**VEHICLE MAINTENANCE PLAN**

**Arenac Public Transit Authority**

**4358 Airpark Drive P.O. Box 431**

**Standish, Michigan 48658**

DATE MDOT REVIEWED: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DATE BOARD REVIEWED: \_\_\_December 15, 2021\_\_\_\_\_\_\_\_\_\_\_\_

**Maintenance Policy Statement**

Arenac Public Transit Authority is dedicated to providing safe reliable vehicles for its employees and customers. The following written procedures have been established to obtain daily pre-trip inspections, semiannual safety inspections and scheduled preventative maintenance to ensure safety and the longevity of the Arenac Public Transit Authority fleet. Furthermore, Arenac Public Transit Authority strives to complete vehicle repairs as efficiently and as quickly as possible. Individual vehicle records are maintained to document service intervals, warranty claims and equipment performance.

**Daily Inspections**

Daily inspections are performed by an Arenac Public Transit Authority. Vehicle Operator and are a key element to the early detection and remedy of potential vehicle failures. These inspections are implemented to detect any visible problems and will be conducted before the vehicle leaves the facility. If the vehicle is found to have significant defects it will be scheduled for repair and fixed prior to being used. A vehicle pre-trip inspection will be performed each time a vehicle is used. For the pre-trip inspection procedures and checklist see *Attachment 1*.

**Safety Inspections**

Regularly scheduled inspections are also a key element to the early detection and remedy of potential safety-related issues. Vehicle safety inspections are performed, a minimum of, every six months, using MDOT’s Vehicle Safety Inspection Checklist (see *Attachment 2*). The safety inspections are to emphasize everything effecting the safe operation of the vehicle. Arenac Public Transit Authority safety inspections are performed by an outside contractor that has mechanics who are certified for the class of vehicle and equipment. If the safety inspection finds the vehicle to have significant defects it will be scheduled for repair and fixed prior to being used. Otherwise, Arenac Public Transit Authority will use the safety inspections to monitor and schedule other needed repairs and maintenance.

**Routine Service & Maintenance Schedule**

Preventative maintenance involves performing regularly scheduled maintenance services, adjustments, and inspections based on a predetermined interval of miles to minimize malfunctions. Arenac Public Transit Authority schedules routine service and maintenance of its vehicles to meet or exceed manufacturer’s recommended services intervals (see *Attachment 3*). Arenac Public Transit Authority’s methodology to determine when vehicle servicing is due is for the Operations Manager to check the vehicle mileage daily and compare them with the service schedule. The Operations Manager will notify Dispatch of what service is due and they will schedule an appointment with the outside contractor for the service to be performed. This ensures pre-established service intervals are not exceeded. Proactive vehicle maintenance is a primary goal of Arenac Public Transit Authority’s maintenance program. Effective preventative maintenance means performing necessary repairs promptly to prevent further damage and to ensure vehicle safety. Arenac Public Transit Authority also reserves the right to remove a vehicle from active service, depending on the extent of required services, until it is road-ready to ensure the continued preservation of the vehicle and the continued safety of Arenac Public Transit Authority’s employees and customers.

**Record Keeping**

Historical records of Arenac Public Transit Authority vehicles are kept substantiating maintenance is being performed according to the manufacturer’s recommendations. All vehicle maintenance becomes part of the vehicle’s historical record. Each individual vehicle’s historical record includes all daily pre-trip inspections, six-month safety inspections, and routine maintenance records. Arenac Public Transit Authority maintains the historical records for each of our vehicles in separate folders and are kept in the Operations Manager’s office for referral.

**Summary**

Preventive maintenance is an essential element of every transportation operation. Arenac Public Transit Authority believes its vehicle maintenance plan increases vehicle reliability, longevity, and safety. While preventive maintenance may be more expensive in the short run, it likely results in the lowest overall life cycle cost.

**Attachment 1**

**Arenac Public Transit Authority**

**DAILY PRE-TRIP INSPECTION VEHICLE OPERATOR PROCESS**

Vehicle Operator’s will be responsible for performing the following procedure for daily pre-trip vehicle inspection and filling out the Daily Pre-Trip Inspection Form as needed.

**Before starting the vehicle, the Vehicle Operator must inspect the vehicle for the following:**

1. Oil levels
2. Coolant levels
3. Transmission fluid
4. Power steering fluid
5. Windshield washer fluid
6. Hoses
7. Leaks (puddles and/or drips)

**After starting the vehicle, the Vehicle Operator must inspect the vehicle for the following:**

1. Turn on all outside lights, walk around the vehicle scanning all lights and lenses looking for burned out lamps, cracked or broken lenses; repeat to check 4-ways.
2. Scan the ground under and around the vehicle looking for fluid leaks, listening for air leaks and loose belts.
3. Inspect the vehicle body for fresh damage.
4. Check all glass for cracks and/or brakes.
5. Check tires and rims for cuts, dents, cracks, missing or loose lug nuts and low inflation.
6. Check mirrors inside and outside of vehicle for cracks or brakes and make sure mirrors are clean, tight, and adjusted.
7. Check wheelchair securement system to make sure it is functioning properly.
	1. There are sufficient wheelchair tie downs to accommodate the maximum number of people who will be in a wheelchair on the route.
	2. All tie downs are in good working order.
	3. The area of the vehicle where the tie downs are affixed is clean and clear of obstructions.
	4. All harnesses are in good working order.
	5. Safety belts are in good working order.
	6. The wheelchair life mechanism is in good working order.
	7. The safety gate on the lift platform automatically deploys when the lift is engaged.
	8. The safety gate retracts when the lift is level to the ground.
	9. The inner parking brake works.
8. Scan the inside of the vehicle to make sure all gauges are working properly and indicate proper levels and pressures.
9. Check the horn and all other safety equipment including seatbelts.
10. Make sure emergency triangles are in the vehicle.
11. Check to make sure insurance and registration cards are in vehicle.
12. Verify that the fire extinguisher is secure, charged and up-to-date.
13. Make sure the stepwell and floor area are clean and free from trip hazards and that all seats are secure.
14. Perform a radio check (10-8) before leaving the Arenac Public Transit Authority parking lot.
15. Headlights and running lights must be on at all times when operating the vehicle.

**If damage or mechanical flaws are noticed, the Vehicle Operator must do the following:**

1. Report the damage or mechanical flaws of the vehicle on the Daily Pre-Trip Inspection form.
2. Turn the Daily Pre-Trip Inspection form into Dispatch or Management before departing.
3. If the lift is not working properly report to Dispatch or Management and an alterative vehicle will be assigned until the lift is in working order.

**In the event that a vehicle is swapped for any reason:**

1. The Vehicle Operator taking over will inherit the responsibility of making sure the vehicle is in proper working order up to and including making sure that all mobility devices are secured properly.

**Arenac Public Transit Authority**

**DAILY PRE-TRIP INSPECTION**

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Vehicle #: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Starting Mileage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ending Mileage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Check each item below. Use **O** for **OK**, **X** for **Needs Attentions** and **N/A** for **Does Not Apply.**
2. On the lines below explain any defects or problems and notify management immediately so that corrective action can be taken.
3. Problems with the vehicle or unusual occurrences during operation should be reported to management **IMMEDIATELY**.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ENGINE COMPARTMENT** |  | **EXTERIOR** |  | **CAB CHECK/ENGINE START** |
|  |  |  |  |  |  |  | Temperature Gauge |
|  | Oil Level |  |  | All Wheels (Rims) |  |  | Oil Pressure Gauge |
|  | Coolant Level |  |  | All Tires |  |  | Amp Meter/Voltmeter |
|  | Transmission Fluid |  |  | Lug Nuts/Valve Caps |  |  | Driver’s Seat & Safety Belt |
|  | Power Steering Fluid |  |  | Suspension Front/Rear |  |  | Steering Wheel Play |
|  | Windshield Washer Fluid |  |  | Cleanliness |  |  | Hydraulic Brakes (Pedals) |
|  | Belts |  |  | Body Damage |  |  | Parking Brake |
|  | Hoses |  |  | Windows |  |  | All Mirrors/Windshield  |
|  | Leaks (Puddles or Drips) |  |  | Fuel Tank |  |  | Wiper/Washer |
|  |  |  |  | Exhaust |  |  | Horn |
|  |  |  |  |  |  |  | Heater/Defroster & A/C |
|  |  |  |  |  |  |  | 2-way Radio |
|  |  |  |  |  |  |  |  |
| **INTERIOR** |  | **LIGHTS/REFLECTORS** |  | **W/C LIFT AND SECUREMENT** |
|  | Passenger Entry & Doors |  |  | Clearance/Running |  |  | Cycle Lift |
|  | Seat Solid Mounting |  |  | Headlights |  |  | Lift Belt & Safety Plate |
|  | Seat Belts |  |  | Hazard/4-way |  |  | Shoulder/Lap Belt & Extensions |
|  | Support/Grab Bars |  |  | Turn Signals |  |  | Floor Securement Retractors/Belts |
|  | Cleanliness |  |  | Tail Lights |  |  | Floor Securement Tracks |
|  | Damage |  |  | Brake Lights |  |  |  |
|  | Emergency Exits |  |  | Back-Up Lights |  |  |  |
|  | Rear Door Alarm |  |  | Light Indicators |  |  |  |
|  | Interior View Mirror |  |  | Reflectors |  | **OTHER (Engine, Exterior or Interior)** |
|  | Passenger Area Lights |  |  | Interior Lights |  |  | Battery Box |
|  | Fire Extinguisher |  |  | Stepwell Lights |  |  | Vehicle Registration/Insurance  |
|  | Triangles/First Aid Kits |  |  | Lift Opening Lights |  |  |  |
|  |  |  |  |  |  |  |  |

PASSENGER CHECK Initials: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

List defects and/or problems: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Repairs Scheduled: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Driver’s Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Reviewed by: (Management Signature) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Attachment 2**

|  |
| --- |
| **VEHICLE SAFETY INSPECTION CHECKLIST** |
| **Vehicle Safety Inspections Are Required Every Six Months** |
| Use **O** for **OK**, **X** for **Needs Attentions** and **N/A** for **Does Not Apply** |
| VEHICLE NO. | TRANSIT AGENCY |
| MAKE | MODEL | YEAR | MILEAGE | VIN |
| TECHNICIAN SIGNATURE | MECHANIC CERTIFICATION NO. | INSPECTION DATE |
|  |
| **A** | **GENERAL CONDITION** | **J** | **SAFETY EQUIPMENT** |  | 71. Volt/Amp Gauge |
|  | 1. Body, Bumpers, Trim
 |  | 35. Flares/Reflector Triangles |  | 72. Oil Pressure Gauge |
| **B** | **TIRES/BATTERY** |  | 36. Fire Extinguisher Charge/Date |  | 73. Engine Temperature Gauge |
|  | 1. Tread Depth
 | **K** | **DRIVER’S SEAT** |  | 74. Air System Pressure Gauge |
|  | 1. Tire Pressure
 |  | 37. Firmly Mounted |  | 75. Low Air Pressure Light/Alarm |
|  | 1. Wheels & Lug Nuts
 |  | 38. Adjusts & Latches |  | 76. Speedometer/Odometer |
|  | 1. Battery Terminals & Compartment
 |  | 39. Seatbelt Operation |  | 77. Air Restriction Gauge/Induction System. |
| **C** | **FLUIDS** | **L** | **HEATER/DEFROSTER** | **Q** | **BRAKES** |
|  | 1. Engine Oil Level
 |  | 40. Fans Operate F/R |  | 78. Parking Brake |
|  | 1. Coolant Level/Freeze Protection

\_\_\_\_\_\_\_\_\_\_\_\_  F |  | 41. Heaters Operate F/R |  | 79. Brake Pedal Low/Soft/Hard/Normal? |
|  | 1. Brake Fluid Level
 |  | 42. Defroster Operation |  | 80. Brakes, Pull, Noisy |
|  | 1. Transmission Fluid Level
 |  | 43. Air Conditioner System Operation |  | 81. Air Chambers/Slack Adjusters |
|  | 1. Power Steering Fluid Level
 | **M** | **LIGHTS, HORN** |  | 82. Air Lines/Tanks/Drains |
|  | 1. Windshield Washer Fluid Level
 |  | 44. Stepwell | **R** | **TRANSMISSION-DRIVE TRAIN** |
| **D** | **DOORS** |  | 45. Passenger Area |  | 83. Holds in Park Position |
|  | 1. Open & Close Properly
 |  | 46. High Beam Headlights & Indicator |  | 84. Does Not Start in Gear |
|  | 1. Won’t Open Accidently
 |  | 47. Low Beam Headlights |  | 85. U-Joints |
|  | 1. Latches, Handrails, Hinges
 |  | 48. Dimmer Switch |  | 86. Differential/Rear Axle |
|  | 1. Seals Out Fumes & Dust
 |  | 49. Turn Signal Lights & Indicators | **S** | **STEERING** |
| **E** | **FLOORS & STEPS** |  | 50. Hazard Flashers & Indicators |  | 87. Free Play |
|  | 1. Clean & Free of Debris
 |  | 51. Running Lights |  | 88. Steering Force |
|  | 1. Loose Floor Covering/Weak Flooring
 |  | 52. Reflectors |  | 89. Pulls in Either Direction |
|  | 1. Step Tread Covers & Fasteners
 |  | 53. Brake Lights |  | 90. Power Steering Pump/Gear Box |
| **F** | **SEATS** |  | 54. Tail Lights |  | 91. Linkage/Ball Joints/King Pins |
|  | 1. Sharp Edges/Exposed Metal
 |  | 55. License Plate Light | **T** | **SUSPENSION F/R** |
|  | 1. Upholstery/Springs
 |  | 56. Back-Up Lights |  | 92. Shocks/Mounts/Bushings |
|  | 1. Film Mounting
 |  | 57. Back-Up Alarm |  | 93. Springs/Clamps/Shackles |
| **G** | **GRAB-RAIL STANCHIONS** |  | 58. Horn |  | 94. Stabilizers/Tracking Bars/Bushings |
|  | 1. Padded Properly
 | **N** | **WIPER/WASHER** | **U** | **EXHAUST SYSTEM** |
|  | 1. Firmly Mounted
 |  | 59. Arm Tension |  | 95. Exhaust/Tail Pipes |
|  | 1. Other Padding
 |  | 60. Blade Condition |  | 96. Muffler/Catalytic Converter |
| **H** | **WINDOWS** |  | 61. Wiper/Washer Switch w/Delay |  | 97. Hangers/Clamps |
|  | 1. Safety Glass
 |  | 62. Washer Aim & Coverage | **V** | **FUEL SYSTEM** |
|  | 1. Vision Obstruction
 | **O** | **MIRRORS** |  | 98. Lines/Fittings/Filter |
|  | 1. Operation
 |  | 63. Mounted Firmly |  | 99. Leaks |
|  | 1. Sun Visors
 |  | 64. Interior View |  | 100. Tank Mounts/Drain/Fill Cap |
| **I** | **EMERGENCY EXITS** |  | 65. Exterior Flat Rear View | **W** | **LIFT/RAMP/SECUREMENTS** |
|  | 1. Doors/Windows Work Properly
 |  | 66. Exterior Convex Rear View |  | 101. Remote Control |
|  | 1. Doors/Windows Latch Properly
 |  | 67. Exterior Front Cross View |  | 102. Wheelchair Stops/Handrails |
|  | 1. Roof Hatch Operation
 | **P** | **ENGINE OPERATION** |  | 103. Restraints/Tie Downs Operation |
|  | 1. Labeled Properly
 |  | 68. Starting |  | 104. Stop Request |
|  | 1. No Obstruction to EXITS
 |  | 69. Excessive Smoking |  | 105. Adequate Padding |
|  | 1. Door Ajar Warning Alarm
 |  | 70. Instrument Warning Lights |  | 106. Manual Lift Operation |
| REMARKS |

**Attachment 3**

**Arenac Public Transit Authority**

**Service Interval Schedule**

|  |  |
| --- | --- |
| **COMPONENT** | **SERVICE INTERVAL** |
| Engine Oil & Filter | Every 5,000 miles for DieselEvery 6,000 miles for Gas |
| Chassis Lubrication | Every 6,000 miles |
| Air Filter | As needed |
| Fuel Filter | As needed |
| Wheelchair Ramp & Securement | As needed, Inspect at 6 months |
| Vehicle Cleaning | Daily or as needed. |
| Disc & Drum Brake Service | As needed, Inspect at 6 months |
| Transmission Service | As needed |
| Drive Axle Service | As needed, Inspect at 6 months |
| Engine Cooling System Service | As needed, Inspect at 6 months |
| Air Condition/Heater System | As needed, Inspect at 6 months |
| Safety Inspection (required) | Every 6 months |