TO: ALL HOLDERS OF SYSTEM A HYDRAULIC RESERVOIR ASSEMBLY OVERHAUL MANUAL, 29-16-31

REVISION NO. 8, DATED NOV 1/99

HIGHLIGHTS

DESCRIPTION OF CHANGE	TOPICS AFFECTED												
	D&O	D/Assy	Cleaning	Insp/Chk	Repair	Assy	F/C	Test	T/Shooting	S/Tools	Storage	IPL	L/Overhaul
Deleted top assemblies 65-44600-19,-20,-22, -23,-24													

SYSTEM A HYDRAULIC RESERVOIR ASSEMBLY

29-16-31

BOEING P/N 65-44600-2, -3, -4, -7, -8, -11, -13 thru -17
65-44676-2
65-44601-1, -7, -9 thru -11

AIRLINE P/N

THE FOLLOWING DIRECTIVES APPLY TO THIS SUBJECT:

BOEING SERVICE *BULLETIN*	BOEING TEMPORARY *REVISION*	OTHER *DIRECTIVES*	DATE DIRECTIVE INCORPORATED INTO TEXT
		PRR 30278	Feb 15/68
		PRR 30648	Mar 10/72
		PRR 31030	Mar 10/72
78-1005, Rev 1		PRR 31030K	Mar 10/72
		PRR 31030-41	Mar 10/72

LIST OF EFFECTIVE PAGES

* Indicates pages revised, added or deleted in latest revision
F Indicates foldout pages - print one side only

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29-16-31						
*	T-1	Nov 1/99				
	T-2	BLANK				
*	LEP-1	Nov 1/99				
	LEP-2	BLANK				
	T/C-1	Jan 5/82				
	T/C-2	BLANK				
	1	Jan 5/82				
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	4	Jan 5/82				
	5	Jan 5/82				
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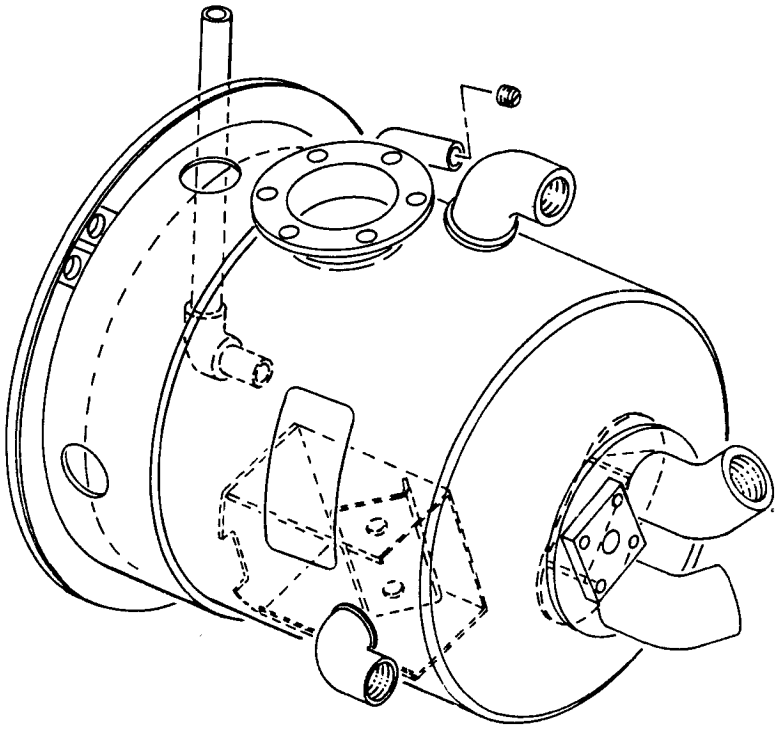
SYSTEM "A" HYDRAULIC RESERVOIR ASSEMBLY



System "A" Hydraulic Reservoir Assembly
Figure 1

1. DESCRIPTION AND OPERATION

A. Description

(1) The hydraulic system "A" reservoir is a pressure tank assembly that includes inlet, outlet, auxiliary reservoir supply, drain and pressure ports. A quantity level transmitter indicates the amount of hydraulic fluid in the reservoir. All components of the reservoir are designed for use with BMS 3-11 hydraulic fluid.

B. Operation

(1) Hydraulic fluid stored in the reservoir is supplied under pressure to system "A" hydraulic pumps. Engine bleed air passes through a pressure reducing valve and provides approximately 45-psi pressure in the reservoir. Fluid returned from operation of system "A" hydraulic components is received in the reservoir. The quantity level transmitter has a dial which indicates the amount of fluid in the reservoir and also supplies an electrical signal to an indicator on the first officer's panel.

C. Leading Particulars

Length -- 18 inches
Height -- 16 inches
Width -- 15 inches
Capacity -- (approx) 4 U.S. gallons
Weight -- (approx) 8 pounds

2. DISASSEMBLY (Fig. 3)

A. Remove union (6), sleeve (7) and nut (8).

NOTE: Do not remove clamp (1), nut (2), washers (3 and 4), and screw (5) unless required for repair or replacement.

B. Remove nuts (11 and 14), washers (12) bolts (13 and 15), packing (10) and transmitter (9). Overhaul transmitter (9) per manufacturer's instructions.

C. Remove union or plug (16) and packing (17) on applicable assemblies.

D. Remove union (18) and packing (19).

E. Remove reducers (20) and packings (21).

F. Remove bolts (30), washers (31), valve (22), and packing (23). On 65-44600-7, -17, and 65-44676-2, remove manifold assembly (24) and packing (29). Overhaul valve (22) per manufacturer's instructions.

G. On 65-44600-7, -17, and 65-44676-2, remove union (27) and packing (28).

NOTE: Do not remove inserts (32) unless required for repair or replacement.

H. Remove union (33) and packing (34).

NOTE: Do not disassemble reservoir assembly (35).

3. CLEANING

A. Clean all bores, holes, threads, passages and chambers with stiff bristle brush.

B. Wash and rinse with dry cleaning solvent, Specification P-D-680, or equivalent.

C. Dry with clean, lint-free cloth or moisture-free compressed air.

D. For further information, refer to 20-30-03, General Cleaning Procedures.

4. INSPECTION/CHECK

A. Visual Check

(1) Examine all metal parts for pits, scratches, cracks, corrosion, and damage, using strong light and minimum of 10-power magnification.

(2) Examine all threads for cross-threading and stripping.

(3) Check through the openings of reservoir to see if baffles are intact.

B. Special Check

(1) If visual examination discloses evidence of defects in the plates, bosses or brazed areas, perform a dye penetrant check.

5. REPAIR

A. Repair

CAUTION: DO NOT REMOVE MATERIAL INSIDE OF, OR WITHIN 0.5-INCH OF RADIUSED AREAS OF TRANSITION FROM CYLINDRICAL TO SPHERICAL FORM OF RESERVOIR ASSEMBLY (35). MULTIPLE BLEND-OUT REPAIRS IN THE SAME RESERVOIR LOCATION MUST NOT EXCEED MAXIMUM DEPTH VALUES SHOWN BELOW.

(1) Smooth and blend out areas of minor corrosion damage to reservoir assembly (35). In areas of cylindrical form (reservoir sides), blend to a maximum depth of 0.013 inch. In areas of spherical form (end domes) blend to a maximum depth of 0.010 inch. Refinish as necessary for protection against corrosion.

(2) Remove light corrosion and minor defects from miscellaneous metal parts by polishing with abrasive cloth, 220 grit, or finer. Refinish as necessary for protection against corrosion.

(3) Repair minor thread damage with a small triangular file or thread chaser.

B. Refinish (Fig. 3)

NOTE: Refer to 20-30-02 for stripping of protective finishes and to 20-41-01 for explanation of F and SRF finish codes.

(1) Hydraulic reservoir assembly (35) -- Alodize (F-2.21) all interior and exterior surfaces; then apply one coat of BMS 10-11, type 1, primer (SRF-12.205) and one coat of white enamel (SRF-12.64) on exterior surfaces only, except boss faces, packing seats, threads, mating surfaces of plate and within 1.25 inches from end of 0.750 in. diameter tube. Material: Alum alloy.

(2) Manifold (25) -- Chromic acid anodize (F-2.26) all over. Material: Alum alloy.

C. Replacement

(1) Replace all parts damaged beyond simple repair.

(2) Replace all packings.

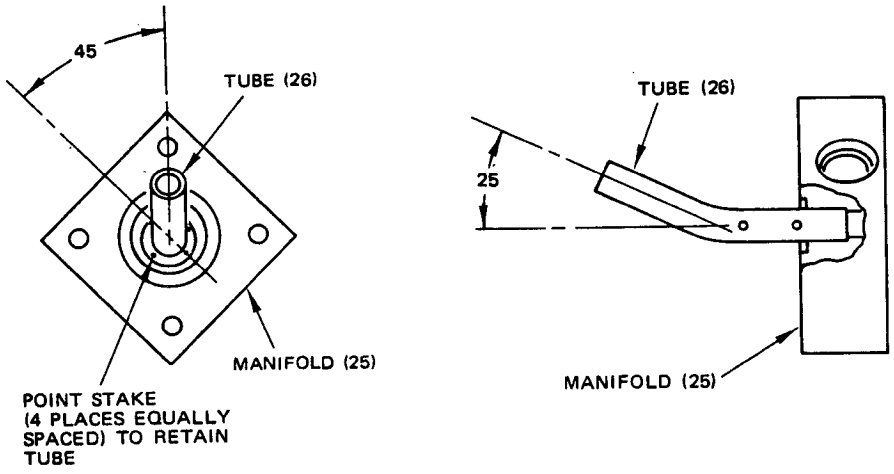
(3) If welded bosses, flanges, or elbows are unserviceable, replace entire reservoir assembly (35). Heat-treat of the assembly makes weld repairs impractical.

(4) Replace nameplate (35A), if necessary, by bonding per 20-50-12, using type 38 adhesive, Special Method I.

(5) If inserts (32) require replacement, install new insert with wet BMS 10-11, type 1 primer, 1/2 to 1-1/4 turns below surface of plate. Remove tang.

(6) If tube (26) requires replacement, point stake manifold (25) in four equally spaced places to retain tube per Fig. 2.

(7) If marker (36) requires replacement, install and apply hydraulic fluid protective coating per 20-50-05.



NOTE: ALL ANGLES ARE IN DEGREES.
ITEM NUMBERS REFER TO FIGURE 3.

Staking Diagram
Figure 2

6. ASSEMBLY (See figure 3.)

A. General

(1) Prior to assembly, lubricate all threads and packings with hydraulic fluid, BMS 3-11, or Skydrol Assembly Lube MCS 352 (Monsanto Company Incorporated, 800 North Lindbergh Boulevard, St. Louis, Missouri 63166).

(2) For assembly of packings, refer to 20-50-06, Installation of O-rings and Teflon Seals.

B. Install packing (34) and union (33).

C. Install packing (28) and union (27) on 65-44600-7, -17, and 65-44676-2.

D. Install packing (29) and manifold assembly (24) on 65-44600-7, -17, and 65-44676-2; packing (23), valve (22), washers (31), and bolts (30).

E. Install packings (21) and reducers (20).

F. Install packing (19) and union (18).

G. Install packing (17) and union or plug (16) on 65-44600-2 and -3.

H. Install packing (10), transmitter (9), washers (12), bolts (13 and 15), and nuts (11 and 14).

I. Install nut (8), sleeve (7) and union (6).

J. Install clamp (1), washers (3 and 4), screw (5) and nut (2), if removed during overhaul.

NOTE: Shim between clamp and reservoir with washers (3) to prevent preloading of tube.

K. Lockwire the following components with MS20995NC32 lockwire or equivalent, using double twist method.

(1) Plug (16) to bolt (15).

(2) Bolts (30, P/N BACB30NE3H20).

(3) Valve (22) handle in closed position.

7. TESTING

A. Test Equipment

(1) Test bench capable of delivering hydraulic pressure up to 100 psi.

B. Proof Test

(1) Using a solution made up of water plus 0.02% sodium dichromate by weight, or use BMS 3-11 hydraulic fluid as test fluid, apply a proof pressure of 100 psi to the reservoir assembly for a period of 5 minutes.

(2) There shall be no external leakage or permanent set.

8. TROUBLE SHOOTING

NOTE: Trouble shooting is keyed to individual steps of the test procedure. Referenced paragraph shows test procedure step in which the noted trouble would appear.

	Trouble	Possible Cause	Correction
A.	Leakage around parts installed in reservoir, paragraph 7.B.(1)	Damaged packing	Remove component, replace packing and reinstall
B.	Leakage around ports, structure, or mounting flange on reservoir, paragraph 7.B.(1)	Defective brazed joint	Replace reservoir assembly (35)

9. STORAGE INSTRUCTIONS

CAUTION: IF THERE IS ANY DOUBT ABOUT THE CLEANLINESS OF THE RESERVOIR, FLUSH RESERVOIR WITH BMS 3-11 HYDRAULIC FLUID PRIOR TO STORAGE.

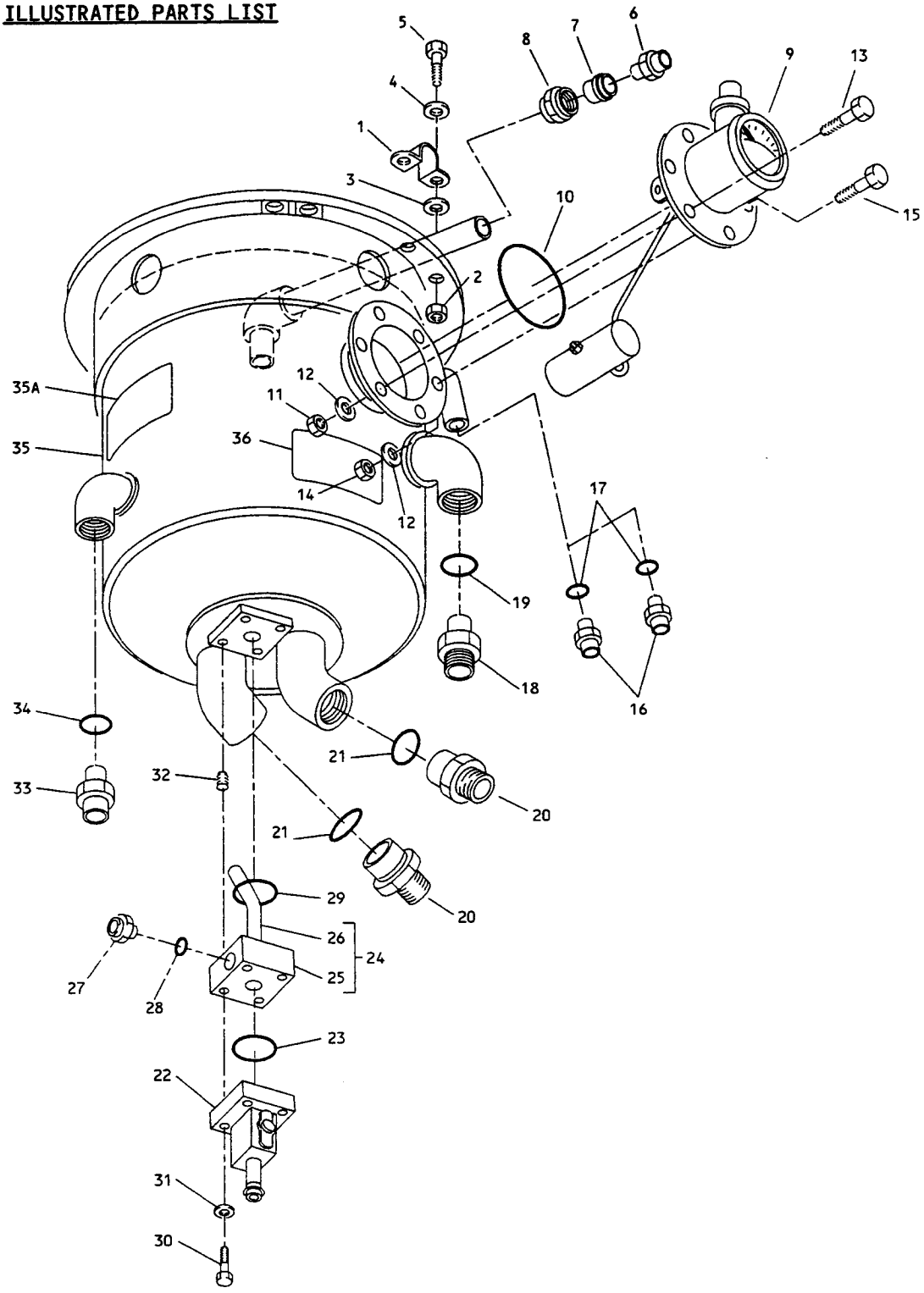
A. Seal all openings with BMS 3-11 resistant closures to ensure that reservoir is kept clean during handling and storage.

B. Wrap the unit in vapor-barrier paper.

C. Enclose the unit with an economical structure to prevent handling damage and tag with test date and cure date for packings.

D. For additional information, refer to 20-44-02, Temporary Protective Coatings, and to 20-70-01, Protection, Storage, and Handling of Airplane Components.

10. ILLUSTRATED PARTS LIST



System "A" Hydraulic Reservoir Assembly
Figure 3

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
3-					
	65-44600-2		SYSTEM A HYDRAULIC RESERVOIR ASSY	A	RF
	65-44600-3		SYSTEM A HYDRAULIC RESERVOIR ASSY	B	RF
	65-44600-4		SYSTEM A HYDRAULIC RESERVOIR ASSY	C	RF
	65-44600-7		SYSTEM A HYDRAULIC RESERVOIR ASSY	D	RF
	65-44676-2		SYSTEM A HYDRAULIC RESERVOIR ASSY (SB 78-1005)	E	RF
	65-44600-8		SYSTEM A HYDRAULIC RESERVOIR ASSY	F	RF
	65-44600-11		SYSTEM A HYDRAULIC RESERVOIR ASSY	G	RF
	65-44600-13		SYSTEM A HYDRAULIC RESERVOIR ASSY	H	RF
	65-44600-14		SYSTEM A HYDRAULIC RESERVOIR ASSY	I	RF
	65-44600-15		SYSTEM A HYDRAULIC RESERVOIR ASSY	J	RF
	65-44600-16		SYSTEM A HYDRAULIC RESERVOIR ASSY	K	RF
	65-44600-17		SYSTEM A HYDRAULIC RESERVOIR ASSY	L	RF
	65-44600-19		DELETED		
	65-44600-20		DELETED		
	65-44600-22		DELETED		
	65-44600-23		DELETED		
	65-44600-24		DELETED		
1	BACC10CC12		. CLAMP	A-L	1
2	BACN10GW3		. NUT	A-L	2
3	AN960PD10L		. WASHER	A-L	AR
4	AN960PD10L		. WASHER	A-L	2
5	BACS12CB3-7		. SCREW	A-L	2
6	MS21902D12		. UNION, FLARELESS TUBE	ABCE	1
7	BACS13AP12		. SLEEVE, FLARELESS COUPLING	A-L	1
8	MS21921-12D		. NUT, FLARELESS COUPLING SLEEVE	A-L	1
9	EA1093A3544		. TRANSMITTER, QUANTITY, V89305 (BOEING 10-60554-14)	ABC	1
9	EA1093A3679		. TRANSMITTER, QUANTITY, V89305 (BOEING 10-60554-17)	DEL	1
9	4006454		. TRANSMITTER, QUANTITY, V89305 (BOEING 10-60554-23)	FHIK	1
9	4006534		. TRANSMITTER, QUANTITY, V89305 (BOEING 10-60554-24)	GJ	1
10	NAS1611-234		. PACKING	A-L	1
11	BACN10GW4		. NUT	AC-L	6
11	BACN10GW4		. NUT	B	5
12	AN960PD416		. WASHER	A-L	6
13	BACB30NE4-8		. BOLT	AC-L	6
13	BACB30NE4-8		. BOLT	B	5
14	BACN10JC4		. NUT (REPLS NAS679A4)	B	1
15	BACB30NE4H8		. BOLT (REPLS NAS1304-8H)	B	1
16	MS21902D6		. UNION	AE	1
16	AN814-6DL		. PLUG	B	1

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
3-					
17	NAS1612-6		. PACKING	ABE	1
17A	MS2099SNC32		. LOCKWIRE	A-L	2
18	AN815-16D		. UNION	A-L	1
19	NAS1612-16		. PACKING	A-L	1
20	AN919-26D		. REDUCER	A-L	2
21	NAS1612-20		. PACKING	A-L	2
22	3-111794		. VALVE, DRAIN, V75361 (BOEING 10-60561-1)	A-L	1
23	NAS1611-213		. PACKING	A-L	1
24	69-54658-1		. MANIFOLD ASSY	DEL	1
25	69-54658-2		. . MANIFOLD	DEL	1
26	69-54658-3		. . TUBE	DEL	1
27	MS21902D6		. UNION	DEL	1
28	NAS1612-6		. PACKING	DEL	1
29	NAS1611-213		. PACKING	DEL	1
30	BACB30NE3H4		. BOLT	ABCFG HIJK	4
30	BACB30NE3H20		. BOLT (PREFERRED)	DEL	4
30	BACB30NE3-20		. BOLT (OPT)	DEL	4
30	BACB30NF3-20		. BOLT (OPT)	DEL	4
31	AN960PD10L		. WASHER	A-L	4
32	MS21209F1-15		. INSERT, THREADED	A-L	4
33	MS21902D12		. UNION	A-L	1
34	NAS1612-12		. PACKING	A-L	1
35	65-44601-1		. SYSTEM A HYDRAULIC RESERVOIR ASSY	ABE	1
35	65-44601-7		. SYSTEM A HYDRAULIC RESERVOIR ASSY	CFG	1
35	65-44601-7		. SYSTEM A HYDRAULIC RESERVOIR (PREF)	D	1
35	65-44601-1		. SYSTEM A HYDRAULIC RESERVOIR (OPT)	D	1
35	65-44601-9		. SYSTEM A HYDRAULIC RESERVOIR ASSY	H	1
35	65-44601-10		. SYSTEM A HYDRAULIC RESERVOIR ASSY	IJL	1
35	65-44601-11		. SYSTEM A HYDRAULIC RESERVOIR ASSY	K	1
35	65-44601-13		DELETED		
35	65-44601-21		DELETED		
35	65-44601-22		DELETED		
35	65-44601-23		DELETED		
35A	69-35765-1		. . NAMEPLATE	A-GL	1

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
3-					
35A	69-35765-5		. . NAMEPLATE	IJL	1
35A	69-54683-1		. . NAMEPLATE	HK	1
36	BAC27DHY195		. MARKER	D	1
36	BAC27DHY221		. MARKER	FGH	1

VENDORS

V75361 KOEHLER-DAYTON INCORPORATED, 401 LEO STREET, DAYTON, OHIO 45404

V89305 SIMMONDS PRECISION PRODUCTS INC., PANTON RD., VERGENNES, VERMONT 05491