

# MAINTENANCE

The OMEGALINE® RF loads will require little in the way of maintenance. Components located inside the unit other than the resistor element and the filter screen are not subject to field maintenance. The resistor is field replaceable in those instances where there is no extensive damage to the resistor contacts or rupture of the teflon water jacket, due to improper operation of the load. In the event of mechanical damage to the unit, operational difficulty, or information concerning a desired unusual application of the load, contact the factory.

**NOTE: ANY LEAK FROM THE MAIN BODY OF THE LOAD IS AN INDICATION THAT THE UNIT SHOULD BE RETURNED TO THE FACTORY FOR REPAIRS.**

The following checks, tests and procedures may be used periodically, when necessary, or when a malfunction is suspected.

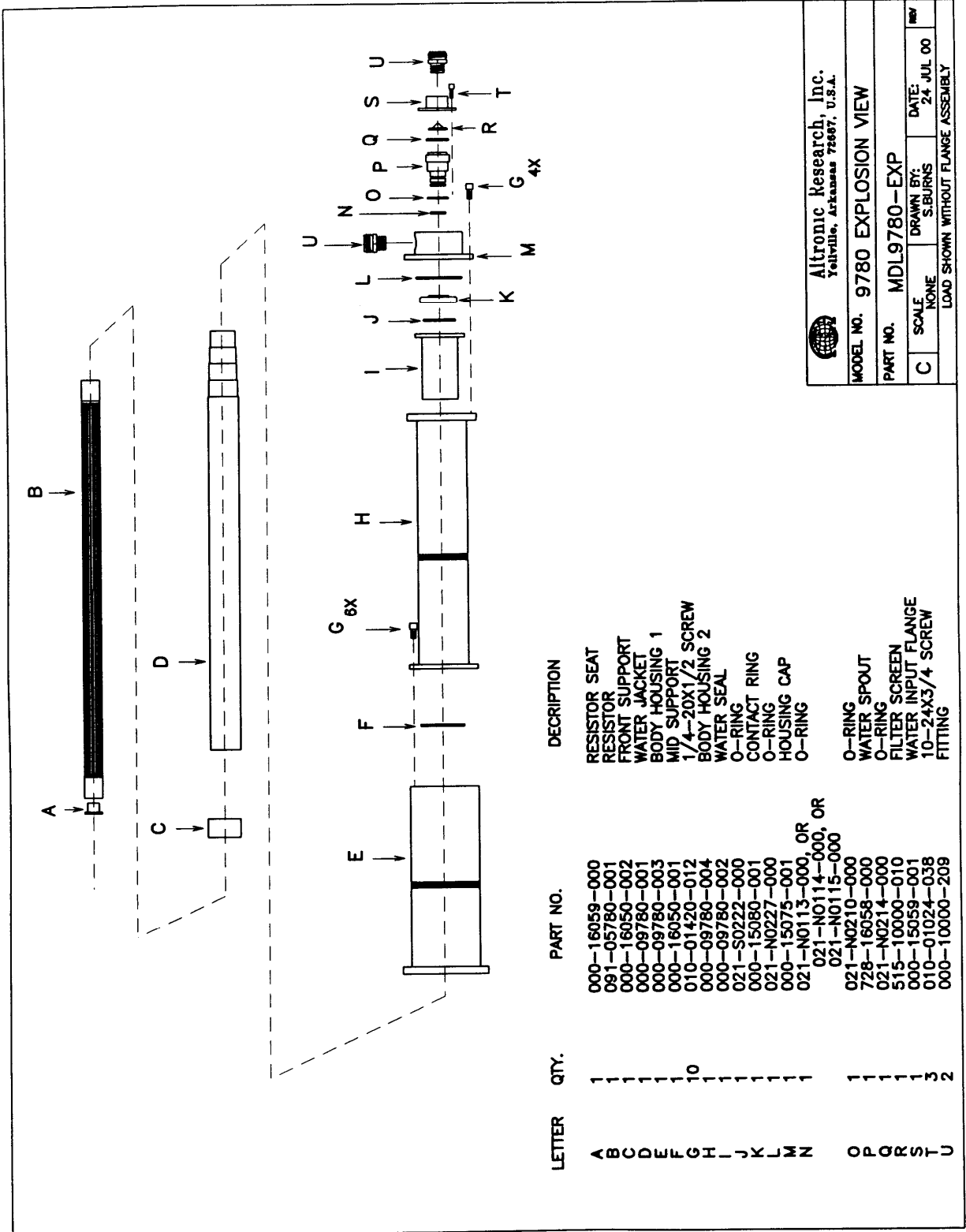
1. **DC Resistance** - The DC resistance of the load may be checked at the RF input connector and a value within 4% of the required resistance is acceptable.
2. **Filter Screen** - The flanged water connector located at the rear of the load is equipped with a cone-shaped brass screen to prevent the entrance of foreign particles into the water circuit of the load. (Back flushing may be used to clean out foreign materials trapped in the screen.) If it becomes necessary to remove the screen, remove three socket head screws to disengage the flanged water fitting to gain access to the screen.
3. **VSWR** - The voltage-standing-wave-ratio of the load is the same with "stand still" water as it is with flowing water. To test for VSWR, fill the load with water. When filling with water, many small bubbles will form inside. These must be flushed out with excess water before measuring VSWR. After filling, cork it, connect to a slotted line or directional coupler and measure the VSWR at SIGNAL GENERATOR LEVELS ONLY.
4. **Resistor Replacement** - (Refer to Fig. 14) To replace the resistor element, remove the three 10-24x3/4" cap screws (item T). Remove water input assembly (items R, S, and U). Inspect filter screen for damage, replace if eroded or torn. Remove four 1/4-20x1/2 socket screws (item G) that secures the housing cap (item M) to the body housing #2 (item H). Remove housing cap assembly (items K, L, M, N, O, P, Q and U). Inspect all O-rings for distortion or damage. Replace if pinched, cut, burned or no longer round in cross section. Inspect ring contact (item K) for signs of arcing or loss of silver

in the area of contact with the resistor contact band. Replace if damage is noted. If resistor (item B) is not broken, grasp by the end extending out of the #2 body section (item H) and pull it straight out of the load. (If resistor is broken, further disassembly of load is necessary.) Inspect the silver contact band on the RF input end of the resistor element for signs of arcing or loss of silver as an indication of the condition of the front resistor contact. Visually inspect the inside of the water jacket and front resistor contact for any signs of overheat or damage. Any sign of internal damage indicates further disassembly and repairs. If the resistor is broken, the load body will need to be separated at the joint between the #1 and #2 body sections, (items E and H). This should be done with caution as an internal leak associated with severe failure sometimes causes the air cavity surrounding the water jacket to become filled with coolant. Remove the ten 1/4-20 x 1/2" socket head screws (item G) that secures the #2 body section (item H) to the #1 body section (item E). Using a slight twisting motion, pull the two body sections apart. If the load is reasonably clean and corrosion-free and the water jacket is not damaged, this is as far as the load should need to be disassembled for resistor replacement.

**NOTE:** There are two separate O-ring grooves of different depths on the water spout (item P). This feature in conjunction with three separate sizes of O-rings (item N) in the O-ring kit allows you to selectively fit the water spout to the ID of the resistor.

- 5. Removal of RF Input** - (Refer to Fig. 15) To remove the RF input line adaptor flange, remove six 1/4-20x1/2 socket head screws (item B) that secures the line adaptor flange (item A) to the load body housing (item D, Fig. 14). The RF input assembly consisting of the center conductor, anchor insulator and front resistor contact (items C, D, E, F, G, and H) will normally remain in the load body. Grasp the center conductor (item D) by hand and attempt to pull the input assembly out of the load body using slight side to side motion while pulling. If strong resistance is encountered, it may be necessary to chill the load to allow the anchor insulator to shrink away from the load housing. This can be done by placing the load in a freezer, or packing the load in ice for 20 to 30 minutes. Once the anchor insulator has shrunk away from the load housing, the RF input assembly should be easily removed. At this point of disassembly, all components of the load can be inspected or replaced as needed. Reassembly should be done in the reverse order of sequence.

**For technical assistance, call 870-449-4093 or fax 870-449-6000.**



**Alltronic Research, Inc.**  
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MODEL NO. 9780 EXPLOSION VIEW

PART NO. MDL9780-EXP

SCALE NONE DRAWN BY: S.BURNS DATE: 24 JUL 00

LOAD SHOWN WITHOUT FLANGE ASSEMBLY

Fig. 14

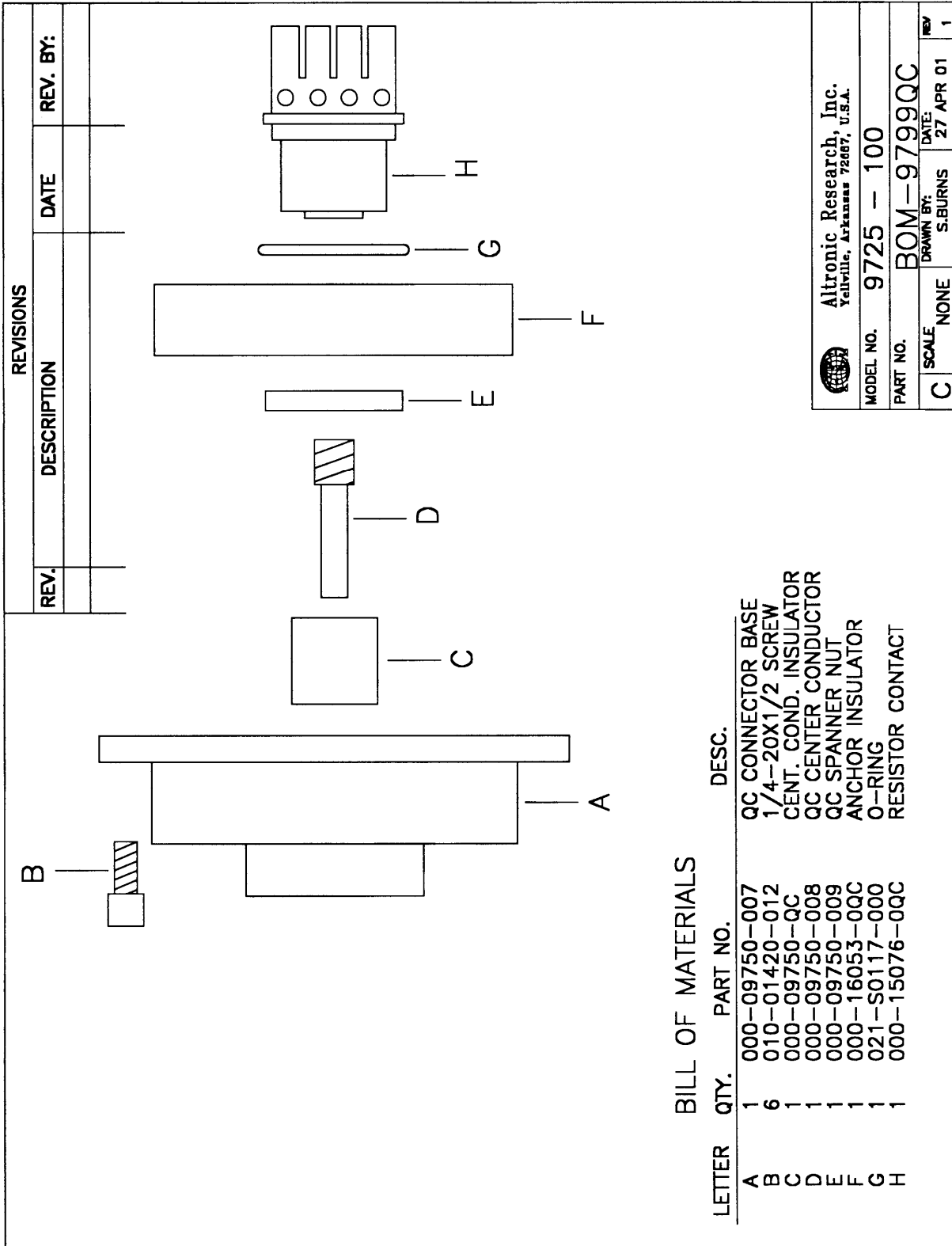


Fig. 15

# LIMITED WARRANTY

We take pride in manufacturing products of the highest quality and we warrant them to the original purchaser to be free from defects in material and workmanship for the period of one year from date of invoice. Additionally, products of our manufacture repaired by us are warranted against defects in material and workmanship for a period of 90 days from date of invoice, with the provisions described herein.

Should a product, or a portion of a product of our manufacture prove faulty, in material or workmanship, during the life of this warranty, we hereby obligate ourselves, at our own discretion, to repair or replace such portions of the product as required to remedy such defect. If, in our judgment, such repair or replacement fails to be a satisfactory solution, our limit of obligation shall be no more than full refund of the purchase price.

This warranty is limited to products of our own manufacture. Equipment and components originating from other manufacturers are warranted only to the limits of that manufacturer's warranty to us. Furthermore, we shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use, or misuse (by operation above rated capacities, repairs not made by us, or any misapplication) of the equipment. Before using, the user shall determine the suitability of the product for the intended use; and the user assumes all risk and liability whatsoever in connection therewith.

The foregoing is the only warranty of Altronic Research Incorporated and is in lieu of all other warranties expressed or implied.

Warranty returns shall first be authorized by the Customer Service Department and shall be shipped prepaid. **Warranty does not cover freight charges.**