



**ZEE Systems, Inc.**

**SERVICE BULLETIN 65-R134**

1. PLANNING INFORMATION

A. Effectivity: British Aerospace Jetstream 3101 and 3201 aircraft with Zee Systems Air Conditioning equipment.

B. Reason: To modify the SZ65-001-1/-1A/-1B/-1C Motor Compressor Condenser Assembly (M/C/C) to use CFC free R-134a refrigerant.

C. Description: This service bulletin gives instructions for converting the Motor Compressor Condenser Assembly P/N SZ65-001 (any dash number) of the Vapor Cycle Air Conditioning system from R-12 (Freon) to EPA approved R-134a refrigerant. This conversion consists of flushing the condenser, minor parts replacement and recharging the system with R-134a refrigerant.

D. Compliance: Compliance is optional. Service bulletin 67-R134 and service bulletin R134-01 must be accomplished prior to installing this modified equipment back on the aircraft.

E. Approval: This service bulletin contains no modification data that changes the fit, form or function of the original design and therefore does not require any additional approvals.

F. Manpower: It is recommended accomplishment of this service bulletin be performed when the components are exposed or removed from the aircraft during regularly scheduled maintenance of the air conditioning system. The time estimated for flushing the condenser and replacement of the components is 3.0 manhours. This estimate excludes the time required to discharge the system, expose or remove the M/C/C assembly from the aircraft, replace the system to its normal operating configuration in the aircraft, service the system and perform normal leak detection and functional tests accomplished when returning the system to service on the aircraft.

No additional manhours are required to accomplish component replacement if done during overhaul of the Motor Compressor Condenser Assembly.

G. Material Cost and Availability: Refer to Section 3 for a detailed listing of parts and materials required to accomplish the modification procedures outlined in this service bulletin. The required parts, materials, equipment and pricing is available from:

ZEE Systems, Inc.  
127 Braniff Dr.  
SAN ANTONIO, TX 78216

1-800-988-COOL<sub>(2665)</sub>  
FAX (210) 349-9208  
e-mail: info@zeeco-zeesys.com

H. Equipment and Tooling:

Flushing Equipment.	Commercially Available
Mineral Spirits	Commercially Available
Nitrogen Bottle	Commercially Available



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Source for dry shop air.

\*\*Optional equipment used in Discharging and Charging the system.

**Refrigerant Recovery/Recycle Equipment	Commercially Available meeting SAE J1990 or J2209 specifications.
**Manifold Gauge Set, with hoses R-134a compatible	Commercially Available
**Scale .1 lb. increments	Commercially Available
**Leak Detector	Commercially Available
**Vacuum Pump	Commercially Available

I. Weight and Balance: No effect.

J. Electrical Load Data: No effect.

K. References: Refer to Maintenance and Parts Manual SZ58-002 and SZ65-001, Motor Compressor Condenser Assembly for basic disassembly and assembly instructions. Disregard references to R-12 servicing instructions. Refer to service bulletin R134-01 for R-134a servicing instructions.

**2. ACCOMPLISHMENT INSTRUCTIONS**

**NOTE**

**COMPONENTS MAY BE RETURNED TO ZEE SYSTEMS FOR MODIFICATION. INSTRUCTIONS OUTLINED BELOW INCLUDE STEPS FOR FIELD MODIFICATIONS.**

A. Preparation: The replacement of components should be accomplished in a clean, dry area free of oil, dirt, moisture and other contamination.

B. Disassembly:

**CAUTION**

**SYSTEM UNDER PRESSURE. APPROPRIATE SAFETY MEASURES SHOULD BE TAKEN WHEN SERVICING THIS EQUIPMENT. ONLY TRAINED PERSONNEL WITH SAFETY EQUIPMENT SHOULD PERFORM THESE DUTIES.**

**NOTE**

**IT IS UNLAWFUL TO RELEASE R-12 TO THE ATMOSPHERE. USE APPROVED RECOVERY/RECYCLE EQUIPMENT TO CAPTURE THE R-12. USE ONLY LAWFUL MEANS TO DISPOSE OF RECOVERED R-12. CHECK WITH LOCAL AGENCIES FOR APPROVED DISPOSAL PROCEDURES.**

**NOTE**

**CAP ALL LINES TO PREVENT CONTAMINANTS AND MOISTURE FROM ENTERING THE SYSTEM.**



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1. Compressor: Disconnect lines to the compressor and remove the compressor from the compressor plate. Remove the pulley from the compressor. Discard compressor.
2. Lines: Disconnect all lines, discard.
3. Remove the bulkhead fittings and union from the M/C/C assembly, discard.

**NOTE**

**ALL COMPONENTS OR LINES WHICH CARRY REFRIGERANT MUST BE FLUSHED OR REPLACED.**

**C. Flushing:**

**1. Condenser Coil:**

- a. Fill flushing equipment with Mineral Spirits in accordance with manufacturers instructions.
- b. With the inlet line to the condenser removed use a suitable adapter to connect the flushing equipment to the coil. Attach a suitable reservoir to the outlet side of the coil to capture the dirty flushing fluid. Flush the coil in accordance the flushing equipment manufacturers instructions. Continue to flush until clean fluid flows from outlet.
- c. Blow nitrogen through the coil until the inner tubes are dry.

**D. Modification:** Modification occurs when the condenser coil is flushed and new components are installed on the M/C/C assembly.

**E. Assembly:** Install and adjust components in accordance with the SZ65-001 Maintenance Manual.

1. Attach pulley on new compressor. Install new compressor on mounting plate and adjust belts.
2. Attach the new bulkhead fittings (DS200B-8, DS200B137-10)to the gusset.
3. Attach union (DS200U137-8) to the inlet of the condenser.
4. Attach new hoses.
5. Install the modified M/C/C in the aircraft system in its normal configuration (using only the flushed or new R-134 components).
6. Tighten all connections, do not over tighten.

**F. Servicing Instructions:** Refer to service bulletin R134-01 for servicing instructions.

**NOTE:** The servicing instructions are basically the same as with an R-12 system. However, a sight glass is NOT used to determine adequate refrigerant charge. The system is charged with a predetermined amount (by weight) of refrigerant.

**G. Testing:** Check the system in accordance with your normal certification and return to service specifications.



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H. Reidentification: Stamp or etch "R134" behind the serial number on the data plate. Make appropriate log book entries.

#### **3. MATERIAL INFORMATION**

Parts and materials required to modify the SZ65-001 M/C/C are listed below. Quantities are for one M/C/C Assembly.

1. Modification Kit P/N: K65-R134. The kit contains the following parts:

<b>QTY</b>	<b>New Part Number</b>	<b>Description</b>	<b>Old Part Number/Disposition</b>
1	SZ84-913OP-1	Compressor	SCF206T-21905/Discard or CR206R/Discard or CF206R/Discard
1	Z2008AC150	Hose	Z1008000D110/Discard
1	Z20010AB224	Hose	Z10010000E206/Discard
1	Z2008255DB180X230	Hose	Z1008270I210/Discard
1	DS200B-8	Fitting, Bulkhead	SZ65-014-3/Discard
1	DS200B137-10	Fitting, Bulkhead	SZ65-014-5/Discard or DS108/Discard
1	DS200U137-8	Fitting, Union	SZ55-035-3/Discard
*1	400649-1	Data Plate	Reidentify as per paragraph. 2., H. of this service bulletin or replace I.D. Plate.

\*Zee Systems will provide completed Data Plate with kit upon request. User must provide Serial Number of unit being modified when ordering Kit K65-R134.