## Hako GmbH Manual Hako Service Bad Oldesloe



Hako system maintenance:
Hako-Citymaster 1650 (1491.15)
Die Ordnungsgemäße Ausführung der Hako- System- Wartung stellt die Verfügbarkeit der Maschine für den Kunden sicher und dient dernachhaltigen Werterhaltung des Hako- Produktes. Der Nachweis der ordnungsgemäßen Durchführung ist die Vorraussetzung für den Erhalt der Gewährleistungs- und Garantieansprüche gegenüber dem Hersteller.
Proper execution of Hako system maintenance ensures machine availability for the customer and serves to maintain the retention value of the Hako product. Proof that the maintenance has been properly carried out is a prerequisite for the receipt of warranty and guarantee claims made against the manufacturer.
La maintenace correcte de Hako system maintenance garantit la disposition de machine pour l'acheteur et sert une valorisation de longue durée de produit Hako. La preuve de la maintenance correcte est la condition pour les pretentions de garantie et des droit à garantie envers le vendeur.
Version: February 2022

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На	ko system maintena	nce A1 – Inspection after 50 operating hours (once)
Quantity	SP No.	Designation
1	01500200	Engine oil filter
1	01500310	Fuel filter
1	01493180	Hydraulic oil filter
Litres	Operating media	
approx. 7.2	Engine oil	Fuchs Titan CARGO 5W-40, specification ACEA E9, API CK-4, or similar.
	 Hako system mainte	enance I – every 500 operating hours or annually
Quantity	SP No.	Designation
1	01500200	Engine oil filter
1	01501190	Oil drain screw
1	01501200	Seal of oil drain screw
1	01500530	Oil separator crankcase venting
1	01500420	Fuel pre-filter
1	01500310	Fuel filter
1	01500640	Air filter insert
2	01472250	Roller (Suction Unit). If required!
1	01470830	Rubber apron (Suction Unit). If required!
1	01470860	Rubber apron (Suction Unit). If required!
1	01470890	Circulation water serrated (Suction Unit). If required!
1	01231950	Hose, cpl. (Circulating water system) If required!
Litres	Operating media	
approx.	Engine oil	Fuchs Titan CARGO 5W-40, specification ACEA E9,
7.2		API CK-4, or similar.
	Hako system m	naintenance II – every 1000 operating hours
Quantity	SP No.	Designation
1	01500200	Engine oil filter
1	01501190	Oil drain screw
1	01501200	Seal of oil drain screw
1	01500530	Oil separator crankcase venting
1	01500420	Fuel pre-filter
1	01500310	Fuel filter
1	01500640	Air filter insert
1	01500750	Safety cartridge
1	01493180	Hydraulic oil filter
1	01497120	Hydraulic oil tank venting filter
1	00009720	Oil check kit (sample bottle for sending in for oil check)
1	01065540	Cab air filter for CM 1650
2	01472250	Roller (Suction Unit). If required!
1	01470830	Rubber apron (Suction Unit). If required!
1	01470860	Rubber apron (Suction Unit). If required!
<u>1</u> 1	01470890 01231950	Circulation water serrated (Suction Unit). If required!  Hose, cpl. (Circulating water system) If required!

	Hako system ma	nintenance II – every 1000 operating hours
Litres	Operating media	
approx.	Engine oil	Fuchs Titan CARGO 5W-40, specification ACEA E9,
7.2	Ĭ	API CK-4, or similar.
0.5	Brake fluid	DOT 4, e.g. FTE Type 9368
		Check proportion of water in the brake fluid. If the
		proportion of water is greater than 3 % the brake fluid
		must be replaced. Check brake fluid oil level and top up if
		necessary. Or replace brake fluid every
		2 years!
	Hako system m	aintenance I – after 1500 operating hours
Quantity	SP No.	Designation
1	01500200	Engine oil filter
1	01501190	Oil drain screw
1	01501200	Seal of oil drain screw
1	01500530	Oil separator crankcase venting
1	01500420	Fuel pre-filter
1	01500310	Fuel filter
1	01500640	Air filter insert
2	01493820	Bearing block (2-broom- system)
4	01060940	Bushing (2-broom- system)
4	01060950	Bushing (2-broom- system)
2	01493640	Comb (2-broom- system)
2	01472250	Roller (Suction Unit). If required!
1	01470830	Rubber apron (Suction Unit). If required!
1	01470860	Rubber apron (Suction Unit). If required!
1	01470890	Circulation water serrated (Suction Unit). If required!
1	01231950	Hose, cpl. (Circulating water system) If required!
Litres	Operating media	
approx.	Engine oil	Fuchs Titan CARGO 5W-40, specification ACEA E9,
7.2		API CK-4, or similar.

	Hako system n	naintenance II – after 2000 operating hours
Quantity	SP No.	Designation
1	01500200	Engine oil filter
1	01501190	Oil drain screw
1	01501200	Seal of oil drain screw
1	01500530	Oil separator crankcase venting
1	01500420	Fuel pre-filter
1	01500310	Fuel filter
1	01500640	Air filter insert
1	01500750	Safety cartridge
1	01493180	Hydraulic oil filter
1	01497120	Hydraulic oil tank venting filter
1	00009720	Oil check kit (sample bottle for sending in for oil check)
1	01065540	Cab air filter for CM 1600
1	1167520	Bowden cable coarse material flap at the suction mouth
1	01220790	V-belt suction fan
2	01490530	Rubber- Metal- Buffer front axle
2	01472250	Roller (Suction Unit). If required!
1	01470830	Rubber apron (Suction Unit). If required!
1	01470860	Rubber apron (Suction Unit). If required!
1	01470890	Circulation water serrated (Suction Unit). If required!
1	01231950	Hose, cpl. (Circulating water system) If required!
Litres	Operating media	
approx. 7.2	Engine oil	<b>Fuchs Titan CARGO 5W-40</b> , specification ACEA E9, API CK-4, or similar.
0.5	Brake fluid	DOT 4, e.g. FTE Type 9368
0.5	Diake ilulu	Check proportion of water in the brake fluid. If the
		proportion of water is greater than 3 % the brake fluid
		' '
		must be replaced. Check brake fluid oil level and top up if
1		necessary. Or replace brake fluid every
		2 years!

	Hako system n	naintenance I – after 2500 operating hours
Quantity	SP No.	Designation
1	01500200	Engine oil filter
1	01501190	Oil drain screw
1	01501200	Seal of oil drain screw
1	01500530	Oil separator crankcase venting
1	01500420	Fuel pre-filter
1	01500310	Fuel filter
1	01500640	Air filter insert
2	01472250	Roller (Suction Unit). If required!
1	01470830	Rubber apron (Suction Unit). If required!
1	01470860	Rubber apron (Suction Unit). If required!
1	01470890	Circulation water serrated (Suction Unit). If required!
1	01231950	Hose, cpl. (Circulating water system) If required!
Litres	Operating media	
approx. 7.2	Engine oil	<b>Fuchs Titan CARGO 5W-40</b> , specification ACEA E9, API CK-4, or similar.
	Hako system m	naintenance II – after 3000 operating hours
Quantity	SP No.	Designation
		2 00.9
1	01500200	Engine oil filter
1	01501190	Oil drain screw
1	01501200	Seal of oil drain screw
1	01500530	Oil separator crankcase venting
1	01500420	Fuel pre-filter
1	01500310	Fuel filter
1	01500640	Air filter insert
1	01500750	Safety cartridge
1	01493180	Hydraulic oil filter
1	01497120	Hydraulic oil tank venting filter
1	01501230	Poly V-belt
1	01501210	Tensioning element
1	01065540	Cab air filter for CM 1650
2	01472330	Rear bolt of front lift
2	01493820	Bearing block (2-broom- system)
4	01060940	Bushing (2-broom- system)
4	01060950	Bushing (2-broom- system)
2	01493640	Comb (2-broom- system)
2	01472250	Roller (Suction Unit). If required!
1	01470830	Rubber apron (Suction Unit). If required!
1	01470860	Rubber apron (Suction Unit). If required!
1	01470890	Circulation water serrated (Suction Unit). If required!
1	01231950	Hose, cpl. (Circulating water system) If required!

	Hako system mai	ntenance II – after 3000 operating hours
Litres	Operating media	
approx.	Engine oil	Fuchs Titan CARGO 5W-40, specification ACEA E9,
7.2		API CK-4, or similar.
0.5	Brake fluid	DOT 4, e.g. FTE Type 9368
		Check proportion of water in the brake fluid. If the
		proportion of water is greater than 3 % the brake fluid
		must be replaced. Check brake fluid oil level and top up if
		necessary. Or replace brake fluid every
		2 years!
58	Hydraulic oil	HVLP 46, e.g. Mobiloil DTE 10 Excel
	-	(DIN 51524 Part 3)
approx.	Refrigerant air	R134a
1000 g	conditioning system	
	Hako system ma	intenance I – after 3500 operating hours
Quantity	SP No.	Designation
1	01500200	Engine oil filter
1	01501190	Oil drain screw
1	01501200	Seal of oil drain screw
1	01500530	Oil separator crankcase venting
1	01500420	Fuel pre-filter
1	01500310	Fuel filter
1	01500640	Air filter insert
2	01472250	Roller (Suction Unit). If required!
1	01470830	Rubber apron (Suction Unit). If required!
1	01470860	Rubber apron (Suction Unit). If required!
1	01470890	Circulation water serrated (Suction Unit). If required!
1	01231950	Hose, cpl. (Circulating water system) If required!
Litres	Operating media	
approx.	Engine oil	Fuchs Titan CARGO 5W-40, specification ACEA E9,
7.2		API CK-4, or similar.

		ntenance II – after 4000 operating hours
Quantity	SP No.	Designation
1	01500200	Engine oil filter
1	01501190	Oil drain screw
1	01501200	Seal of oil drain screw
1	01500530	Oil separator crankcase venting
1	01500420	Fuel pre-filter
1	01500310	Fuel filter
1	01500640	Air filter insert
1	01500750	Safety cartridge
1	01493180	Hydraulic oil filter
1	01497120	Hydraulic oil tank venting filter
1	01065540	Cab air filter for CM 1650
1	01167520	Bowden cable coarse material flap at the suction mouth
1	01220790	V-belt suction fan
2	01490530	Rubber- Metal- Buffer front axle
2	01472250	Roller (Suction Unit). If required!
1	01470830	Rubber apron (Suction Unit). If required!
1	01470860	Rubber apron (Suction Unit). If required!
1	01470890	Circulation water serrated (Suction Unit). If required!
1	01231950	Hose, cpl. (Circulating water system) If required!
Litres	Operating media	
approx. 7.2	Engine oil	<b>Fuchs Titan CARGO 5W-40</b> , specification ACEA E9, API CK-4, or similar.
0.5	Brake fluid	
		DOT 4, e.g. FTE Type 9368 Check proportion of water in the brake fluid. If the proportion of water is greater than 3 % the brake fluid must be replaced. Check brake fluid oil level and top up if necessary. Or replace brake fluid every 2 years!
12	VW- G13 or similar, e.g.	Ensure the mixing ratio is at least 40 % coolant additive
	Total Glaself Auto	to 60 % water (distilled water).
	Supra.	Never exceed the mixing ratio <b>60 % coolant additive</b> to 40 % water (distilled water).  Never drive without coolant additive, even in warmer climates, as the coolant additive increases the boiling point, prevents corrosion in the engine and lubricates the water pump and thermostat. The coolant also prevents the build-up of limescale and air inclusions in the engine.

ster 1650 – times for maintenance
to the maintenance and checking work.
to maintenance tasks carried out in a customer's premises without a workshop,
Hako system maintenance I after 500 operating hours or annually 3.50 hours
Hako system maintenance I after 1500 operating hours 4.75 hours
Hako system maintenance I after 2500 operating hours 3.50 hours
Hako system maintenance I after 3500 operating hours 3.50 hours
Hako system maintenance I after 4500 operating hours 3.50 hours
Hako system maintenance I after 5500 operating hours 3.50 hours

Hako system maintenance II after	Hako system maintenance I after
6000 operating hours with hydraulic oil	6500 operating hours
change	3.50 hours
8.00 hours	
Hako system maintenance II after	Hako system maintenance I after
7000 operating hours	7500 operating hours
4.25 hours	3.50 hours
Hako system maintenance II after	Hako system maintenance I after
8000 operating hours with engine coolant	8500 operating hours
change	3.50 hours
6.50 hours	

## Hako-Citymaster 1650 - Hako system maintenance Hako system maintenance before delivery **A** (factory specification). To be carried out by an authorised Hako service centre. Mach. No.: Operating hrs.: Customer: Work to be carried out: **Specifications:** Component: Check engine oil level and top up if Fuchs Titan CARGO, Engine necessary. 5W-40 Check coolant level in expansion tank and VW- G13 top up if necessary. 40 - 60 % coolant additive (antifreeze) Check service and parking brakes for Brake proper functioning. Check lighting work functions, horn, etc. Electrical system for proper functioning. С Fully charge the battery before delivery! Check the software status of the working Check software status hydraulics, display, engine and drive of control units A01, control unit (hydrostat) and carry out A03, A04 and P01. software updates if necessary! С Re-tighten wheel nuts. 180 Nm Wheels С Check tyre air pressure. Tyres С 215/70 R15 6.0 bar С 225/70 R15 C (standard tyres) 5.0 bar 255/65 R16 (all-purpose tyres) 3.0 bar С 285/65 R16 C 3.2 bar С 320/55-15 T559 (lawn surface tyres) 2.8 bar 325/60 R15 С 2.5 bar С Check for transport damage. Vehicle Equip and refuel. С С Check scope of delivery, including all attachments. С Operating manual – basic machine С Operating manuals - attachments Functional check for all attachments to be Test drive - functional delivered according to the order, check check completeness of the coding plugs for attachments purchased from other manufacturers.

Work to be carried ou	ıt:		✓	Specifications:
Hydraulics	С	Visual inspection of the hydraulic system at the hydraulic cylinders, screw connections and hydraulic pipes for leaks and function test. The visual inspection must be carried out after the test drive.		
Hydraulics	С	Check hydraulic oil level after attaching the work equipment and the function test.		HVLP 46
Component:				
Driver briefing		incl. safety instructions and function of the coding plugs.		
Driver training ** at extra charge		Substitute driver, holiday representation, shift work		

Hako-Citymaste	r 16	50 – Hako system maintenance	•	
		ce work to be carried out by the operat		
Servicing and m	ainte	nance work to be carried out daily	<b>✓</b>	Specifications:
Component:				
Engine	С	Check engine oil level, top up engine oil if necessary.		Fuchs Titan CARGO, 5W-40
Radiator	С	Check coolant level in expansion tank and radiator antifreeze, top up if necessary.  Observe antifreeze for winter operation!		VW- G13 40 - 60 % coolant additive (antifreeze)
Radiator	С	Check combination radiator and radiator grille for contamination, clean with compressed air if necessary.		
Steering	С	Check emergency steering function.		
Brake	С	Check service and parking brakes for proper functioning.		
Electrical system	С	Check lighting work functions, horn, etc. for proper functioning.		
		Vahiala dirt hannar airaulating water		
Machine cleaning		Vehicle, dirt hopper, circulating water system, suction mouth, suction tube, suction fan		
	ntena	system, suction mouth, suction tube,	<b>✓</b>	Specifications:
Servicing and mai		system, suction mouth, suction tube, suction fan  nce work to be carried out weekly	<b>✓</b>	Specifications:
Servicing and main Component: Engine	С	system, suction mouth, suction tube, suction fan  nce work to be carried out weekly  Check engine oil level, top up engine oil if necessary.	<b>✓</b>	7.2 litres. Fuchs Titan CARGO, 5W-40
Servicing and main Component: Engine		system, suction mouth, suction tube, suction fan  nce work to be carried out weekly  Check engine oil level, top up engine oil if	<b>✓</b>	7.2 litres. Fuchs Titan
Servicing and main Component: Engine Radiator	С	system, suction mouth, suction tube, suction fan  nce work to be carried out weekly  Check engine oil level, top up engine oil if necessary.  Check coolant level in expansion tank and radiator antifreeze, top up if necessary.  Observe antifreeze for winter operation!  Check combination radiator and radiator grille for contamination, clean with	<b>✓</b>	7.2 litres. Fuchs Titan CARGO, 5W-40 VW- G13 40 - 60 % coolant
Servicing and main Component: Engine Radiator	C	system, suction mouth, suction tube, suction fan  nce work to be carried out weekly  Check engine oil level, top up engine oil if necessary.  Check coolant level in expansion tank and radiator antifreeze, top up if necessary.  Observe antifreeze for winter operation!  Check combination radiator and radiator	<b>✓</b>	7.2 litres. Fuchs Titan CARGO, 5W-40 VW- G13 40 - 60 % coolant
Servicing and main Component: Engine Radiator Radiator Fuel line	C C	system, suction mouth, suction tube, suction fan  nce work to be carried out weekly  Check engine oil level, top up engine oil if necessary.  Check coolant level in expansion tank and radiator antifreeze, top up if necessary.  Observe antifreeze for winter operation!  Check combination radiator and radiator grille for contamination, clean with compressed air if necessary.	<b>✓</b>	7.2 litres. Fuchs Titan CARGO, 5W-40 VW- G13 40 - 60 % coolant
Servicing and main Component: Engine Radiator Radiator Fuel line Steering	C C C C	system, suction mouth, suction tube, suction fan  nce work to be carried out weekly  Check engine oil level, top up engine oil if necessary.  Check coolant level in expansion tank and radiator antifreeze, top up if necessary.  Observe antifreeze for winter operation!  Check combination radiator and radiator grille for contamination, clean with compressed air if necessary.  Empty water trap of fuel system.  Check emergency steering function.  Check service and parking brakes for proper functioning.	<b>✓</b>	7.2 litres. Fuchs Titan CARGO, 5W-40 VW- G13 40 - 60 % coolant
Servicing and main Component: Engine Radiator Radiator Fuel line Steering Brake Electrical system	C C C C C	system, suction mouth, suction tube, suction fan  nce work to be carried out weekly  Check engine oil level, top up engine oil if necessary.  Check coolant level in expansion tank and radiator antifreeze, top up if necessary.  Observe antifreeze for winter operation!  Check combination radiator and radiator grille for contamination, clean with compressed air if necessary.  Empty water trap of fuel system.  Check emergency steering function.  Check service and parking brakes for proper functioning.  Check lighting work functions, horn, etc. for proper functioning.	<b>✓</b>	7.2 litres. Fuchs Titan CARGO, 5W-40 VW- G13 40 - 60 % coolant additive (antifreeze)
Servicing and main	C C C C	system, suction mouth, suction tube, suction fan  nce work to be carried out weekly  Check engine oil level, top up engine oil if necessary.  Check coolant level in expansion tank and radiator antifreeze, top up if necessary.  Observe antifreeze for winter operation!  Check combination radiator and radiator grille for contamination, clean with compressed air if necessary.  Empty water trap of fuel system.  Check emergency steering function.  Check service and parking brakes for proper functioning.  Check lighting work functions, horn, etc. for	<b>✓</b>	7.2 litres. Fuchs Titan CARGO, 5W-40 VW- G13 40 - 60 % coolant

Servicing and main	tena	nce work to be carried out weekly		Specifications:
			<b>✓</b>	
Component:				
Suction mouth	С	Check for wear and damage.		
	С	Check suction mouth setting, gap between sealing strip and ground.		at the side 5 mm, at the rear 10-15 mm
Suction duct	С	Check suction hose for damage and correct seating.		
	С	Check the seal between suction duct and dirt hopper.		
Dirt hopper	С	Check seals		
	С	Check impact plate in the dirt hopper for wear and damage, replace if necessary		
Lubrication service:		Door hinges front lift cylinder front lift sweeping unit dirt hopper/ loading platform		
C = Check: function,	sea	I-tightness, top up, adjust		1

R = Replace, (R) = Replace if technically necessary

91.15) – Hako system ma 50 operating hours (to be carried and Hako service centre.		
ed Hako service centre.	ed ou	ut once).
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tem maintenance after	✓	Specifications:
out once).		
ne error memory of the engine unit, delete sporadic errors, repair rrors if necessary.		
condition of diesel particulate filter rform service regeneration if ary.		
e engine oil filter.		SP No. 01500200
engine oil level, top up if necessary.		approx. 7.2 litres, Fuchs Titan CARGO, 5W-40
e fuel filter.		SP No. 01500310
coolant hoses and radiator for leaks.		
p up distilled water or engine		VW- G13 or similar, e.g. Total Glaself Auto Supra.
tamination, clean with compressed		
engine bearings for damage, cracks		
nd function		
generator for contamination, clean.		
5		
S		
onal and seal tightness check		
	ı	1
o t	coolant hoses and radiator for leaks.  coolant level, top up if necessary. pp up distilled water or engine t! engine, charge air and hydraulic oil atamination, clean with compressed ecessary. engine bearings for damage, cracks that fit. and function generator for contamination, clean. onal and seal tightness check onal and seal tightness check onal and seal tightness check	coolant level, top up if necessary.  op up distilled water or engine t!  engine, charge air and hydraulic oil stamination, clean with compressed ecessary.  engine bearings for damage, cracks th fit.  and function generator for contamination, clean.  onal and seal tightness check onal and seal tightness check

Work to be carried ou 50 operating hours (to	<b>√</b>	Specifications:		
Component:		,		
Vehicle control system (work hydraulics control unit)	С	Read entries in the work hydraulics control unit, eliminate fault if necessary. Check software status, update software if necessary.		
Vehicle control system (work hydraulics control unit)	С	Read entries in the hydrostatic control unit, eliminate fault if necessary. Check software status, update software if necessary.		
Hydraulics	R	Replace hydraulic oil filter		SP No. 01493180
Tiyaraanoo	C	Check hydraulic oil level and top up if necessary.		HVLP 46, e.g. Mobiloil DTE 10 Excel
	С	Check hydraulic pipes and hydraulic hoses for abrasion points and damage.		
Hydraulic cylinder – sweeping unit	С	Functional and seal tightness check		
Lifting cylinder (front power lift)	С	Functional and seal tightness check		
Lifting cylinder (sweeper set-up)	С	Functional and seal tightness check		
Hydraulic pipes of basic unit	С	Functional and seal tightness check		
Hydraulic pipes of implements and attachments	С	Functional and seal tightness check		
Hand pump	С	Check function of the hand pump (raise the dirt hopper or loading platform with the hand pump).		
1	I			

		ko system maintenance after	<b>√</b>	Specifications:
50 operating hours (to	be o	carried out once).		
Component:				
Chassis / axles	С	Check chassis springs for damage and ease of movement (visual inspection).		
	С	Check shock absorbers for any leaks.		
	С	Check bearing bushes of the axle suspension for cracks and damage (visual inspection).		
	С	Check stop buffers for cracks and damage (visual inspection).		
Front axle	С	Re-tighten bolts (M14 x 1.5) of the bearing bushes of the axle guides and the Panhard rod to 140 Nm (8 bolts on the axle guides and 2 bolts on the Panhard rod).		
Rear axle	С	Re-tighten bolts (M14 x 1.5) of the bearing bushes of the axle guides and the Panhard rod to 140 Nm (8 bolts on the axle guides and 2 bolts on the Panhard rod).		
Steering	С	Functional and seal tightness check		
	С	Check steering cylinder for play. Lubricate steering cylinder (4x).		
Electrical system	С	Functional check, lighting, blinkers, work functions, horn, etc.		
Electrical lines (cables)	С	Check cables (electrical lines) for abrasion points and damage.		
	С	Check positive and ground connections to the battery and frame for tight fit and abrasion points, clean if necessary. Protect battery terminals with terminal grease.		
	С	Check battery charge condition.		
Droko		Test service brake for proper functioning.		
Brake	С	Test brakes.		
	С	Test parking brake for proper functioning.		
	С	Check brake hoses and brake lines for damage.		

		ko system maintenance after	✓	Specifications:
50 operating hours (	to be	carried out once).		
Component:				
Sweeping unit	С	Check for wear and damage.		
	С	Check sweeping level, adjust if necessary.		
Suction mouth	С	Check coarse material flap and Bowden cable as to function and damage.		
	С	Check the rod ends of the suction mouth lift for wear and damage, replace if necessary.		SP No. 01498260 SP No. 01492810
	С	Check and if necessary adjust the suction mouth setting.		Distance: at the side 5 mm, at the rear 10 mm
Suction duct	С	Check suction hose for damage and correct seating.		
	С	Check seal between suction duct and dirt hopper.		
Suction fan	С	Check suction fan for contamination, clean if necessary.		
	С	Check V-belt at the suction fan for correct V-belt tension and damage, re-tension if necessary.		
Hopper flap of the dirt hopper	С	Check seals of the hopper flap for leaks and damage.		
1				1

Work to be carried ou	ıt: Ha	ko system maintenance after	✓	Specifications:
50 operating hours (to	be o	carried out once).		
Component:				
Cab	С	Check and if necessary top up the		
		windscreen washing agent level.		
	С	Functional check of heater		
With air conditioning system	С	Functional check of air conditioning system		
With air conditioning	С	Check condenser of the air conditioning		
system		system (radiator) for contamination, clean with compressed air if necessary.		
Wheels / tyres	С	Re-tighten wheel nuts.		180 Nm
Tyres	С	Check any damage, air pressure and tread depth.		
	С	215/ 70 R15		6.0 bar
	С	225/ 70 R15 C (standard tyres)		5.0 bar
	С	255/ 65 R16 (all-purpose tyres)		3.0 bar
	С	285/ 65 R16 C		3.2 bar
	С	320/ 55-15 T559 (lawn surface tyres)		2.8 bar
	С	325/ 60 R15		2.5 bar
Lubrication service:		Door hinges (4x)		
		Front lift cylinder (4x)		
		Front lift (2x)		
		Upper link (2x)		
		Steering cylinder (4x)		
<b>C</b> = Check: function,	seal-	tightness, top up, adjust	-	•
R = Replace, (R) = R	Repla	ace if technically necessary		
Remarks; service info	rmat	ion for the customer:		
T / ''				
Town / city:		Date:		
Olementure O. 11				
Signature – Custome	ľ.			
Signatura Camilas t	oobs:	ioion:		
Signature – Service to	ecnni	Cidii.		

Hako-Citymaster	165	0 (1491.15 ) – Hako system ma	ainte	enance
Hako system mainter	ance	after <b>250</b> operating hours (to be care	ried o	out once).
To be carried out by a	an au	thorised Hako service centre.		
Mach. No.:	WHW	/1491.15		
Operating hrs.:				
Customer:				
Manteta ha aguniad a	.4.     _	Le aviata de manierte de la afficie	./	Crasifications:
		ko system maintenance after	V	Specifications:
250 operating hours (	to be	r camed out once).		
Component:	_	Dood the aggree many of the aggree		
Engine	С	Read the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.		
	С	Check condition of diesel particulate filter and perform service regeneration if necessary.		
	С	Check engine oil level, top up if necessary.		Fuchs Titan CARGO, 5W-40
	С	Check coolant hoses and radiator for leaks.		
	С	Check coolant level, top up if necessary. Only top up distilled water or engine coolant!		VW- G13 or similar, e.g. Total Glaself Auto Supra.
Combination radiator	С	Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.		
Engine bearing assembly	С	Check engine bearings for damage, cracks and tight fit.		
V-ribbed belt	С	State and function		
Generator	С	Check generator for contamination, clean.		
Exhaust system	С	Functional and seal tightness check		
Fuel lines	С	Functional and seal tightness check		
Air intake pipe	С	Functional and seal tightness check		

Work to be carried ou 250 operating hours (	ko system maintenance after carried out once).	<b>√</b>	Specifications:	
Component:				
Hydraulics	С	Check hydraulic oil level and top up if necessary.		HVLP 46, e.g. Mobiloil DTE 10 Excel
		Check hydraulic pipes and hydraulic hoses for abrasion points and damage.		
Hydraulic cylinder – sweeping unit	С	Functional and seal tightness check		
Lifting cylinder (front power lift)	С	Functional and seal tightness check		
Lifting cylinder (sweeper set-up)	С	Functional and seal tightness check		
Hydraulic pipes of basic unit	С	Functional and seal tightness check		
Hydraulic pipes of implements and attachments	С	Functional and seal tightness check		
Hand pump	С	Check function of the hand pump (raise the dirt hopper or loading platform with the hand pump).		

		ko system maintenance after	✓	Specifications:
250 operating hours (	to be	carried out once).		
Component:				
Chassis / axles	C	Check chassis springs for damage and		
		ease of movement (visual inspection).		
	С	Check shock absorbers for any leaks.		
	С	Check bearing bushes of the axle		
		suspension for cracks and damage (visual		
		inspection).		
	С	Check stop buffers for cracks and damage (visual inspection).		
Front axle	С	Re-tighten bolts (M14 x 1.5) of the bearing		
		bushes of the axle guides and the Panhard		
		rod to 140 Nm (8 bolts on the axle guides		
		and 2 bolts on the Panhard rod).		
Rear axle	С	Re-tighten bolts (M14 x 1.5) of the bearing		
		bushes of the axle guides and the Panhard		
		rod to 140 Nm (8 bolts on the axle guides		
		and 2 bolts on the Panhard rod).		
Steering	С	Functional and seal tightness check		
	С	Check steering cylinder for play.		
		Lubricate steering cylinder (4x).		
Electrical avetem	С	Functional check, lighting, blinkers, work		
Electrical system		functions, horn, etc.		
Electrical lines	С	Check cables (electrical lines) for abrasion		
(cables)		points and damage.		
	С	Check positive and ground connections to		
		the battery and frame for tight fit and		
		abrasion points, clean if necessary. Protect		
		battery terminals with terminal grease.		
	С	Check battery charge condition.		
Brake	С	Test service brake for proper functioning.		
	С	Test brakes.  Test parking brake for proper functioning.		
	С	Check brake hoses for damage.		

		ko system maintenance after	<b>√</b>	Specifications:
250 operating hours (	to be	carried out once).		
Component:				
Sweeping unit	С	Check for wear and damage.		
	С	Check and if necessary adjust the sweeping level.		
Suction mouth	С	Check coarse material flap and Bowden cable as to function and damage.		
	С	Check the rod ends of the suction mouth lift for wear and damage, replace if necessary.		SP No. 01498260 SP No. 01492810
	С	Check and if necessary adjust the suction mouth setting.		Distance: at the side 5 mm, at the rear 10 mm
Suction duct	C	Check suction hose for damage and correct seating.		
	C	Check seal between suction duct and dirt hopper.		
Suction fan	С	Check suction fan for contamination, clean if necessary.		
	С	Check V-belt at the suction fan for correct V-belt tension and damage, re-tension if necessary.		
Hopper flap of the dirt hopper	С	Check seals of the hopper flap for leaks and damage.		

Work to be carried ou	ıt: Ha	ako system maintenance after	<b>√</b>	Specifications:
250 operating hours (	(to be	e carried out once).		
Component:				
Cab	С	Check and if necessary top up the		
		windscreen washing agent level.		
	С	Functional check of heater		
With air conditioning	С	Functional check of air conditioning system		
system				
With air conditioning	С	Check condenser of the air conditioning		
system		system (radiator) for contamination, clean with compressed air if necessary.		
Wheels / tyres	С	Re-tighten wheel nuts.		180 Nm
Tyres	С	Check any damage, air pressure and tread depth.		
	С	215/ 70 R15		6.0 bar
	С	225/ 70 R15 C (standard tyres)		5.0 bar
	С	255/ 65 R16 (all-purpose tyres)		3.0 bar
	С	285/ 65 R16 C		3.2 bar
	С	320/ 55-15 T559 (lawn surface tyres)		2.8 bar
	С	325/ 60 R15		2.5 bar
Lubrication service:		Door hinges (4x)		
		Front lift cylinder (4x)		
		Front lift (2x)		
		Upper link (2x)		
		Steering cylinder (4x)		
<b>C</b> = Check: function,	seal	tightness, top up, adjust		•
		ace if technically necessary		
, , , ,				
Remarks; service info	ormat	ion for the customer:		
,				
Town / city:		Date:		
		24.61		
Signature - Custome	r:			
Signature – Service to	echn	ician:		

		0 (1491.15 ) – Hako system m	aint	enance
-		e I, 500 operating hours.		
To be carried out by a	an au	thorised Hako service centre.		
Mach. No.:	WHV	V1491.15		
Operating hrs.:				
Customer:				
Work to be carried ou	ıt: Ha	iko system maintenance I,	<b>√</b>	Specifications:
500 operating hours (	1500	OH, 2500 OH, 3500 OH, 4500 OH,		
		OH, 8500 OH, 9500 OH).		
Component:		,		
Engine	С	Read the error memory of the engine		
g		control unit, delete sporadic errors, repair		
		clear errors if necessary.		
	С	Check condition of diesel particulate filter		
		and perform service regeneration if		
	R	necessary.  Replace engine oil.		approx. 7.2 litres, Fuchs
		Tropidos Griginis em		Titan CARGO, 5W-40
	R	Replace engine oil filter.		SP No. 01500200
	R	Oil drain screw		SP No. 01501190
	R	Seal of oil drain screw		SP No. 01501200
	R	Fuel filter		SP No. 01500310
	R	Fuel pre-filter		SP No. 01500420
	R	Oil separator crankcase venting		SP No. 01500530
	R	Air filter insert		SP No. 01500640
	С	Check coolant hoses and radiator for leaks.		
	С	Check coolant level, top up if necessary. Only top up distilled water or engine coolant!		VW- G13 or similar, e.g. Total Glaself Auto Supra.
Combination radiator	С	Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.		
Engine bearing assembly	С	Check engine bearings for damage, cracks and tight fit.		
V-ribbed belt	С	State and function		
Generator	С	Check generator for contamination, clean.		
Exhaust system	С	Functional and seal tightness check		
Fuel lines	С	Functional and seal tightness check		
Air intake pipe	С	Functional and seal tightness check		

Work to be carried ou	ıt: Ha	ko system maintenance I,	<b>√</b>	Specifications:
		OH, 2500 OH, 3500 OH, 4500 OH,		op comoduction.
	•	OH, 8500 OH, 9500 OH).		
Component:		·		
Vehicle control	С	Read entries in the work hydraulics control		
system (work		unit, eliminate fault if necessary. Check		
hydraulics control		software status, update software if		
unit)		necessary.		
Vehicle control	С	Read entries in the hydrostatic control unit,		
system (work		eliminate fault if necessary. Check		
hydraulics control		software status, update software if		
unit)		necessary.		
Hydraulics	С	Check hydraulic oil level and top up if		HVLP 46, e.g. Mobiloil
-		necessary.		DTE 10 Excel
	С	Check hydraulic pipes and hydraulic hoses for abrasion points and damage.		
Hydraulic cylinder –	С	Functional and seal tightness check		
sweeping unit				
Lifting cylinder (front	С	Functional and seal tightness check		
power lift)				
Lifting cylinder	С	Functional and seal tightness check		
(sweeper set-up)				
Hydraulic pipes of	С	Functional and seal tightness check		
basic unit				
Hydraulic pipes of	С	Functional and seal tightness check		
implements and				
attachments				
Hand pump	С	Check function of the hand pump (raise		
		the dirt hopper or loading platform with the		
		hand pump).		
Chassis / Axles	С	Check chassis springs for damage and		
		ease of movement (visual inspection).		
	С	Check shock absorbers for any leaks.		
	С	Check bearing bushes of the axle		
		suspension for cracks and damage (visual inspection).		
	С	Check stop buffers for cracks and damage (visual inspection).		
Steering	С	Functional and seal tightness check		
	С	Check steering cylinder for play.  Lubricate steering cylinder (4x).		

Work to be carried ou	t: Ha	ko system maintenance I,	✓	Specifications:
500 operating hours (				
5500 OH, 6500 OH, 7	'500	OH, 8500 OH, 9500 OH)		
Component:				
Electrical system	C	Functional check, lighting, blinkers, work functions, horn, etc.		
Electrical lines (cables)	С	Check cables (electrical lines) for abrasion points and damage.		
	С	Check positive and ground connections to the battery and frame for tight fit and abrasion points, clean if necessary. Protect battery terminals with terminal grease.		
	С	Check battery charge condition.		
Brake	C (R)	Check service brake for proper functioning and wear and carry out a brake test, replace required parts if necessary.		
	С	Check rear axle parking brake as to function.		
	С	Check proportion of water in brake fluid. If the proportion of water is greater than 3 % the brake fluid must be replaced. Check brake fluid oil level and top up if necessary. Or replace brake fluid every 2 years!		0.5 litres, DOT 4, e.g. FTE Type 9368
_	С	Check brake hoses for damage.		

Work to be carried or	ut: Ha	ıko system maintenance I,	<b>√</b>	Specifications:
<b>500</b> operating hours	(1500	OH, 2500 OH, 3500 OH, 4500 OH,		
	•	OH, 8500 OH, 9500 OH)		
Component:				
Front tool carrier	С	Check upper link for wear and damage.		
Sweeping unit	С	Check for wear and damage.		
	С	Check and if necessary adjust the sweeping level.		
Suction mouth	С	Check coarse material flap and Bowden cable as to function and damage.		
	C (R)	Check the rod ends of the suction mouth lift for wear and damage, replace if necessary.		SP No. 01498260, SP No. 01492810
	C (R)	Check rollers, rubber aprons and circulation water compartments for wear and damage. Defective or worn parts must be replaced!		SP No. 01472250 (2X) SP No. 01470890 SP No. 01470830 SP No. 01470860
	С	Check and if necessary adjust the suction mouth setting.		Distance: at the side 5 mm, at the rear 10 mm
Suction duct	С	Check suction hose for damage and correct seating.		
	С	Check seal between suction duct and dirt hopper.		
Suction fan	С	Check suction fan for contamination, clean if necessary.		
	С	Check V-belt at the suction fan for correct V-belt tension and damage and, if necessary, re-tighten or replace.		
	С	Check suction fan for vibration, check bearings if necessary.		
	С	Check impeller for wear.		
Hopper flap of the dirt hopper	С	Check seals of the hopper flap for leaks and damage.		
	С	Check impact plate for wear.		
	С	Check cover joints and bearing.		
	С	Check exhaust side of hopper flap for contamination.		
Hopper, circulating water system	C (R)	Hose, cpl. (Circulating water system) If required!		SP No. 01231950

Work to be carried ou	ıt: Ha	ko system maintenance I,	$\checkmark$	Specifications:
500 operating hours (	(1500	OH, 2500 OH, 3500 OH, 4500 OH,		
		OH, 8500 OH, 9500 OH)		
Component:		,		
Cab		Clean cab air filter.		
0	С	Check and if necessary top up the		
		windscreen washing agent level.		
	С	Functional check of heater		
With air conditioning	С	Functional check of air conditioning		
system		system		
With air conditioning	С	Check condenser of the air conditioning		
system		system (radiator) for contamination, clean		
		with compressed air if necessary.		
Wheels / Tyres	С	Re-tighten wheel nuts.		180 Nm
Tyres	С	Check any damage, air pressure and tread		
1 1 1 1 1 1 1		depth.		
	С	215/ 70 R15		6.0 bar
	С	225/ 70 R15 C (standard tyres)		5.0 bar
	С	255/ 65 R16 (all-purpose tyres)		3.0 bar
	С	285/ 65 R16 C		3.2 bar
	С	320/ 55-15 T559 (lawn surface tyres)		2.8 bar
	С	325/ 60 R15		2.5 bar
Lubrication service:		Door hinges (4x)		
		Front lift cylinder (4x)		
		Front lift (2x)		
		Upper link (2x)		
		Steering cylinder (4x)		
C = Check: function	seal	tightness, top up, adjust	l	
		nce if technically necessary		
$\frac{11 - 110piaco, (11) - 1}{1}$	τοριο	nee ii teeriineany riceedaary		
Remarks; service info	rmat	ion for the customer:		
rtomanto, con vice imie	,,,,,,			
Town / city:		Date:		
-				
Signature - Custome	r:			
Signature – Service to	echni	cian:		

Hako-Citymaster	165	0 (1491.15 ) – Hako system ma	ainte	enance
Hako system mainter	ance	e II, <b>1000</b> operating hours (5000 OH, 7	7000	OH).
		uthorised Hako service centre.		,
Mach. No.:		W1491.15		
Operating hrs.:				
Customer:				!
Work to be carried ou	ıt: Ha	ako system maintenance II,	✓	Specifications:
1000 operating hours	(500	00 OH, 7000 OH).		
Component:				
Engine	С	Read the error memory of the engine		
		control unit, delete sporadic errors, repair		
		clear errors if necessary.		
	С	Check condition of diesel particulate filter		
		and perform service regeneration if		
		necessary.		
	R	Replace engine oil.		approx. 7.2 litres, Fuchs
				Titan CARGO, 5W-40
	R	Replace engine oil filter.		SP No. 01500200
	R	Oil drain screw		SP No. 01501190
	R	Seal of oil drain screw		SP No. 01501200
	R	Fuel filter		SP No. 01500310
	R	Fuel pre-filter		SP No. 01500420
	R	Oil separator crankcase venting		SP No. 01500530
	R	Air filter insert		SP No. 01500640
	R	Safety cartridge air filter		SP No. 01500750
	С	Check coolant hoses and radiator for leaks.		
	С	Check coolant level, top up if necessary.		VW- G13 or similar, e.g.
		Only top up distilled water or engine		Total Glaself Auto Supra.
		coolant!		
Combination radiator	С	Check engine, charge air and hydraulic oil		
		for contamination, clean with compressed		
		air if necessary.		
Engine bearing	С	Check engine bearings for damage, cracks		
assembly		and tight fit.		
V-ribbed belt	С	State and function		
Generator	С	Check generator for contamination, clean.		
Exhaust system	С	Functional and seal tightness check		
Fuel lines	С	Functional and seal tightness check		
Air intake pipe	С	Functional and seal tightness check		
• •				
				•

Work to be carried ou <b>1000</b> operating hours		ko system maintenance II,	<b>√</b>	Specifications:
Component:				
Vehicle control system (work hydraulics control unit)	С	Read entries in the work hydraulics control unit, eliminate fault if necessary. Check software status, update software if necessary.		
Vehicle control system (work hydraulics control unit)	С	Read entries in the hydrostatic control unit, eliminate fault if necessary. Check software status, update software if necessary.		
Hydraulics	R	Hydraulic oil filter		SP No. 01493180
	R	Venting filter hydraulic tank		SP No. 01497120
	С	Remove hydraulic oil sample and send it in. If the sample result is negative, the hydraulic oil must be replaced prematurely!		SP No. 00009720
	С	Check hydraulic oil level, top up if necessary. Please note topping up with organic oil or other oils.  Do not mix hydraulic oils!		HVLP 46, e.g. Mobiloil DTE 10 Excel
	С	Check hydraulic pipes and hydraulic hoses for abrasion points and damage.		
Hydraulic cylinder – sweeping unit	С	Functional and seal tightness check		
Lifting cylinder (front power lift)	С	Functional and seal tightness check		
Lifting cylinder (sweeper set-up)	С	Functional and seal tightness check		
Hydraulic pipes of basic unit	С	Functional and seal tightness check		
Hydraulic pipes of implements and attachments	С	Functional and seal tightness check		
Hand pump	С	Check function of the hand pump (raise the dirt hopper or loading platform with the hand pump).		

Work to be carried ou 1000 operating hours		ako system maintenance II, 00 OH, 7000 OH)	<b>✓</b>	Specifications:
Component:		,		
Chassis / axles	С	Check chassis springs for damage and		
		ease of movement (visual inspection).		
	С	Check shock absorbers for any leaks.		
	С	Check bearing bushes of the axle suspension for cracks and damage (visual inspection).		
	С	Check stop buffers for cracks and damage (visual inspection).		
Steering	С	Functional and seal tightness check. Lubricate steering cylinder (4x).		
	С	Check steering cylinder for play.		
	С	Remove covers (plastic) of the articulated joints (top + bottom) and check the joints underneath for dirt, if necessary clean <b>dry</b> with a brush.		
	С	Check bearing bushings (top + bottom) of the articulated joints for damage		
Electrical system	С	Functional check, lighting, blinkers, work functions, horn, etc.		
Electrical lines (cables)	С	Check cables (electrical lines) for abrasion points and damage.		
	С	Check positive and ground connections to the battery and frame for tight fit and abrasion points, clean if necessary. Protect battery terminals with terminal grease.		
	С	Check battery charge condition.		
Brake	C (R)	Check service brake for proper functioning and wear and carry out a brake test, replace required parts if necessary.		
	С	Test parking brake for proper functioning.		
	(R)	Check proportion of water in brake fluid. If the proportion of water is greater than 3 % the brake fluid must be replaced. Check brake fluid oil level and top up if necessary. Or replace brake fluid every 2 years!		0.5 litres, DOT 4, e.g. FTE Type 9368
	С	Check brake hoses for damage.		
Front tool carrier	С	Check upper link for wear and damage.		

	1			
Work to be carried o	ut: Ha	ko system maintenance II,	<b>√</b>	Specifications:
Component:				
Sweeping unit	С	Check for wear and damage.		
1 0	С	Check and if necessary adjust the		
		sweeping level.		
Suction mouth	С	Check coarse material flap and Bowden		
		cable as to function and damage.		
	С	Check the rod ends of the suction mouth lift		SP No. 01498260,
		for wear and damage, replace if necessary.		SP No. 01492810
	С	Check rollers, rubber aprons and		SP No. 01472250 (2X)
	(R)	circulation water compartments for wear		SP No. 01470890 `
	` ´	and damage. Defective or worn parts must		SP No. 01470830
		be replaced!		SP No 01470860
	С	Check and if necessary adjust the suction		Distance:
		mouth setting.		at the side 5 mm,
				at the rear 10 mm
Suction duct	С	Check suction hose for damage and		
		correct seating.		
	С	Check the seal between suction duct and		
		dirt hopper.		
Suction fan	С	Check suction fan for contamination and, if		
		necessary, clean.		
	С	Check V-belt at the suction fan for correct		
		V-belt tension and damage, re-tension or		
		replace if necessary.		
	С	Check suction fan for vibration, check		
		bearings if necessary.		
	С	Check impeller for wear.		
Hopper flap of the	С	Check the seals of the hopper lid for		
dirt hopper		tightness and damage.		
• •	С	Check impact plate for wear.		
	С	Check cover joints and bearing.		

	С	Check exhaust side of hopper flap for contamination.		
Hopper, circulating water system	C (R)	Hose, cpl. (Circulating water system) If required!		SP No. 01231950
	ıt: Ha	ko system maintenance II,	<b>√</b>	Specifications:
Component:				
Cab	R	Cab air filter		SP No. 01065540
	C	Check and if necessary top up the windscreen washing agent level.  Functional check of heater		
With air conditioning system	С	Functional check of air conditioning system		
With air conditioning system	С	Check condenser of the air conditioning system (radiator) for contamination, clean with compressed air if necessary.		
VAII I - / (	_	Do timbton vibool mito		4.00 Nim
Wheels / tyres	C	Re-tighten wheel nuts.		180 Nm
Tyres		Check any damage, air pressure and tread depth.		
	С	215/ 70 R15		6.0 bar
	С	225/ 70 R15 C (standard tyres)		5.0 bar
	С	255/ 65 R16 (all-purpose tyres)		3.0 bar
	С	285/ 65 R16 C		3.2 bar
	С	320/ 55-15 T559 (lawn surface tyres)		2.8 bar
	С	325/ 60 R15		2.5 bar
Lubrication service:		Door hinges (4x)		
Labrication 301 vice.		Front lift cylinder (4x)		
		Front lift (2x)		
		Upper link (2x)		
		Steering cylinder (4x)		
C Chapter function	2001	tightness ton un adjust		

C = Check: function, seal-tightness, top up, adjust
R = Replace, (R) = Replace if technically necessary

Remarks; service information for the customer:	
Town / city:	Date:

Signature – Customer:		
Signature – Service technician:		

## Hako-Citymaster 1650 (1491.15 ) - Hako system maintenance Hako system maintenance I, 500 operating hours (1500 OH, 2500 OH, 3500 OH, 4500 OH, 5500 OH, 6500 OH, 7500 OH, 8500 OH, 9500 OH). To be carried out by an authorised Hako service centre. WHW1491.15 Mach. No.: Operating hrs.: Customer: Work to be carried out: Hako system maintenance I, Specifications: 500 operating hours (**1500 OH**, 2500 OH, 3500 OH, 4500 OH, 5500 OH, 6500 OH, 7500 OH, 8500 OH, 9500 OH). Assembly Read the error memory of the engine **Engine** control unit, delete sporadic errors, repair clear errors if necessary. Check condition of diesel particulate filter and perform service regeneration if necessary. Replace engine oil. approx. 7.2 litres, Fuchs Titan CARGO, 5W-40 Replace engine oil filter. SP No. 01500200 R Oil drain screw R SP No. 01501190 Seal of oil drain screw SP No. 01501200 R R Fuel filter SP No. 01500310 R Fuel pre-filter SP No. 01500420 SP No. 01500530 R Oil separator crankcase venting R SP No. 01500640 Air filter insert Check coolant hoses and radiator for leaks. Check coolant level, top up if necessary. VW- G13 or similar, e.g. Only top up distilled water or engine Total Glaself Auto Supra. coolant! С Check engine, charge air and hydraulic oil Combination for contamination, clean with compressed radiator air if necessary. Check engine bearings for damage, cracks **Engine** bearing and tight fit. assembly V-ribbed belt С State and function С Generator Check generator for contamination, clean. Functional and seal tightness check С Exhaust system С Functional and seal tightness check Fuel lines С Functional and seal tightness check Air intake pipe

Work to be carried ou	ıt: Ha	ako system maintenance I,	<b>√</b>	Specifications:
		OH, 2500 OH, 3500 OH, 4500 OH,		'
	•	OH, 8500 OH, 9500 OH)		
Assembly				
Vehicle control system (work hydraulics control unit)	С	Read entries in the work hydraulics control unit, eliminate fault if necessary. Check software status, update software if necessary.		
Vehicle control system (work hydraulics control unit)	С	Read entries in the hydrostatic control unit, eliminate fault if necessary. Check software status, update software if necessary.		
Hydraulics	С	Check hydraulic oil level, top up if necessary. Please note topping up with organic oil or other oils.  Do not mix hydraulic oils!		HVLP 46, e.g. Mobiloil DTE 10 Excel
	С	Check hydraulic pipes and hydraulic hoses for abrasion points and damage.		
Hydraulic cylinder – sweeping unit	С	Functional and seal tightness check		
Lifting cylinder (front power lift)	С	Functional and seal tightness check		
Lifting cylinder (sweeper set-up)	С	Functional and seal tightness check		
Hydraulic pipes of basic unit	С	Functional and seal tightness check		
Hydraulic pipes of implements and attachments	С	Functional and seal tightness check		
Hand pump	С	Check function of the hand pump (raise the dirt hopper or loading platform with the hand pump).		
Chassis / Axles	С	Check chassis springs for damage and		
		ease of movement (visual inspection).		
	С	Check shock absorbers for any leaks.		
	С	Check bearing bushes of the axle suspension for cracks and damage (visual inspection).		
	С	Check stop buffers for cracks and damage (visual inspection).		
Steering	С	Functional and seal tightness check		
Ţ.	С	Check steering cylinder for play. Lubricate steering cylinder (4x).		

Work to be carried ou	ıt: Ha	ako system maintenance I,	✓	Specifications:		
500 operating hours (	500 operating hours (1500 OH, 2500 OH, 3500 OH, 4500 C					
5500 OH, 6500 OH, 7						
Assembly		·				
Electrical system	C	Functional check, lighting, blinkers, work functions, horn, etc.				
Electrical lines	С	Check cables (electrical lines) for abrasion				
(cables)		points and damage.				
	С	Check positive and ground connections to the battery and frame for tight fit and abrasion points, clean if necessary. Protect battery terminals with terminal grease.				
	С	Check battery charge condition.				
Brake	С	Check service brake for proper functioning				
	(R)	and wear and carry out a brake test,				
		replace required parts if necessary.				
	С	Test parking brake for proper functioning.				
	(R)	Check proportion of water in brake fluid. If the proportion of water is greater than 3 % the brake fluid must be replaced. Check brake fluid oil level and top up if necessary. Or replace brake fluid every 2 years!		0.5 litres, DOT 4, e.g. FTE Type 9368		
	С	Check brake hoses for damage.				
Front tool carrier	С	Check upper link for wear and damage.				

Work to be carried o	ut: Ha	ako system maintenance I,	<b>√</b>	Specifications:
		<b>OH</b> , 2500 OH, 3500 OH, 4500 OH,		<u> </u>
5500 OH, 6500 OH,	7500	OH, 8500 OH, 9500 OH)		
Assembly				
Sweeping unit	С	Check for wear and damage.		
- 1	С	Check and if necessary adjust the sweeping level.		
	R	Bearing block (2-broom- system) (2X)		SP No. 01493820
	R	Bushing (2-broom- system) (4X)		SP No.01060940
	R	Bushing (2-broom- system) (4X)		SP No.01060950
	R	Comb (2-broom- system) (2X)		SP No.01493640
Suction mouth	С	Check coarse material flap and Bowden cable as to function and damage.		
	С	Check the rod ends of the suction mouth lift for wear and damage, replace if necessary.		SP No. 01498260, SP No. 01492810
	C (R)	Check rollers, rubber aprons and circulation water compartments for wear and damage. Defective or worn parts must be replaced!		SP No. 01472250 (2X) SP No. 01470890 SP No. 01470830 SP No. 01470860
	С	Check and if necessary adjust the suction mouth setting.		Distance: at the side 5 mm,
Suction duct	С	Check suction hose for damage and correct seating.		
	С	Check seal between suction duct and dirt hopper.		
Suction fan	С	Check suction fan for contamination, clean if necessary.		
	С	Check V-belt at the suction fan for correct V-belt tension and damage and, if necessary, re-tighten or replace.		
	С	Check suction fan for vibration, check bearings if necessary.		
	С	Check impeller for wear.		
Hopper flap of the dirt hopper	С	Check seals of the hopper flap for leaks and damage.		
• • •	С	Check impact plate for wear.		
	С	Cover joints and bearing		
	С	Check exhaust side of hopper flap for contamination.		
Hopper, circulating water system	C (R)	Hose, cpl. (Circulating water system) If required!		SP No. 01231950

Work to be carried or	Work to be carried out: Hako system maintenance I,						
500 operating hours							
5500 OH, 6500 OH, 7	7500	OH, 8500 OH, 9500 OH)					
Assembly							
Cab	С	Clean the cab air filter.					
	С	Check and if necessary top up the					
		windscreen washing agent level.					
	С	Functional check of heater					
With air conditioning	С	Functional check of air conditioning system					
system							
With air conditioning	С	Check condenser of the air conditioning					
system		system (radiator) for contamination, clean					
		with compressed air if necessary.					
Wheels / Tyres	С	Re-tighten wheel nuts.		180 Nm			
Tyres	С	Check any damage, air pressure and tread					
-		depth.					
	С	215/ 70 R15		6.0 bar			
	С	225/ 70 R15 C (standard tyres)		5.0 bar			
	С	255/ 65 R16 (all-purpose tyres)		3.0 bar			
	С	285/ 65 R16 C		3.2 bar			
	С	320/ 55-15 T559 (lawn surface tyres)		2.8 bar			
	С	325/ 60 R15		2.5 bar			
Lubrication service:		Door hinges (4x)					
		Front lift cylinder (4x)					
		Front lift (2x)					
		Upper link (2x)					
		Steering cylinder (4x)					
C = Check: function.	seal-	tightness, top up, adjust		1			
		ce if technically necessary					
11 = 110pla00; (11) = 1	τορια	oo ii tooiiiiicany ricocccary					
Remarks; service info	rmat	ion for the customer:					
Tromanto, service init	minal	de la constant de la					
Town / city:	Town / city: Date:						
Signature - Custome	r:						
_							
Signature - Service t	echn	ician:					

		0 (1491.15 ) – Hako system ma	ainte	enance
		e II extended, <b>2000</b> operating hours.		
To be carried out by a	an au	thorised Hako service centre.		
Mach. No.:				
Operating hrs.:				
Customer:				
Work to be carried ou	ıt: Ha	ako system maintenance II extended,	<b>√</b>	Specifications:
<b>2000</b> operating hours		ino system maintenance il extended,	Ť	opecifications.
Component:				
Engine	C	Read the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.		
	С	Check condition of diesel particulate filter and perform service regeneration if necessary.		
	R	Replace engine oil.		approx. 7.2 litres, Fuchs Titan CARGO, 5W-40
	R	Replace engine oil filter.		SP No. 01500200
	R	Oil drain screw		SP No. 01501190
	R	Seal of oil drain screw		SP No. 01501200
	R	Fuel filter		SP No. 01500310
	R	Fuel pre-filter		SP No. 01500420
	R	Oil separator crankcase venting		SP No. 01500530
	R	Air filter insert		SP No. 01500640
	R	Safety cartridge air filter		SP No. 01500750
	С	Check coolant hoses and radiator for leaks.		
	С	Check coolant level, top up if necessary. Only top up distilled water or engine coolant!		VW- G13 or similar, e.g. Total Glaself Auto Supra.
Combination radiator	O	Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.		
Engine bearing assembly	С	Check engine bearings for damage, cracks and tight fit.		
V-ribbed belt	С	State and function		
Generator	С	Check generator for contamination, clean.		
Exhaust system	С	Functional and seal tightness check		
Fuel lines	С	Functional and seal tightness check		
Air intake pipe	С	Functional and seal tightness check		
				1

Work to be carried ou	ıt: Ha	ıko system maintenance II extended,	<b>✓</b>	Specifications:
2000 operating hours				
Component:				
Vehicle control system (work hydraulics control unit)	С	Read entries in the work hydraulics control unit, eliminate fault if necessary. Check software status, update software if necessary.		
Vehicle control system (work hydraulics control unit)	С	Read entries in the hydrostatic control unit, eliminate fault if necessary. Check software status, update software if necessary.		
Hydraulics	R	Hydraulic oil filter		SP No. 01493180
	R	Venting filter hydraulic tank		SP No. 01497120
	С	Remove hydraulic oil sample and send it in. If the sample result is negative, the hydraulic oil must be replaced prematurely!		SP No. 00009720
	С	Check hydraulic oil level, top up if necessary. Please note topping up with organic oil or other oils.  Do not mix hydraulic oils!		HVLP 46, e.g. Mobiloil DTE 10 Excel
	С	Check hydraulic pipes and hydraulic hoses for abrasion points and damage.		
Hydraulic cylinder – sweeping unit	С	Functional and seal tightness check		
Lifting cylinder (front power lift)	С	Functional and seal tightness check		
Lifting cylinder (sweeper set-up)	С	Functional and seal tightness check		
Hydraulic pipes of basic unit	С	Functional and seal tightness check		
Hydraulic pipes of implements and attachments	С	Functional and seal tightness check		
Hand pump	С	Check function of the hand pump (raise the dirt hopper or loading platform with the hand pump).		

		ko system maintenance II extended,	<b>√</b>	Specifications:
<b>2000</b> operating hou	rs.			
Component:				
Chassis / axles	С	Check chassis springs for damage and		
		ease of movement (visual inspection).		
	С	Check shock absorbers for any leaks.		
	С	Check bearing bushes of the axle suspension for cracks and damage (visual inspection).		
	С	Check stop buffers for cracks and damage (visual inspection).		
	R	Rubber- Metal- Buffer front axle (2X)		SP No. 01490530
Steering	С	Functional and seal tightness check		
	С	Check steering cylinder for play. Lubricate steering cylinder (4x).		
	С	Remove covers (plastic) of the articulated joints (top + bottom) and check the joints underneath for dirt, if necessary clean <b>dry</b> with a brush.		
	С	Check bearing bushings (top + bottom) of the articulated joints for damage		
Electrical system	С	Functional check, lighting, blinkers, work functions, horn, etc.		
Electrical lines (cables)	С	Check cables (electrical lines) for abrasion points and damage.		
<u>, (3.11.13)</u>	С	Check positive and ground connections to the battery and frame for tight fit and abrasion points, clean if necessary. Protect battery terminals with terminal grease.		
	С	Check battery charge condition.		
Brake	C (R)	Check service brake for proper functioning and wear and carry out a brake test, replace required parts if necessary.		
	С	Test parking brake for proper functioning.		
	C (R)	Check proportion of water in brake fluid. If the proportion of water is greater than 3 % the brake fluid must be replaced. Check brake fluid oil level and top up if necessary. Or replace brake fluid every 2 years!		

	С	Check brake hoses for damage.		
		Check brake hoses for damage.		
Facultical comics	С	Charle upper link for wear and demage		
Front tool carrier		Check upper link for wear and damage.		0 10 11
	<u>ıt: Ha</u>	ko system maintenance II extended,	<b>√</b>	Specifications:
Component:				
Sweeping unit	С	Check for wear and damage.		
	С	Check and if necessary adjust the sweeping level.		
Suction mouth		Bowden cable coarse material flap at the suction mouth.		SP No. 01167520
Suction mouth	С	Check coarse material flap as to function and damage. Replace Bowden cable.		SP no. 01167520
	С	Check the rod ends of the suction mouth lift for wear and damage, replace if necessary.		SP No. 01498260, SP No. 01492810
	C (R)	Check rollers, rubber aprons and circulation water compartments for wear and damage. Defective or worn parts must be replaced!		SP No. 01472250 (2X) SP No. 01470890 SP No. 01470830 SP No 01470860
	С	Check and if necessary adjust the suction mouth setting.		Distance: at the side 5 mm, at the rear 10 mm
Suction duct	С	Check suction hose for damage and correct seating.		
	С	Check the seal between suction duct and dirt hopper.		
Suction fan	R	V-belt suction fan		SP No. 01220790
	С	Check suction fan for contamination, clean if necessary.		
	С	Check V-belt at the suction fan for correct V-belt tension and damage and, if necessary, re-tighten or replace.		
	С	Check suction fan for vibration, check bearings if necessary.		
	С	Check impeller for wear.		
Hopper flap of the dirt hopper	С	Check seals of the hopper flap for leaks and damage.		
	С	Check impact plate for wear.		
	С	Cover joints and bearing.		

	С	Check exhaust side of hopper flap for contamination.		
Hopper, circulating water system	C (R)	Hose, cpl. (Circulating water system) If required!		SP No. 01231950
	` '	iko system maintenance II extended,	<b>√</b>	Specifications:
Component:				Opcomodions.
Cab	R	Cab air filter		SP No. 01065540
Cub	С	Check and if necessary top up the		G1 110. 01000010
		windscreen washing agent level.		
	С	Functional check of heater		
With air conditioning	С	Functional check of air conditioning system		
system				
With air conditioning	С	Check condenser of the air conditioning		
system		system (radiator) for contamination, clean		
		with compressed air if necessary.		
Wheels / tyres	С	Re-tighten wheel nuts.		180 Nm
Tyres	С	Check any damage, air pressure and tread depth.		
	С	215/ 70 R15		6.0 bar
	С	225/ 70 R15 C (standard tyres)		5.0 bar
	С	255/ 65 R16 (all-purpose tyres)		3.0 bar
	С	285/ 65 R16 C		3.2 bar
	С	320/ 55-15 T559 (lawn surface tyres)		2.8 bar
	С	325/ 60 R15		2.5 bar
Lubrication service:		Door hinges (4x)		
		Front lift cylinder (4x)		
		Front lift (2x)		
		Upper link (2x)		
	<u> </u>	Steering cylinder (4x)		
		tightness, top up, adjust		
$\mathbf{R} = \text{Replace}, (\mathbf{R}) = \mathbf{R}$	керіг	ace if technically necessary		
Remarks; service info	rmat	ion for the customer:		
Tremarks, service inic	minat	ion for the customer.		
Town / city:		Date:		
Signature – Custome	r:			

Signature – Service technician:		

## Hako-Citymaster 1650 (1491.15) - Hako system maintenance Hako system maintenance I, 500 operating hours (1500 OH, 2500 OH, 3500 OH, 4500 OH, 5500 OH, 6500 OH, 7500 OH, 8500 OH, 9500 OH). To be carried out by an authorised Hako service centre. Mach. No.: Operating hrs.: Customer: Work to be carried out: Hako system maintenance I, Specifications: 500 operating hours (1500 OH, **2500 OH**, 3500 OH, 4500 OH, 5500 OH, 6500 OH, 7500 OH, 8500 OH, 9500 OH) Component: Read the error memory of the engine **Engine** control unit, delete sporadic errors, repair clear errors if necessary. Check condition of diesel particulate filter and perform service regeneration if necessary. Replace engine oil. approx. 7.2 litres, Fuchs Titan CARGO, 5W-40 Replace engine oil filter. SP No. 01500200 R Oil drain screw SP No. 01501190 R Seal of oil drain screw SP No. 01501200 R Fuel filter SP No. 01500310 Fuel pre-filter SP No. 01500420 R Oil separator crankcase venting R SP No. 01500530 SP No. 01500640 R Air filter insert С Check coolant hoses and radiator for leaks. Check coolant level, top up if necessary. VW- G13 or similar, e.g. Only top up distilled water or engine Total Glaself Auto Supra. coolant! Check engine, charge air and hydraulic oil Combination radiator for contamination, clean with compressed air if necessary. Check engine bearings for damage, cracks **Engine bearing** and tight fit. assembly С State and function V-ribbed belt С Check generator for contamination, clean. Generator С Functional and seal tightness check Exhaust system С Functional and seal tightness check Fuel lines С Functional and seal tightness check Air intake pipe

500 operating hours (	ko system maintenance I, OH, <b>2500 OH</b> , 3500 OH, 4500 OH, OH, 8500 OH, 9500 OH)	<b>√</b>	Specifications:	
Component:				
Vehicle control system (work hydraulics control unit)	С	Read entries in the work hydraulics control unit, eliminate fault if necessary. Check software status, update software if necessary.		
Vehicle control system (work hydraulics control unit)	С	Read entries in the hydrostatic control unit, eliminate fault if necessary. Check software status, update software if necessary.		
Hydraulics	С	Check hydraulic oil level, top up if necessary. Please note topping up with organic oil or other oils.  Do not mix hydraulic oils!		HVLP 46, e.g. Mobiloil DTE 10 Excel
	С	Check hydraulic pipes and hydraulic hoses for abrasion points and damage.		
Hydraulic cylinder – sweeping unit	С	Functional and seal tightness check		
Lifting cylinder (front power lift)	С	Functional and seal tightness check		
Lifting cylinder (sweeper set-up)	С	Functional and seal tightness check		
Hydraulic pipes of basic unit	С	Functional and seal tightness check		
Hydraulic pipes of implements and attachments	С	Functional and seal tightness check		
Hand pump	С	Check function of the hand pump (raise the dirt hopper or loading platform with the hand pump).		
Chassis / axles	С	Check chassis springs for damage and		
		ease of movement (visual inspection).		
	С	Check shock absorbers for any leaks.		
	С	Check bearing bushes of the axle suspension for cracks and damage (visual inspection).		
	С	Check stop buffers for cracks and damage (visual inspection).		

Work to be carried o	ut: Ha	ko system maintenance I,	✓	Specifications:
500 operating hours	OH, <b>2500 OH</b> , 3500 OH,			
4500 OH, 5500 OH,	<b>6</b> 500	OH, 7500 OH, 8500 OH, 9500 OH)		
		·		
Component:				
Steering	С	Functional and seal tightness check		
	С	Check steering cylinder for play. Lubricate steering cylinder (4x).		
Electrical system	С	Functional check, lighting, blinkers, work functions, horn, etc.		
Electrical lines (cables)	С	Check cables (electrical lines) for abrasion points and damage.		
	С	Check positive and ground connections to the battery and frame for tight fit and abrasion points, clean if necessary. Protect battery terminals with terminal grease.		
	С	Check battery charge condition.		
Brake	C	Check service brake for proper functioning		
	(R)	and wear and carry out a brake test, replace required parts if necessary.		
	С	Test parking brake for proper functioning.		
	(R)	Check proportion of water in brake fluid. If the proportion of water is greater than 3 % the brake fluid must be replaced. Check brake fluid oil level and top up if necessary. Or replace brake fluid every 2 years!		0.5 litres, DOT 4, e.g. FTE Type 9368
	С	Check brake hoses for damage.		
Front tool carrier	С	Check upper link for wear and damage.		

Work to be carried or	ut: Ha	ko system maintenance I,	<b>√</b>	Specifications:
500 operating hours	OH, <b>2500 OH</b> , 3500 OH, 4500 OH,		·	
		OH, 8500 OH, 9500 OH)		
Component:		,		
Sweeping unit	С	Check for wear and damage.		
	С	Check sweeping level, adjust if necessary.		
Suction mouth	С	Check coarse material flap and Bowden cable as to function and damage.		
	С	Check the rod ends of the suction mouth lift for wear and damage, replace if necessary.		SP No. 01498260, SP No. 01492810
	C (R)	Check rollers, rubber aprons and circulation water compartments for wear and damage. Defective or worn parts must be replaced!		SP No. 01472250 (2X) SP No. 01470890 SP No. 01470830 SP No 01470860
	С	Check and if necessary adjust the suction mouth setting.		Distance: at the side 5 mm, at the rear 10 mm
Suction duct	С	Check suction hose for damage and correct seating.		
	С	Check seal between suction duct and dirt hopper.		
Suction fan	С	Check suction fan for contamination, clean if necessary.		
	С	Check V-belt at the suction fan for correct V-belt tension and damage and, if necessary, re-tighten or replace.		
	С	Check suction fan for vibration, check bearings if necessary.		
	С	Check impeller for wear.		
Hopper flap of the dirt hopper	С	Check seals of the hopper flap for leaks and damage.		
	С	Check impact plate for wear.		
	С	Cover joints and bearing.		
	С	Check exhaust side of hopper flap for contamination.		
Hopper, circulating water system	C (R)	Hose, cpl. (Circulating water system) If required!		SP No. 01231950

Work to be carried out: Hako system maintenance I,				Specifications:
500 operating hours (1500 OH, 2500 OH, 3500 OH, 4500 OH				
		OH, 8500 OH, 9500 OH)		
Component:				
Cab	С	Clean cab air filter		
	С	Check and if necessary top up the		
		windscreen washing agent level.		
	С	Functional check of heater		
With air conditioning	С	Functional check of air conditioning system		
system				
′				
With air conditioning	С	Check condenser of the air conditioning		
system		system (radiator) for contamination, clean		
		with compressed air if necessary.		
Wheels / tyres	С	Re-tighten wheel nuts.		180 Nm
Tyres	С	Check any damage, air pressure and tread		
•		depth.		
	С	215/ 70 R15		6.0 bar
	С	225/ 70 R15 C (standard tyres)		5.0 bar
	С	255/ 65 R16 (all-purpose tyres)		3.0 bar
	С	285/ 65 R16 C		3.2 bar
	С	320/ 55-15 T559 (lawn surface tyres)		2.8 bar
	С	325/ 60 R15		2.5 bar
Lubrication service:		Door hinges (4x)		
		Front lift cylinder (4x)		
		Front lift (2x)		
		Upper link (2x)		
		Steering cylinder (4x)		
<b>C</b> = Check: function,	seal-	tightness, top up, adjust		•
		ace if technically necessary		
Remarks; service info	rmat	ion for the customer:		
Town / city:		Date:		
j				
Signature - Custome	r:			
Signature – Service te	echni	cian:		

3000 operating hours (6000 OH, 9000 OH).  Component:  Engine  C Read the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.  C Check condition of diesel particulate filter and perform service regeneration if necessary.  R Replace engine oil.  R Replace engine oil filter.  R Oil drain screw  R Seal of oil drain screw  SF  R Fuel pre-filter  R Oil separator crankcase venting  R Air filter insert  R Safety cartridge air filter  C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary.  Only top up distilled water or engine coolant!  Combination radiator  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt  R V-ribbed belt  SF	
To be carried out by an authorised Hako service centre.  Mach. No.: Operating hrs.: Customer:  Work to be carried out: Hako system maintenance II extended, 3000 operating hours (6000 OH, 9000 OH). Component: Engine  C Read the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.  C Check condition of diesel particulate filter and perform service regeneration if necessary.  R Replace engine oil.  R Replace engine oil filter.  R Oil drain screw SF R Seal of oil drain screw SF R Fuel filter SF R Oil separator crankcase venting SF R Safety cartridge air filter C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary. Only top up distilled water or engine coolant!  Combination radiator C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary. Engine bearing C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt R Automatic belt tensioner Generator C Functional and seal tightness check Fuel lines C Functional and seal tightness check Fuel lines C Functional and seal tightness check	
Mach. No.: Operating hrs.: Customer:  Work to be carried out: Hako system maintenance II extended, 3000 operating hours (6000 OH, 9000 OH). Component: Engine  C Read the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary. C Check condition of diesel particulate filter and perform service regeneration if necessary. R Replace engine oil.  R Replace engine oil filter. R Oil drain screw R Seal of oil drain screw SF R Fuel pre-filter R Oil separator crankcase venting R Air filter insert R Safety cartridge air filter C Check coolant level, top up if necessary. C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary. Engine bearing C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt R V-ribbed belt R Automatic belt tensioner Generator C Check generator for contamination, clean.  Exhaust system C Functional and seal tightness check Fuel lines C Functional and seal tightness check	OH, 9000 OH).
Operating hrs.:  Customer:  Work to be carried out: Hako system maintenance II extended, 3000 operating hours (6000 OH, 9000 OH).  Component:  Engine  C Read the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.  C Check condition of diesel particulate filter and perform service regeneration if necessary.  R Replace engine oil.  R Replace engine oil filter.  R Oil drain screw  R Seal of oil drain screw  R Fuel filter  R Fuel pre-filter  R Fuel pre-filter  R Oil separator crankcase venting  R Air filter insert  R Safety cartridge air filter  C Check coolant level, top up if necessary.  C Check colant level, top up if necessary.  Only top up distilled water or engine coolant!  Combination radiator  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  Engine bearing assembly  V-ribbed belt  R Automatic belt tensioner  Generator  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check	
Customer:  Work to be carried out: Hako system maintenance II extended, 3000 operating hours (6000 OH, 9000 OH).  Component:  Engine  C Read the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.  C Check condition of diesel particulate filter and perform service regeneration if necessary.  R Replace engine oil.  R Replace engine oil filter.  R Oil drain screw  R Seal of oil drain screw  R Fuel filter  R Fuel per-filter  R Oil separator crankcase venting  R Air filter insert  R Safety cartridge air filter  C Check coolant level, top up if necessary.  C Check colant level, top up if necessary.  C Check colant level, top up if necessary.  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  Engine bearing assembly  C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt  R Automatic belt tensioner  C Check generator for contamination, clean.  Exhaust system  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check	
Work to be carried out: Hako system maintenance II extended, 3000 operating hours (6000 OH, 9000 OH).  Component:  Engine  C Read the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.  C Check condition of diesel particulate filter and perform service regeneration if necessary.  R Replace engine oil.  R Replace engine oil filter.  R Oil drain screw  R Fuel filter  R Oil separator crankcase venting  R Air filter insert  R Safety cartridge air filter  C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary.  Only top up distilled water or engine coolant!  Combination radiator  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  Check engine bearings for damage, cracks and tight fit.  V-ribbed belt  R Automatic belt tensioner  C Check generator for contamination, clean.  Exhaust system  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check	
3000 operating hours (6000 OH, 9000 OH).  Component:  Engine  C Read the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.  C Check condition of diesel particulate filter and perform service regeneration if necessary.  R Replace engine oil.  R Replace engine oil filter.  R Oil drain screw  R Seal of oil drain screw  R Fuel filter  R Oil separator crankcase venting  R Air filter insert  R Safety cartridge air filter  C Check coolant level, top up if necessary.  C Check coolant level, top up if necessary.  Only top up distilled water or engine coolant!  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  C Check engine bearing assembly  V-ribbed belt  R V-ribbed belt  R V-ribbed belt  R Automatic belt tensioner  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check	
3000 operating hours (6000 OH, 9000 OH).  Component:  Engine  C Read the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.  C Check condition of diesel particulate filter and perform service regeneration if necessary.  R Replace engine oil.  R Replace engine oil filter.  R Oil drain screw  R Seal of oil drain screw  R Fuel filter  R Oil separator crankcase venting  R Air filter insert  R Safety cartridge air filter  C Check coolant level, top up if necessary.  C Check coolant level, top up if necessary.  Only top up distilled water or engine coolant!  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  C Check engine bearing assembly  V-ribbed belt  R V-ribbed belt  R V-ribbed belt  R Automatic belt tensioner  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check	
Component:  Engine  C Read the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.  C Check condition of diesel particulate filter and perform service regeneration if necessary.  R Replace engine oil.  R Replace engine oil filter.  R Oil drain screw  R Seal of oil drain screw  R Fuel filter  R Oil separator crankcase venting  R Air filter insert  R Safety cartridge air filter  C Check coolant level, top up if necessary.  C Check coolant level, top up if necessary.  Only top up distilled water or engine coolant!  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  C Check engine bearing assembly  C Check engine bearings for damage, cracks and tight fit.  R Automatic belt tensioner  C Check generator for contamination, clean.  Exhaust system  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check	Specifications:
Engine  C Read the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.  C Check condition of diesel particulate filter and perform service regeneration if necessary.  R Replace engine oil.  R Replace engine oil filter.  SF R Oil drain screw  R Seal of oil drain screw  R Fuel filter  R Fuel pre-filter  R Oil separator crankcase venting  R Air filter insert  SF R Safety cartridge air filter  C Check coolant level, top up if necessary.  C Check coolant level, top up if necessary.  Only top up distilled water or engine coolant!  Combination radiator  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt  R Automatic belt tensioner  Generator  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check	
control unit, delete sporadic errors, repair clear errors if necessary.  C Check condition of diesel particulate filter and perform service regeneration if necessary.  R Replace engine oil.  R Replace engine oil filter.  R Oil drain screw  R Seal of oil drain screw  SF  R Fuel filter  R Oil separator crankcase venting  R Air filter insert  SF  R Safety cartridge air filter  C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary. Only top up distilled water or engine coolant!  Combination radiator  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary. Engine bearing assembly  V-ribbed belt  R V-ribbed belt  R Automatic belt tensioner  Generator  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check	
C Check condition of diesel particulate filter and perform service regeneration if necessary.  R Replace engine oil.  R Replace engine oil filter.  R Oil drain screw  R Seal of oil drain screw  R Fuel filter  R Fuel pre-filter  R Oil separator crankcase venting  R Air filter insert  R Safety cartridge air filter  C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary. Only top up distilled water or engine coolant!  Combination radiator  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  Check engine bearings for damage, cracks and tight fit.  V-ribbed belt  R V-ribbed belt  R Automatic belt tensioner  Generator  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check	
R Replace engine oil.  R Replace engine oil filter.  R Oil drain screw  R Seal of oil drain screw  R Fuel filter  R Fuel pre-filter  R Oil separator crankcase venting  R Air filter insert  R Safety cartridge air filter  C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary. Only top up distilled water or engine coolant!  Combination radiator  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt  R Automatic belt tensioner  C Check generator for contamination, clean.  Exhaust system  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check	
R Oil drain screw R Seal of oil drain screw R Fuel filter R Fuel pre-filter R Oil separator crankcase venting R Air filter insert R Safety cartridge air filter C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary. Only top up distilled water or engine coolant!  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt R V-ribbed belt R Automatic belt tensioner Generator C Functional and seal tightness check Fuel lines C Functional and seal tightness check Fuel lines  SF	approx. 7.2 litres, Fuchs Titan CARGO, 5W-40
R Seal of oil drain screw R Fuel filter R Fuel pre-filter R Oil separator crankcase venting R Air filter insert R Safety cartridge air filter C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary. Only top up distilled water or engine coolant!  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  Engine bearing assembly C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt R Automatic belt tensioner Generator C Check generator for contamination, clean.  Exhaust system C Functional and seal tightness check Fuel lines C Functional and seal tightness check	SP No. 01500200
R Fuel filter R Fuel pre-filter R Oil separator crankcase venting R Air filter insert R Safety cartridge air filter C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary. Only top up distilled water or engine coolant!  Combination radiator C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  Engine bearing assembly C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt R Automatic belt tensioner Generator C Check generator for contamination, clean.  Exhaust system C Functional and seal tightness check Fuel lines C Functional and seal tightness check	SP No. 01501190
R Fuel pre-filter R Oil separator crankcase venting R Air filter insert R Safety cartridge air filter C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary. Only top up distilled water or engine coolant! C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary. Check engine bearings for damage, cracks and tight fit.  V-ribbed belt R V-ribbed belt R Automatic belt tensioner Generator C Check generator for contamination, clean.  Exhaust system C Functional and seal tightness check Fuel lines C Functional and seal tightness check	SP No. 01501200
R Oil separator crankcase venting R Air filter insert SF R Safety cartridge air filter C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary. Only top up distilled water or engine coolant! Combination radiator C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary. Engine bearing assembly C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt R V-ribbed belt SF R Automatic belt tensioner Generator C Check generator for contamination, clean.  Exhaust system C Functional and seal tightness check Fuel lines C Functional and seal tightness check	SP No. 01500310
R Air filter insert R Safety cartridge air filter C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary. Only top up distilled water or engine coolant!  Combination radiator C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  Engine bearing assembly C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt R V-ribbed belt R Automatic belt tensioner C Check generator for contamination, clean.  Exhaust system C Functional and seal tightness check Fuel lines C Functional and seal tightness check	SP No. 01500420
R Safety cartridge air filter C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary. Only top up distilled water or engine coolant!  Combination radiator C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  Engine bearing assembly C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt R Automatic belt tensioner Generator C Check generator for contamination, clean.  Exhaust system C Functional and seal tightness check Fuel lines C Functional and seal tightness check	SP No. 01500530
C Check coolant hoses and radiator for leaks.  C Check coolant level, top up if necessary. Only top up distilled water or engine coolant!  Combination radiator C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  Engine bearing assembly C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt R V-ribbed belt R Automatic belt tensioner  Generator C Check generator for contamination, clean.  Exhaust system C Functional and seal tightness check Fuel lines C Functional and seal tightness check	SP No. 01500640
C Check coolant level, top up if necessary. Only top up distilled water or engine coolant!  Combination radiator C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  Engine bearing assembly C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt R V-ribbed belt R Automatic belt tensioner C Check generator for contamination, clean.  Exhaust system C Functional and seal tightness check Fuel lines C Functional and seal tightness check	SP No. 01500750
Only top up distilled water or engine coolant!  Combination radiator  C Check engine, charge air and hydraulic oil for contamination, clean with compressed air if necessary.  Engine bearing assembly  C Check engine bearings for damage, cracks and tight fit.  V-ribbed belt  R V-ribbed belt  R Automatic belt tensioner  Generator  C Check generator for contamination, clean.  Exhaust system  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check	
for contamination, clean with compressed air if necessary.  Engine bearing assembly  V-ribbed belt  R V-ribbed belt  R Automatic belt tensioner  Generator  C Check generator for contamination, clean.  Exhaust system  C Functional and seal tightness check  Fuel lines  C Contamination, clean with compressed air if necessary.  SF  Check engine bearings for damage, cracks and tight fit.  SF  C Punctional and tight tensioner  C Functional and seal tightness check	VW- G13 or similar, e.g. Total Glaself Auto Supra
Engine bearing assembly  V-ribbed belt  R V-ribbed belt  R Automatic belt tensioner  Generator  C Check generator for contamination, clean.  Exhaust system  C Functional and seal tightness check  Fuel lines  C Check generator seal tightness check  C Functional and seal tightness check	
R Automatic belt tensioner SF Generator C Check generator for contamination, clean.  Exhaust system C Functional and seal tightness check Fuel lines C Functional and seal tightness check	
Generator  C Check generator for contamination, clean.  Exhaust system  C Functional and seal tightness check  Fuel lines  C Functional and seal tightness check	SP No. 01501230
Exhaust system C Functional and seal tightness check Fuel lines C Functional and seal tightness check	SP No. 01501210
Fuel lines C Functional and seal tightness check	
Fuel lines C Functional and seal tightness check	
Air intake pipe C Functional and seal tightness check	

Work to be carried out: Hako system maintenance II extended, ✓ Specifications: <b>3000</b> operating hours (6000 OH, 9000 OH).					
Component:					
Vehicle control system (work hydraulics control unit)	С	Read entries in the work hydraulics control unit, eliminate fault if necessary. Check software status, update software if necessary.			
Vehicle control system (work hydraulics control unit)	С	Read entries in the hydrostatic control unit, eliminate fault if necessary. Check software status, update software if necessary.			
	-	III I. P 9 66		OD N. 04400400	
Hydraulics	R	Hydraulic oil filter		SP No. 01493180	
	R	Venting filter hydraulic tank		SP No. 01497120	
	R	Replace hydraulic oil. Check hydraulic oil level, top up if necessary. Note: Please note topping up with organic oil or other oils.  Do not mix hydraulic oils!		approx. 58 litres HVLP 46, e.g. Mobiloil DTE 10 Excel	
	С	Check hydraulic pipes and hydraulic hoses			
	_	for abrasion points and damage.			
Hydraulic cylinder – sweeping unit	С	Functional and seal tightness check			
Lifting cylinder (front power lift)	С	Functional and seal tightness check			
Lifting cylinder (sweeper set-up)	С	Functional and seal tightness check			
Hydraulic pipes of basic unit	С	Functional and seal tightness check			
Hydraulic pipes of	С	Functional and seal tightness check			
implements and					
attachments					
Hand pump	С	Check function of the hand pump (raise the dirt hopper or loading platform with the hand pump).			

		ko system maintenance II extended,	<b>√</b>	Specifications:
3000 operating hours	(600	Ю ОН, 9000 ОН). Г		
Chapping / gylon	С	Check chassis springs for damage and		
Chassis / axles	U			
		ease of movement (visual inspection).		
	С	Check shock absorbers for any leaks.		
	С	Check bearing bushes of the axle		
		suspension for cracks and damage (visual inspection).		
	С	Check stop buffers for cracks and damage		
		(visual inspection).		
Steering	С	Functional and seal tightness check		
Steering	С	Check steering cylinder for play.		
		Lubricate steering cylinder (4x).		
	С	Remove covers (plastic) of the articulated		
		joints (top + bottom) and check the joints		
		underneath for dirt, if necessary clean <b>dry</b>		
	С	with a brush.  Check bearing bushings (top + bottom) of		
	Ĺ	the articulated joints for damage		
Electrical system	С	Functional check, lighting, blinkers, work		
Electrical lines	С	functions, horn, etc. Check cables (electrical lines) for abrasion		
(cables)		points and damage.		
(cables)	С	Check positive and ground connections to		
		the battery and frame for tight fit and		
		abrasion points, clean if necessary. Protect		
		battery terminals with terminal grease.		
	С	Check battery charge condition.		
Brake	C	Check service brake for proper functioning and wear and carry out a brake test,		
	(R)	replace required parts if necessary.		
		ropiaco requirea parte il riccossaryi		
	С	Test parking brake for proper functioning.		
	(R)	Check proportion of water in brake fluid. If		0.5 litres, DOT 4, e.g.
		the proportion of water is greater than 3 %		FTE Type 9368
		the brake fluid must be replaced. Check		
		brake fluid oil level and top up if necessary. Or replace brake fluid every 2 years!		
	С	Check brake hoses for damage.		
Front lift	R	Rear bolt of front lift.		SP No. 01472330
Front tool carrier	С	Check upper link for wear and damage.		
	1			I.

	T	T		1
Work to be carried o	ut: Ha	ko system maintenance II extended,	$\checkmark$	Specifications:
Component:				
Sweeping unit	С	Check for wear and damage.		
	С	Check sweeping level, adjust if necessary.		
	R	Bearing block (2-broom- system) (2X)		SP No. 01493820
	R	Bushing (2-broom- system) (4X)		SP No.01060940
	R	Bushing (2-broom- system) (4X)		SP No.01060950
	R	Comb (2-broom- system) (2X)		SP No.01493640
Suction mouth	С	Check coarse material flap and Bowden		
Guotion modul		cable as to function and damage.		
	С	Check the rod ends of the suction mouth lift		SP No. 01498260,
		for wear and damage, replace if necessary.		SP No. 01492810
				22.11
	C	Check rollers, rubber aprons and		SP No. 01472250 (2X)
	(R)	circulation water compartments for wear		SP No. 01470890 SP No. 01470830
		and damage. Defective or worn parts must be replaced!		SP No. 01470860
	С	Check and if necessary adjust the suction		Distance:
		mouth setting.		at the side 5 mm,
				at the rear 10 mm
Suction duct	С	Check suction hose for damage and		
		correct seating.		
	С	Check the seal between suction duct and dirt hopper.		
Suction fan	С	Check suction fan for contamination, clean		
		if necessary.		
	С	Check V-belt at the suction fan for correct		
		V-belt tension and damage and, if		
		necessary, re-tighten or replace.		
	С	Check suction fan for vibration, check		
	С	bearings if necessary. Check impeller for wear.		
Hannar flan of the	C	Check seals of the hopper flap for leaks		
Hopper flap of the		and damage.		
dirt hopper	-	9		
	С	Check impact plate for wear.		
	С	Cover joints and bearing.		
	С	Check exhaust side of hopper flap for contamination.		
Hopper, circulating	С	Hose, cpl. (Circulating water system) If		SP No. 01231950
water system	(R)	required!		
TTALOI OYULUIII		Ī		<u> </u>

Work to be carried ou	ıt: Ha	ako system maintenance II extended,	<b>√</b>	Specifications:
Component:				
Cab	R	Cab air filter		SP No. 01065540
	С	Check and if necessary top up the		
		windscreen washing agent level.		
	С	Functional check of heater		
With air conditioning	С	Functional check of air conditioning system		
system				
*				
With air conditioning	С	Check condenser of the air conditioning		
system		system (radiator) for contamination, clean		
*		with compressed air if necessary.		
Wheels / tyres	С	Re-tighten wheel nuts.		180 Nm
Tyres	С	Check any damage, air pressure and tread		
,		depth.		
	С	215/ 70 R15		6.0 bar
	С	225/ 70 R15 C (standard tyres)		5.0 bar
	С	255/ 65 R16 (all-purpose tyres)		3.0 bar
	С	285/ 65 R16 C		3.2 bar
	С	320/ 55-15 T559 (lawn surface tyres)		2.8 bar
	С	325/ 60 R15		2.5 bar
Lubrication service:		Door hinges (4x)		
		Front lift cylinder (4x)		
		Front lift (2x)		
		Upper link (2x)		
		Steering cylinder (4x)		
		tightness, top up, adjust		
R = Replace, (R) = R	Repla	ace if technically necessary		
Remarks; service info	rmat	ion for the customer:		
Town / city:		Date:		
Signature – Custome	r:			
_				
Signature – Service to	echn	ician:		

Hako-Citymaster 165	50 (1	491.15) – Hako system maintenan	се	
		e I, 500 operating hours (1500 OH, 25	500 C	)H, <b>3500 OH</b> , 4500
		7500 OH, 8500 OH, 9500 OH).		
To be carried out by a	an au	thorised Hako service centre.		
Mach. No.:				
Operating hrs.:				
Customer:	-		-	•
		iko system maintenance I,	<b>√</b>	Specifications:
		OH, 2500 OH, <b>3500 OH</b> ,		
4500 OH, 5500 OH, 6	500	OH, 7500 OH, 8500 OH, 9500 OH).		
Component:				
Engine	С	Read the error memory of the engine		
· ·		control unit, delete sporadic errors, repair		
	_	clear errors if necessary.		
	С	Check condition of diesel particulate filter and perform service regeneration if		
		necessary.		
	R	Replace engine oil.		approx. 7.2 litres, Fuchs
				Titan CARGO, 5W-40
	R	Replace engine oil filter.		SP No. 01500200
	R	Oil drain screw		SP No. 01501190
	R	Seal of oil drain screw		SP No. 01501200
	R	Fuel filter		SP No. 01500310
	R	Fuel pre-filter		SP No. 01500420
	R	Oil separator crankcase venting		SP No. 01500530
	R	Air filter insert		SP No. 01500640
	С	Check coolant hoses and radiator for leaks		
	С	Check coolant level, top up if necessary.		VW- G13 or similar, e.g.
		Only top up distilled water or engine		Total Glaself Auto Supra.
0 1: " " "	0	coolant!		
Combination radiator	С	Check engine, charge air and hydraulic oil for contamination, clean with compressed		
		air if necessary.		
Engine bearing	С	Check engine bearings for damage, cracks		
assembly		and tight fit.		
V-ribbed belt	С	State and function		
Generator	С	Check generator for contamination, clean.		
Exhaust system	С	Functional and seal tightness check		
Fuel lines	С	Functional and seal tightness check		
Air intake pipe	С	Functional and seal tightness check		

Work to be carried ou	ıt: Ha	ko system maintenance I,	<b>√</b>	Specifications:
		OH, 2500 OH, <b>3500 OH</b> , 4500 OH, OH, 8500 OH, 9500 OH).		
Component:				
Vehicle control system (work hydraulics control unit)	С	Read entries in the work hydraulics control unit, eliminate fault if necessary. Check software status, update software if necessary.		
Vehicle control system (work hydraulics control unit)	С	Read entries in the hydrostatic control unit, eliminate fault if necessary. Check software status, update software if necessary.		
Hydraulics	С	Check hydraulic oil level, top up if necessary. Check hydraulic oil level, top up if necessary. Note: Please note topping up with organic oil or other oils. <b>Do not mix hydraulic oils!</b>		HVLP 46, e.g. Mobiloil DTE 10 Excel
	С	Check hydraulic pipes and hydraulic hoses for abrasion points and damage.		
Hydraulic cylinder – sweeping unit	С	Functional and seal tightness check		
Lifting cylinder (front power lift)	С	Functional and seal tightness check		
Lifting cylinder (sweeper set-up)	С	Functional and seal tightness check		
Hydraulic pipes of basic unit	С	Functional and seal tightness check		
Hydraulic pipes of implements and attachments	С	Functional and seal tightness check		
Hand pump	С	Check function of the hand pump (raise the dirt hopper or loading platform with the hand pump)		
Chassis / axles	С	Check chassis springs for damage and		
		ease of movement (visual inspection).		
	С	Check shock absorbers for any leaks.		
	С	Check bearing bushes of the axle suspension for cracks and damage (visual inspection).		
	С	Check stop buffers for cracks and damage (visual inspection).		
Steering	С	Functional and seal tightness check		
	С	Check steering cylinder for play. Lubricate steering cylinder (4x).		

Work to be carried ou	ıt: Ha	ko system maintenance I,	✓	Specifications:
500 operating hours (		'		
4500 OH, 5500 OH, 6				
,		,		
Component:				
Electrical system	С	Functional check, lighting, blinkers, work functions, horn, etc.		
Electrical lines (cables)	С	Check cables (electrical lines) for abrasion points and damage.		
	С	Check positive and ground connections to the battery and frame for tight fit and abrasion points, clean if necessary. Protect battery terminals with terminal grease.		
	С	Check battery charge condition.		
	С	Test parking brake for proper functioning.		
Brake	C (R)	Check service brake for proper functioning and wear and carry out a brake test, replace required parts if necessary.		
	С	Check proportion of water in brake fluid. If the proportion of water is greater than 3 % the brake fluid must be replaced. Check brake fluid oil level and top up if necessary. Or replace brake fluid every 2 years!		0.5 litres, DOT 4, e.g. FTE Type 9368
	С	Check brake hoses for damage.		
Front tool carrier	С	Check upper link for wear and damage.		

Work to be carried o	ut: Ha	ako system maintenance I,	✓	Specifications:
500 operating hours		·		
	•	OH, 7500 OH, 8500 OH, 9500 OH).		
,		, , ,		
Component:				
Sweeping unit	С	Check for wear and damage.		
	С	Check sweeping level, adjust if necessary.		
Suction mouth	С	Check coarse material flap and Bowden		
		cable as to function and damage.		
	С	Check the rod ends of the suction mouth lift		SP No. 01498260,
		for wear and damage, replace if necessary.		SP No. 01492810
	С	Check rollers, rubber aprons and		SP No. 01472250 (2X)
	(R)	circulation water compartments for wear		SP No. 01470890 SP
		and damage. Defective or worn parts must		No. 01470830 SP
		be replaced!		No 01470860
	C	Check and if necessary adjust the suction		Distance:
		mouth setting.		at the side 5 mm,
0 11 1 1	-	Olas I a sefer I a se for I a se a se a l		at the rear 10 mm
Suction duct	С	Check suction hose for damage and		
	С	correct seating.  Check seal between suction duct and dirt		
		hopper.		
Suction fan	С	Check suction fan for contamination, clean		
		if necessary.		
	С	Check V-belt at the suction fan for correct		
		V-belt tension and damage and, if		
		necessary, re-tighten or replace.		
	С	Check suction fan for vibration, check		
		bearings if necessary.		
	С	Check impeller for wear.		
Hopper flap of the	С	Check seals of the hopper flap for leaks		
dirt hopper		and damage.		
11	С	Check impact plate for wear.		
	С	Cover joints and bearing.		
	С	Check exhaust side of hopper flap for		
		contamination.		
Hopper, circulating	С	Hose, cpl. (Circulating water system) If		SP No. 01231950
water system	(R)	required!		

Work to be carried ou	ıt: Ha	ıko system maintenance I,	<b>√</b>	Specifications:
500 operating hours (1500 OH, 2500 OH, <b>3500 OH</b> ,				
4500 OH, 5500 OH, 6	3500	OH, 7500 OH, 8500 OH, 9500 OH).		
Component:				
Cab	С	Clean cab air filter		
	С	Check and if necessary top up the		
		windscreen washing agent level.		
144.1	С	Functional check of heater		
With air conditioning	С	Functional check of air conditioning system		
system				
NACCO I DOLLAR				
With air conditioning	С	Check condenser of the air conditioning system (radiator) for contamination, clean		
system		with compressed air if necessary.		
		,		
Wheels / tyres	С	Re-tighten wheel nuts.		180 Nm
Tyres	С	Check any damage, air pressure and tread		
.,		depth.		
	С	215/ 70 R15		6.0 bar
	С	225/ 70 R15 C (standard tyres)		5.0 bar
	С	255/ 65 R16 (all-purpose tyres)		3.0 bar
	С	285/ 65 R16 C		3.2 bar
	С	320/ 55-15 T559 (lawn surface tyres)		2.8 bar
	С	325/ 60 R15		2.5 bar
		Described (4)		
Lubrication service:		Door hinges (4x)		
		Front lift cylinder (4x)		
		Front lift (2x)		
		` '		
		Upper link (2x) Steering cylinder (4x)		
C Chaple function	222/	. , ,		
		tightness, top up, adjust		
$ \mathbf{R}  = \text{Replace},  \mathbf{R}  = R$	<i>керіа</i>	ace if technically necessary		
Remarks; service info	rmat	ion for the customer:		
Tromains, service into	minat	ion for the editorner.		
				_
				_
				_
Town / city:		Date:		
Town / City.		Date.		
Signature – Custom	or:			
Signature – Custom	CI.			
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Signature – Service	tecn	mician.		

Hako-Citymaster 16	50 (1	491.15 ) – Hako system maintenand	20	
		e II extended, <b>4000</b> operating hours (8		<b>○</b> H/
-		thorised Hako service centre.	5000	OH).
Mach. No.:				
Operating hrs.:				
Customer:				
- Guotomor.				
Work to be carried ou	t: Ha	iko system maintenance II extended,	<b>√</b>	Specifications:
<b>4000</b> operating hours		•		<b>Op 30333.</b>
Component:	(000	T		
	С	Read the error memory of the engine		
Engine	C	control unit, delete sporadic errors, repair		
		clear errors if necessary.		
	С	Check condition of diesel particulate filter		
		and perform service regeneration if		
		necessary.		
	R	Replace engine oil.		approx. 7.2 litres, Fuchs
	_	Destance of the Property of the Control of the Cont		Titan CARGO, 5W-40
	R	Replace engine oil filter.		SP No. 01500200
	R	Oil drain screw		SP No. 01501190
	R	Seal of oil drain screw		SP No. 01501200
	R	Fuel filter		SP No. 01500310
	R	Fuel pre-filter		SP No. 01500420
	R	Oil separator crankcase venting		SP No. 01500530
	R	Air filter insert		SP No. 01500640
	R	Safety cartridge air filter		SP No. 01500750
	С	Check coolant hoses and radiator for leaks.		
	С	Clean EGR system (valve and main		
	R	radiator).  Replace engine coolant, VW- G13.		VW- G13 or similar, e.g.
	K	Note: Only use distilled water for mixing.		Total Glaself Auto Supra.
		Tap or well water does not meet the		Total Glascii Aato Gapia.
		required quality standards that guarantee		
		the coolant is fully functional.		
Combination radiator	С	Check engine, charge air and hydraulic oil		
		for contamination, clean with compressed		
	-	air if necessary.		
Engine bearing	С	Check engine bearings for damage, cracks		
assembly		and tight fit		
V-ribbed belt	С	State and function		
Generator	С	Check generator for contamination, clean.		
Exhaust system	С	Functional and seal tightness check		
Fuel lines	С	Functional and seal tightness check		
Air intake pipe	С	Functional and seal tightness check		
, iii iiitako pipo	_			
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	•	<b>√</b>	Specifications:
(800	0 OH).		
	unit, eliminate fault if necessary. Check software status, update software if necessary.		
С	Read entries in the hydrostatic control unit, eliminate fault if necessary. Check software status, update software if necessary.		
R	Hydraulic oil filter		SP No. 01493180
R	•		SP No. 01497120
С	Remove hydraulic oil sample and send it in. If the sample result is negative, the hydraulic oil must be replaced prematurely!		SP No. 00009720
С	Check hydraulic oil level, top up if necessary. Note: Please note topping up with organic oil or other oils. <b>Do not mix hydraulic oils!</b>		HVLP 46, e.g. Mobiloil DTE 10 Excel
С	Check hydraulic pipes and hydraulic hoses for abrasion points and damage.		
С	Functional and seal tightness check		
С	Functional and seal tightness check		
С	Functional and seal tightness check		
С	Functional and seal tightness check		
С	Functional and seal tightness check		
С	Check function of the hand pump (raise the dirt hopper or loading platform with the hand pump).		
С	Check chassis springs for damage and		
	ease of movement (visual inspection).		
С	Check shock absorbers for any leaks.		
С	Check bearing bushes of the axle suspension for cracks and damage (visual inspection).		
С	Check stop buffers for cracks and damage (visual inspection).		
R	Rubber- Metal- Buffer front axle (2X)		SP No. 01490530
	(800 C C R R C C C C C C	unit, eliminate fault if necessary. Check software status, update software if necessary.  C Read entries in the hydrostatic control unit, eliminate fault if necessary. Check software status, update software if necessary.  R Hydraulic oil filter R Venting filter hydraulic tank C Remove hydraulic oil sample and send it in. If the sample result is negative, the hydraulic oil must be replaced prematurely!  C Check hydraulic oil level, top up if necessary. Note: Please note topping up with organic oil or other oils. Do not mix hydraulic oils! C Check hydraulic pipes and hydraulic hoses for abrasion points and damage. C Functional and seal tightness check  C Check function of the hand pump (raise the dirt hopper or loading platform with the hand pump).  C Check chassis springs for damage and ease of movement (visual inspection).  C Check bearing bushes of the axle suspension for cracks and damage (visual inspection).  C Check stop buffers for cracks and damage (visual inspection).	Read entries in the work hydraulics control unit, eliminate fault if necessary. Check software status, update software if necessary.  Read entries in the hydrostatic control unit, eliminate fault if necessary. Check software status, update software if necessary.  Read entries in the hydrostatic control unit, eliminate fault if necessary. Check software status, update software if necessary.  Remove hydraulic tank  CRemove hydraulic tank  CRemove hydraulic oil sample and send it in. If the sample result is negative, the hydraulic oil must be replaced prematurely!  Check hydraulic oil level, top up if necessary. Note: Please note topping up with organic oil or other oils. Do not mix hydraulic oils!  Check hydraulic pipes and hydraulic hoses for abrasion points and damage.  CFunctional and seal tightness check  Check function of the hand pump (raise the dirt hopper or loading platform with the hand pump).  Check chassis springs for damage and ease of movement (visual inspection).  Check shock absorbers for any leaks.  Check bearing bushes of the axle suspension for cracks and damage (visual inspection).  Check stop buffers for cracks and damage (visual inspection).

		ko system maintenance II extended,	<b>✓</b>	Specifications:
<b>4000</b> operating hour	\$ (800	00 OH).		
Component:				
Steering	C	Functional and seal tightness check.		
		Lubricate steering cylinder (4x).		
	C	Check steering cylinder for play.		
	С	Remove covers (plastic) of the articulated		
		joints (top + bottom) and check the joints		
		underneath for dirt, if necessary clean dry		
		with a brush.		
	С	Check bearing bushings (top + bottom) of		
		the articulated joints for damage		
Electrical system	С	Functional check, lighting, blinkers, work		
		functions, horn, etc.		
Electrical lines	С	Check cables (electrical lines) for abrasion		
(cables)		points and damage.		
(Cables)				
	С	Check positive and ground connections to		
		the battery and frame for tight fit and		
		abrasion points, clean if necessary. Protect		
		battery terminals with terminal grease.		
	С	Check battery charge condition.		
Brake	С	Check service brake for proper functioning		
	(R)	and wear and carry out a brake test,		
		replace required parts if necessary.		
	С	Test parking brake for proper functioning.		
		Trock parking brake for proper functioning.		
	С	Check proportion of water in brake fluid. If		0.5 litres, DOT 4, e.g.
		the proportion of water is greater than 3 %		FTE Type 9368
		the brake fluid must be replaced. Check		
		brake fluid oil level and top up if necessary.		
		Or replace brake fluid every		
		2 years!		
	С	Check brake hoses for damage.		
Front tool carrier	С	Check upper link for wear and damage.		
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	ut: Ha	ko system maintenance II extended,	<b>√</b>	Specifications:
Component:				
Sweeping unit	С	Check for wear and damage.		
	С	Check sweeping level, adjust if necessary.		
Suction mouth	С	Check coarse material flap as to function and damage. Replace Bowden cable.		SP no. 01167520
	С	Check the rod ends of the suction mouth lift for wear and damage, replace if necessary.		SP No. 01498260, SP No. 01492810
	C (R)	Check rollers, rubber aprons and circulation water compartments for wear and damage. Defective or worn parts must be replaced!		SP No. 01472250 (2X) SP No. 01470890 SP No. 01470830 SP No. 01470860
	С	Check and if necessary adjust the suction mouth setting.		Distance: at the side 5 mm, at the rear 10 mm
Suction duct	С	Check suction hose for damage and correct seating.		
	С	Check seal between suction duct and dirt hopper.		
Suction fan	R	V-belt suction fan		SP No. 01220790
	С	Check suction fan for contamination, clean if necessary.		
	С	Check V-belt at the suction fan for correct V-belt tension and damage and, if necessary, re-tighten or replace.		
	С	Check suction fan for vibration, check bearings if necessary.		
	С	Check impeller for wear.		
Hopper flap of the dirt hopper	С	Check seals of the hopper flap for leaks and damage.		
<u> </u>	С	Check impact plate for wear.		
	С	Cover joints and bearing.		
	С	Check exhaust side of hopper flap for contamination.		

Hopper, circulating	υí	Hose, cpl. (Circulating water system) If		SP No. 01231950	
water system	(R)	required!			
Work to be carried ou	t: Ha	ko system maintenance II extended,	✓	Specifications:	
Component:					
Cab	R	Cab air filter		SP No. 01065540	
	С	Check and if necessary top up the			
	С	windscreen washing agent level.  Functional check of heater			
		anotional shock of floater			
With air conditioning	С	Functional check of air conditioning system			
system		,			
oyotom					
With air conditioning	С	Check condenser of the air conditioning			
system		system (radiator) for contamination, clean			
		with compressed air if necessary.			
Windscreen washing	С	Check and if necessary top up the			
agent		windscreen washing agent level.			
Wheels / tyres	С	Re-tighten wheel nuts.		180 Nm	
Tyres	С	Check any damage, air pressure and tread			
	С	depth. 215/ 70 R15		6.0 bar	
	С	225/ 70 R15 C (standard tyres)		5.0 bar	
	С	255/ 65 R16 (all-purpose tyres)		3.0 bar	
	С	285/ 65 R16 C		3.2 bar	
	С	320/ 55-15 T559 (lawn surface tyres)		2.8 bar	
	С	325/ 60 R15		2.5 bar	
Lubrication service:		Door hinges (4x)			
		Front lift cylinder (4x)			
		Front lift (2x)			
		Upper link (2x)			
		Steering cylinder (4x)			
		tightness, top up, adjust			
R = Replace, (R) = R	Repla	ace if technically necessary			
Damania a infa		in fauth a sustaine a			
Remarks; service information for the customer:					
Town / city:		Date:			
Date.					

Signature – Customer:		
Signature – Service technician:		