INSTRUCTION TO SERVICE

ITS: 61487	11/14/2025
SECTION:	400 – Structure
SUBJECT:	Repair cracked bracket at rad door support.
ISSUE:	Cracking found on welds/bracket on radiator door support.
SUMMARY:	Rework to repair radiator door support.

ITS61487

Ref. NHTSA Recall No.	Ref. Transport Canada Recall No.
Not Applicable	Not Applicable

THIS ITS DOCUMENT SHOULD BE RETAINED AND REFERRED TO FOR FUTURE MAINTENANCE UNTIL THE NEW FLYER PARTS AND/OR SERVICE MANUAL IS UPDATED TO REFLECT WORK DONE AS A RESULT OF THIS DOCUMENT. ENSURE THAT THIS DOCUMENT IS AVAILABLE FOR PARTS AND MAINTENANCE STAFF GOING FORWARD.

SAFETY PRECAUTIONS MUST BE FOLLOWED ACCORDING TO ACCEPTED INDUSTRY STANDARDS AND LOCAL/PROPERTY REQUIREMENTS.

PROCEDURE:

1. Park bus on a leveled surface and apply parking brake. Place wheel chocks underneath the front wheels.
2. Turn the main battery disconnect switch to the “OFF” position.
3. Locate the radiator door on the rear side streetside of the coach. Refer to Figure 1.

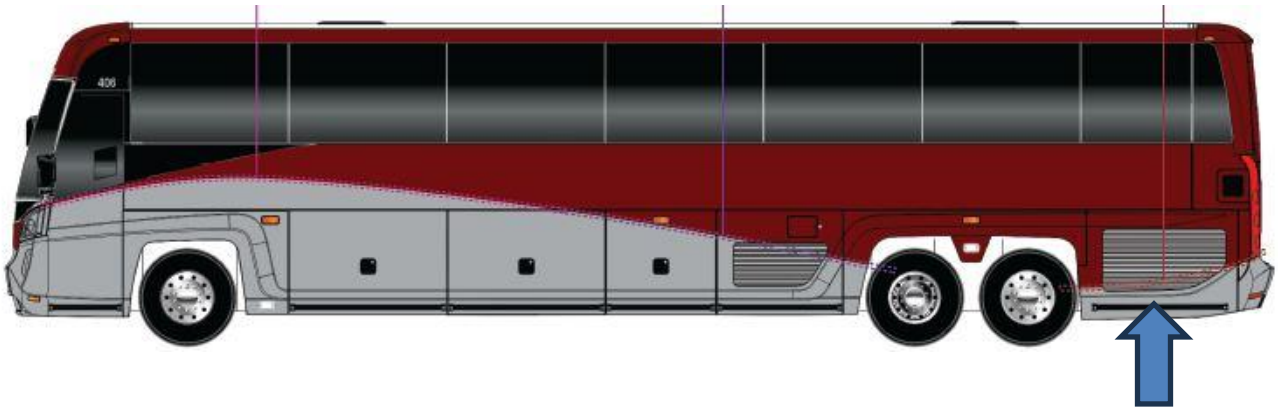
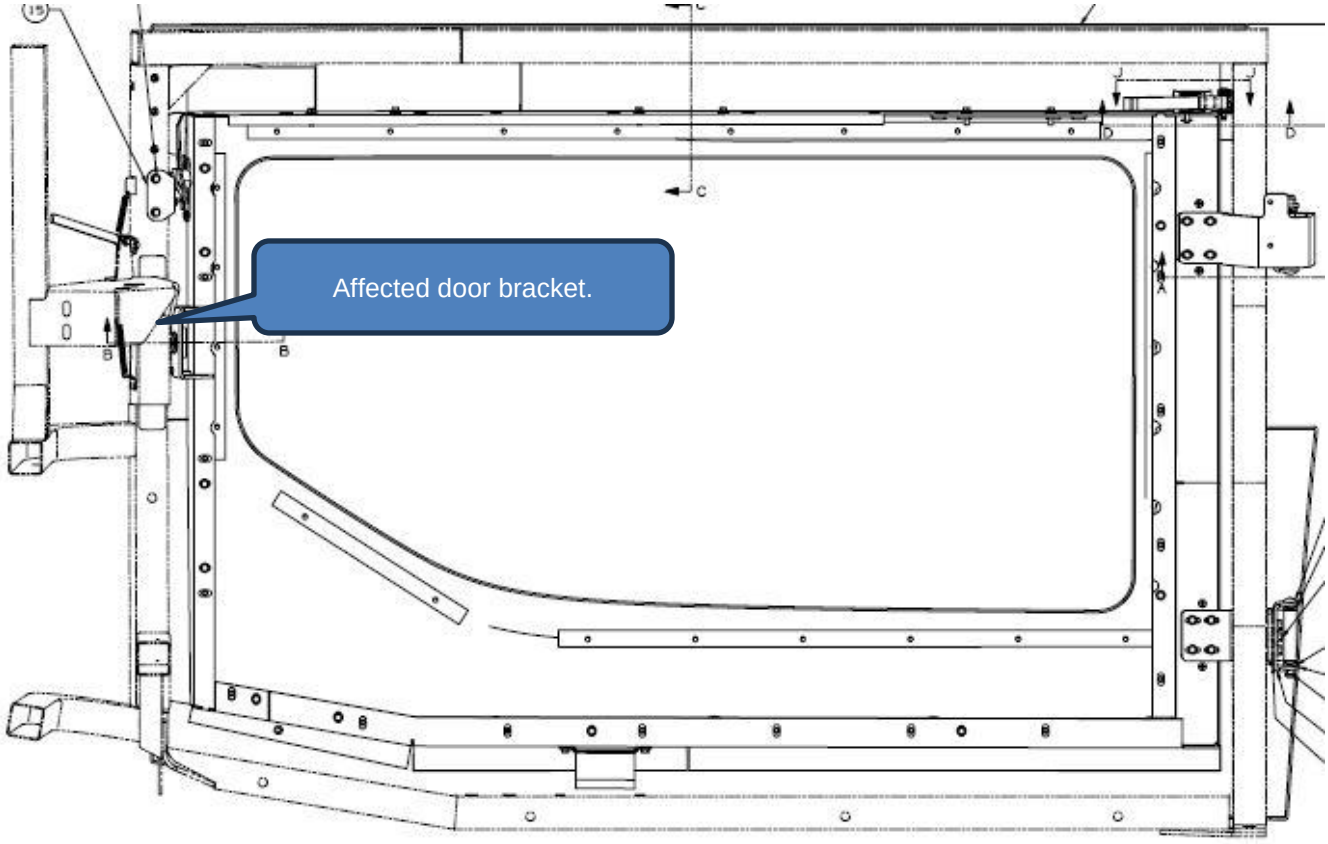


FIGURE 1: LOCATION OF THE RADIATOR DOOR ON COACH


Affected door bracket.

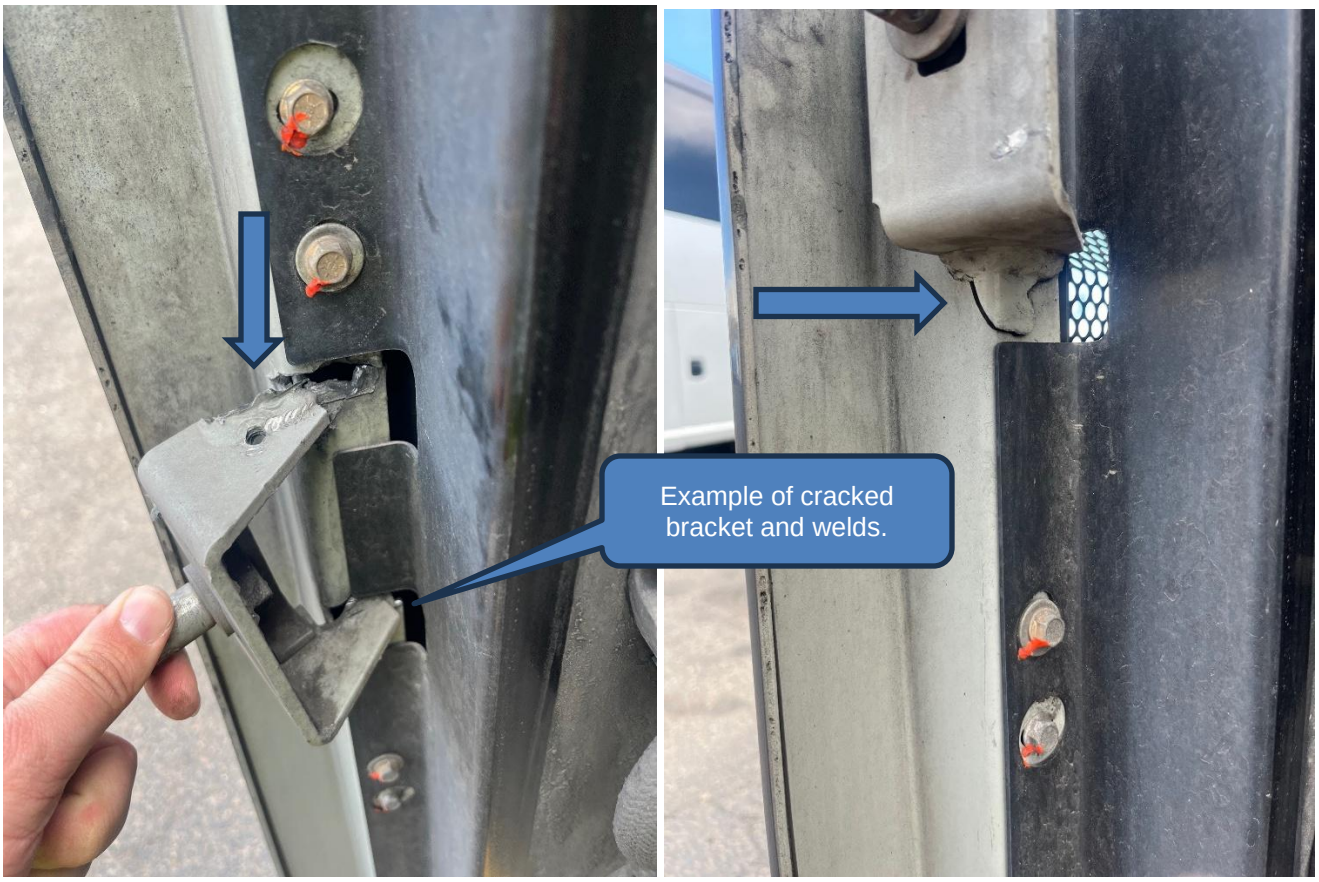


FIGURE 1A: SHOWN BACKSIDE VIEW OF THE RADIATOR DOOR (VIEW WITH CRACKS)

☞ **NOTE:** **The following instructions cover all these processes; use discretion as to which processes are required. Following the welding sheets as per Appendix D.**

⚠ **WARNING: Ensure the following components are disconnected before welding:**

- **Battery cable**
- **Engine ECM – disconnect vehicle interface harness connecto00r**
- **Transmission ECU – disconnect vehicle interface harness connector**
- **Vansco Multiplexing Modules (VMM) – disconnect all modules**
- **Destination sign – disconnect vehicle interface harness connector**
- **HVAC controller (if equipped) – disconnect vehicle interface harness connector**

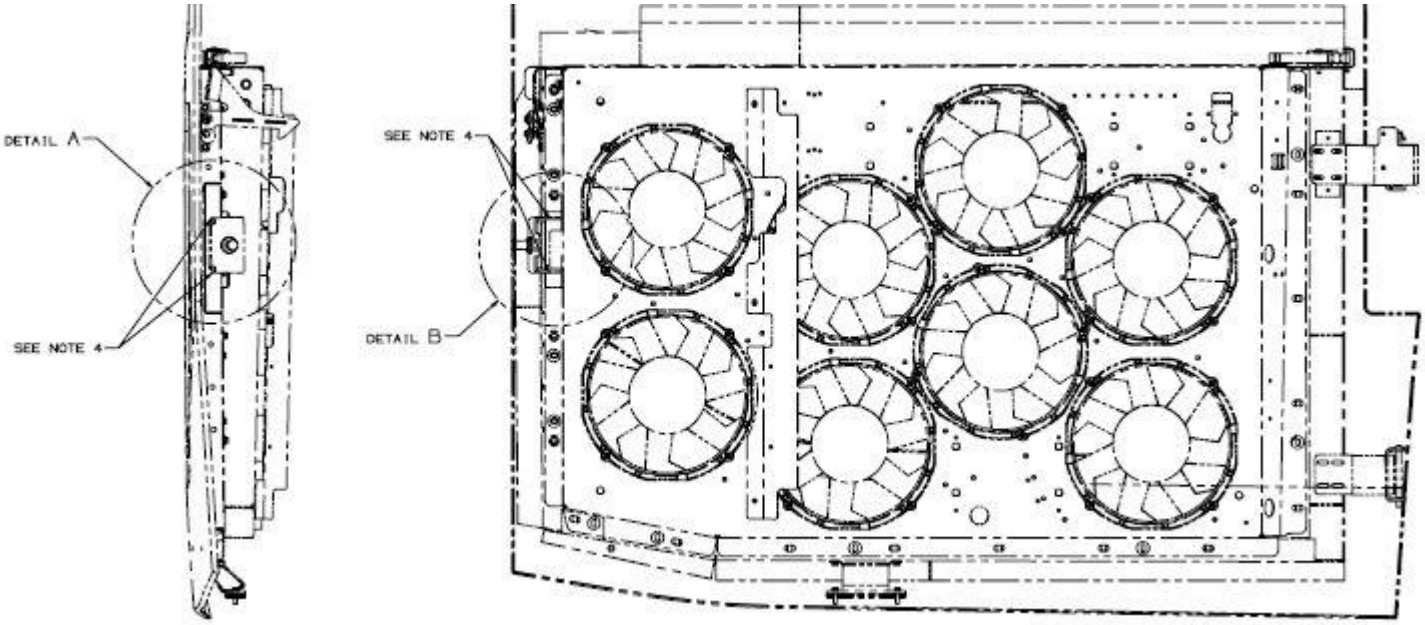
- **Auxiliary heater (if equipped) – disconnect vehicle interface harness connector**
- **3 connection points on the DPIM on the roof – P1120, P1121 & P1122**
  Note: Special insulated gloves for high voltage must be used when disconnecting from the DPIM on the roof. This only affects HYBRID buses.

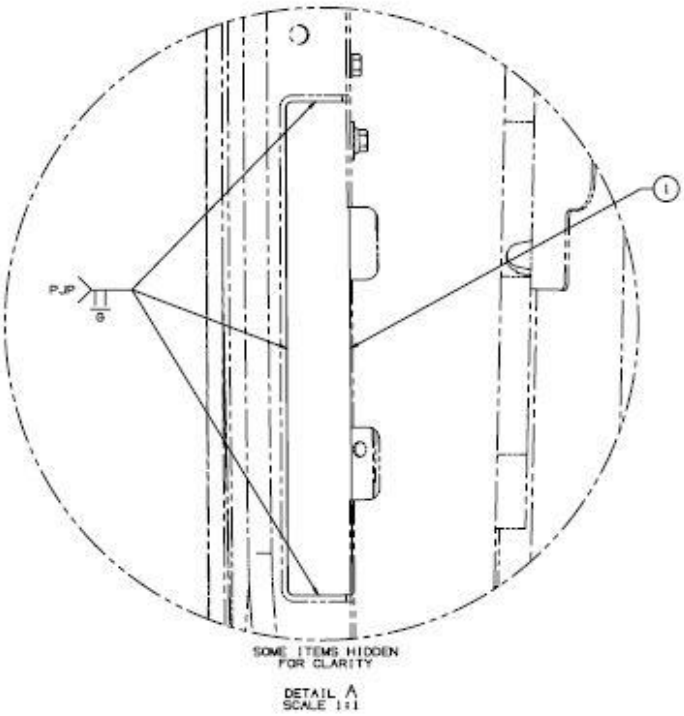
⚠ **WARNING: The following safety equipment must be available at the workstation:**

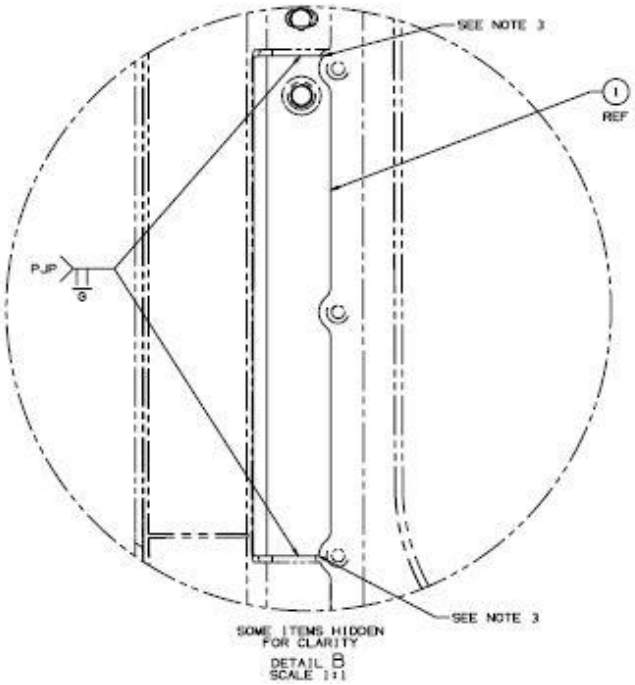
- **Safety shields must be set up around the weld area to protect against flash hazards**
- **Fire extinguishers must be kept at each workstation. Each operator should know the location of the extinguisher and how to operate it**

Note: Use welding blankets around the area that will be welded to prevent damage to any components.

4. Using a wire wheel or similar tool, remove all primer and Sika sealant from the required weld areas. Extend past the weld location 2.0 inches to ensure adequate welds are obtained. See weld specification sheets **(Appendix A)**.
5. Locally clean repair areas with vacuum to remove dust and debris. Wipe the weld areas clean with a clean lint free cloth.

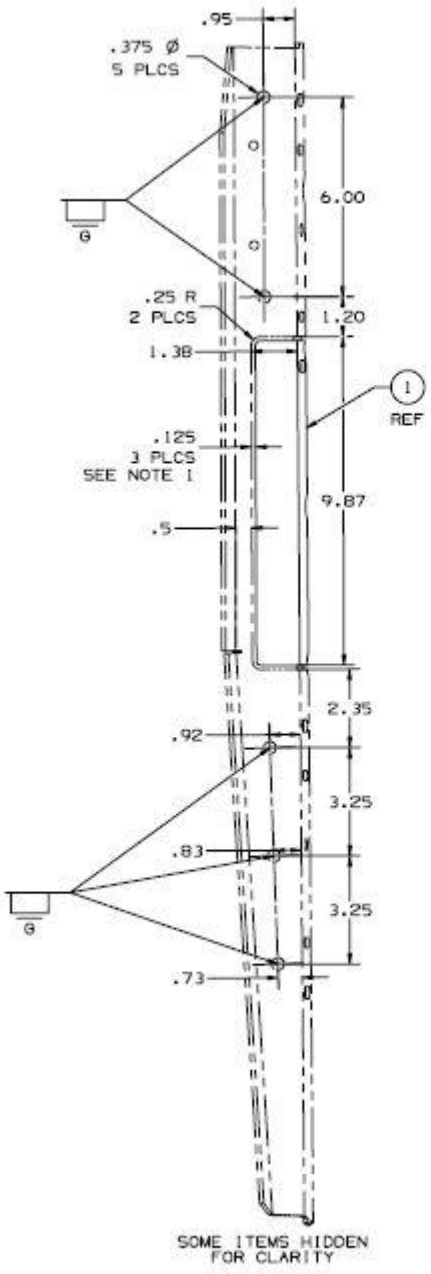






NOTES:

1. CUT-OUT A SECTION OF THE EFAN DOOR BRACKET 03-31-5129 TO BE 1/8" AROUND THE NEW BRACKET 1143394.
2. SECURE BRACKET 1143781 USING EFAN MOUNTING BOLTS.
3. GRIND FLUSH WITH ALONG THE EDGE OF BRACKET 03-31-5129.
4. SEE WELDING DETAILS FOR LATCH BRACKET 03-31-2552 ON ASSEMBLY 03-31-5128


.95
.375 Ø
5 PLCS
6.00
.25 R
2 PLCS
1.20
1.38
1
REF
.125
3 PLCS
SEE NOTE 1
9.87
.5
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.92
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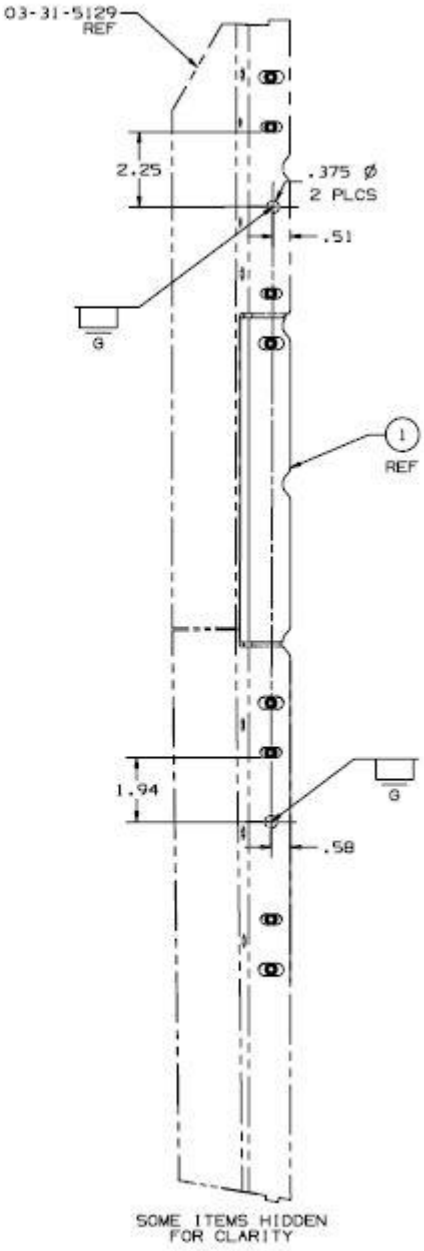
SOME ITEMS HIDDEN
FOR CLARITY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2.25
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SOME ITEMS HIDDEN
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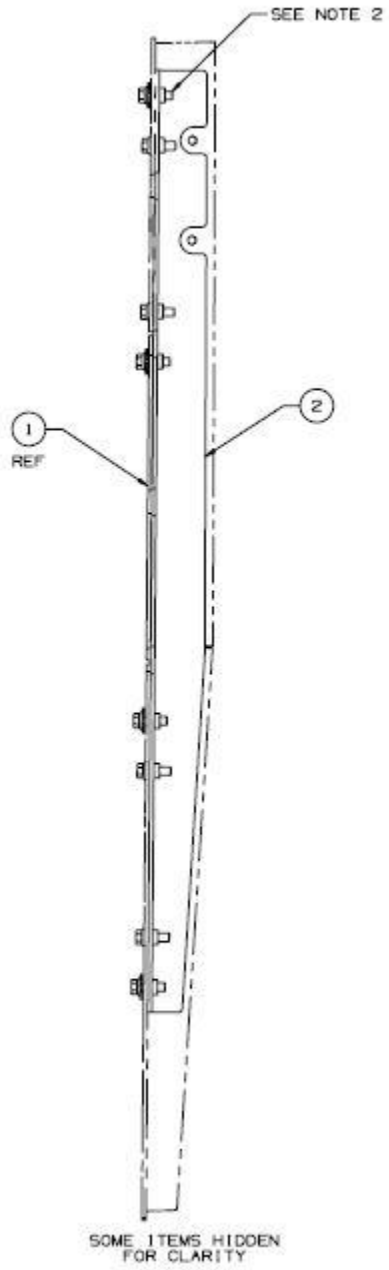

FIGURE 2: SHOWN WELD DETAILS FOR REWORK

6. Cut out a section of the EFAN door bracket (PN: 03-31-5129) to be 1/8” gap around the new bracket (PN: 1143394). Remove all sharp edges.
7. Secure bracket (PN: 1143781) using EFAN mounting bolts (existing).
8. Grind flush along the edge of the bracket (PN: 03-31-5129).
9. See welding details (Appendix A) for latch bracket (PN: 03-31-2552). Follow weld details shown in Figure 2.

10. After welding has been completed, grind off sharp edges. Check for any weld defects such as undercut and porosity.

☞ **NOTE:** **Visual inspection of all tubes in the area must be performed once welding is complete. This is to ensure that all cracks have been repaired, the tubes and gussets have been correctly installed, and no further cracking has occurred.**

11. All welding must comply with MCI welding specifications in accordance with CSA WPS 25-28-0001-9 GTAW A1.
12. Wrap welds around corners, where practicable, for a distance of at least twice the nominal size of the weld bead. Do not start/stop welds at the corners.
13. Visually inspect welds to ensure all welding meets quality standards for cyclically loaded structures detailed in WPS 25-28-0001-9 GTAW A1.
14. Grind welds to provide a smooth surface on the repaired structure tube. Follow weld profile as per WPS 25-28-0001-9 GTAW A1.
15. Once welding is complete, apply sealant at all weld seams. Use white sealant **(PN: 055701)**.
16. Once all welding is completed, clean surface of the tubes with mineral spirits. Let it flash off for 5 minutes. Scuff the surface area of the new metal or the area that has been welded with a scotch pad for proper adhesion. Follow instructions on **Appendix B** to apply zinc primer. Apply 2 to 3 light coats.
17. Remove all tools and debris and return the bus to service condition.
18. Turn the main battery disconnect switch to the “ON” position.

Appendix A:
Aluminum Welding Procedure

WPS 25-28-0001-9 GTAW Al

WELDING PROCEDURE SPECIFICATION

MOTOR COACH INDUSTRIES
1475 Clarence Avenue
Winnipeg. MB.
Canada. R3T 1T5

DATE: 6/11/1998

Part #:

Description: GENERAL Al LIGHT GAUGE SUBS USING GTAW (Al) WELD PROCESS

Revision: A

NOTE: For Aluminum (Al) S/A Using material 12 mm Al and less

WELDING PROCESS (ES). [GTAW] Gas Tungsten Arc Welding - (TIG)

Type -Manual [X] Semi- Automatic [ ]

POSITION(S).
Flat [ ] Horizontal [ ]
ALL POSITIONS [X]

JOINT DESIGN USED:
Type(s) All

Single [X] Double Weld [X]

Electrical Characteristics
AC [X]
DCEP [ ] DCES [ ]

BASE METALS:
Material Spec As per Engineering Dwg. Specification

Thickness (es) As per Engineering Dwg. Specification

TECHNIQUES:
Stringer Or Weave Bead: Stringer

FILLER METALS:
AWS / CWB Spec. AWS A5.10/ASME SFA 5.10 Class

AWS / CWB Classification ER 5356 / ER 4043 REF. NOTE #5

Brand Name(s).

NOTE:

Diameter. 1/16 - 5/32

*Voltage/ Amps Ref Note 5 WFS Ref Note 5

NOTE.

SHIELDING:
Gas Argon 100% -

NOTE:

HEAT In PUT. MAXIMUM:

Gas Flow: 20 to 35 CFH*
** May need to be compensated for flow in regards to complexity of operation and location.*

PREHEAT:
Preheat Temp. Min. 60Deg (15.5Deg C)
Interpass Temp. Max.

POST WELD HEAT TREATMENT:
Temp.
Time.

WPS 25-28-0001-9 GTAW Al

WELDING PROCEDURE SPECIFICATION

CRITICAL / ESSENTIAL VARIABLES

1] All personnel who perform welding must be pre qualified to perform such specified processes.

2] The surface of the finished welds / joints shall be free from coarse ripples, porosity, cracks, craters, excessive build-up, and undercutting.

3] Welds and weld quality must be according to ANIS/ AWS D1.2 .

4) Clean and brush using **SS** wire brush and or SS knurling tool and or AL sander area before welding.
4.1 . **If** on painted surfaces ensure to remove paint before using abrasives.(Wipe surface with alcohol base product in addition and or industrial Aluminum surface cleaner)
4.2. Additionally gentle flame heat may be applied to burn & evaporate contaminants. **Weld only after** cooled to room temperature.

5) Recommended variable settings; Developed as per 25-28-0001 - 0023 controlled documents

4.1) Thick. 18 Ga - 3/32 Al*	60A -125A
4.2) Thick 3/32 - 1/8 Al* / **	110A - 180A
4.3) Thick 1/8 - 1/2 Al **	180A - 280A

6) This specification applies to all Al assemblies of light ague using GTAW

7) Any process deviations must be approved by MCI Welding Technologist.
Request help and guidance if required.

Chandran Mendis
Senior Welding Engineering Technologist
Process Mfg & Tooling Engineering Department
MCI

Chandran.Mendis@mcicoach.com
Ph; 204-899-7617

Appendix B

Axalta Zinc Primer

NF PN: 606945 & 638699

General Industrial

Technical Data Sheet

GANICIN™ 2.8 MC-U™ MOISTURE-CURED ZINC-RICH PRIMER

Ganicin™ 2.8 MC-U Moisture-Cured Zinc-Rich Polyurethane Primer

GENERAL

DESCRIPTION

A high solids, two-component, 2.8 lbs/gal VOC conforming, moisture-cured organic zinc-rich coating based on Axalta polyurethane technology. The resulting coating is designed to be highly durable and to deliver outstanding corrosion resistance.

SUGGESTED USES

As a high performance primer on carbon steel or as a touch-up for inorganic zinc coatings where:

- A coating with 85% zinc in the dried film with low VOC is required
- Spray application, or by brush when touch-ups may be necessary
- Application is recommended down to 35°F (2°C)
- No induction time and long pot life may improve productivity

Ganicin 2.8 MC-U is intended to be used as a primer and should be topcoated.

COMPATIBILITY WITH OTHER COATINGS

Ganicin 2.8 MC-U Moisture-Cured Zinc-Rich Primer may be topcoated with Corlar® epoxies and/or Imron® polyurethane Primers. Do not apply Imron polyurethane topcoats, directly to Ganicin 2.8 MC-U. Ganicin 2.8 MC-U may also be used to touch up inorganic and organic zinc-rich coatings. Testing for lifting, bubbling and adhesion is recommended to assure compatibility with unknown coatings. Contact your Axalta representative for specific recommendations.

NOT RECOMMENDED FOR

- Immersion service
- Exposure to acid or alkali environments without suitable topcoats

PERFORMANCE PROPERTIES

Chemical Excellent
Humidity Excellent
Water spray Excellent

Weather Excellent with durable topcoat
(will chalk if left untopcoated)

COLOR

Grey green
The products referenced herein may not be sold in your market. Please consult your distributor for product availability.

MIXING

COMPONENTS

63P1500 primer base 1 short fill gallon container (0.46 gallon)
347YB1500™ zinc dust 1 gallon container (13.4 lbs.)

MIX RATIO

Component Part by Volume
63P1500 primer base 1 container short fill (0.46 gallon)
347YB1500 zinc dust 1 container (13.4 lbs.)
NOTE: Mixed amount will makes 0.70 gallon.

ACTIVATION

Thoroughly stir 63P1500 primer, then slowly add 347YB1500 zinc dust with consistent agitation. After mixing, filter through a 40 mesh screen. Filter into an agitated spray pot. Constant agitation during application is recommended to prevent settling of zinc dust. Minimize contact with humid air.

Reduction

No reduction should be necessary. However, if conditions require thinning, Axalta 8685S™ may be used up to 5 oz./gal. To remain @ 2.8 lbs/gal VOC, use no more than 2 oz/gal.

APPLICATION THINNERS

Spray or brush: Axalta 8685S up to 2 oz./gal. may be added and still remain conforming at 2.8 lbs/gal VOC. Amounts up to 5 oz./gal. Max can be used if required for various application conditions. Use no alcohol-containing thinners.

POT LIFE

At least 8 hours if moisture is excluded, shorter in high humidity and temperature.

APPLICATION

SURFACE PREPARATION

An SSPC-SP 6 Commercial Blast Cleaning is preferred for optimal performance. For touchup over inorganic zinc, Hand Tool Clean to an SSPC-SP 2 or Power Tool Clean to an SSPC-SP 3 can be used. Note: You can prep surface by using 100 – 150 grit sand paper.

APPLICATION CONDITIONS

Do not apply if material, substrate or ambient temperature is below 35°F (2°C) or above 110°F (43°C). The substrate must be at least 5°F (3°C) above the dew point. Relative humidity should be below 90%.
For best results, apply by spray. Product can be brushed for small spot applications or repairs. Note that in high humidity, the coating will gradually accumulate on the brush.

BRUSH APPLICATION

Manufacturer: Wooster China Bristle - 3”- 4” brush

SPRAY APPLICATION

Manufacturers listed below are a guide. Others may be used. Changes in tip size or pressure may be required to achieve proper application.

Conventional Spray
Binks DeVilbiss
Spray Gun: 2001 JGA
Fluid Nozzle: 67SS FF (1.4)
Air Cap: 67PR 704

HVLP Spray
Binks DeVilbiss
Spray Gun: Mach 1 GTi
Fluid Nozzle: 94 (1.4) 1.4
Air Cap: 94P 2000

Airless Spray

Pump: Graco Extreme 33:1
Airless Gun: Graco 946853
Fluid Hose: 3/8" x 100' max.
Tips: 415-517RAC
Minimum pressure to avoid fingering: 2400 psi min.

Application Notes

· Must be agitated during application.

· For conventional air spray, fluid lines should be 0.5” inner diameter and 25-50’ long maximum.

· For best results, keep pressure pot at the same height as the work.

· Apply a full, wet coat. Try not to exceed specified film build thickness.

CLEAN UP THINNERS

Axalta 8685S

DRY TIMES

Cure time at recommended thickness 3 mils DTF @ 50% RH
77°F (25°C)
To touch 30 minutes
Re-coat 2 hours
Handle 3-4 hours
Note: May be overcoated with itself up to 3 days (72 hours) after initial application.

PHYSICAL PROPERTIES

Maximum Service Temperature 250°F (121°C) in continuous service
350°F (177°C) in intermittent service
Volume Solids 62% ± 2%
Weight Solids 89% ± 2%
Theoretical Coverage Per Gallon 994 ft² (24.4 m²/L) @ 1 mil DFT
330 ft² (8.1 m²/L) @ 3 mils DFT
Material losses during mixing and application will vary and must be taken into consideration when estimating job requirements.
Weight Per Gallon 24.8 lb average | 11.2 kg. average
Shipping Weight (approximate) 1 gallon container: liquid 3.8 lbs | zinc 13.4 lbs
Suggested Film Thickness 5 mils (125 µm) wet
3 mils (75 µm) dry
Application by brush and roller may require additional coats to achieve recommended films thickness.
Flash Point: (Tag Closed Cup) 100°F (38°C)
Gloss Flat
Package Size 1 container
Shelf Life 1 year minimum

STORAGE CONDITIONS

Store in a dry, well-ventilated area. Storage conditions should be between -30°F (-34°C) and 120°F (48°C).
Moisture-cured zinc-rich primer liquid may settle. Agitate before each use. To prevent pressure build-up after mixing, do not store in sealed containers.

VOC REGULATIONS

VOC (Theoretical, varies with color).
Moisture cured zinc-rich primer; unreduced 2.76 lbs/gal (332 g/l)
These directions refer to the use of products which may be restricted or require special mixing instructions in VOC regulated areas. Follow mixing usage and recommendations in the VOC Compliant Products Chart for your area.

ASTM INFORMATION

Physical properties are for Ganicin 2.8 MC-U Moisture-Cured Zinc-Rich Primer. For other system results, contact Axalta Coating Systems.
Paint System: Ganicin 2.8 MC-U
Type | Color: Moisture-cure organic zinc-rich |Gray green
DFT: 2.8 mils
Salt Fog (ASTM B117) 1000 hours no rusting, no blisters
2000 hours no rusting, no blisters
3000 hours no rusting, few #8 blisters at
the scribe, no undercutting
at the scribe
Relative Humidity (ASTM D2247) 1000 hours no rusting, no blisters
2000 hours no rusting, no blisters
3000 hours no rusting, no blisters
Dry Heat (ASTM D2485) 250°F for 24 hours no cracking, no blisters,
moderate loss of
adhesion, no discoloration
Electrical Resistance: $1x10_{10}$ (OHMS)
Adhesion (ASTM D4541): 2406 psi cohesive failure within the
coating
Cleveland Cond (ASTM D4585): 1000 hours no rusting, no blisters
UV Con (ASTM D4587)* 3000 hours Gloss before exposure: 2
Gloss after exposure: 0.9
Evaluation no rusting, no blisters,
no delamination
Mandrel Bend (ASTM D522): % Elongation – 5-10% (on smooth eCoat)
Taber Abrasion (ASTM D4060): weight loss in grams - 0.14
*8 hr UV @ 122°F (50°C), 4 hr condensation @ 104°F (40°C), gloss readings @ 60°

SAFETY AND HANDLING

For industrial use only by professional, trained painters. Not for sale to or use by the general public. Before using, read and follow all label and MSDS precautions. If mixed with other components, mixture will have hazards of all components.
Ready to use paint materials containing isocyanates can cause irritation of the respiratory organs and hypersensitive reactions. Asthma sufferers, those with allergies and anyone with a history of respiratory complaints must not be asked to work with products containing isocyanates.
Do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves.

Revised: June 2015

In the United States:
1.855.6.AXALTA
axalta.us

In Canada:
1.800.668.6945
axalta.ca

LABOUR ESTIMATE				
	Operation	People	Hours	Labor Time
1	Rework cracked bracket at radiator door.	1	3.	3

PARTS REQUIRED					
Item	Part Number	Description	Qty. per Coach	Units	Notes
1	1143394	BRACKET-RAD DOOR	1	EA	
2	1143781	ASSY-RAD DOOR BRACKET	1	EA	
3	606945	PRIMER-ZINC RESIN POLYURETHANE	0.01	GA	
4	638699	PRIMER-ZINC POWDER GREY/GREEN	0.02	GA	
5	055701	SIKA – SEALANT WHITE 221	1	EA	