
Commercial Fleet Windshield Wiper and Washer System Maintenance

1.0 Objective & Scope

The objective of this procedure is to ensure that all commercial fleet vehicles under field operations maintain clear visibility through properly functioning windshield wiper and washer systems. This SOP applies to all fleet drivers, field technicians, and logistics personnel responsible for vehicle pre-trip inspections, routine maintenance, and on-site repairs. Compliance with Transport Canada Motor Vehicle Safety Regulations and Occupational Health and Safety standards is mandatory.

Scope includes inspection of wiper blades, arms, linkages, washer fluid reservoir, pump, hoses, and nozzles. Replacement of worn or damaged components and refilling of washer fluid with appropriate winter-grade solution are covered. This procedure does not cover full windshield replacement or electrical diagnostics beyond the washer pump circuit.

2.0 Required Equipment & Tools

- Mobile tablet with SiteQueue application installed for digital inspection and sign-off
- Replacement wiper blades (exact OEM or approved equivalent for each vehicle model)
- Winter-grade windshield washer fluid (rated to -40°C or lower for Canadian climate)
- Washer pump replacement kit (if applicable)
- Small flathead screwdriver and trim removal tool
- Adjustable wrench or socket set (for wiper arm nut removal if needed)
- Funnel and clean rag
- Penetrating oil (e.g., WD-40) for corroded connections
- Digital multimeter (for pump electrical testing)
- Personal protective equipment: safety glasses, cut-resistant gloves, high-visibility vest

3.0 Site Safety & Hazard Assessment

- High-visibility vest and steel-toed boots required when working in active fleet yards or roadside locations.
- Ensure vehicle is parked on level ground, engine off, ignition key removed, and parking brake engaged.
- Conduct a 360-degree walk-around to identify any fluid leaks, broken glass, or sharp edges near the windshield area.
- Use wheel chocks if vehicle is on an incline or in a temporary service bay.
- Be aware of overhead hazards such as low clearance or falling ice/snow from building edges.
- Wear safety glasses when handling washer fluid or working near spring-loaded wiper arms to avoid eye injury.
- If working roadside, set up warning triangles or cones per Transport Canada guidelines and use vehicle hazard lights.

4.0 Step-by-Step Execution Procedure

1. Open the SiteQueue work order for the assigned vehicle and review any prior maintenance notes or recurring issues.
2. Perform a visual inspection of both wiper blades: check for cracking, splitting, missing rubber, or metal frame corrosion. Lift each arm carefully and release slowly to avoid snapping the arm against the glass.

3. Test wiper operation by turning the ignition to the accessory position (engine off) and activating the wiper switch at low, high, and intermittent settings. Observe for streaking, skipping, chattering, or incomplete contact with the windshield.
4. Inspect wiper arms for bent or loose components. If the arm does not maintain consistent pressure, replace the arm assembly. Use penetrating oil on corroded pivot points before attempting removal.
5. Check washer fluid level in the reservoir. If low, fill with winter-grade washer fluid using a funnel. Note: never use water alone as it can freeze and damage the system.
6. Activate the washer system for 3-5 seconds and observe spray pattern from each nozzle. Ensure fluid reaches the lower third of the windshield on both driver and passenger sides. If spray is weak or misdirected, clean nozzles with a pin or replace if clogged.
7. Listen for the washer pump motor sound. If no sound is heard, check the fuse and relay first. If those are functional, use a multimeter to test for voltage at the pump connector. Replace pump if it receives power but does not operate.
8. Inspect all washer hoses for cracks, kinks, or disconnections from the reservoir to the nozzles. Replace any damaged sections and secure with zip ties if necessary.
9. Replace any defective wiper blades following the vehicle-specific attachment method (hook, pin, or beam style). Ensure the blade snaps securely into place and the rubber edge contacts the glass evenly.
10. Perform a final operational test: run the wipers on low speed with washer fluid for 10 seconds. Confirm clear wipe pattern, no noise, and proper fluid coverage. Turn off wipers and ensure they park correctly at the bottom of the windshield.
11. Clean any fluid spills from the vehicle paint or ground using a rag. Dispose of old wiper blades and packaging in designated waste bins.
12. Update the SiteQueue work order with all findings, parts replaced, and fluid added. Take photos of the completed installation and any notable defects found during inspection.

5.0 Verification, Sign-off & Reporting

1. Verify that all replaced components match the vehicle's specifications and that no tools or debris remain in the engine bay or cabin.
2. If the vehicle is part of a customer fleet, notify the site contact or fleet manager that maintenance is complete and demonstrate the wiper/washer function if requested.
3. Obtain a digital signature from the customer or authorized fleet representative in SiteQueue, confirming satisfaction with the work performed.
4. Upload all completion photos (wiper blades installed, fluid level, spray pattern) to the work order in SiteQueue for record-keeping and compliance.
5. Close the work order in SiteQueue and ensure the vehicle is marked as 'Service Complete' in the fleet management system.
6. If any issues were deferred (e.g., wiper arm replacement needed but part not in stock), create a follow-up task in SiteQueue with a priority level and estimated timeline.

Regulatory Disclaimer: This document is a generic site management template provided for educational purposes. The end-user assumes all liability for reviewing, adapting, and validating all field protocols against local site requirements.