

NJT Suburban Handrail Installation



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Property and TopBus Number: NJT 164200 Suburban – 5200-5423.

Issue: Suburban Handrails

Reason/ cause: Overhead Handrail must be Continuous

Solution: Install Longer Handrails

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Number of affected buses: 223

Estimate repair hours/bus: 3 Hours

Necessary parts:

Item	Description	PN	Qty
01	Grab rail Road Side	10B-1710-001	1
02	Grab rail Curb Side	10B-1710-002	1
03	Bracket Stanchion Luggage Rack	10B-1710-003	2
04	Bolt 5/16-18 x 5/8	22051805855	2
05	Nut 5/16-18 x 5/8 Hex Stover	21051888	2
06	Washer Flat 5/16 SS	5001210	2
07	Screw / Sleeve Nut SS	5027840	2
08	Pivot Cup	5016391	2
09	Grab rail Ceiling Hangar Assy 7-1/2	10A-1710-003	2
10	Loctite	5014201	.20
11	TSC ¼-20 x 1" PHCR Type F	5015841	2
12	Nut ¼-20 Hex Head SS	200420SS	2
13	Washer Flat ¼" SS	2604SS	2
14	Rail Support 57" LG	556-1710-004M	AR
15	Spacer ½"	McMaster Carr PN: 92825A201	AR
16	Spacer ¾"	McMaster Carr PN: 92825A203	AR
17	Spacer 1"	McMaster Carr PN: 92825A205	AR
18	SS 5/16-18 x 1 1/4" Bolt	McMaster Carr PN: 92240A585	AR
19	SS 5/16-18 x 1 1/2" Bolt	McMaster Carr PN: 92240A587	AR
20	SS 5/16-18 x 1 3/4" Bolt	McMaster Carr PN: 92240A589	AR

Necessary Tools / Supplies:

Phillips Screwdriver & Impact Driver
Chop Saw
Drill
#6 Drill Bit
3/8" Drill Bit
¼" Pilot Bit
7/16" Wrench
Ratchet with 7/16" Socket
Clamp

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

1. Park the bus on level surface and apply parking brake. Turn engine off.
2. Locate the curbside front handrail (see below).



3. Remove components noted in the below picture in order to remove the existing handrail (see below). Save the removed hardware for installation of the new handrail.

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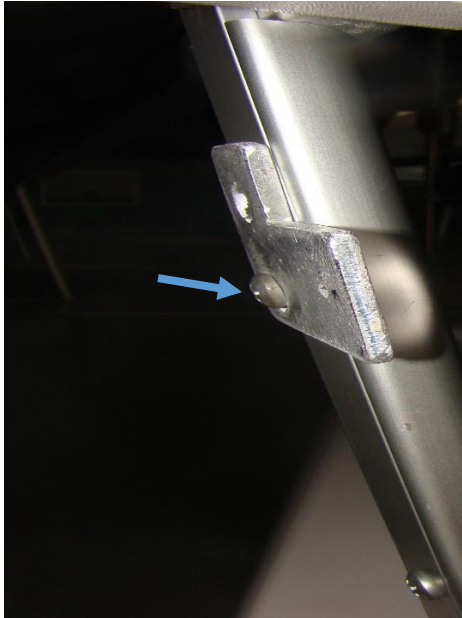
4. Install new ceiling mounting hangar (see below) using the hardware removed from step 3.



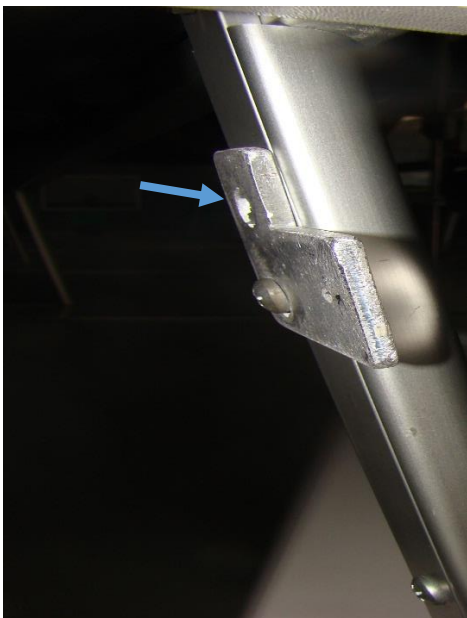
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5. Install new mounting bracket to the luggage rack utilizing one existing mounting screw (see below).



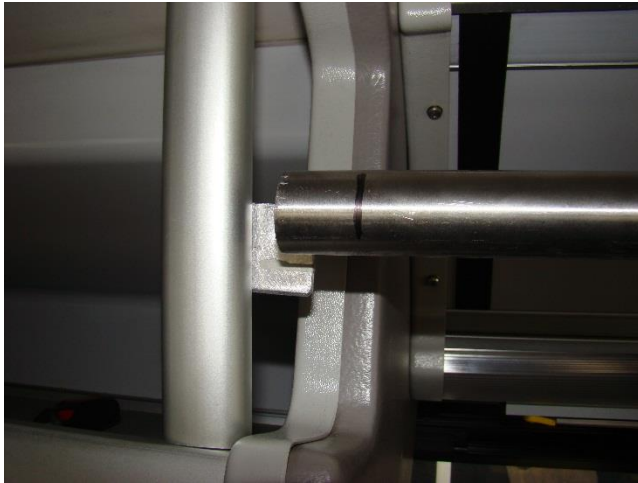
6. Drill hole using #6 drill bit & install self-tapping screw to second hole in bracket (see below).



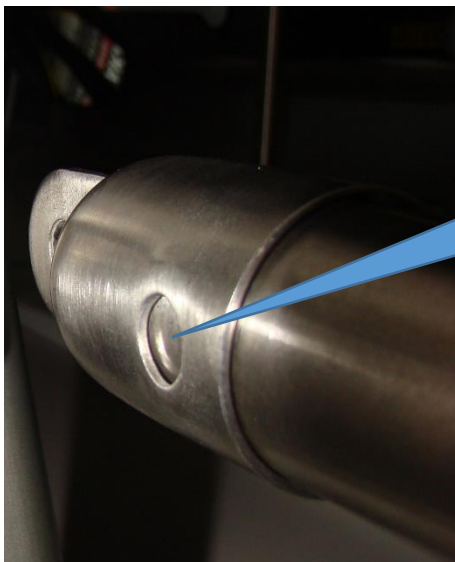
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7. Install new grab rail in end clamping bracket and line up to be cut. Place end cap on grab rail and line up with bracket installed in step 6 & 7 to determine how much of the grab rail needs to be cut (see below). Return grab rail back to bus & install to the end clamping bracket.



8. Drill a 3/8" hole in end cap (see below). If necessary, drill a 1/4" pilot hole before drilling the 3/8".



Drill 3/8"
hole
through the
pole.

9. Before installing the end cap to the mounting bracket on the luggage rack make sure the original/additional parts are slid on to the new grab rail (straps, mounting clamps).

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10. Install provided barrel bolts to previously drilled hole in step 8 & tighten securely (coat threads with Loctite 242 Threadlocker before installing).
11. Mount end cap to mounting bracket installed in step 5 & 6 using the hardware provided (see below).



NOTE: If there is a gap between the mounting bracket & the end cap, a spacer must be used. Use the appropriate spacer for the gap (1/2", 3/4" or 1") & the appropriate bolt (1 1/4", 1 1/2" or 1 3/4"). See below.

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If there is a gap between the end & mounting bracket a spacer & longer bolt must be used.

12. Install provided ceiling hangar clamp to the new grab rail using the provided hardware (see below). Coat threads with Loctite 242 Threadlocker before installing.

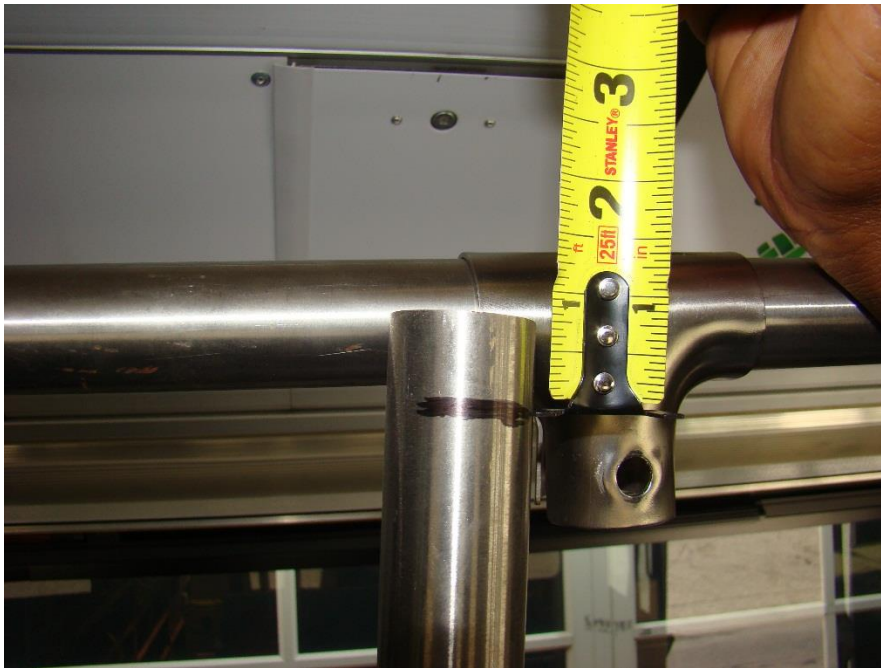


13. Reinstall vertical stanchion to the new grab rail using the removed clamp from step 3 (see below). Drill a 3/8" hole in the new grab rail for the top hole. Using the removed hardware from step 3, install & tighten securely (coat threads with Loctite 242 Threadlocker before installing).

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NOTE: If existing stanchion pole does not reach, a new pole must be used. Cut pole to fit.



14. Install forward ceiling hangar removed in step 3 using the hardware removed in step 3 (see below). Tighten hardware securely (coat threads with Loctite 242 Threadlocker before installing).

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15. Apply Loctite 242 Threadlocker to the clamping bracket screw threads, reinstall hardware & tighten securely (see below).



16. Repeat same process for street side handrail replacement.
17. Inspect and file down any sharp edges caused from performing this retrofit.
18. Clean up any debris caused by performing this retrofit.
19. Record bus number, mileage and date of completion; return form to Field Service Manager