

Sangamon Mass Transit District Vehicle Forum - 12/13/2018

About

Sangamon Mass Transit District is one of two regional maintenance facilities in Illinois, the other being in Rockford. SMTD does maintenance for 20 agencies; sees over 300 vehicles a year. They perform a 70-point inspection, where every piece of vehicle is touched. SMTD will even help over the phone.

Wheelchair Lifts

Lubrication

- Don't use axle grease to lubricate the lifts
 - Moves much slower in the winter
 - Grease will collect dirt easily
 - Tears up the bushings, slides
- Manual says use a good penetrating oil
 - Never use WD-40 because its a solvent
 - Washes all remaining oils in the bushings out

Fluid leaks

- Don't use the lift if there are any fluid leaks because the lift can fail

Safety latches

- Wheelchairs can hit safety latches and cause them to break
 - Make sure the outer barrier latch is in locked position
 - The safety latches need to be functioning in the event the hydraulic system fails
- Safety latches prevent a broken hydraulic lift from falling out once the doors are open
 - Open one door at a time to see if the safety latches are working, so the lift does not fall on you
 - If you have a wheelchair that is past those locks, then you may have a leak that has gone fast enough that the lift then fades into the locks

Troubleshooting lift issues

- Metal shavings can build up where the rod of the door goes up into the switch
 - If you open the door and the lift doesn't work, take a rag and wipe in there
 - Metal shavings are magnetic and cause the lift to not work
 - Way to check: put on the parking brake and make sure all of the lights come on. If not, maybe this is the issue.

Step platform

- Many providers struggle with the platform rattling around, causing a very annoying sound
 - SMTD solution: Slide plate out, add foam weather striping ½ inch thick, 4-6 inches on each side next to the spring
 - Push it down, slide it in, then use plastic washers on the bolts
 - Everything still functions correctly, helps with noise; Braun says this fix is okay as long as you can step on the plate and set off the alarm
 - Four springs in there, but they don't hold tight because the manufacturer wants the alarm to go off when you step on it

- The manufacturer wants the plate loose so it alerts the person “hey you’re close to the edge”
- **Do not:** try and fix yourself by shoving wood or paper towels under there because then the plate buzzer/alarm doesn't work, causing a safety issue
 - Don't use a bungee cord to hold it up because it will bend the bridge plate back and then you will have to replace that as well
 - Don't allow loose bolts to go without immediate repair
 - Don't forget to stow the lift tightly, or the bushings will be beat out
 - Rule of thumb: check lifts every 3,000 miles or 3 months OR if the vehicle has been sitting for a while

Rotting floors under the lift

- Doors don't seal well
 - Water goes in the drip rail above the windows, and it runs down into the walls
 - Water will puddle at the base of that lift, causing it to rust, rot floor and lift will pull out of the floor
 - When you're loading wheelchair passengers, you have your tie downs and tracks on the floor
 - They are made of aluminum with steel screws
 - Must keep clean, or they will corrode
 - Drivers complain that they won't slide right or lock in; that's because the steel versus aluminum starts corroding and pushing up and away from each other
 - How you can tell if rotting has occurred: small corrosion spots on the aluminum skirt panel right at the wheel
 - There's a steel frame that comes across there and it doesn't have any shielding behind it, and it will rub against the aluminum, causing corrosion spots
 - How to check: when you have a heavy load on the lift, you can see a gap between the floor bolts
 - Use a garden hose to clean out the bottom
 - Have a mechanic look at the bottom of the bus by lifting it up in the shop

Testing the lift

- Put 75 lb or more sandbags on the lift to test if it will fold with weight on it

Vehicles that sit for a long period of time

- If you have a vehicle that needs to sit for a while, disconnect the battery
 - Otherwise, the battery will drain
- Batteries in newer buses are now under the steps, not under the lift
 - Have a technician pull the floor out and check the battery

A/C and Heat

Heat shrink

- Heat shrink goes around the positive and negative cable, but it's too long, so when they tighten it down, half of it is underneath the terminal
 - Have a technician cut it back so they have a good connection

- Hood on the newer buses have a red master switch underneath that breaks because the heat shrink is too long, and it eventually melts that switch

A/C preventative maintenance

- Hose out the condensers outside the vehicle
 - Rain, salt, snow plugs them up and creates a high pressure on the system and it won't cool as well; hosing it out also helps from corroding
 - \$15,000 to 16,000 to replace
 - Rural providers want to do this more often because wind brings rocks or dirt from roads into the condenser
 - Rear filter also needs to be hosed out
 - SMTD has seen buses come in with them full of dirt and it causes them to not work
 - Check every 3,000 miles
 - Stress to technicians that the filter back there has two or three screws and the filter is right there
- On newer buses, the rear air is on another switch and it has a temperature dial
 - Make sure that's always to the right because if you turn it down it causes it to cut that A/C in and out, work less consistently

Heater valves

- Just behind the drivers door between the condenser and the drivers door there's heat valves
- Shut those off in the summer months, it will save your A/C from working as hard
 - When those valves are open, that rear heater cord is always hot and circulating

A/C rear unit

- Buses come in with that freon level low
 - Coming out of the factory, those two lines are loose
 - Pressure test the freon occasionally
 - Most vans can hold 3-4 lbs of freon; if it gets a lb low, it's not going to work
 - Some of the newer buses have two separate compressors

Heater fans

- When you run them high all the time, contacts inside the switches go bad; causes problems when you want to run them at lower speeds
- Resistor is mounted in that heater box, which takes all of the heat from the electricity and the heat off that cord
- Alternating the heat speed and level will help
 - Fans have a 30 day warranty

Excessive heat in foot area

- Not many complaints about this, but the problem might be solved by checking the seals

Driver floor rotting

- Factory mat has a foam pad and it draws moisture from heat
 - Causes rusting in the floor underneath
 - Solution: Throw out that insulation out, put your mat back down
 - If there is rust, clean it out, seal it, and paint it

Cost Effectiveness

- Routine 70 point checks will save money in the long run
- Major repairs take vehicles out longer
- Find a technician that knows how to service IDOT vehicles
- Most parts are in stock at SMTD
- SMTD costs \$46/hour; most garages cost \$100/hour

Bus undercoating

- Undercoating on the older buses is not good; newer buses are a little better
 - Options: Fluid film = temporary paraffin-based, use once a year
 - SMTD uses truck bed coating because it's more permanent, doesn't get soft and dripping in the heat

Premature front tire wear

- Newer Starcrafts have premature tire wear in the front
 - When you get a new bus, you need to take it to get it aligned
 - Manufacturer does a tape measure alignment, but this is before the body is put on
 - SMTD does alignments for \$130