

TW GSE **HOBART**

Illustrated Parts List for

POWERMAS[®]TER ADV



Series 500081
All 140 kVA Models

Chapter 1 Illustrated Parts List

Section 1 Introduction /Numerical Index

(A

1) General

The illustrated parts list identifies, describes, and illustrates main assemblies, subassemblies, and detail parts of the 400 Hz Solid State Converter manufactured by ITW GSE, Palmetto Florida USA.

2) Purpose

The purpose of this list is to provide parts identification and descriptive information to maintenance and provisioning personnel for use in provisioning, requisitioning, purchasing, storing, and issuing of spare parts.

3) Arrangement

Chapter 1 is arranged as follows:

Section 1 - Introduction - Numerical index

Section 2 - Parts List

4) Explanation of Parts List

a) Contents

The parts list contains a breakdown of the equipment into assemblies, subassemblies, and detail parts. All parts of the equipment are listed except:

- Standard hardware items (attaching parts) such as nuts, screws, washers, etc., which are available commercially
- Bulk items such as wire, cable, sleeving, tubing, etc., which are commercially available
- Permanently attached parts, which lose their identity by being welded, soldered, riveted, etc., to other parts, weldments, or assemblies

(1) Parts List Form

This form is divided into six columns. Beginning at the left side of the form and proceeding to the right, columns are identified as follows:

(2) FIGURE-ITEM NO. Column

This column lists the figure numbers of the illustration applicable to a particular parts list and also identifies each part in the list by an item number. These item numbers also appear on the illustration. Each item number on an illustration is connected to the part to which it pertains by a leader line. Thus, the figure and item numbering system ties the parts lists to the illustrations and

vice-versa. The figure and index numbers are also used in the numerical index to assist the user in finding the illustration of a part when the part number is known.

(3) ITW GSE PART NUMBER Column

All part numbers appearing in this column are ITW GSE part numbers. In all instances where the part is a purchased item, the vendor's identifying five-digit code and his part number will appear in the "NOMENCLATURE" column. Vendor parts, which are modified by ITW GSE, will be identified as such in the "NOMENCLATURE" column. In case ITW GSE does not have an identifying part number for a purchased part, the "ITW GSE PART NUMBER" column will reflect "No Number" and the vendor's number will be shown in the "NOMENCLATURE" column. Parts manufactured by ITW GSE will reflect no vendor or part number in the "NOMENCLATURE" column.

(4) NOMENCLATURE Column

The item-identifying name appears in this column. The indented method is used to indicate item relationship. Thus, components of an assembly are listed directly below the assembly and indented one space. Vendor codes and part numbers for purchased parts are also listed in this column when applicable.

(5) EFF (Effective) Column

This column is used to indicate the applicability of parts to different models of equipment. When more than one model of equipment is covered by a parts list, there are some parts that are used on only one model. This column is used for insertion of a code letter A, B, etc., to indicate these parts and to identify the particular model they are used on.

This manual covers only one model, so the EFF column is not used. All parts are usable on this model, Part Number 500049A-81210.

(6) UNITS PER ASSEMBLY Column

This column indicates the quantity of parts required for an assembly or subassembly in which the part appears. This column does not necessarily reflect the total used in the complete end item.

B) Numerical Index

1) Explanation of Numerical Index

The purpose of this index is to assist the user in finding the illustration and description of a part when the part number is known. Part numbers are arranged in alphanumerical sequence. Thus, any part number beginning with the letter "A" would be located at or near the top of the index list. Likewise, a part number "9" would be listed near the end of the list and far below a part number "1000". The figure number and item number location of the part is directly opposite the part. If the part is used in more than one place, each location is listed commencing with the first location the part is listed.

FIGURE ITEM NO.**ITW GSE PART NO.**

7-10	056210
4-	16DA4252-037
3-17	181358
4-	192266-001
3-25	280673
5-10	280673
3-1	280807
7-3	281848-001
3-13	281848-002
6-10	281929-015
7-6	281971-001
5-2	281971-009
9-1	282130-001
5-11	283066-002
6-1	283155-003
6-5	283156-003
6-9	283157-003
11-3	283159-004
11-	283168-002
11-	283171-002
11-	283172-001
4-21	283196-002
4-15	283196-003
7-13	283387-002
1-25	283691-001
1-9	292141-003
1-16	283716
4-20	283867-005
4-37	284316-002
7-8	284316-002
4-38	284316-003
4-39	284316-005
9-3	284359
9-3	284397
10-3	284606-001
5-13	285102-001
3-2	285104-001

FIGURE ITEM NO.**ITW GSE PART NO.**

4-23	285170
3-3	285315-001
3-19	285568
4-11	286144
4-6	286246B
7-7	286250A
8-4	286266
10-4	286277
10-7	286278
10-5	286279-001
4-14	286285-001
5-	286316-001
2-2	286354
3-21	286367-001
1-17	286377
5-	286380
5-	286382
4-27	286389-001
8-1	286389-002
4-10	286392-001
4-19	286394
1-4	286398-002
4-8	286400A
1-3	286411
1-1	286416-001
3-20	286423
7-1	286428
7-5	286431
7-4	286433
7-9	286434
5-	286438
7-2	286440-001
1-18	286441
1-19	286442
3-16	286447
3-15	286448
5-	286449

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FIGURE ITEM NO.	ITW GSE PART NO.	FIGURE ITEM NO.	ITW GSE PART NO.
9-2	286450	10-	288525-002
1-10	286457	5-5	288529
7-15	286468	6-2	288537
-1	286469	6-3	288538
11-2	286478	8-5	288597
5-1	286480-003	7-11	288598
3-23	286482-001	8-3	288599
10-	286485-001	8-2	288600
7-14	286489-001	6-7	288601
10-2	286498	6-8	288602
3-24	286528A	4-4	288603
5-	286531-001	4-12	288604
4-13	287353A	3-22	288605
1-20	287460	4-34	288606
10-10	287542-001	4-36	288609
10-11	287546-001	11-4	288613
4-26	287824	2-4	288614
4-25	287826	5-3	288615
4-17	287830	5-9	288616
4-18	287831	10-8	288617
3-18	287856	10-9	288618
4-1	287857	10-1	288619
4-31	287867-001	10-6	288621
8-9	287867-001	2-3	288622
4-32	287867-002	1-23	288625
8-10	287867-002	6-4	288626
4-33	287867-003	1-24	288645-002
8-11	287867-003	1-24	288645-001
10-	288225	3-26	288648
1-21	288505	4-24	288690
1-23	288510-001	1-22	288730
2-1	288518	4-40	288776
4-2	288520	4-41	288777
4-3	288521	4-42	288778
4-7	288522	5-	288974
4-9	288523	3-4	291267
10-	288525-001	3-6	291268-001

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FIGURE ITEM NO.**ITW GSE PART NO.**

3-5	291269-001
1-	400613-004
6-6	401911-005
9-7	402422-001
9-8	402422-002
4-	402674-001
4-	402674-002
3-14	402682
1-11	402987
4-35	403127
4-16	403955-021
4-5	404044-004
7-12	404249-003
3-10	404960-034
4-22	407970
5-6	493712
4-28	77A1107
8-6	77A1107
9-4	77A1107

FIGURE ITEM NO.**ITW GSE PART NO.**

4-29	77A1108
8-7	77A1108
9-5	77A1108
4-30	77A1109
8-8	77A1109
9-6	77A1109
9-9	78A1035
1-6	82B1066-001
1-5	82B1066-010
1-7	82B1066-012
1-8	82B1066-012
3-9	83A1112
3-8	83A1113
3-7	83A1114
3-11	W10502-031
	291276
	291275

Section 2 Illustrated Parts List

1) Explanation of Parts List Arrangement

The parts list is arranged so that the illustration will appear on a left-hand page and the applicable parts list will appear on the opposite right-hand page. Unless the list is unusually long, the user will be able to look at the illustration and read the parts list without turning a page.

2) Symbols and Abbreviations

The following is a list of symbols and abbreviations used in the parts list:

*	-	Item not illustrated
A, or AMP	-	Ampere
AC	-	Alternating current
AR	-	As required
DC	-	Direct current
Fig.	-	Figure
hd.	-	Head
hex	-	Hexagon
Hz	-	Hertz (cycles-per-second)
I.D.	-	Inside diameter
IN	-	Inch
KVA	-	Kilovolt-ampere
uF	-	Microfarad
No.	-	Number
NHA	-	Next higher assembly
PRV	-	Peak reverse voltage
PSI	-	Pounds per square inch
Ref	-	Reference (the item has been listed previously)
RH	-	Right Hand
LH	-	Left Hand
TM	-	Technical Manual
T-R	-	Transformer-rectifier
V	-	Volt or used as a prefix indicating vendor code

NOTE: An item which does not reflect an index number is an assembly which is not illustrated in its assembled state, or it is similar (right-hand, left-hand, top, etc.) to an item which is illustrated.

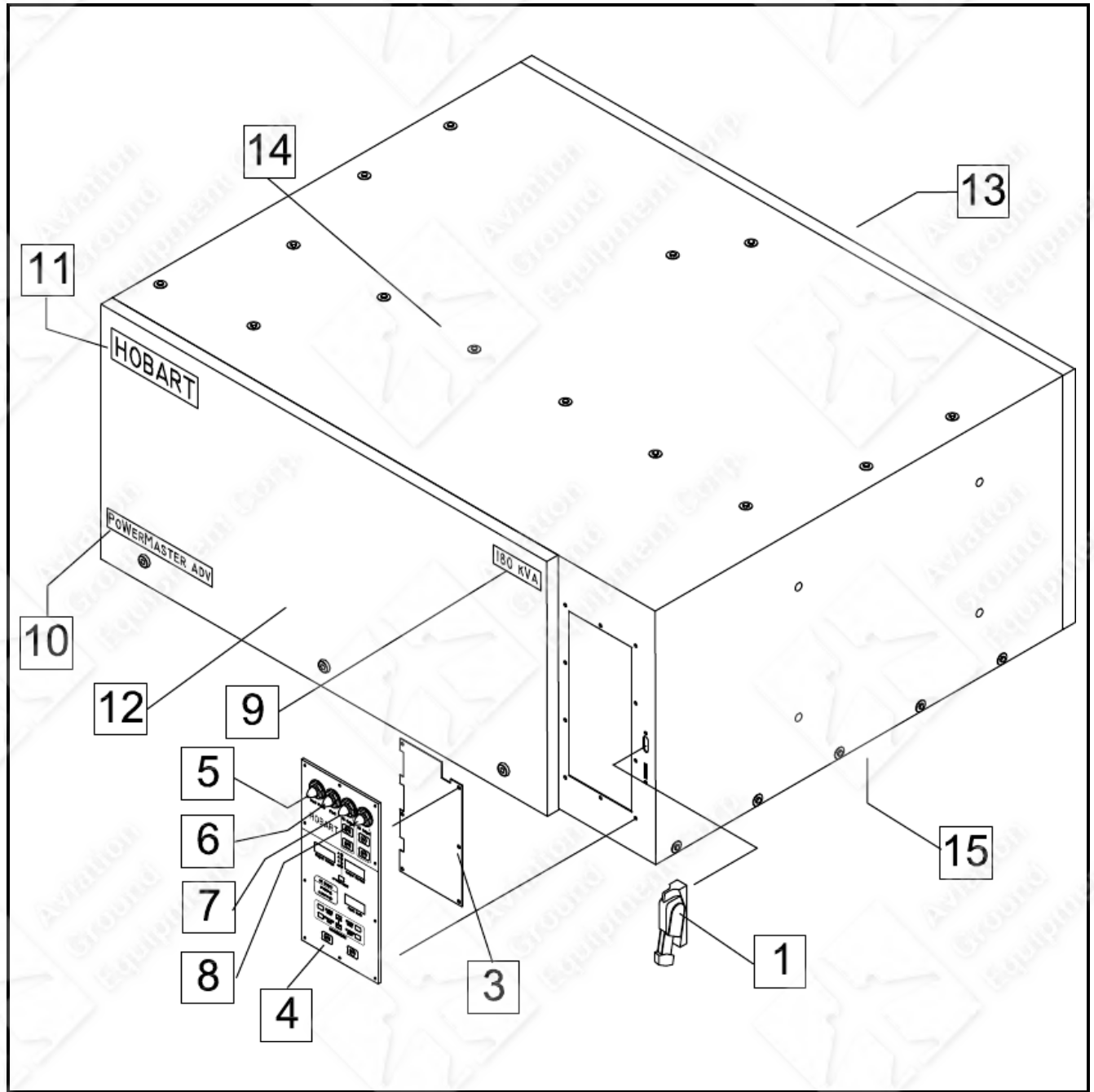


Figure 1 PoWerMaster ADV Converter

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNIT PER ASSY.
1 -	1	286416-001		1
*	2			Ref.
	3	286411		1
	4	286398-002		1
	5	82B1066-010		1
*		400613-004		1
	6	82B1066-001		1
*		400613-004		1
	7	82B1066-012		1
*		400613-004		1
	8	82B1066-012		1
*		400613-004		1
	9	292141-003		1
	10	286457		1
	11	402987		1
*	12			Ref.
*	13			Ref.
*	14			Ref.
*	15			Ref.
		Miscellaneous Labels (none are shown)		
*	16	283716		1
*	17	286377		1
*	18	286441		2
*	19	286442		1
*	20	287460		2
*	21	288505		2
*	22	288730		1
*	23	288510-001		1
		Wires and Cables		
*	23	288625		1
*	24	288645-002		1
*	25	283691-001		1

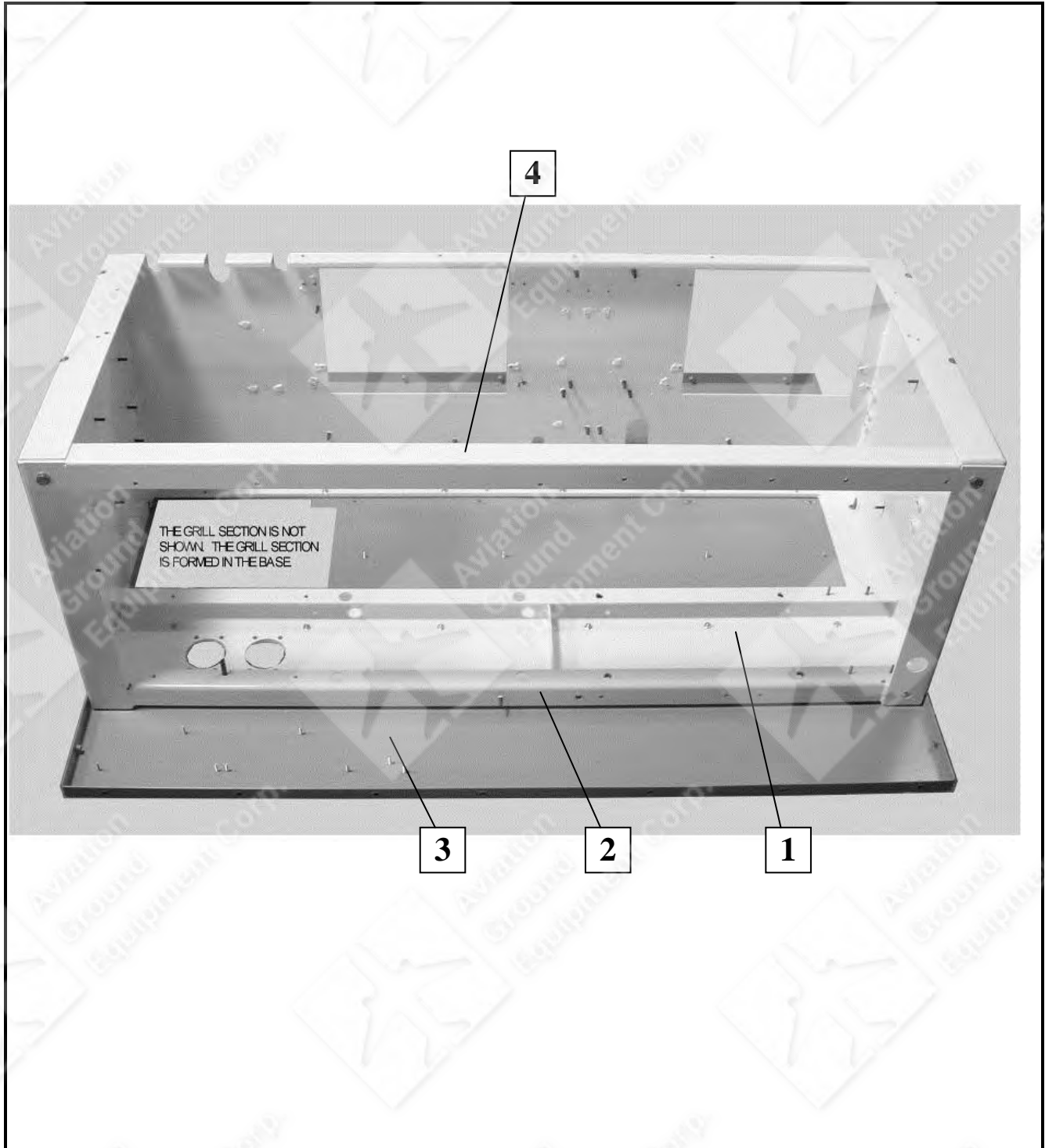


Figure 2 Frame Assembly

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNIT PER ASSY.
2 -	1	288518		1
	2	286354		1
	3	288622		1
	4	288614		1

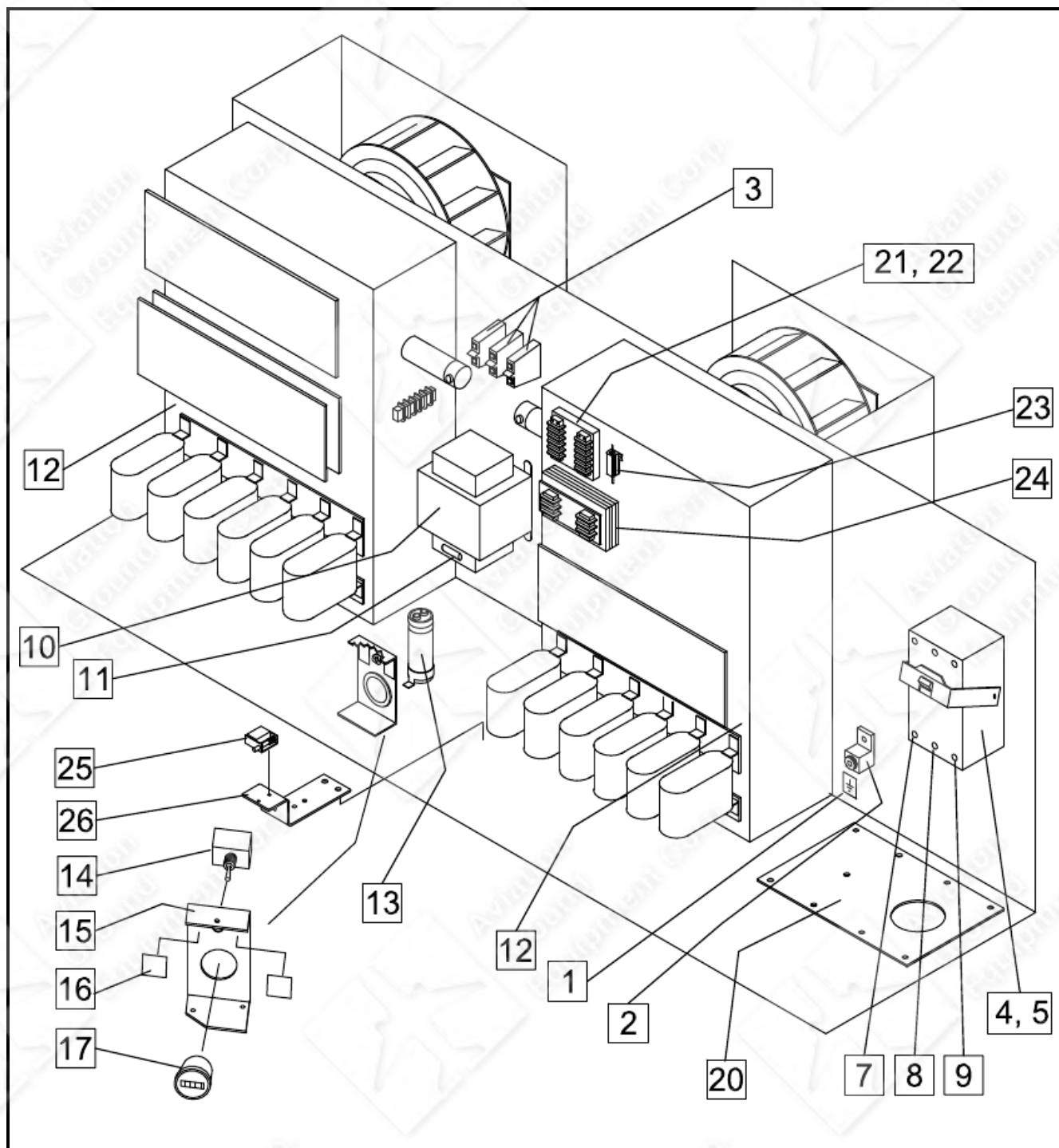


Figure 3 Front Interior Components

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNIT PER ASSY.
3 -	1	280807		1
	2	285104-001		1
	3	285315-001		3
*	4	291267		1
	5	291269-001		1
*	6	291268-001		1
	7	83A1114		1
	8	83A1113		1
	9	83A1112		1
	10	404960-034		1
	11	W10502-031		1
	12			Ref.
	13	281848-002		1
	14	402682		1
	15	286448		1
	16	286447		1
	17	181358		1
	18	287856		1
	19	285568		1
	20	286423		1
	21	286367-001		1
*	22	288605		1
	23	286482-001		1
	24	286528A		1
	25	280673		1
	26	288648		1

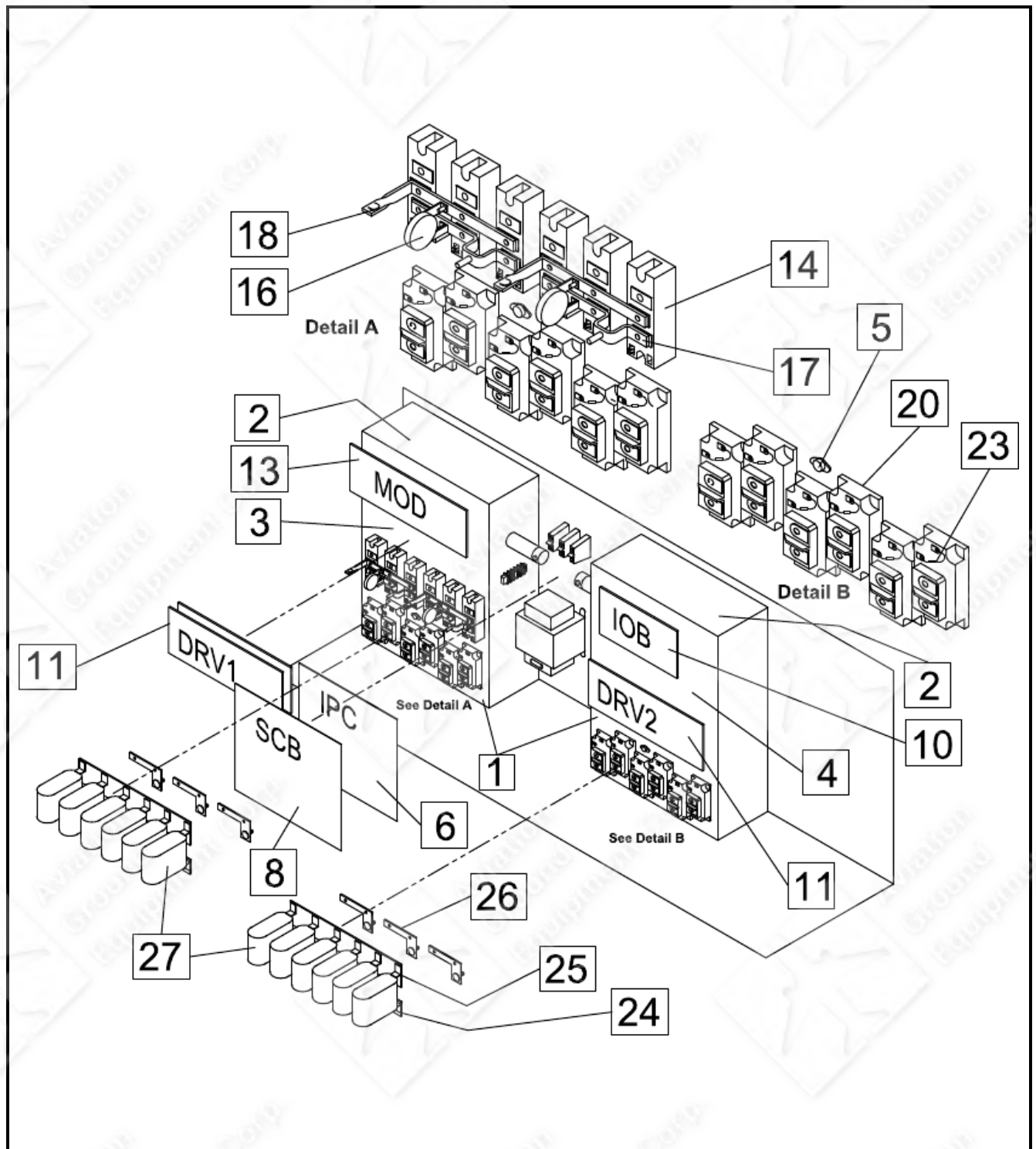


Figure 4 Heat Sink Panel Assembly

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNIT PER ASSY.
4 -	1	287857		2
	2	288520		2
	3	288521		1
	4	288603		1
	5	404044-004		2
		Circuit Boards		
	6	286246B		1
*	7	288522		1
	8	286400A		1
*		192266-001		1
*	9	288523		1
	10	286392-001		1
*		16DA4252-037		1
	11	286144		2
*	12	288604		2
	13	287353A		1
		SCR/IGBT		
	14	286285-001		6
*	15	283196-003		6
	16	403955-021		2
	17	287830		2
	18	287831		2
*	19	286394		2
	20	283867-005		12
*	21	283196-002		12
*	22	407970		12
	23	285170		12
	24	288690		2
*		402674-002		2
	25	287826		2
*		402674-001		2
	26	287824		6
		Other Components		
	27	286389-001		12
*	28	77A1107		1
*	29	77A1108		1
*	30	77A1109		1
*	31	287867-001		1
*	32	287867-002		1
*	33	287867-003		1
*	34	288606		1
*	35	403127		1
	36	288609		14
*	37	284316-002		34
*	38	284316-003		4
*	39	284316-005		4
*	40	288776		1
*	41	288777		1
*	42	288778		1

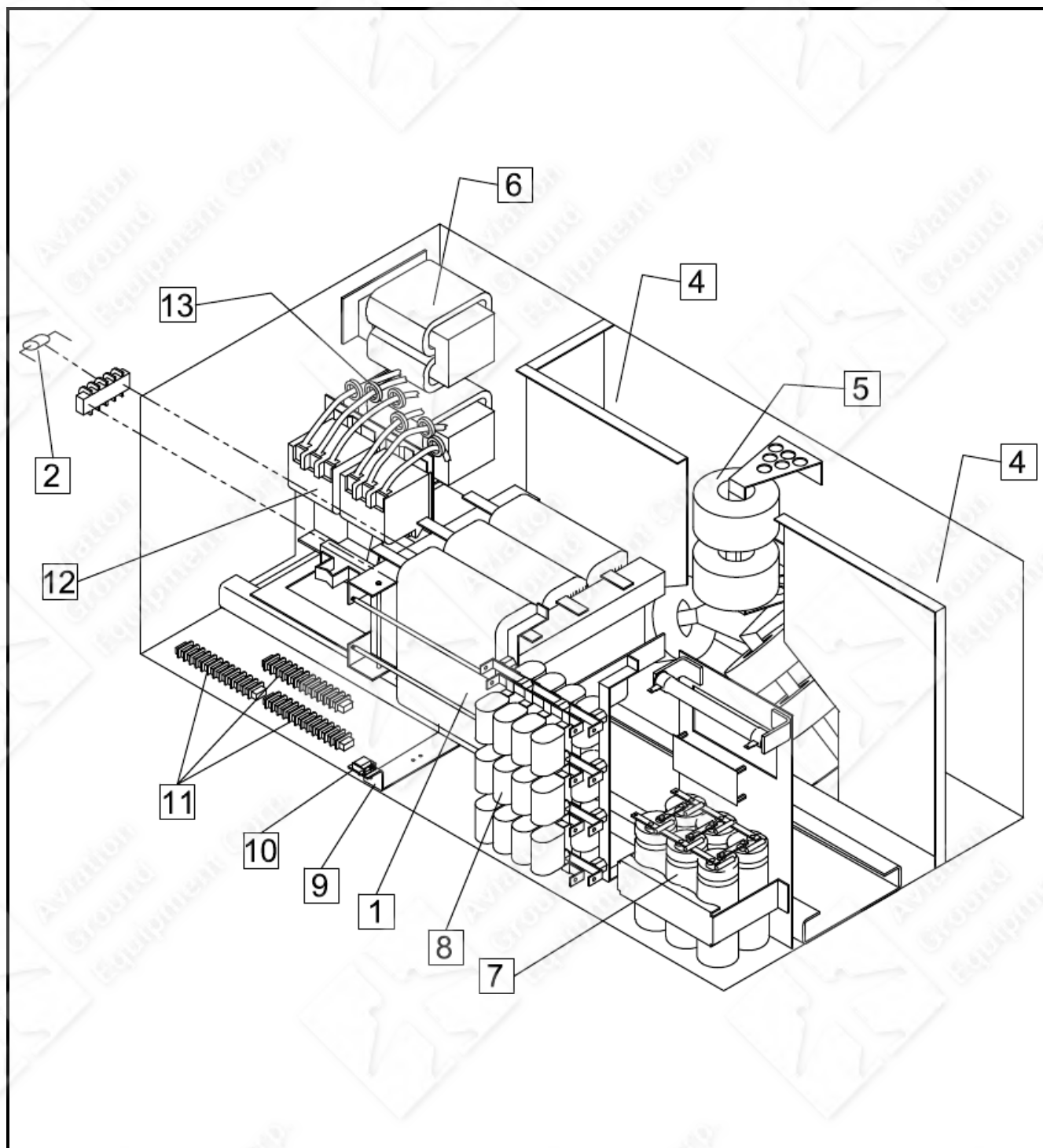


Figure 5 Rear Interior Components

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNIT PER ASSY.	
5 -	1	291279-001	Main Transformer	A	1
	1	291279-001	Main Transformer	B	
	1	291279-001	Main Transformer	C	
	1	291279-001	Main Transformer	D	
	2	281971-009	...Transformer Resistor Assembly, 140 kVA		1
*		286449	...Transformer Air Baffle		1
*		286438	...Transformer Stud		4
*		286316-001	...Universal Mount (V5P059 #60013)		4
*	3	288615	Transformer Top Baffle		1
	4		Fan Assembly Components (See Figure 6)		Ref.
	5	288529	Air Core Inductor		3
	6	493712	DC Choke		2
	7		DC Electrolytic Capacitor Assembly (See Figure 7)		Ref.
	8		AC Capacitor Assembly (See Figure 8)		Ref.
	9	288616	Rear Door Switch Support		1
	10	280673	Door Interlock Switch (V1W134 #SSI2ET-10-2C43)		1
	11	283066-002	Terminal Block, 12 Station (V26794 #KUH12C)		3
*		286380	...Label, Terminal Block Connections		1
*		286382	...Label, Terminal Block ID		1
*		286531-001	...Resistor Assembly		2
*		288974	...Capacitor Assembly		2
	12		Contacting Panel Assembly (See Figure 9)		Ref.
	13	285102-001	Current Transformer (V054W1 #2245CT)		7

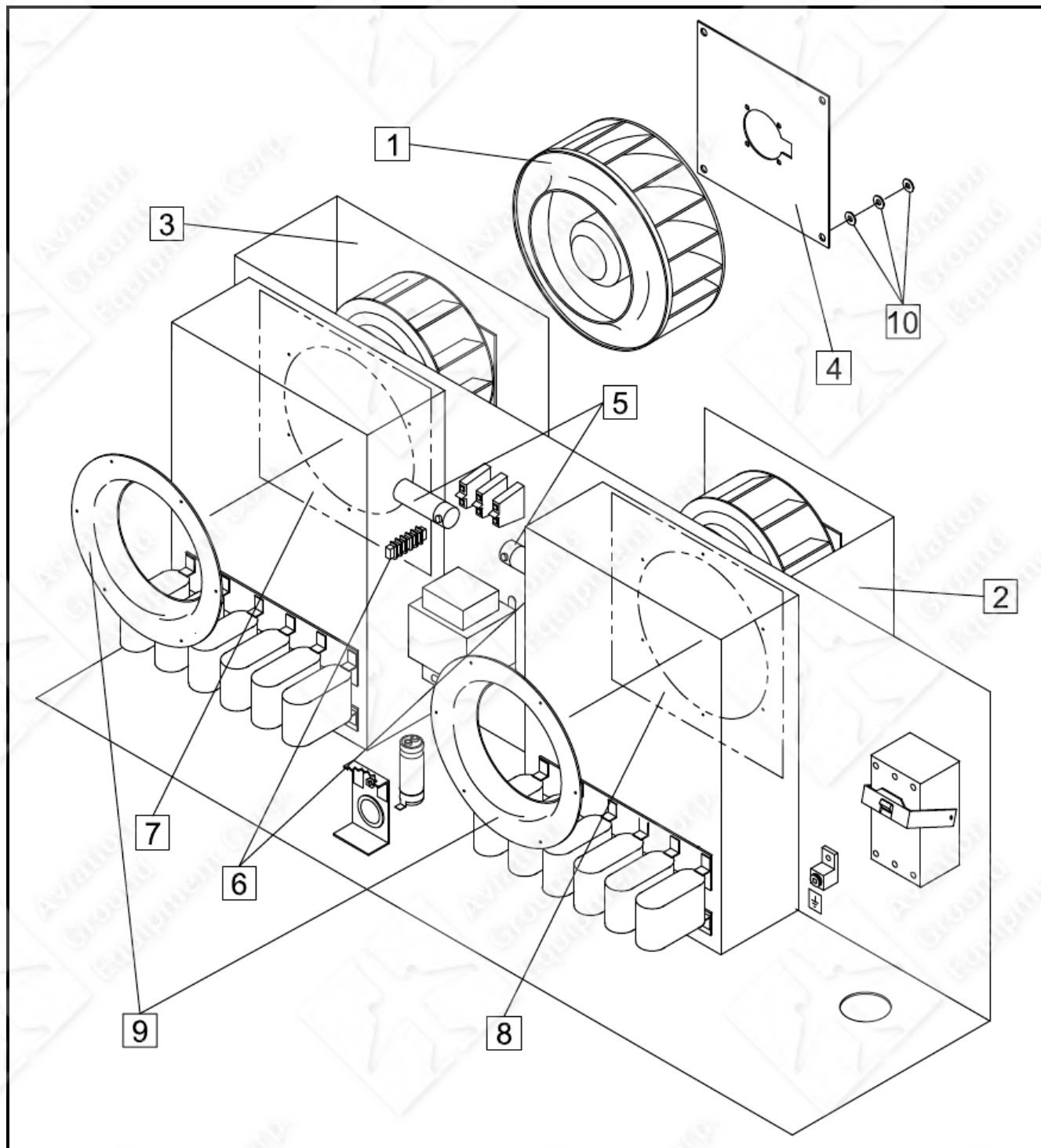


Figure 6 Fan Assembly Components

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNIT PER ASSY.
6 -	1	283155-003		2
	2	288537		1
	3	288538		1
	4	288626		2
	5	283156-003		2
	6	401911-005		2
	7	288601		1
	8	288602		1
	9	283157-003		2
	10	281929-015		24

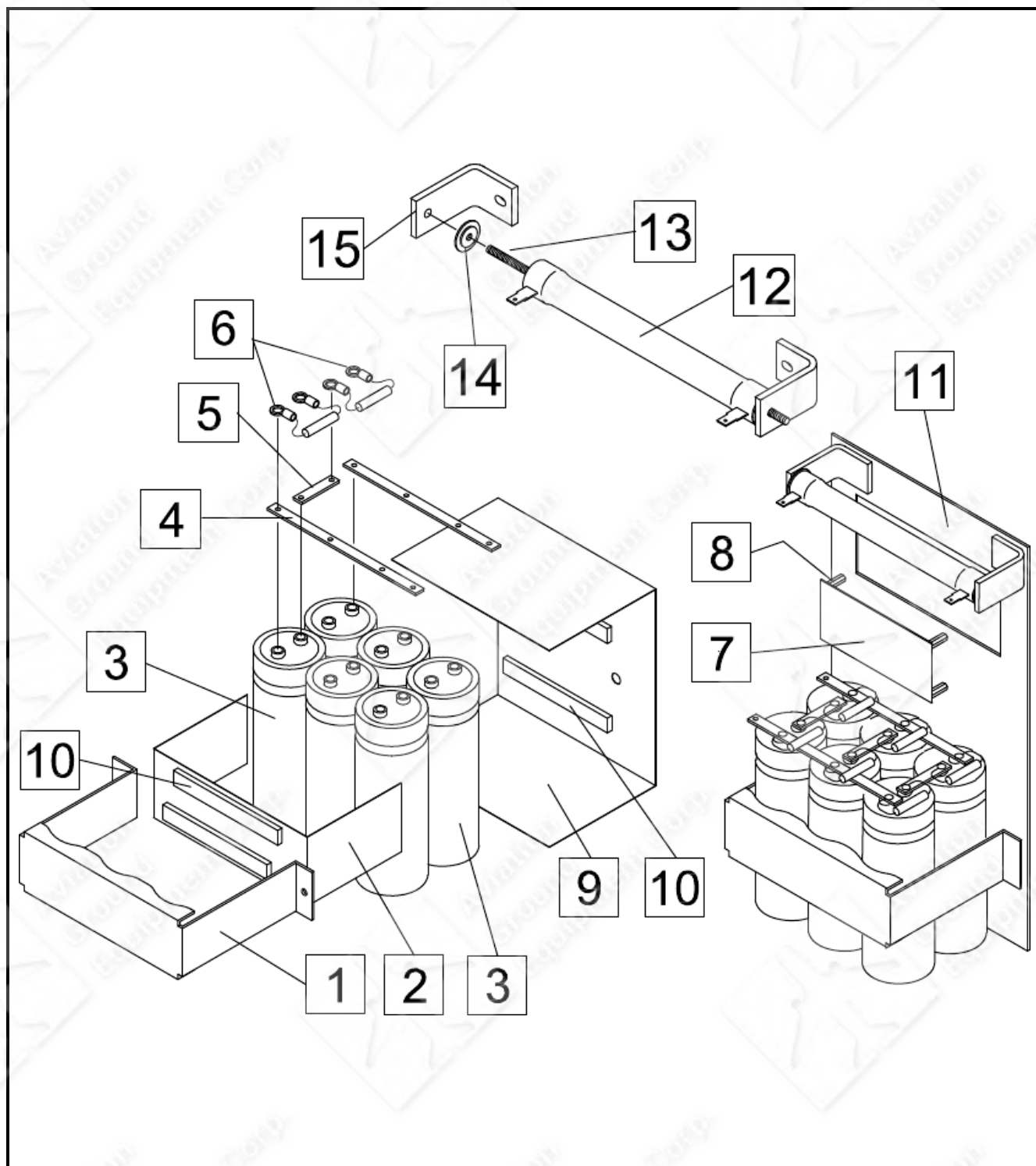


Figure 7 DC Electrolytic Capacitors Assembly

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNIT PER ASSY.	
7 -	1	286428		DC Capacitor Clamp	1
	2	286440-001		Side and Front Insulator	1
	3	281848-001		DC Capacitors, 6800 MFD	6
	4	286433		Long Bus Bar	2
	5	286431		Short Bus Bar	3
	6	281971-001		Resistor Assembly	6
	7	286250A		Bus Discharge PC Board Assembly	1
	8	284316-002		Metal Standoff	4
	9	286434		Bottom and Back Insulator	1
	10	056210		Neoprene Rubber Strip	3 ft.
	11	288598		DC Capacitors Bracket	1
	12	404249-003		Resistor, 225 W, 50 ohm (V44655 #L225J50R)	1
	13	283387-002		Threaded Rod	1
	14	286489-001		Centering Washer (V44655 #6003)	2
	15	286468		Resistor Bracket	2

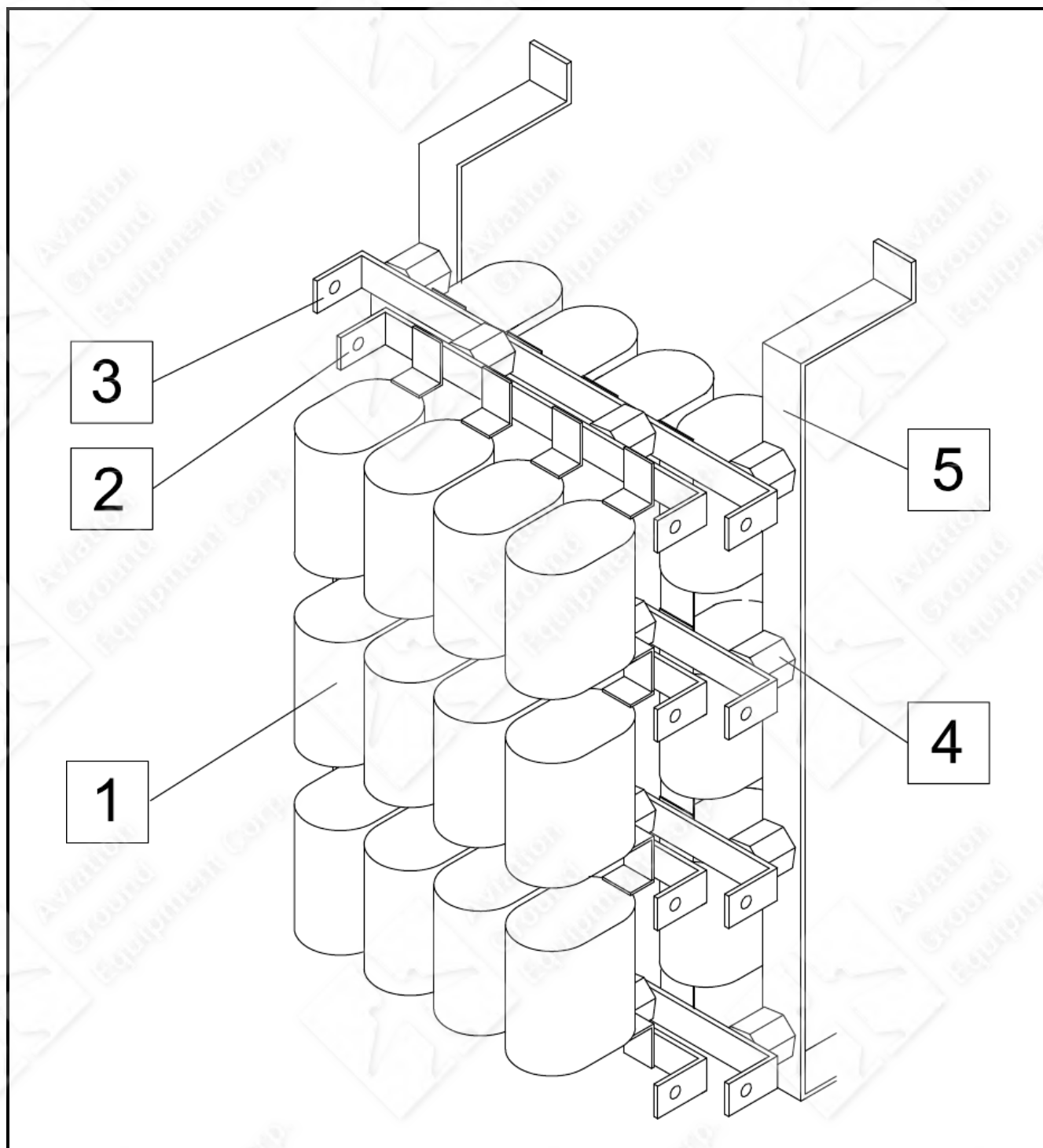


Figure 8 AC Capacitor Assembly

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNIT PER ASSY.	
8 -	1	286389-002		AC Capacitor (V8T246 # HTB28)	24
	2	288600		Short AC Capacitor Bus Bar	4
	3	288599		AC Capacitor Bus Bar	4
	4	286266		Standoff Insulator	16
	5	288597		AC Capacitor Panel	2
*	6	77A1107		Label, Terminal, "A"	1
*	7	77A1108		Label, Terminal, "B"	1
*	8	77A1109		Label, Terminal, "C"	1
*	9	287867-001		Label, Terminal, "AA1"	1
*	10	287867-002		Label, Terminal, "BB1"	1
*	11	287867-003		Label, Terminal, "CC1"	1

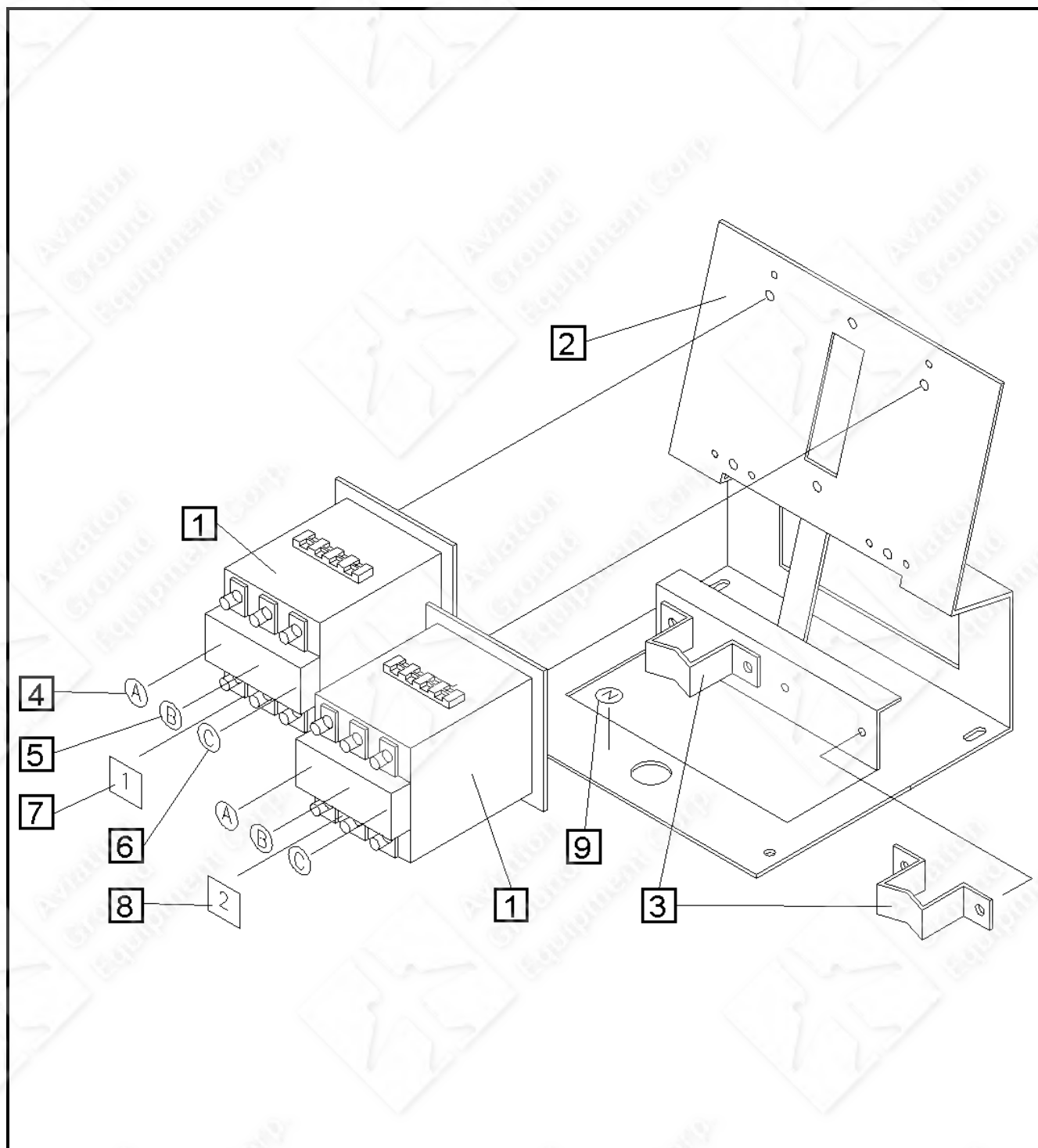


Figure 9 Contactor Panel Assembly

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNIT PER ASSY.
9 -	1	282130-001		
	2	286450		2
	3	284359		1
	3	284397		2
	4	77A1107		2
	5	77A1108		2
	6	77A1109		2
	7	402422-001		1
	8	402422-002		1
	9	78A1035		1

Note: Two clamps of different sizes are included for item 3. Use the size appropriate for your AC cable.

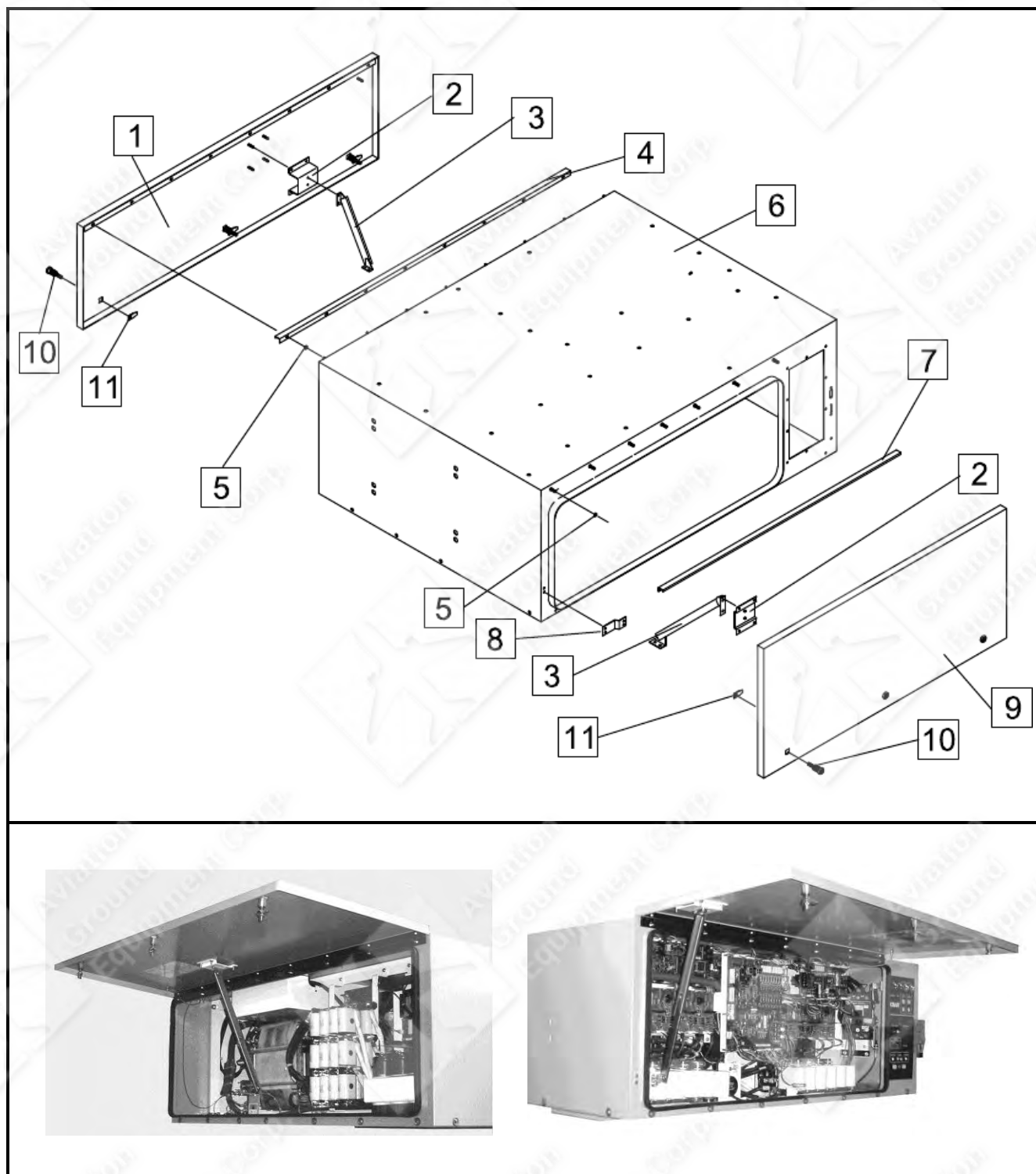


Figure 10 Canopy Components

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNIT PER ASSY.
10 - 1	288619	Rear Door Assembly		1
	286485-001	...Door Seal		12 ft.
	288525-002	...Rear Parts Location Label		1
2	286498	Rear Door Stay Support		2
3	284606-001	Door Support (V1E045 #AE7/25621)		2
4	286277	Rear Door Hinge		1
5	286279-001	Spacer, Door Hinge		15
6	288621	Canopy Top		1
7	286278	Front Door Hinge		1
8	288617	Front Door Stay Support		1
9	288618	Front Door Assembly		1
	286485-001	...Door Seal		12 ft.
	288525-001	...Front Parts Location Label		1
10	287542-001	Door, Latch (V94222 #E-16-15)		6
*	288225	...Gasket, Latch		6
11	287546-001	Latch Pawl V94222 #E-28-203-12)		6

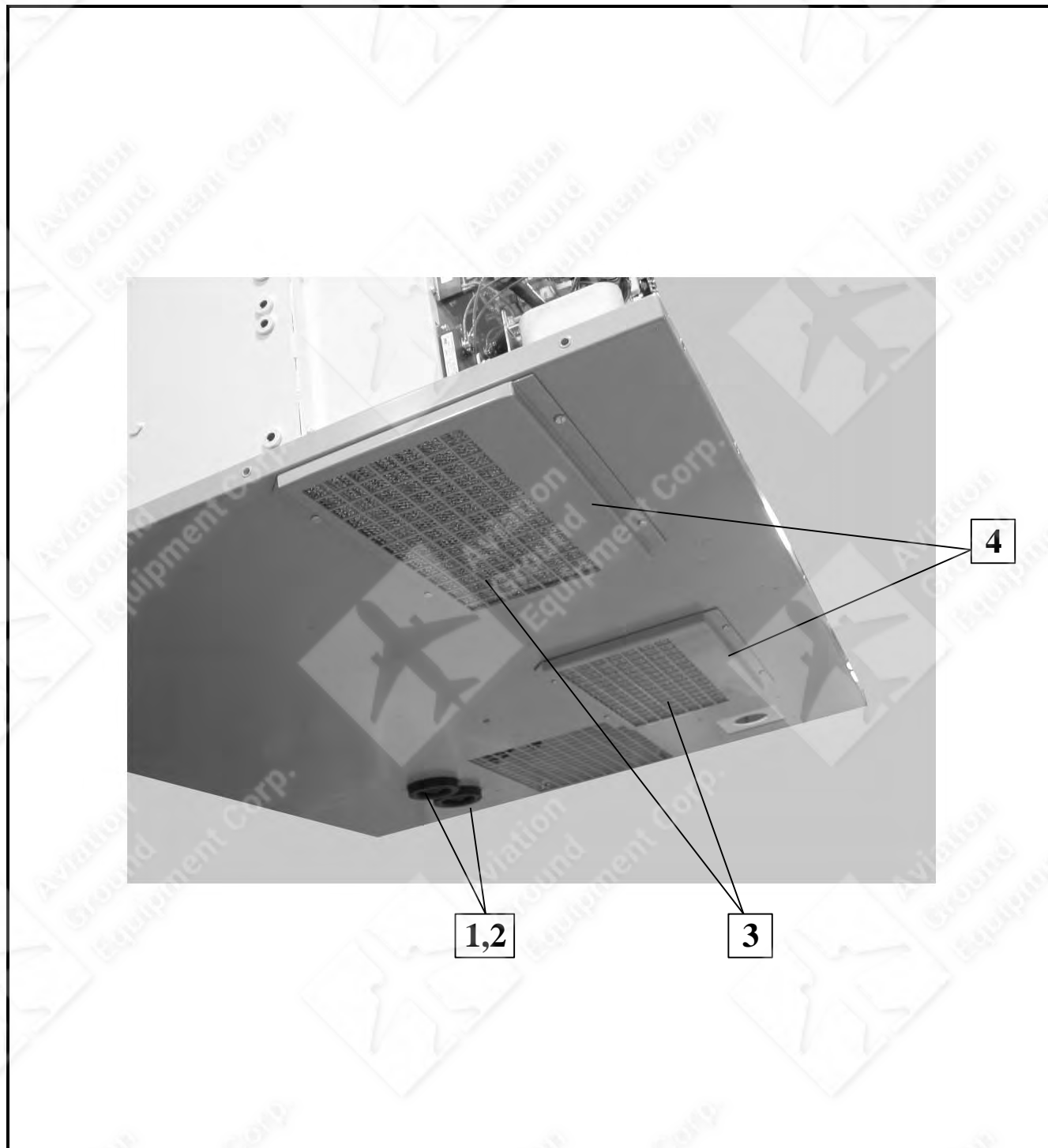


Figure 11 Bottom Exterior Components

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNIT PER ASSY.
11-	1	286469		2
	2	286478		2
	3	283159-004		2
	4	288613		2
*		283168-002		8
*		283171-002		8
*		283172-001		8

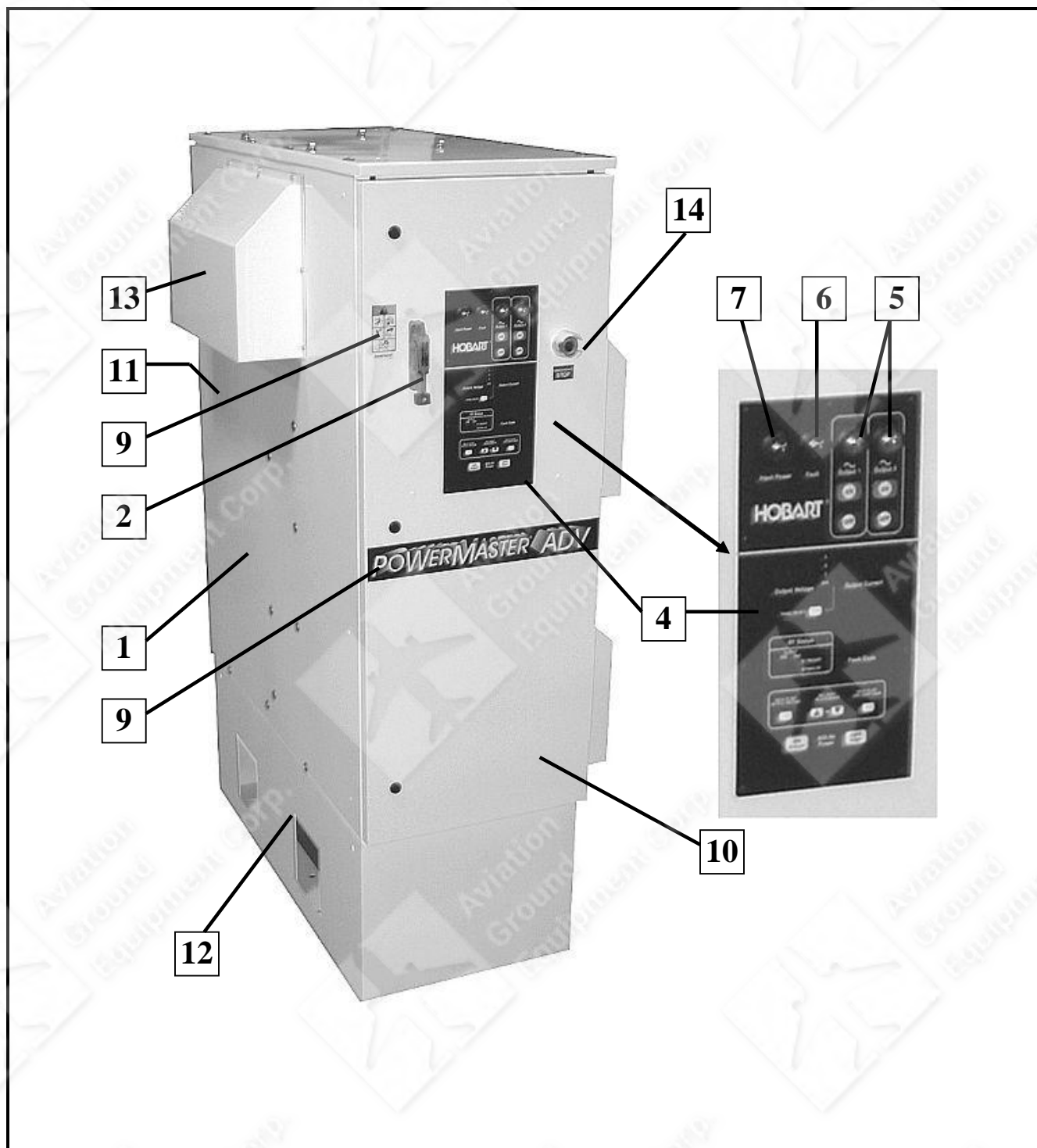


Figure 12 PoWerMaster ADV Converter

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNITS PER ASSY.
12 -	1	Frame Assembly (See Figure 13)		Ref.
	2	286416-001 Circuit Breaker Actuator Handle (V14799 #9422A3)		1
*	3	286411 Control P.C. Board Assembly		1
	4	286398-002 Membrane Switch Panel Assembly		1
	5	82B1066-012 Amber Pilot Light Ay., 12v (V14799 #9001-SKP-32A9)		2
*		400613-004 ...Bulb, 12v, Type 1815, Bayonet Base, Style T-3-1/4		2
	6	82B1066-001 Red Pilot Light Ay., 12V (V14799 #9001-SKP-32R9)		1
*		400613-004 ...Bulb, 12v, Type 1815, Bayonet Base, Style T-3-1/4		1
	7	82B1066-010 Green Pilot Light Ay., 12V (V14799 #9001-SKP-32G9)		1
*		400613-004 ...Bulb, 12v, Type 1815, Bayonet Base, Style T-3-1/4		1
	8	286457 Label, Trademark		1
	9	286441 Label, General		2
	11	Rear Interior Components (See Figure 7)		Ref.
	12	Frame Assembly (See Figure 2)		Ref.
	13	Side Exterior Components (See Figure 14)		Ref.
	14	286544-001 Emergency Stop Switch Kit		Ref.
		288300 ...Emergency Stop Label		1
		285125 ...Mushroom Button Guard (V2B664 #K56YM)		1
		77A1157 ...Switch, Push-Pull, Maintained (V2B664 #KR9RH6)		1
		287850 ...Wire Harness Assembly		1
		...Relay Components (see Figure 5)		Ref.
		Labels		Ref.
*	15	292141-003 Label, 140 KVA		1
*	16	402987 Label, ITW GSE		2
*	17	286377 Label, Fault Code		1
*	18	286442 Label, Rainproof		1
*	19	288505 Label, Clearance Warning		2
*	20	288510-001 Label, ETL Listed		1
*	21	287547-001 Label, CE		2
*	22	283716 Label, ID		1
*	23	287460 Label, Danger High Voltage		2
		Wires and Cables		Ref
*	24	288645-001 Cable Chart, 180 ADV, 12-Pulse		1
*	25	288625 Wire Harness		1
*	26	286580-001 Lead, Wire, Assembly		1
*	27	288714 Wire Harness, 600 V / 12-Pulse		1

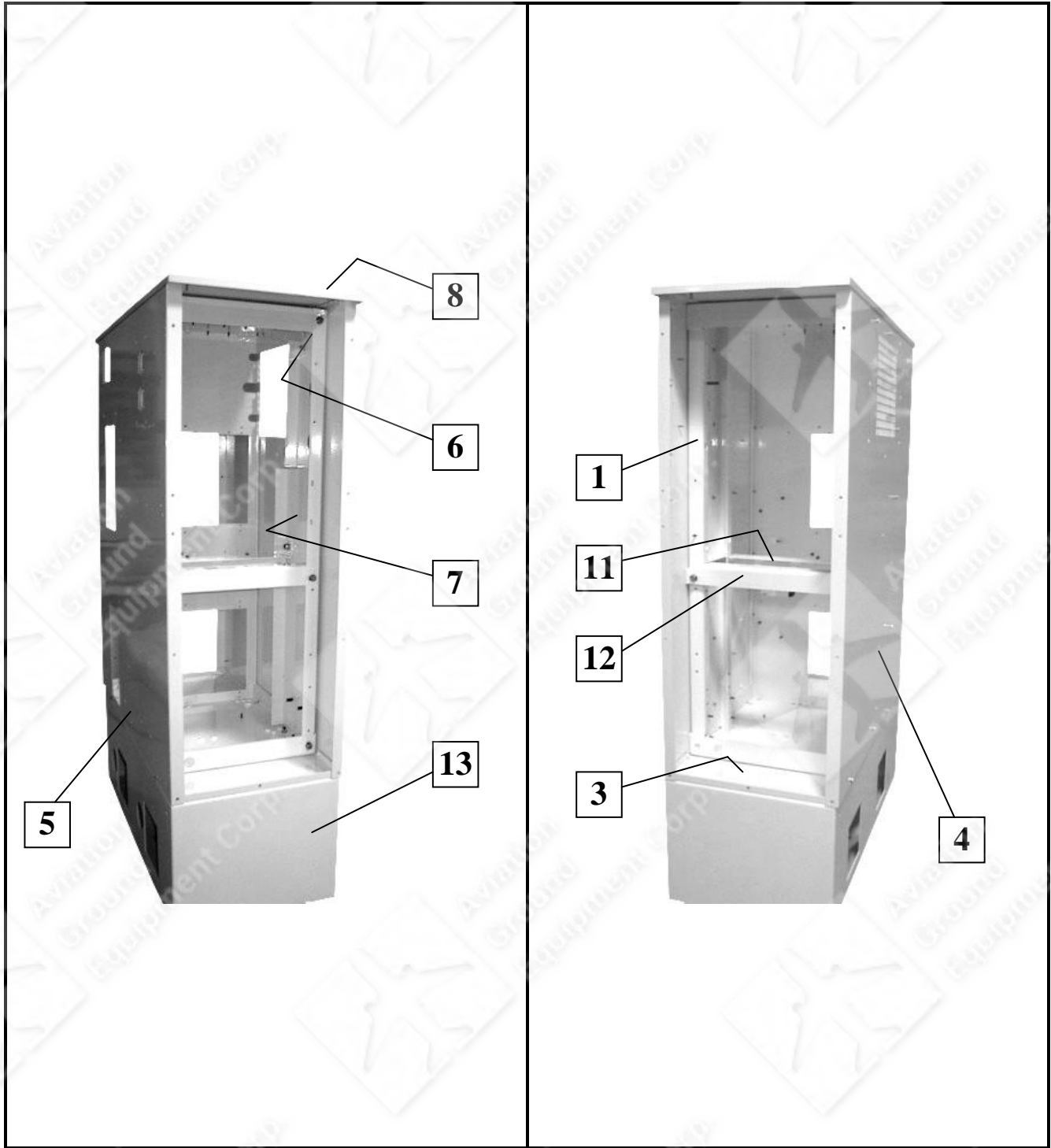


Figure 13 Frame Assembly

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNITS PER ASSY.
13 -	1	288518		1
*	2	286354		1
	3	288757		1
	4	288761		1
	5	288758		1
	6	288755		1
	7	288754		1
	8	288756		1
*	9	286477-001		12
*	10	286571		4
	11	288753		1
	12	288752		1
	13	286578		1

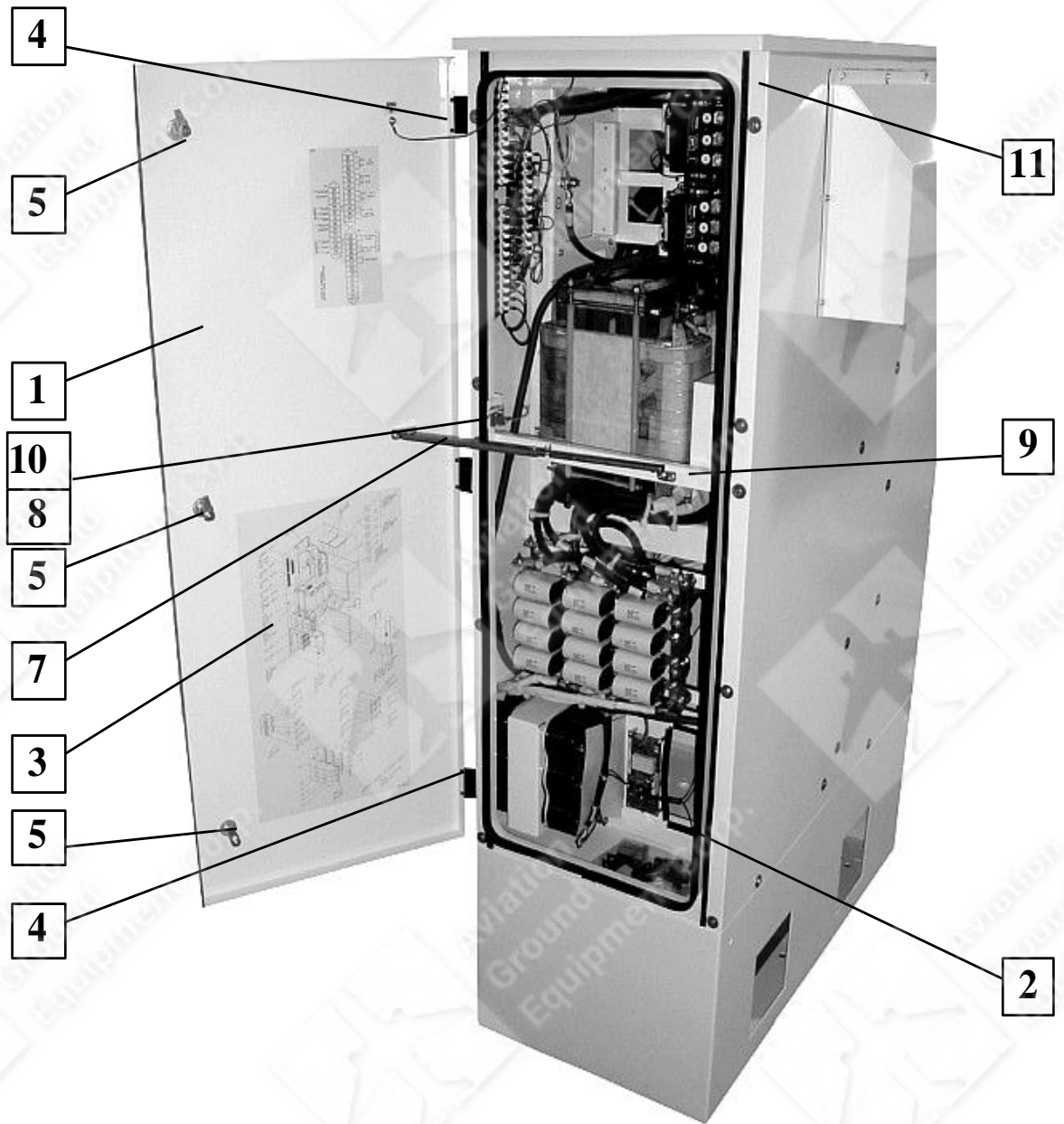


Figure 14 Components – Rear Door

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNITS PER ASSY.
14 -	1	288760		1
	2	286485-001		24.5 ft.
	3	288766-002		1
	4	283824		3
	5	287542-001		3
*		288225		3
	6	287546-001		3
	7	284606-001		1
	8	280673		1
	9	286601		1
	10	286602		1
	11	286564		1
*	12	286582		2
*	13	283691-001		1

Note: Item # 12 is located behind the inner door panel (Item # 11).

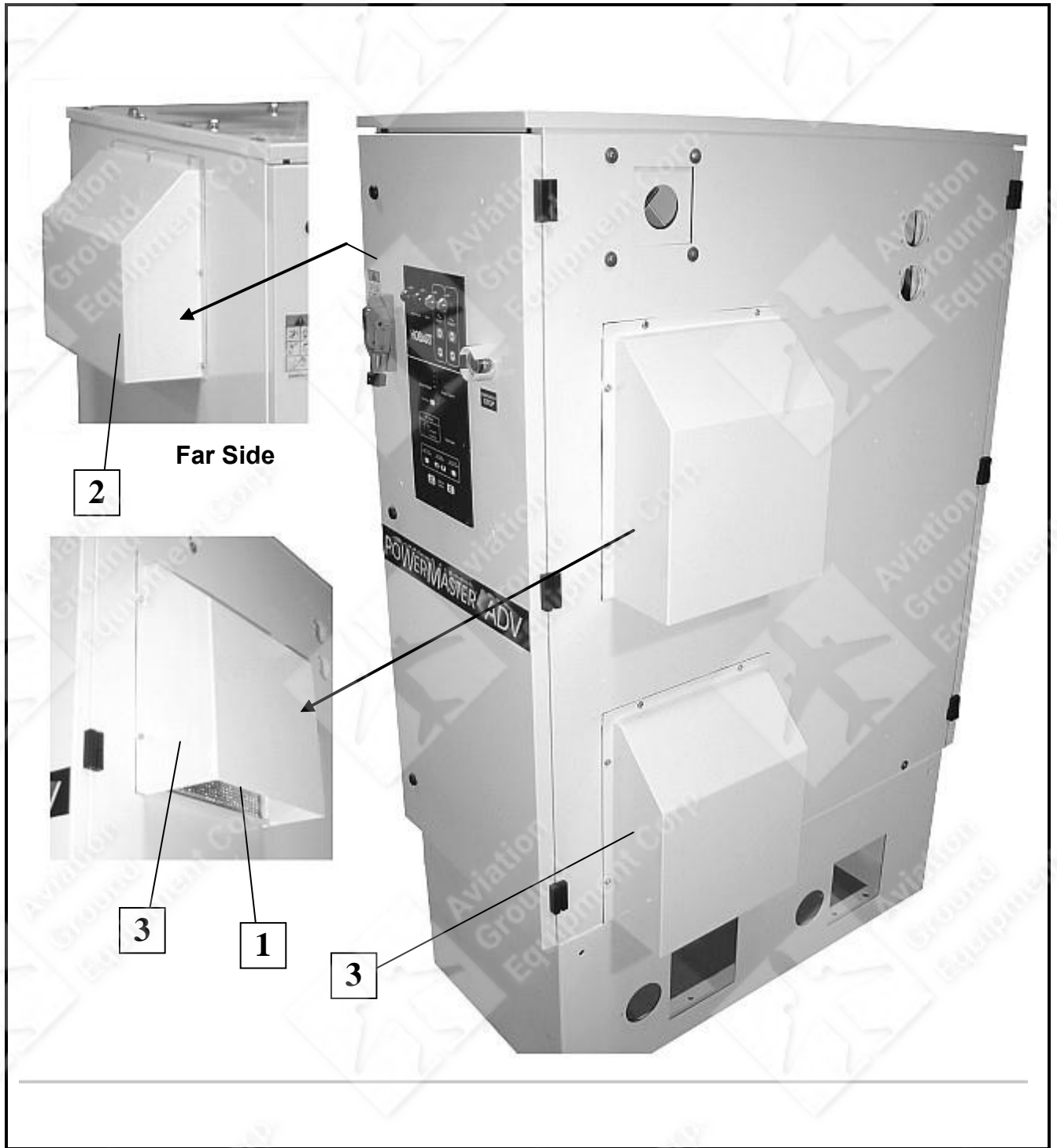


Figure 15 Side Exterior Components

FIGURE ITEM NO.	ITW GSE PART NO.	NOMENCLATURE	EFF	UNITS PER ASSY.	
15-	1	283159-005		Air Filter (V82866 # 97135608)	2
	2	288751		Air Outlet Hood	1
	3	288750		Air Inlet Hood	2
*	4	286584		Cable Outlet Gasket	2
*	5	W10088-008		90° Box Connector	2
*	6	286479		Cover, Closed, Output Holes	2