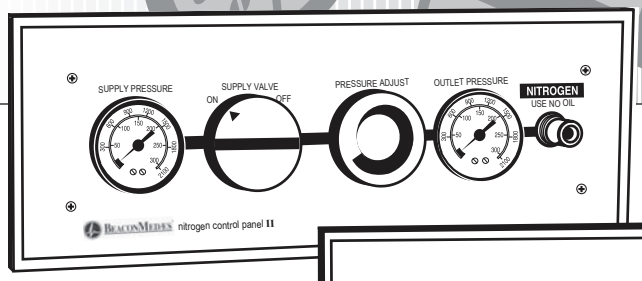
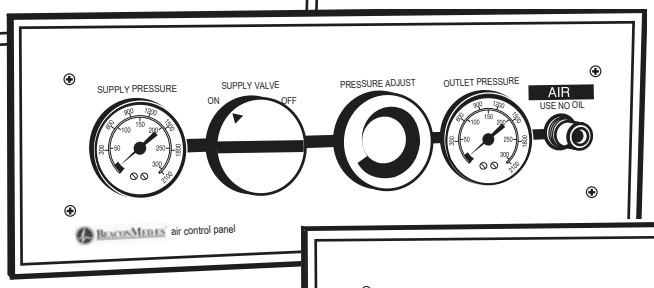
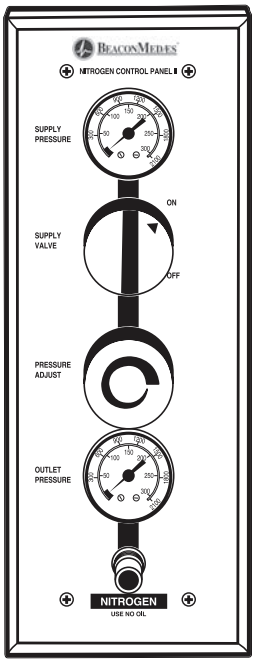
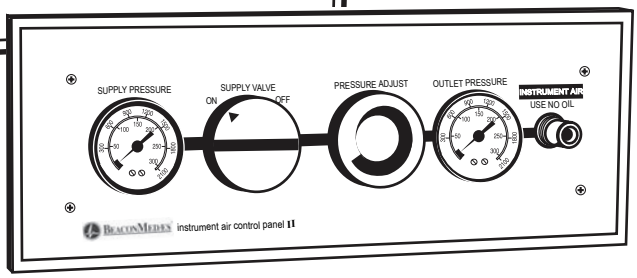
Installation, Operating and Maintenance Instructions

Control Panels for Nitrogen, Air and Instrument Air Services









BeaconMedaes®

Table of Contents

Packing List

Control panel is shipped either as complete assembly, wall box rough-in assembly, or front panel assembly.

Instrument Air Control Panel

Part Number	Description
6-120274-00	DISS Instrument Air Control Panel Complete Assembly
6-230314-00	Wall Box Rough-In Assembly
6-230318-00	DISS Front Panel Assembly

Nitrogen Control Panel

Part Number	Description
6-120276-01	DISS Nitrogen Control Panel Complete Assembly
6-120276-11	DISS Vertical Nitrogen Control Panel Complete Assembly
6-120277-01	Schrader Nitrogen Control Panel Complete Assembly
6-120277-11	Schrader Vertical Nitrogen Control Panel Complete Assembly
6-230315-01	Wall Box Rough-In Assembly
6-230315-11	Vertical Wall Box Rough-In Assembly
6-230316-01	DISS Front Panel Assembly
6-230316-11	DISS Vertical Front Panel Assembly
6-230317-01	Schrader Front Panel Assembly
6-230317-11	Schrader Vertical Front Panel Assembly

Air Control Panel

Part Number	Description
6-120881-00	DISS Air Control Panel Complete Assembly
6-230556-00	DISS Front Panel Assembly
6-230557-00	Wall Box Rough-In Assembly

Definition of Statements

Statements in this manual preceded by following words are of special significance.

⚠ **WARNING:** Means there is a possibility of injury or death to yourself or others.

⚠ **CAUTION:** Means there is a possibility of damage to unit or other property.

NOTE: Indicates points of particular interest for more efficient and convenient operation.

Introduction

Control panel is designed to deliver gas to turbo-surgical tools at pressure regulated at panel. Control panel consists of supply pressure gauge, ON-OFF control, adjustable pressure regulator, outlet pressure gauge, panel outlet connection, and remote outlet connection. Panel outlet connections are either Diameter-Index Safety System (DISS) or Schrader-Type Quick-Connect.

DISS connections are Compressed Gas Association (CGA) No. 1120 for Nitrogen, CGA No. 1160 for Air and CGA No. 2080 for Instrument Air.

Control panel has been cleaned, tested and prepared for gas service in accordance with recommendations set forth in National Fire Protection Association (NFPA 99), “Standard for Health Care Facilities,” and Canadian Standards Association (CAN/CSA - Z 305.1) “Nonflammable Medical Gas Piping Systems.”

Wall Box Rough-in Assembly

Installation Instructions:

Control panel rough-in assembly must be installed before walls are finished. Control panel is designed to supply a remote outlet if required.

1. Provide rough wall opening of 4-1/2" x 14-3/4" x 3-1/2" deep to accommodate mounting box. Bottom of mounting box shall be five feet from and parallel to floor (Figure 1).
2. Secure box mounting brackets to vertical wall members or to rigid interconnecting bracing as required. Verify box is firmly anchored in wall. Position box so front edge will be flush with finished wall surface.
3. Referring to Figure 1, mount inlet extension tube and, if required, remote outlet extension tube into mounting box with provided mounting screws. Silver solder inlet drop to inlet extension tube located on left side of mounting box. Use techniques required by applicable standards specified in NFPA 99 and/or CAN/CSA - Z 305.1.

⚠ CAUTION:
Use heat sink techniques appropriate for protection of sealing material in inlet/outlet connectors. **Excessive heat may destroy connector sealing material.** If damage occurs to connector, new connector must be installed. Refer to pages 18-21 for replacement parts.

4. If remote outlet is used, silver solder remote outlet riser to extension tube located at right side of mounting box. Use same soldering procedure as described in step 3.

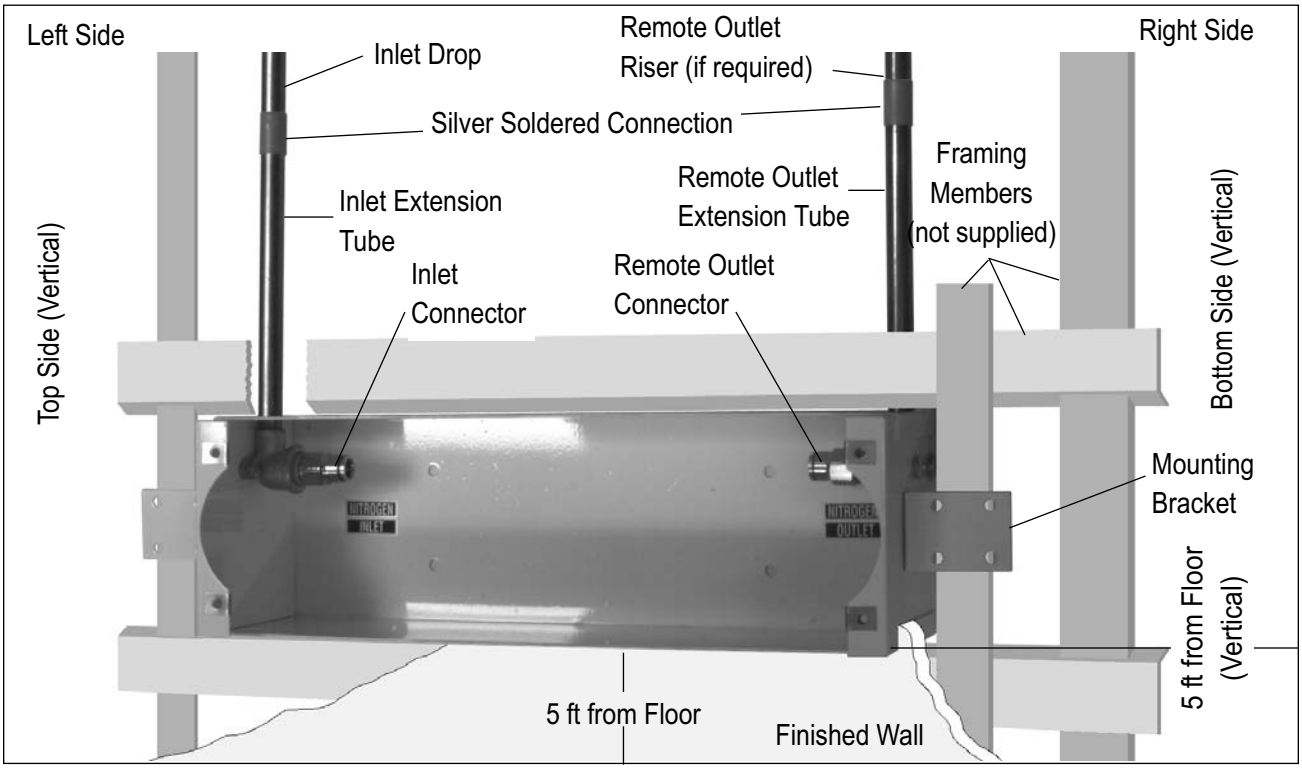


Figure 1

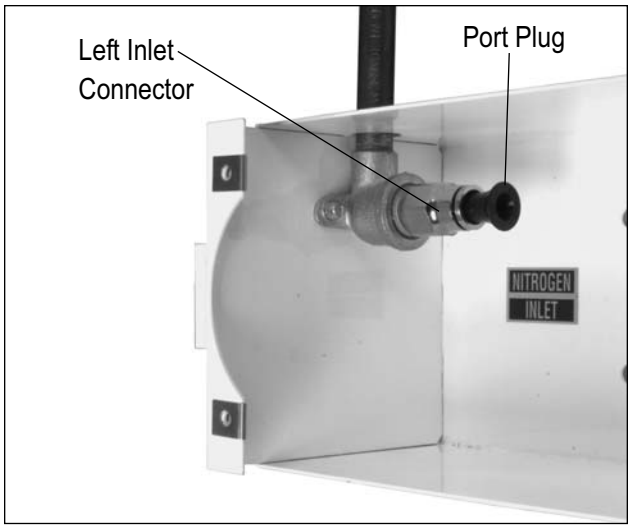


Figure 2

5. If remote outlet is not used, install port plug into left inlet connector (Figure 2). Proceed to step 7.
6. For panels with remote outlet, install nylon jumper tube between inlet and outlet connectors (Figure 3).

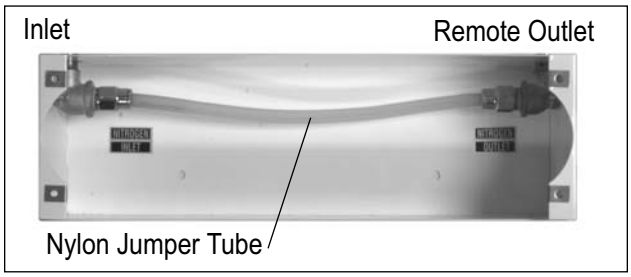


Figure 3

7. Perform pipeline standing pressure test and blowdown test in accordance with requirements specified in NFPA 99 and/or CAN/CSA - Z 305.1.
8. Install protective dust cover onmounting box and leave in place until wall has been finished (Figure 4).

Figure 4

Installation Instructions:

Front panel assembly must be installed after walls have been finished. Do not remove protective bag until ready for installation.

1. Remove protective dust cover from mounting box and discard.
2. Remove port plug from left inlet connector (if no remote is used) and front panel assembly inlet. To remove, push port plug into connector until it bottoms out. Then, while holding down collet, withdraw port plug (Figure 5).

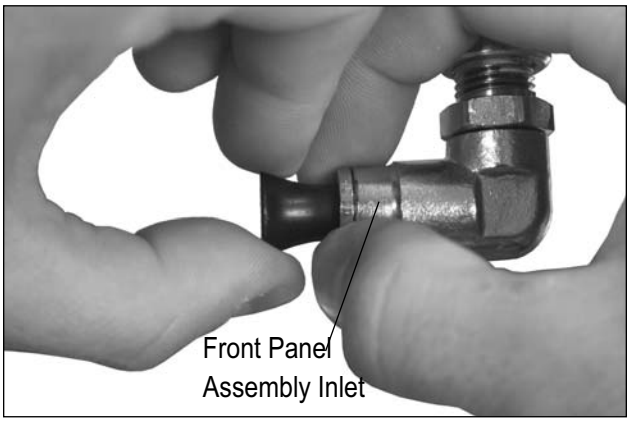


Figure 5

3. If remote outlet is used, remove nylon jumper tube from inlet/outlet connectors and discard. To remove, push tube into connector until it bottoms on tube stop. Then, while holding down collet, withdraw the tube (Figure 6).

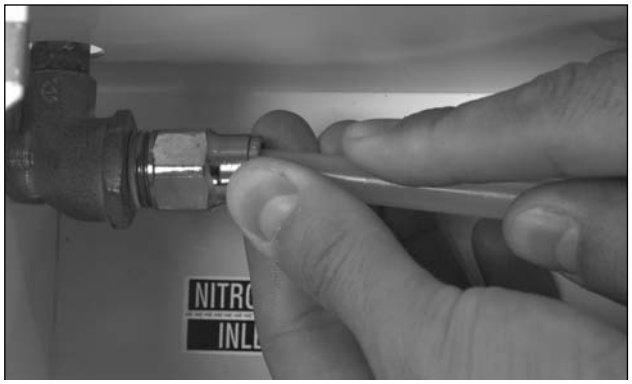


Figure 6

4. If remote outlet is used, remove pipe plug from outlet valve adapter and install provided 3/8” OD tube and 1/4” NPT male swivel elbow into outlet valve adapter (Figure 7).

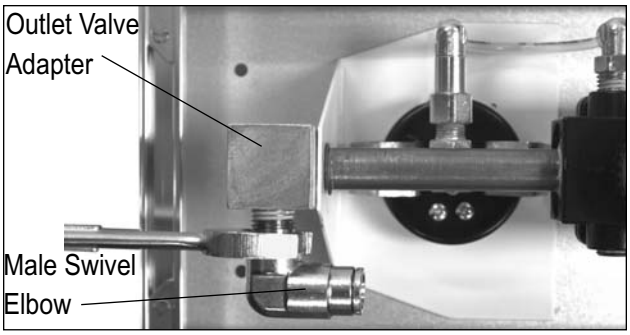


Figure 7

5. Remove protective dust caps from provided hose assemblies.
6. Insert hose assembly end into left inlet connector inside mounting box. Push hose adapter through collet into connector until it bottoms out. Pull back on hose assembly to verify proper attachment. Using same installation procedure, connect other hose end to front panel's inlet connector (Figure 8).

Figure 8

7. When remote outlet is used, insert hose assembly end into right remote outlet connector inside mounting box. Push hose adapter through collet into connector until it bottoms out. Pull back on hose assembly to verify proper attachment. Using same installation procedure, connect other hose end to front panel's remote outlet connector (Figure 9).

NOTE:
Hose assembly shall be positioned to be parallel to back of mounting box when control assembly is installed (Figure 9).

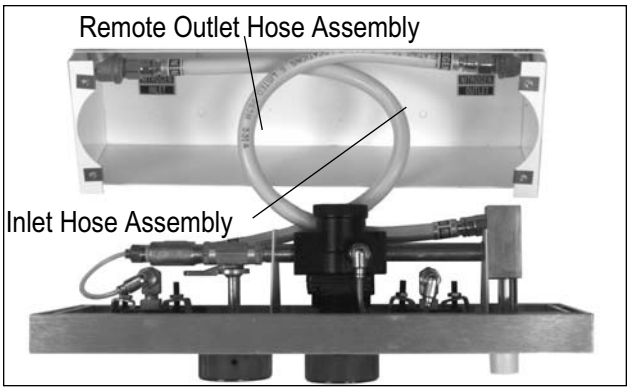


Figure 9

8. Position front panel assembly into mounting box and secure with four mounting screws. Insert screws through front panel while aligning with speednuts on mounting box. Tighten screws until panel frame is flush with finished wall (Figure 10).

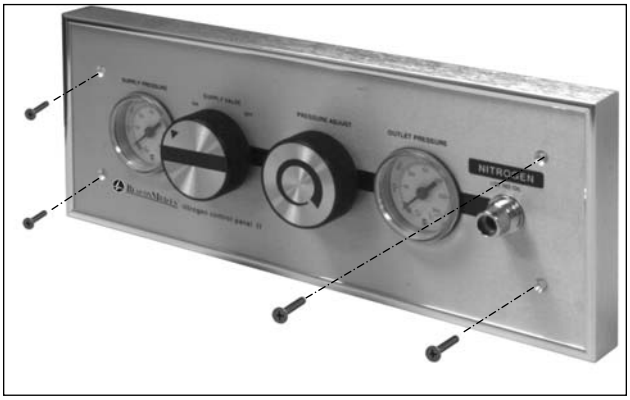


Figure 10

NOTE:
Perform additional tests in accordance with requirements specified in NFPA 99 and/or CAN/CSA - Z 305.1.

(Reference Figure 11)

Gas flows from hospital pipeline system into control panel inlet **(A)** at pressure of approximately 160 psig as indicated on supply pressure gauge **(B)**. Gas flows through ON-OFF supply valve **(C)** to pressure regulator **(D)**. Pressure regulator **(D)** controls operating pressure at panel outlet **(E)** and remote outlet connection **(F)**, as indicated on outlet pressure gauge **(G)**.

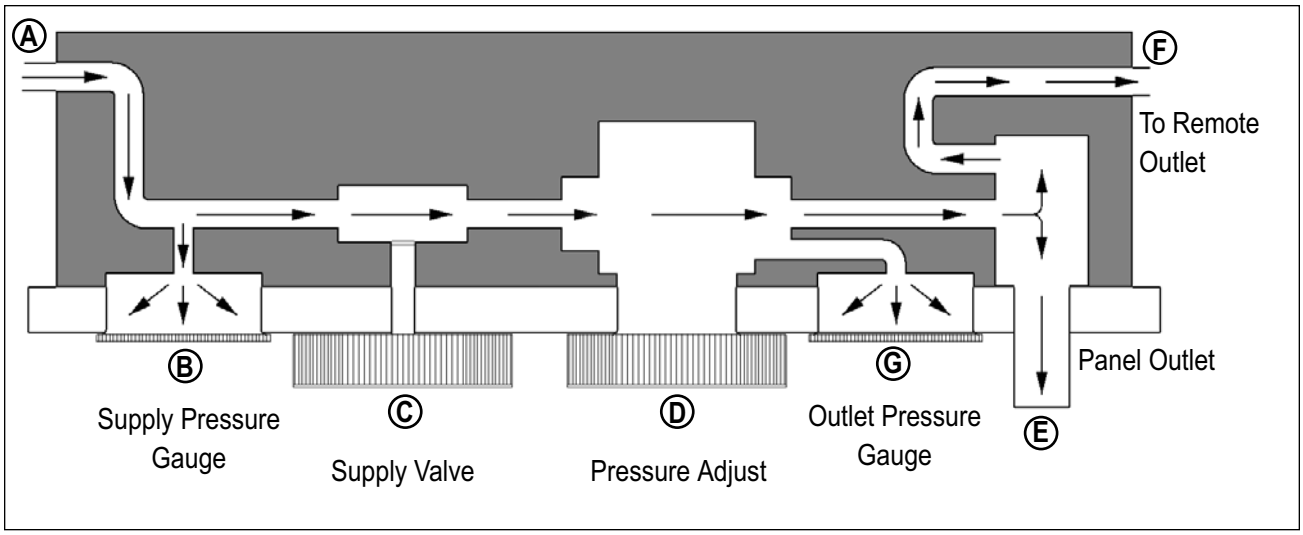


Figure 11

Functional Test

(Reference Figure 12)

1. Turn ON-OFF supply valve counterclockwise to ON position.
2. Turn pressure adjust knob clockwise until reading of 160 psig is shown on outlet pressure gauge. Pressure will increase correspondingly with adjustment. If reading of 160 psi cannot be obtained, check supply pressure gauge and correct as necessary.
3. Listen at panel for sound of escaping gas which would indicate leaks. Turn ON-OFF supply valve clockwise to OFF position. If sound stops, leak is downstream from ON-OFF supply valve. If sound continues, leak is upstream from ON-OFF supply valve (Refer to maintenance instructions on leak testing.)
4. Turn pressure adjust knob completely counterclockwise until off. Gas venting inside panel shall be heard. Gas is being vented through self-relieving pressure control regulator. Observe outlet pressure gauge. It shall drop to zero and flow of gas shall terminate.

Operating Instructions

(Reference Figure 12)

1. Verify ON-OFF supply valve is turned clockwise to OFF position. Bar on supply valve knob shall be vertical.
2. Connect surgical tool supply hose to outlet connection on control panel or remote outlet served by control panel.
3. *Very slowly* turn ON-OFF supply valve counterclockwise to ON position. Bar on supply valve knob shall be horizontal.
4. Adjust surgical tool operating pressure by turning pressure adjust knob clockwise to increase or counterclockwise to decrease pressure, as indicated on outlet pressure gauge. For proper operating pressure, consult tool manufacturer's recommendations.

NOTE:
It is best to adjust pressure while gas is flowing through tool. Turn ON-OFF supply valve to OFF position when surgical tool is not in use.

Figure 12

Leak Testing (Figure 13):

Leak testing internal parts of panel shall be made without disconnecting panel from piping system.

⚠ CAUTION:
If leaks are heard inside panel, locate zone valve for room and turn it off. Release pressure from system before removing mounting screws.

1. Remove front panel from wall mounting box by removing four mounting screws located on front panel.
2. Carefully pull front panel, with control assembly, out of mounting box. Support control assembly in position which allows full view of all connections.
3. Turn ON-OFF supply valve knob to ON position. Adjust control pressure to 160 psig. Leak test all connections using oxygen compatible leak detection solution. Look for bubbles indicating leaks. Wipe remaining leak detection solution from all connections after testing.

NOTE:
Correct leaks using appropriate procedures.

4. Place control panel in mounting box and secure in place with four mounting screws.
5. Perform Functional Test according to page 8 of these instructions
6. Turn ON-OFF supply valve to OFF position.

Disconnecting Control Panel (Figure 13):

1. Turn off zone valve in pipeline system serving control panel.
2. Turn supply valve knob to ON position and turn pressure adjust knob completely clockwise. Release system pressure through either DISS or Schrader outlet.
3. Remove four mounting screws (23) from front panel (25). Carefully pull control assembly away from mounting box.
4. Disconnect hose assembly(s) (41) from control panel assembly connections. Push hose adapter into fitting until it bottoms out. Then, while holding down collet, withdraw adapter. Repeat procedure if remote outlet is used.
5. Place control assembly on suitable work surface. Leave hose assembly(s) in mounting box unless replacement is necessary.

NOTE:
Refer to pages 18-21 for replacement part numbers noted in parentheses.

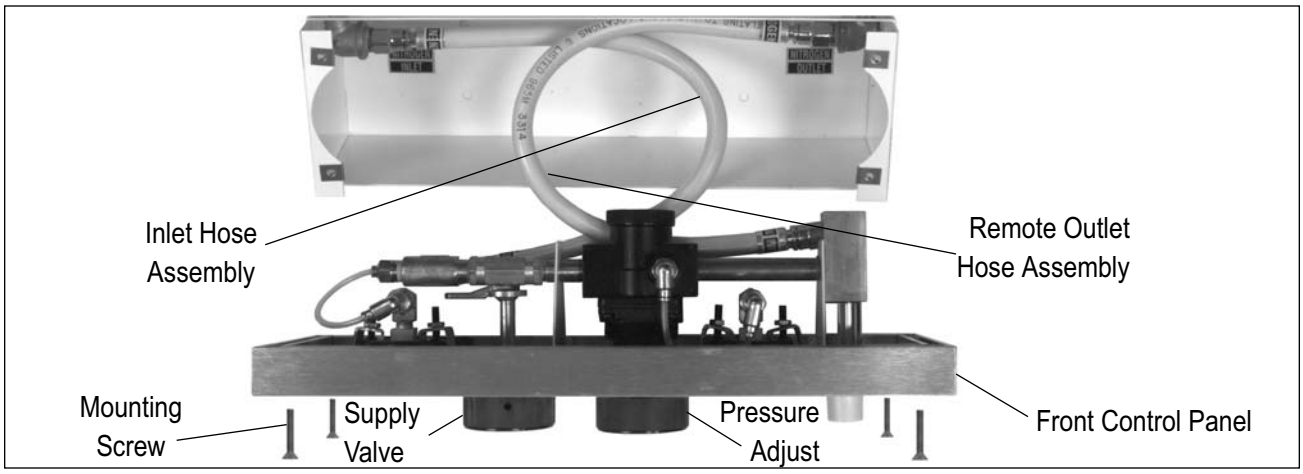


Figure 13

Repairing Hose Assembly(s) (Figure 14):

1. Push hose assembly into connector until it bottoms out. Then, while holding down collet, withdraw hose.
2. Replace hose assembly (41) or replace hose crimp ferrule (42) on hose barb adapter. Install new hose crimp ferrule after sizing end of hose. Only remove a minimum amount of hose.
3. Carefully crimp ferrule against hose using hand-crimping tool (46) or pneumatic bench crimping press. Inspect crimp to verify it is uniform and properly compresses hose against barb adapter to make a good seal. Leak test shall be performed before placing hose assembly into service.
4. Install hose assembly into connector collet until it bottoms out. Pull back on hose assembly to verify proper attachment.
5. Perform the Leak Test according to page 9 of these instructions.

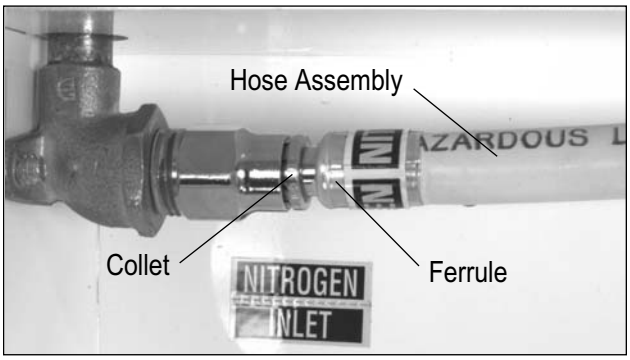


Figure 14

NOTE:
Refer to pages 18-21 for replacement part numbers noted in parentheses.

Replacing Nylon Tubing (Figure 15):

1. To disconnect, push tube into fitting until it bottoms on tube stop. Then, while holding down collet, withdraw tube.
2. Replace tubing (8).
3. Ensure tube end is cut square and is free of burrs. Push tube through collet into fitting. Continue pushing tube through O-ring until it bottoms on tube stop. Pull back on tube to verify proper attachment.
4. Perform Leak Test according to page 9 of these instructions.

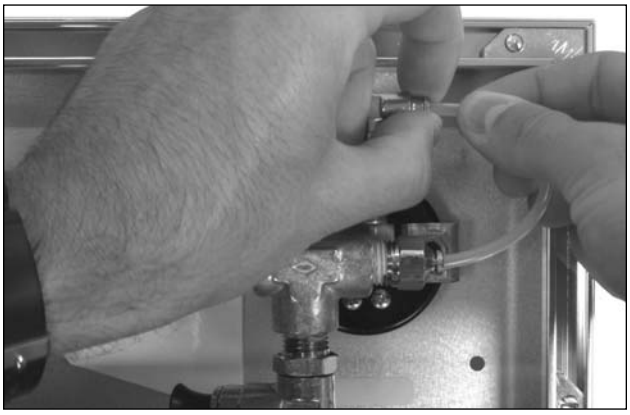


Figure 15

Threaded Connections:

Pipe Sealant Loctite® #567 (44) is recommended for use with threaded connections.

1. If not precoated, remove old sealant from both male and female threads.
2. Apply small amount of fresh sealant to male threads.
3. Tighten connection until proper alignment has been achieved.
4. Perform Leak Test according to page 9 of these instructions.

NOTE:
A precoated non-PTFE-based thread sealant is applied to circumference of all tapered push-in-type tube fittings.

Pressure Gauge Replacement (Figure 16):

1. Disconnect sensor tube (8) from female swivel elbow fitting (5) on back of pressure gauge(s) (19).
2. Remove nuts (19A) and mounting brackets (19B) from back side of gauge(s).
3. Remove pressure gauge(s) from front panel (25).
4. Remove female swivel elbow fitting and street elbow (6) from pressure gauge(s). Recognize orientation of parts before removing fittings.
5. Clean all fittings of old sealant. Apply pipe sealant to threads of replacement gauge and install street elbow using previous orientation.
6. Apply new sealant to threads of street elbow and install one female swivel elbow fitting.
7. Insert new pressure gauge(s) with attached fittings into front panel and orient dial face to read properly. Position two mounting brackets over threaded gauge studs and secure gauge(s) to panel with two mounting nuts.
8. Reconnect sensor tube to female swivel elbow fitting on back of gauge.
9. Perform Leak Test according to page 9 of these instructions.

NOTE:
Refer to pages 18-21 for replacement part numbers noted in parentheses.

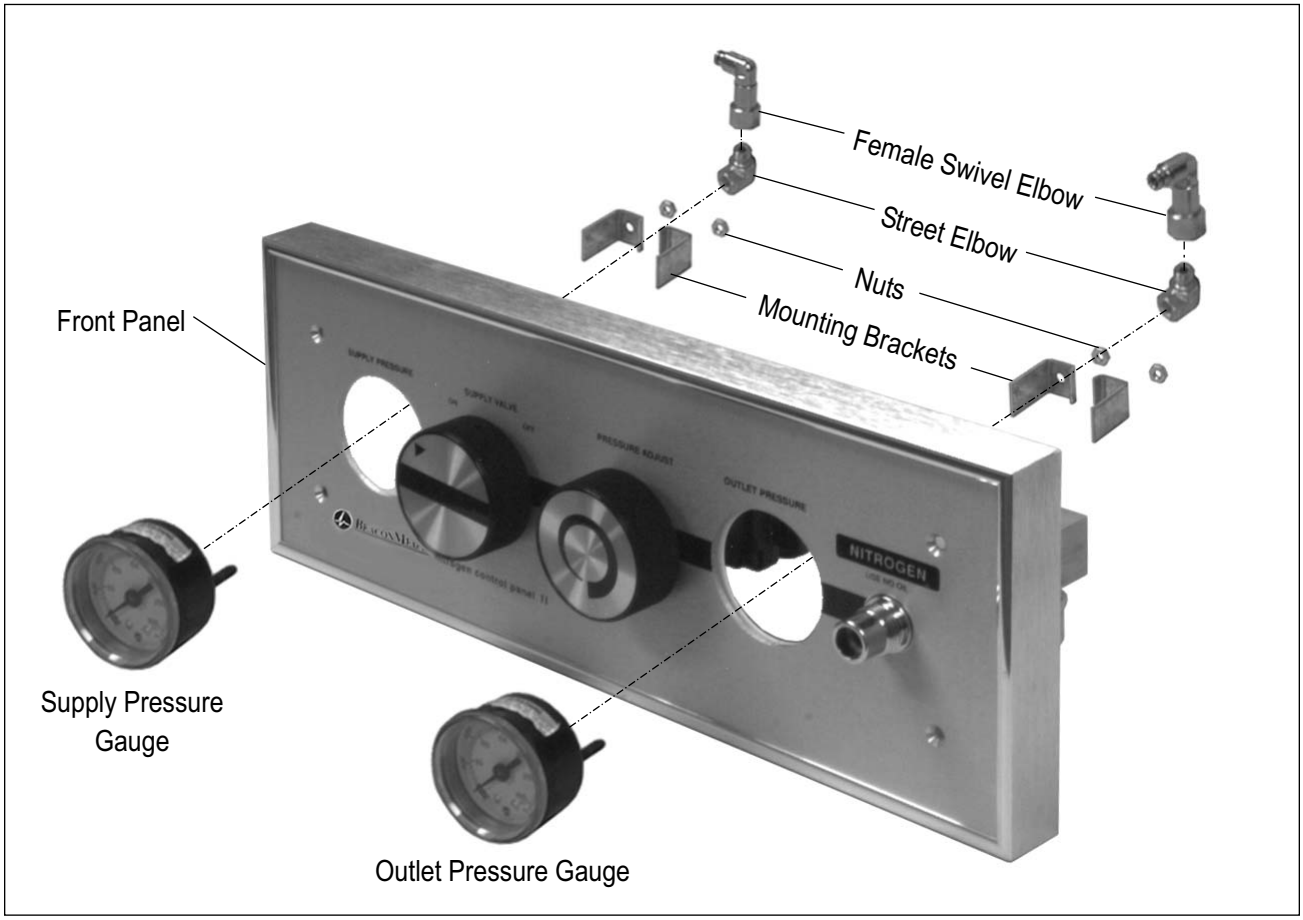


Figure 16

Pressure Regulator Valve Seat Assembly Replacement (Figure 17):

1. Remove cap from back of pressure regulator (9).
2. Remove valve spring and valve seat assembly from back of pressure regulator. Valve seat assembly will pull straight out of pressure regulator. Clean inside of pressure regulator with isopropyl alcohol.
3. Use replacement parts in regulator repair kit (45).
4. Install replacement valve seat assembly and verify all seals are in place.
5. Install replacement valve spring and cap. Tighten cap.
6. Perform Leak Test according to page 9 of these instructions.

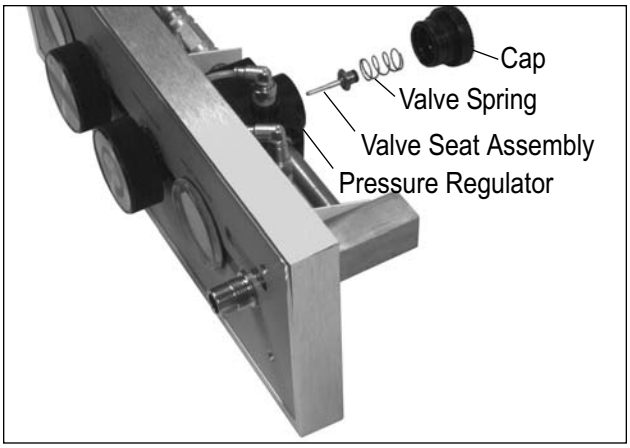


Figure 17

NOTE:
Refer to pages 18-21 for replacement part numbers noted in parentheses.

DISS Valve Outlet Repair (Figures 18 and 19):

1. Back off locking bolt (36) holding valve body (30) in place.
2. Remove valve body from valve adapter (37) by rotating valve body counterclockwise.
3. Remove valve stem spring assembly (35), seal (34), washer (33) and plunger (32) from valve body.
4. Inspect parts for wear or damage and replace as necessary. Reassemble components in valve body.
5. Thread valve body onto valve adapter until it bottoms out against adapter. Slightly back off valve body until slot aligns with locking bolt. Tighten locking bolt.
6. Perform Leak Test according to page 9 of these instructions.

Figure 18

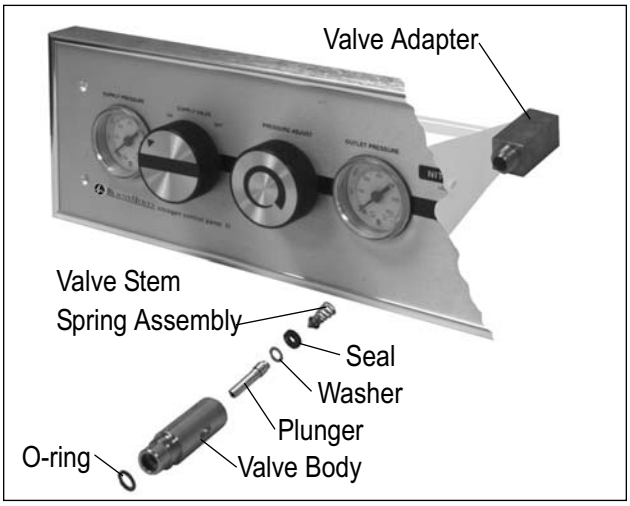


Figure 19

Schrader Valve Outlet Repair (Figure 20):

1. Using appropriate wrench, remove Schrader valve (29) from valve body (31) by turning it counterclockwise.
2. Replace entire Schrader valve if any portion is worn or damaged.
3. Reinstall replacement valve outlet using pipe sealant on threads.
4. Perform Leak Test according to page 9 of these instructions.

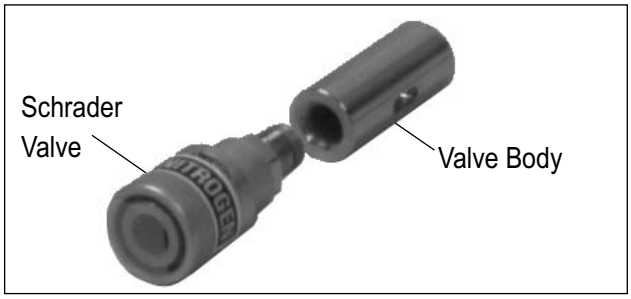


Figure 20

Removing Control Assembly (Figure 21):

1. Remove ON-OFF supply valve knob (20) and pressure adjust knob (21) using a 5/64" Allen driver to loosen two set screws (22). Remove wave washer (27) from stem of pressure regulator.
2. Disconnect sensor tube (8) from elbow fitting on back of pressure gauges (19).
3. Remove outlet pressure gauge following Pressure Gauge Replacement procedure.
4. Remove two mounting nuts (11) retaining piping bracket to front panel. Separate control assembly from front panel.

NOTE:
Refer to pages 18-21 for replacement part numbers noted in parentheses.

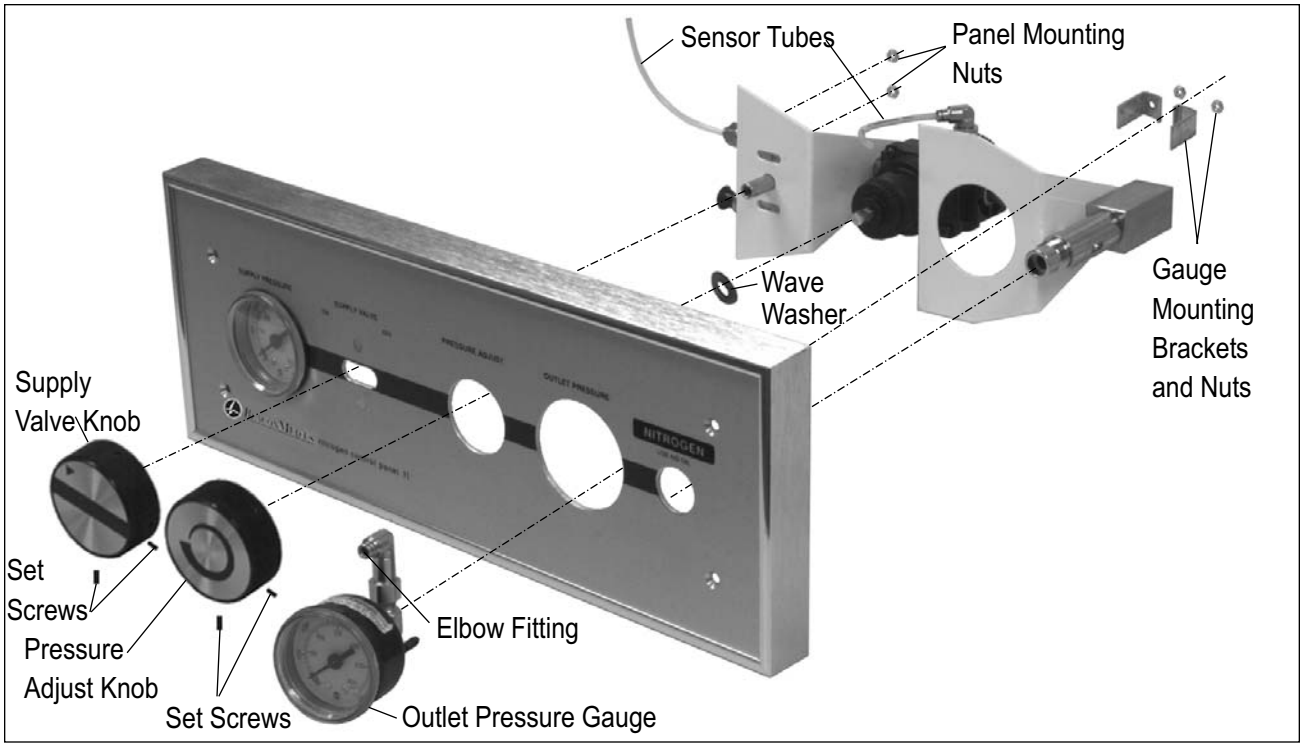


Figure 21

Regulator Diaphragm Replacement (Figure 22):

1. Remove regulator bonnet and adjusting spring from pressure regulator (9).
2. Remove diaphragm. Replace diaphragm if worn or damaged.
3. Use replacement parts in regulator repair kit (45).
4. Reinstall replacement diaphragm and adjusting spring.
5. Reinstall regulator bonnet.

NOTE:
Refer to pages 18-21 for replacement part numbers noted in parentheses.

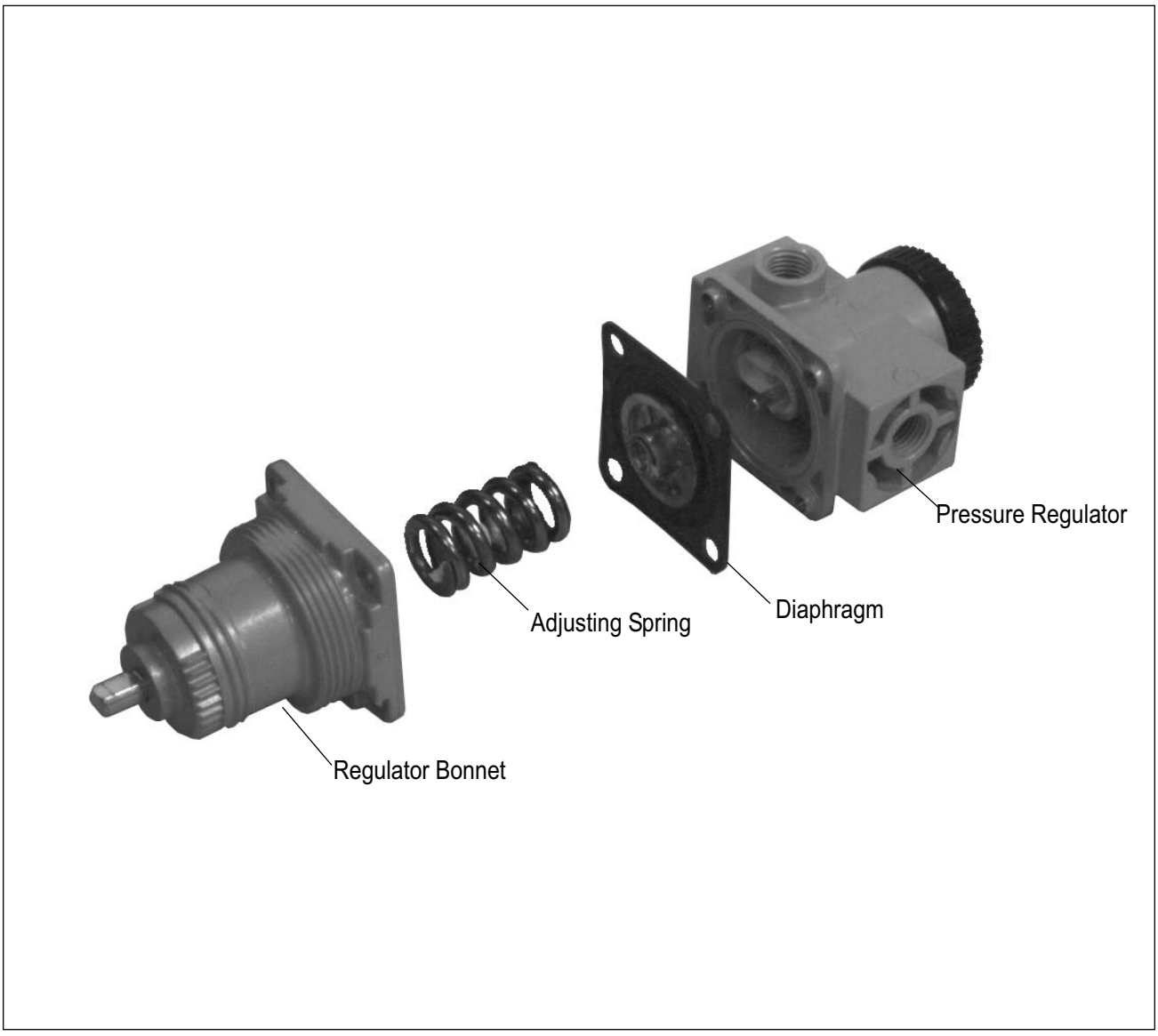


Figure 22

Shut-Off Valve Replacement (Figure 23):

1. Secure shut-off valve (13) in soft-jaw vise.
2. Remove tee (16) along with male swivel elbow and connector fitting. Clean threads of tee.
3. Remove shut-off valve from vise. Secure pressure regulator (9) in soft-jaw vise exposing shut-off valve.
4. Use pipe wrench to secure pipe nipple (10) and turn shut-off valve in counterclockwise rotation until it disengages. Clean threads of pipe nipple.
5. Remove valve extension (14) from valve by inserting long 3/32" Allen wrench into shaft of extension and backing off screw (15) until extension disengages.
6. Remove and discard control lever screw holding control lever in position. Place base of extension on top of control lever, positioning open portion on base with rise in control lever. Insert 3/32" Allen wrench into screw and insert into shaft of extension to secure extension to valve.
7. Apply pipe sealant to threads of pipe nipple. Reinstall replacement valve with attached extension onto pipe nipple. Refer to Figure 23 for correct orientation.
8. Apply pipe sealant to threads of tee. Reinstall tee into shut-off valve. Refer to Figure 23 for correct orientation.

NOTE:
Refer to pages 18-21 for replacement part numbers noted in parentheses.

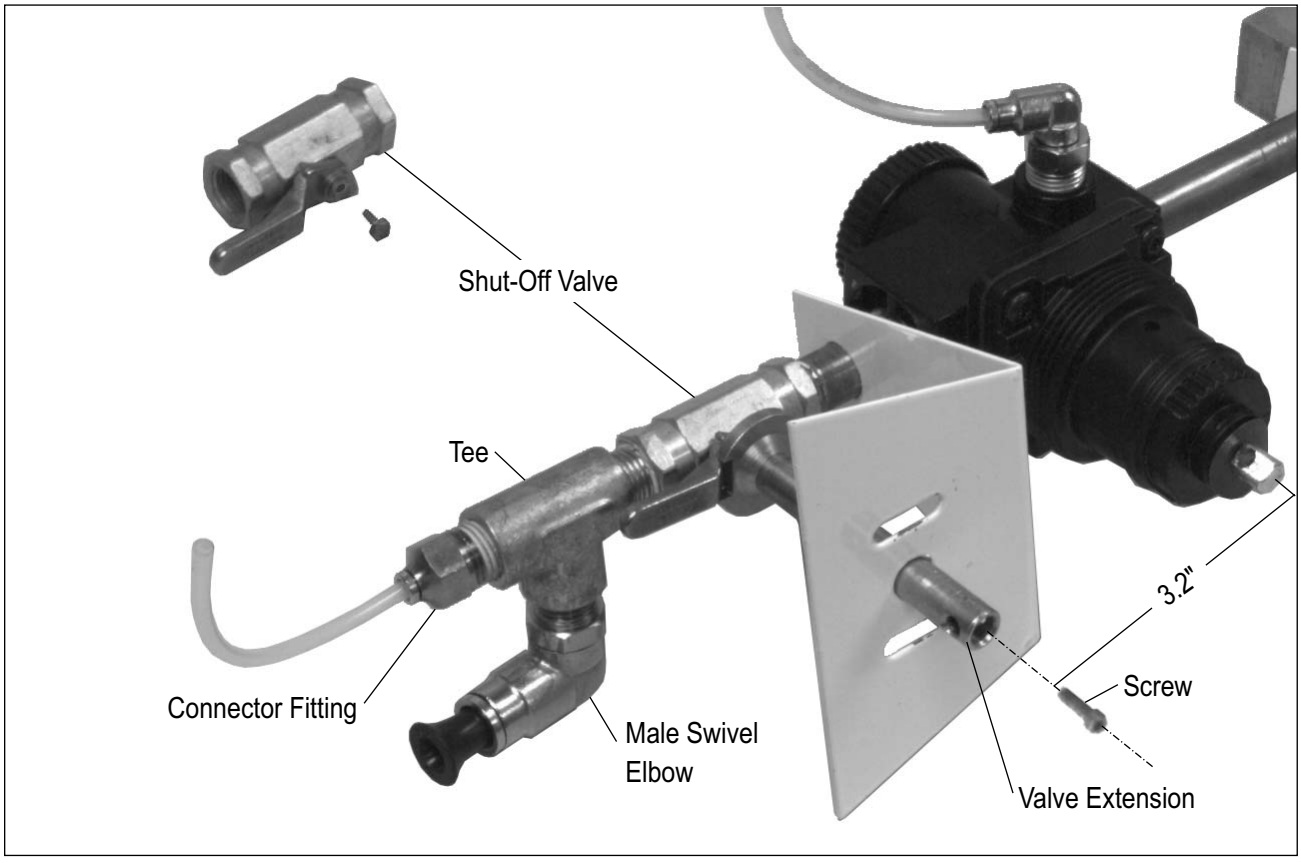


Figure 23

Pressure Regulator Replacement (Figure 24):

NOTE:
Refer to pages 18-21 for replacement part numbers noted in parentheses.

1. Place pressure regulator (9) in soft-jaw vise.
2. Use pipe wrench to remove two pipe nipples (10) and (40) from regulator. Do not remove components on opposite pipe nipple ends. Clean threads of pipe nipples.
3. Remove male swivel elbow (7) and 1/4" NPT pipe plug from regulator. Clean threads of pipe plug.
4. Position replacement regulator in soft-jaw vise.
5. Apply pipe sealant to threads of pipe nipples and pipe plug. Reinstall male swivel elbow and pipe plug.
6. Reinstall pipe nipples into regulator. Refer to Figure 24 for proper spacing and alignment of assembled parts.

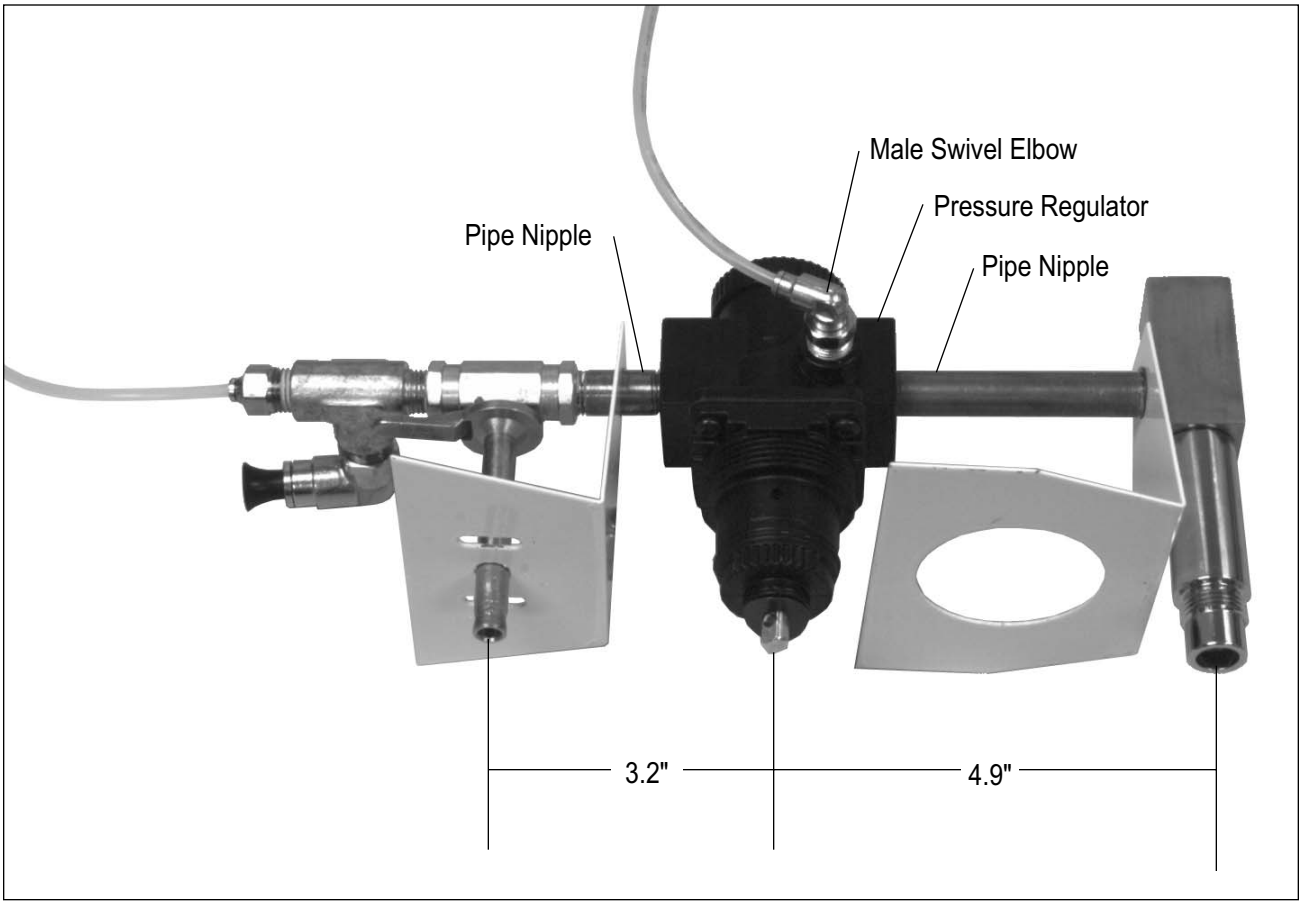


Figure 24

Reinstalling Control Panel (Figure 25):

NOTE:
Refer to pages 18-21 for replacement part numbers noted in parentheses.

1. Orient control assembly to front panel (25). Install two mounting nuts (11) retaining piping bracket (12) to front panel.
2. Replace outlet pressure gauge following Pressure Gauge Replacement procedure.
3. Reconnect sensor tube (8) to female swivel elbow fitting (5) on back of pressure gauges (19).
4. Reinstall ON-OFF supply valve knob (20) onto shut-off valve extension. Knob must have one of two set screws aligned with shaft hole. Verify knob's black band aligns with black band on front panel when knob is in ON position.
5. Place wave washer (27) onto pressure regulator stem. Reinstall pressure adjust knob (21) onto pressure regulator stem. Knob must have one of two screws aligned with stem hole.
6. Reconnect hose assemblies (41) to control assembly.
7. Open zone valve to control panel and perform Leak Test according to page 9 of these instructions.
8. Place control panel in mounting box and secure in place with four mounting screws.
9. Perform Functional Test according to page 8 of these instructions.
10. Turn ON-OFF supply valve to OFF position.

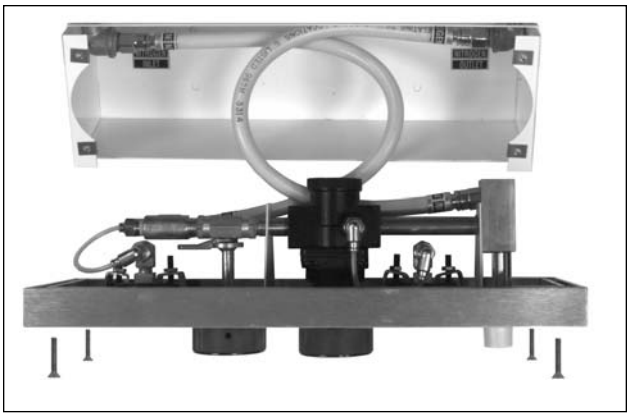


Figure 25

Nitrogen and Instrument Air Control Panel Replacement Parts (Figure 26)

Item	Part No.	Description
1.	6-230019-00	90° Ell and tube assembly*
2.	6-490072-00	Wall box
3.	6-826003-00	#8-32 Speednut (4 required)
4.	6-515666-00	Male connector*
5.	6-515669-00	Female swivel elbow
6.	6-515730-00	Street elbow
7.	6-515667-00	Male swivel elbow
8.	6-611642-00	5/32 OD tubing (specify length)
9.	6-122008-00	Pressure regulator
10.	6-515714-00	Pipe nipple, 1/4” NPT x 1.60 lg
11.	6-821061-00	#10-24 Nut (2 required)
12	6-425423-00	Piping bracket
13.	6-230194-01	Ball valve
14	6-525099-00	Ball valve extension
15.	6-812553-00	#4-40 Screw
16.	6-515746-00	Tee
17.	6-515668-00	Male swivel elbow*
18.	6-515665-00	Male connector
18A.	6-515667-00	Male swivel elbow (N2 Vertical Control Panel)
19.	6-130077-00	Pressure gauge, includes 19A and 19B
20.	6-838958-00	Shut-off valve knob, without inlay
20A.	6-435650-00	Inlay, shut-off valve knob
21.	6-838959-00	Regulator knob, without inlay
21A.	6-435651-00	Inlay, regulator knob
22.	Reference	Socket type set screws, #8-32 x .50 lg
23.	6-811060-00	#8-32 Screw (4 required)
24	6-345021-00	Frame member
25.	6-490076-00	Front panel (Nitrogen)
	6-490076-01	Front panel, Vertical (Nitrogen)
	6-490095-00	Front panel (Instrument Air)
26	6-345022-00	Frame member
27.	6-832580-00	Wave washer
28.	6-622501-PG	O-ring (Package of 10) (Nitrogen)
	6-622588-PG	O-ring (Package of 10) (Instrument Air)
29.	6-120278-00	Schrader valve (Nitrogen)
30.	6-525015-00	DISS valve body (Nitrogen CGA 1120)
	6-525206-00	DISS valve body (Instrument Air CGA 2080)
31.	6-525133-00	Schrader valve body
32	6-525061-00	Valve plunger
33	6-415024-00	Washer
34.	6-614003-PG	Seal (Package of 10)
35.	6-230078-PG	Valve stem spring assembly (Package of 10)
36.	6-811500-00	#10-32 Screw
37.	6-514505-00	Valve adapter
38.	6-490075-00	Piping bracket assembly
39.	6-835601-00	Retaining ring
40.	6-515719-00	Pipe nipple, 1/4 NPT x 3.70 LG
41.	6-132404-00	Hose assembly (Nitrogen)*
	6-132418-00	Hose assembly (Instrument Air)*
42	6-405000-00	Crimp ferrule
43.	6-814250-00	1/4-20 Screw (4 required)
44.	6-088198-00	Pipe sealant, Loctite® #567 (not shown)
45	6-290464-00	Regulator repair kit (not shown)
46	6-995508-00	Hand crimping tool (not shown)

* If remote outlet used, 2 required.

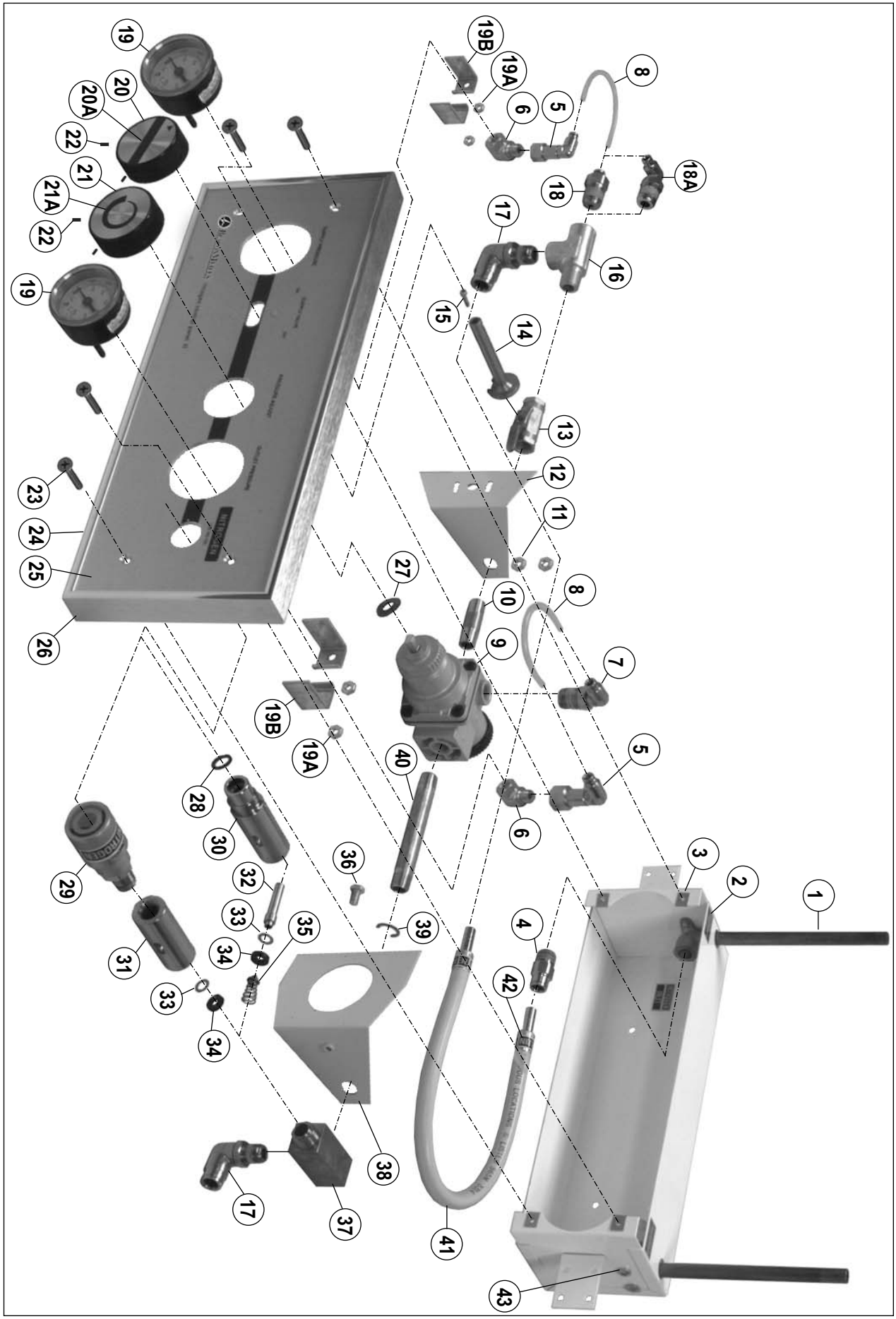

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
18A
19
19A
19B
20
20A
21
21A
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43

Figure 26

Air Control Panel Replacement Parts (Figure 27)

Item	Part No.	Description
1.	6-230019-00	90° Ell and tube assembly*
2.	6-490072-00	Wall box
3.	6-826003-00	#8-32 speednut (4 required)
4.	6-515666-00	Male connector*
5.	6-515669-00	Female swivel elbow
6.	6-515730-00	Street elbow
7.	6-515667-00	Male swivel elbow
8.	6-611642-00	5/32 OD tubing, specify length
9.	6-122008-00	Pressure regulator
10.	6-515714-00	Pipe nipple, 1/4 NPT x 1.60 lg
11.	6-821061-00	#10-24 Nut (2 required)
12.	6-425423-00	Piping bracket
13.	6-230194-01	Ball valve
14.	6-525099-00	Ball valve extension
15.	6-812553-00	#4-40 Screw
16.	6-515746-00	Tee
17.	6-515668-00	Male swivel elbow*
18.	6-515665-00	Male connector
19.	6-130077-00	Pressure gauge, includes 19A and 19B
20.	6-838958-00	Shut-off valve knob, without inlay
20A.	6-435650-00	Inlay, shut-off valve knob
21.	6-838959-00	Regulator knob, without inlay
21A.	6-435651-00	Inlay, regulator knob
22.	Reference	Socket type set screws, #8-32 x .50 lg
23.	6-811060-00	#8-32 Screw (4 required)
24.	6-345021-00	Frame member
25.	6-490090-00	Front panel (Air)
26.	6-345022-00	Frame member
27.	6-832580-00	Wave washer
28.	6-622537-PG	O-ring (Package of 10) (Air)
30.	6-525331-00	DISS valve body (Air CGA 1160)
32.	6-525061-00	Valve plunger
33.	6-415024-00	Washer
34.	6-614003-PG	Seal (Package of 10)
35.	6-230078-PG	Valve stem spring assembly (Package of 10)
36.	6-811500-00	#10-32 Screw
37.	6-514505-00	Valve adapter
38.	6-490075-00	Piping bracket assembly
39.	6-835601-00	Retaining ring
40.	6-515719-00	Pipe nipple, 1/4 NPT x 3.70 lg
41.	6-132412-00	Hose assembly (Air)*
42.	6-405000-00	Crimp ferrule
43.	6-814250-00	1/4-20 Screw (4 required)
44.	6-088198-00	Pipe sealant, Loctite® #567 (not shown)
45.	6-290464-00	Regulator repair kit (not shown)
46.	6-995508-00	Hand crimping tool (not shown)

* If remote outlet used, 2 required.

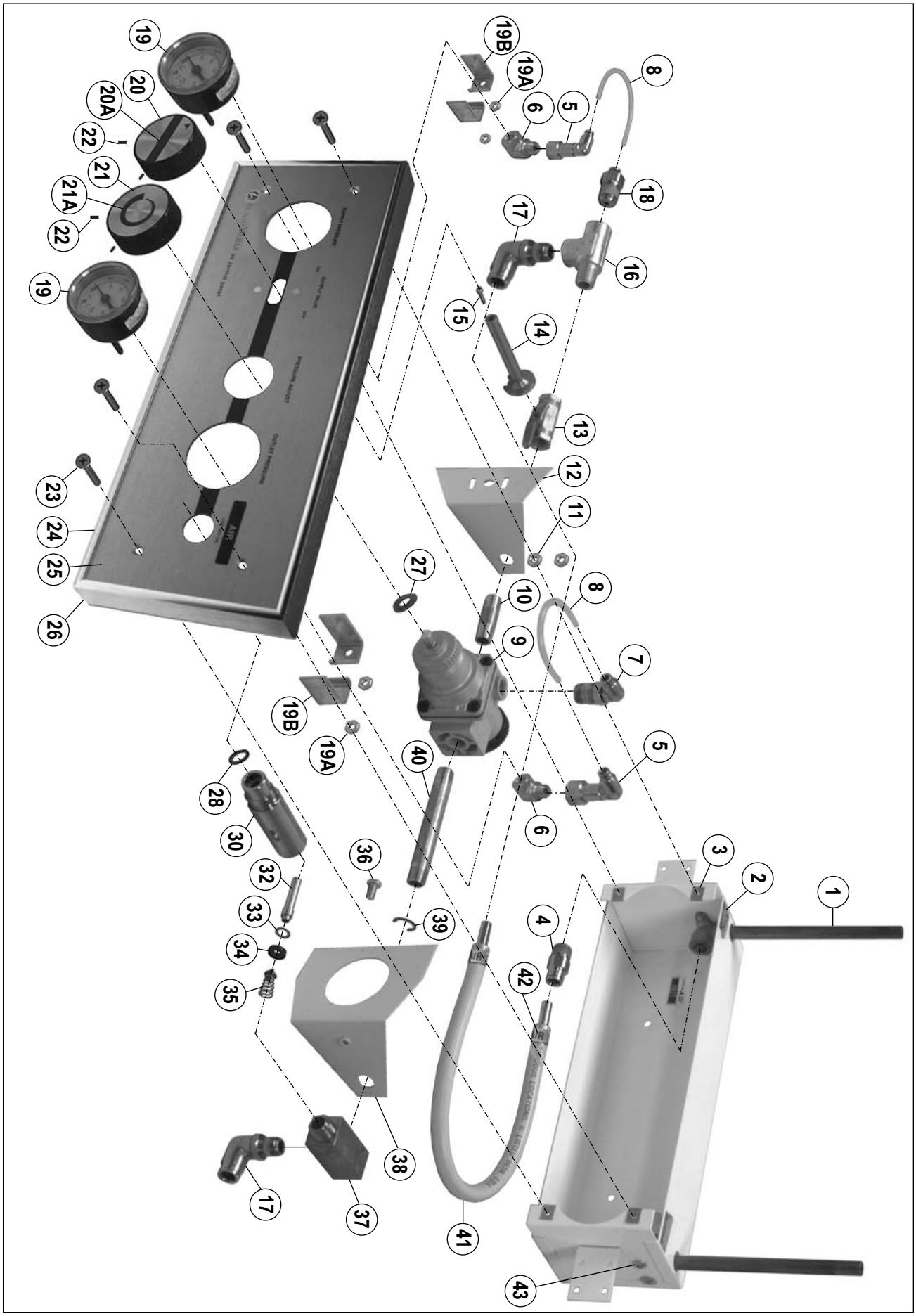

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
19A
19B
20
20A
21
21A
22
23
24
25
26
27
28
30
32
33
34
35
36
37
38
39
40
41
42
43

Figure 27

Troubleshooting Guide

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Operating pressure or flow is inadequate.	a. Supply system pressure is set too low.	a. Readjust delivery pressure at supply source until line pressure registers minimum 160 psig.
	b. System leaks.	b. Pressurize system and leak test. Reseal, tighten, or replace fittings as necessary.
	c. Regulator spring or diaphragm has failed.	c. Replace spring or diaphragm as required.
2. Pressure is difficult to adjust and maintain.	a. System leaks.	a. Pressurize system and leak test. Reseal, tighten, or replace fittings as necessary.
	b. Regulator diaphragm has failed.	b. Replace diaphragm.
	c. Regulator seat has failed.	c. Replace seat.
	d. Gauge has failed (leaks).	d. Replace gauge.
	e. Threads on regulator adjustment stem are binding.	e. Lubricate with oxygen compatible lubricant.
3. ON-OFF supply valve is difficult to operate or will not shut off.	a. ON-OFF supply valve is faulty.	a. Replace valve.
4. Outlet leaks.	a. Seals are faulty.	a. Replace valve seats.
5. Hose assembly leaks.	a. Hose assembly has ruptured.	a. Replace hose assembly.
	b. Crimped ferrule leaks.	b. Replace with new ferrule.

Notes

Warranty

BeaconMedæs warrants the Control Panels to be free of defects in materials or workmanship when installed and operated in accordance with instructions. The warranty period is 30 months from shipment date or 24 months from startup, whichever period terminates earlier.

This warranty covers all necessary parts and labor required for correction of the defect whether by any or all of repair, replacement, or credit, which election shall be made by Beacon at it's sole discretion.

This warranty requires the owner to ensure that the equipment is 1) started up or placed in service by an authorized representative of BeaconMedæs, 2) certified in accordance with NFPA 99, most recent edition, by a properly qualified certification agency, and 3) maintained in strict accordance with Operation and Maintenance Instructions provided with the product.

Warranty claims will be honored only after examination by BeaconMedæs and only when such examination shall disclose to Beacon's reasonable satisfaction that such equipment has not been damaged in shipment or installation, improperly installed, operated outside of any published operating limits (including but not limited to temperature, pressure, humidity, or ventilation), improperly or inadequately maintained, field modified in any way, improperly repaired, or in any other way improperly applied or used.

All claims against this warranty require prompt notification, within the warranty period, of any seeming defect. Failure to promptly notify Beacon of the seeming defect will invalidate all warranties.

This warranty excludes damage or defect caused by shipping, acts of God, fire, war, labor difficulties, action of government, or other cause beyond the reasonable control of BeaconMedæs.

This warranty is given in lieu of all other warranties, expressed or implied, including implied warranties of fitness for a particular purpose and merchantability. In no event shall BeaconMedæs be liable for damages in excess of the value of the defective product, nor shall BeaconMedæs be liable for any direct, special or consequential damages, loss of profit of any kind, or for loss of use of the products.

BeaconMedæs®

Corporate Headquarters:

BeaconMedæs
1800 Overview Drive
Rock Hill, SC 29730
Phone (803) 817-5600
Fax (803) 817- 5750

For technical support or to place an order call:
1 888 4 MEDGAS
(1-888-463-3427)
Fax (803) 817-5770
www.beaconmedaes.com