is connected to the electronics on the secondary bracket. Move the secondary bracket about three inches from the Trulevel, rotate the bracket and remove the cable. When reassembling, be certain that the cable does not interfere with the pointer's movement.

8.6.5 Remove the two screws that hold the LVDT bracket to the front chamber. Do not remove the LVDT from its bracket. Remove the cable from the housing by snapping open the cable clamps.

8.6.6 Swing the LVDT bracket away from the pointer and remove the LVDT's core. Remove the bracket from the housing.

8.6.7 Continue with the primary overhauling at Step 6.5.

8.6.8 Reassembly is the reverse of disassembly. If the LVDT is not removed from its bracket, and the zero and span adjustments are not moved, the transmitter will not require recalibration.

Indicator not in Agreement With Other Level Measuring Devices -

Possible Cause:

Instruments calibrated to different reference points.

Action:

Attempt to determine whether various instruments are calibrated to duplicate drum or gage level. Instruments will not agree unless calibrated to some reference. Check installation for variations in water connection location, orientation of range, datum chamber location.

Possible Cause:

Instruments installed on opposite ends of drum.

Action:

All instruments may be operating properly. Level variations of a few inches are common between different ends of drum.

Pointer Remains at Top of Scale (also see 'Indicator Inaccurate')

Possible Cause:

Indicator pointer binding on scale or cover.

Action:

Bend pointer so it has free travel over full range.

Possible Cause:

Leak across diaphragm or equalizing valve.

Action:

To confirm: a) Close both instrument valves. b) Open variable leg vent valve until pointer drops to bottom of scale. c) Close vent valve. d) If pointer moves up within 15 minutes, leak is confirmed.

Possible Cause:

Tubing connections from datum chamber reversed.

Action:

Interchange connections.

Indicator Reads High (Also see 'Indicator Inaccurate')

Possible Cause:

Too much of system lagged.

Action: Check installation drawing for insulation recommendations.

Indicator Reads High (Cont'd)

Possible Cause:

Datum chamber starving for condensate.

Action:

Be sure steam connection line slopes toward head chamber, not back to drum. Steam shutoff valve must be installed with stem horizontal.

Possible Cause:

Datum chamber placed too low.

Action:

Datum chamber must be located exactly as shown in installation drawing.

Indicator Reads Low (Also see 'Indicator Inaccurate')

Possible Cause:

Datum chamber placed too high.

Action:

Datum chamber must be installed exactly as shown in installation drawing.

Indicator Sluggish

Possible Cause:

Pointer binding on Scale Cover.

Action:

Bend pointer so it has free travel over full range.

Possible Cause:

Excessive friction in spiral well assembly.

Action:

Replace spiral well assembly.

Possible Cause:

Indicator internals fouled.

Action:

Overhaul indicator.

Indicator Inaccurate

Possible Cause:

Air in system.

Action:

Reprime system.

Indicator Inaccurate (Cont'd)

Possible Cause:

Improper calibration.

Action:

Check cold water calibration with manometer.

Possible Cause:

Leaks in indicator or piping.

Action:

Repair leaks.

Possible Cause:

Connecting tubing temperatures not uniform.

Action:

Eliminate external heat source or insulate tubing.

Possible Cause:

Connecting tubing blocked.

Action:

Check flow through blowdown lines.

Possible Cause:

Water connection to variable head incorrect.

Action:

Lower drum connection must be located as shown in stallation drawing.

Possible Cause:

Influence of flow inside drum.

Action:

SEND AVAILABLE DETAILS TO:
JERGUSON GAGE & VALVE CO.
16633 FOLTZ INDUSTRIAL PARKWAY
STRONGSVILLE, OH 44149
PHONE: 440 - 572 - 1500
FAX: 440 - 238 - 8828

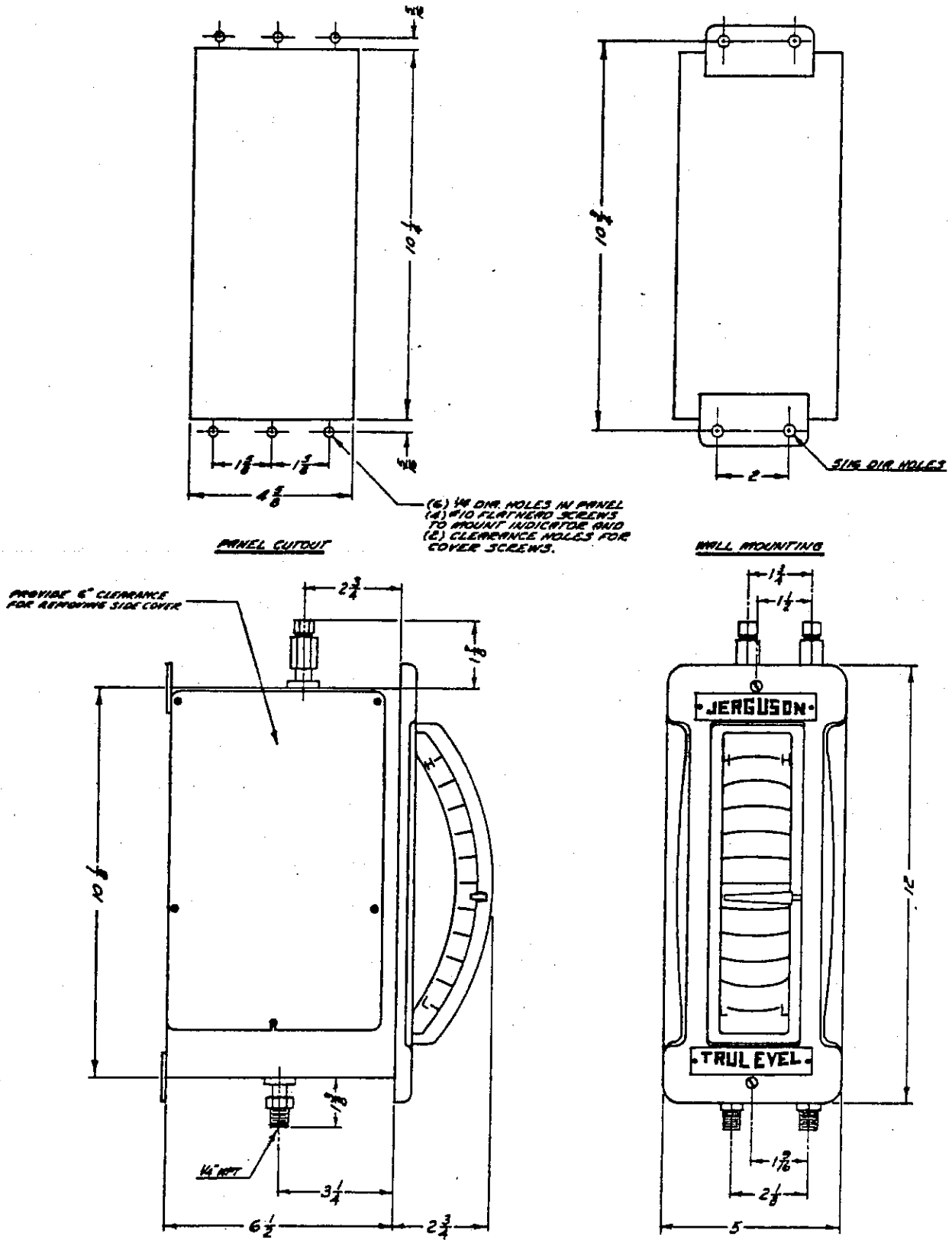


Figure 1

				OUTLINE AND MOUNTING DIMENSIONS FOR TRULEVEL REMOTE READING GAGE	JERGUSON GAGE & VALVE CO. BURLINGTON, MASS.	DRAWN JMS	FILE NO 4-344
						CHECKED	DRAWING NO GD-1501
						APPROVED	
SYM	REVISION	DATE	APP		SCALE HALF DATE 8-14-75		REV 0

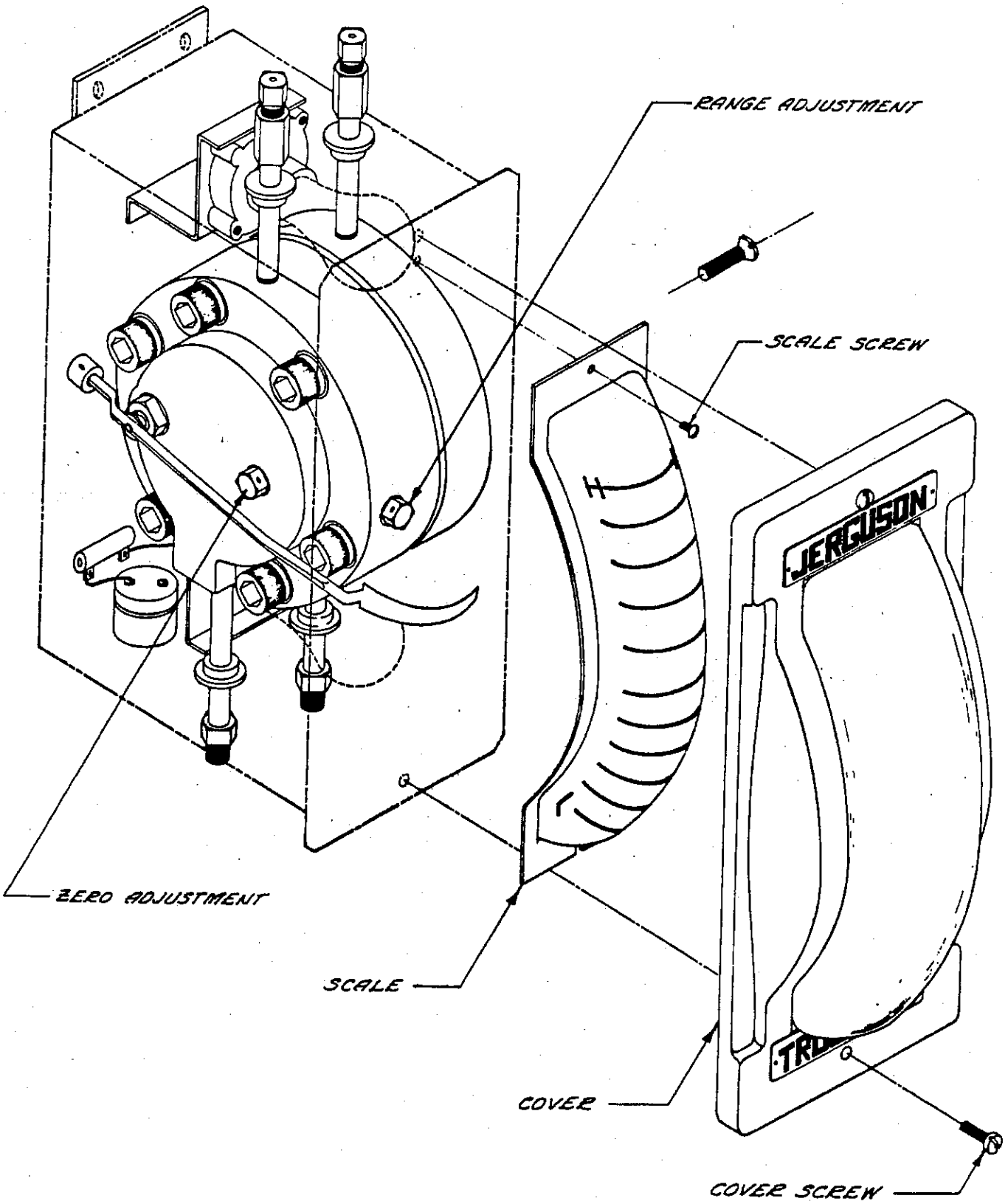

RANGE ADJUSTMENT
SCALE SCREW
JERGUSON
ZERO ADJUSTMENT
SCALE
COVER
COVER SCREW

FIG. 2

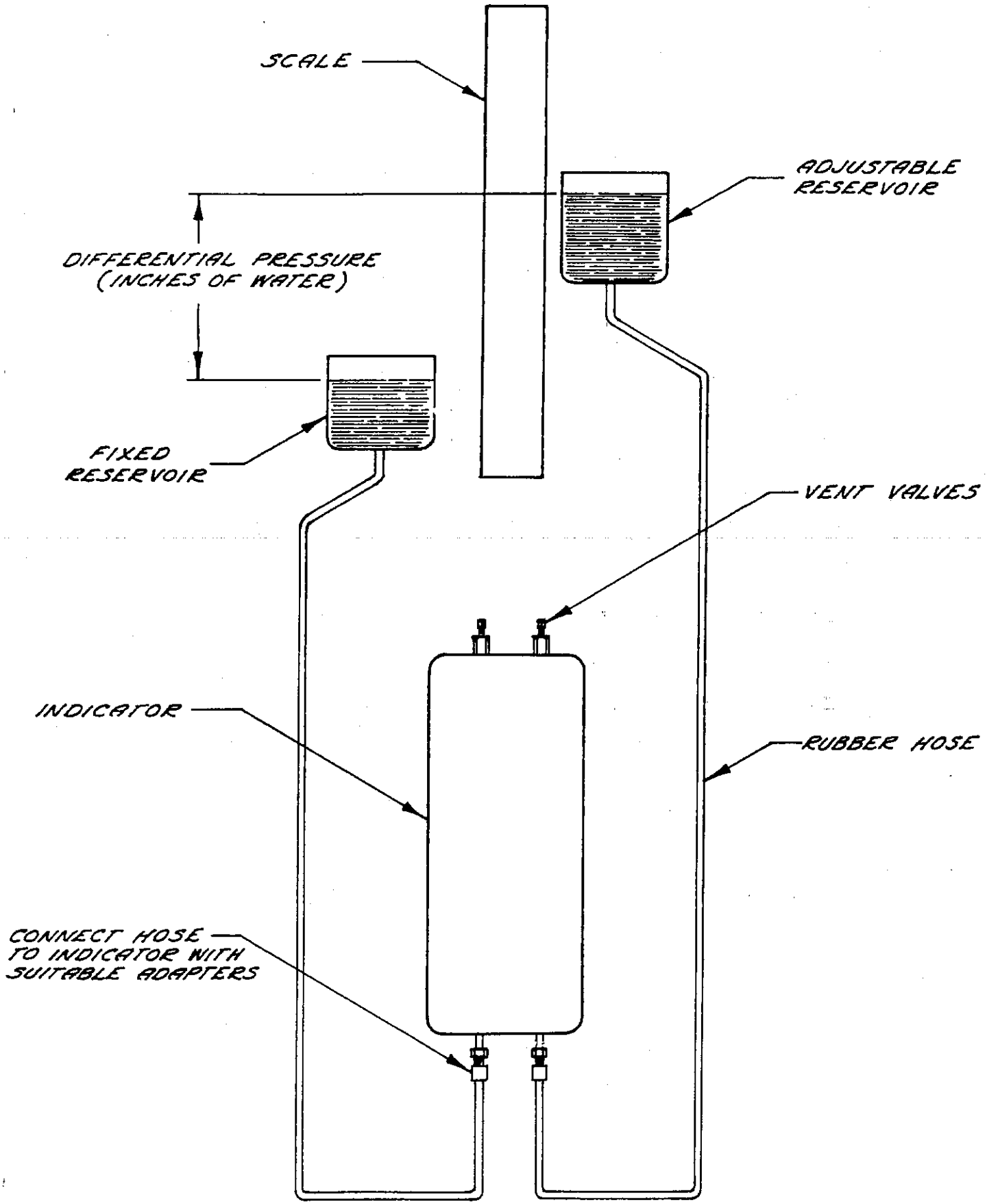
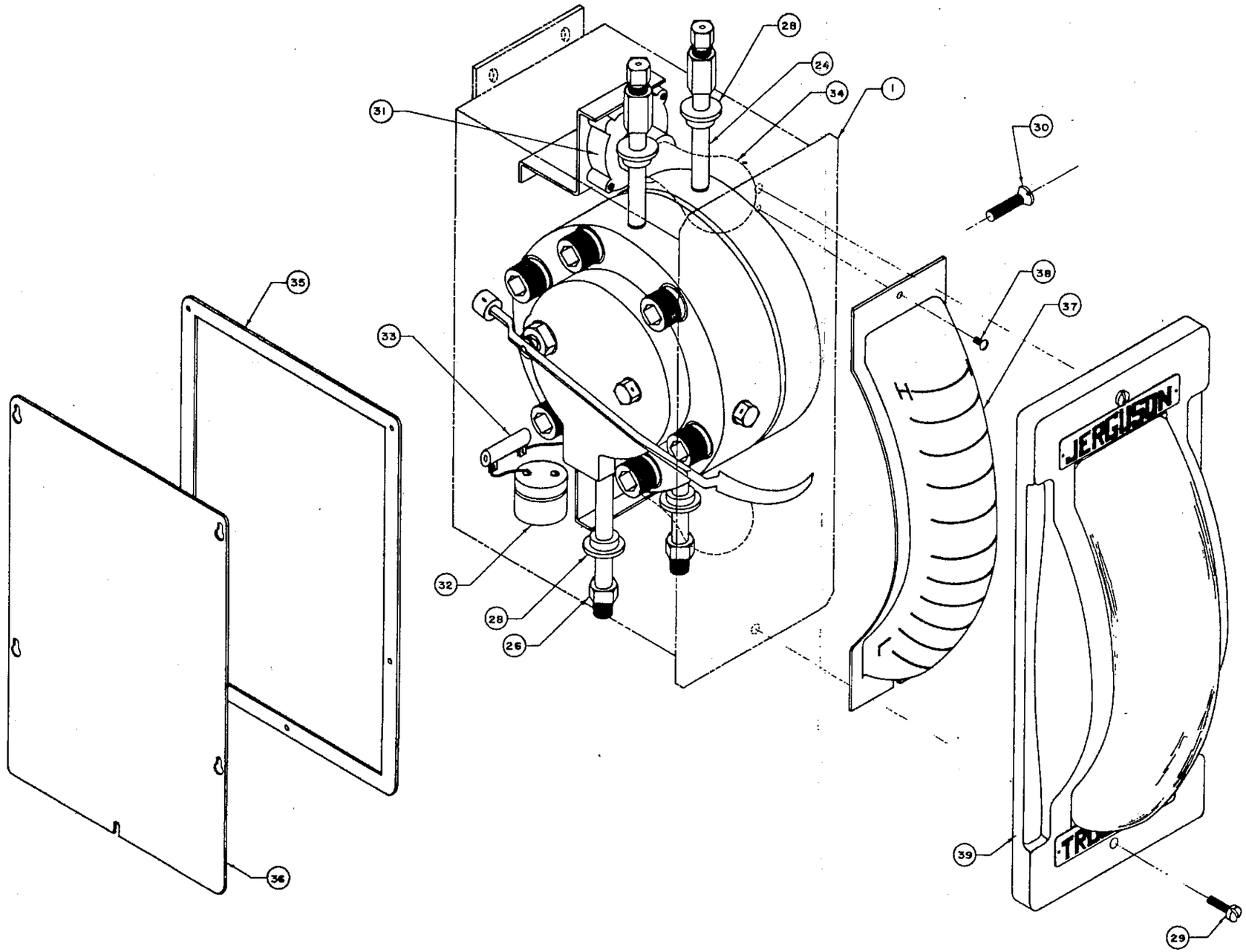

SCALE
ADJUSTABLE RESERVOIR
DIFFERENTIAL PRESSURE (INCHES OF WATER)
FIXED RESERVOIR
VENT VALVES
INDICATOR
RUBBER HOSE
CONNECT HOSE TO INDICATOR WITH SUITABLE ADAPTERS

FIG. 3

ZONE	REV.	REVISIONS DESCRIPTION	APP'D & DATE



39	COVER ASS'Y	1	S-15489	ALUMINUM	ACRYLIC WINDOW
38	SCREW	2	P-2229	BRASS	6-32 x 3/16 LG.
37	SCALE	1	L-1324	ACRYLIC	
36	SIDE COVER PLATE	1	L-1362	STEEL	COLD ROLLED
35	SIDE COVER GASKET	1	V-13811	NEOPRENE	1/16 THK
34	LAMP	2	V-13844	COMM'L	15 WATT 120 VOLT
33	RESISTOR	1	V-13847	IRC 7123	125 Ω 13 W
32	ELECTRICAL CONN.	1	V-13845	COMM'L	HUBBEL #7466
31	LAMP SOCKET	2	V-11449	COMM'L	
30	SCREW	3	V-13851	STEEL	1/4-20 x 7/8 LG
29	SCREW	2	V-13850	BRASS	10-32 X 5/8 LG
28	DUST PLUG	4	V-13842	NEOPRENE	
27	POINTER ASS'Y	1	S-14471	ALUMINUM	
26	CONNECTING NIPPLE	2	V-13812	BRASS	ASTM B-16
25	VENT PLUG	2	V-13814	BRASS	ASTM B-16
24	VENT NIPPLE	2	V-13813	BRASS	ASTM B-16
23	SPIRAL WELL ASS'Y	1	S-15538	303 SS	ASTM A-582
22	SEALING GASKET	1	V-13825	COPPER	
21	SEALING PLUG	2	V-13818	BRASS	ASTM B-16
20	SEALING GASKET	2	V-13819	COPPER	
19	SCREW	6	V-13852	ALLOY STL	FF-S-86, TYPE 6
18	REAR CHAMBER	1	L-1334	BRASS	ASTM B-21, ALLOY 482
17	DIAPHRAGM ASS'Y	1	S-14872	SS & EPT	
16	BACKING PLATE	1	V-13835	BRASS	ASTM B-16
15	O-RING	1	V-13843	EPT	
14	PIN	1	V-13828	17-4 PH	
13	SCREW	2	P-4309	BRASS	10-32 x 5/8 LG
12	PLATE CLAMP	1	V-13821	304 SS	AISI
11	SCREW	3	V-13853	304 SS	6-32 x 5/8 LG
10	PIN, BEARING	1	S-15381	304 SS	AISI
9	BEARING PLATE	1		304 SS	AISI
8	MAGNET	1	V-13820	ALNICO V	
7	DEFLECTION PLATE	1	V-13824-	COPPER	ASTM B-194, ALLOY 172
6	PLATE	1	V-13822	304 SS	AISI
5	FULCRUM BAR	1	V-13815	BRASS	
4	RANGE SCREW	1	V-13816	BRASS	
3	ZERO ADJ. SCREW	1	V-13817	BRASS	
2	FRONT CHAMBER	1	L-1333	BRASS	ASTM B-21, ALLOY 482
1	HOUSING	1	K-68	STEEL	COLD ROLLED
PC	NAME	QUAN	DWG NO	MAT'L	REMARKS

LIST OF MATERIAL — QUANTITIES FOR ONE

SIGNATURES	DAY	MO	YR.
DRAWN JMS	29	3	73
CHECKED WJG	28	5	73
ISSUED			
ENGR'G R.L.C.	28	5	73
MFG.			
MATLS.			
APPROVAL			

JERGUSON GAGE & VALVE CO.
BURLINGTON, MASS.

JERGUSON TRULEVEL
REMOTE LIQUID LEVEL INDICATOR
DIAPHRAGM TYPE

SIZE	CODE IDENT NO.	DRAWING NO	REV.
H	74965	E-356	

SCALE 12:1-0 WT APPROX LBS SHEET 1 OF 2

FIGURE 4

SHEET 1 OF 2

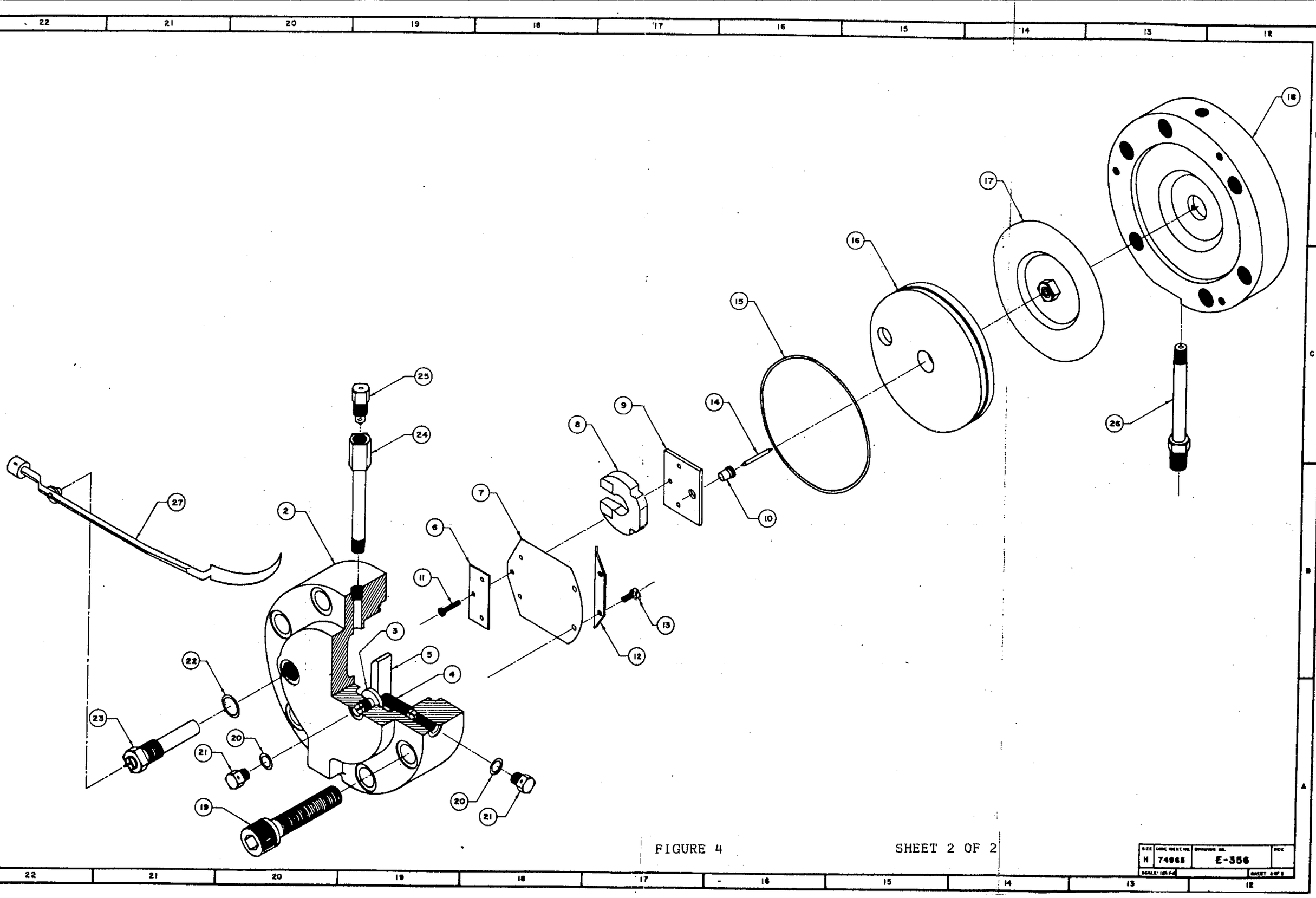


FIGURE 4

SHEET 2 OF 2

SIZE	DOCUMENT NO.	DRAWING NO.	REV.
H	74966	E-356	

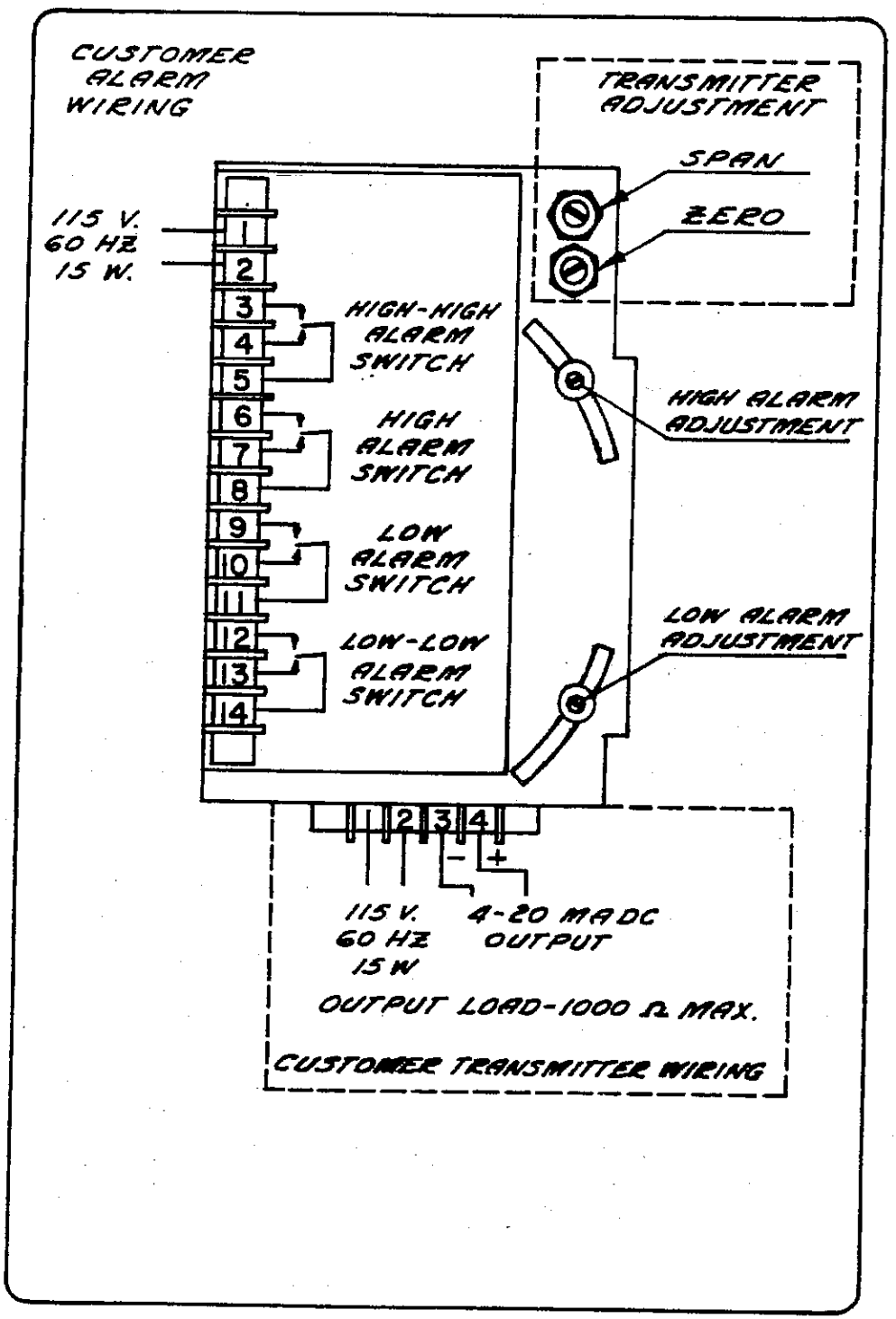
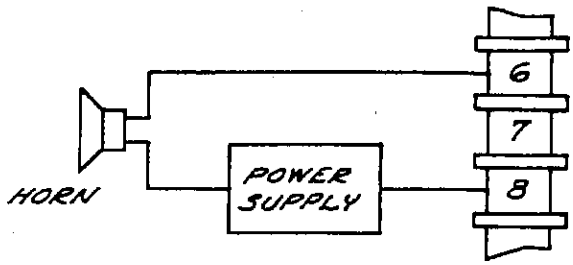
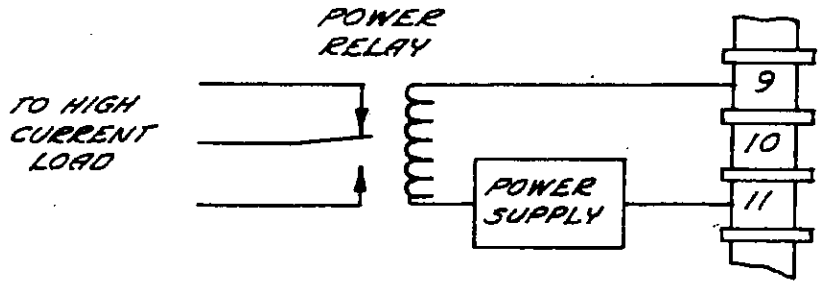

CUSTOMER ALARM WIRING
TRANSMITTER ADJUSTMENT
SPAN
ZERO
115 V. 60 HZ 15 W.
1
2
3
4
5
6
7
8
9
10
11
12
13
14
HIGH-HIGH ALARM SWITCH
HIGH ALARM SWITCH
LOW ALARM SWITCH
LOW-LOW ALARM SWITCH
HIGH ALARM ADJUSTMENT
LOW ALARM ADJUSTMENT
1
2
3
4
-
+
115 V. 60 HZ 15 W
4-20 MA DC OUTPUT
OUTPUT LOAD-1000 Ω MAX.
CUSTOMER TRANSMITTER WIRING

FIG. 5

TYPICAL CUSTOMER WIRING





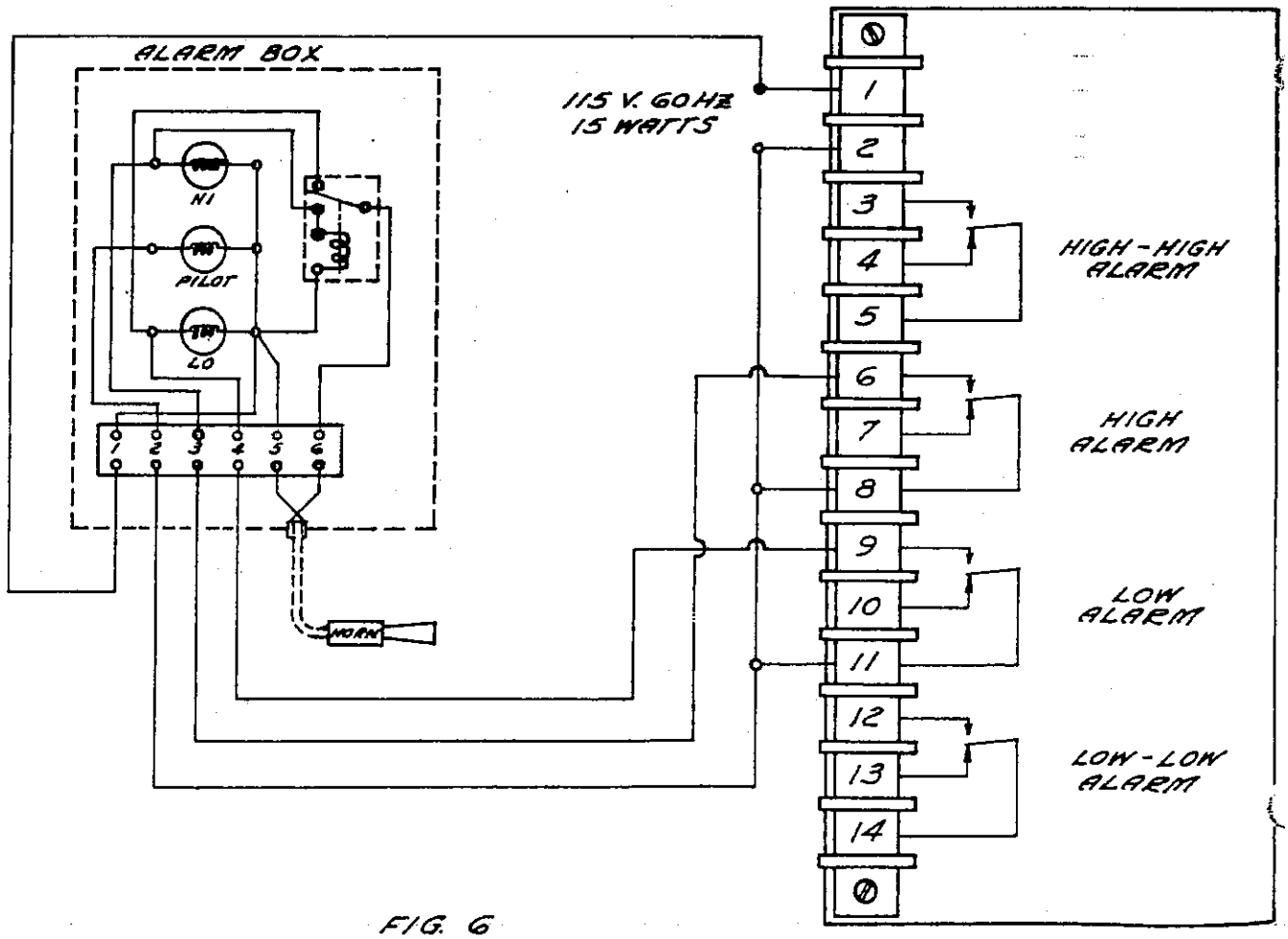


FIG. 6

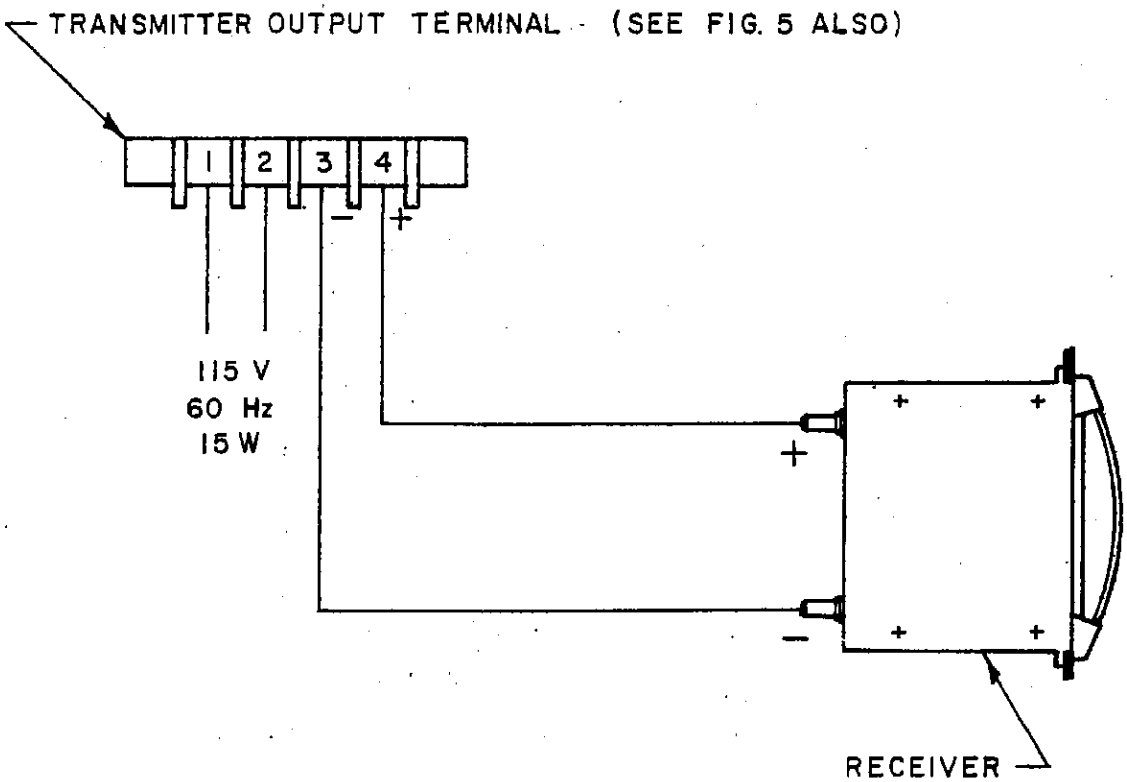

TRANSMITTER OUTPUT TERMINAL (SEE FIG. 5 ALSO)
1
2
3
4
−
+
115 V
60 Hz
15 W
+
−
RECEIVER

FIGURE 7