

D' Shannon Products, LTD

INSTALLATION MANUAL

DSP-IM95-10

STC SA2200SW

STC SA2361CH

STC SA2660SW

STC SA5527SW

STC SA5635SW

REVISION B

INSTALLATION DRAWINGS
AND INSTRUCTIONS
INDUCTION AIR BOX
10-550/520
10-470

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

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	05/06/11
A	ADD STC(S) AND IO-470 ENGINE	D. B.	01/12/12
B	ADD STC	D. B.	03/23/12

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CERTIFICATION OFFICE
CENTRAL REGION

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	<i>D' SHANNON PRODUCTS, LTD</i> DWG. No DSP-IM95-10-1 REVISION B SCALE: NONE DATE 05/06/11 SH 1 OF 1

NUMERICAL DRAWING LIST CONTROL

DWG. No.	DATED	REV.	No. SHTS	EFF.	EO	EO	EO	EO	DESCRIPTION
DSP-IM95-10-1	03/23/12	B	1						COVER SHEET
DSP-IM95-10-2	03/23/12	B	1						NUMERICAL DRAWING LIST
DSP-IM95-10-3	05/06/11	NC	1						INSTALLATION BILL OF MATERIAL
DSP-IM95-10-6	05/06/11	NC	3						REMOVAL OF ORIGINAL AIR HORN
DSP-IM95-10-10	05/06/11	NC	4						INSTALLATION OF REINFORCE ANGLE
DSP-IM95-10-12	05/06/11	NC	1						INSTALLATION OF SHIM AND REINFORCE PLATE
DSP-IM95-10-14	05/06/11	NC	2						INSTALLATION OF AIR HORN
DSP-IM95-10-15	05/06/11	NC	5						INSTALLATION OF CHANNELS
DSP-IM95-10-20	05/06/11	NC	6						INSTALLATION OF CONTROL CABLE
DSP-IM95-10-26	05/06/11	NC	2						INSTALLATION OF HOSE TO THROTTLE BODY

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	05/06/11
A	NEW COVER SHEET	D. B.	01/12/12
B	NEW COVER SHEET	D. B.	03/23/12

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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. DSP-IM95-10-2 REVISION B SCALE: NONE DATE 05/06/11 SH 1 OF 1

REVISION RECORD

LTR.	CHANGES	BY	DATE
NC	REDRAWN	D. B.	05/06/11

ITEM	LOCATION OF ITEMS	QTY.	PART NUMBER	DESCRIPTION
31	DSP-IM95-10-26	2	QS200M56S	CLAMP
30	DSP-IM95-10-26	1	258004Z	BEMCO HOSE
29	DSP-IM95-10-15	1	716009	AIR BOX CHANNEL
28	DSP-IM95-10-15	1	716008	AIR BOX CHANNEL
27	DSP-IM95-10-20	2	AN3-5A	BOLT
26	DSP-IM95-10-15	2	716007Z	AIR BOX CHANNEL ASSEMBLY
25	DSP-IM95-10-15	1	P105304	AIR FILTER ASSEMBLY
24	DSP-IM95-10-20	A. R.	G. E SILICONE II	SILICONE SEALANT
23	DSP-IM95-10-20	A. R.	MS20995C32	.032 Ø SAFETY WIRE
22	DSP-IM95-10-20	1	61-175	FIREWALL SHIELD
21	DSP-IM95-10-20	2	AD44H	POP RIVET
20	DSP-IM95-10-14	1	716014Z	AIR HORN ASSEMBLY
19	DSP-IM95-10-20	4	MS20365-1032	LOCK NUT
18	DSP-IM95-10-20	1	716005	CONTROL ATTACHING BOLT
17	DSP-IM95-10-20	1	35-380063-1	CONTROL CABLE
16	DSP-IM95-10-20	1	002-410000-87	BRACKET (ALT.)
			35-919025-21	BRACKET
15	DSP-IM95-10-20	2	716006	BUSHING
14	DSP-IM95-10-20	1	002-910011-21	LEVER (ALT.)
			35-919025-23	LEVER
13	DSP-IM95-10-20	7	AN960-10	WASHER
12	DSP-IM95-10-20	1	AN3-6A	BOLT
11	DSP-IM95-10-20	1	100942-L0023-17	SPRING
10	DSP-IM95-10-20	2	TA1718DTS	CLAMP
9	DSP-IM95-10-15	40	AN960-8L	WASHER
8	DSP-IM95-10-15	40	NAS679-A08	LOCK NUT
7	DSP-IM95-10-15	40	AN525-832R8	PAN HEAD SCREW
6	DSP-IM95-10-14	1	716004	TEMPLATE
5	DSP-IM95-10-12	2	716003	REINFORCE PLATE
4	DSP-IM95-10-12	2	716002	SHIM
3	DSP-IM95-10-12	8	MS20470AD5	SOLID RIVET
2	DSP-IM95-10-10,20	21	MS20470AD4	SOLID RIVET
1	DSP-IM95-10-10	1	716001	ANGLE

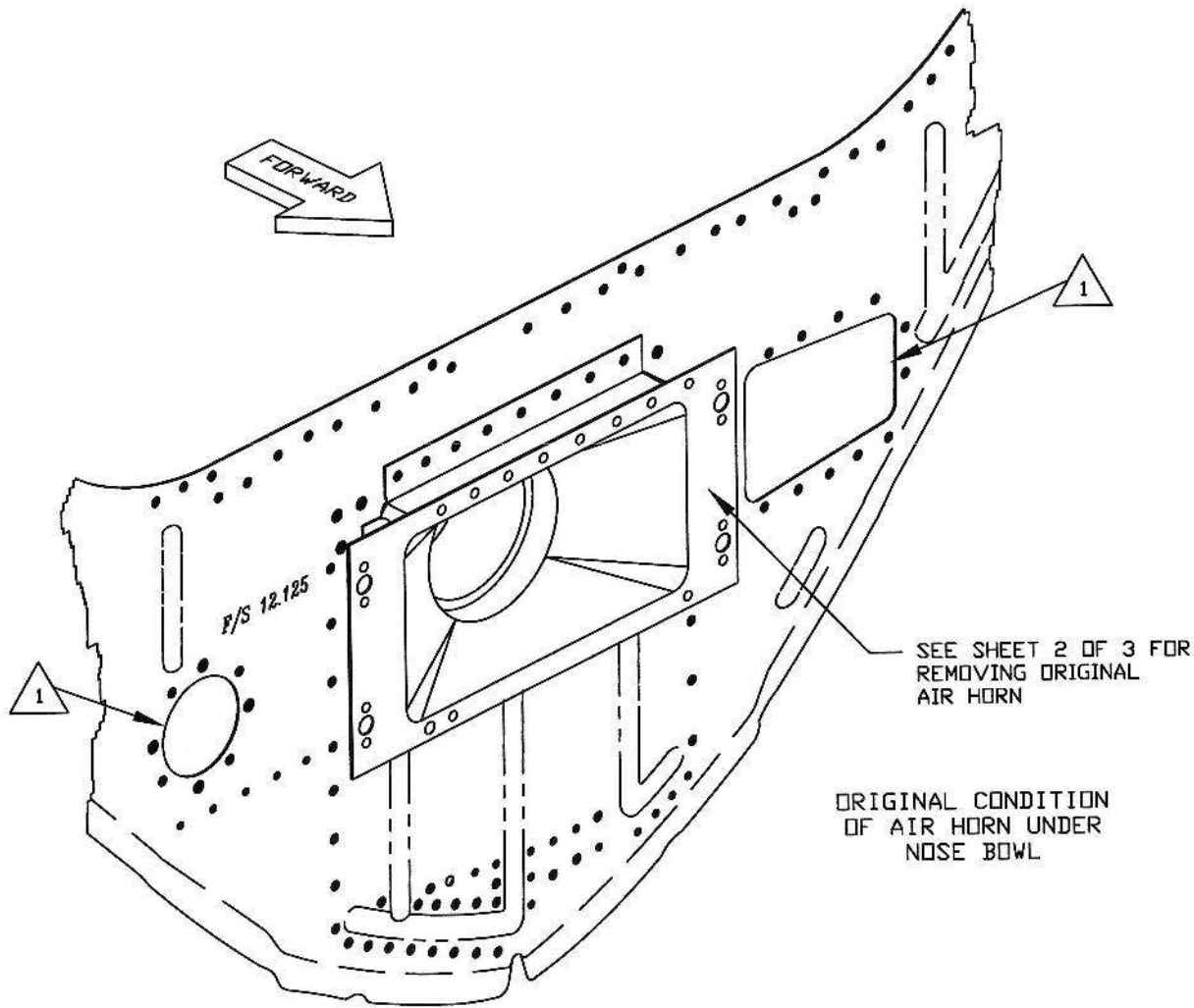
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NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	INSTALLATION BILL OF MATERIAL
TOLERANCES X .10 XXX .01 XX .05 XXXX .001 ANGLES ±5% UNLESS STATED	D' SHANNON PRODUCTS, LTD DWG. No. DSP-IM95-10-3 REVISION NC SCALE: NONE DATE 05/06/11 SH 1 OF 1

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	05/06/11



ORIGINAL CONDITION
OF AIR HORN UNDER
NOSE BOWL

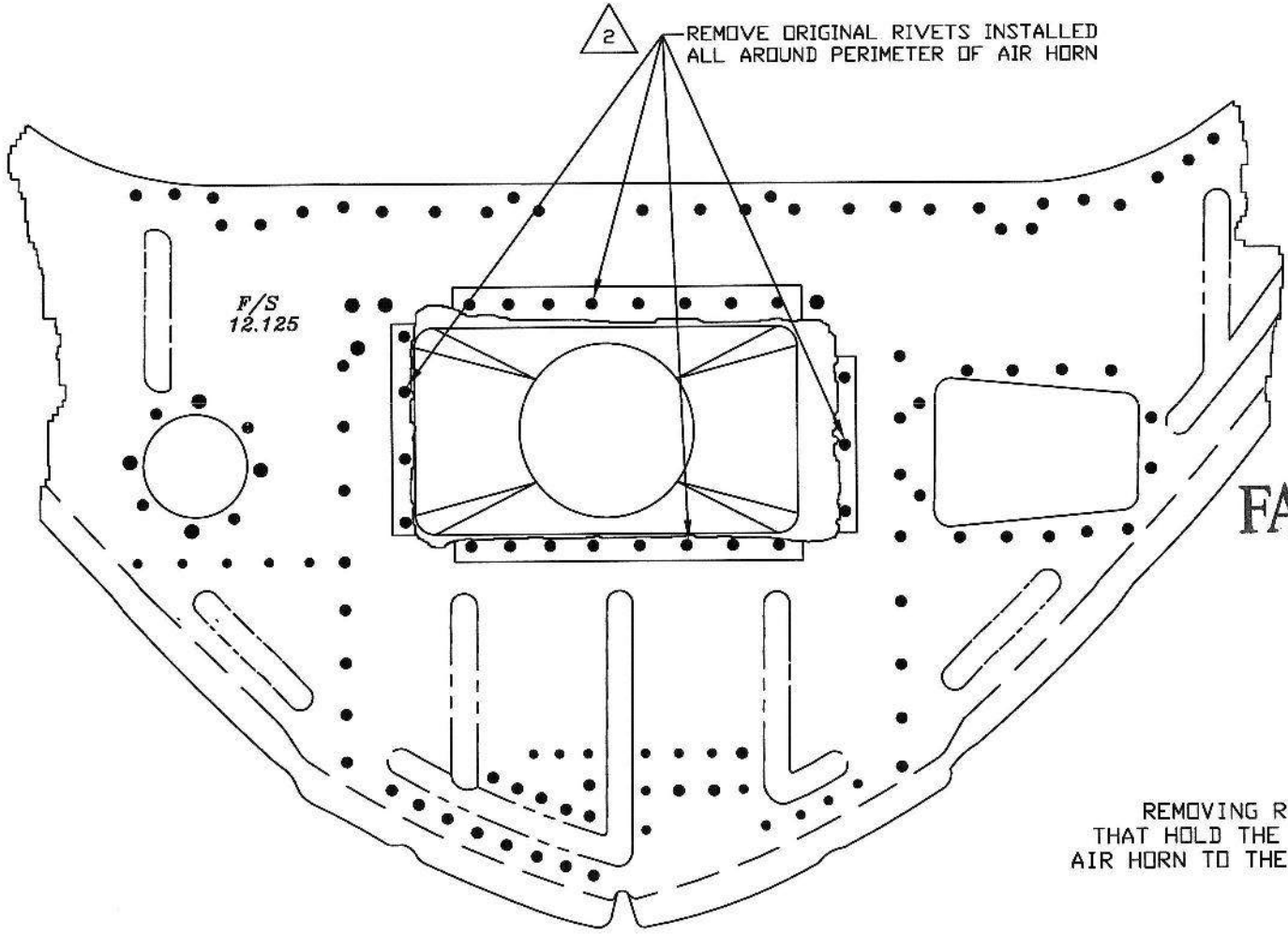
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1 HOLE MAY OR MAY NOT BE AS SHOWN.
NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	REMOVAL OF ORIGINAL AIR HORN
TOLERANCES X .10 XXX .01 XX .03 XXXX .001 ANGLES ±5% UNLESS STATED	D' SHANNON PRODUCTS, LTD DWG. No. DSP-IM95-10-6 REVISION NC SCALE: NONE DATE 05/06/11 SH 1 OF 3



2 REMOVE ORIGINAL RIVETS INSTALLED ALL AROUND PERIMETER OF AIR HORN

F/S
12.125

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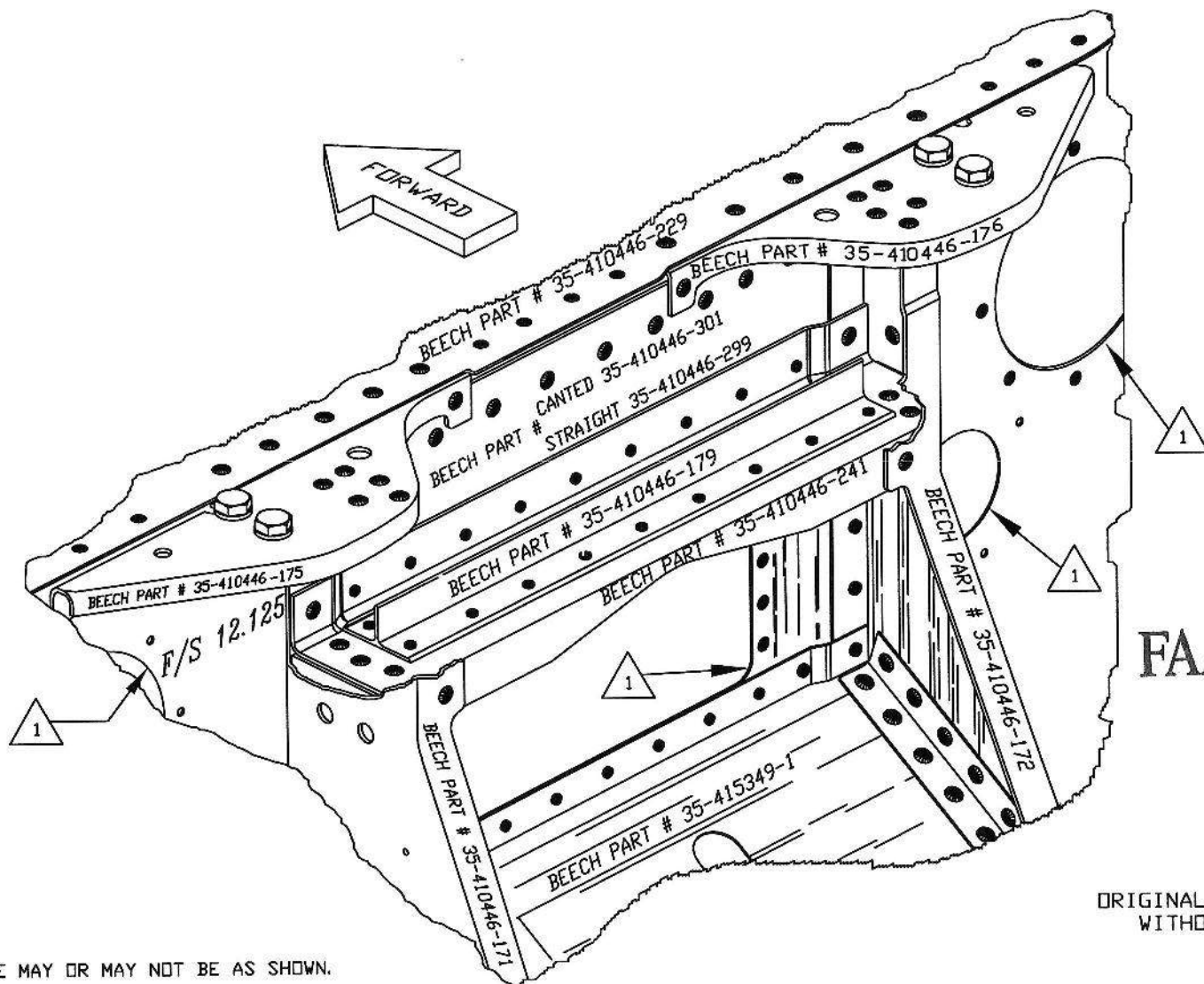
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REMOVING RIVETS
THAT HOLD THE ORIGINAL
AIR HORN TO THE STRUCTURE

2 USE ONE DRILL SIZE SMALLER THAN THE RIVETS YOU ARE REMOVING. SEE FAA ADVISORY CIRCULAR AC43-13-1A CHAPTER 2 SECTION 3 §98 FOR PROCEDURES.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	REMOVAL OF ORIGINAL AIR HORN
TOLERANCES X .10 XXX .01 XX .03 XXXX .001 ANGLES ±5% UNLESS STATED	D' SHANNON PRODUCTS, LTD DWG. No. DSP-IM95-10-6 REVISION NC SCALE: NONE DATE 05/06/11 SH 2 OF 3



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ORIGINAL CONFIGURATION
WITHOUT AIR HORN

① HOLE MAY OR MAY NOT BE AS SHOWN.

3 - ORIGINAL CONFIGURATION WITH CUTAWAYS TO ILLUSTRATE MODIFICATION SHOWN.

2 - BEECH PART NUMBER MAY BE DIFFERENT DUE TO DIFFERENT CONFIGURATIONS AND MODEL. CROSS REFERENCE BEECH SHOP MANUALS MAY BE HELPFUL IN RESOLVING DISCREPANCIES.

1 - INSTALLATION DOES NOT REQUIRE FRONT CAST ENGINE MOUNTS TO BE REMOVED, ENGINE MOUNTS ARE NOT SHOWN FOR CLARITY. SOME INSTALLERS FIND IT HELPFUL TO REMOVE A BOLT FROM THE ENGINE MOUNT FOR CLEARANCE WHILE WORKING. TORQUE BOLT ON REINSTALLATION PER BEECH SHOP MANUALS IF A BOLT IS REMOVED.

NOTES:

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

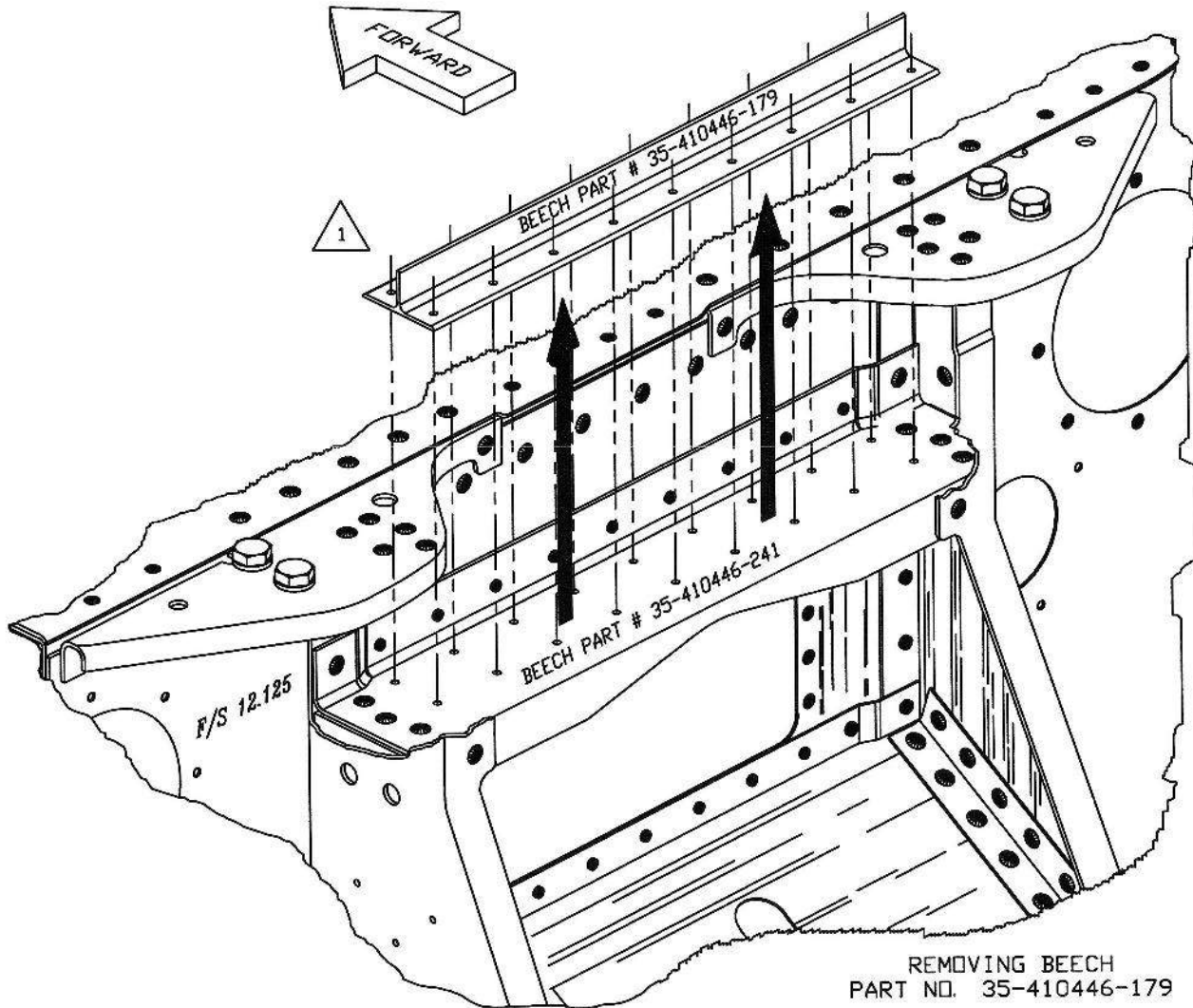
REMOVAL OF ORIGINAL AIR HORN

TOLERANCES
X .10 XXX .01
XX .03 XXXX .001
ANGLES ±5%
UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. DSP-1M95-10-6 REVISION NC

SCALE: NONE DATE 05/06/11 SH 3 OF 3



REMOVING BEECH
PART NO. 35-410446-179

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	05/06/11

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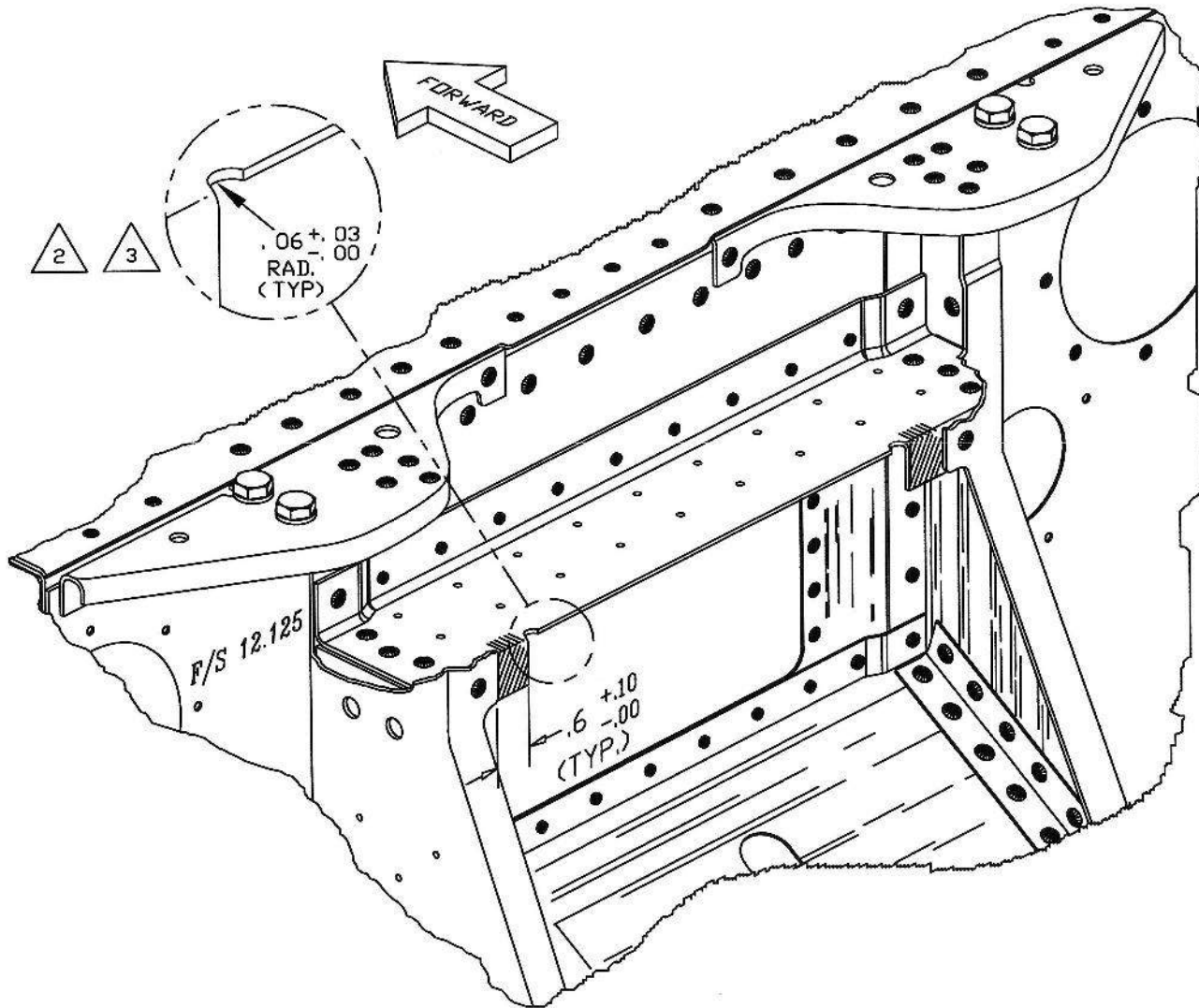
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2	18	MS20470AD4	SOLID RIVET
1	1	716001	REINFORCE ANGLE
ITEM	QTY	PART No.	DESCRIPTION
NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.			INSTL OF REINFORCE ANGLE
TOLERANCES X .10 XXX .01 XX .03 XXXX .001 ANGLES ±5% UNLESS STATED			D' SHANNON PRODUCTS, LTD
DWG. No. DSP-IM95-10-10		REVISION	NC
SCALE: NONE	DATE 05/06/11	SH	1 OF 4

1 USING A #39 DRILL BIT, REMOVE BEECH PART NUMBER 35-410446-179. REPOSITION AND OPEN HOLES TO #40 DRILL SIZE. REMOVE ALL BURRS. DRESS HOLES DRILLED BEFORE GOING ON TO NEXT STEP.

NOTES:



CUTTING DOWNWARD FLANGE
ON EXISTING STRUCTURE

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- NOTES:
- ③ DRESS ALL CUT FACES. SMOOTH THE CUT CORNER. FILE SMOOTH RADIUS WITH FINE FILE.
 - ② CUT, NOTCH, GRIND OR FILE DOWNWARD FLANGE LEAVING 0.6 INCH AS SHOWN, BOTH SIDES.

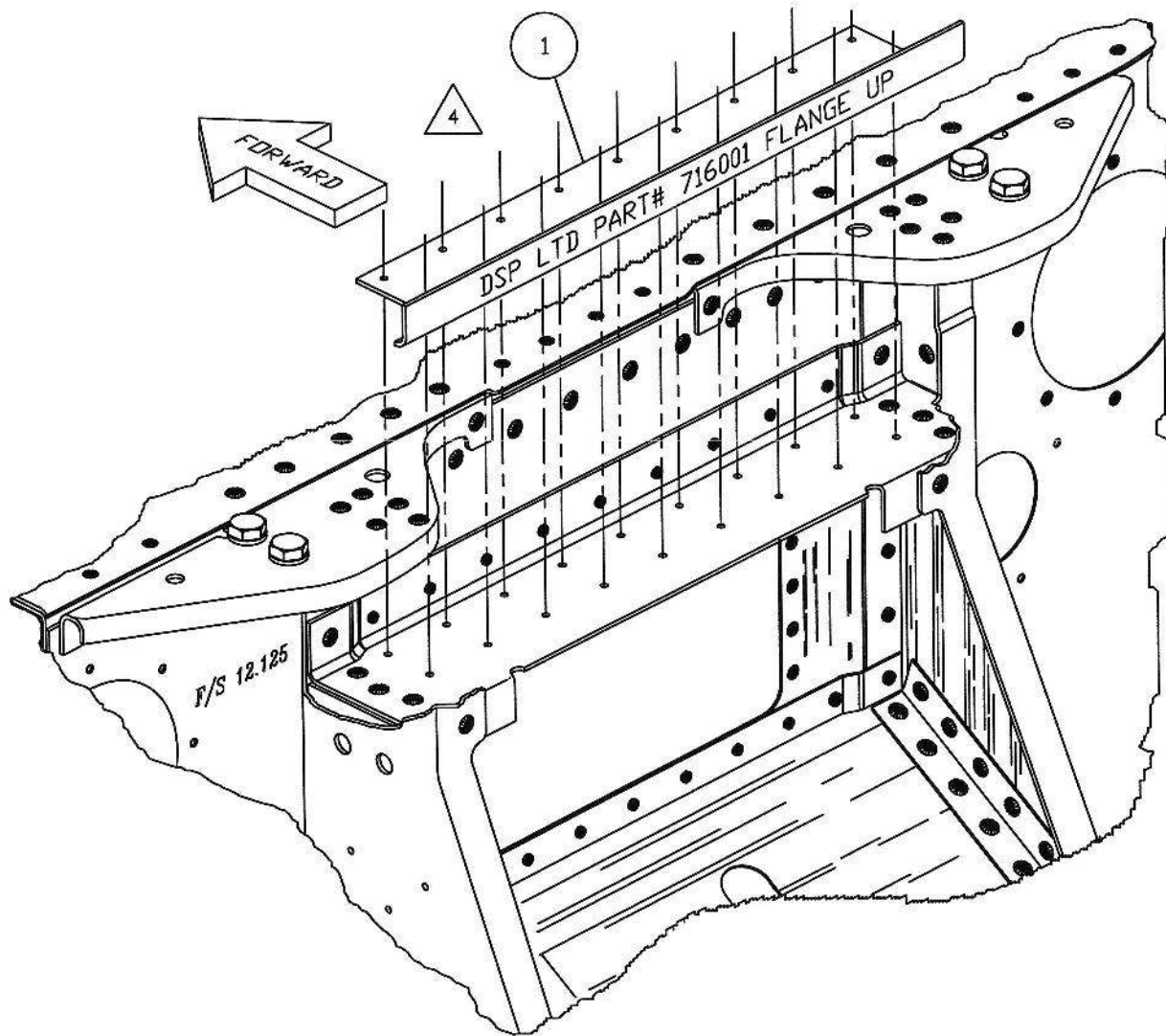
NEXT ASSY:
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

INSTL OF REINFORCE ANGLE

TOLERANCES
X .10 XXX .01
XX .03 XXXX .001
ANGLES ±6%
UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. DSP-1M95-10-10 REVISION NC
SCALE: NONE DATE 05/06/11 SH 2 OF 4



INSTALLATION OF REINFORCE ANGLE
 D' SHANNON PRODUCTS, LTD
 PART# 716001
 ON EXISTING STRUCTURE

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△ LINE UP ITEM ① ON ORIGINAL CUT STRUCTURE AS SHOWN AND BACK DRILL HOLES IN ITEM ①. PERMISSIBLE TO OVER SIZE TO -4 OR -5 IF NECESSARY.

1 - USE DRAWING# DSP-IM95-10-12 FOR ADDITIONAL ALIGNMENT OF ITEM ①.
 NOTES:

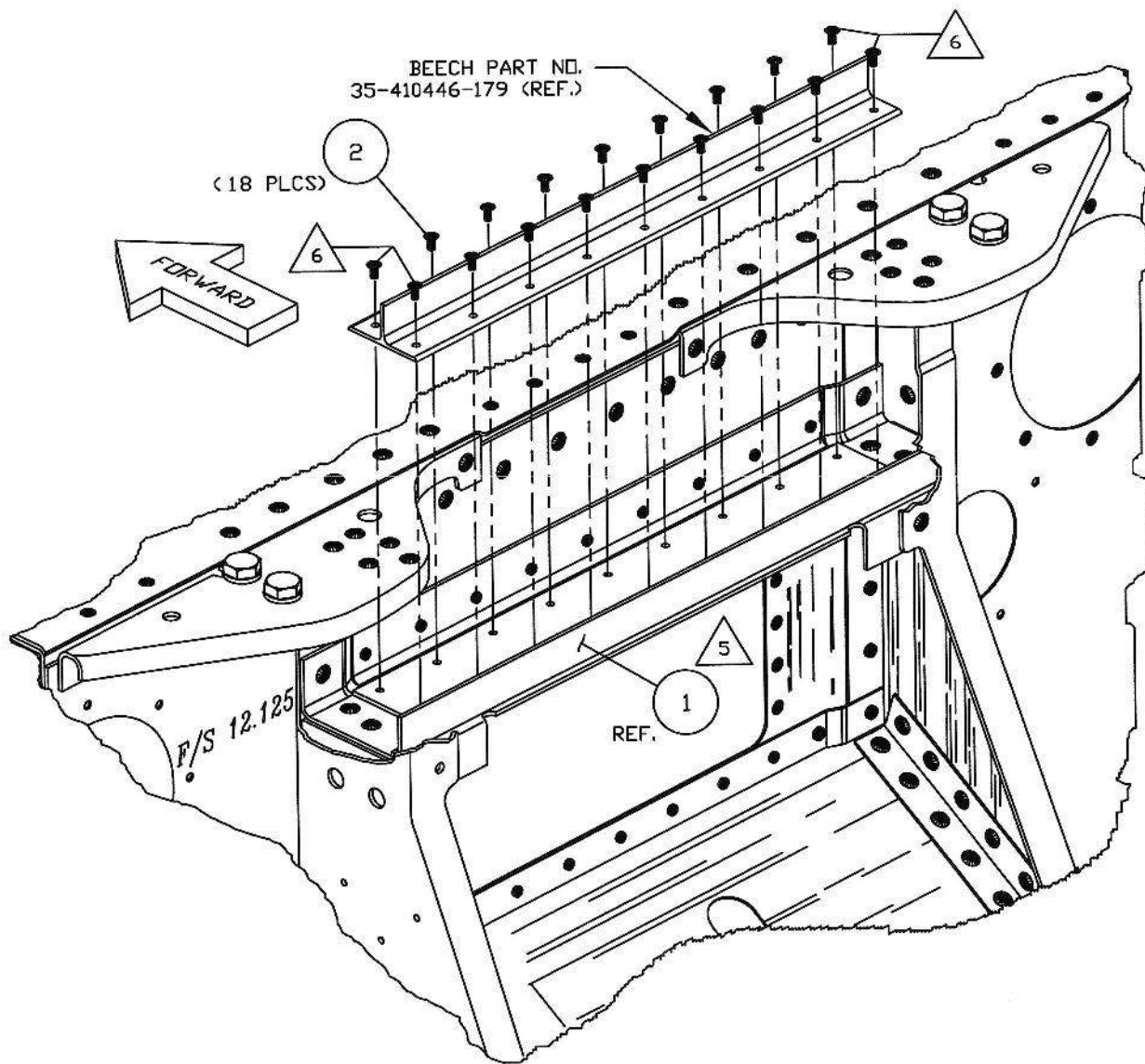
NEXT ASSY:
 DRAWN BY: D. B.
 ENGINEER: D. BRAUN
 CHECKED BY: D. B.

INSTL OF REINFORCE ANGLE

TOLERANCES
 X .10 XXX .01
 XX .03 XXXX .001
 ANGLES ±5%
 UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. DSP-IM95-10-10 | REVISION NC
 SCALE: NONE | DATE 05/06/11 | SH 3 OF 4



RIVETING BEECH PART NO.
35-410446-179 TO EXISTING
STRUCTURE THROUGH REINFORCE
ANGLE ITEM ① (REF SH 3 OF 4)

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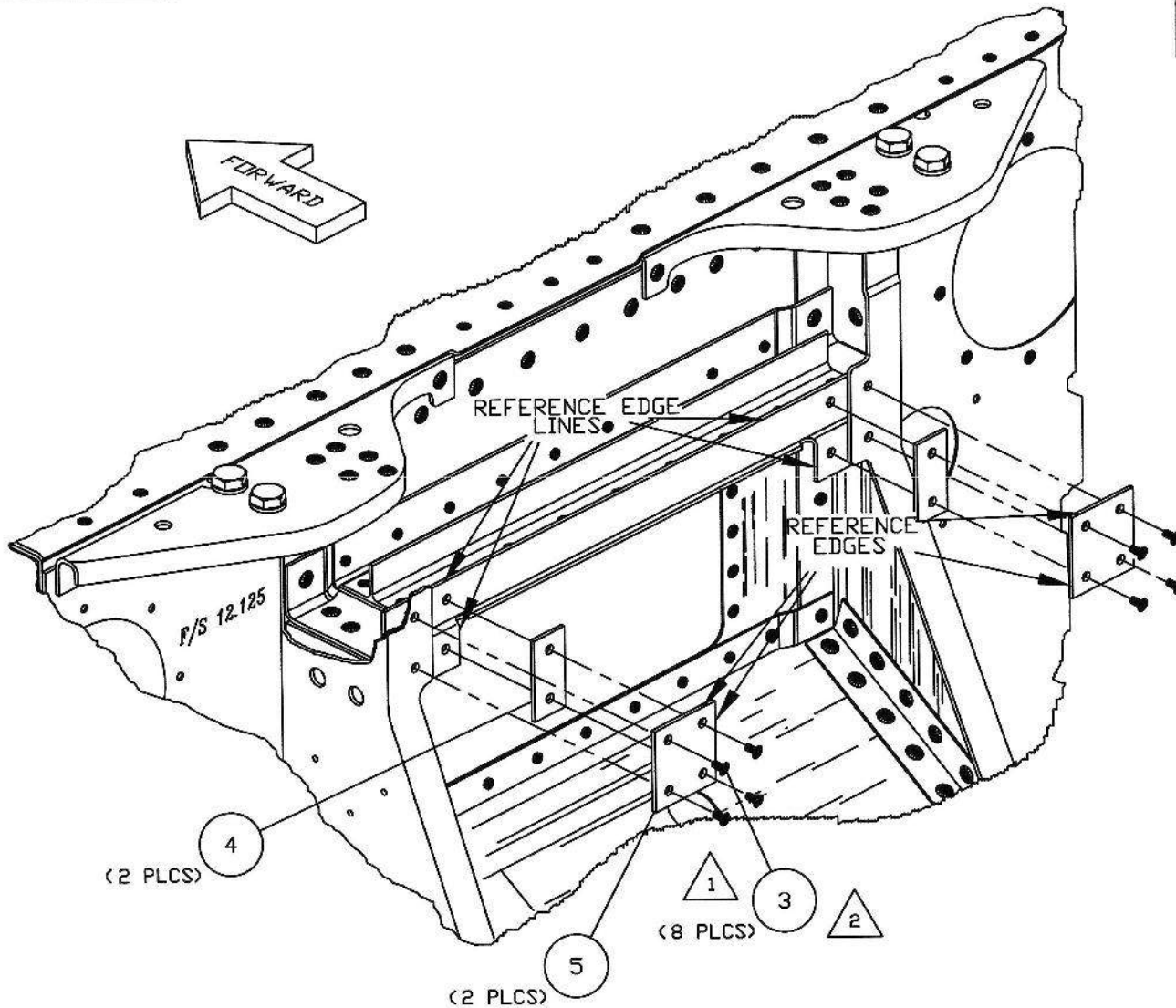
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⑥ IF CLEARANCE IS NOT AVAILABLE TO INSTALL THE TWO RIVETS ITEM ② AT EACH END IT IS PERMISSIBLE TO SUBSTITUTE A STRUCTURAL BOLT, WASHER AND NUT IN THE TWO LOCATIONS AT EACH END OF THE ANGLE.

⑤ CLEAN HOLES IN ANGLE ITEM ① (REF). POSITION ITEM ① AND RIVET USING ITEM ②. USE FAA ADVISORY CIRCULAR AC43.13-1A, CHAPTER 2, SECTION 3, §99 FOR RIVETING PROCEDURE.

NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	INSTL OF REINFORCE ANGLE
TOLERANCES X .10 XXX .01 XX .03 XXXX .001 ANGLES ±5% UNLESS STATED	D' SHANNON PRODUCTS, LTD DWG. No. DSP-IM95-10-10 REVISION NC SCALE: NONE DATE 05/06/11 SH 4 OF 4



REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	05/06/11

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INSTL OF SMALL SHIM ITEM (4) AND REINFORCE PLATE ITEM (5) TO REINFORCE ANGLE ITEM (1) (REF DWG DSP-IM95-10-10) TO EXISTING STRUCTURE

5	2	716003	REINFORCE PLATE
4	2	716002	SHIM
3	8	MS20470AD5	SOLID RIVET
ITEM	QTY	PART No.	DESCRIPTION
NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.			INSTL OF SHIM AND REINFORCE PLATE
TOLERANCES X .10 XXX .01 XX .05 XXXX .001 ANGLES ±5% UNLESS STATED			D' SHANNON PRODUCTS, LTD
DWG. No. DSP-IM95-10-12			REVISION NC
SCALE: NONE			DATE 05/06/11 SH 1 OF 1

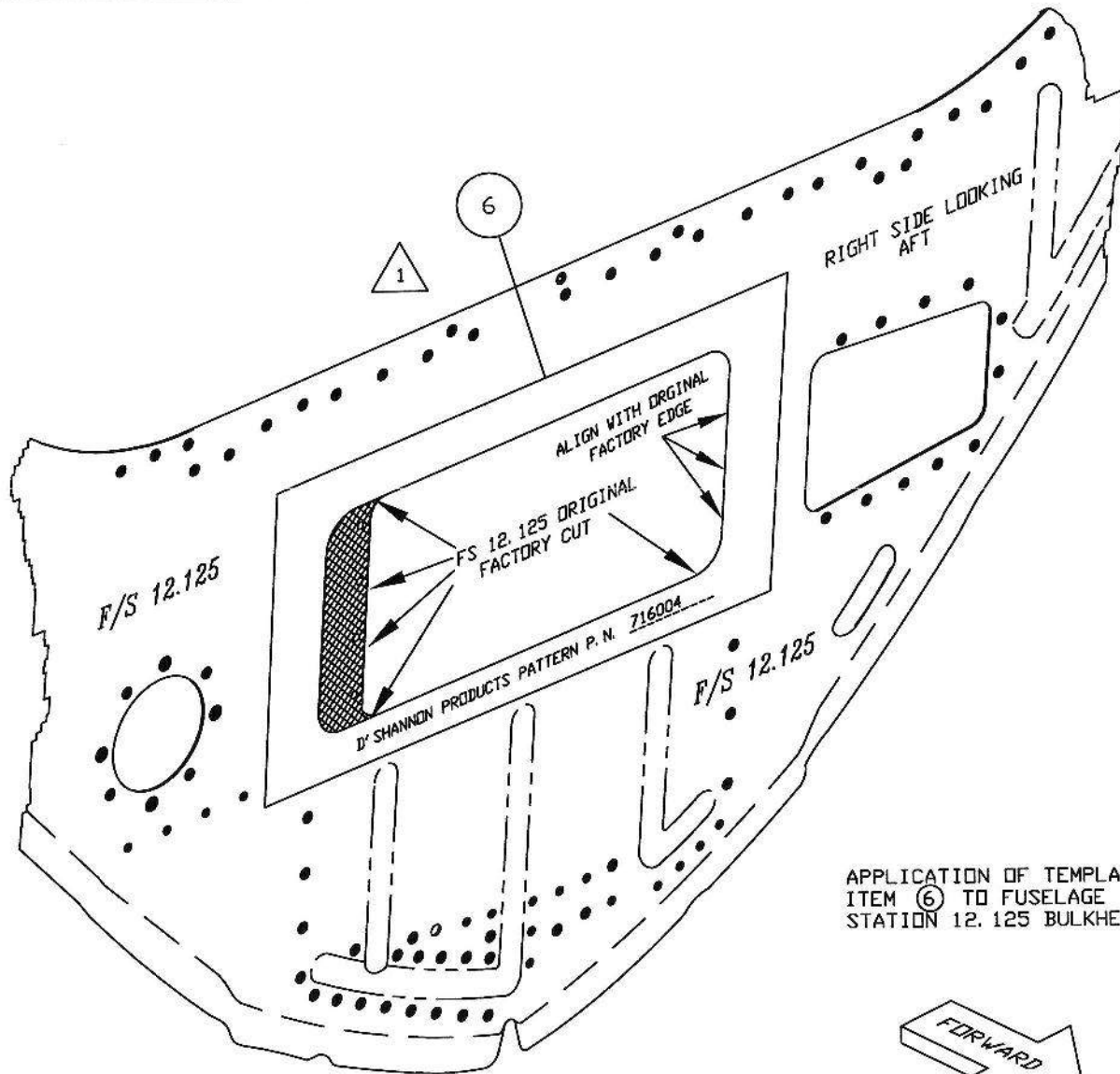
△ 2 DRILL HOLES LOCATED IN △ 1 USING DRILL BIT SIZE #21. INSTALL ITEMS (4) AND (5) IN PLACE AS SHOWN USING RIVETS ITEM (3). REFER TO FAA ADVISORY CIRCULAR AC43.13-1A, CHAPTER 2, SECTION 3, §99 FOR RIVETING PROCEDURE.

△ 1 POSITION REINFORCE PLATE ITEM (5) ON THE EXISTING STRUCTURE ALIGNING REFERENCE EDGES ON ITEM (5) TO REFERENCE EDGE LINES ON STRUCTURE. MARK EXISTING HOLES FROM ITEM (5) TO STRUCTURE AND REINFORCE ANGLE. REMOVE ITEM (5) FOR STEP △ 2.

NOTES:

REVISION RECORD

LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	05/06/11



APPLICATION OF TEMPLATE
ITEM ⑥ TO FUSELAGE
STATION 12.125 BULKHEAD

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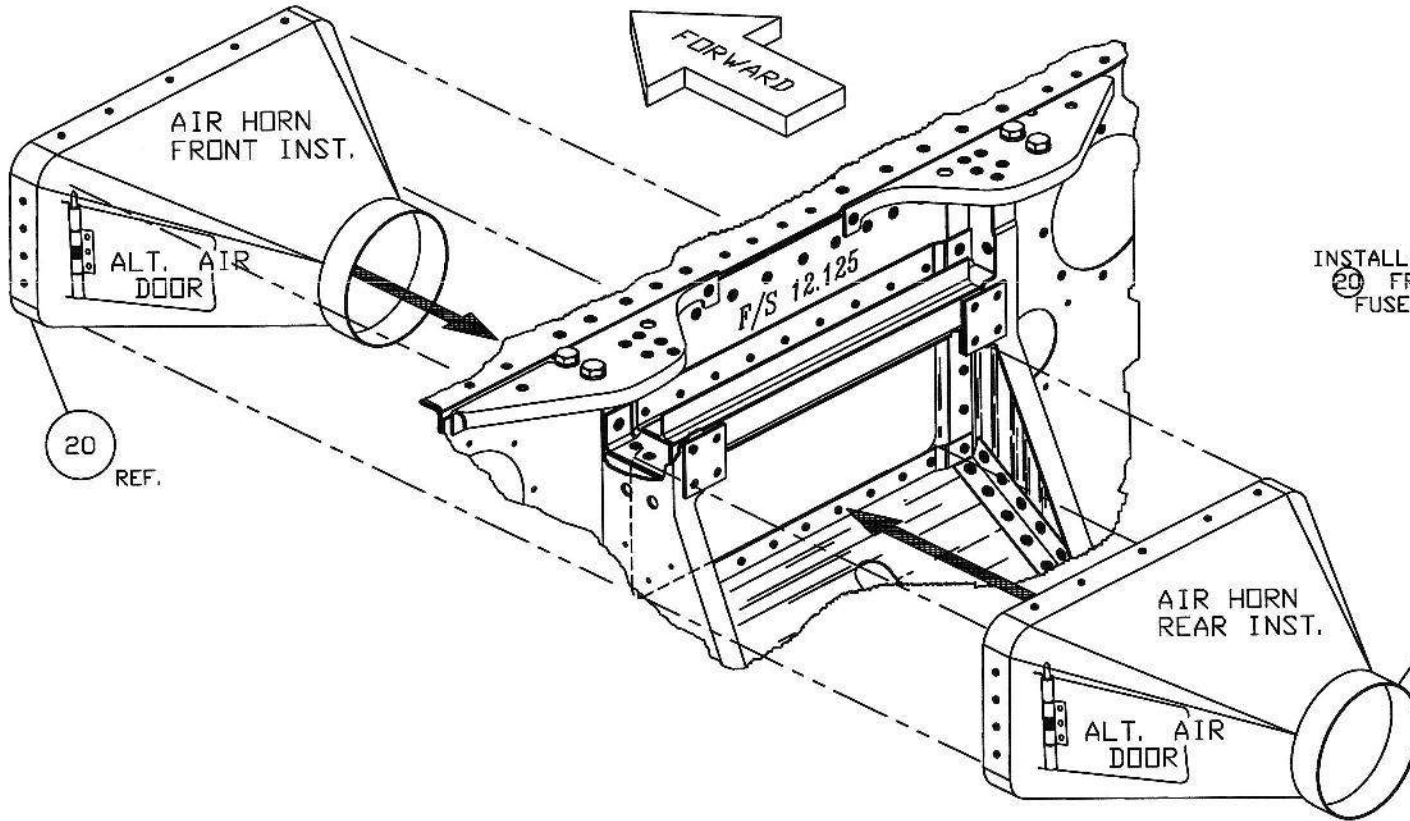
- ① CUT OUT TEMPLATE ITEM ⑥ AS INDICATED. APPLY RUBBER CEMENT ON BACKSIDE OF ITEM ⑥ AND ATTACH TEMPLATE TO FORWARD SIDE OF FUSELAGE STATION 12.125 BULKHEAD. TRIM TO INSIDE OF TEMPLATE AS SHOWN. REMOVE TEMPLATE AND CLEAN RESIDUE FROM BULKHEAD.

NOTES:

20	1	716014Z	AIR HORN ASSEMBLY
6	1	716004	TEMPLATE
ITEM	QTY	PART No.	DESCRIPTION
NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.			INSTALLATION OF AIR HORN
TOLERANCES X .10 XXX .01 XX .09 XXXX .001 ANGLES ±5% UNLESS STATED			D' SHANNON PRODUCTS, LTD
DWG. No. DSP-IM95-10-14		REVISION	NC
SCALE: NONE	DATE 05/06/11	SH	1 OF 2

FRONT INSTALLATION

FRONT INSTALLATION OF AIR HORN ITEM 20 ON F/S 12.125 REQUIRES NOSE BOWL TO BE REMOVED. DRAWING ASSUMES THE NOSE BOWL HAS BEEN REMOVED.



INSTALLATION OF AIR HORN ITEM 20 FROM REAR AND FRONT OF FUSELAGE STATION 12.125

REAR INSTALLATION

REAR INSTALLATION OF AIR HORN ITEM 20 ON F/S 12.125 DOES NOT REQUIRE NOSE BOWL TO BE REMOVED.

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NOTES:

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

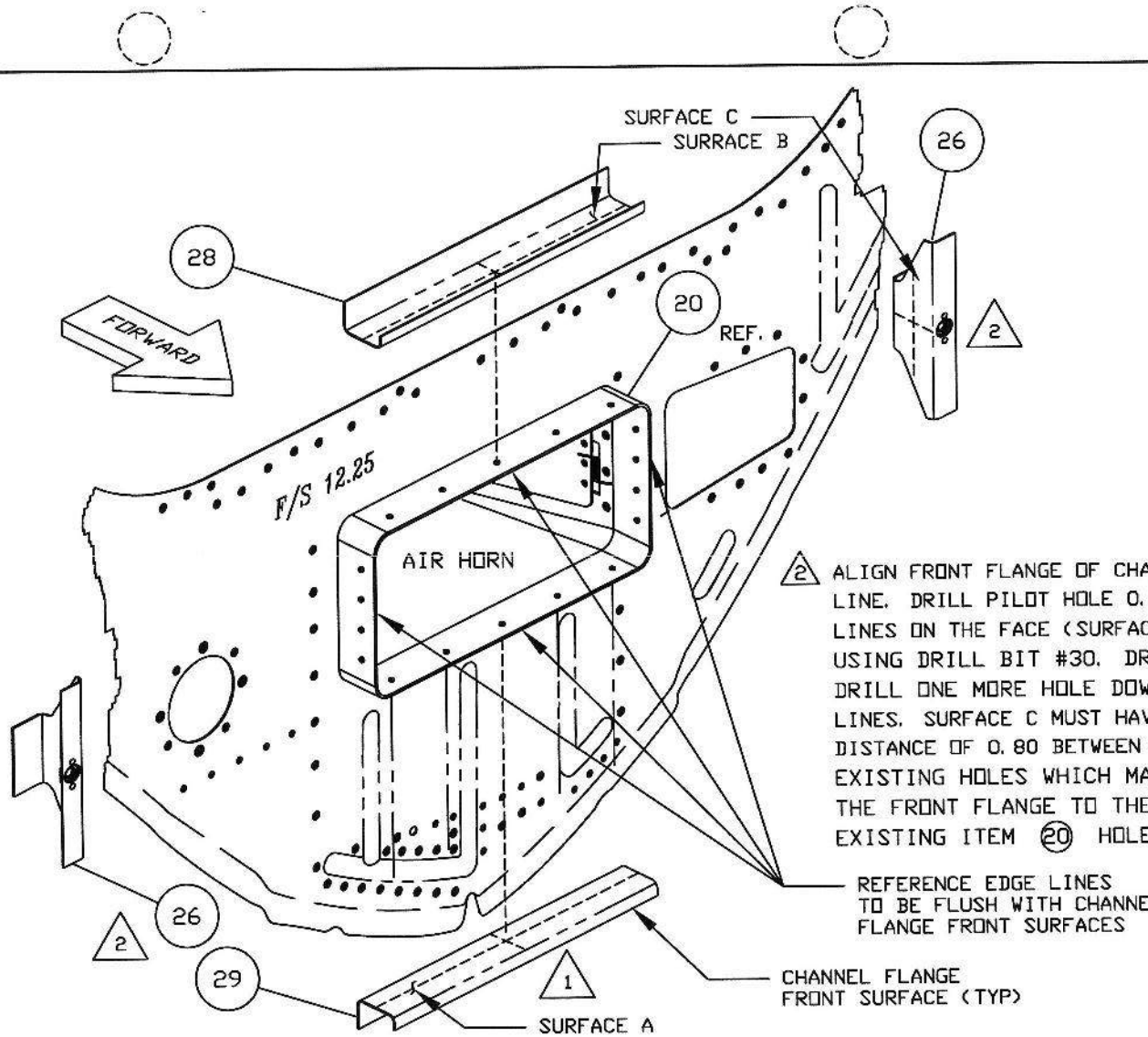
INSTALLATION OF AIR HORN

TOLERANCES
X .10 XXX .01
XX .03 XXXX .001
ANGLES ±5%
UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. DSP-IM95-10-14 REVISION NC

SCALE: NONE DATE 05/06/11 SH 2 OF 2



REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	05/06/11

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2 ALIGN FRONT FLANGE OF CHANNEL ITEM 26 TO FRONT SIDE REFERENCE EDGE LINE. DRILL PILOT HOLE 0.40±0.1 UP FROM INTERSECTION OF MIDPOINT LINES ON THE FACE (SURFACE C) OF CHANNEL ITEM 26, THROUGH AIR HORN USING DRILL BIT #30. DRESS HOLES. CLECO CHANNEL TO THE AIR HORN. DRILL ONE MORE HOLE DOWN 0.40±0.1 FROM INTERSECTION OF MIDPOINT LINES. SURFACE C MUST HAVE FOUR ALIGNED HOLES WITH AT LEAST A DISTANCE OF 0.80 BETWEEN EACH HOLE. THIS METHOD WILL NOT UTILIZE EXISTING HOLES WHICH MAY BE PRESENT IN ITEM 20. YOU MAY ALIGN THE FRONT FLANGE TO THE REFERENCE LINE AND MATCH DRILL THE EXISTING ITEM 20 HOLES IF YOU PREFER. REPEAT FOR SECOND ITEM 26.

REFERENCE EDGE LINES
TO BE FLUSH WITH CHANNEL
FLANGE FRONT SURFACES

CHANNEL FLANGE
FRONT SURFACE (TYP)

ITEM 20 IS REF. FROM DWG DSP-IM95-10-14
SH 2 OF 2

ITEM	QTY	PART No.	DESCRIPTION
29	1	716009	AIR BOX CHANNEL
28	1	716008	AIR BOX CHANNEL
26	2	716007Z	AIR BOX CHANNEL ASSEMBLY
25	1	P105304	DONALDSON AIR FLITER ASSEMBLY
9	40	AN960-8L	WASHER
8	40	NAS679-A08	LOCK NUT
7	40	AN525-C832RB	PAN HEAD SCREW

1 ALIGN FRONT FLANGE OF CHANNEL ITEM 29 TO FRONT BOTTOM REFERENCE EDGE LINE. DRILL PILOT HOLE ON INTERSECTION OF MIDPOINT LINES OF THE BASE (SURFACE A) OF CHANNEL ITEM 29 THROUGH THE AIR HORN USING DRILL BIT SIZE #30. DRESS HOLES. CLECO CHANNEL TO THE AIR HORN. KEEPING THE FRONT FLANGE ALIGNED WITH THE BOTTOM REFERENCE LINE DRILL THE REST OF THE HOLES (A TOTAL OF FIVE HOLES MINIMUM ON SURFACE A) WITH A DISTANCE OF 1.8±0.3 BETWEEN EACH HOLE EQUALLY SPACED. THIS METHOD WILL NOT UTILIZE EXISTING HOLES WHICH MAY BE PRESENT IN ITEM 20. YOU MAY ALIGN THE FRONT FLANGE TO THE REFERENCE LINE AND MATCH DRILL THE EXISTING ITEM 20 HOLES IF YOU PREFER. REPEAT USING ITEM 28.

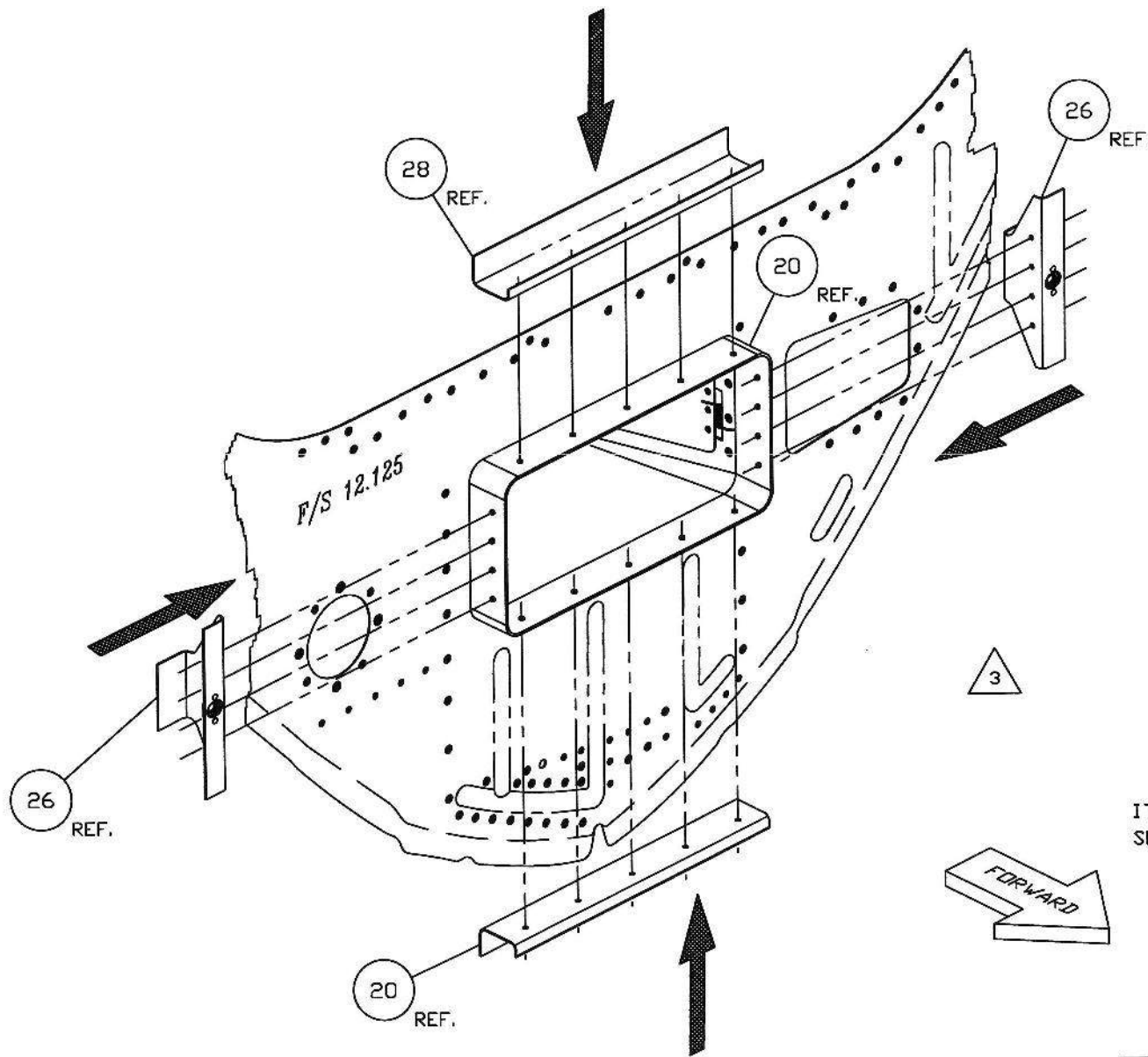
NOTES:

INSTALLATION OF CHANNELS

TOLERANCES
X .10 XXX .01
XX .08 XXXX .001
ANGLES ±6%
UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. DSP-IM95-10-15 REVISION NC
SCALE: NONE DATE 05/06/11 SH 1 OF 5

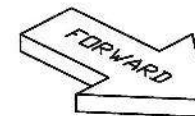


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ITEM 20 IS REF. FROM DWG DSP-IM95-10-14
SH 2 OF 2



NOTES:
 3 REINSTALL CHANNEL ITEMS 26, 28 AND 29 BY USING CLECOS TO BODY OF ITEM 20.

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

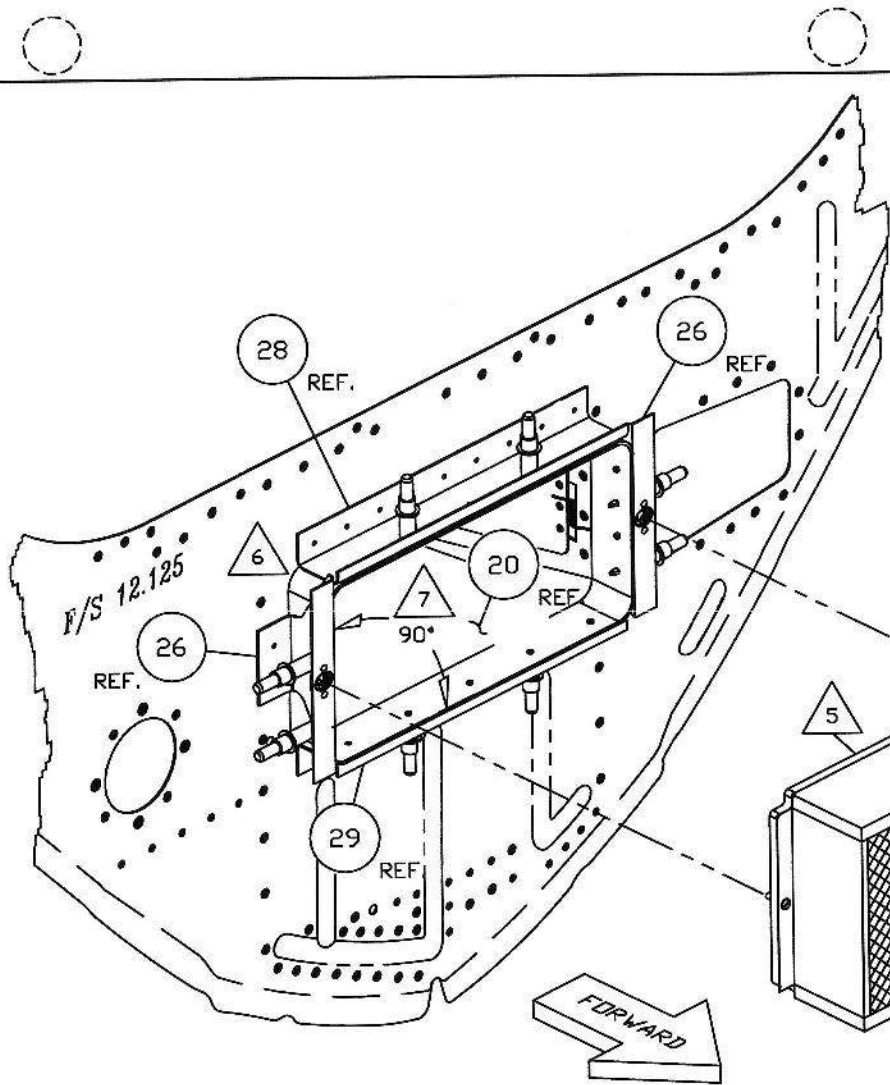
INSTALLATION OF CHANNELS

TOLERANCES
 X .10 XXX .01
 XX .05 XXXX .001
 ANGLES ±5%
 UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. DSP-IM95-10-15 REVISION NC

SCALE: NONE DATE 05/06/11 SH 2 OF 5



VERIFYING POSITION AND ALIGNMENT OF CHANNEL ITEMS 26, 28 AND 29 WITH AIR FILTER ITEM 25 BEFORE CHANNELS ARE FASTENED TO AIRPLANE.

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ITEM 20 IS REF. FROM DWG DSP-IM95-10-14
SH 2 OF 2

- NOTES:
- 8 REMOVE ITEM 25 AFTER FIT OPERATION AND SET ASIDE.
 - 7 ASSURE THAT AIR HORN ITEM 20 IS SQUARE.
 - 6 SEAL OFF ANY AIR ENTRY POINTS ON ITEM 20 USING G. E. SILICONE II. APPLY TO ALL GAPS AS NECESSARY. ASSURE THE SEAL FITS ON THE FLANGE.
 - 5 PRIOR TO INSTALLING ITEM 20, CHECK THE EXISTING ADHESIVE BETWEEN SEAL AND AIR FILTER, ALL AROUND.
 - 4 CHECK ALIGNMENT OF CHANNEL ITEMS 26, 28 AND 29 WITH AIR FILTER ITEM 25. TO KEEP FILTER CLEAN, PLACE FILTER IN A CLEAN, TRANSLUCENT PLASTIC BAG UNTIL INSTALLATION IS COMPLETED.

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

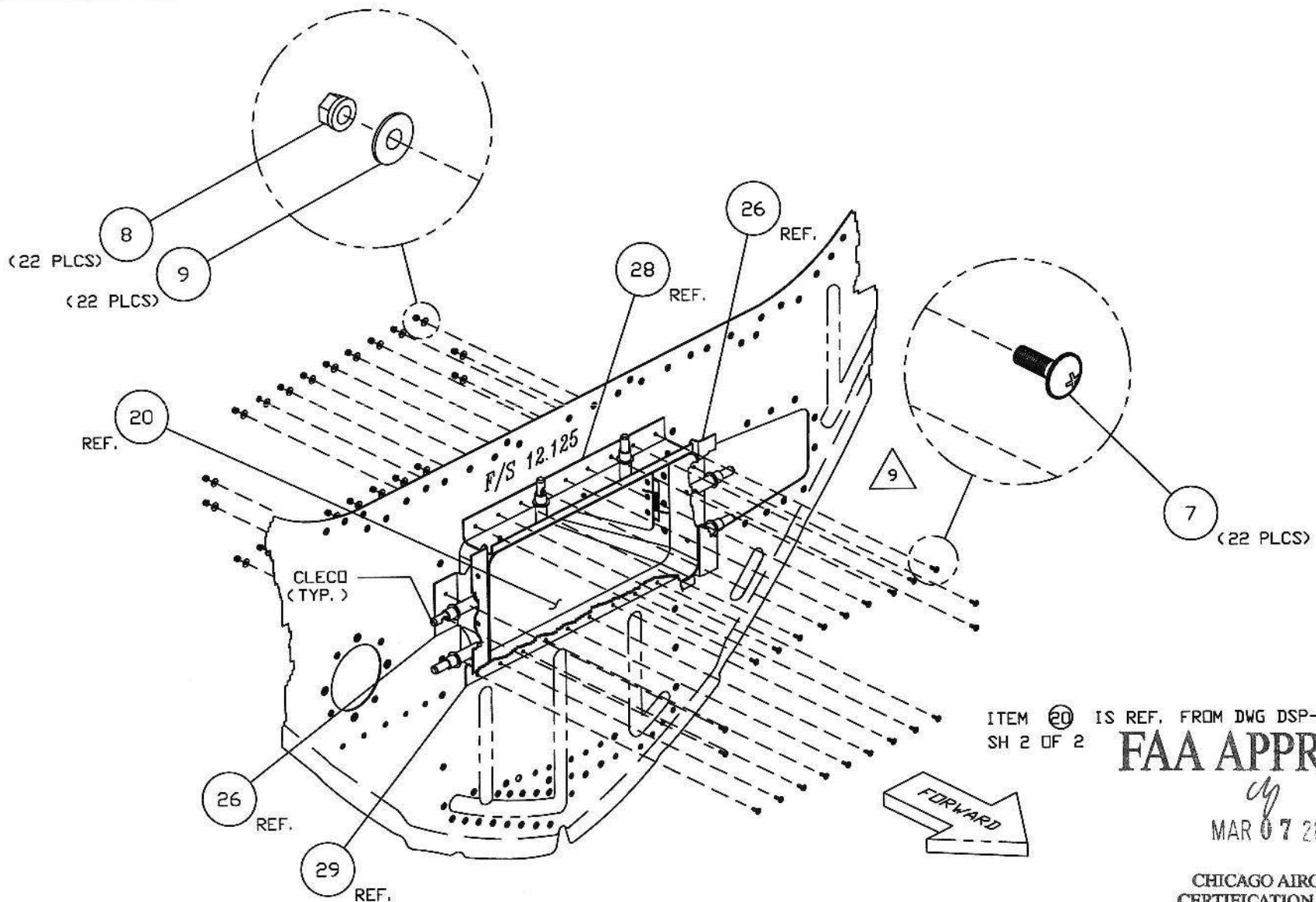
INSTALLATION OF CHANNELS

TOLERANCES
X .10 XXX .01
XX .03 XXXX .001
ANGLES ±5%
UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. DSP-IM95-10-15 REVISION NC

SCALE: NONE DATE 05/06/11 SH 3 OF 5



ITEM 20 IS REF. FROM DWG DSP-IM95-10-14
SH 2 OF 2

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△ FASTEN ITEM 20 TO THE F/S 12.125 BULKHEAD STRUCTURE BY ATTACHING THE CHANNELS 26, 28 AND 29 TO THE BULKHEAD STRUCTURE. IF EXISTING HOLES CAN BE USED IT IS PERMISSIBLE TO OVERSIZE THEM. DRILL ALL HOLES THROUGH THE STRUCTURE USING #17 DRILL BIT. REMOVE ALL CHIPS BETWEEN THE DRILLED PIECES AND DRESS THE HOLES. USING SCREWS ITEM 7, WASHERS ITEM 9 AND LOCK NUTS ITEM 8, FASTEN CHANNELS TO THE BULKHEAD.

NOTES:

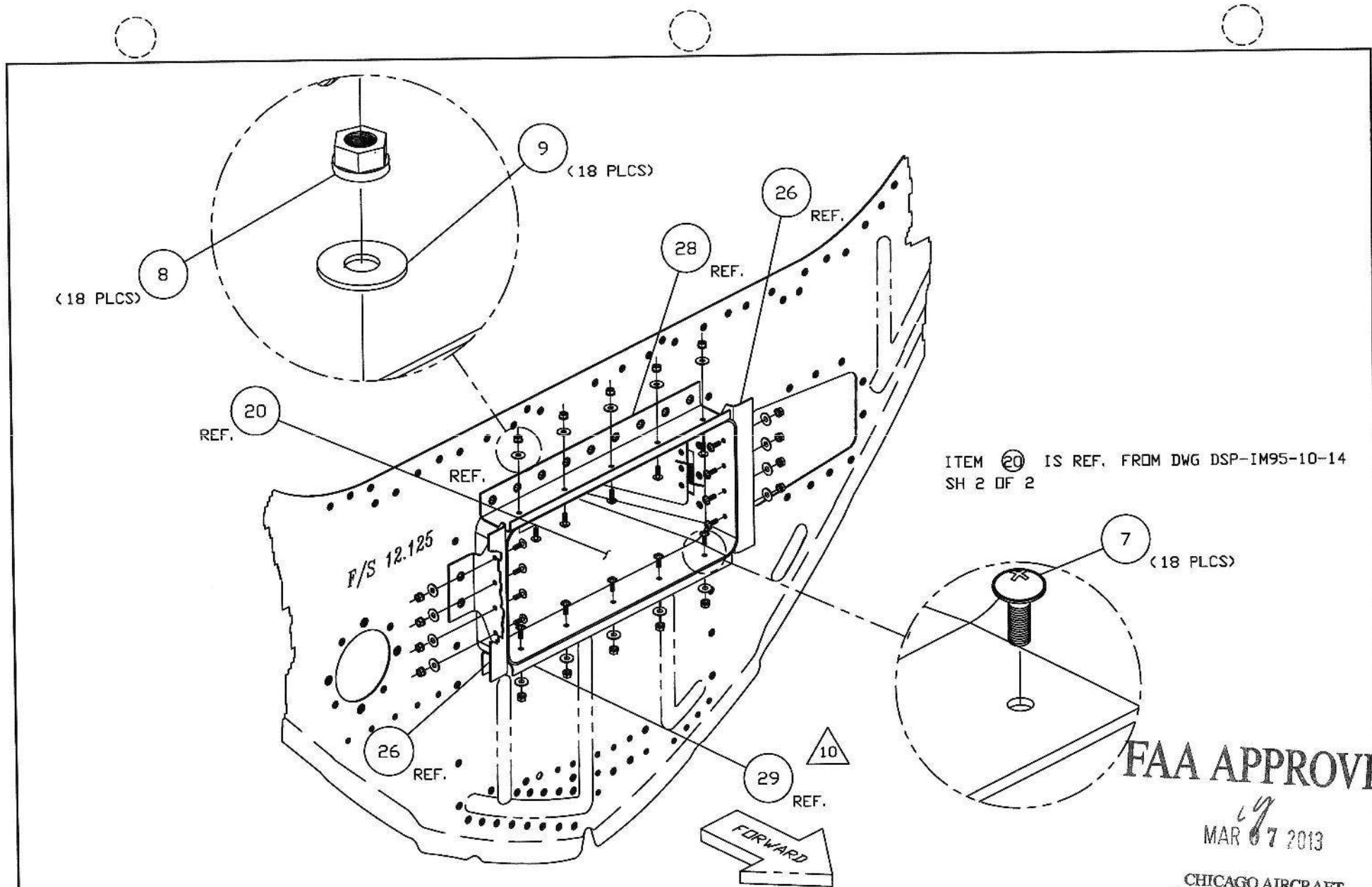
NEXT ASSY:
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

INSTALLATION OF CHANNELS

TOLERANCES
X .10 XXX .01
XX .03 XXXX .001
ANGLES ±5%
UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. DSP-IM95-10-15 REVISION NC
SCALE: NONE DATE 05/06/11 SH 4 OF 5



ITEM 20 IS REF. FROM DWG DSP-IM95-10-14
SH 2 OF 2

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CENTRAL REGION

INSTALLATION OF CHANNELS

D' SHANNON PRODUCTS, LTD

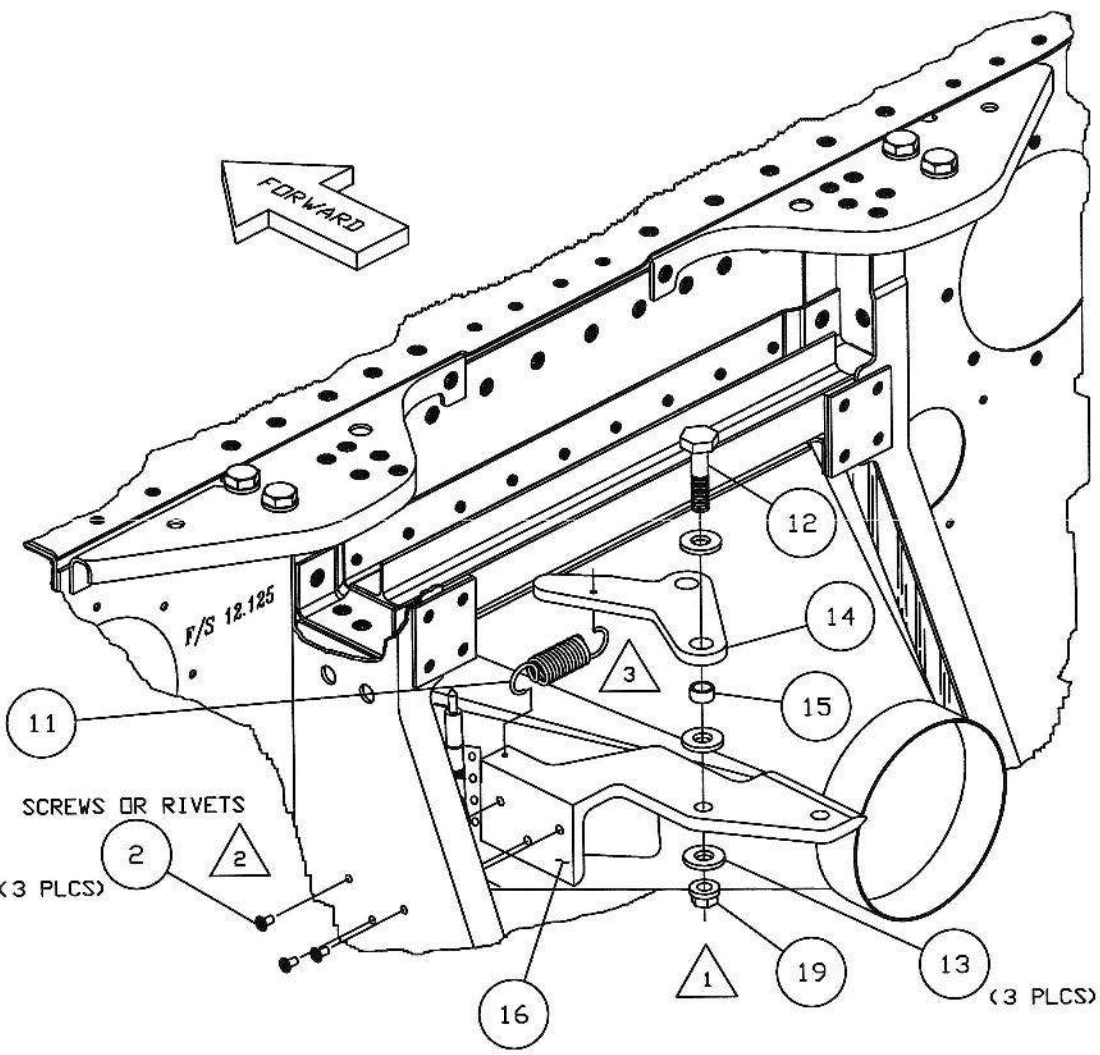
NEXT ASSY:
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

TOLERANCES
X .10 XXX .01
XX .09 XXXX .001
ANGLES ±5%
UNLESS STATED

DWG. No. DSP-IM95-10-15 REVISION NC
SCALE: NONE DATE 05/06/11 SH 5 OF 5

⚠ DRILL ALL HOLES THROUGH THE AIR HORN ITEM 20 AND CHANNELS USING #17 DRILL BIT. REMOVE ALL CHIPS BETWEEN THE DRILLED PIECES AND DRESS THE HOLES. USING SCREWS ITEM 7, WASHERS ITEM 8 AND LOCK NUTS ITEM 9, FASTEN AIR HORN TO THE CHANNELS. AIR HORN MAY BE RIVETED IN PLACE USING PROPER SIZED AD470 RIVETS IF EDGE DISTANCES BETWEEN EXISTING HOLES IN AIR HORN (IF PRESENT) AND NEW HOLES PERMIT, OR IF EXISTING HOLES IN AIR HORN WERE MATCH DRILLED.

NOTES:



- △ 3 INSTALL ITEM ① SPRING.
- △ 2 INSTALL ITEM ⑬ TO STRUCTURE USING ITEM ③. THE INSTALLER SHOULD VERIFY THE PROPER LENGTH OF ITEM ③ AND ADJUST ACCORDINGLY. LEVER ITEM ⑭ SHOULD CONTACT DOOR IN THE AREA SHOWN ON SH 5 OF 6.
- △ 1 ASSEMBLE LEVER ITEM ⑭ AND BRACKET ITEM ⑮ USING BOLT ITEM ⑫ THROUGH ITEMS ⑬, ⑭, ⑮, ⑬, ⑮ AND ⑬. START ITEM ⑱ AND TIGHTEN. LEVER ITEM ⑭ SHOULD BE ABLE TO MOVE FREELY ON BRACKET ITEM ⑮. IF BINDING OCCURS, CALL THE MANUFACTURER.

NOTES:

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	05/06/11

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27	2	AN3-5A	BOLT
24	A. R.	G. E. SILICONE II	SILICONE SEALANT
23	A. R.	MS20995C32	.0320 SAFETY WIRE
22	1	61-175	FIREWALL SHIELD
21	2	AD44H	PDP RIVET
19	4	MS20365-1032	LOCK NUT
18	1	716005	CONTROL ATTACHING BOLT
17	1	35-380063-1	CONTROL CABLE
16	1	002-410000-87	BRACKET (ALT.)
16	1	35-919025-21	BRACKET
15	2	716006	BUSHING
14	1	002-910011-21	LEVER (ALT.)
14	1	35-919025-23	LEVER
13	7	AN960-10	WASHER
12	1	AN3-6A	BOLT
11	1	100942-10023-17	SPRING
10	2	TA1718DTS	CLAMP
2	3	MS20470AD4	SOLID RIVET
ITEM	QTY	PART No.	DESCRIPTION

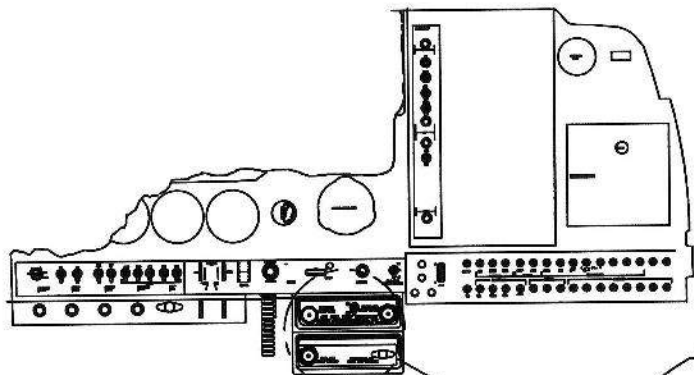
NEXT ASSY:
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

INSTALLATION OF CONTROL CABLE

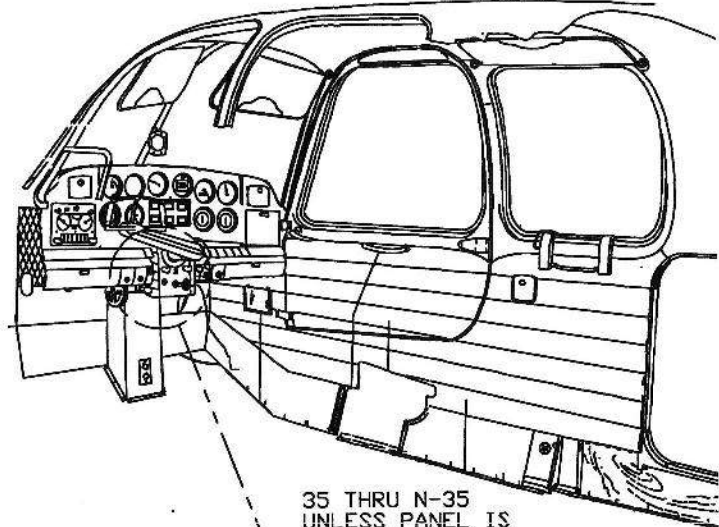
TOLERANCES
X .10 XXX .01
XX .03 XXXX .001
ANGLES ±5%
UNLESS STATED

D' SHANNON PRODUCTS, LTD

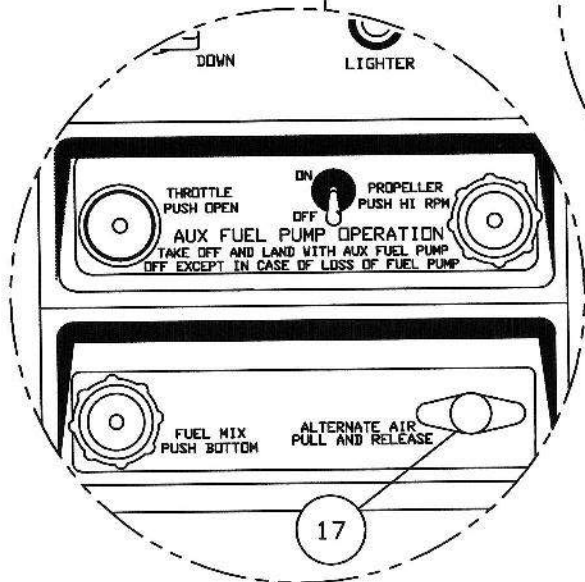
DWG. No. DSP-IM95-10-20 REVISION NC
SCALE: NONE DATE 05/06/11 SH 1 OF 6



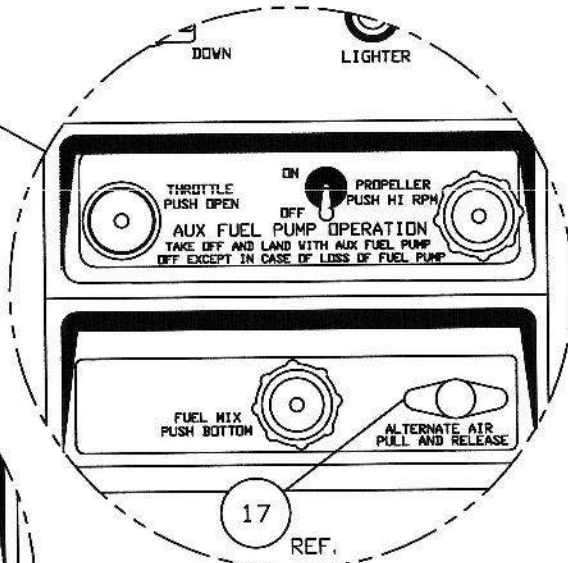
LOCATION OF CONTROL CABLE ON INSTRUMENT PANEL.



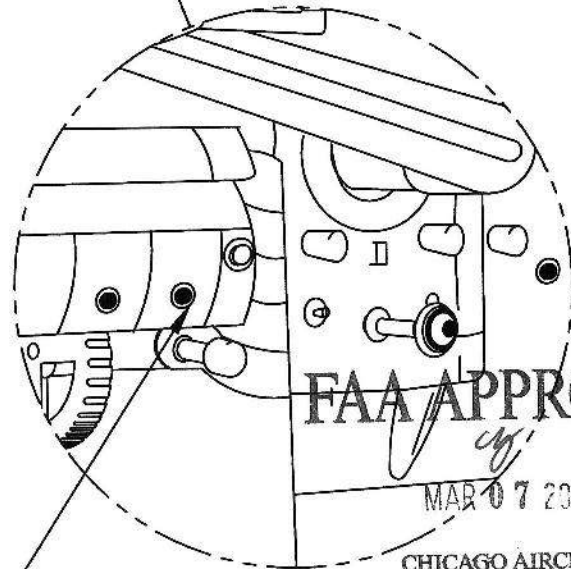
35 THRU N-35 UNLESS PANEL IS MODIFIED.



MOST 10-520 FACTORY INSTALLATIONS OR PANEL MODIFICATIONS



MOST 10-470 INSTALLATIONS COULD BE OTHER PANEL MODIFICATIONS



EXISTING CARBURETOR HEAT USED AS ALTERNATE AIR PUSH/PULL CABLE, SHORTEN AS NECESSARY; CLAMP HOUSING SIMILAR TO LATER MODEL.

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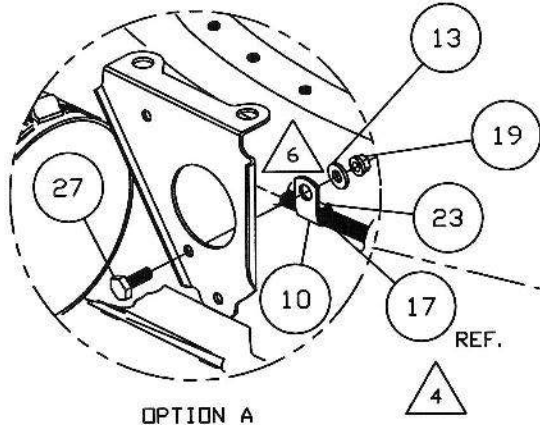
MAR 07 2013

CHICAGO AIRCRAFT CERTIFICATION OFFICE CENTRAL REGION

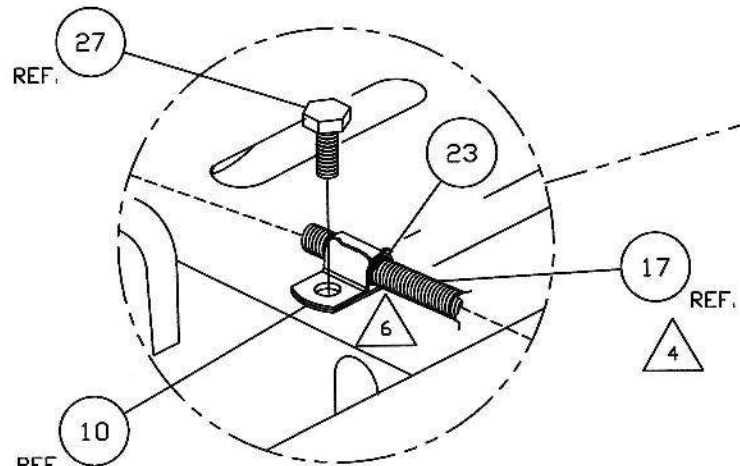
NOTES:

NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	INSTALLATION OF CONTROL CABLE
TOLERANCES X .10 XXX .01 XX .03 XXXX .001 ANGLES ±5% UNLESS STATED	D' SHANNON PRODUCTS, LTD DWG. No. DSP-IM95-10-20 REVISION NC SCALE: NONE DATE 05/06/11 SH 2 OF 6

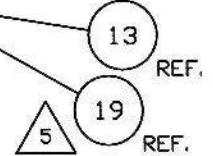
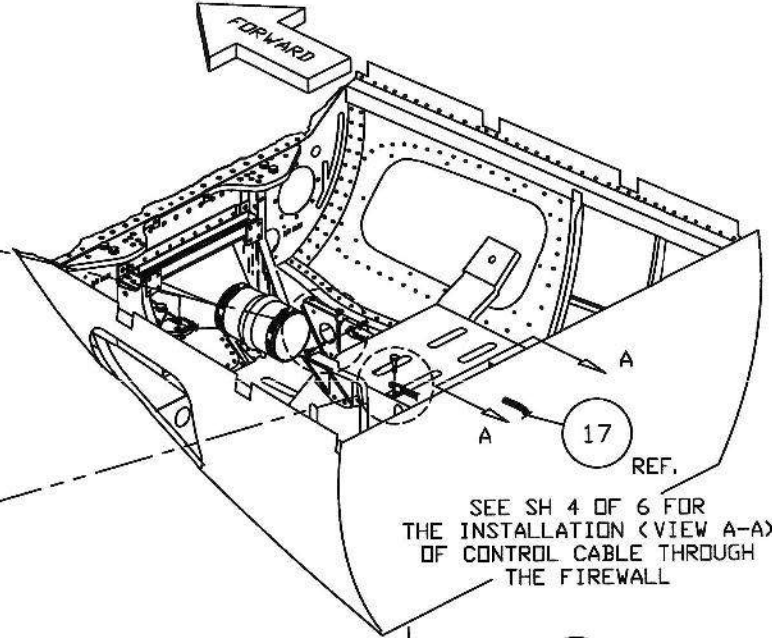
USE ONE OF TWO OPTIONS TO HOLD CONTROL CABLE:
 OPTION A: TO THE BRACKET MOUNTED ON ENGINE CRANKCASE
 -OR-
 OPTION B: TO THE NOSE WHEEL WELL COVER.
 BOTH OPTIONS ARE SHOWN.



OPTION A



OPTION B



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cy

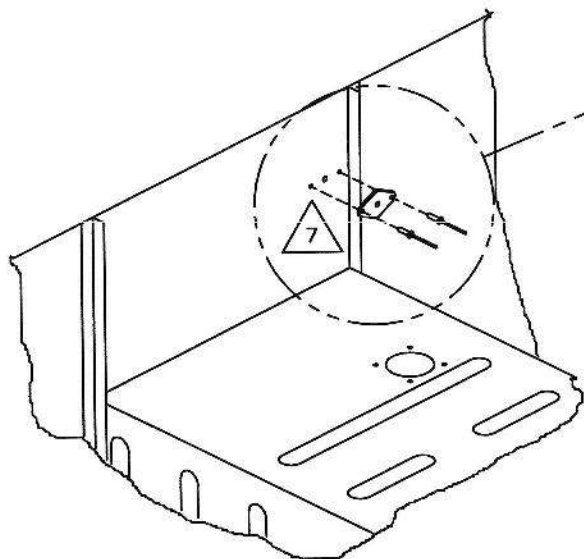
MAR 07 2013

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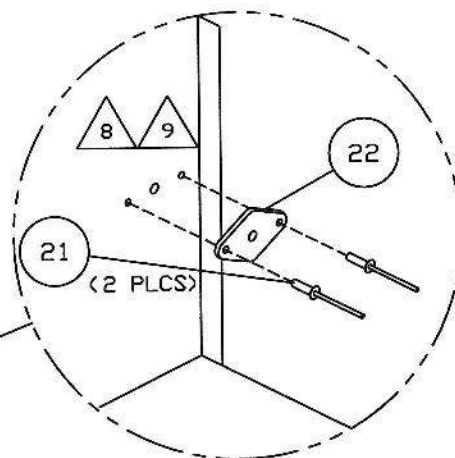
- △ 6 MAKE SURE CONTROL CABLE ITEM 17 DOES NOT SLIP ON ITEM 10. SEE NOTE △ 4.
- △ 5 CHECK BEHIND THE ENGINE MOUNT TO MAKE SURE NUT ITEM 19 DOES NOT INTERFERE WITH NOSE GEAR DOOR ACTUATOR.
- △ 4 PROTECT AIRFRAME AND/OR ENGINE MOUNT WITH PROTECTIVE FIRE SLEEVE OR EQUIVALENT ON THE CABLE. DRILL A .250Ø HOLE IN THE DESIRED LOCATION. INSTALL THE CLAMP ITEM 10 OVER THE CABLE HOUSING ITEM 17. INSERT THE BOLT ITEM 27 THROUGH THE HOLE AND INSERT WASHER ITEM 13. INSTALL NUT ITEM 19 AND TIGHTEN. DO NOT OVER-TORQUE THE NUT ITEM 19.

NOTES:

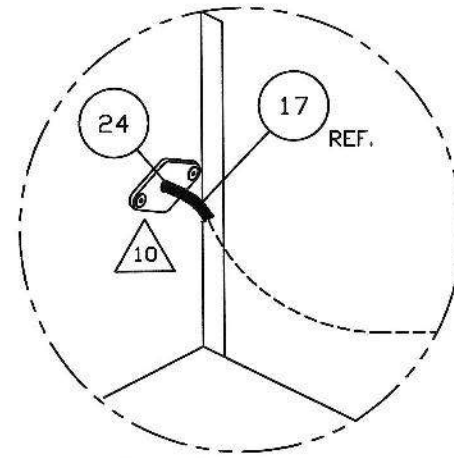
NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.	INSTALLATION OF CONTROL CABLE
TOLERANCES X .10 XXX .01 XX .09 XXXX .001 ANGLES ±5% UNLESS STATED	D' SHANNON PRODUCTS, LTD DWG. No. DSP-IM95-10-20 REVISION NC SCALE: NONE DATE 05/06/11 SH 3 OF 6



VIEW A-A
VIEW A-A COMES FROM
SH 3 OF 6



RIVETING THE FIREWALL SHIELD
TO THE FIREWALL



INSTALLING THE CABLE

- ▲ APPLY SILICONE ITEM 24 ALL AROUND CABLE AT ITEM 22 FIREWALL SHIELD AFTER CABLE IS INSTALLED.
- ▲ DRILL THROUGH THE FIREWALL USING 3/16" DRILL BIT SIZE TAKING CARE NOT TO PENETRATE MORE THAN 1/16". REAM HOLE LARGER SO THE CABLE IS A SNUG FIT IN ITEM 22 FIREWALL SHIELD.
- ▲ USING STUB DRILL BIT SIZE #30 AND TAKING CARE NOT TO PENETRATE MORE THAN 1/16", DRILL HOLES AS SHOWN. MAKE SURE THAT FIREWALL IS CLEAR OF ALL ITEMS PRIOR TO DRILLING. RIVET ITEM 22 TO THE FIREWALL AS SHOWN USING ITEM 21.
- ▲ LOCATE THE MOST PRACTICAL POSITION FOR ITEM 22 FIREWALL SHIELD. THE NEW CONTROL CABLE MUST NOT BE IN CONFLICT WITH ANY OTHER CABLE OR ELECTRICAL BUNDLE.

NOTES:

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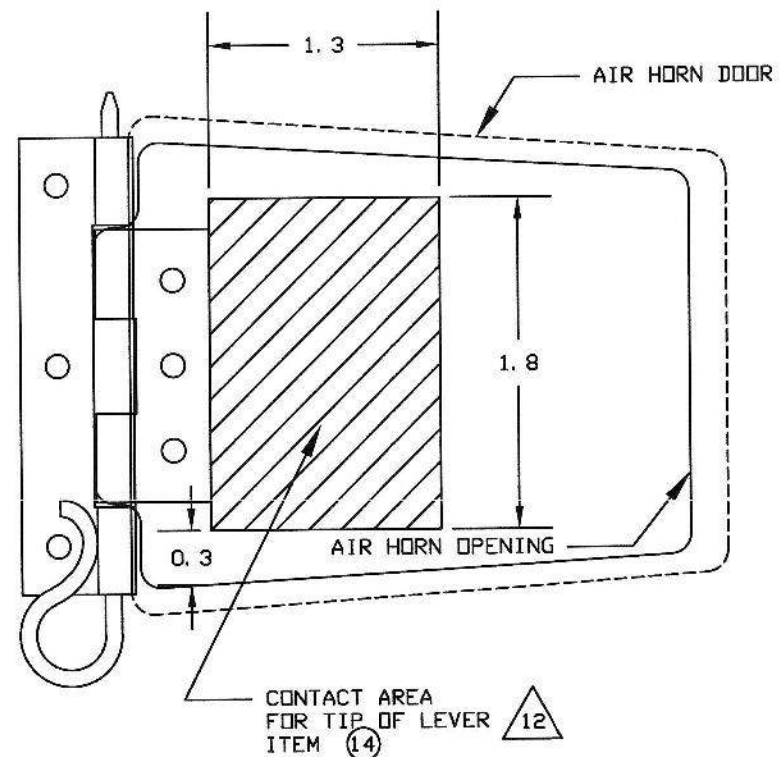
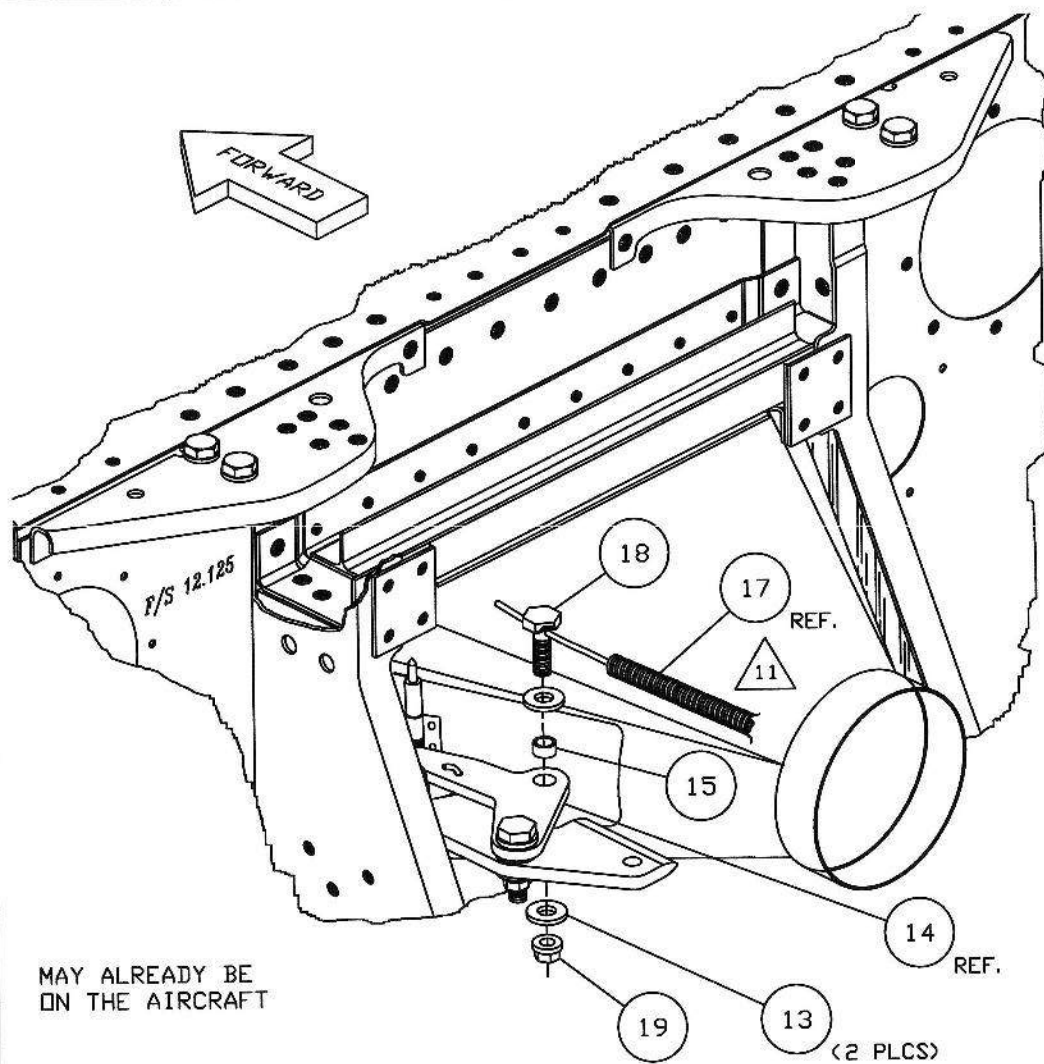
NEXT ASSY:
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

INSTALLATION OF CONTROL CABLE

TOLERANCES
X .10 XXX .01
XX .03 XXXX .001
ANGLES ±5%
UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. DSP-IM95-10-20 REVISION NC
SCALE: NONE DATE 05/06/11 SH 4 OF 6



VIEW OF AIR HORN ALTERNATE AIR OPENING. SPRING AND SAFETY WIRE OMITTED FOR CLARITY.

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MAY ALREADY BE
ON THE AIRCRAFT

△ CHECK TO ASSURE THAT TIP OF LEVER ITEM 14 MAKES CONTACT WITH AIR HORN DOOR IN THE AREA SHOWN. RELOCATE BRACKET ITEM 16 (SH 1 OF 1) IF NECESSARY.

△ DETERMINE THE CORRECT LENGTH OF CABLE ITEM 17. INSTALL THE INNER WIRE OF ITEM 17 THROUGH ITEM 18. INSTALL ITEM 18 THROUGH WASHER ITEM 13, BUSHING ITEM 27 AND THROUGH THE LEVER AS SHOWN. INSTALL WASHER ITEM 13 AND NUT ITEM 19. RUN THE NUT ONTO ITEM 18. DO NOT FULLY TIGHTEN AT THIS TIME, MAKING SURE THE INNER CABLE IS STILL ALLOWED TO SLIP.

NOTES:

NEXT ASSY: 5
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

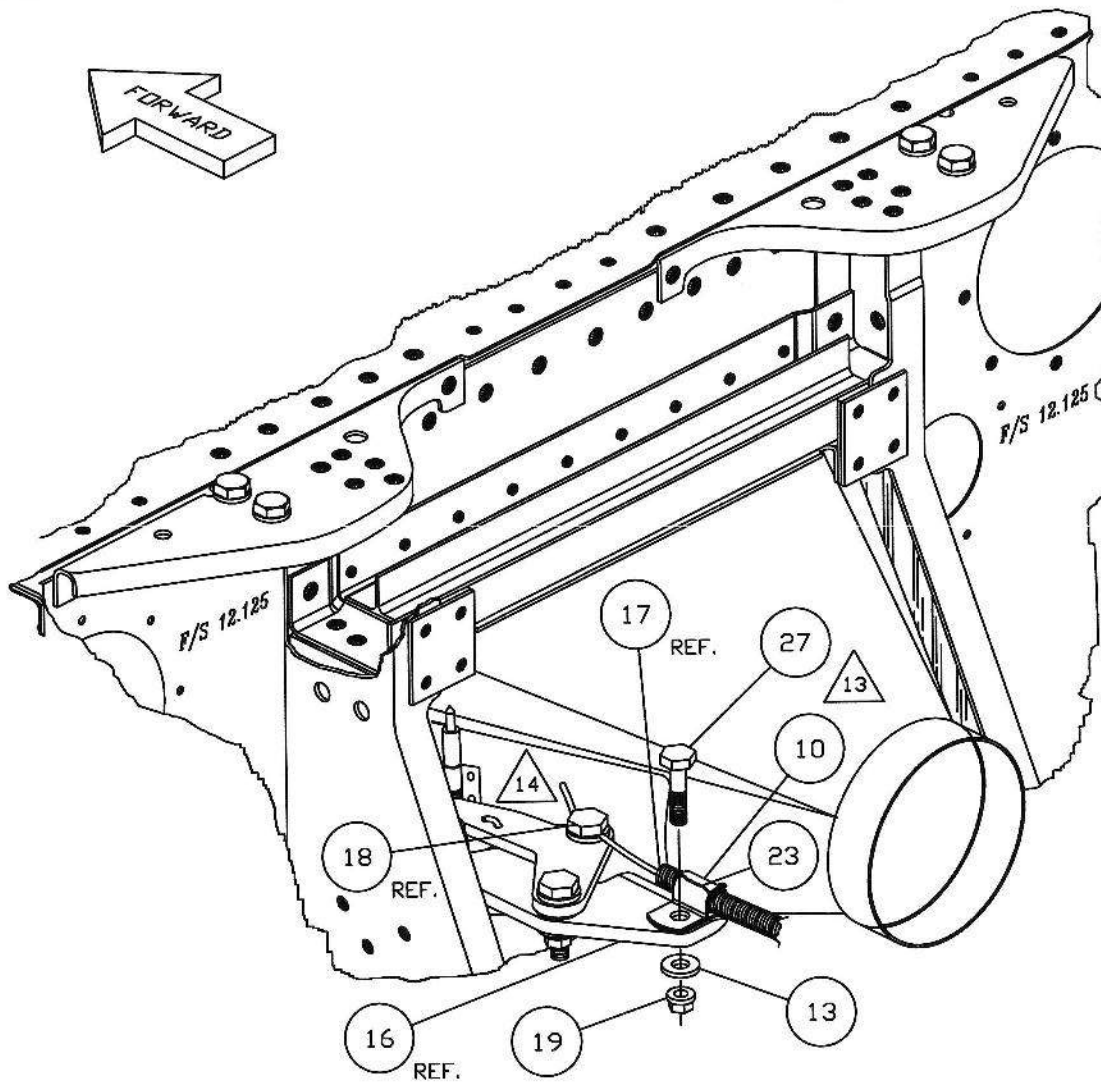
INSTALLATION OF CONTROL CABLE

TOLERANCES
X .10 XXX .01
XX .03 XXXX .001
ANGLES ±6%
UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. DSP-IM95-10-20 REVISION NC

SCALE: NONE DATE 05/06/11 SH 5 OF 6



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△ BEND INNER WIRE FORWARD SO THAT EVEN IF THE INNER CABLE WIRE SLIPS IN ITEM 18 THE CABLE WOULD STILL ACTUATE THE LEVER. PLACE SAFETY WIRE ITEM 23 AROUND THE CLAMP AND CABLE SO THAT EVEN IF THE CLAMP WERE LOOSE THE CABLE HOUSING WOULD NOT SLIDE.

△ INSTALL THE CLAMP ITEM 10 OVER THE CABLE HOUSING ITEM 17 AND POSITION THE CABLE HOUSING SO THAT THE LEVER OPERATES FROM FULL ON TO FULL OFF. INSERT THE BOLT ITEM 27 THROUGH BRACKET ITEM 16 AND INSERT WASHER ITEM 13. INSTALL NUT ITEM 19 AND TIGHTEN. DO NOT OVER-TORQUE THE NUT ITEM 19. ASSURE THAT THE INNER CABLE IS ADJUSTED CORRECTLY.

NOTES:

NEXT ASSY: 5
DRAWN BY: D. B.
ENGINEER: D. BRAUN
CHECKED BY: D. B.

INSTALLATION OF CONTROL CABLE

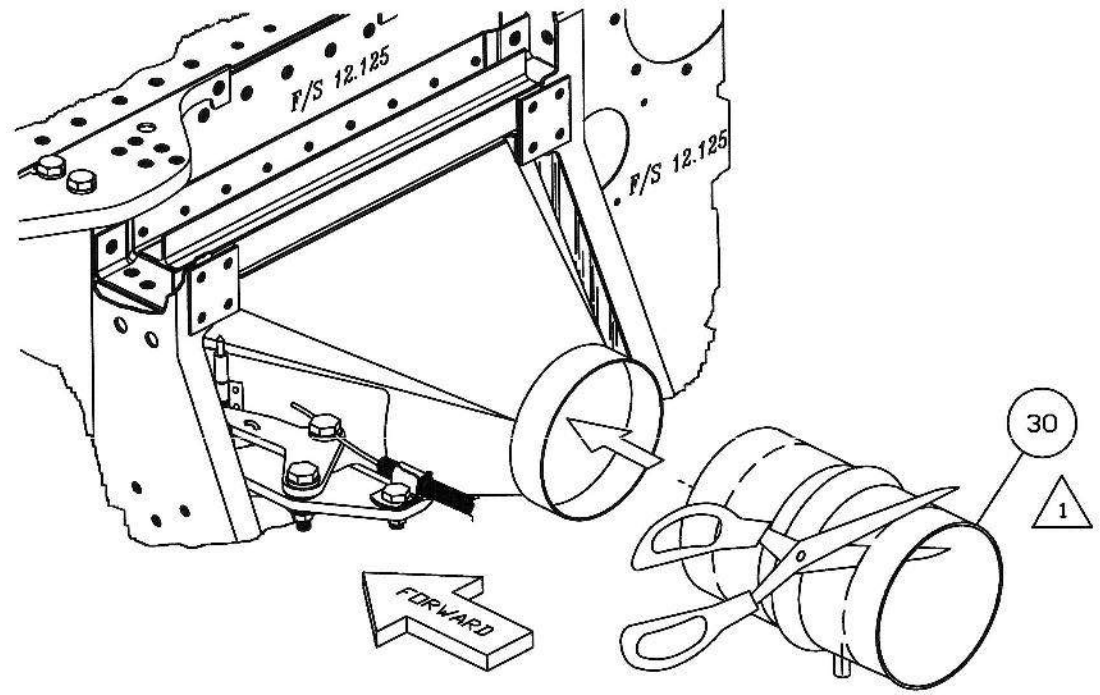
TOLERANCES
X .10 XXX .01
XX .09 XXXX .001
ANGLES ±5%
UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. DSP-IM95-10-20 REVISION NC

SCALE: NONE DATE 05/06/11 SH 6 OF 6

REVISION RECORD			
LTR.	CHANGES	BY	DATE
NC	RELEASED	D. B.	05/06/11



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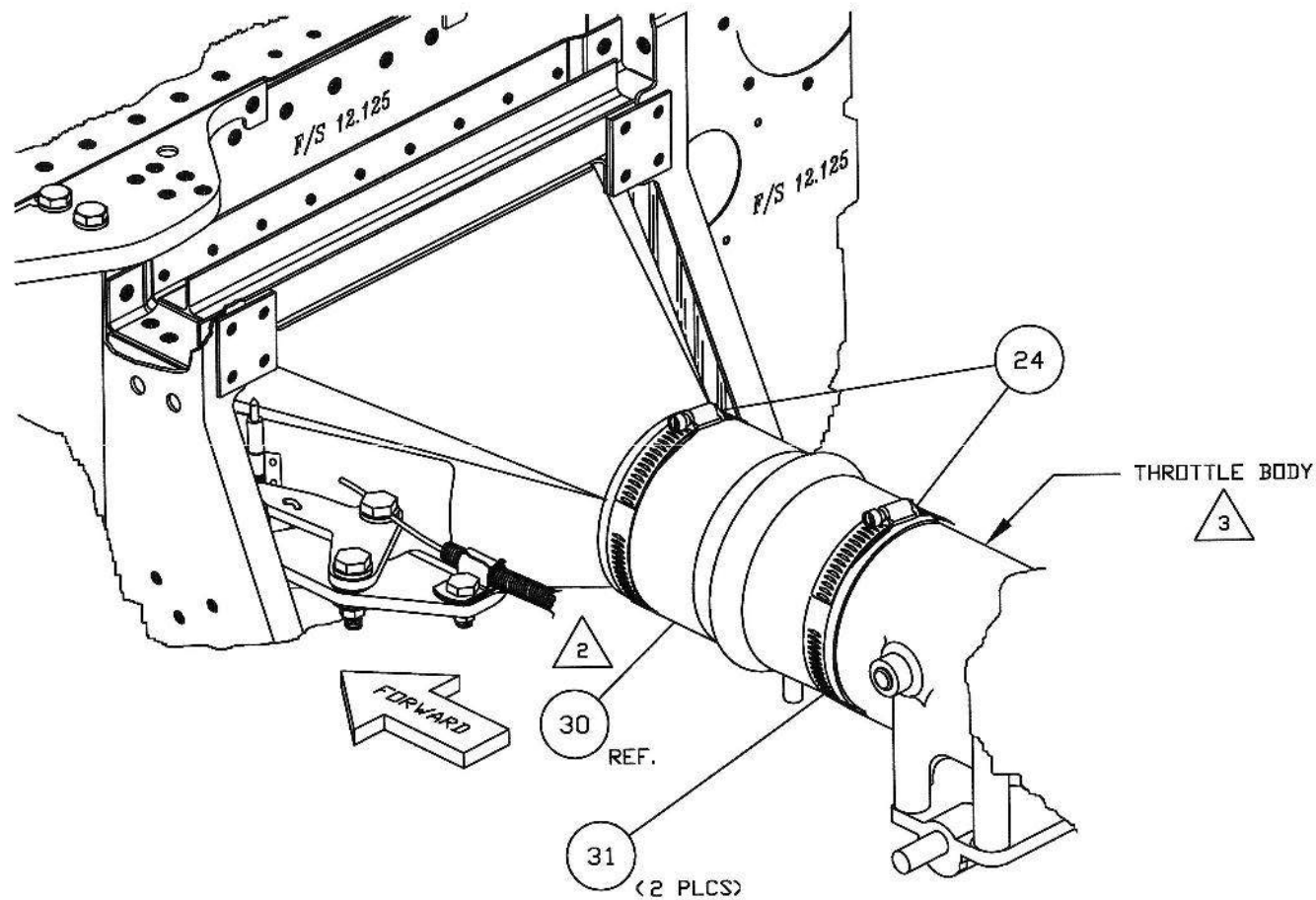
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31	2	QS200M56S	CLAMP
30	1	258004Z	BEMCO HOSE
24	AR	G.E. SILICONE II	SILICONE SEALANT
ITEM	QTY	PART No.	DESCRIPTION
NEXT ASSY: DRAWN BY: D. B. ENGINEER: D. BRAUN CHECKED BY: D. B.			INSTALLATION OF HOSE TO THE THROTTLE BODY
TOLERANCES X .10 XXX .01 XX .03 XXXX .001 ANGLES ±6% UNLESS STATED			D' SHANNON PRODUCTS, LTD
DWG. No. DSP-IM95-10-26			REVISION NC
SCALE: NONE			DATE 05/06/11 SH 1 OF 2

1 WITH THE ENGINE INSTALLED TRIM ITEM 30 TO ITS PROPER LENGTH USING THE LINES ON THE DUCT AS A GUIDE. NOTE: ITEM 30 IS MANUFACTURED TO FIT SEVERAL INSTALLATIONS, SO TRIMMING IS REQUIRED.

NOTES:



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- 3 THE THROTTLE BODY SHOWN MAY NOT BE THE EXACT THROTTLE USED FOR THE INSTALLATION.
- 2 INSTALL HOSE ITEM 30 ONTO BOTH FLANGES WITH HOSE CLAMP ITEM 31. DO NOT TIGHTEN SO AS TO CUT THE HOSE. PLACE SILICONE SEALANT ON BOTH SIDES OF THE CLAMPS SO THAT THE CLAMPS WON'T LOOSEN IN SERVICE.

NOTES:

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

INSTALLATION OF HOSE TO
THE THROTTLE BODY

TOLERANCES
X .10 XXX .01
XX .03 XXXX .001
ANGLES ±5%
UNLESS STATED

D' SHANNON PRODUCTS, LTD

DWG. No. DSP-IM95-10-26 REVISION NC

SCALE: NONE DATE 05/06/11 SH 2 OF 2