



# **Radiation Products Design, Inc.**

## **Item 710-020 Precision Beam Checker**

Use For: For best results it is recommended that the tests be conducted in this order.

### **RADIATION FIELD HOMOGENEITY TEST FOR COBALT MACHINE**

1. Place plain 0.6 cm lucite plate on a sheet of "prepacked" therapy localization film.
2. Use a maximum of 13 cm x 13 cm field so that the field is well encompassed by the lucite plate.
3. Expose film for 10 rad. (Cobalt energy)
4. Check film for field homogeneity.

### **RADIATION FIELD VERSUS LIGHT FIELD COINCIDENCE TEST**

1. Remove screen from base and place screen on a sheet of "prepacked" therapy localization film.
2. Align field light with markers and central ray at center of screen. Note: This may be done with a 5 cm x 5 cm field and/or 10 cm x 10 cm field. This step also checks the accuracy of the collimator opening indicators.
3. Assure that \_ is over the top right hand corner of film.
4. Expose film for 10 rad. (Cobalt energy)
5. Compare field edge and central ray markers from screen to radiation field on film. The central ray should be properly aligned before continuing with the isocenter test.

### **ISOCENTER TEST**

1. Assure that gantry head and yoke angles are at 0°.
2. Place leveled stand on a flat surface under the light beam with legs fully retracted and check level of treatment couch. Place center marker of screen coincident with central ray of light beam so that screen can rotate freely. Otherwise, place leveled stand on top of the level stand extension.
3. Level the stand using the three adjustable thumb wheels.
4. Set source distance to "top" of screen so that the distance is that of the assumed isocenter.
5. Without moving apparatus, rotate the pointer knob 15° to the first setting.
6. Now rotate gantry angle 15° in same direction.
7. Check the isocenter and assure that the distance remains constant; if not adjust distance and retest.
8. Repeat steps 5 - 7 until a complete rotation has been performed.

### **BACK POINTER AND SIDE LIGHTS ALIGNMENT TESTS**

1. Set center marker at the established isocenter in the center of a field.
2. Check for coincidence of backpointer crosshair light with central ray cross hair light from source.
3. Rotate screened plate so that side lights, overhead light, etc. all coincide with the center marker on top of screen

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