



Zee Systems Inc.

AIRBORNE AIR CONDITIONING SYSTEMS & COMPONENTS

FAA APPROVED MANUFACTURER'S MAINTENANCE FACILITY NO. 243-14

MAINTENANCE MANUAL

SZ63

**WITH
PARTS LIST**

EVAPORATOR ASSEMBLY

THIS MANUAL SUPERSEDES ALL PREVIOUS EDITIONS

MANUAL SZ63

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Zee Systems Inc.

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SZ63-002 Evaporator Assembly

Evaporator Assembly

The SZ63-002-1, -3, -5, & -7 and SZ63-002-2, -4, -6, & -8 Evaporator Assemblies were designed with compactness in mind utilizing a side mounted and axial mounted electric motor configuration. The evaporator assemblies need no routine inspection other than cleaning the filter (fig.1-9) as required and checking motor belt tension whenever possible. NOTE: When reinstalling the filter make sure that the filter does not touch the evaporator coil face as this can allow moisture from the coil to run through the filter and outside of the drip pan. The washable filter can be cleaned with water and any suitable detergent.

Expansion Valve

The expansion valve (fig. 1-2) is externally balanced with an external balance line connection and thermostatic bulb attached to the suction line. If the expansion valve is replaced, the thermostatic bulb must have full contact with the suction line (outlet) and must be thoroughly sealed with insulation tape. The expansion valve has a line screen that prevents foreign matter from entering the expansion valve and can be seen by removing inlet hose assembly. This screen should only be cleaned as a trouble shooting step when the system pressure is fully discharged.

Evaporator Motor/Blower Wheel Assembly

The motor/blower wheel assembly SZ63-015-1 and -2 should be handled as one unit (fig. 2) and can very easily be removed from the evaporator assembly by removing 3 screws per motor/blower wheel assembly (fig. 1-12), one screw is under cover SZ63-005-3 (fig. 2-2) and the appropriate plug button (fig. 2-12) will have to be removed to allow access to the screw (see aft view figure 1). The axial motor/blower wheel assembly SZ63-011-1 and -2 should also be handled as one unit (fig. 3) and can very easily be removed from the evaporator assembly the same as the SZ63-015-1 and -2 motor/blower wheel assembly.

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Belt Replacement or Adjustment

Belt replacement - Loosen both pulley set screws (fig. 2-11) slide both pulleys off the shafts at the same time. The motor is mounted to SZ63-008-1 and -2 Motor Mount Plate Assembly (fig. 2-3) with two AN364-1032A nuts (fig. 2-13), which are covered by the plug buttons installed on the SZ63-005-3 cover (fig. 2-2). Using a screw driver pop-off the plug buttons and loosen the motor attach nuts with the special tool shown on figure 4.

The motor attach nut on the hole marked with an "X" is the belt tension adjusting attachment. The other adjustment is the pivot point. Replace the belt on the pulleys and slide the pulleys back on the shafts at the same time. With thumb pressure on the motor shaft end, tighten the motor pulley so that it has a 1/16" clearance gap between SZ63-005-3 cover (fig. 2-2) and the pulley.

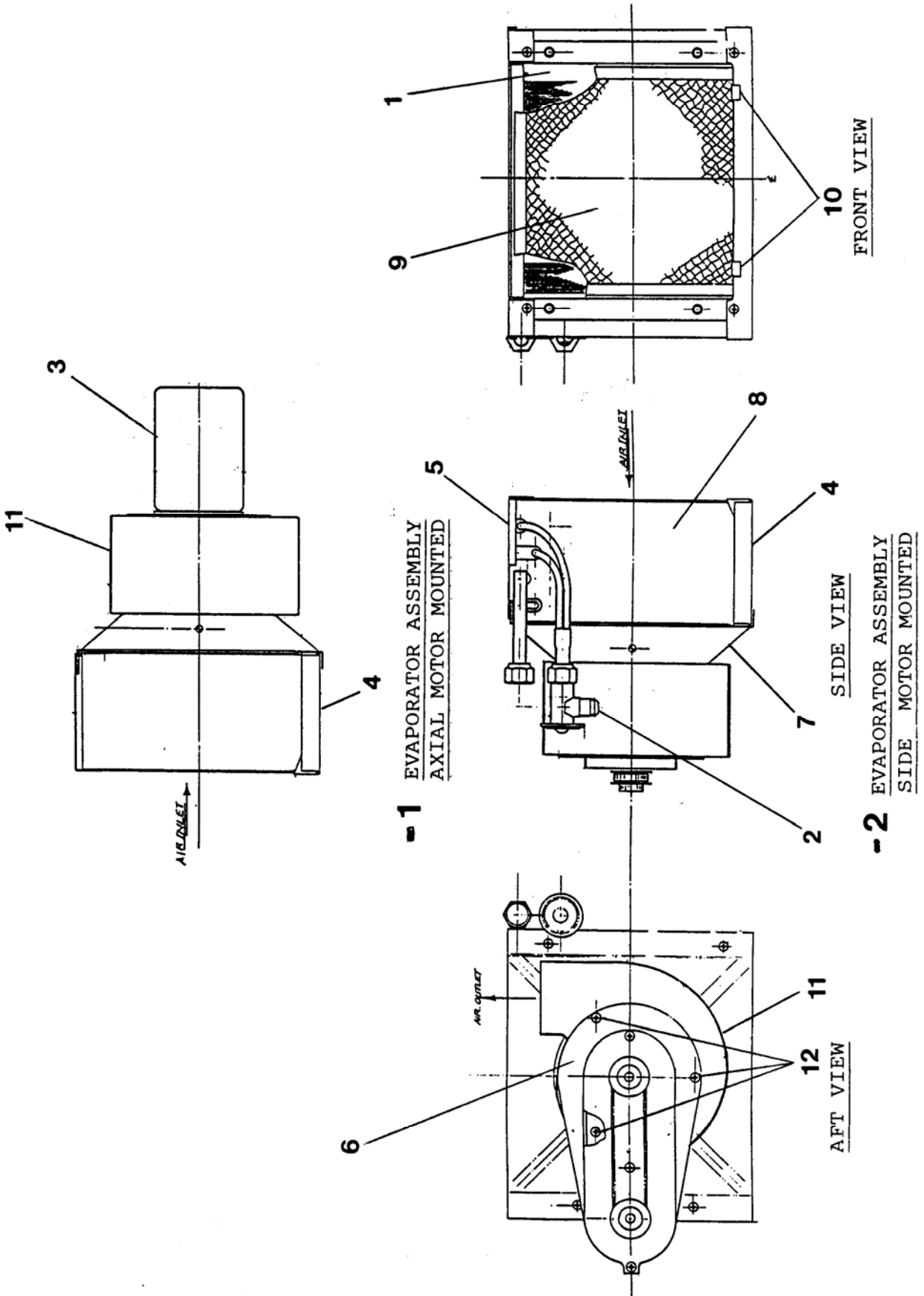
The wheel shaft has no play, so that only a 1/16" clearance gap need be maintained on the wheel pulley and tightened. Turn the motor on the pivot attachment until the belt is properly tensioned and tighten the adjustment nut. Proper belt tension is obtained when one side of the belt is pushed by finger and a 3/8" belt deflection is obtained.

Where belt adjustment is only required, follow the belt adjustment steps given above.

Blower Wheel Replacement

The blower wheel on the assembly is precisely balanced and can be replaced easily by loosening the set screw, removing and replacing. NOTE: When replacing the blower wheel it is very important to maintain the dimension shown on figure 2 for both the SZ63-015-1 and -2 and SZ63-011-1 and -2 assemblies. Extreme care should be exercised in handling the blower wheel because damage inflicted by rough handling can unbalance the blower wheel causing vibration on evaporator operation and shortened bearing life.

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-1 EVAPORATOR ASSEMBLY
AXIAL MOTOR MOUNTED

-2 EVAPORATOR ASSEMBLY
SIDE MOTOR MOUNTED

Figure 1

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PARTS LIST

| FIG NO. | PART NO. | DESCRIPTION | USAGE AND QUANTITY PER ASSY | | | | | | | | |
|---------|--------------|--------------------------------|-----------------------------|----|----|----|----|----|----|----|--|
| | | | -1 | -2 | -3 | -4 | -5 | -6 | -7 | -8 | |
| 1 | SZ63-002-1 | Evaporator Assy Axial Mtr. | | | | | | | | | |
| | SZ63-002-3 | " " " " | | | | | | | | | |
| | SZ63-002-5 | " " " " | | | | | | | | | |
| | SZ63-002-7 | " " " " | | | | | | | | | |
| | SZ63-002-2 | Evaporator Assy Side Mtr. | | | | | | | | | |
| | SZ63-002-4 | " " " " | | | | | | | | | |
| | SZ63-002-6 | " " " " | | | | | | | | | |
| | SZ63-002-8 | " " " " | | | | | | | | | |
| 1-1 | SZ63-004-1 | .Coil Assy LH (shown) | 1 | 1 | 1 | 1 | | | | | |
| | SZ63-004-2 | " " RH | | | | | 1 | 1 | 1 | 1 | |
| 1-2 | N2FW-3/8-1/2 | .Expansion Valve | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 1-3 | SZ63-011-1 | .Motor/Wheel Assy (Axial) LH | 1 | | | | 1 | | | | |
| | SZ63-011-2 | " " " " RH | | | 1 | | | | 1 | | |
| 1-4 | SZ63-013-3 | .Drain Pan | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 1-5 | SZ63-014-3 | .Top - LH Coil | 1 | 1 | 1 | 1 | | | | | |
| | SZ63-014-4 | RH " | | | | | 1 | 1 | 1 | 1 | |
| 1-6 | SZ63-015-1 | .Mtr/Whl Assy (side mtd) LH | | 1 | | | | 1 | | | |
| | SZ63-015-2 | " " " " " RH | | | | 1 | | | | 1 | |
| 1-7 | SZ63-016-1 | .Adapter | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 1-8 | SZ63-017-3 | .Cover, End RH Coil (optional) | | | | | 1 | 1 | 1 | 1 | |
| | SZ63-018-3 | " " " " " | | | | | 1 | 1 | 1 | 1 | |
| | SZ63-019-3 | " " LH " " | 1 | 1 | 1 | 1 | | | | | |
| | SZ63-020-3 | " " LH " " | 1 | 1 | 1 | 1 | | | | | |
| 1-9 | SZ63-010-3 | .Filter | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 1-10 | SZ63-017-3 | .Clip | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| 1-11 | 675 L | .Blower Housing LH | 1 | 1 | | | 1 | 1 | | | |
| | 675 R | " " RH | | | 1 | 1 | | | 1 | 1 | |
| 1-12 | MS35206-245 | .Screw | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | AN960-86 | .Washer | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | AN935-8 | .Washer-Lock | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |

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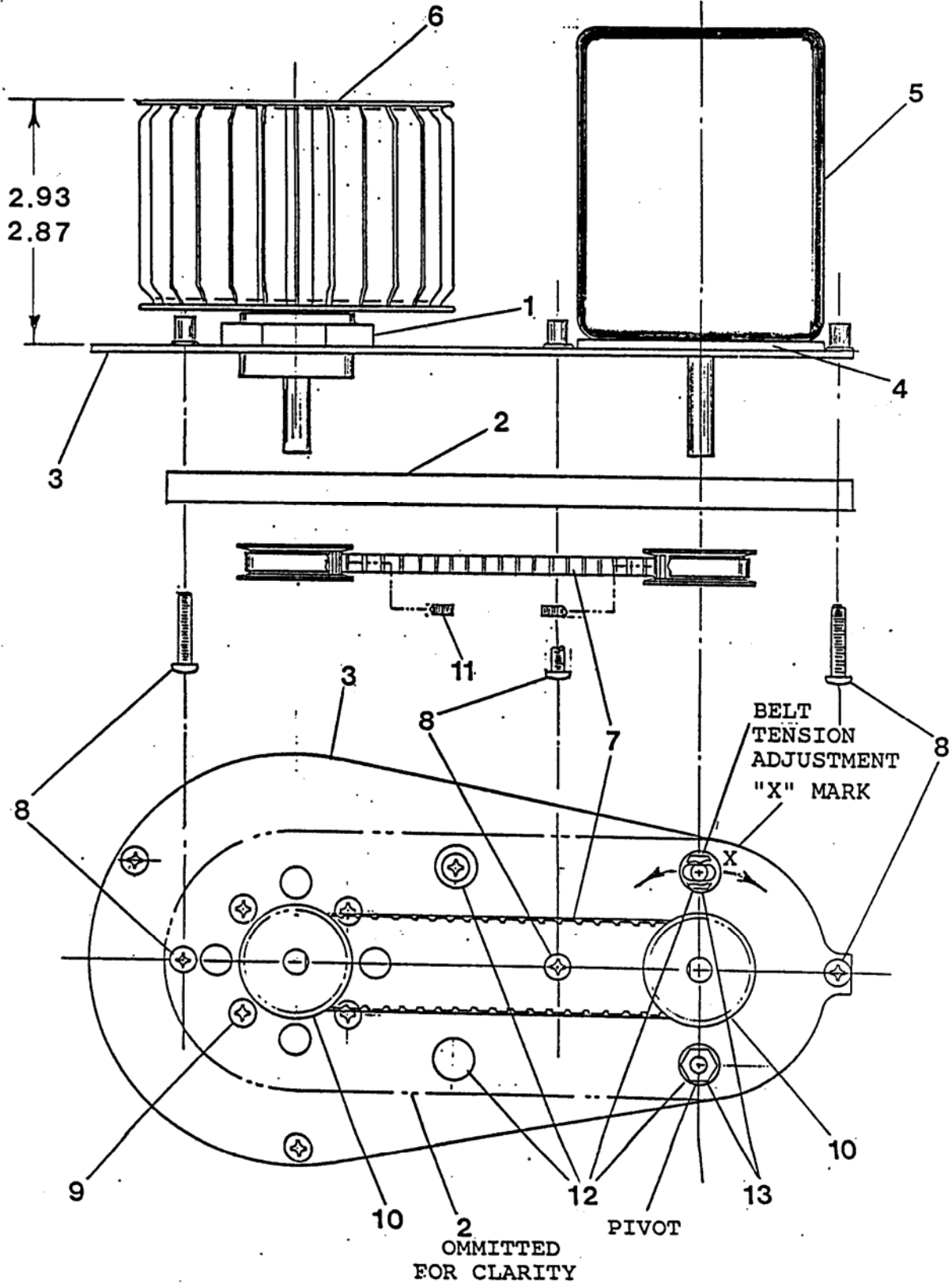


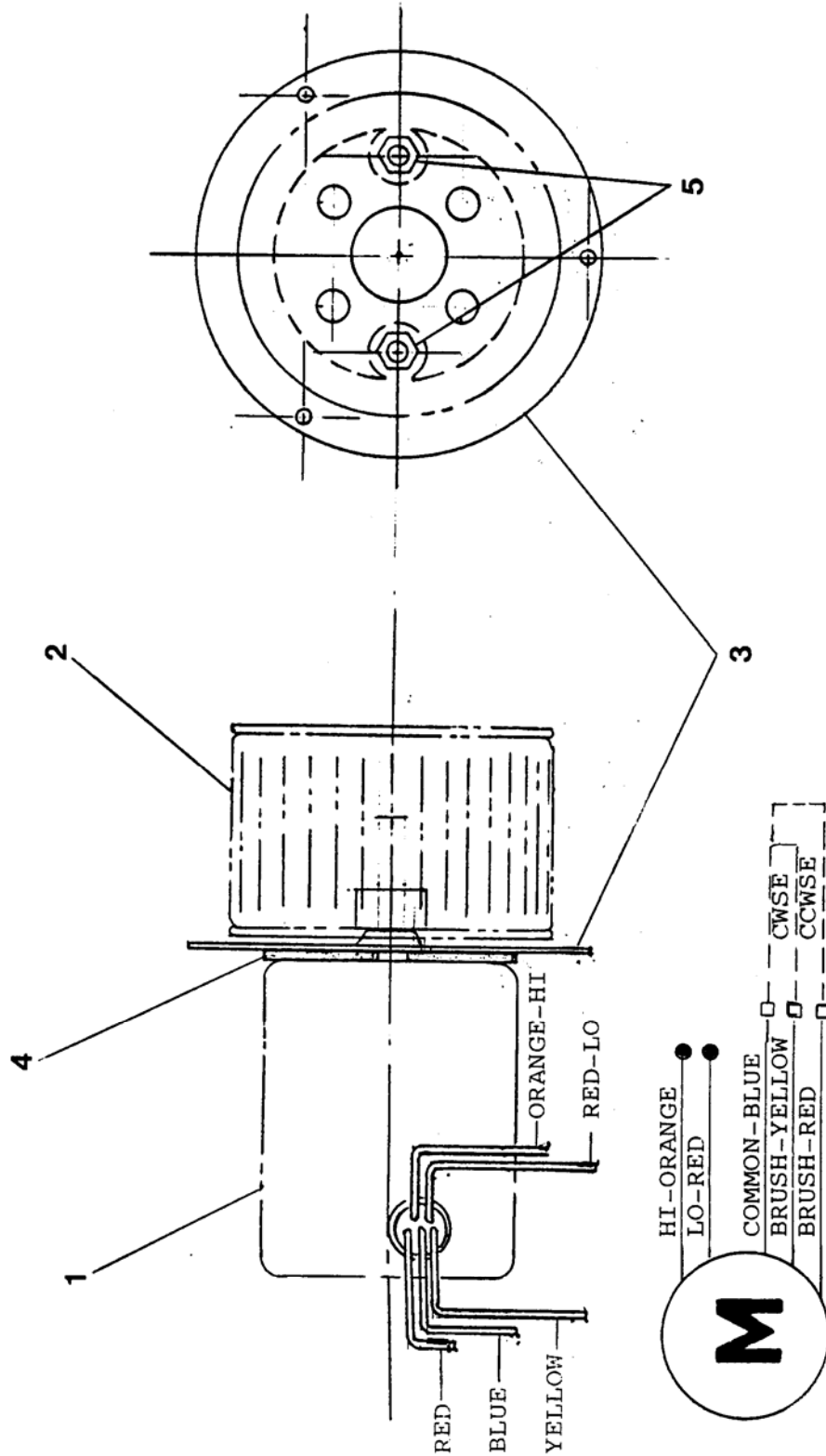
FIGURE 2

ZEE SYSTEMS INC

PARTS LIST

| FIG NO. | PART NO. | DESCRIPTION | USAGE AND QUANTITY PER ASSY | | |
|---------|---------------|------------------------------|-----------------------------|----|--|
| | | | -1 | -2 | |
| | SZ63-002-2 | Evaporator Assy Side Mtr. | | | |
| | SZ63-002-4 | " " " " | | | |
| | SZ63-002-6 | " " " " | | | |
| | SZ63-002-8 | " " " " | | | |
| 2 | SZ63-015-1 | .Motor/Wheel Assy (shown) | | | |
| | SZ63-015-2 | .Motor/Wheel Assy (opposite) | | | |
| 2-1 | SZ63-003-1 | ..Bearing/Shaft Assembly | 1 | 1 | |
| 2-2 | SZ63-005-3 | ..Support Plate | 1 | 1 | |
| -3 | SZ63-008-1 | ..Motor Mount Plate | 1 | | |
| | SZ63-008-2 | ..Motor Mount Plate | | 1 | |
| -4 | SZ63-010-3 | ..Spacer | 1 | 1 | |
| -5 | 2807-513-056 | ..Motor 24 Volt DC | 1 | 1 | |
| -6 | AA326-215L | ..Blower Wheel LH | 1 | | |
| | AA326-215R | ..Blower Wheel RH | | 1 | |
| -7 | 6R3-067-025 | ..Belt | 1 | 1 | |
| -8 | AN515-8R14 | ..Screw | 3 | 3 | |
| | AN935-8 | ..Lock Washer | 3 | 3 | |
| | AN960-8L | ..Washer | 3 | 3 | |
| -9 | AN515-8R8 | ..Screw | 4 | 4 | |
| | AN935-8 | ..Lock Washer | 4 | 4 | |
| -10 | 6A3-18DF02510 | ..Pulley | 2 | 2 | |
| -11 | 8-32 x ¼ | ..Set Screw | 2 | 2 | |
| -12 | 3752 | ..Plug Button | 4 | 4 | |
| -13 | AN313-3 | ..Nut | 2 | 2 | |
| | AN365-1032A | ..Nut-Lock | 2 | 2 | |
| | AN960-10 | ..Washer | 2 | 2 | |

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TYPICAL - FOR SZ63-015 AND
 SZ63-011 MOTOR ASSEMBLIES

FIGURE 3

LEE SYSTEMS INC

PARTS LIST

| FIG NO. | PART NO. | DESCRIPTION | USAGE AND QUANTITY PER ASSY | | |
|---------|--------------|------------------------------|-----------------------------|----|--|
| | | | -1 | -2 | |
| | SZ63-002-1 | Evaporator Assy Axial Mtr. | | | |
| | SZ63-002-3 | " " " " | | | |
| | SZ63-002-5 | " " " " | | | |
| | SZ63-002-7 | " " " " | | | |
| 3 | SZ63-011-1 | .Motor/Wheel Assy (Axial) LH | | | |
| | SZ63-011-2 | " " " " RH | | | |
| 3-1 | 2807-513-056 | ..Motor 24 Volt DC | 1 | 1 | |
| 3-2 | AA326-215L | ..Blower/Wheel LH | 1 | | |
| | AA326-215R | " " RH | | 1 | |
| 3-3 | SZ63-009-3 | ..Mount Plate | 1 | 1 | |
| 3-4 | SZ63-010-3 | ..Spacer | 1 | 1 | |
| 3-5 | AN315-3 | ..Nut | 2 | 2 | |
| | AN365-1032A | ..Nut-Lock | 2 | 2 | |
| | AN960-10 | ..Washer | 2 | 2 | |

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The tool required to loosen and tighten the electric motor attach nuts is a standard 3/8 inch socket with a notch cut on it as shown on figure 3 below.

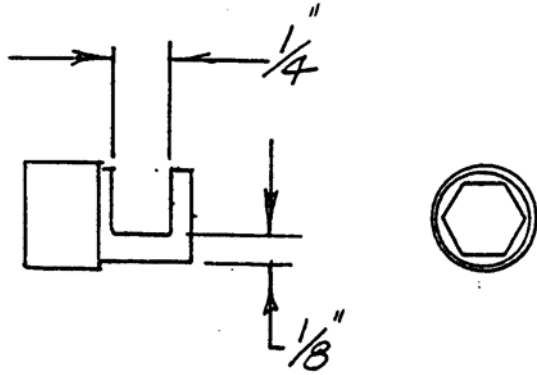


Figure 4