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To: Mr. Bhachu
U.S. Nuclear Regulatory Commission
Date: 2/25/02 No. pages 15
Fax 301 415 5369

From: Ron Siebert rsiebert@metone.com

------ Message ------

Dear Mr. Bhachu,

As per our phone conversation, I have made the appropriate revisions to our Radiation Safety Manual. Besides the attached copy I will e-mail you a copy.

The Met One Instruments Quality Control Manual that is in Appendix G of the application is current. Revision 3-4-98 as indicated on the first page and is signed by three officers of the company. When a change is made to any Met One Instruments documentation, including the documentation in the application, it is reviewed by the appropriate people and signed off with a new revision number and date.

I have added the revision number and date to the E-BAM Assembly Procedure with the source holder changes. I have included a fax copy and I will scan the procedure and e-mail you a copy.

I am working on the changes to the E-BAM Operation Manual that we discussed and will e-mail you a copy.

I am working on the other issues we discussed on the phone. I will make the appropriate changes to the Application and e-mail you a copy

Ron Siebert

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Met One Instruments, Inc.
Radiation Safety Program E-BAM

Dwg or Doc No	Rev
W62002	B

Originator	QA or Mgmt Rep Approval	Owner Approval

Change History

Date	Revision	Comments
2/11/02	A	Initial Release
2/25/02	B	Pg. 6 (L #3&#5) last lines added

CONTROLLED DOCUMENT
RELEASE TO: Manufacturing
DATE: 2-25-02

MET ONE INSTRUMENTS, INC. – RADIATION SAFETY PROGRAM

NUMBER 176 **CREATION DATE** 2/10/2002

SUBJECT **STATUS** **REVISION DATE** 2/25/02

RADIATION SAFETY PROGRAM

APPLICATION

PROCEDURES FOR RADIATION SAFETY

PROCEDURE

1. INTRODUCTION
   A. PURPOSE

IT IS THE POLICY OF MET ONE INSTRUMENTS, INC. TO PROVIDE THE NECESSARY TRAINING, FACILITIES, EQUIPMENT AND PERSONNEL TO MAINTAIN LEVELS OF RADIATION EXPOSURE TO ITS EMPLOYEES AND TO THE GENERAL PUBLIC AND THE ENVIRONMENT AS LOW AS REASONABLY ACHIEVALBE. (ALARA). MET ONE IS COMMITTED TO ENSURING THAT RADIOACTIVE MATERIALS ARE POSSESSED, USED, TRANSPORTED AND DISPOSED IN ACCORDANCE WITH THE CONDITIONS OF ITS LICENSE (S) ALONG WITH APPLICABLE REGULATIONS OF THE U.S. NUCLEAR REGULATORY COMMISSION, THE DEPARTMENT OF TRANSPORTATION, THE STATE OF OREGON AND ANY OTHER APPLICABLE FEDERAL OR STATE REGUALTIONS.

CAREFUL OBSERVANCE OF PROCEDURES AND GUIDELINES IS ESSENTIAL, AND CARELESSNESS OR LACK OF RESPECT FOR THE MATERIALS TO BE HANDLED WILL NOT BE TOLERATED. THE MET ONE RADIATION SAFETY OFFICER OR DESIGNEE WILL BE RESPONSIBLE FOR THE SAFE HANDLING AND USE OF RADIOACTIVE MATERIALS AT THIS FACILITY.

B. RADIATION SAFETY OFFICER DUTIES

THE RADIATION SAFETY OFFICER (RSO) IS RESPONSIBLE FOR THE FOLLOWING:

1. SERVE AS MET ONE'S LIAISON OFFICER WITH THE AGENCY (S) LICENSING MATTERS.
2. MAINTAIN CONTROL OF PROCUREMENT, USE, AND DISPOSALE OF LICENSED MATERIAL.
3. DEVELOP AND MAINTAIN UP-TO-DATE OPERATING AND EMERGENCY PROCEDURES.
4. ESTABLISH AND MAINTAIN A PERSONNEL MONITORING PROGRAM.
5. ESTABLISH AND CONDUCT THE TRAINING PROGRAM FOR NON-USERS OF RADIOACTIVE MATERIALS.
6. EXAMINE AND DETERMINE COMPETENCE OF PERSONNEL USING RADIOACTIVE MATERIALS.
7. ESTABLISH AND MAINTAIN RADIOACTIVE MATERIAL STORAGE FACILITIES.
8. MAINTAIN SURVEY INSTRUMENTS, FACILITIES, AND ASSOCIATED EQUIPMENT.
9. ESTABLISH AND MAINTAIN THE WIPE TESTING PROGRAM
10. ESTABLISH AND MAINTAIN THE INTERNAL INSPECTION SYSTEM.
11. CONDUCT INVENTORIES AND MAINTAIN UTILIZATION LOGS.
12. ESTABLISH AND CONDUCT A SURVEY INSTRUMENT CALIBRATION PROGRAM.

13. REVIEW AND ENSURE MAINTENANCE OF THOSE RECORDS KEPT BY OTHERS.

14. ASSUME CONTROL AND INSTITUTE CORRECTIVE ACTION IN EMERGENCY SITUATIONS.

15. INVESTIGATE THE CAUSE OF INCIDENTS, AND DETERMINE NECESSARY PREVENTATIVE ACTION.

16. ACT IN AN ADVISORY CAPACITY TO MET ON INSTRUMENTS MANAGEMENT AND PERSONNEL.

2. RADIATION SAFETY PROGRAM

A. INSTRUCTIONS OF E-BAM ASSEMBLY WORKERS.

ALL MET ONE PARTICULATE MONITOR ASSEMBLY WORKERS ARE:

1. PROVIDED A DISCUSSION ON BASICS OF RADIOACTIVITY THEORY, THE BIOLOGICAL EFFECTS OF RADIATION, AND THE INDUSTRY RECOMMENDED HANDLING PRACTICES USED FOR RADIOACTIVE MATERIALS. RADIATION COUNSELING HAS PROVIDED 16 HOURS OF INSTRUCTION TO ASSEMBLY WORKERS. (SEE APPENDIX A, OUTLINE OF RADIATION PROTECTION TRAINING). PERIODIC TRAINING SEMINARS WILL BE HELD AS NEEDED.

2. INFORMED OF THE RELEVANT PORTIONS OF OREGON RULES FOR THE CONTROL OF RADIATION, 333-111 AND 333-120 , AND NRC REGULATIONS IN 10 CFR 19 AND 20, AND THE MET ONE INSTRUMENTS RADIATION SAFETY PROGRAM. COPIES OF THESE REGULATIONS AND THE RADIATION SAFETY PROGRAM WILL BE MAINTAINED BY THE RSO FOR REVIEW BY INTERESTED WORKERS.

3. EACH WOKER IS PROVIDED A COPY OF OREGON STATE HEALTHER DIVISION RADIATION CONTROL DOCUMENT, "PRENATAL RADIATION EXPOSURE" OR NUCLEAR REGULATORY COMMISSION GUIDE 8.13. EACH WORKER SIGNS AND ACKNOWLEDGEMENT INDICATING HAVING RECEIVED AND READ A COPY OF THIS DOCUMENT.

B. CONTROL OF RADIATION EXPOSURE

1. EXTERNAL AND INTERNAL EXPOSURE TO IONIZING RADIATION SHALL BE KEPT AS LOW AS REASONABLY ACHIEVABLE (ALARA).

2. OCCUPATIONAL EXTERNAL AND INTERNAL EXPOSURE FROM THESE SEALED RADIOACTIVE SOURCES SHALL BE CONTROLLED SO THAT NO INDIVIDUAL CAN RECEIVE A RADIATION DOSE IN EXCESS OF 500 MR PER YEAR.

3. THE EXPOSURE TO MINORS AND GENERAL MEMBERS OF THE PUBLIC SHALL NOT EXCEED 100 MR per year.

MAXIMUM PERMISSIBLE DOSE TO PREGNANT WOMEN: THE RADIATION SAFETY OFFICER INSTRUCTS ALL PREGNANT WOMEN TO FOLLOW THE "OSHD PRENATAL EXPOSURE GUIDE."

C. EXTERNAL DOSE ASSESSMENT

1. ALL E-BAM ASSEMBLY WORKERS WHO HANDLE RADIOACTIVE SOURCES WILL BE REQUIRED TO WEAR A RING DOSIMETER.

2. DOSIMETERS WILL BE SUPPLIED BY LANDAUER AND WILL HAVE A MONTHLY EXCHANGE FREQUENCY. THIS MAY BE CHANGED TO QUARTERLY IF LOW EXPOSURES INDICATE THAT WOULD BE ACCEPTABLE. RECORDS OF PERSONNEL EXPOSURE WILL BE MAINTAINED BY THE RADIATION SAFETY OFFICER (EXHIBIT #1).

D. RADIATION SURVEYS OF THE E-BAM ASSEMBLY AREA

1. THE BETA SOURCE ASSEMBLY AREA, AND ANY AREA WHERE THE RADIOACTIVE SOURCES ARE HANDLED, WILL BE SURVEYED AFTER EACH PERIOD OF USE IN ASEMBLING THE DETECTORS (EXHIBIT #2). THESE SURVEYS WILL CONSIST OF RADIATION DOSE RATE MEASUREMENTS AT SPECIFIED LOCATIONS ACCOMPANIED BY WIPE TESTING FOR REMOVABLE CONTAMINATION (EXHIBIT #2).

2. WIPE TEST OF THE PRODUCT WILL BE DONE AS PART OF THE REGULAR ASSEMBLY PROCESS. WIPE TEST WILL CONSIST OF RUBBING a 2-INCH DIAMETER PAPER TOWEL DISC OVER AN AREA OF APPROXIMATELY 100 SQUARE CENTIMETERS. RESULTS OF THE WIPE TESTS WILL BE READ OUT ON AN INTERNATIONAL MEDCOME MODEL INSPECTOR RADALERT. ANY RESULTS GREATER THAN 20 COUNTS ABOVE BACKGROUND 200 dpm/100 SQUARE CENTIMETERS) WILL BE INVESTIGATED, DECONTAMINATED, IF NECESSARY, AND RE-SURVEYED. (EXHIBIT #3)

3. A PERIODIC SURVEY USING AN INTERNATIONAL MEDCOME MODEL INSPECTOR RADALERT INSTRUMENT WITH A THIN WINDOW G-M DETECTOR WILL BE MADE OF THE WORK SURFACES WEEKLY AND THE RESULTS RECORDED. (EXHIBIT #2)

E. PROCUREMENT, RECEIPT AND MONITORING OF RADIOACTIVE MATERIALS

1. THE RADIATION SAFETY OFFICER MUST INITIATE A REQUEST TO PURCHASE THE C-14 SOURCES FROM THE AUTHORIZED VENDOR.

2. INCOMING SHIPMENTS OF RADIOACTIVE MATERIALS ARE DELIVERED TO THE RADIATION SAFETY OFFICER. THE SHIPMENT IS OPENED BY THE RADIATION SAFETY OFFICER OR DESIGNEE WHO INITIATES THE RECEIVING PROCEDURE. THE PACKAGES WILL BE RECEIVED, SURVEYED FOR RADIATION DOSE RATES AND WIPE TESTED FOR EXTERNAL CONTAMINATION.

3. CHECK IN PROCEDURES INCLUDE RADIATION DOSE RATE MEASUREMENTS AT THE SURFACE OF THE PACKAGE. IF DOSE RATES ARE GREATER THAN 1m/R/HOUR AT THE SURFACE, THE PACKAGE WILL BE ISOLATED AND THE RSO CONTACTED IMMEDIATELY. THE OUTSIDE SURFACE OF THE PACKAGE WILL BE WIPE TESTED TO CHECK FOR REMOVABLE CONTAMINATION. IF REMOVABLE CONTAMINATION IS FOUND IN EXCESS OF THE LIMITS SET FORTH IN 20.1906 (2,200 dpm/100 SQUARE CENTIMETERS), THEN THE PACKAGE WILL BE IMMEDIATELY ISOLATED AND THE RSO NOTIFIED. RECORDS OF ALL MEASUREMENTS MADE DURING PACKAGE CHECK IN PROCEDURES WILL BE MAINTAINED BY THE RADIATION SAFETY OFFICER (EXHIBIT #4).

4. RADIOACTIVE MATERIALS SHIPMENTS WILL BE RECEIVED ONLY DURING NORMAL WORKING HOURS. THESE HOURS ARE 7:00 A.M. TO 5:00 P.M., NO WEEKENDS (EXHIBIT #5).

F. PROCEDURE FOR OPENING RADIOACTIVE MATERIAL SHIPMENTS

1. WEARING PROTECTIVE GLOVES (LATEX) OPEN THE OUTER PACKAGE. REMOVE THE PACKING SLIP AND INSPECT IT TO VERIFY THAT THE SHIPMENT IS IN AGREEMENT WITH WHAT WAS ORDERED. MONITOR THE INNER CONTAINER WITH A GEIGER MUELLER SURVEY INSTRUMENT. CHECK THE INNER PACKING MATERIAL FOR CONTAMINATION.

2. NOTIFY THE RADIATION SAFETY OFFICER IF:

A. CONTAMINATION IS DETECTED
B. READINGS IN EXCESS OF EXPECTED VALUES ARE OBTAINED WITH THE SURVEY METER.
C. THERE IS A DISCREPANCY BETWEEN THE MATERIAL RECEIVED AND THAT ORDERED.
D. THE SOURCE FAILS INCOMING INSPECTION PER NEW AND RETURNED SOURCE PROCEDURE. (EXHIBIT #6)

3. PLACE INSPECTED RADIOACTIVE SOURCES IN THE LOCKED STORAGE FILE. AND LOG IN ON APPROPRIATE INVENTORY RECORDS.

G. STORAGE OF RADIOACTIVE MATERIAL

RADIOACTIVE SOURCES WILL BE STORED IN A LABELED, LOCKED, CABINET.

H. SHIPMENT OF RADIOACTIVE MATERIAL

ALL SHIPMENTS OF RADIOACTIVE SOURCES WILL BE PACKAGED IN ACCORDANCE WITH ALL APPLICABLE NRC AND DOT REGULATIONS. THE RADIATION SAFETY OFFICER WILL MAINTAIN A RECORD OF ALL SHIPMENTS OF CONTROLLED RADIOACTIVE MATERIALS FROM THE FACILITY.

I. CALIBRATION OF RADIOATION SURVEY INSTRUMENTS

ALL RADIATION SURVEY INSTRUMENTS WILL BE CALIBRATED BY A SPECIFICALLY NRC OR AGREEMENT STATE LICENSED FACILITY ON AN ANNUAL BASIS. IF INSTRUMENTS ARE REPAIRED, THEY WILL. BE RE-CALIBRATED AFTER SUCH WORK IS COMPLETED.

A CALIBRATION RECORD WITH APPLICABLE INFORMATION IS ATTACHED TO EACH CALIBRATED INSTRUMENT.

J. RADIOACTIVE WASTE DISPOSAL

A. INTRODUCTION
THIS PROCEDURE DESCRIBES WHAT TO DO WHEN THERE IS THE APPROPRIATE NUMBER OF UNUSABLE SOURCES TO BE DISPOSED OF BY LAND BURIAL.

B. SOURCE INVENTORY

1. THERE ARE TWO TYPES OF SOURCES. NEW SOURCES THAT MAY HAVE BEEN REJECTED BY QA AND RETURNED SOURCES THAT HAVE BEEN CHECKED IN THE RETURNED SOURCE TEST PROCEDURE.

2. NEW SOURCES THAT HAVE BEEN REJECTED DURING QA TESTS "MAY" BE RETURNED DEPENDING UPON THE SUPPLIER. IF THE SOURCES ARE RETURNED TO THE MANUFACTURER, THEY MUST BE REMOVED FROM THE INVENTORY AND SHOULD NOT BE DISPOSED OF BY BURIAL.

3. IT IS IMPERATIVE THAT AN ACCURATE RECORD OF THE TOTAL NUMBER OF NON-CONFORMING SOURCES BE KEPT DURING THE RETURNED SOURCE TEST PROCEDURE (EXHIBIT #6).

4. WHEN THE TWO NON-CONFORMING SOURCE CONTAINERS (ONE HIGH AND ONE LOW) REACH A TOTAL OF 50 SOURCES, NOTIFY THE RADIATION SAFETY OFFICER THAT THERE ARE SUFFICIENT SOURCES TO WARRANT WASTE BURIAL.

5. THE RADIATION SAFETY OFFICER WILL CONTACT A WASTE BROKER AND INFORM THAT PERSON THAT THE SOURCES ARE READY TO BE SHIPPED TO THE HANFORD RADIOACTIVE WASTE BURIAL SITE. (NOTE: IT WILL BE NECESSARY TO OBTAIN A BURIAL LICENSE FROM THE STATE OF WASHINGTON PRIOR TO SHIPPING THE RADIOACTIVE MATERIAL).

K. EMERGENCIES INVOLVING RADIOACTIVE MATERIAL

IN THE EVENT OF AN ACCIDENT INVOLVING RADIOACTIVE SOURCES, THE FOLLOWING PROCEDURES SHOULD BE USED:

1. THE AREA IS SECURED IMMEDIATELY.

2. USING THE SURVEY METER, SURVEY PERSONS INVOLVED IN THE ACCIDENT. IF CLOTHING IS CONTAMINATED, REMOVE AND PLACE IN A PLASTIC BAG.

3. IF SKIN IS CONTAMINATED, BEGIN DECONTAMINATION PROCEDURES, AND CONTINUE UNITL LEVELS ARE AS CLOSE TO BACKGROUND AS POSSIBLE.

4. DECONTAMINATE THE WORK AREA. CONTINUE WITH DECONTAMINATION, AND RESURVEY PROCEDURES UNTIL REMOVABLE CONTAMINATION AND DOSE RATES ARE WITHIN PERMISSIBLE LIMITS.

5. NOTIFY RADIATION SAFETY OFFICER

RESPONSIBILITY FOR ANY DECONTAMINATION PROCEDURES RESTS WITH THE RADIATION SAFETY OFFICER. THE RADIATION SAFETY OFFICER WILL PERFORM A THOROUGH SURVEY OF THE AFFECTED AREAS TO DETERMINE IF ADDITIONAL ACTION IS NECESSARY. THE RSO WILL ESTABLISH AND MAINTAIN A LOG OF RADIATION ACCIDENT REPORTS AND CORRECTIVE ACTIONS TAKEN. OUR CONSULTANTS WILL BE NOTIFIED OF ANY ACCIDENTS.

L. GENERAL ASSEMBLY AREA POLICY

1. THERE WILL BE NO EATING, DRINKING, SMOKING, STORAGE OF FOOD OR APPLICATION OF COSMETICS IN THE BETA SOURCE ASSEMBLY AREA OR OTHER AREAS WHERE RADIOACTIVE SOURCES ARE STORED OR USED.

2. PERSONNEL WILL WEAR PROTECTIVE GLOVES AND USE TWEEZERS WHEN HANDLING RADIOACTIVE SOURCES DIRECTLY.

3. DOSIMETERS (TLD RINGS), AS ASSIGNED BY THE RADIATION SAFETY OFFICER, MUST BE WORN WHEN IN THE AREA WHERE RADIOACTIVE SOURCES ARE STORED OR USED. A TLD MUST ONLY BE WORN BY THE PERSON IT IS ASSIGNED TO.

4. ALL EQUIPMENT AND INSTRUMENTATION CONTAINING RADIOACTIVE MATERIAL MUST BE PROPERLY LABELED.

5. ALL RADIOACTIVE SOURCES NOT IN USE WILL BE STORED IN A SAFE AND APPROVED MANNER IN ACCORDANCE WITH CFR 1021.6.

6. ALL AREAS WHERE RADIOACTIVE MATERIALS ARE STORED AND USED MUST BE PROPERLY POSTED.

7. WORKERS WILL HAVE A FUNCTIONING SURVEY METER AVAILABLE WHENEVER THEY HANDLE RADIOACTIVE MATERIALS. ANY RADIATION SURVEY INSTRUMENTS FOUND TO BE DEFECTIVE OR SUSPECTED TO BE MALFUNCTIONING WILL BE BROUGHT TO THE ATTENTION OF THE RADIATION SAFETY OFFICER IMMEDIATELY.

8. AT THE END OF EACH PERIOD OF WORK WITH THE RADIOACTIVE SOURCES, WORK AREAS MUST BE THOROUGHLY SURVEYED AND CLEANED IF NECESSARY.

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TITLE

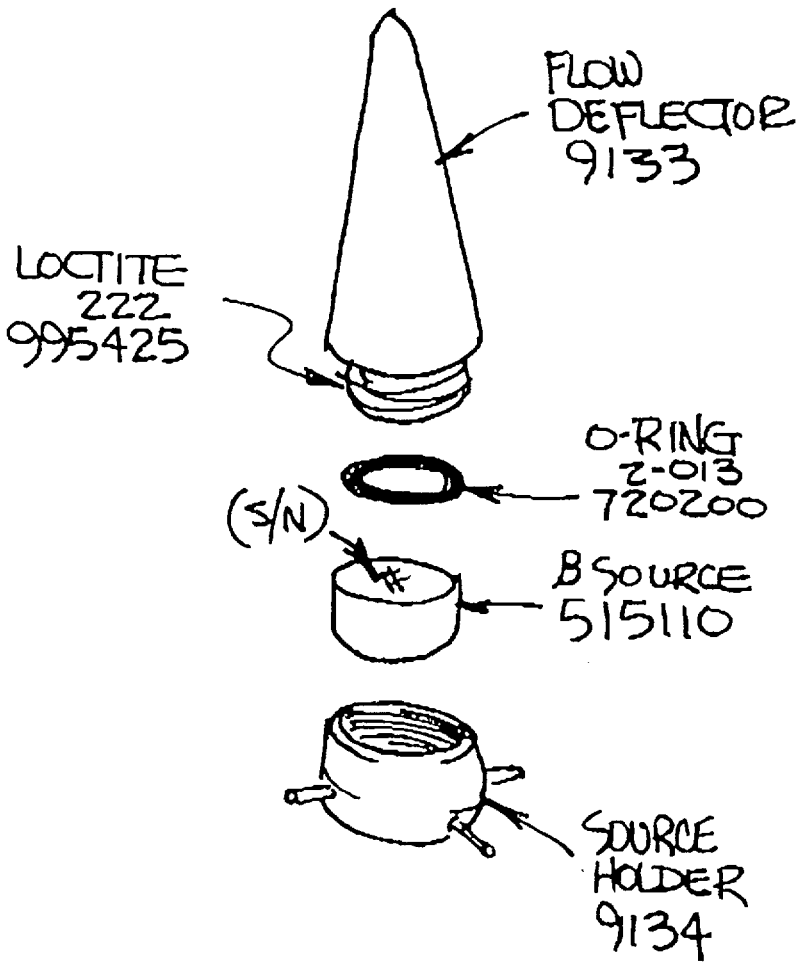
MET ONE INSTRUMENTS ASSEMBLY PROCEDURE FOR PARTS THAT CONTRIBUTE TO RADIATION SAFETY AND OR INTEGRITY OF THE E-BAM

DWG NO	REV
7086	2/25/02

Originator Approval	Checker Approval	Document Control Administrator Approval

REVISIONS	
REV	Description
11/19/01	Initial Release
2/25/02	Added Loctite and tightening requirements

CONTENTS:



Beta Holder Assembly

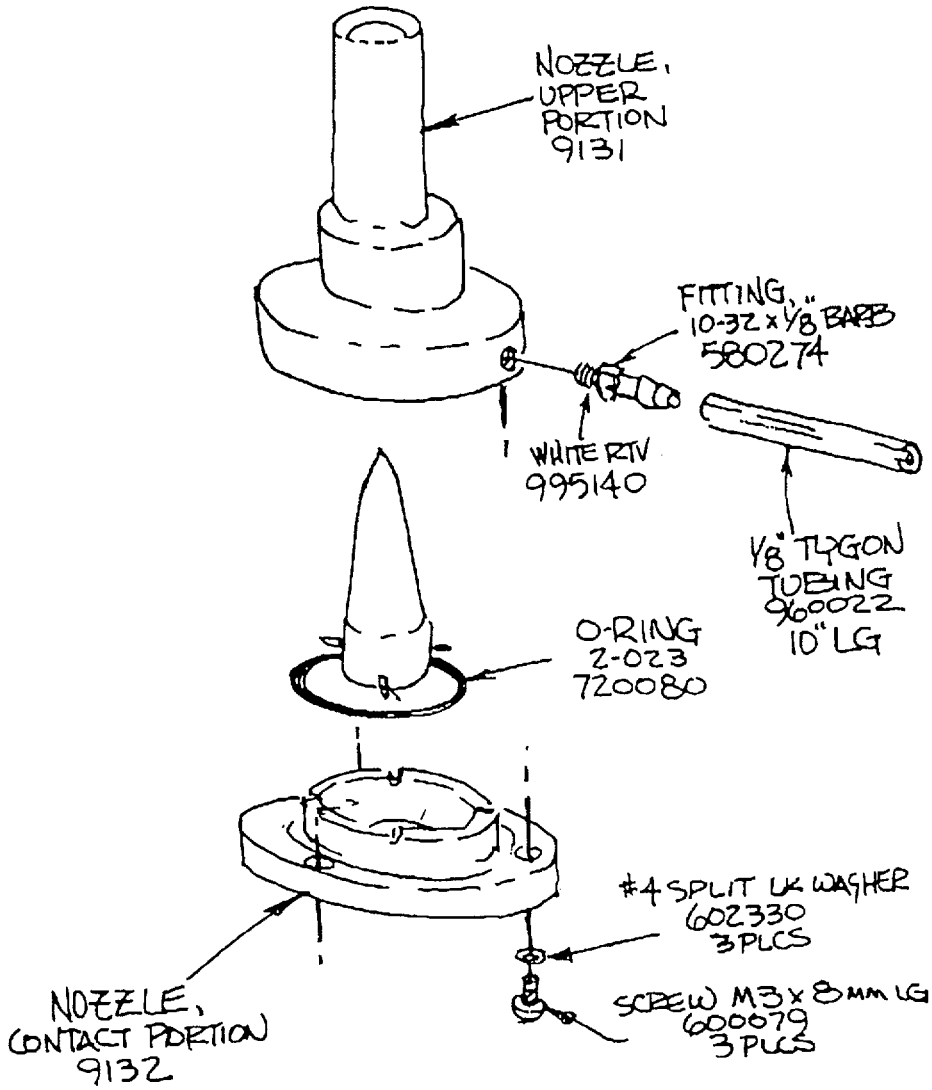
NOTE: See Standard Operating Procedure 175 for all radioactive source handling and safety requirements.

STEP 1 Place BETA SOURCE (515110) into SOURCE HOLDER (9134) with source serial number label UP.

STEP 2 Place O-RING (720200) upon source. (This o-ring is used to prevent any source movement in assembly.)

STEP 3 Apply LOCTITE 222 (995425) to threads of FLOW DEFLECTOR (9133).

STEP 4 Thread FLOW DEFLECTOR onto SOURCE HOLDER. Finger tighten FLOW DEFLECTOR until it is seated against SOURCE HOLDER. Do not tighten beyond part contact.



Nozzle Assembly

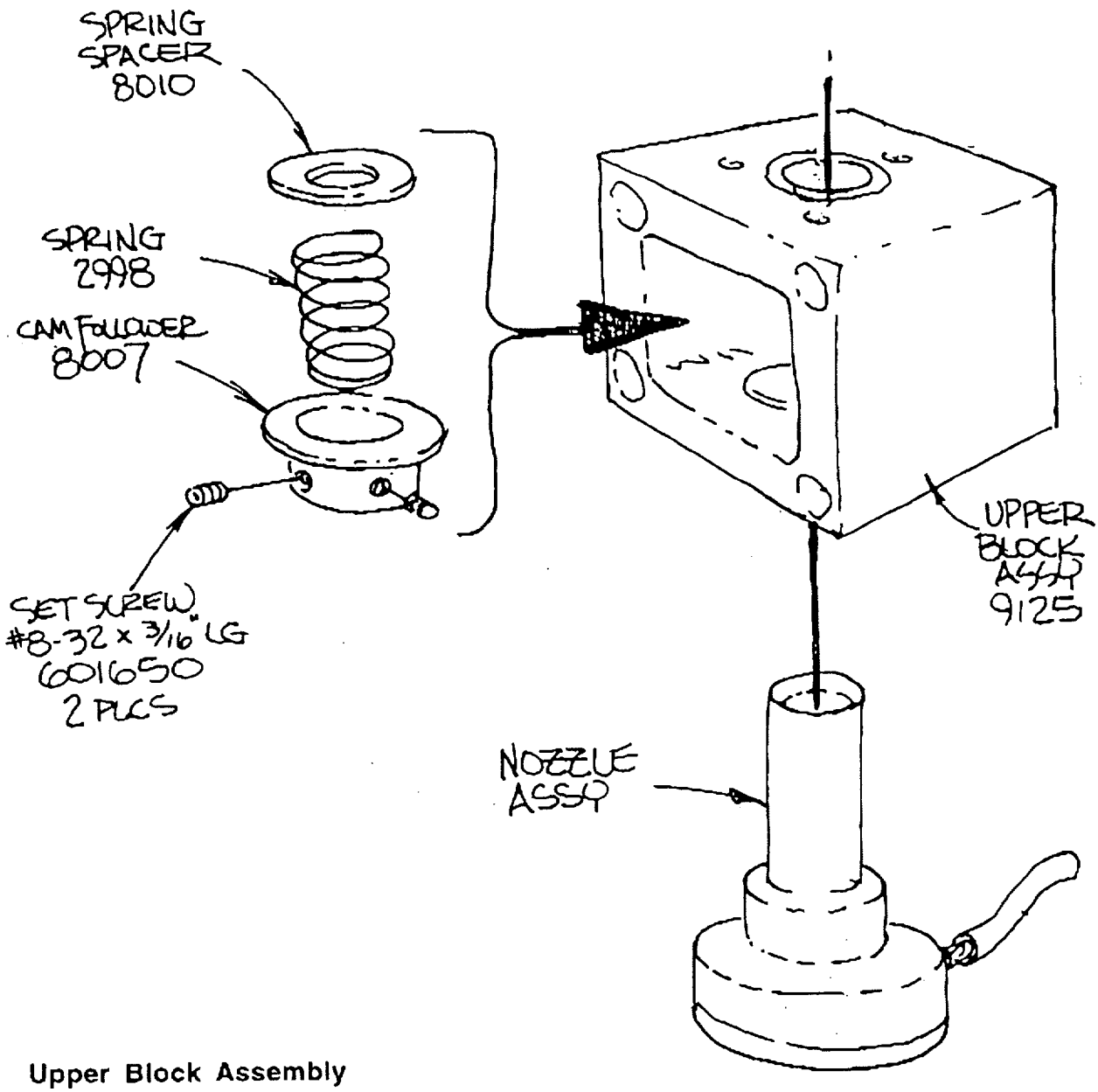
STEP 1 Install FITTING, 10-32 x 1/8" BARB (580274) into NOZZLE, UPPER PORTION (9131). Use WHITE RTV (995140) on fitting threads, wipe off excess RTV. Allow to cure.

STEP 2 Place O-RING (720080) in groove on NOZZLE, CONTACT PORTION (9132).

STEP 3 Place BETA HOLDER ASSEMBLY onto NOZZLE, CONTACT PORTION. Pins on holder must carefully be aligned with notches.

STEP 4 Place NOZZLE, UPPER PORTION (9131) onto NOZZLE, CONTACT PORTION. Rotate as required to align screw holes on nozzle contact face. Install 3 each #4 SPLIT LOCK WASHERS (602330) and SCREWS, M3 x 8 mm (600079) to fasten nozzle together.

STEP 5 Install a 10" length of 1/8" TUBING (960022) onto barb fitting.



Upper Block Assembly

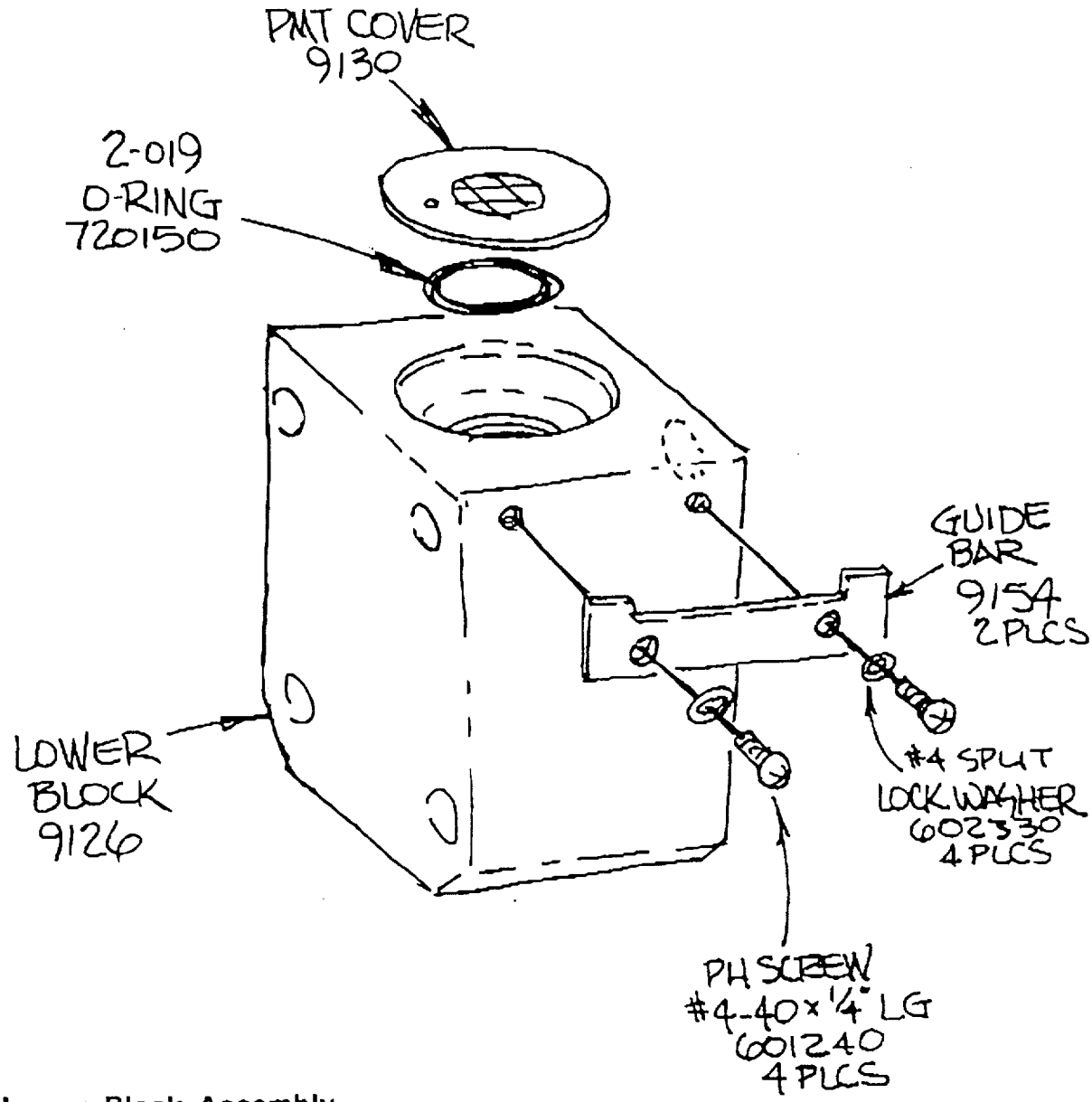
STEP 1 Loosely assemble SPRING SPACER (8010), SPRING (2998), CAM FOLLOWER (8007) and 2 each SET SCREWS, 8-32 x 3/16" (601650). Slide these parts into the center cavity of the UPPER BLOCK (9125), align bores of these parts with the bushing bores of block.

STEP 2 Carefully insert NOZZLE ASSEMBLY through all bores.

STEP 3 Secure NOZZLE ASSEMBLY in block by tightening both SET SCREWS in CAM FOLLOWER.

STEP 4 Check nozzle action for smooth operation.

STEP 5 Apply LOCTITE 290 THREADLOCKER (995430) to set screws, wipe off excess.

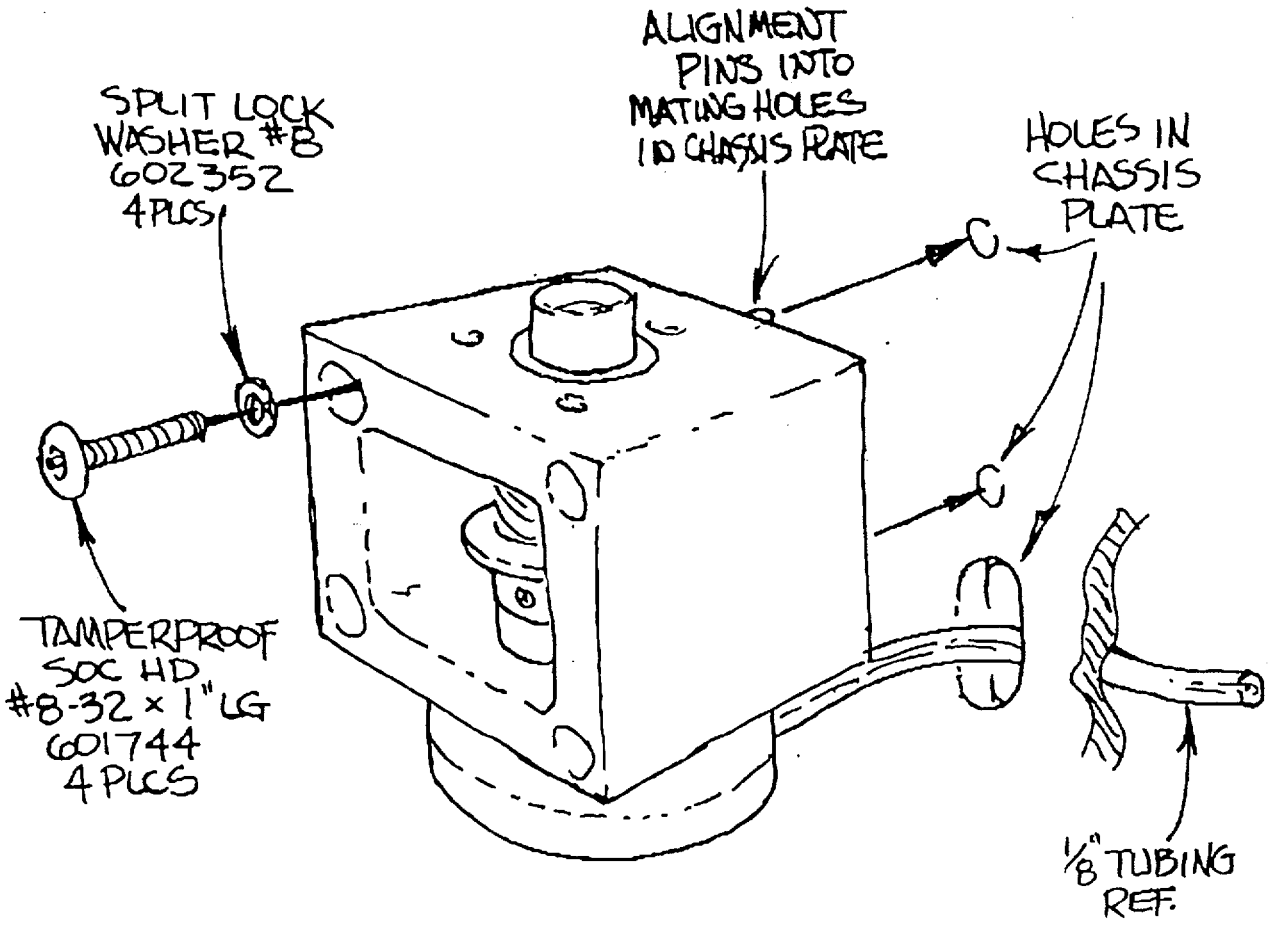


Lower Block Assembly

STEP 1 Install O-RING (720150) into groove in bore of LOWER BLOCK (9126). This O-ring provides support only (not sealing) for the upper end of the PHOTO DETECTOR TUBE (515101).

STEP 2 Using CLEAR RTV SILICONE ADHESIVE (995180) to provide retention and airtight sealing, install PMT COVER (9130) into recess in top of block. PMT cover **MUST** be fully placed in recess with small pin extending towards inside of block. Wipe off excess RTV and allow to cure overnight.

STEP 3 Install a GUIDE BAR onto each side of LOWER BLOCK (9126) using 2 each #4 SPLIT LOCK WASHERS (602330) and PAN HEAD SCREWS, #4-40 x 1/4" (601240). Align center upper edge of guide bars to top surface of block.

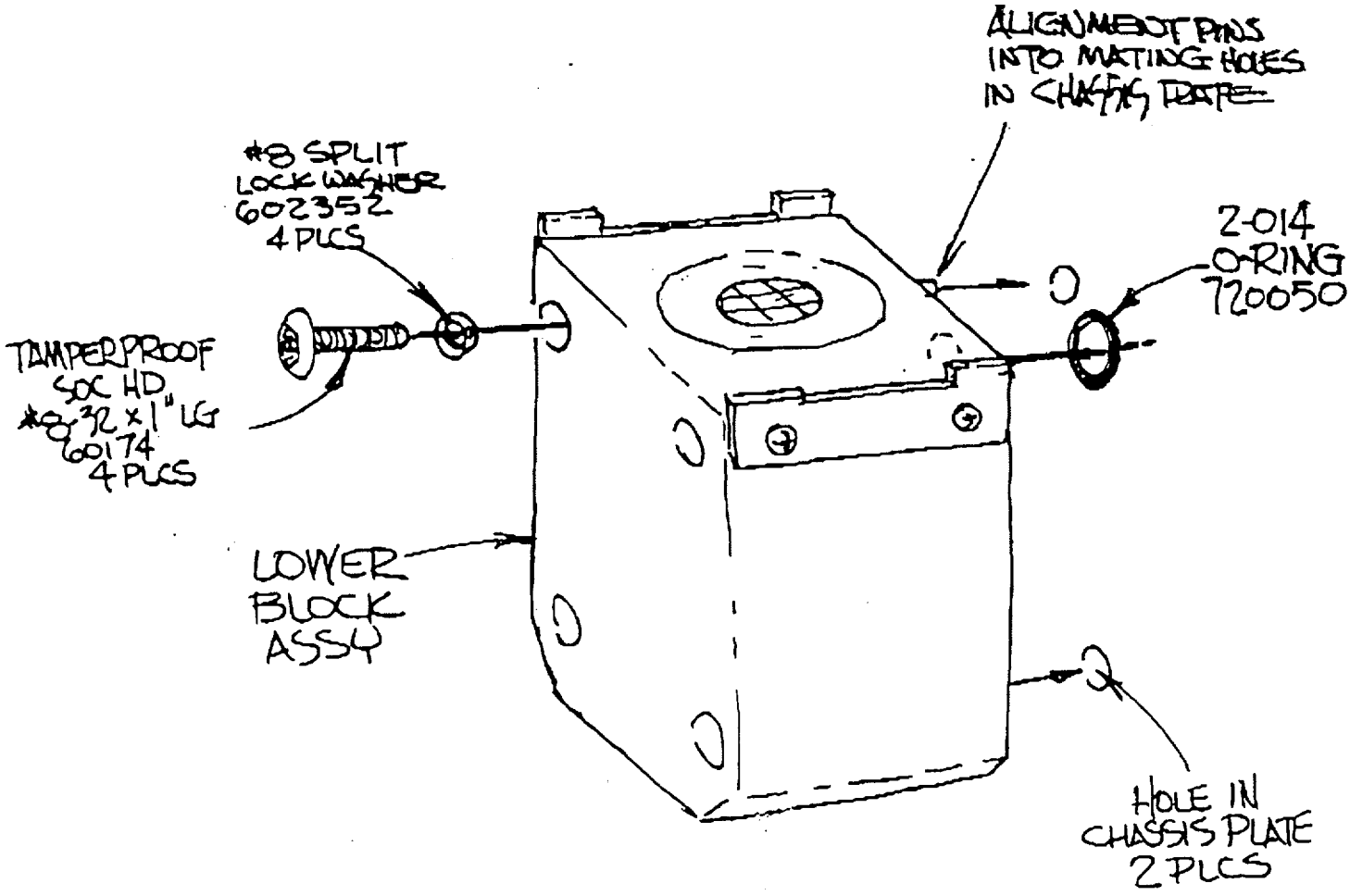


Mounting Upper Block Assembly onto Chassis Plate

STEP 1 Feed end of 1/8" tubing through oval hole in chassis plate and manually retract nozzle (raise) fully into the upper block. This allows proper placement of cam bearing under the flange of the CAM FOLLOWER.

STEP 2 Align locating pins on rear of block with corresponding holes in CHASSIS PLATE and squarely press block into place. Block must be in full contact with chassis plate.

STEP 3 Secure block with 4 each #8 SPLIT LOCK WASHERS (602352) and TAMPERPROOF SOCKET HEAD SCREWS, 8-32 x 1" (601747). Special 5/32" ALLEN WRENCH (993008 or equivalent) **MUST** be used.



Mounting Lower Block Assembly onto Chassis Plate

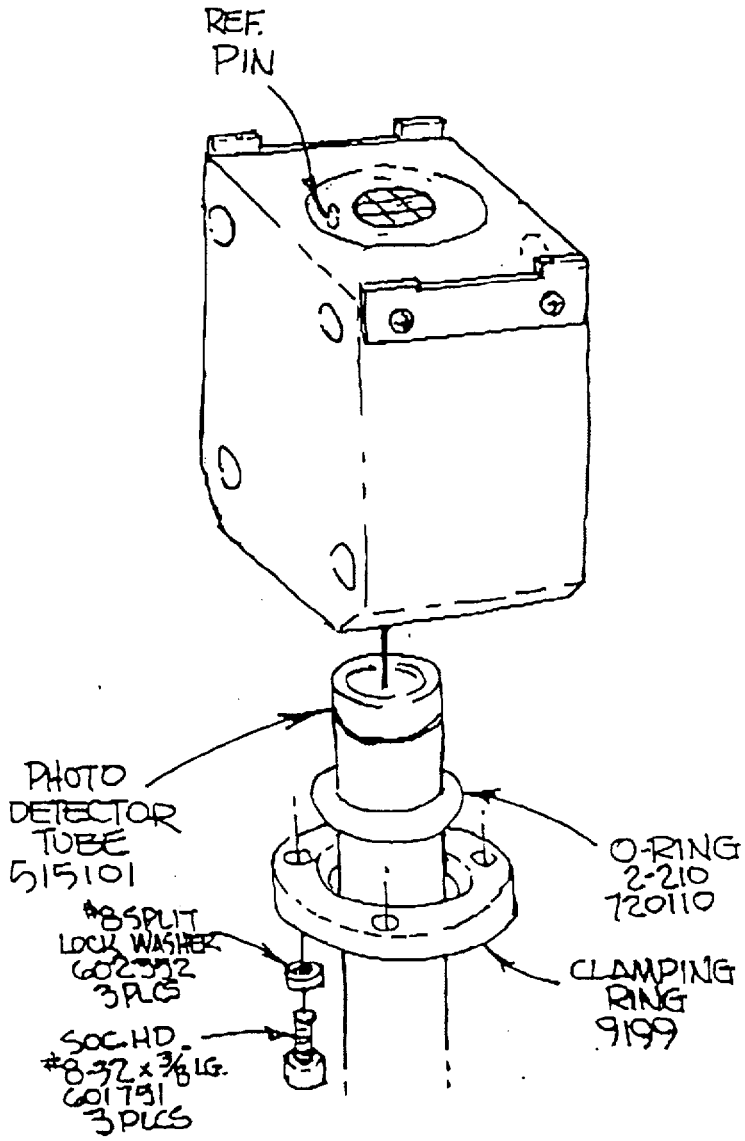
STEP 1 Install O-RING (720050) into recess in rear of block.

STEP 2 Manually retract nozzle (raise) fully into the upper block. This is to prevent metal to metal contact of nozzle to PMT cover.

STEP 3 Align locating pins on rear of block with corresponding holes in CHASSIS PLATE and squarely press block into place. Block must be in full contact with chassis plate.

STEP 4 Place a piece of filter paper between nozzle and PMT cover. Lower nozzle.

STEP 5 Secure block with 4 each #8 SPLIT LOCK WASHERS (602352) and TAMPERPROOF SOCKET HEAD SCREWS, 8-32 x 1" (601747). Special 5/32" ALLEN WRENCH (993008 or equivalent) **MUST** be used.



Installing Photo Detector Tube in Lower Block Assembly

STEP 1 Slide the CLAMPING ~~RING~~ (9199) and O-RING (720110) onto the PHOTO DETECTOR TUBE (515101).

STEP 2 Insert the PHOTO DETECTOR TUBE into the bottom of the Lower Block Assembly. Carefully continue insertion until face of the detector tube comes to stop at pin on beneath PMT cover. **IMPORTANT:** This pin establishes the proper monitoring distance of the detector tube.

STEP 3 Slide the O-RING (720110) up to the countersunk area on bottom of the block.

STEP 4 Slide the CLAMPING RING (9199) up to the o-ring. Install 3 each #8 SPLIT LOCK WASHERS (602352) and SOCKET HEAD SCREWS, 8-32 x 3/8" (601751). Tighten to provide airtight seal and retention of detector in block.