Spartan Fire, LLC

Technical Service Bulletin
TSB25-110-001

DATE: **12/23/2025**

APPLIES TO: This service bulletin applies to certain model year 2010-2026 Gladiator and Metro Star, 2012-2014, 2017, 2019 Metro Star – RT, 2013-2018 Metro Star X, 2021-2026 FC-94, 2022-2026 KME Panther, and 2023-2025 KME Predator model emergency response chassis cabs built between February 2010 and July 2025.

CONDITION: Certain cab tilt crossbar tubes are cracking adjacent to the cab pivot mounts.

CORRECTION: Remove cracked crossbar section and weld in replacement tube with reinforcement components.

LABOR ALLOCATION: 15 hours

CLASSIFICATION: T3

PARTS NEEDED:

QTY	Part Number	Description
1	**S-3795-001**	**CROSS TUBE-CAB TILT BRACKET**
2	**S-3796-001**	**SLUG PIN-CROSS TUBE SUPT**

GENERAL INSTRUCTIONS:

Thoroughly review entire service bulletin before starting work. If there are questions or concerns with steps defined in this service bulletin, contact Spartan Fire, LLC. Customer & Product Support Group.

All applicable industry safety standards must be followed when performing work identified in this procedure.

Step By Step Instructions

1) Remove front grill to gain access to the crossbar.
2) Remove both headlight bezels and assemblies to gain access to the outer edges.
3) Cut the crossbar perpendicular to the axis of the bar on both sides where it meets the pivot bracket as shown in Figure 2.1
4) Remove old crossbar and grind pivot bracket tubes remaining where welds will be applied later.

Figure 2.1

5) Measure the 6 inch slugs (part number S-3796) and apply a mark at 3 inches to be used in the installation process to follow.
6) Insert the first slug part number S-3796 into the drivers side pivot bracket tube.
7) Leave 3 inches protruding inboard for the new crossbar (S-3795) to slide over, using the mark applied in step 5 as a reference point.
8) Install the new crossbar S-3795 over the slug on the driver's side and line up the crossbar with pivot bracket tube on the officer's side.
9) Insert the 2nd 6 inch slug part number S-3796 from the outer end of the pivot bracket tube and push through the fixture into the new cross tube until 3 inches extends into the new crossbar, using the mark applied in step 5.
10) Position the new crossbar so that there is a 0.25 inch gap on each side between the crossbar and the pivot bracket tubes. This is to allow the weld that is to be applied to penetrate down into the slugs. *See Figure 3.1 below*

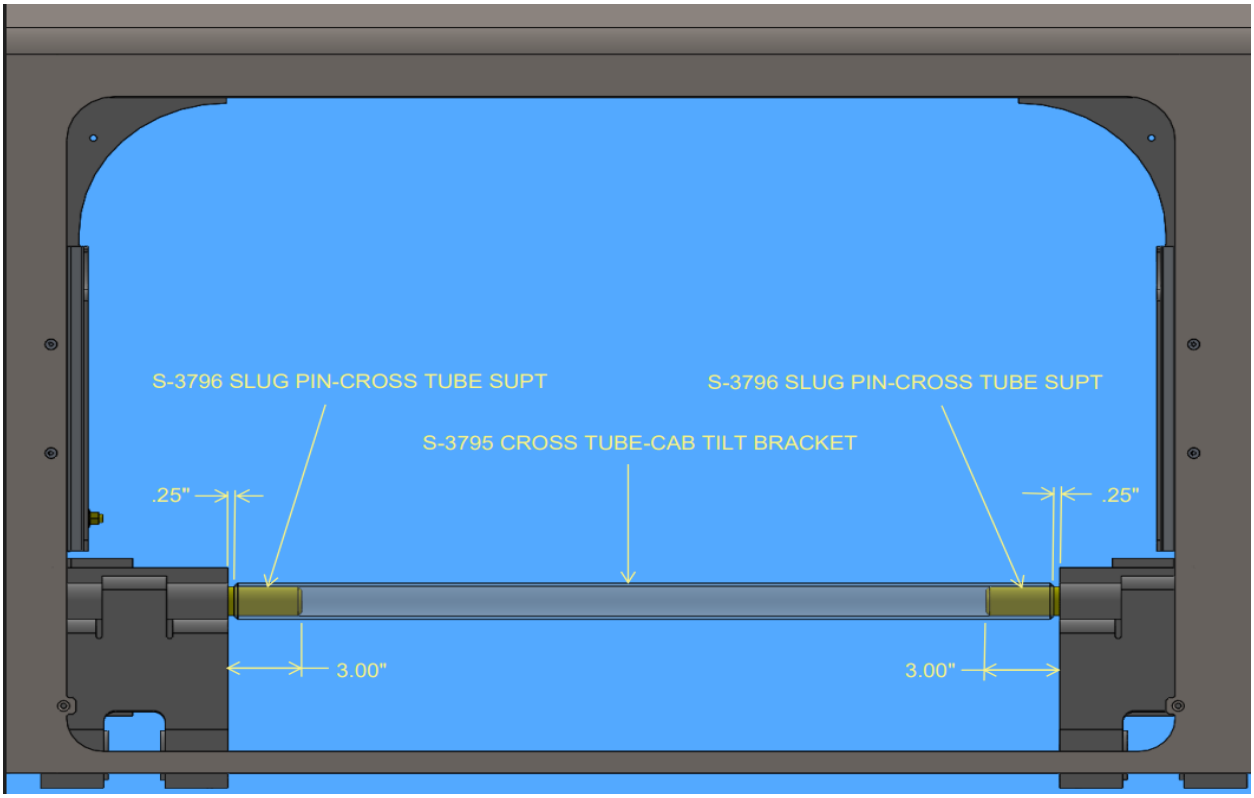
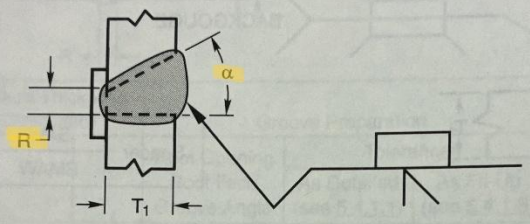


Figure 3.1

11) Using Table 4.1 and 5.1 below, apply welds to each side, welding the new crossbar both the pivot bracket tubes and the slugs installed.
12) After welds are completed, apply proper primer and paint to prevent corrosion.
13) Reinstall grill, headlights, and bezels previously removed.

Single-bevel-groove weld (4)
Butt joint (B)



Tolerances	
As Detailed (see 5.4.1.1)	As Fit-Up (see 5.4.1.8)
R = +1/16, –0	+1/4, –1/16
α = +10°, –0°	+10°, –5°

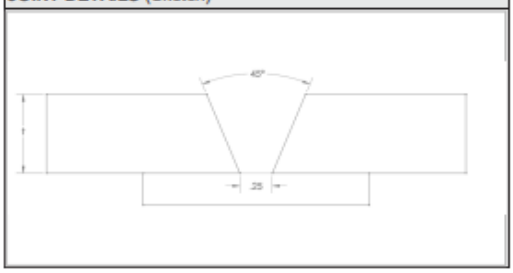
Welding Process	Joint Designation	Bass Metal Thickness (U – unlimited)		Groove Preparation		Allowed Welding Positions	Gas Shielding for FCAW	Notes
		T_1	T_2	Root Opening	Groove Angle			
SMAW	B-U4a	U	—	R = 1/4	α = 45°	All	—	c, e, j
				R = 3/8	α = 30°	All	—	c, e, j
GMAW FCAW	B-U4a-GF	U	—	R = 3/16	α = 30°	All	Required	a, c, j
				R = 1/4	α = 45°	All	Not req.	a, c, j
				R = 3/8	α = 30°	F, H	Not req.	a, c, j
SAW	B-U4a-S	U	—	R = 3/8	α = 30°	F	—	c, j
				R = 1/4	α = 45°			

Table 4.1

JOINT DETAILS	
Groove Type	Single V-Groove
Groove Angle	45°
Root Opening	0.25
Root Face	-
Backgouging	NA
Method	-

POSTWELD HEAT TREATMENT	
Temperature	-
Time at Temperature	-
Other	-

JOINT DETAILS (Sketch)



PROCEDURE								
Weld Layer(s)	*All	-	-	-	-	-	-	-
Weld Pass(es)	**All	-	-	-	-	-	-	-
Process	FCAW-G	-	-	-	-	-	-	-
Type *(Semiautomatic, Mechanized, etc.)*	Semiautomatic	-	-	-	-	-	-	-
Position	V, OH	-	-	-	-	-	-	-
Vertical Progression	Up	-	-	-	-	-	-	-
Filler Metal (AWS Spec.)	A5.20	-	-	-	-	-	-	-
AWS Classification	E71T-1C H8	-	-	-	-	-	-	-
Diameter	0.045	-	-	-	-	-	-	-
Manufacturer/Trade Name	Any	-	-	-	-	-	-	-
Shielding Gas (Composition)	75% Argon 25% CO2	-	-	-	-	-	-	-
Flow Rate	35-50	-	-	-	-	-	-	-
Nozzle Size	0.50-0.75	-	-	-	-	-	-	-
Preheat Temperature	***32°F min	-	-	-	-	-	-	-
Interpass Temperature	32°F min	-	-	-	-	-	-	-
Electrical Characteristics								
Current Type & Polarity	DCEP	-	-	-	-	-	-	-
Transfer Mode	-	-	-	-	-	-	-	-
Power Source Type (*cc, cv, etc.*)	CV	-	-	-	-	-	-	-
Amps	180-220	-	-	-	-	-	-	-
Volts	22-28	-	-	-	-	-	-	-
Wire Feed Speed	255-305	-	-	-	-	-	-	-
Travel Speed	8-12	-	-	-	-	-	-	-
Maximum Heat Input	-	-	-	-	-	-	-	-
Technique								
Stringer or Weave	Stringer	-	-	-	-	-	-	-
Multi or Single Pass (per side)	As Needed	-	-	-	-	-	-	-
Oscillation (*Mechanized/Automatic*)	NA	-	-	-	-	-	-	-
Traverse Length	-	-	-	-	-	-	-	-
Traverse Speed	-	-	-	-	-	-	-	-
Dwell Time	-	-	-	-	-	-	-	-
Number of Electrodes	-	-	-	-	-	-	-	-
Contact Tube to Work Distance	0.50 - 1.00	-	-	-	-	-	-	-
Peening	-	-	-	-	-	-	-	-
Interpass Cleaning	Grinding/Brushing	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-

* For any layer width >5/8" split layers are required.

** 3/8" Max Root Pass Thickness
1/4" Max Fill Pass Thickness

*** If base metal temperature is below 32°F, the base metal must be preheated to a min of 70°F

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Table 5.1

Service Bulletins are intended for use by Professional Technicians only. They are written to guide Professional Technicians in performing service to vehicles of specific nature in conjunction with industry standards. Professional Technicians should be appropriately trained on industry standards and have the tools and equipment to perform procedures safely and properly.