



MODEL Bell 206L1 : REPORT NO. 206-0100-6M

Installation Instruction and Service Manual for

Bleed Air Heater Install w/out Ducting

REPORT DATE: 10/19/83


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REV G		

REV.	DATE	DESCRIPTION OF REVISION	BY	APPROVAL
A	11-23-83	Kit List revised to rev A Added Weight and Balance Data Sheet	REH	REH
B	1-5-84	Kit list Revised to Rev B	REH	REH
C	4-6-84	Revised Flight Manual Supplement to Rev 2	KS	KS
D	5/11/84	Kit List Revised to Rev C		REH
E	10/31/84	Added sentence to item #23 on Bleed Air Heater Installation.	CLF	CLF
F	2-2-85	Kit List Removed from Installation Instructions Included Drawing Index added to Section III Aircraft Document Index added to Section IV. 206-0100-6 Heater Instl was 106-0110-6 on WT & BAL	CLF	CLF
G	12-9-85	Removed: STC & FMS from Manual	REH	REH
H	8-13-87	Revised Install Instructions and WT & BAL for added Heater scoop parts.	REH	REH
J	4/3/92	Deleted warranty information	KS	

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## I. INTRODUCTION:

This manual contains information and documents necessary to accomplish the installation, maintenance, and repair of Keith Products systems. Use of this manual in conjunction with the installation drawings provided will result in the best possible installation of the system with the minimum expenditure of labor.

This system reflects the technical expertise of the world leader in vapor cycle air conditioning systems for aircraft. The system components have been carefully matched, resulting in optimum performance and minimum weight. The system is only as good as it's installation, however, so it is extremely important that the installer READ AND UNDERSTAND THESE INSTRUCTIONS COMPLETELY PRIOR TO STARTING INSTALLATION WORK.

Upon completion of the installation, the Kit List and Installation Instruction of this manual may be discarded. The Airplane Flight Manual Supplement and Weight and Balance Revision should be inserted into the Airplane Flight Manual. The service and maintenance information should be inserted into the permanent aircraft file. Any special installation tools furnished with the kit are to be passed on to the customer for future maintenance.

BLEED AIR HEATER SYSTEM DESCRIPTION AND OPERATION:

The bleed air heater system consists of the following components:

1. Control Valve - The control valve is located on the pilot's overhead panel. Rotate the control knob clockwise to turn heat on and counter-clockwise to turn heat off.
2. Regulator Valve - The regulator valve is located just aft of the hat shelf. The valve delivers bleed air as directed by the control valve to the ejector nozzle located internally in the heater silencer via flex duct.
3. Heater Silencer - The heater silencer is located just above the access panel in the baggage compartment. Bleed air delivered to the nozzle creates a positive hot air flow to the cabin ducting. A duct temperature switch, when activated, illuminates a light on the instrument annunciator panel labeled "DUCT TEMP HIGH".

DRAWING AND INSTALLATION MANUAL SYSTEM

1. Take the 206-0100 General Arrangement drawings from the drawing package.
2. Locate the sheets that list all the General Arrangements covered by this drawing.
3. Locate the dash number of the kit you are installing (listed in the part number column).
4. Move to the left until you reach the sloping line crossing this same dash number that is listed to the left of the part number column at the bottom of the page.
5. All of the individual installations you will be doing are listed in this dash number column.
6. For example: You are installing a 206-0100-24 kit. Proceed up the part number column to -24. Then go to the left to the sloping line. Down at the bottom of the page you should see another -24. Then going up this column you will see the first installation listed is 206-0202-4 Blower Installation. The next installation you will see is 206-0203-1 Evaporator Installation. The other installations can be located similarly.
7. As you identify each of these individual installations, look to the far left of the page for any flag notes that apply to your installation. They may be found on page 1 of 206-0100.
8. Next, select any one of the Installation Drawings such as the Evaporator Installation.
9. Then select the Installation Manual carrying the same number. This manual will also have one (or more) dash number(s) after the basic number.
10. Refer back to the Installation Drawing and locate this (these) dash number(s) (located to the left of the column marked "Part Number")
11. When the Installation Drawing refers to several dash numbers, look at the remarks column for notes which refer to the models of the helicopter to which each dash number applies.
12. After having determined the dash number applicable to your particular installation, proceed vertically up that column to determine the quantity and part number of each to be installed.
13. In the field of the drawing (The views, sections and details illustrations) some of them may say (-1 only) or (-2 only) etc. Only those views, sections or details carrying the dash numbers you located in step 5 apply to your installation.
14. If no dash number appears in a view, section or detail, then that view, section or detail applies to all installations on your drawing.

GENERAL INSTRUCTIONS

1. These instructions are intended only to sequence and to clarify the installation drawings. In the case of a discrepancy, the drawing shall be the authority.
2. All references are to the following drawings unless otherwise specified:  
206-0100.
3. For removal of the seats, interior trim panels, and general preparation of the aircraft for installation of the air conditioner, see the appropriate aircraft service manual.
4. This kit has been designed around an aircraft with standard factory installed hardware. It should be determined at an early stage of the installation if any deviations need to be made from this outline in order to facilitate individual hardware and equipment installations.
5. Prior to commencement of installation, all parts should be checked against the kit list to aid in identification and to insure that proper quantities have been supplied.
6. Standard aircraft practices should be adhered to as outlined by FAA Advisory Circular 43.13-1A and 43.13-2A.

## Configuration II - Post July 1983:

1. Remove Safety Wire and Screws - **LOWER HALF ONLY.**
2. Remove Snap Ring retainer plate and "Retainer Plate "O"-Ring", Item 5 .
3. Remove Poppet Retainer Item 4 and inspect Bal Seal, Item 3 for deterioration, replace as required.
4. Remove lower cap exposing spring, poppet and cap "O"-Ring, - Item 2  
Clean all parts.
5. Reassemble dry in reverse order of disassembly.
6. Operate valve and observe proper operation.
7. Safety wire screws.

FIGURE INDEX NO.	PART NUMBER	DESCRIPTION
D-10 1	ES26053-1 ES49007-1*	Pressure Regulator "O"-Ring, Poppet (M83248/1-110) (Size: 110, Material: Fluorocarbon Elastomer per MIL-R-83248 CL1)
2	ES49007-2*	"O"-Ring, Cap (M83248/1-031) (Size: 031, Material: Fluorocarbon Elastomer per MIL-R-83248 CL1)
3	ES49007-4	Bal Seal.
4		Poppet Retainer.
5	ES49007-3*	"O"-Ring, Plate Retainer (M25988/1-020) (Size: 020, Material: Fluorosilicone per MIL-R-25988, TY1 CL1)
6	NAS1351C3H12	Screw - Socket Heat Cap.
7	MS20995-C20	Safety Wire.

**\*NOTE:** "O"-Ring sizes and material are furnished under the "MIL" number for alternate procurement. If local procurement is not possible, they may be purchased from Parker Hannifin Corporation, 1160 Center Road, Avon, Ohio 44011, under the appropriate ES49007-1, -2 or -3 Part Number.



FLOW REGULATOR P/N ES26053-1

CONFIGURATION I  
PRE JULY 1983

CONFIGURATION II  
POST JULY 1983

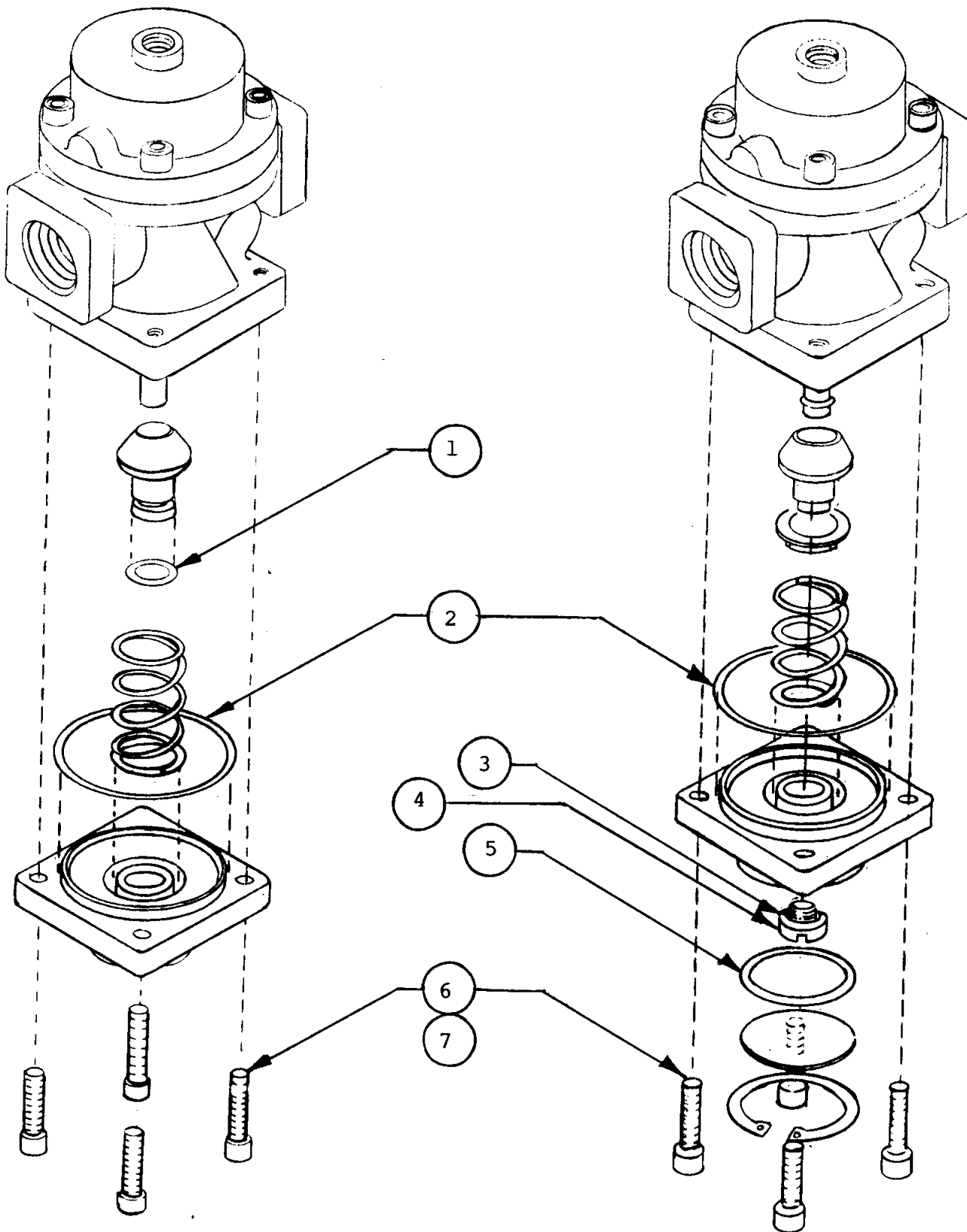


FIGURE D-10

**BHT 206 BLEED AIR HEATER SYSTEM  
ILLUSTRATED PARTS CATALOG**

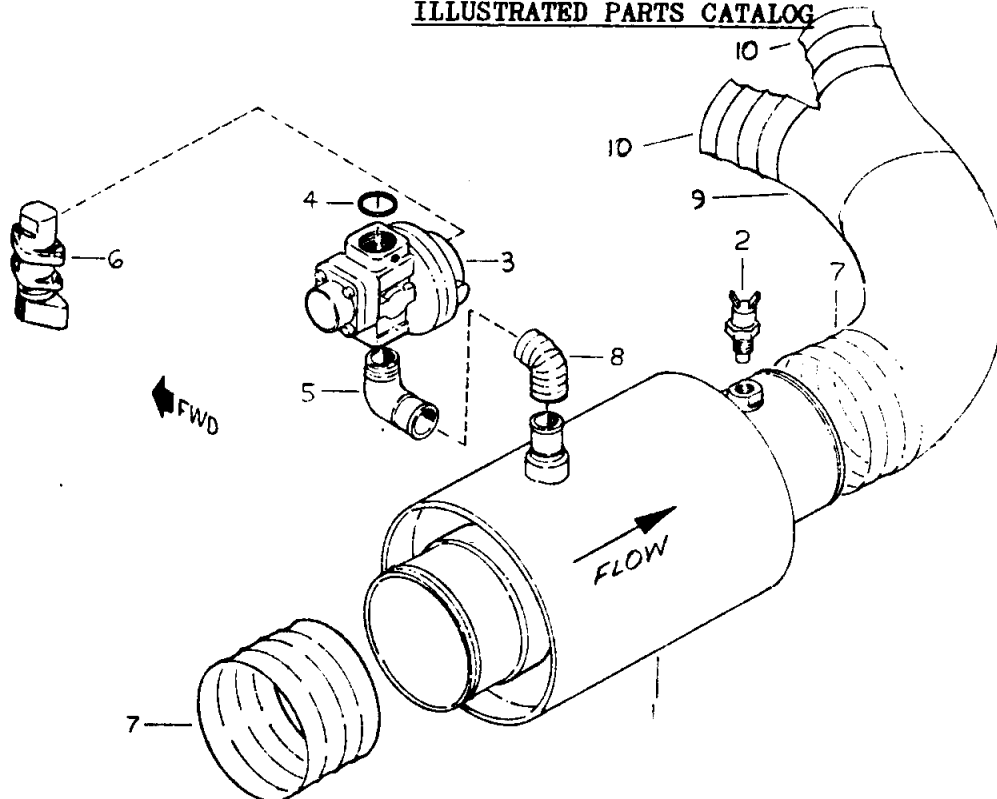


FIGURE E-10

Figure Index No.	Part Number	Descriptions	Units Per Install.
E-10	206-0801, 0802, 0804	Heater Inst'l. (All Dash No's.)	Ref.
1	206-0851-6	Silencer Assy. (Note 1)	1
2	ES 52127-1 *	Temp. Sensor	1
3	ES 26053-1	Valve	1
4	ES 49002-18 *	O-Ring, M83248/1-910	1
5	AN 842-16D	Elbow	1
6	ES 26051-1	Valve	1
7	ES 70010-2	Duct (4.0 Dia.)	NOTE: 2
8	ES 70012-1 *	Duct, Extreme Temp.	1
9	206-0651-1	Y-Adapter	1
10	ES 70010-1	Duct (2.5 Dia.)	NOTE: 2
NOT SHOWN	ES 49002-5 *	O-Ring, M83248/1-908, All Connections in Engine Compartment for: 206A, B Models.	3
NOT SHOWN	ES 49002-14 *	FOR: 206L Models	5
NOT SHOWN	ES 49002-14 *	O-Ring, M83248/1-903, (Particle Separator Plug 206 A, B & L).	1
NOT SHOWN	ES 49003-6 *	O-Ring, M83248/1-904, (Particle Separator Plug 206 L1 & L3).	1

\* RECOMMENDED SPARE PART.

NOTE 1: INCLUDES ES52127-1 TEMP. SENSOR.

NOTE 2: ORDER LENGTH REQUIRED.