PREVENTIVE MAINTENANCE INSPECTION (PMI) INFORMATION

For trailers equipped with DROV AirBoxOne™, automatic tire inflation, wheel-end sensors, brake sensors, camera and telematics systems

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1. PMI SCHEDULE MATRIX

Time / mileage, whichever occurs first.

LEGEND: V = Visual Inspection P = Physical Check / Operation / Leak Check / Torque F = Functional / Electronic Test R = Record Value

System	Inspection Item	PDI / Install	Daily (Driver)	PM-B Quarterly	PM-C Annual
Tires & Automatic Inflation	Tire pressure — all 8 positions	R	V	R	R
	TPMS operation state (Low battery, stale)	R		R	R
	Tire condition, irregular wear, valve caps	V	V	V	V
	Inflation system warning lamp — controlled fault test	F		F	F
	Inflation hoses & connections at valve stems	P	V	P	P
	Rotary union — hoses, leak check, torque (where fitted)	P		P	P
	Hubcap — Air Leak. Oil leak	P		P	P
	Hubcap — hose orientation (where applicable)	V		V	V
Wheel-End Sensors (SKF)	LF / RF / LR / RR sensor — activate, verify current timestamp	F		F	F
	Sensor mounting & condition	V		V	V
Brake and airbag Sensors	Parking brake sensor — apply air, verify signal	F		F	F
	Service brake sensor — apply air, verify signal	F		F	F
	Airbag sensor- apply air, verify data on UI- follow calibration if needed	F		F	F
	Parking & service brake fittings — leak check	P		P	P
Telematics & Power	GPS — valid location received in portal	F		F	F
	Battery state of charge (>60% to release)	R		R	R
	AirBoxOne — caps, plugs, battery, enclosure	P		P	P
	Solar panel charging voltage — 6-pin connector pins C & D	R		R	R
	Door sensor — open/close verification (where fitted)	F		F	F
Camera System (where fitted)	Camera–AirBoxOne link (green light at ECU net connection)	F		F	F
	Camera image quality and position	F		F	F
	Camera ECU — lid closed, caps in place, ethernet tight	P		P	P
Harness & Mounting	Main harness — wear, chafing, routing, securement	V	V	P	P
	Cord grips on axle — verify tightened (If equipped with inflation system)	P		P	P
	All push-to-connect fittings — leak check	P		P	P
General Trailer (per OEM / FMCSA)	Brakes, lights, suspension, landing gear, kingpin, body	V	V	P	P
	DOT annual inspection (49 CFR 396.17)				P

NOTE: Intervals shown are minimums for normal on-highway service — shorten for severe service. Each business remains responsible for creating its own complete trailer service and driver checklists covering items beyond the DROV system (lights, reflectors, couplings, doors, mudflaps, suspension, brakes).

2. PMI MAINTENANCE GUIDE

2.1 Introduction

This document recommends inspection areas, functional tests and record points for DROV systems installed on fleet trailers. The main reference is the complete PMI Schedule Matrix in Section 1. Each of the recommended service levels is also broken out as an individual service inspection in Section 4. A printable inspection record sheet is provided in Section 6 — complete one per trailer per inspection.

IMPORTANT: Workshops, transport businesses and drivers need to check or service more items than are listed in this schedule. This includes items such as brakes, lights, reflectors, couplings, load doors, suspension and mudflaps. Items requiring inspection will vary depending on application (dry van, reefer, dry bulk, tanker). Each business is responsible for creating its own suitable service and driver checklists in line with the trailer OEM, component suppliers and FMCSA 49 CFR Part 396.

2.2 Periodic Inspection Schedule

This schedule contains minimum inspection requirements for normal on-highway applications, based on a typical annual trailer distance of approximately 100,000 miles (160,000 km). For trailers subjected to off-road, abnormally rough or extreme conditions (temperature, wash chemicals, salt), inspection intervals should be shortened to ensure maximum system performance and data integrity. Inspections shall be carried out at the time or mileage interval specified, whichever occurs first. Inspection and functional checks should also be carried out any time the system is damaged, a warning lamp is active, or telematics data appears abnormal.

2.3 Inspection Levels & Intervals

Level	Interval (time / mileage, whichever first)	Performed By	Scope
DAILY — Pre-Trip Visual	Every trip / daily	Driver	Walk-around visual: tires, inflation warning lamp, hoses, harness, visible damage, audible air leaks.
PM-A — Quarterly	90 days / 25,000 mi (45,000 km)	Technician	Tire Pressure sensor function checks, battery & GPS verification, visual harness and hose inspection, full leak check, torque verification, camera system check, hubcap and rotary union inspection.
PM-B — Annual	12 months / 100,000 mi (180,000 km)	Technician	All PM-A items plus full system functional test, solar/charging system test. Combine with the DOT annual inspection (49 CFR 396.17).
PDI — Pre-Delivery / Post-Install	Before releasing trailer to service	Installer / QC	Full DROV QC checklist: complete functional verification of every installed component

2.4 Inspection Depth

Four technician service levels and one driver level are defined, but inspection depth varies by level. The daily driver inspection is a brief check that there are no noticeable air leaks, no components are damaged or loose, no warning lamps are active and the trailer is appropriate for its next trip. At PM-A the technician verifies sensor function and records values. PM-B the technician performs hands-on leak, torque and full functional testing of every DROV component to ensure the system can operate reliably until the next scheduled service.

2.5 Reference Documents

- DROV AirBoxOne Installation Manual [800090]
- DROV Camera System Installation Guide [800084]
- TMC Recommended Practices (RP 631, RP 642 — tire inflation & wheel end)
- FMCSA 49 CFR Part 396 — Inspection, Repair, and Maintenance

3. KEY SPECIFICATIONS & PASS CRITERIA

Item	Specification / Pass Criteria
Tire pressure (all positions)	Set point 100 psi. Deflate if above 105 psi. Record all 8 positions (LFO, LFI, LRO, LRI, RFO, RFI, RRO, RRI).
Wheel-end (SKF) sensors	Activate each sensor (LF, RF, LR, RR) and confirm the reported timestamp is current (same day/time as the inspection).
Battery	State of charge of AirBoxOne battery must be above 60% before releasing the trailer to service.
Tire inflation warning lamp	Must illuminate when a hose or TPMS sensor is removed (controlled fault test).
GPS	Valid location received in the telematics portal at the time of inspection.
Solar panel	Verify connections for solar panel connections.
Air leaks	No audible or soap-bubble leaks at rotary union hoses, valve stems, parking/service brake fittings, or push-to-connect fittings.
Camera system	All cameras working, clean and no damage to the cameras

4. INDIVIDUAL SERVICE INSPECTIONS

Each service level below lists the items due at that level. Higher levels include all items from the levels beneath them (PM-C includes PM-B and PM-A items).

4.1 Daily Driver Visual Inspection

Every trip / daily — Driver

- Walk around the trailer; check tires for obvious underinflation, damage or irregular wear.
- Confirm the tire inflation warning lamp is OFF before starting trip.
- Visually check inflation hoses at valve stems and rotary union for damage or disconnection.
- Visually check harness and cables for chafing, snagging or hanging loose.
- Listen for audible air leaks around the axles and AirBoxOne.
- Report any defect on the DVIR; escalate inflation-system defects to maintenance before dispatch.

4.2 PM-A — Quarterly Inspection

90 days / 25,000 mi, whichever first — Technician

- Tire pressure at all 8 positions with TPMS sensors and check tpms sensor funcionality
- Inspect tires for irregular wear; verify valve caps present.
- Activate each SKF wheel-end sensor (LF, RF, LR, RR) and confirm a current timestamp.
- Verify parking brake and service brake sensor signals by applying air.
- Verify GPS location is being received in the telematics portal.
- Record battery state of charge (must be above 60%).
- Visually inspect harness, hoses, AirBoxOne, cord grips, hubcaps and camera ECU
- Controlled fault test: remove a hose or TPMS sensor and confirm the warning lamp turns ON.
- Full leak check (soap test): rotary union hoses, valve stems, parking brake fitting, service brake fitting, push-to-connect fittings.
- Check hubcap for leaks, water ingress (oil hub with inflation system) and hose orientation.
- Verify rotary union torque (where fitted).
- Verify cord grips on axle are tightened.
- Door sensor open/close verification (where fitted).
- Camera system: Verify working by requesting video through UI
- Verify camera ECU lid closed, caps in place, ethernet connections tight.
- Record solar panel charging voltage on 6-pin connector pins C & D (where fitted).

4.3 PM-B — Annual Inspection

12 months / 100,000 mi, whichever first — Technician

- All PM-B items.
- ABS communication check: create a controlled fault or verify communication.
- Hubcap Oil level
- Pressure set-point function test: set system to 90 psi, verify response, reset to 100 psi, verify.
- Full harness physical inspection along entire routing.
- Combine with DOT annual inspection (49 CFR 396.17) and axle/suspension supplier annual service.

4.4 PDI — Pre-Delivery / Post-Install Inspection

Before releasing trailer to service — Installer / QC

- Complete the full DROV QC checklist covering every installed component.
- Verify every functional test in Sections 4.2–4.3 passes.
- Battery state of charge above 60% before release.
- Take photos of the installation for record
- Record the PDI in the fleet maintenance system to start the PM clock.

5. GENERAL SAFETY INSTRUCTIONS

- Park the trailer on level ground, apply parking brakes and chock the wheels before any inspection.
- Relieve air system pressure before disconnecting hoses or fittings; compressed air can cause injury.
- Never stand in line with a wheel/rim assembly while inflating or deflating tires.
- Use proper lockout/tagout when working on electrical components; disconnect power before opening the AirBoxOne or camera ECU.
- Wear appropriate PPE: safety glasses, gloves and footwear.
- Support the trailer with rated stands if any wheel must be raised — never rely on a jack alone.
- Only trained technicians should service DROV components; contact DROV Technical Support before replacing components.

6. PMI INSPECTION RECORD SHEET

Complete one sheet per trailer per inspection. Retain per fleet record-keeping policy (FMCSA 49 CFR 396.3(c): minimum 1 year while the vehicle is in service, 6 months after disposal).

Trailer Number:		**Fleet / Account:**		**PM Level (A/B/PDI):**	
VIN / Serial:		**Location:**		**Date:**	
Odometer / Hub:		**Date of Last PMI:**		**Technician:**	

Section	Inspection Item / Method	Spec / Expected	Result (P/F/NA)	Value Recorded	Checked By
TIRES & INFLATION	Tire pressure — LFO / LFI / LRO / LRI	PSI value updated			
	Tire pressure — RFO / RFI / RRO / RRI	PSI value updated			
	Inflation warning lamp — remove hose/TPMS sensor	Lamp turns ON			
	Pressure set-point test (set 90 → verify → reset 100)	System responds to inflaton/deflation			
WHEEL-END SENSORS (SKF)	LF sensor — activate -> Green LED turns ON	Data updated on UI			
	RF sensor — activate -> Green LED turns ON	Current timestamp			
	LR sensor — activate -> Green LED turns ON	Current timestamp			
	RR sensor — activate -> Green LED turns ON	Current timestamp			
BRAKE AND AIRBAG SENSORS	Parking brake sensor — apply air	Supply psi read on UI			
	Service brake sensor — apply air	Supply psi read on UI			
	Airbag Sensor- apply air	Trailer load read on UI			
TELEMATICS & POWER	GPS — location received in portal	Valid location			
	Battery state of charge	> 60%			
	Solar voltage — 6-pin conn. pins C & D (if fitted)	Charging voltage			
	Door sensor — open/close (if fitted)	Both states report			
CAMERA SYSTEM (IF FITTED)	Camera video request through web UI	Video uploaded on cloud			
	Image quality, position	Clear & labeled			
	Camera ECU — lid, caps, ethernet connections	Secure / closed			
LEAK CHECK	Hoses at rotary union	No leaks			
	Hoses at valve stems	No leaks			
	Parking brake fitting	No leaks			
	Service brake fitting	No leaks			
	Push-to-connect fittings	No leaks			
PHYSICAL / MOUNTING	Harness — wear, chafing, routing	No damage			
	Hubcap — check oil level or any gasket leaks	No damage			
	Hubcap — hose orientation (if applicable)	Correct			
	AirBoxOne — caps, plugs, battery, enclosure	Complete & secure			
	Cord grips on axle — tightness	Tight			
	Rotary union torque (if applicable)	To spec			
DOCUMENTATION	Photos taken and uploaded to SharePoint	Uploaded			
	PMI recorded in fleet maintenance system	Recorded			

DEFECTS FOUND / CORRECTIVE ACTION TAKEN:

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Follow-Up Required: ☐ Yes ☐ No		**Repairs Made: ☐ Yes ☐ No**	
Technician Signature:		**Supervisor Signature:**	