
AREVA

DRAFT
MAP Series of PWR Shipping Packages
Amendment to Certificate of Compliance
USA/9319/B(U)F-96
Docket 71-9319

June 9, 2009

Rockville, MD

Agenda

- *Opening Remarks*
- *Introductions*
- *Objectives*
- *Discuss Clarifications and Changes to Licensing Drawings and Safety Analysis Report*
- *Schedule for NRC Review*
- *Conclusions*
- *Closing Remarks*

Objectives

- ***Discuss Clarifications and Changes Made to Licensing Drawings and Safety Analysis Report***
- ***Provide Justification and Reason for Clarifications and Changes***
- ***Discuss Amendment Need Date***

Currently Approved Licensing Documents

- ***51-9026593-003, Application for Certificate of Compliance for the MAP Series of PWR Shipping Packages; NRC Certificate of Compliance USA/9319/B(U)F-96, Docket 71-9319***
- ***9045393 Revision 2***
- ***9045397 Revision 0***
- ***9045399 Revision 0***
- ***9045401 Revision 0***
- ***9045402 Revision 0***
- ***9045403 Revision 0***
- ***9045404 Revision 0***
- ***9045405 Revision 0***

Revised Licensing Documents

- ***51-9026593-004, Application for Certificate of Compliance for the MAP Series of PWR Shipping Packages; NRC Certificate of Compliance USA/9319/B(U)F-96, Docket 71-9319***
- ***9045393 Revision 3***
- ***9045397 Revision 1***
- ***9045399 Revision 1***
- ***9045401 Revision 1***
- ***9045402 Revision 1***
- ***9045403 Revision 1***
- ***9045404 Revision 1***
- ***9045405 Revision 1***

Primary Changes

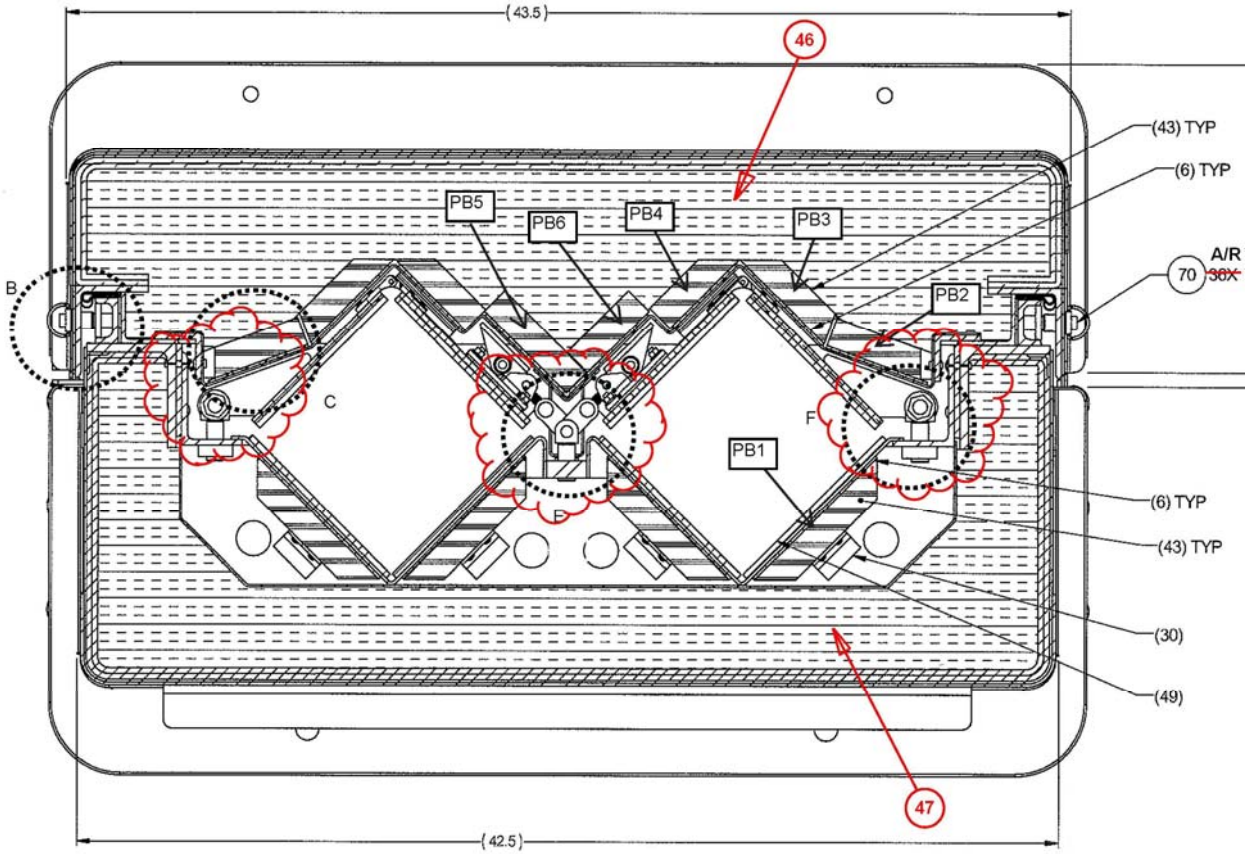
- ***Internal Door Hinge and Latch Configuration***
- ***Pictorial Issues***

Internal Door Hinge and Latch Configuration Drawing 9045399 Revision 1

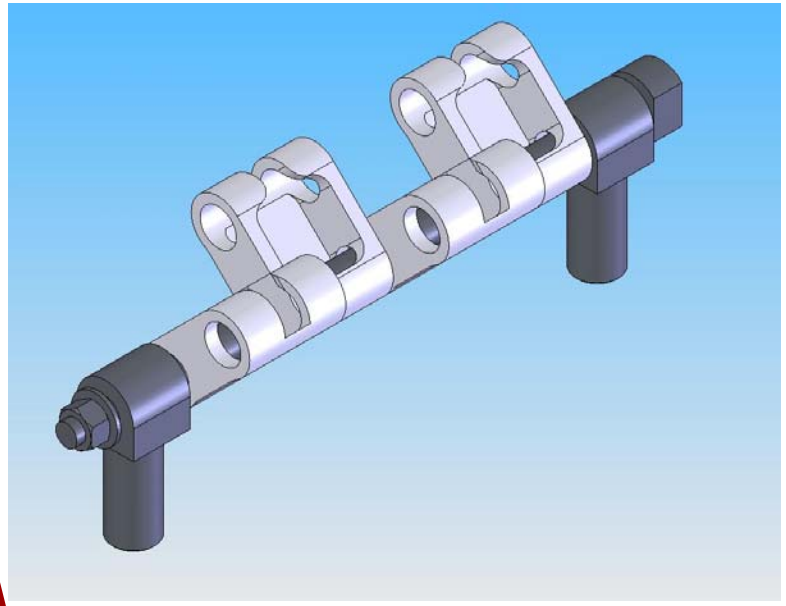
- **Changes**
  - Updated to reflect current door hinge configuration and applicable items
  - Added items 76 – 80
  - Added balloons for identification of components
- **Justification**
  - New door hinge configuration designed for ease of use and to improve product quality

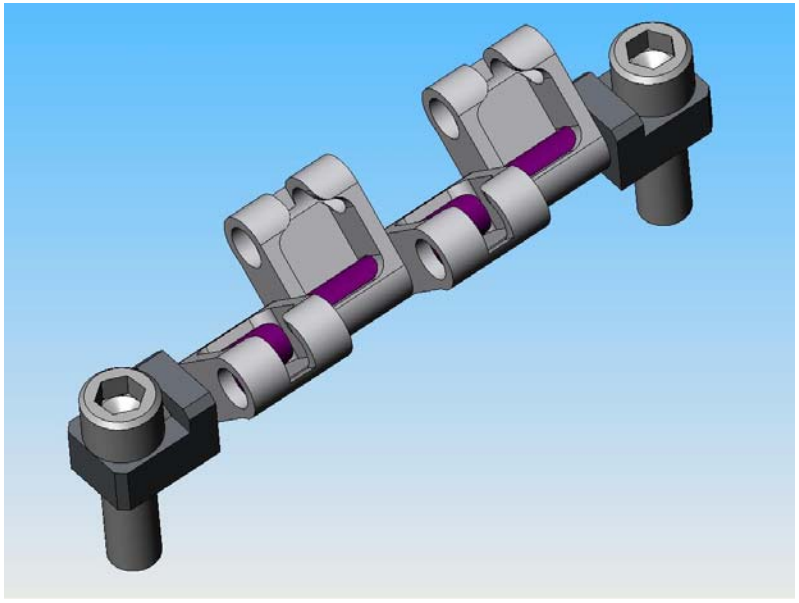
No impact regarding the performance of the container under accident conditions.

Internal Door Hinge and Latch Configuration Drawing 9045399 Revision 1

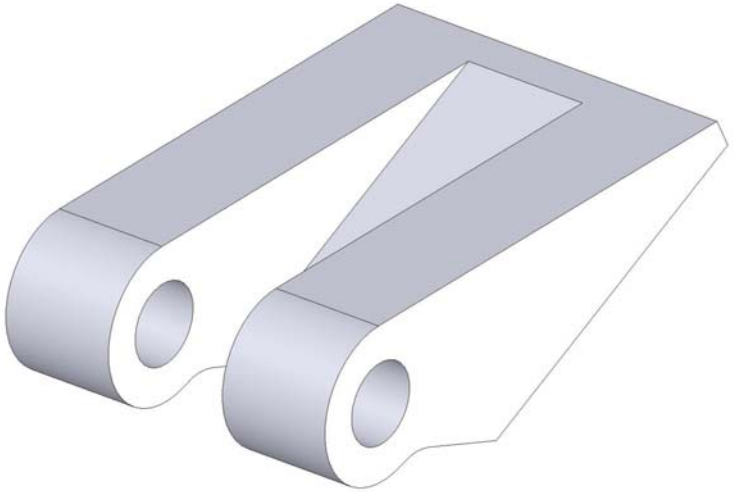


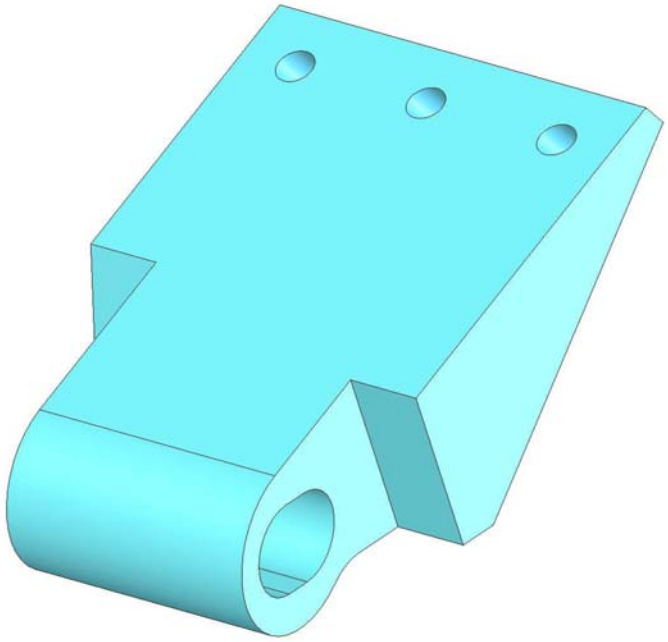
Internal Door Hinge and Latch Configuration Drawing 9045399 Revision 1



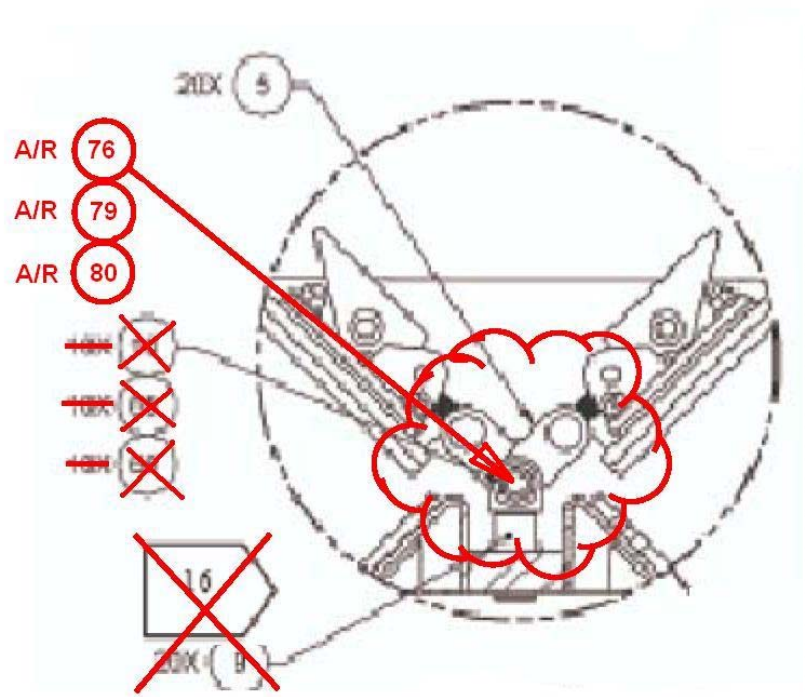


Internal Door Hinge and Latch Configuration Drawing 9045399 Revision 1

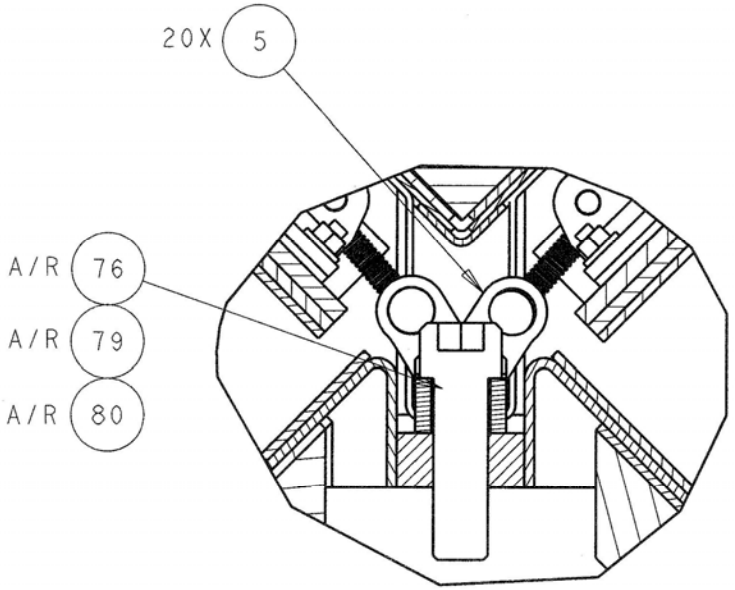




Internal Door Hinge and Latch Configuration Drawing 9045399 Revision 1

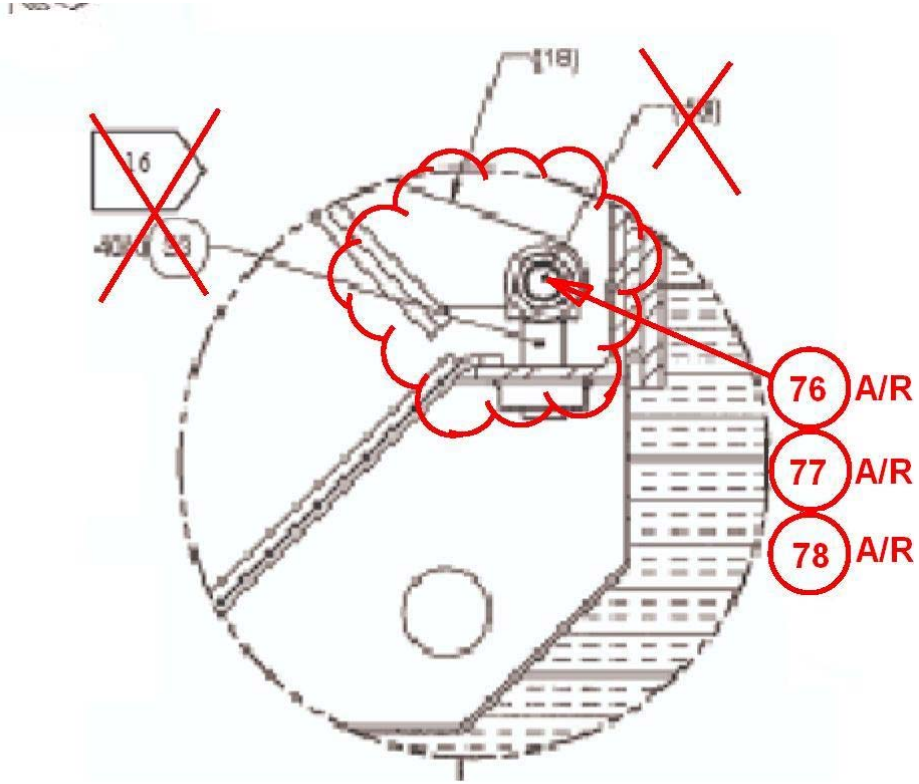


DETAIL E

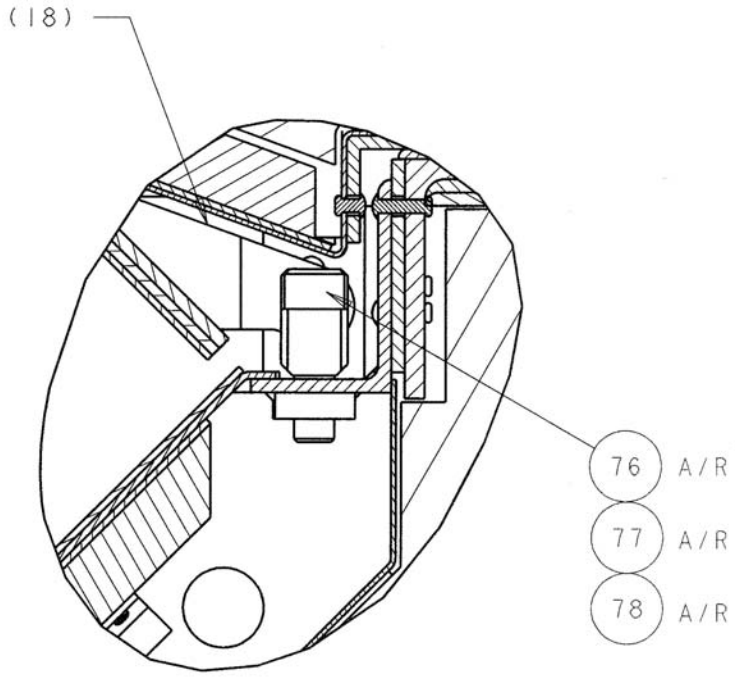


DETAIL E

Internal Door Hinge and Latch Configuration Drawing 9045399 Revision 1

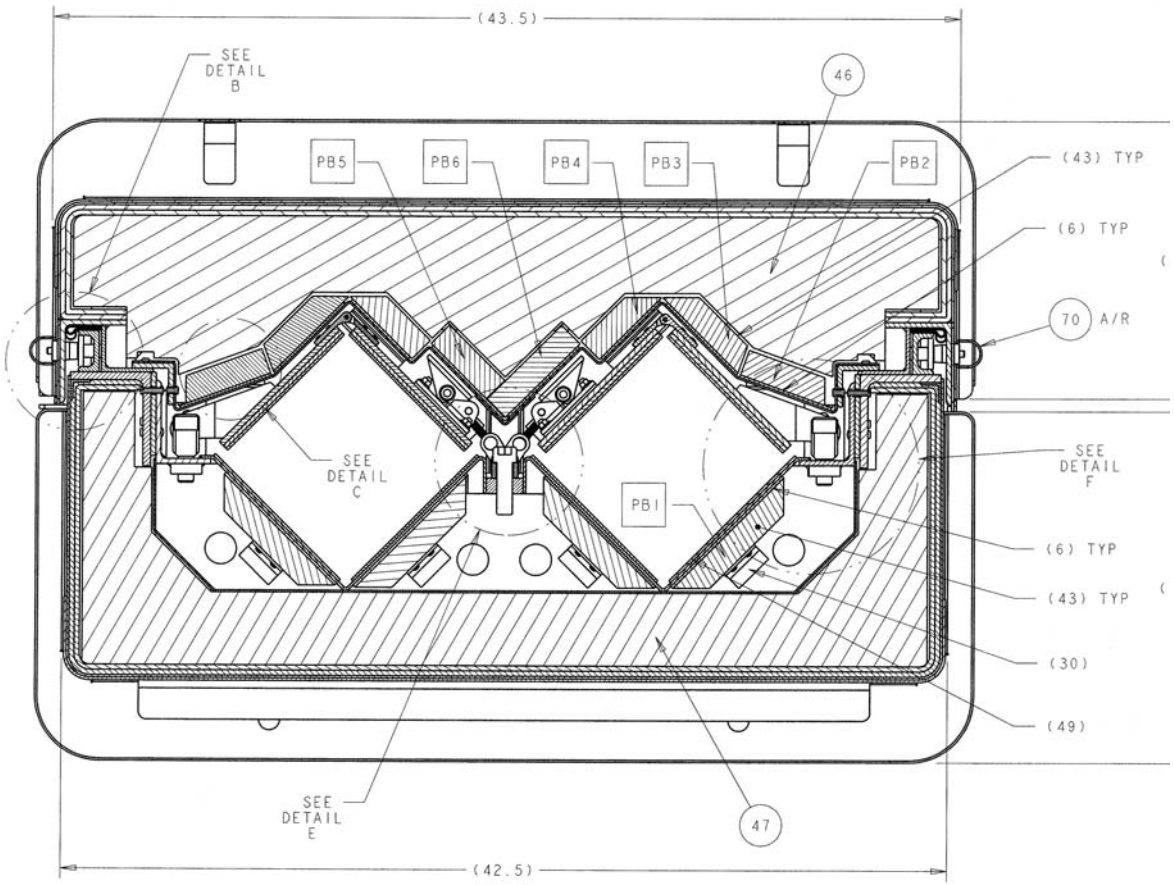


DETAIL F



DETAIL F

Internal Door Hinge and Latch Configuration Drawing 9045399 Revision 1

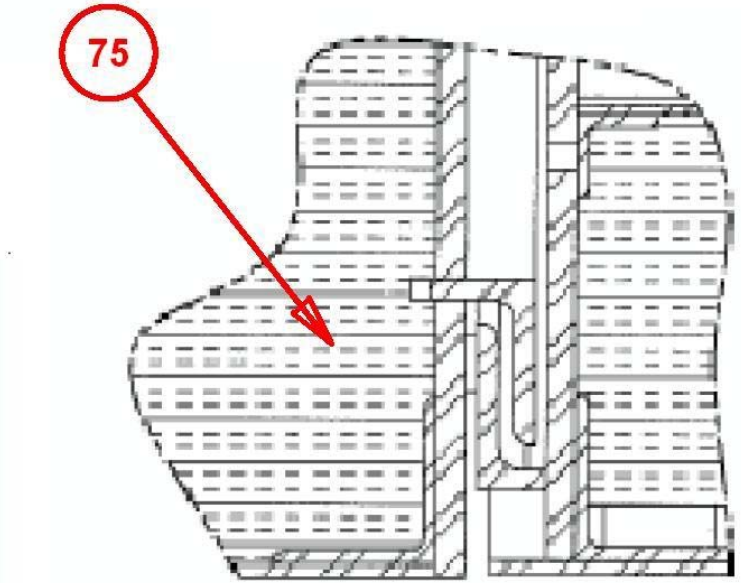


Pictorial Issues
Drawing 9045399 Revision 1

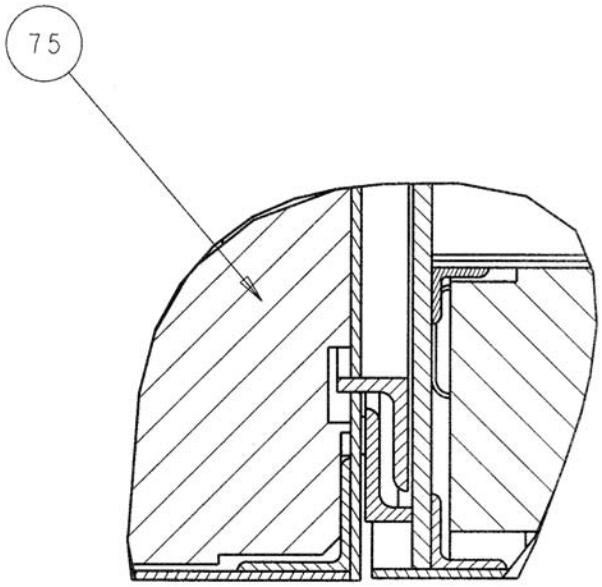
- **Changes**
  - Recreated in CAD system
  - Added "A/R" on applicable quantities
  - "FWD" was "FORWARD"
  - Added balloons and note pointers
- **Justification**
  - Clarifications
  - Allow for viewing improvement
  - Omit quantities of applicable components to differentiate between MAP-12 and MAP-13

No impact regarding the performance of the container under accident conditions.

Drawing 9045399 Changes

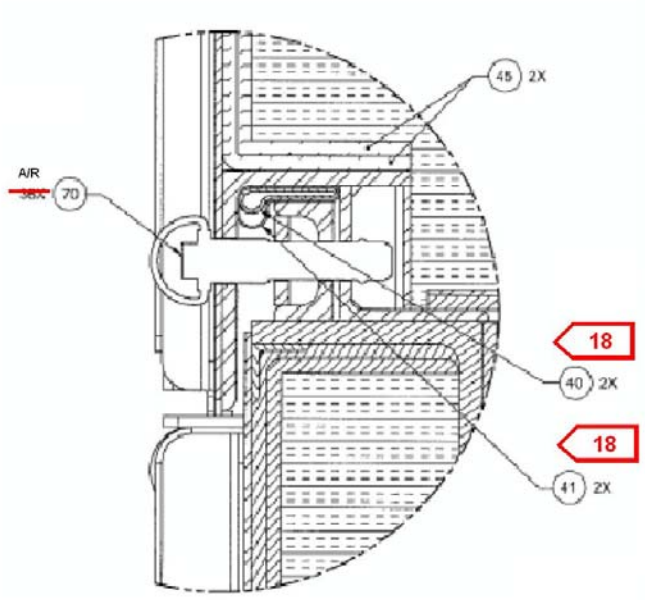


DETAIL D

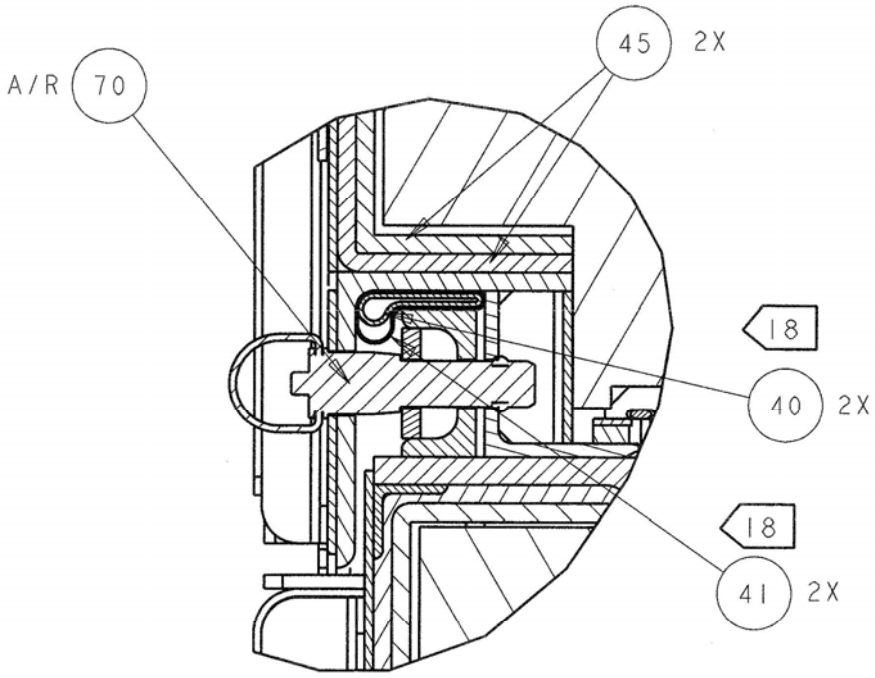


DETAIL D

Drawing 9045399 Changes

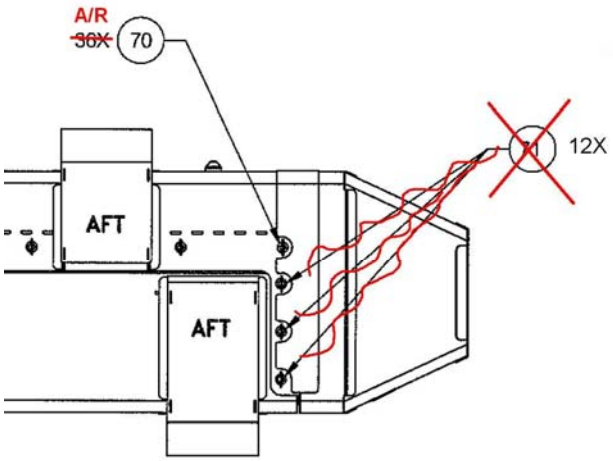


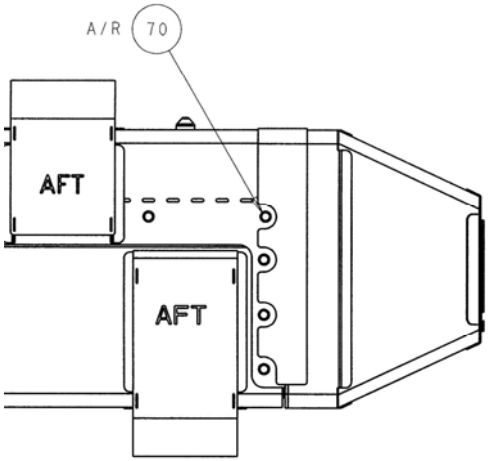
DETAIL B



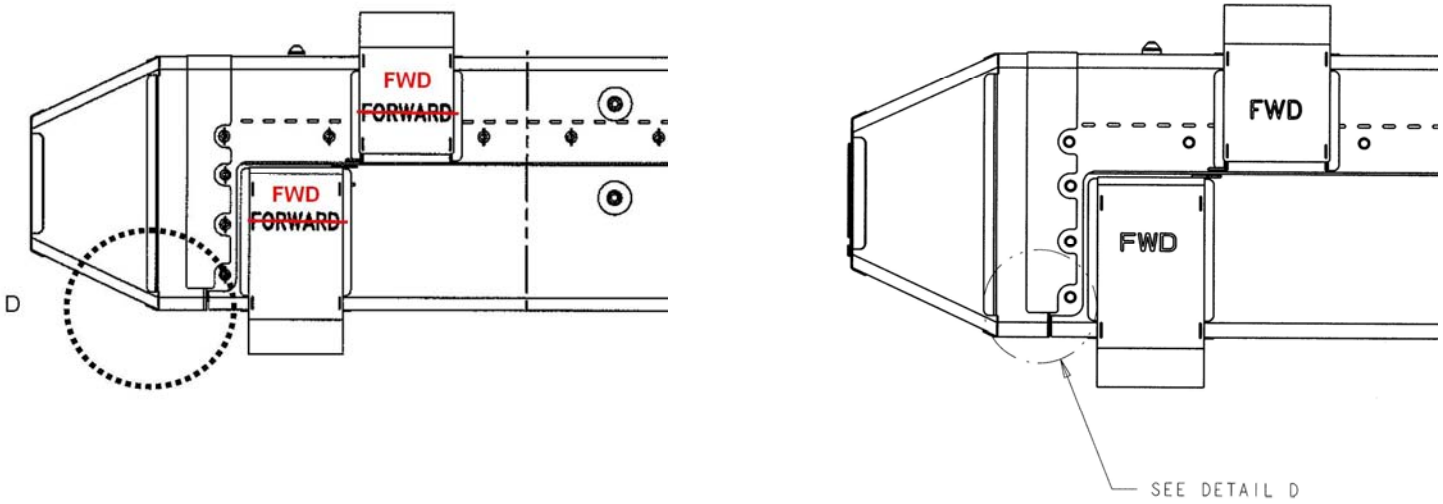
DETAIL B

Drawing 9045399 Changes





Drawing 9045399 Changes



Drawing 9045393 Revision 3

- **Changes to Bill Of Materials**
  - Recreated in CAD system
  - Removed components that are not detailed in the licensing drawings
  - Updated quantities of items
  - Updated descriptions of items
- **Justification**
  - "Clean up"
  - Omit lengths of components to differentiate between MAP-12 and MAP-13

No impact regarding the performance of the container under accident conditions.

Drawing 9045393 Changes

QTY	ITEM NO.	PART NO.	DESCRIPTION	SPECIFICATION
14	1		SHEET, .09 THK (13 GA)	ASTM A240, A276 TYPE 304
A/R	2		SHEET, .12 THK (11 GA)	ASTM A240, A276 TYPE 304
16	3		SHEET, .14 THK (10 GA)	ASTM A240, A276 TYPE 304
~~4~~	4		~~SHEET, .13 THK (12 GA)~~	~~ASTM A240, A276 TYPE 304~~
~~40~~	5		BAR OR PLATE, 1.0 ~~X 17.0~~ X 2.3	ASTM B209, B211 OR B221, 2024-T351
A/R	6		SHEET, .13 THK (10 GA)	METAL MATRIX COMPOSITE - BORAL
A/R	7		SHEET, .13 THK (10 GA)	ASTM B209 ALUM ALY 6061-T6
4	8		SHEET, 3.3 X 11.5 X .188 THK	ASTM 240, TYPE XM-19
~~40~~	9		~~PLATE OR BAR, 1.0 X 1.0 X 2.7 LG~~	~~ASTM A564, TYPE 630 COND H1100~~
~~16~~	10		~~BAR ROD, 1.0 DIA X 16.52 LG~~	~~ASTM A564, TYPE 630 COND H1100~~
6	11		ANGLE, .75 X .12 THK	ASTM A240, A276 TYPE 304
6	12		ANGLE, 1.0 X .12 THK	ASTM A240, A276 TYPE 304
8	13		ANGLE, 1.5 X .19 THK	ASTM A240, A276 TYPE 304
2	14		ANGLE, 5.0 X .38 THK	ASTM A276 TYPE 304
2	15		ANGLE, 4.0 X .25 THK	ASTM A276 TYPE 304
20	16		BAR OR PLATE, 1.50 X .50 THK	ASTM A240, A276 TYPE 304
1	17		BAR OR PLATE, 1.75 X .75 THK	ASTM A240, A276 TYPE 304
~~1~~	18		BAR OR PLATE, 3.0 X 4.5 ~~X 32.5~~	ASTM B209, B211 OR B221, 6061-T6
2	19		BAR OR PLATE, 4.2 X 6.0 X 1.8 THK	ASTM A240, A276 TYPE 304
1	20		BAR OR PLATE CENTER, 2.2 X 3.3 X 6.5	ASTM A240, A276 TYPE 304
~~A/R~~	21		~~BAR OR PLATE, 7.9 X 35.0 X .12 THK~~	~~ASTM B209, 6061-T6~~
20	22		PLATE, .7.9 ~~X 35.0~~ X .25 THK	ASTM B209, 6061-T6
~~1~~	23		~~PLATE, .25 THK~~	~~ASTM A240, A276 TYPE 304~~
28	24		PLATE, 1.5 X 5.0 X .25 THK	ASTM A240, A276 TYPE 304
4	25		PLATE, 1.5 X 11.3 X .25 THK	ASTM A240, A276 TYPE 304
8	26		PLATE, 3.7 X 11.0 X .25 THK	ASTM A240, A276 TYPE 304
20	27		AA CHANNEL, 2.0 X 1.0 X .13 THK	ASTM B209, B211 OR B221, 6061-T6
2	28		CHANNEL, 2.0 X .25 THK	ASTM A240, A276 TYPE 304
8	29		Z-BRACKET, 2.0 X 6.0 X .12 THK (11 GA)	ASTM A240, A276 TYPE 304
80	30		L-BRACKET, 1.0 X 1.25 X 2.0 X .125 THK (11 GA)	ASTM A240, A276 TYPE 304
20	31		END PLATE, 1.0 X 2.0 X .12 THK	ASTM B209, 6061-T6
2	32		BRACKET, ANTI-TAMPER .19 THK	ASTM A240, A276 TYPE 304
~~40~~	33		~~PLATE OR BAR, 1.0 X 1.5 X 3.0 LG~~	~~ASTM 564, TYPE 630 COND H1100~~
~~2~~	34		~~TEE, 3.8 X 3.8 X .25 THK~~	~~ASTM 554, TYPE 304~~
~~4~~	35		~~TUBE, 1.50 X .12 WALL~~	~~ASTM 554, TYPE 304~~
3	36		ROD BAR 1 1/8 DIA X 3.0 LG	ASTM 564, TYPE 630 COND H1100
A/R	37		SHEET, .13 THK	NYLON 66
10	38		ANGLE, 1.0 X .13 THK	ASTM A240, A276 TYPE 304
4	39		BAR ROD, 1.5 DIA X 1.0 LG	ASTM A240, A276 TYPE 304

Drawing 9045393 Changes

4 3 1

	QTY	ITEM NO.	PART NO.	DESCRIPTION	SPECIFICATION
18	2	40		GASKET, 1.0 X .065 WALL	WESTERN INDUSTRIAL CERAMICS
18	2	41		GASKET, 1.5 X .035 WALL	WESTERN INDUSTRIAL CERAMICS
	A/R	42		~~RUBBER~~ PAD, 1/8 THK	NEOPRENE~~/DELRIN~~ AND/OR DELRIN
	44	43		1.25 THK	NYLON 66,
	~~4~~	44		525 OR 625 EXTREN FIBERGLASS, ANGLE	4.0 X .25 THK
	A/R	45	1535-L	CERAMIC FIBER PAPER, LYTHERM	LYDALL, 68.0 X .25 THK
	A/R	46		POLYURETHANE, FOAM, UPPER	6 LB/CUFT
	A/R	47		POLYURETHANE, FOAM, LOWER	6 LB/CUFT
	30	48	4464K225	HALF COUPLING, 3/4 NPT	McMASTER-CARR OR EQUIV.
	A/R	49		~~RUBBER~~ PAD, ~~1/4~~ THK	NEOPRENE~~/DELRIN~~ AND/OR DELRIN
	~~178~~	50		~~FASTENER, THREAD CUTTING, #8 X 1.5 LG~~	~~STAINLESS STEEL~~
	4	51		ANGLE, 1.5 X .125	ASTM A276 TYPE 304
	10	52	MS20001-16	HINGE	
	178	53	CR2563-8-6	1/4 RIVET	WIREDRAW CHERRYLOCK RIVET OR EQUIV
	A/R	54	CR2162-6-8	FLAT HEAD RIVET, 3/16	WIREDRAW CHERRYLOCK RIVET OR EQUIV
	~~368~~	55	~~SB614BS~~	~~1/4 POP RIVET, BLIND~~	~~HANSON OR EQUIVALENT~~
	30	56	P-68V	PLASTIC THREADED PLUG	CAP PLUG OR EQUIV.
	176	57		FASTENER, THREAD CUTTING, #8 X 1.5 LG	STAINLESS STEEL
	~~20~~	58	~~90298A859~~	~~SHOULDER SCREW, 3/4 X 6.0 LG~~	~~McMASTER-CARR OR EQUIV.~~
	160	59		FL HD SOC 1/4-20 UNC X 1.0 LG	ASTM F835, Zn PLATED
	320	60		FL HD SOC 5/16-18 UNC X .75 LOG	ASTM F835, Zn PLATED
	3	61		SOC HD CAP SCR, 1/2-13 X 3.0 LG	ASTM A574, Zn PLATED
	~~184~~	62	~~CR2562-6-6~~	~~FLAT HD 1/4 RIVET~~	~~WIREDRAW CHERRYLOCK RIVET OR EQUIV~~
	160	63		FLAT WASHER, HARDENED 1/4	ASTM 436, Zn PLATED
	160	64		HEX NUT, 1/4-20 UNC	ASTM 194, GRADE 2H, Zn PLATED
	~~10~~	65		~~FLAT WASHER, 3/8~~	
	~~10~~	66		~~HEX NUT, 3/8-16 UNC~~	~~STAINLESS STEEL~~
	~~20~~	67		~~HEX NUT, 5/8-11 UNC~~	~~STAINLESS STEEL~~
	~~2~~	68		~~525 OR 625 EXTREN FIBERGLASS, ANGLE~~	~~2.0 X 1/4 OR EQUIV.~~
11	~~40~~	69	40-663WB	HEAVY DUTY ADJUSTABLE LATCH	PROTEX FASTENERS LTD OR EQUIV.
	~~36~~	70	RSL0.625-1.500-174-01	"R" STYLE BALL LOCK PIN	BIG SKY PRECISION INC. OR EQUIV. CRES
	~~12~~	71	~~RSL0.625-1.250-174-01~~	~~"R" STYLE BALL LOCK PIN~~	~~BIG SKY PRECISION INC. OR EQUIV. CRES~~
	6	72	CL-5811-SKS	KEY INSERTS, 5/8-11	CARR-LANE
		73			
		74			
	A/R	75		POLYURETHANE, FOAM IMPACT LIMITER	10 LB/CUFT

D C

Drawing 9045393 Changes

QTY	ITEM	PART NO.	DESCRIPTION	SPECIFICATION
4	39		BAR ROD, 1.5 DIA X 1.0 LG	ASTM A240, A276 TYPE 304
10	38		ANGLE, 1.0 X .13 THK	ASTM A240, A276 TYPE 304
A/R	37		SHEET, .13 THK	NYLON 66
3	36		ROD BAR 1 1/8 DIA X 3.0 LG	ASTM A564, TYPE 630 COND H1100
	35			
	34			
	33			
2	32		BRACKET, ANTI-TAMPER .19 THK	ASTM A240, A276 TYPE 304
20	31		END PLATE, 1.0 X 2.0 X .12 THK	ASTM B209, 6061-T6
80	30		L-BRACKET, 1.0 X 1.25 X 2.0 X .125 THK (11 GA)	ASTM A240, A276 TYPE 304
8	29		Z-BRACKET, 2.0 X 6.0 X .12 THK (11 GA)	ASTM A240, A276 TYPE 304
2	28		CHANNEL, 2.0 X .25 THK	ASTM A240, A276 TYPE 304
20	27		AA CHANNEL, 2.0 X 1.0 X .13 THK	ASTM B209, B211 OR B221, 6061-T6
8	26		PLATE, 3.7 X 11.0 X .25 THK	ASTM A240, A276 TYPE 304
4	25		PLATE, 1.5 X 11.3 X .25 THK	ASTM A240, A276 TYPE 304
28	24		PLATE, 1.5 X 5.0 X .25 THK	ASTM A240, A276 TYPE 304
	23			
20	22		PLATE, 7.9 X .25 THK	ASTM B209, 6061-T6
	21			
1	20		BAR OR PLATE CENTER, 2.2 X 3.3 X 6.5	ASTM A240, A276 TYPE 304
2	19		BAR OR PLATE, 4.2 X 6.0 X 1.8 THK	ASTM A240, A276 TYPE 304
A/R	18		BAR OR PLATE, 3.0 X 4.5	ASTM B209, B211 OR B221, 6061-T6
1	17		BAR OR PLATE, 1.75 X .75 THK	ASTM A240, A276 TYPE 304
20	16		BAR OR PLATE, 1.50 X .50 THK	ASTM A240, A276 TYPE 304
2	15		ANGLE, 4.0 X .25 THK	ASTM A276, TYPE 304
2	14		ANGLE, 5.0 X .38 THK	ASTM A276, TYPE 304
8	13		ANGLE, 1.5 X .19 THK	ASTM A240, A276 TYPE 304
6	12		ANGLE, 1.0 X .12 THK	ASTM A240, A276 TYPE 304
6	11		ANGLE, .75 X .12 THK	ASTM A240, A276 TYPE 304
	10			
	9			
4	8		SHEET, 3.3 X 11.5 X .188 THK	ASTM A240, TYPE XM-19
A/R	7		SHEET, .13 THK (10 GA)	ASTM B209, ALUM ALY 6061-T6
A/R	6		SHEET, .13 THK (10 GA)	METAL MATRIX COMPOSITE - BORAL
A/R	5		BAR OR PLATE, 1.0 X 2.3	ASTM B209, B211 OR B221, 2024-T351
	4			
16	3		SHEET, .14 THK (10 GA)	ASTM A240, A276 TYPE 304
A/R	2		SHEET, .12 THK (11 GA)	ASTM A240, A276 TYPE 304
14	1		SHEET, .09 THK (13 GA)	ASTM A240, A276 TYPE 304

BILL OF MATERIALS

C B A

Drawing 9045393 Changes

	QTY	ITEM	PART NO.	DESCRIPTION	SPECIFICATION
	A/R	80		BAR ROD, .63 DIA	ASTM A564, TYPE 630, COND H1100
	A/R	79		BAR, 1.3 X 1.3	ASTM A240, TYPE 304
	A/R	78		BAR ROD, .75 DIA	ASTM A564, TYPE 630, COND H1100
	A/R	77		BAR, 1.3 X 2.0	ASTM A240, TYPE 304
	A/R	76		SOC HD CAP SCR, 3/4-10 UNC X 2.5 LG	STAINLESS STEEL
	A/R	75		POLYURETHANE, FOAM IMPACT LIMITER	10 LB/CUFT
		74			
		73			
	6	72	CL-5811-SKS	KEY INSERTS, 5/8-11	CARR-LANE OR EQUIV.
		71			
	A/R	70	RSL0.625-1.500-174-01	"R" STYLE BALL LOCK PIN	BIG SKY PRECISION INC. OR EQUIV. CRES
	A/R	69	40-663WB	HEAVY DUTY ADJUSTABLE LATCH	PROTEX FASTENERS LTD OR EQUIV.
		68			
		67			
		66			
		65			
	160	64		HEXNUT, 1/4-20 UNC	ASTM 194, GRADE 2H, Zn PLATED
	160	63		FLAT WASHER, HARDENED 1/4	ASTM 436, Zn PLATED
		62			
	3	61		SOC HD CAP SCR, 1/2-13 X 3.0 LG	ASTM A574, Zn PLATED
	320	60		FL HD SOC 5/16-18 UNC X .75 LG	ASTM F835, Zn PLATED
	160	59		FL HD SOC 1/4-20 UNC X 1.0 LG	ASTM F835, Zn PLATED
		58			
	176	57		FASTENER, THREAD CUTTING, #8 X 1.5 LG	STAINLESS STEEL
	30	56	P-68V	PLASTIC THREADED PLUG	CAP PLUG OR EQUIV.
		55			
	A/R	54	CR2162-6-8	FLAT HEAD RIVET, 3/16	WIREDRAW CHERRYLOCK RIVET OR EQUIV.
	178	53	CR2563-8-6	1/4 RIVET	WIREDRAW CHERRYLOCK RIVET OR EQUIV.
	10	52	MS20001-16	HINGE	
	4	51		ANGLE, 1.5 X .125	ASTM A276 TYPE 304
		50			
	A/R	49		PAD, 1/8 THK MIN.	NEOPRENE AND/OR DELRIN
	30	48	4464K225	HALF COUPLING, 3/4 NPT	MCMASTER-CARR OR EQUIV.
	A/R	47		POLYURETHANE, FOAM, LOWER	6 LB/CUFT
	A/R	46		POLYURETHANE, FOAM, UPPER	6 LB/CUFT
	A/R	45	1535-L	CERAMIC FIBER PAPER, LYTHERM	LYDALL, 68.0 X .25 THK
	2	44		525 OR 625 EXTREN FIBERGLASS, ANGLE	4.0 X .25 THK
	44	43		1.25 THK	NYLON 66
	A/R	42		DOOR SPACER	NEOPRENE AND/OR DELRIN
18	2	41		GASKET, 1.5 X .035 WALL	WESTERN INDUSTRIAL CRAMICS
18	2	40		GASKET, 1.0 X .065 WALL	WESTERN INDUSTRIAL CRAMICS

BILL OF MATERIALS

Drawing 9045393 Revision 3

- **Changes to Notes**
  - Corrected typographical errors
  - Note 7 omitted (incorrect item referenced)
  - Omit unnecessary requirements
  - Changed “B” to “B(U)”
- **Justification**
  - Allow equivalent hardware where applicable
  - Assure requirements of 49 CFR are met
  - Clarification

No impact regarding the performance of the container under accident conditions.

Drawing 9045393 Changes

8 7 6 5

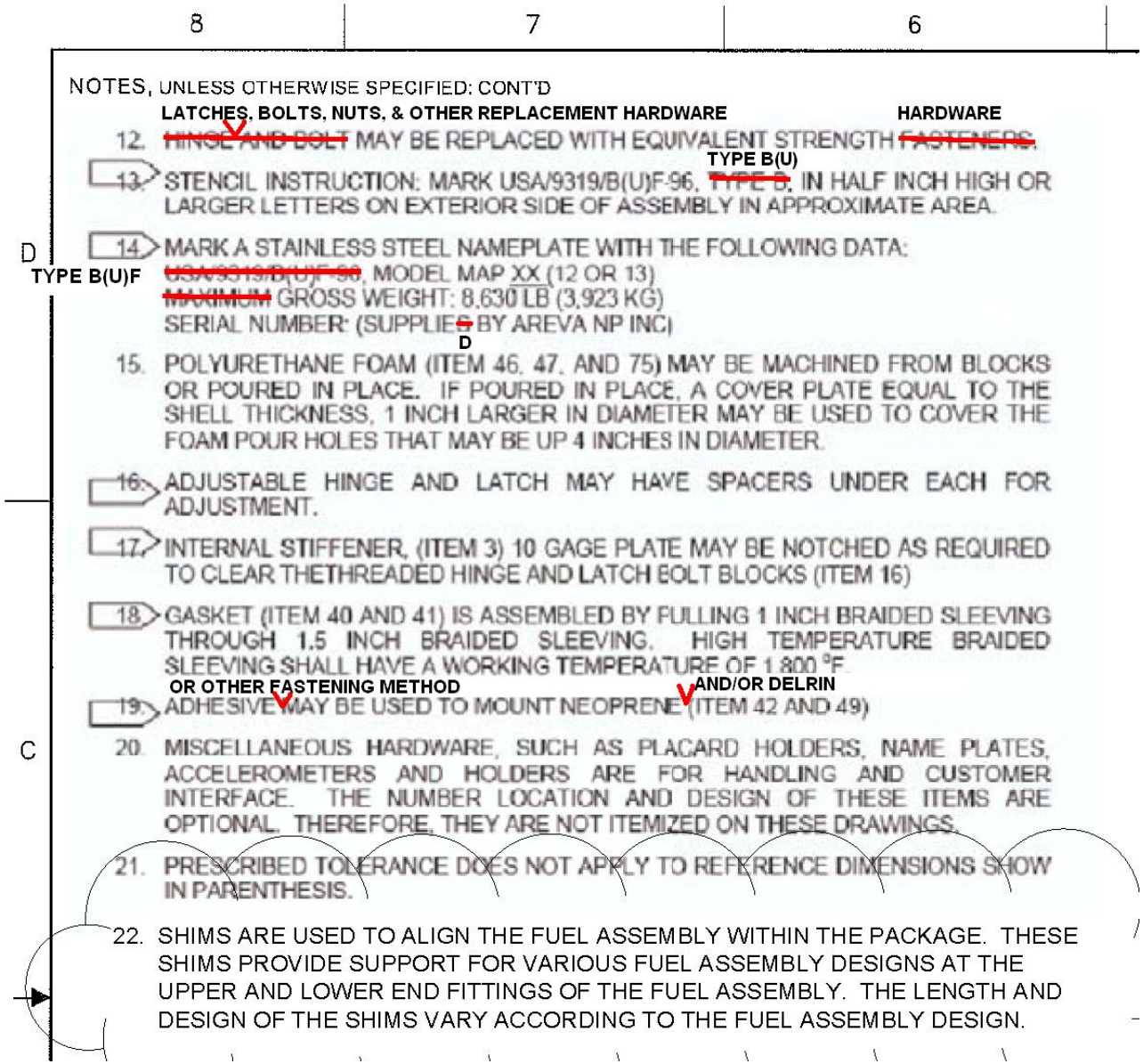
NOTES, UNLESS OTHERWISE SPECIFIED:

D

C

1. INTERPRET DRAWING PER ASME Y14.5M. INTERPRET WELDS PER ANSI / ~~AWS 4.~~ **AWS A2.4.**
2. WELDING PROCEDURE AND QUALIFICATION SHALL BE PER AWS D1.2, D1.6 OR ASME SECTION IX. ALL WELDS SHALL BE VISUALLY INSPECTED ON THE FINAL PASS. NO UNDERCUT OF MINIMUM MATERIAL THICKNESS IS ALLOWED.
3. SPLICE WELDS FOR STAINLESS STEEL SHEETS ARE NOT SHOWN, BUT MAY BE UTILIZED AND SHALL BE FULL PENETRATION BUTT WELDS GROUND FLUSH ON BOTH SURFACES.
4. UNLESS OTHERWISE SPECIFIED, FILLET WELD LEG SIZE IS THE MINIMUM BASE METAL THICKNESS.
5. NON-STRUCTURAL SEAL WELDS MAY BE USED AS REQUIRED AND ARE NOT SHOWN.
6. ANY CREVICES NOT SEAL WELDED MAY BE SEALED WITH A WEATHER RESISTANT MATERIAL.
7. ~~ALIGN ANTI-TAMPER BRACKET, (ITEM 8) WITH BOTTOM EDGE OF OUTER LID SPACER.~~
8. DIMENSION STACK; UPPER DIMENSION REFERS TO THE LONG CONFIG. MAP-13, LOWER DIMENSION REFERS TO THE SHORT CONFIG. MAP-12. WHERE ONE DIMENSION IS SHOWN, IT IS THE SAME FOR BOTH CONFIG.
9. SHIPPING: A MINIMUM OF TWO LATCHES IS REQUIRED ON DOORS. FOUR LATCHES ON END DOORS OF PACKAGE MUST BE IN LATCHED POSITION.
10. MINIMUM STRENGTH OF RETENTION DEVICE IS 4,400 LB.
11. MAXIMUM SPAN BETWEEN DOORS OF 4-INCHES.

Drawing 9045393 Changes



8 7 6

NOTES, UNLESS OTHERWISE SPECIFIED: CONT'D

LATCHES, BOLTS, NUTS, & OTHER REPLACEMENT HARDWARE HARDWARE

12. ~~HINGE AND BOLT~~ MAY BE REPLACED WITH EQUIVALENT STRENGTH ~~FASTENERS.~~

TYPE B(U)

13. STENCIL INSTRUCTION: MARK USA/9319/B(U)F-96, ~~TYPE B~~, IN HALF INCH HIGH OR LARGER LETTERS ON EXTERIOR SIDE OF ASSEMBLY IN APPROXIMATE AREA.

D

TYPE B(U)F

14. MARK A STAINLESS STEEL NAMEPLATE WITH THE FOLLOWING DATA:
~~USA/9319/B(U)F-96~~, MODEL MAP XX (12 OR 13)
~~MAXIMUM~~ GROSS WEIGHT: 8,630 LB (3,923 KG)
SERIAL NUMBER: (SUPPLIED BY AREVA NP INC)

D

15. POLYURETHANE FOAM (ITEM 46, 47, AND 75) MAY BE MACHINED FROM BLOCKS OR POURED IN PLACE. IF POURED IN PLACE, A COVER PLATE EQUAL TO THE SHELL THICKNESS, 1 INCH LARGER IN DIAMETER MAY BE USED TO COVER THE FOAM POUR HOLES THAT MAY BE UP 4 INCHES IN DIAMETER.

16. ADJUSTABLE HINGE AND LATCH MAY HAVE SPACERS UNDER EACH FOR ADJUSTMENT.

17. INTERNAL STIFFENER, (ITEM 3) 10 GAGE PLATE MAY BE NOTCHED AS REQUIRED TO CLEAR THETHREADED HINGE AND LATCH BOLT BLOCKS (ITEM 16)

18. GASKET (ITEM 40 AND 41) IS ASSEMBLED BY PULLING 1 INCH BRAIDED SLEEVING THROUGH 1.5 INCH BRAIDED SLEEVING. HIGH TEMPERATURE BRAIDED SLEEVING SHALL HAVE A WORKING TEMPERATURE OF 1,800 °F.

OR OTHER FASTENING METHOD AND/OR DELRIN

19. ADHESIVE MAY BE USED TO MOUNT NEOPRENE (ITEM 42 AND 49)

C

20. MISCELLANEOUS HARDWARE, SUCH AS PLACARD HOLDERS, NAME PLATES, ACCELEROMETERS AND HOLDERS ARE FOR HANDLING AND CUSTOMER INTERFACE. THE NUMBER LOCATION AND DESIGN OF THESE ITEMS ARE OPTIONAL. THEREFORE, THEY ARE NOT ITEMIZED ON THESE DRAWINGS.

21. PRESCRIBED TOLERANCE DOES NOT APPLY TO REFERENCE DIMENSIONS SHOW IN PARENTHESIS.

22. SHIMS ARE USED TO ALIGN THE FUEL ASSEMBLY WITHIN THE PACKAGE. THESE SHIMS PROVIDE SUPPORT FOR VARIOUS FUEL ASSEMBLY DESIGNS AT THE UPPER AND LOWER END FITTINGS OF THE FUEL ASSEMBLY. THE LENGTH AND DESIGN OF THE SHIMS VARY ACCORDING TO THE FUEL ASSEMBLY DESIGN.

Drawing 9045393 Changes

DWG. NO. 9045393

8 | 7 | 6

D

NOTES:

1. INTERPRET DRAWING PER ASME Y14.5M INTERPRET WELDS PER ANSI/AWS A2.4.
2. WELDING PROCEDURE AND QUALIFICATION SHALL BE PER AWS D1.2, D1.6 OR ASME SECTION IX. ALL WELDS SHALL BE VISUALLY INSPECTED ON THE FINAL PASS. NO UNDERCUT OF MINIMUM MATERIAL THICKNESS IS ALLOWED.
3. SPLICE WELDS FOR STAINLESS STEEL SHEETS ARE NOT SHOWN, BUT MAY BE UTILIZED AND SHALL BE FULL PENETRATION BUTT WELDS GROUND FLUSH ON BOTH SURFACES.
4. UNLESS OTHERWISE SPECIFIED, FILLET WELD LEG SIZE IS THE MINIMUM BASE METAL THICKNESS.
5. NON-STRUCTURAL SEAL WELDS MAY BE USED AS REQUIRED AND ARE NOT SHOWN.
6. ANY CREVICES NOT SEAL WELDED MAY BE SEALED WITH A WEATHER RESISTANT MATERIAL.

8. DIMENSION STACK; UPPER DIMENSION REFERS TO THE LONG CONFIG. MAP-13, LOWER DIMENSION REFERS TO THE SHORT CONFIG. MAP-12. WHERE ONE DIMENSION IS SHOWN, IT IS THE SAME FOR BOTH CONFIG.
9. SHIPPING: A MINIMUM OF TWO LATCHES IS REQUIRED ON DOORS. FOUR LATCHES ON END DOORS OF PACKAGE MUST BE IN LATCHED POSITION.
10. MINIMUM STRENGTH OF RETENSION DEVICE IS 4,400 LB.
11. MAXIMUM SPAN BETWEEN DOORS OF 4-INCHES.

Drawing 9045393 Changes

C

B

12. LATCHES, BOLTS, NUTS, & OTHER REPLACEMENT HARDWARE MAY BE REPLACED WITH EQUIVALENT STRENGTH HARDWARE.

13. STENCIL INSTRUCTIONS: MARK USA/9319/B(U)F-96, TYPE B(U), IN HALF INCH HIGH OR LARGER LETTERS ON EXTERIOR SIDE OF ASSEMBLY IN APPROXIMATE AREA.

14. MARK A STAINLESS STEEL NAMEPLATE WITH THE FOLLOWING DATA:
TYPE B(U)F, MODEL MAPXX (12 OR 13)
GROSS WEIGHT: 8630 LB (3923 KG)
SERIAL NUMBER: (SUPPLIED BY AREVA NP INC)
OTHER USER INFORMATION MAY BE INCLUDED

15. POLYURETHANE FOAM (ITEM 46, 47, AND 75) MAY BE MACHINED FROM BLOCKS OR POURED IN PLACE. IF POURED IN PLACE. A COVER PLATE EQUAL TO THE SHELL THICKNESS. 1 INCH LARGER IN DIAMETER MAY BE USED TO COVER THE FOAM POUR HOLES THAT MAY BE UP 4 INCHES IN DIAMETER.

16. ADJUSTABLE HINGE AND LATCH MAY HAVE SPACERS UNDER EACH FOR ADJUSTMENT.

17. INTERNAL STIFFENER, (ITEM 3) 10 GAGE PLATE MAY BE NOTCHED AS REQUIRED TO CLEAR THE THREADED HINGE AND LATCH BOLT BLOCKS (ITEM 16)

18. GASKET (ITEM 40 AND 41) IS ASSEMBLED BY PULLING 1 INCH BRAIDED SLEEVING THROUGH 1.5 INCH BRAIDED SLEEVING. HIGH TEMPERATURE BRAIDED SLEEVING SHALL HAVE A WORKING TEMPERATURE OF 1,800°F.

19. ADHESIVE OR OTHER FASTENING METHOD MAY BE USED TO MOUNT NEOPRENE AND/OR DELRIN (ITEM 42 AND 49)

20. MISCELLANEOUS HARWARE, SUCH AS PLACARD HOLDERS, NAME PLATES, ACCELEROMETERS AND HOLDERS ARE FOR HANDLING AND CUSTOMER INTERFACE. THE NUMBER LOCATION AND DESIGN OF THESE ITEMS ARE OPTIONAL. THEREFORE, THEY ARE NOT ITEMIZED ON THESE DRAWINGS.

21. PRESCRIBED TOLERANCE DOES NOT APPLY TO REFERENCE DIMENSIONS SHOW IN PARENTHESIS.

New

22. SHIMS ARE USED TO ALIGN THE FUEL ASSEMBLY WITHIN THE PACKAGE. THESE SHIMS PROVIDE SUPPORT FOR VARIOUS FUEL ASSEMBLY DESIGNS AT THE UPPER AND LOWER END FITTINGS OF THE FUEL ASSEMBLY. THE LENGTH AND DESIGN OF THE SHIMS VARY ACCORDING TO THE FUEL ASSEMBLY DESIGN.

23. ITEM 70 "D" RING OPTIONAL

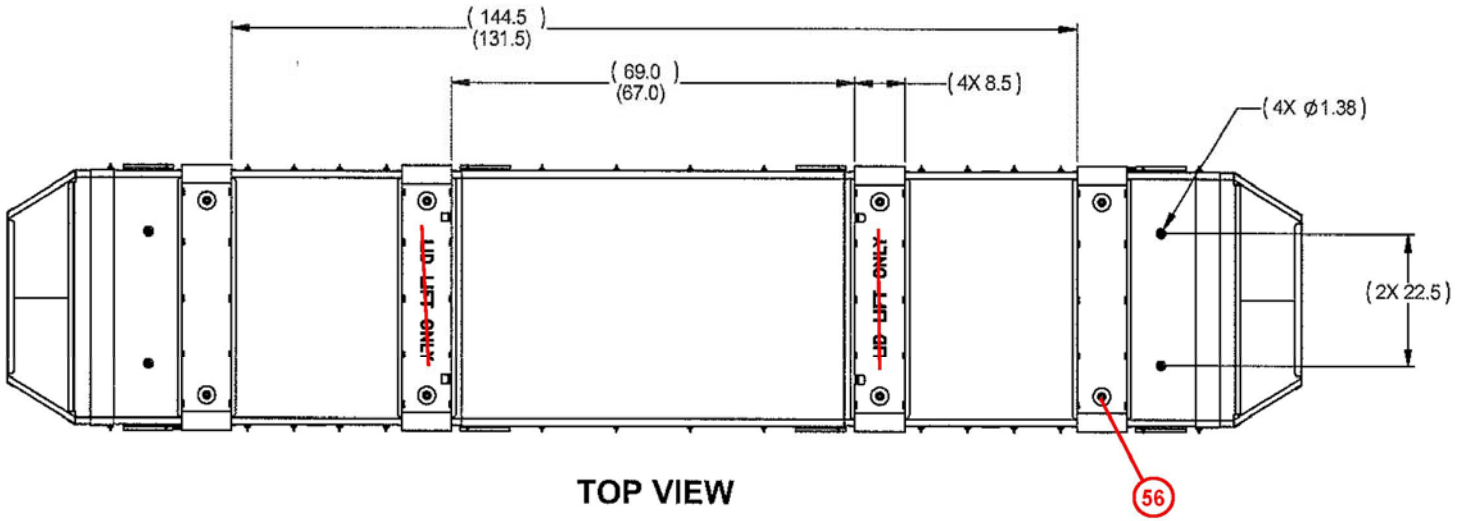
24. INNER DOORS MAY BE INTERCHANGED BETWEEN CONTAINERS AND/OR REPLACED WITH EQUIVALENT

Drawing 9045397 Revision 1

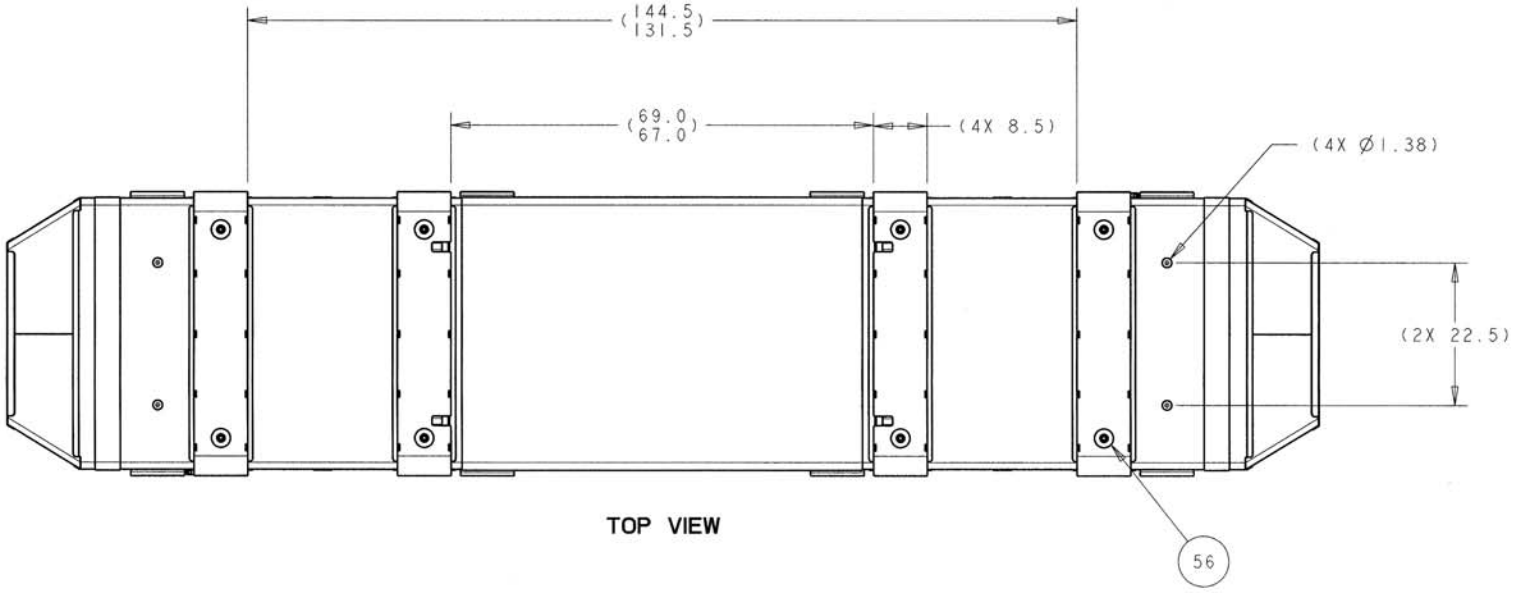
- **Changes**
  - Recreated in CAD system
  - Added balloons
  - Removed "Lid Lift Only"
  - "FWD" was "FORWARD"
- **Justification**
  - Clarification
  - Omitted "Lid Lift Only" to allow use of new lifting fixture on container

No impact regarding the performance of the container under accident conditions.

Drawing 9045397 Changes

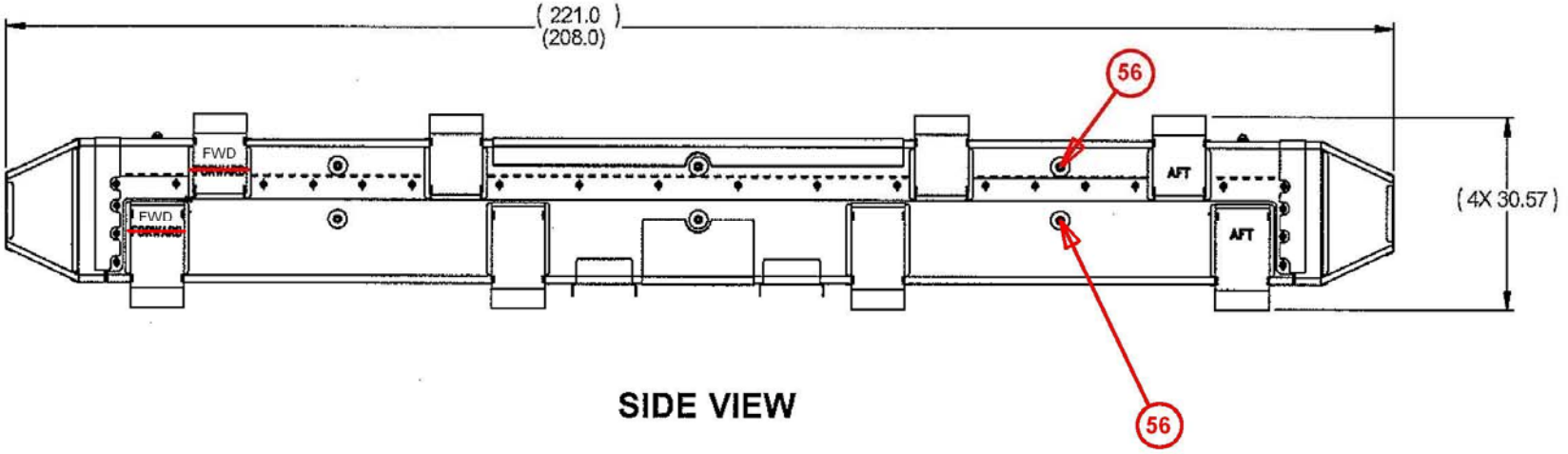


TOP VIEW

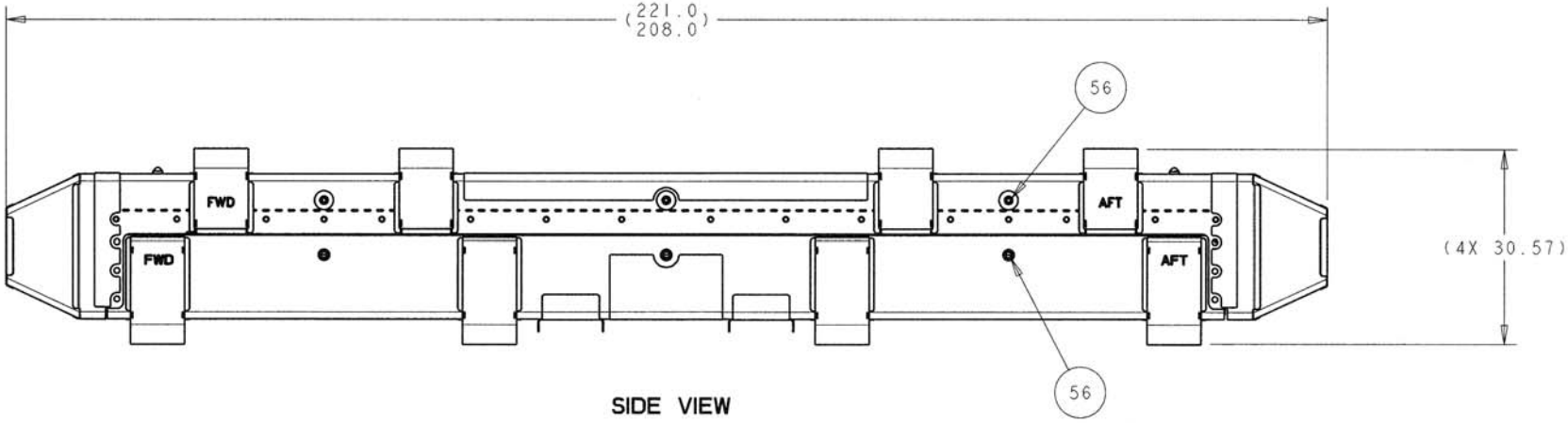


TOP VIEW

Drawing 9045397 Changes

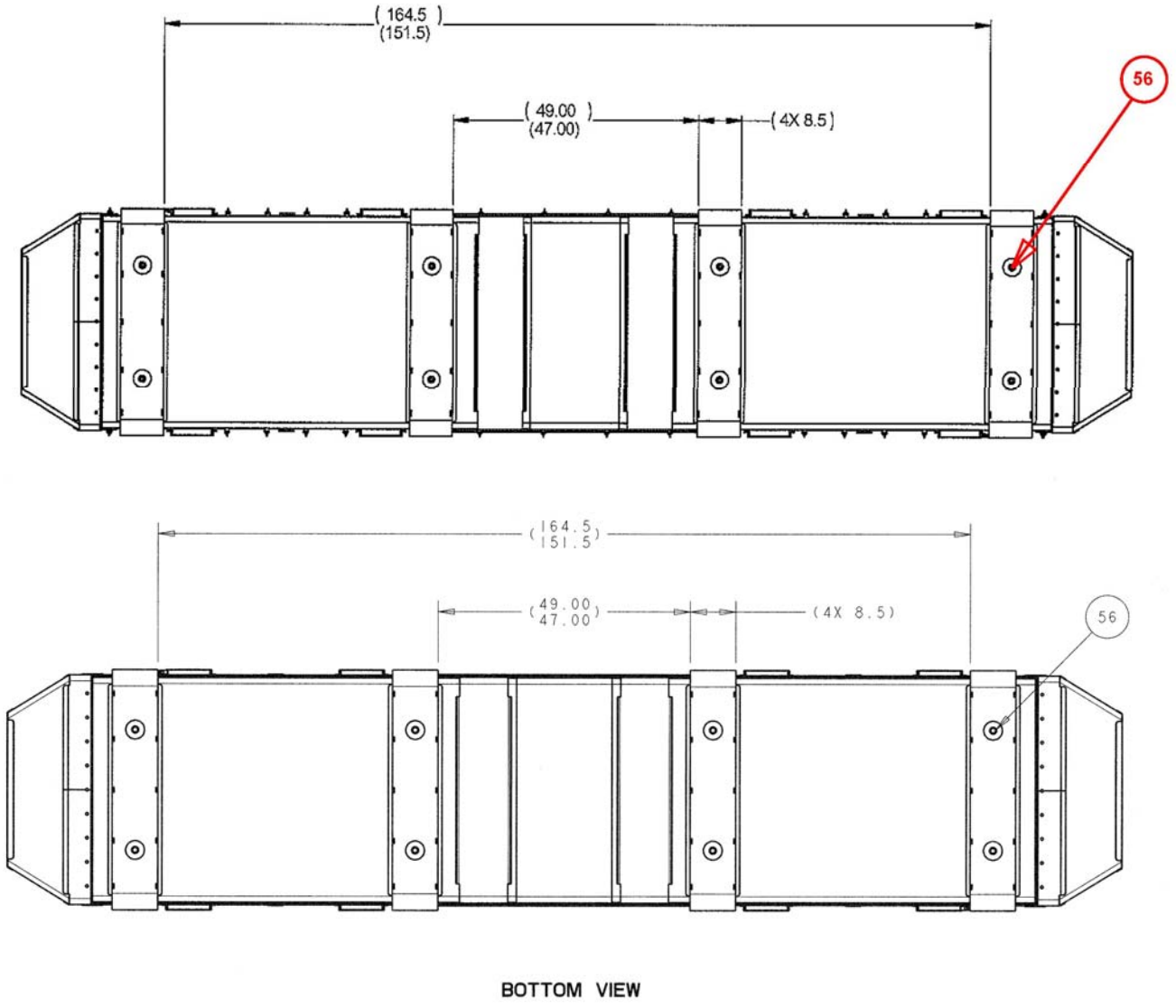


SIDE VIEW

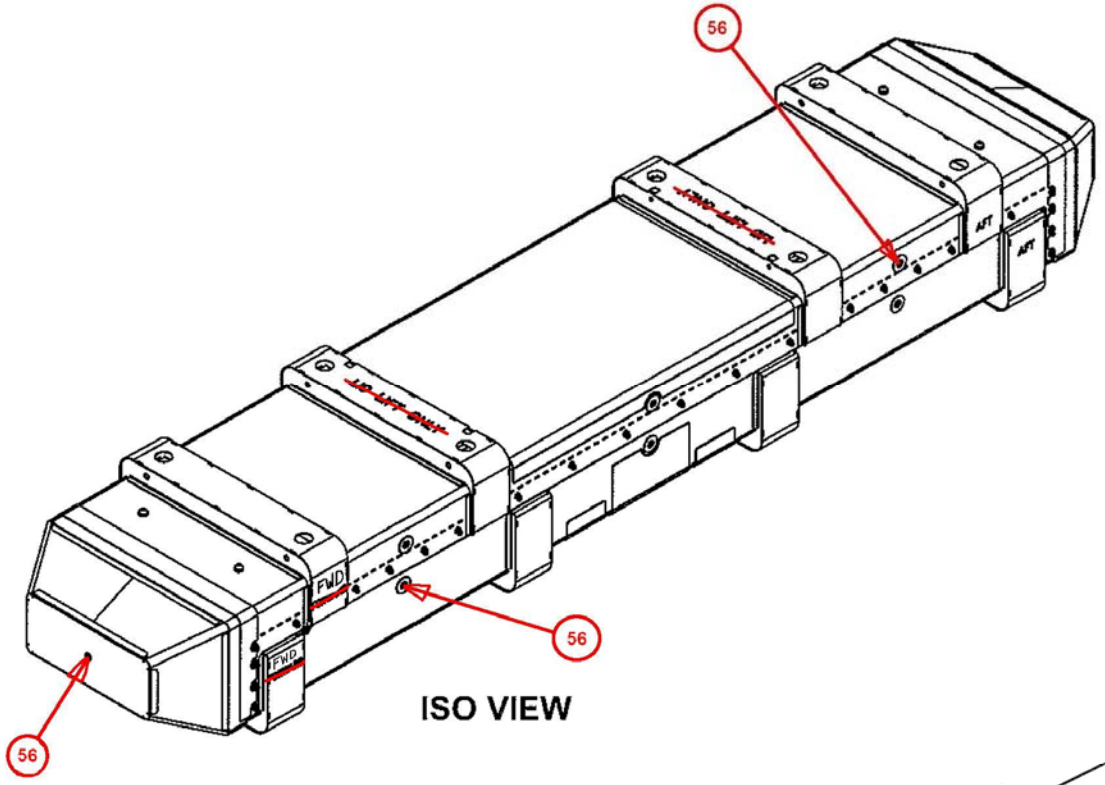


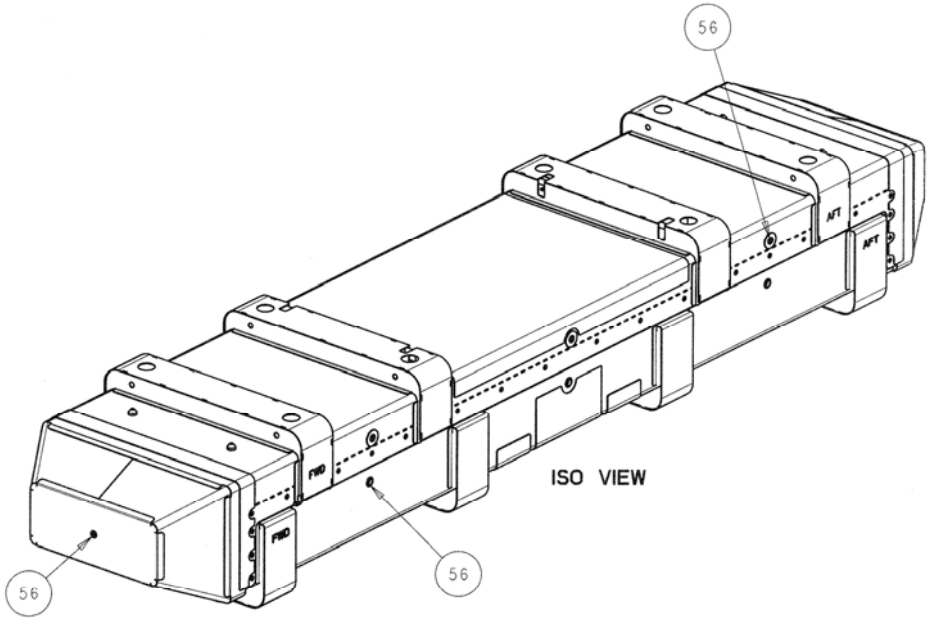
SIDE VIEW

Drawing 9045397 Changes



Drawing 9045397 Changes



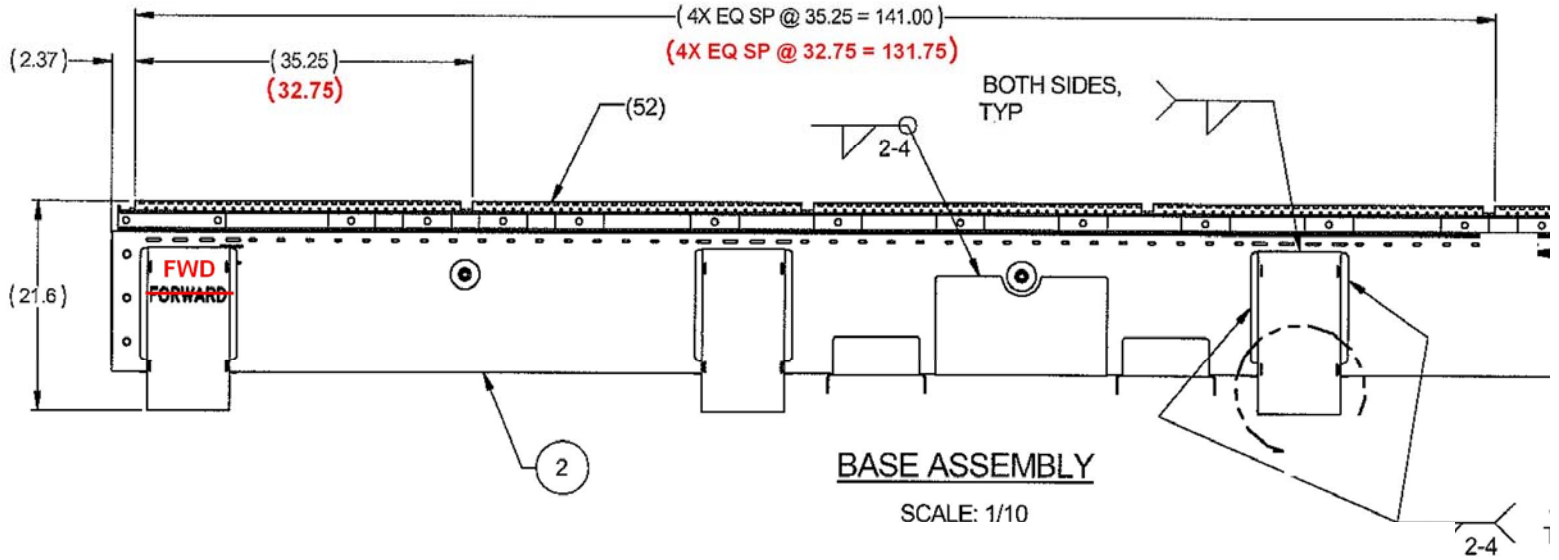


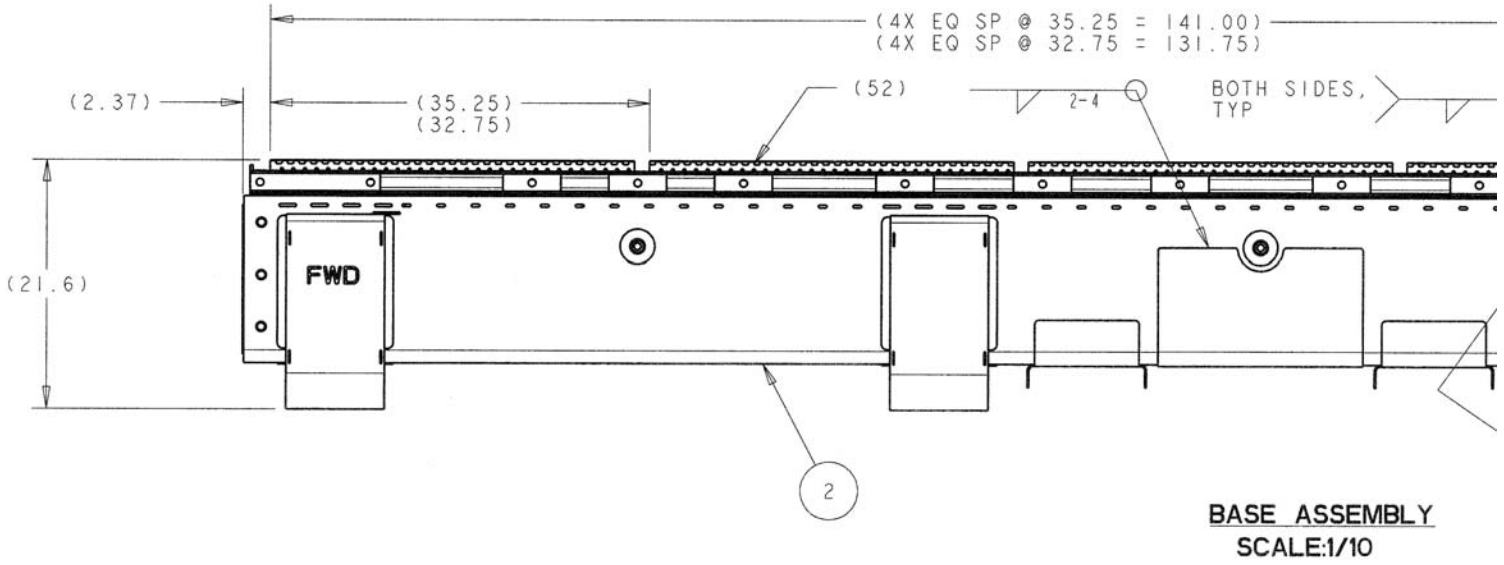
Drawing 9045401 Revision 1

- **Changes**
  - Recreated in CAD system
  - Updated to reflect current door hinge configuration and applicable items
  - Updated balloons
  - Added lengths to differentiate between MAP-12 and MAP-13
- **Justification**
  - Clarification

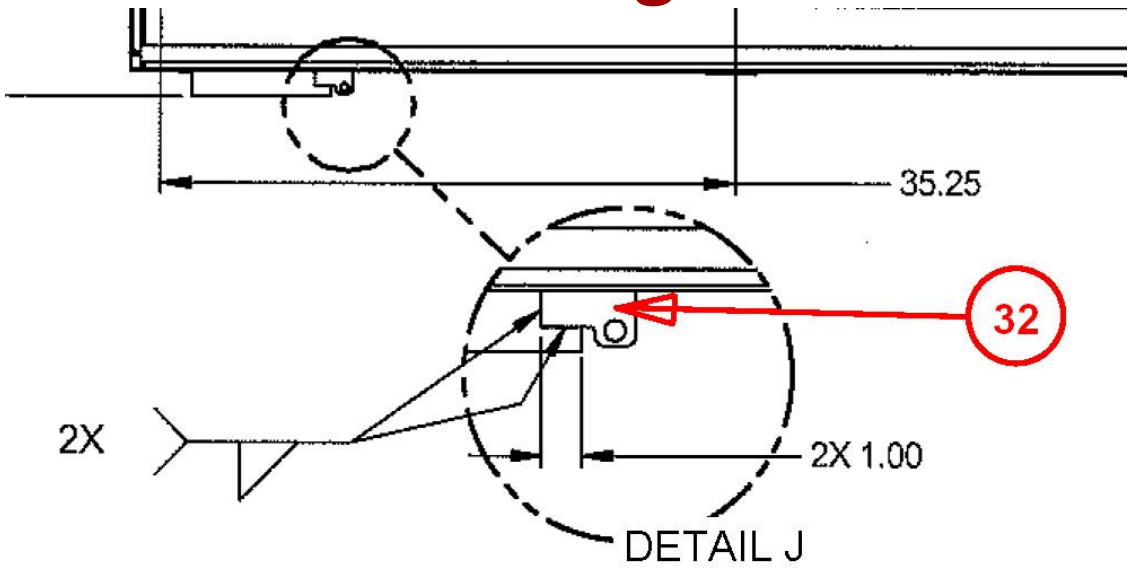
No impact regarding the performance of the container under accident conditions.

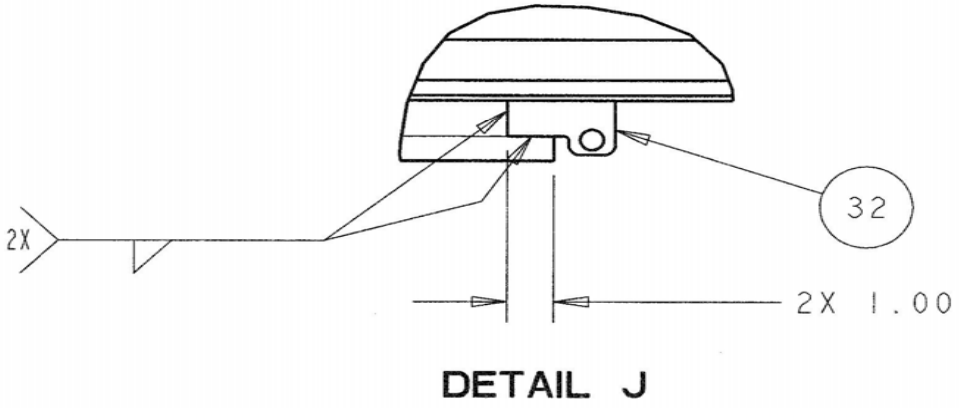
Drawing 9045401 Changes





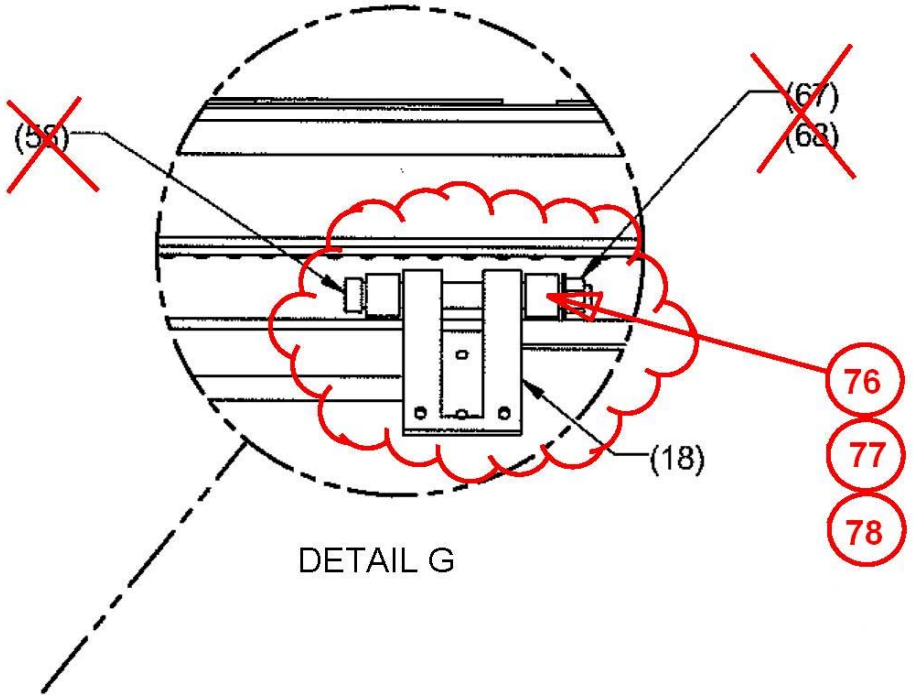
Drawing 9045401 Changes

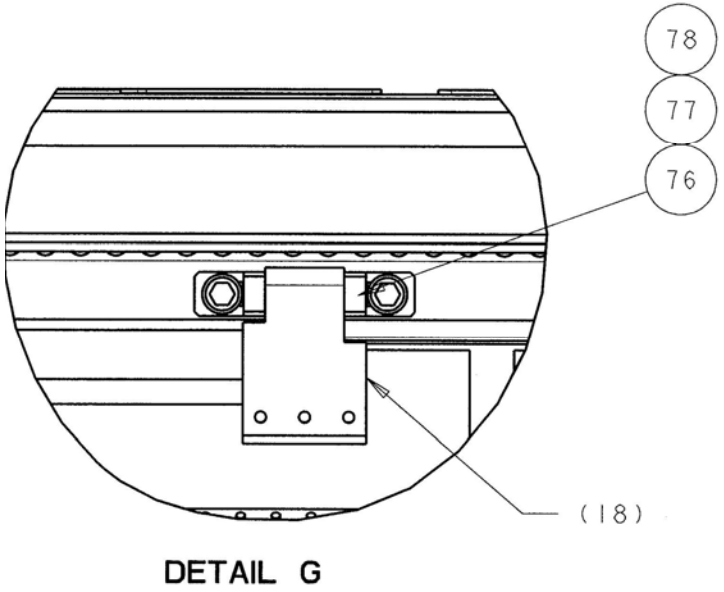




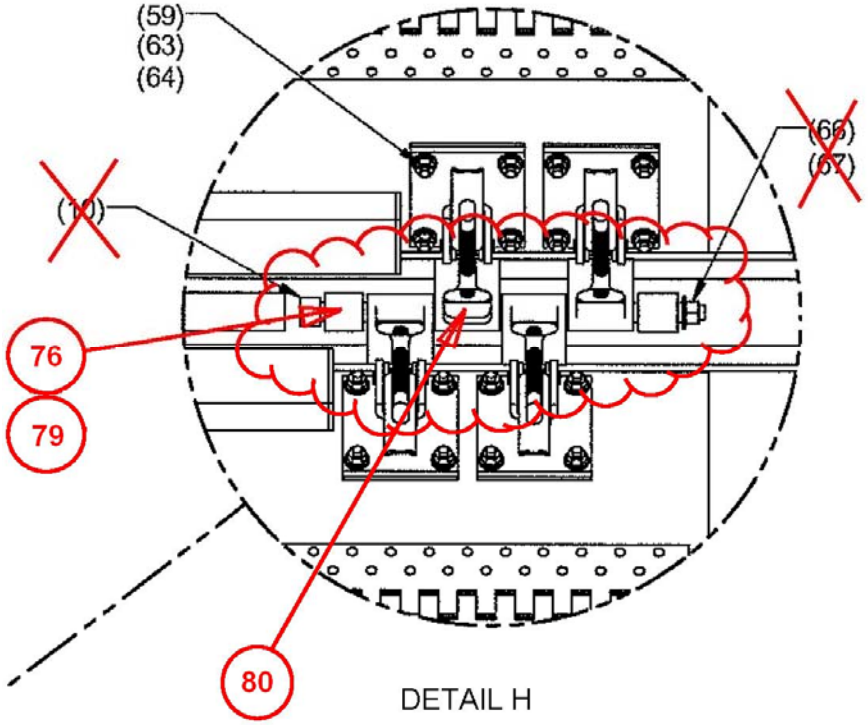
DETAIL J

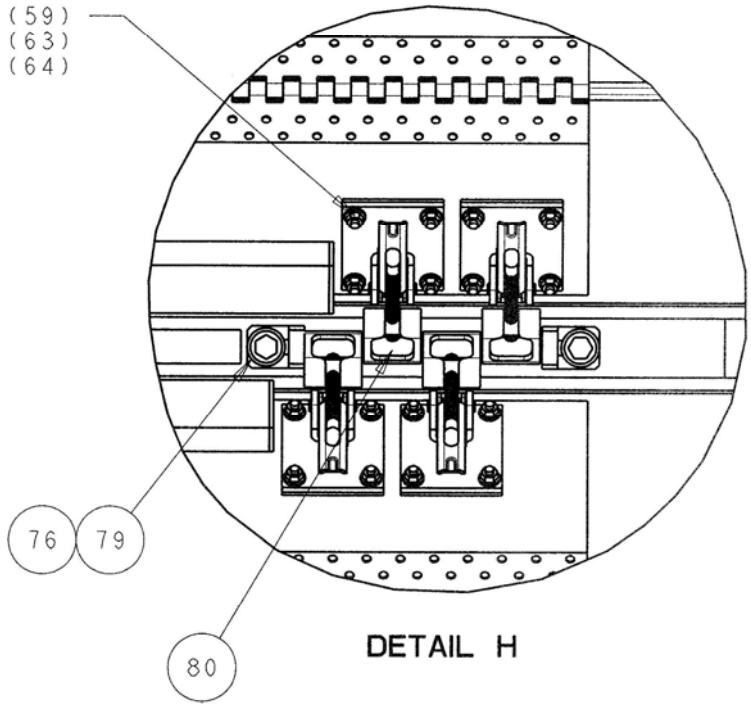
Drawing 9045401 Changes





Drawing 9045401 Changes



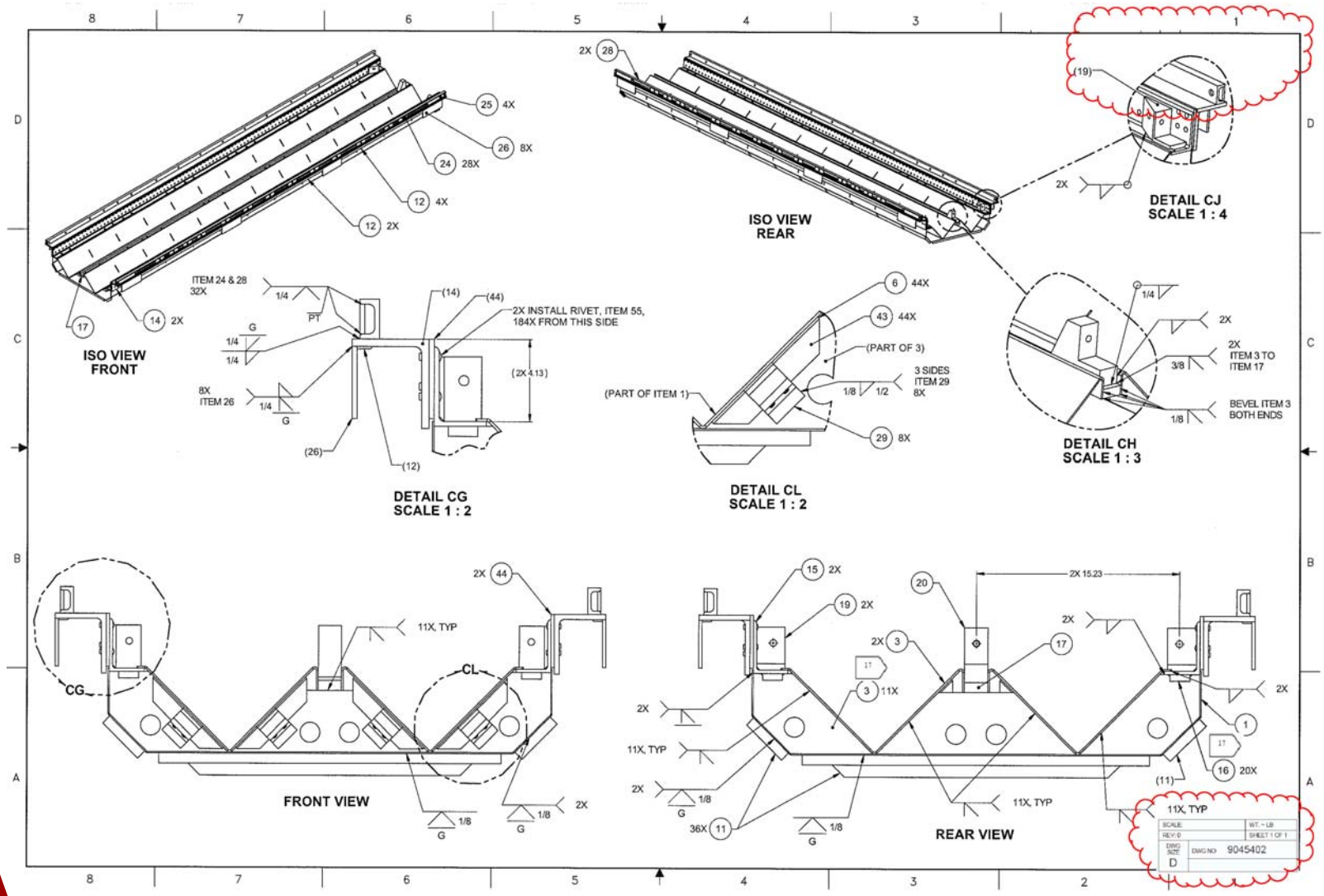


Drawing 9045402 Revision 1

- **Changes**
  - **Recreated in CAD system**
- **Justification**
  - **Format change only for future revisions**

No impact regarding the performance of the container under accident conditions.

Drawing 9045402 Changes

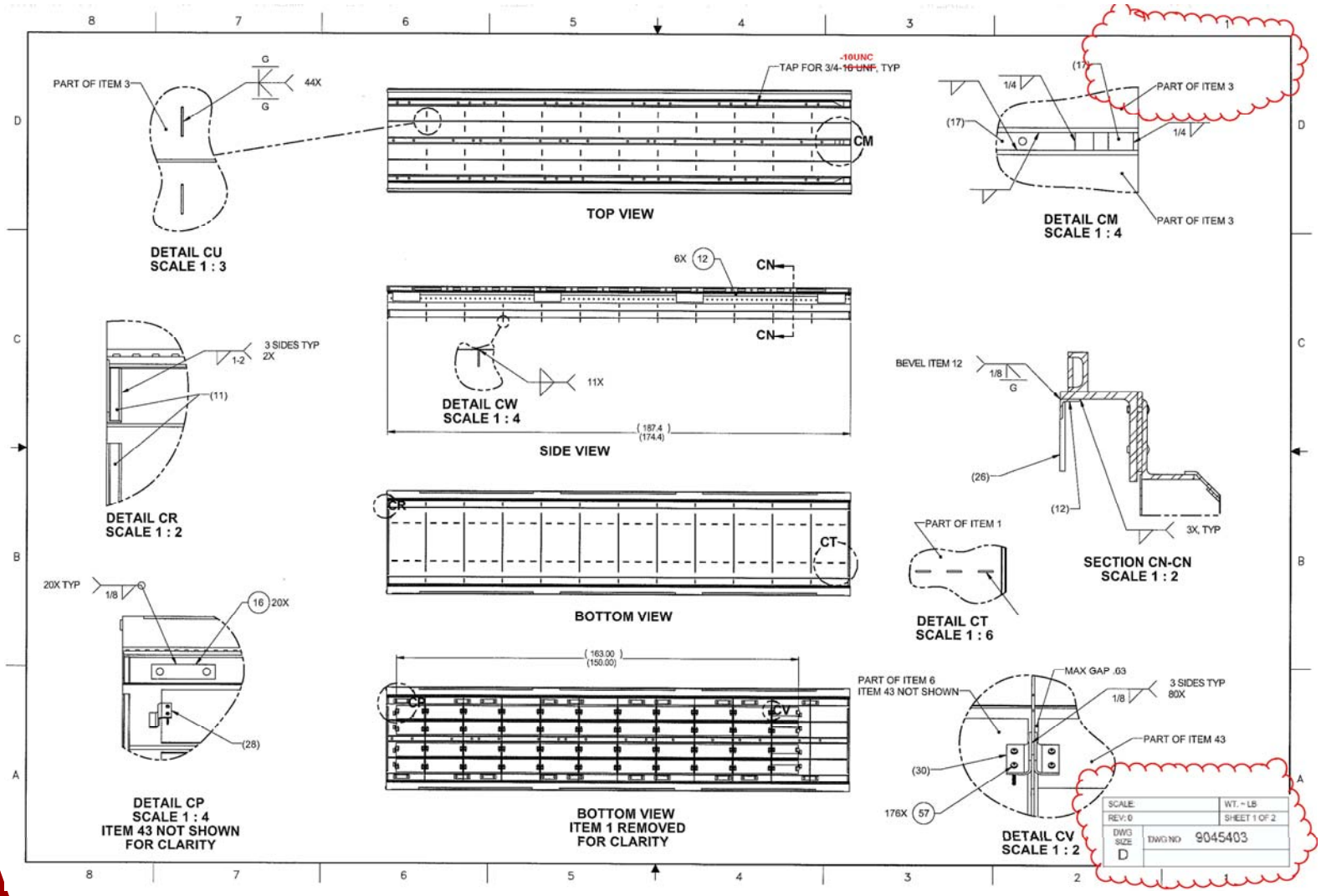


Drawing 9045403 Revision 1

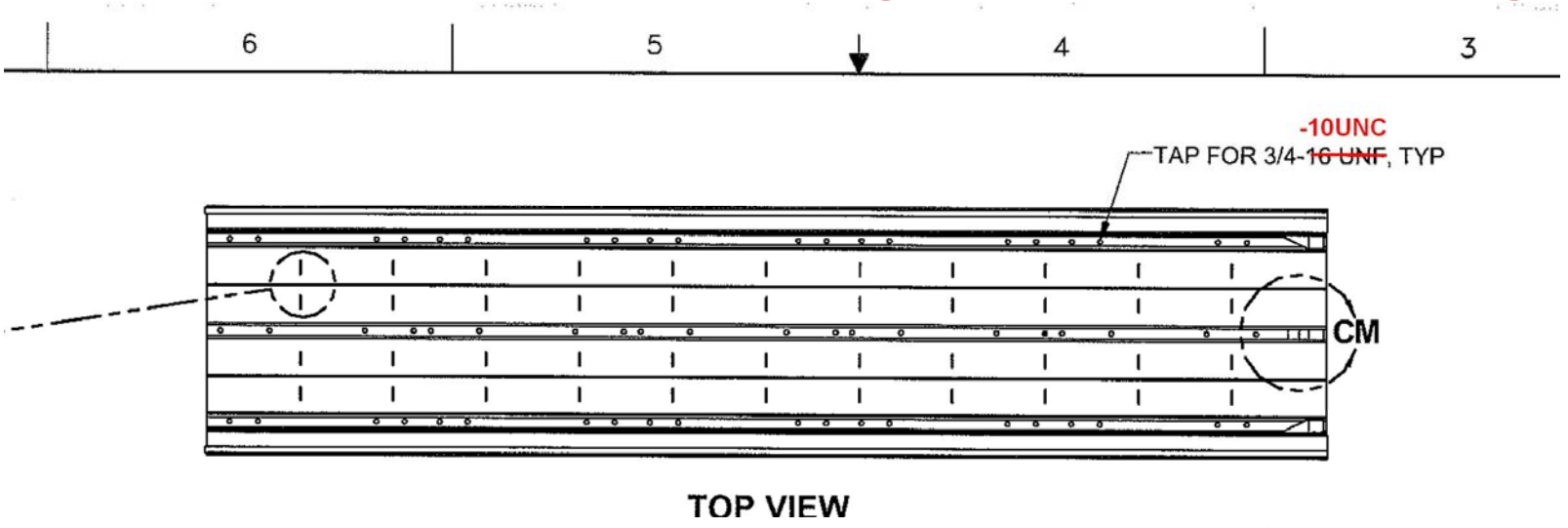
- **Changes**
  - **Recreated in CAD system**
  - **Changed tapped holes from -16 UNF to -10 UNC**
- **Justification**
  - **Format change for future revisions**

No impact regarding the performance of the container under accident conditions.

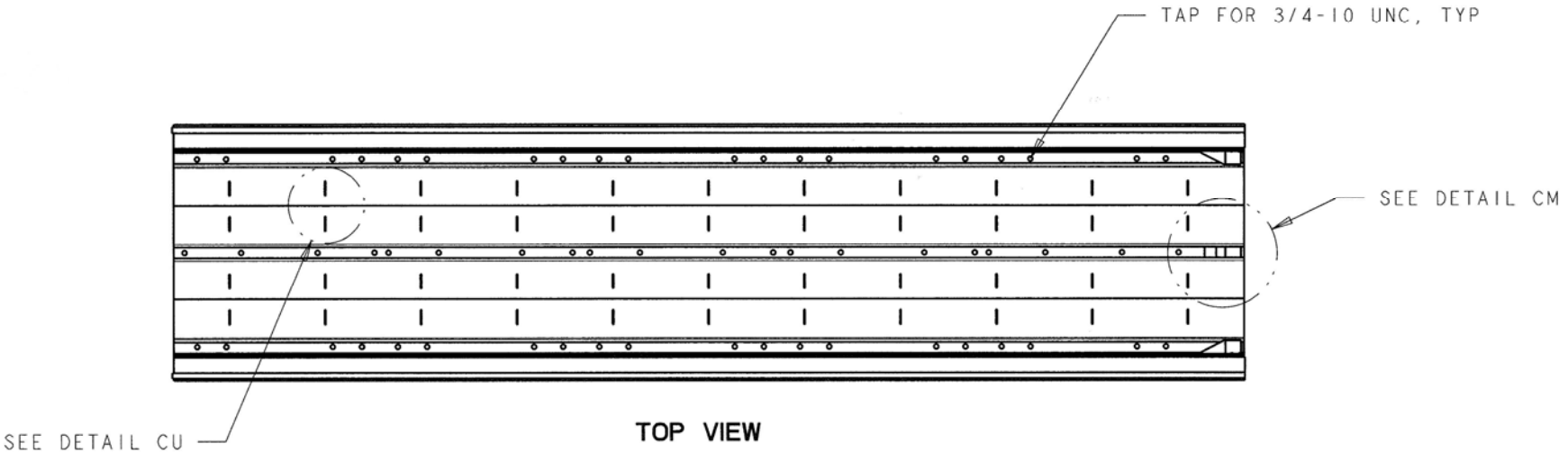
Drawing 9045403 Changes



Drawing 9045403 Changes

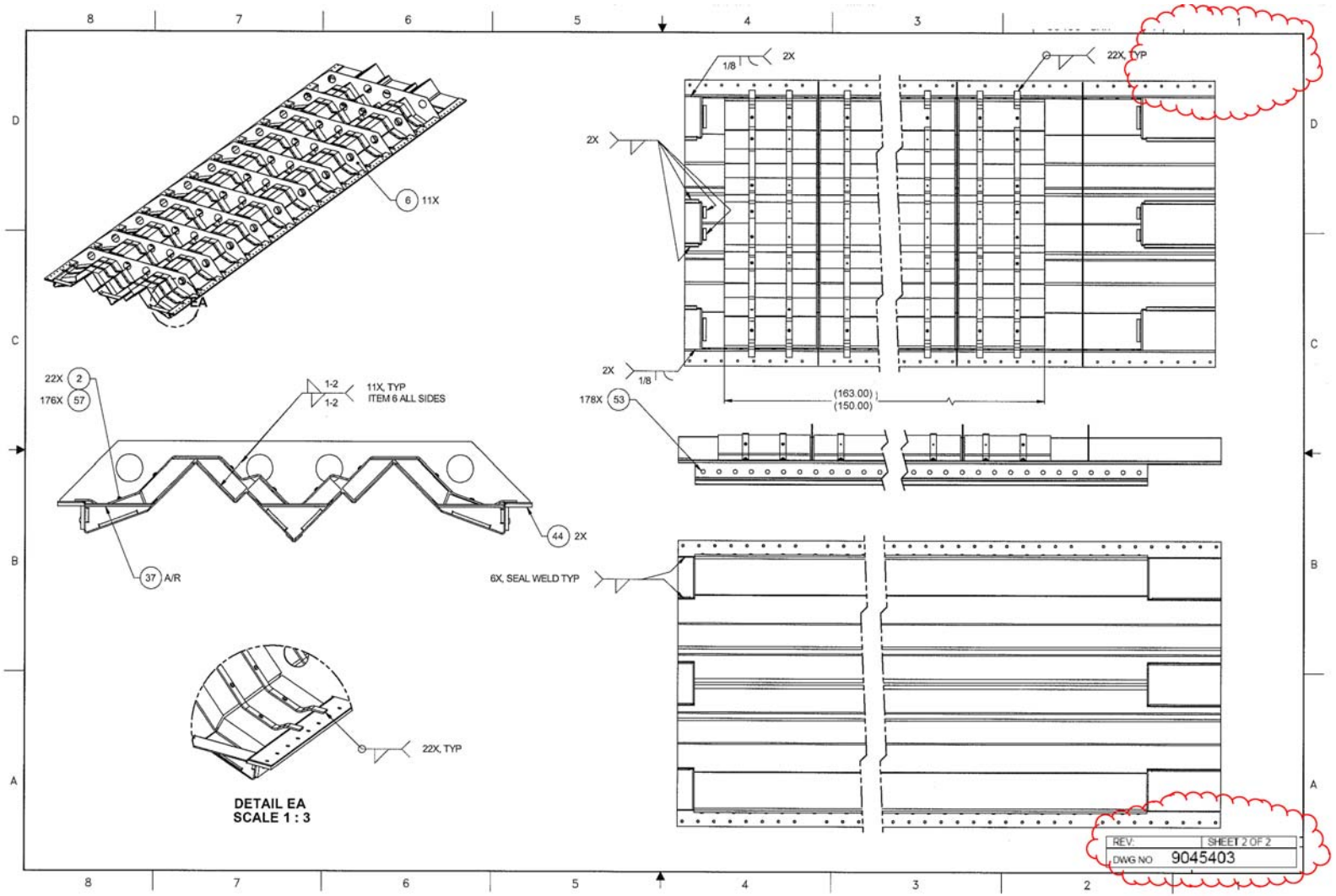


TOP VIEW



TOP VIEW

Drawing 9045403 Changes

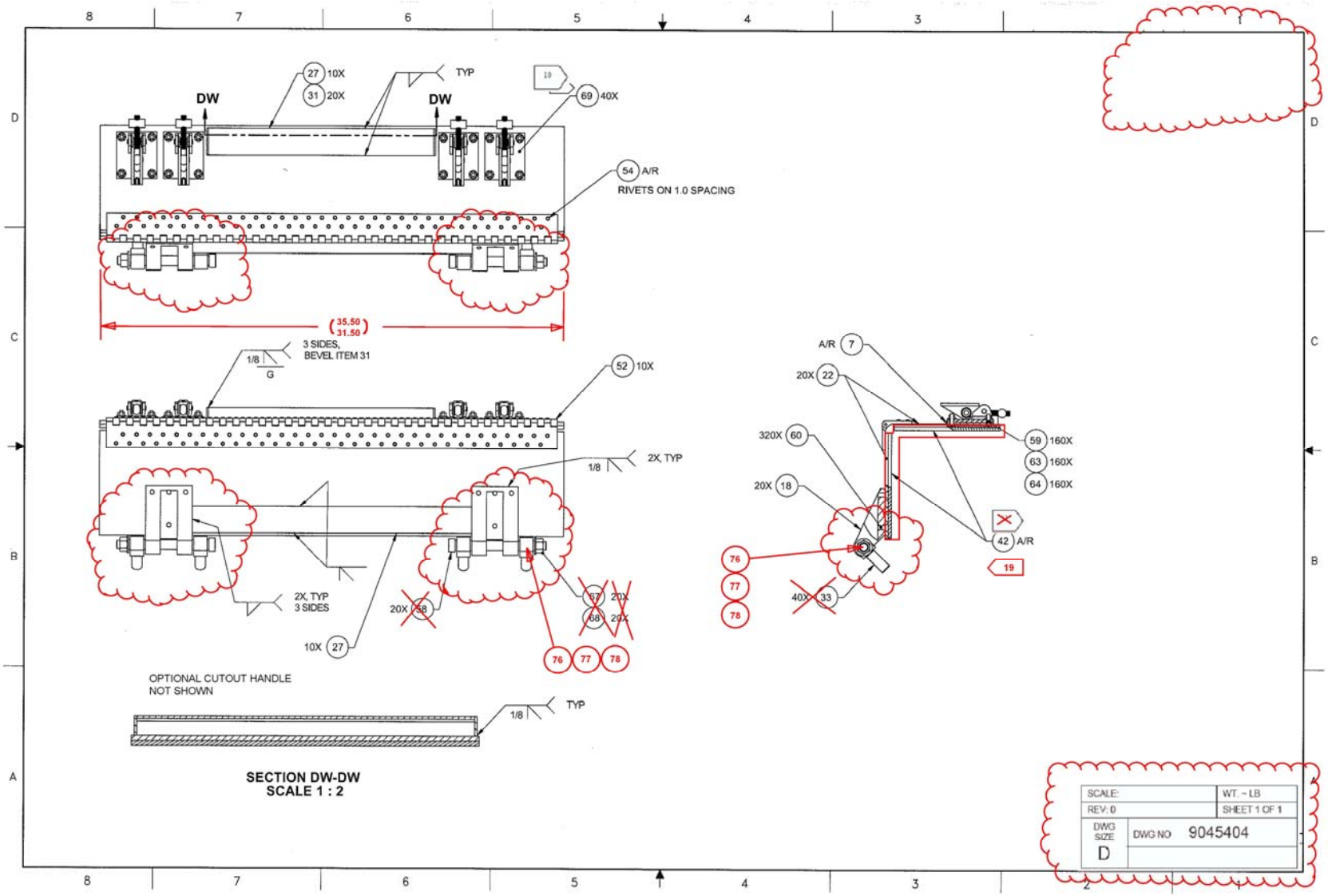


Drawing 9045404 Revision 1

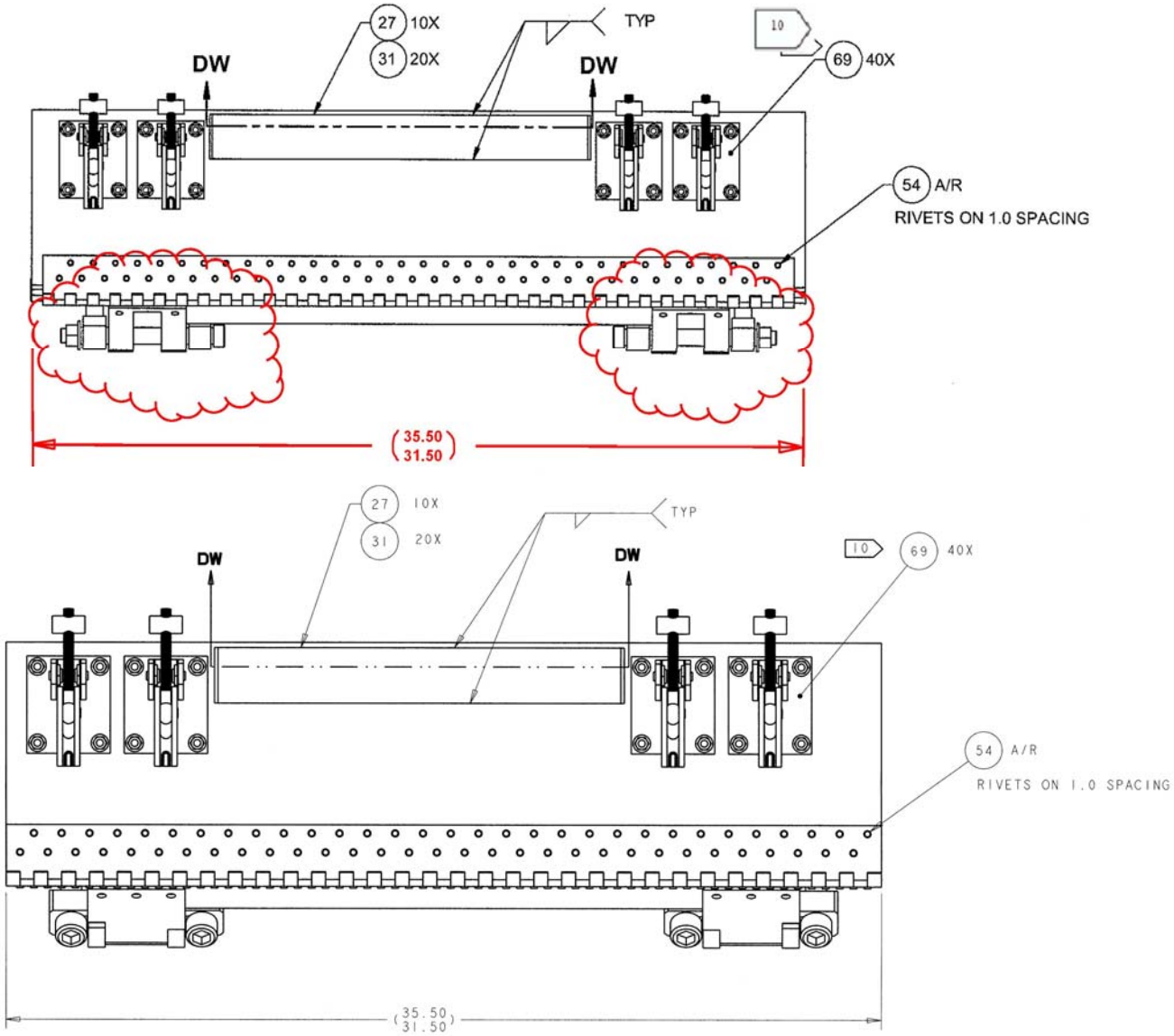
- **Changes**
  - Recreated in CAD system
  - Updated to reflect current door hinge configuration and applicable items
  - Updated balloons and note pointer
  - Added lengths to differentiate between MAP-12 and MAP-13
- **Justification**
  - Clarification

No impact regarding the performance of the container under accident conditions.

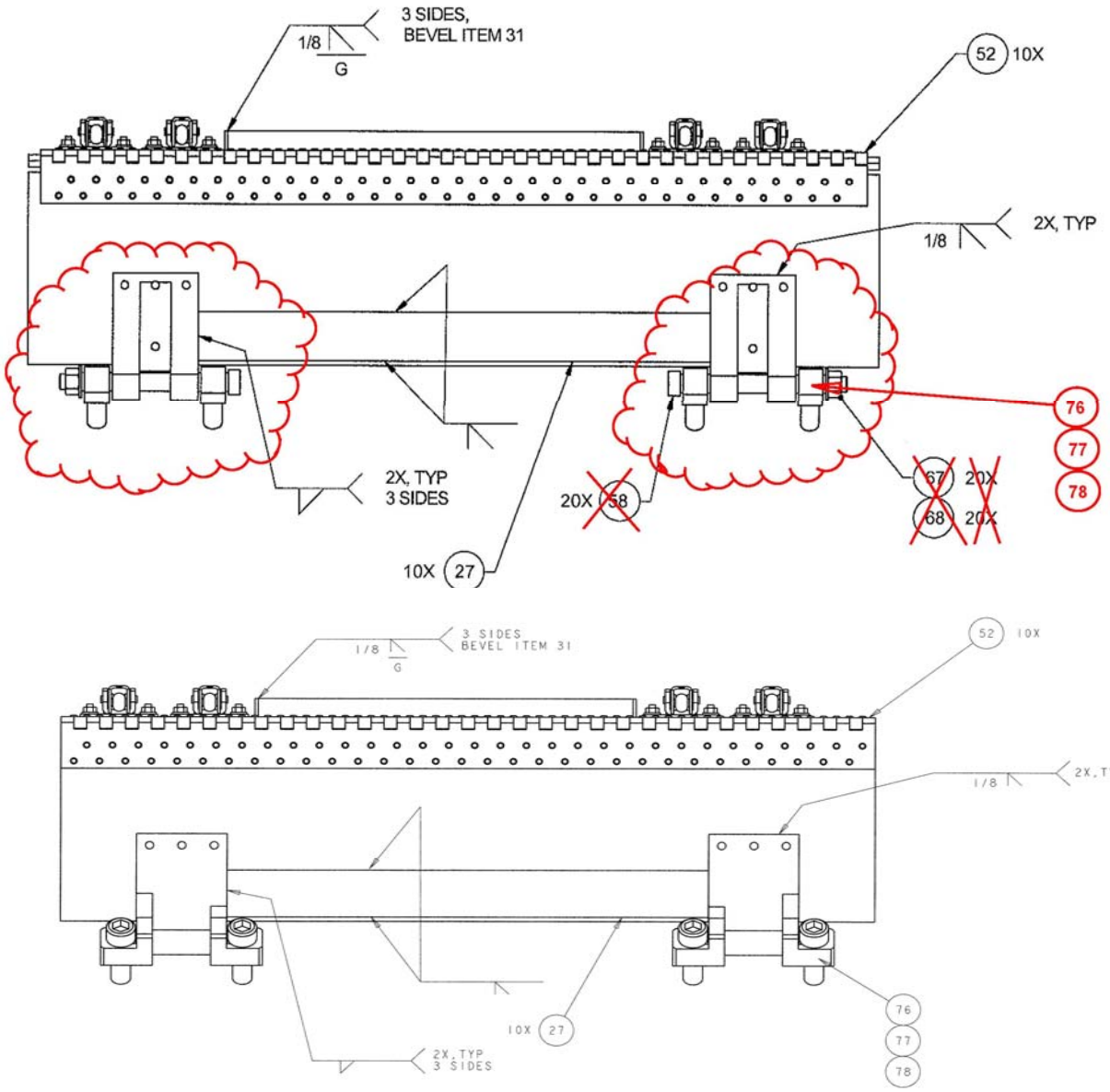
Drawing 9045404 Changes



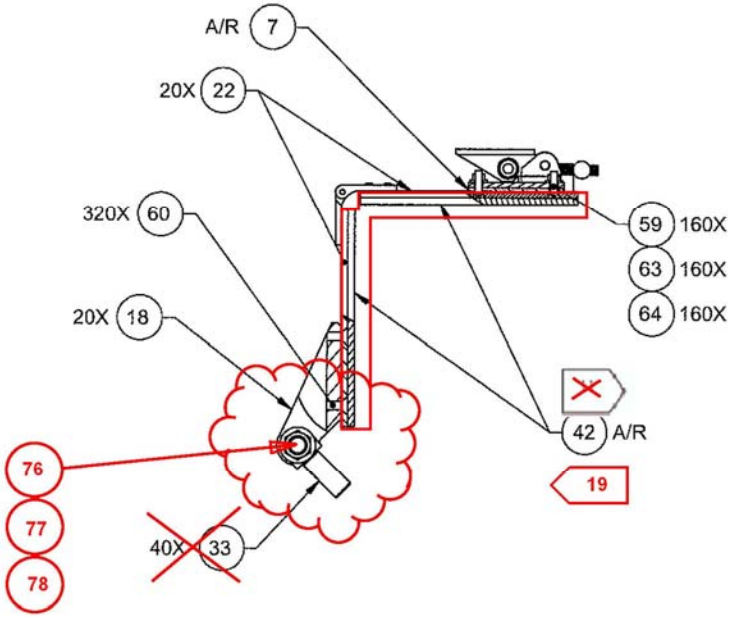
Drawing 9045404 Changes

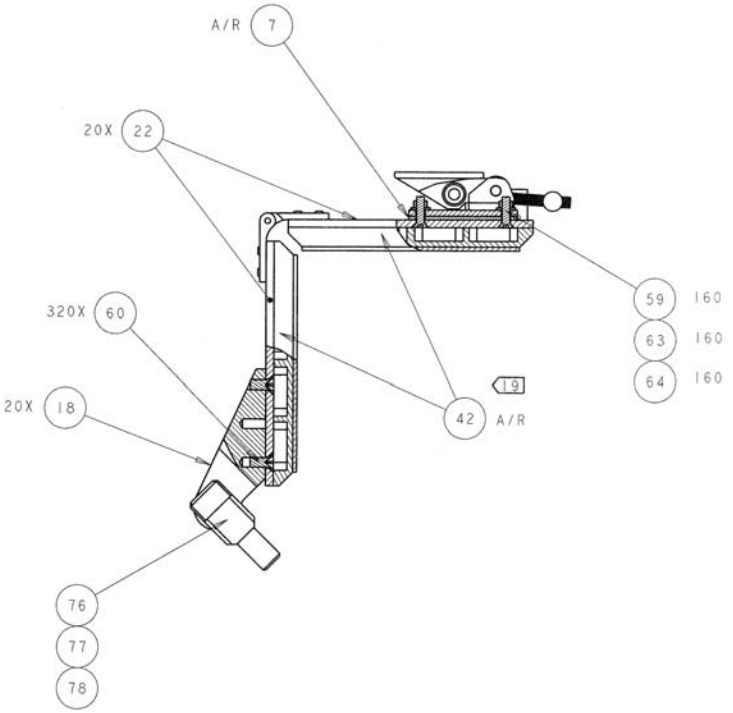


Drawing 9045404 Changes



Drawing 9045404 Changes





Drawing 9045405 Revision 1

Changes

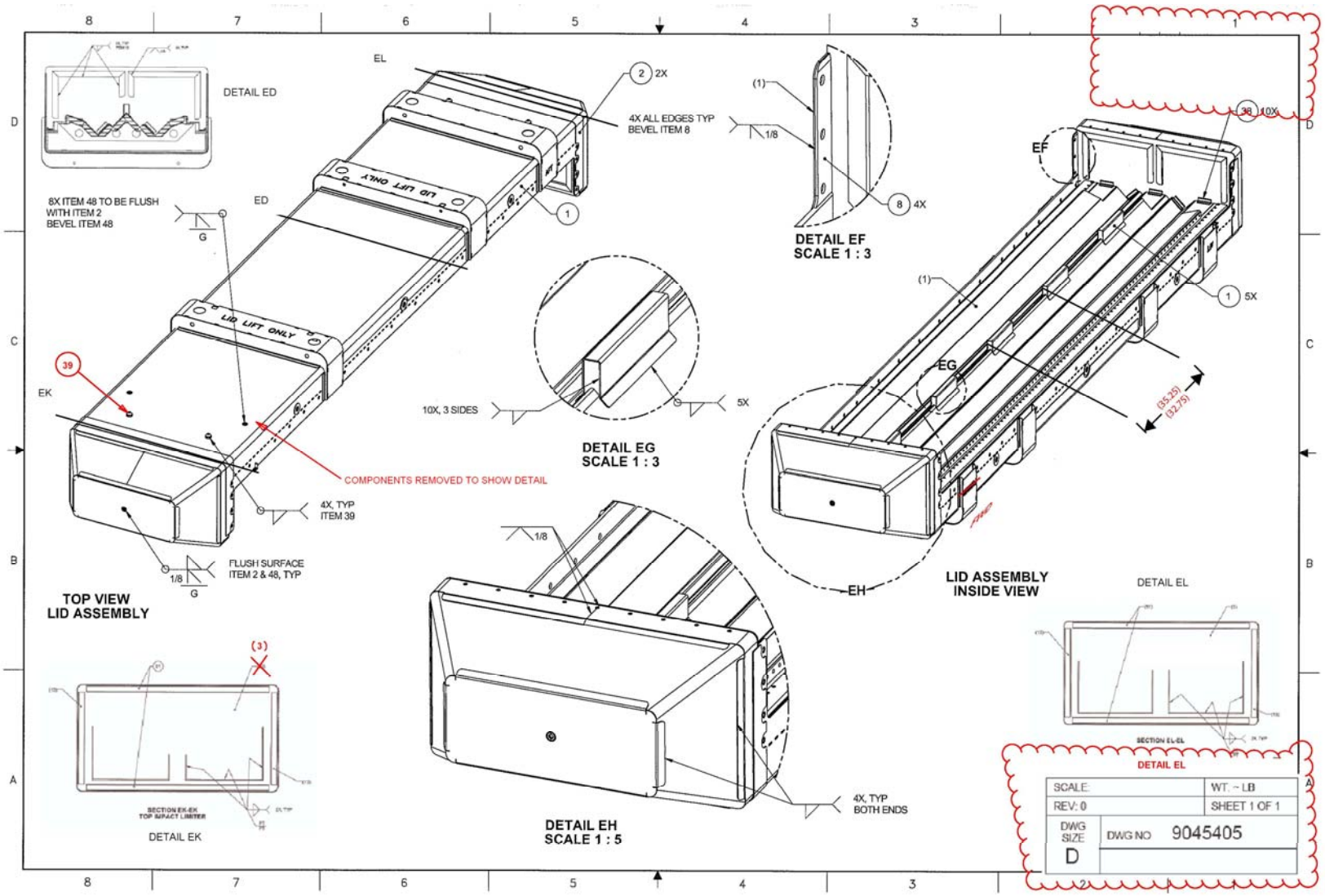
- Recreated in CAD system
- Removed "Lift Lid Only"
- "FWD" on container was "Forward"
- Added balloon, note and detail
- Updated isometric view note
- Added lengths to differentiate between MAP-12 and MAP-13

Justification

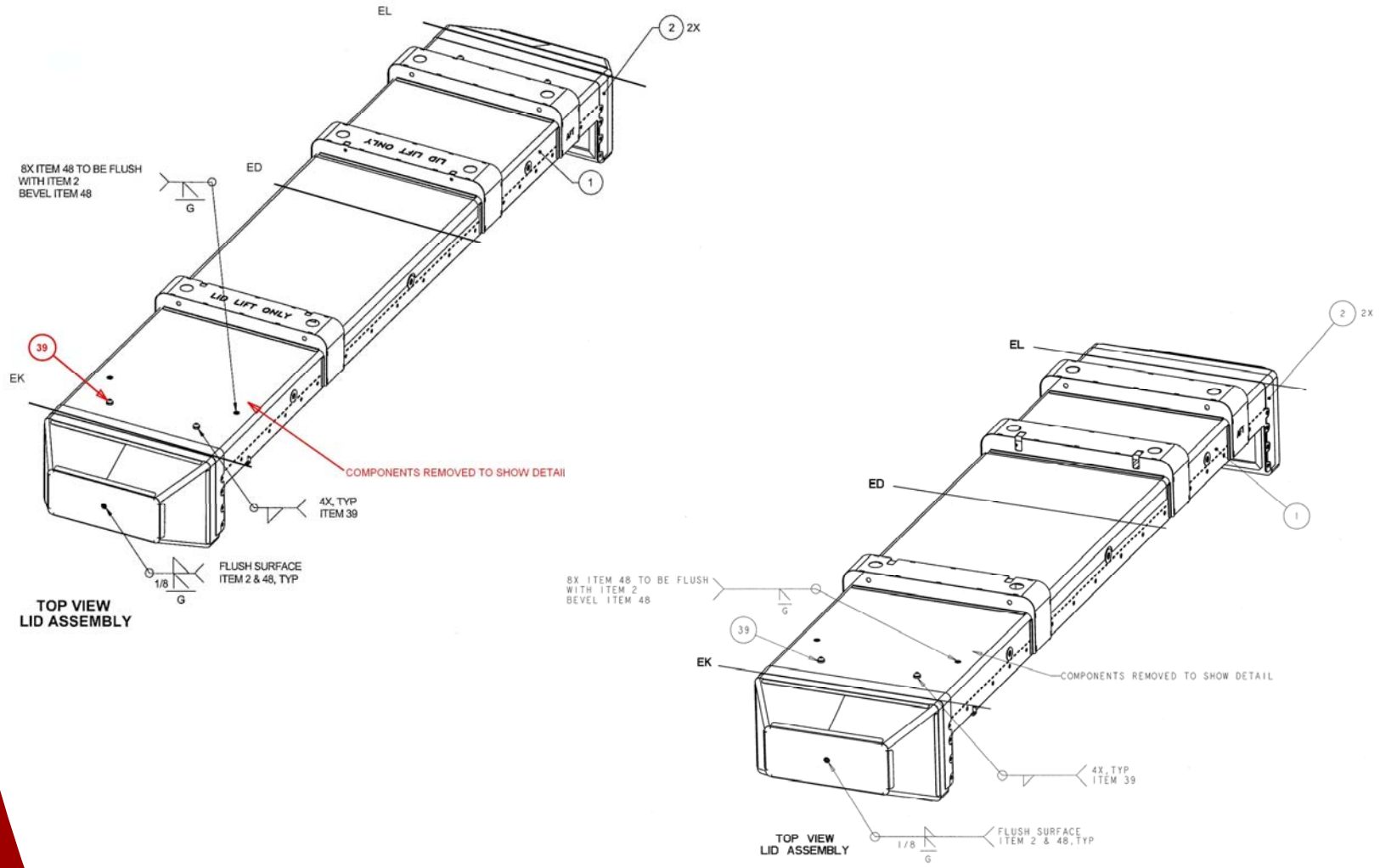
- Clarification for isometric view cut-away

No impact regarding the performance of the container under accident conditions.

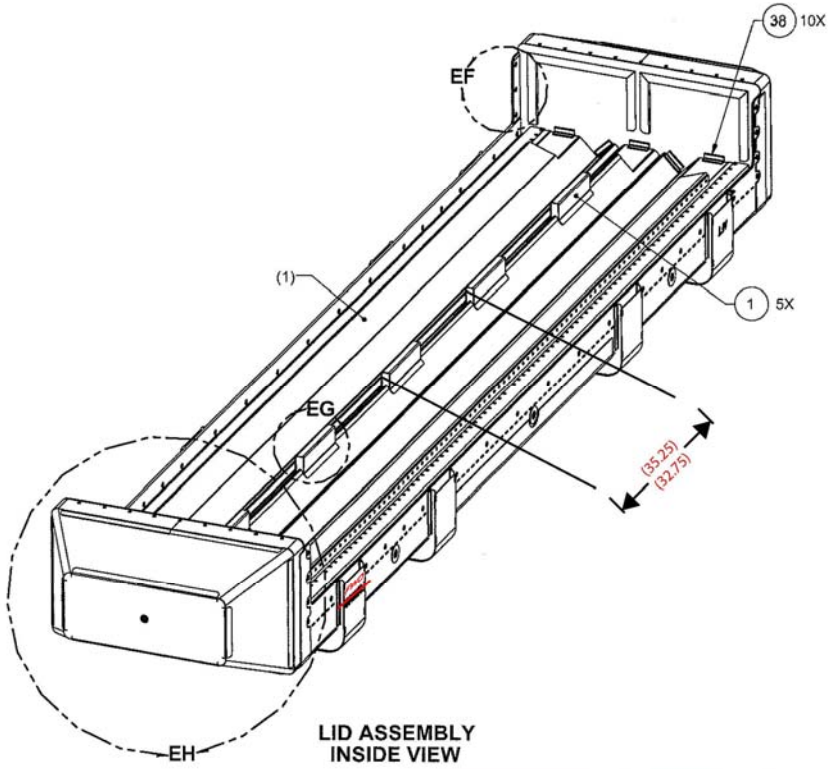
Drawing 9045405 Changes

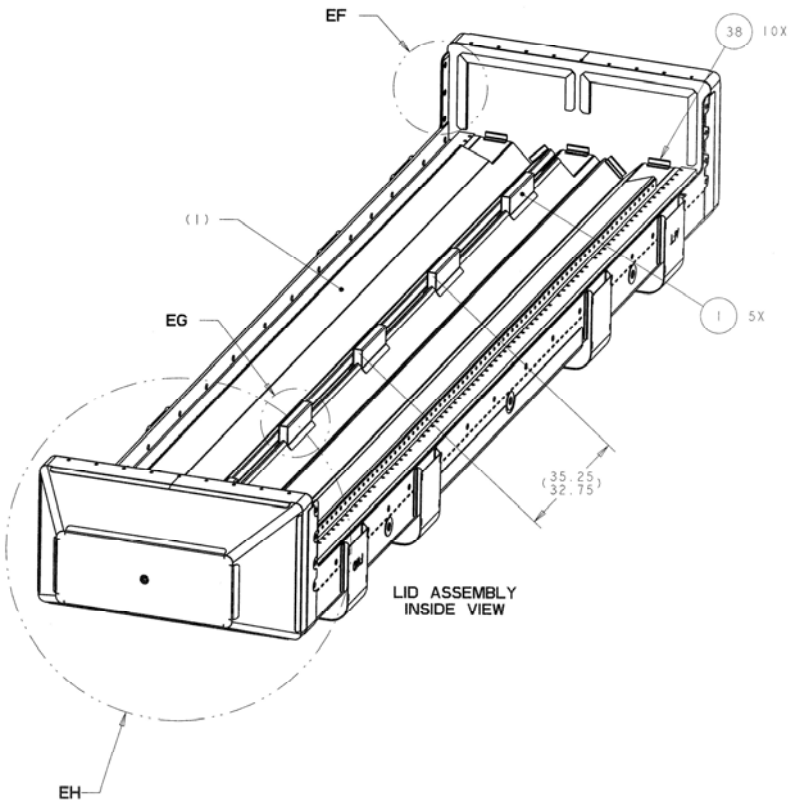


Drawing 9045405 Changes

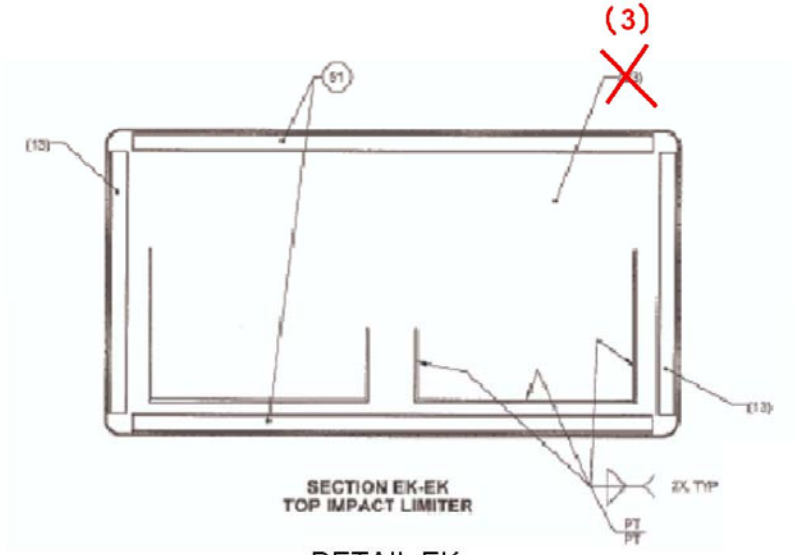


Drawing 9045405 Changes

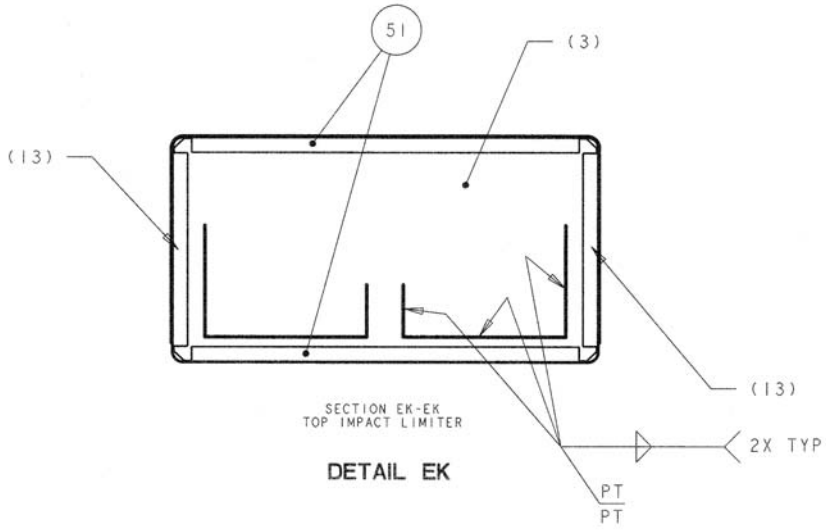




Drawing 9045405 Changes



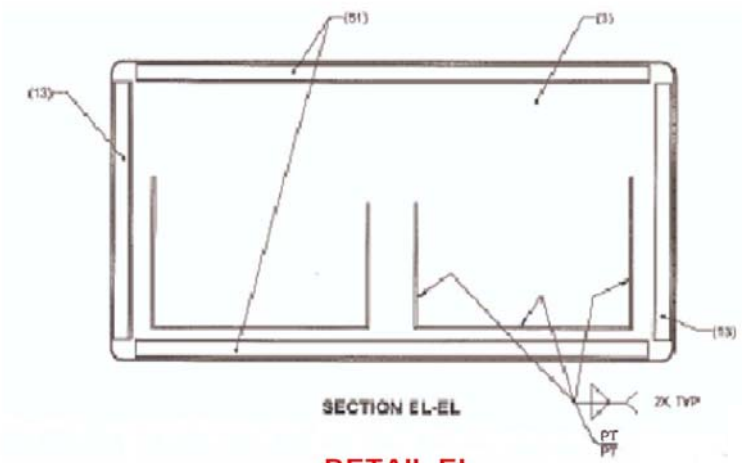
DETAIL EK



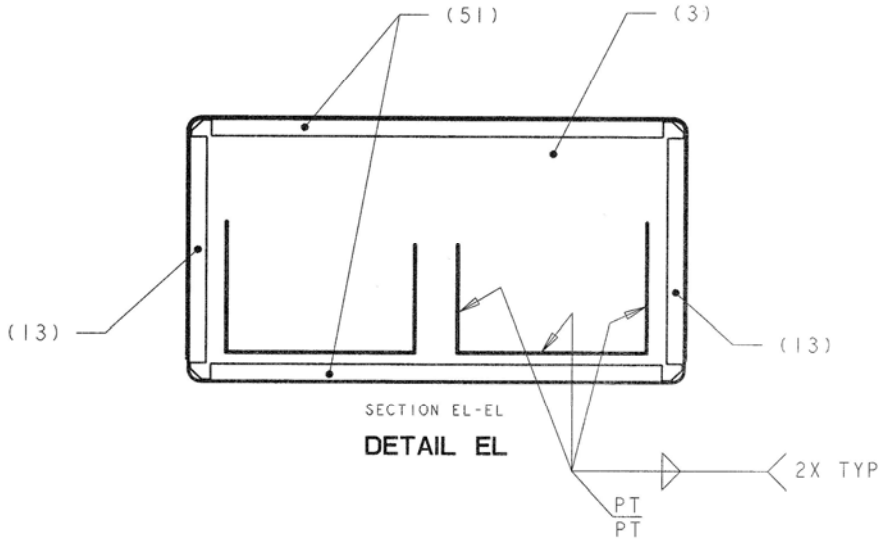
DETAIL EK

Drawing 9045405 Changes

DETAIL EL



DETAIL EL



Schedule for NRC Review

- ***Formal Submittal – June 9, 2009***
- ***Need Date to Support Customer Shipment – July 15, 2009***

Conclusions

- ***Changes made to the licensing drawings have no impact regarding the performance of the container under accident conditions.***

- ***The changes listed in this revision have been evaluated through engineering and do not effect the NCT or HAC test results previously performed on the container.***