

Service Bulletin

If you cannot complete the instructions in this publication because of an STC change to the aircraft, speak to the STC holder or the regional Federal Aviation Administration (FAA) office for information and disposition.

Contact Information	Distribution Date	Rev No.
Business Aircraft Learjet Inc. MS 53 P.O. Box 7707 Wichita, Kansas 67277-7707 Customer Response Center (CRC) 1-866-538-0247 (Toll Free) (316) 946-6100 (Tel) Push 2 for Parts Logistics or push 4 then push 1 for Technical Publications.	March 15, 2010	3

AIR CONDITIONING - INSTALLATION OF IMPROVED REFRIGERATION COMPRESSOR ASSEMBLY

1. Planning Information

A. Effectivity

- (1) Learjet 35-002 thru 35-416.
- (2) Learjet 36-001 thru 36-047.

B. Reason

- (1) Install an improved refrigeration compressor assembly to provide a more dependable air conditioning system.

C. Description

- (1) Instructions are provided to install an improved refrigeration compressor assembly as follows:
 - (a) Modify motor and compressor panel assembly with the installation of a new mounting bracket.
 - (b) Removal and installation of a new compressor assembly.
 - (c) Install a new adjustable brace and associated components.
 - (d) Install a new pressure regulator and associated components.

Refer to applicable government agency regulations and requirements and make sure that the work described in this publication is performed in compliance with manufacturer's recommendations and/or acceptable industry standards.
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- (e) Install new refrigerant hose assembly.
- (f) Reconfiguration of existing refrigerant hose assemblies.

D. Compliance

- (1) Optional - The aircraft owner/operator can make the decision to complete these instructions.

E. Approval

- (1) The Federal Aviation Administration (FAA) has approved the technical content in this publication that has an affect on the airplane type design.

F. Labor Hours - Estimated Accomplishment Time

HOURS	TASK
12.0	Labor hours to comply with Service Bulletin
12.0	Total Labor Hours

NOTE: These labor hours are an estimate and are for planning purposes only. Facility and personnel capabilities may cause the labor hours to change.

When planning to complete these instructions, please contact Bombardier Aerospace, Learjet Inc. Business Aircraft Customer Service, Parts Logistics for parts availability and shipping times as necessary. (Refer to the title page of this document for contact information.)

G. Expense Coverage

- (1) None.

H. Material Required

PART NUMBER	QTY	NOMENCLATURE	PRICING
2484100-801	1	Service Bulletin Kit	\$3,176.00

NOTE: The above price can change.

- (1) Other materials/parts necessary to complete these instructions.

PART NUMBER	NOMENCLATURE	QTY
2519274-4	Compressor Assembly	1

NOTE: The Compressor Assembly is a rotatable component. When you place an order for a rotatable component, make sure you reference this document.

For ordering and shipping information, please contact Bombardier Aerospace, Learjet Inc., Business Aircraft Customer Service, Parts Logistics. (Refer to the title page of this document for contact information.)

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I. Tools and Equipment

- (1) None.

J. Weight and Balance

- (1) Change in basic weight and moment.

- (a) Aircraft 35-003 thru 35-333 and 36-001 thru 36-045 that have complied with SB 35/36-21-15, "Installation of Refrigeration System Pressure Switch and Discharge Service Port."

CHANGE IN BASIC WEIGHT	CHANGE IN BASIC MOMENT
+ 1.8 pounds	+ 895 inch-pounds

- (b) Aircraft 35-002 thru 35-333 and 36-001 thru 36-045 that have not complied with SB 36/36-21-15, "Installation of Refrigeration System Pressure Switch and Discharge Service Port."

CHANGE IN BASIC WEIGHT	CHANGE IN BASIC MOMENT
+ 2.0 pounds	+ 1015 inch-pounds

- (c) Aircraft 35-334 thru 35-416, 36-046 and 36-047.

CHANGE IN BASIC WEIGHT	CHANGE IN BASIC MOMENT
+ 2.2 pounds	+ 1090 inch-pounds

K. References

- (1) Learjet Maintenance Manual, Chapters 12, 20, 21, and 24.

L. Other Publications Affected

- (1) Learjet Illustrated Parts Catalog, Chapter 21.

2. Accomplishment Instructions

A. Modification of Aircraft

- (1) Remove or lower tailcone access door and disconnect aircraft batteries. (Refer to Chapter 24 of the Maintenance Manual.)
(2) Discharge refrigeration system. (Refer to Chapter 12 of the Maintenance Manual.)

NOTE: Carefully adhere to all WARNING and CAUTION statements in service and maintenance manual instructions while discharging refrigeration system.

- (3) Remove the following components and associated parts. (See Figure 1.)
- (a) Bellmouth ring (retain for re-use).
 - (b) Bellmouth ring support and screws (scrap).
 - (c) Belt (scrap).
 - (d) Strut assembly (scrap).
 - (e) Pulley (scrap) and compressor assembly (scrap). (Refer to Chapter 21 of the Maintenance Manual.)
 - (f) Pressure switch assembly. (See Detail B, Configuration A or B for parts disposition.)
 - (g) Elbow (scrap). (See Detail B, Configuration A or B.)
 - (h) Pressure switch bracket (scrap). (See Detail B, Configuration B.)
 - (i) Tube assembly (scrap). (See Detail B, Configuration B.)

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- (j) Compressor motor (Retain for re-use). (Refer to Chapter 21 of the Maintenance Manual.)
- (k) Panel assembly (Retain for re-use).
- (4) Install mounting bracket on panel assembly as follows: (See Figure 2, View C-C.)
 - (a) Mark location of holes on mounting bracket per measurements shown.
 - (b) Mark location of mounting bracket on panel assembly using measurements as shown.
 - (c) Locate mounting bracket on panel assembly according to marked location.
 - (d) Using a #30 drill bit, drill hole through mounting bracket and panel assembly. Remove mounting bracket from aircraft temporarily.
 - (e) Apply epoxy primer to bare metal surfaces of mounting bracket and panel assembly. (Refer to Chapter 20 of the Maintenance Manual.)
 - (f) Install mounting bracket on panel assembly using rivets.
 - (g) Use a marking pen (indelible ink) and identify panel assembly. (Refer to Paragraph 3.B.)
 - (h) Install panel assembly in aircraft.
- (5) Combine installation of support assembly and supports on compressor motor as follows. (See Figure 2, View A-A.)
 - (a) Install (loose) LH side of supports on compressor motor using screw and nut.
 - (b) Install (loose) support assembly on compressor motor using screw and nut.
 - (c) Install RH side of supports and support assembly on compressor motor using screws and nuts.
 - (d) Tighten all screws and nuts at this time.
 - (e) Install compressor motor on panel assembly.
- (6) Install compressor assembly on mounting bracket using bolt, washer, and nut. (See Figure 2, View B-B.)
- (7) Install adjustable brace as follows. (See Figure 2, View A-A and B-B.)
 - (a) Install upper end of adjustable brace to support assembly using bolt, washer, and nut.
 - (b) Install (loose) lower end (slotted hole) of adjustable brace to compressor assembly using bolt, washer, and nut.
- (8) Install pressure regulator as follows. (See Figure 2, View B-B.)
 - (a) Measure upward from lower end of adjustable brace to locate lower end of pressure regulator.
 - (b) Place clamps around pressure regulator and locate against adjustable brace per dimensions.
 - (c) Mark location of holes on adjustable brace, and drill holes using a #5 drill bit.
 - (d) Install pressure regulator using clamps, screws, and nuts.
- (9) Install the remaining components as follows. (See Figure 2.)
 - (a) Install new belt around compressor assembly and compressor motor as shown in View A-A.
 - (b) Adjust belt tension so that a 5 to 6 pound load applied at mid point will deflect belt 3/16 inch (adjust to high side of load limit for initial belt tension).
 - (c) Install existing pressure switch assembly or new pressure switch assembly on forward end of compressor assembly as shown in View B-B.

NOTE: Do not place teflon tape on first thread of existing or new pressure switch assemblies and hose assemblies to prevent tape from entering refrigeration system.

- (d) Install new hose assembly on compressor assembly and pressure regulator as shown in View B-B.
- (e) Install existing hose assembly (routed forward to evaporator) on pressure regulator as shown in View B-B.
- (f) Install existing hose assembly (routed aft to condenser) on compressor assembly as shown in View B-B.
- (g) Wrap exposed areas of freon fittings with insulation tape.
- (h) Install aft shield and belt guard assembly using spacer, bolt, and self-locking nut as shown in View B-B.
- (i) Install existing bellmouth ring on supports using screw and nut as shown in View A-A.

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- (10) Connect aircraft batteries, safety wire with copper shear wire, and secure tailcone access door. (Refer to Chapter 24 of the Maintenance Manual.)
- (11) Charge refrigeration system. (Refer to Chapter 12 of the Maintenance Manual.)

B. Functional Test/Operational Check

CAUTION: DO NOT OPERATE REFRIGERATION SYSTEM WITH REFRIGERATION PRESSURE SWITCH REMOVED. DAMAGE TO THE COMPRESSOR COULD RESULT.

- (1) Perform Refrigeration System Operational Check/Functional Test. (Refer to Chapter 12 of the Maintenance Manual.)

C. Compliance Response Form

- (1) Complete the compliance response form.
- (2) Send the compliance response form to Learjet Inc. as soon as possible.

D. Aircraft Maintenance Records

- (1) Complete the Aircraft Maintenance Records.

NOTE: Complete the aircraft records in accordance with the regulatory requirements of your aircraft certification authority.

3. Material Information

A. Parts Required

- (1) The 2484100-801 kit contains the parts that follow:

PART NUMBER	QTY	NOMENCLATURE	ALTERNATE PART NUMBER
AN3-12	6	Machine Bolt	
AN509-10R11	1	Screw	MS24694-S53
AN509-10R13	2	Screw	MS24694-S55
AN509-10R14	1	Screw	MS24694-S56
AN520-10R8	2	Screw	MS35207-263
AN525-10R12	1	Screw	
AN960D10	12	Washer	NAS1149D0363H
AN960D616	3	Washer	NAS1149D0663H
AN960-616	1	Washer	NAS1149P0663P
B2-4	1	Copper Gasket	
M22759/16-20-9	4 ft	Wire	
MS20364-1032	5	Nut	MS21042-3
MS20470AD4-6	22	Rivet	

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PART NUMBER	QTY	NOMENCLATURE	ALTERNATE PART NUMBER
MS21042-3	8	Nut	
MS21042-6	4	Nut	
MS21919DG20	2	Clamp	
MS21919WF12	1	Clamp	
NAS1106-11	2	Bolt	
NAS1106-12	1	Bolt	
NAS1106-18	1	Bolt	
NAS43DD3-48	2	Spacer	
ORIT-6-0/50-5/8 SAE	1	Pressure Regulator	
20PS112-1	1	Switch Assembly	
2519204-39	1	Hose Assembly	
2519209-3	2	Support	
2519277-1	1	Mounting Bracket	
2519277-2	1	Support Assembly	
2519277-3	1	Adjustable Brace	
2519279-2	1	Aft Shield	
2519280-6	1	Belt Guard Assembly	
2519280-7	1	Spacer	
3VX475	1	Belt	
31883	2	Terminal Lug	320554
53548-1	2	Splice	

B. Parts Removed List

PART NUMBER	QTY	NOMENCLATURE	DISPOSITION	EFFECTIVITY
2380155-3 or 2380155-5	1	Compressor Assembly	Destroy	All
3V375 or 3V400	1	Belt	Destroy	All

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PART NUMBER	QTY	NOMENCLATURE	DISPOSITION	EFFECTIVITY
IBM365023	1	Washer	Destroy	All
AN6-5A		Bolt	Destroy	All
AN6-12A		Bolt	Destroy	All
M4D5524-16C		Bolt	Destroy	All
2314177-1		Pulley	Destroy	All
2519236-1		Washer	Destroy	All
2519239-5		Strut Assembly	Destroy	All
2519209-2		Support	Destroy	All
AN525-10R6		Screw	Destroy	All
MS20365-1032		Nut	Destroy	All
AN509-10R11		Screw	Destroy	All
AN509-10R12		Screw	Destroy	All
AN509-10R14		Screw	Destroy	All
AN3-3A	1	Bolt	Destroy	All
AN525-10R12	1	Screw	Destroy	All
MS20365-1032	1	Nut	Destroy	All
MS21042-3	1	Nut	Destroy	All
MS21919F12	1	Clamp	Destroy	All
MS21919F14	2	Clamp	Destroy	All
27571 or 022-2427	1	Adapter	Destroy	Note 1, 2, 3 & 4
2380161-1	1	Adapter	Destroy	Note 1, 2 & 4
AN822-4D	1	Elbow	Destroy	Note 1
2380145-1	1	Switch Assembly	Destroy	Note 1
2519206-5 or 2519206-11	1	Tube Assembly	Destroy	Note 1
AN914-1D	1	Elbow	Destroy	Note 2
20PS68-5	1	Switch Assembly	Destroy	Note 2

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PART NUMBER	QTY	NOMENCLATURE	DISPOSITION	EFFECTIVITY
27570 or 022-02426	1	Adapter	Destroy	Note 3
20PS112-1	1	Switch Assembly	Re-use	Note 3 & 4
E1-4A	1	Elbow	Destroy	Note 4
4041D-RD	1	Adapter	Destroy	Note 4

NOTE: 1. Aircraft serial 35-002 thru 35-333 and 36-001 thru 35-045 having not complied with SB 35/36-21-15, "Installation of Refrigeration System Pressure Switch and Discharge Service Port," Kit No. 2484094-1.

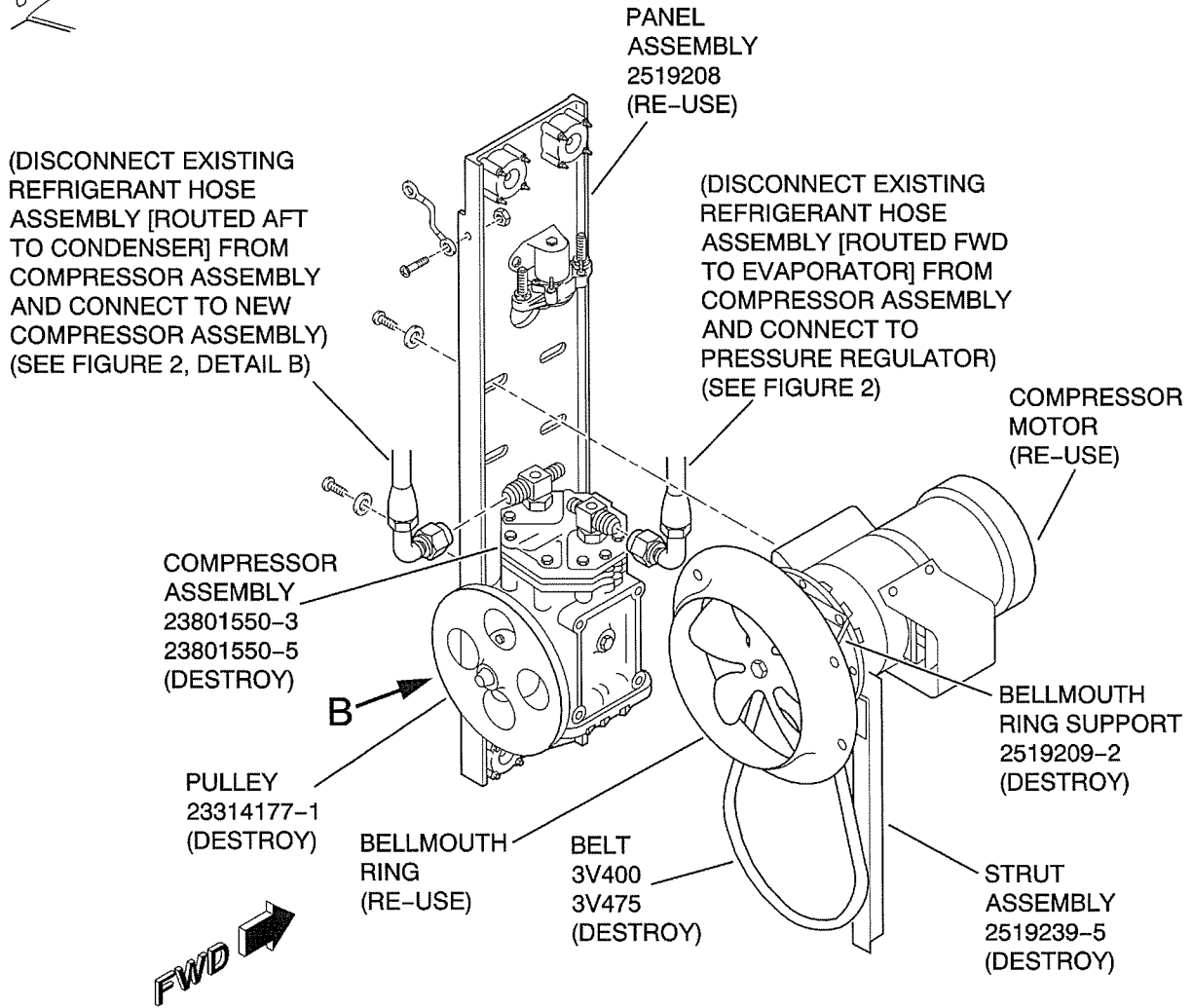
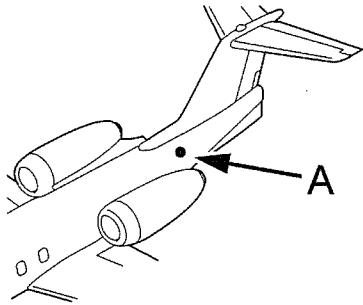
3. Aircraft serial 35-334 thru 35-416, 36-046 and 36-047.

4. Aircraft serial 35-002 thru 35-333 and 36-001 thru 36-045 having complied with SB 35/36-21-15, "Installation of Refrigeration System Pressure Switch and Discharge Service Port," Kit No. 2484094-1.

C. Identification Table

PART NUMBER	NOMENCLATURE	REIDENTIFY TO	FOR SPARES ORDER
2519208-15	Panel Assembly	2484100-803	2519208-24
2519208-17	Panel Assembly	2484100-804	2519208-24
2519208-18	Panel Assembly	2484100-805	2519208-24

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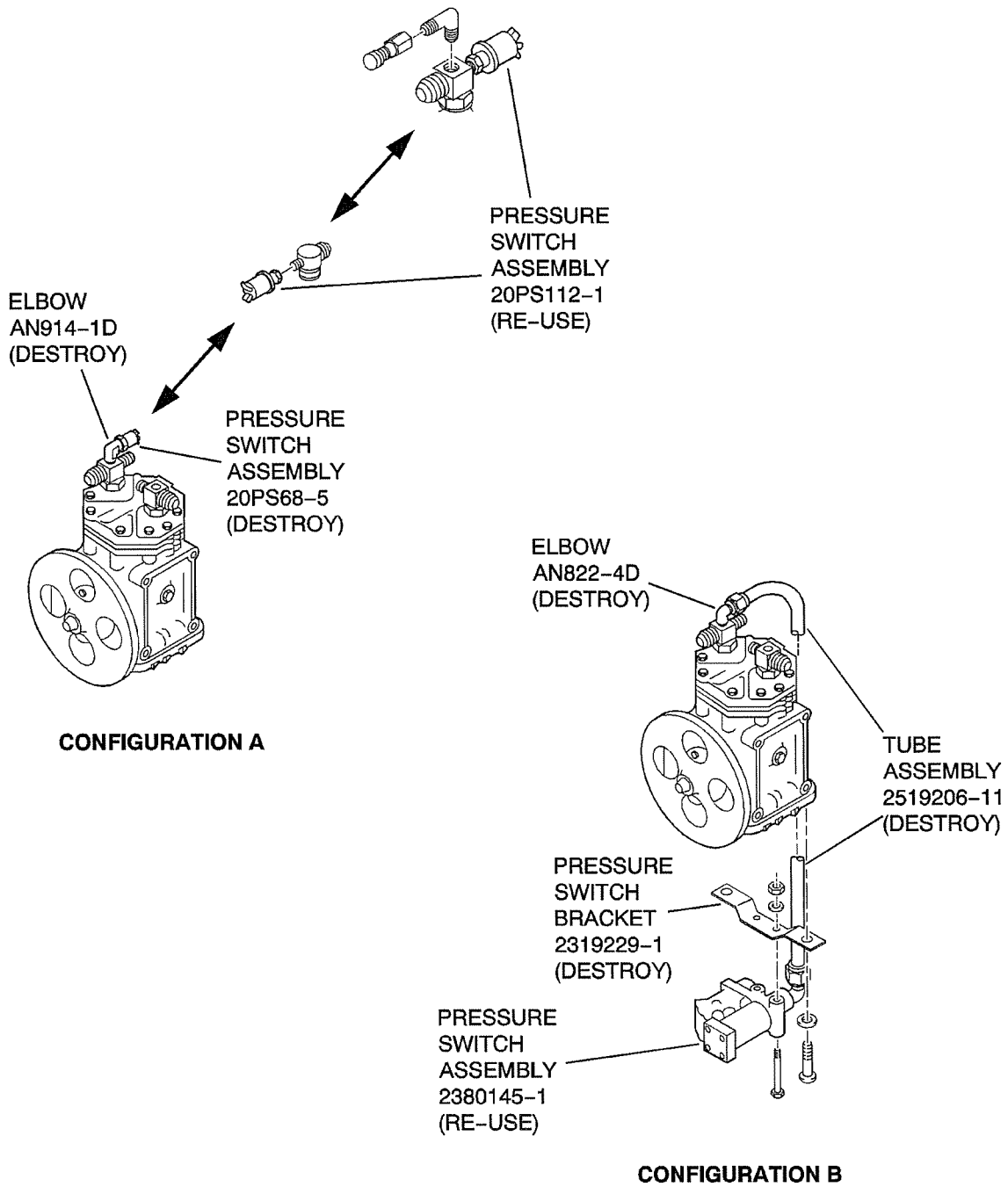


Detail A

K35-352125-001-01

Removal of Refrigeration Compressor Assembly and Components
Figure 1 (Sheet 1 of 2)

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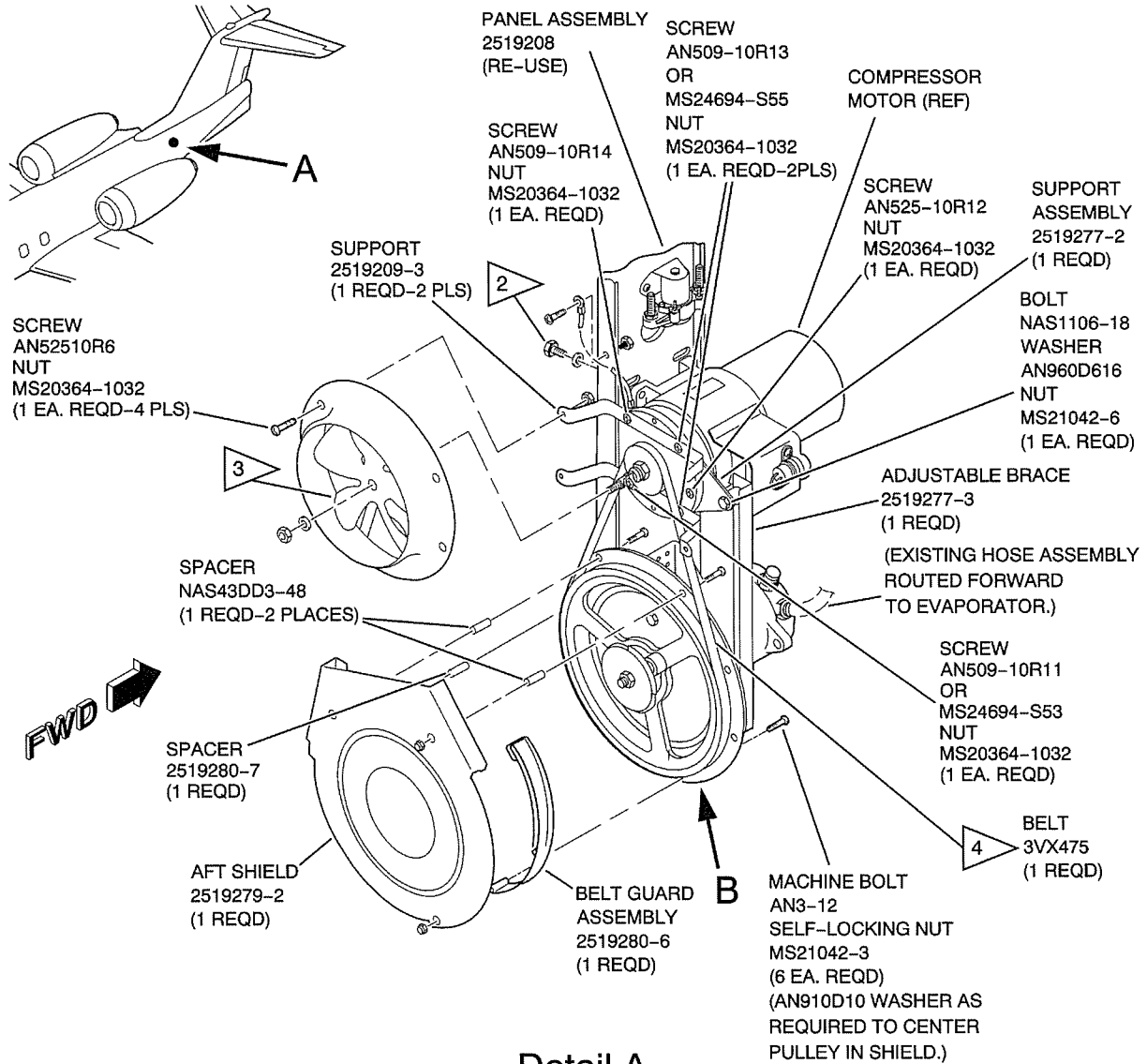


Detail B

K35-352125-001-02

Removal of Refrigeration Compressor Assembly and Components
Figure 1 (Sheet 2 of 2)

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Detail A

NOTES

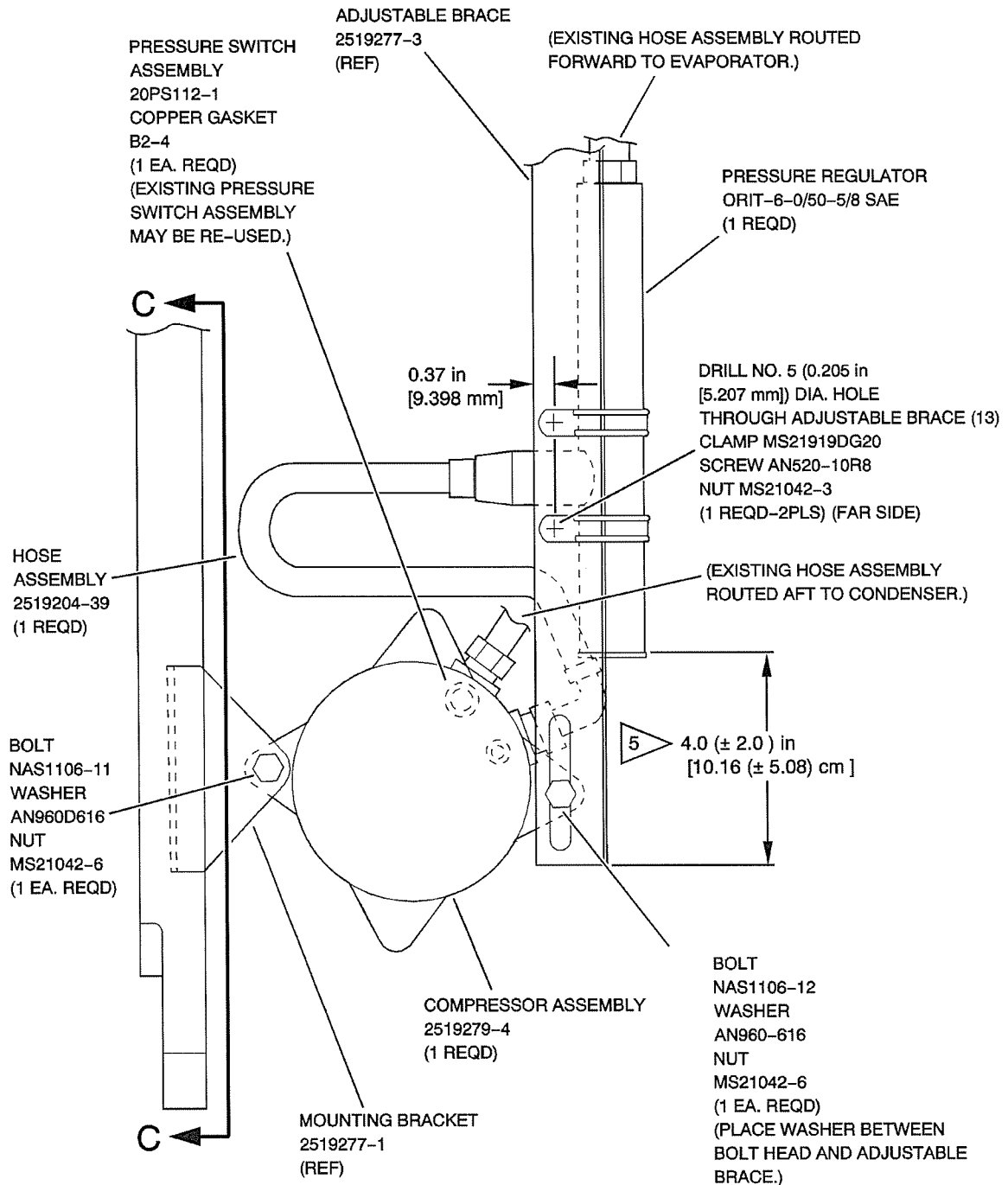
1. New pulley assembly extends up to approximately 5 inches [12.7 cm] further inboard than existing pulley assembly. Some equipment mounted aft of tailcone access door may have to be relocated to avoid interference.

- 2. Align pulleys before tightening motor bolts.
- 3. Adjust for 0.05 inch [1.27 mm] clearance around fan.
- 4. Adjust belt tension so that a 5 to 6 lb. load applied at mid-point will deflect belt 3/16 inch.
- 5. Locate as required for best fit with existing assemblies.

K35-352125-002-01

Installation of Improved Refrigeration Compressor Assembly and Components
Figure 2 (Sheet 1 of 3)

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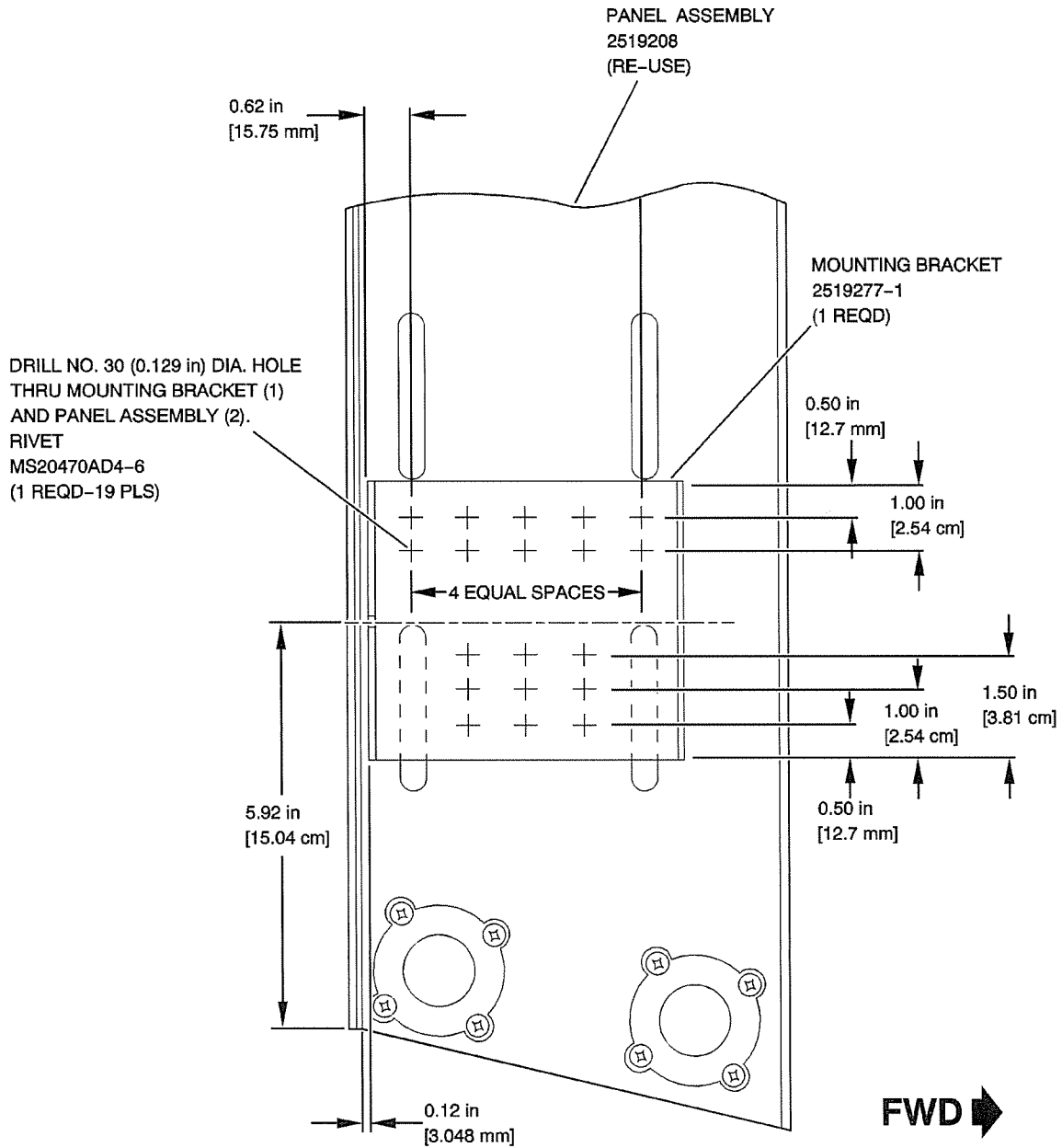


Detail B

K35-352125-002-02

Installation of Improved Refrigeration Compressor Assembly and Components
Figure 2 (Sheet 2 of 3)

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View C-C

K35-352125-002-03

Installation of Improved Refrigeration Compressor Assembly and Components
Figure 2 (Sheet 3 of 3)

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