



KEITH PRODUCTS, Inc.

Maintenance Manual

Air-conditioning System for
Cessna 206H, T206H
Document No. CR-26-10
FAA PROJECT No. ST7155SC-A
STC No. SA10144SC

Section	Description
21-50-00	Air-conditioning System
21-50-01	Electrical
21-50-02	Plumbing
21-50-03	Compressor
21-50-04	Condenser
21-50-05	Evaporator
21-50-06	Airworthiness Limitations
21-50-07	Illustrated Parts Catalog

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 MAY 15 2009

RECORD OF REVISIONS

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NC	7/1/02	Initial Release	BCS	MAK
A	8/27/02	Revision A: Removed Illustrated Parts Catalog from Table of Contents on Page vi. Added Airworthiness Limitations Section and Airworthiness Limitations Section Statement.	RCG	TD
B	7/15/03	Added STC number to cover page. Used 26-0700C-A and 26-0700D-A to update condenser, evaporator blower, and wiring diagrams for prop with and without de-icing. Updated wire references in electrical troubleshooting section. Reason: Product Improvement per ER2174	RDT	MAK
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E	1/24/07	Added the following to section 21-50-07. Added pages 105, 106, 402, 501, 502, 505, 604 and 605 and renumbered pages accordingly. Added I/N 9 to parts list and F/D on pages 101 & 102. Reorganized parts list and added I/N's 7 thru 13 to parts list on page 403 & updated page 401 with new parts list. Added 26-0700-1 electrical schematic to pg. 502 and converted old 26-0700-1 electrical schematic into 26-0700-2 on pg. 503. Added 26-0700-2 to parts list on pg. 507. Edited P/N on I/N 13 <u>WAS</u> JBS6009-2 <u>NOW</u> JBS6009-9 on pg. 603. Reason: Update IPC per project 27003.	LEO	MAK

RECORD OF REVISIONS

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G	5/15/09	Added Flushing System procedure to Sec. 21-50-00 page 304. Updated steps 13.0, 14.1, 14.3 and 14.4 <u>WAS</u> ES56128-1 Relay <u>NOW</u> JBS1105-1 Relay Assembly, on Section 21-50-01 page 106. Revised Fan Assembly schematic on page 2 & 3 of Section 21-50-01, page 104 of Section 21-50-01, page 107 of section 21-50-01 and page 501 & 502 of Section 21-50-07. Pictorially updated & revised item number callouts for 26-0300-1 & 26-0301-1 Condenser Install. in section 21-50-07 on pages 201, 202, 203, and 204. Updated Wire installation on Sec. 21-50-07 page 506. Separated 26-0300-1 and 26-0301-1 parts lists and updated part no. and quantities on sec. 21-50-07 on pages 203 and 204. Added *Note to bottom of parts list on pages 202 and 204 on section 21-50-07. Added "Obsolete Configuration Relay ES56128-2" and "Obsolete Configuration Relay ES56128-1" to bottom of page 507 of section 21-50-07 Edited I/n 10 on page 507 of section 21-50-07 <u>WAS</u> ES56128-1 Relay <u>NOW</u> JBS1105-1 Relay Assembly Reason: Service Difficulty per ER4029	AJ	<i>TW</i> <i>WKE</i>

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INTRODUCTION

1. PURPOSE

The purpose of this System Service Manual is to provide detailed instructions for the servicing, troubleshooting, checking and maintaining of the Cessna Model 206 with Keith Products, Inc. air-conditioning system. The System Service Manual supplements the Maintenance Manual supplied by Cessna for your particular aircraft.

2. SCOPE

The scope of the System Service Manual provides the maintenance technician with detailed information covering:

- Overall system level description and theory of operation.
- Component level description and theory of operation.
- System level checking and troubleshooting procedures.
- Procedures for servicing the air-conditioning system refrigerant.
- The identification of special equipment to accomplish the specific tasks.

3. GLOSSARY

Nonstandard abbreviations and symbols used in the Maintenance Manual are described below.

A/C	-	Air-conditioning
A/R	-	As Required
Assy	-	Assembly
Comm. Avail.	-	Commercially Available
Evap	-	Evaporator
Gnd	-	Ground
GPU	-	Ground Power Unit
SW	-	Switch
VDC	-	Volts Direct Current

4. MANUAL UPDATES

To receive most up-to-date revisions of this manual, please visit www.keithproducts.com and click on PUBLICATIONS.

AIR-CONDITIONING SYSTEM

SYSTEM DESCRIPTION

1. AIR-CONDITIONING SYSTEM DESCRIPTION

The Keith Products vapor cycle air-conditioning system uses liquid refrigerant R134a to cool the aircraft cabin. The major components for the R134a air-conditioning system consist of a compressor, condenser, receiver/drier, expansion valve, and evaporator. The starter ring-gear pulley turns the compressor via a belt. Figure 1 shows an operational schematic of the air-conditioning system.

The gas in the suction hose is pumped into the discharge hose and through the refrigerant system by the **compressor**. The compressor takes the low-temperature, low-pressure gas and compresses it to a high-temperature, high-pressure gas.

After the high-temperature, high-pressure gas leaves the compressor it enters the **condenser**. A 28 VDC blower forces air from a cutout in the right side of the tailcone and through the condenser. The air exits the condenser and leaves the condenser through the exhaust duct on the left hand side of the tailcone. This air cools the high-temperature, high-pressure gas as much as 100°F. The gas is cooled until it condenses to a medium-temperature, high-pressure liquid.

After the medium-temperature, high-pressure liquid leaves the condenser it enters the **receiver/drier**. The receiver/drier stores liquid refrigerant and filters any moisture out of the refrigerant.

After the medium-temperature, high-pressure liquid leaves the receiver/drier it enters the **expansion valve**. The expansion valve allows the medium-temperature, high-pressure liquid to expand to a low-temperature, low-pressure spray of liquid.

After the low-temperature, low-pressure spray of liquid leaves the expansion valve it enters the **evaporator**. A 28 VDC blower forces air from the cabin through the evaporator. Since the refrigerant in the evaporator can be as cold as 30°F, the air from the cockpit causes the low-temperature, low-pressure liquid spray to boil and then evaporate. This low-temperature, low-pressure gas passes through the suction hose into the compressor. The refrigerant cycle continues, cooling the aircraft cabin.

Air from the cabin is cooled as it passes through the evaporator and comes into contact with the refrigerant. Since the air is cooled, moisture from the air condenses in the evaporator and liquid water is formed. The water then drains overboard through the floor of the aircraft.

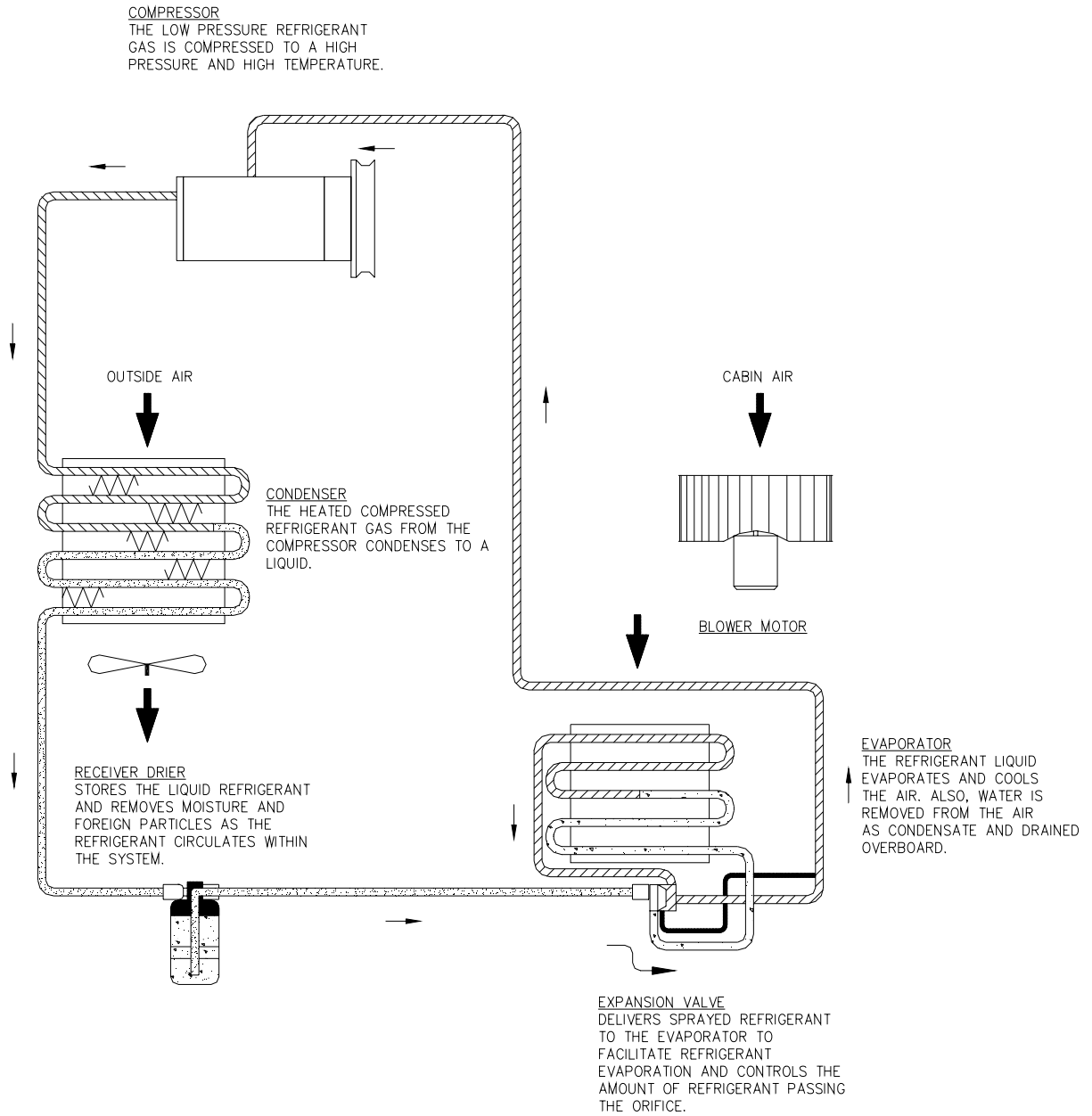
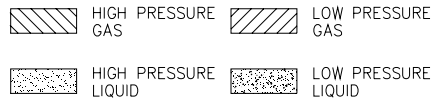
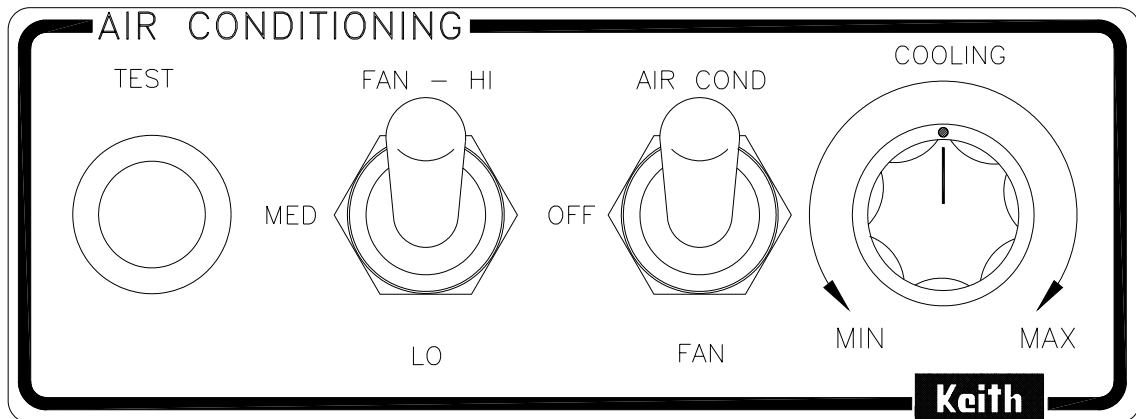


Figure 1. Air-conditioning Vapor Cycle System

2. SYSTEM OPERATION

The air-conditioning system is operated with the engine operating and power supplied to the aircraft electrical system. To operate the system proceed as follows:

- 1) Turn on air-conditioning system by placing AIRCOND/OFF/FAN control switch in the AIR COND position.
- 2) For maximum cooling, place the FAN switch in the HIGH position, and close cabin and baggage doors.
- 3) Turn off air-conditioning system by placing AIRCOND/OFF/FAN control switch in the OFF position.
- 4) Airflow may be varied by switching the FAN control switch between the LO, MED, and HI positions.
- 5) Cabin air cooling may be varied by rotating the control knob between the Min and Max position
- 6) Cabin air may be re-circulated without the air-conditioning system operating by placing the AIRCOND/OFF/FAN control switch in the FAN position.



AIR-CONDITIONING SYSTEM

TROUBLESHOOTING

1. GENERAL

The procedures below presents troubleshooting charts for the air-conditioning system and the compressor. A diagnoses chart is presented for insufficient air-conditioning system cooling. The performance of the air-conditioning system varies with ambient temperature and humidity. The information below presents possible air-conditioning system problems and solutions.

CAUTION: Do not operate air-conditioning system with condenser air outlet blocked.

2. AIR-CONDITIONING SYSTEM DIAGNOSIS CHART

The following pages show a procedure for diagnosing air-conditioning system problems that will expedite the troubleshooting process.

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3. AIR-CONDITIONING SYSTEM TROUBLESHOOTING

CONDITION	SERVICE PRESSURE GAUGE READING	PROBABLE CAUSE	CORRECTIVE ACTION
<p>INSUFFICIENT REFRIGERANT CHARGE</p> <p>Insufficient cooling. Bubbles appear in sight glass.</p>	<p>SUCTION PRESSURE: below normal</p> <p>DISCHARGE PRESSURE: below normal</p>	<p>Refrigerant is low, or leaking a little.</p>	<p>1. Leak test. 2. Repair leak. 3. Charge system.</p> <p>Evacuate as necessary and recharge system.</p>
<p>ALMOST NO REFRIGERANT</p> <p>No cooling action. A lot of bubbles or something like mist appears in sight glass.</p>	<p>SUCTION PRESSURE: much below normal</p> <p>DISCHARGE PRESSURE: much below normal</p>	<p>Serious refrigerant leak.</p>	<p>Stop compressor immediately.</p> <p>1. Leak test. 2. Discharge system. 3. Repair Leak(s). 4. Replace receiver/drier, if necessary. 5. Check oil level. 6. Evacuate and recharge system.</p>
<p>FAULTY EXPANSION VALVE</p> <p>a) Slight cooling. Sweating or frosted expansion valve outlet.</p> <p>b) Insufficient cooling. Sweated suction line.</p> <p>c) No cooling. Sweating or frosted suction line.</p>	<p>a) SUCTION PRESSURE: below normal</p> <p>DISCHARGE PRESSURE: below normal</p> <p>b) SUCTION PRESSURE: above normal</p> <p>DISCHARGE PRESSURE: above normal</p> <p>c) SUCTION PRESSURE: above normal</p> <p>DISCHARGE PRESSURE: below normal</p>	<p>a) Expansion valve restricts refrigerant. Or, expansion valve is clogged. Or, expansion valve is inoperative. Or, valve stuck closed. Thermal bulb has lost charge.</p> <p>b) Expansion valve allows too much refrigerant through evaporator.</p> <p>Sensing bulb on suction line not well insulated or properly attached to line.</p> <p>c) Faulty expansion valve.</p>	<p>a) Replace expansion valve.</p> <p>b)</p> <p>1. Check valve for operation. If suction side does not show a pressure decrease, replace valve. 2. Check security and insulation on sensing bulb.</p> <p>c)</p> <p>1. Discharge system. 2. Replace valve. 3. Evacuate and replace system.</p>

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CONDITION	SERVICE PRESSURE GAUGE READING	PROBABLE CAUSE	CORRECTIVE ACTION
<p>AIR IN SYSTEM</p> <p>Insufficient cooling.</p> <p>Sight glass shows occasional bubbles.</p>	<p>SUCTION PRESSURE: above normal</p> <p>DISCHARGE PRESSURE: above normal</p>	<p>Air mixed with refrigerant in system.</p>	<p>Discharge system.</p> <p>Replace receiver/drier.</p> <p>Evacuate and charge system.</p>
<p>MOISTURE IN SYSTEM</p> <p>After operation for a while, pressure on suction side may show vacuum pressure reading. During this condition, discharge air will be warm. As warning of this, reading shows approx. 6 psi oscillation.</p>	<p>SUCTION PRESSURE: below normal</p> <p>DISCHARGE PRESSURE: above normal</p>	<p>Drier is saturated with moisture. Moisture has frozen at expansion valve. Refrigerant flow is restricted.</p>	<ol style="list-style-type: none"> 1. Discharge system. 2. Replace receiver/ drier (twice if necessary). 3. Evacuate system completely. (Repeat 30 minute evacuating three times.) 4. Recharge system.
<p>FAULTY CONDENSER</p> <p>Insufficient cooling.</p> <p>Bubbles appear in sight glass of drier.</p> <p>Suction line is very hot.</p>	<p>SUCTION PRESSURE: above normal</p> <p>DISCHARGE PRESSURE: above normal</p>	<p>Condenser air or refrigerant flow is restricted.</p>	<p>Check condenser for dirt accumulation or bent fins. Clean/ replace as necessary.</p> <p>Check for refrigerant overcharge.</p> <p>If pressure remains high in spite of all above actions taken, remove and inspect the condenser for possible oil clogging.</p>
<p>HIGH PRESSURE LINE BLOCKED</p> <p>Insufficient cooling.</p> <p>Frosted high pressure liquid line.</p>	<p>SUCTION PRESSURE: much below normal</p> <p>DISCHARGE PRESSURE: much above normal</p>	<p>Drier clogged, or restriction in high pressure line.</p>	<p>Discharge system.</p> <p>Replace receiver/drier.</p> <p>Evacuate and charge system</p>

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CONDITION	SERVICE PRESSURE GAUGE READING	PROBABLE CAUSE	CORRECTIVE ACTION
<p>FAULTY COMPRESSOR</p> <p>Insufficient cooling.</p> <p>Insufficient cooling.</p> <p>Rough running.</p>	<p>a) SUCTION PRESSURE: much below normal</p> <p>DISCHARGE PRESSURE: much below normal</p> <p>b) SUCTION PRESSURE: much above normal</p> <p>DISCHARGE PRESSURE: much below normal</p>	<p>a) Internal problem in compressor, or damaged gasket and valve.</p> <p>b) Internal problem with compressor body.</p> <p>c) Internal problem with compressor body.</p>	<p>Discharge system. Remove and check compressor. Repair or replace compressor. Check oil level. Replace receiver/ drier. Evacuate and charge system.</p>
<p>TOO MUCH OIL IN SYSTEM (Excessive)</p> <p>Insufficient cooling.</p>	<p>SUCTION PRESSURE: above normal</p> <p>DISCHARGE PRESSURE: above normal</p>	<p>Too much oil circulates with refrigerant, causing the cooling capacity of the system to be reduced.</p>	<p>Refer to Oil Level Check for correcting oil level.</p>
<p>WATER BEING BLOWN OUT OF EVAPORATOR</p>	<p>SUCTION PRESSURE: normal</p> <p>DISCHARGE PRESSURE: normal</p>	<p>Blocked evaporator drain.</p>	<p>Check evaporator drain for downhill routing and repair any kinks or blockage in drain tubing.</p>

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AIR-CONDITIONING SYSTEM

MAINTENANCE PROCEDURES

A. General

The following procedures are used to perform typical maintenance on the air-conditioning system plumbing. Procedures are provided for making connections to components, and replacing the expansion valve. Keith Products air-conditioning systems use swaged hose fittings with "o-ring" type connections.

B. Tools and Equipment

Designation	Ref. No.	Qty	Remarks
Polyolester Oil	Comm. Avail.	A/R	Viscosity ISO 68
Sealant	ES49000-1	A/R	None

C. Connection to Components - O-Ring Replacement

1. Place the appropriate o-ring over the tube "O" end of the fitting.
2. Lubricate o-ring with polyolester oil viscosity ISO 68 or ES49000-1 sealant prior to assembly.
3. Apply sealant to all fitting mating surfaces prior to assembly.

D. Expansion Valve Removal and Installation

The following procedure is used to remove or install the air-conditioning system expansion valve, located on the inlet side of the evaporator coil.

1. Discharge system in accordance with instructions included in this manual.
2. Disconnect and cap the liquid hose from the expansion valve inlet.
3. Remove the insulation covering the thermal sense bulb on the suction tubing.
4. Cut the tie wraps binding the sense bulb to the suction tubing.
5. Disconnect the fitting that connects the expansion valve to the coil, and remove the expansion valve. Discard the old expansion valve and o-ring.
6. Install new ES26108-1 expansion valve and ES49011-2 o-ring.
Lubricate o-ring with polyolester oil viscosity grade ISO 68 or apply ES49000-1 sealant to fitting mating surfaces prior to assembly.
7. Install the thermal sense bulb such that it makes contact with the suction tube along its entire length with two or more cable ties as shown in Figure 3.
8. Insulate the bulb thoroughly with insulation to suction tubing.

NOTE: Always utilize two wrenches as not to twist or bend the soft copper lines.

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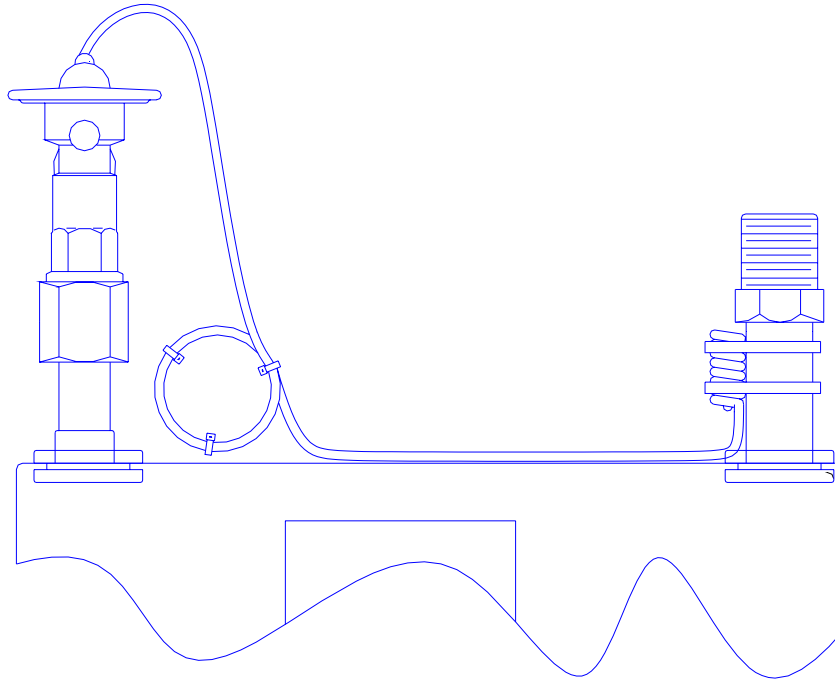


Figure 3
Correct expansion valve and sense bulb orientation

AIR-CONDITIONING SYSTEM

SYSTEM SERVICING

1. GENERAL

The air-conditioning system uses refrigerant R134a and the compressor lubricating oil used is Polyolester Oil viscosity grade (ISO) 68. No other refrigerant or compressor oil should be used.

Refrigerant R134a is non-explosive, non-flammable, non-corrosive, has practically no odor, and is heavier than air. Although R134a is classified as a safe refrigerant, certain precautions must be observed to personnel and property when working with R134a refrigerant.

WARNING:

- A. Liquid R134a, at normal atmospheric pressure and temperature, evaporates so quickly that it tends to freeze anything that it contacts. Care must be taken to prevent any liquid refrigerant from coming into contact with skin.
- B. Always wear safety goggles when servicing any part of the refrigerant system to prevent refrigerant from coming into contact with the eyes.
- C. The refrigerant containers and the air-conditioning components are under pressure. Do not expose the air-conditioning system or refrigerant containers to heat. Do not puncture the air-conditioning components or the refrigerant containers.

CAUTION: Do not operate air-conditioning system with condenser air outlet blocked.

2. DISCHARGING SYSTEM

A. General

The air-conditioning system refrigerant must be discharged prior to disconnecting or removing any components in the refrigerant loop. Federal law prohibits discharging refrigerant into the atmosphere. Use only an R134a compatible recycling/recovery unit when discharging the air-conditioning system.

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B. Tools and Equipment

Designation	Ref. No.	Qty	Remarks
R134a Compatible Recycling/Recovery Unit	Comm. Avail.	1	None

C. Discharging Procedure

- 1) Connect R134a compatible recycling/recovery unit to the R134a service valves located forward of the firewall.
- 2) Empty the recycling/recovery unit of oil.
- 3) Discharge the air-conditioning system in accordance with the recovery unit's instructions.
- 4) Empty the oil from the recycling/recovery unit. Note the amount of oil removed during the system discharge. This amount of oil must be added to the air-conditioning system prior to charging. Only use polyolester oil viscosity grade ISO 68.

3. EVACUATING SYSTEM

A. General

The air-conditioning system must be evacuated prior to charging the system with refrigerant. Evacuating the system removes any moisture and air that may be in the system. Use only an R134a compatible recycling/recovery unit when evacuating the air-conditioning system.

B. Tools and Equipment

Designation	Ref. No.	Qty	Remarks
R134a Compatible Recycling/Recovery Unit	Comm. Avail.	1	None

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C. Evacuating Procedure

- 1) Connect R134a compatible recycling/recovery unit to the R134a service valves on the aircraft's air-conditioning system.
- 2) Empty the oil from the recycling/recovery unit.
- 3) Evacuate the air-conditioning system in accordance with the recovery unit's instructions for a minimum of 15 minutes.
- 4) Empty the oil from the recycling/recovery unit. Note the amount of oil removed during the vacuum. This amount of oil must be added to the air-conditioning system prior to charging. Only use polyolester oil viscosity grade ISO 68.
- 5) Once the air-conditioning system has been evacuated, it is then ready for charging with new/recycled R134a refrigerant.

4. CHARGING SYSTEM

A. General

Use only R134a refrigerant when charging air-conditioning system. Federal law prohibits discharging refrigerant into the atmosphere. Use only R134a compatible recycling/recovery unit when charging the air-conditioning system.

B. Tools and Equipment

Designation	Ref. No.	Qty	Remarks
R134a Compatible Recycling/Recovery Unit	Comm. Avail.	1	None
R134a refrigerant	Comm. Avail	2.5 lbs.	None
Polyolester Oil	Comm. Avail	5 fl. oz.	Viscosity ISO 68

C. Charging Procedure

- 1) Connect R134a compatible recycling/recovery unit to the R134a service valves on the aircraft's air-conditioning system. If recovery unit does not have pressure gauges, connect service pressure gauges to air-conditioning system.
- 2) Evacuate the air-conditioning system for 15 minutes in accordance with the instructions in this report.
- 3) Close the low side and open the high side on the recycling/recovery unit.
- 4) Add polyolester oil viscosity ISO 68 to the high side service tee using the refrigerant recycling/recovery unit while the system is under a vacuum.

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NOTE: Adding refrigerant or oil from the recycling/recovery unit directly to the low-pressure service tee will allow liquid refrigerant or oil to enter the compressor. The compressor is only designed to compress gas refrigerant, and liquid refrigerant or oil may damage/destroy the compressor. Always close the low side of the recycling/recovery unit during charging.

- 5) Charge the air-conditioning system in accordance with the recovery unit's instructions except as noted. If bubbles are present at the sight glass after the system has been running for a minimum of 5 minutes, add refrigerant as necessary.

5. FLUSHING SYSTEM

A. General

The following procedures are used whenever the compressor is replaced and when system contamination is suspected.

B. Tools and Equipment

Designation	Ref. No.	Qty	Remarks
R134a Compatible Recycling/Recovery Unit	Comm. Avail.	1	None
Polyolester Oil	Comm. Avail	5 fl. oz.	Viscosity ISO 68
Service Pressure Gauge	Comm. Avail.	1	None
Coupler Tool	JBS6020-3	2	None
Service Valve Fitting	JBS6020-7	1	None
Service Valve Fitting	JBS6020-8	1	None
Fitting, Bulkhead	JBS6009-1	1	None

C. System Flushing Procedure.

- 1) Connect R134a compatible recycling/recovery unit to the R134a service valves on the aircraft's air-conditioning system. If recovery unit does not have pressure gauges, connect service pressure gauges to air-conditioning system.

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- 2) Empty the refrigerant recovery cart's oil collection tube so that it begins with zero oil collected.
- 3) Discharge the air-conditioning system and recover the refrigerant per the refrigerant cart's instructions. Do not empty the oil collection tube.
- 4) Disconnect the refrigerant recovery cart from the normal service ports.
- 5) Remove the compressor and connect the service valve couplers JBS6020-7 and JBS6020-8 to the suction and discharge plumbing hoses.
- 6) Bypass the binary pressure switch. Attach the plumbing hose directly to the condenser.
- 7) Remove the receiver/drier bottle from the aircraft and properly dispose. Attach the hose coupler JBS6009-1 in place of the receiver/drier bottle.
- 8) Disconnect the expansion valve from the evaporator assembly. Attach the hose coupler JBS6020-3 in place of the expansion valve. Use caution in handling the expansion valve. Do not support the expansion valve by its remote bulb tubing.
- 9) Connect the refrigerant recovery cart to the service port couplers located where the compressor was removed to create a refrigerant loop with the refrigerant cart.
- 10) Evacuate the system per the recovery unit's instructions thru the HIGH side only for a minimum of 10 minutes.
- 11) Charge the system per the recovery unit's instructions thru the LOW side only with 1.5 to 2 times a normal refrigerant charge of refrigerant. Do not add any oil to the system.
- 12) Discharge the system thru the HIGH side port only per the refrigerant recovery cart's instructions.
- 13) Repeat steps 10 thru 12 two additional times.
- 14) Disconnect the refrigerant recovery cart from the service ports.
- 15) Remove the compressor and drain all of the oil from the compressor into an empty graduated cylinder. It will be necessary to rotate the clutch plate several times to get as much oil as possible from the compressor.
- 16) Empty the refrigerant recovery cart's oil collection tube into the graduated cylinder with the drained compressor oil. Inspect the oil for debris contamination and replace compressor if necessary.
- 17) New compressors come serviced with 5 ounces of oil and do not require oil adjustment. If the existing removed compressor is reused or other replacement compressor for which the oil level is unknown, then completely drain the compressor and then add 5 ounces of new polyolester oil ISO grade 68 to the compressor. Torque the oil plug to 6 to 9 ft-lbs.
- 18) Install the compressor. Use new o-rings.
- 19) Inspect the expansion valves for damage and debris. Replace if any contamination is found. Use new o-rings.
- 20) Inspect the binary pressure switch for damage and debris. Flush with dry nitrogen or clean dry compressed air before re-installing. Use new o-rings.

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- 21) Install a new receiver/drier bottle. Do not reuse the old bottle under any circumstance. Use new o-rings.

CAUTION: Receiver/drier bottles left open to the atmosphere for more than 10 minutes must be discarded and replaced with new bottles

- 22) Evacuate the system per the refrigerant recovery cart's instructions for a minimum of 15 minutes.
- 23) Add 2 ounces of new polyolester oil ISO grade 68 to the system thru the HIGH side port only
- 24) Charge the system per section 21-50-00.

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AIR-CONDITIONING SYSTEM

INSPECTION/CHECKS

1. GENERAL

General service procedures are provided to keep the air-conditioning system operating at peak efficiency. Procedures are provided for inspection intervals, refrigerant charge inspection, refrigerant leak inspection, and compressor oil level inspection.

CAUTION: Do not operate air-conditioning system with condenser air outlet blocked.

A. Tools and Equipment

Designation	Ref. No.	Qty	Remarks
Service Pressure Gage	Comm. Avail.	1	None
Electronic Leak Detector	Comm. Avail.	A/R	Type H-10G
Polyolester Oil	Comm. Avail.	A/R	Viscosity ISO 68

2. INSPECTION INTERVALS

See Section 21-50-06: Airworthiness Limitations for inspection intervals.

3. REFRIGERANT LEVEL INSPECTION

To be performed when improper refrigerant charge is suspected.

- A. Select air-conditioning system switch to AIR COND position.
- B. Set the fan speed switch to the HI position.
- C. Run system for five (5) minutes minimum.
- D. Check that the receiver/drier inlet and outlet fitting temperatures are the same. If the outlet is considerably colder, the receiver/drier screen may be clogged and may need replacement.
- E. Check the sight glass for bubbles. No bubbles should be visible after 5 minutes of operation.

NOTE: The refrigerant bubbles are more difficult to see at ambient temperatures below 65°F. Always re-check refrigerant level when ambient temperature is above 65°F for proper level.

- F. Add/Remove refrigerant as necessary.

4. REFRIGERANT SYSTEM LEAKAGE INSPECTION

To be performed when refrigerant leak is suspected.

- A. The system leakage check is to be performed in an area with an ambient temperature of 65°F or above.
- B. Install service pressure gage onto low and high pressure R134a service valves.
- C. On systems that have not been operated for 2 weeks or longer, operate the system for a minimum of 15 minutes. This will lubricate the compressor shaft seal and ensure a more accurate leakage check of the shaft seal.
- D. With the system off, and using a type H-10G electronic leak detector or equivalent, check all connections, compressor shaft seal, and fabricated components for leakage. No leakage is acceptable.

5. COMPRESSOR OIL LEVEL CHECK

NOTE: It is not necessary to check the compressor oil level during routine maintenance. It only needs to be checked when a system component is replaced or when incorrect oil level is suspected. Only polyolester oil viscosity grade ISO 68 should be used.

- 1) Operate air-conditioning system for 10 minutes. This will collect as much oil as possible in the compressor.
- 2) Discharge air-conditioning system in accordance with the discharging instructions in this manual.
- 3) Remove compressor from the aircraft and cap the hose fittings.
- 4) Remove oil drain plug and allow all oil to drain.
- 5) Add 5 ounces of oil to the compressor.
- 6) Clean oil drain area and install drain plug. Torque to 6 - 9 ft-lbs.

- 7) Re-install the compressor and reconnect the hose fittings.
- 8) Charge air-conditioning system in accordance with the charging instructions in this manual.

ELECTRICAL

DESCRIPTION AND OPERATION

1. GENERAL

The electrical system of the Cessna 206 air-conditioning system operates from the main 28 VDC buss. The major components of the electrical system are:

Evaporator Blower: Blows cold air into the cabin.

Condenser Blower: Removes heat from the refrigerant.

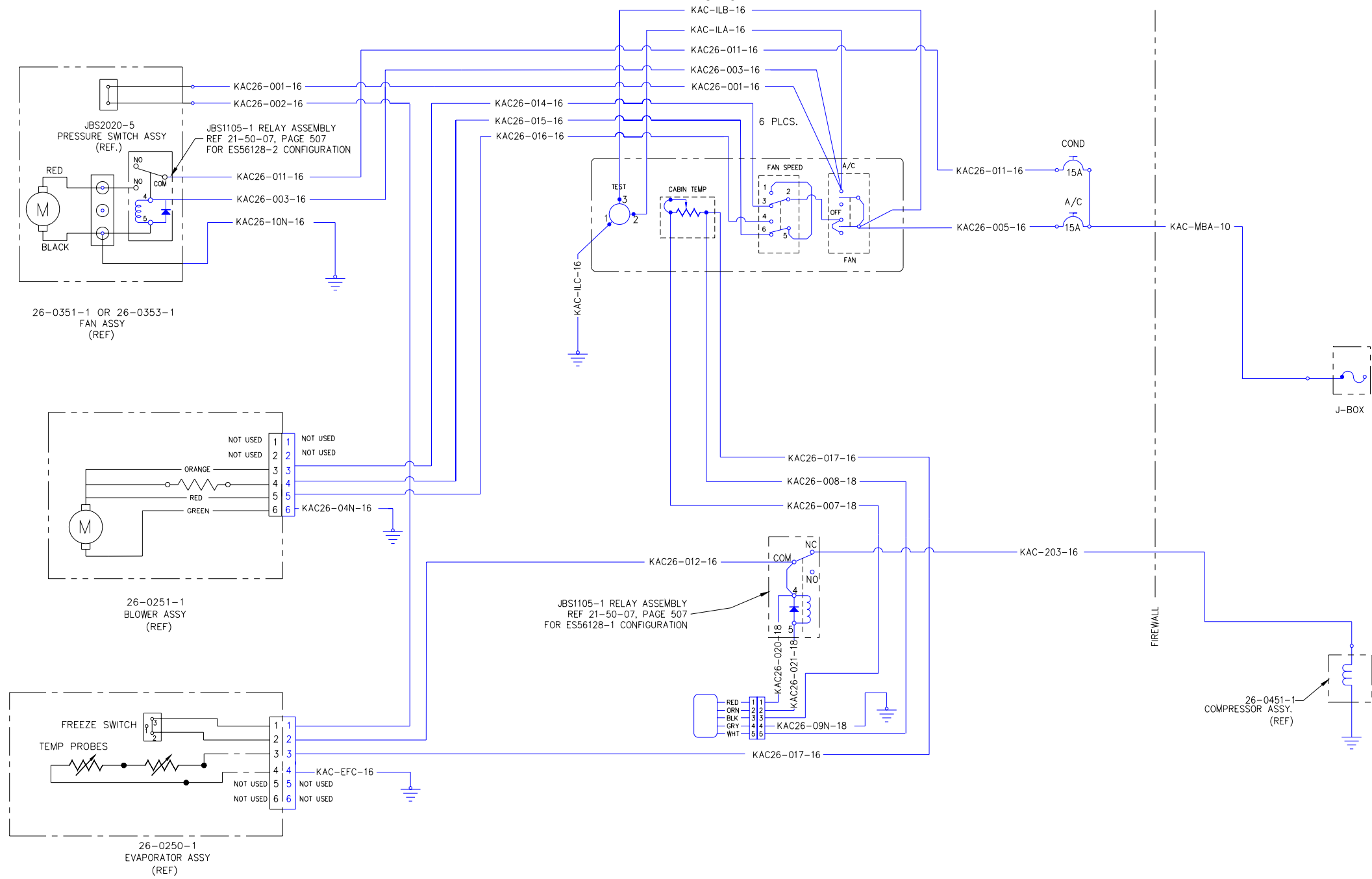
Compressor Clutch: Engages/disengages the compressor.

2. SAFETY FEATURES

During certain flight configurations the compressor clutch and condenser blower are disabled to supply electrical power to more critical systems. Depending on the aircraft model and type, automatic load shedding removes power to the compressor clutch and condenser blower when high load systems are engaged. The evaporator blower will remain available to re-circulate cockpit air during all flight configurations.

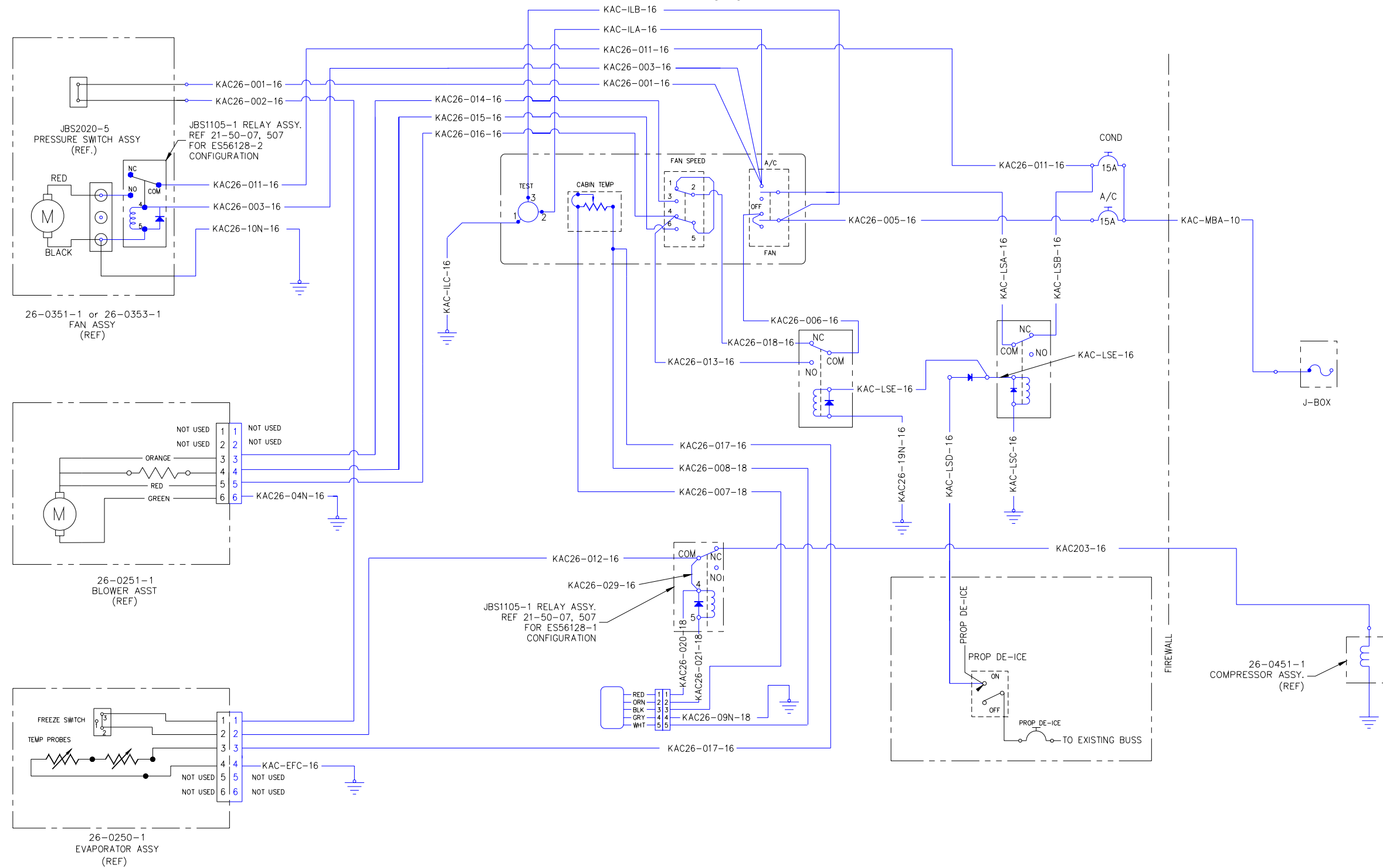
Before electrical current reaches the compressor clutch it passes through the JBS2020-5 Pressure Switch and the JBS60-2 Freeze Switch. In the event of excessive refrigerant pressure during flight (caused by failed or blocked condenser blower) or inadequate refrigerant pressure (caused by a leak in the plumbing) the JBS2020-5 pressure switch will open and disable the compressor clutch. In the event of extremely low temperature air exiting the evaporator (which may cause the coil to freeze) the JBS60-2 Freeze Switch will open and disable the compressor clutch.

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ELECTRIC LAYOUT
 REQUIRED INSTALLATION FOR AIRCRAFT
 EQUIPED WITH A 95A. ALTERNATOR
 WITHOUT PROPELLER DE-ICING

**Maintenance Manual with Illustrated Parts Catalog
CR-26-10**



ELECTRIC LAYOUT
REQUIRED INSTALLATION FOR AIRCRAFT
EQUIPED WITH A 95A. ALTERNATOR AND
PROPELLER DE-ICING SYSTEM

ELECTRICAL
TROUBLESHOOTING

1. GENERAL

The following procedures are used for troubleshooting the electrical system and the electrical interface with the other assemblies of the air-conditioning system. The procedures systematically check every reasonable cause of the failure, starting from the power source that might result in the inoperation of the evaporator blower, condenser blower, and compressor clutch. If the problem causing the component to fail is suspected, the suspected cause should be checked first. The sequence of checks may be varied to increase the convenience of the checker as desired. If the aircraft is not equipped with a prop de-ice some of the troubleshooting steps may not apply.

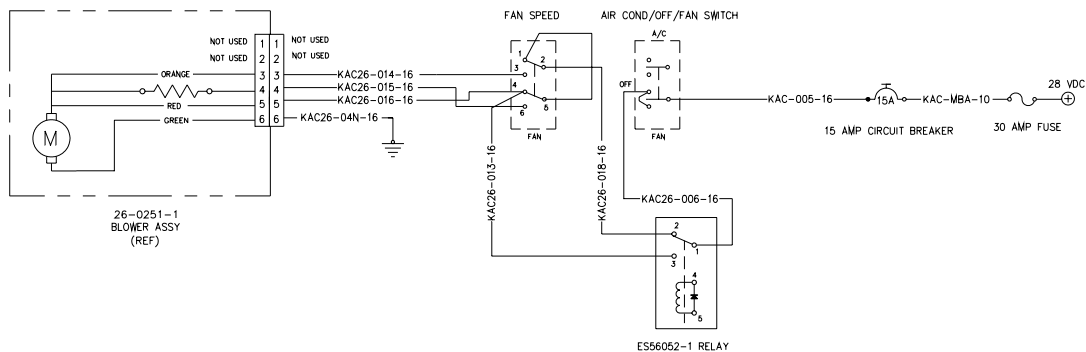
A. TOOLS AND EQUIPMENT

DESIGNATION	REF. NO.	QTY.	REMARKS
Service pressure gauge	Comm. Avail	1	None
Multi-meter	Comm. Avail	1	None
28 VDC source		A/R	None

2. Evaporator Blower Doesn't Operate

- ❑ With the engine inoperative turn on the battery power
- ❑ Turn the AIR COND/OFF/FAN switch to FAN.
- ❑ Set the fan speed to high.
- ❑ Disconnect the ES53026-1 Electrical Connector from the blower.
- ❑ Check for power at pin 3. Terminal should have a voltage reading between 26.0V and 29.0V. Use a suitable aircraft ground when checking the power.
- ❑ If correct power is present at Pin 3 (when switched to hi), Pin 4 (when switched to med), and Pin 5 (when switched to low), and ground is present at Pin 6, the problem lies with the evaporator/blower assembly.
- ❑ If power is not present at Pin 3, Pin 4, and Pin 5 the problem is due to a failed electrical component, a broken electrical connection, or a broken wire on the power side of the connector.
 1. Check the 30 Amp fuse, located at J box (if applicable) for continuity. Replace as necessary.
 2. Check for power at the Circuit Breaker. If power is not present, check the KAC-MBA-10 wire for continuity. Replace/repair as necessary.

3. Check the 15 Amp Circuit Breaker for continuity between the two wire terminals. Check the wire terminals for good connections to the wires. Replace/repair as necessary.
4. Check for power at the AIR COND/OFF/FAN Switch. If power is not present, check the KAC26-005-16 wire for continuity. Replace/repair as necessary.
5. Check the operation of the AIR COND/OFF/FAN Switch. Check the wire terminals for good connections. Replace/repair as necessary.
6. Check the power at the ES56052-1 relay. If power is not present, replace/repair KAC26-006-16.
7. Check the terminals of the ES56052-1 relay. If prop de-ice is off there should be a closed circuit between the KAC26-018-16 wire & the KAC26-006-16 wire. Replace /repair relay as necessary.
8. Check for power at the Fan Speed Switch. If power is not present, replace/repair the connecting wire as necessary.
9. Check for operation & good connections at fan speed switch. Replace/repair as necessary.
10. If power is present at the Fan Speed Switch, and not at pin 3, 4, or 5 (depending on switch position) of the evaporator blower connector, check the KAC26-014-16, KAC26-015-16, KAC-016-16 wires for continuity. Replace/repair as necessary.

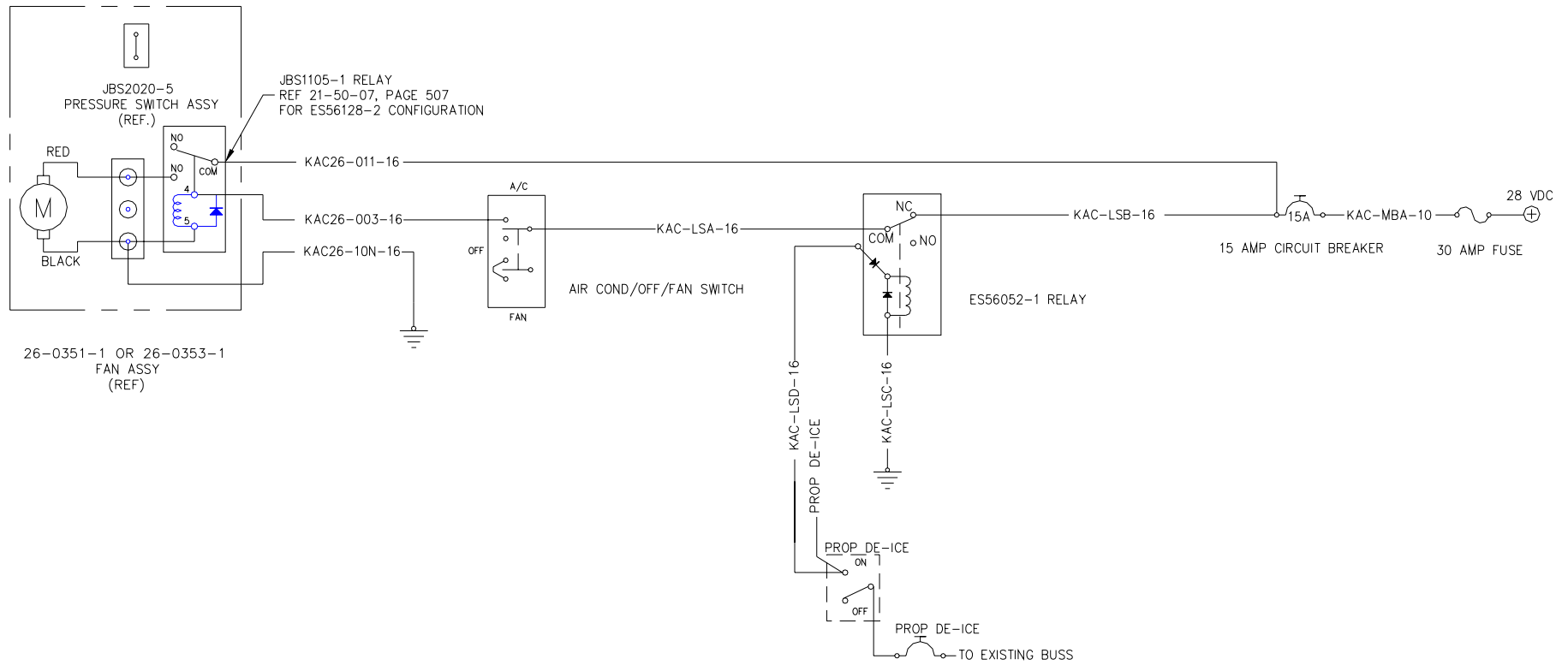


Evaporator Blower Electrical Schematic
FOR REF. ONLY

3. Condenser Blower Doesn't Operate

- ❑ With the engine inoperative turn on the battery power.
- ❑ Turn the AIR COND/OFF/FAN switch to AIR COND.
- ❑ Turn the prop de-ice off.
- ❑ Check for power between the terminals on the Condenser Blower Assembly.
- ❑ If the voltage measured at the Condenser Blower Assembly terminals is between 24.0-29.0 VDC and the blower is not operating, the blower needs to be returned for replacement/repair.
- ❑ If no voltage is measured at the Fan Assembly terminals, the problem is due to a failed electrical component, a broken electrical connection, or a broken wire.
 1. Check the 30 Amp fuse (located in J box) for continuity. Replace as necessary.
 2. Check for power at the Circuit Breaker. If power is not present, check the KAC-MBA-10 wire for continuity. Replace/repair as necessary.
 3. Check the 15 Amp Circuit Breaker for continuity between the two wire terminals. Check the wire terminals for good connections to the wires. Replace/repair as necessary.
 4. Check for power at the ES56052-1 Relay. If power is not present, Check the KAC-LSB-16 wire for continuity. Replace/repair as necessary.
 5. Check the terminals of the ES56052-1 Relay. If there is no continuity between the KAC-LSB-16 and KAC-LSA-16 (NC and COM) wires, check for power at the relay terminal that connects to wire KAC-LSD-16. There should be no power at this terminal. If there is power, check the relay for correct wiring and replace if necessary.
 6. Check for power at the AIR COND/OFF/FAN Switch. If power is not present, check the KAC-LSA-16 wire for continuity. Replace/repair as necessary.
 7. Check the operation of the AIR COND/OFF/FAN Switch. Check the wire terminals for good connections. Replace/repair as necessary.
 8. Check for continuity from the AIR COND/OFF/FAN Switch to the positive terminal of the Fan Assembly. Repair/replace as necessary.
 9. Check for continuity from the Negative terminal of the Fan Assembly to ground. Repair/replace as necessary.

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Condenser Electrical Schematic
 FOR REF. ONLY

3. Compressor Clutch Doesn't Engage

NOTE: If the ambient temperature is less than 65°F the temperature controller may disable the compressor clutch. If the ambient temperature is less than 45°F the freeze switch may disable the compressor clutch. In order to troubleshoot an inoperative compressor clutch at temperatures between 45°F and 65°F, use a short wire as a jumper between Pin 1 and Pin 2 of the ES53026-1 Electrical Connector that connects to the evaporator assembly. This will bypass the temperature probes.

- ❑ With the engine inoperative turn on the battery power.
- ❑ Turn the AIR COND/OFF/FAN switch to AIR COND.
- ❑ Turn the prop de-ice heat off.
- ❑ Check the voltage at the positive terminal of the compressor clutch.
- ❑ If the voltage measured at the positive terminal of the compressor clutch is between 24.0-29.0 VDC, and the clutch does not engage, (coil does not magnetize) the compressor needs to be returned for replacement/repair.
- ❑ If no voltage is measured at the positive terminal of the compressor clutch, the problem is due to a failed electrical component, a broken electrical connection, a broken wire, or low temperature measured by the temperature probes.
 1. Check the 30 Amp fuse (located in J box) for continuity. Replace as necessary.
 2. Check for power at the Circuit Breaker. If power is not present, check the KAC-MBA-10 wire for continuity. Replace/repair as necessary.
 3. Check the 15 Amp Circuit Breaker for continuity between the two wire terminals. Check the wire terminals for good connections to the wires. Replace/repair as necessary.
 4. Check for power at the ES56052-1 Relay. If power is not present, Check the KAC-LSB-16 wire for continuity. Replace/repair as necessary.
 5. Check the terminals of the ES56052-1 Relay. If there is no continuity between the KAC-LSB-16 and KAC-LSA-16 (NC and COM) wires, check for power at the relay terminal that connects to wire KAC-LSD-16. There should be no power at this terminal unless prop de-ice is on. If there is no power at KAC-LSD-16 wire and NC-COM is open circuit, replace/repair relay.
 6. Check for power at the AIR COND/OFF/FAN Switch. If power is not present, check the KAC-LSA-16 wire for continuity. Replace/repair as necessary.
 7. Check the operation of the AIR COND/OFF/FAN Switch. Check the wire terminals for good connections. Replace/repair as necessary.

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8. Check the power at MS25041-10 light. If power is not present check KAC-ILA-16 wire for continuity. Replace/repair as necessary.
9. Check for power at the JBS2020-5 Pressure Switch. If power is not present, check the KAC26-001-16 wire for continuity. Replace/repair as necessary.
10. Check for continuity of the pressure switch. If there is no continuity at the pressure switch, check the refrigerant pressure. If the discharge pressure is between 35 and 340 PSIG, discharge the air-conditioning system and replace the JBS2020-5 Pressure Switch. If the pressure is less than 35 PSIG or greater than 340 PSIG add/remove refrigerant to the proper level.
11. Check for power at the Freeze Switch (Pin 1) on the evaporator assembly. If power is not present, check the KAC26-002-16 wire for continuity. Replace/repair as necessary.
12. Check for continuity between Pin 1 and Pin 2. If there is no continuity between Pin 1 and Pin 2, and the ambient air temperature is greater than 45°F, replace the Freeze Switch.
13. Check for power at the JBS1105-1 Relay Assembly. If power is not present, check the KAC26-012-16 wire for continuity. Replace/repair as necessary.
14. Check for continuity between Pin COM and Pin NC of the relay. If the ambient air temperature is greater than 65°F and there is no continuity between Pin COM and Pin NC continue as follow:
 - 14.1 Check the power at Pin 4. If there is no power at Pin 4 replace the JBS1105-1 Relay Assembly.
 - 14.2 If there is power at Pin 4, the temperature controller is powering the relay to disengage the clutch. Using a short piece of wire create a short circuit between Pin NO and Pin 4 on the power side of the evaporator blower connector.
 - 14.3 If the JBS1105-1 Relay Assembly then disengages, replace the ES52126-1 Temperature Probes.
 - 14.4 If the JBS1105-1 Relay Assembly does not engage, check the temperature controller for correct wiring and replace the ES62117-1 Temperature Controller as necessary.
15. If there is power at Pin NC of the JBS1105-1 Relay Assembly, and there is not power at the compressor clutch coil, repair/replace the KAC-203-16 wire.

PLUMBING

DESCRIPTION AND OPERATION

1. GENERAL

The plumbing system consists of flexible nylon lined refrigerant hose with permanent swaged on fittings. All connections are tube o-ring type with sealant on the fitting mating surfaces to ensure leak-free operation. Hose, o-ring material, and sealants are specially designed to work with refrigerant R134a and polyolester oil viscosity grade ISO 68. Two service valves are located forward of the firewall. They are sized differently to avoid incorrect connection when servicing the system. A receiver/drier bottle is located downstream of the condenser to remove moisture from the liquid refrigerant. The receiver/drier bottle is mounted in the tailcone of the aircraft. A binary pressure switch monitors the refrigerant gas pressure. This switch will open at a compressor discharge over-pressure of 384 ± 29 psi and under-pressure conditions of 30 ± 5 psi. This will interrupt the power to the compressor clutch and stop the compressor.

The second overpressure safety device is a fuse plug, which is located on the receiver/drier will vent the systems refrigerant in the event of excessive system pressure.

This section of the maintenance manual discusses maintenance practices used for the plumbing portion of the air-conditioning system. Refer to installation drawing 26-0800 or 26-0801 for parts list and schematics.

PLUMBING

MAINTENANCE PRACTICES

1. GENERAL

The following procedures are used to perform typical maintenance on the air-conditioning system plumbing.

CAUTION: Do not operate air-conditioning system with condenser air inlet or outlet blocked.

A. Connection to components, o-ring replacement:

1. Place the appropriate o-ring (reference 26-0800 or 26-0801 drawing) over the tube "O" end of the fitting.
2. Lubricate o-ring with polyolester oil viscosity grade ISO 68 or ES49000-1 sealant prior to assembly.
3. Apply sealant to all fitting-mating surfaces prior to assembly.
4. "Dry" torque recommendations for all fittings are as follows:

Liquid hoses	11-13 ft/lbs
Discharge hoses	15-20 ft/lbs
Suction hoses	21-27 ft/lbs

It is recommended to torque to the low side of the torque range to prevent fitting twisting or damage.

B. Receiver/drier bottle replacement:

1. Replace receiver/drier bottle whenever the compressor is replaced or when the air-conditioning system plumbing is left open to the atmosphere for a period of time greater than one half (1/2) hour.

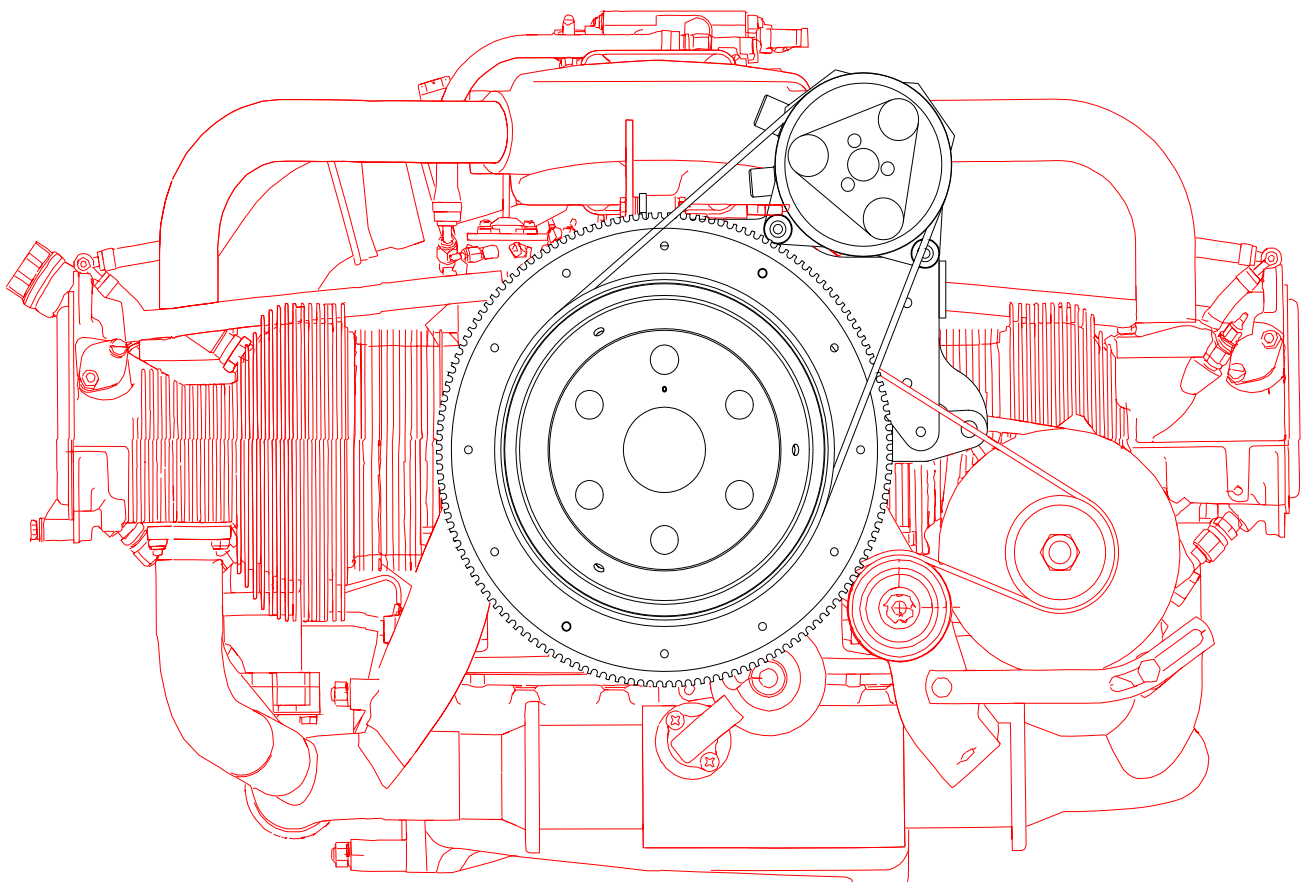
COMPRESSOR

DESCRIPTION AND OPERATION

1. GENERAL

The compressor is mounted on brackets in the engine compartment and is driven by a belt running to the Drive Pulley Assembly. The compressor compresses the refrigerant gas for condensing at ambient temperatures and pumps the refrigerant through the system. The compressor clutch is powered by 28 VDC.

This section of the maintenance manual discusses maintenance practices used for the compressor assembly portion of the air-conditioning system.



COMPRESSOR INSTALLATION

COMPRESSOR

MAINTENANCE PRACTICES

1. GENERAL

The following procedures are used to perform typical maintenance on the compressor assembly.

2. TOOLS AND EQUIPMENT

DESIGNATION	REF. NO.	QTY.	REMARKS
Polyolester oil	Comm Avail	A/R	Viscosity ISO 68

3. COMPRESSOR ASSEMBLY MAINTENANCE PROCEDURES

A. Compressor drive belt adjustment:

1. Adjust belt for moderate tension and then rotate large pulley through 2 revolutions.
2. Tension belt to deflect 0.25 inch with a 10 lb. force applied at mid-span location. The belt should deflect .5 inches with a 22 lb force applied at the mid-span location.
3. Rotate belt 5 revolutions. Re-tension as required.

B. Compressor oil level check:

NOTE: It is not necessary to check the compressor oil level at any time during routine maintenance as long as servicing instructions are properly followed. The compressor comes equipped with 5 oz. of polyolester oil viscosity grade ISO 68. If the amount of oil removed during system discharging and evacuation is always added before charging, oil never needs to be added to the compressor.

CONDENSER

DESCRIPTION AND OPERATION

1. GENERAL

The condenser assembly is located in the tailcone and is attached to support structure mounted to frames in the aircraft. The assembly consists of a condenser coil unit and shroud with associated brackets. The condenser converts the refrigerant from a gas to a liquid. The receiver/drier bottle removes moisture from the refrigerant. The condenser fan draws in cool (ambient) air from the intake duct on the right side of the aircraft and blows this air through the condenser coil where the refrigerant gas can be condensed to a liquid. The air is then exhausted overboard through the exhaust duct on the left side of the tailcone.

This section of the maintenance manual discusses maintenance practices used for the condenser assembly portion of the air-conditioning system.

CONDENSER

MAINTENANCE PRACTICES

1. GENERAL

The following procedures are used to perform typical maintenance on the condenser assembly.

2. TOOLS AND EQUIPMENT

DESIGNATION	REF. NO.	QTY.	REMARKS
Vacuum Cleaner	Comm Avail	1	None
Coil Cleaner	Comm Avail	A/R	Non-acid based

3. CONDENSER ASSEMBLY MAINTENANCE PROCEDURES

A. Condenser coil cleaning procedure:

1. Remove condenser coil from aircraft and use vacuum cleaner to remove large debris from upstream and downstream coil faces.
2. Spray coil cleaner on both coil faces. Wash off with water (ensure the coil fittings are sealed).
3. Allow coil to dry thoroughly prior to additional maintenance.

EVAPORATOR

DESCRIPTION AND OPERATION

1. GENERAL

The evaporator assembly is mounted between the pilot and co-pilot seats, recessed in the floor. The evaporator assembly is made up of an evaporator coil, and blower. Cabin air is pulled through the evaporator coil, cooled and then distributed back to the cabin.

This section of the maintenance manual discusses maintenance practices used for the evaporator assembly portion of the air-conditioning system.

EVAPORATOR

MAINTENANCE PRACTICES

1. GENERAL

The following procedures are used to perform typical maintenance on the evaporator assembly.

2. TOOLS AND EQUIPMENT

DESIGNATION	REF. NO.	QTY.	REMARKS
Vacuum Cleaner	Comm Avail	1	None
Coil Cleaner	Comm Avail	A/R	Non-acid based

3. EVAPORATOR ASSEMBLY MAINTENANCE PROCEDURES

A. Evaporator coil cleaning procedure:

1. Remove evaporator coil from aircraft and use vacuum cleaner to remove large debris from upstream and downstream coil faces.
2. Spray coil cleaner on both coil faces. Wash off with water (ensure the coil fittings are sealed).
3. Allow coil to dry thoroughly prior to additional maintenance.

Airworthiness Limitations

1. LIMITATIONS

This Airworthiness Limitations section is FAA approved and specifies maintenance required under §§43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

2. MANDATORY COMPONENT REPLACEMENT INTERVALS

This installation contains no components that require mandatory replacement on scheduled intervals. All maintenance is considered to be “on condition”.

3. MANDATORY INSPECTION INTERVALS

A. General

Periodic inspections of the air-conditioning system will keep the system operating at peak efficiency. The inspections are simple visual inspections requiring a minimal amount of time.

B. Inspection Intervals

ITEM	INSPECT FOR	INTERVAL	ACTION
AIR-CONDITIONING SYSTEM COMPONENTS	See Following Pages	EVERY 600 HOURS*	CLEAN OR REPLACE COMPONENTS AS NECESSARY
COMPRESSOR BELT	See Following Pages	WITHIN 5 HOURS OF INSTALLING A NEW BELT, THEN EVERY 600 HOURS*	TENSION OR REPLACE AS NECESSARY
COMPRESSOR INSTALLATION BRACKETS	See Following Pages	EVERY 100 HOURS*	REPLACE AS NECESSARY
SIGHT GLASS	PROPER REFRIGERANT LEVEL	WHEN PROBLEM IS SUSPECTED*	DISCHARGE/CHARGE AS NECESSARY
EVAPORATOR AND CONDENSER COILS	See Following Pages	EVERY 600 HOURS*	CLEAN OR REPLACE AS NECESSARY

*Or every annual inspection, which ever comes first.

C. Mandatory Inspection Instructions

1. Condenser Installation Inspection

The condenser installation should be visually inspected for airflow restrictions at the condenser inlet. Any bent condenser fins should be straightened with a coil comb. If the condenser coil is found to be visibly “grimy” or dirty, the condenser assembly should be removed from the aircraft and rinsed with a soapy water solution. All fittings should be capped to prevent water from entering the coil. System servicing instructions are found in 21-50-00 page 301. All structural brackets and doublers should be visually inspected for cracks. Repairs to cracked components are not permitted and should be replaced. Contact Keith Products parts and service department at 972-407-1234 for spares support.

2. Plumbing Installation Inspection

All plumbing should be visually inspected for the following:

- a) Kinks and bends smaller than 4” radius
- b) Rubbing/chaffing against rigid mounted components or structure
- c) Verify all suction lines and fittings are insulated.

All hoses that meet categories a and b from above must be replaced. If a suction line fitting is found to have loose insulation tape, it is permissible to secure with an ES30015-6 Cable Tie or replace with new insulation tape P/N ES06022-1. Contact Keith Products parts and service department at 972-407-1234 for spares support.

3. Evaporator Installation Inspection

The evaporator installation should be visually inspected for airflow restrictions at the evaporator inlet. Any bent evaporator fins should be straightened with a coil comb. If the evaporator coil is found to be visibly “grimy” or dirty, the evaporator assembly should be removed from the aircraft and rinsed with a soapy water solution. All fittings should be capped to prevent water from entering the coil. System servicing instructions are found in 21-50-00 page 301. All structural brackets and doublers should be visually inspected for cracks. Repairs to cracked components are not permitted and should be replaced. Contact Keith Products parts and service department at 972-407-1234 for spares support.

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4. Compressor Installation Inspection

Particular attention should be given to the compressor-mounting bracket during inspection. Removal of the bracket from the engine for inspection is not required but it is recommended to thoroughly check all surfaces (particularly at weld joints and corners) with an inspection mirror and flashlight. No cracks are permitted. The compressor-mounting bracket should also be inspected for signs of corrosion. Minor corrosion, that can be easily removed with a wire brush, should be brushed clean and have an application of LPS Hardcoat Corrosion Inhibitor P/N 03322 to exposed area. The compressor belt should be inspected for improper wear and cracks. Proper belt tension should be verified in accordance with 21-50-03 Page 201. Repairs to cracked components are not permitted and should be replaced. Contact Keith Products parts and service department at 972-407-1234 for spares support.

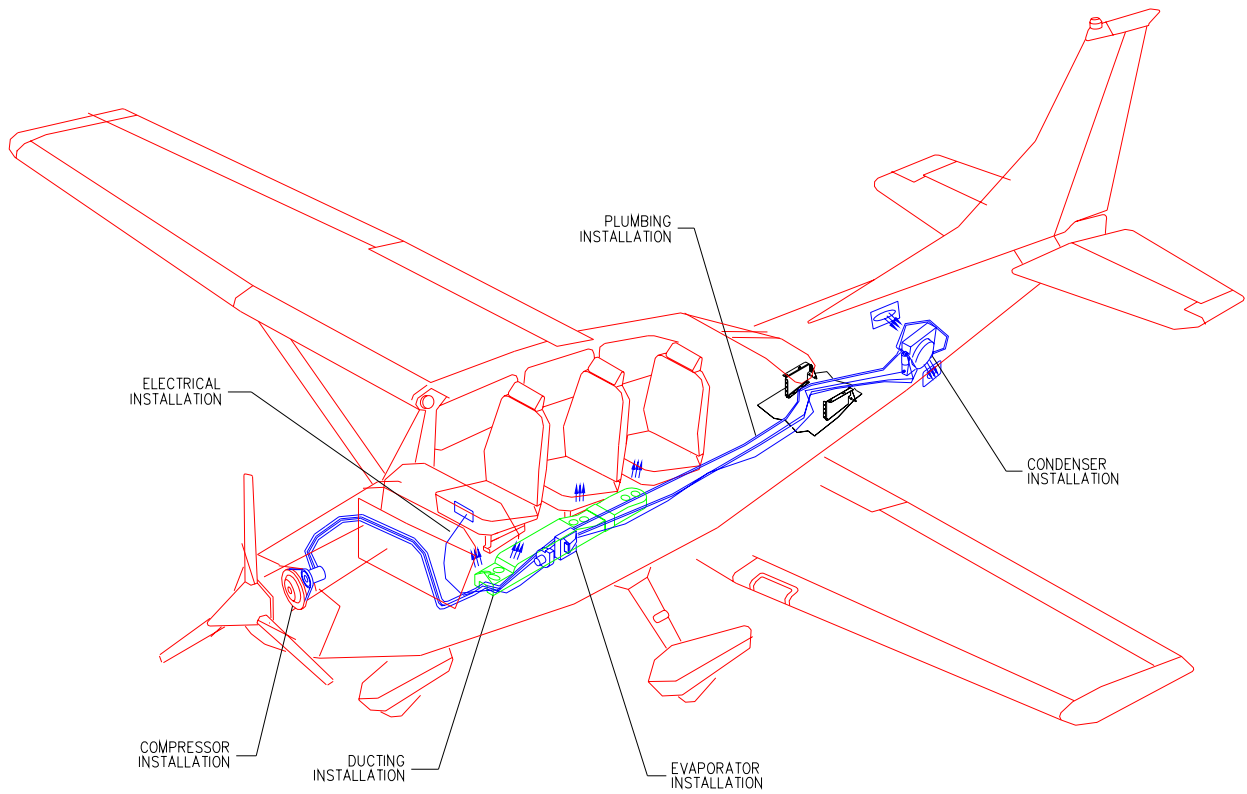
5. Electrical Installation Inspection

Periodic functional checks of the electrical components as installed should be performed as follows:

If the aircraft is equipped with a propeller de-icing system, the air conditioning system load shedding system requires periodic operational checks. With the battery, prop heat, and air conditioning switches selected to ON, the condenser fan and compressor clutch shall be inoperative and the evaporator fan should automatically switch to LO mode. Verify that blower speed is overridden to LO in all blower speed switch locations. With the prop heat switch to OFF, the condenser fan and compressor clutch engage and the evaporator fan is operational in all 3 speeds. Troubleshooting procedures can be found in 21-50-01 Page 101.

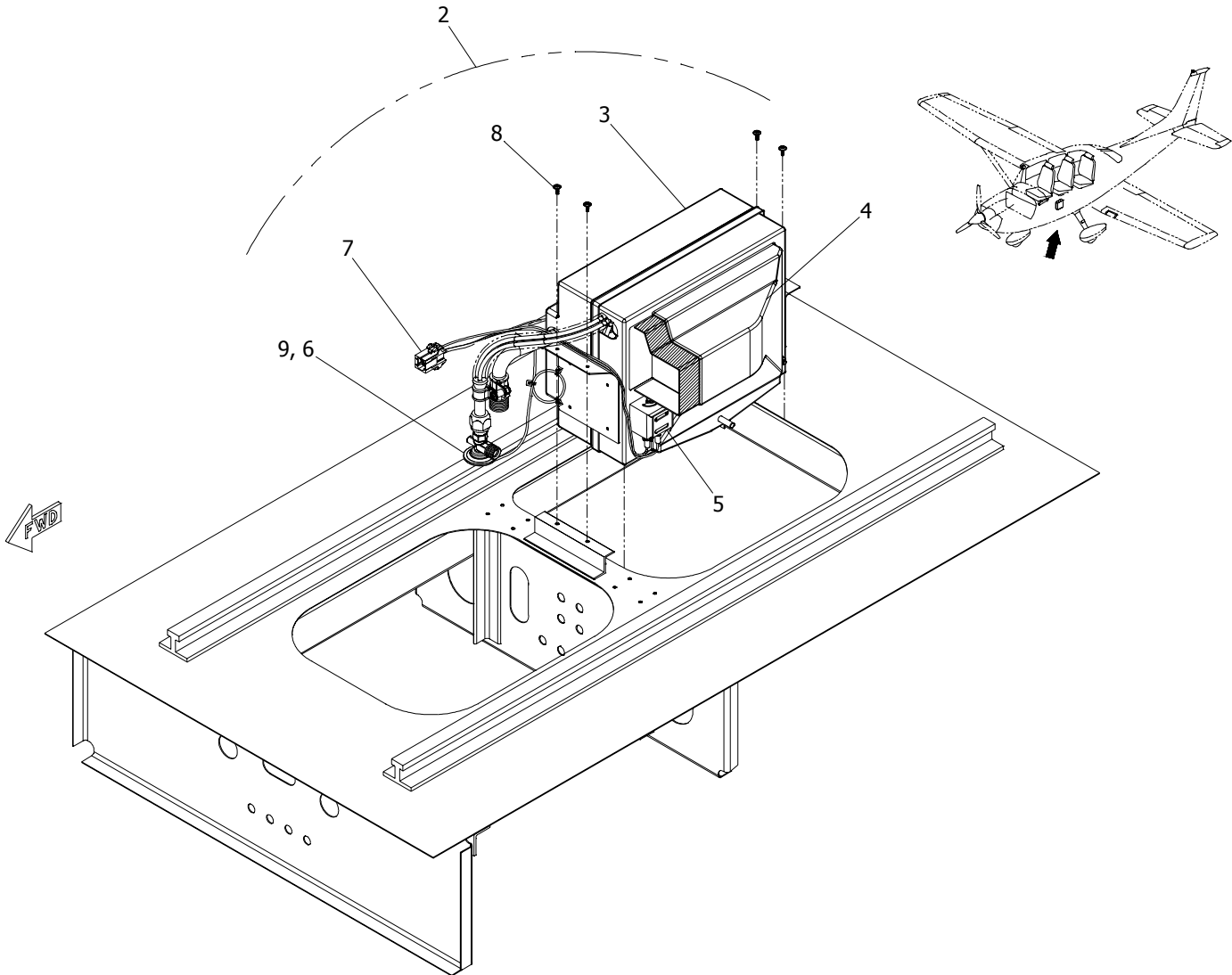
Wires in bundles should be inspected for any form of insulation damage and be replaced as necessary. Terminal ends, connectors and ground points should be inspected for corrosion, dirt, and looseness.

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ILLUSTRATED PARTS CATALOG

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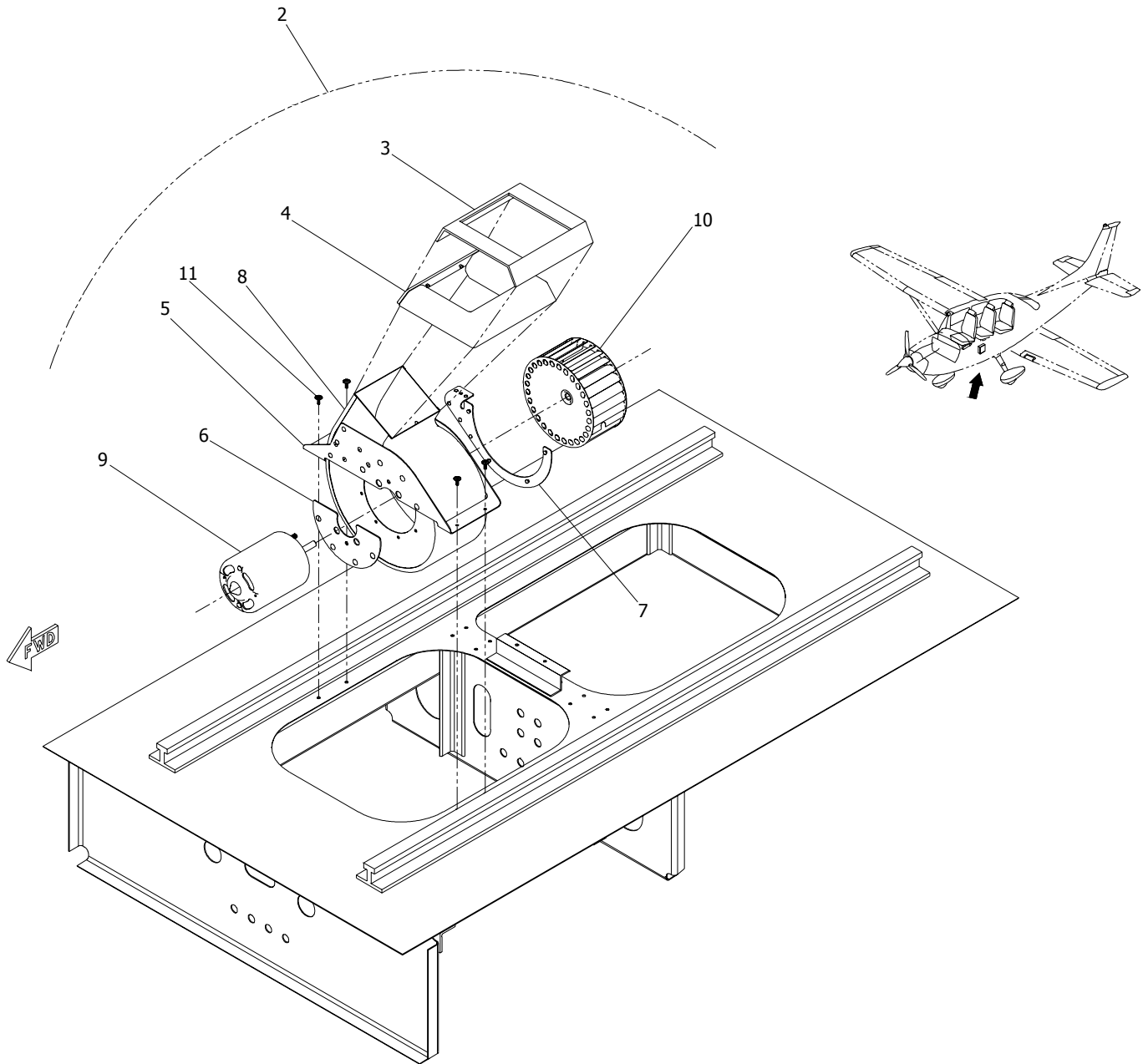


26-0200-1 Evaporator Installation

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<i>ITEM</i>	<i>PART NUMBER</i>	<i>NOMENCLATURE</i>	<i>UNITS PER ASSEMBLY</i>
1	26-0200-1	Evaporator Installation	.
2	•26-0250-1	Evaporator Assembly	1
3	••26-1250-1	Evaporator Housing Half	1
4	••26-1251-1	Evaporator Housing Half	1
5	••JBS60-2	Thermostat	1
6	••ES26108-1	Expansion Valve	1
7	••ES53025-1	Connector	1
8	•AN525-832R7	Screw	4
9	ES49011-2	O-Ring	1

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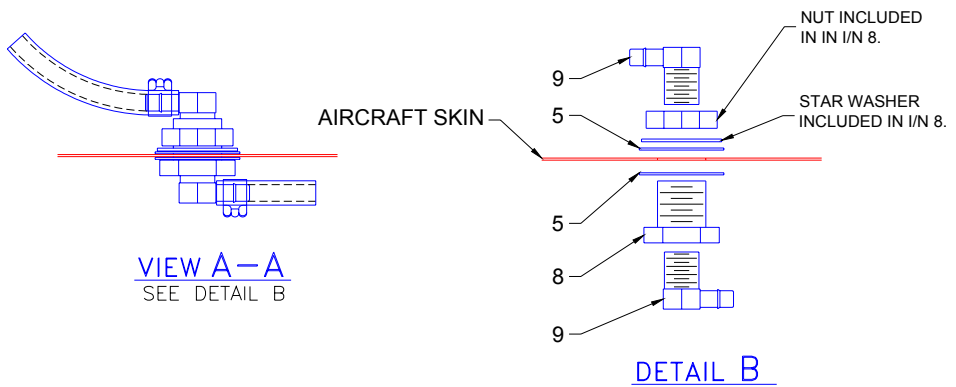
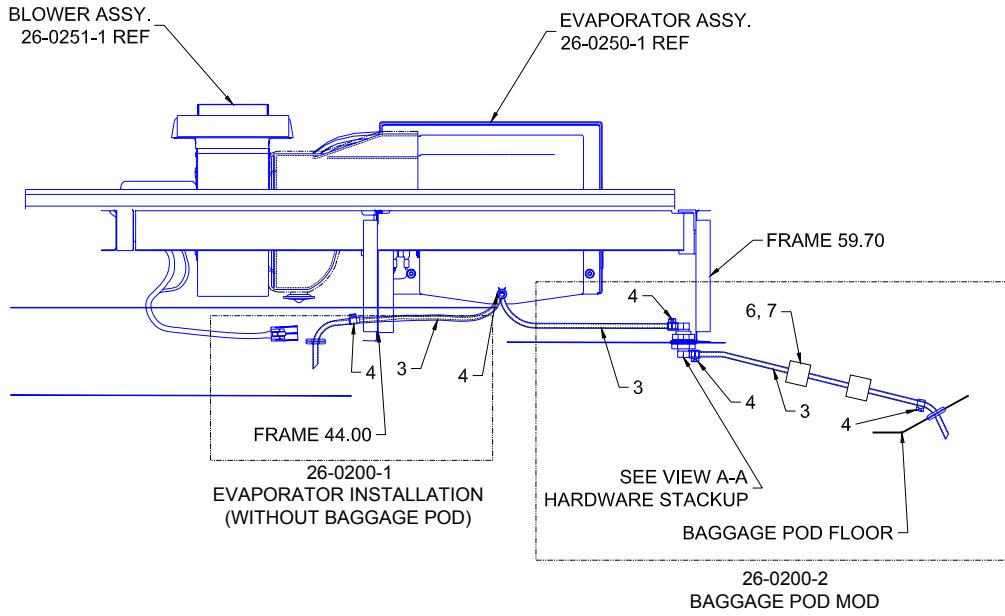
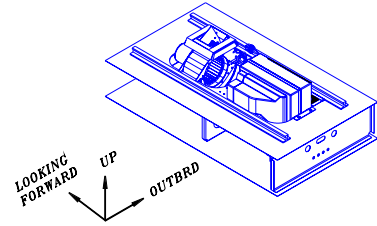


26-0200-1 Evaporator Installation

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<i>ITEM</i>	<i>PART NUMBER</i>	<i>NOMENCLATURE</i>	<i>UNITS PER ASSEMBLY</i>
1	26-0200-1	Evaporator Installation	.
2	•26-0251-1	Blower Assembly	1
3	••26-1255-1	Adapter Detail	1
4	••26-1256-1	Interface Seal	1
5	••26-1266-1	Blower Bracket	1
6	••26-1267-1	Blower Bracket	1
7	••26-1268-1	Blower Bracket	1
8	••ES73103-6	Blower Housing	1
9	••ES61027-10	Motor	1
10	••ES73100-8	Blower Wheel	1
11	•AN525-832R7	Screw	4

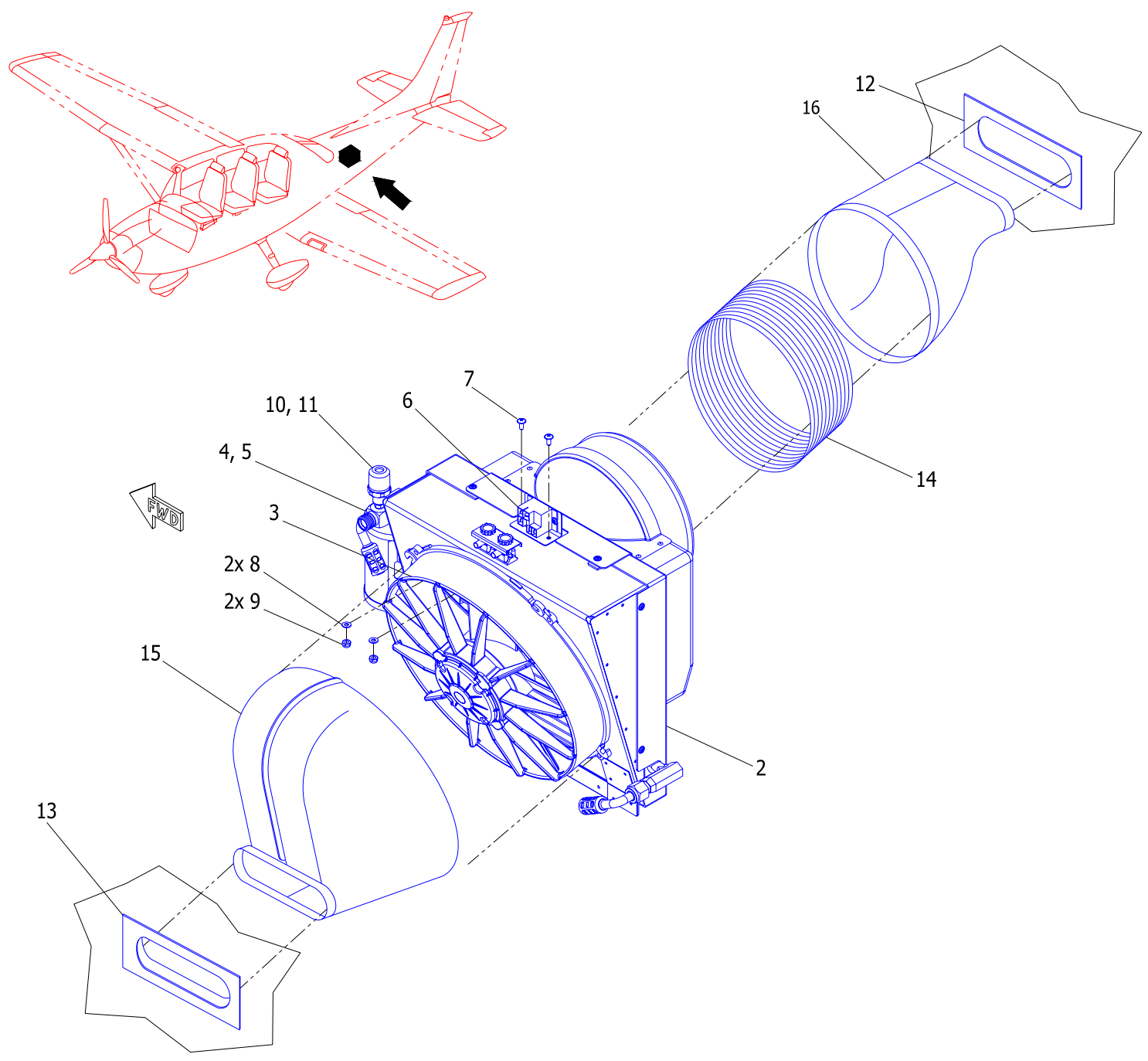
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Drain Installation

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<i>ITEM</i>	<i>PART NUMBER</i>	<i>NOMENCLATURE</i>	<i>UNITS PER ASSEMBLY</i>
1	26-0200-1	Evaporator Installation	.
2	26-0200-2	Baggage Pod Mod	.
3	•ES48012-1	Tube (in)	22
4	•ES30001-1	Clamp	4
5	•AN960C1216L	Washer	2
6	•ES30011-2	Tie Block	2
7	•ES30015-6	Cable Tie	2
8	•ES41070-1	Bulkhead Fitting	1
9	•ES41071-1	Male Elbow Connection	2



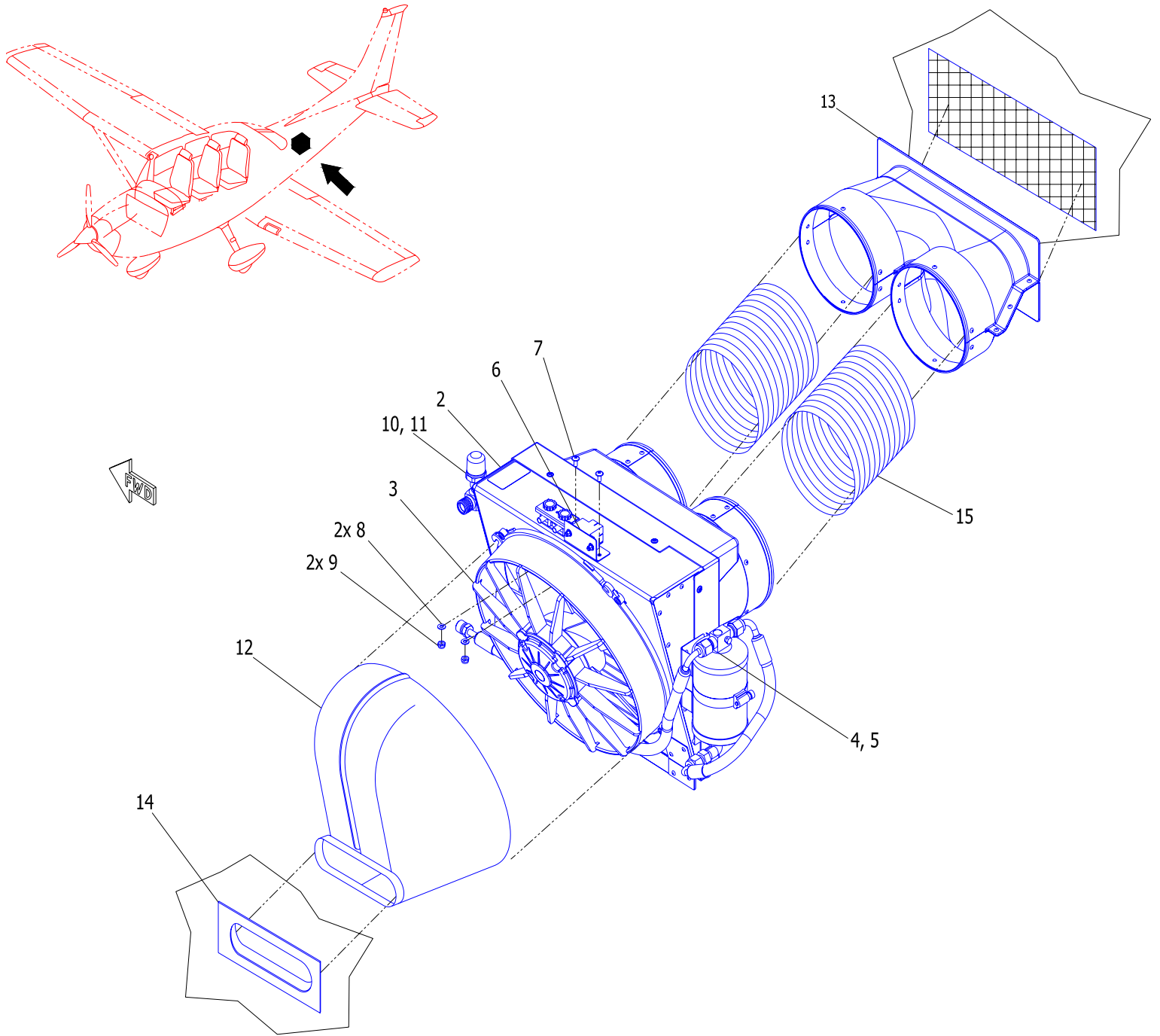
26-0300-1 Condenser Installation

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<i>ITEM</i>	<i>PART NUMBER</i>	<i>NOMENCLATURE</i>	<i>UNITS PER ASSEMBLY</i>
1	26-0300-1	Condenser Installation	.
2	•26-0351-1	Condenser Assembly	1
3	••ES73069-2	Fan	1
4	••ES43030-2	Receiver/Drier Bottle	1
5	••ES49011-1	O-ring	1
6	••JBS1105-1*	Relay Assembly	1
7	••AN525-10R7	Screw	2
8	••AN960-10L	Washer	2
9	••MS20365-1032	Nut	2
10	••JBS2020-10	Pressure Switch	1
11	••ES49011-2	O-ring	1
12	•26-1321-1	Intake Collar	1
13	•26-1333-1	Exhaust Collar	1
14	•ES70009-8	Flex Duct (In)	8
15	•26-0350-1	Fan Shroud Assembly	1
16	•26-0352-1	Inlet Half Assembly	1

*Note: JBS1105-1 replaces relay ES56128-2.

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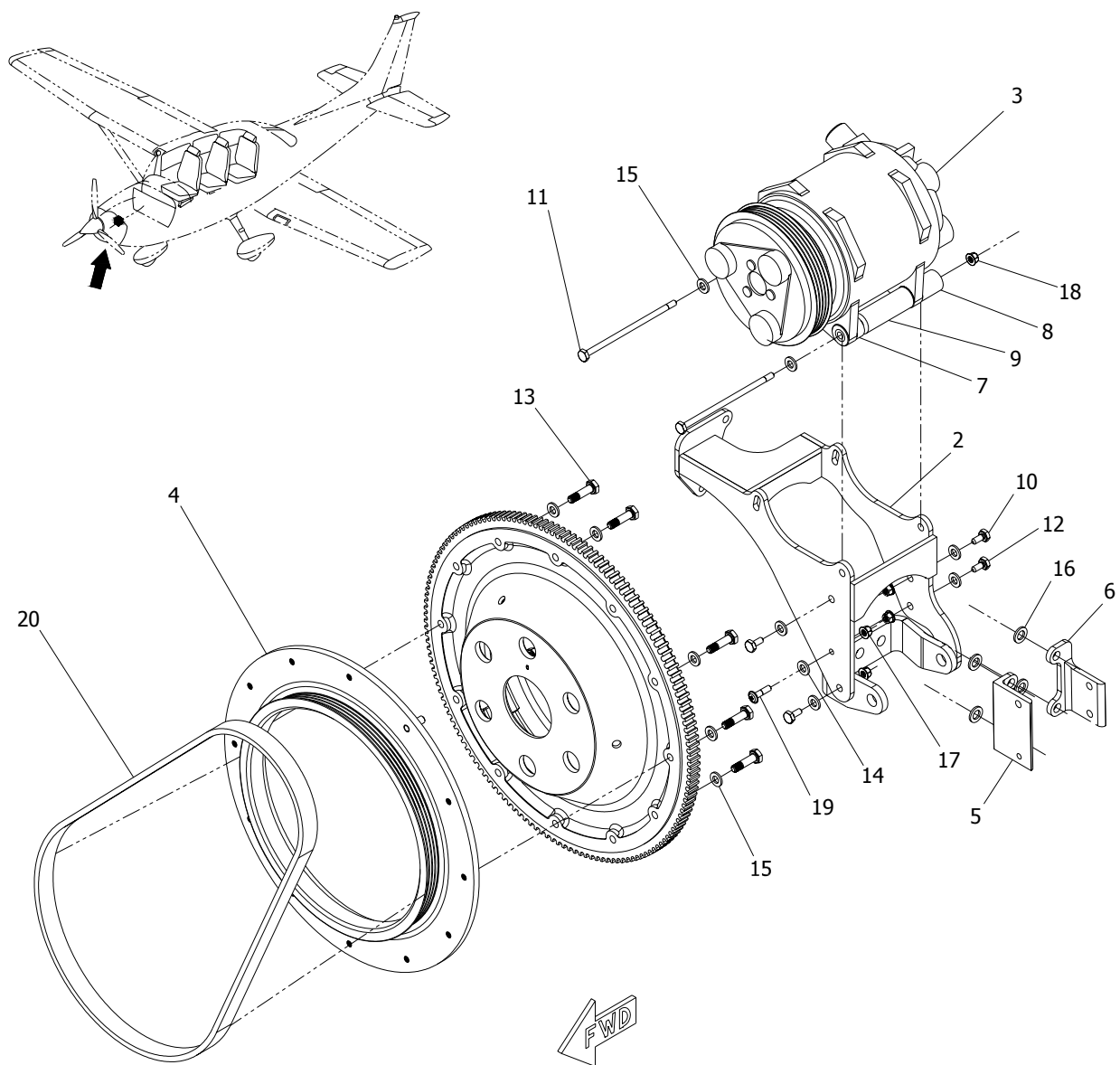
26-0301-1 Condenser Installation

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<i>ITEM</i>	<i>PART NUMBER</i>	<i>NOMENCLATURE</i>	<i>UNITS PER ASSEMBLY</i>
1	26-0301-1	Condenser Installation	.
2	•26-0353-1	Condenser Assembly	1
3	••ES73069-2	Fan	1
4	••ES49011-1	O-ring	1
5	••ES43030-2	Receiver/Drier Bottle	1
6	••JBS1105-1*	Relay Assembly	1
7	••AN525-10R7	Screw	2
8	••AN960-10L	Washer	2
9	••MS20365-1032	Nut	2
10	••JBS2020-10	Pressure Switch	1
11	••ES49011-2	O-ring	1
12	•26-0350-1	Fan Shroud Assembly	1
13	•26-0354-1	Intake Duct Assembly	1
14	•26-1331-1	Exhaust Collar	1
15	•ES70009-8	Flex Duct (In)	20

*Note: JBS1105-1 replaces relay ES56128-2.

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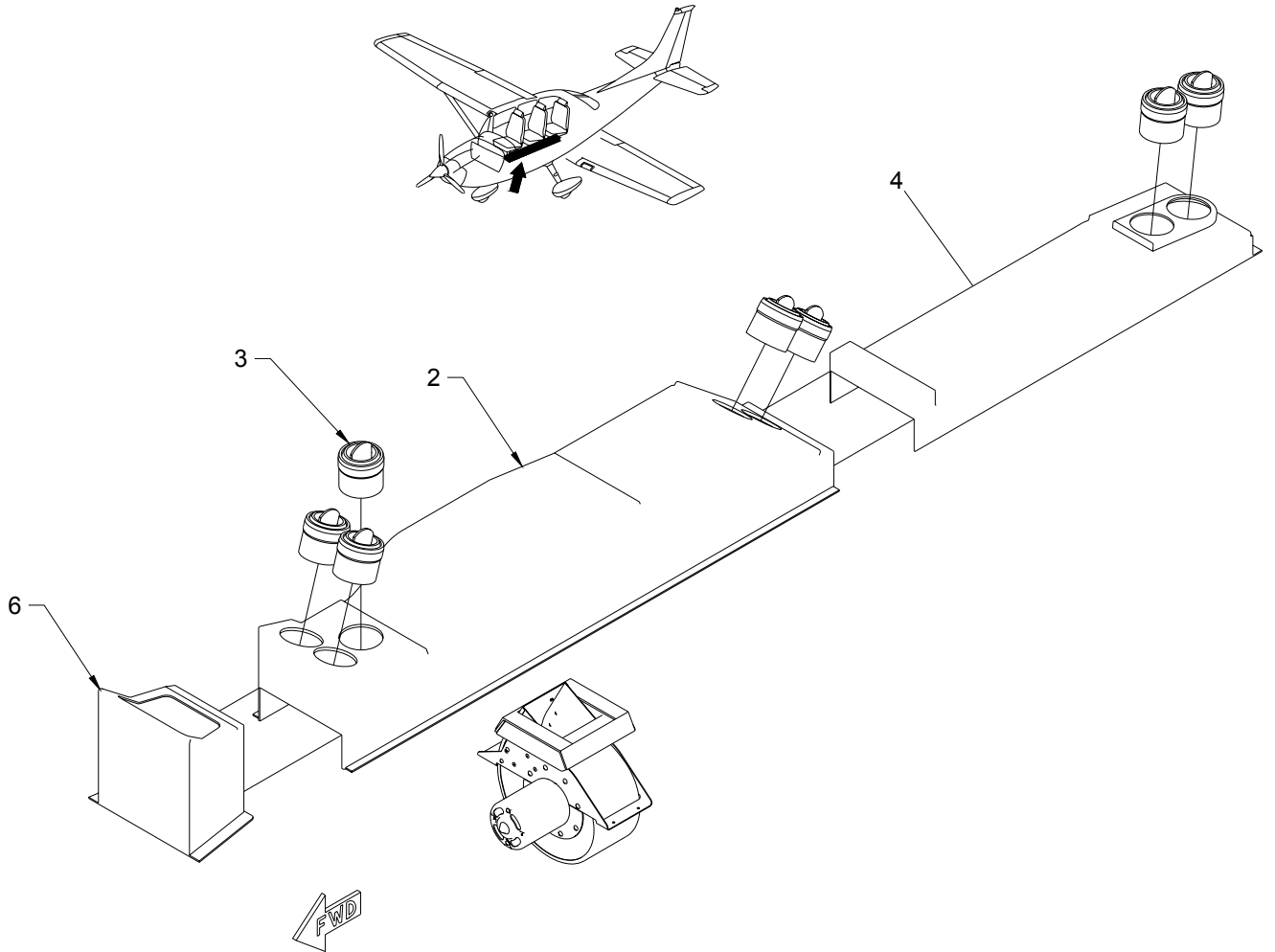


26-0400-1 Compressor Installation

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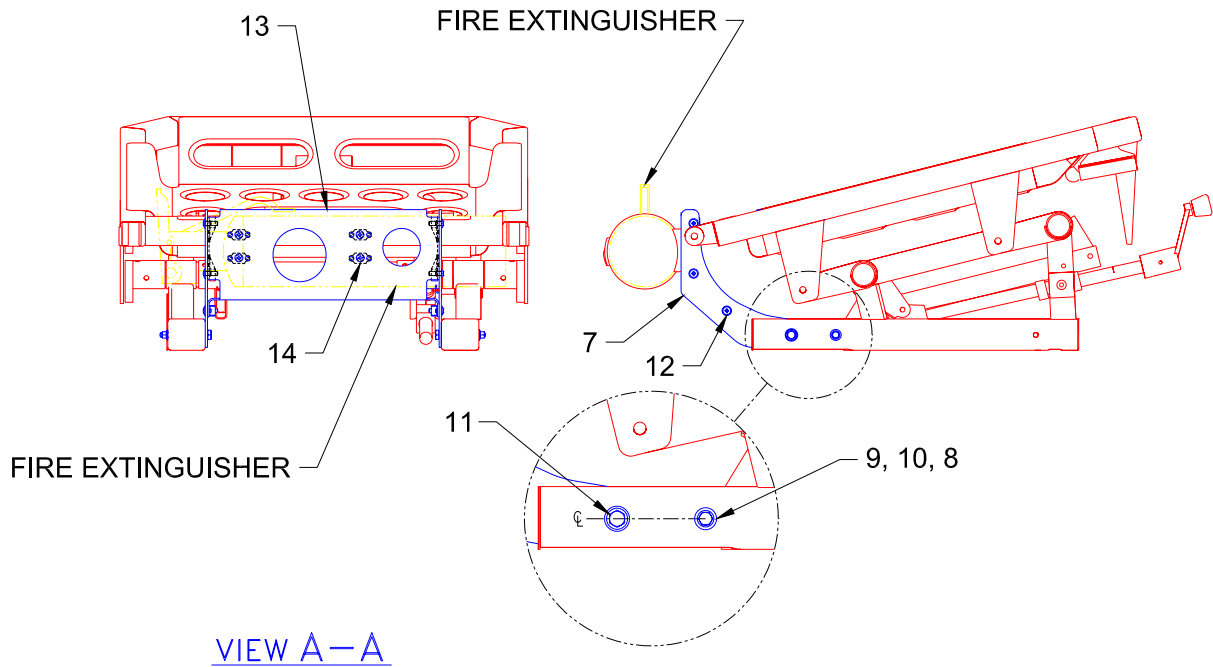
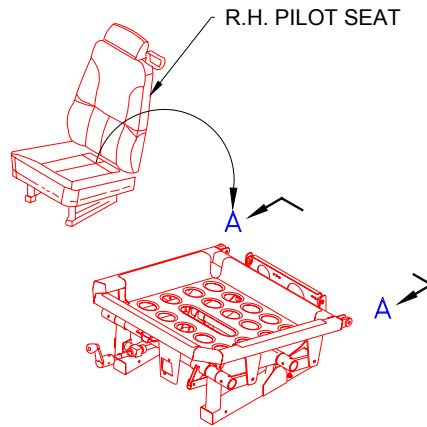
<i>ITEM</i>	<i>PART NUMBER</i>	<i>NOMENCLATURE</i>	<i>UNITS PER ASSEMBLY</i>
1	26-0400-1	Compressor Installation	.
2	•26-0450-1	Comp Bracket Assembly	1
3	•26-0451-1	Compressor Assembly	1
4	•26-0452-1	Drive Pulley Assembly	1
5	•26-1401-1	Support Bracket	1
6	•26-1402-1	Support Bracket	1
7	•26-1408-1	Spacer	2
8	•26-1409-1	Spacer	2
9	•26-1410-1	Spacer	2
10	•AN4-5	Bolt	1
11	•AN4-52A	Bolt	2
12	•AN4-6A	Bolt	4
13	•NAS6204-7H	Bolt	10
14	•AN960-10L	Washer	1
15	•AN960-416L	Washer	19
16	•AN960-516	Washer	4
17	•MS21042-3	Nut	1
18	•MS21042-4	Nut	6
19	•AN525-10R12	Screw	1
20	•ES20174-1	Belt	1

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26-0600-1 Ducting Installation

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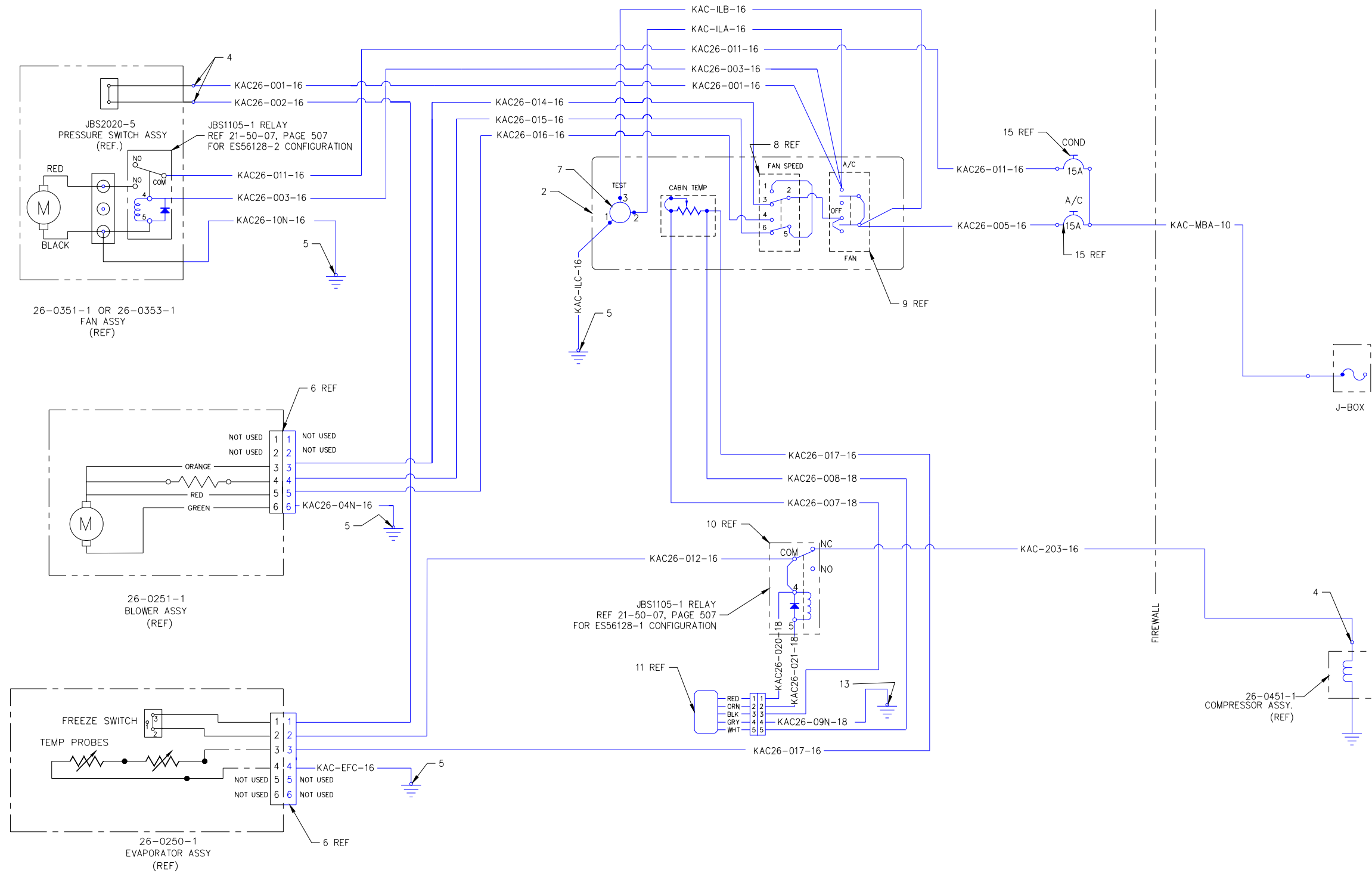


26-0600-1
Fire Ext. Bracket Installation

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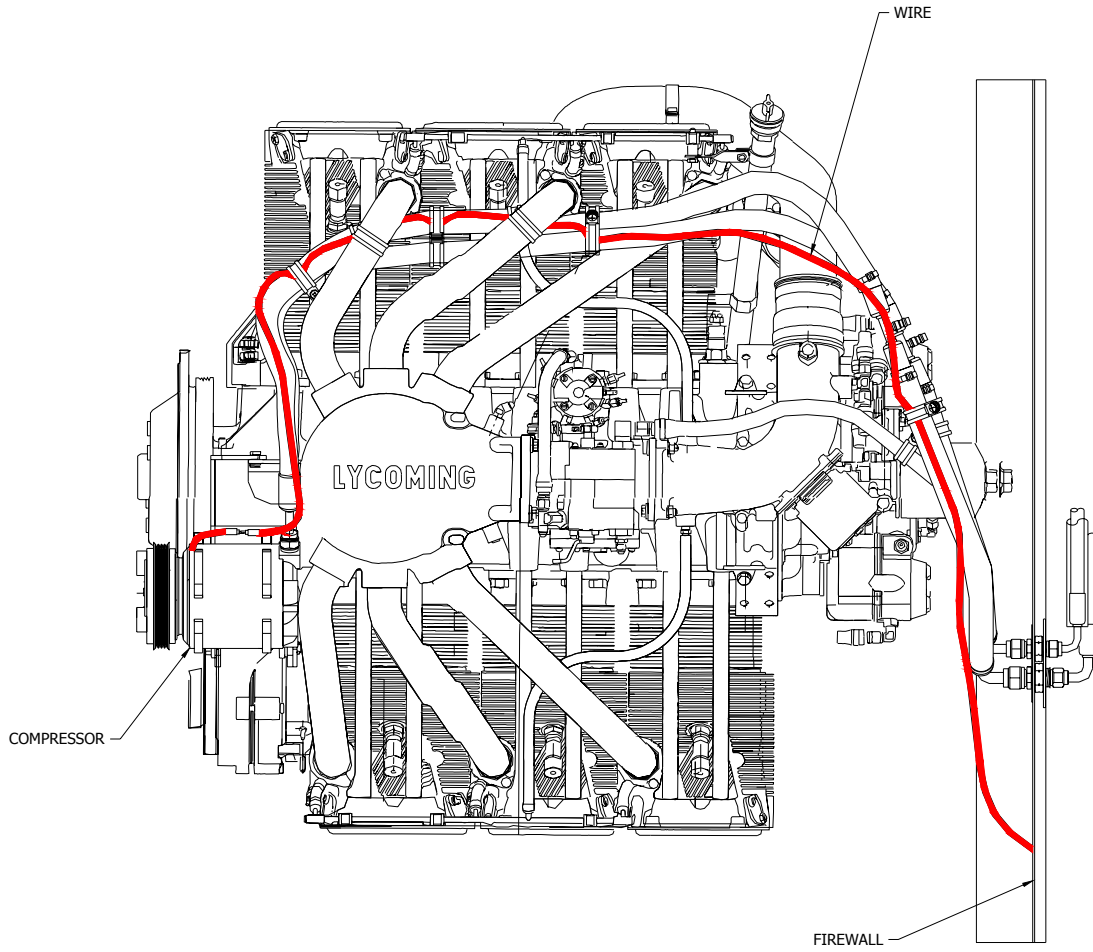
<i>ITEM</i>	<i>PART NUMBER</i>	<i>NOMENCLATURE</i>	<i>UNITS PER ASSEMBLY</i>
1	26-0600-1	Ducting Installation	.
2	•26-0651-1	Front Air Duct Assy.	1
3	••ES72041-2	Louver	5
4	•26-0654-1	Rear Air Duct Assy.	1
5	••ES72041-2	Louver	2
6	•26-1661-1	Fuel Valve Cover	1
7	•26-1667-1	Support Bracket	2
8	•MS21042L3	Nut	2
9	•AN3-20A	Bolt	2
10	•AN960-10L	Washer	2
11	•AN4-20	Bolt	2
12	•AN525-832R10	Screw	6
13	•26-1666-1	Fire Extinguisher Bracket	1
14	•MS21059L3	Nut Plate	4

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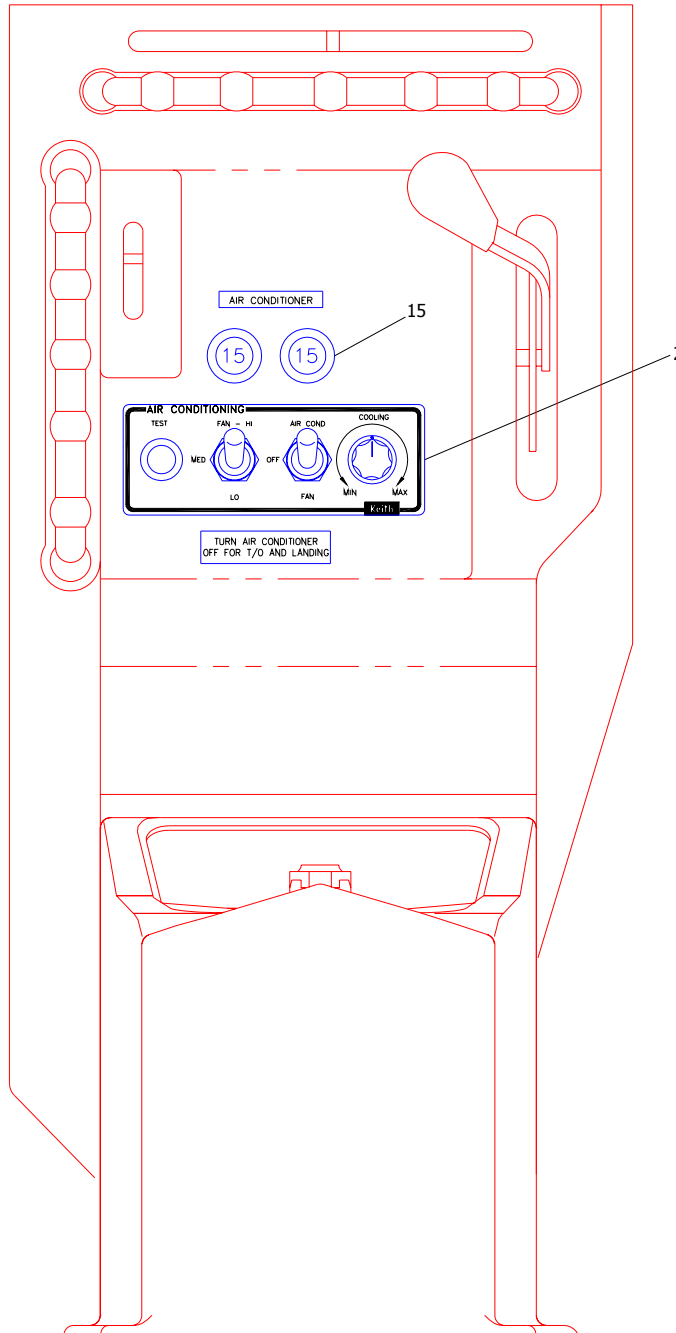
26-0700-1 Electrical Schematic

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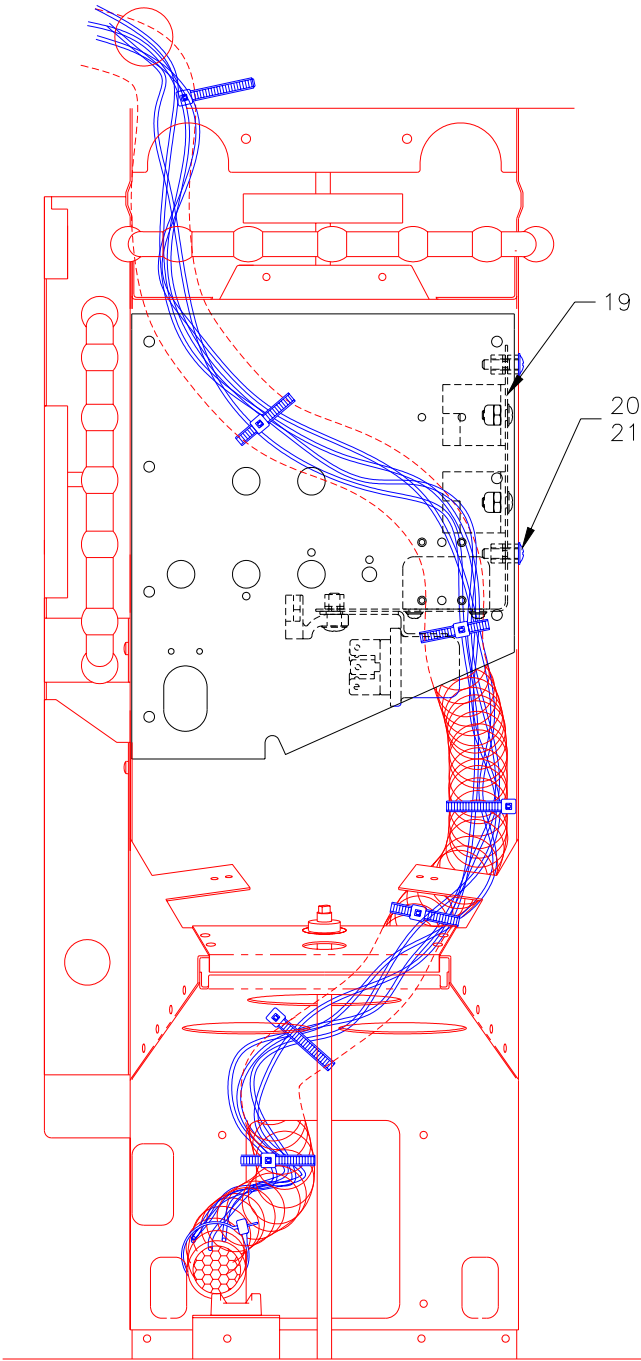
Wiring Installation for the Compressor

Keith Products, Inc.
Maintenance Manual with Illustrated Parts Catalog
CR-26-10



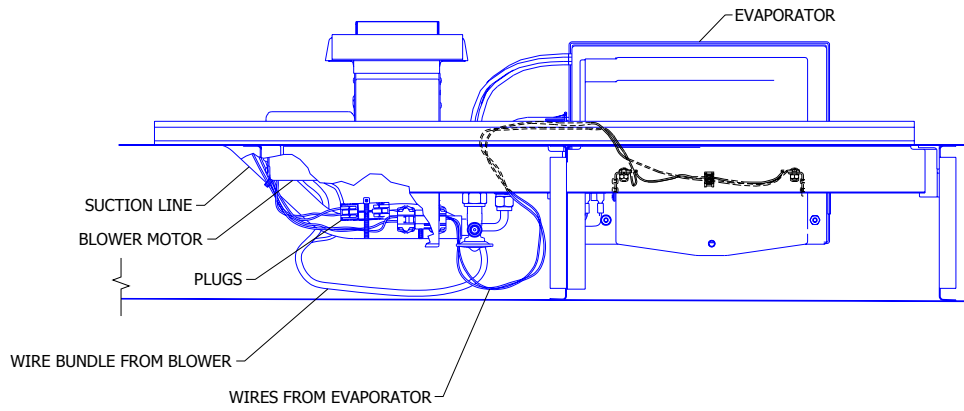
Panel Illustrator
SEE DETAIL A

Keith Products, Inc.
Maintenance Manual with Illustrated Parts Catalog
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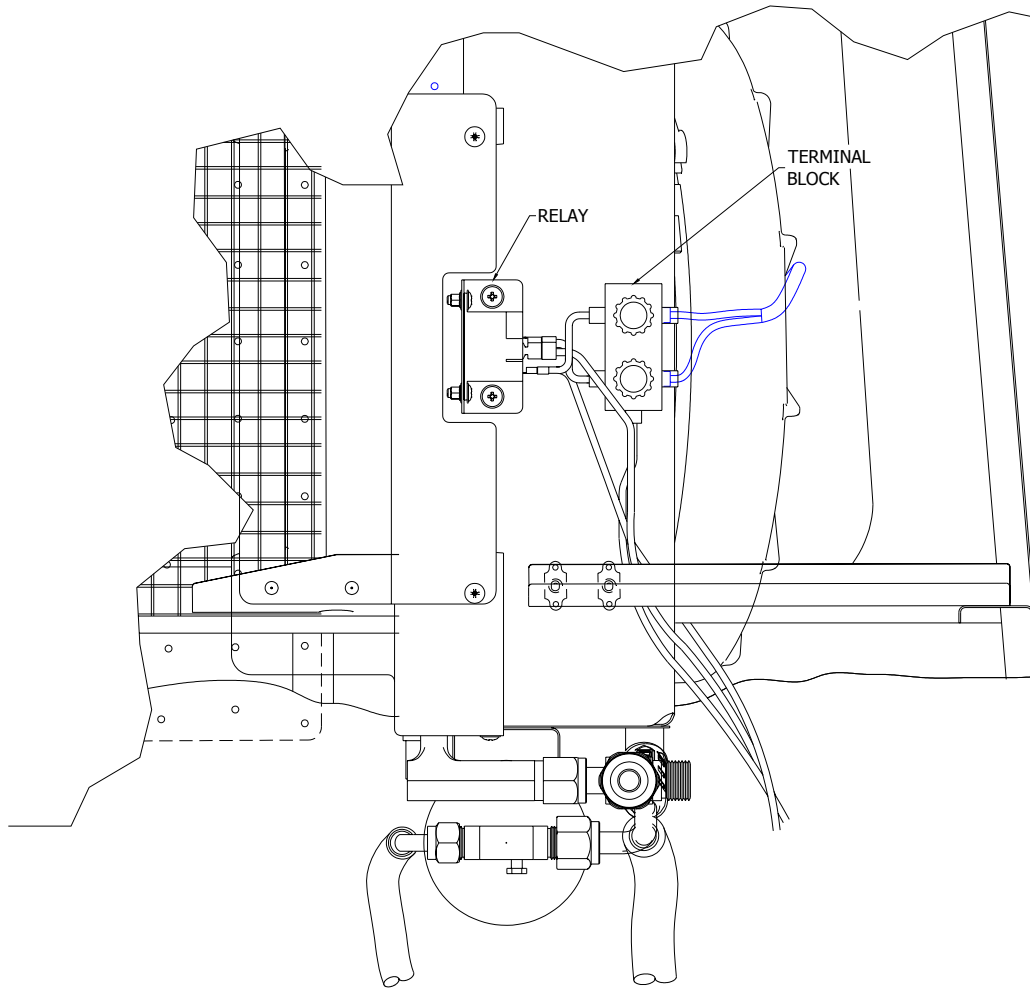


DETAIL A

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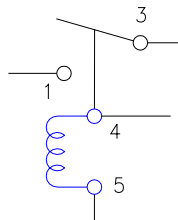
Wiring Installation for Blower and Evaporator



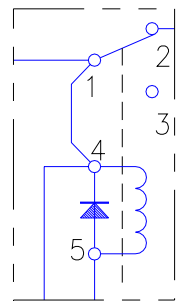
Wire Installation for the Condenser

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ITEM	PART NUMBER	NOMENCLATURE	UNITS PER ASSEMBLY
1	26-0700-1	Electrical Installation	.
	26-0700-2	Electrical Installation	.
2	•26-1700-1	Panel, Switch	1
3	•JBS2020-5	Pressure Switch Assy.	1
4	•ES55079-2	Splice, Knife Disconnect	3
5	•MS25036-153	Terminal	6
6	•ES53026-1	Plug	2
7	•MS25041-10	Indicator Light	1
8	•ES57016-9	Switch	1
9	•ES57016-5	Switch	1
10	•JBS1105-1	Relay Assembly	1
11	•ES62117-1	Temp Controller	1
12	•ES53001-1	Connector	1
13	•MS25036-149	Terminal	1
14	•ES56052-1	Relay	2
15	•JBS75-34	Circuit Breaker, 15A	2
16	•ES53028-2	Socket	8
17	•ES53003-1	Pin, Female – Crimp Type	5
18	•ES58161-15	Diode	4
19	•26-0751-1	Bracket Assembly (-1 only)	1
20	•NAS43DD3-12	Spacer (-1 only)	4
21	•AN525-10R10	Screw (-1 only)	4



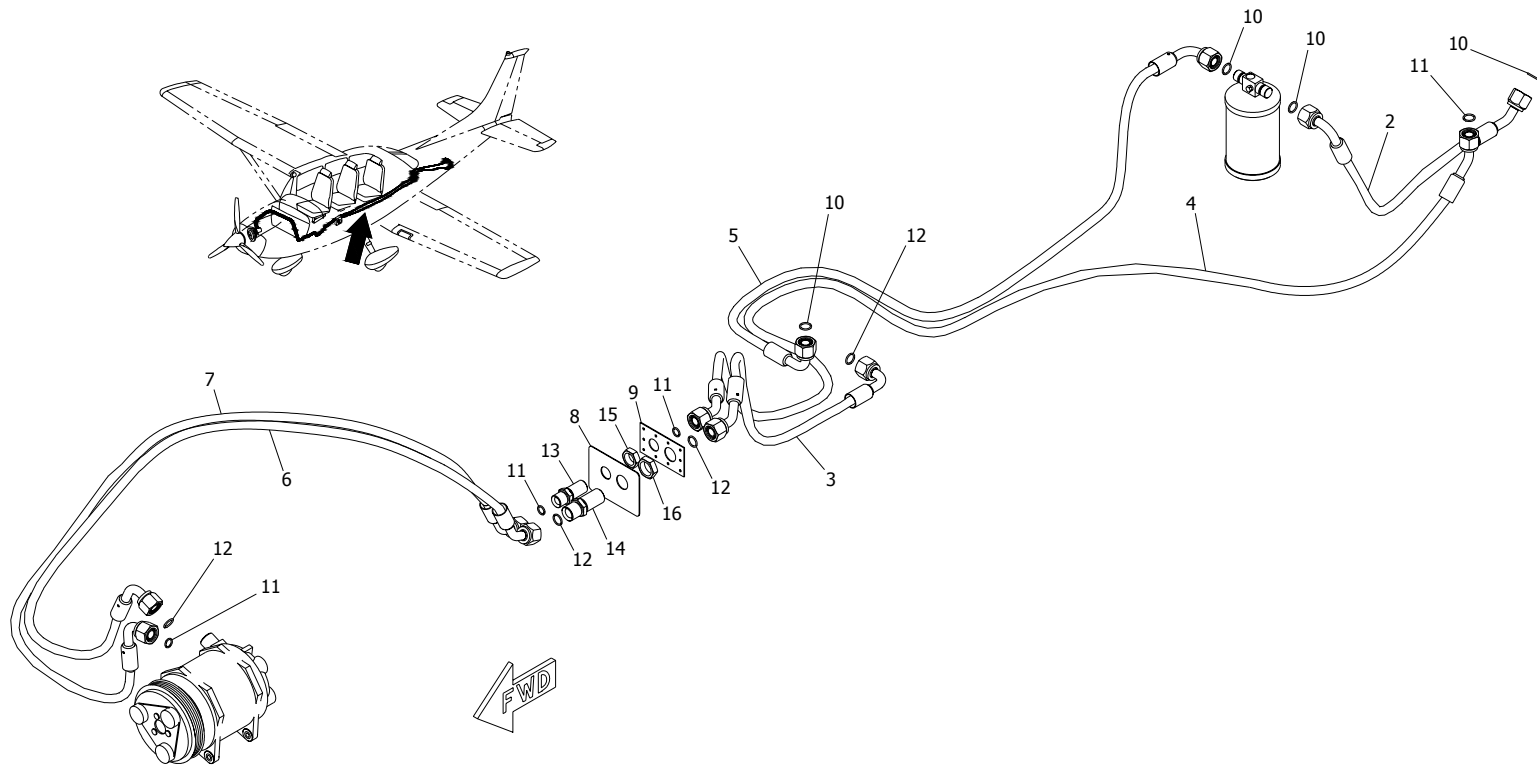
ES56128-2



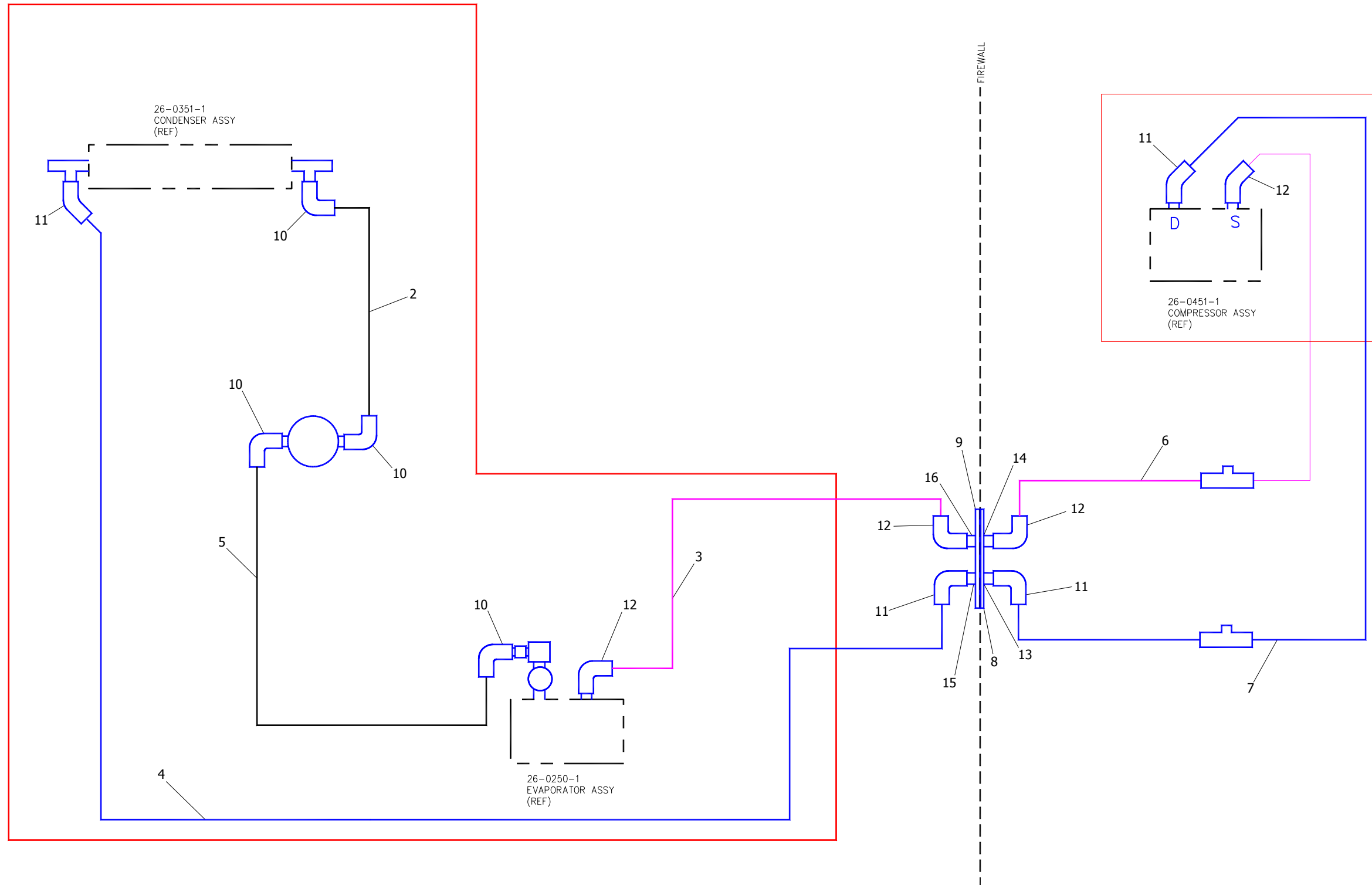
ES56128-1

Obsolete Relay Configuration

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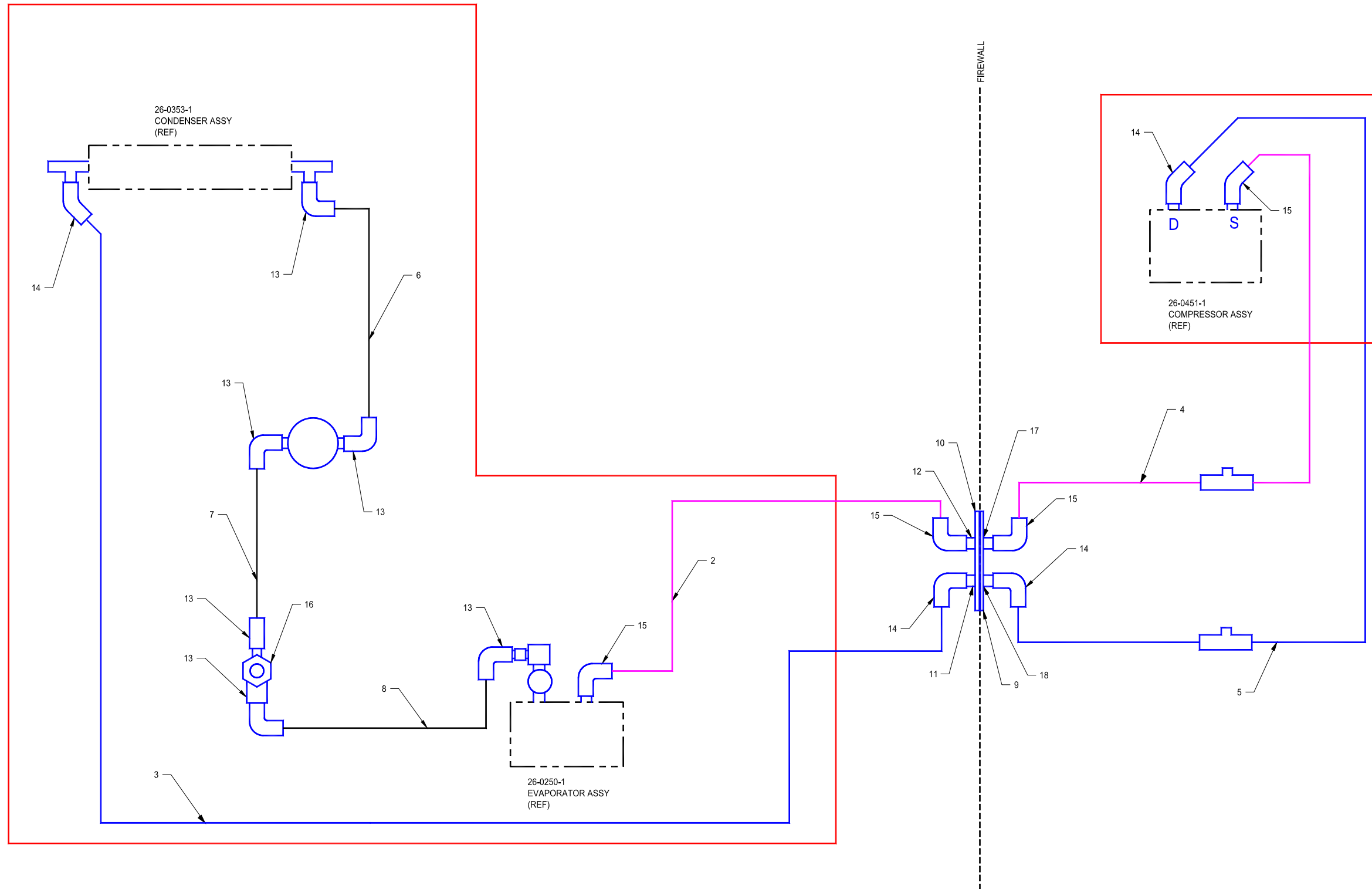
26-0800-1 Plumbing Installation



26-0800-1 Plumbing Schematic

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<i>ITEM</i>	<i>PART NUMBER</i>	<i>NOMENCLATURE</i>	<i>UNITS PER ASSEMBLY</i>
1	26-0800-1	Plumbing Installation	.
2	•26-0850-1	Hose Assembly	1
3	•26-0851-1	Hose Assembly	1
4	•26-0852-1	Hose Assembly	1
5	•26-0853-1	Hose Assembly	1
6	•26-0854-1	Hose Assembly	1
7	•26-0855-1	Hose Assembly	1
8	•172-1800-2	Doubler	1
9	182-1800-1	Cover	1
10	•ES49011-1	O-Ring	4
11	•ES49011-2	O-Ring	4
12	•ES49011-3	O-Ring	4
13	•JBS6009-9	Fitting, Bulkhead, O-Ring	1
14	•JBS6009-3	Fitting, Bulkhead, O-Ring	1
15	•AN6289-8D	Nut	1
16	•AN6289-10D	Nut	1



26-0801 Plumbing Schematic

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<i>ITEM</i>	<i>PART NUMBER</i>	<i>NOMENCLATURE</i>	<i>UNITS PER ASSEMBLY</i>
1	26-0801-1	Plumbing Installation	.
2	•26-0851-1	Hose Assembly	1
3	•26-0852-1	Hose Assembly	1
4	•26-0854-1	Hose Assembly	1
5	•26-0855-1	Hose Assembly	1
6	•26-0856-1	Hose Assembly	1
7	•26-0857-1	Hose Assembly	1
8	•26-0858-1	Hose Assembly	1
9	•172-1800-2	Doubler	1
10	•182-1800-1	Cover	1
11	•AN6289-8D	Nut	1
12	•AN6289-10D	Nut	1
13	•ES49011-1	O-Ring	6
14	•ES49011-2	O-Ring	4
15	•ES49011-3	O-Ring	4
16	•ES49014-1	Sight Glass	1
17	•JBS6009-3	Fitting, Bulkhead	1
18	•JBS6009-9	Fitting, Bulkhead	1