REVISION RECORD			
LTR.	CHANGES	BY	DATE
A	REVISED AND REDRAWN	D. B.	03/07/13

D'Shannon Products, LTD

INSTALLATION MANUAL

JVE-0596

STC SA09145SC

REVISION A

INSTALLATION DRAWINGS AND INSTRUCTIONS VORTEX GENERATOR SYSTEM BEECHCRAFT CORP. BONANZA 35, 35R, A35, B35, C35, D35, E35, F35, G35

D'SHANNON PRODUCTS, LTD
800-291-7616, INT'L 763-559-5998

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	COVER SHEET
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	D'SHANNON PRODUCTS, LTD
	DWG. No. JVE-0596-01 REVISION A
	SCALE: NONE DATE 03/07/13 SH 1 OF 1

NUMERICAL DRAWING LIST CONTROL

DWG. No.	DATED	REV.		No. SHTS	EFF. EO	EO	EO	EO	DESCRIPTION
JVE-0596-01	03/07/13	A		1					COVER SHEET
JVE-0596-02	03/07/13	NC		1					NUMERICAL DRAWING LIST
JVE-0596-03	03/07/13	NC		1					INSTALLATION BILL OF MATERIAL
JVE-0596-04	03/07/13	NC		1					GENERAL NOTES
JVE-0596-05	03/07/13	NC		7					WING TEMPLATE LOCATION
JVE-0596-06	03/07/13	NC		2					AILERON TEMPLATE LOCATION
JVE-0596-08	03/07/13	NC		1					RIVET OR SCREW HEAD INTERFERENCE
JVE-0596-09	03/07/13	NC		1					SURFACE PREPARATION
JVE-0596-10	03/07/13	NC		2					ATTACHING THE VORTEX GENERATORS
JVE-0494-11	03/07/13	NC		1					CLEAN UP
JVE-0596-13	03/07/13	NC		1					PAPERWORK
JVE-0494-14	03/07/13	NC		1					PAINTING VORTEX GENERATORS
JVE-501-01	03/07/13	NC		5					VORTEX GENERATOR INSTALLATION

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	03/07/13

NEXT ASSY:
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

NUMERICAL DRAWING LIST

TOLERANCES
.X__.10 .XXX__.01
.XX_.03 .XXXX_.001
ANGLES ±5%
UNLESS STATED

D'SHANNON PRODUCTS, LTD

DWG. No. JVE-0596-02 | REVISION NC

SCALE: NONE | DATE 03/07/13 | SH 1 OF 1

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	03/07/13

ITEM	LOCATION OF ITEMS	QTY.	PART NUMBER	D E S C R I P T I O N
26	JVE-0596-10	A. R.	LOCTITE DEPEND 330	ADHESIVE AND ACTIVATOR
16	JVE-0596-06	1	5004	TEMPLATE RH AILERON
15	JVE-0596-06	1	5003	TEMPLATE LH AILERON
14	JVE-0596-05	1	5002-2B	TEMPLATE RH WING OUTBOARD
13	JVE-0596-05	1	5002-2A	TEMPLATE RH WING INBOARD
12	JVE-0596-05	1	5001-2B	TEMPLATE LH WING OUTBOARD
11	JVE-0596-05	1	5001-2A	TEMPLATE LH WING INBOARD
10	JVE-0596-05	1	5002-1	TEMPLATE RH WING CRANK
9	JVE-0596-05	1	5001-1	TEMPLATE LH WING CRANK
8	JVE-0596-05	AR	--	SPOOL HEAVY DUTY THREAD
7	JVE-0596-05, 06	AR	--	3/4" MASKING TAPE
6	JVE-0596-10	15	1006	VG 1.5 INCH
5	JVE-0596-10	15	1005	VG 1.5 INCH
2	JVE-0596-10	35	1002	VG 1 INCH
1	JVE-0596-10	35	1001	VG 1 INCH

NEXT ASSY:
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

INSTALLATION BILL OF MATERIAL

TOLERANCES
.X__.10 .XXX__.01
.XX_.03 .XXXX_.001
ANGLES ±5%
UNLESS STATED

D'SHANNON PRODUCTS, LTD

DWG. No. JVE-0596-03 | REVISION NC

SCALE: NONE | DATE 03/07/13 | SH 1 OF 1

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	03/07/13

DEFINITIONS:

AILERON VG REFERENCE SEAM:	THE SEAM NEAREST THE LEADING EDGE ON THE INBOARD SECTION OF THE WING.
AILERON REF. SEAM LINE:	SKIN SEAM TAPERING FROM ABOUT 4 TO 3 INCHES FORWARD OF THE WING TRAILING EDGE IN FRONT OF THE AILERON.
SPAR CAP LINE:	THE AFT EDGE OF THE WING SPAR CAP AND THE SKIN LAP EXTENDING FROM THE INBOARD END OF THE SPARE CAP TOWARD THE WING TIP. IT IS USED AS A REFERENCE FOR THE WING TEMPLATE LAYOUT.
STREAM WISE SEAM:	THE FORE AND AFT SKIN SEAM AT W. S. 47. 00 FOUND ABOUT 23. 5 INCHES OUTBOARD FROM THE FUSELAGE.
TEMPLATE:	DISPOSABLE TOOLS OF ADHESIVE BACKED VINYL TO AID IN ACCURATE PLACEMENT OF VGs.
VG, VGs:	VORTEX GENERATOR, VORTEX GENERATORS.
W. S. 121. 13:	A LOCATION RUNNING PARALLEL TO AND 74. 13 INCHES OUTBOARD FROM THE STREAM WISE SEAM AT W. S. 47. 00.
WING CRANK:	THE PORTION OF THE WING THAT HAS INCREASED SWEEP FROM THE FUSELAGE TO THE STREAM WISE SEAM AT W. S. 47. 00.
WING SPAR CAP:	THE WING SPAR CAP IS VISIBLE ON THE UPPER SURFACE OF THE WING AS A NARROW STRIP ABOUT 1-1/2 INCHES WIDE RUNNING SPAN-WISE FROM THE NACELLE TO THE WING TIP ATTACHMENT.
WING TIP SEAM:	THE STREAM WISE SEAM AT W. S. 190. 5 OF THE INBOARD SIDE OF THE WING TIP ASSEMBLY. FOR REFERENCE, THE WING CLOSEOUT SPAR IS W. S. 191.

CONSUMABLES NOT PROVIDED IN KIT:

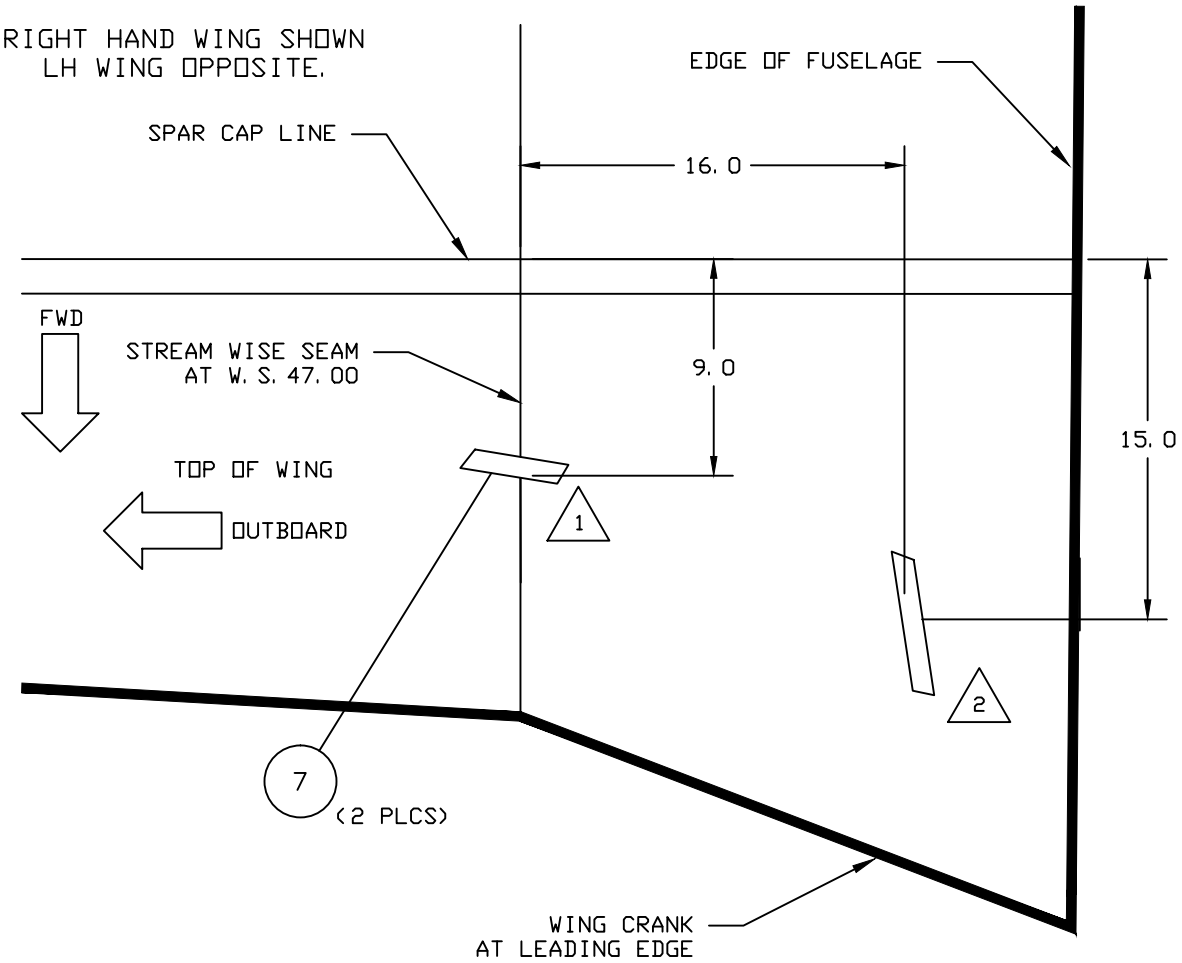
- 3/4 INCH MASKING TAPE
- ROLL OF HEAVY DUTY THREAD
- PENCIL
- STRIPS OF #180 ABRASIVE PAPER
- ISOPROPYL ALCOHOL
- PAPER TOWELS
- VINYL GLOVES

TOOLS NOT PROVIDED IN KIT:

- PHILLIPS SCREW DRIVERS #1 AND #2
- OFFSET OPEN END WRENCHES 1/4 TO 11/16 INCH
- EXACTO KNIVES AND EXTRA BLADES
- DREMMEL OR FILES FOR SHAPING VGs IF NEEDED
- VACUUM BASE VISE
- SQUEEGEE TO SMOOTH TEMPLATES

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	GENERAL NOTES	
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	D'SHANNON PRODUCTS, LTD	
	DWG. No. JVE-0596-04	REVISION NC
	SCALE: NONE	DATE 03/07/13 SH 1 OF 1



REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	03/07/13

2 PLACE A SIMILAR PIECE OF MASKING TAPE ITEM (7) AS SHOWN APPROXIMATELY 16 INCHES INBOARD OF THE STREAM WISE SEAM AND 15 INCHES FORWARD OF THE SPAR CAP LINE.

1 STARTING ON EITHER WING (THE INSTRUCTIONS SHOW THE RIGHT WING) PLACE A PIECE OF MASKING TAPE ITEM (7) ABOUT 4 INCHES LONG ON THE STREAM WISE SEAM AT W.S. 47.00 AS SHOWN APPROXIMATELY 9 INCHES FORWARD OF THE SPAR CAP LINE.

1 - CREATE LAYOUT LINES AND INDEX MARKS FOR THE ALIGNMENT OF THE TEMPLATES ON THE CRANK, INBOARD AND OUTBOARD WING SECTIONS AS SHOWN. NOTE THAT THE THREAD LINE DEFINES THE AFT EDGE OF THE TEMPLATE LOCATION. OBSERVE THE ORIENTATION PRESENTED ON THE TEMPLATES (INBOARD, OUTBOARD, FORWARD OR AFT). NOTE THAT THE INBOARD AND OUTBOARD WING TEMPLATES HAVE MATCH LINES IN BLUE AND MAGENTA TO AID IN ABUTTING THESE TEMPLATES. REPEAT FOR BOTH WINGS.

NOTES:

ITEM	QTY	PART No.	DESCRIPTION
14	1	5002-2B	TEMPLATE RH WING OUTBOARD
13	1	5002-2A	TEMPLATE RH WING INBOARD
12	1	5001-2B	TEMPLATE LH WING OUTBOARD
11	1	5001-2A	TEMPLATE LH WING INBOARD
10	1	5002-1	TEMPLATE RH WING (CRANK)
9	1	5001-1	TEMPLATE LH WING (CRANK)
8	AR	--	SPOOL HEAVY DUTY THREAD
7	AR	--	3/4" MASKING TAPE

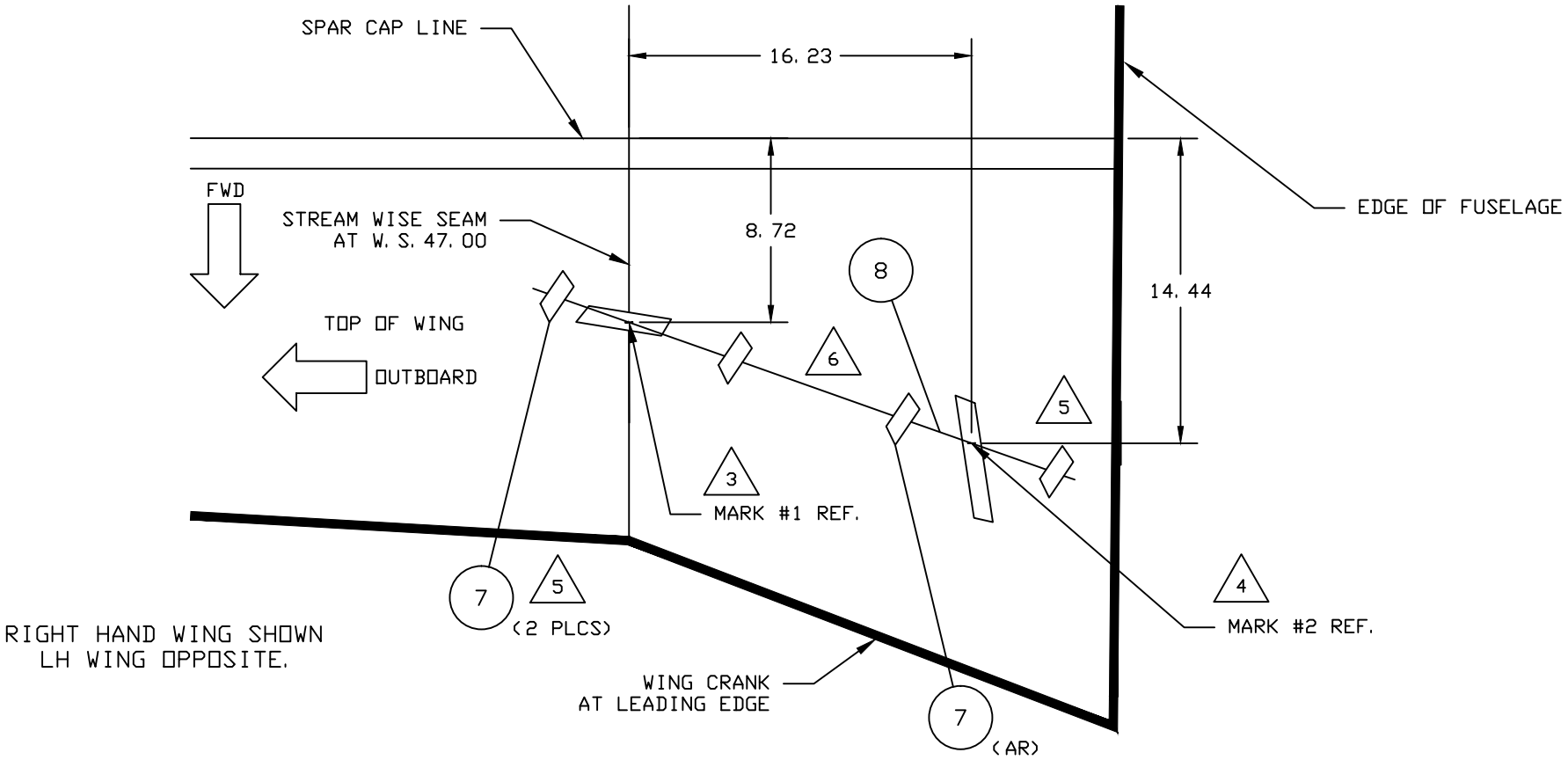
NEXT ASSY:
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

WING TEMPLATE LOCATION

TOLERANCES
.X__.10 .XXX__.01
.XX_.03 .XXXX_.001
ANGLES ±5%
UNLESS STATED

D'SHANNON PRODUCTS, LTD

DWG. No. JVE-0596-05 | REVISION NC
SCALE: NONE | DATE 03/07/13 | SH 1 OF 7



NOTES:

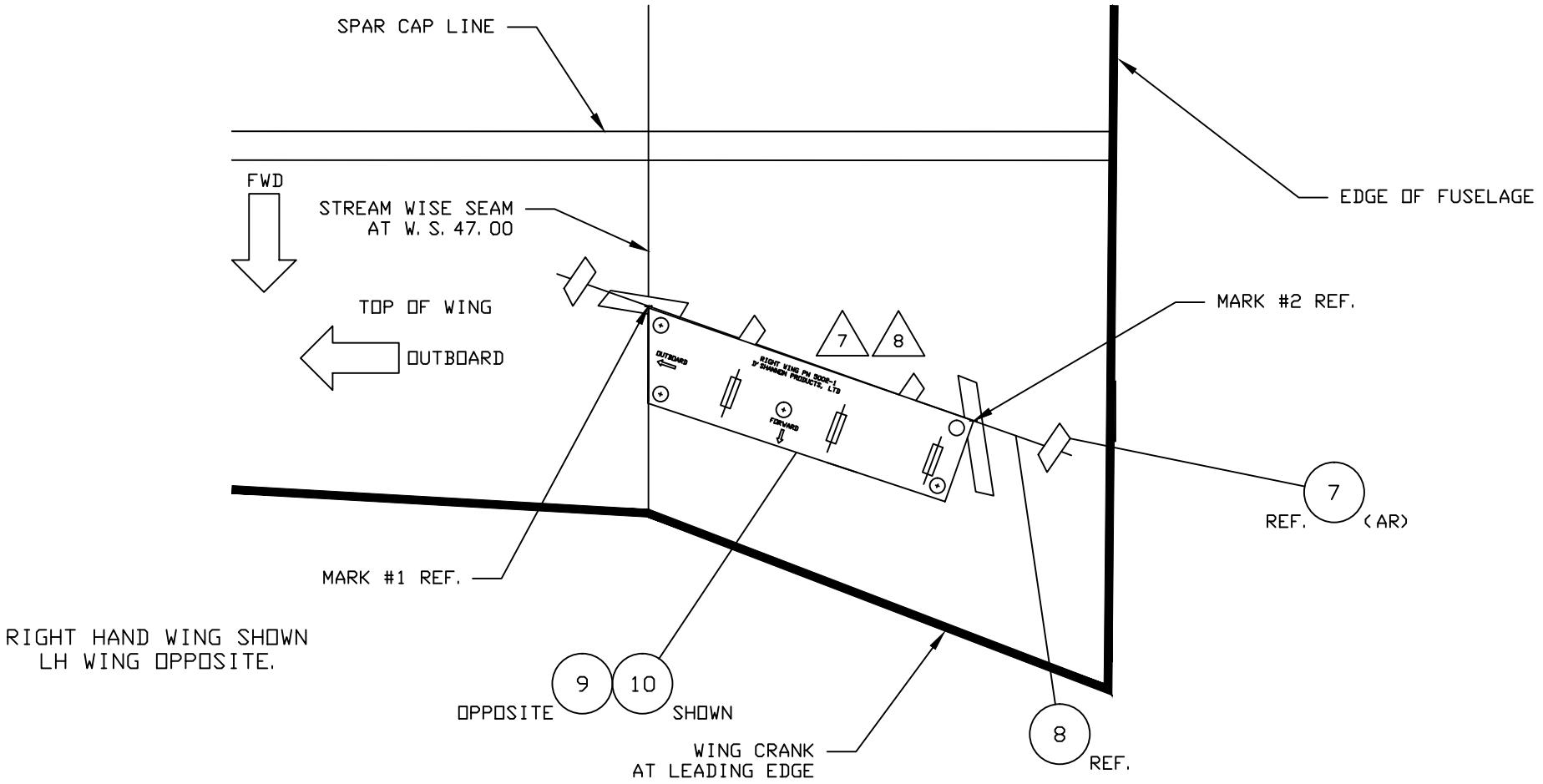
△6 USING SEVERAL PIECES OF ITEM (7) TAPE, ANCHOR THE THREAD LINE ITEM (8) TO THE SURFACE OF THE WING TAKING CARE TO KEEP THE LINE STRAIGHT.

△5 USING ITEM (7) TAPE ONE END OF A 24 INCH PIECE OF STURDY THREAD ITEM (8) TO THE WING AS SHOWN. ASSURE THAT THE THREAD WILL PASS OVER MARK #1 AND STRETCH THE THREAD INBOARD TOWARDS MARK #2 PASSING OVER MARK #2. APPLY ANOTHER PIECE OF TAPE ITEM (7) TO SECURE THE THREAD IN PLACE. CHECK THE POSITIONING AND ADJUST IF NEEDED.

△4 MEASURE INBOARD OF THE STREAM WISE SEAM AND FORWARD OF THE SPAR CAP LINE AS SHOWN AND MAKE A MARK ON THE MASKING TAPE WITH A PENCIL OR GREASE PENCIL. THIS MARK WILL BE REFERRED TO AS 'MARK #2'.

△3 MEASURE ALONG THE STREAM WISE SEAM AND FORWARD OF THE SPAR CAP LINE AS SHOWN. MAKE A MARK ON THE MASKING TAPE WITH A PENCIL OR GREASE PENCIL. THIS MARK ON THE STREAM WISE SEAM WILL BE REFERRED TO AS 'MARK #1'.

NEXT ASSY:	WING TEMPLATE LOCATION
DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	D'SHANNON PRODUCTS, LTD
	DWG. No. JVE-0596-05 REVISION NC
	SCALE: NONE DATE 03/07/13 SH 2 OF 7



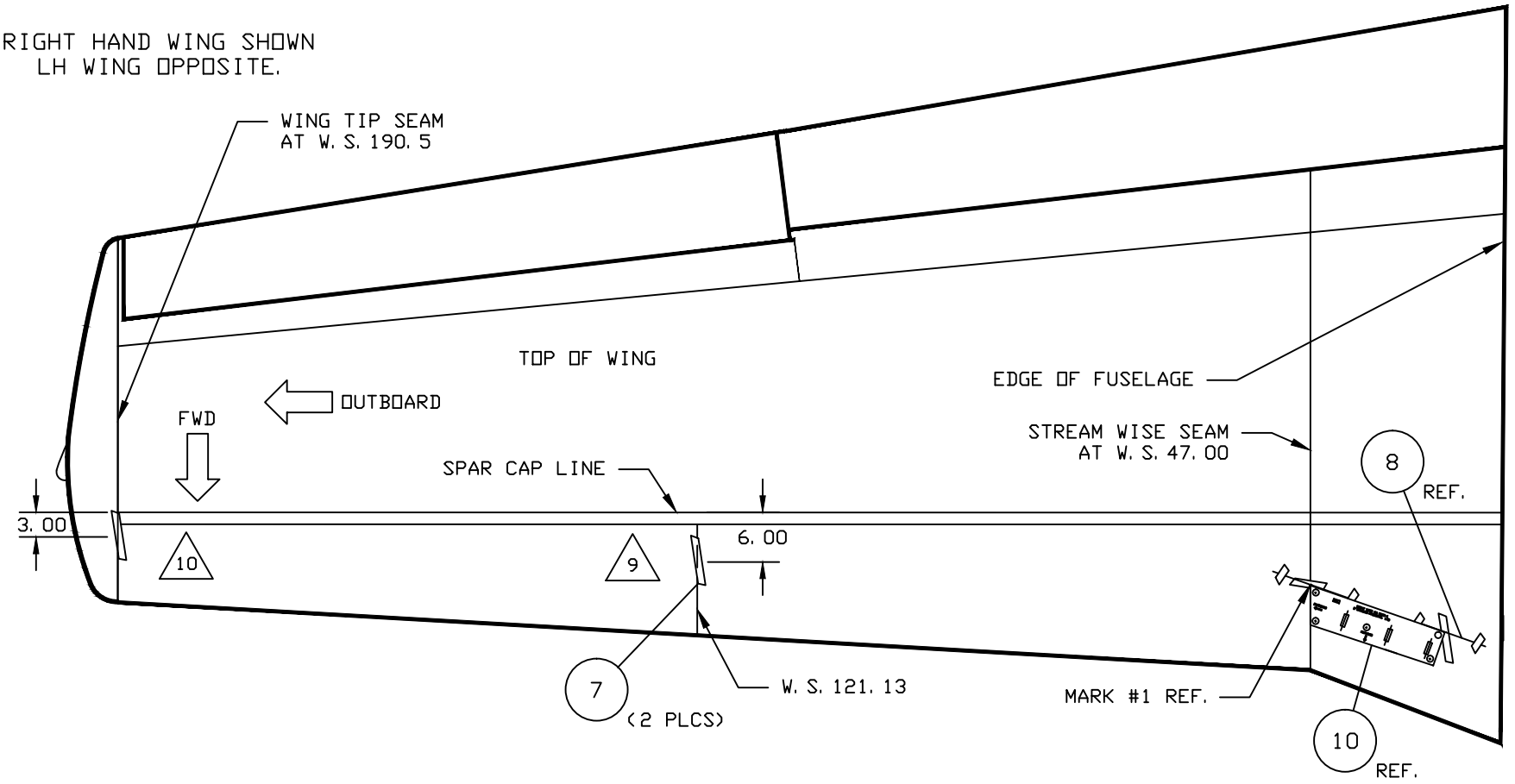
8 ONCE POSITIONING OF THE TEMPLATE ITEM (10) IS ASSURED, REMOVE THE BACKING AND APPLY TO THE WING FROM ONE EDGE TO THE OTHER USING A STIFF SQUEEGEE. REPOSITION AS NEEDED AND WORK CAREFULLY. SQUEEGEE TIGHTLY TO THE WING SURFACE AND ONLY THEN REMOVE THE FRONT POSITIONING LAYER FROM THE TEMPLATE. BUBBLES IN THE TEMPLATE MAY BE REMOVED BY PRICKING THEM WITH A PIN OR NEEDLE BEING CAREFUL OF THE SURFACE UNDER THE TEMPLATE.

7 ALIGN THE AFT EDGE OF THE CRANK AREA TEMPLATE, ITEM (10) ALONG THE THREAD LINE AND THE OUTBOARD EDGE OF THE TEMPLATE ALONG THE STREAM WISE SEAM AT W. S. 47. 00 ALIGNING THE AFT CORNERS WITH MARK #1 AND MARK #2. MASKING TAPE ITEM (7) MAY BE USED TO ASSIST IN POSITIONING THE TEMPLATE BY OPENING THE CIRCULAR HOLES IN THE FRONT POSITIONING LAYER OF THE TEMPLATE IF NEEDED.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	WING TEMPLATE LOCATION
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	D'SHANNON PRODUCTS, LTD
	DWG. No. JVE-0596-05 REVISION NC
	SCALE: NONE DATE 03/07/13 SH 3 OF 7

RIGHT HAND WING SHOWN
LH WING OPPOSITE.



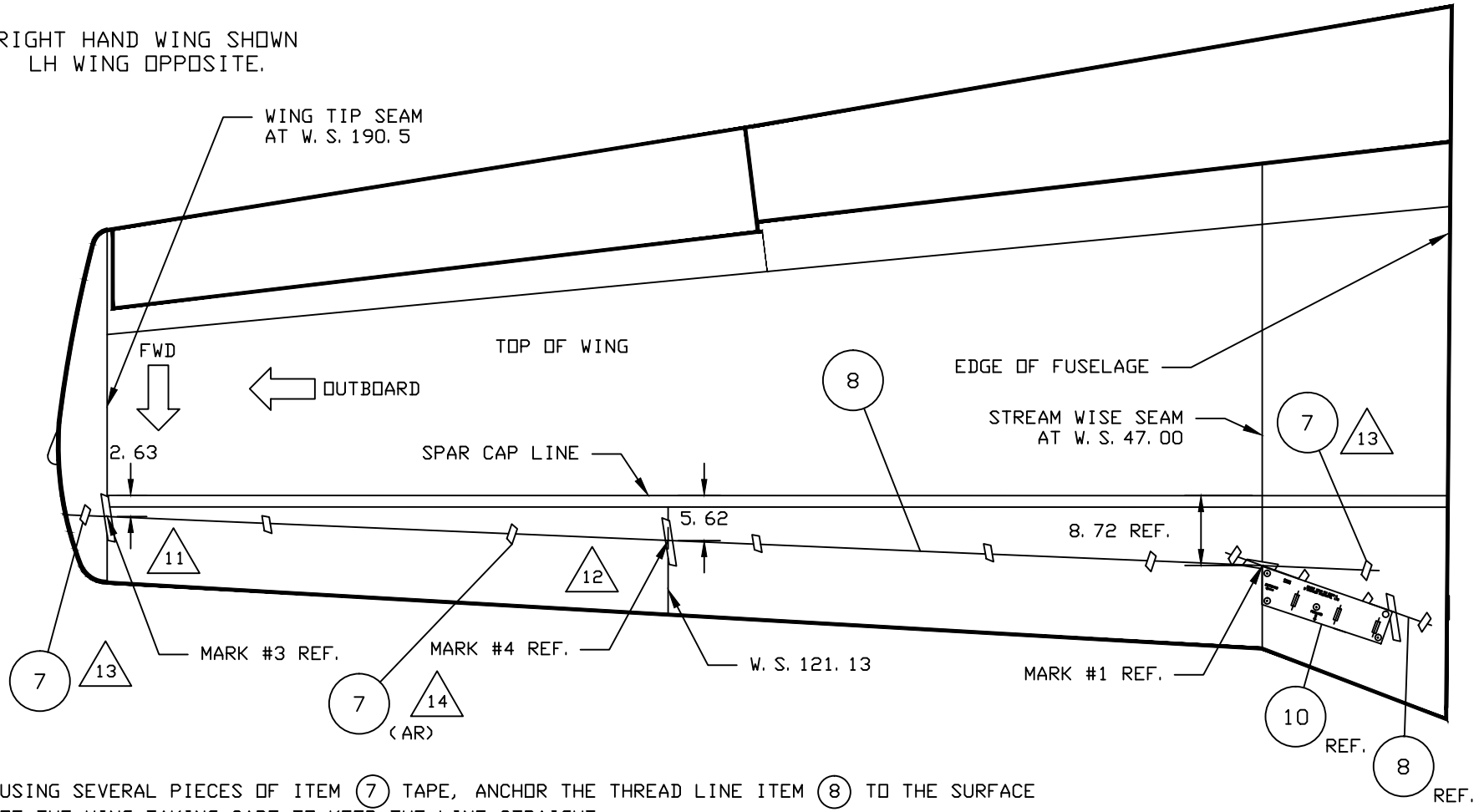
10 PLACE A SIMILAR PIECE OF MASKING TAPE ITEM (7) AS SHOWN ON THE WING TIP SEAM AT W. S. 190. 5 AS SHOWN APPROXIMATELY 3 INCHES FORWARD OF THE SPAR CAP LINE.

9 PLACE A PIECE OF MASKING TAPE ITEM (7) ABOUT 4 INCHES AT W. S. 121 (74 INCHES OUTBOARD OF THE STREAM WISE SEAM) AS SHOWN APPROXIMATELY 6 INCHES FORWARD OF THE SPAR CAP LINE. .

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	WING TEMPLATE LOCATION
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	*D'SHANNON PRODUCTS, LTD*
	DWG. No. JVE-0596-05 REVISION NC
	SCALE: NONE DATE 03/07/13 SH 4 OF 7

RIGHT HAND WING SHOWN
LH WING OPPOSITE.



14 USING SEVERAL PIECES OF ITEM (7) TAPE, ANCHOR THE THREAD LINE ITEM (8) TO THE SURFACE OF THE WING TAKING CARE TO KEEP THE LINE STRAIGHT.

13 USING ITEM (7) TAPE ONE END OF A 14 FOOT PIECE OF STURDY THREAD ITEM (8) TO THE WING AS SHOWN. ASSURE THAT THE THREAD WILL PASS OVER MARK #1 AND STRETCH THE THREAD INBOARD TOWARDS MARK #3 PASSING OVER MARK #3. APPLY ANOTHER PIECE OF TAPE ITEM (7) TO SECURE THE THREAD IN PLACE. THE THREAD LINE SHOULD ALSO PASS CLOSELY OVER MARK #4. CHECK THE POSITIONING AND ADJUST IF NEEDED.

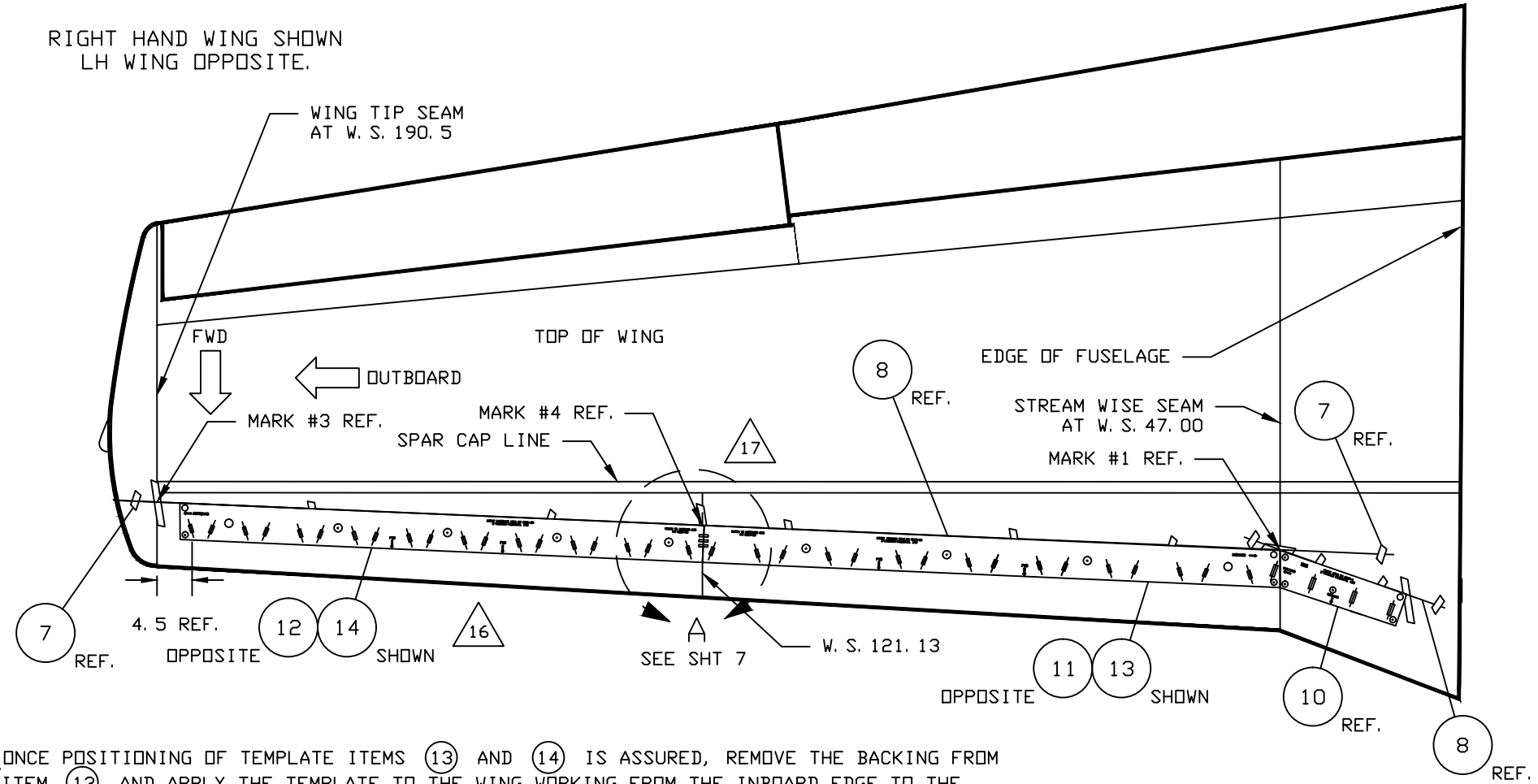
12 MEASURE ALONG A LINE PLACED AT W. S. 121. 13 AND FORWARD OF THE SPAR CAP LINE AS SHOWN. MAKE A MARK ON THE MASKING TAPE WITH A PENCIL OR GREASE PENCIL. THIS MARK WILL BE REFERRED TO AS 'MARK #4'.

11 MEASURE ALONG THE WING TIP SEAM AND FORWARD OF THE SPAR CAP LINE AS SHOWN. MAKE A MARK ON THE MASKING TAPE WITH A PENCIL OR GREASE PENCIL. THIS MARK ON THE WING TIP SEAM WILL BE REFERRED TO AS 'MARK #3'.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	WING TEMPLATE LOCATION
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	D'SHANNON PRODUCTS, LTD
	DWG. No. JVE-0596-05 REVISION NC
	SCALE: NONE DATE 03/07/13 SH 5 OF 7

RIGHT HAND WING SHOWN
LH WING OPPOSITE.



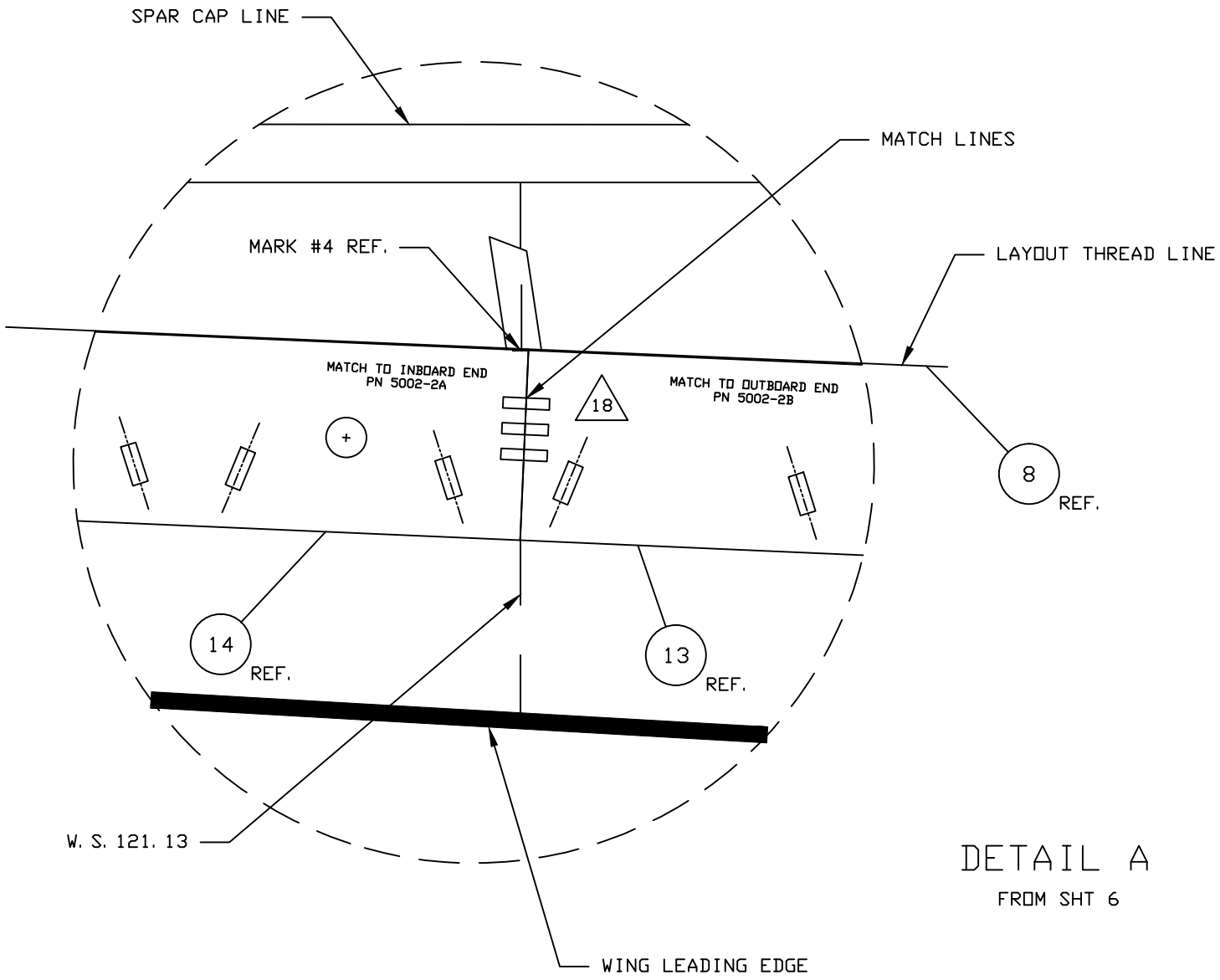
17 ONCE POSITIONING OF TEMPLATE ITEMS (13) AND (14) IS ASSURED, REMOVE THE BACKING FROM ITEM (13) AND APPLY THE TEMPLATE TO THE WING WORKING FROM THE INBOARD EDGE TO THE OUTBOARD EDGE USING A STIFF SQUEEGEE. REPOSITION AS NEEDED AND WORK CAREFULLY. SQUEEGEE TIGHTLY TO THE WING SURFACE AND ONLY THEN REMOVE THE FRONT POSITIONING LAYER FROM THE TEMPLATE. BUBBLES IN THE TEMPLATE MAY BE REMOVED BY PRICKING THEM WITH A PIN OR NEEDLE BEING CAREFUL OF THE SURFACE UNDER THE TEMPLATE. REPEAT FOR ITEM (14).

16 MATCHING THE ALIGNMENT AND COLOR OF CHEVRONS ON ITEM (13), ALIGN THE AFT EDGE OF THE OUTBOARD WING TEMPLATE ITEM (14) WITH THE THREAD LAYOUT LINE, STARTING AT MARK #4 AND EXTENDING TOWARDS MARK #3. THE OUTBOARD WING TEMPLATE WILL END SHORT OF THE WING TIP SEAM AS SHOWN.

15 ALIGN THE AFT EDGE OF THE INBOARD WING TEMPLATE ITEM (13) ALONG THE THREAD LINE WITH THE INBOARD AFT CORNER AT MARK #1 AND ABUTTING THE CRANK AREA TEMPLATE ITEM (10). THE INBOARD TEMPLATE WILL EXTEND TO MARK #4 AND THE 40 GAL. SEAM LINE. MASKING TAPE ITEM (7) MAY BE USED TO ASSIST POSITIONING.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	WING TEMPLATE LOCATION
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	D'SHANNON PRODUCTS, LTD
	DWG. No. JVE-0596-05 REVISION NC
	SCALE: NONE DATE 03/07/13 SH 6 OF 7



DETAIL A

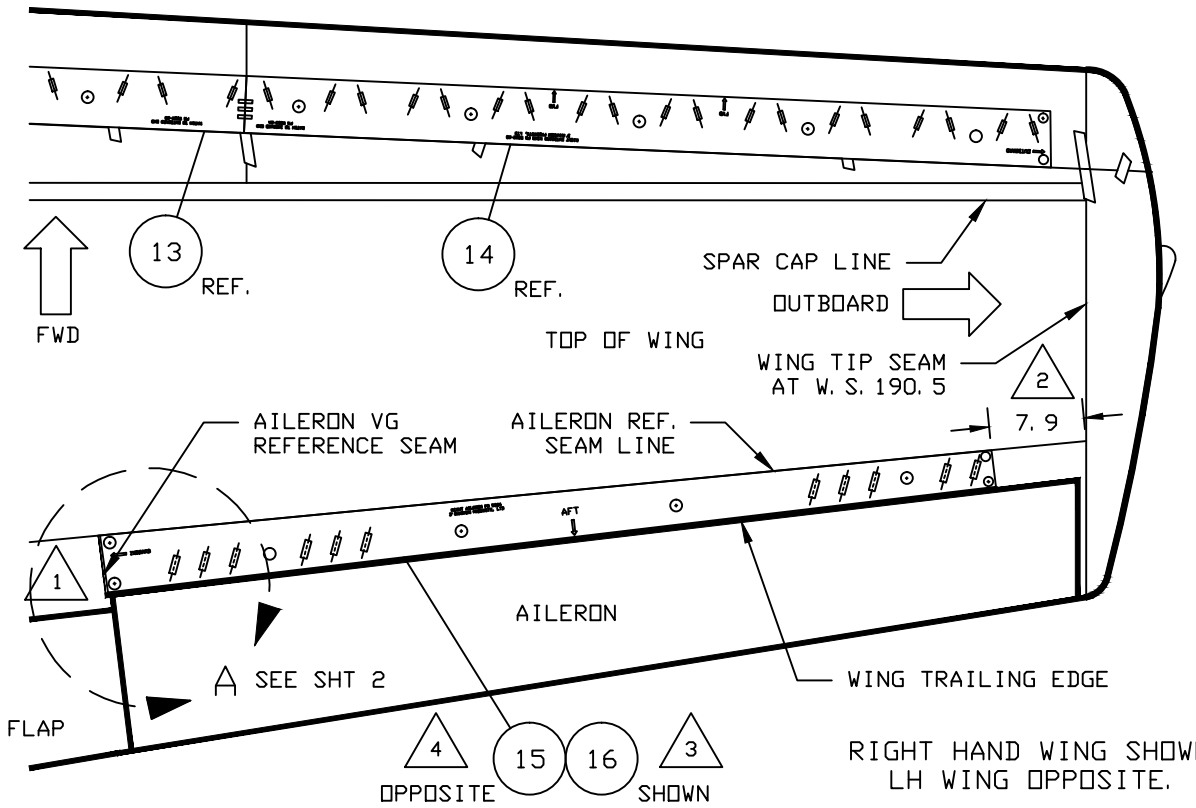
FROM SHT 6

NOTES:

18 TEMPLATES ITEMS (13) AND (14) WILL ALIGN CLOSE TO THE LINE YOU MADE AT W. S. 121. 13. ON EACH TEMPLATE ARE MATCH LINES WHICH ARE COLOR CODED, POSITIONED AND OF MATCHING QUANTITY. IF THE MATCH LINES DON'T AGREE, PLEASE CHECK TO MAKE SURE YOU HAVE THE APPROPRIATE TEMPLATES IN PLACE PRIOR TO REMOVING THE ADHESIVE BACKING.

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	WING TEMPLATE LOCATION
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	D'SHANNON PRODUCTS, LTD
	DWG. No. JVE-0596-05 | REVISION NC
	SCALE: NONE | DATE 03/07/13 | SH 7 OF 7

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	03/07/13



4 REPEAT FOR THE OPPOSITE AILERON USING ITEM (15).

3 ONCE POSITIONING OF TEMPLATE ITEM (16) IS ASSURED, REMOVE THE BACKING AND APPLY TO THE WING AS PREVIOUSLY POSITIONED, FROM ONE EDGE TO THE OTHER USING A STIFF SQUEEGEE. REPOSITION AS NEEDED AND WORK CAREFULLY. SQUEEGEE TIGHTLY TO THE WING SURFACE AND ONLY THEN REMOVE THE FRONT POSITIONING LAYER FROM THE TEMPLATE. BUBBLES IN THE TEMPLATE MAY BE REMOVED BY PRICKING THEM WITH A PIN OR NEEDLE BEING CAREFUL OF THE SURFACE UNDER THE TEMPLATE.

2 ALIGN THE FORWARD EDGE OF ITEM (16) ALONG THE AILERON REF. SEAM LINE.. MASKING TAPE ITEM (7) MAY BE USED TO ASSIST IN POSITIONING THE TEMPLATE BY OPENING THE CIRCULAR HOLES IN THE FRONT POSITIONING LAYER OF THE TEMPLATE IF NEEDED.

1 STARTING ON EITHER WING (THE INSTRUCTIONS SHOW THE RIGHT WING) IDENTIFY THE AILERON VG REFERENCE SEAM, JUST OUTBOARD AND AFT OF THE SKIN LAP AT W. S. 107. 19. POSITION THE FWD INBOARD CORNER OF AILERON TEMPLATE ITEM (16) WITHIN 1/8 INCH OF THE AILERON VG REFERENCE LINE, ON THE AILERON REF. SEAM LINE AS SHOWN.

NOTES:
1 - DETERMINE LAYOUT POSITIONS FOR THE TEMPLATES FORWARD OF THE AILERON.

SEE DRAWING JVE-0596-05 FOR ITEMS (13) AND (14) REFERENCED HERE.

ITEM	QTY	PART No.	DESCRIPTION
16	1	5004	TEMPLATE RH AILERON
15	1	5003	TEMPLATE LH AILERON
7	AR	--	3/4" MASKING TAPE

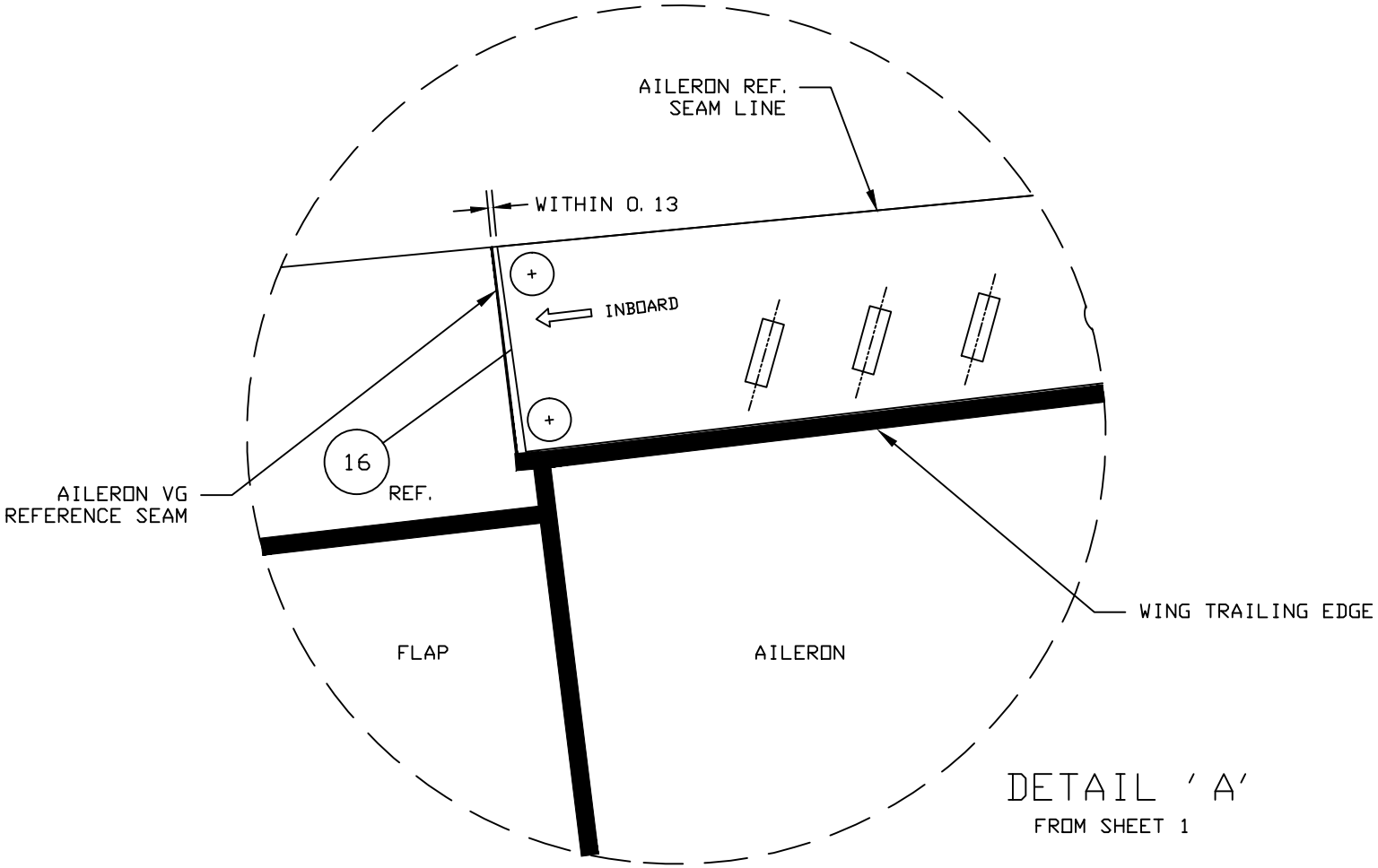
NEXT ASSY:
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

AILERON TEMPLATE LOCATION

TOLERANCES
.X__.10 .XXX__.01
.XX_.03 .XXXX_.001
ANGLES ±5%
UNLESS STATED

D'SHANNON PRODUCTS, LTD

DWG. No. JVE-0596-06 | REVISION NC
SCALE: NONE | DATE 03/07/13 | SH 1 OF 2



DETAIL 'A'
FROM SHEET 1

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	AILERON TEMPLATE LOCATION
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	*D'SHANNON PRODUCTS, LTD*
	DWG. No. JVE-0596-06 | REVISION NC
	SCALE: NONE | DATE 03/07/13 | SH 2 OF 2

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	03/07/13

RIVET OR SCREW HEAD INTERFERENCE (REF DWG JVE-501-01)

- NOTE THAT THERE ARE LEFT AND RIGHT HAND VGs, DISTINGUISHED BY THE CUSP THAT ALWAYS TURNS INTO THE RELATIVE WIND. ALSO, THE RADIUSED END ALWAYS FACES FORWARD. FOR EXAMPLE, ON THE OUTBOARD WING SECTION THE VG PAIRS HAVE THE TOPS CURLING AWAY FROM EACH OTHER, ON THE CRANK SECTION (NEXT TO THE FUSELAGE AND INBOARD OF THE STREAM WISE SEAM AT W.S. 47.00) THE VGs ALWAYS POINT OUTBOARD AND CURL TOWARD THE FUSELAGE. SEE JVE-501-01 FOR A PICTORIAL REPRESENTATION OF THE VG PAIRS.

RIVET OR SCREW HEADS MAY BE VISIBLE THROUGH THE OPENINGS IN THE VG TEMPLATES WHERE THE VGs ARE TO BE ATTACHED. THIS IS MOST COMMON ON THE EARLIER 35 SERIES AIRPLANES. INCONSISTENT LOCATIONS OF THESE INTERFERENCE POINTS PREVENTS D'SHANNON FROM INCLUDING VGs WITH THE APPROPRIATE CLEARANCES ALREADY MACHINED. PROCEED AS FOLLOWS WHEN INTERFERENCE IS NOTED:

1 - PLACE THE APPROPRIATE VG NEXT TO THE INTERFERING RIVET OR SCREW HEAD AND ALIGNED WITH THE TEMPLATE CUT-OUT ALONG THE LONG AXIS. MARK THE AREA ON THE BASE OF THE VG TO BE REMOVED.

2 - USING A SMALL VISE (MOUNTED ON A WORK CART ADJACENT TO THE AIRPLANE WILL SPEED THE PROCESS), SUCH AS A VACUUM BASED UNIT OR OTHER FINE SCALED VISE, TAKE A NEEDLE FILE AND REMOVE ENOUGH OF THE BASE MATERIAL TO CLEAR THE OBSTRUCTION. THE STRUCTURAL STRENGTH IS NOT A MAJOR FACTOR AS LONG AS AT LEAST 50% OF THE BASE REMAINS FOR ADHESION. (DRAWING JVE-501-01 SHOWS 75% BUT THAT NUMBER HAS BEEN FOUND TO INCLUDE A HEALTHY SAFETY MARGIN.) REMOVE AS LITTLE MATERIAL AS NECESSARY IN THE INTEREST OF A NEAT INSTALLATION. TEST EACH MODIFIED VG FOR FIT AND SET IT ASIDE IN PREPARATION FOR THE NEXT STEP.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	RIVET OR SCREW HEAD INTERFERENCE	
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	D'SHANNON PRODUCTS, LTD	
	DWG. No. JVE-0596-08	REVISION NC
	SCALE: NONE	DATE 03/07/13 SH 1 OF 1

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	03/07/13

SURFACE PREPARATION (REF DWG JVE-501-01)

WING WALK AREA

IN SOME INSTANCES THE WING WALK IS UNDER A PORTION OF SEVERAL INBOARD VGs. A 1/2" CHISEL BLADE IS THE SAME WIDTH AS THE OPENING IN THE TEMPLATE AND CAN BE USED TO REMOVE MATERIAL DOWN TO THE UNDERLYING PAINT OR CHROMATE FINISH. BE VERY CAREFUL NOT TO GOUGE THE ALUMINUM SKIN FOR OBVIOUS REASONS. THE CHISEL EDGE MUST BE SACRIFICED IN DEALING WITH THE ABRASIVE WING WALK MATERIAL.

AN EFFECTIVE METHOD IS TO HOLD THE CHISEL VERTICALLY IN BOTH HANDS, BEVELED SIDE AFT, WHILE RESTING BOTH FOREARMS ON THE WING AND WORKING FROM BACK TO FRONT WITH A 1/8TH TURN TWISTING MOTION. 'WALK' THE CHISEL TOWARD YOU, BEARING LIGHTLY ON ALTERNATE CORNERS OF THE BLADE; INBOARD CORNER, COUNTER CLOCKWISE TWIST; OUTBOARD CORNER, CLOCKWISE TWIST, ETC. THE RESIDUAL MATERIAL MAY BE REMOVED AFTER THE NEXT STEP.

ABRADING PAINTED SURFACE

THE NEXT STEP IS TO ABRADE THE PAINTED AREAS INSIDE THE TEMPLATE CUT-OUTS SO THAT THE ADHESIVE WILL HAVE A ROUGHENED SURFACE FOR A BETTER BOND.

1 - FOLD A 1" WIDE, 6 INCH LONG STRIP OF #180 GRIT ABRASIVE ABOUT 1" FROM ONE END WITH THE ROUGH SIDE OUT. FOLD THE DOUBLED PORTION AGAIN TOWARD THE SHORT SIDE SO THAT A SMALL PAD OF LESS THAN 1/4" LENGTH IS FORMED.

2 - HOLDING THE ABRASIVE BETWEEN THUMB AND FOREFINGER SO THAT THE ROUGH SIDE OF THE LONG END IS AGAINST YOUR PALM AND THE ROUGH SIDE OF THE SHORT END IS AGAINST THE FLESHY PART OF YOUR FOREFINGER SHOULD ALLOW PRESSING THE SMALL PAD AGAINST THE PAINTED AREA WITH THE SIDE OF YOUR THUMB.

3 - THERE WILL BE FOUR LAYERS OF THE ABRASIVE PAPER BETWEEN YOUR THUMB AND THE PAINT. ABRADE THE PAINT THROUGH THE CUT-OUT WITHOUT PENETRATING THROUGH THE VINYL TEMPLATE. REMOVE THE SURFACE GLOSS AND PROVIDE 'TOOTH' TO THE SURFACE. IT IS ONLY NECESSARY TO ROUGHEN ABOUT 75% OF THE EXPOSED SURFACES IN EACH OPENING SO IT IS NOT REQUIRED TO SPEND MORE THAN ABOUT 10 SECONDS ON EACH SPOT.

4 - STRAIGHTEN OUT THE STRIP AND REFOLD AFTER EACH OPENING IS ABRADED TO OFFER UP A FRESH SANDING PAD TO EACH OPENING.

REMOVING RESIDUE

AFTER ALL OF THE TEMPLATE OPENINGS HAVE BEEN ABRADED, THE ADHESION AREAS MUST BE WASHED WITH ISOPROPYL ALCOHOL. THIS IS BEST ACCOMPLISHED BY SOAKING A PAPER TOWEL AND WIPING OVER EACH TEMPLATE. TURN THE TOWEL FREQUENTLY TO PREVENT REDEPOSIT OF THE SANDING RESIDUE. IT IS NOT NECESSARY TO SOAK THE TEMPLATE.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	SURFACE PREPARATION	
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	D'SHANNON PRODUCTS, LTD	
	DWG. No. JVE-0596-09	REVISION NC
	SCALE: NONE	DATE 03/07/13 SH 1 OF 1

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	03/07/13

ATTACHING THE VORTEX GENERATORS (REF DWG JVE-501-01)

INSTALL THE VGs USING THE TWO PART LOCTITE ADHESIVE ITEM (26) PROVIDED IN THE KIT. THE ACTIVATOR IS IN THE SMALL AEROSOL SPRAY CAN, AND THE ADHESIVE IS IN THE SYRINGE.

FOLLOW THE INSTRUCTIONS ON THE PACKAGING. THE FIRST STEP IS TO SPRAY THE ACTIVATOR ON THE AREAS EXPOSED BY THE TEMPLATES. THE WORKING LIFE OF THE ACTIVATOR ONCE APPLIED IS ABOUT TWO HOURS, SO THERE IS PLENTY OF TIME FOR EACH SECTION.

WING SECTIONS

1 - START ON EITHER OUTBOARD WING SECTION. USING TWO SHEETS OF PAPER TOWELING AS SHIELDS AGAINST OVERSPRAY, ONE ON THE FORWARD SIDE AND ONE ON THE AFT SIDE OF THE TEMPLATE, SPRAY JUST ENOUGH ACTIVATOR TO COVER EACH RECTANGULAR AREA; THE LESS THE BETTER. SHORT QUICK BURSTS WHILE MAKING ONE SWEEP OVER THE AREA SEEMS TO WORK BEST. IT IS NOT NECESSARY TO WET THE WHOLE AREA. A LIGHT FROSTING IS PREFERRED IF POSSIBLE.

2 - LAY OUT ALL THE VGs ITEMS (1) AND (2), (REF BILL OF MATERIAL ON DRAWING JVE-00596-03 AND DRAWING JVE-501-01) AS APPLICABLE IN ORDER ABOUT 3" BEHIND THEIR RESPECTIVE LOCATIONS SO THAT THEY WILL BE CLOSE AT HAND. BE MINDFUL OF THE VGs YOU ADJUSTED FOR INTERFERENCE; AND REMEMBER THE RULE FOR PLACEMENT OF THE VGs: THE CUSP ALWAYS FACES THE RELATIVE WIND AND THE RADIUSED END ALWAYS POINTS FORWARD.

3 - STARTING AT EITHER END OF THE WING, APPLY A VERY SMALL AMOUNT OF ADHESIVE ON THE BOTTOM OF THE FIRST VG. THE PROPER AMOUNT TO APPLY CAN ONLY BE LEARNED FROM EXPERIENCE, BUT IS IS PROBABLY LESS THAN YOU WILL AT FIRST THINK. APPLY THE LEAST AMOUNT THAT WILL SPREAD OVER THE COMPLETE SURFACE WITHOUT SQUEEZING OUT AROUND THE EDGES WHEN THE VG IS PRESSED INTO PLACE. TO START, TRY THE EQUIVALENT OF 1/2 DROP OF WATER. .

4 - PRESS THE VG INTO PLACE SO THAT IT FITS WITHIN THE OPENING IN THE TEMPLATE AND HOLD IT FOR ABOUT THREE TO FIVE SECONDS. THE BOND IS NOT IMMEDIATE, SO SOME REPOSITION IS POSSIBLE. IF YOU WORK QUICKLY, YOU SHOULD BE ABLE TO INSTALL FOUR TO EIGHT VGs BEFORE THE FIRST ONE IS SET. THIS TIMING IS IMPORTANT INCASE YOU HAVE TO WIPE UP ANY ADHESIVE THAT HAS SQUEEZED OUT BEFORE IT IS COMPLETELY SET. COTTON TIPPED SWABS CAN BE USED FOR THIS PURPOSE.

5 - PROCEED IN GROUPS OF FOUR TO EIGHT UNTIL FINISHED WITH THE WING SECTION. THEN PEEL UP THE TEMPLATES BEGINNING AT THE FIRST END, SINCE THE TEMPLATES ARE TWO LONG PIECES YOU MAY WISH TO PEEL AND TRIM OFF THE REMOVED END AS YOU WORK. PROCEED TO THE OPPOSITE WING AND REPEAT THE PROCEDURE.

NOTES:

ITEM	QTY	PART No.	DESCRIPTION
26	AR	DEPEND 330	LOCTITE ADHESIVE AND ACTIVATOR
6	15	1006	VORTEX GENERATOR
5	15	1005	VORTEX GENERATOR
4	-	1004	VORTEX GENERATOR
3	-	1003	VORTEX GENERATOR
2	35	1002	VORTEX GENERATOR
1	35	1001	VORTEX GENERATOR

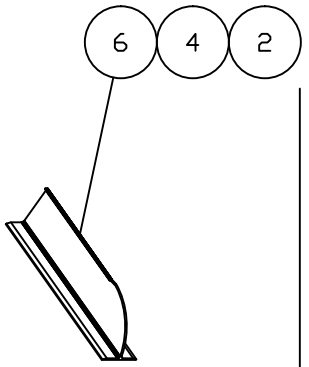
NEXT ASSY:
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

ATTACHING THE VORTEX GENERATORS

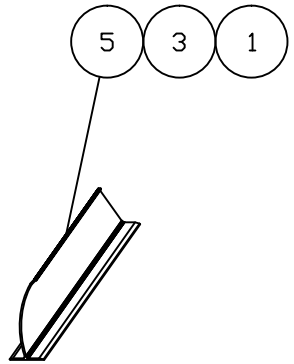
TOLERANCES
.X__.10 .XXX__.01
.XX_.03 .XXXX_.001
ANGLES ±5%
UNLESS STATED

D'SHANNON PRODUCTS, LTD

DWG. No. JVE-0596-10 | REVISION NC
SCALE: NONE | DATE 03/07/13 | SH 1 OF 2



P/N 1002
P/N 1004
P/N 1006



P/N 1001
P/N 1003
P/N 1005

WING CRANK SECTIONS (OUTBOARD OF FUSELAGE AND INBOARD OF W. S. 47. 00)

1 - ATTACH THE VGs TO THE CRANK SECTION, SPRAYING THE ACTIVATOR AS DESCRIBED FOR THE WING SECTIONS THROUGH THE TEMPLATE OPENINGS ON BOTH CRANK SECTIONS.

2 - LAY OUT ALL THE VGs ITEMS (5) OR (6) (REF BILL OF MATERIAL ON DRAWING JVE-0596-03 AND DRAWING JVE-501-01) AS APPLICABLE IN ORDER A SHORT DISTANCE BEHIND THEIR OPENINGS IN THE TEMPLATES. REMEMBER THE RULE THAT THE CUSP ALWAYS FACES THE RELATIVE WIND AND THE RADIUSED END ALWAYS POINTS FORWARD.

3 - BECAUSE THE WING CRANK VGs ARE LONGER, THE CURVATURE OF THE WING CAUSES A SMALL GAP AT THE ENDS. THIS REQUIRES THAT A GENEROUS AMOUNT OF ADHESIVE BE USED AT THE ENDS TO ASSURE THE GAP IS FILLED WHICH IS DESIRED MORE FOR COSMETIC REASONS THAN STRUCTURAL. A THIN FILM IN THE CENTER SECTION OF THE VG WITH A 1/16" BEAD ACROSS EACH END WILL PROBABLY BE ENOUGH. IT IS MOST EFFECTIVE IN THIS INSTANCE TO START THE CLEANUP OF THE SURPLUS ADHESIVE IMMEDIATELY AFTER PRESSING DOWN THE VG IN PLACE, HOLDING IT IN POSITION WITH ONE HAD WHILE CLEANING UP WITH COTTON TIPPED SWABS WITH THE OTHER.

4 - COMPLETE BOTH WING CRANK SECTIONS AND REMOVE THE TEMPLATES BEGINNING AT THE FIRST END.

FORWARD OF THE AILERONS

1 - ATTACH THE VGs FORWARD OF THE AILERONS, SPRAYING THE ACTIVATOR AS DESCRIBED FOR THE WING SECTIONS THROUGH THE TEMPLATE OPENINGS ON BOTH AILERON SECTIONS.

2 - LAY OUT ALL THE VGs ITEMS (5) OR (6) (REF BILL OF MATERIAL ON DRAWING JVE-0596-03 AND DRAWING JVE-501-01) AS APPLICABLE IN ORDER A SHORT DISTANCE BEHIND THEIR OPENINGS IN THE TEMPLATES. REMEMBER THE RULE THAT THE CUSP ALWAYS FACES THE RELATIVE WIND AND THE RADIUSED END ALWAYS POINTS FORWARD.

3 - COMPLETE BOTH AILERON SECTIONS AND REMOVE THE TEMPLATES BEGINNING AT THE FIRST END.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	ATTACHING THE VORTEX GENERATORS
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	*D'SHANNON PRODUCTS, LTD*
	DWG. No. JVE-0596-10 REVISION NC
	SCALE: NONE DATE 03/07/13 SH 2 OF 2

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	03/07/13

CLEAN UP

AFTER THE TEMPLATES HAVE BEEN REMOVED, THE AREA AROUND THE VGs SHOULD BE WIPED CLEAN WITH ISOPROPYL ALCOHOL. THE ACTIVATOR AND THE ADHESIVE ARE BOTH SOLUBLE IN ISOPROPYL ALCOHOL, AS IS THE ACTIVATED ADHESIVE, FOR ABOUT THE FIRST FIVE OR TEN MINUTES AFTER CONTACT. COTTON TIPPED SWABS DIPPED IN THE ISOPROPYL ALCOHOL CAN BE USED TO RUB THE PERIMETER OF THE VG BASES AND SOAKED PAPER TOWELS CAN BE USED TO WIPE THE AREAS WHERE THERE IS OVER-SPRAY OR RESIDUAL GUM FROM THE TEMPLATES.

IF THERE IS STILL TRACES OF HARDENED ADHESIVE OR TEMPLATE MATERIAL AFTER THE ALCOHOL WASH, THE EXACTO KNIFE CAN BE USED TO TRIM NEXT TO THE BASE OF THE VG. BE VERY CAREFUL NOT TO CUT THROUGH THE PAINT ON THE WING OR VERTICAL STABILIZER. FOR HARDENED GLOBULES OF ADHESIVE, A SMALL WOODEN STICK SHARPENED TO A CHISEL POINT WILL ALLOW REMOVAL WITHOUT HARMING THE PAINT.

PLEASE TAKE EXTRA CARE WITH THE COSMETIC ASPECTS OF THE JOB. BECAUSE THE VGs ARE RELATIVELY SMALL, MANY PEOPLE WILL BE MOVING IN QUITE CLOSE TO LOOK AT THE INSTALLATION. A NEAT JOB WILL BE APPRECIATED BY EVERYONE.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	CLEAN UP		
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	*D'SHANNON PRODUCTS, LTD*		
	DWG. No. JVE-0494-11	REVISION NC	
	SCALE: NONE	DATE 03/07/13	SH 1 OF 1

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	13/07/13

PAPERWORK

1 - A LOGBOOK ENTRY MUST BE MADE COVERING THE VORTEX GENERATOR INSTALLATION. THIS ENTRY SHOULD BE IN THE MAJOR MODIFICATIONS SECTION OF THE AIRCRAFT LOG TOWARD THE FRONT OF THE BOOK. IF THERE IS NO SUCH SECTION IT MAY BE PLACED IN CHRONOLOGICAL ORDER IN THE MAINTENANCE SECTION. THE ENTRY SHOULD COVER THE FOLLOWING:

INSTALLED VORTEX GENERATORS AND AIRPLANE FLIGHT MANUAL SUPPLEMENT IN ACCORDANCE WITH MANUFACTURER'S DWG. LIST JVE-501 AND INSTALLATION INSTRUCTIONS JVE-0596 PER STC SA09145SC. REFER TO FORM 337 THIS DATE.

2 - TWO COPIES OF THE AIRPLANE FLIGHT MANUAL SUPPLEMENT ARE INCLUDED IN THE DOCUMENTATION. ONE COPY IS ENLARGED TO 8-1/2" X 11" FOR EASE IN READING THE CHART(S). GIVE THIS COPY TO THE AIRCRAFT OWNER/OPERATOR. THE OTHER COPY SHOULD BE PLACED IN THE AIRPLANE FLIGHT MANUAL BEHIND THE SUPPLEMENTS DIVIDER AND IMMEDIATELY FOLLOWING THE LOG OF PAGES.

3 - FILL OUT THE FAA FORM 337 INCLUDING THE INSTALLER'S SIGNATURE AND THE RETURN TO SERVICE ENDORSEMENT. AFTER COMPLETION, ONE COPY SHOULD BE SENT TO YOUR FAA FLIGHT STANDARDS DISTRICT OFFICE AND THE OTHER IS TO BE RETAINED WITH THE AIRCRAFT RECORDS ALONG WITH THE COPY OF STC SA09145SC, THE INSTALLATION DRAWINGS, AND THE INSTRUCTIONS FOR CONTINUED AIRWORTHINESS.

5 - THE ON-BOARD SPARE PARTS KIT SHOULD BE GIVEN TO THE OWNER/OPERATOR OR LEFT IN THE PLANE. BE CERTAIN THAT THE SPARE VGs (GENERALLY EIGHT TO TEN) ARE PLACED IN THIS KIT.)

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	PAPERWORK
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	*D'SHANNON PRODUCTS, LTD*
	DWG. No. JVE-0596-13 REVISION NC
	SCALE: NONE DATE 03/07/13 SH 1 OF 1

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	03/07/13

PAINTING VORTEX GENERATORS

1 - FOR ONE SET OF VORTEX GENERATORS CUT TWO PIECES OF SPECIAL BLUE VINYL MASKING TAPE ABOUT 84 INCHES LONG. THIS TAPE WORKS BETTER THAN STANDARD MASKING TAPE TO SEAL THE BOTTOMS OF THE FOOT OF THE VGs AGAINST PAINT INTRUSION AND TO MINIMIZE THE TRANSFER OF ADHESIVE.

2 - FOLD OVER ABOUT ONE INCH OF BOTH ENDS OF EACH TAPE SO THAT IT STICKS TO ITSELF. THIS SIMPLIFIES HANDLING AND FASTENING.

3 - PLACE EACH TAPE, STICKY SIDE UP, ON A FIRM SURFACE SUCH AS CARDBOARD OR PLYWOOD, ABOUT SIX INCHES APART, AND FASTEN ONE END SECURELY WITH A THUMB TACK THROUGH THE DOUBLED PORTION. PULL THE TAPE TAUT AND SECURE THE OTHER END IN A SIMILAR MANNER. ADD A THUMB TACK TO THE MIDDLE OF THE TAPE AS WELL. CAUTION! IF THERE IS LOOSE DIRT, DUST OR LINT ON THE CARDBOARD OR PLYWOOD, IT WILL CONTAMINATE THE PAINT BEING SPRAYED ON THE VGs. ALSO, IF THERE IS A CROWN OR BOW TO THE TAPE IT MAY FLUTTER WHEN EXPOSED TO THE PAINT SPRAY STREAM. USE ADDTIONAL TACKS OR TAPE TO HOLD THE LONG PIECES OF TAPE IN PLACE.

4 - PLACE ONE HALF OF THE LARGE VGs AND ONE HALF OF THE SMALL VGs ON EACH TAPE (FOR EXAMPLE, DEPENDING ON THE KIT, P/N 1001 AND 1003 ON ONE TAPE, AND 1002 AND 1004 ON THE OTHER) END TO END LENGTHWISE SO ALL THE TOPS CURL IN THE SAME DIRECTION WITH APPROXIMATELY 1/8 INCH GAP BETWEEN EACH VG.

5 - SPRAY PAINT IN THE NORMAL MANNER, BUT AVOID EXCESSIVE PAINT BUILDUP BECAUSE THIS WILL RESULT IN A 'FEATHER' OF POINT EXTENDING OUT FROM THE FOOT OF THE VGs WHEN THEY ARE REMOVED FROM THE TAPE.

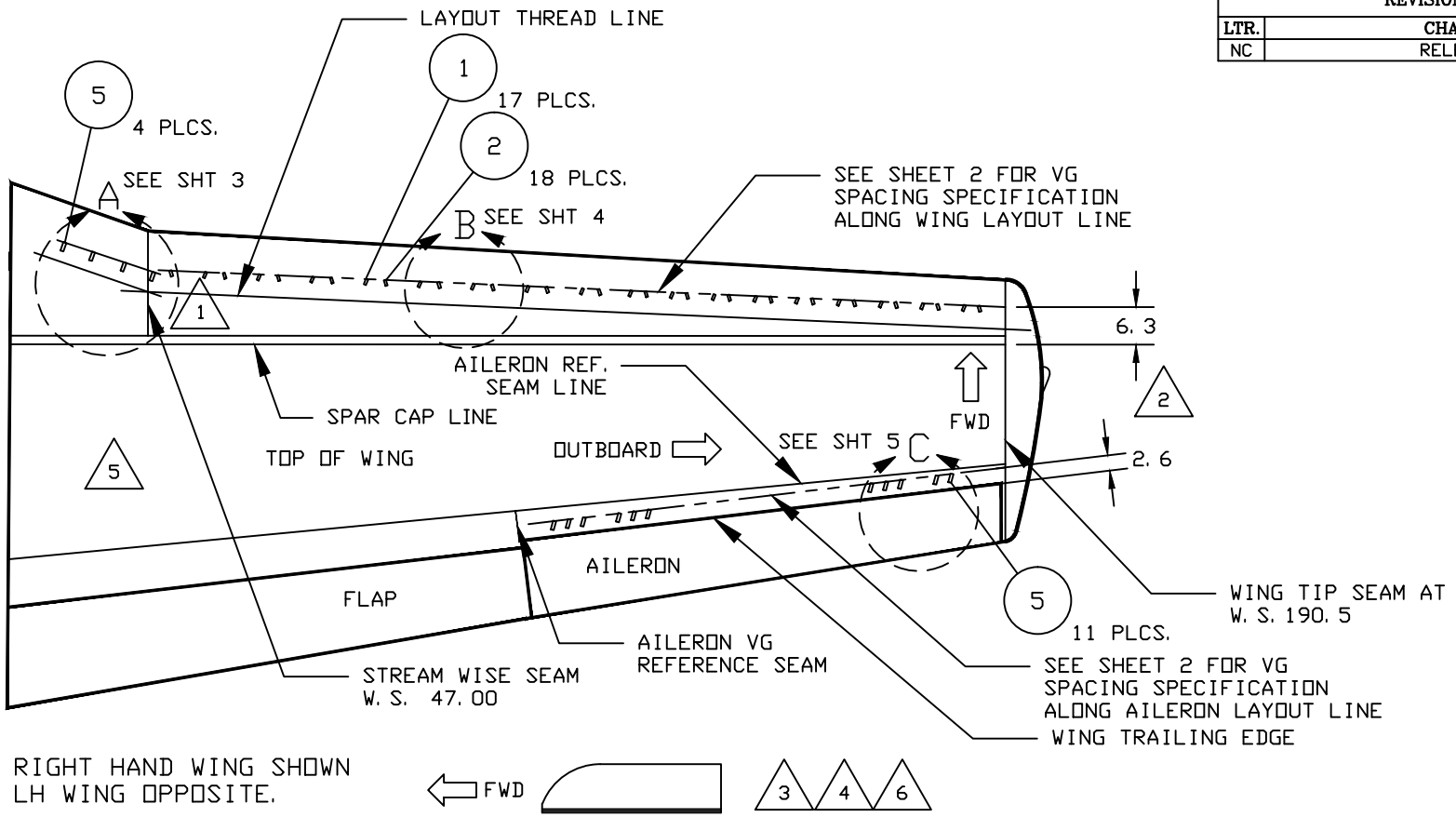
6 - IF THERE ARE 'FEATHERS' THE VGs WILL NOT FIT INTO THE OPENINGS IN THE TEMPLATES, SO IT WILL BE NECESSARY TO REMOVE THEM BY SANDING LIGHTLY. PLACE A FINE (320 GRIT OR SO) PIECE OF SAND PAPER ON A FLAT SURFACE AND DRAW EACH EDGE OF THE VG ALONG THE ABRASIVE WITH THE BASE OR FOOT ELEVATED TO A 45 DEGREE ANGLE. THIS WILL REMOVE THE EXCESS PAINT WITHOUT DISTURBING THE PORTIONS TO REMAIN.

7 - IF THERE IS ANY ADHESIVE ON THE UNDER SIDE OF THE FOOT, IT MAY BE REMOVED WITH LIGHTER FLUID. SMALL TRACES OF PAINT ON THE UNDER SIDE WILL NOT AFFECT THE ADHESION PROCESS AS LONG AS THE BOTTOMS ARE FLAT. PAINT BUILDUPS CAN BE REMOVED BY LIGHT SANDING.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	PAINTING VORTEX GENERATORS	
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	*D'SHANNON PRODUCTS, LTD*	
	DWG. No. JVE-0494-14	REVISION NC
	SCALE: NONE	DATE 03/07/13 SH 1 OF 1

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	03/07/13



RIGHT HAND WING SHOWN
LH WING OPPOSITE.

FWD

3 4 6

△6 SEE PROCESS SPECIFICATION PS-100 FOR ADHESIVE REQUIREMENTS.

△5 TOTAL INSTALLED WEIGHT OF ENTIRE KIT IS 3 OZ. AT 120 INCHES AFT OF DATUM.

△4 RIVET CLEARANCE IS ACHIEVED BY DRILLING, MILLING OR TRIMMING THE BASE OF THE VORTEX GENERATOR. MAXIMUM MATERIAL REMOVAL ALLOWED IS 25% OF BASE AREA BY 2X THE BASE THICKNESS.

△3 CURVED LEADING EDGE OF VORTEX GENERATOR IS TO BE FORWARD. ROLLED LIP OF VORTEX GENERATOR FACES THE STREAM WISE DIRECTION (FORWARD).

△2 OUTBOARD EDGE OF WING OUTBOARD LAYOUT LINE IS LOCATED ON THE WING TIP SEAM W. S. 190.5, 6.3 INCHES FORWARD OF AFT EDGE OF SPAR CAP.

△1 INBOARD EDGE OF WING OUTBOARD LAYOUT LINE IS LOCATED AT THE STREAM WISE SEAM AT W. S. 47.00, 12.6 INCHES FORWARD OF AFT EDGE OF SPAR CAP.

NOTES:

MODELS 35, 35R, A35, B35, C35, D35, E35, F35, G35

ITEM	QTY	PART No.	DESCRIPTION
6	15	1006	VORTEX GENERATOR
5	15	1005	VORTEX GENERATOR
4	-	1004	VORTEX GENERATOR
3	-	1003	VORTEX GENERATOR
2	35	1002	VORTEX GENERATOR
1	35	1001	VORTEX GENERATOR

NEXT ASSY:
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

VORTEX GENERATOR INSTALLATION

TOLERANCES
.X__.10 .XXX__.01
.XX_.03 .XXXX_.001
ANGLES ±5%
UNLESS STATED

D'SHANNON PRODUCTS, LTD

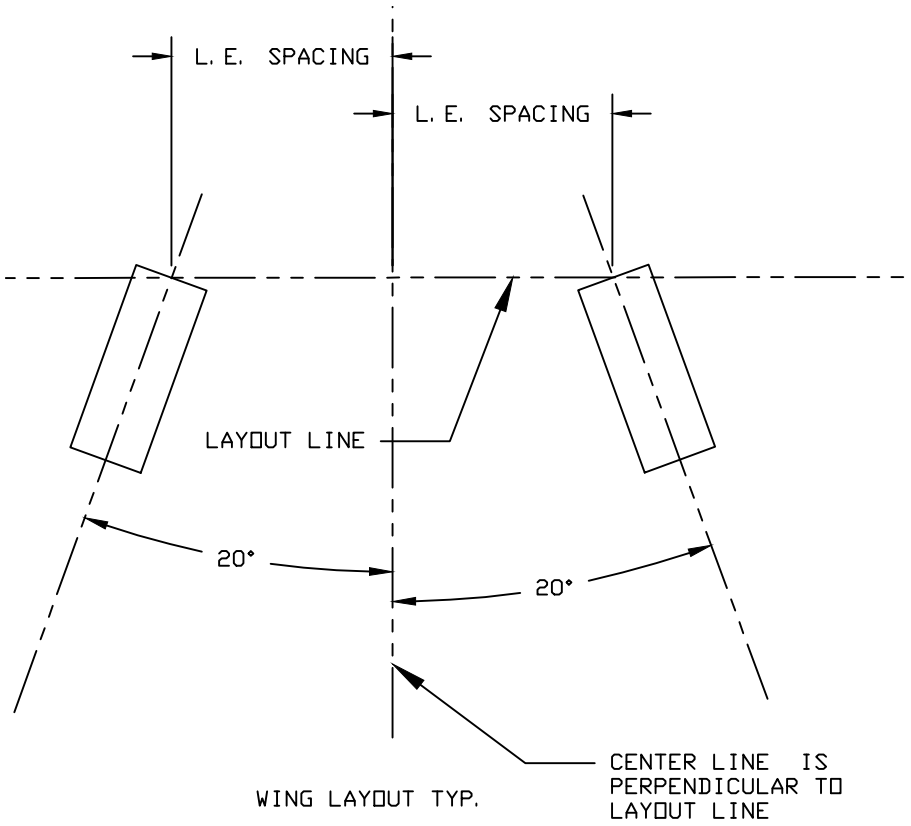
DWG. No. JVE-501-01 | REVISION NC

SCALE: NONE | DATE 03/07/13 | SH 1 OF 5

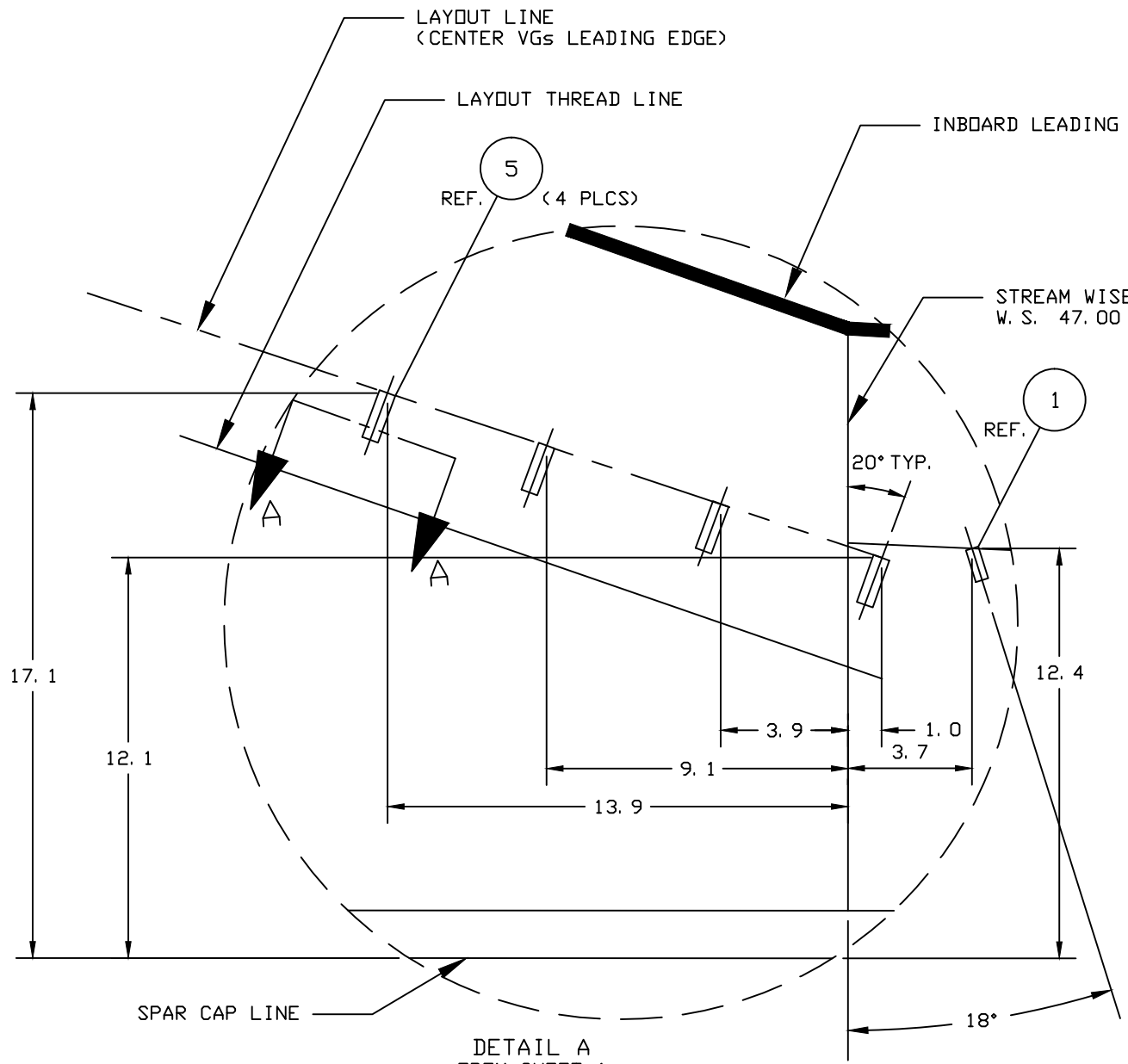
WING OUTBOARD VG PAIRS AND LAYOUT DIMENSIONS FROM STREAM WISE SEAM W. S. 47. 00		
A	B	PART NUMBERS
3. 7	-	1001 (NOT PAIRED, DIM IS TO CENTERLINE)
11. 3	1. 48	1001 & 1002
20. 3	1. 49	1001 & 1002
29. 3	1. 47	1001 & 1002
38. 3	1. 49	1001 & 1002
47. 3	1. 47	1001 & 1002
56. 3	1. 50	1001 & 1002
65. 5	1. 48	1001 & 1002
74. 4	1. 32	1001 & 1002
82. 4	1. 15	1001 & 1002
89. 4	1. 13	1001 & 1002
96. 4	1. 14	1001 & 1002
103. 4	1. 15	1001 & 1002
110. 4	1. 15	1001 & 1002
117. 5	1. 15	1001 & 1002
124. 5	1. 12	1001 & 1002
131. 5	1. 15	1001 & 1002
138. 5	1. 14	1001 & 1002
COLUMN A - DISTANCE OF CENTERS ALONG LAYOUT LINE COLUNN B - LEADING EDGE SPACING FROM EACH SIDE OF CENTERLINE		

AILERON VG LAYOUT DIMENSIONS FROM SKIN LAP AT W. S. 107. 19		
A		PART NUMBERS
8. 1		1005
10. 6		1005
13. 1		1005
19. 1		1005
21. 6		1005
24. 1		1005
61. 4		1005
63. 9		1005
66. 4		1005
72. 4		1005
74. 9		1005
COLUMN A - VG CENTERLINES FROM SKIN LAP AT W. S. 107. 19 AT LAYOUT LINE		

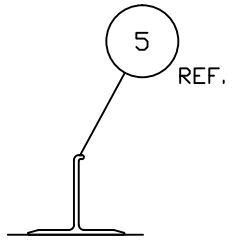
SPACING TABLE FROM SHEET 1



NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	VORTEX GENERATOR INSTALLATION
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	D'SHANNON PRODUCTS, LTD
	DWG. No. JVE-501-01 REVISION NC
	SCALE: NONE DATE 03/07/13 SH 2 OF 5



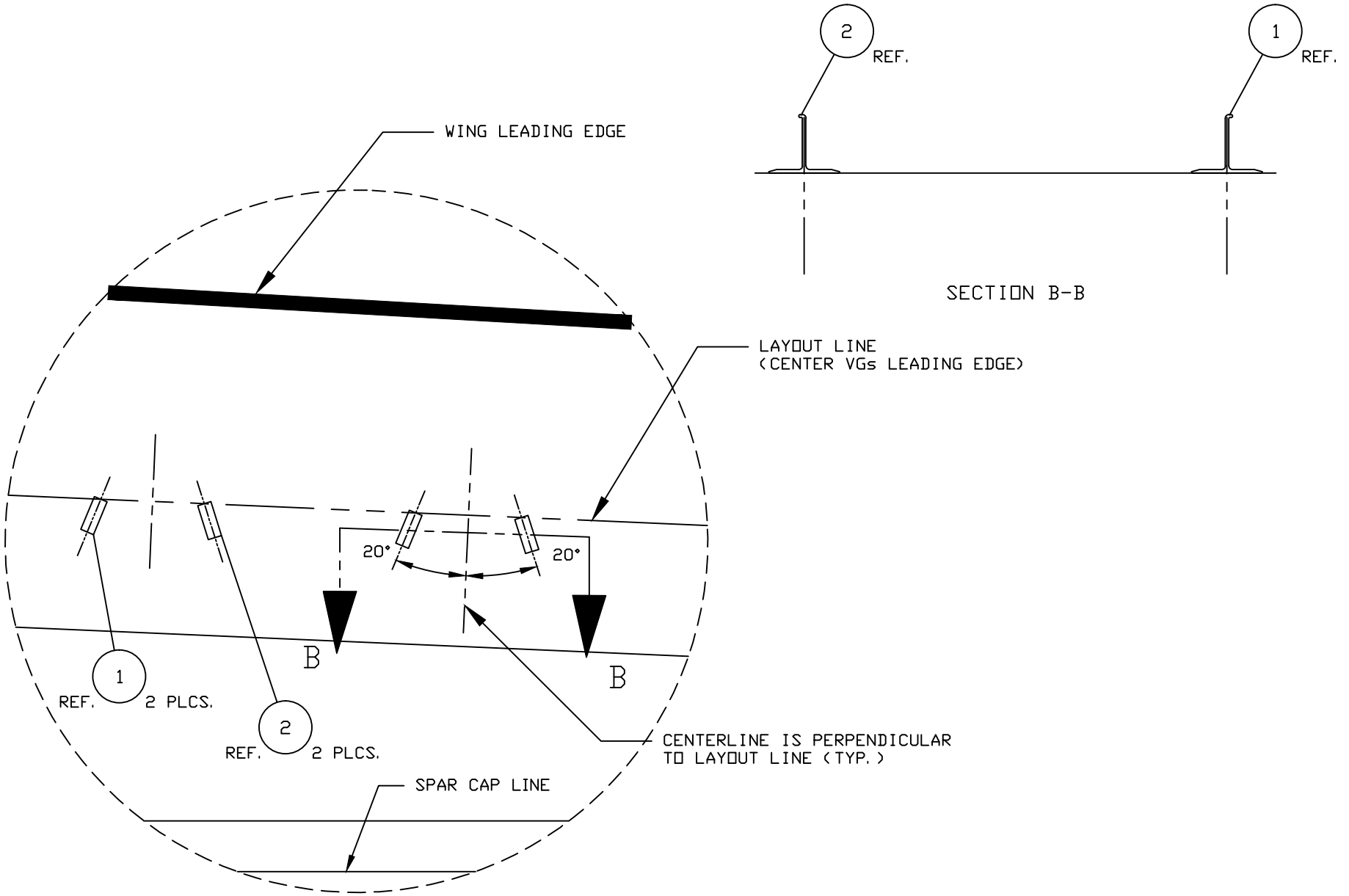
DETAIL A
FROM SHEET 1



SECTION A-A

INBOARD RH WING USES 4 OF ITEM (5)
INBOARD LH WING USES 4 OF ITEM (6)
REF DWG. 5000

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	VORTEX GENERATOR INSTALLATION
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	*D'SHANNON PRODUCTS, LTD*
DWG. No. JVE-501-01	REVISION NC
SCALE: NONE	DATE 03/07/13 | SH 3 OF 5

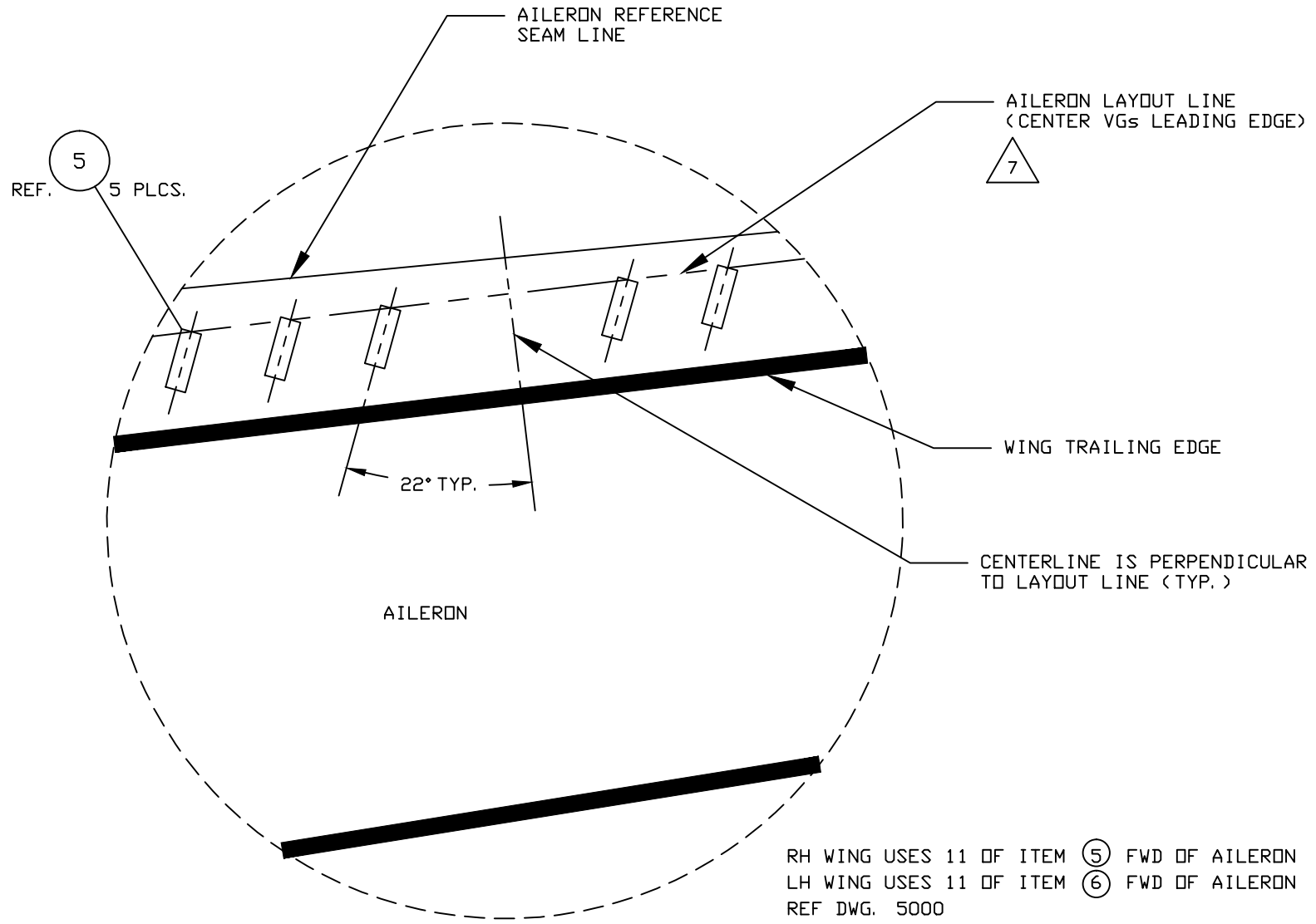


SECTION B-B

DETAIL B
FROM SHEET 1

SEE SPACING CHART FOR OUTBOARD WING
VGs P/N, LOCATION AND SPACING.

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	VORTEX GENERATOR INSTALLATION
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	*D'SHANNON PRODUCTS, LTD*
DWG. No. JVE-501-01	REVISION NC
SCALE: NONE	DATE 13/07/13 | SH 4 OF 5



RH WING USES 11 OF ITEM (5) FWD OF AILERON
LH WING USES 11 OF ITEM (6) FWD OF AILERON
REF DWG. 5000

DETAIL C
FROM SHEET 1

SEE SPACING CHART FOR AILERON
VGs P/N, LOCATION AND SPACING.

NOTES:

7 AILERON LAYOUT LINE IS LOCATED 2.6 INCHES FORWARD AND PARALLEL OF THE AFT TRAILING EDGE OF THE WING IN FROM OF THE AILERON.

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	VORTEX GENERATOR INSTALLATION
TOLERANCES .X__.10 .XXX__.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	*D'SHANNON PRODUCTS, LTD*
	DWG. No. JVE-501-01 REVISION NC
	SCALE: NONE DATE 03/07/13 SH 5 OF 5