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AEROSTAR
SERVICE BULLETIN #121

28 July 1986

SUBJECT Ball Pyrometer Infrared Sensitivity

PROBLEM The Digital Pyrometer which is part of the Ball 655R instrument package has been determined to be susceptible to abnormally high readings due to radiant infrared heating during burns.

DISCUSSION It was noted by several owners of Ball Instrument packages that the temperatures which were registered during and shortly after blasting climbed to an abnormally high value and then rapidly returned to a more normal reading for the respective lift condition. It was also noted that the spiking effect was most prevalent in white or light colored balloons and was also dependent on the exact positioning of the sensor.

APPLICABILITY This service bulletin applies to all Ball 655R Instrument packages that were delivered with Raven hot air balloon systems or as new instrument sales before February 1986. This condition does not affect safety of flight. It may produce an incorrect indication of overloading/overtamping of the balloon.

CORRECTIVE ACTION The sensitivity to infrared heating can be substantially reduced by coating the sensor with a titanium dioxide white paint. Titanium dioxide based white provides the greatest re-radiation or reflection of infrared heat available. Testing has indicated this does not adversely affect the response time of the sensor.

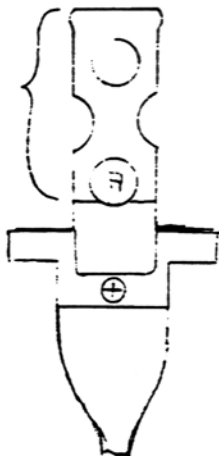
PROCEDURE

Step 1: Obtain a titanium dioxide based paint (Rust-oleum Satin White #7791 is recommended and widely available.) Spray or liquid is acceptable.

Step 2: Locate the sensor in the upper portion of the balloon. Ensure there is no dirt or grease on the sensor.

Step 3: Fully coat the sensor as shown in the following diagram. Ensure that the thermistor which is contained inside the protective shield is fully coated but is not left with an excessively thick layer of paint.

Coat Nominally
1 inch with White
Titanium Dioxide



This may be performed as preventive maintenance by a person holding at least a private pilot rating, as applying a protective coating to the sensor. A log book entry must then be made indicating as follows:

"Preventive maintenance was performed in accordance with Aerostar Service Bulletin #121. The balloon is returned to service."

NAME DATE PILOT CERTIFICATE TYPE AND NUMBER

It is strongly recommended that all envelope temperature sensors which are black with a silver outer shield be coated white to reduce temperature spikes during burning.