

Maintenance Checklists

Periodic scheduled maintenance is intended to be performed in a complete maintenance facility by trained mechanics. Scheduled maintenance procedures can be found by referring to the appropriate section of the service manual.

Always refer to manufacture's (e.g. engine, transmission, axle) maintenance manual for any additional maintenance intervals, and before performing any maintenance.

Expander Pins (1, 3, 10, 40 Hours)

Check the expander pins at the specified intervals after the machine is put into service, or anytime after the expander pin is repositioned or replaced.

1	Check torque of expander pins after 1 hour.	OK <input type="checkbox"/>	No <input type="checkbox"/>
2	Check torque of expander pins after 3 hours.	OK <input type="checkbox"/>	No <input type="checkbox"/>
3	Check torque of expander pins after 10 hours or one day.	OK <input type="checkbox"/>	No <input type="checkbox"/>
4	Check torque of expander pins after 40 hours or four days.	OK <input type="checkbox"/>	No <input type="checkbox"/>

Refer to Service Form 80-1435 for additional instructions.

First Day of Operation

These checks should be performed after the machine has been in service for 2-5 hours.

1	Check wheel lug nuts and studs mechanically, check torque AFTER THE FIRST 2 HOURS OF OPERATION.	OK <input type="checkbox"/>	No <input type="checkbox"/>
2	Check wheel bearing temperature AFTER 5 HOURS OF CONTINUOUS OPERATION (see page 4-7 for procedure)	OK <input type="checkbox"/>	No <input type="checkbox"/>

First 24 Hours of Operation

These checks should be performed after the machine has been in service for 24 hours.

1	Inspect knee joint connection journal bearings (see page 4-8 for procedure)	OK <input type="checkbox"/>	No <input type="checkbox"/>
2	Re-torque lower arm axle connection (see page 4-8 for procedure)	OK <input type="checkbox"/>	No <input type="checkbox"/>

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First 50 Hours

These checks should be performed after the machine has been in service for 50 hours.

1	Check fluid levels - differentials, planetaries	OK <input type="checkbox"/>	Add <input type="checkbox"/>
2	Check hydraulic system - fluid levels, hoses, fittings, inspect for leaks	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
3	Check battery - cables & connections	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
4	Check all driveline capscrews - torque to spec. See service forms 80-1057 Torque Specification Chart & 80-627 Driveline Service.	OK <input type="checkbox"/>	No <input type="checkbox"/>
5	Check electrical system - lights, options, connections	OK <input type="checkbox"/>	No <input type="checkbox"/>
6	Check all pins, bushings and load bearing hardware	OK <input type="checkbox"/>	No <input type="checkbox"/>
7	Check accumulator pre-charge (see 80-1076)	OK <input type="checkbox"/>	No <input type="checkbox"/>
8	Check parking brake lining wear and readjust if necessary	OK <input type="checkbox"/>	Readjust <input type="checkbox"/>
9	Check wheel lug nuts and studs mechanically, check torque	OK <input type="checkbox"/>	Readjust <input type="checkbox"/>

First 100 Hours

These checks should be performed after the machine has been in service for 100 hours.

1	Drain and fill differentials	OK <input type="checkbox"/>	No <input type="checkbox"/>
2	Drain and fill planetaries	OK <input type="checkbox"/>	No <input type="checkbox"/>
3	Inspect wheel bearing preload, readjust if necessary	OK <input type="checkbox"/>	No <input type="checkbox"/>
4	Check wheel lug nuts and studs mechanically, check torque	OK <input type="checkbox"/>	Readjust <input type="checkbox"/>
5	Change transmission filters	OK <input type="checkbox"/>	No <input type="checkbox"/>

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Weekly Maintenance (50 Hours)

Perform these checks weekly, or after 50 hours, whichever occurs first.

1	Repeat the daily check - see form Daily/Shift Maintenance in section 4	OK <input type="checkbox"/>	No <input type="checkbox"/>
2	Check for fluid leaks - oil, fuel, water, transmission	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
3	Check battery electrolyte level	OK <input type="checkbox"/>	Add <input type="checkbox"/>
4	Lubricate chassis & driveline cross assemblies	OK <input type="checkbox"/>	No <input type="checkbox"/>
5	Record engine RPM	High <input type="text"/>	Stall <input type="text"/>
6	Check brakes for adjustment and wear	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
7	Check wheel lug nuts and studs mechanically, check torque	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
8	Lubricate driveline lube points (see diagram on page 4-6)	OK <input type="checkbox"/>	No <input type="checkbox"/>
9	Check for structural damage - inspect chassis & attachments for bending, cracking & broken welds	OK <input type="checkbox"/>	Repair <input type="checkbox"/>

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Monthly Maintenance (250 Hours)

Perform these checks monthly, or after 250 hours, whichever occurs first.

1	Repeat the 50 hour check	OK <input type="checkbox"/>	No <input type="checkbox"/>
2	Check engine fuel filters	OK <input type="checkbox"/>	No <input type="checkbox"/>
3	* Obtain engine oil sample for analysis	OK <input type="checkbox"/>	No <input type="checkbox"/>
4	Check torque of expander pins	OK <input type="checkbox"/>	No <input type="checkbox"/>
5	Sample fuel; check for water	OK <input type="checkbox"/>	No <input type="checkbox"/>
6	** Check charge air cooler and charge air piping	OK <input type="checkbox"/>	No <input type="checkbox"/>
7	** Check radiator, radiator hoses, and air intake piping	OK <input type="checkbox"/>	No <input type="checkbox"/>
8	Check axle differential oil level	OK <input type="checkbox"/>	Add <input type="checkbox"/>
9	Check axle planetary oil levels	OK <input type="checkbox"/>	Add <input type="checkbox"/>
10	Check drive axles, and lubricate drive axle connection bearings (see page 4-8)	OK <input type="checkbox"/>	No <input type="checkbox"/>
11	Check all cylinder pins for wear, damage, or lack of lubrication	OK <input type="checkbox"/>	No <input type="checkbox"/>
12	Check brake fluid level	OK <input type="checkbox"/>	Add <input type="checkbox"/>
13	Check and adjust the parking brake	OK <input type="checkbox"/>	No <input type="checkbox"/>
14	Flow divider gearbox - check oil level	OK <input type="checkbox"/>	Add <input type="checkbox"/>
15	Check all hydraulic pressures and record; replace breather element	OK <input type="checkbox"/>	No <input type="checkbox"/>
16	Check fire suppression actuator	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
17	Lubricate turntable bearing (see page 4-8)	OK <input type="checkbox"/>	No <input type="checkbox"/>
18	Lubricate elevating cylinder bearings (see page 4-8) both steering & drive	OK <input type="checkbox"/>	No <input type="checkbox"/>
19	Lubricate knee joint journal bearings (see page 4-8)	OK <input type="checkbox"/>	No <input type="checkbox"/>
20	Lubricate service points per lube chart (see page 4-6)	OK <input type="checkbox"/>	No <input type="checkbox"/>
21	Lubricate steering idler pivot lube points (see page 4-6)	OK <input type="checkbox"/>	No <input type="checkbox"/>

* Normal drain period and filter change intervals are for average environmental and duty-cycle conditions. Severe or sustained high operating temperatures or very dusty atmospheric conditions will cause accelerated deterioration and contamination. Change intervals should be adjusted according to the results of oil sampling analysis. Consult your Wagner dealer for assistance in establishing an oil sampling program for your equipment.

** Refer to Cummins Engine Manual QSL9 CM2350 L102 (Bulletin 4332797), section 4.

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Quarterly Maintenance (500 Hours)

Perform these checks quarterly, or after 500 hours, whichever occurs first.

1	Repeat the 250 hour check	OK <input type="checkbox"/>	No <input type="checkbox"/>
2	* Take samples from transmission, axles, and hydraulic system for analysis	OK <input type="checkbox"/>	No <input type="checkbox"/>
3	Check accumulator pre-charge pressure	OK <input type="checkbox"/>	No <input type="checkbox"/>
4	* Change hydraulic tank return filter (see page 4-6)	OK <input type="checkbox"/>	No <input type="checkbox"/>
5	* Change hydraulic pressure filters (see page 4-6)	OK <input type="checkbox"/>	No <input type="checkbox"/>
6	Lubricate engine deck and frame access door hinges (see page 4-6)	OK <input type="checkbox"/>	No <input type="checkbox"/>
7	* Change engine oil and filter **	OK <input type="checkbox"/>	No <input type="checkbox"/>
8	** Check antifreeze concentration	OK <input type="checkbox"/>	Add <input type="checkbox"/>
9	Inspect radiator pressure cap for re-use	OK <input type="checkbox"/>	No <input type="checkbox"/>
10	Inspect batteries, battery cables and connections	OK <input type="checkbox"/>	No <input type="checkbox"/>
11	Change primary fuel filter	OK <input type="checkbox"/>	No <input type="checkbox"/>
12	Change secondary fuel filter	OK <input type="checkbox"/>	No <input type="checkbox"/>
13	Inspect steering linkage and idlers	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
14	Inspect knee joints	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
15	Inspect brake system and components, and change brake filter element	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
16	* Change transmission filter elements	OK <input type="checkbox"/>	No <input type="checkbox"/>

* Normal drain period and filter change intervals are for average environmental and duty-cycle conditions. Severe or sustained high operating temperatures or very dusty atmospheric conditions will cause accelerated deterioration and contamination. Change intervals should be adjusted according to the results of oil sampling analysis. Consult your Wagner dealer for assistance in establishing an oil sampling program for your equipment.

** Refer to Cummins Engine Manual QSL9 CM2350 L102 (Bulletin 4332797), section 5.

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Semi-Annual Maintenance (1000 Hours)

Perform these checks semi-annually, or after 1000 hours, whichever occurs first.

1	Repeat the 500 hour check	OK <input type="checkbox"/>	No <input type="checkbox"/>
2	* Change transmission oil	OK <input type="checkbox"/>	No <input type="checkbox"/>
3	Change hydraulic oil per oil sample test results; check and record pressure settings	OK <input type="checkbox"/>	No <input type="checkbox"/>
4	Change hydraulic tank return filter (see page 4-6)	OK <input type="checkbox"/>	No <input type="checkbox"/>
5	Change hydraulic pressure filters (see page 4-6)	OK <input type="checkbox"/>	No <input type="checkbox"/>
6	Drain and clean fuel tank	OK <input type="checkbox"/>	No <input type="checkbox"/>
7	** Check drive belt (cooling fan)	OK <input type="checkbox"/>	No <input type="checkbox"/>
8	** Check belt tensioner (water pump)	OK <input type="checkbox"/>	No <input type="checkbox"/>
9	** Inspect DEF tank filter, inside DEF tank, for possible re-use	OK <input type="checkbox"/>	No <input type="checkbox"/>
10	** Inspect DEF tank filter, under DEF tank cap for possible re-use	OK <input type="checkbox"/>	No <input type="checkbox"/>
11	Check pins and bushings for wear	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
12	Check/adjust axle connection (see instructions on page 4-8) steering & drive	OK <input type="checkbox"/>	No <input type="checkbox"/>
13	Re-torque axle connection drive pin	OK <input type="checkbox"/>	No <input type="checkbox"/>
14	Steam clean machine, inspect for structural cracks	OK <input type="checkbox"/>	No <input type="checkbox"/>
15	Have ANSUL representative inspect and re-certify fire suppression system	OK <input type="checkbox"/>	No <input type="checkbox"/>

* Drain and refill system. Drain with oil temperature at 180-200°F (63-93°C)

** Refer to Cummins Engine Manual QSL9 CM2350 L102 (Bulletin 4332797), section 6.

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Annual Maintenance (2000 Hours)

Perform these checks annually, or after 2000 hours, whichever occurs first.

1	Repeat the 1000 hour check	OK <input type="checkbox"/>	No <input type="checkbox"/>
2	* Drain, flush and refill differentials	OK <input type="checkbox"/>	No <input type="checkbox"/>
3	* Drain, flush and refill planetaries	OK <input type="checkbox"/>	No <input type="checkbox"/>
4	Check and recharge accumulators, record pressure	OK <input type="checkbox"/>	No <input type="checkbox"/>
5	Tighten mounting bolts and turbocharger mounting bolts	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
6	Steam clean engine	OK <input type="checkbox"/>	No <input type="checkbox"/>
7	** Change DEF tank filters - inside DEF tank, and under DEF tank cap	OK <input type="checkbox"/>	No <input type="checkbox"/>
8	*** Change crankcase breather element	OK <input type="checkbox"/>	No <input type="checkbox"/>
9	**** Check rubber and viscous engine vibration dampers	OK <input type="checkbox"/>	No <input type="checkbox"/>
10	**** Drain, flush, and fill cooling system	OK <input type="checkbox"/>	No <input type="checkbox"/>
11	Check radiator hoses	OK <input type="checkbox"/>	No <input type="checkbox"/>
12	Replace hoses as required	OK <input type="checkbox"/>	No <input type="checkbox"/>
13	Have Allied representative inspect machine (annually)	OK <input type="checkbox"/>	No <input type="checkbox"/>
14	Drain hydraulic fluid tank, flush tank, and replace fluid	OK <input type="checkbox"/>	No <input type="checkbox"/>
15	Lubricate steering column U-joint and slip	OK <input type="checkbox"/>	No <input type="checkbox"/>
16	Inspect knee joints	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
17	Inspect and service steering axles	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
18	Inspect steering idlers	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
19	Inspect journal bearings for wear	OK <input type="checkbox"/>	Repair <input type="checkbox"/>
20	Clean and calibrate injectors and fuel pump	OK <input type="checkbox"/>	No <input type="checkbox"/>
21	Inspect turbocharge, air compressor, fan hub, idler pulley, water pump	OK <input type="checkbox"/>	No <input type="checkbox"/>

* Normal drain period and filter change intervals are for average environmental and duty-cycle conditions. Severe or sustained high operating temperatures or very dusty atmospheric conditions will cause accelerated deterioration and contamination. Change intervals should be adjusted according to the results of oil sampling analysis. Consult your Wagner dealer for assistance in establishing an oil sampling program for your equipment.

** Refer to Cummins Engine Manual QSL9 CM2350 L102 (Bulletin 4332797), section 6.

*** Refer to Cummins Engine Manual QSL9 CM2350 L102 (Bulletin 4332797), section 7.

**** Refer to Cummins Engine Manual QSL9 CM2350 L102 (Bulletin 4332797), section 8.

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Every 4500 Hours, or 3 Years

Perform these checks at 4500 hours, or 3 years, whichever occurs first.

1	* Change aftertreatment DEF dosing unit filter	OK <input type="checkbox"/>	No <input type="checkbox"/>
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* Refer to Cummins Engine Manual QSL9 CM2350 L102 (Bulletin 4332797), section 9.

Every 5000 Hours, or 4 years

Perform these checks every 5000 hours, or 4 years, whichever occurs first.

1	Inspect and service steering axles	OK <input type="checkbox"/>	No <input type="checkbox"/>
2	Inspect and replace (if necessary) aftertreatment diesel particulate filter	OK <input type="checkbox"/>	No <input type="checkbox"/>
3	Inspect steering idlers	OK <input type="checkbox"/>	No <input type="checkbox"/>
4	Clean and repack wheel bearings and hubs	OK <input type="checkbox"/>	No <input type="checkbox"/>
5	* Overhead set - adjust	OK <input type="checkbox"/>	No <input type="checkbox"/>
6	* Engine Brake - adjust	OK <input type="checkbox"/>	No <input type="checkbox"/>

* Refer to Cummins Engine Manual QSL9 CM2350 L102 (Bulletin 4332797), section 10.

Every 6000 Hours

Perform these checks every 6000 hours.

1	Replace steering idler bearings	OK <input type="checkbox"/>	No <input type="checkbox"/>
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Every 20,000 Hours, or 8 Years

Perform these checks at 20,000 hours, or 8 years, whichever occurs first. Perform all previous maintenance procedures that are due for scheduled maintenance.

1	Clean and flush cooling system	OK <input type="checkbox"/>	No <input type="checkbox"/>
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Overhaul Schedule

To maximize efficiency and minimize downtime and costly failures, Allied Systems Company recommends the following overhaul chart to be used. When followed closely, your equipment will last longer with less unexpected downtime. Contact your Allied Systems representative for the kits necessary to overhaul your drivetrain components.

It is recommended that some components be overhauled at the same time, even if they might have some time before their required rebuild, to minimize downtime. Many components may have to be removed in order to gain access to others so the parts should all be rebuilt together. This will save you from having to tear the machine down again a few thousand operation hours later.

During the overhaul process, make sure all parts are thoroughly cleaned before installation. Parts that do not receive this cleaning can cause the lubricant to become contaminated, which leads to much shorter service life.



CAUTION

The overhaul schedule below is applicable when all preventive maintenance and oil testing is performed and only when genuine Wagner OEM replacement parts and lubricants are used. Major component overhauls may need to be performed more frequently if preventive maintenance is not performed, non-OEM replacement parts are used, and/or the machine is operated frequently on slopes, uneven terrain, or in poor traction conditions.

Component	Hours
Engine	20,000
Transmission	20,000
Converter	10,000
Pumps	10,000
Axle	20,000
Brakes	40,000
Hydraulic Cylinders - Reseal	10,000
Hoses and Fittings	20,000

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NOTES

Lined area for notes, consisting of 25 horizontal lines.