



## INSTRUCTION TO SERVICE

<b>ITS: 5426</b>	
<b>SECTION:</b>	400 Structure
<b>WRITTEN BY:</b>	Jermie Marasigan
<b>SUBJECT:</b>	Modify front curbside skid plate installation

# ITS5426

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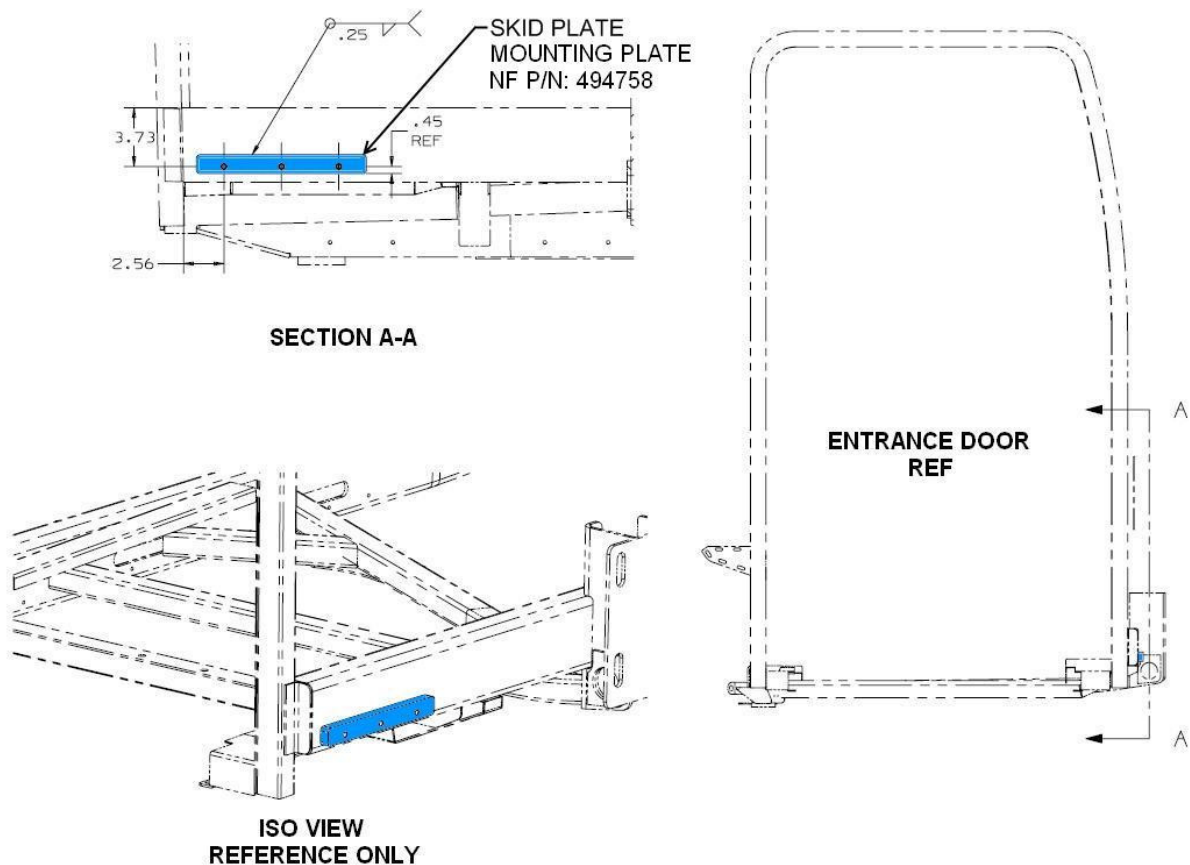
**PROCEDURE:**

1. Turn the main battery disconnect switch to the “OFF” position.
2. Raise coach in accordance with the New Flyer Service Manual.
3. Remove the front bumper and set aside in a safe place along with the mounting hardware to be re-installed later.
4. Remove the front curbside skid plate from the bus. Discard the old Skid Plate and hardware, new skid plate and hardware will be supplied for re-installation.

**NOTE:** Skip step 5 if the Skid Plate Mounting Plate NF P/N: 494758 is already installed at the factory.

5. Install Skid Plate Mounting Plate NF P/N: 494758 if required.
  - a. Increase the diameter of existing holes on the frame to 0.5Ø before welding the mounting plate.
  - b. Position the new mounting plate NF P/N: 494758 on the frame as per dimension shown in Figure 1.
  - c. Remove the paint or surface protection in the weld area before welding.
  - d. Weld the mounting plate NF P/N: 494758 onto the frame as per welding specification shown in Figure 1. See Appendix A for Welding Procedure.

**NOTE:** All welding must comply with New Flyer welding specification.



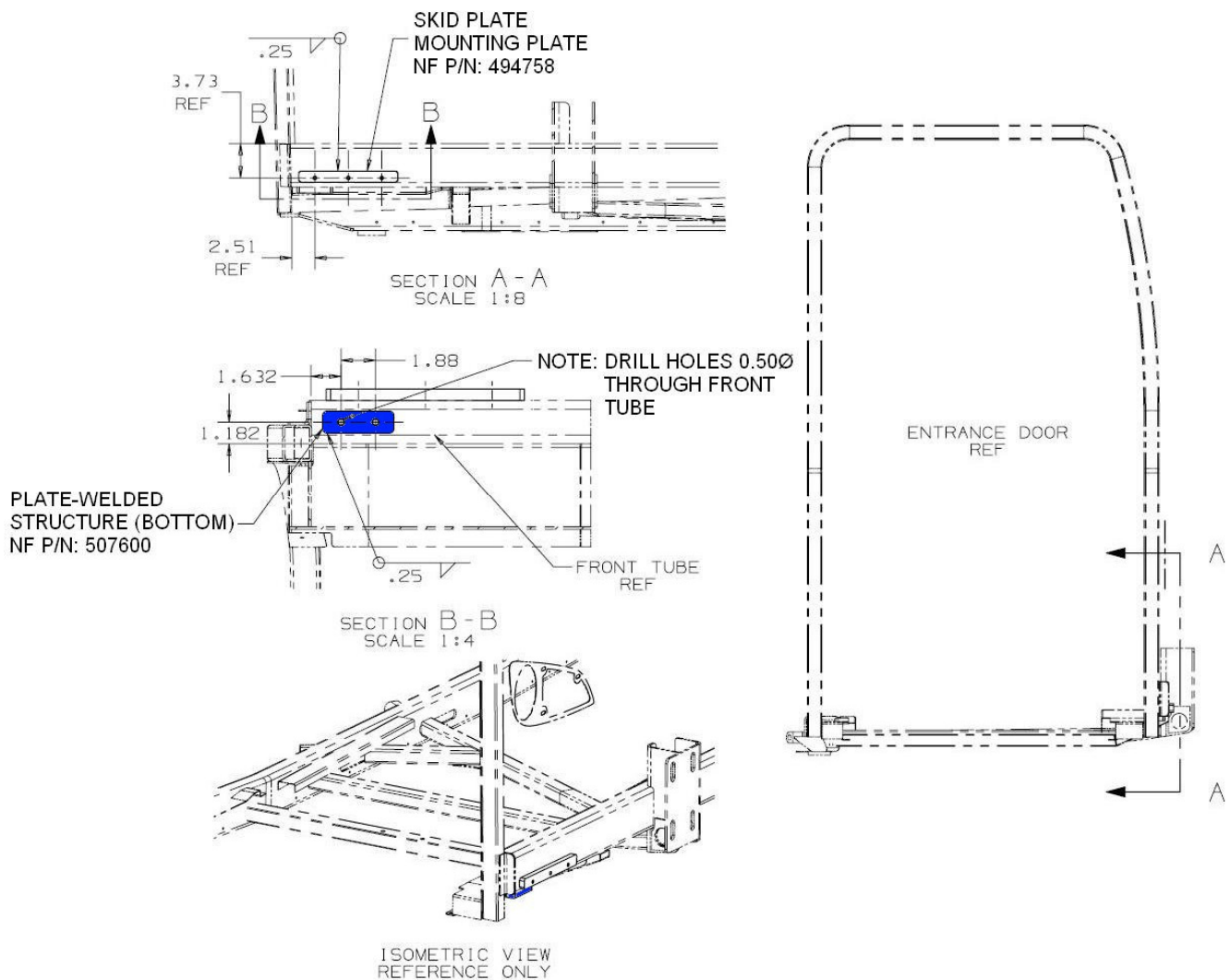
**Figure 1: SKID PLATE WELDED MOUNTING PLATE INSTALLATION REFERENCE**



# NEW FLYER

6. Dry fit the new (smaller) Plate-Welded NF P/N: 507600 on the bottom of front structure to the position as shown in Figure 2 and mark the position of welded plate holes. Drill 0.50Ø holes through the front tube on the marked position.
7. Remove the paint or surface protection in the weld area before welding.
8. Weld the mounting plate NF P/N: 507600 onto the frame as per welding specification shown in Figure 2. Make sure that the holes in the plate are aligned to the drilled holes in the front structure tube. See Appendix A for Welding Procedure.

**NOTE:** All welding must comply with New Flyer welding specification.



**Figure 2: SKID PLATE WELDED MOUNTING PLATE INSTALLATION REFERENCE**

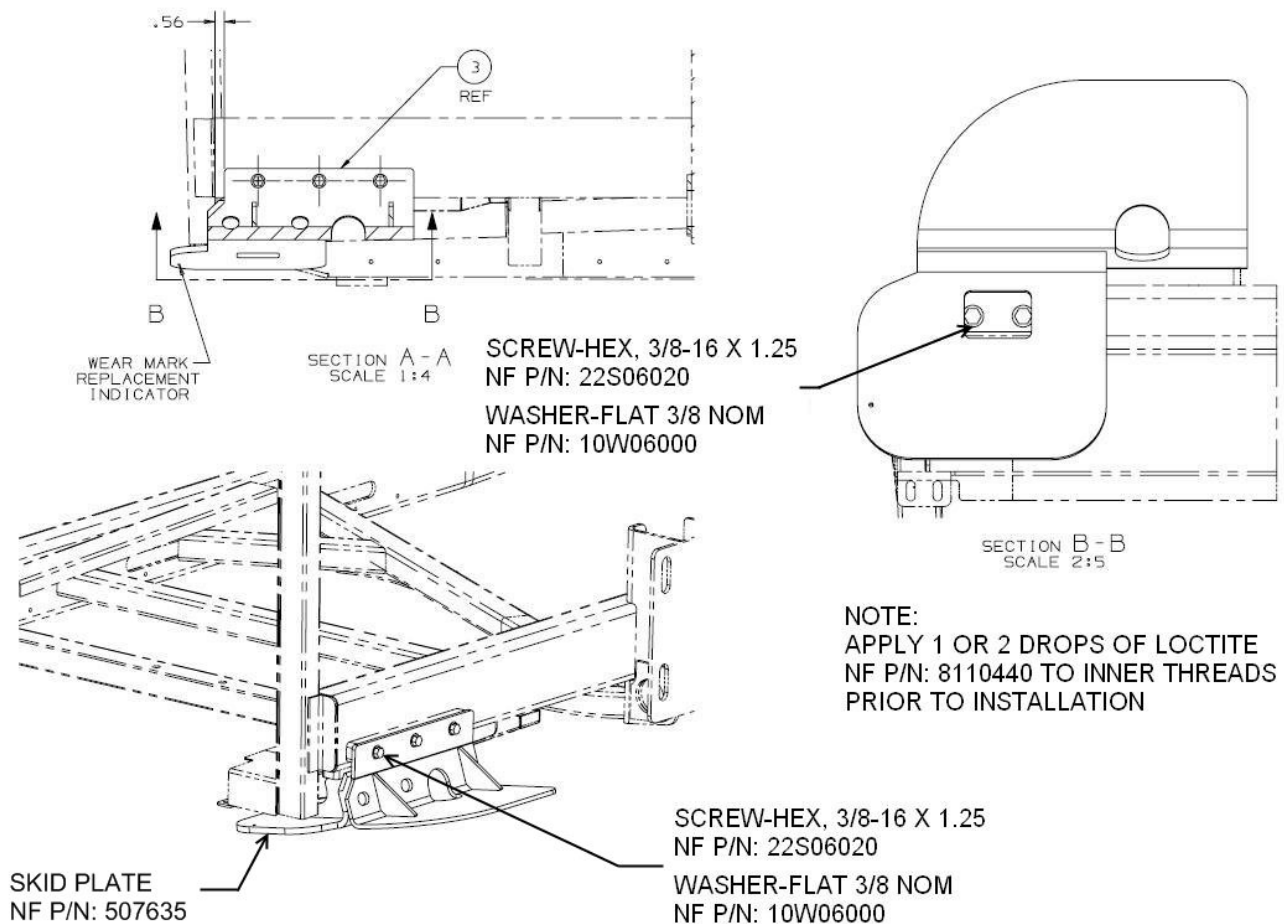


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☞ **NOTE: Mask threads and ensure surfaces are clean and free of dirt before priming and painting.**

9. Once the welding is complete apply primer on the new mounting plates and weld areas using zinc primer mixture as per Appendix B.
10. Apply undercoat (Corashield) NF P/N: 235584 after zinc primer was applied. See Appendix C for application procedure.
11. Install the new Skid Plate NF P/N: 507635 using supplied hardware. See Figure 3.

☞ **NOTE: Apply 1 or 2 drops of loctite NF P/N: 8110440 to the bolt threads prior to installation. Torque 3/8 UNC bolts to 17.5 ft-lbs wet.**



**Figure 3: MODIFIED SKID PLATE MOUNT REFERENCE**

12. Re-install the front bumper using original hardware. Apply loctite-262 NF P/N: 149911 to the bolts thread prior to installation and torque bolts to 106 ft-lbs wet.
13. If necessary, lower coach in accordance with the New Flyer Service Manual.
14. Turn the main battery disconnect switch to the "ON" position.

## **APPENDIX A**

### **Welding Procedure**

- I. Remove old weld by grinding as required. Oxy-acetylene torches must not be used.
- II. Area enclosed by welded zone plus 2" either side to be cleaned to base metal by wire brush, removing all grease, zinc, oil, rust and scale from surfaces to be joined.
- III. Disconnect battery cables when welding. Also disconnect ECUs for engine, transmission, electronic destination signs, ABS, articulated joint (black box and pressure sensors) and VCM.
- IV. Temperature of steel parts to be welded must be at or above 50°F (10°C) before welding.
- V. All welds to be made with E7018, low hydrogen welding rods. Gas metal arc welding (semi-automatic) may be used where practicable, provided AWS A5.18 standard E70S-3 or E70S-6 wire is used, with argon-carbon dioxide shielding gases.
- VI. Welder shall meet qualifications for "all position" welding as per AWS D1.1 or CSA W59 standard qualification for metal arc welding.

## **APPENDIX B**

### **Primer Mixing Instruction**

- I. Clean area to be primed per painting and priming procedures in New Flyer Service manual under section: Chassis and Structure.
- II. Mix 1 part of PPG Catalyst S28079 (NFIL P/N: 108936) with 2 parts of PPG Green Zinc Powdercoat S28080 (NF P/N: 115956). Mixture to be applied by brush. No Varsol (thinner) is required. Mix thoroughly. Cure time is 4 hours at 77°F (25°C). Pot life of mixture is approximately 3 to 4 hours, BUT is significantly reduced with exposure to air (moisture).

## **APPENDIX C**

### **Corashield Protective Coating Application**

- I. Remove excess dirt, dust and debris from substrate using clean, dry cloth or air stream.
- II. Coating to be applied at ambient air temperature between 50 to 99°F (10 to 32°C).
- III. Substrate temperature must not exceed 212°F (100°C) during application.
- IV. Keep parts above freezing within first 24 hours after application.
- V. Using a 50:1 ratio or higher stainless steel pump, Reverse-A-Clean tungsten carbide tipped (0.021" to 0.027" in diameter) stainless steel airless spray gun and disposable brush or trowel, apply a single coating of Corashield P7972 (PN 235584). Spray distance 12 to 15" (30 to 38cm).  
**ALTERNATELY:** Apply Corashield by brush. Allow to air dry at room temperature.



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## LABOUR ESTIMATE

	Operation	Men	Hours	Labour Time M X HR
1	Modify front curbside skid plate installation	1	4.0	4.0

## PARTS REQUIRED

Item	Part Number	Description	Qty. per Coach	Units	Notes
1	494758	PLATE-WELDED	1	EA	
2	507600	PLATE-WELDED STRUCTURE	1	EA	
3	507635	ASSY-SKID PLATE	1	EA	
4	10W06000	WASHER-FLAT 3/8 NOM	5	EA	
5	22S06020	SCREW-HEX, 3/8-16 X 1.25	5	EA	
6	8110440	LOCTITE-242	0.01	EA	
7	108936	PRIMER MOISTURE CURE URETHANE	0.1	EA	
8	115956	PRIMER ZINC POWDER RED	0.2	EA	
9	235584	UNDERCOAT-PPG 7972-W	0.01	EA	
10	149911	LOCTITE-262 THREADLOCK	0.01	EA	