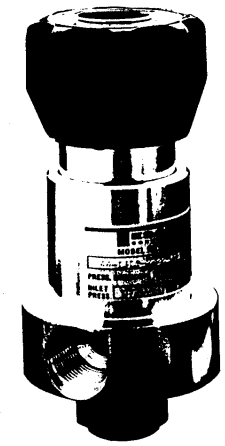


OPERATION AND SERVICE INSTRUCTIONS

TESCOM CORPORATION

REGULATOR MODEL 44-1312-9122-298

MATERIALS

Standard materials of construction are as follows:

Body, Bonnet & Back Cap.....Brass or SST
Main Valve,Trim & Sensor.....300 Series SST
Seat .....FEP
Seats & Back-Up Rings.....Viton
Teflon
Vent Valve Seat .....Graphite Filled Teflon
or KEL-F-81

GENERAL

The Tescom 44-1312-9122-298 Series Regulator is a self-contained, direct-acting, spring loaded pressure reducing regulator. This unit incorporates a piston sensor with an integral adjustable vent valve. The regulator utilizes a soft seated main valve to provide bubble tight service for dead end applications. The adjusting mechanism is designed with high-load needle bearings to produce excellent setting sensitivity while maintaining a low operating torque of approximately 35 in-lbs.

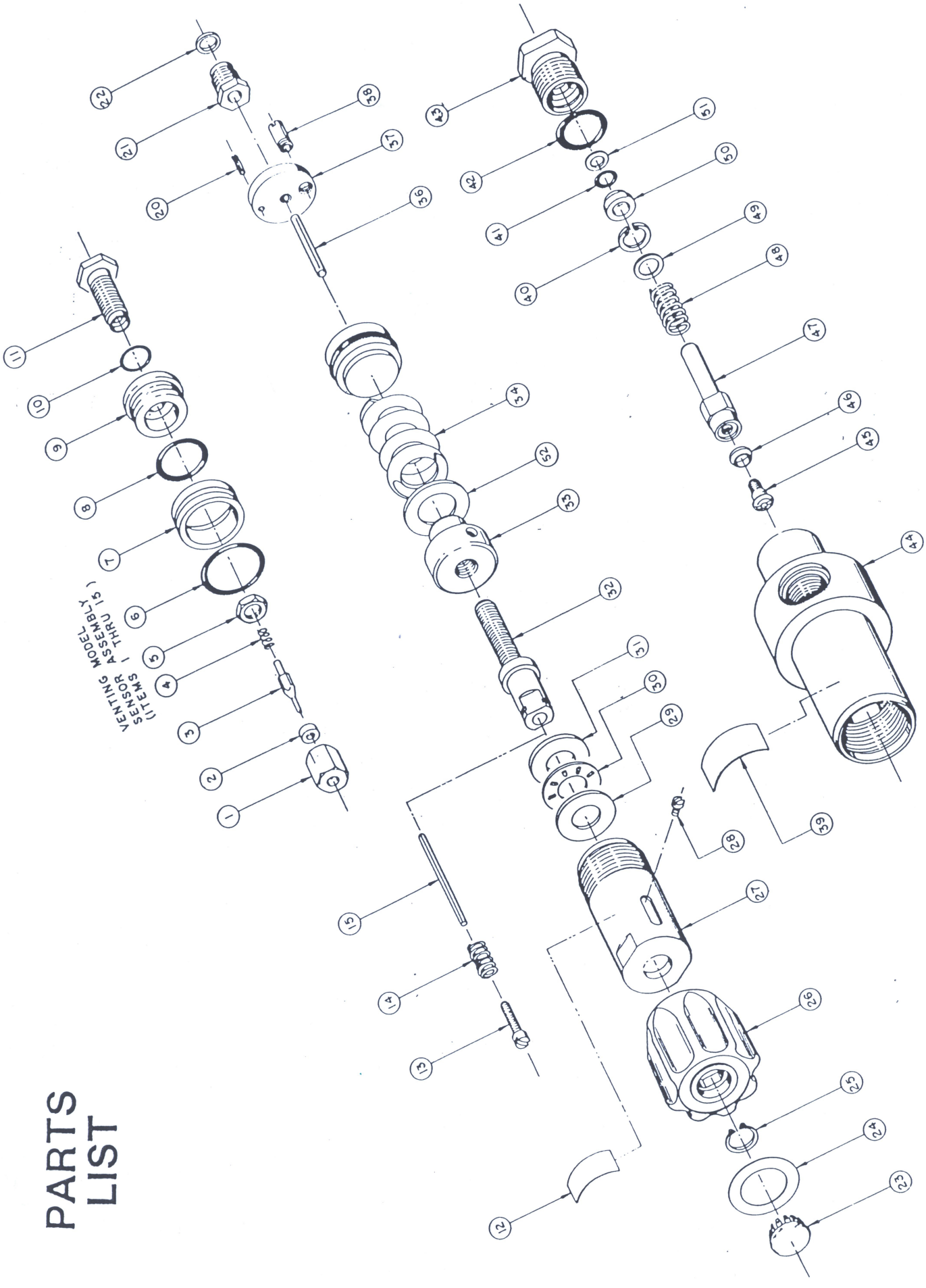
Teflon and Viton are registered of DePont
KEL.F-81 are registered trademarks of 3M

OPERATION

Control pressure settings are obtained in the Tescom 44-1312-9122-298 Series Regulator by adjusting the control knob. Pressure increases are made by a clockwise rotation while decrease settings are obtained by a counter-clockwise adjustment. All final adjustments should be made in the "INCREASE" direction in order to insure the most accurate set point. The venting action of the regulator can be accomplished by approximately 1/2 to 1 turn of the control knob in the "DECREASE" direction. Should venting not occur, vent valve adjustment may be necessary, see Trouble Shooting, steps (a) thru (c) on sheet 3.

These regulators will operate using any media which is compatible with the wetted parts. Tescom is not responsible for improper use of the regulator or use of media in the regulator not compatible with the materials of construction. Contact the factory if there are questions of compatibility. The units are not equipped with an internal filter and should dirt be a problem, a filter of adequate capacity and filtration capability (25/40 micron) should be provided on the supply side of the regulator.
Premature seat failures, causing a potential overpressurization of set outlet pressures, could occur without proper filtration. When using gaseous media, it is necessary that all moisture be removed since"icing"will occur at the high expansion ratios during the regulation process.

PARTS LIST



SAFETY REQUIREMENTS

1. The regulator must never be operated above the maximum pressure rating noted on the data plate, drawing and/or the specification sheet for the specific model
2. All upstream fittings must be rated for the maximum supply pressure.
3. All downstream fittings must be rated for the maximum supply pressure or the downstream pressure must be limited by a relief valve.
4. The regulator must be kept free of oil contamination if it is to be used for oxygen service.

MAINTENANCE

The regulator may be serviced for o-ring, seat and seal replacement without removel from the line. The following steps outline the basic disassembly and reassembly operations necessary to repair the majority of all malfunctions.

REPAIR KITS

SOFT SPARE KITS

P/N 389-2726

PART NUMBER	PART NAME	ITEM NO.	QTY
1036-3	SEAT, VIRGIN TEFLON	106	1
1712-3	SEAT, VALVE,TEFLON FEP	158	1
5200-020127	O-RING, VITON	159	1
5200-020157	O-RING, VITON	164	2
5200-020297	O-RING, VITON	109	1
5200-021237	O-RING, VITON	110	1
5200-029089	O-RING, VITON	160	1
5476-10120	BACK-UP RING, TEFLON	162	1

Panel Mounting Bracket Assembly P/N 1129

RECOMMENDED TOOLS

Screwdriver, 3/16" or 1/4" bit
Wrench, 1-5/8" open end
Socket, 3/4" deep well
Socket, 1/2" deep well
Socket, 3/4" std.
Pliers, Ext. retaining ring

SEAT REPLACEMENT

1. Remove valve cap (item 43)
2. Remove washer (item 49), valve spring (item 48) and main valve assemble (items 45, 46 & 47)
3. Inspect seat (item 46). If dirty, chipped or cracked - replace.
4. Place flats of valve stem (item 47) in vise and with a screwdriver, remove valve cap (item 45). Remove seat (item 46).
5. Replace seat (item 46) and reassemble main valve assembly (items 45, 46 & 47).
6. Inspect seals (items 41 & 42) on cap (item 43). Replace if worn or excessively dirty. O-ring (item 41) and back-up (item 51) are accessible by removing snap ring (item 40) and retainer (item 50).
7. Reassemble by reversing the appropriate disassembly steps.

SENSOR AND ORIFICE SEALS

8. Remove plug (item 23) with screwdriver.
9. Using external snap-ring pliers, remove retaining ring (item 25) and hand knob (item 26).
10. With 1-5/8" open end wrench remove bonnet (item 27) by turning counter-clockwise. (Note: Sprint item 34 and rod item 15 are free and may fall if care is not taken.)
11. Remove sensor assembly (items 1 thru 11)
12. Inspect seals (items 6 & 8) Replace if damaged or worn.
13. Remove seat retainer (item 1) and vent valve seat (item 2) by snapping valve (item 3) against seat. Remove nut (item 5). Inspect seat (item 2) and o-ring (item 10). Replace if worn or damaged.
14. With a 3/4" deep well socket remove orifice (item 21).
15. Inspect gasket (item 22). Replace if damaged.

BONNET, ADJUSTING SCREW, BEARING AND SPRING CAP

16. Remove Iimit screw (item 28) with screw-driver.
17. Slide the adjusting screw assembly out of bonnet (item 27).
18. Spring cap (item 33), bearing (item30) and thrust washers (item 29) may be removed for service or replacement as required.

The reassembly is the reverse of the disassembly with the following notes and precautions:

a. Clean all part to insure freedom from dirt Contact the factory with questions pertaining to the proper cleaning agent

PARTS LIST

MODEL NUMBER : 44-1312-9122-298

ITEM NO.	DESCRIPTION	NO. REQ'D	PARTS NO.	ITEM NO.	DESCRIPTION	NO. REQ'D	PARTS NO.
	SENSOR ASS'Y			27	BONNET	1	5945-1
1	RETAINER, SEAT	1	1522-2	28	SCREW, LIMIT	1	5401-21088
2	SEAT, VENT VALVE	1	1036-3	29	WASHER, THRUST	2	5426
3	VALVE, VENT	1	1023-2	30	BEARING, THRUST	1	5424
4	SPRING	1	1022	32	SCREW, ADJUSTING	1	5947-1
5	NUT	1	1149-1	33	ASS'Y, SPG. CAP	1	1130-3
6	O-RING	1	5200-020297	34	SPRING, LOAD	1	1049
7	BACK-UP, SENSOR	1	9024-1	36	CONNECTOR	1	9027-2
8	O-RING	1	5200-021237	37	PLATE	1	5445-1
9	SENSOR	1	9019-1	38	TUBE, VENTURI	1	5446-6
10	O-RING	1	5200-020157	39	PLATE, DATA	1	8101
11	BUTTON	1	1577-1	40	RING, RETAINING	1	1714
12	LABEL, VENT	1	5153	41	O-RING	1	5200-020127
13	SCREW	1	5401	42	O-RING	1	5200-029089
14	SPRING	1	2776	43	CAP, VALVE	1	1705-1
15	ROD, VENT VALVE	1	5948-2	44	BODY, REGULATOR	1	6797-
20	ROLL PIN	1	5452	45	CAP, VALVE	1	1713-8
21	ORIFICE	1	1711-2	46	SEAT, VALVE	1	1712-3
22	GASKET (O-RING)	1	5200-020157	47	VALVE	1	1710-2
23	PLUG, HOLE	1	5432	48	SPRING, VALVE	1	4096
24	LABEL, INC. DEC.	1	6320	50	PLATE, RETAINING	1	1708-2
25	RING, RETAINING	1	5427	51	RING, BACK-UP	1	5476-10120
26	HANDKNOB	1	5397-6				

and/or procedure.

b. Install vent valve seat (item 2 venting models only) with chamfered side toward valve (item 3).
c. Lubricate (with DuPont Krytox 240AC lubricant or equivalent) threaded portions of items 27,38,28,11,45,21,32, & 43; o-rings items 6,8,41 & 42; bearing (item 30) and washers (item 29).
d. Apply the following torque values:

Item 45, P/N 1713.....25-30 in.-lbs.
Item 38 .....20-30 in.-lbs.
Item 28 .....20-25 in.-lbs.
Item 1 .....60-75 in.-lbs.
Item 21 ..... 30 ft.-lbs.
Item 27 ..... 40-50 ft.-lbs.

Subsequent to reassembly, the regulator should be connected to a pressure source equal to its operational pressure and check for internal and external leakage with a leak detecting fluid and operating characteristics consistent with the specific application requirements.

TROUBLESHOOTING

Problem:

Continuous leakage through bonnet with outlet pressure on the regulator.

Possible Causes:

1. Vent valve needs adjustment, proceed as follows:
   a. Adjust outlet pressure of regulator to 50-75 psi.
   b. Remove plug (item 23) and using a screwdriver turn vent valve adjusting screw (item 13) counterclockwise until venting stops, then add approximately 1/8 turn.
   c. Adjust regulator in both directions checking to insure the proper venting action and the ability of the regulator to vent to zero psi.

Problem:

Venting continues subsequent to performing step 1.

Possible Causes:

1. Vent valve seat (item 2) and/or sensor seals (items 6, 8) require replacing — follow disassembly procedure steps 8 through 13.
2. Main valve seat (item 46) and/or seal (item 22) needs replacing - follow steps 1 through 5.

Problem:

Regulated pressure drops sharply when flow is increased - pressure regulation becomes erratic.

Possible Causes:

1. Sensor seals (items 6,8) need lubrication or replacement - follow steps 8 through 13.
2. Dirt and contamination are causing main valve (item 47) to "stick" -follow steps 1 through 7.

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