

**NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF AVIATION SAFETY
WASHINGTON, D.C. 20594**

Date

PROPELLER MAINTENANCE GROUP CHAIRMAN'S FACTUAL REPORT
ADDENDUM A

NTSB ID No.: DCA-95-MA-054

A: ACCIDENT

Location: Carrollton, Georgia

Date: August 21, 1995

Time: 1253 eastern daylight time (EDT)

Aircraft: Embraer EMB-120RT, N256AS, Atlantic Southeast Airlines,
Flight No. 7529

This addendum contains the following modifications to the Propeller Maintenance Group Chairman's Factual Report for the subject accident. The new or modified text is shown in *italics*.

Page 8, Section D.2.3, Taper bore repair

In Line 17 of the paragraph, after "...63 rms, add the following:

(rms, root mean square, is a method to measure surface roughness. RMS is the square root of the average of the squared deviations from a mean. It can be measured with a comparator or with a profilometer.)

Page 27, second paragraph

In the Line 2 of the paragraph, after "...rejected area.", add the following:

(A copy of the shop router for blade SN 861398, which was an attachment to Hamilton Standard letter to the FAA, dated August 23, 1995, is attached.)

Page 27, second paragraph

In Line 14, the statement in the parentheses should be revised as follows:

(A copy of the memo is attached.)

Page 28, Section 5.0, Mr. Chris Bender's Work Schedule

The last sentence should be revised to:

Propeller blade SN 861398 had the taper bore blend repaired and inspected on June 7, 1994, which was a Tuesday.

Page 30, ATTACHMENTS

Add the following:

4. *Hamilton Standard Rock Hill shop router for propeller blade SN 861398.*



Gordon J. Hookey
Propeller Maintenance Group Chairman

HSSCSC ROCK HILL HARDWARE FLOW TRAVELER
FORM NUMBER RH243

WORK ORDER NUMBER: 448

SERIAL NO.: 861398

PRINT DATE: 06-07-1994

PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R090	<p>PROCEED WITH THE FOLLOWING OPERATIONS, UNLESS:</p> <ul style="list-style-type: none"> - ANY U.T. READING ON THE FACE SIDE THAT IS 100% OR GREATER. - ANY U.T. READING ON THE CAMBER SIDE THAT IS 120% OR GREATER. <p>IF EITHER OF THESE CONDITIONS EXIST, REMOVE THE LEAD AND CORK, THEN SEND THE BLADE TO EAST WINDSOR, ALONG WITH THE LEAD AND CORK, FOR EVALUATION.</p> <p>CYCLE TIME: 10</p>	<p><i>J. O. Lee</i> 6/7/94</p>	<p>xxx</p> <p>xxx</p> <p>xxx</p>
R090A	<p>REMOVE ALL TAPER BORE LEAD, CLEAN & TAPE SHANK-F.C. #1 REFERENCE: CMM 61-13-04 REP. 4-15 SERVICE # R315 61-13-09 REP. 4-12 61-13-03 REP. 4-13</p> <ol style="list-style-type: none"> 1. MEASURE DEPTH OF CORK FROM THE BLADE BUTT FACE AND RECORD DEPTH, P/N AND S/N ON A MANILLA TAG. 2. REMOVE ALL LEAD USING ONLY THE PROPER TOOLS. CAUTION - ENSURE THE TAPER BORE IS NOT DAMAGED DURING THE REMOVAL PROCESS. 3. SAVE ALL REMOVED LEAD AND CORK, AND SEAL IN A CLEAN PLASTIC BAG, ALONG WITH THE MANILLA TAG. <p>FILL IN A LOGSHEET WITH THE BLADE S/N AND STORE THE BAG IN A BOX.</p> <ol style="list-style-type: none"> 4. CLEAN THE ENTIRE TAPER BORE WITH ACETONE OR MEK. CAUTION - USE PROPER SAFETY CAUTIONS FOR SOLVENTS. 	<p><i>J. O. Lee</i> 6/5/94</p>	<p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p>
(cont)			

ATTACHMENT 4

HSSCSC ROCK HILL HARDWARE FLOW TRAVELER
FORM NUMBER RH243

WORK ORDER NUMBER: 448

SERIAL NO.: 861398

PRINT DATE: 06-07-1994

PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R090A	5. TAPE THE SHANK FOR PROTECTION. CYCLE TIME: 30	TECH <u>CSB67/94</u>	
R090B	BOROSCOPE EXAMINE TAPER BORE F.C. # 1 REFERENCE: PS960A SERVICE # R315 BOROSCOPE EXAMINE ENTIRE TAPER BORE AND RECORD RESULTS ON THE FORM LABELED "HSS-RH RECHECK OF BLADES AFTER TAPER BORE REWORK" (USE CORRECT MODEL # FORM). ONLY FILL IN THE SECTION LOCATED ABOVE THE ILLUSTRATION AT THIS TIME (DO NOT FAX FORM YET). ****CAUTION**** SEND BLADE TO HSS EAST WINDSOR IF THE BLADE EXHIBITS ANY OF THE FOLLOWING (ALONG WITH THE PLASTIC BAG OF PARTS): - EVIDENCE OF CORROSION - DISCOLORATION OR POWDERY INDICATIONS CYCLE TIME: 5	TECH <u>CSB67/94</u>	xxx xxx xxx xxx xxx
R090C	GRIT BLAST TAPER BORE TO REMOVE RESIDUAL LEAD F.C. #1 REF: PS960A SERVICE # R315 NOTE: USE ONLY 120 GRIT ALUMINUM OXIDE GRIT. CYCLE TIME: 10	TECH <u>CSB67/94</u>	xxx xxx
R090D	BOROSCOPE EXAMINE TAPER BORE, RECORD RESULTS. REFERENCE: PS 960A F.C. # 1 SERVICE # R315		xxx
(cont)	IMPORTANT: USING THE U.T. FORM LABELED "HSS-RH RECHECK		xxx

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PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify																								
R090D	<p>OF BLADES AFTER T.B. REWORK (USE CORRECT MODEL #) FILL IN THE SECTION LOCATED ABOVE THE ILLUSTRATION (DO NOT FAX FORM YET). ALSO FILL IN THE SECTION IN THIS OPERATION.</p> <p>*****CAUTION***** SEND THE BLADE TO HSS EAST WINDSOR IF ANY OF THE FOLLOWING ARE FOUND (ALSO INCLUDE THE PLASTIC BAG OF LEAD & CORK).</p> <ul style="list-style-type: none"> - ANY EVIDENCE OF CORROSION, INCLUDING POWDERY SUBSTANCE OR DISCOLORATION. - ANY PITS EQUAL TO OR GREATER THAN 0.020" X 0.040" - ANY VISIBLE CRACKS OR OTHER UNWORKABLE FLAWS. <p>RESULTS: <i>No visible faults found, blend rejected area.</i></p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">CORROSION</td> <td style="text-align: center;">PITTING</td> <td style="text-align: center;">TOOL MARKS</td> </tr> <tr> <td>TIP</td> <td></td> <td></td> </tr> <tr> <td>FACE</td> <td></td> <td></td> </tr> <tr> <td>CAMBER</td> <td></td> <td></td> </tr> <tr> <td>TRAIL</td> <td></td> <td></td> </tr> <tr> <td>LEAD</td> <td></td> <td></td> </tr> <tr> <td>CORK AREA</td> <td></td> <td></td> </tr> <tr> <td>CYCLE TIME: 5</td> <td>TECH <i>CSB6/7/94</i></td> <td></td> </tr> </table>	CORROSION	PITTING	TOOL MARKS	TIP			FACE			CAMBER			TRAIL			LEAD			CORK AREA			CYCLE TIME: 5	TECH <i>CSB6/7/94</i>			<p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p>
CORROSION	PITTING	TOOL MARKS																									
TIP																											
FACE																											
CAMBER																											
TRAIL																											
LEAD																											
CORK AREA																											
CYCLE TIME: 5	TECH <i>CSB6/7/94</i>																										
R090E	BLEND AND BOROSCOPE CHECK OF TAPER BORE F.C. # 1		xxx																								

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HSSCSC ROCK HILL, HARDWARE FLOW TRAVELER
FORM NUMBER RH243

WORK ORDER NUMBER: 448

SERIAL NO.: 861398

PRINT DATE: 06-07-1994

PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R090E	<p>REFERENCE: PS 960A SVC # R315</p> <p>BLEND ALL BORE DAMAGE WITH ALUMINUM OXIDE SANDING TOOLS. REFERENCE PS960A FOR BLADE AREA DEFINITIONS.</p> <p>- BLEND DAMAGE AT 50 TIMES THE REPAIR DEPTH. SURFACE FINISH TO BE 63 RMS.</p> <p>- MAXIMIM STOCK REMOVAL LIMITS:</p> <p style="padding-left: 40px;">- FACE SIDE: 0.010 INCHES</p> <p style="padding-left: 40px;">- ALL OTHER AREAS: 0.020 INCHES</p> <p>BOROSCOPE CHECK ALL DAMGE FOR PROPER BLENDING; ALSO ENSURE THE SURFACE FINISH IS 63 RMS.</p> <p>CYCLE TIME: 30 TECH <u>CSBG/7/94</u></p>		<p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p>
R090F	<p>ULTRASONIC INSPECT PER ALERT S.B. 14RF-9-61-A66 14RF-21-61-A53 SERVICE # R315 14RF-19-61-A34</p> <p>IF THE BLADE PASSES U.T. INSPECTION:</p> <p>FILL IN THE INSPECTION DATA SHEET LABELED "HSS-RH RECHECK OF BLADES AFTER REWORK" (USE CORRECT MODEL # FORM) AND FAX TO THE LISTED NUMBER. REATTACH SHEET TO THE S.B. AFTER FAXING.</p> <p>ALSO MARK "NR" IN THE FOLLOWING REBLEND AND U.T. OPERATIONS AND PROCEED TO THE SOLVENT CLEANING OPERATION.</p>		<p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p>
(cont)			

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HSSCSC ROCK HILL, HARDWARE FLOW TRAVELER
FORM NUMBER RH243

WORK ORDER NUMBER: 448

SERIAL NO.: 861398

PRINT DATE: 06-07-1994

PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R090F	<p><u>PASS</u> (CIRCLE IF APPLICABLE)</p> <p>IF TAPER BORE FAILS U.T. INSPECTION:</p> <p>DO NOT FILL IN A U.T. INSPECTION FORM. CIRCLE "FAIL" BELOW, THEN REBLEND AND U.T. IN THE FOLLOWING TWO OPERATIONS.</p> <p>FAIL (CIRCLE IF APPLICABLE)</p> <p>*****CAUTION***** STOP WORK AND SEND THE BLADE TO HSS EAST WINDSOR IF EITHER OF THE FOLLOWING CONDITIONS ARE FOUND: (ALSO INCLUDE THE PLASTIC BAG PARTS)</p> <ul style="list-style-type: none"> - ANY U.T. READING ON THE FACE SIDE THAT IS 100% OR GREATER. - ANY U.T. READING ON THE CAMBER SIDE THAT IS 120% OR GREATER. <p>CYCLE TIME: 10</p> <p>TECH <u>Joh</u> ^{6/7/94}</p>	<p><u>Joh</u> 6/7/94</p>	<p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p>
R090G	<p>REBLEND TAPER BORE F.C. #1 REF: PS960A SERVICE # R315</p> <p>REBLEND ALL REJECTED AREAS OF THE TAPER BORE TO MEET PS 960A FINISH REQUIREMENTS. REFERENCE OPERATION R090E.</p> <p><u>N/R</u></p> <p>CIRCLE N/R IF TAPER BORE REBLEND IS NOT REQUIRED</p> <p>CYCLE TIME: 10</p> <p>TECH <u>Joh</u> ^{6/11/94}</p>		<p>xxx</p> <p>xxx</p> <p>xxx</p>

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HSSCSC ROCK HILL, HARDWARE FLOW TRAVELER
FORM NUMBER RH243

WORK ORDER NUMBER: 448

SERIAL NO.: 861398

PRINT DATE: 06-07-1994

PART NUMBER: FFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R090H	<p>RE-ULTRASONIC INSPECT PER ALERT S.B. 14RF-9-61-A66 14RF-21-61-A53 SERVICE # R315 14RF-19-61-A34</p> <p>FILL IN THE INSPECTION DATA SHEET LABELED "HSS-RH RECHECK OF BLADES AFTER T.B. REWORK" AND FAX TO THE LISTED NUMBER. REATTACH SHEET TO THE S.B. AFTER FAXING.</p> <p><u>N/R</u> PASS _____ FAIL _____</p> <p>***IF THE BLADE STILL FAILS U.T., SEND THE BLADE TO EAST WINDSOR ALONG WITH THE PLASTIC BAG PARTS FOR EVALUATION.</p> <p>CYCLE TIME: 10</p> <p>TECH <i>g. 6/7/94</i></p>		<p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p>
R090I	<p>SOLVENT CLEAN TAPER BORE & APPLY ALODINE F.C. #1 REFERENCE: PS 960A SERVICE # R315</p> <p>THOROUGHLY CLEAN TAPER BORE WITH MEK AND APPLY ALODINE 600 TO ENTIRE TAPER BORE. USE THE IMMERSION METHOD. ALLOW A 3 MINUTE SOAK:</p> <p>START TIME <u>12:51</u></p> <p>STOP TIME <u>12:54</u></p> <p>NOTE: IF THE BLADE IS TO RECEIVE ADDITIONAL WORK, MOVE IT TO THE OUTGOING KAN BAN AREA AND N/A THE NEXT OPERATION (24 HR. ALODINE CURE).</p> <p>IF THE BLADE IS GOING DIRECTLY TO BALANCE, MOVE IT TO THE 24 HOUR CURE RACK AND RECORD CURE TIME IN THE NEXT OPERATION.</p>		<p>xxx</p> <p>xxx</p> <p>xxx</p> <p>xxx</p>
(cont)			xxx

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HSSCSC ROCK HILL HARDWARE FLOW TRAVELER
FORM NUMBER RH243

WORK ORDER NUMBER: 448

SERIAL NO.: 861398

PRINT DATE: 06-07-1994

PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R090I	CYCLE TIME: 10 TECH <u>CSO 6/7/94</u>		
R090J	24 HOUR ALODINE CURE REFERENCE: PS 960A F.C. # 1 SERVICE # R315 CURE TIME START DATE <u>6/7/94</u> TIME <u>12:55</u> AM/PM CURE TIME STOP DATE <u>6/9/94</u> TIME <u>1:30</u> AM/PM NOTE: N/A THIS OPERATION IF BLADE IS TO RECEIVE ADDITIONAL WORK. TECH <u>SOJ</u>		xxx xxx xxx
R185	REMOVE TEFLON STRIP REFERENCE: REPAIR 4-5 F.C. # 3 SERVICE # R360, R330 CYCLE TIME--10 <u>6-9-94</u> TECH <u>SOJ</u>		xxx
R186	REMOVE HAMILTON STANDARD DECAL REFERENCE: 61-13-03 (4-14) -04 (4-16) -09 (4-13) F.C. # 3 SERVICE # R430 CYCLE TIME--5 <u>6-9-94</u> TECH <u>SOJ</u>		xxx xxx
R190	REMOVE NICKEL SHEATH REFERENCE: REPAIR 4-10 F.C. # 3 SERVICE # R190, R170 NOTES: 1. WEAR SAFETY GLOVES DURING THIS OPERATION. 2. PLACE REMOVED NICKEL IN RECYCLING CONTAINER.		xxx xxx
(cont)			

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5 on 12

HSSCSC ROCK HILL, HARDWARE FLOW TRAVELER
FORM NUMBER RH243

WORK ORDER NUMBER: 448

SERIAL NO.: 861398

PRINT DATE: 06-07-1994

PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R190	3. DO NOT GRIND UNDERLYING FIBERGLASS. CYCLE TIME--20	TECH. <u>MSJ</u>	xxx
R210	REMOVE EROSION SHEATH REFERENCE: 61-13-03 (4-18) -04 (4-19) S.B. 14RF-9-61-46 S.B. 14RF-21-61-35 CYCLE TIME--5	F.C.# 3 SERVICE # R210, R260A, R260B, R230 TECH <u>MSJ</u>	xxx xxx
R215	REMOVE INTERNAL HEATER LEAD REFERENCE: 61-13-03 (4-11) -04 (4-18) R260A, R260B S.B. 14RF-9-61-46 S.B. 14RF-21-61-35 CYCLE TIME--15	F.C.# 3 SERVICE # R220, TECH <u>MSJ</u>	xxx xxx
R380	FIBERGLASS LOCAL REPAIR, GRIND & LAYUP F/G - F.C.# 4 REFERENCE: REPAIR 4-2 AIR CURE TIME: START _____ AM/PM (SPEC: 120 MINUTES) STOP _____ AM/PM CYCLE TIME--60	SERVICE # R110A,B,C,D TECH _____	xxx xxx xxx
R430	ALL FIBERGLASS LOCAL OR SYRINGE REPAIRS, OVEN CURE REFERENCE: REPAIR 4-2	FC # 4	xxx
(cont)	SERVICE # R110A,B,C,D R120A,B,C, R150, R160, R170,		

EE0007#
1704
6-7-94
AELC →

20 min

5 min

15 min

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HSSCSC ROCK HILL HARDWARE FLOW TRAVELER
FORM NUMBER RH243

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PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R540	AIR CURE TIME: START _____ AM/PM (SPEC: 120 MINUTES) STOP _____ AM/PM CYCLE TIME--80 TECH _____		xxx
R550	NICKEL SHEATH REPLACE, OVEN CURE FIBERGLASS - F.C. # 5 REFERENCE: REPAIR 4-10 SERVICE # R190 OVEN CURE THE F/G AT 130-140 DEGREES F. FOR 120 MINUTES. START TIME: _____ AM/PM STOP TIME: _____ AM/PM CYCLE TIME--WAIT 120 TECH _____		xxx xxx xxx
R555	NICKEL SHEATH REPLACE, BLEND & TAP TEST FIBERGLASS REFERENCE: REPAIR 4-10, 4-2 F.C. # 5 SERVICE # R190 NOTE: BLEND F/G AS REQUIRED AND TAP TEST FOR DELAMINATIONS. CYCLE TIME--10 TECH _____		xxx xxx
R560	NICKEL SHEATH REPLACE, PREPARE FOR BOND CYCLE REFERENCE: REPAIR 4-10 F.C. # 5 SERVICE #R190 CYCLE TIME--180 TECH _____		xxx xxx
R565 (cont)	NICKEL SHEATH REPLACE, BOND CYCLE F.C. # 5 REFERENCE: REPAIR 4-10 SERVICE # R190		xxx

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HSSCSC ROCK HILL, HARDWARE FLOW TRAVELER
FORM NUMBER RH243

WORK ORDER NUMBER: 448

SERIAL NO.: 861398

PRINT DATE: 06-07-1994

PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R565	BOND CYCLE START _____ AM/PM STOP _____ AM/PM (SPEC: 110 MINUTES) CYCLE TIME--WAIT 110 TECH _____		xxx
R570	NICKEL SHEATH REPLACE, REMOVE FROM RIG F.C. # 5 REFERENCE: REPAIR 4-10SERVICE # R190 NOTE: DISCONNECT EQUIPMENT FROM THE BOND RIG AND REMOVE FIXTURES FROM THE BLADE. ALSO PERFORM A TAP TEST AND VISUAL CHECK OF THE SHEATH. CHECK FOR CRACKS USING A 3 X MAGNIFIER. CYCLE TIME--15 TECH _____		xxx xxx xxx
R575	NICKEL SHEATH REPLACE, DYE CHECK F.C. # 5 *** INSPECTION REQUIRED FOR THIS OPERATION *** REFERENCE: REPAIR 4-10SERVICE # R190 NOTE: DYE PENETRANT THE SHEATH EDGES FOR VOIDS OR DELAMINATIONS PER AMS 2646C. NONE ALLOWED. CIRCLE ONE: ACCEPT REJECT (REASON) _____ CYCLE TIME: RUN--20, WAIT--36	xxx xxx xxx	
R578	TEFLON STRIP REPLACE F.C. # 6 REFERENCE: REPAIR 4-5 SERVICE # R360 CYCLE TIME--20 TECH _____		xxx
R580	INTERNAL HEATER LEAD REPLACE, MASK, PREPARE FOR		xxx

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HSSCSC ROCK HILL HARDWARE FLOW TRAVELER
FORM NUMBER RH243

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SERIAL NO.: 861398

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PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

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ATTACHED

Operation#	Operation Description	Repairman	2nd Verify
R580	<p>PRIMING AND APPLY PRIMER F.C. # 6</p> <p>REFERENCE: 61-13-03 (4-11) -04 (4-18) SERVICE # R220</p> <p>AIR CURE TIME: (SPEC: 60 MINUTES)</p> <p>HEATER LEAD (APPLY 1007 PRIMER)</p> <p>START _____ AM/PM STOP _____ AM/PM</p> <p>SHANK (APPLY EC 776 PRIMER)</p> <p>START _____ AM/PM STOP _____ AM/PM</p> <p>CYCLE TIME: RUN--25, WAIT--60 , TECH _____</p>		xxx
R582	<p>INTERNAL HEATER LEAD REPLACE, APPLY 1007 TO SHANK F.C. # 6</p> <p>REFERENCE: 61-13-03 (4-11) -04 (4-18) SERVICE # R220</p> <p>AIR CURE TIME (SPEC: 60 MINUTES)</p> <p>START _____ AM/PM STOP _____ AM/PM</p> <p>CYCLE TIME: RUN--5, WAIT--60 TECH _____</p>		xxx
R584	<p>INTERNAL HEATER LEAD REPLACE, APPLY ADHESIVE TO LEAD & SHANK F.C. # 6</p> <p>REFERENCE: 61-13-03 (4-11) -04 (4-18) SERVICE # R220</p> <p>AIR CURE TIME: (SPEC: 120 MINUTES)</p>		xxx
(cont)			xxx

HSSCSC ROCK HILL HARDWARE FLOW TRAVELER
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PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R584	START _____ AM/PM STOP _____ AM/PM CYCLE TIME: RUN--10, WAIT--120 TECH _____		xxx
R586	INTERNAL HEATER LEAD REPLACE, APPLY SECOND COAT OF 1096 TO LEAD & SHANK. F.C. # 6 REFERENCE: 61-13-03 (4-11) SERVICE # R220 -04 (4-18) AIR CURE TIME: (SPEC: 30 MINUTES) START _____ AM/PM STOP _____ AM/PM CYCLE TIME: RUN--5, WAIT--30 TECH _____		xxx xxx
R587	INTERNAL HEATER LEAD REPLACE, INSTALL & SOLDER LEAD REFERENCE: 61-13-03 (4-11) F.C. # 6 -04 (4-18) SERVICE # R220 HEATER RESISTANCE (SEE TABLE 102 FOR SPEC) _____ OHMS CYCLE TIME--20 TECH _____		xxx xxx
R588	INTERNAL HEATER LEAD REPLACE, CLEAN & APPLY GLYPTOL (2 COATS) F.C. # 6 REFERENCE: 61-13-03 (4-11) SERVICE # R220 -04 (4-18) AIR CURE TIME: FIRST COAT: (SPEC: 60 MINUTES) START _____ AM/PM STOP _____ AM/PM		xxx xxx
(cont)			xxx

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HSSCSC ROCK HILL HARDWARE FLOW TRAVELER

FORM NUMBER RH243

WORK ORDER NUMBER: 448

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PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R588	SECOND COAT: (SPEC: 60 MINUTES) START _____ AM/PM STOP _____ AM/PM CYCLE TIME: RUN-10, WAIT--120 TECH _____		xxx
R589	INTERNAL HEATER LEAD REPLACE, APPLY PRIMER & EC801 REFERENCE: 61-13-02 (5-16) F.C. # 6 SERVICE # R220 PRIMER AIR CURE TIME: (SPEC: 60 MINUTES) START _____ AM/PM STOP _____ AM/PM CYCLE TIME: RUN--10, WAIT--60 TECH _____		xxx xxx xxx
R660	EROSION SHEATH REPLACE, PREPARE FOR PRIMING F.C. # 6 REFERENCE: 61-13-03 (4-18) SERVICE # R210 -04 (4-19) CYCLE TIME: RUN--35, WAIT--10 TECH _____		xxx xxx
R665	EROSION SHEATH REPLACE, APPLY PRIMER F.C. # 6 REFERENCE: 61-13-03 (4-18) SERVICE # R210 -04 (4-19) AIR CURE TIME: (SPEC: 60 MINUTES) START _____ AM/PM STOP _____ AM/PM CYCLE TIME: RUN--10, WAIT--60 TECH _____		xxx xxx xxx
R670 (cont)	EROSION SHEATH REPLACE, PREP SHEATH, APPLY ADHESIVE REFERENCE: 61-13-03 (4-18) F.C. # 6		xxx

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PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R670	-04 (4-19) SERVICE # R210 AIR CURE TIME: (SPEC: 120 MINUTES) START _____ AM/PM STOP _____ AM/PM CYCLE TIME: RUN--5, WAIT--120 TECH _____		xxx xxx
R674	EROSION SHEATH REPLACE, APPLY ADHESIVE F.C. # 6 REFERENCE: 61-13-03 (4-18) -04 (4-19) SERVICE # R210 AIR CURE FOR 10 TO 60 MINUTES UNTIL "AGGRESSIVELY TACKY" CYCLE TIME: RUN--5, WAIT--10 TO 60 TECH _____		xxx xxx
R676	EROSION SHEATH REPLACE, INSTALL SHEATH & SEAL F.C. #6 REFERENCE: 61-13-03 (4-18) -04 (4-19) SERVICE # R210 NOTE: AFTER SHEATH INSTALLATION, TRIM AS REQUIRED AND THEN APPLY EC801 TO THE EDGES. CYCLE TIME--35 TECH _____		xxx xxx
R680	EROSION FILM INSTALL (FOR EROSION SHEATH) F.C. # 6 REFERENCE: 61-13-03 (4-17) -04 (4-13) SERVICE # R200, R210 CYCLE TIME-- 25 TECH _____		xxx xxx
R810 (cont)	PRE-BALANCE FOR EROSION COATING F.C. # 7 REFERENCE: 61-13-03 (4-13) SERVICE # R400,		xxx

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HSSCSC ROCK HILL HARDWARE FLOW TRAVELER
FORM NUMBER RH243

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PRINT DATE: 06-07-1994

PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R900	INNER BEARING RACE POLISH & VISUAL CHECK F.C. # 8 REFERENCE: REPAIR 4-8 SERVICE # RSTD CYCLE TIME--5 TECH _____		xxx
R905	AIRFOIL STENCILING F.C. # 8 REFERENCE: REPAIR 4-7 SERVICE # RSTD NOTE: ENSURE "PS 960A" AND "ASB 66" (RF-9) "ASB 34" (RF-19) "ASB 53" (RF-21) ARE COMPLIED WITH AND STENCILED ON THE BLADE. CYCLE TIME--5 TECH _____		xxx xxx xxx
R930	FINAL PROCESS OPERATIONS F.C. # 8 REFERENCE: CMM VARIOUS SERVICE # RSTD NOTE: CHECK OFF EACH ITEM AS IT IS COMPLETED. ___ A. HEATER RESISTANCE CHECK _____ OHMS (SEE CMM FOR SPEC.) ___ B. HEATER INSULATION CHECK _____ MEG OHMS (SEE CMM FOR SPEC.) ___ C. LIGHTLY SAND NICKEL SHEATH IF SCRATCHED. ___ D. VISUALLY CHECK TEFLON STRIP FOR DAMAGE. ___ E. CHECK EROSION COATING, TOUCH UP IF REQUIRED. ___ F. CHECK THE BALANCE OPERATION TO ENSURE THAT THE		xxx xxx xxx xxx xxx
(cont)			

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ATTACHMENT 4

HSSCSC ROCK HILL HARDWARE FLOW TRAVELER
FORM NUMBER RH243

WORK ORDER NUMBER: 448

SERIAL NO.: 861398

PRINT DATE: 06-07-1994

PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R930	PROSEAL 870 B 1/2 HAS CURED FOR AT LEAST TWO HOURS. INSTALL THE BORE O-RING, PLUG AND SNAP RING. ENSURE THE SNAP RING IS SECURELY INSTALLED.		xxx
	___ G. IF BLADE PIN WAS REMOVED:		xxx
	- RETENTION TEST _____ (SPEC: 0.004" MAX.)		xxx
	- INSTALLED HEIGHT _____ (SPEC: 1.248-1.254")		xxx
	- SETSCREW DEPTH _____ (SPEC: 0.200" MINIMUM)		xxx
	___ H. INSTALL BLADE PIN HARDWARE. CHECK FOR BRG RADIAL LOOSENESS.		xxx
___ I. CLEAN SHANK WITH MEK; APPLY ALODINE AS REQD.		xxx	
	CYCLE TIME--50 TECH _____		xxx
R950	FINAL INSPECTION OPERATIONS - F.C. # 8 *** INSPECTION REQUIRED FOR THIS OPERATION *** SERVICE # RSTD		xxx
	REFERENCE: CMM VARIOUS		xxx
	CHECK OFF EACH ITEM AS IT IS COMPLETED.		xxx
	___ A. PERFORM COMPLETE VISUAL CHECK OF BLADE. DO THIS TWO TIMES MINIMUM.		xxx
___ B. VERIFY CORRECT STENCILING AND SHANK STAMPING, BY CHECKING THE SERVICEABILITY REVIEW OUTGOING P/N & CONFIGURATION, ALONG WITH ANY HSCSCRH 007 FORMS AND SERVICE BULLETINS.		xxx	
(cont)			

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ATTACHMENT 4

HSSCSC ROCK HILL HARDWARE FLOW TRAVELER
FORM NUMBER RH243

WORK ORDER NUMBER: 448

SERIAL NO.: 861398

PRINT DATE: 06-07-1994

PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R950	___ C. ENSURE PIN TEST DIMENSIONS ARE RECORDED AT FINAL PROCESS OPERATION.		xxx
	___ D. VERIFY THAT ALL WORK ORDER PARTS LIST PARTS WERE INSTALLED.		xxx
	___ E. VERIFY CORRECT INSTALLATION OF LEAD PLUG SNAP RING AND BLADE PIN HARDWARE AND COTTER PIN.		xxx
	___ F. VERIFY BLADE BEARING RADIAL FIT BY HAND.		xxx
	___ G. ENSURE ANY FAA "A.D. NOTES" ARE INCORPORATED AS REQUIRED.		xxx
	___ H. VERIFY ALL REQUIRED S/B'S ARE INCORPORATED.		xxx
	___ I. BRIDGE THE WORK AND SALES ORDERS.		xxx
	___ J. PRINT THE SALES ORDER.		xxx
	___ K. PRINT THE ACR.		xxx
	___ L. VERIFY THE ACR, SERVICEABILITY REVIEW FORM AND HARDWARE FLOW TRAVELER REPAIRS MATCH.		xxx
	___ M. ENSURE ALL FORMS ARE COMPLETE AND THE BLADE SERIAL AND PART NUMBERS ARE CORRECT.		xxx
	___ N. GENERATE TWO COPIES OF THE FAA MAINTENANCE RELEASE TAG.		xxx
	PREPARATION FOR SHIPPING:		
(cont)	___ O. APPLY SHIPPING FOAM TO THE TEFLON STRIP.		xxx

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ATTACHMENT J

HSSCSC ROCK HILL HARDWARE FLOW TRAVELER
FORM NUMBER RH243

PRINT DATE: 06-07-1994

WORK ORDER NUMBER: 448

SERIAL NO.: 861398

PART NUMBER: RFC11M1-6A

PART NAME: 14RF-9 BLADE & PIN ASSEMBLY

Operation#	Operation Description	Repairman	2nd Verify
R955	PERFORM STANDARD PAPERWORK CLOSINGS. CYCLE TIME: 20 TECH _____		

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A. H. H. H. H. H.