

## TRUCK, HEAVY, MC3 – MACK – ALL TYPES

### CRISP-AIR AIRCONDITIONER

## OPERATOR INSTRUCTIONS

This instruction is authorised for use by command of the Chief of Army. It provides direction, mandatory controls and procedures for the operation, maintenance and support of equipment. Personnel are to carry out any action required by this instruction in accordance with EMEI General A 001.

### INTRODUCTION

1. This EMEI lists all the operator instructions for the Crisp-Air Airconditioner fitted as part of the Mack Noise Reduction Project including all operator maintenance tasks and non-technical inspection requirements.
2. Proper operation and handling will determine the service life and operating economy of this equipment. This includes correct and timely operator servicing, inspections and reporting of defects.

### OPERATOR INSTRUCTIONS

#### WARNING

**THIS AIR CONDITIONING SYSTEM CONTAINS R134A REFRIGERANT UNDER PRESSURE. DO NOT TAMPER WITH IT. IF PROBLEMS DO DEVELOP, CONSULT AN AUTHORISED SERVICE AGENT OR TRAINED REFRIGERATION MECHANIC.**

#### Procedures

3. **Set-up Procedures.** Ignition power and engine rotation are essential for the operation of the air conditioning system.

#### WARNING

**RECIRCULATING MODE SHOULD NOT BE USED FOR PROLONGED PERIODS OF TIME. USING FRESH AIR MODE WILL REDUCE THE BUILD UP OF CARBON DIOXIDE IN THE CABIN AND WILL PREVENT BACTERIA BUILD UP IN THE EVAPORATOR COIL FINS.**

4. **Normal Operation Procedures.** To operate the system, proceed as follows (refer to Figure 1):
  - a. Turn the Fan switch to the desired blower speed (1, 2 or 3).

- b. Adjust the Temp switch to the desired temperature. It will take a few minutes depending on the outside ambient temperature for the cabin temperature to stabilise.
- c. Select the appropriate fresh air mode by selecting the Open (fresh) or Closed (recirculating) setting using the fresh air intake control. The Open setting will allow the intake of outside ambient air from the roof mounted flap. Consequently, further adjustment of the Temp control may be necessary.



Figure 1 – Control Panel

- d. Adjust the overhead directional air vents to suit your preference.
5. **Performance Tips.** The following tips will assist the operator to gain optimum efficiency from the air conditioning system:
    - a. If the vehicle is parked in the sunlight on a hot day for a long period, the cabin temperature may be extremely high. To cool the interior quickly, observe the following:
      - (1) Open the windows to exhaust the hot air.
      - (2) Operate the air conditioning system with maximum fan speed and cooling.

- (3) When the temperature has cooled sufficiently, close the windows and operate the system in recirculation mode until the desired temperature is reached.
- (4) Adjust the fan speed and temperature controls as desired.
- b. To maintain maximum cooling, all windows should be closed.

6. **Tropical/High Humidity Conditions.** If the air conditioning system is operated in tropical or high humidity conditions, some excess water may be retained in the drain tray and may need to be 'released' periodically to ensure correct operation and drainage. If this does occur, reduce the blower fan speed (fan speed 1) or turn the fan off for approximately 30 seconds to allow excess water condensation to drain from the evaporator drain tray.

#### OPERATOR MAINTENANCE

7. The following paragraphs detail the operator servicing requirements for the air conditioning equipment. The instructions detailed in the Servicing Instruction contained in EMEI Vehicle G 799 take precedence over the instructions detailed in this document.

8. Regular system operation, regardless of season, is essential. This is necessary to ensure that adequate lubrication of compressor seals and joints in the system is achieved. The minimum requirements are:

- a. Operate continuously for a minimum of 20 minutes every two months if the vehicle is in storage.
- b. If unable to operate as above, the appropriate technical support unit should recover refrigerant gas, change compressor oil and receiver dryer, flush the system, recharge the system and check for leaks before placing back into service.

9. **Operator's Daily Servicing.** The operator is to inspect the air conditioning components for visible and audible defects, paying particular attention to the following areas:

- a. evaporator, drain tube and control panel controls;
- b. compressor, electro-magnetic clutch and compressor drive belt;
- c. condenser;
- d. dryer; and
- e. refrigerant plumbing.

#### Periodical Maintenance

10. Periodical maintenance details are as follows:

- a. Weekly and monthly servicings are to be carried out, in accordance with Table 1, by operators regardless of equipment usage. Under extreme conditions, the tasks listed in the table should be performed on a more regular basis. This servicing is the responsibility of the owner unit.
- b. Minor and Major Servicing is to be carried out in accordance with the Servicing Instruction EMEI Vehicle G 799. The owner unit is responsible to ensure that the air conditioning system is serviced in accordance with these intervals. Servicing is to be performed by RAEME tradespeople, with assistance from operators working under RAEME supervision.

11. **Air Filter Cleaning.** To clean the air filter elements, proceed as follows:

- a. Fresh Air Intake Filter:
  - (1) This filter is located on the exterior of the cab roof.
  - (2) Remove the three screws securing the filter cover and lift off the cover.
  - (3) Twist the 'Oddie' clip located in the filter grille.
  - (4) Remove the grille and filter pad carefully so that dust is not dropped into the vent.
  - (5) Wash the filter pad in water. The use of a mild detergent is preferred. Do not use solvent or petroleum based cleaners.
  - (6) Dry the pad and refit to the filter housing in the reverse order to removal.
- b. Return Air Intake Filter:
  - (1) This filter is located on the front of the evaporator assembly, adjacent to the windscreen.
  - (2) Twist the 'Oddie' clips located in the filter grille.
  - (3) Remove the grille and filter pad.
  - (4) Wash the filter pad in water. The use of a mild detergent is preferred. Do not use solvent or petroleum based cleaners.
  - (5) Dry the pad and refit to the filter housing in the reverse order to removal.

**Table 1 – Weekly/Monthly Maintenance Tasks**

<b>Item</b>	<b>Task</b>	<b>Weekly</b>	<b>Monthly</b>
1.	Inspect all system components for security	X	
2.	Ensure that the compressor drive belt is not damaged and is adjusted correctly	X	
3.	Ensure that the evaporator drain tube is not blocked	X	
4.	Remove and clean the fresh air intake filter (refer to Para 11.a)		X
5.	Remove and clean the return air filter (refer to Para 11.b)		X
6.	Report all defects	X	X

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**END**

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