MWO 55-8115-202-40-1

ROUTINE

MWO effective date is 01 January 2004 and completion date is 01 January 2008

MODIFICATION OF THE SHIPPING AND STORAGE CONTAINER, REFRIGERATED, MODEL SC209

ROLLER SLIDE AND EXHAUST KIT INSTALLATION

NSN: 8115-01-016-5909 (EIC: N/A)

Headquarters, Department of the Army, Washington, D.C.

30 September 2003

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this MWO. If you find any mistakes or if you know of a way to improve these procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: Commander, US Army Soldier and Biological Chemical Command (SBCCOM), ATTN: AMSSB-RIM-L (N), Kansas Street, Natick, MA 01760-5052. You may also submit your recommended changes by e-mail directly to amssbriml@natick.army.mil. A reply will be provided to you.

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1. PURPOSE. The following procedure defines the equipment to which this MWO is applied and how to install a Roller Slide Assembly Kit and an Exhaust Assembly Kit to a Refrigerated Container (RC), Model SC209, National Stock Number (NSN) 8115-01-016-5909 for use with Tactical Quiet Generator (TQG), NSN 6115-01-275-5061.

2. PRIORITY. This modification is classified as ROUTINE.

a. Equipment in Use. All RCs will be modified and completed no later than 90 days from the date of receipt of the 10 kW TQG replacing the 10kW MEP Associated Support Item of Equipment (ASIOE) generator. RCs not modified after this MWO's completion date will be reported as Non Mission Capable (NMC), in accordance with applicable Army regulations.

b. Equipment in Wholesale Depot Supply or Maintenance Activities. The MWO will be accomplished on serviceable RCs prior to issue if the receiving unit has been fielded the 10kW TQG to replace the 10kW MEP generator. The MWO will be applied to unserviceable material during scheduled Depot Maintenance. This MWO will not be applied to Condition Code H material.

3. END ITEM OR SYSTEM TO BE MODIFIED. This modification will be applied to Container, Refrigerated, Model SC209, NSN 8115-01-016-5909.

Table 1. End Item to be Modified

Nomenclature	National Stock Number	Type and Model	CAGEC	Serial Number	Line Item Number LIN)
Container, Refrigerated	8115-01-016-5909	SC209	90598	ALL	C84541

4. MODULES (Components, Assemblies, Sub-Assemblies, Boards, and Cards) TO BE MODIFIED. Not applicable.

5. PART(s) TO BE MODIFIED. Not applicable.

6. APPLICATION.

a. Time Compliance Schedule: The MWO effective date is 01 January 2004 and the completion date is 01 January 2008.

b. Level of Maintenance: General Support Maintenance is the lowest level of maintenance to support this MWO.

c. Time Required: This MWO requires 2 people for 12 hours and 1 forklift operator for 1 hour to complete task. A total of 25 man-hours is required for a single installation of this MWO. MOS 44B personnel or equivalent (certified to weld steel materials) are required to perform welding operations. Licensed forklift operator is required.

This MWO can be applied concurrently with MWO 55-8145-200-30-1. If MWO 55-8145-200-30-1 is already applied, this MWO may be applied separately.

7. TECHNICAL PUBLICATIONS AFFECTED/CHANGED.

See Table 2.

Table 2. Technical Publications Affected/Changed

TM 55-8115-202-14	Technical Manual, Operator's, Organizational, Direct and General Support Maintenance Manual for Container, Refrigerated, Model SC209, NSN 8115-01-016-5909, including any and all changes.
TM 55-8115-202-24P	Technical Manual, Operator's, Organizational, Direct and General Support Maintenance Repair Parts and Special Tools List, (Including Depot Maintenance Repair) Manual for Container, Refrigerated, Model SC209, NSN 8115-01-016-5909, including any and all changes.

8. MWO KITS/PARTS AND THEIR DISPOSITION.

a. Kit(s)/Part(s) needed to apply the MWO: Slide Kit, Exhaust Kit and Supplemental Items Kit.

b. Contents of Kits: See Table 3.

Table 3. Contents of Slide Kit, Exhaust Kit, and Supplemental Kit

	DESCRIPTION		PART NUMBER	QUANTITY
	MATERIAL			
1.	**SLIDE KIT**		30750-100	1
	1.1	WASHER, FLAT, .344 ID	MS27183-12	12
	1.2	RIVET, CLOSED	M24243/6A-606H	2
	1.3	BOLT, GENERATOR, LOCKING	30695-100	2
	1.4	WASHER, LOCK, .312 NOM	MS35338-45	12
	1.5	MOUNT, GENERATOR	30669-100	1
	1.6	SLIDE, BOTTOM	CD5601-00-0320	2
	1.7	MOUNT, SLIDE	30670-1	4 Required 6 In Kit
	1.8	NUT, HEX, .500-13 UNC-2B	MS51967-14	4
	1.9	WASHER, FLAT, .531 ID	MS27183-18	8
	1.10	WASHER, LOCK, .500 NOM	MS35338-48	4
	1.11	SCREW, CAP, 0.500-13 UNC-2A X 1.50 LONG	MS90725-113	4
	1.12	WASHER, FLAT, .281 ID	MS27183-10	12
	1.13	WASHER, LOCK, .250 NOM	MS35338-44	12
	1.14	SCREW, CAP, 0.312-18 UNC-2A X 1.38 LONG	MS90725-37	12
	1.15	SCREW, MACH, CSINK 250-20 UNC-2A X .50 LONG	MS35190-287	20
	1.16	SCREW, CAP, 0.250-20 UNC-2A X .62 LONG	MS90725-5	12

	DESCRIPTION		PART NUMBER	QUANTITY
	MATERIAL			
2.	**EXHAUST KIT**		30749-100	1
	2.1	PIPE, HORIZONTAL, EXHAUST (Pre-assembled to ELBOW, Item 2.2)	30696-1	1
	2.2	ELBOW, 1.25 NPT (Pre-assembled to PIPE, Item 2.1)	44605K117	1
	2.3	SHIELD, HORIZONTAL, EXHAUST	30711-100	1
	2.4	CAP, RAIN, 2.50 NOM	22-250	1
	2.5	U-BOLT, 1.50 ID	3043T18	1
	2.6	SHIELD, VERTICAL	30741-100	1
	2.7	U-BOLT, 2.50 ID	3043T32	3
	2.8	SCREW, SELF-DRILL, NO. 10 X .50 LONG	91324A430	3
	2.9	PIPE, VERTICAL	30697-1	1
	2.10	WASHER, FLAT, .219 ID	MS27183-42	9
	2.11	WASHER, LOCK, NO. 10	MS35338-43	9
	2.12	SCREW, MACH, PAN-HEAD, NO. 10-24 UNC-2A X .75 LONG	MS35206-265	9
	2.13	ANTI-SEIZE COMPOUND	1287K31	AR
	2.14	SPACER, EXHAUST	30747-18	1
3	**SUPPLEMENTAL ITEMS KIT**		120k1929-1	1
	3.1	MOUNT, SLIDE	30670-2	2
	3.2	BLIND RIVET NUT	S31K331	12
	3.3	BLIND RIVET NUT	S50K326	2
	3.4	C-CHANNEL, 4 INCHES X 5.4 LB., 40.5” LONG.		1
	3.5	STEEL PLATE, PER ASTM A569, 11 GAUGE, 2” X 2”.		4
	3.6	BRACKET, EXHAUST MOUNT	30694	2
	3.7	SCREW, CAP 0.250-20 UNC-2A X .62 LONG	MS90725-5	6
	3.8	ANTI-SEIZE COMPOUND	LOCTITE 51299	2 GRAMS
	3.9	WASHER, LOCK, 1/4” NOMINAL	MS35338-44	2
	3.10	PLATE, LADDER	120K1917	1
	3.11	LONG STRAIGHT BAR (approximately, 6 feet)		1

c. Bulk and Expendable Materials: See Table 4.

Table 4. Bulk and Expendable Materials List and Description

DESCRIPTION	PART NUMBER	QUANTITY
PAINT (CARC)	MIL-C-53039 COLOR 34094	As Required
PRIMER	MIL-P-53022, TYPE II	As Required
ALCOHOL / SOLVENT		As Required
3M MARINE ADHESIVE SEALANT	051135-06520	As Required
CORROSION PREVENTIVE COMPOUND	NSN 8030-00-938-1947, MIL-C-81309D, TYPE II, CLASS 2 OR EQUIVALENT	As Required
CUTTING/TAPPING FLUID		As Required

d. Parts Disposition: Parts removed and not used during installation of this MWO will be disposed of in accordance with proper disposal procedures.

9. SPECIAL TOOLS, TOOL KITS, JIGS, TEST, MEASUREMENT AND DIAGNOSTIC EQUIPMENT (TMDE), AND FIXTURES REQUIRED.

Table 5. Required Tools and Other Required Items (specific list)

	DESCRIPTION	PART NUMBER	QUANTITY
1.	CLAMPS WITH 16” OR LONGER JAWS		4
2.	METAL CUTTING SAW OR GRINDER OR CUTTING WHEEL	TO CUT UP TO 1/4” STEEL	
3.	WELDING MACHINE		
4.	MEASURING TAPE		
5.	HAND DRILL & MAGNETIC BASE DRILL		
6.	DRILL BITS, SIZES 1/8”, 9/32”, 27/64”, 5/8”, #22 AND 1”, 100° COUNTERSINK BIT		
7.	RIVET NUT INSTALLATION TOOLS FOR 0.312-18 UNC-3B AND 0.500-13 UNC-3B RIVET NUTS	PART NUMBERS C-722-3118 & C-722-5013	1. BOLLHOFF RIVNUT INC. CAGE: 0VK23
8.	CHISEL OR FILE		
9.	THREAD TAP SIZE #10-24 UNC		
10.	#2 PHILIPS HEAD SCREWDRIVER		

11.	STANDARD FLAT HEAD SCREWDRIVER		
12.	SOCKETS AND DRIVE, OR WRENCHES OF SIZES 7/16, 1/2, 9/16 AND 3/4.		
13.	TONGUE AND GROOVE PLIERS		
14.	FORK LIFT CAPABLE OF LIFTING 1140 POUND GENERATOR		
15.	WELDING ROD		
16.	CENTER PUNCH		
17.	DISPOSABLE PAINT BRUSHES		
18.	WHITE CHALK OR MARKER FOR STEEL		
19.	HAMMER		
20.	LOCK WASHERS, 1/4" NOMINAL		
21.	LADDER / STEP AID		

10. MODIFICATION PROCEDURES.

WARNING

Personal Protective Clothing and Individual Equipment (PPCIE) must be worn during drilling or cutting. Industrial eye protection (i.e., glasses with side shields, goggles, or face shield), hearing protection, and work gloves are required.

WARNING

PPCIE must be worn during grinding or buffing associated with CARC paint removal. Industrial eye protection (i.e., glasses with side shields, goggles, or face shield), hearing protection, work clothing, and gloves are required. Approved respiratory protection (respirator and high efficiency particulate arresting (HEPA) cartridge), and local exhaust ventilation with HEPA filter or HEPA vacuum must be used. **DO NOT DRY SWEEP OR USE COMPRESSED AIR**.

WARNING

NEVER use a blowtorch or weld directly onto or near CARC paint finishes. Remove CARC paint finish to bare metal (front and back) on all metal surfaces, 1" - 4" adjacent to the area, to be blowtorch cut or welded. **Thermal degradation of CARC paint may generate potentially hazardous decomposition compounds or lead and other heavy metal pigment fumes.**

WARNING

PPCIE must be worn during mixing or brush application of CARC paint. Industrial eye protection (i.e., glasses with side shields or goggles), work clothing, and gloves are required. Approved respiratory protection (respirator and HEPA/organic cartridge) must be worn.

NOTE

Read through entire procedure before beginning any work**.**

NOTE

All references to TMs are those listed in Table 2**.**

NOTE

Before beginning the modification, inventory the generator slide kit, the exhaust kit and the remaining materials list to ensure all components are present. When complete, confirm that all of the equipment listed is also present.

NOTE

All work will be performed at framed end (front, generator end) of the container.

Framed End of Container (FRONT) before Modification

Ladder Side of Container

Fuel Tank Side of Container

10a. Installation of Slide Kit, Exhaust Kit, and Supplemental Kit.

(1) Remove existing 10 kW MEP generator and fuel tank from framed end of container. Reference TM 55-8115-202-14, Change 4 or lower, Paragraph 4-68, Figure 4-15 and TM 55-8115-202-24P, Change 4 or lower, Figure 12. Some containers may have bolts anchoring the generator to the frame in rear.

Paragraph 4-68 from TM 55-8115-202-14.

1. DISCONNECT CABLE CONNECTORS AND STOW 30-FT. CABLE INSIDE REFRIGERATION UNIT.

2. DISCONNECT FUEL LINE BETWEEN AUXILIARY TANK AND ENGINE FUEL LINE CONNECTIONS, AND STOW FUEL LINE IN STORAGE BOX.

3. DISCONNECT EXHAUST LINE COUPLINGS.

4. REMOVE CAPSCREWS AND WASHERS, 1,2 & 3 IN FIGURE 12.

5. REMOVE GENERATOR SET USING FORKLIFT TRUCK ENGAGED IN FORK LIFT POCKETS IN SKID BASE.

6. DISCONNECT 5-FT. CABLE FROM GENERATOR SET AND STOW CABLE ON STORAGE BRACKET.

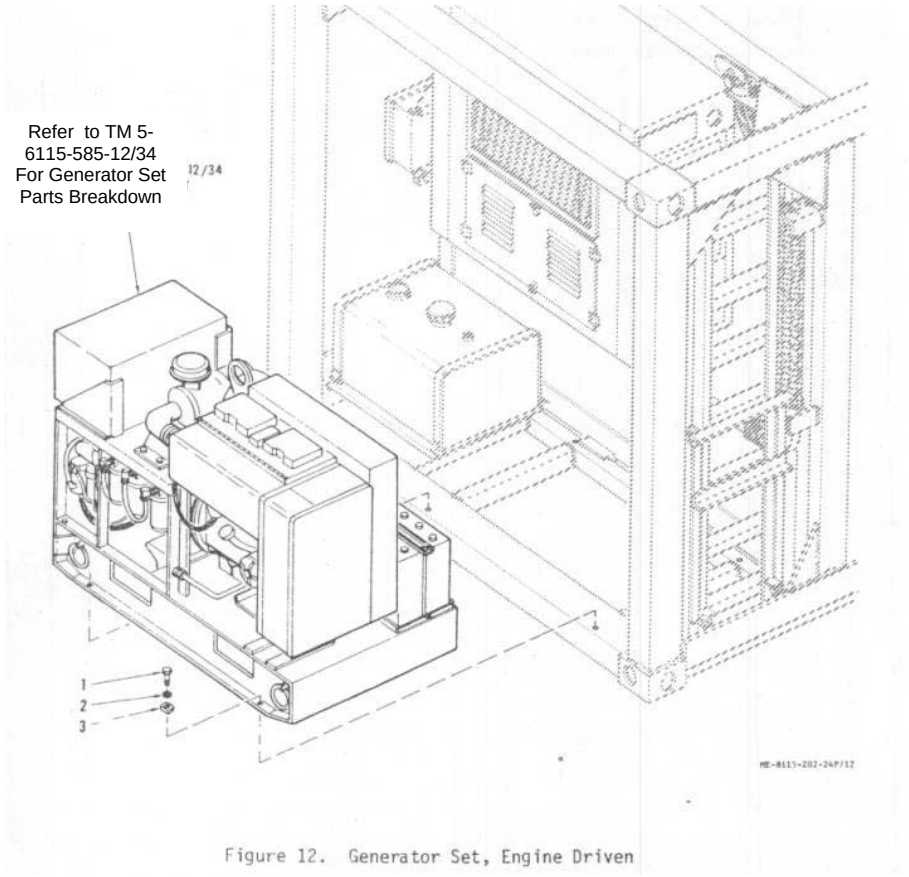


Figure 12 from TM 55-8115-202-14

(2) Cut, torch or grind off generator stop, front lip piece, from end of bottom horizontal frame member (Figure 1A and 1B). If you choose to use the torch, you must adhere to local Standard

Operating Procedures (SOPs) regarding CARC paint. (Also see CARC paint warnings at the beginning of Item *10a. Modification Procedures and 10b. Touch-up references for CARC Paint*.) It is possible to grind off only the welds and remove the lip, and then grind the leftover weld flush.

(3) Cut, torch or grind off generator stops flush with base. They are located on the horizontal bottom frame member at end wall (Figures 1A and 1B).

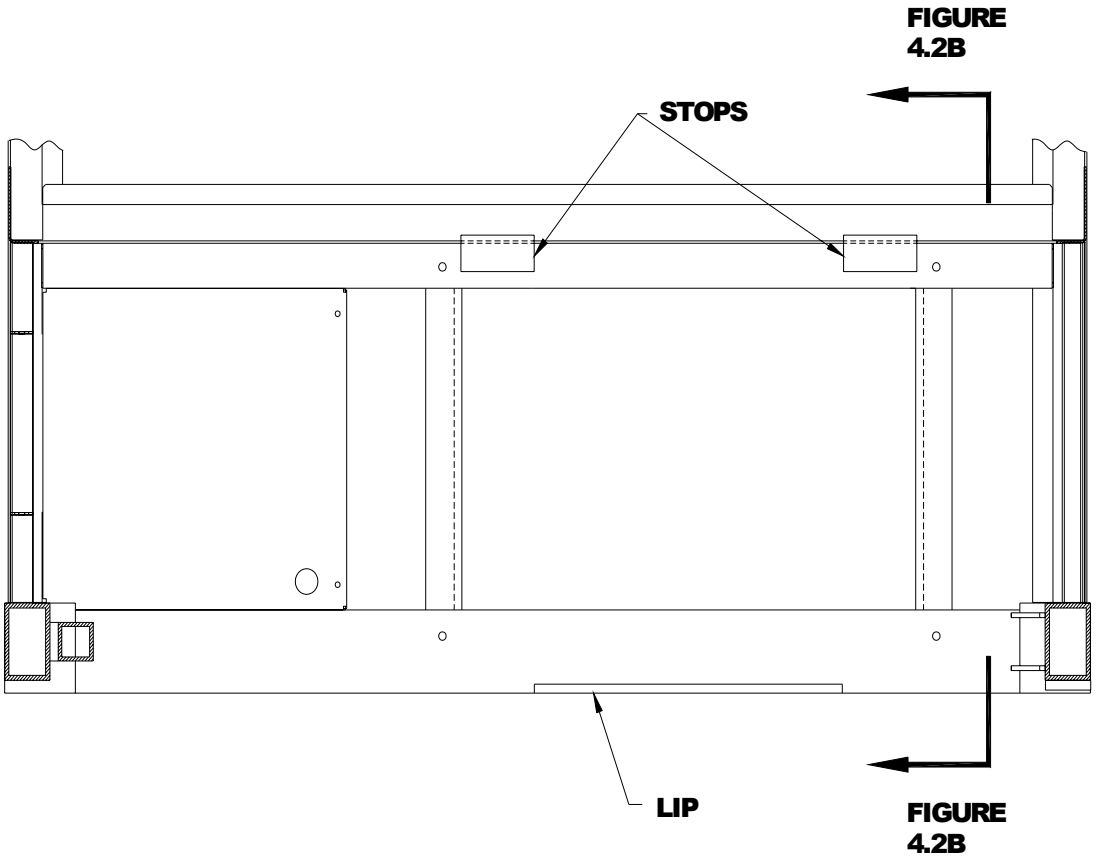


Figure 1A

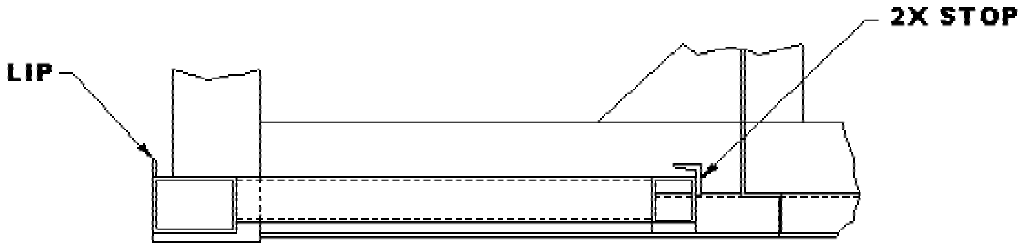
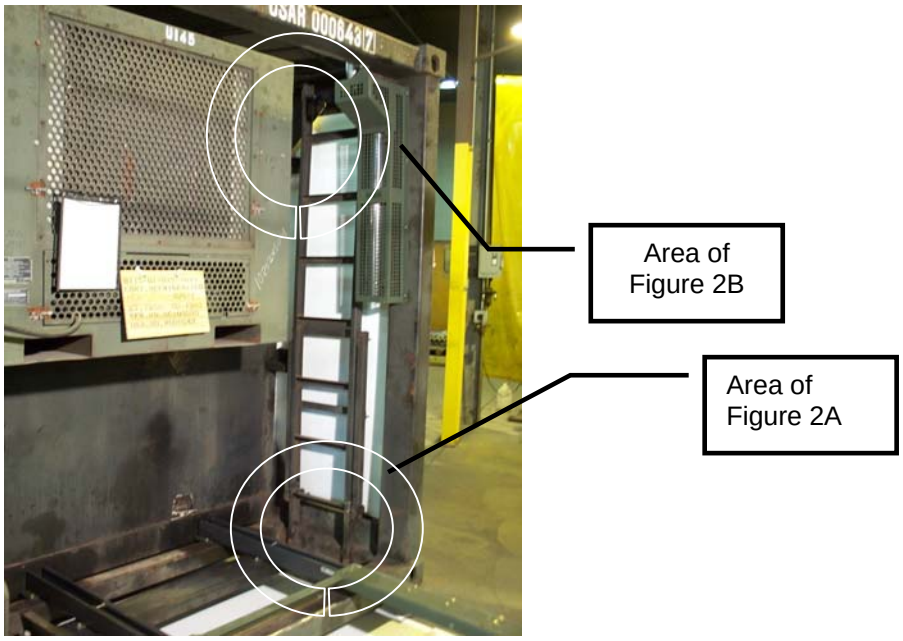


Figure 1B

NOTE

Follow established CARC paint removal procedures.

(4) Cut ladder straight across at bottom and at top bracket, at container frame. (Figure 2A, 2B and 2C).



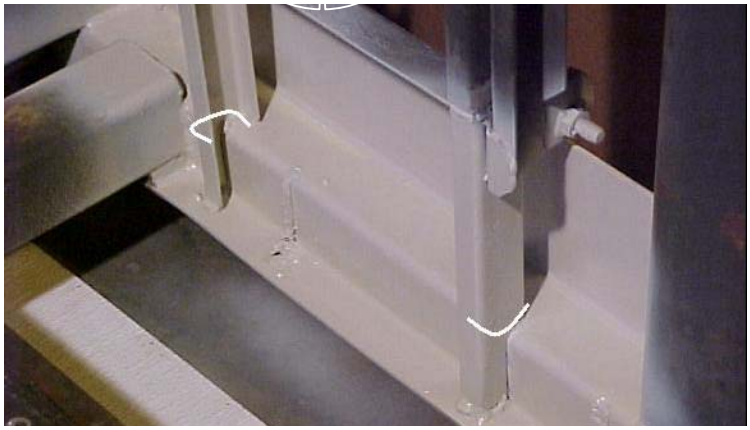


Figure 2A

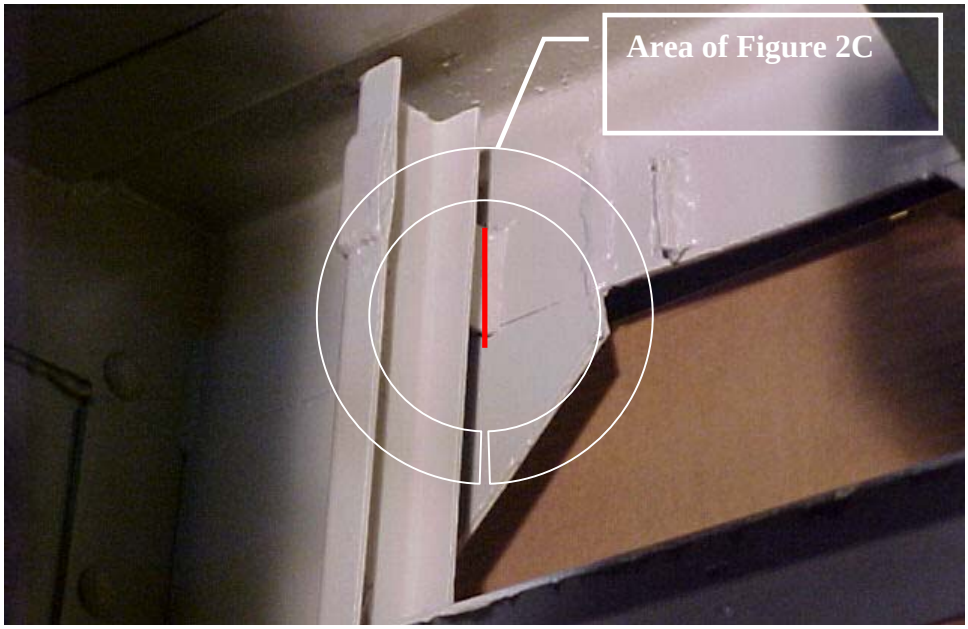


Figure 2B

Figure 2C
Cutting Ladder Bracket from Container Frame with Torch

WARNING
Removing bolts with a torch is a fire hazard.

(5) If present on container, remove two (2) or four (4) bolts protruding from wall of container under refrigeration unit, (Figure 3) with a reciprocating saw or other cutting device to within 1/4" of the container surface. Do not remove with a torch as this presents a fire hazard. To reduce possibility of damage to the container wall, use the existing washers as a spacer/wear plate between the wall and the saw blade. This will deter the saw blade from coming in contact with the wall panel surface during the sawing action. Leave cut-off bolts in container, and cover and seal with sealant listed in Table 4. After repair is complete, prime and paint with Items listed in Table 4 in accordance with MIL-C-53039.

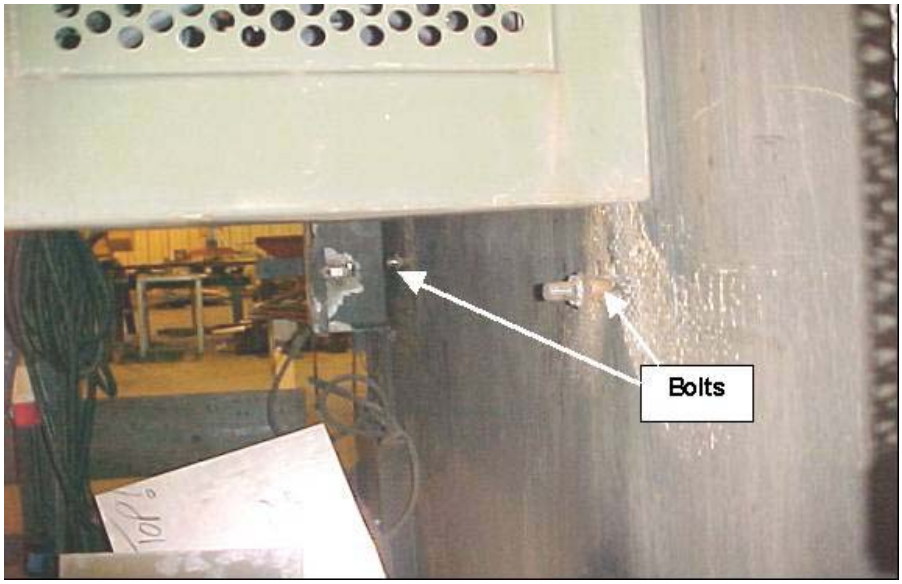


Figure 3

(6) Remove existing exhaust system (Figure 4) in accordance with TM 55-8115-202-14, Paragraph 4-60, Figure 4-13 and TM 55-8115-202-24P, Figure 8.

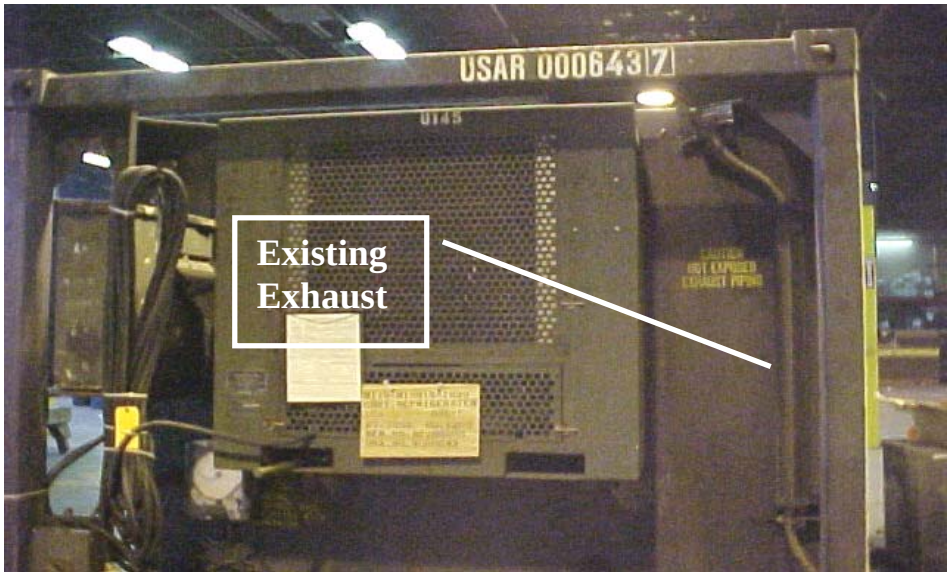
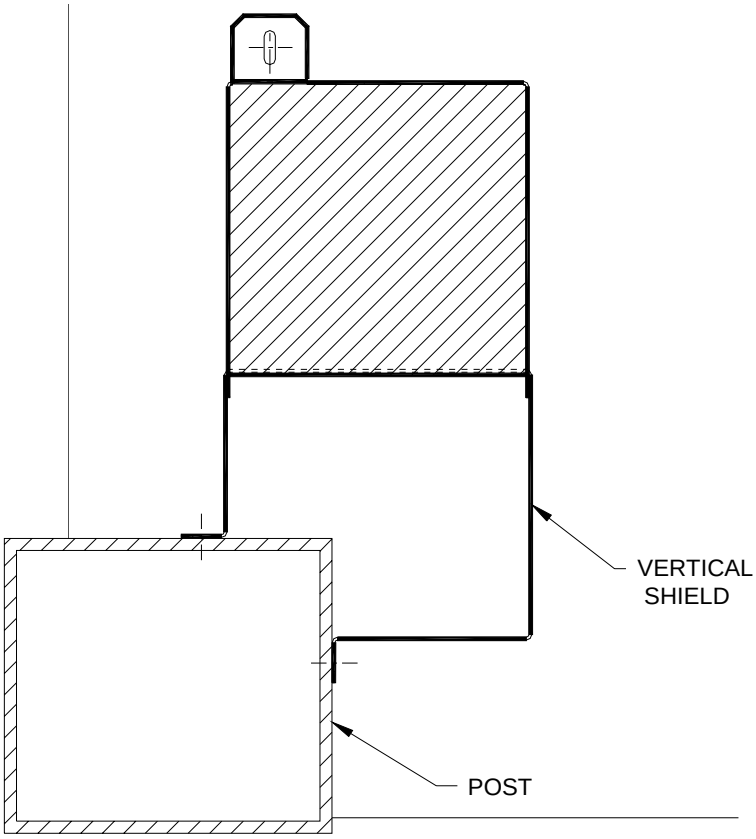


Figure 4

(7) Hold or secure the vertical shield (Item 2.6, part number 30741-100) onto the inside corner of vertical end post (Figure 5A and 5B) and use as a locator. Push shield up until its top mounting flange hits the underside of the top horizontal cross member. The corner gusset will be inside of the shield. Utilizing the existing shield holes as a template, mark eight (8) holes (Figure 5C) onto the vertical corner member and one (1) hole on the horizontal top member.

Figure 5A



Looking Down on Corner Post
Figure 5B

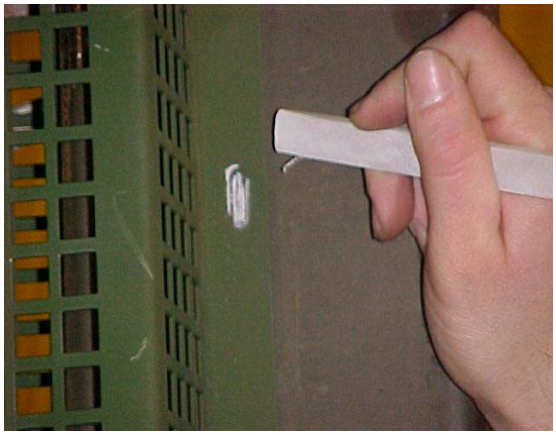
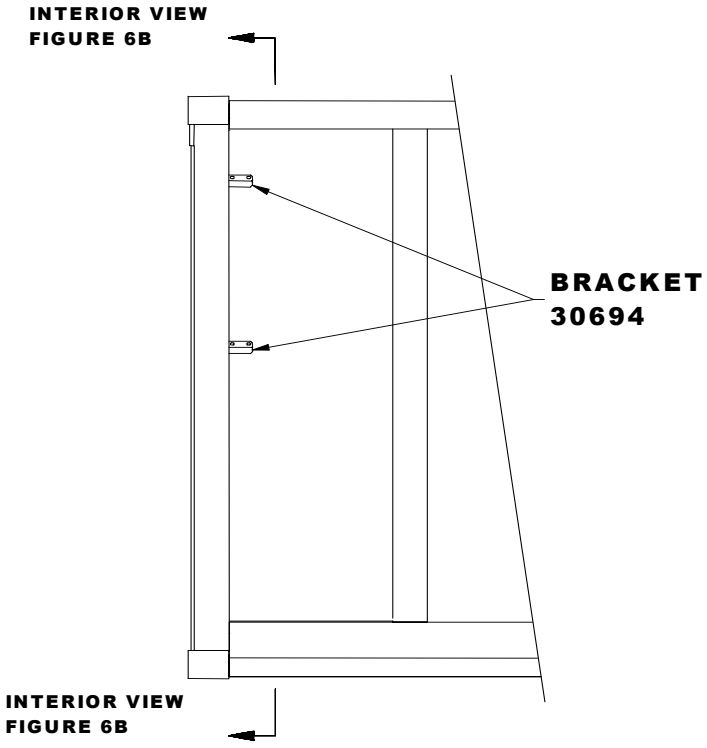


Figure 5C

(8) Drill and tap marked holes for guard using a size #22 (0.157" diameter) drill bit and a #10-24 UNC tap.

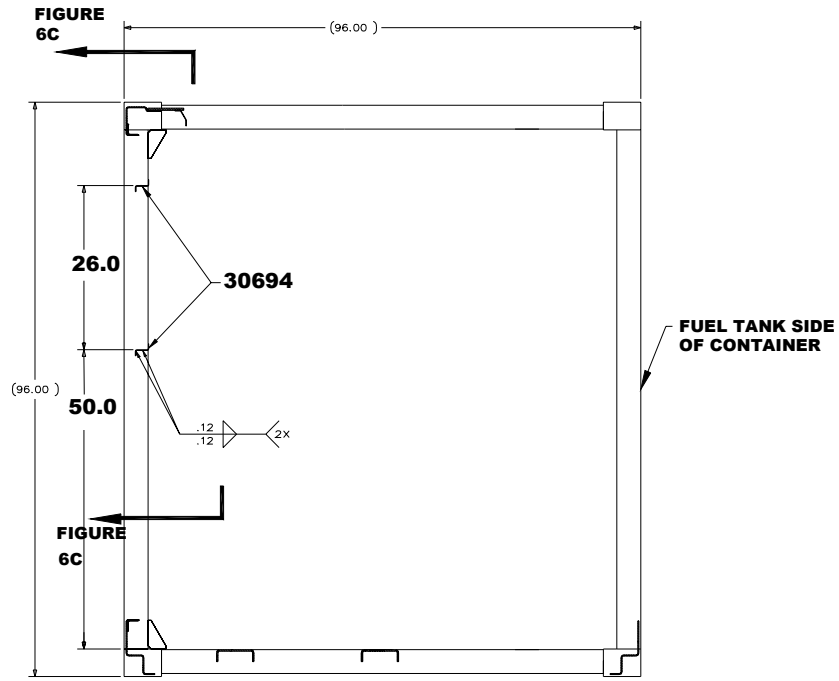
(8A) As an alternate, a 5/32" diameter rivet with a 1/4" grip range may be used in place of the screws, and tapping is then not necessary. Rivets are not supplied with the kit.

(9) Weld two (2) brackets (Item 3.6, P/N 30694) to upright corner post on ladder side of container, 50 inches from inside bottom and 26 inches from bracket to bracket (Figure 6A, 6B, 6C, 6D and 6E). **Mark the bracket locations and remove paint so that there is no paint within one inch of the areas to be welded.**



Ladder Side of Container Exterior View

Figure 6A



Interior View
Figure 6B

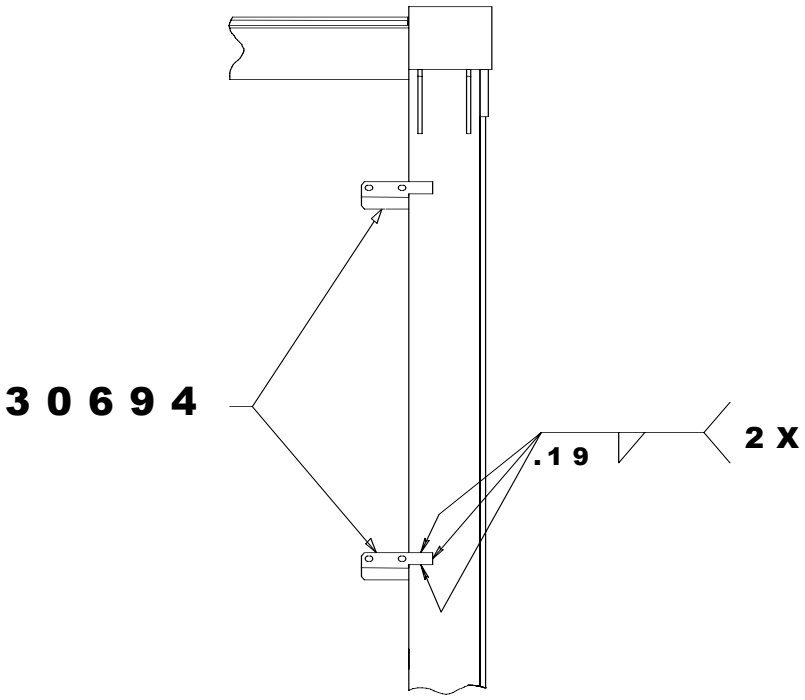


Figure 6C

Figure 6D

Figure 6E

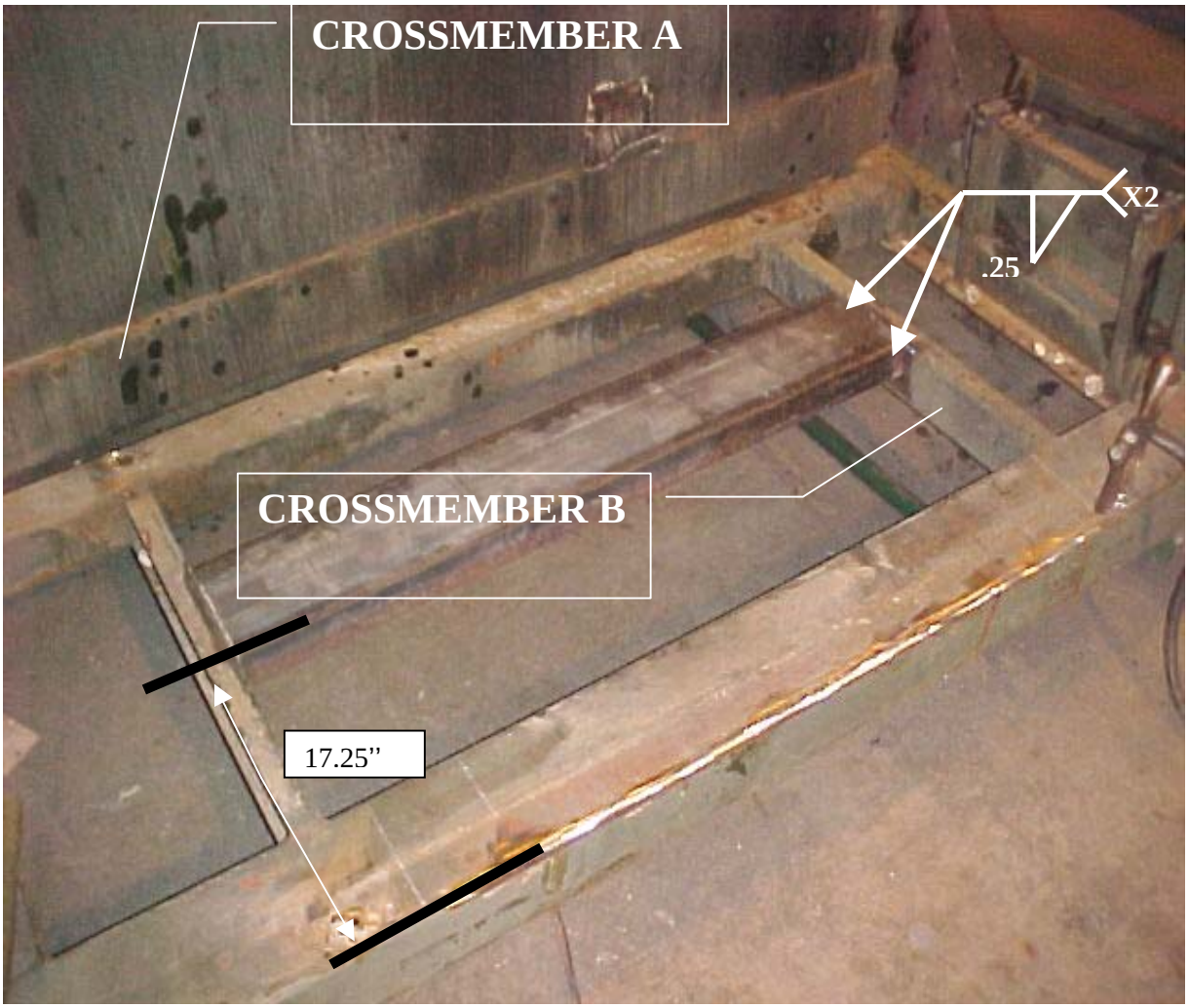


Figure 7A

(10) Prepare the C-Channel (item 3.4) by grinding a chamfer (remove sharp edge) on the outside edges of each end of the channel to create an approximately 1/8" chamfer. Locate the channel between cross members A&B as shown on Figure 7A.

(11) Using a long straight bar (item 3.11), ensure that channel is level with front and rear mounting structures (Figure 7B). **Remove paint so that there is no paint within one inch of the areas to be welded.** Clamp and weld the 4-inch channel (opening of channel facing downward) as shown with a 1/4" fillet weld, 17.25" from end of container to start of channel (Figure 7A). Next, if the holes are small enough (less than 1.5 inch diameter) weld shut (fill) the four (4) holes left in the frame at which the original generator was mounted or cover the holes by welding the four (4) 2" X 2" pieces of steel, Item 3.5, over the holes. Weld to create a watertight covering.

Figure 7B

(12) Measure and mark the four most outer hole locations for rivet nuts in the base of the frame in accordance with Figure 8A and 8B. It is important that the procedures for drilling the holes and alignment of the slide assembly be followed closely in order for the slide to operate properly and for the horizontal exhaust pipe on the generator to line up with the vertical exhaust pipe on the container.

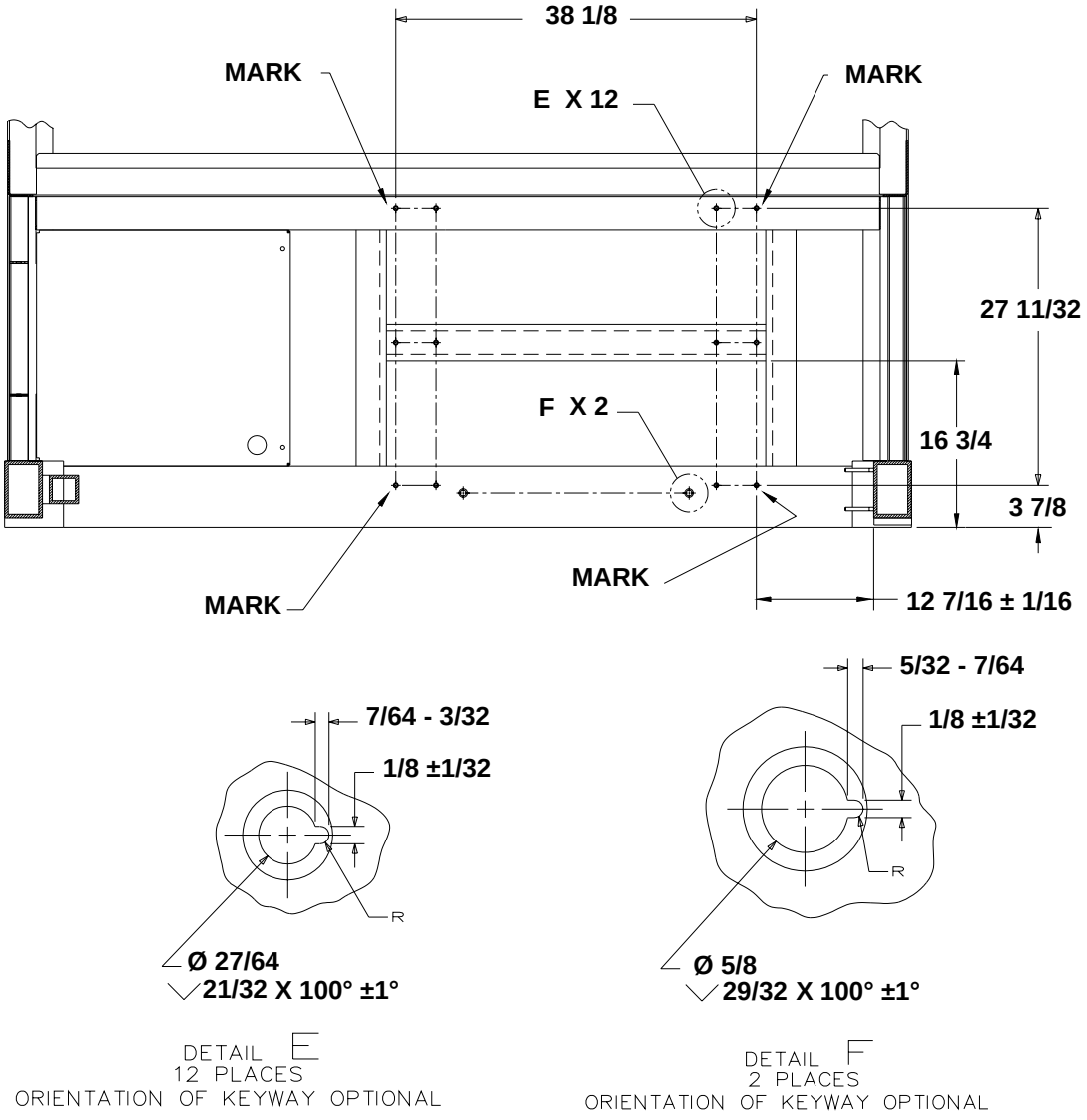

38 1/8
MARK
MARK
E X 12
27 11/32
F X 2
16 3/4
3 7/8
MARK
MARK
12 7/16 ± 1/16
7/64 - 3/32
1/8 ±1/32
R
Ø 27/64
21/32 X 100° ±1°
DETAIL E
12 PLACES
ORIENTATION OF KEYWAY OPTIONAL
5/32 - 7/64
1/8 ±1/32
R
Ø 5/8
29/32 X 100° ±1°
DETAIL F
2 PLACES
ORIENTATION OF KEYWAY OPTIONAL

Figure 8A

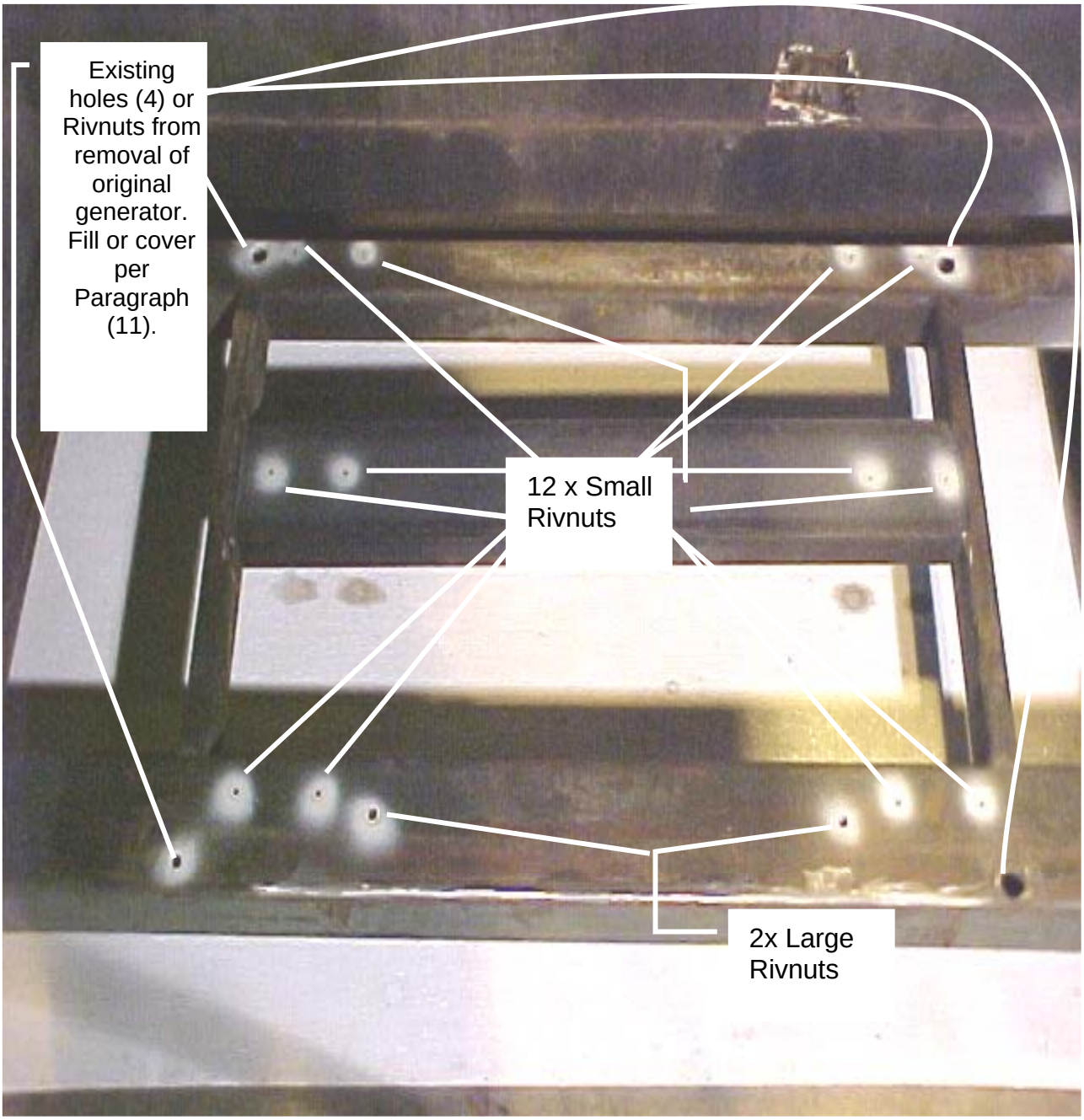

Existing holes (4) or Rivnuts from removal of original generator. Fill or cover per Paragraph (11).
12 x Small Rivnuts
2x Large Rivnuts

Figure 8B

(13) Attach slide mounts, 30670-1 (Item 1.7) and 30670-2 (Item 3.1), to the bottom of the slide, CD5601-00-0320, using screws MS35190-287 (Figure 9 and Figure 10). The bottom of the slide has six (6) holes and the top has ten (10) holes. The slide has a locking bar protruding out of its front. The larger mount is to be attached on the rear of the slide in a position so that it does not extend beyond the slide end. See Figure 11.

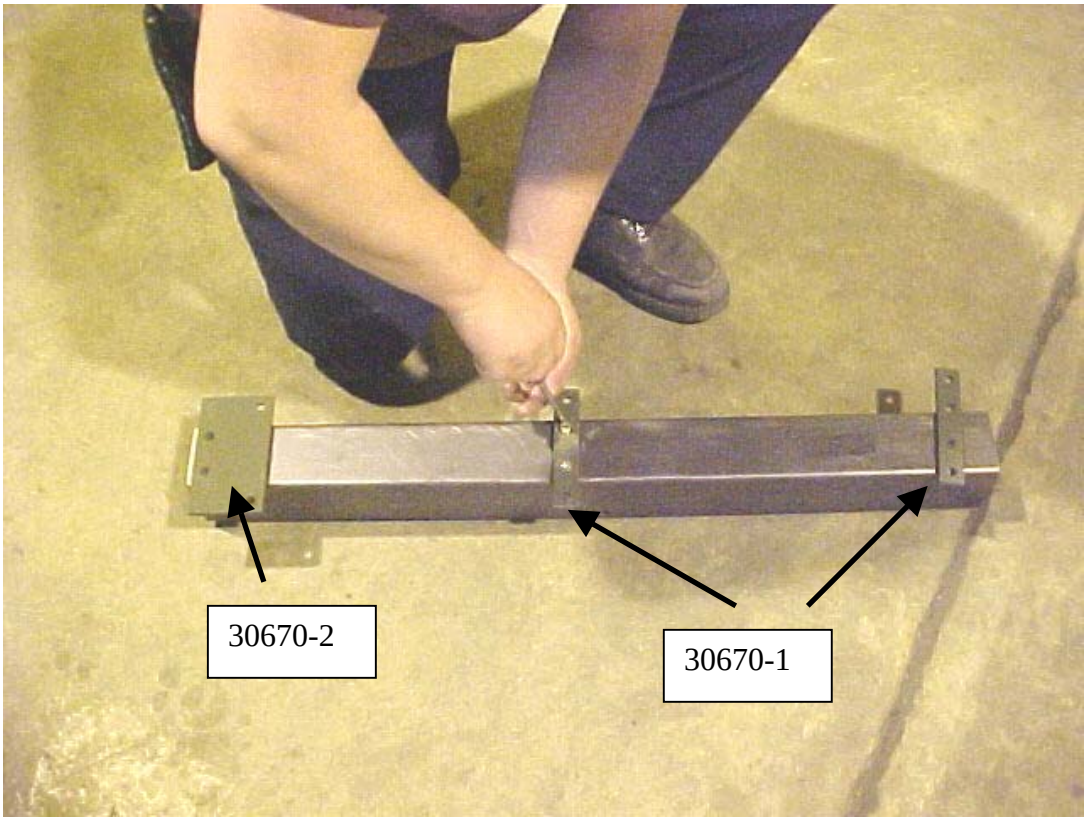
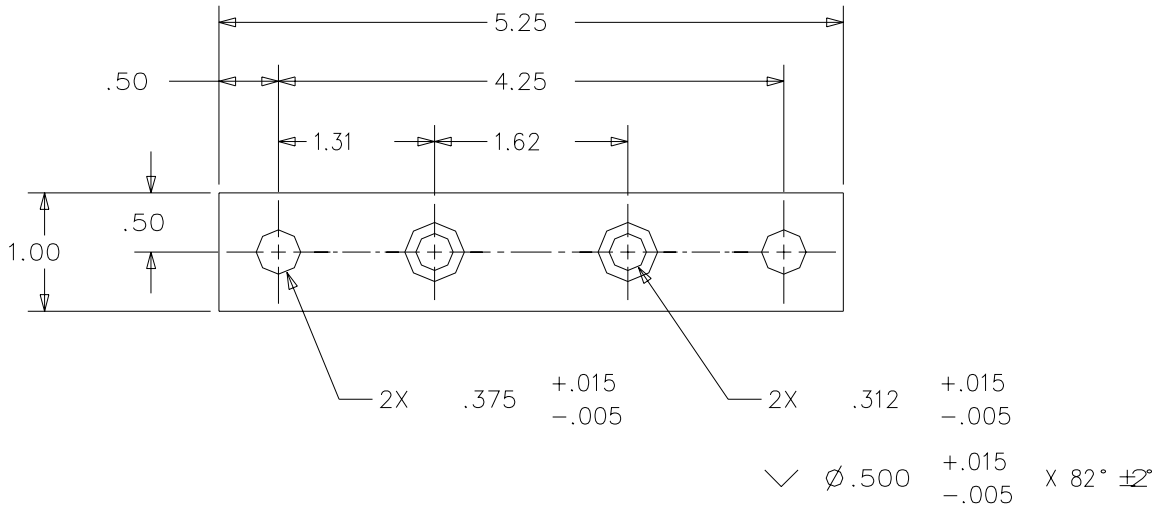
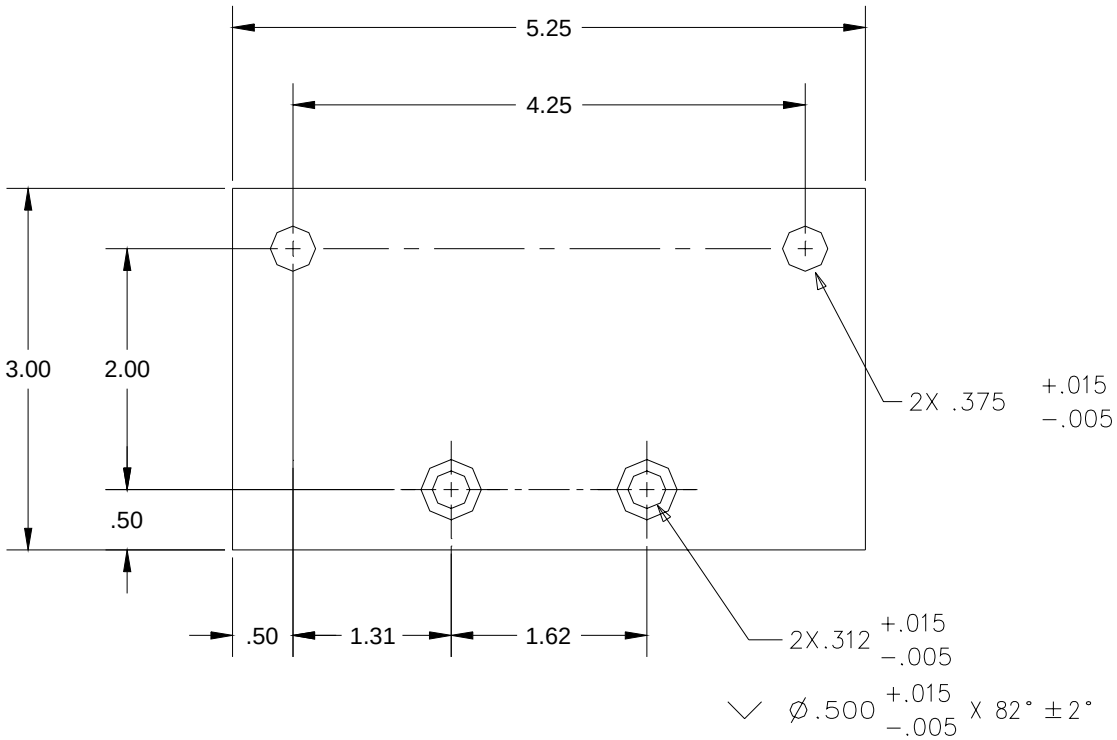


Figure 9



30670-1



30670-2

Figure 10

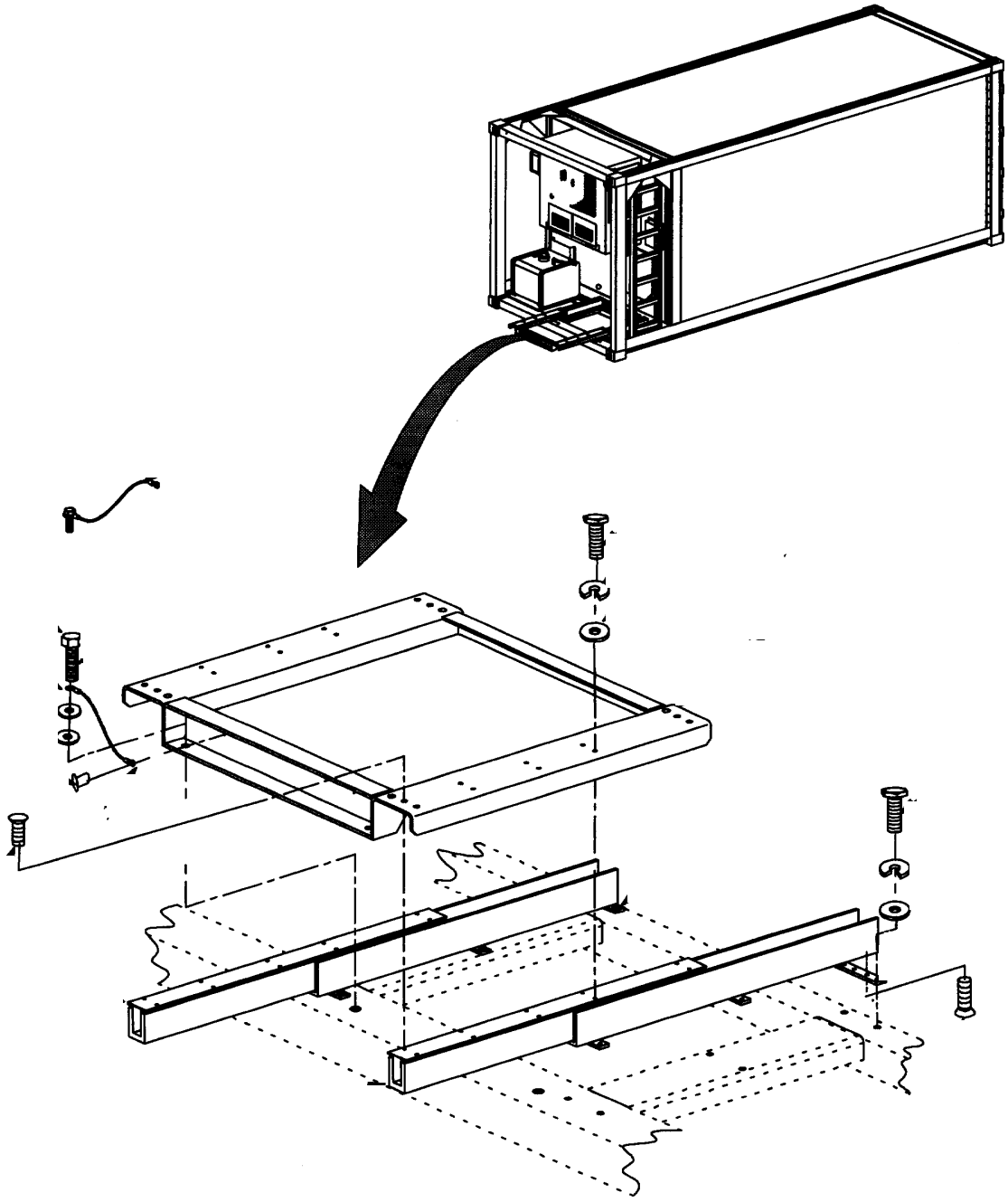


Figure 11. Generator Slides Removal and Installation.

(14) Prior to installing the generator mount to the slides, extend the slides and spray-on Corrosion Preventive Compound, NSN 8030-00-938-1947, MIL-C-81309D, Type II, Class 2 or equivalent. Attach generator mount 30669-100 to slides using 8 countersunk screws, MS35190-287, at the four corners and 12 screws (MS90725-5), 12 washers (MS27183-10), and 12 lock washers (MS35338-44). The front of the slides should be located on the end of the mount with the substructure having holes for locking bolts.

NOTE

Be advised that it is critical to follow the instructions and measurements exactly in order to enable the proper alignment of the roller slides and generator mount assembly. Failure to do so may result in significant rivnut misalignment and the inability of the generator to be properly stowed, due to tight clearance/tolerance requirements.

(15) Lay generator mount assembly in position on container and line up outside holes of slide brackets with marks that were made in Paragraph (12) (Figure 12). (Assembling generator mount to slides ensures proper alignment.) The front of the body of the slides (not the protruding locking tab) should be 2 inches from the front edge of the container frame, but be sure that the holes are 12 7/16” from the inside edge of the frame upright (as shown in Figure 8A).

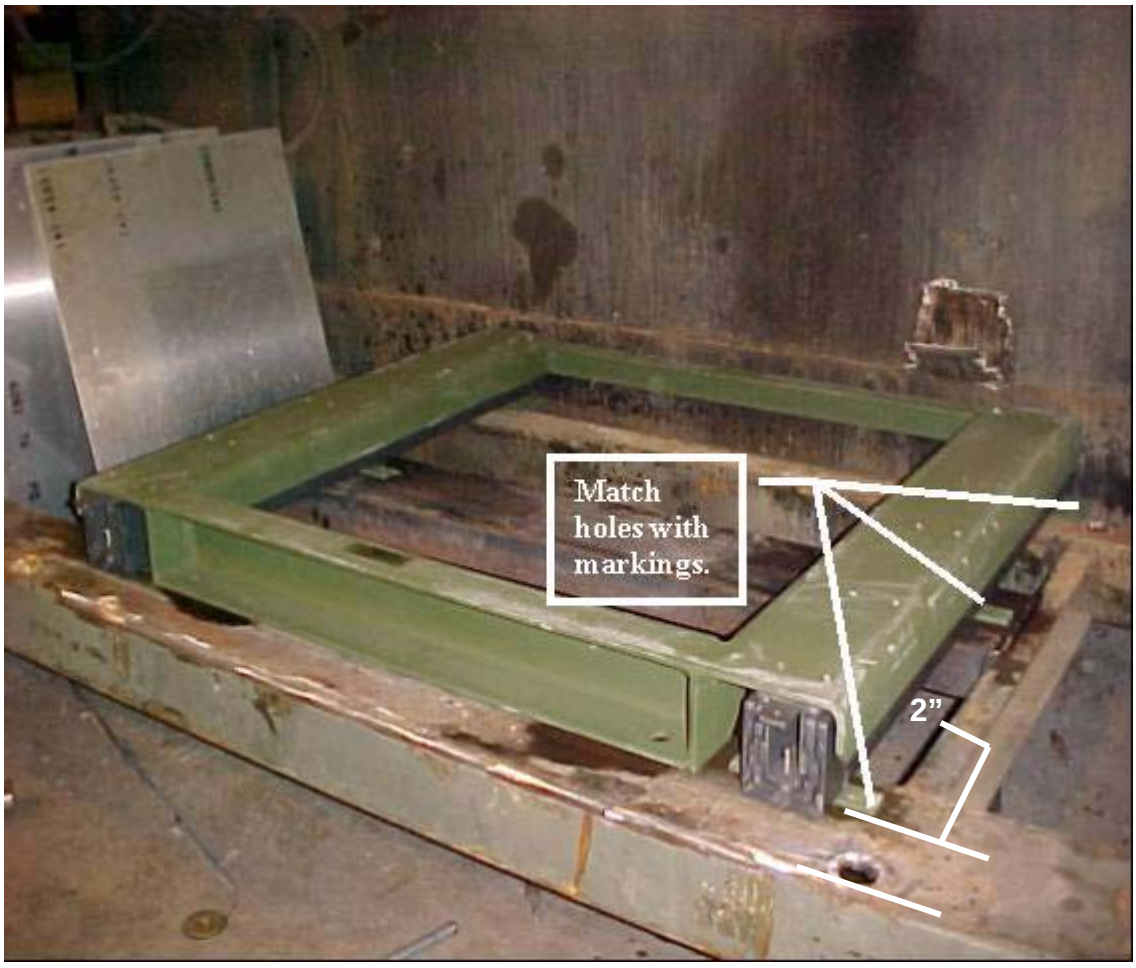


Figure 12

(16) Secure the mount assembly in place with clamps (Figure 13A) and locate the six (6) outside holes by using a center punch or a 9/32" bit. Drill only into metal enough to mark/start hole (Figure 13B). Also, two (2) holes will be found in the front open cavity of the mount. Push the mount fully inward so that slides lock and mark these two hole locations onto the container base. These are holes for the rivet nuts into which the mount locking bolts will fasten during travel.

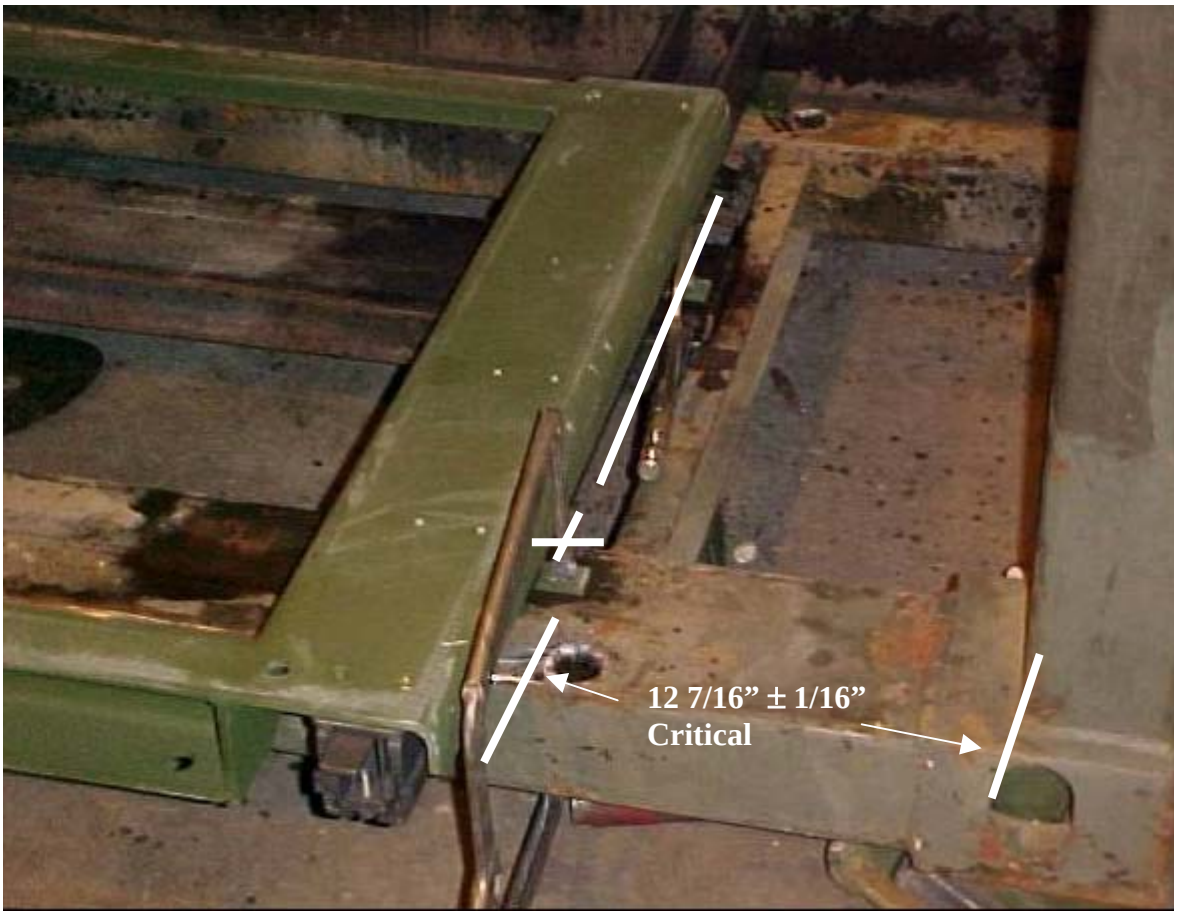


Figure 13A above (slide partially pulled out) and 13B (next page)

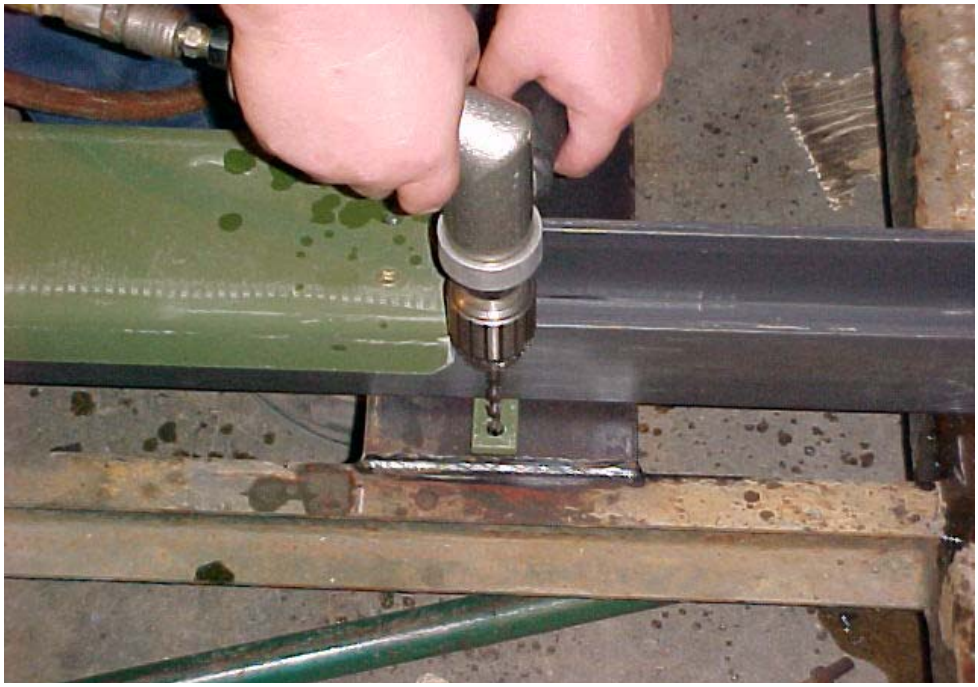


Figure 13B

(17) Remove generator mount and slide assembly and finish drilling six (6) holes with the 9/32" bit.

(18) To align the generator mount and slide assembly for the remaining holes, put bolts through slide brackets in the six (6) holes already drilled. Depress the protruding locking bars on the front of the slides and pull out the generator mount to expose the mount brackets. Utilizing the mount bracket holes as a template, locate and mark the six (6) inside holes (Figure 14) by drilling with a bit that fits inside of the template holes with little contact.

Figure 14

(19) Drill 12 holes to size using a bit diameter of 27/64” (mounting screw holes) and 2 holes using a bit diameter of 5/8” (locking bolt holes). After drilling--using the 100°, 1” diameter countersink drill bit--countersink each hole per details E and F of Figure 8A. Use a small file, chisel, jigsaw or rotary tool to create a notch for the keyway shown in each hole also per details E and F of Figure 8A.

(20) Install twelve (12) blind rivet nuts, S31K331 (Item 3.2) for the slide mounting, and two (2) S50K326 (Item 3.3) for the generator locking bolts in holes created (Figure 8B).

(21) Clean the newly added exhaust pipe brackets, crosspiece and any area that was grinded upon, using alcohol or other solvent. Prime and paint these new Items IAW MIL-C-53039 using paint and primer, listed in Table 4.

(22) Install slide mount assembly, using twelve (12) each of screws MS90725-37 (Item 1.14), washer MS27183-12 (Item 1.1) and lock washer MS35338-45 (Item 1.4) (Figure 15).

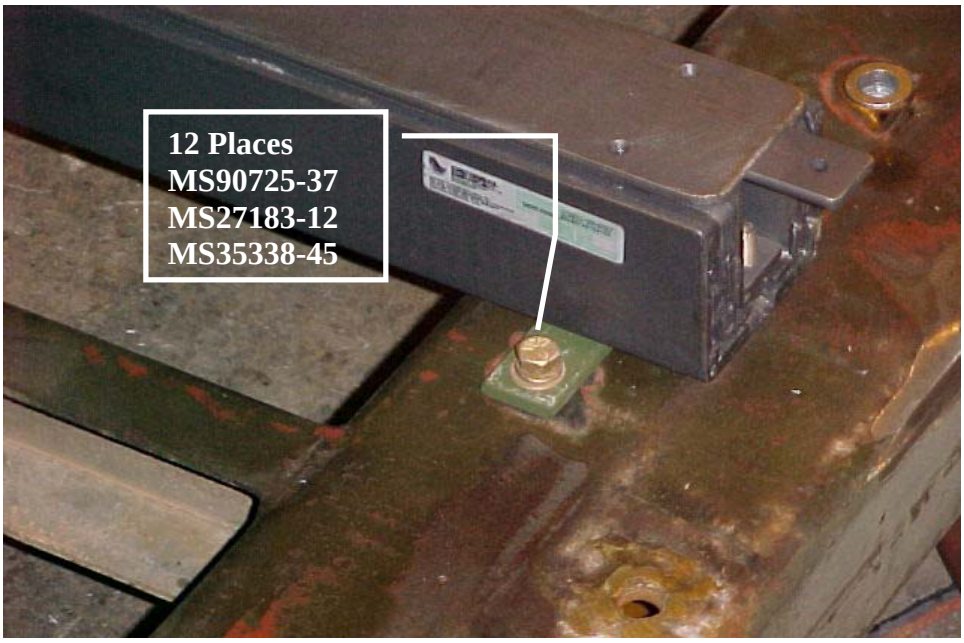


Figure 15

(23) Remove the exhaust flap from 10kW TQG generator with a 5/16” socket & drive, or wrench as shown in Figure 17A and thread on exhaust pipe as shown in Figure 17B. Replace exhaust flap after pipe installed. Reference TM 55-8115-202-14, change 5, Paragraph 4-69, Figure 4-16.

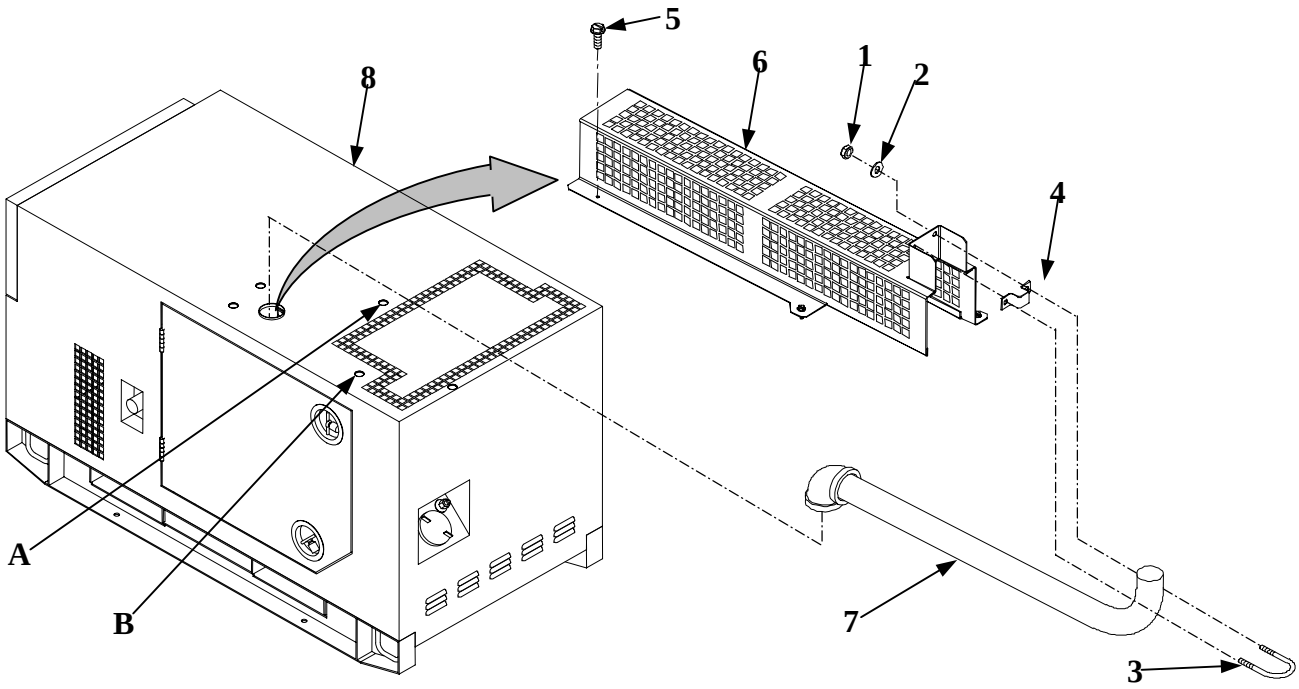


Figure 16. Generator Set Exhaust Exhaust Removal/Installation

Figure 17A

Figure 17B

(24) Locate exhaust horizontal shield (30711-100) from exhaust kit. Set on top of generator so as to cover exhaust pipe. Locate two (2) screws in top of generator as shown in Figure 18A and 18B. Remove the shield and two screws located on generator. These screws have nuts on the inside of the generator on the other side of the sheet metal, therefore the access panel on the side below the exhaust will need to be opened to access the nuts. Save these nuts and bolts for use in Paragraph (25).

Figure 18A

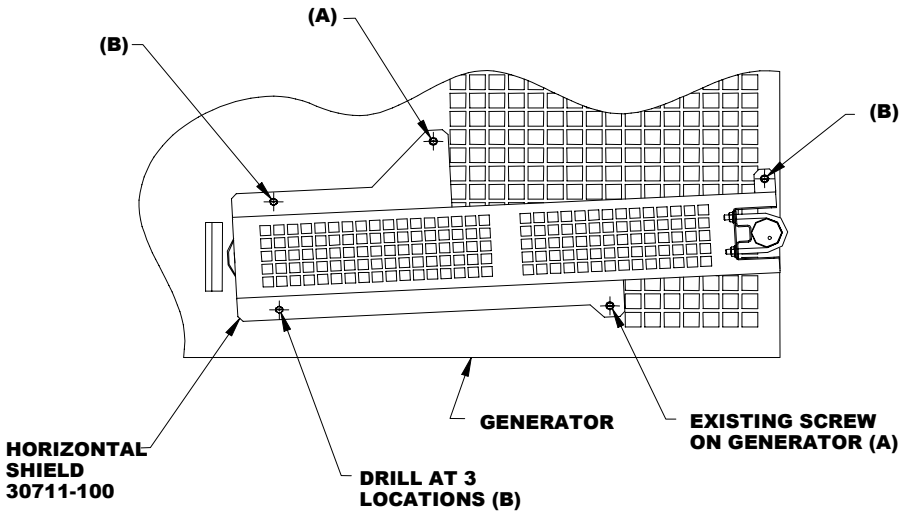


Figure 18B

(25) Install horizontal shield, PN 30711-100, using two (2) screws and nuts removed in Paragraph 24. Using shield as a template, drill 1/8" holes at three (3) other attachment points of shield. Install self-tapping screws, Item 2.8, in three (3) locations (Figure 19A). Affix exhaust pipe outlet to shield using U-bolt, 3043T18, lock washer MS35338-44, and spacer, 30747-1 (Figure 19B).

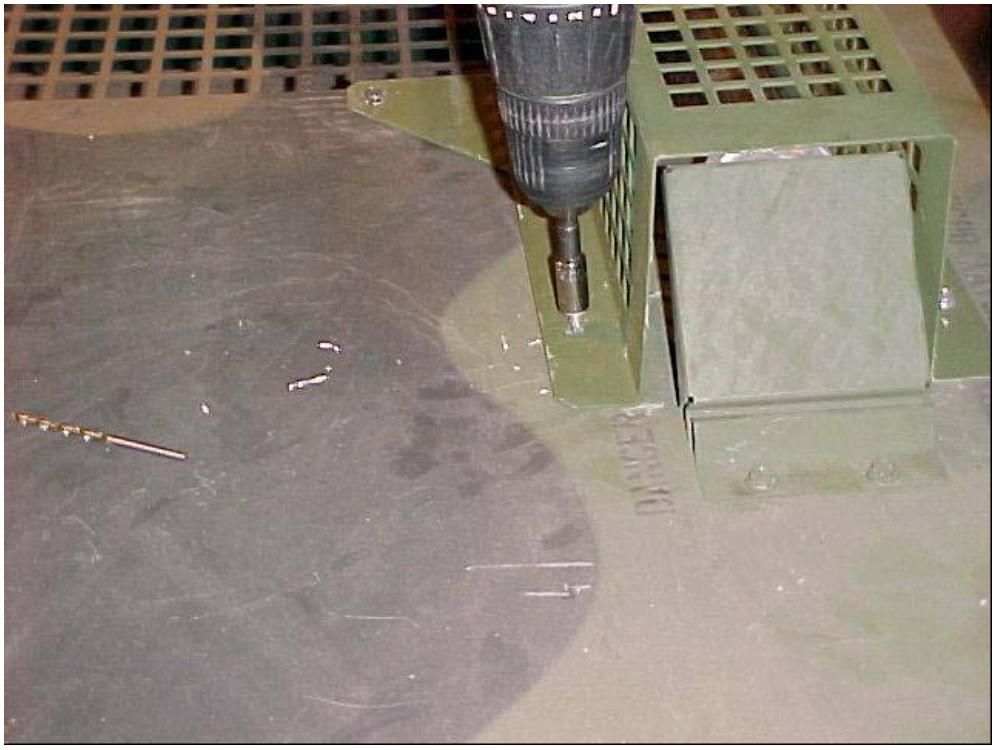


Figure 19A

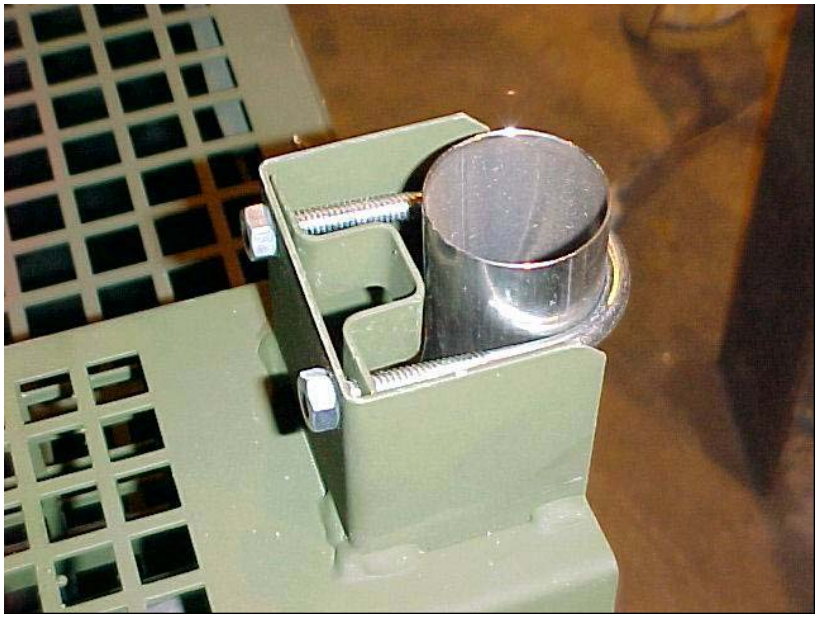


Figure 19B

(26) Install generator on mount (Figure 20). Be sure that the fuel tank end of the generator is on ladder side of the container and control panel end of the generator is on the auxiliary fuel tank side of the container. Using a forklift truck, position generator set (1) on frame slide rails (2). Align mount holes in generator set with mounting holes in generator set slide. Secure at four places with cap screw MS90725-113, hex nut MS51967-14, lock washer MS35338-48 and a flat washer, MS27183-18 on each side of the generator mounting hole. Reference TM 55-8115-202-14, Change 5, Paragraph 4-69, Figure 4-17.

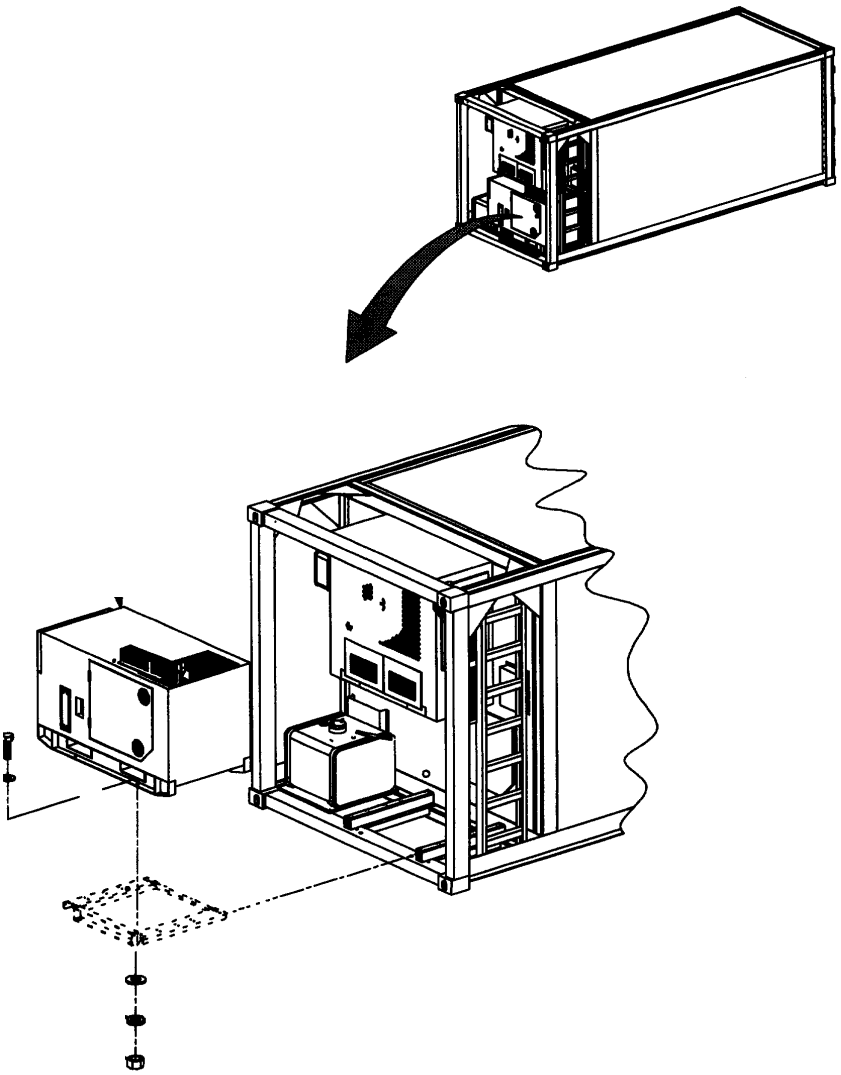


Figure 20. Generator Set Installation.

(27) Install locking bolts, 30695-100, to generator mount using attaching rivets, M24243/6A-606H (Figure 21). Reference TM 55-8115-202-14, Paragraph 4-73, Figure 4-18.

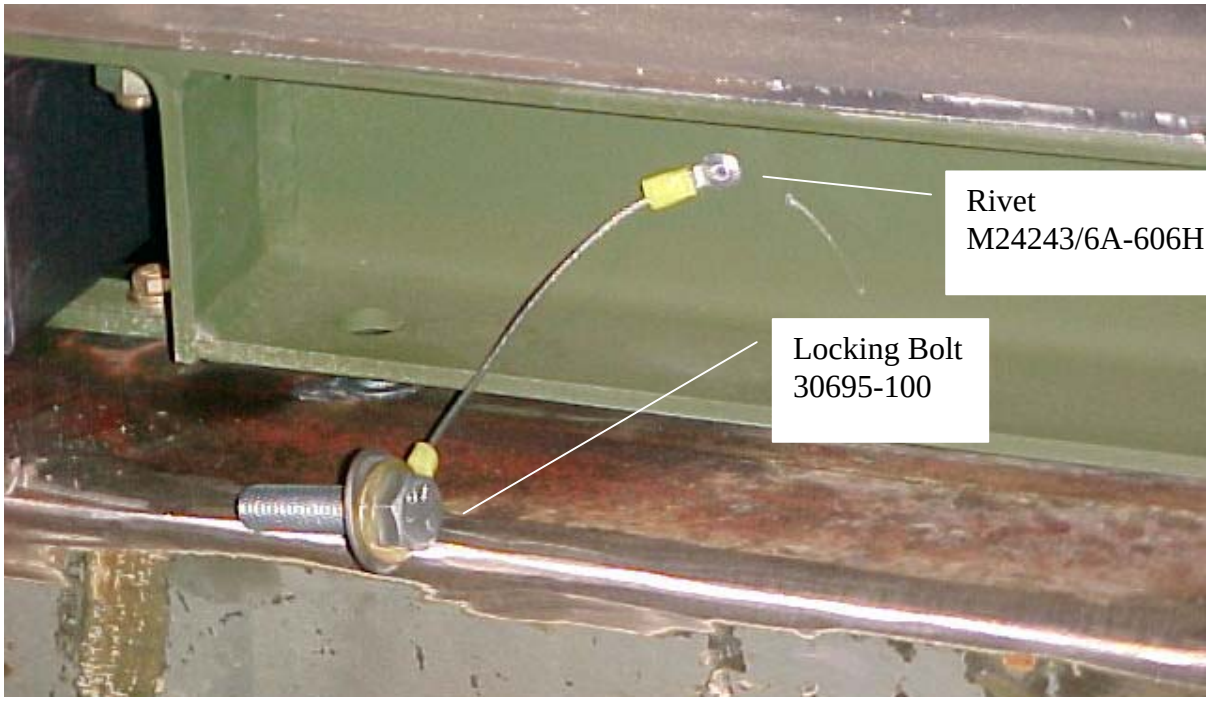


Figure 21

(28) Install rain cap (P/N 22-250) over short leg of large exhaust pipe end (Figure 22). Reference TM 55-8115-202-14, Paragraph 4-61f, Figure 4-13.

Figure 22

(29) Install the vertical exhaust pipe, Item 2.9, using U-bolts, 3043T32, through brackets welded to upright in Figure 4.7. (Figure 23A & 23B). Reference TM 55-8115-202-14, Paragraph 4-61, Figure 4-13, to better align and center the vertical exhaust pipe over the end of the horizontal exhaust pipe on the generator, it may be necessary to add shim spacers to the lower U-bolt, between the exhaust pipe and the exhaust bracket. The extra slide mount brackets, Item 1.6, may be used as a spacer. The holes in the bracket may be opened to facilitate a good fit. If shop lock washers can be found, it is recommended they be added to the U-bolt attachment.

The vertical exhaust stack, upper (attached to the container) and horizontal (from TQG), should be aligned concentrically, meaning the center of the upper vertical tube should be centered to the horizontal exhaust tube to prevent water from running down the top tube and into the lower exhaust tube. For example, the upper exhaust should extend beyond the horizontal TQG exhaust port along the entire circumference. The horizontal TQG stack shall not extend outside of the area, in which the upper stack covers. If it does, the potential for rainwater to enter the generator exists. Slight adjustments can be made on the TQG exhaust and the vertical stack tube to better align the two if there seems to be a misalignment. The gap between the bottom of the vertical exhaust stack tube and the top of the generator exhaust tube should be no more than 1/4 inch.

Figure 23A

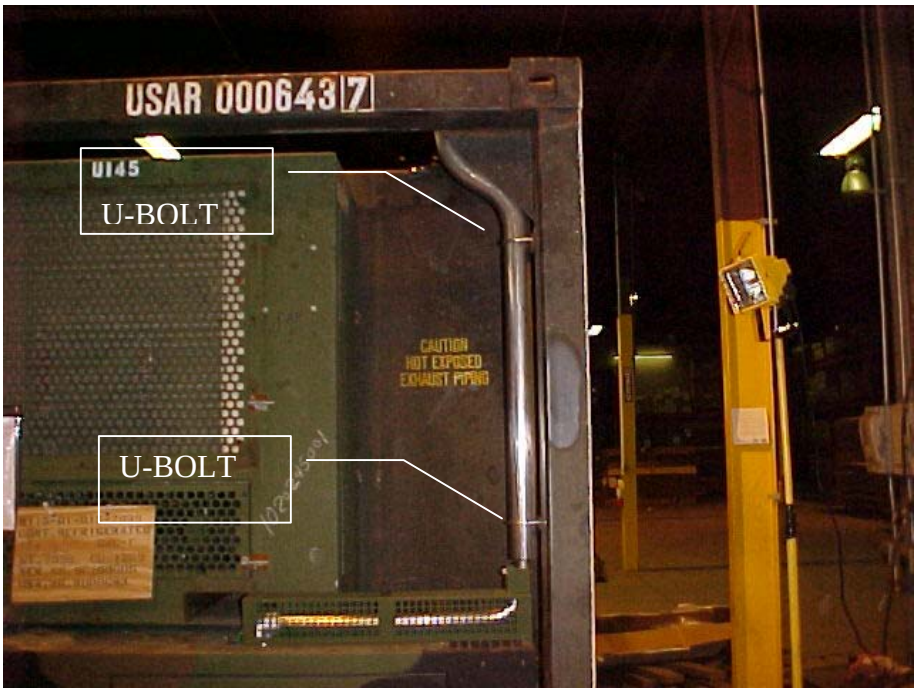


Figure 23B

(30) Install shield around large exhaust pipe using nine (9) each screw, MS35206-265, washer, MS27183-42, lock washer, MS35338-43 and anti-seize compound, Item 2.13 and 3.8. (Figure 24) Reference TM 55-8115-202-14, Paragraph 4-61, and Figure 4-13.

Figure 24

(31) Pull generator out on slides and locate plate, ladder, Item 3.10, (120K1917) overtop of stubs left when ladder was removed. This bar should span the pieces left from the ladder when cut in Paragraph (4) and should be flush with the front of the stubs. Weld bar in place per Figure 25A. Place the ladder onto the bar, 6" from the upright corner post, and line up with the edge of bar so that no part of the ladder protrudes beyond the container frame (Figure 25B).

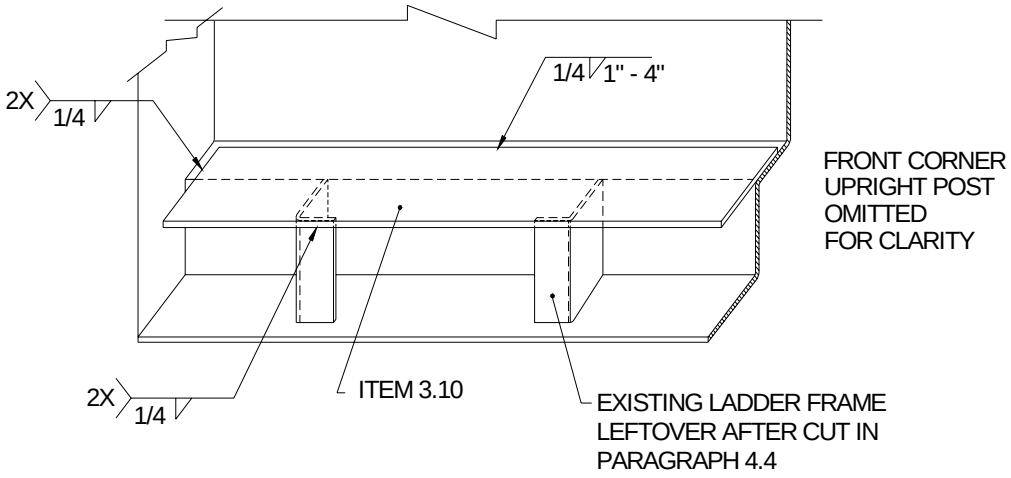


Figure 25A

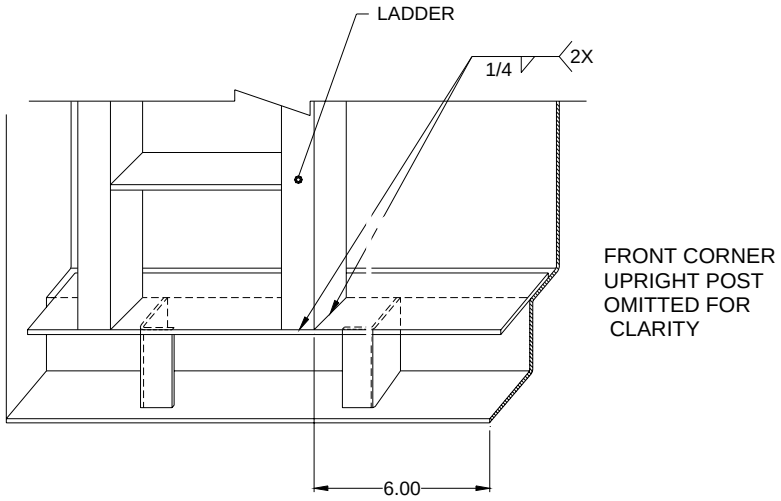


Figure 25B

(32) Re-weld ladder onto container with 1/4 inch welds at intersection of ladder and container framing.

(33) Clean and paint the areas of weld in accordance with Items IAW MIL-C-53039 using paint and primer, listed in Table 4.

(34) Replace auxiliary fuel tank.

(35) To perform the functional check, it will be necessary to pull the generator out on the slides. Open the door of the generator and remove the manual TM 9-6115-642-10. Read the manual to understand starting and operating.

b. Touch--up references for CARC Paint

(1) Before applying CARC paint, please consult one or more of the following references:

Technical Guide, TG 144, Guidelines for Controlling Health Hazards in Painting Operations. This can be located at http://chppm-www.apgea.army.mil/imo/ddb/dmd/DMD/TGs.htm .

TVT 3--40 (PIN 708415) explains how to spot paint with CARC. The film can be ordered from the Joint Visual Information Services Activity. Call DSN 795--7937 for ordering information.

TM-43-0139, *Painting Instructions for Army Materiel*

TB 43-0242, *CARC Spot Painting*

11. CALIBRATION REQUIRED. N/A.

12. WEIGHT AND BALANCE DATA. N/A.

13. QUALITY ASSURANCE REQUIREMENTS. Inspection of the completed MWO application for complete compliance with the technical requirements of the instructions will be accomplished by qualified personnel.

14. RECORDING AND REPORTING OF THE MODIFICATION RECORDS AND REPORT FORMS.

a. Records and reports. The organization responsible for MWO application will report application information as follows:

MWO application information can be input directly into the Modification Management Information System (MMIS) over the Internet. Entry into the MMIS system is password protected. New users can register on-line at https://www.mmis.army.mil/mwo/ . Passwords are normally approved and issued within 48 hours.

Elements 1, 2, 4, 6 and 9 are given for this MWO (as shown). The person reporting the MWO data will acquire the remaining data elements and input all nine into MMIS.

No.	Data Element	Input Data
1	Material Change Number	1-00-08-004
2	MWO Number	55-8115-202-40-1
3	Unit Identification Number	
4	NSN of End Item	8115-01-016-5909
5	Serial Number	
6	Registration Number	N/A
7	Date of Application	
8	Hours Required for Application	
9	Software Version	N/A

15. MATERIEL CHANGE (MC) NUMBER:

This MWO is authorized by MC Number 1-00-08-004.

16. MODIFICATION IDENTIFICATION: This modification can be identified by the ability to easily move the 10kW Tactical Quiet Generator (TQG) approximately 3 feet away from the container by depressing the releases located under the TQG (See TM 55-8115-202-14 for this operation). Other identification means include the presence of a vertical and horizontal exhaust shield around the exhaust stack/pipe assembly coming from the TQG.

By Order of the Secretary of the Army:

By Order of the Secretary of the Army:

PETER J. SCHOOMAKER
General, United States Army
Chief of Staff

Official:

JOEL B. HUDSON
Administrative Assistant to the Secretary of the Army

0323001

Distribution: To be distributed in accordance with initial distribution number (IDN) 250497 requirements for MWO 55-8115-202-40-1.

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These are the instructions for sending an electronic 2028

The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however only the following fields are mandatory: 1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17, and 27.

From: "Whomever" <whomever@avma27.army.mil>
To: amssbriml@natick.army.mil

Subject: DA Form 2028

1. ***From:*** Joe Smith
2. *Unit:* home
3. ***Address:*** 4300 Park
4. ***City:*** Hometown
5. ***St:*** MO
6. ***Zip:*** 77777
7. ***Date Sent:*** 19−OCT−93
8. ***Pub no:*** 55−2840−229−23
9. ***Pub Title:*** TM
10. ***Publication Date:*** 04−JUL−85
11. *Change Number:* 7
12. *Submitter Rank:* MSG
13. ***Submitter FName:*** Joe
14. *Submitter MName:* T
15. ***Submitter LName:*** Smith
16. ***Submitter Phone:*** 123−123−1234
17. ***Problem:*** **1**
18. *Page:* 2
19. *Paragraph:* 3
20. *Line:* 4
21. *NSN:* 5
22. *Reference:* 6
23. *Figure:* 7
24. *Table:* 8
25. *Item:* 9
26. *Total:* 123
27. ***Text:***

This is the text for the problem below line 27.

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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is ODISC4.	Use Part II *(reverse)* for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	**DATE** *21 October 2003*

TO: *(Forward to proponent of publication or form) (Include ZIP Code)*
COMMANDER
U.S. ARMY SOLDIER AND BIOLOGICAL CHEMICAL COMMAND
ATTN: AMSSB-RIM-L
KANSAS STREET
NATICK, MA 01760-5052

FROM: *(Activity and location) (Include ZIP Code)*
PFC Jane Doe
CO A 3rd Engineer BR
Ft. Leonardwood, MO 63108

PART I – ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS

PUBLICATION/FORM NUMBER	DATE	TITLE
TM 10-1670-296-23&P	30 October 2002	Unit Manual for Ancillary Equipment for Low Velocity Air Drop Systems

ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON *(Provide exact wording of recommended changes, if possible).*
	0036 00-2				*1*	*In table 1, Sewing Machine Code Symbols, the second sewing machine code symbol should be MD ZZ not MD 22.* *Change the manual to show Sewing Machine, Industrial: Zig-Zag; 308 stitch; medium-duty; NSN 3530-01-181-1421 as a MD ZZ code symbol.*

**Reference to line numbers within the paragraph or subparagraph.*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
Jane Doe, PFC	508-233-4141	Jane Doe *Jane Doe*

TO: (*Forward direct to addressee listed in publication*)	FROM: (*Activity and location) (Include ZIP Code*)	DATE
COMMANDER U.S. ARMY SOLDIER AND BIOLOGICAL CHEMICAL COMMAND ATTN: AMSSB-RIM-L KANSAS STREET NATICK, MA 01760-5052	*PFC Jane Doe* *CO A 3rd Engineer BR* *Ft. Leonardwood, MO 63108*	*21 October 2003*

PART II – REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION NUMBER	DATE	TITLE
TM 10-1670-296-23&P	30 October 2002	Unit Manual for Ancillary Equipment for Low Velocity Air Drop Systems

PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION
0066 00-1					*4*			*Callout 16 in figure 4 is pointed to a D-Ring. In the Repair Parts List key for figure 4, item 16 is called a Snap Hook. Please correct one or the other.*

PART III – REMARKS (*Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

UASPPC V3.00

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TO: *(Forward to proponent of publication or form) (Include ZIP Code)* Commander, U.S. Army Soldier and Biological Chemical Command ATTN: AMSSB-RIM-L, Kansas Street Natick, MA 01760-5052	**FROM:** *(Activity and location) (Include ZIP Code)*	

PART I – ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS

PUBLICATION/FORM NUMBER	DATE	TITLE
MWO 55-8115-202-40-1	30 September 2003	Roller Slide and Exhaust Kit Installation MWO

ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON *(Provide exact wording of recommended changes, if possible).*

**Reference to line numbers within the paragraph or subparagraph.*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

TO: (*Forward direct to addressee listed in publication)*	**FROM:** (*Activity and location) (Include ZIP Code)*	**DATE**

PART II – REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION NUMBER	DATE	TITLE

PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

PART III – REMARKS (*Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)*

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TO: *(Forward to proponent of publication or form) (Include ZIP Code)* Commander, U.S. Army Soldier and Biological Chemical Command ATTN: AMSSB-RIM-L, Kansas Street Natick, MA 01760-5052	**FROM:** *(Activity and location) (Include ZIP Code)*	

PART I – ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS

PUBLICATION/FORM NUMBER	DATE	TITLE
MWO 55-8115-202-40-1	30 September 2003	Roller Slide and Exhaust Kit Installation MWO

ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON *(Provide exact wording of recommended changes, if possible).*

**Reference to line numbers within the paragraph or subparagraph.*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

TO: (*Forward direct to addressee listed in publication)*	**FROM:** (*Activity and location) (Include ZIP Code)*	**DATE**

PART II – REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION NUMBER	DATE	TITLE

PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

PART III – REMARKS (*Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigrams = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce–inches	newton–meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound–feet	newton–meters	1.356	metric tons	short tons	1.102
pound–inches	newton–meters	.11296			

Temperature (Exact)

_F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	_C

PIN: 080996-000