

SECTION 5 MAINTENANCE

1. INTRODUCTION

With the simple construction and generally self-contained nature of the THRULINE equipment, there is only a moderate amount of maintenance required. One of the major precautions is in handling; use reasonable care and do not drop the THRULINE equipment or the Plug-In Elements.

The main factor in maintenance is care and cleanliness. The Element socket should be kept plugged as much as possible to prevent the intrusion of dust. When a Plug-In Element is used for this purpose (use highest power Element available), it should be positioned with the ARROW pointing upwards. This protects the meter and will not expose the Element crystal to dangerous potentials if the RF line section should be energized. If any of the contacts or line connectors become dirty, they should be cleaned with a little dry cleaning solvent, Inhibisol* or its equivalent, or trichlorethylene, on a cotton swab stick. Avoid excessive skin contact or inhalation of fumes when using. Observe special care if carbon tetrachloride is used. Clean all contact areas and especially the exposed faces of the Teflon* insulators.

It is particularly important to keep the mating surfaces of the socket and Plug-In Element clean. This applies to the bore of the socket and the circumference of the THRULINE Element body, but most important to the bottom rim of the Element body and the seat at the base of the socket in the line section. Also, check the ends of the insulated dc contacts on the THRULINE Element to see that they are clean and smooth. These parts should be carefully cleaned with a cotton swab stick and dry cleaning solvent, as above. There must be a good contact between the base of the Plug-In Element and its socket to assure stable operation of the THRULINE.

In cleaning the socket bore, the operator should be careful not to disturb the spring finger of the dc contact. It is important that the operating position of this part be properly maintained. If the spring finger of the dc contact requires adjustment, it may be done manually if carried out with care. The button must be positioned far enough out to maintain good contact with the Element, but not so as to interfere with easy entry of the Element body. The dc jack (with spring finger) may be removed for access by unscrewing the two #4-40 fillister head machine screws which fasten it to the side of the RF line section. Then retract its assembly, watching carefully not to lose the small teflon positioning bead that straddles the base of the phosphor bronze spring and nests in a counterbore on the side of the RF body. When replacing the assembly, be sure that the bead is again properly inserted.

If there is any evidence of the contamination inside the RF line section, the reachable portions should be likewise wiped and the interior carefully blown out. Under no circumstances attempt to remove the RF center conductor. It is tightly frozen in place and any attempt to remove it will ruin the assembly. Keep all connections tight, and keep the nut of the meter cord plug turned tight on the line section dc jack. This connection may often be serviced by simply loosening the nut of the dc plug, swinging the body several times through a fraction of a turn, and retightening the knurled nut securely.

There are no replacement parts furnished with this equipment. As previously mentioned, components of these matched units cannot be interchanged or individually replaced. The replaceable portions to the Line Section are standard parts of the coaxial line fastenings.

2. TROUBLE SHOOTING

As a brief guide to the operator in isolating occasional difficulties that may occur in the use of the THRULINE, the following summary is included. The remedies for same are referenced to the text in this section or are self-evident:

<u>DIFFICULTY</u>	<u>POSSIBLE CAUSES</u>
No Meter Indication	No radio frequency power. Arrow on Plug-In Element pointing wrong direction. No pick-up from dc contact finger in the RF line section — adjust per Paragraph 1. Open or short circuit in dc meter cable — replace defective cable (RG-58/U) Meter burned out or damaged.
Intermittent or inconsistent meter readings.	Faulty load. Faulty transmission line. Dirty dc contacts on Elements — Clean as in Paragraph 1. Sticky or defective meter.
High VSWR or high percent reflected power.	Bad load, or poor connectors — see Paragraph 1. Shorted or open transmission line. Foreign material in line section or in RF connector bodies — See Paragraph 1.