

D' Shannon Products, LTD

INSTALLATION MANUAL

DSP-IM12-01

STC SA4016NM

REVISION A

**INSTALLATION DRAWINGS
AND INSTRUCTIONS
VORTEX GENERATOR SYSTEM
HAWKER BEECHCRAFT BARON
95-55, 95-A55, 95-B55,
95-B55A, 95-B55B, 95-C55,
95-C55A, D55, D55A, E55, E55A
58, 58A, G58
58TC, 58TCA, 58P, 58PA**

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

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	NEVER RELEASED	D. B.	08/08/12
A	G58 ELIGIBILITY	D. B.	04/04/13

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	COVER SHEET
<u>TOLERANCES</u> X_.10 .XXX_.01 XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED	<i>D' SHANNON PRODUCTS, LTD</i> DWG. No. DSP-IM12-01-01 REVISION A SCALE: NONE DATE 08/08/12 SH 1 OF 1

NUMERICAL DRAWING LIST CONTROL

DWG. No.	DATED	REV.	No. SHTS	EFF.	ED	ED	ED	ED	DESCRIPTION
DSP-IM12-01-01	04/04/13	A	1						COVER SHEET
DSP-IM12-01-02	04/04/13	A	1						NUMERICAL DRAWING LIST
DSP-IM12-01-03	08/08/12	NC	3						INSTALLATION BILL OF MATERIAL
DSP-IM12-01-04	08/08/12	NC	1						GENERAL NOTES
DSP-IM12-01-05	04/04/13	A	6						OUTBOARD WING TEMPLATE LOCATION
DSP-IM12-01-05A	04/04/13	A	6						OUTBOARD WING TEMPLATE LOCATION
DSP-IM12-01-05B	04/04/13	A	6						OUTBOARD WING TEMPLATE LOCATION
DSP-IM12-01-06	08/08/12	NC	4						INBOARD OF NACELLE TEMPLATE LOCATION
DSP-IM12-01-06A	08/08/12	NC	4						INBOARD OF NACELLE TEMPLATE LOCATION
DSP-IM12-01-07	08/08/12	NC	2						VERTICAL STABILIZER TEMPLATE LOCATION
DSP-IM12-01-08	08/08/12	NC	1						RIVET OR SCREW HEAD INTERFERENCE
DSP-IM12-01-09	08/08/12	NC	1						SURFACE PREPARATION
DSP-IM12-01-10	08/08/12	NC	2						ATTACHING THE VORTEX GENERATORS
DSP-IM12-01-11	08/08/12	NC	1						CLEAN UP
DSP-IM12-01-12	04/04/13	A	2						AIRSPEED INDICATOR
DSP-IM12-01-13	04/04/13	A	1						PAPERWORK
DSP-IM12-01-13A	04/04/13	A	1						PAPERWORK
DSP-IM12-01-14	08/08/12	NC	1						PAINTING VORTEX GENERATORS
VG-100	08/12/12	B	7						VORTEX GENERATOR INSTALLATION
VG-101	08/12/12	A	7						VORTEX GENERATOR INSTALLATION
VG-1200	04/04/13	B	1						PLACARD OVERLAY

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/12/12
A	G58 ELIGIBILITY	D. B.	04/04/13

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		NUMERICAL DRAWING LIST	
<u>TOLERANCES</u> X_.10 .XXX_.01 XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED		<i>D' SHANNON PRODUCTS, LTD</i>	
DWG. No. DSP-IM95-10-02		REVISION A	
SCALE: NONE		DATE 08/12/12 SH 1 OF 1	

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	REDRAWN	D. B.	08/08/12

26	DSP-IM12-01-10	A. R.	LOCTITE DEPEND 330	ADHESIVE AND ACTIVATOR
24	DSP-IM12-01-05, 05A, 06	1	11000-1	LAYOUT TOOL
23	DSP-IM12-01-07	1	10002	TEMPLATE LH VERT. STAB.
14	DSP-IM12-01-05	1	7002-2B	TEMPLATE RH WING OUTBOARD
13	DSP-IM12-01-05	1	7002-2A	TEMPLATE RH WING INBOARD
12	DSP-IM12-01-05	1	7001-2B	TEMPLATE LH WING OUTBOARD
11	DSP-IM12-01-05	1	7001-2A	TEMPLATE LH WING INBOARD
8	DSP-IM12-01-06	1	10006R	TEMPLATE RH INBOARD
7	DSP-IM12-01-06	1	10006L	TEMPLATE LH INBOARD
4	DSP-IM12-01-10	4	1004	VG 2 INCH
3	DSP-IM12-01-10	4	1003	VG 2 INCH
2	DSP-IM12-01-10	51	1002	VG 1 INCH
1	DSP-IM12-01-10	52	1001	VG 1 INCH
ITEM	LOCATION OF ITEMS	QTY.	PART NUMBER	D E S C R I P T I O N

MODEL 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, 95-C55A, D55, D55A, E55, E55A; EXCEPT E55 AND E55A WITH FUEL CAPS AT THE 186.6 WING STATION LOCATION.

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. DSP-IM12-01-03 REVISION NC SCALE: NONE DATE 08/08/12 SH 1 OF 3

26	DSP-IM12-01-10	A. R.	LOCTITE DEPEND 330	ADHESIVE AND ACTIVATOR
24	DSP-IM12-01-05, 05A, 06	1	11000-1	LAYOUT TOOL
23	DSP-IM12-01-07	1	10002	TEMPLATE LH VERT. STAB.
18	DSP-IM12-01-05A	1	8002-2B	TEMPLATE RH WING OUTBOARD
17	DSP-IM12-01-05A	1	8002-2A	TEMPLATE RH WING INBOARD
16	DSP-IM12-01-05A	1	8001-2B	TEMPLATE LH WING OUTBOARD
15	DSP-IM12-01-05A	1	8001-2A	TEMPLATE LH WING INBOARD
8	DSP-IM12-01-06	1	10006R	TEMPLATE RH INBOARD
7	DSP-IM12-01-06	1	10006L	TEMPLATE LH INBOARD
4	DSP-IM12-01-10	4	1004	VG 2 INCH
3	DSP-IM12-01-10	4	1003	VG 2 INCH
2	DSP-IM12-01-10	51	1002	VG 1 INCH
1	DSP-IM12-01-10	52	1001	VG 1 INCH
ITEM	LOCATION OF ITEMS	QTY.	PART NUMBER	D E S C R I P T I O N

MODEL E55 AND E55A WITH FUEL CAPS AT THE 186.6 WING STATION LOCATION; MODEL 58, 58A AND G58.

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	INSTALLATION BILL OF MATERIAL	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED	D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-03	REVISION	NC
SCALE: NONE	DATE 08/08/12	SH 2 OF 3

26	DSP-IM12-01-10	A. R.	LOCTITE DEPEND 330	ADHESIVE AND ACTIVATOR
25	DSP-IM12-01-05B, 06A	1	11000-2	LAYOUT TOOL
23	DSP-IM12-01-07	1	10002	TEMPLATE LH VERT. STAB.
22	DSP-IM12-01-05B	1	9002-2B	TEMPLATE RH WING OUTBOARD
21	DSP-IM12-01-05B	1	9002-2A	TEMPLATE RH WING INBOARD
20	DSP-IM12-01-05B	1	9001-2B	TEMPLATE LH WING OUTBOARD
19	DSP-IM12-01-05B	1	9001-2A	TEMPLATE LH WING INBOARD
10	DSP-IM12-01-06A	1	10008R	TEMPLATE RH INBOARD
9	DSP-IM12-01-06A	1	10008L	TEMPLATE LH INBOARD
6	DSP-IM12-01-10	14	1006	VG 1.5 INCH
5	DSP-IM12-01-10	14	1005	VG 1.5 INCH
2	DSP-IM12-01-10	39	1002	VG 1 INCH
1	DSP-IM12-01-10	40	1001	VG 1 INCH
ITEM	LOCATION OF ITEMS	QTY.	PART NUMBER	D E S C R I P T I O N

MODEL 58TC, 58TCA, 58P AND 58PA.

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		INSTALLATION BILL OF MATERIAL	
TOLERANCES X_.10 .XXX_.01 XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED		<i>D' SHANNON PRODUCTS, LTD</i>	
DWG. No. DSP-IM12-01-03 SCALE: NONE		REVISION NC DATE 08/08/12 SH 3 OF 3	

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12

DEFINITIONS:

L. E. SEAM: THE SEAM NEAREST THE LEADING EDGE ON THE INBOARD SECTION OF THE WING.

LAYOUT TOOL: THE RIGHT-ANGLED TOOL PROVIDED BY D' SHANNON USED TO ESTABLISH PERPENDICULAR OFFSETS FORWARD OF THE SPAR CAP LINE TO POSITION THE LAYOUT THREAD LINE. ALSO USED TO BRIDGE THE NACELLE FILLET TO SIMPLIFY MEASUREMENTS FROM THE SIDE OF THE NACELLE.

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 SEVERAL INCHES INBOARD OF THE NACELLE FILLET ON THE INBOARD SECTION OF THE WING.

TEMPLATE: DISPOSABLE TOOLS OF ADHESIVE BACKED VINYL TO AID IN ACCURATE PLACEMENT OF VGs.

VG, VGs: VORTEX GENERATOR, VORTEX GENERATORS.

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.

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
- TEFLON THREAD TAPE (FOR AIRSPEED INDICATOR CHANGE)
- VINYL GLOVES

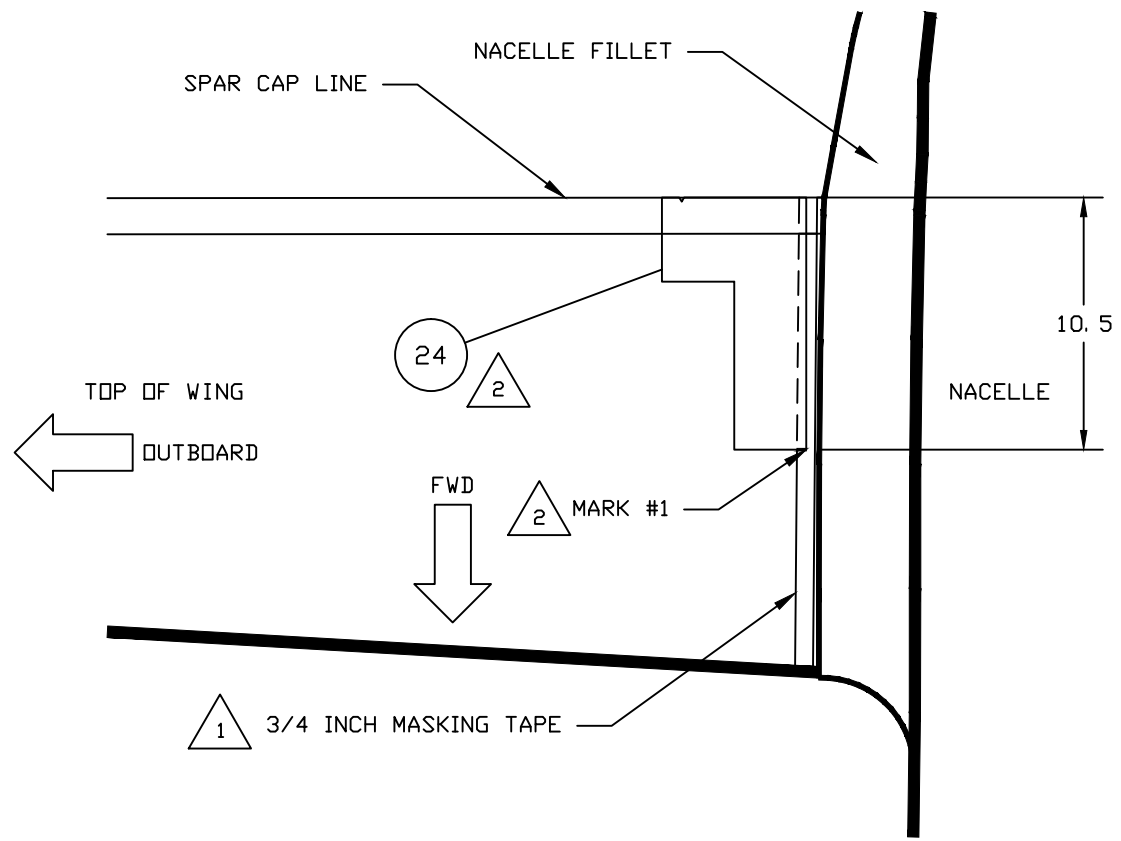
TOOLS NOT PROVIDED IN KIT:

- STEP LADDER FOR FULL ACCESS TO TAIL
- PHILLIPS SCREW DRIVERS #1 AND #2
- OFFSET OPEN END WRENCHES 1/4 TO 11/16 INCH
- EXACTO KNIVES AND EXTRA BLADES
- DREMEL OR FILES FOR SHAPING VGs IF NEEDED
- VACUUM BASE VISE

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		<i>D' SHANNON PRODUCTS, LTD</i> DWG. No. DSP-IM12-01-04 REVISION NC SCALE: NONE DATE 08/08/12 SH 1 OF 1	

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12
A	COMBINE SHEETS 6 AND 7	D. B.	04/04/13



② USING LAYOUT TOOL ITEM ②④ WITH THE SHORT EDGE OF THE TOOL ALIGNED WITH THE SPAR CAP LINE SCRIBE A PENCIL MARK ON THE TAPE 10-1/2" FORWARD OF THE SPAR CAP LINE WITHIN 1/2" OF THE NACELLE FILLET. THIS MARK WILL BE REFERRED TO AS "MARK #1".

① STARTING ON EITHER WING, PLACE A PIECE OF MASKING TAPE ABOUT 16" LONG ON THE WING SKIN EXTENDING FROM THE LEADING EDGE TO THE SPAR CAP LINE ADJACENT TO AND PARALLEL TO THE OUTBOARD EDGE OF THE NACELLE FILLET.

2 - SEE DSP-IM12-01-05A FOR LATER E55, 58 AND G58 LAYOUT DIMENSIONS AND INSTRUCTIONS. SEE DSP-IM12-01-05B FOR 58TC AND 58P LAYOUT DIMENSIONS AND INSTRUCTIONS.

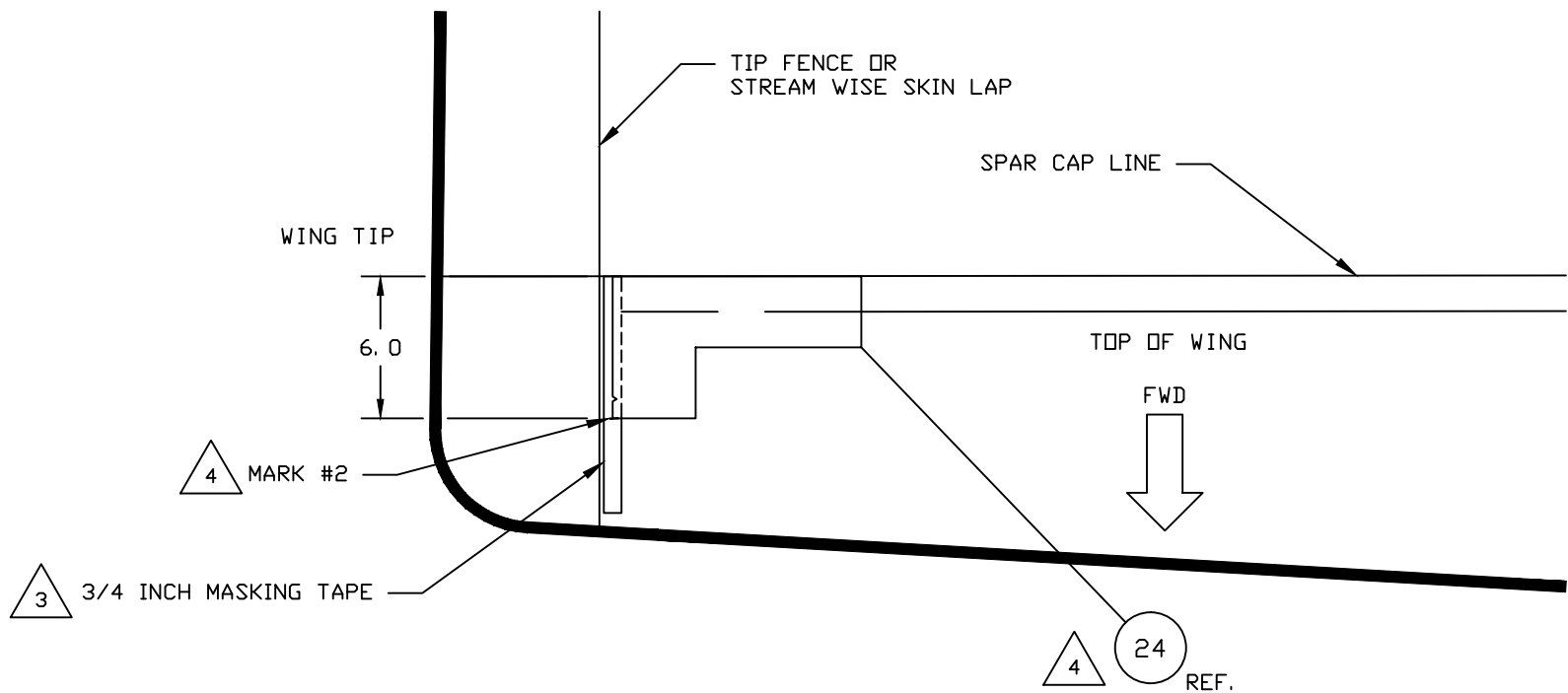
1 - CREATE LAYOUT LINES AND INDEX MARKS FOR THE ALIGNMENT OF THE TEMPLATES ON THE OUTBOARD WING SECTIONS AS SHOWN. NOTE THAT THE LAYOUT LINE FOR THE TEMPLATES IS 1" FORWARD OF THE LEADING EDGE LINE FOR THE VGs SHOWN ON THE INSTALLATION DRAWING SINCE THE TEMPLATES POSITION THE VGs 1' AFT OF THE LAYOUT LINE. APPLY THE WING TEMPLATES.

NOTES:

MODEL 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, 95-C55A, D55, D55A, E55, E55A; EXCEPT E55 AND E55A WITH FUEL CAPS AT THE 186.6 WING STATION LOCATION.

ITEM	QTY	PART No.	DESCRIPTION
24	1	11000-1	LAYOUT TOOL
14	1	7002-2B	TEMPLATE RH WING OUTBOARD
13	1	7002-2A	TEMPLATE RH WING INBOARD
12	1	7001-2B	TEMPLATE LH WING OUTBOARD
11	1	7001-2A	TEMPLATE LH WING INBOARD
-	AR	--	SPOOL HEAVY DUTY THREAD
-	AR	--	3/4" MASKING TAPE

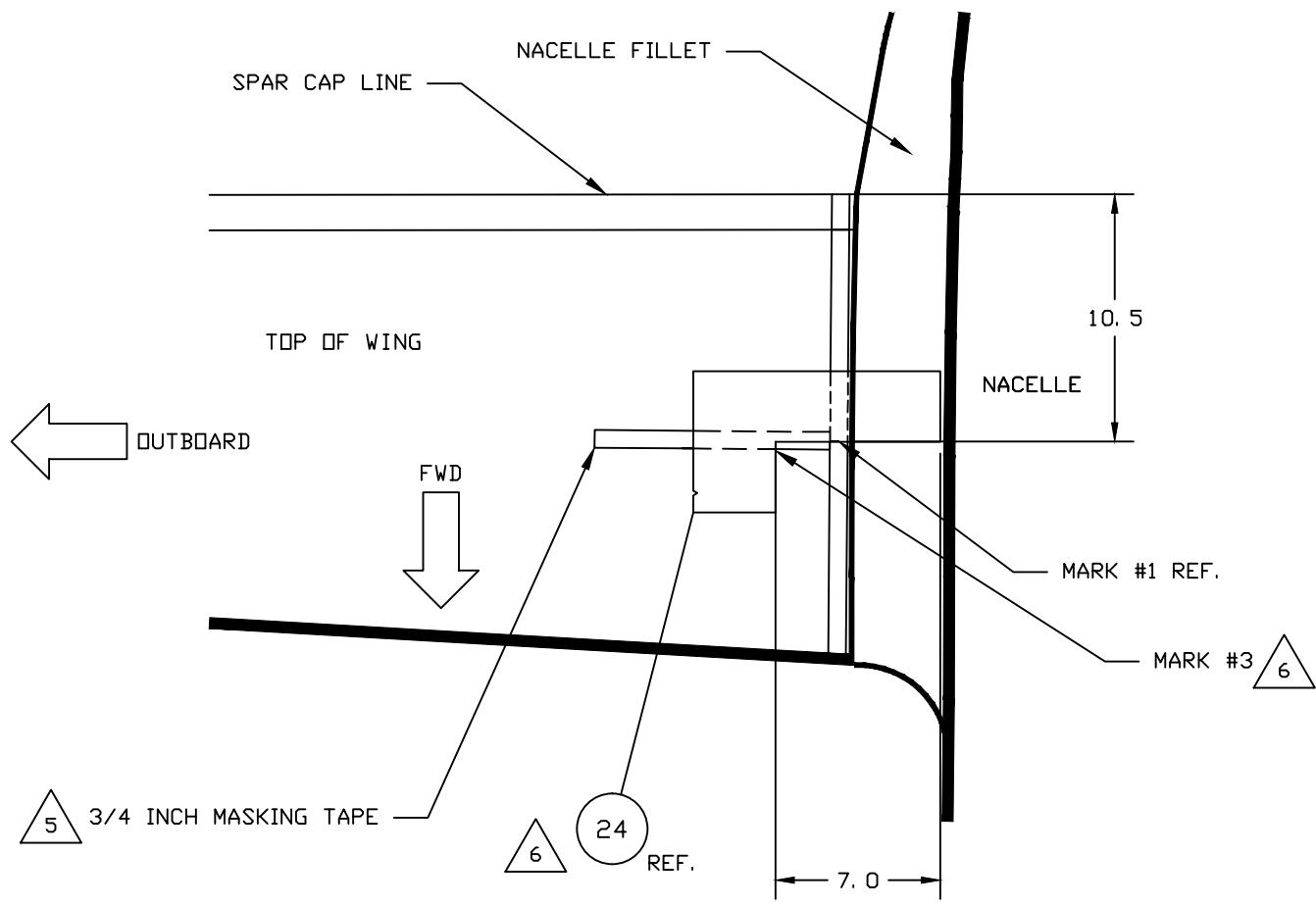
NEXT ASSY:		OUTBOARD WING TEMPLATE LOCATION	
DRAWN BY: D. B.			
ENGINEER: D. BRAUN			
CHECKED BY: D. B.			
TOLERANCES		D' SHANNON PRODUCTS, LTD	
.X_.10 .XXX_.01			
.XX_.03 .XXX_.001			
ANGLES ±5%			
UNLESS STATED			
DWG. No. DSP-IM12-01-05		REVISION A	
SCALE: NONE		DATE 08/08/12 SH 1 OF 6	



- 4 ALIGN THE LONG EDGE OF THE LAYOUT TOOL ITEM (24) WITH THE SPAR CAP LINE AND USE THE SHORT LEG TO LOCATE A PENCIL MARK 6" FORWARD OF THE SPAR CAP LINE AND WITHIN 3/4" OF THE FENCE OR FORE AND AFT SKIN SEAM. THIS MARK WILL BE REFERRED TO AS 'MARK #2'.
- 3 PLACE A PIECE OF MASKING TAPE ABOUT 10" LONG ON THE WING SKIN ADJACENT AND PARALLEL TO THE INSIDE EDGE OF THE WING TIP FENCE EXTENDING FROM THE LEADING EDGE TO THE SPAR CAP LINE. ON EARLIER PLANES THERE IS NO FENCE, SO APPLY THE TAPE ALONG THE FORE AND AFT SKIN SEAM ABOUT 6" INBOARD FROM THE WING TIP.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
		DWG. No. DSP-IM12-01-05	REVISION A
		SCALE: NONE	DATE 08/08/12 SH 2 OF 6

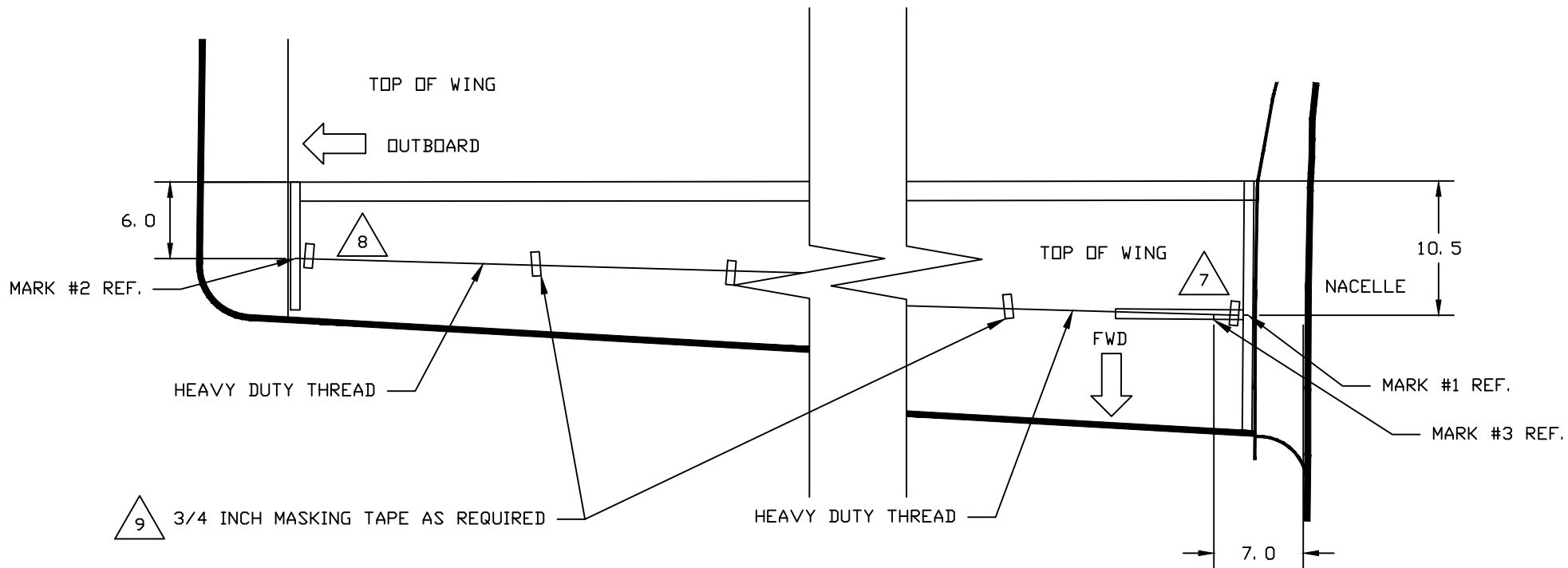


△6 ALIGN THE LONG EDGE OF THE LAYOUT TOOL ITEM (24) UPPERMOST AND PARALLEL WITH THE SPAR CAP LINE WITH THE LONG EDGE ALONG SIDE MARK #1, AND AGAINST THE NACELLE. THE SHORT LEG SHOULD BE ON THE 10" PIECE OF MASKING TAPE. LOCATE A PENCIL MARK AT THE INSIDE CORNER OF THE LAYOUT TOOL ON THE MASKING TAPE 7" FROM THE NACELLE (NOT THE NACELLE FILLET). THIS MARK WILL BE REFERRED TO AS 'MARK #3'.

△5 APPLY A 10" PIECE OF MASKING TAPE ADJACENT TO MARK #1 AND CONTINUING OUTBOARD AND PARALLEL TO THE SPAR CAP LINE.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
		DWG. No. DSP-IM12-01-05	REVISION A
		SCALE: NONE	DATE 08/08/12 SH 3 OF 6



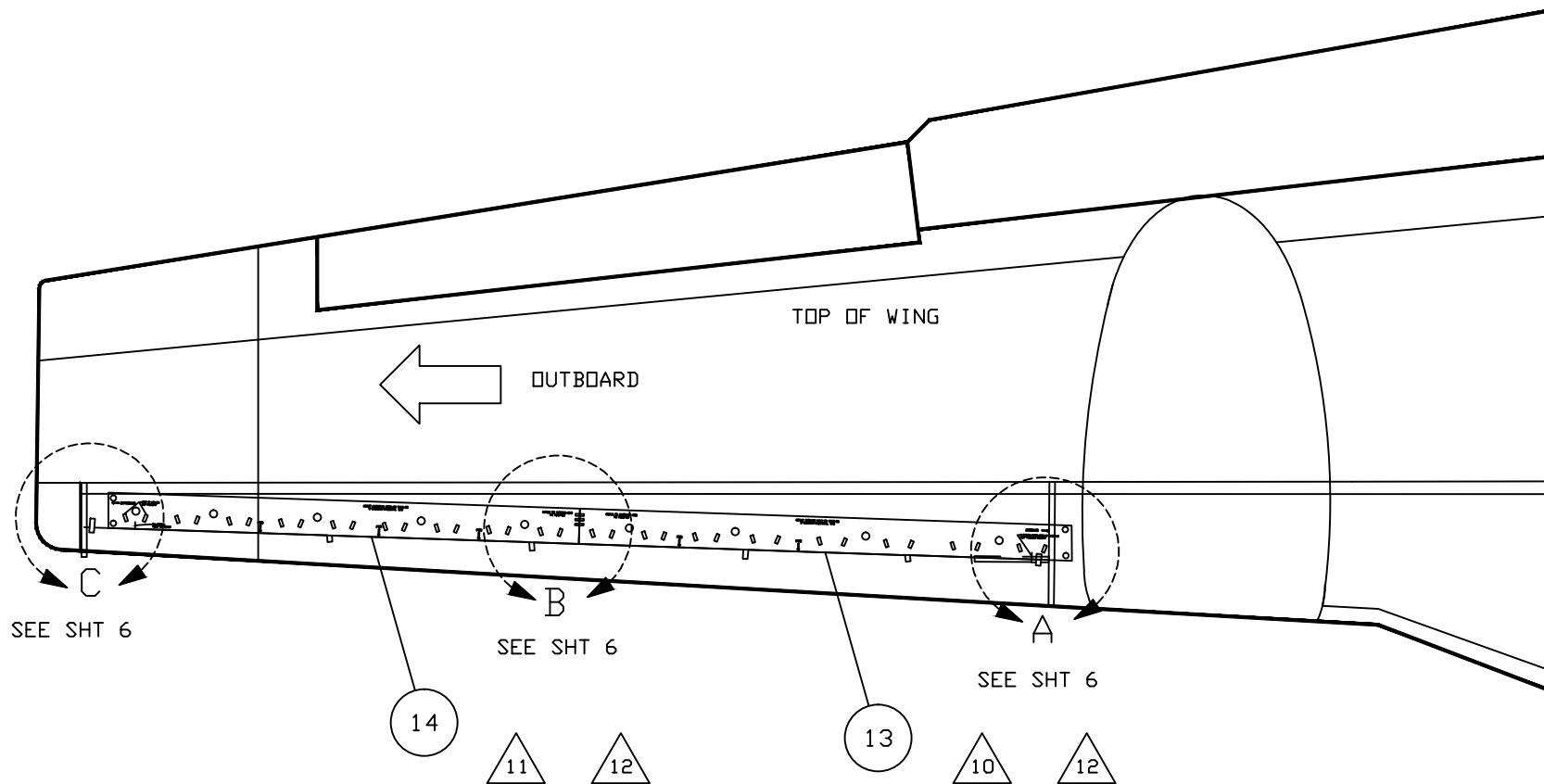
△ 9 PLACE SEVERAL SHORT PIECES OF MASKING TAPE TO HOLD THE THREAD DOWN WHEREVER IT IS SUSPENDED ABOVE THE WING BY RIVETS, SKIN LAPS, OR WING BOW, BEING CAREFUL NOT TO DEFLECT THE THREAD FROM A STRAIGHT LINE BETWEEN ENDS.

△ 8 APPLY A PIECE OF MASKING TAPE TO HOLD THE THREAD TAUT AND ALIGNED WITH MARK #2.

△ 7 PLACE ONE END OF A HEAVY DUTY THREAD AT MARK #1 AND SECURE WITH A PIECE OF MASKING TAPE. STRETCH THE THREAD TAUT UNTIL REACHING MARK #2.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-05		REVISION A	
SCALE: NONE		DATE 08/08/12 SH 4 OF 6	



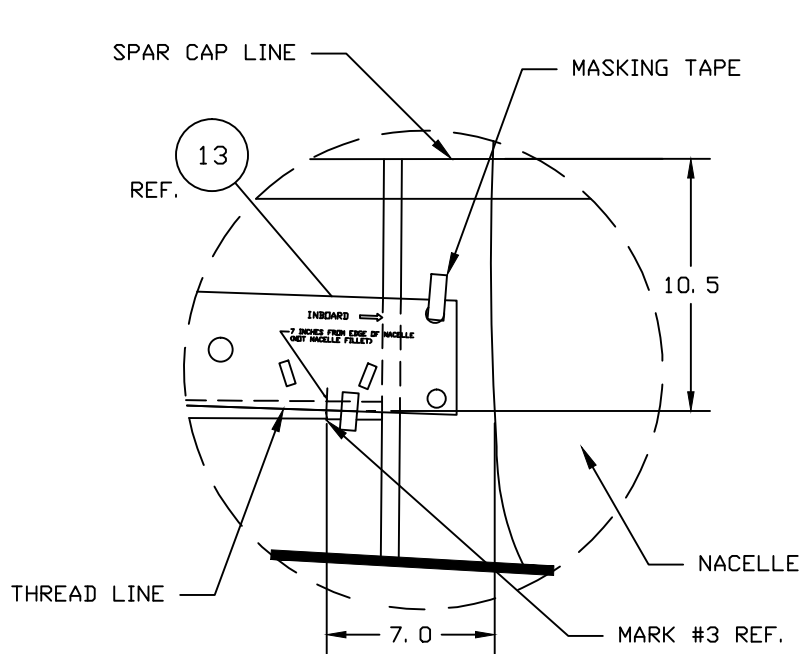
△12 SOME OF THE LATER E55 MODELS HAVE A FUEL FILLER CAP CENTERED ON WING STATION 186.6 (99.75' OUTBOARD FROM THE NACELLE). IN THIS INSTANCE THE TEMPLATES FOR THE MODEL 58 AND INSTALLATION DRAWING DSP-IM12-01-05A SHOULD BE USED. CONTACT D' SHANNON PRODUCTS FOR ASSISTANCE.

△11 PLACE ITEM ⑭ TEMPLATE ON WING AS SHOWN FOR RIGHT WING. LINE UP WITH ITEM ⑬ ALIGNMENT MARKS AND THREAD LINE AS SHOWN. FOR INITIAL PLACEMENT TAPE DOWN WITH MASKING TAPE AS REQUIRED THROUGH THE ROUND OPENINGS PROVIDED. PLACE ITEM ⑫ TEMPLATE FOR LEFT WING AND AND LINE UP WITH ITEM ⑪.

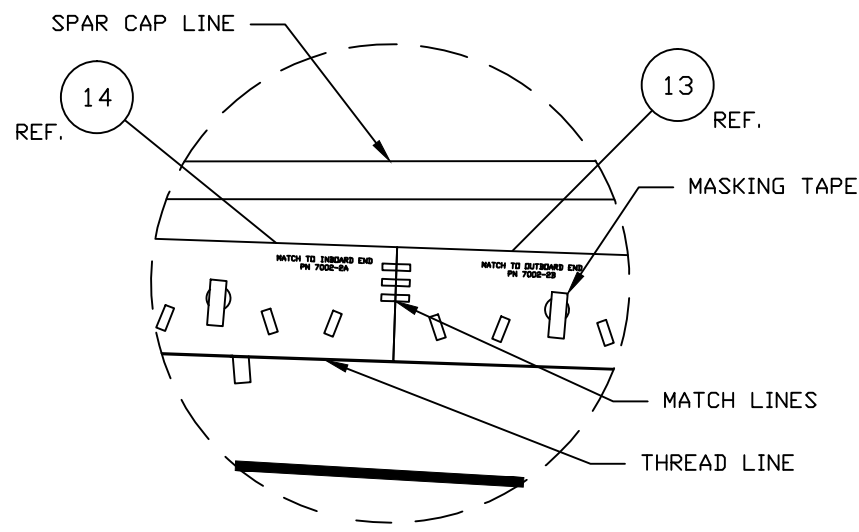
△10 PLACE ITEM ⑬ TEMPLATE ON WING AS SHOWN FOR RIGHT WING. LINE UP MARK ON TEMPLATE FOR 7" WITH MARK #3. ALIGN TEMPLATE ALONG THREAD LINE. FOR INITIAL PLACEMENT TAPE DOWN WITH MASKING TAPE AS REQUIRED THROUGH THE ROUND OPENINGS PROVIDED. PLACE ITEM ⑪ FOR LEFT WING.

NOTES:

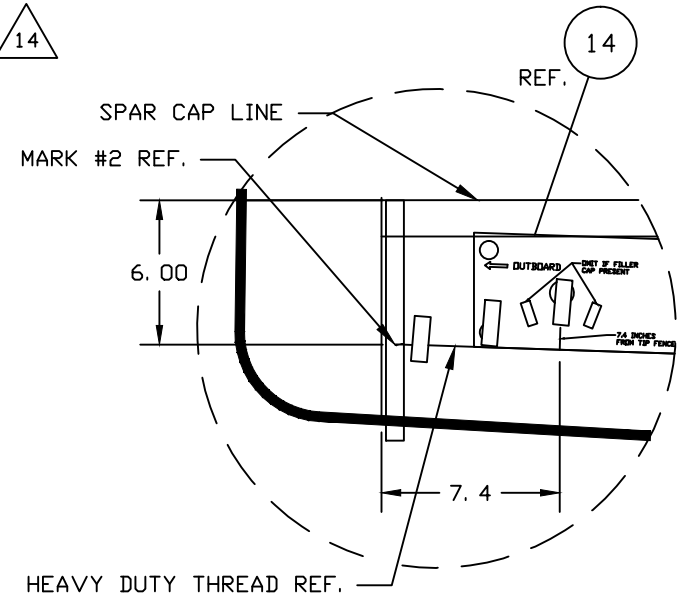
NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
TOLERANCES X_.10 .XXX_.01 XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-05		REVISION A	
SCALE: NONE		DATE 08/08/12 SH 5 OF 6	



VIEW 'A' 13 14
FROM SHEET 5



VIEW 'B' 13 14
FROM SHEET 5



VIEW 'C' 13 14
FROM SHEET 5

14 ONCE THE LOCATIONS OF THE TEMPLATES ARE MADE AND VERIFIED, CAREFULLY REMOVE A TEMPLATE, STRIP THE PAPER BACKING OFF THE VINYL TEMPLATE AND APPLY THE TEMPLATE TO THE SURFACE OF THE WING IN THE SAME POSITION AS IT WAS REMOVED. CAREFULLY SQUEEZE OUT AIR POCKETS CLOSE TO THE VG LOCATION HOLES WITH A SQUEEGEE. DO NOT STRETCH THE TEMPLATE AS IT IS BEING APPLIED TO THE WING SURFACE.

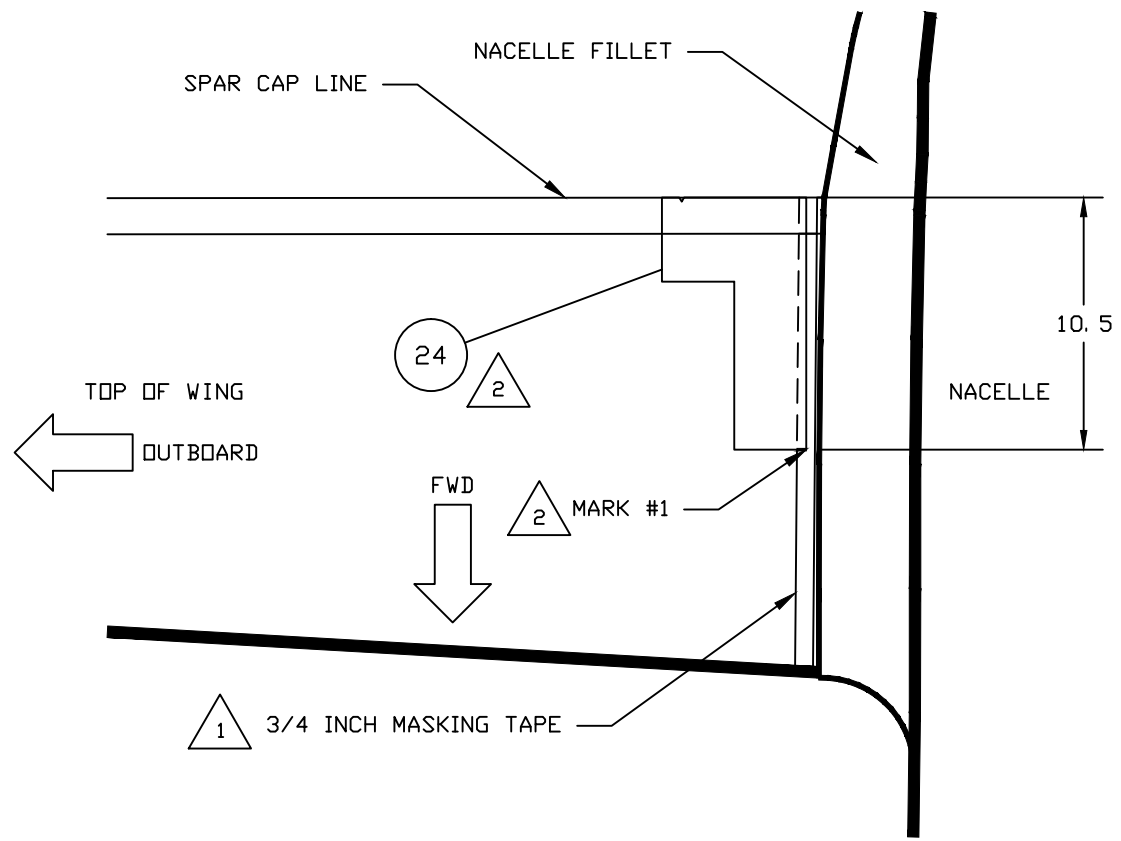
13 IN RARE CASES THE DEICING BOOTS EXTEND FAR ENOUGH AFT ALONG THE TOP SURFACE OF THE WING TO INTERFERE WITH THE LINE OF VGs. IF THE RECTANGULAR WINDOWS WHICH LOCATE THE VGs EXPOSE A PORTION OF THE PNEUMATIC BOOT IT WILL BE NECESSARY TO RELOCATE THE THREAD LINE AFT TO ELIMINATE THE CONFLICT. NOTE THAT THE BLACK BONDING MATERIAL ALONG THE EDGE OF THE BOOTS CAN BE REMOVED, OR A SMALL CORNER OF THE VG CAN BE TRIMMED TO AVOID RELOCATION. RELOCATION IS ONLY REQUIRED IF THE VGs WILL TOUCH THE INFLATABLE PORTION OF THE BOOT.

THE THREAD LINE MAY BE RELOCATED UP TO 1/2" AFT WITHOUT SERIOUS DETERIORATION OF THE VG SYSTEM BENEFITS. IF MORE IS REQUIRED CONTACT D' SHANNON PRODUCTS. IT IS IMPORTANT THAT ANY CHANGES TO LOCATION ON ONE WING BE DUPLICATED EXACTLY ON THE OPPOSITE WING. IF POSSIBLE, ONLY THE INBOARD END OF THE LINE SHOULD BE MOVED AFT. IN ANY EVENT KEEP THE RELOCATION TO A MINIMUM.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-05		REVISION NC	
SCALE: NONE		DATE 08/08/12 SH 6 OF 6	

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12
A	COMBINE SHEETS 6 AND 7	D. B.	04/04/13



② USING LAYOUT TOOL ITEM ②④ WITH THE SHORT EDGE OF THE TOOL ALIGNED WITH THE SPAR CAP LINE SCRIBE A PENCIL MARK ON THE TAPE 10-1/2" FORWARD OF THE SPAR CAP LINE WITHIN 1/2" OF THE NACELLE FILLET. THIS MARK WILL BE REFERRED TO AS "MARK #1".

① STARTING ON EITHER WING, PLACE A PIECE OF MASKING TAPE ABOUT 16" LONG ON THE WING SKIN EXTENDING FROM THE LEADING EDGE TO THE SPAR CAP LINE ADJACENT TO AND PARALLEL TO THE OUTBOARD EDGE OF THE NACELLE FILLET.

2 - SEE DSP-IM12-01-05 FOR 55 (EXCEPT LATE E55) LAYOUT DIMENSIONS AND INSTRUCTIONS. SEE DSP-IM12-01-05B FOR 58TC AND 58P LAYOUT DIMENSIONS AND INSTRUCTIONS.

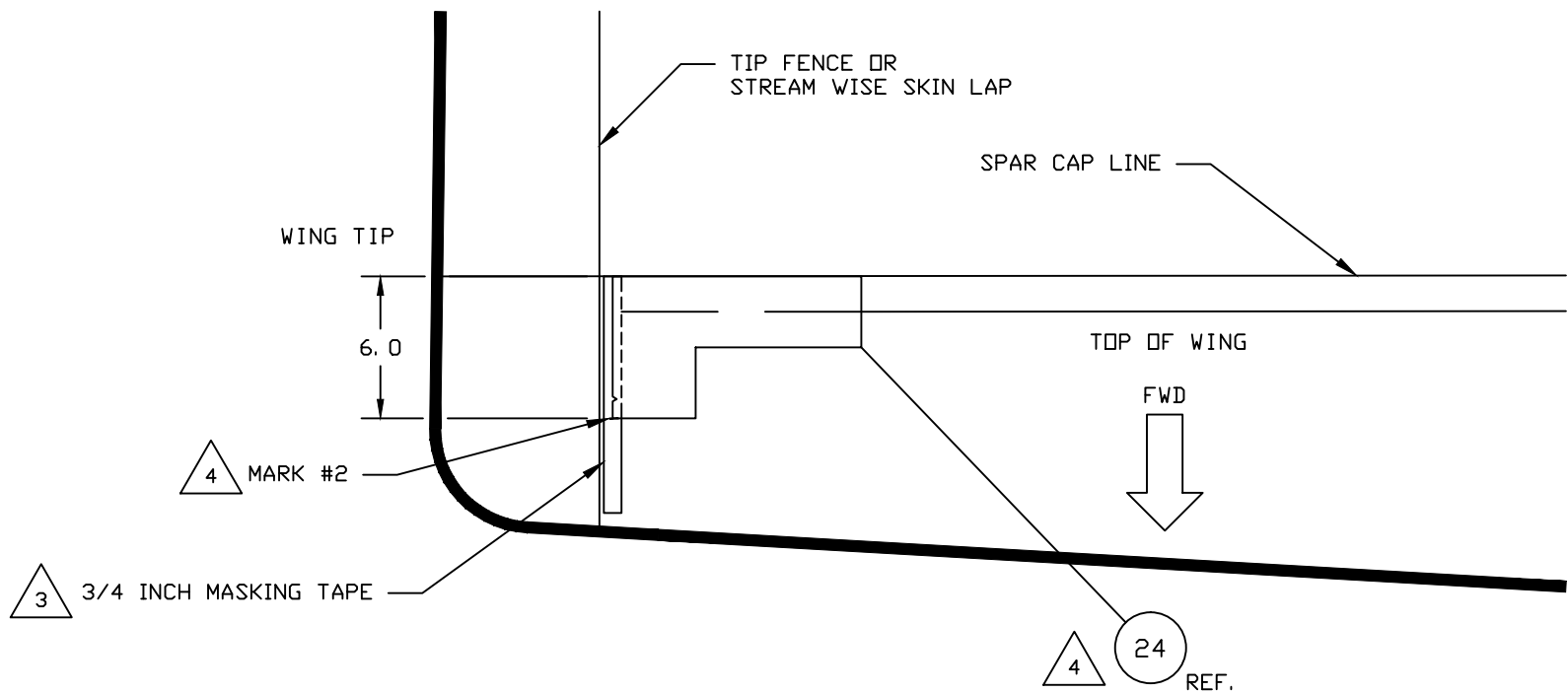
1 - CREATE LAYOUT LINES AND INDEX MARKS FOR THE ALIGNMENT OF THE TEMPLATES ON THE OUTBOARD WING SECTIONS AS SHOWN. NOTE THAT THE LAYOUT LINE FOR THE TEMPLATES IS 1" FORWARD OF THE LEADING EDGE LINE FOR THE VGs SHOWN ON THE INSTALLATION DRAWING SINCE THE TEMPLATES POSITION THE VGs 1' AFT OF THE LAYOUT LINE. APPLY THE WING TEMPLATES.

NOTES:

MODEL E55 AND E55A WITH FUEL CAPS AT THE 186.6 WING STATION LOCATION, 58, 58A AND G58.

ITEM	QTY	PART No.	DESCRIPTION
24	1	11000-1	LAYOUT TOOL
18	1	8002-2B	TEMPLATE RH WING OUTBOARD
17	1	8002-2A	TEMPLATE RH WING INBOARD
16	1	8001-2B	TEMPLATE LH WING OUTBOARD
15	1	8001-2A	TEMPLATE LH WING INBOARD
-	AR	--	SPOOL HEAVY DUTY THREAD
-	AR	--	3/4" MASKING TAPE

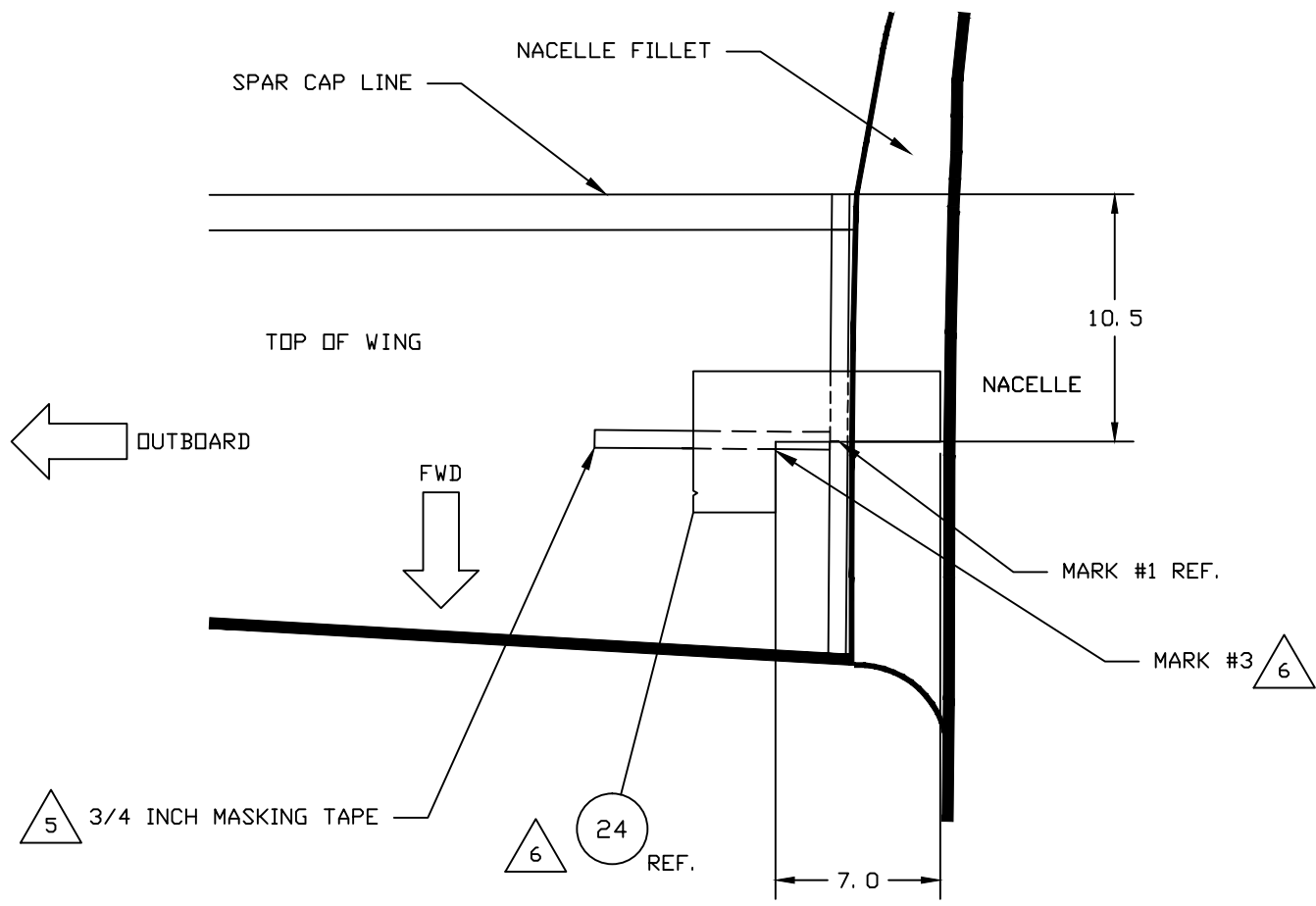
NEXT ASSY:		OUTBOARD WING TEMPLATE LOCATION	
DRAWN BY: D. B.			
ENGINEER: D. BRAUN			
CHECKED BY: D. B.			
TOLERANCES		D' SHANNON PRODUCTS, LTD	
.X_.10 .XXX_.01			
.XX_.03 .XXX_.001		DWG. No. DSP-IM12-01-05A	
ANGLES ±5%		REVISION A	
UNLESS STATED		SCALE: NONE DATE 08/08/12 SH 1 OF 6	



- 4 ALIGN THE LONG EDGE OF THE LAYOUT TOOL ITEM 24 WITH THE SPAR CAP LINE AND USE THE SHORT LEG TO LOCATE A PENCIL MARK 6" FORWARD OF THE SPAR CAP LINE AND WITHIN 3/4" OF THE FENCE OR FORE AND AFT SKIN SEAM. THIS MARK WILL BE REFERRED TO AS 'MARK #2'.
- 3 PLACE A PIECE OF MASKING TAPE ABOUT 10" LONG ON THE WING SKIN ADJACENT AND PARALLEL TO THE INSIDE EDGE OF THE WING TIP FENCE EXTENDING FROM THE LEADING EDGE TO THE SPAR CAP LINE. ON EARLIER PLANES THERE IS NO FENCE, SO APPLY THE TAPE ALONG THE FORE AND AFT SKIN SEAM ABOUT 6" INBOARD FROM THE WING TIP.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
		DWG. No. DSP-IM12-01-05A	REVISION A
		SCALE: NONE	DATE 08/08/12 SH 2 OF 6

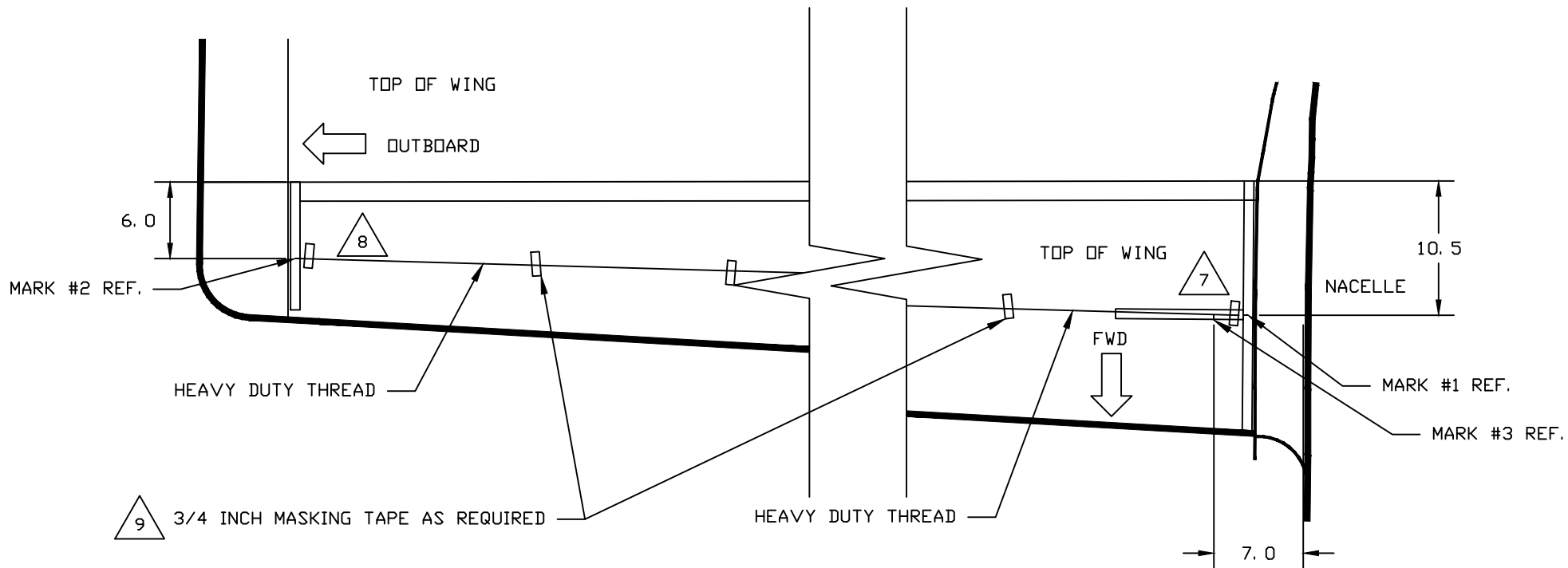


△6 ALIGN THE LONG EDGE OF THE LAYOUT TOOL ITEM (24) UPPERMOST AND PARALLEL WITH THE SPAR CAP LINE WITH THE LONG EDGE ALONG SIDE MARK #1, AND AGAINST THE NACELLE. THE SHORT LEG SHOULD BE ON THE 10" PIECE OF MASKING TAPE. LOCATE A PENCIL MARK AT THE INSIDE CORNER OF THE LAYOUT TOOL ON THE MASKING TAPE 7" FROM THE NACELLE (NOT THE NACELLE FILLET). THIS MARK WILL BE REFERRED TO AS 'MARK #3'.

△5 APPLY A 10" PIECE OF MASKING TAPE ADJACENT TO MARK #1 AND CONTINUING OUTBOARD AND PARALLEL TO THE SPAR CAP LINE.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-05A		REVISION	A
SCALE: NONE		DATE 08/08/12	SH 3 OF 6



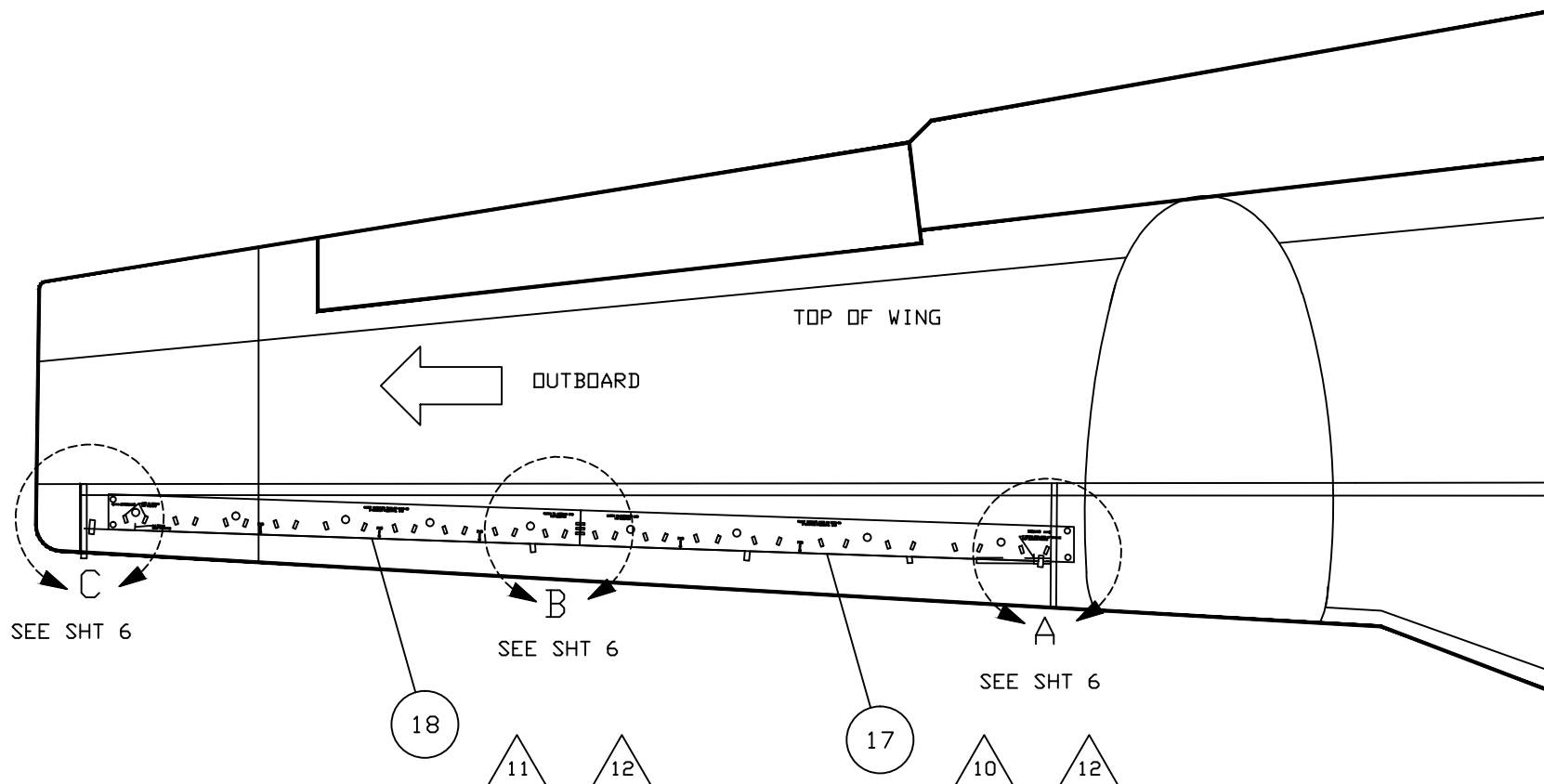
△ 9 PLACE SEVERAL SHORT PIECES OF MASKING TAPE TO HOLD THE THREAD DOWN WHEREVER IT IS SUSPENDED ABOVE THE WING BY RIVETS, SKIN LAPS, OR WING BOW, BEING CAREFUL NOT TO DEFLECT THE THREAD FROM A STRAIGHT LINE BETWEEN ENDS.

△ 8 APPLY A PIECE OF MASKING TAPE TO HOLD THE THREAD TAUT AND ALIGNED WITH MARK #2.

△ 7 PLACE ONE END OF A HEAVY DUTY THREAD AT MARK #1 AND SECURE WITH A PIECE OF MASKING TAPE. STRETCH THE THREAD TAUT UNTIL REACHING MARK #2.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-05A		REVISION A	
SCALE: NONE		DATE 08/08/12 SH 4 OF 6	



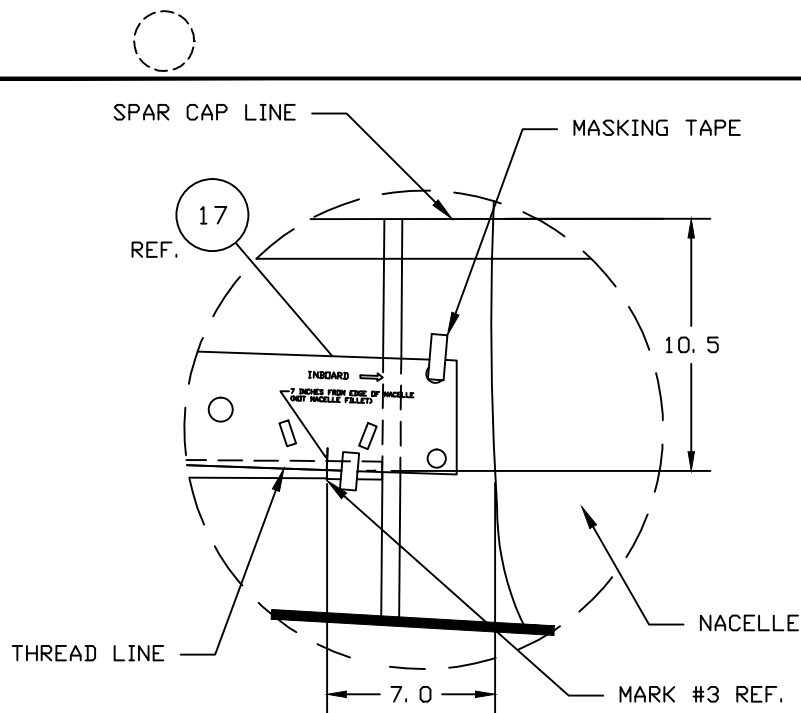
△12 THE EARLIER E55 MODELS DO NOT HAVE A FUEL FILLER CAP CENTERED ON WING STATION 186.6 (99.75' OUTBOARD FROM THE NACELLE). IN THIS INSTANCE THE TEMPLATES FOR THE MODEL 55 AND INSTALLATION DRAWING DSP-IM12-01-05 SHOULD BE USED. CONTACT D' SHANNON PRODUCTS FOR ASSISTANCE.

△11 PLACE ITEM 18 TEMPLATE ON WING AS SHOWN FOR RIGHT WING. LINE UP WITH ITEM 17 ALIGNMENT MARKS AND THREAD LINE AS SHOWN. FOR INITIAL PLACEMENT TAPE DOWN WITH MASKING TAPE AS REQUIRED THROUGH THE ROUND OPENINGS PROVIDED. PLACE ITEM 16 TEMPLATE FOR LEFT WING AND AND LINE UP WITH ITEM 15.

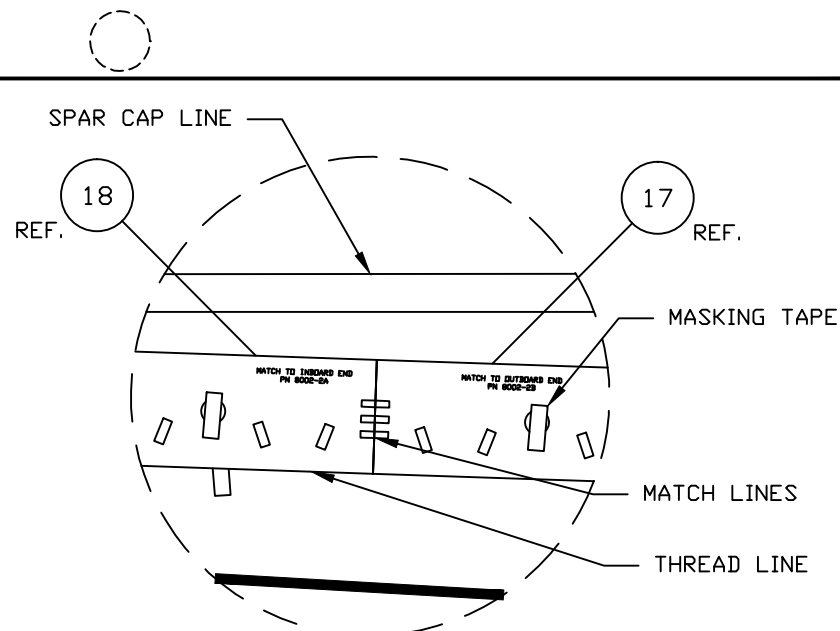
△10 PLACE ITEM 17 TEMPLATE ON WING AS SHOWN FOR RIGHT WING. LINE UP MARK ON TEMPLATE FOR 7" WITH MARK #3. ALIGN TEMPLATE ALONG THREAD LINE. FOR INITIAL PLACEMENT TAPE DOWN WITH MASKING TAPE AS REQUIRED THROUGH THE ROUND OPENINGS PROVIDED. PLACE ITEM 15 FOR LEFT WING.

NOTES:

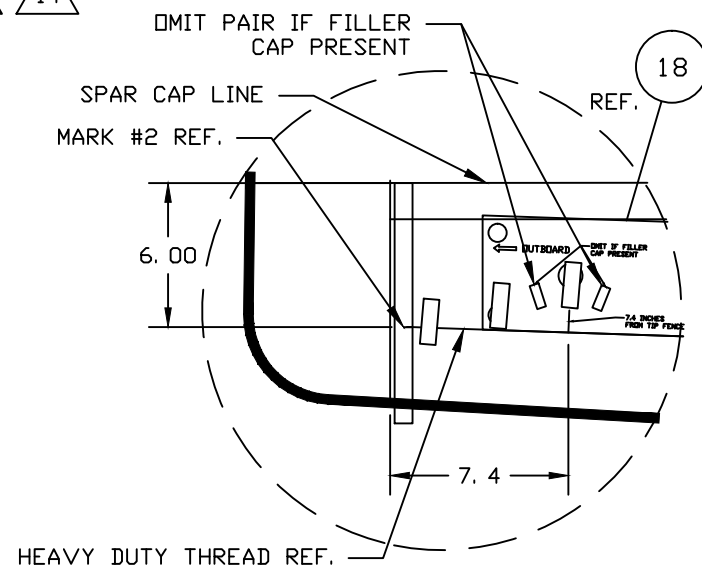
NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
TOLERANCES X_.10 .XXX_.01 XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No DSP-IM12-01-05A		REVISION	A
SCALE: NONE		DATE 08/08/12	SH 5 OF 6



VIEW 'A' 13 14
FROM SHEET 5



VIEW 'B' 13 14
FROM SHEET 5



VIEW 'C' 13 14
FROM SHEET 5

14 ONCE THE LOCATIONS OF THE TEMPLATES ARE MADE AND VERIFIED, CAREFULLY REMOVE A TEMPLATE, STRIP THE PAPER BACKING OFF THE VINYL TEMPLATE AND APPLY THE TEMPLATE TO THE SURFACE OF THE WING IN THE SAME POSITION AS IT WAS REMOVED. CAREFULLY SQUEEZE OUT AIR POCKETS CLOSE TO THE VG LOCATION HOLES WITH A SQUEEGEE. DO NOT STRETCH THE TEMPLATE AS IT IS BEING APPLIED TO THE WING SURFACE.

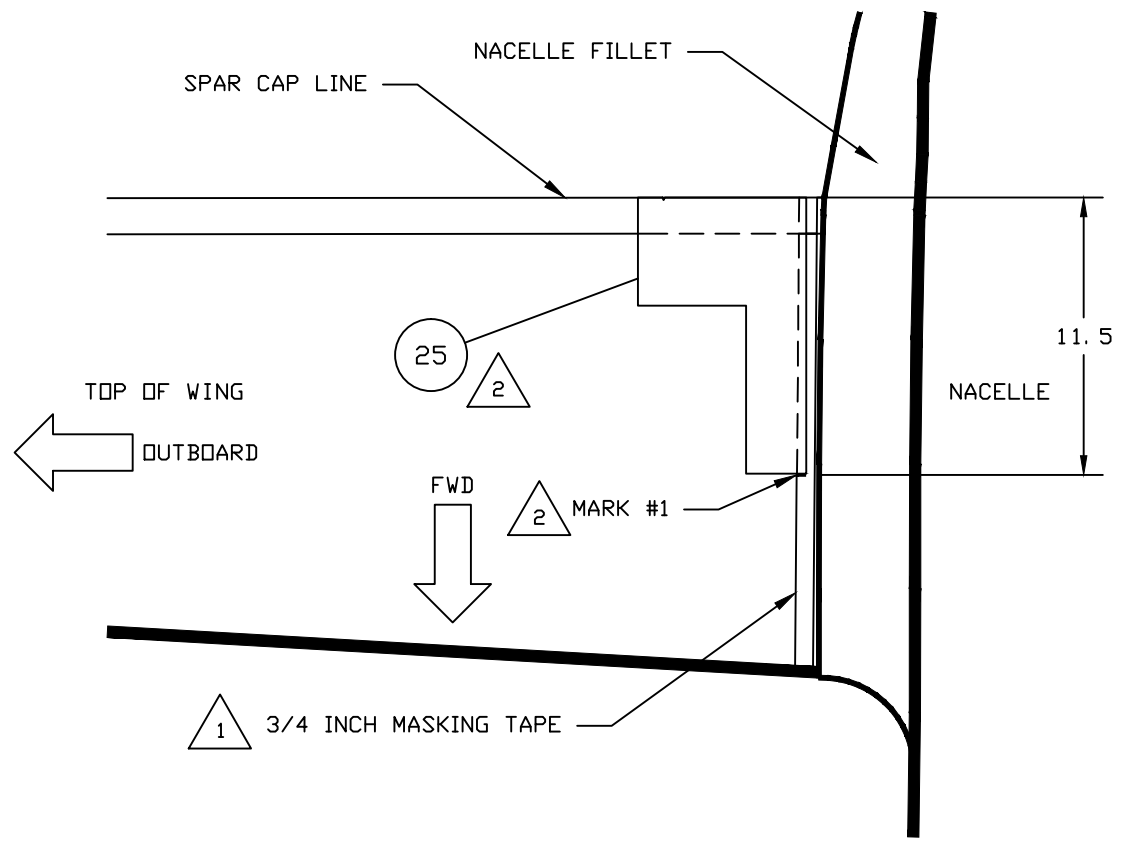
13 IN RARE CASES THE DEICING BOOTS EXTEND FAR ENOUGH AFT ALONG THE TOP SURFACE OF THE WING TO INTERFERE WITH THE LINE OF VGs. IF THE RECTANGULAR WINDOWS WHICH LOCATE THE VGs EXPOSE A PORTION OF THE PNEUMATIC BOOT IT WILL BE NECESSARY TO RELOCATE THE THREAD LINE AFT TO ELIMINATE THE CONFLICT. NOTE THAT THE BLACK BONDING MATERIAL ALONG THE EDGE OF THE BOOTS CAN BE REMOVED, OR A SMALL CORNER OF THE VG CAN BE TRIMMED TO AVOID RELOCATION. RELOCATION IS ONLY REQUIRED IF THE VGs WILL TOUCH THE INFLATABLE PORTION OF THE BOOT.

THE THREAD LINE MAY BE RELOCATED UP TO 1/2" AFT WITHOUT SERIOUS DETERIORATION OF THE VG SYSTEM BENEFITS. IF MORE IS REQUIRED CONTACT D'SHANNON PRODUCTS. IT IS IMPORTANT THAT ANY CHANGES TO LOCATION ON ONE WING BE DUPLICATED EXACTLY ON THE OPPOSITE WING. IF POSSIBLE, ONLY THE INBOARD END OF THE LINE SHOULD BE MOVED AFT. IN ANY EVENT KEEP THE RELOCATION TO A MINIMUM.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
TOLERANCES X_.10 .XXX_.01 XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D'SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-05A		REVISION A	
SCALE: NONE		DATE 08/08/12 SH 6 OF 6	

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12
A	COMBINE SHEETS 6 AND 7	D. B.	04/04/13



△² USING LAYOUT TOOL ITEM (25) WITH THE SHORT EDGE OF THE TOOL ALIGNED WITH THE SPAR CAP LINE SCRIBE A PENCIL MARK ON THE TAPE 11-1/2" FORWARD OF THE SPAR CAP LINE WITHIN 1/2" OF THE NACELLE FILLET. THIS MARK WILL BE REFERRED TO AS "MARK #1".

△¹ STARTING ON EITHER WING, PLACE A PIECE OF MASKING TAPE ABOUT 16" LONG ON THE WING SKIN EXTENDING FROM THE LEADING EDGE TO THE SPAR CAP LINE ADJACENT TO AND PARALLEL TO THE OUTBOARD EDGE OF THE NACELLE FILLET.

2 - SEE DSP-IM12-01-05 FOR 55 (EXCEPT LATE E55) LAYOUT DIMENSIONS AND INSTRUCTIONS. SEE DSP-IM12-01-05A FOR LATE E55 AND 58 LAYOUT DIMENSIONS AND INSTRUCTIONS.

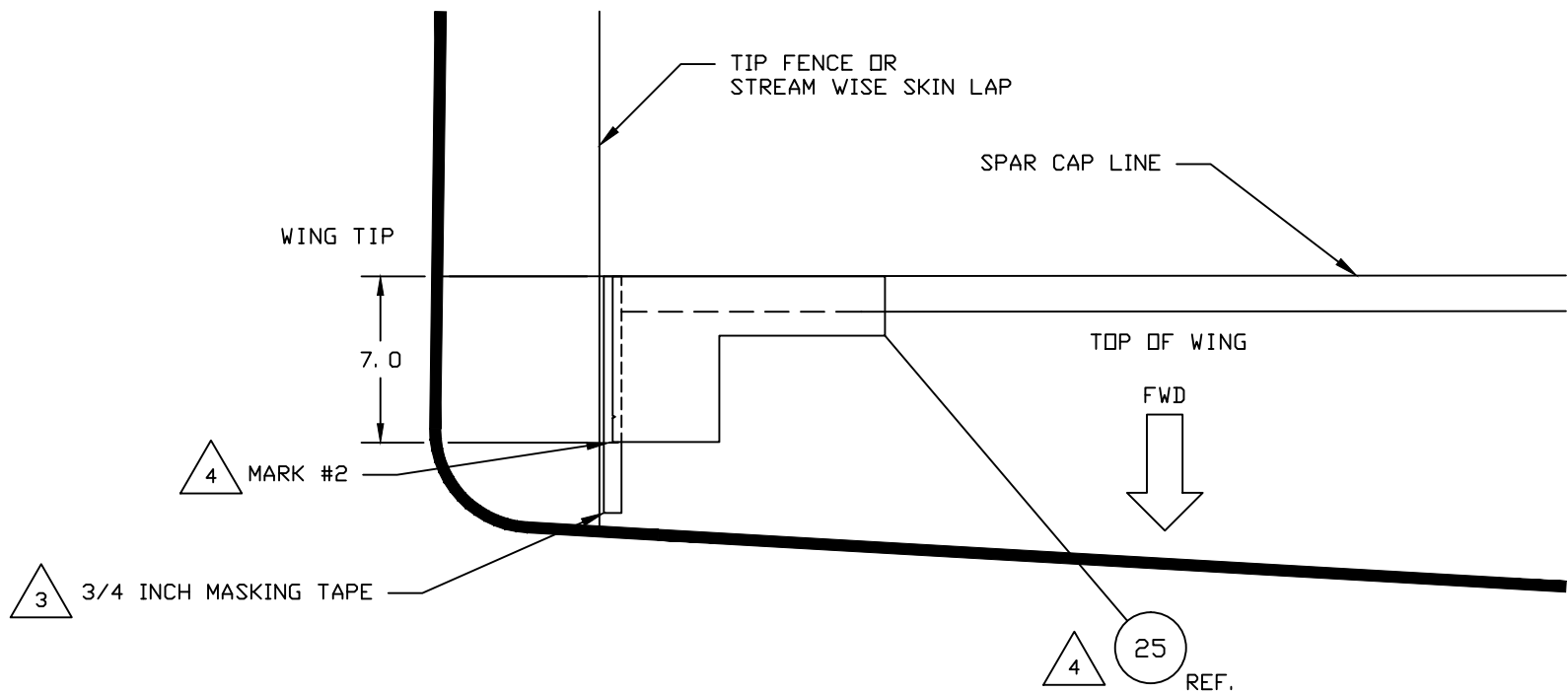
1 - CREATE LAYOUT LINES AND INDEX MARKS FOR THE ALIGNMENT OF THE TEMPLATES ON THE OUTBOARD WING SECTIONS AS SHOWN. NOTE THAT THE LAYOUT LINE FOR THE TEMPLATES IS 1" FORWARD OF THE LEADING EDGE LINE FOR THE VGs SHOWN ON THE INSTALLATION DRAWING SINCE THE TEMPLATES POSITION THE VGs 1' AFT OF THE LAYOUT LINE. APPLY THE WING TEMPLATES.

NOTES:

MODEL 58TC, 58TCA, 58P AND 58PA

ITEM	QTY	PART No.	DESCRIPTION
25	1	11000-2	LAYOUT TOOL
22	1	9002-2B	TEMPLATE RH WING OUTBOARD
21	1	9002-2A	TEMPLATE RH WING INBOARD
20	1	9001-2B	TEMPLATE LH WING OUTBOARD
19	1	9001-2A	TEMPLATE LH WING INBOARD
-	AR	--	SPOOL HEAVY DUTY THREAD
-	AR	--	3/4" MASKING TAPE

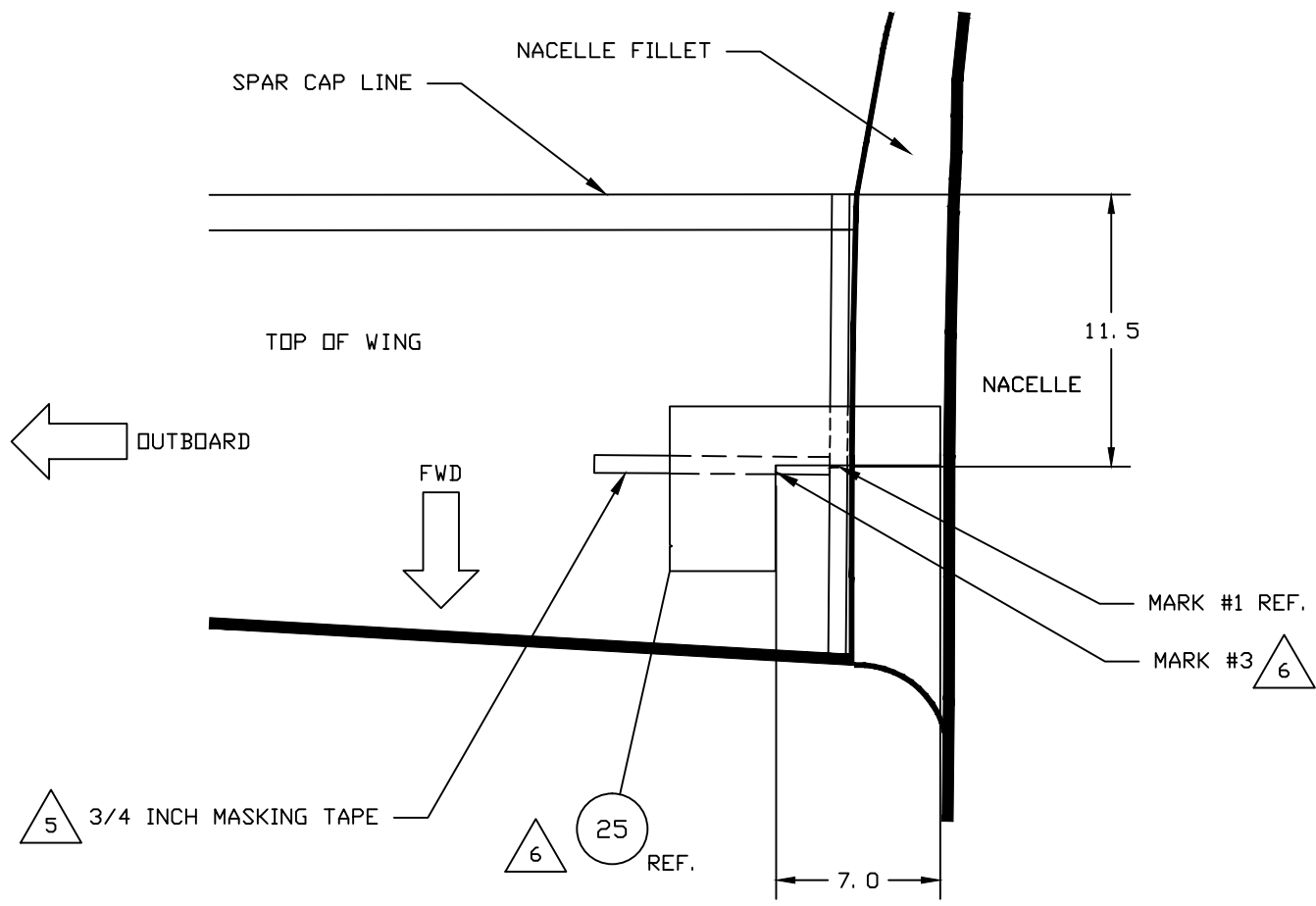
NEXT ASSY:		OUTBOARD WING TEMPLATE LOCATION	
DRAWN BY: D. B.			
ENGINEER: D. BRAUN			
CHECKED BY: D. B.			
TOLERANCES		D' SHANNON PRODUCTS, LTD	
.X_.10 .XXX_.01		DWG. No. DSP-IM12-01-05B	REVISION A
.XX_.03 .XXX_.001		SCALE: NONE	DATE 08/08/12 SH 1 OF 6
ANGLES ±5%			
UNLESS STATED			



- 4 ALIGN THE LONG EDGE OF THE LAYOUT TOOL ITEM (25) WITH THE SPAR CAP LINE AND USE THE SHORT LEG TO LOCATE A PENCIL MARK 7" FORWARD OF THE SPAR CAP LINE AND WITHIN 3/4" OF THE FENCE OR FORE AND AFT SKIN SEAM. THIS MARK WILL BE REFERRED TO AS 'MARK #2'.
- 3 PLACE A PIECE OF MASKING TAPE ABOUT 10" LONG ON THE WING SKIN ADJACENT AND PARALLEL TO THE INSIDE EDGE OF THE WING TIP FENCE EXTENDING FROM THE LEADING EDGE TO THE SPAR CAP LINE. ON EARLIER PLANES THERE IS NO FENCE, SO APPLY THE TAPE ALONG THE FORE AND AFT SKIN SEAM ABOUT 6" INBOARD FROM THE WING TIP.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
<u>TOLERANCES</u> .X_.10 .XXX_.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		<i>D' SHANNON PRODUCTS, LTD</i>	
DWG. No. DSP-IM12-01-05B		REVISION	A
SCALE: NONE	DATE 08/08/12	SH	2 OF 6

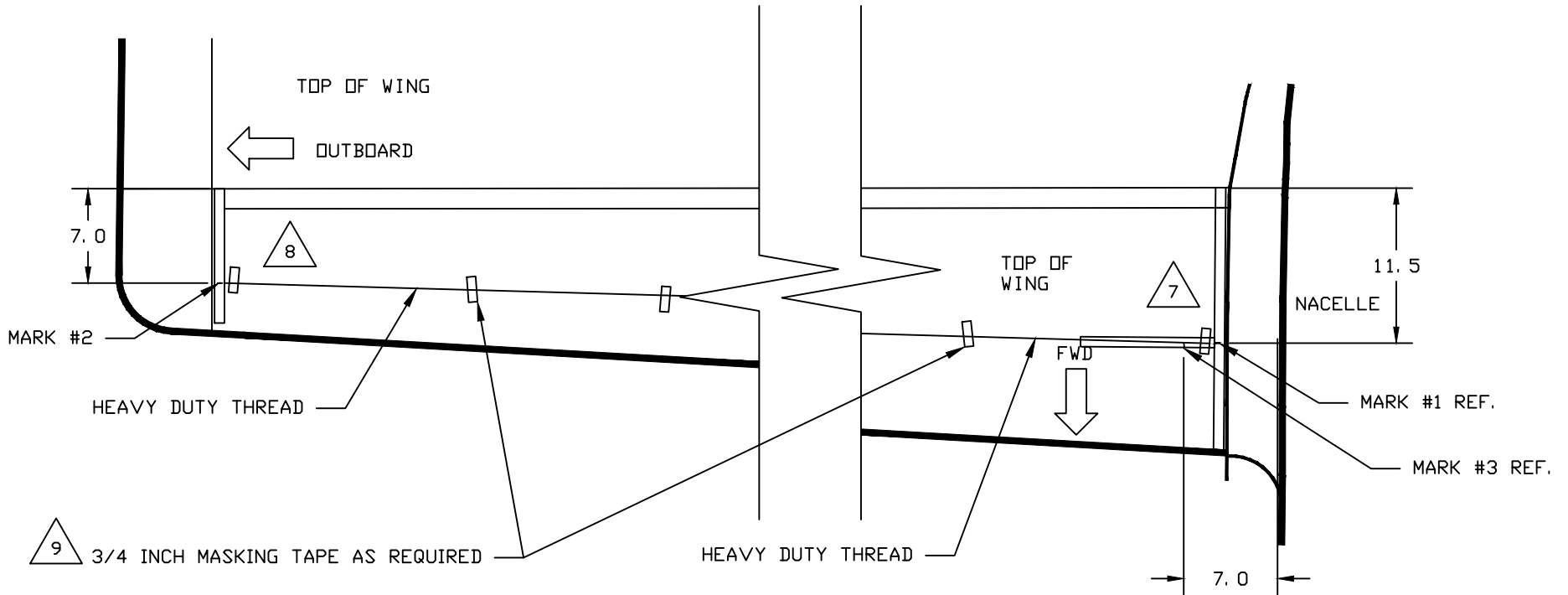


△6 ALIGN THE LONG EDGE OF THE LAYOUT TOOL ITEM (25) UPPERMOST AND PARALLEL WITH THE SPAR CAP LINE WITH THE LONG EDGE ALONG SIDE MARK #1, AND AGAINST THE NACELLE. THE SHORT LEG SHOULD BE ON THE 10" PIECE OF MASKING TAPE. LOCATE A PENCIL MARK AT THE INSIDE CORNER OF THE LAYOUT TOOL ON THE MASKING TAPE 7" FROM THE NACELLE (NOT THE NACELLE FILLET). THIS MARK WILL BE REFERRED TO AS 'MARK #3'.

△5 APPLY A 10" PIECE OF MASKING TAPE ADJACENT TO MARK #1 AND CONTINUING OUTBOARD AND PARALLEL TO THE SPAR CAP LINE.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-05B		REVISION A	
SCALE: NONE		DATE 08/08/12 SH 3 OF 6	



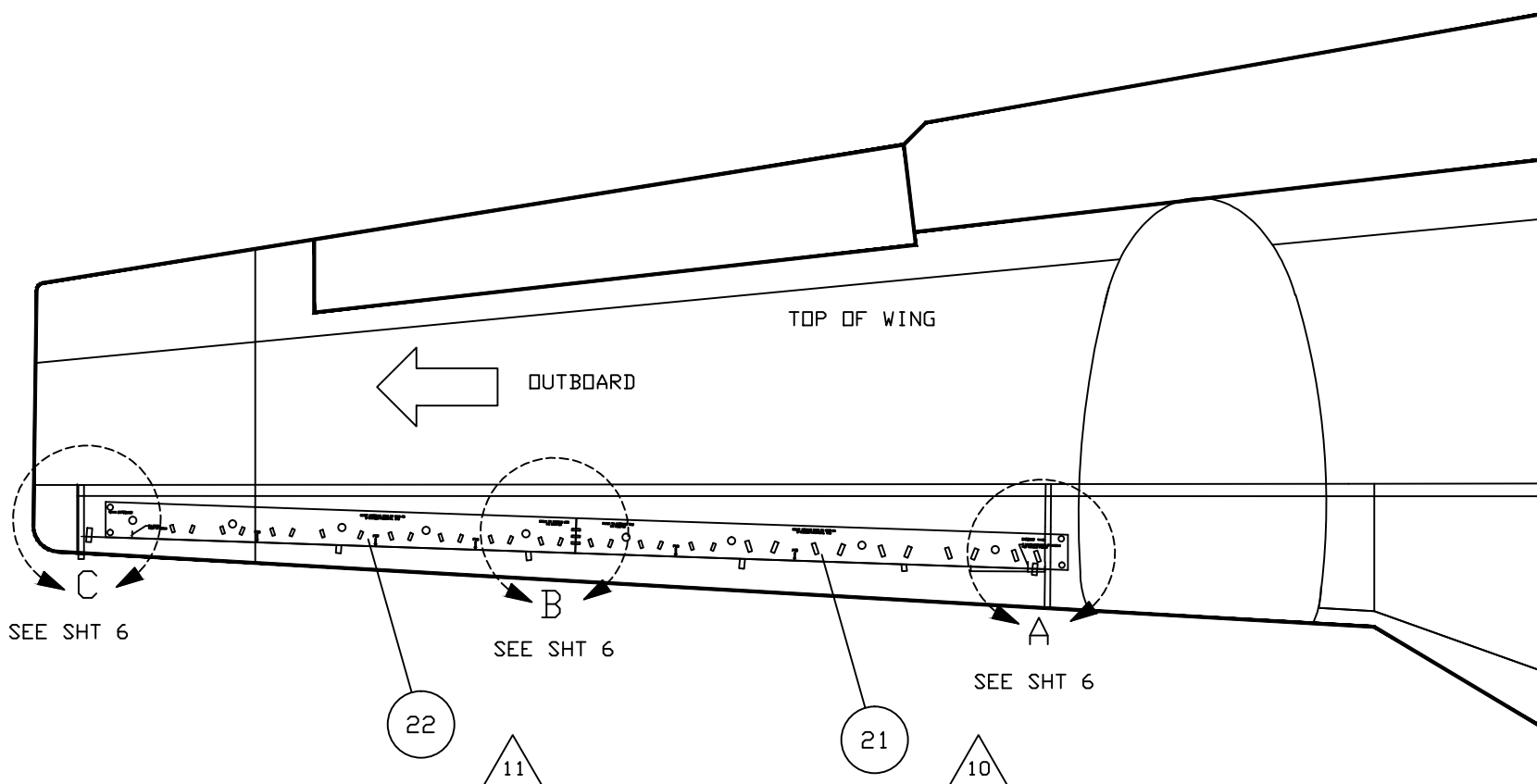
△9 PLACE SEVERAL SHORT PIECES OF MASKING TAPE TO HOLD THE THREAD DOWN WHEREVER IT IS SUSPENDED ABOVE THE WING BY RIVETS, SKIN LAPS, OR WING BOW, BEING CAREFUL NOT TO DEFLECT THE THREAD FROM A STRAIGHT LINE BETWEEN ENDS.

△8 APPLY A PIECE OF MASKING TAPE TO HOLD THE THREAD TAUT AND ALIGNED WITH MARK #2.

△7 PLACE ONE END OF A HEAVY DUTY THREAD AT MARK #1 AND SECURE WITH A PIECE OF MASKING TAPE. STRETCH THE THREAD TAUT UNTIL REACHING MARK #2.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-05B		REVISION A	
SCALE: NONE		DATE 08/08/12 SH 4 OF 6	



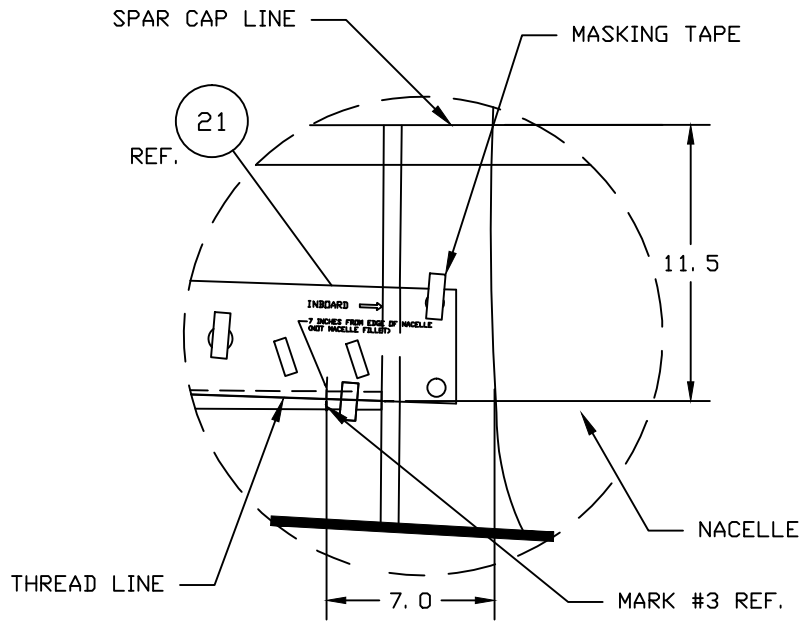
△12 OMITTED

△11 PLACE ITEM ②2 TEMPLATE ON WING AS SHOWN FOR RIGHT WING. LINE UP WITH ITEM ②1 ALIGNMENT MARKS AND THREAD LINE AS SHOWN. FOR INITIAL PLACEMENT TAPE DOWN WITH MASKING TAPE AS REQUIRED THROUGH THE ROUND OPENINGS PROVIDED. PLACE ITEM ②0 TEMPLATE FOR LEFT WING AND AND LINE UP WITH ITEM ①9.

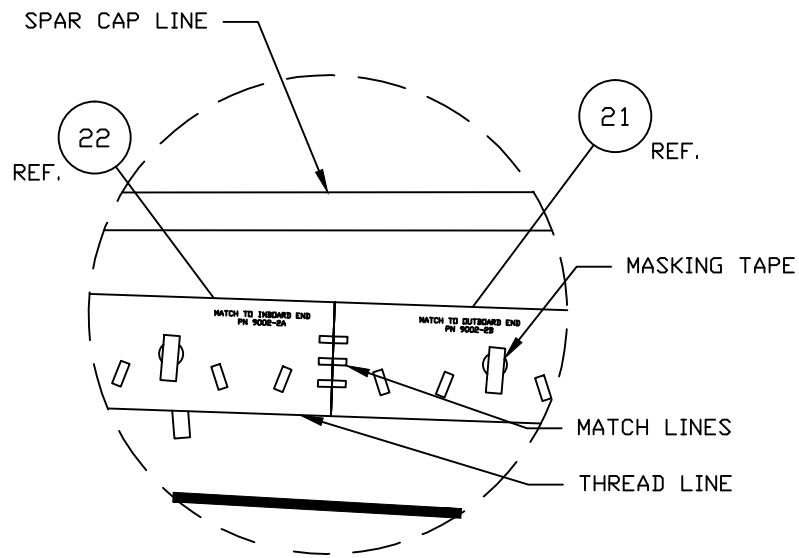
△10 PLACE ITEM ②1 TEMPLATE ON WING AS SHOWN FOR RIGHT WING. LINE UP MARK ON TEMPLATE FOR 7" WITH MARK #3. ALIGN TEMPLATE ALONG THREAD LINE. FOR INITIAL PLACEMENT TAPE DOWN WITH MASKING TAPE AS REQUIRED THROUGH THE ROUND OPENINGS PROVIDED. PLACE ITEM ①9 FOR LEFT WING.

NOTES:

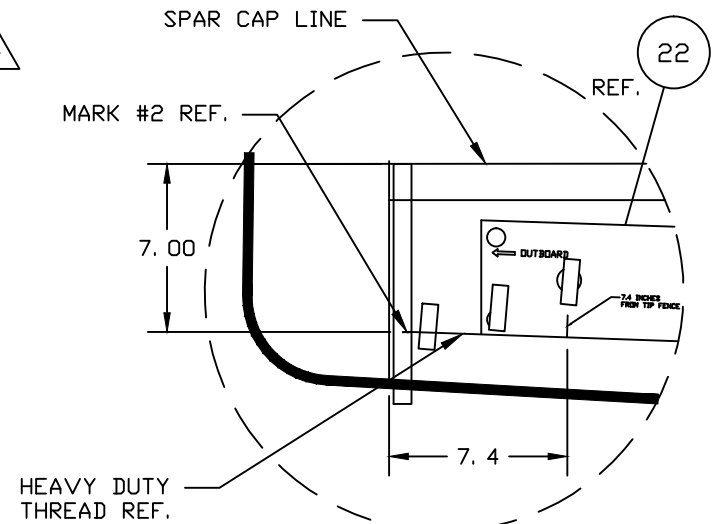
NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		OUTBOARD WING TEMPLATE LOCATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No DSP-IM12-01-05B		REVISION	A
SCALE: NONE		DATE 08/08/12	SH 5 OF 6



VIEW 'A' 13 14
FROM SHEET 5



VIEW 'B' 13 14
FROM SHEET 5



VIEW 'C' 13 14
FROM SHEET 5

14 ONCE THE LOCATIONS OF THE TEMPLATES ARE MADE AND VERIFIED, CAREFULLY REMOVE A TEMPLATE, STRIP THE PAPER BACKING OFF THE VINYL TEMPLATE AND APPLY THE TEMPLATE TO THE SURFACE OF THE WING IN THE SAME POSITION AS IT WAS REMOVED. CAREFULLY SQUEEZE OUT AIR POCKETS CLOSE TO THE VG LOCATION HOLES WITH A SQUEEGEE. DO NOT STRETCH THE TEMPLATE AS IT IS BEING APPLIED TO THE WING SURFACE.

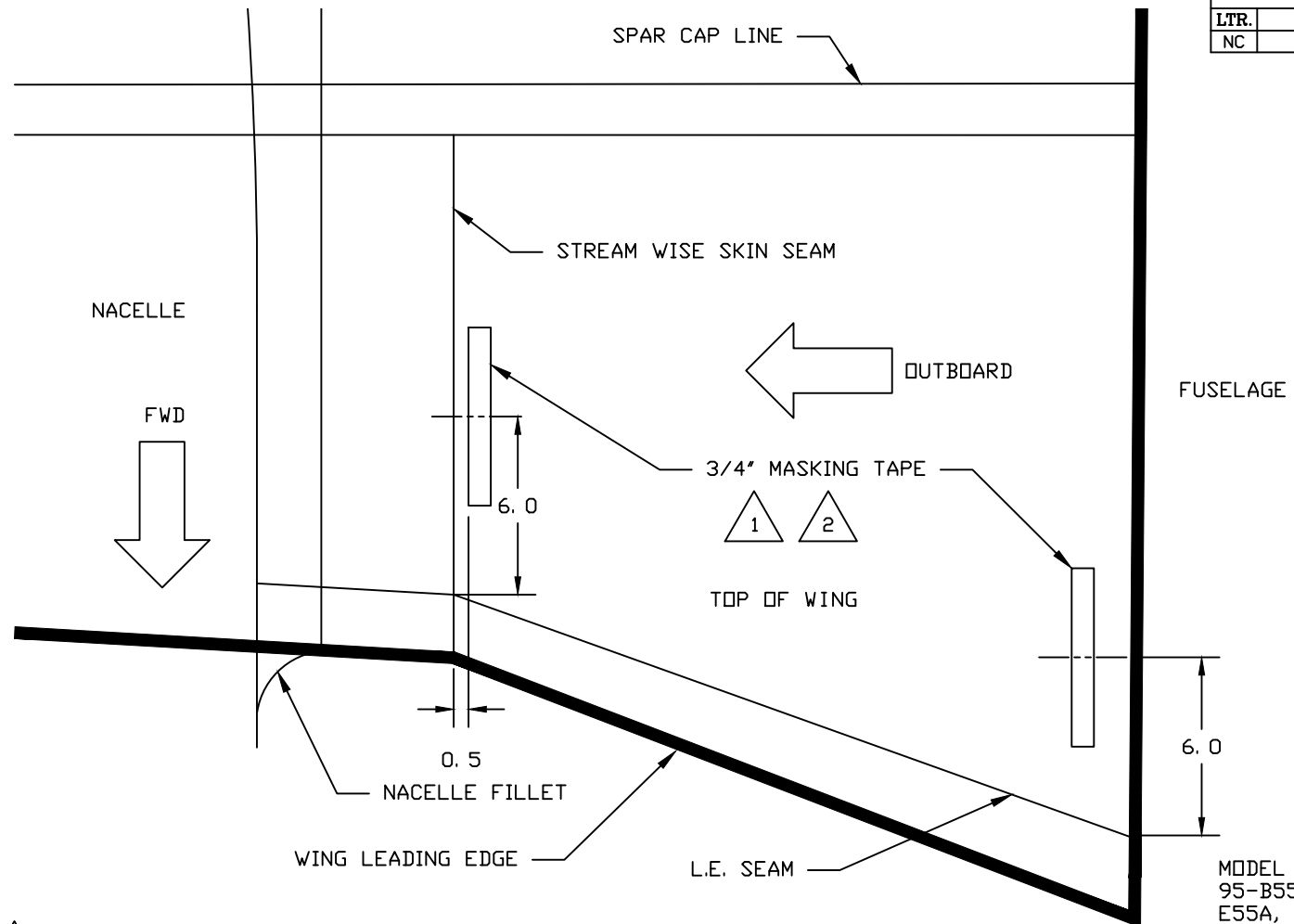
13 IN RARE CASES THE DEICING BOOTS EXTEND FAR ENOUGH AFT ALONG THE TOP SURFACE OF THE WING TO INTERFERE WITH THE LINE OF VGs. IF THE RECTANGULAR WINDOWS WHICH LOCATE THE VGs EXPOSE A PORTION OF THE PNEUMATIC BOOT IT WILL BE NECESSARY TO RELOCATE THE THREAD LINE AFT TO ELIMINATE THE CONFLICT. NOTE THAT THE BLACK BONDING MATERIAL ALONG THE EDGE OF THE BOOTS CAN BE REMOVED, OR A SMALL CORNER OF THE VG CAN BE TRIMMED TO AVOID RELOCATION. RELOCATION IS ONLY REQUIRED IF THE VGs WILL TOUCH THE INFLATABLE PORTION OF THE BOOT.

THE THREAD LINE MAY BE RELOCATED UP TO 1/2" AFT WITHOUT SERIOUS DETERIORATION OF THE VG SYSTEM BENEFITS. IF MORE IS REQUIRED CONTACT D'SHANNON PRODUCTS. IT IS IMPORTANT THAT ANY CHANGES TO LOCATION ON ONE WING BE DUPLICATED EXACTLY ON THE OPPOSITE WING. IF POSSIBLE, ONLY THE INBOARD END OF THE LINE SHOULD BE MOVED AFT. IN ANY EVENT KEEP THE RELOCATION TO A MINIMUM.

NOTES:

NEXT ASSY:		OUTBOARD WING TEMPLATE LOCATION	
DRAWN BY: D. B.			
ENGINEER: D. BRAUN			
CHECKED BY: D. B.			
TOLERANCES		D'SHANNON PRODUCTS, LTD	
.X_.10 .XXX_.01			
.XX_.03 .XXXX_.001		DWG. No. DSP-IM12-01-05B REVISION A	
ANGLES ±5%		SCALE: NONE DATE 08/08/12 SH 6 OF 6	
UNLESS STATED			

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12



MODEL 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, 95-C55A, D55, D55A, E55, E55A, 58, 58A AND G58.

- △2 PLACE ANOTHER PIECE OF TAPE CENTERED ABOUT 6" AFT OF THE L. E. SEAM APPROXIMATELY 1/2" INBOARD OF THE STREAM WISE SEAM.
- △1 STARTING ON EITHER WING, PLACE A PIECE OF MASKING TAPE ABOUT 6" LONG ON THE WING SKIN ON THE INBOARD WING PARALLEL TO AND SEVERAL INCHES OUTBOARD OF THE FUSELAGE CENTERED APPROXIMATELY 6" AFT OF THE (LEADING EDGE) L. E. SEAM.

- 2 - SEE DSP-IM12-01-06A FOR 58TC AND 58P LAYOUT DIMENSIONS AND INSTRUCTIONS.
- 1 - CREATE LAYOUT LINES AND INDEX MARKS FOR THE ALIGNMENT OF THE TEMPLATES ON THE WING SECTIONS INBOARD OF THE NACELLES AS SHOWN. NOTE THAT THE LAYOUT LINE FOR THE TEMPLATES IS 1' FORWARD OF THE LEADING EDGE LINE FOR THE VGs SHOWN ON THE INSTALLATION DRAWING SINCE THE TEMPLATES POSITION THE VGs 1' AFT OF THE LAYOUT LINE. APPLY THE INBOARD TEMPLATES.

NOTES:

ITEM	QTY	PART No.	DESCRIPTION
24	1	11000-1	LAYOUT TOOL
8	1	10006R	TEMPLATE RH INBOARD
7	1	10006L	TEMPLATE LH INBOARD
-	AR	--	SPOOL HEAVY DUTY THREAD
-	AR	--	3/4" MASKING TAPE

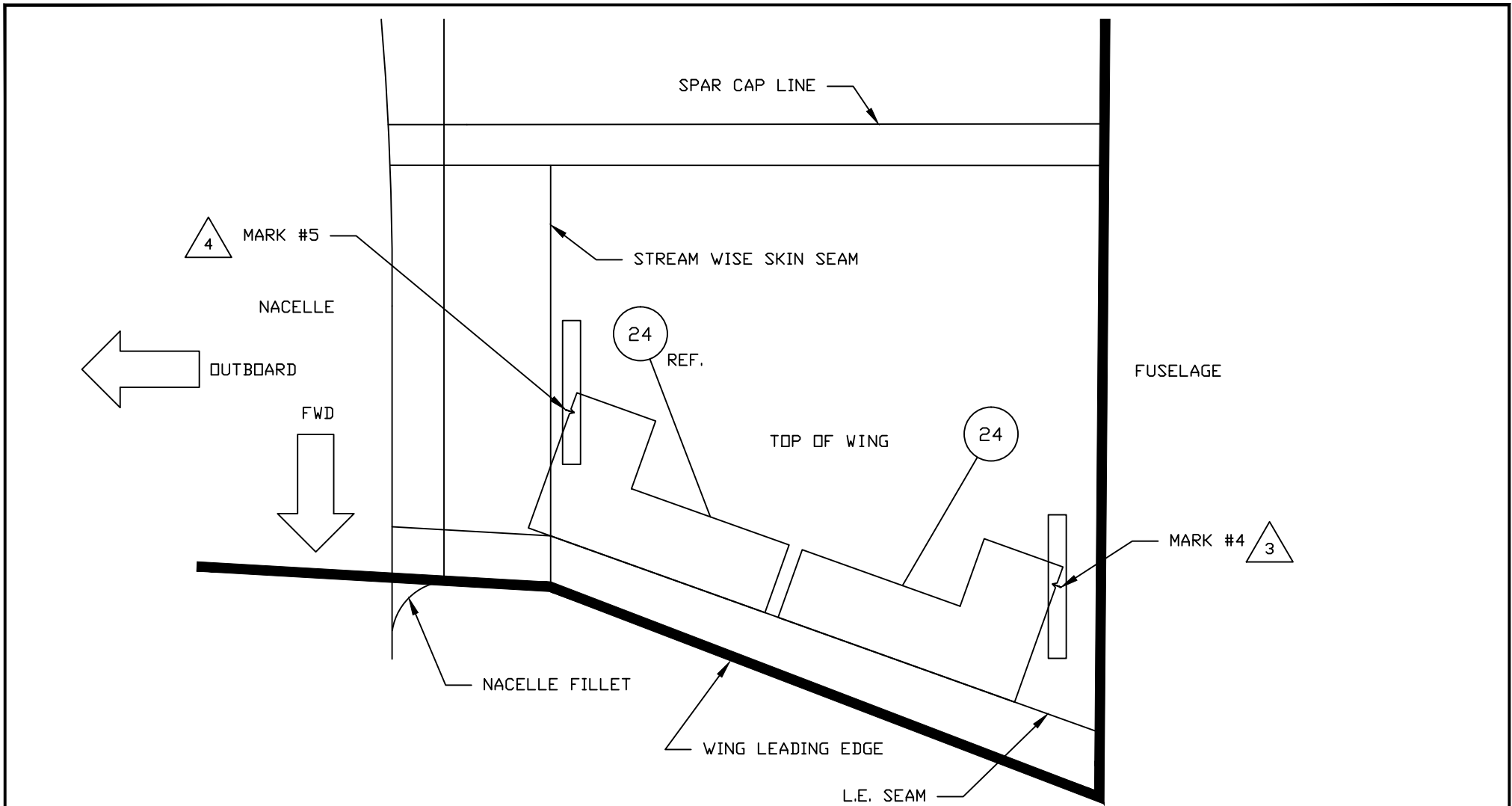
NEXT ASSY:
 DRAWN BY: D. B.
 ENGINEER: D. BRAUN
 CHECKED BY: D. B.

INBOARD OF NACELLE TEMPLATE LOCATION

TOLERANCES
 .X_.10 .XXX_.01
 .XX_.03 .XXXX_.001
 ANGLES ±5%
 UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. DSP-IM12-01-06 REVISION NC
 SCALE: NONE DATE 08/08/12 SH 1 OF 4

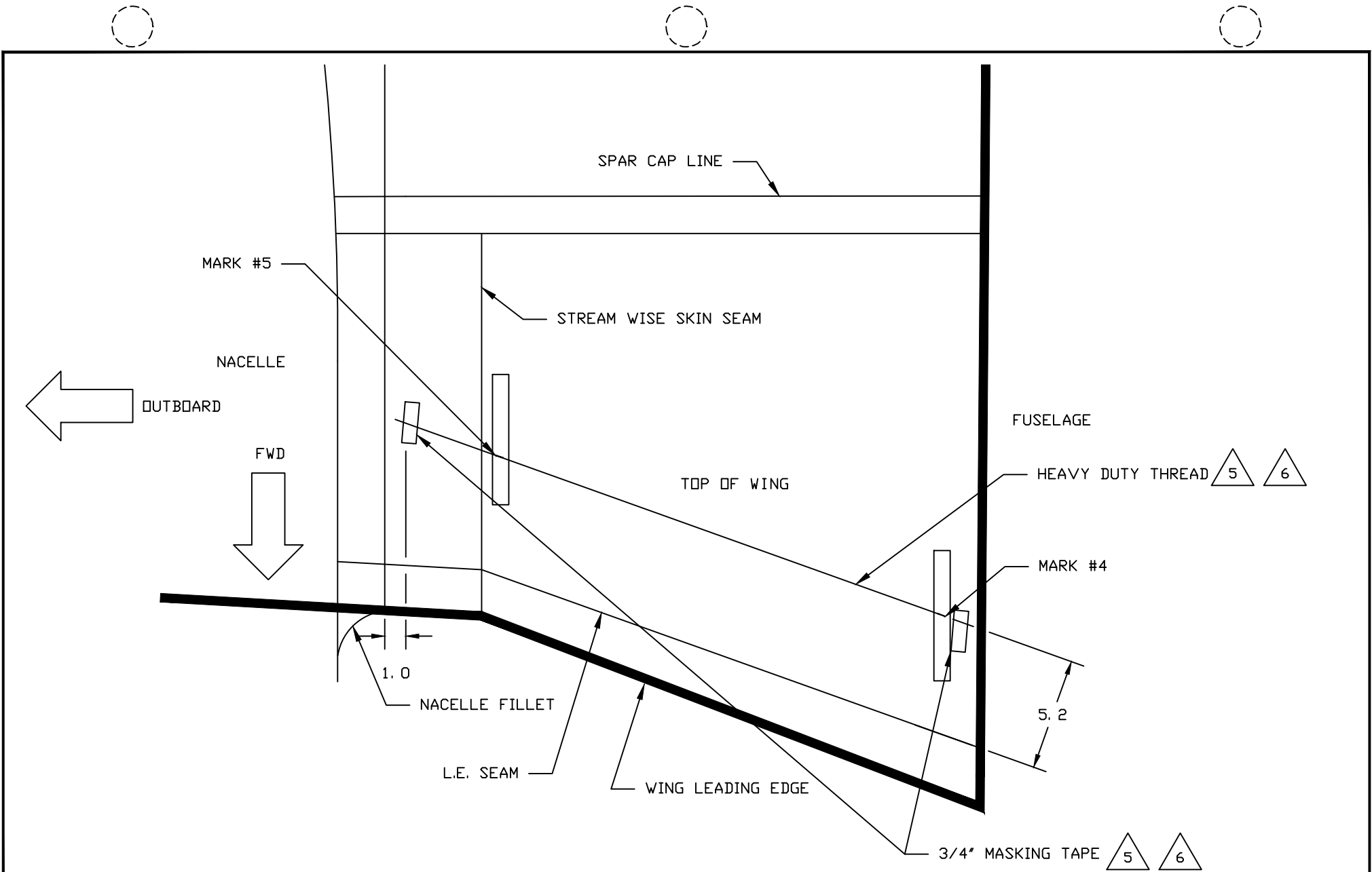


△ 4 FLIP ITEM (24) LAYOUT TOOL END FOR END AND ALIGN THE 10-1/2 INCH EDGE WITH THE LEADING EDGE SEAM AND MAKE A PENCIL MARK AT THE NOTCH ON THE OTHER PIECE OF TAPE. THIS MARK WILL BE REFERRED TO AS 'MARK #5'.

△ 3 PLACE ITEM (24) LAYOUT TOOL SO THAT THE 10-1/2 INCH EDGE IS ALIGNED WITH THE L. E. SEAM AND SO THAT THE NOTCH IN THE 6" EDGE OVERLIES THE INBOARD PIECE OF TAPE. MAKE A PENCIL MARK AT THE NOTCH. THIS MARK WILL BE REFERRED TO AS 'MARK #4'.

NOTES:

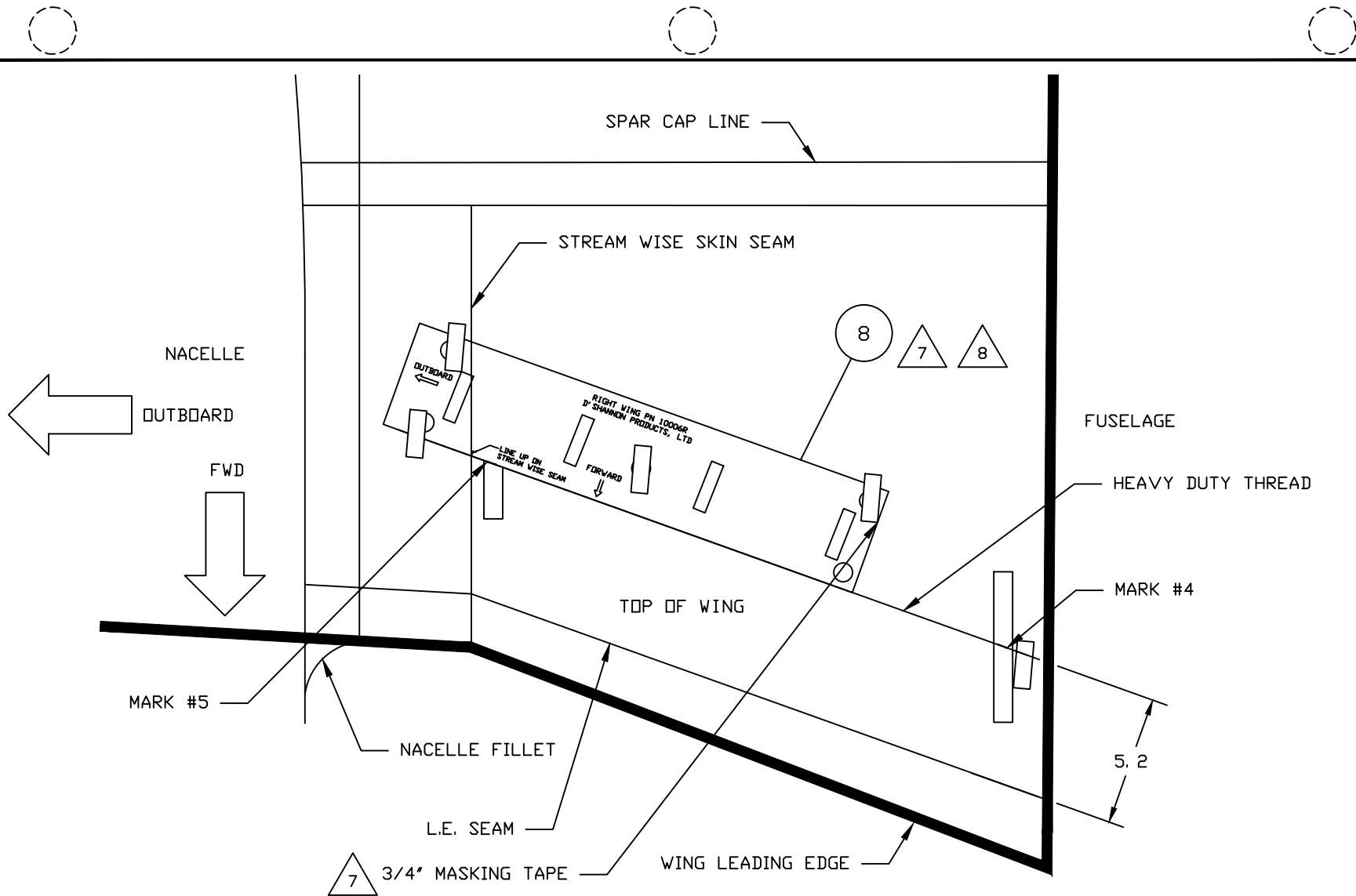
NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		INBOARD OF NACELLE TEMPLATE LOCATION	
TOLERANCES X_.10 .XXX_.01 XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-06		REVISION NC	
SCALE: NONE		DATE 08/08/12 SH 2 OF 4	



- 6 APPLY A PIECE OF MASKING TAPE TO HOLD THE THREAD TAUT AND ALIGNED WITH MARK #5.
- 5 PLACE ONE END OF A HEAVY DUTY THREAD AT MARK #4 AND SECURE WITH A PIECE OF MASKING TAPE. STRETCH THE THREAD TAUT UNTIL REACHING MARK #5 AND CONTINUE UNTIL WITHIN 1" OF THE NACELLE FILLET.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		INBOARD OF NACELLE TEMPLATE LOCATION	
TOLERANCES X_.10 .XXX_.01 XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
		DWG. No. DSP-IM12-01-06	REVISION NC
		SCALE: NONE	DATE 08/08/12 SH 3 OF 4

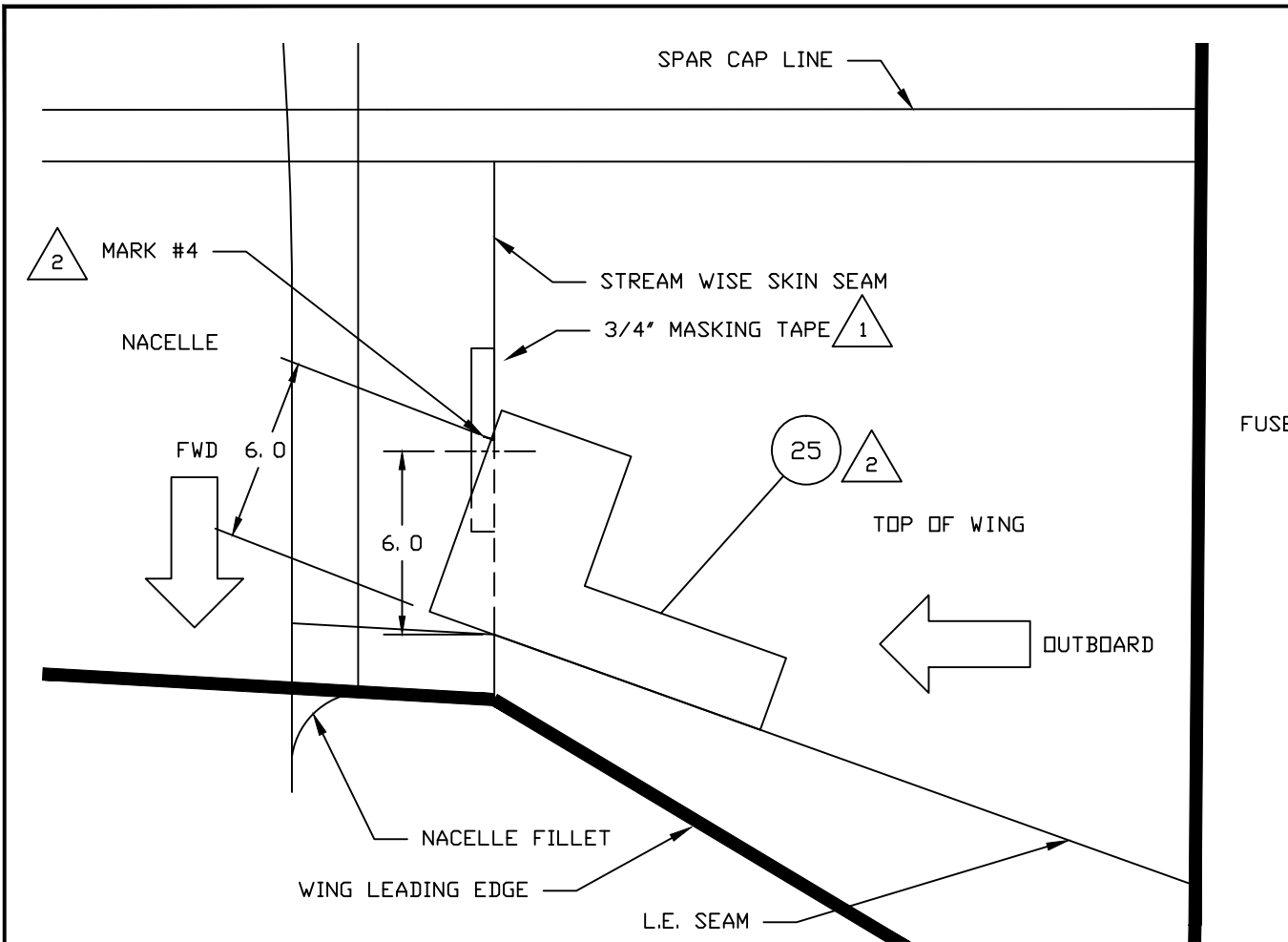


8 ONCE THE LOCATION OF THE TEMPLATE IS MADE AND VERIFIED, CAREFULLY REMOVE THE TEMPLATE, STRIP THE PAPER BACKING OFF THE VINYL TEMPLATE AND APPLY THE TEMPLATE TO THE SURFACE OF THE INBOARD SECTION IN THE SAME POSITION AS IT WAS REMOVED. CAREFULLY SQUEEZE OUT AIR POCKETS CLOSE TO THE VG LOCATION HOLES WITH A SQUEEGEE. DO NOT STRETCH THE TEMPLATE AS IT IS BEING APPLIED TO THE WING SURFACE.

7 PLACE ITEM 8 TEMPLATE ON WING AS SHOWN FOR RIGHT WING. LINE UP MARK ON TEMPLATE TO THE STREAM WISE SEAM. ALIGN TEMPLATE ALONG THREAD LINE. FOR INITIAL PLACEMENT TAPE DOWN WITH MASKING TAPE AS REQUIRED THROUGH THE ROUND OPENINGS PROVIDED. PLACE ITEM 7 FOR LEFT WING.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		INBOARD OF NACELLE TEMPLATE LOCATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-06		REVISION NC	
SCALE: NONE		DATE 08/08/12 SH 4 OF 4	



REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12

FUSELAGE

△2 PLACE ITEM (25) LAYOUT TOOL SO THAT THE 11-1/2 INCH EDGE IS ALIGNED WITH THE L. E. SEAM AND SO THAT THE NOTCH IN THE 7" EDGE OVERLIES THE PIECE OF TAPE LOCATED ON THE STREAM WISE SEAM. MAKE A PENCIL MARK AT THE NOTCH. THIS MARK WILL BE REFERRED TO AS 'MARK #4'.

△1 STARTING ON EITHER WING, PLACE A PIECE OF MASKING TAPE ABOUT 6' LONG CENTERED ABOUT 6" AFT OF THE L. E. SEAM AND JUST OUTBOARD OF THE STREAM WISE SEAM.

2 - SEE DSP-IM12-01-06 FOR 55 AND 58 LAYOUT DIMENSIONS AND INSTRUCTIONS.

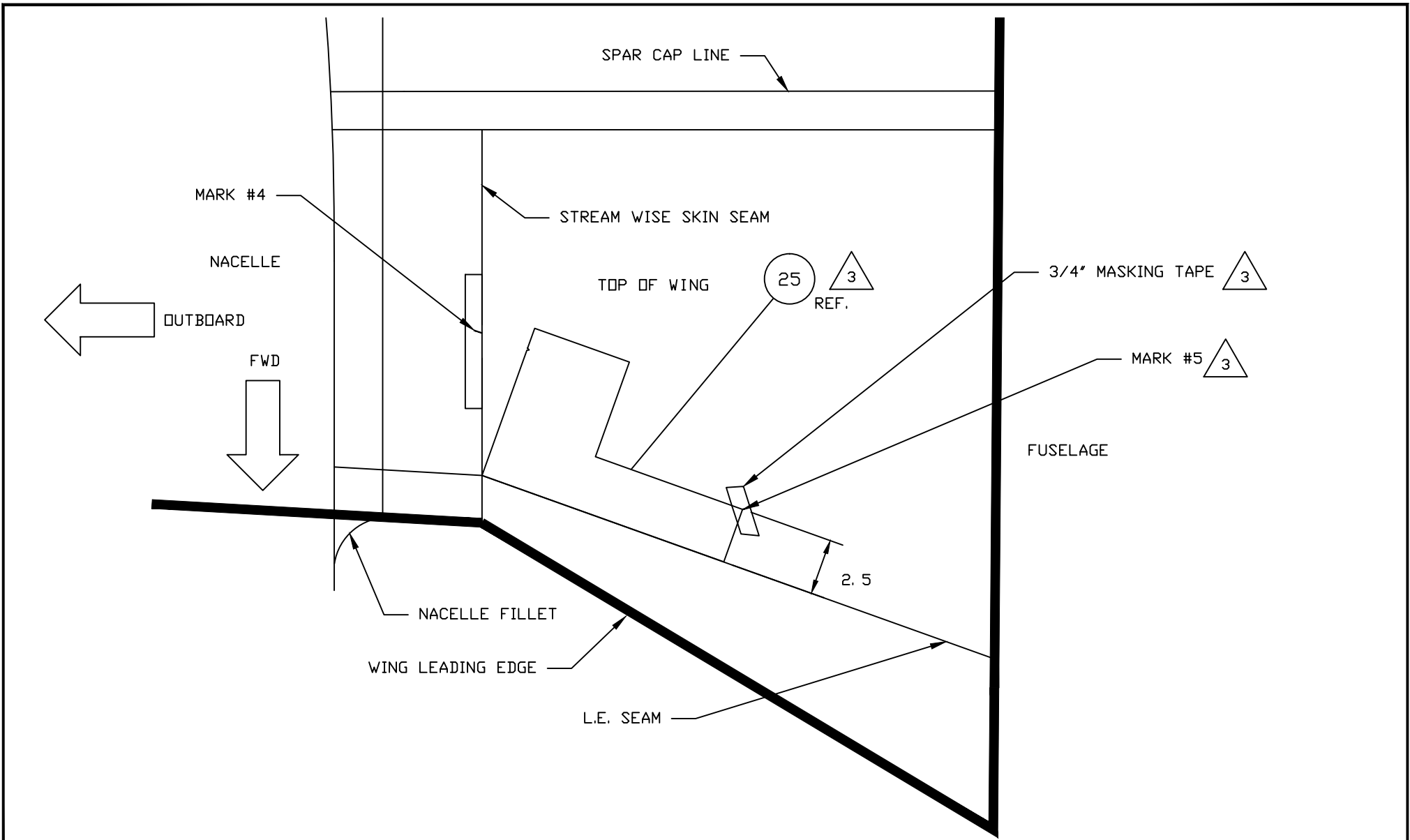
1 - CREATE LAYOUT LINES AND INDEX MARKS FOR THE ALIGNMENT OF THE TEMPLATES ON THE WING SECTIONS INBOARD OF THE NACELLES AS SHOWN. NOTE THAT THE LAYOUT LINE FOR THE TEMPLATES IS 1' FORWARD OF THE LEADING EDGE LINE FOR THE VGs SHOWN ON THE INSTALLATION DRAWING SINCE THE TEMPLATES POSITION THE VGs 1' AFT OF THE LAYOUT LINE. APPLY THE INBOARD TEMPLATES.

NOTES:

MODEL 58TC, 58TCA, 58P AND 58PA.

ITEM	QTY	PART No.	DESCRIPTION
25	1	11000-2	LAYOUT TOOL
10	1	10008R	TEMPLATE RH INBOARD
9	1	10008L	TEMPLATE LH INBOARD
-	AR	--	SPOOL HEAVY DUTY THREAD
-	AR	--	3/4" MASKING TAPE

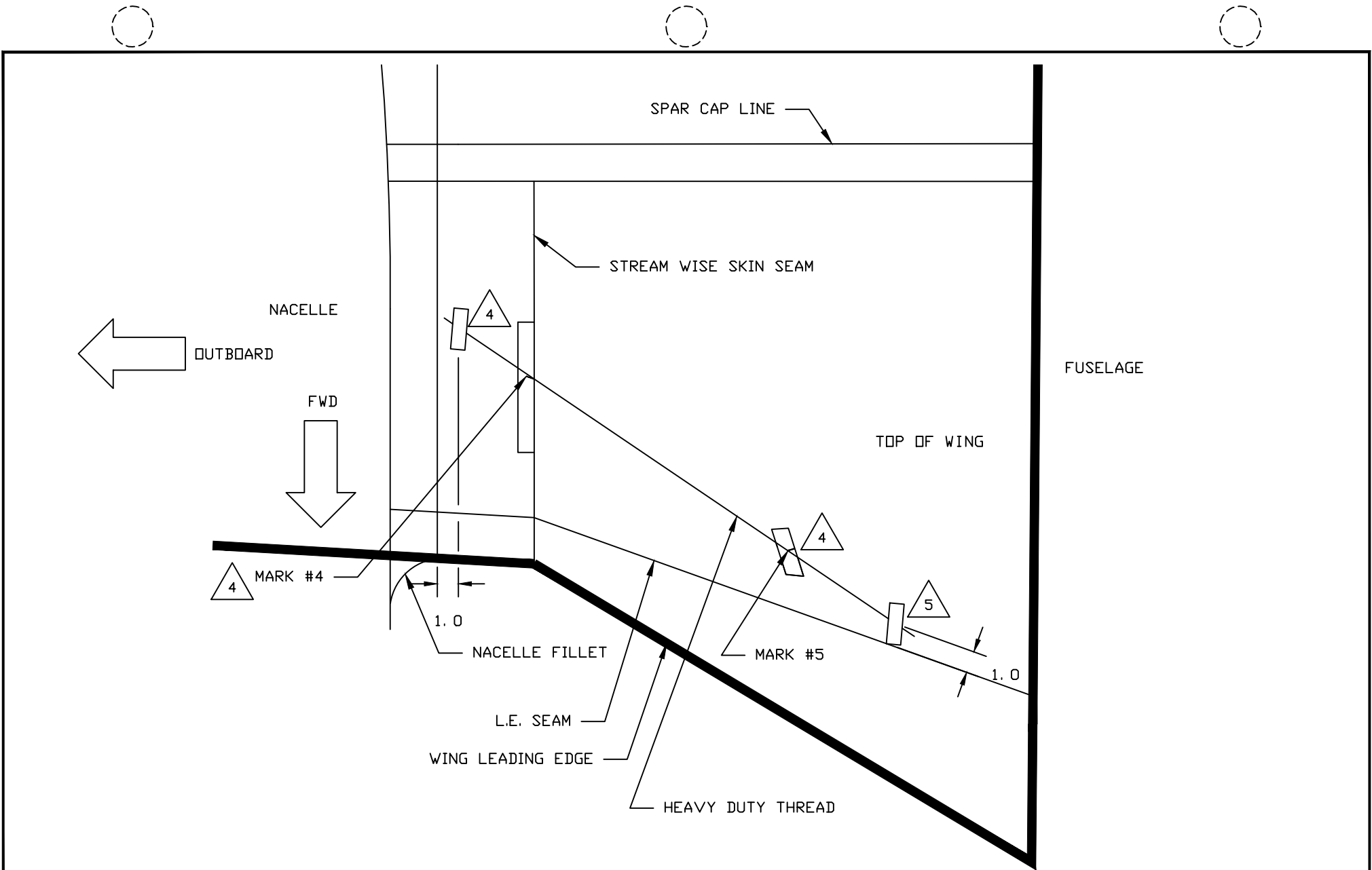
NEXT ASSY:		INBOARD OF NACELLE TEMPLATE LOCATION	
DRAWN BY: D. B.			
ENGINEER: D. BRAUN			
CHECKED BY: D. B.			
TOLERANCES		D' SHANNON PRODUCTS, LTD	
.X_.10 .XXX_.01			
.XX_.03 .XXX_.001		DWG. No. DSP-IM12-01-06A REVISION NC	
ANGLES ±5%		SCALE: NONE DATE 08/08/12 SH 1 OF 4	
UNLESS STATED			



△ 3 SLIDE ITEM ②5 LAYOUT TOOL ALONG THE L. E. SEAM UNTIL THE CORNER OF THE 11-1/2
 EDGE AND THE 7" EDGE IS RESTING ON THE STREAM WISE SEAM. LIFT THE INBOARD CORNER
 OF THE TEMPLATE AND PLACE A SMALL PIECE OF MASKING TAPE UNDER THE EDGE OF THE
 INBOARD 2-1/2 SIDE OF THE LAYOUT TOOL. MAKE A PENCIL MARK AT THE CORNER. THIS
 MARK WILL BE REFERRED TO AS 'MARK #5'.

NOTES:

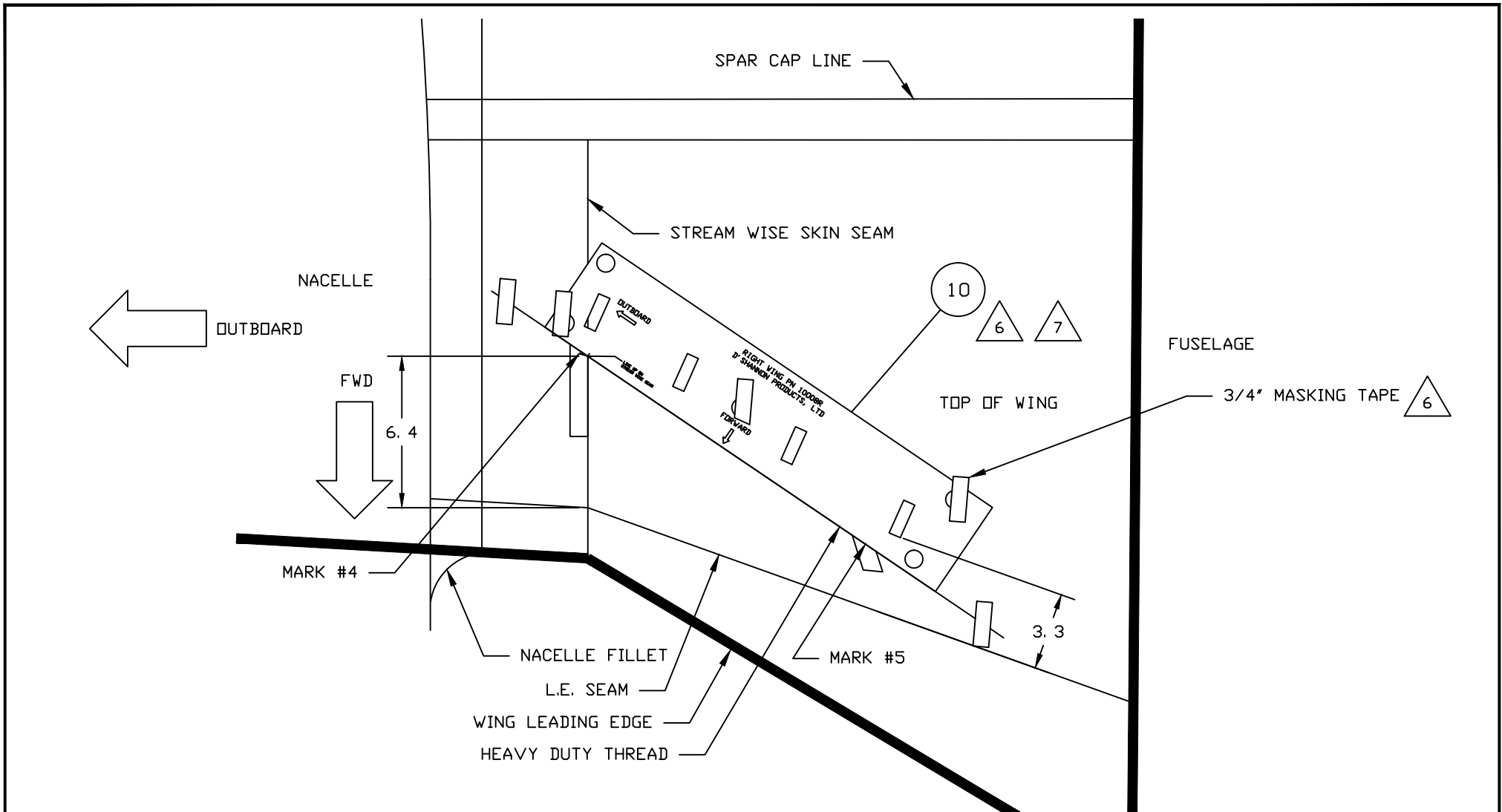
NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		INBOARD OF NACELLE TEMPLATE LOCATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-06A		REVISION NC	
SCALE: NONE		DATE 08/08/12 SH 2 OF 4	



- 5 APPLY A PIECE OF MASKING TAPE TO HOLD THE THREAD TAUT AND ALIGNED WITH MARK #5.
- 4 PLACE ONE END OF A HEAVY DUTY THREAD ALIGNED AT MARK #4 AND STARTING ABOUT AN INCH FROM THE NACELLE FILLET. SECURE WITH A PIECE OF MASKING TAPE. STRETCH THE THREAD TAUT UNTIL REACHING MARK #5 AND CONTINUE UNTIL WITHIN 1" OF L. E. SEAM.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		INBOARD OF NACELLE TEMPLATE LOCATION	
TOLERANCES X_.10 .XXX_.01 XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-06A		REVISION NC	
SCALE: NONE		DATE 08/08/12 SH 3 OF 4	

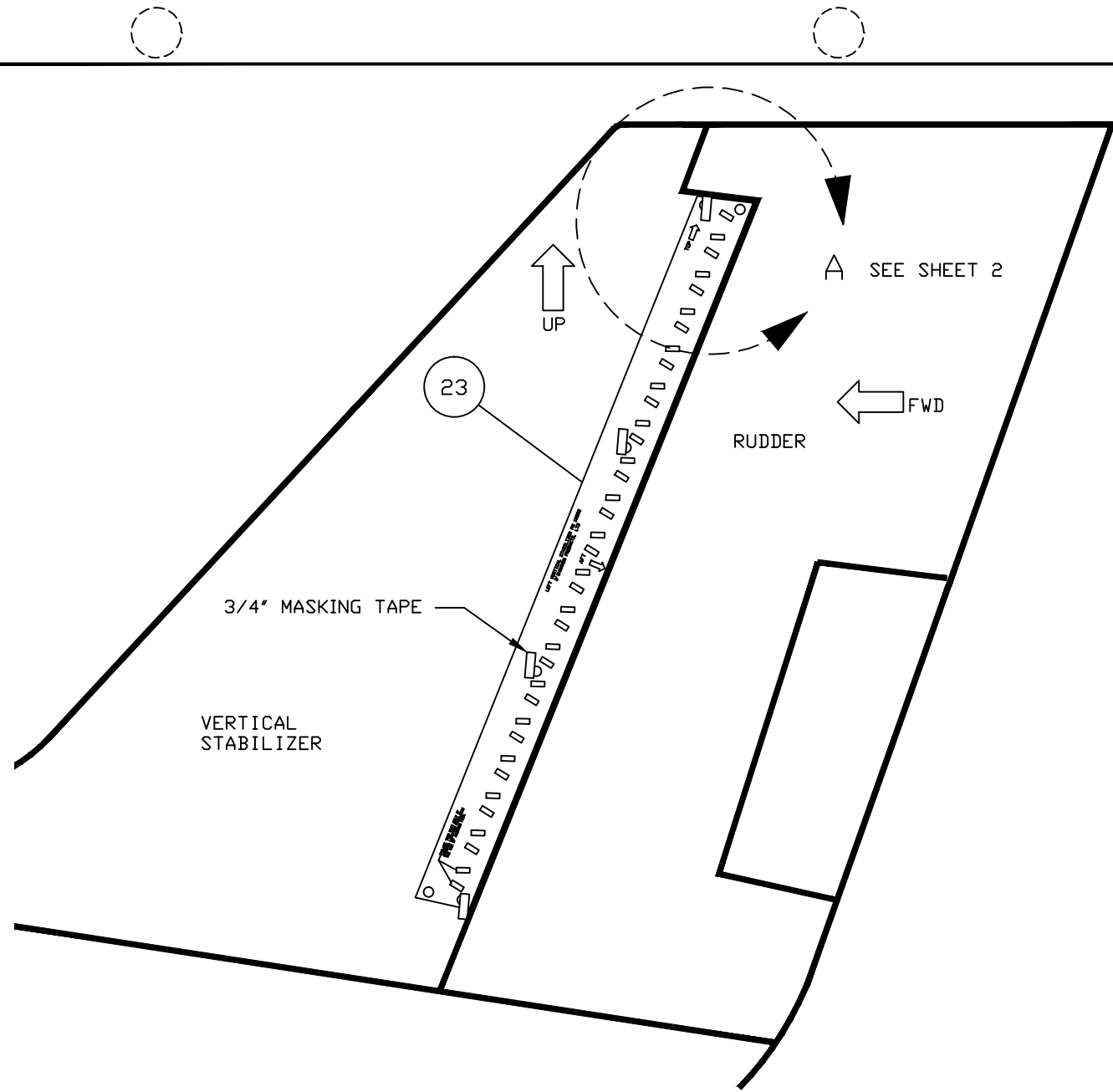


7 ONCE THE LOCATION OF THE TEMPLATE IS MADE AND VERIFIED, CAREFULLY REMOVE THE TEMPLATE, STRIP THE PAPER BACKING OFF THE VINYL TEMPLATE AND APPLY THE TEMPLATE TO THE SURFACE OF THE INBOARD SECTION IN THE SAME POSITION AS IT WAS REMOVED. CAREFULLY SQUEEZE OUT AIR POCKETS CLOSE TO THE VG LOCATION HOLES WITH A SQUEEGEE. DO NOT STRETCH THE TEMPLATE AS IT IS BEING APPLIED TO THE WING SURFACE.

6 PLACE ITEM 10 TEMPLATE ON WING AS SHOWN FOR RIGHT WING. LINE UP MARK ON TEMPLATE TO THE STREAM WISE SEAM. ALIGN TEMPLATE ALONG THREAD LINE. FOR INITIAL PLACEMENT TAPE DOWN WITH MASKING TAPE AS REQUIRED THROUGH THE ROUND OPENINGS PROVIDED. PLACE ITEM 9 FOR LEFT WING.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		INBOARD OF NACELLE TEMPLATE LOCATION	
TOLERANCES X_.10 .XXX_.01 XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-06A		REVISION	NC
SCALE: NONE		DATE 08/08/12	SH 4 OF 4



REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12

MODEL 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, 95-C55A, D55, D55A, E55, E55A, 58, 58A, G58, 58TC, 58TCA, 58P AND 58PA.

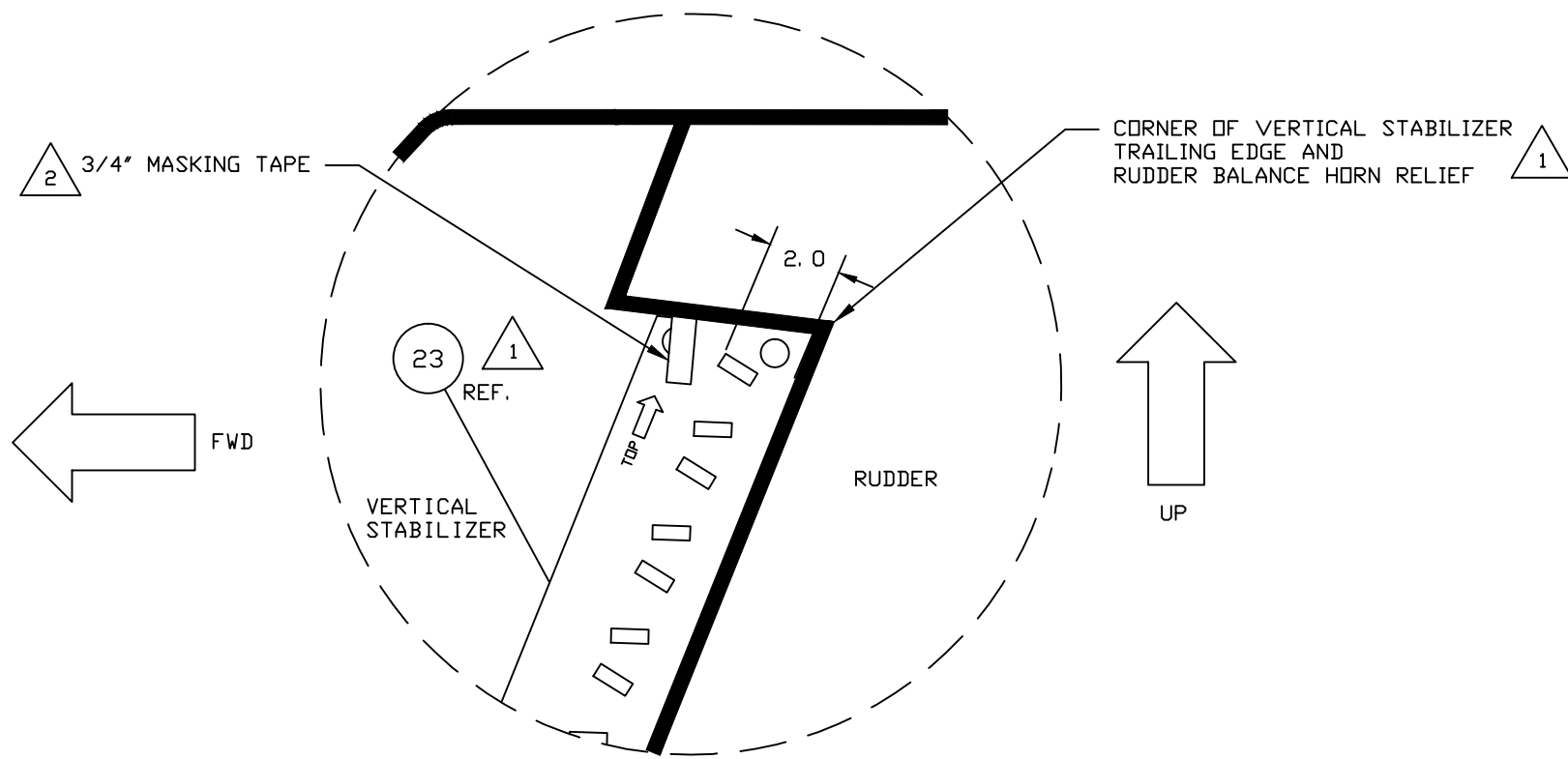
23	1	10002	TEMPLATE LH VERTICAL STABILIZER
-	AR	--	3/4" MASKING TAPE
ITEM	QTY	PART No.	DESCRIPTION

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		VERTICAL STABILIZER TEMPLATE LOCATION	
TOLERANCES		<i>D' SHANNON PRODUCTS, LTD</i>	
.X_.10 .XXX_.01		DWG. No. DSP-IM12-01-07	
.XX_.03 .XXXX_.001		REVISION NC	
ANGLES ±5%		SCALE: NONE	
UNLESS STATED		DATE 08/08/12	
		SH 1 OF 2	

2 - VGs ARE ONLY APPLIED TO THE LH SIDE OF THE VERTICAL STABILIZER. THERE IS NO RH SIDE TEMPLATE TO INSTALL.

1 - INSTALL THE VERTICAL STABILIZER TEMPLATE.

NOTES:



VIEW 'A'
FROM SHEET 1

- 2 ONCE THE LOCATION OF THE TEMPLATE IS MADE AND VERIFIED, CAREFULLY REMOVE THE TEMPLATE, STRIP THE PAPER BACKING OFF THE VINYL TEMPLATE AND APPLY THE TEMPLATE TO THE SURFACE OF THE INBOARD SECTION IN THE SAME POSITION AS IT WAS REMOVED. CAREFULLY SQUEEZE OUT AIR POCKETS CLOSE TO THE VG LOCATION HOLES WITH A SQUEEGEE. DO NOT STRETCH THE TEMPLATE AS IT IS BEING APPLIED TO THE STABILIZER SURFACE.
- 1 PLACE ITEM 23 TEMPLATE ON LEFT HAND SIDE OF THE VERTICAL STABILIZER LINED UP WITH THE TRAILING EDGE AND THE RUDDER BALANCE HORN RELIEF. FOR INITIAL PLACEMENT TAPE DOWN WITH MASKING TAPE AS REQUIRED THROUGH THE ROUND OPENINGS PROVIDED. IF ANTENNA LOCATION INTERFERENCE IS NOTED SPLIT THE TEMPLATE AND CAREFULLY ACCOUNT FOR LENGTH OF THE REMOVED PORTION. ONLY ONE PAIR OF VG CUTOUTS MAY BE REMOVED FOR THIS PURPOSE. CONTACT D' SHANNON PRODUCTS IF YOU ENCOUNTER DIFFICULTIES.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		VERTICAL STABILIZER TEMPLATE LOCATION	
TOLERANCES X_.10 .XXX_.01 XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. DSP-IM12-01-07		REVISION NC	
SCALE: NONE		DATE 08/08/12 SH 2 OF 2	

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12

RIVET OR SCREW HEAD INTERFERENCE (REF DWGS VG-100 AND VG-101)

- 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 INBOARD OF THE NACELLE SECTION THE VGs ALWAYS POINT TOWARD THE NACELLE AND CURL TOWARD THE FUSELAGE. SEE DSP-IM12-01-10 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 55 SERIES AIRPLANES; ON THE VERTICAL STABILIZER ON ALL MODELS; AND NEAR THE FUEL FILLER CAPS ON THE LATE E55 AND ALL OF THE 58 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. (DRAWINGS VG-100 AND VG-101 SHOW 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
<u>TOLERANCES</u> .X_.10 .XXX_.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	<i>D' SHANNON PRODUCTS, LTD</i> DWG. No. DSP-IM12-01-08 REVISION NC SCALE: NONE DATE 08/08/12 SH 1 OF 1

SURFACE PREPARATION (REF DWGS VG-100 AND VG-101)

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 ABRABE 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. ABRABE 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 ABRABED TO OFFER UP A FRESH SANDING PAD TO EACH OPENING.

REMOVING RESIDUE

AFTER ALL OF THE TEMPLATE OPENINGS HAVE BEEN ABRABED, 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:

REVISION RECORD

LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		SURFACE PREPARATION	
<u>TOLERANCES</u> .X_.10 .XXX_.01 .XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED		<i>D' SHANNON PRODUCTS, LTD</i>	
DWG. No. DSP-IM12-01-09		REVISION	NC
SCALE: NONE		DATE 08/08/12	SH 1 OF 1

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12

ATTACHING THE VORTEX GENERATORS (REF DWGS VG-100 AND VG-101)

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.

OUTBOARD 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), (2), (5) AND (6) (REF BILL OF MATERIAL ON DRAWING DSP-IM12-01-03 AND DRAWINGS VG-100 AND VG-101) 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 RADIUS 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 IN CASE 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 OUTBOARD 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.

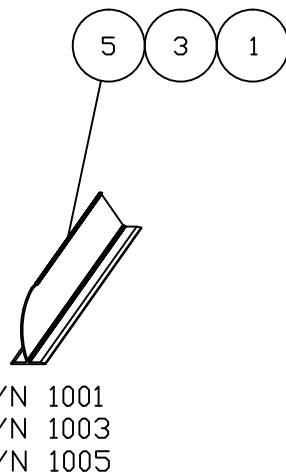
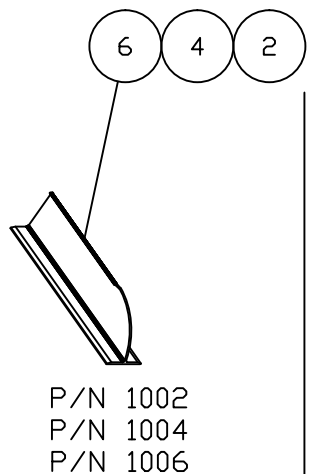
* REF DWG VG-101 FOR QUANTITIES AND PLACEMENT FOR MODEL 58TC, 58TCA, 58P AND 58PA.

* REF DWG VG-100 FOR QUANTITIES AND PLACEMENT FOR MODEL 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, 95-C55A, D55, D55A, E55, E55A, 58, 58A AND G58.

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

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		ATTACHING THE VORTEX GENERATORS	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
		DWG. No. DSP-IM12-01-10	REVISION NC
		SCALE: NONE	DATE 08/08/12 SH 1 OF 2

NOTES:



INBOARD WING SECTIONS

- 1 - ATTACH THE VGs TO THE INBOARD SECTION, SPRAYING THE ACTIVATOR AS DESCRIBED FOR THE OUTBOARD SECTIONS THROUGH THE TEMPLATE OPENINGS ON BOTH INBOARD SECTIONS.
- 2 - LAY OUT ALL THE VGs ITEMS ③, ④, ⑤ AND ⑥ (REF BILL OF MATERIAL ON DRAWING DSP-IM12-01-03 AND DRAWINGS VG-100 AND VG-101) 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 RADIUS END ALWAYS POINTS FORWARD.
- 3 - BECAUSE THE INBOARD WING 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 HAND WHILE CLEANING UP WITH COTTON TIPPED SWABS WITH THE OTHER.
- 4 - COMPLETE BOTH INBOARD SECTIONS AND REMOVE THE TEMPLATES BEGINNING AT THE FIRST END.

VERTICAL STABILIZER

- 1- THE VERTICAL STABILIZER CAN BE COMPLETED IN A SIMILAR FASHION. THE ONLY DIFFERENCE IS THAT YOU WILL HAVE TO LAY OUT THE VGs ITEMS ① AND ② (REF BILL OF MATERIAL ON DRAWING DSP-IM12-01-03 AND DRAWINGS VG-100 AND VG-101) ON THE HORIZONTAL STABILIZER FOR HANDY ACCESS; AND THAT YOU MAY HAVE TO HOLD EACH VG IN PLACE A LITTLE LONGER SO IT WILL STICK WITHOUT SLIDING.

NOTES:

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12

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. DSP-IM12-01-10		REVISION NC	
SCALE: NONE		DATE 08/08/12 SH 2 OF 2	

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12

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
<u>TOLERANCES</u> .X_.10 .XXX_.01 .XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED	<i>D' SHANNON PRODUCTS, LTD</i> DWG. No. DSP-IM12-01-11 REVISION NC SCALE: NONE DATE 08/08/12 SH 1 OF 1

AIRSPEED INDICATOR

THE STC REQUIRES REMARKING THE AIRSPEED INDICATOR ON THE 55 AND 58 SERIES AIRCRAFT WHEN OPERATING UNDER THE OPTIONAL REVISED FLIGHT LIMITATIONS AS DEFINED IN THE OPTIONAL AFMS. THE G58, 58TC AND 58P ARE NOT INCLUDED IN THIS REQUIREMENT. NOR IS REMARKING THE AIRSPEED INDICATOR REQUIRED IF OPERATING UNDER THE ORIGINAL FLIGHT LIMITATIONS. IF YOU ARE UNSURE OF WHERE TO HAVE THE AIRSPEED INDICATOR REMARKED, CONTACT D' SHANNON PRODUCTS FOR VENDORS WHO PERFORM THIS SERVICE. SEE SHEET 2 FOR YOUR MODEL'S REQUIRED MARKINGS.

- 1 - REMOVE THE GLARE SHIELD BY REMOVING THE TWO ATTACH SCREWS THAT FIT INTO THE FUSELAGE DOOR AND WINDOW POSTS AND ANY ATTACHING SCREWS THAT MAY BE ABOVE THE CENTER OF THE GLARE SHIELD. ON SOME MODELS THE GLARE SHIELD IS HELD IN PLACE WITH A VELCRO STRIP WHICH SHOULD BE PARTED CAREFULLY, SINCE THE STRIP IS OFTEN NOT BONDED WELL.
- 2 - THE DEFROSTER DUCT IS NORMALLY SECURED TO THE GLARE SHIELD PLENUM WITH A HOSE CLAMP. HOWEVER, ON MANY PLANES THE DUCT IS NOT ATTACHED OR THE CLAMP IS MISSING. PLAN NOW FOR A PROPER RE-INSTALLATION FOR FULL DEFROSTER OUTPUT.
- 3 - IF THERE IS GLARE SHIELD LIGHTING, THE WIRES CAN BE PARTED AT A MOLEX CONNECTOR WHICH MAY ONLY BE ACCESSIBLE FROM UNDER THE PANEL ON THE PILOT'S SIDE. IF THE COMPASS LIGHT IS THE ONLY ELECTRICAL DEVICE, THE WIRES GENERALLY HAVE INDIVIDUAL QUICK CONNECTORS.
- 4 - IF THE PRESSURE AND STATIC LINES ARE THE SAME SIZE, BE CAREFUL TO MARK THEM PRIOR TO REMOVAL TO PREVENT A CRITICAL ERROR ON RE-ASSEMBLY.

SOMETIMES IT IS CONVENIENT TO REMOVE SMALL PANEL MOUNTED DEVICES SUCH AS MARKER BEACON OR DME INDICATORS TO GAIN ACCESS TO THE INBOARD POST LIGHT IF INSTALLED.

- 5 - AFTER THE ORIGINAL INDICATOR IS OUT OF THE PANEL, REMOVE THE FITTINGS FOR USE WITH THE REMARKED INSTRUMENT. TEFLON THREAD TAPE IS A GOOD CHOICE AS A SEALER, HOWEVER, THE TAPE SHOULD NOT COVER THE FIRST THREAD TO PREVENT FOULING THE INTERNALS OF THE INSTRUMENT. NOTE THE COMMENTS ON THE STATIC SYSTEM BACK FLUSHING AT THE END OF THIS DRAWING.
- 6 - WHEN REINSTALLING THE GLARE SHIELD, THE DEFROSTER DUCT AND CLAMP CAN GENERALLY BE POSITIONED BEFORE THE GLARE SHIELD IS FULLY IN PLACE. FINAL ADJUSTMENTS AND TIGHTENING OF THE CLAMP CAN BE DONE AS FOLLOWS:

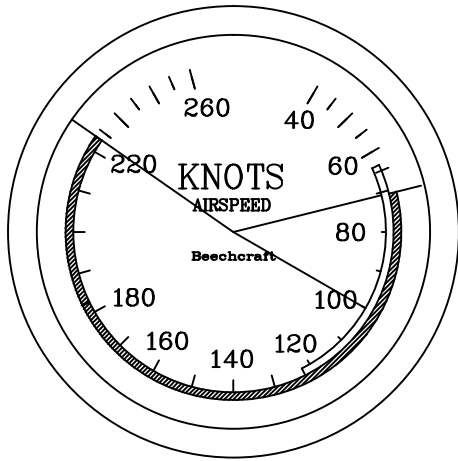
HEAD AND SHOULDERS UNDER THE PANEL ON THE PILOT'S SIDE WITH FEET OUT THE DOOR. LIE ON YOUR LEFT SIDE WITH FACE NEAR THE RUDDER PEDALS AND REACH UP AND TO THE RIGHT ABOVE THE CENTER PEDESTAL WITH YOUR RIGHT ARM TO REACH THE DUCT AND CLAMP.

NOTES:

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12
A	CLARIFY REMARKING REQUIREMENTS	D. B.	04/04/13

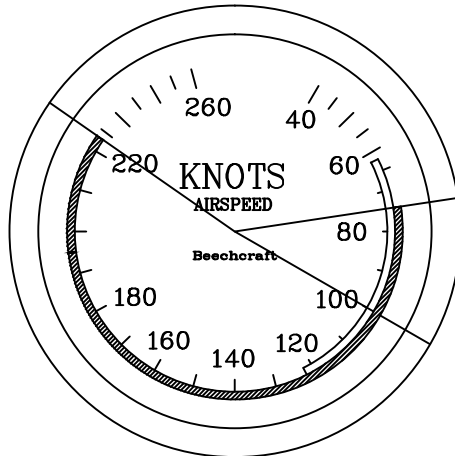
MODEL 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, 95-C55A, D55, D55A, E55, E55A, 58 AND 58A.

NEXT ASSY:		AIRSPEED INDICATOR	
DRAWN BY: D. B.			
ENGINEER: D. BRAUN			
CHECKED BY: D. B.			
TOLERANCES		<i>D' SHANNON PRODUCTS, LTD</i>	
.X_.10 .XXX_.01			
.XX_.03 .XXX_.001			
ANGLES ±5%		DWG. No. DSP-IM12-01-12	REVISION A
UNLESS STATED		SCALE: NONE	DATE 08/08/12 SH 1 OF 2



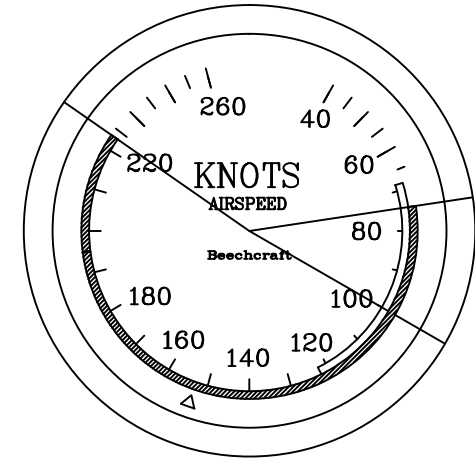
	KNOTS	MPH
WHITE ARC	63-122	72-140
RED RADIAL	71	82
BLUE RADIAL	100	115
GREEN ARC	71-182	82-210
YELLOW ARC	182-223	210-257
RED RADIAL	223	257

ELIGIBILITY
95-55, 95-A55, 95-B55, 95-B55A, 95-B55B



	KNOTS	MPH
WHITE ARC	62-122	71-140
RED RADIAL	75	86
BLUE RADIAL	100	115
GREEN ARC	71-195	82-225
YELLOW ARC	195-223	225-257
RED RADIAL	223	257

ELIGIBILITY
95-C55, 95-C55A, D55, D55A, E55, E55A



	KNOTS
WHITE ARC	62-122
RED RADIAL	74
BLUE RADIAL	100
GREEN ARC	74-195
YELLOW ARC	195-223
RED RADIAL	223
WHITE TRIANGLE	152

ELIGIBILITY
58 AND 58A.

7 - A STATIC LINE LEAK CHECK WILL BE REQUIRED TO COMPLY WITH CFR 14 PART 91.411(A)(2). NOTE THAT THIS IS NOT THE SAME AS THE ALTIMETER AND ENCODER INSTRUMENT ACCURACY CHECKS, AND CAN BE ACCOMPLISHED BY AN AIRFRAME MECHANIC PER PART 91.411(B)(3) WITH FURTHER REFERENCE TO PART 43 APPENDIX E (A)(1-4). KEEP IN MIND THAT ENTRAPPED MOISTURE CAN CONDENSE CAUSING FLUCTUATIONS IN THE AIRSPEED INDICATIONS IF THE SYSTEM DRAINS ARE PLUGGED. YOU MAY CHOOSE TO BACK FLUSH THE STATIC LINE WITH LOW PRESSURE AIR DURING THE INSTRUMENT CHANGE.

8 - A PLACARD FOR THE G58 MUST BE PLACED NEXT TO THE STANDBY AIRSPEED INDICATOR WHICH SAYS "WHEN MAXIMUM SLOW FLIGHT PERFORMANCE IS DESIRED THE STANDBY AIRSPEED INDICATOR BECOMES THE PRIMARY." OTHERWISE THE AIRCRAFT MAY BE FLOWN TO THE NUMBERS DISPLAYED ON THE GARMIN G1000 AVIONICS SUITE.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	AIRSPEED INDICATOR	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED	D' SHANNON PRODUCTS, LTD	
	DWG. No. DSP-IM12-01-12	REVISION A
	SCALE: NONE	DATE 08/08/12 SH 2 OF 2

PAPERWORK

- 1 - FOR AIRCRAFT WHICH ARE OPERATED WITH THE OPTIONAL REVISED FLIGHT LIMITATIONS AS OUTLINED IN THE OPTIONAL AFMS, THE OPERATING LIMITATIONS PLACARD MUST BE MODIFIED. THE OPERATING LIMITATIONS PLACARD IS ON THE PILOT'S LEFT SIDEWALL AND INCLUDES THE LINE:

MIN CONTROL SPEED SINGLE ENGINE (V_{mcg}) --- MPH (--- KTS)

THE SPEED(S) MUST BE CORRECTED BY INSTALLING THE SMALL ADHESIVE-BACKED PLACARD OVERLAY WHICH IS INCLUDED IN THE DOCUMENTATION DRAWING PACKAGE. IT MAY BE REQUIRED TO TRIM THE OVERLAY TO FIT NEATLY WITHIN THE AVAILABLE SPACE.

THE G58, 58P, 58PA, 58TC AND 58TCA ARE NOT INCLUDED IN THIS REQUIREMENT.

- 2 - 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, AIRPLANE FLIGHT MANUAL SUPPLEMENT, CERTIFICATED AIRSPEED INDICATOR AND PLACARD OVERLAY(S) IN ACCORDANCE WITH MANUFACTURER'S DWG. LIST DL-100 PER STC SA4016NM. REFER TO FORM 337 THIS DATE.

IN ADDITION A MAINTENANCE SECTION LOG BOOK ENTRY SHOULD BE MADE REGARDING THE INSTALLATION OF THE REMARKED AIRSPEED INDICATOR.

- 3 - 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.
- 4 - 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 SA4016NM, 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:

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12
A	CLARIFY WHEN PLACARDS ARE NEEDED	D. B.	04/04/13

MODEL 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, 95-C55A, D55, D55A, E55, E55A, 58 AND 58A.

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	PAPERWORK		
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED	D' SHANNON PRODUCTS, LTD		
	DWG. No. DSP-IM12-01-13	REVISION	A
	SCALE: NONE	DATE 08/08/12	SH 1 OF 1

PAPERWORK

- 1 - A LOGBOOK ENTRY MUST BE MADE COVERING THE VORTEX GENERATOR INSTALLATION. THIS ENTRY SHOULD BE IN THE MAJOR MODIFICAITONS 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 DL-100 PER STC SA4016NM. REFER TO FORM 337 THIS DATE.

- 3 - 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.
- 4 - 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 SA4016NM, 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.)

MODEL G58, 58TC, 58TCA, 58P AND 58PA.

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12
A	ADD G58 AS ELIGIBLE	D. B.	04/04/13

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	PAPERWORK		
<u>TOLERANCES</u> .X_.10 .XXX_.01 .XX_.03 .XXXX_.001 ANGLES ±5% UNLESS STATED	<i>D' SHANNON PRODUCTS, LTD</i>		
	DWG. No. DSP-IM12-01-13A	REVISION	A
	SCALE: NONE	DATE 08/08/12	SH 1 OF 1

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 ADDITIONAL 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.

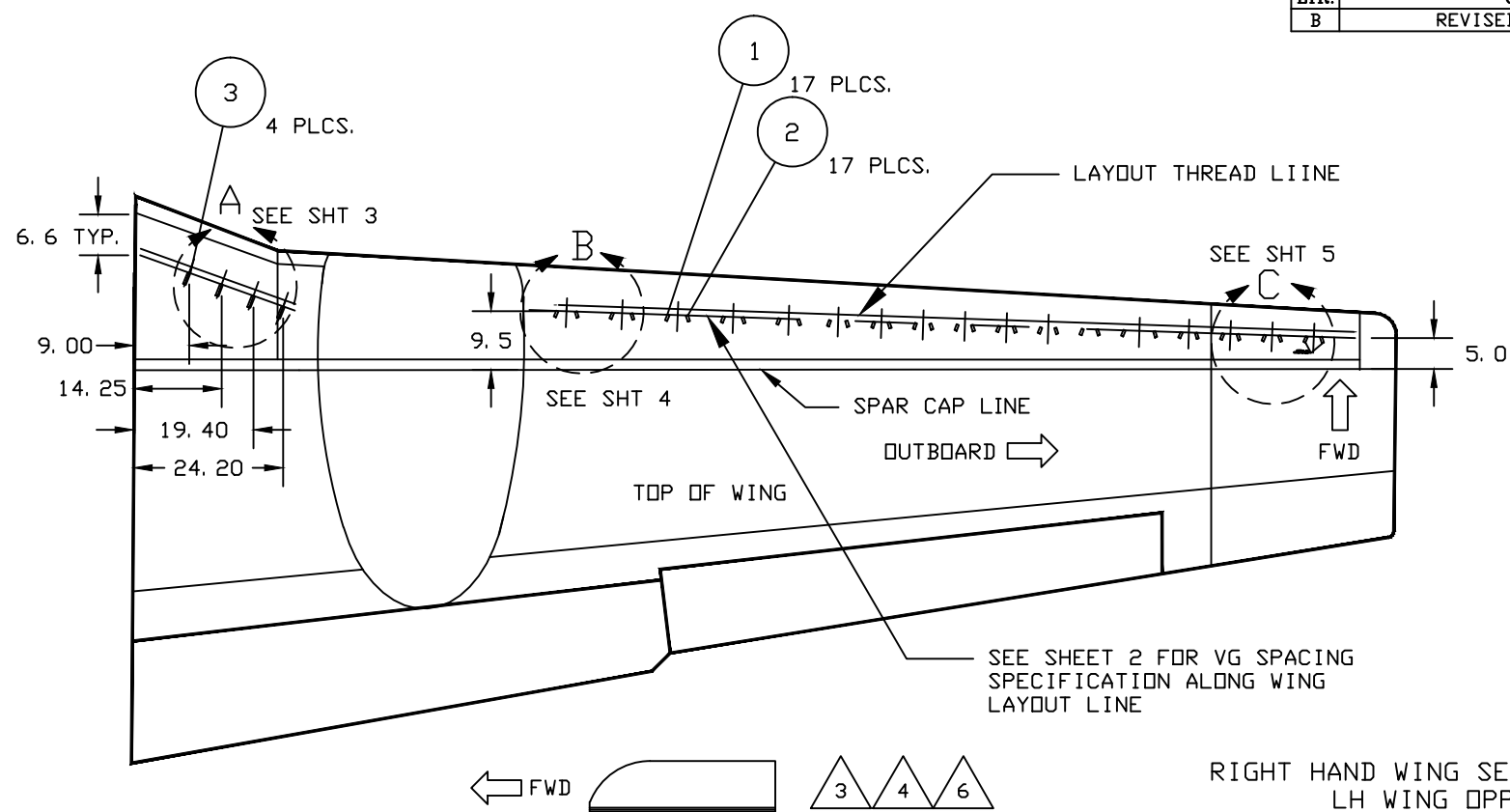
REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	08/08/12

MODEL 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, 95-C55A, D55, D55A, E55, E55A, 58, 58A, G58, 58TC, 58TCA, 58P AND 58PA.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	PAINTING VORTEX GENERATORS		
<u>TOLERANCES</u> .X_.10 .XXX_.01 .XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED	<i>D' SHANNON PRODUCTS, LTD</i>		
	DWG. No. DSP-IM12-01-14	REVISION	NC
	SCALE: NONE	DATE 08/08/12	SH 1 OF 1

REVISION RECORD			
LTR.	CHANGES	BY	DATE
B	REVISED AND REDRAWN	D. B.	08/12/12



RIGHT HAND WING SERIES 58 SHOWN
LH WING OPPOSITE.
SEE TABLE SHEET 2 FOR 55 SERIES.

MODEL 95-55, 95-A55, 95-B55, 95-B55A,
95-B55B, 95-C55, 95-C55A, D55, D55A, E55,
E55A, 58, 58A AND G58.

- △ 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 6 INCHES INBOARD OF WING TIP AT A POINT 5 INCHES FORWARD OF EXTENSION OF AFT EDGE OF SPAR CAP.
- △ 1 INBOARD EDGE OF WING OUTBOARD LAYOUT LINE IS LOCATED AT SIDE OF NACELLE 9.5 INCHES FORWARD OF AFT EDGE OF SPAR CAP.

ITEM	QTY	PART No.	DESCRIPTION
6	-	1006	VORTEX GENERATOR
5	-	1005	VORTEX GENERATOR
4	4	1004	VORTEX GENERATOR
3	4	1003	VORTEX GENERATOR
2	51	1002	VORTEX GENERATOR
1	52	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 .XXX_.001
ANGLES ±5%
UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. VG-100 REVISION B
SCALE: NONE DATE 08/12/12 SH 1 OF 7

WING OUTBOARD VG PAIRS (55 SERIES)
AND LAYOUT DIMENSIONS FROM NACELLE

A	B	PART NUMBERS
7	1.50	1001 & 1002
16	1.50	1001 & 1002
25	1.50	1001 & 1002
34	1.50	1001 & 1002
43	1.50	1001 & 1002
51	1.30	1001 & 1002
58	1.15	1001 & 1002
65	1.15	1001 & 1002
72	1.15	1001 & 1002
79	1.15	1001 & 1002
86	1.15	1001 & 1002
93	1.15	1001 & 1002
100	1.15	1001 & 1002
107	1.15	1001 & 1002
114	1.15	1001 & 1002
121	1.15	1001 & 1002
128	1.15	1001 & 1002

COLUMN A - DISTANCE OF CENTERS FROM SIDE OF NACELLE
COLUMN B - LEADING EDGE SPACING FROM EACH SIDE OF CENTERLINE

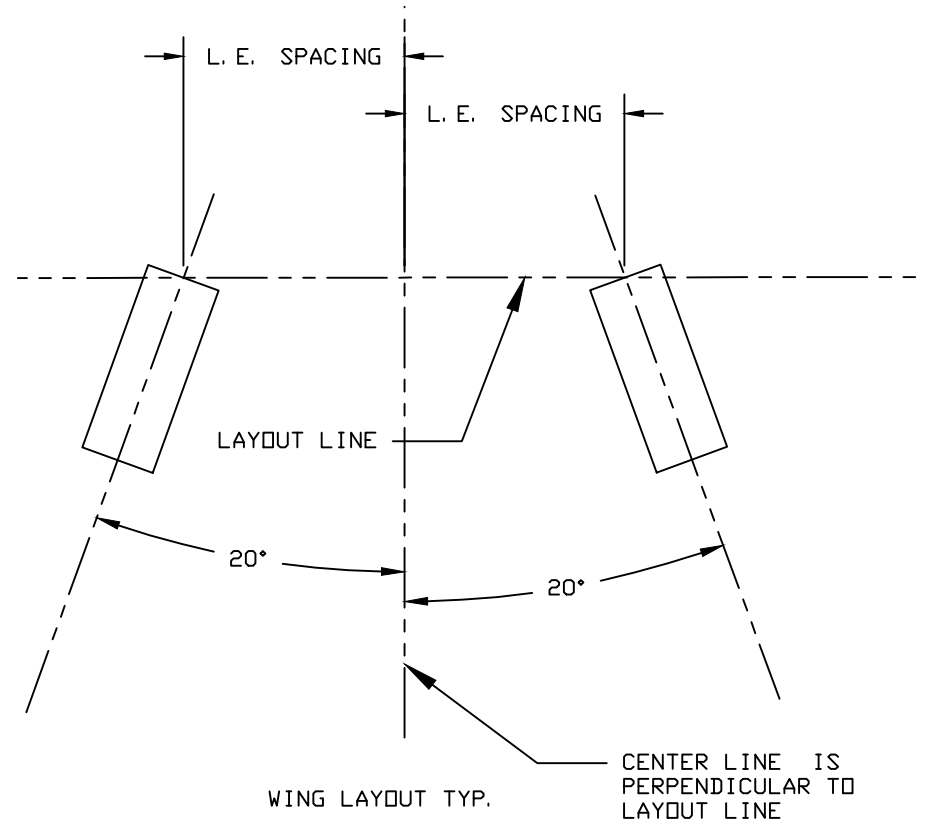
WING OUTBOARD VG PAIRS (55 SERIES
WITH OUTBOARD FUEL CAP AND 58 SERIES)
AND LAYOUT DIMENSIONS FROM NACELLE

A	B	PART NUMBERS
7	1.50	1001 & 1002
16	1.50	1001 & 1002
25	1.50	1001 & 1002
34	1.50	1001 & 1002
43	1.50	1001 & 1002
51	1.30	1001 & 1002
58	1.15	1001 & 1002
64.75	1.15	1001 & 1002
71.5	1.15	1001 & 1002
78.25	1.15	1001 & 1002
85	1.15	1001 & 1002
91.75	1.15	1001 & 1002
99.75	2.40	1001 & 1002
107.75	1.15	1001 & 1002
114.5	1.15	1001 & 1002
121.25	1.15	1001 & 1002

COLUMN A - DISTANCE OF CENTERS FROM SIDE OF NACELLE
COLUMN B - LEADING EDGE SPACING FROM EACH SIDE OF CENTERLINE

SPACING TABLE FROM SHEET 1

NOTES:



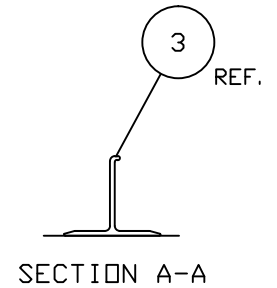
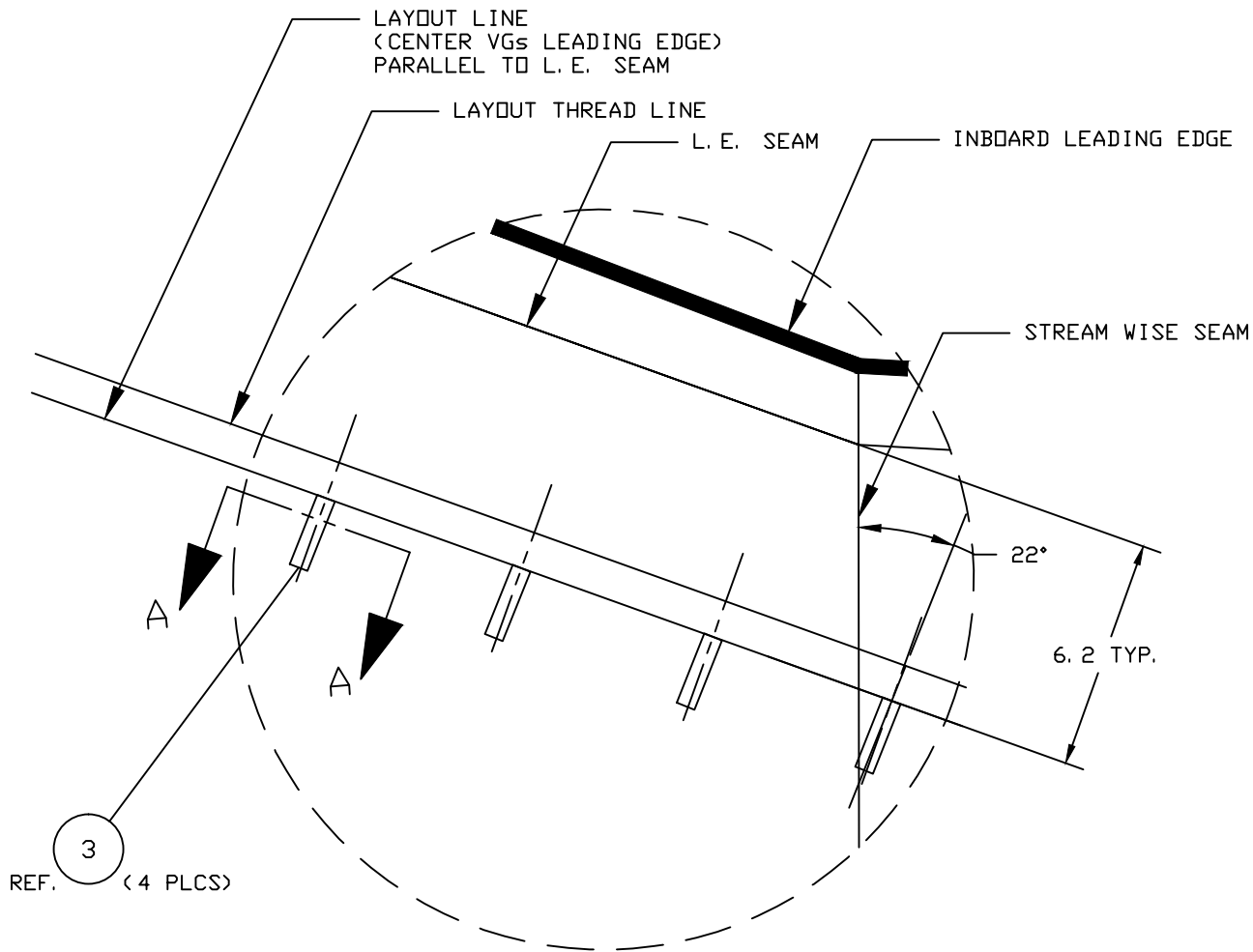
NEXT ASSY:
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

VORTEX GENERATOR INSTALLATION

TOLERANCES
.X_.10 .XXX_.01
.XX_.03 .XXXX_.001
ANGLES ±5%
UNLESS STATED

D' SHANNON PRODUCTS, LTD

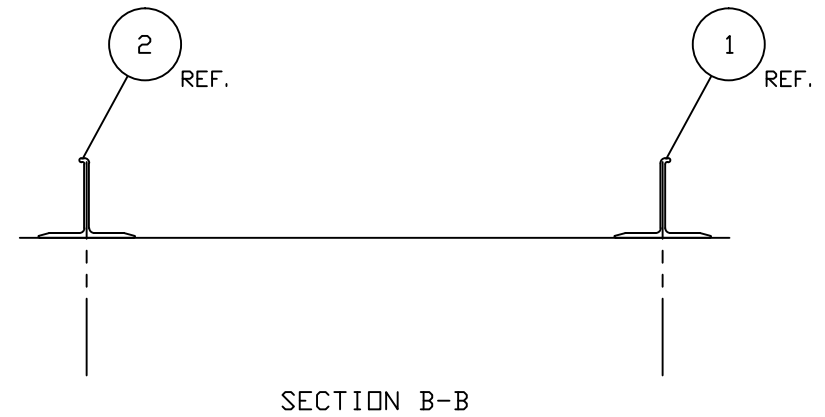
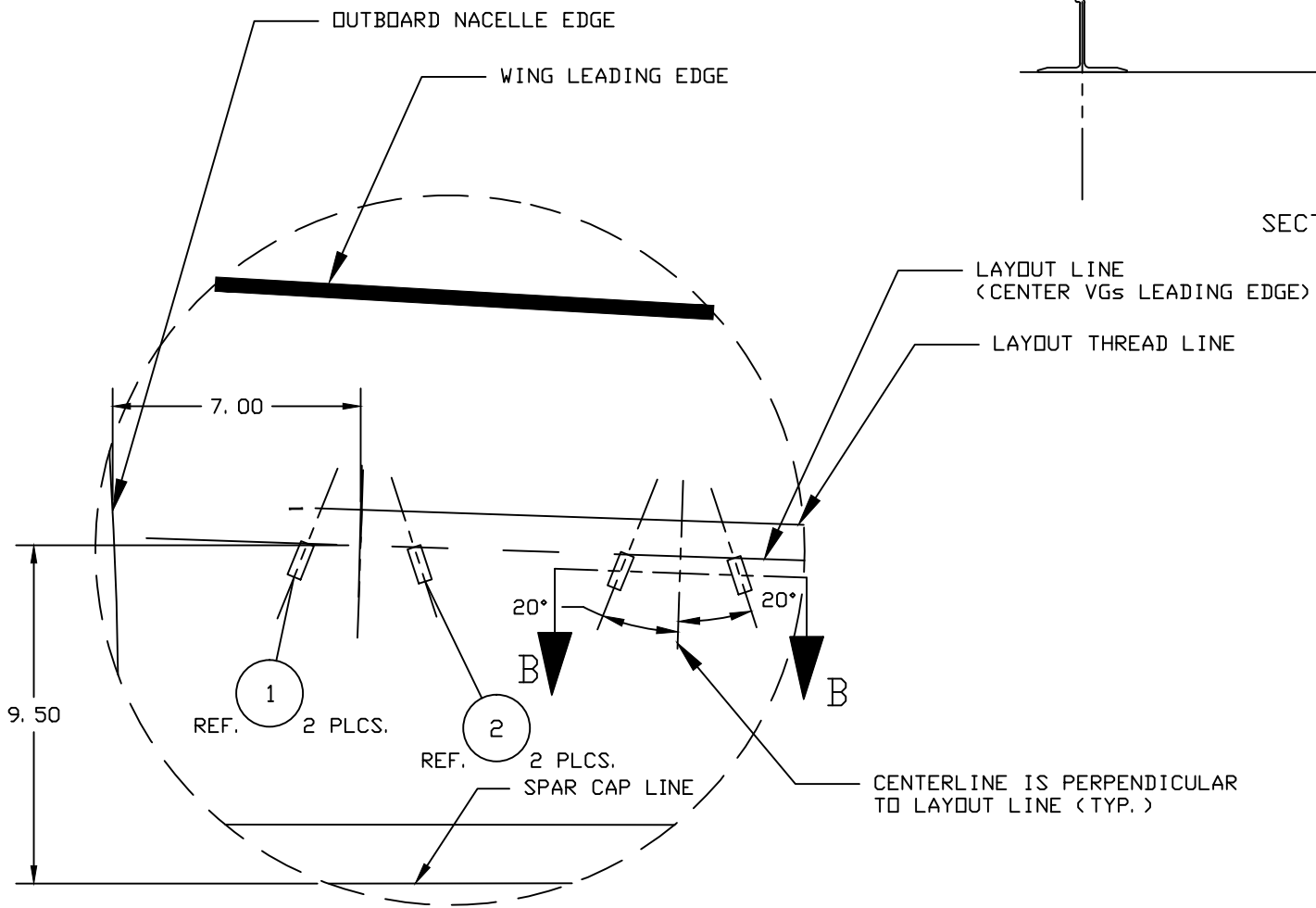
DWG. No.	VG-100	REVISION	B
SCALE: NONE	DATE 08/12/12	SH	2 OF 7



DETAIL A
FROM SHEET 1

INBOARD RH WING USES 4 OF ITEM ③ REF DWG. 5000
 INBOARD LH WING USES 4 OF ITEM ④ 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. VG-100		REVISION B	
SCALE: NONE		DATE 08/12/12 SH 3 OF 7	

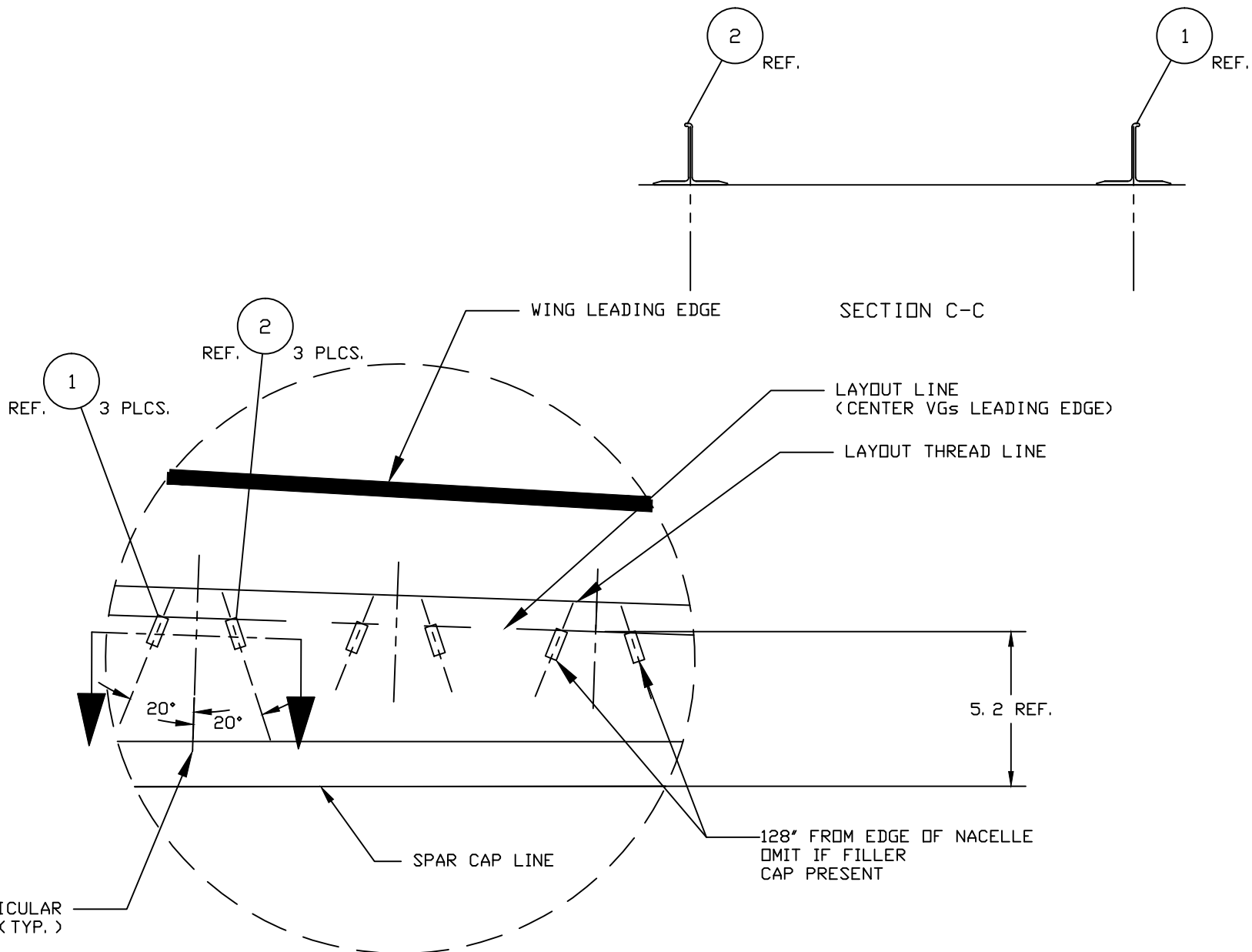


DETAIL B
FROM SHEET 1

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

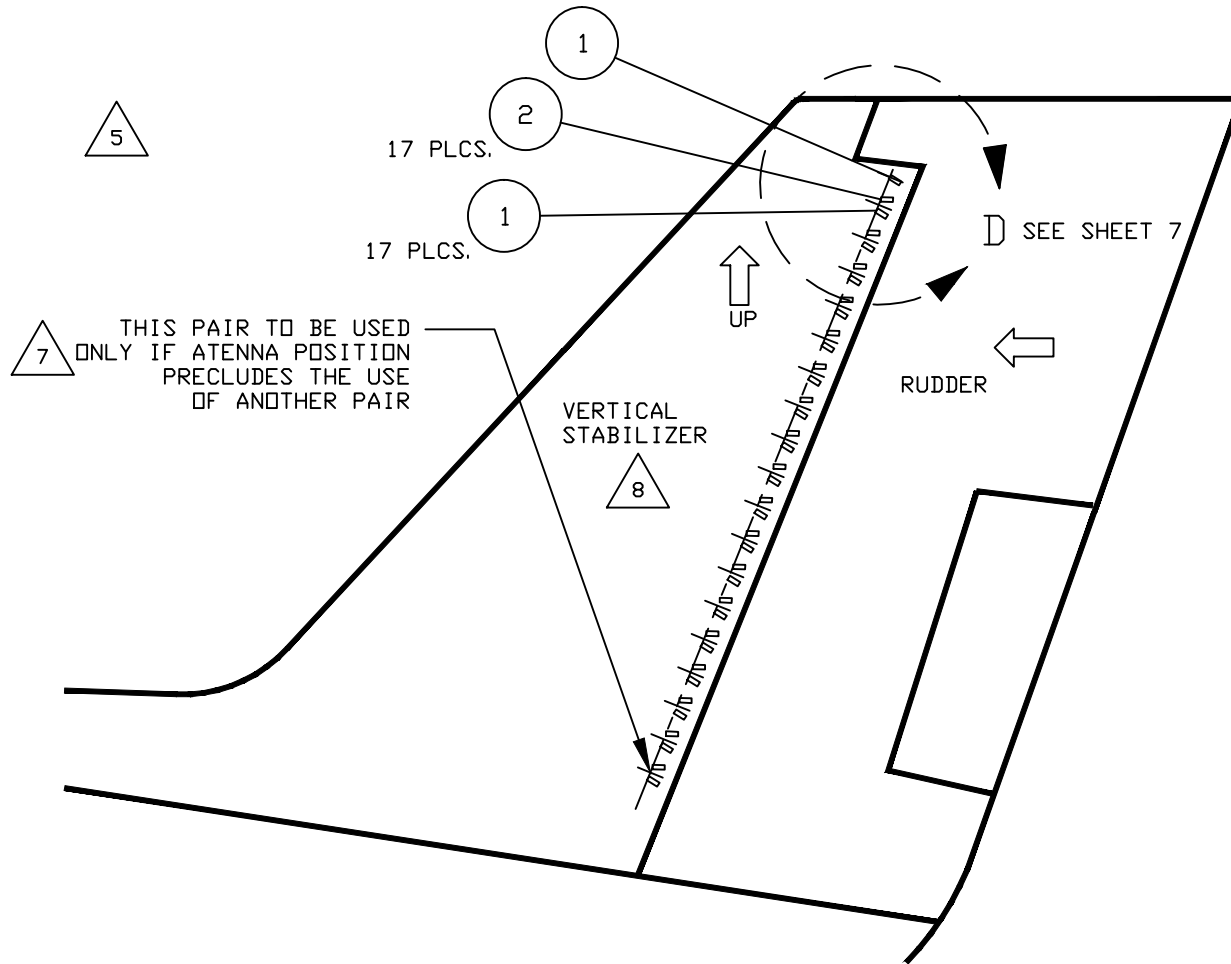
NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		VORTEX GENERATOR INSTALLATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No.	VG-100	REVISION	B
SCALE:	NONE	DATE	08/12/12 SH 4 OF 7



DETAIL C
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.	VG-100	REVISION	B
SCALE: NONE	DATE 08/12/12	SH	5 OF 7



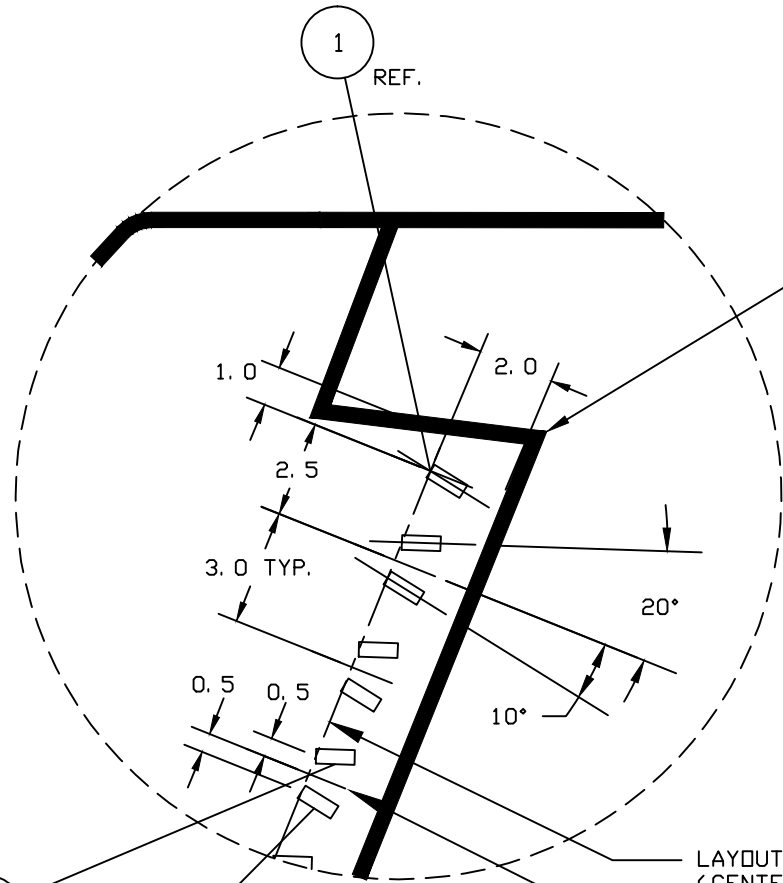
8 THERE ARE NO VORTEX GENERATORS ON RH SIDE OF VERTICAL STABILIZER.

7 ONE PAIR OF VORTEX GENERATORS MAY BE RELOCATED TO 54.5 INCHES (TOP TO CENTER LINE OF BOTTOM PAIR) FOR ANTENNA RELOCATION.

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

NOTES:

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.	VG-100	REVISION	B
SCALE: NONE	DATE 08/12/12	SH	6 OF 7



CORNER OF VERTICAL STABILIZER
TRAILING EDGE AND
RUDDER BALANCE HORN RELIEF

DETAIL 'D'
FROM SHEET 6

LAYOUT LINE
(CENTER VGs LEADING EDGE)

CENTERLINE IS PERPENDICULAR
TO LAYOUT LINE (TYP.)

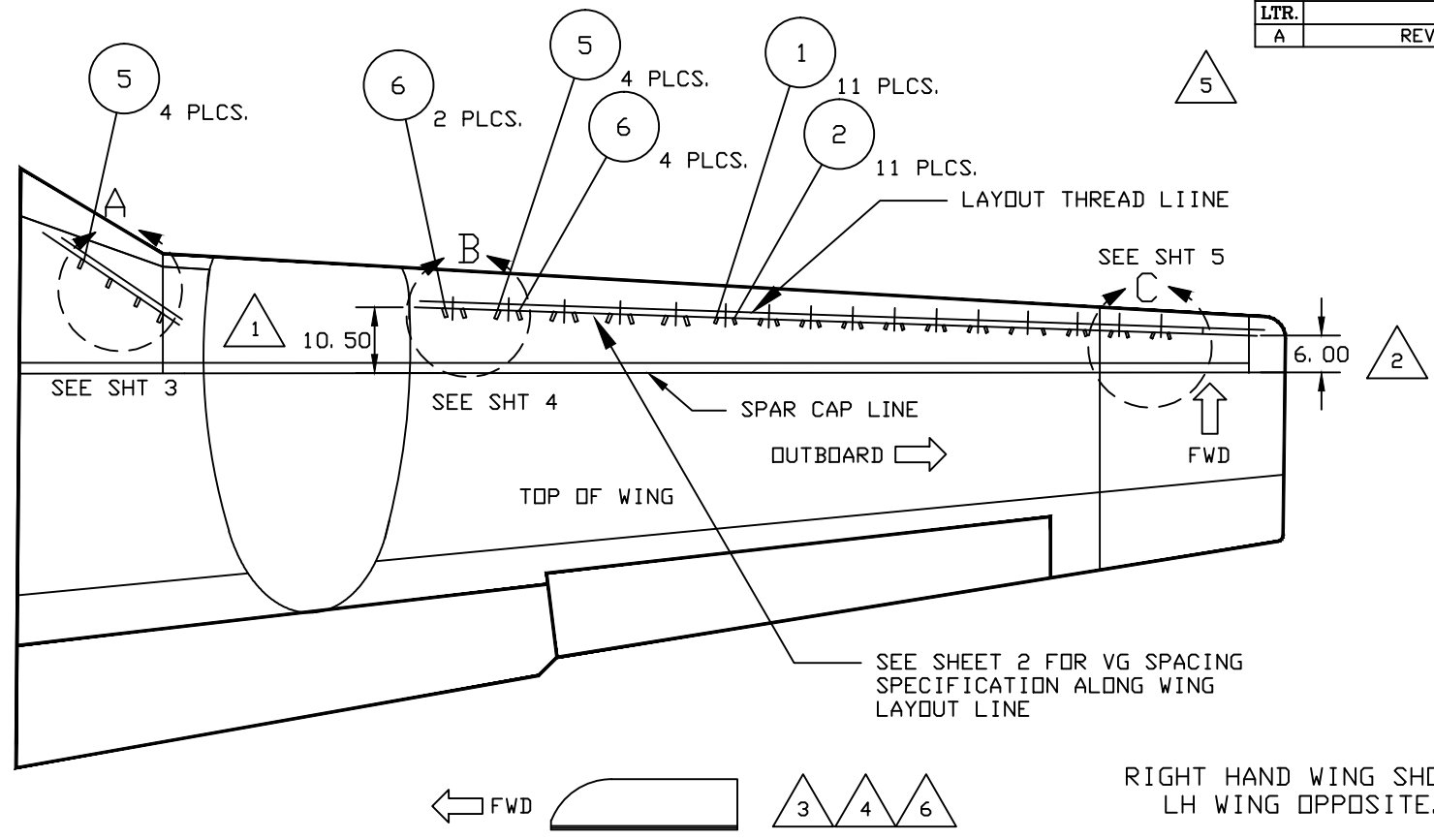
3 PLCS. REF. 2

3 PLCS. REF. 1

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		VORTEX GENERATOR INSTALLATION	
TOLERANCES X_.10 .XXX_.01 XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No. VG-100		REVISION B	
SCALE: NONE		DATE 08/12/12 SH 7 OF 7	

REVISION RECORD			
LTR.	CHANGES	BY	DATE
A	REVISED AND REDRAWN	D. B.	08/12/12



RIGHT HAND WING SHOWN
LH WING OPPOSITE.

MODEL 58TC, 58TCA, 58P AND 58PA.

- △ 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 6 INCHES INBOARD OF WING TIP AT A POINT 6 INCHES FORWARD OF EXTENSION OF AFT EDGE OF SPAR CAP.
- △ 1 INBOARD EDGE OF WING OUTBOARD LAYOUT LINE IS LOCATED AT SIDE OF NACELLE 10.5 INCHES FORWARD OF AFT EDGE OF SPAR CAP.

ITEM	QTY	PART No.	DESCRIPTION
6	14	1006	VORTEX GENERATOR
5	14	1005	VORTEX GENERATOR
4	-	1004	VORTEX GENERATOR
3	-	1003	VORTEX GENERATOR
2	39	1002	VORTEX GENERATOR
1	40	1001	VORTEX GENERATOR

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

VORTEX GENERATOR INSTALLATION

D' SHANNON PRODUCTS, LTD

TOLERANCES
X_.10 .XXX_.01
XX_.03 .XXX_.001
ANGLES ±5%
UNLESS STATED

DWG. No. VG-101 REVISION A
SCALE: NONE DATE 08/12/12 SH 1 OF 7

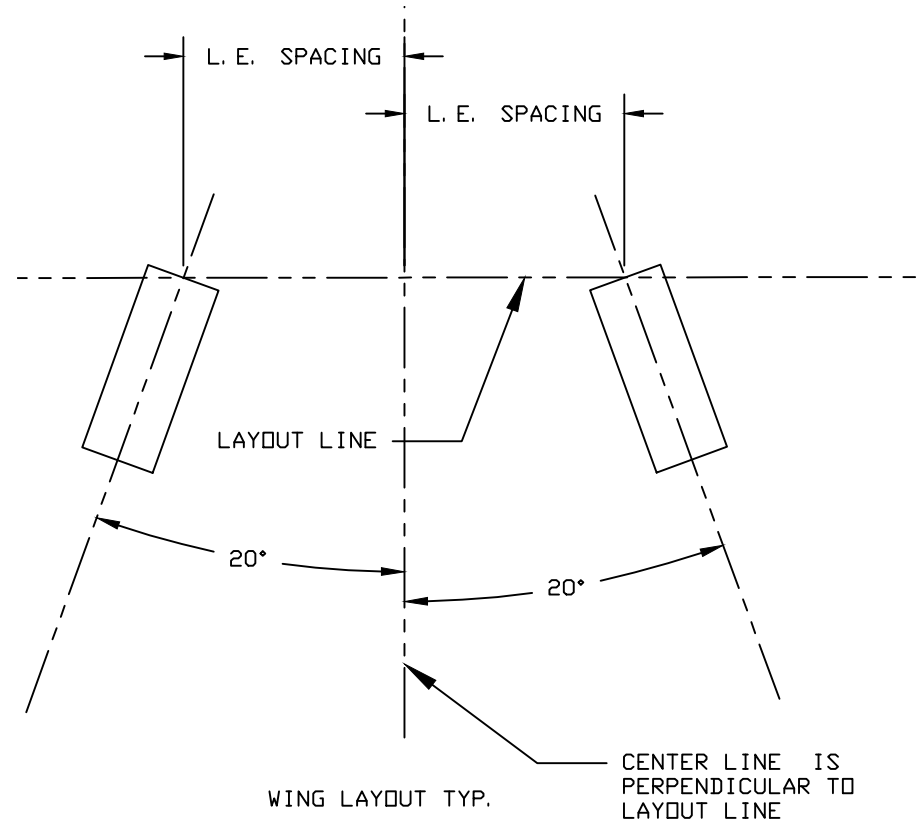
NOTES:

WING OUTBOARD VG PAIRS
AND LAYOUT DIMENSIONS FROM NACELLE

A	B	PART NUMBERS
7	1.50	1006 & 1006 (LEFT WING USES 1005 & 1005)
16	1.50	1005 & 1006
25	1.50	1005 & 1006
34	1.50	1005 & 1006
43	1.50	1005 & 1006
51	1.30	1001 & 1002
58	1.15	1001 & 1002
64.75	1.15	1001 & 1002
71.5	1.15	1001 & 1002
78.25	1.15	1001 & 1002
85	1.15	1001 & 1002
91.75	1.15	1001 & 1002
99.75	2.40	1001 & 1002
107.75	1.15	1001 & 1002
114.5	1.15	1001 & 1002
121.25	1.15	1001 & 1002

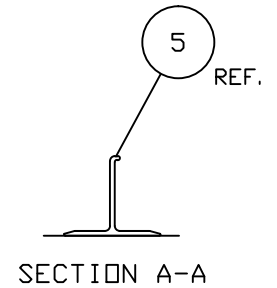
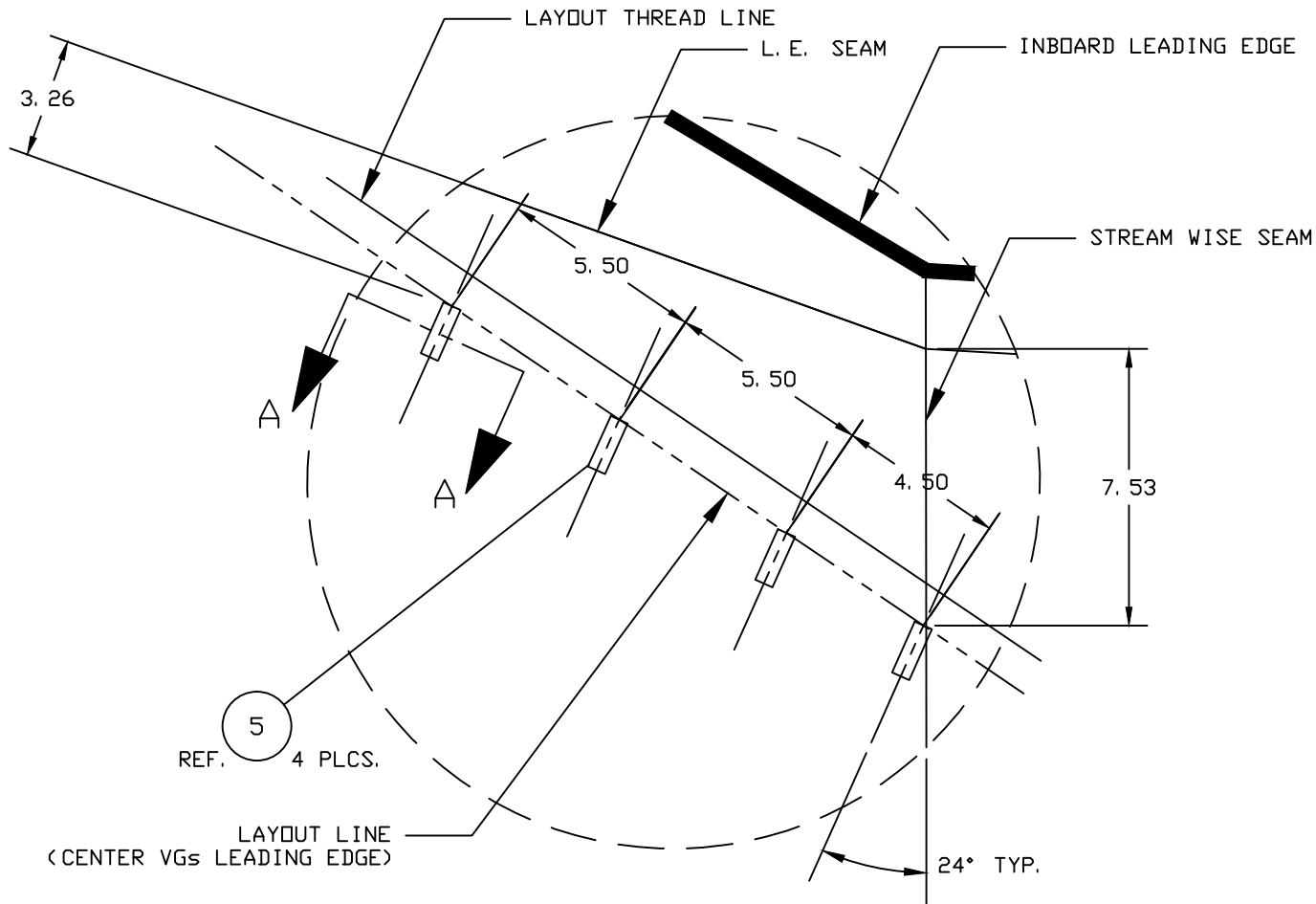
COLUMN A - DISTANCE OF CENTERS FROM SIDE OF NACELLE
COLUMN B - LEADING EDGE SPACING FROM EACH SIDE OF CENTERLINE

SPACING TABLE FROM SHEET 1



NOTES:

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.	VG-101	REVISION	A
SCALE: NONE	DATE 08/12/12	SH	2 OF 7

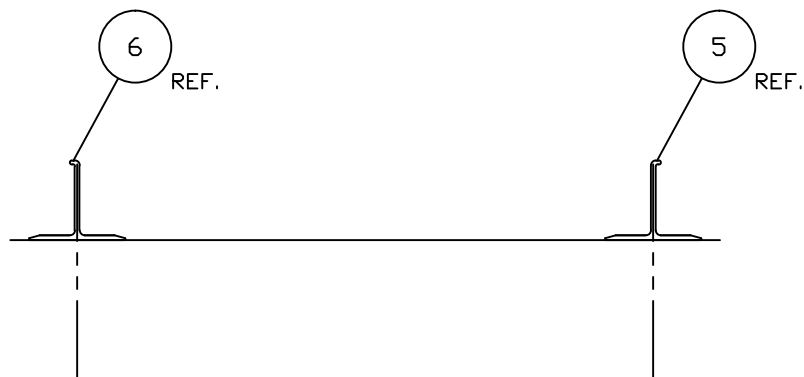
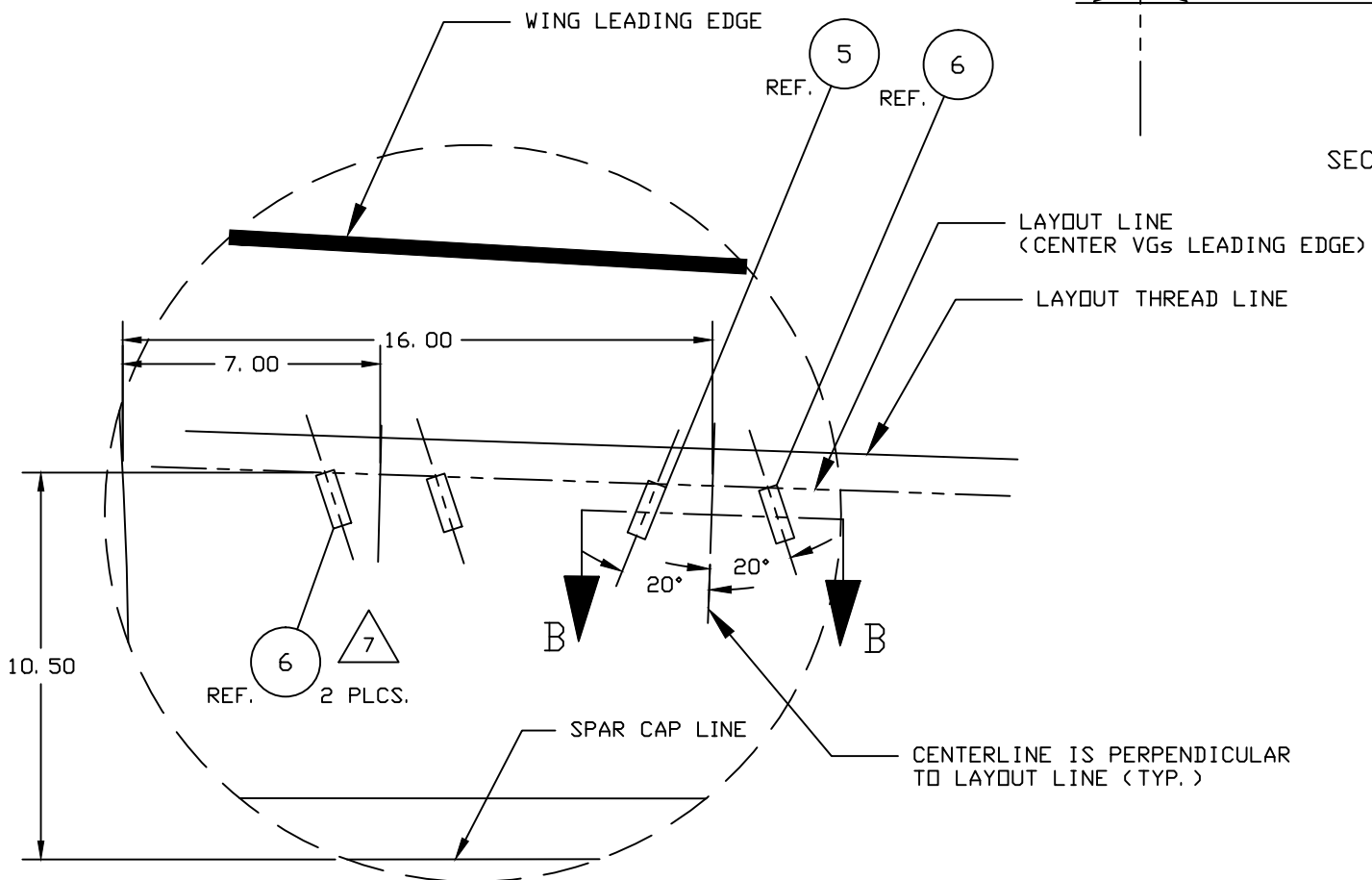


5
REF. 4 PLCS.

DETAIL A
FROM SHEET 1

INBOARD RH WING USES 4 OF ITEM 5 REF DWG. 5000
 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.	VG-101	REVISION	A
SCALE: NONE	DATE 08/12/12	SH	3 OF 7



SECTION B-B

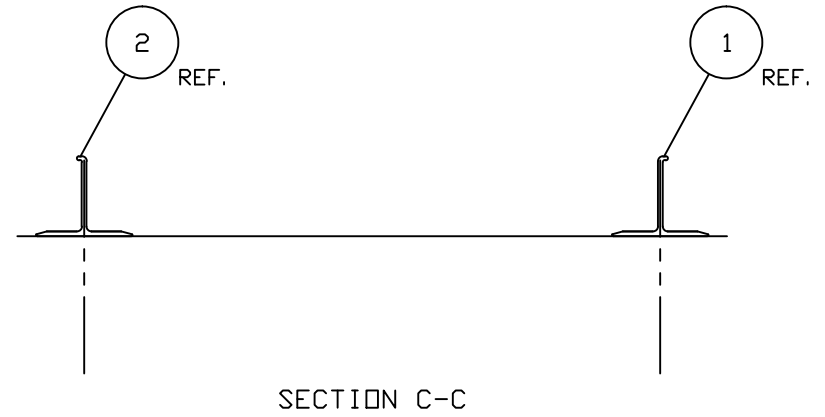
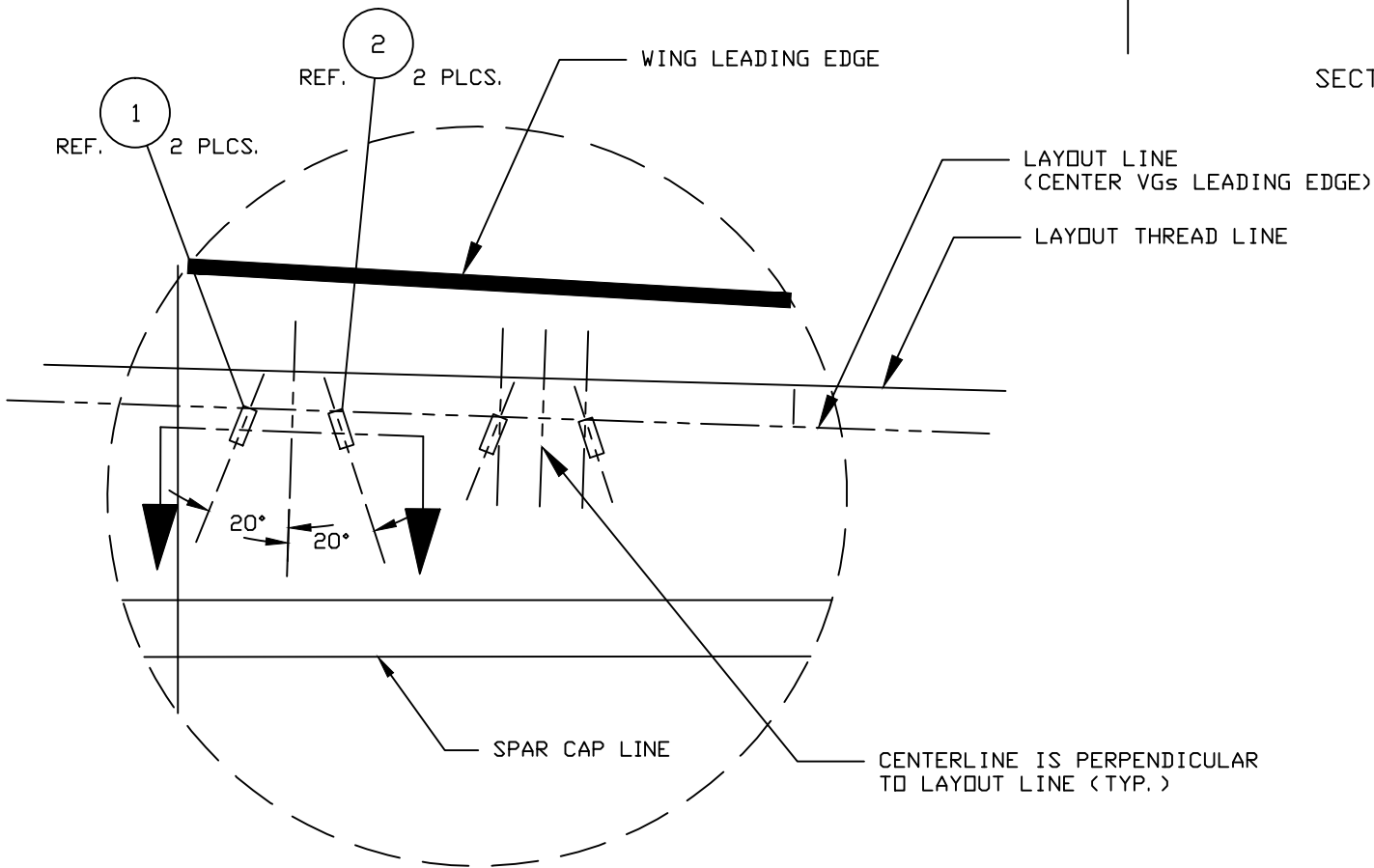
DETAIL B
FROM SHEET 1

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

7 INBOARD PAIR ARE PARALLEL TO EACH OTHER AND 20° TO THE LAYOUT LINE.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.		VORTEX GENERATOR INSTALLATION	
TOLERANCES .X_.10 .XXX_.01 .XX_.03 .XXX_.001 ANGLES ±5% UNLESS STATED		D' SHANNON PRODUCTS, LTD	
DWG. No.	VG-101	REVISION	A
SCALE: NONE	DATE 08/12/12	SH	4 OF 7

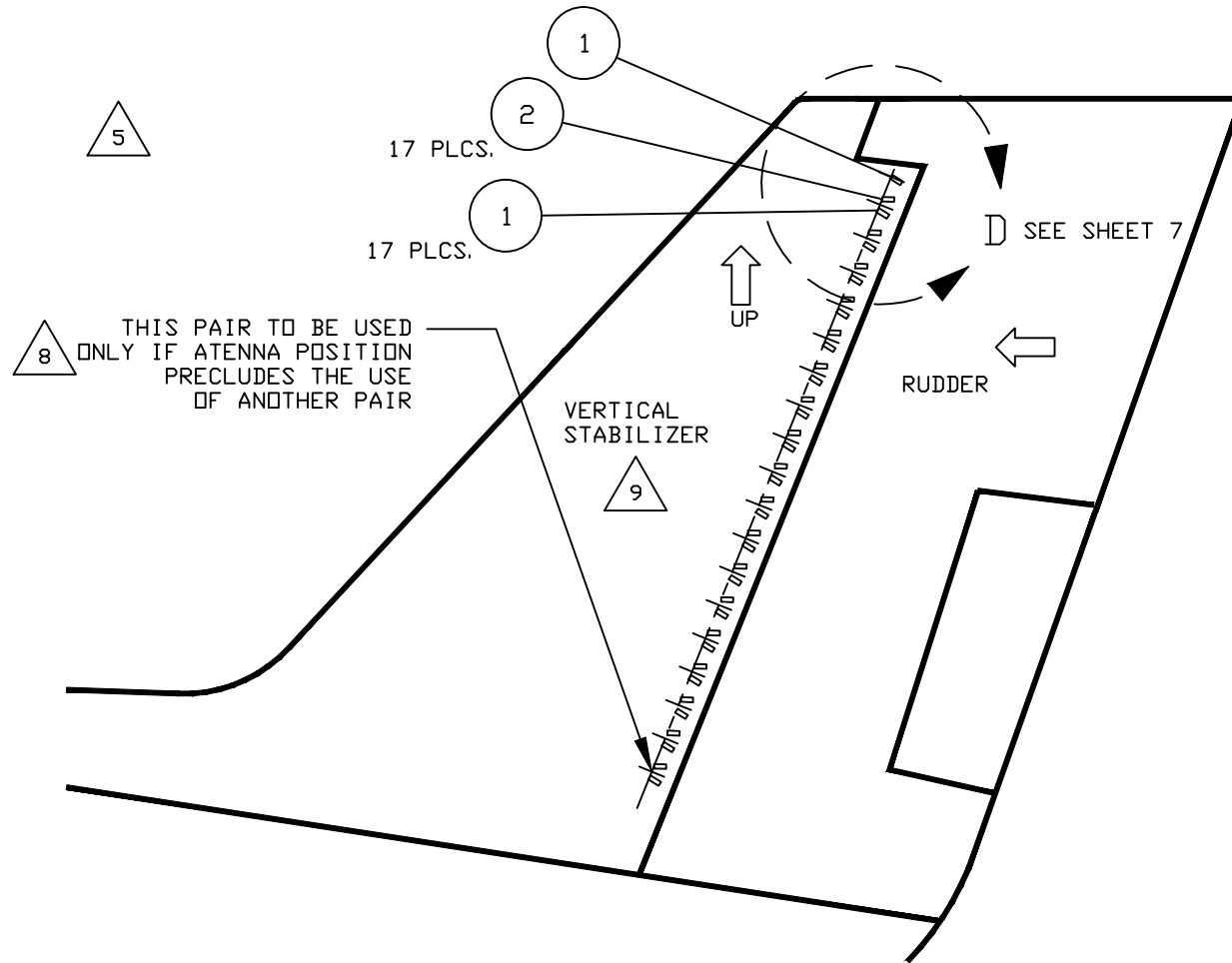


SECTION C-C

DETAIL C
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.	VG-101	REVISION	A
SCALE: NONE	DATE 08/12/12	SH	5 OF 7



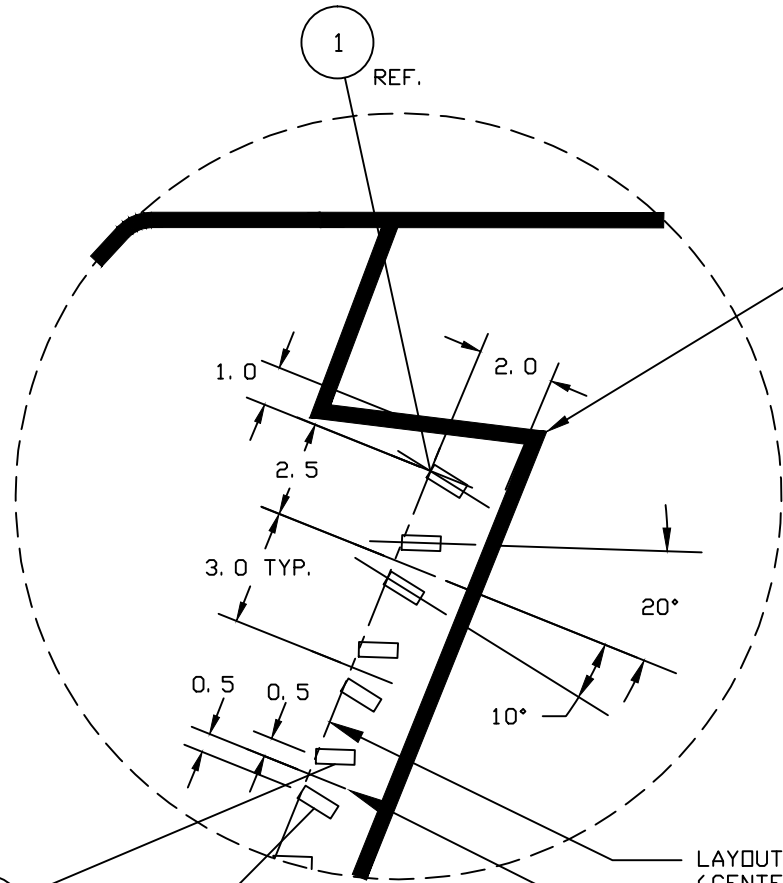
△ 9 THERE ARE NO VORTEX GENERATORS ON RH SIDE OF VERTICAL STABILIZER.

△ 8 ONE PAIR OF VORTEX GENERATORS MAY BE RELOCATED TO 54.5 INCHES (TOP TO CENTER LINE OF BOTTOM PAIR) FOR ANTENNA RELOCATION.

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

NOTES:

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		<i>D' SHANNON PRODUCTS, LTD</i>	
DWG. No.	VG-101	REVISION	A
SCALE: NONE	DATE 08/12/12	SH	6 OF 7



CORNER OF VERTICAL STABILIZER
TRAILING EDGE AND
RUDDER BALANCE HORN RELIEF

DETAIL 'D'
FROM SHEET 6

LAYOUT LINE
(CENTER VGs LEADING EDGE)

CENTERLINE IS PERPENDICULAR
TO LAYOUT LINE (TYP.)

3 PLCS. REF. 2

3 PLCS. REF. 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.	VG-101	REVISION	A
SCALE:	NONE	DATE	08/12/12
SH	7	OF	7

NOTES:

0.25 TYP.

82 MPH (71 KTS)

1.50 TYP.

86 MPH (75 KTS)

85 MPH (74 KTS)

1



2



3



REVISION RECORD

LTR.	CHANGES	BY	DATE
B	REVISED AND REDRAWN	D. B.	08/12/12
C	REMOVE -4 AND SHEET 2, G58 NOT ELIGIBLE	D. B.	04/04/13

MODEL 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, 95-C55A, D55, D55A, E55, E55A, 58, AND 58A.



MODEL ELIGIBILITY FOR PL-1003 IS 58, 58A



MODEL ELIGIBILITY FOR PL-1002 IS 95-C55, 95-C55A, D55, D55A, E55, E55A



MODEL ELIGIBILITY FOR PL-1001 IS 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B

- 5. TEXT COLOR IS WHITE
- 4. BACKGROUND COLOR IS BLACK
- 3. TEXT HEIGHT IS 1/8"
- 2. MATERIAL IS ADHESIVE BACKED VINYL
- 1. FONT IS ARIAL BOLD

NOTES:

ITEM	QTY	PART No.	DESCRIPTION
3	1	PL-1003	VMCA OVERLAY
2	1	PL-1002	VMCA OVERLAY
1	1	PL-1001	VMCA OVERLAY

NEXT ASSY:		PLACARD OVERLAY	
DRAWN BY: D. B.			
ENGINEER: D. BRAUN			
CHECKED BY: D. B.			
TOLERANCES		D' SHANNON PRODUCTS, LTD	
.X_.10 .XXX_.01			
.XX_.03 .XXXX_.001			
ANGLES ±5%			
UNLESS STATED			
DWG. No. VG-1200		REVISION C	
SCALE: NONE		DATE 08/12/12 SH 1 OF 1	