



E BRAKE
by Jacobs

Air Supply Manual

IMPORTANT!

These instructions are to be used together with the Installation Manual supplied with the E Brake when installing the Auxiliary Air Group, Cummins P/N 3802673.

Installation Instructions

NOTE:

USE THE PNEUMATIC SCHEMATIC SHOWN IN FIG. A INSTEAD OF THE FIGURE SHOWN IN THE CUMMINS E BRAKE INSTALLATION MANUAL.

USE THE WIRING SCHEMATIC SHOWN IN FIG. B TO ELECTRICALLY CONNECT THE AIR COMPRESSOR AND ITS CONTROL COMPONENTS. THE EXTENDER WIRING WILL BE THE SAME AS SHOWN IN THE EXTENDER INSTALLATION MANUAL.

USE A PIPE SEALING COMPOUND OR TEFLON TAPE ON ALL PIPE FITTINGS.

1. The Air Compressor, P/N 3929063, should be installed in a convenient location in the engine compartment. Mount the compressor in a location where it will be protected from corrosive materials, especially salt spray. Avoid excessive heat from the engine and exhaust system. Refer to Fig. C for the compressor mounting dimensions. Attach the compressor with suitable fasteners; #10 (M5) are recommended.
2. Mount the Air Reservoir, P/N 3929062, in a convenient location. Use the attached bracket to bolt down securely. This bracket must be drilled to suit mounting location. Attach with suitable fasteners; 5/16 (M8) are recommended.
3. Install the Check Valve, P/N 3929066, Drain Valve, P/N 3929064, and Pressure Relief Valve, P/N 3929065, into the reservoir as shown in Fig. A. Ensure that the drain valve is positioned at the lowest level on the reservoir.

IMPORTANT!

TAKE CARE THAT THE CHECK VALVE, IS INSTALLED IN THE CORRECT DIRECTION (ALLOWING AIR TO FLOW INTO THE RESERVOIR FROM THE AIR COMPRESSOR).

4. Now install the Pressure Switch, P/N 3929067, into the reservoir.
5. Install the solenoid valve on the chassis rail, using existing predrilled holes. If no suitable location is available on the chassis rail, then mount the solenoid valve to the body sheet metal. Position the solenoid so that the exhaust port is facing down. Avoid excessive heat coming from the exhaust system. The distance from the solenoid valve to the air cylinder of the E Brake should be within the length of the supplied hose.
6. Connect the solenoid port marked "1" or "P" to the air tank using the air tubing.
7. Connect port "2" or "A" to the E Brake air cylinder using the air hose as shown in (see Fig. A).
8. Use the 1/4-18 NPT compression fittings for the tubing connections from the air tank to the solenoid valve (see Fig. A).
9. Use the harness and relay supplied and wire the air compressor and pressure switch following the Wiring Schematic, Fig. B. The connections to the vehicle's 10-amp circuit breaker shown both in the E Brake Installation Manual and Fig. B may be connected to the same circuit breaker.

NOTE:

EXCEPT FOR THE CONNECTION DISCUSSED ABOVE, THE E BRAKE WIRING AND AIR COMPRESSOR/PRESSURE SWITCH WIRING ARE SEPARATE AND INDEPENDENT.

NOTE:

THE AIR COMPRESSOR +12 VOLT SUPPLY IS OBTAINED FROM A DIRECT CONNECTION VIA A 25-AMP FUSE, TO THE VEHICLE'S 12-VOLT POWER BUS BAR OR THE ALTERNATOR'S (+VE) TERMINAL.

Fig. B
Wiring Schematic

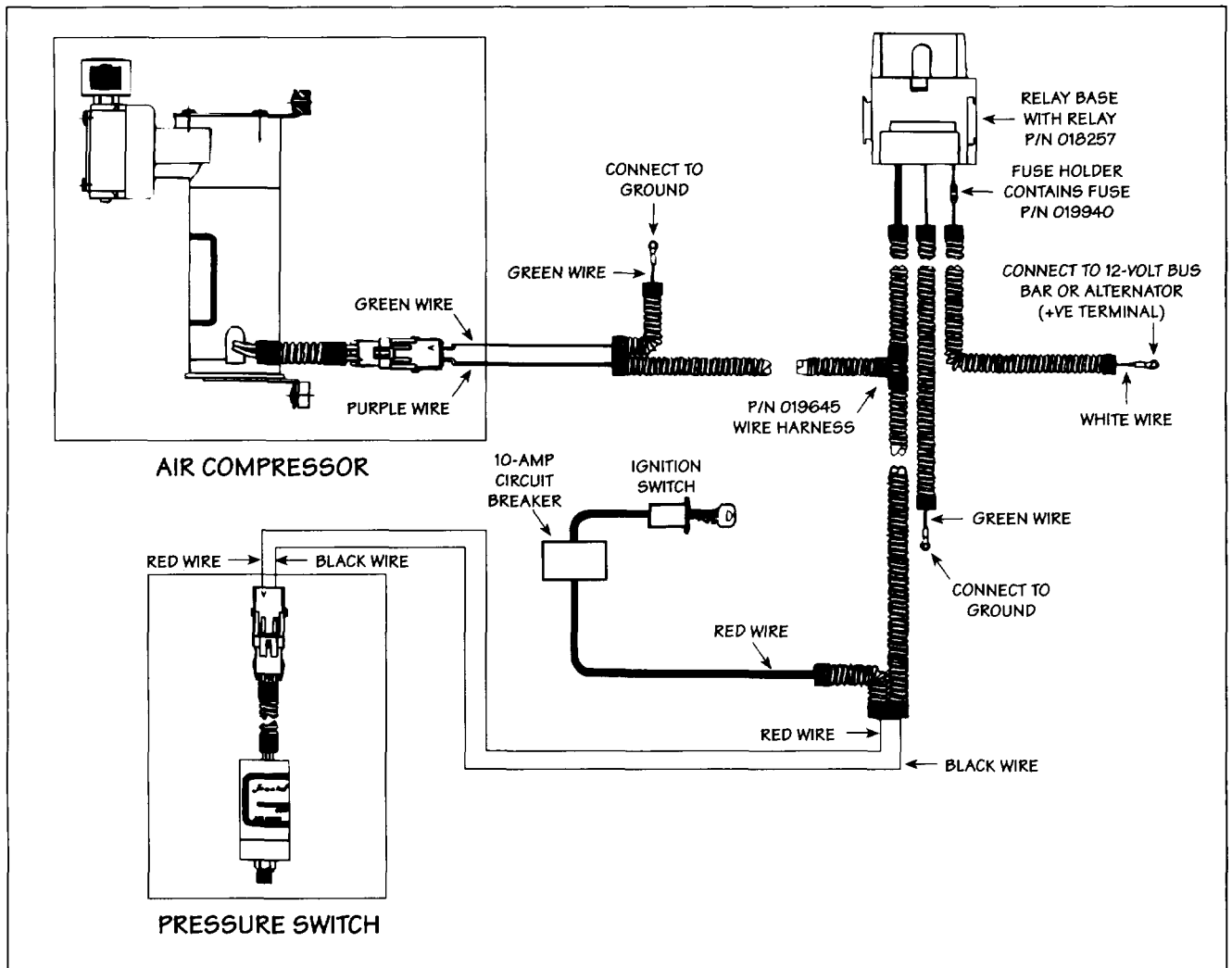
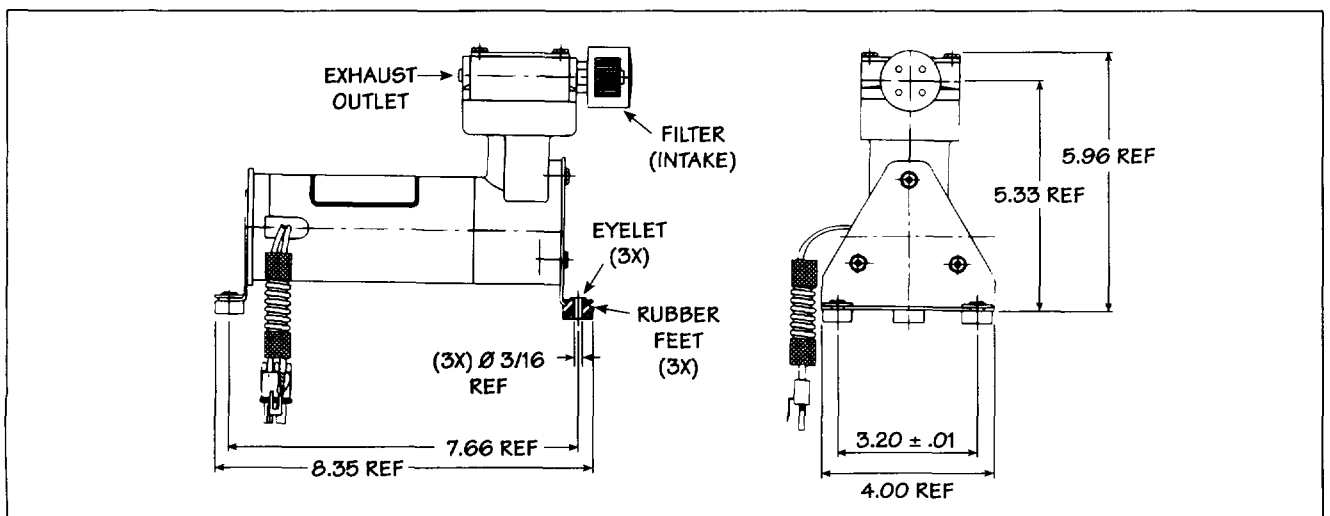


Fig. C
Compressor Mounting Dimensions



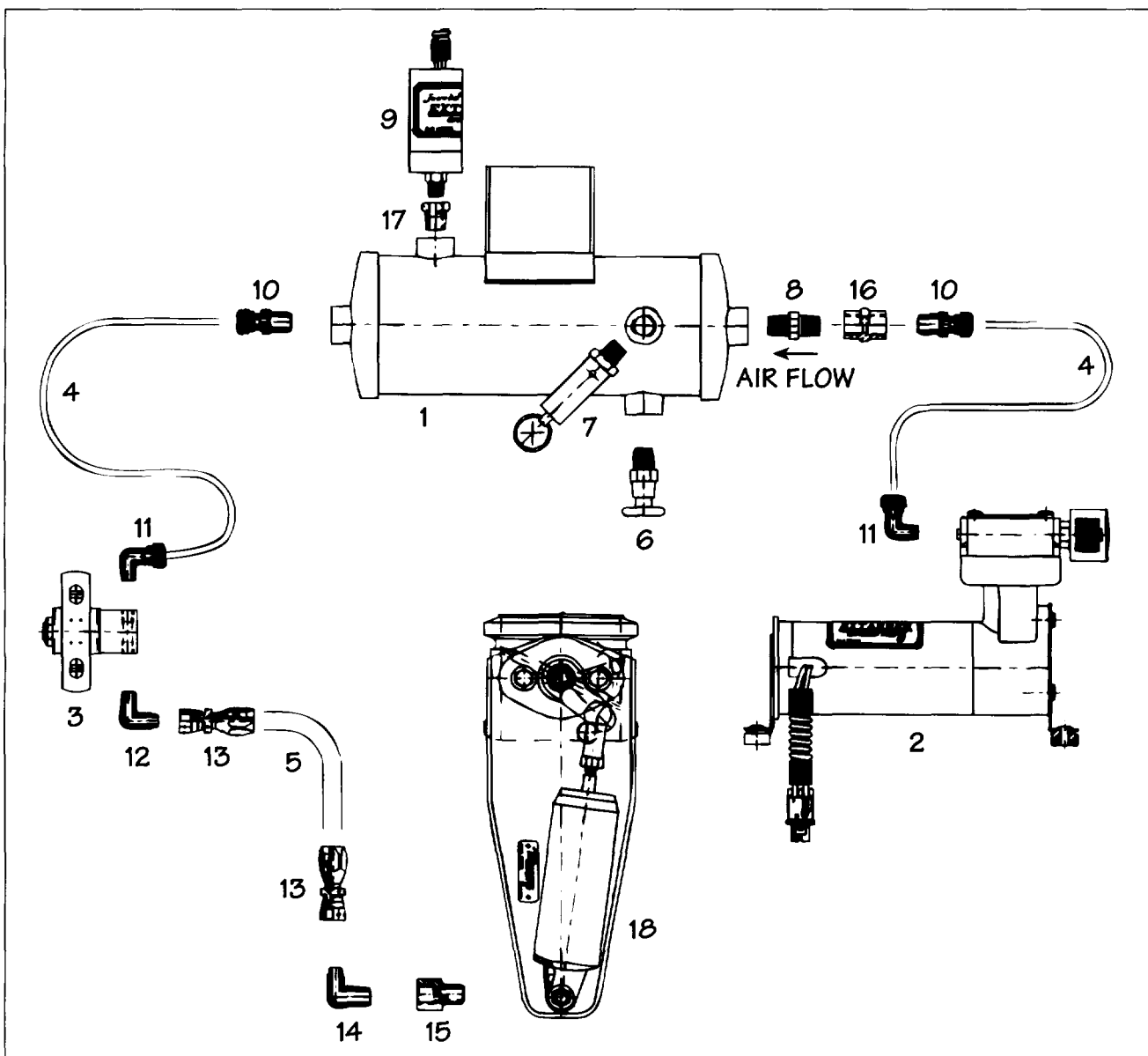


Fig. A
Pneumatic Schematic

Operational Test

NOTE:

THE AIR COMPRESSOR WILL OPERATE AS SOON AS THE VEHICLE IGNITION SWITCH IS TURNED ON AND PUMP THE RESERVOIR UP TO AN OPERATIONAL PRESSURE OF 80 TO 110 PSI (5.5 TO 7.6 BAR).

Turn on the ignition switch. The air compressor will start to operate and continue for approximately 30 to 40 seconds, after which it will turn off. The system is now at operating pressure. Actuate the E Brake several times; note that the air compressor comes on for a short period of time, approximately 3 to 5 seconds, in order to maintain the system operating pressure.

This system is automatic and will always maintain the E Brake supply air pressure at a level that provides for rapid actuation of the E Brake when needed.

NOTE:

CHECK THE PNEUMATIC SYSTEM FOR LEAKS. ANY AIR LEAKS IN THE SYSTEM WILL CAUSE EXCESSIVE CYCLING OF THE AIR COMPRESSOR.

System Maintenance

IMPORTANT!

OPEN THE DRAIN VALVE ONCE A WEEK OR EVERY 1500 MILES (2400 KM), WHICHEVER OCCURS FIRST, TO DRAIN OFF THE ACCUMULATED MOISTURE.

Auxiliary Air Group

Cummins P/N 3802673 (Fig. A)

| III. No. | Cummins P/N | Description | Quan. |
|-------------|----------------|-----------------------------|----------|
| 1 | 3929062 | Air reservoir | 1 |
| 2 | 3929063 | Air compressor | 1 |
| 3 | 3929051 | Solenoid valve assy. | 1 |
| 4 | NSS | Air brake tube | 1 |
| 5 | NSS | Air brake hose | 1 |
| | 3803917 | Air Supply Subgroup | 1 |
| 6 | 3929064 | -Drain valve | 1 |
| 7 | 3929065 | -Pressure relief valve | 1 |
| 8 | 3929066 | -Check valve | 1 |
| 9 | 3929067 | -Pressure switch | 1 |
| 10 | NSS | Compression fitting | 2 |
| 11 | NSS | Compression fitting | 2 |
| 12 | NSS | 45° flared elbow 1/8 NPT | 1 |
| 13 | NSS | Hose fitting assy. | 2 |
| 14 | NSS | 45° flared elbow 1/4 NPT | 1 |
| 15 | NSS | Adapter | 1 |
| 16 | NSS | Coupling | 1 |
| 17 | NSS | Bushing | 1 |
| NI | NSS | Support clamp | 5 |
| NI | NSS | 1/4 - 20 x 1 hex nut | 5 |
| NI | NSS | 1/4 - 20 nut | 5 |
| NI | NSS | Plain washer | 5 |
| NI | NSS | Lock washer | 5 |
| NI | 3929068 | Extarder comp. harness | 1 |
| NI | 3929069 | Relay, 12 VDC | 1 |
| NI | NSS | Tie clamp | 10 |
| 18 | Various | E Brake assembly** | -- |

NI = Not Illustrated

NSS = Not Sold Separately



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