ASOS MODIFICATION NOTE 57 (for Electronics Technicians)
Engineering Division
W/OSO321:WW

SUBJECT	:	Single Cabinet Automated Surface Observing System (SCA) Temperature Probe Board (TPB) relocation and removal of the 60°/40° thermostat, and replace it with a 70°/50° thermostat.
PURPOSE	:	To relocate the TPB from the underside of the pressure sensor tray to the front of the pressure sensor tray. If applicable (see appendix A), remove and replace the 60°/40° thermostat with a 70°/50° thermostat, and relocate the 80°/60° thermostat.
EQUIPMENT AFFECTED	:	SCA Backplane, TPB, thermostats (60°/40° and 80°/60°)
PARTS REQUIRED	:	(1) S100-FMK102 (SCA sites listed in appendix A) (1) S100-2A1S2 (SCA sites listed in appendix A)
MODIFICATION PROCUREMENT	:	For sites listed in appendix A, electronics technicians (ET) are required to order S100-2A1S2 or S100-FMK102 through the National Logistics Support Center.
EFFECTIVITY	:	SCA systems: Serial Numbers 00001 - 000045 (TPB relocation) Serial Numbers 00001 - 00008 (S100-2A1S2)
SPECIAL TOOLS REQUIRED	:	None
TIME REQUIRED	:	1 hour
EFFECT ON OTHER INSTRUCTIONS	:	None
AUTHORIZATION	:	This modification is authorized by Engineering Change Proposals E97SMO05F196 and E97SMO5F195.
VERIFICATION STATEMENT	:	This modification is being tested for operational integrity at the National Weather Service (NWS) Headquarters SCA unit.

GENERAL

This modification note provides instructions to:

(1) Remove and relocate the SCA TPB from underneath the pressure-sensor rack to the front of the pressure-sensor rack; and

(2) Relocate the 80°/60° thermostat from position S3 to position S1, and remove the 60°/40° thermostat and install a 70°/50° thermostat in its place at sites listed in appendix A.

PROCEDURE

BEFORE PERFORMING MODIFICATION NOTE PROCEDURES

1. Call the ASOS Operations and Monitoring Center (AOMC) at 1-800-242-8194, and provide notification on which SCA you will be performing this modification.

2. Get approval of the responsible meteorologist-in-charge (MIC)/official-in charge (OIC)/ Observer before starting installation. This modification may be performed on any day of the month if restrictions in steps 3 and 4 are satisfied.

3. **Commissioned Sites Only**: Do not start installation during inclement weather, precipitation, instrument flight rule conditions, or if any of those conditions are expected within 3 hours. The responsible MIC/OIC/Observer will define these meteorological conditions.

4. Do not start the modification at a time that will conflict with scheduled synoptic observations at 00, 03, 06, 09, 12, 15, 18, and 21Z. Although about 30 minutes should be sufficient, allow 1 hour to complete installation and restart the SCA.

5. Immediately before beginning work at NWS-staffed sites, the MIC/OIC/Observer will inform the air-traffic control tower (ATCT) and any other critical users that the ASOS will be turned off for the modification. At an unstaffed site, the ETs will inform the ATCT using controller-video displays and operator interface devices to log off and shut down the displays to avoid problems.

6. Do not begin modification procedures until immediately after an hourly observation has been transmitted. At NWS staffed sites, normal back-up observing procedures will be implemented.

7. Make the appropriate SYSLOG entries (MAINT-ACT-FMK) for Modification Note 57.
   a. Log on as **TECH**.
   b. Key the **MAINT** screen.
   c. Key the **ACT** page.
   d. Key **START** - Stop here and perform “SCA TPB Relocation.”

SCA TEMPERATURE PROBE BOARD RELOCATION

WARNING

Ensure that the AC power is completely removed from the SCA. Death or severe injury may result if power is not completely removed from the SCA prior to performing the modification.

1. Remove the AC facility power from the SCA. (If a Class II system is installed, remove the AC power to the uninterruptible power supply (UPS)).

2. Slide the pressure-sensor rack out to access the TPB.

3. Disconnect connector W106P67 from the TPB, 7A1A1A7A4J1.

4. Remove the two screws holding the TPB to the bottom of the pressure-sensor rack.

5. Relocate the TPB to the front of the pressure-sensor rack and install using S100-FMK102 (refer to figures 1 and 2).

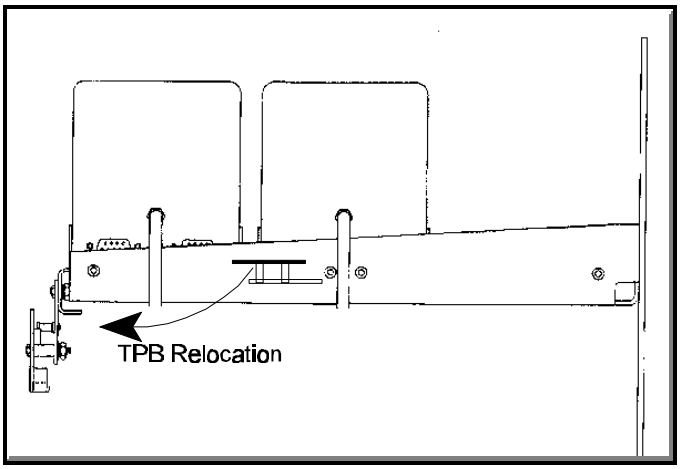

Figure 1 **TPB on Front of Pressure-Sensor Rack**

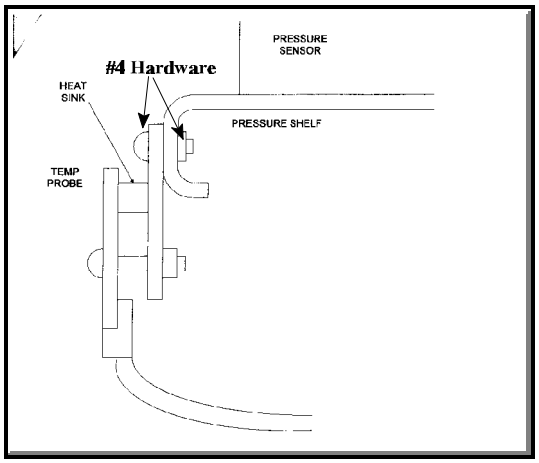

Figure 2 **Exploded View of TPB**

6. Slide the pressure-sensor rack back.

7. For sites identified in appendix A that require S100-2A1S2, ETs should proceed with “SCA Thermostat Removal and Replacement,” otherwise, proceed with step 9.

8. Return the AC power to the SCA (and UPS if a Class II system).

9. Modification is complete, proceed to “After SCA TPB Relocation and Thermostat Removal and Replacement.”

SCA THERMOSTAT REMOVAL AND REPLACEMENT

1. Locate and remove the modem shelf at the top center of the SCA. The thermostats are located on the bottom of the shelf.

2. Remove the thermostat at location S3 using the ASOS Site Technical Manual (STM), table 3.5.27, removal procedure. Label the thermostat as 80°/60° with tape, and label the wires removed from S3 as S3.

3. Remove the thermostat at location S1 using the ASOS STM, table 3.5.27, removal procedure. Label the thermostat as 60°/40° with tape and return to the National Reconditioning Center. Label the wires removed from S1 as S1.

4. Reinstall the thermostat labeled 80°/60° using the wires from S1, following the ASOS STM, Table 3.5.27, installation procedure.

5. Replace the thermostat at location S3 with 70°/50° thermostat (62828-90058-2) S100-2A1S2 using the wires labeled S3, following the ASOS STM, Table 3.5.27, installation procedure. Mount the thermostat at the location labeled S3.

6. Reinstall the modem shelf.

7. Reapply the AC power to the SCA (and UPS if a Class II system).

8. Modification is complete, proceed with "After SCA TPB Relocation and Thermostat Removal and Replacement."

AFTER SCA TPB RELOCATION AND THERMOSTAT REMOVAL AND REPLACEMENT

1. Call the AOMC at 1-800-242-8194 and tell the operator:
   a. Your location.
   b. The modification has been completed.
   c. The SCA is operational.

2. Enter in the SYSLOG that maintenance has been completed.
   a. Key the **MAINT** screen.
   b. Key the **ACT** page.
   c. Key **FMK** - Enter the Field Mod Kit (FMK) number as follows: **Mod 57**.
      On the second line of the screen verify that only Mod 57 is displayed. Complete by entering **Y** in the [Y/N] area if only Mod 57 is displayed.
   d. Check the SYSLOG and verify the FMK message. Enter a comment in the SYSLOG stating that the TPB (and thermostat relocations) have been performed.

REPORTING MODIFICATION

Target date for completion of this modification is 45 days after the receipt of parts. Report completed modification on an NWS Form A-26, Maintenance Record, appendix B, using the instructions in Engineering Handbook No.4 (EHB-4), Engineering Management Reporting System (EMRS), part 2, appendix F. Use reporting code **ASCA**.

Original Signed

John McNulty
Chief, Engineering Division

appendix A - Sites
appendix B - EMRS

Sites Requiring S100-2A1S2 and FMK102

Agency K - Military N - NWS	SID	SCA Serial Number	Sites Requiring S100-FMK102	Sites Requiring S100-2A1S2
N	1S2	000016	X	
N	6R6	000017	X	
N	CDJ	000044	X	
N	CQC	000031	X	
N	CZZ	000009	X	
N	D07	000003	X	X
N	DMH	000042	X	
N	GDP	000028	X	
N	GNA	000020	X	
N	GUY	000032	X	
N	JDN	000021	X	
N	MEH	000034	X	
N	LVX	000033	X	
N	MTP	000041	X	
N	MWT	000035	X	
N	OQT	000030	X	
N	P28	000037	X	
N	P58	000045	X	
N	P59	000022	X	
N	P60	000004	X	X
N	P68	000018	X	
N	P69	000002	X	X
N	P75	000039	X	

N	P92	000024	X	
N	REO	000043	X	
N	SNT	000027	X	
N	SPD	000019	X	
K	AFAC1	000036	X	
K	CCAS1	000014	X	
K	EAFB1	000010	X	
K	FTPK1	000025	X	
K	FTPK2	000026	X	
K	FTPK3	000029	X	
K	GRAF1	000001	X	X
K	GRAF2	000005	X	X
K	GRAF3	000006	X	X
K	GRAF4	000007	X	X
K	MSWA1	000008	X	X
K	NAFB1	000011	X	
K	NAFB2	000012	X	
K	PAFB1	000013	X	
K	RILEY	000038	X	