

ARCS PROCEDURE:	IRT REPLACEMENT	PRO(IRT)-003.003
Author: V. Morris		July 9, 1998 Page 1 of 4

IRT Replacement

I. Purpose:

This document describes the procedure for replacing an Infrared Thermometer. Replacement may be required when an instrument is out of calibration or becomes defective.

II. Cautions and Hazards:

- Remove fuse to the IRT before performing this procedure; this prevents possible electrical hazards when removing IRT.

III. Requirements:

- Silicone grease.
- O-ring 1 5/8" diameter O-ring (from outside to outside edge).
- Philip's head screwdriver.
- Metric 4mm/25mm.
- Removal/Replacement form for Parts and Assemblies.
- Permission from TWPPPO to remove defected IRT.
- Notebook PC with RS232/EIA422/Impulse adapter cable.

IV. Procedure:

While performing this procedure, log serial numbers and configuration file differences on Excel formatted replacement record forms (examples attached).

A. Steps:

1. Indicate start-time of this procedure.
2. Unplug the IRT cable from the datalogger; this disconnects power and data transfer.
3. Remove the four (4) cover screws from the box that contains the IRT.
4. Inspect the gasket in the cover for damage and wear.
5. Remove the four (4) screws around the lens of the IRT, while supporting the instrument with the other hand.
6. Carefully remove the IRT from the box; disconnect the cable by unscrewing the connector.

ARCS PROCEDURE: Author: V. Morris	IRT REPLACEMENT	PRO(IRT)-003.003 July 9, 1998 Page 2 of 4
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7. Remove the spacer and the o-ring from the IRT; replace the o-ring if it appears worn.
Note: When replacing o-ring, apply a thin coat of silicone grease to the groove on the spacer. Slide the spacer over the lens on the new IRT. Slide the o-ring over the lens and apply a thin coat of grease on the o-ring.
8. Connect the cable to the new IRT.
Caution: Be extra careful not to strip the threads--the connector should screw on freely.
9. Insert the IRT into the weather-proof container.
10. Re-attach the four (4) bolts around the lens. Tighten these screws evenly. They should be tight but DO NOT strip the threads of the screw head. (Changed from allen to Phillip's).
11. Plug in the datalogger.
12. Check the LCD display. Does the data look appropriate and in correct units? Are the upper and lower temperature limits properly set? For TWP SKYRAD they should be 35 and -60, respectively. For TWP GNDRAD they should be 60 and 0, respectively.
13. Seal the weather casing. Inspect the gasket in the cover for damage and wear. It may be necessary to use RTV in any damaged areas when closing the box.
14. Connect a notebook PC to the RAD datalogger using the RS232/EIA422/Impulse adapter.
15. Use the Test Menu to view the Raw and Scaled (calibrated) data.
16. Disconnect the notebook computer and connect the logger to ADaM.
17. Package and send old IRT (TBD).
18. Record the date, start-time, end-time, and any comments in the site operations log.

V. References:

1. Scott Smith - Conversations on April 14, 1995.

VI. Attachments:

1. Internal view of IRT inside casing
2. Replacement Record Form

ARCS PROCEDURE: Author: V. Morris	IRT REPLACEMENT	PRO(IRT)-003.003 July 9, 1998 Page 3 of 4
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Attachment 1 – Internal View of IRT Inside Casing