#### Manual of the Hako GmbH Hako- Service Bad Oldesloe



Hako - system - maintenance: Hako-Citymaster 650 (1470.15)

The Hako system maintenance specifies the special technical work to be carried out in individual modules and defines the time periods for the maintenance. Spare parts to be replaced are specified for the individual maintenance tasks. (Source: operating instructions, chapter 5 Maintenance).

The proper execution of the Hako- system- maintenance ensures a maximum availability of the machines of the customer and guarantees a sustainable conversation of value of the Hako product.

The proof of proper execution is the precondition for warranty and guarantee claims against the manufacturer.

Version: January 2022

## Contents of Hako maintenance system Hako Citymaster 650 Table of contents: Page 2 List of maintenance parts: Page 3 -6 Guidline values for maintenance work: Page 7-8 Hako system maintenance before delivery A (factory specification). To be carried out by authorised Hako service. Page 9 Daily and weekly maintenance to be carried out by the customer/operator/driver. Page 10 - 11 Hako system maintenance after **50** operating hours (to be carried out once). To be carried out by authorised Hako service. Page 12 - 15 Hako system maintenance after 250 operating hours (to be carried out once). To be carried out by authorised Hako service. Page 16 - 20 Hako system maintenance I, 500 operating hours (1500Bh, 2500 Bh, 3500 Bh, 4500 Bh, 5500 Bh, 6500 Bh, 7500 Bh, 8500 Bh, 9500 Bh) To be carried out by authorised Hako service. Page 21 - 25 Hako system maintenance II, 1000 operating hours (5000Bh, 7000Bh). To be carried out by authorised Hako service. Page 26 - 30 Hako system maintenance II extended, 2000 operating hours (4000 Bh, 8000 Bh) To be carried out by authorised Hako service. Page 31 - 35 Hako system maintenance II extended, 3000 operating hours (6000 Bh, 9000, Bh) To be carried out by authorised Hako service. Page 36-40.

Seite	3	von	41
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Mai	ntenance Parts Hako C	itymaster 650
	Hako- System Main	tenance E (50) after 50 operating hours (once)
Stck.	Part Number	Spare part designation
1	01140320	Engine Oil Filter
1	01477080	Fuel Filter
Liter 6.7	, ,	F -1 - T'' - 0 0 0 0 5 W 40
h /	Engine Oil, Manufacturer Fuchs	Fuchs Titan CARGO 5W-40, or comparable engine oil Specification:
0.7		ACEA E9, API CJ-4, CAT ECF-3.
0.7		· · · · · · · · · · · · · · · · · · ·
<u> </u>		· · · · · · · · · · · · · · · · · · ·
0.7		ACEA E9, API CJ-4, CAT ECF-3.
0.7		ACEA E9, API CJ-4, CAT ECF-3.  m- Maintenance I. 500 operating hours
0.7		ACEA E9, API CJ-4, CAT ECF-3.
0.7		ACEA E9, API CJ-4, CAT ECF-3.  m- Maintenance I. 500 operating hours
	(1500,2500,3500,4500,550	ACEA E9, API CJ-4, CAT ECF-3.  m- Maintenance I. 500 operating hours
	(1500,2500,3500,4500,550	m- Maintenance I. 500 operating hours 00, 6500,7500, 8500 Betriebsstunden- Operating hours)
Stck.	(1500,2500,3500,4500,550)  Part Number	m- Maintenance I. 500 operating hours 0, 6500,7500, 8500 Betriebsstunden- Operating hours)  Spare part designation
Stck.	(1500,2500,3500,4500,550)  Part Number  01140320	m- Maintenance I. 500 operating hours 0, 6500,7500, 8500 Betriebsstunden- Operating hours)  Spare part designation Engine Oil Filter
Stck. 1 1	(1500,2500,3500,4500,550)  Part Number  01140320  01477080	m- Maintenance I. 500 operating hours 00, 6500,7500, 8500 Betriebsstunden- Operating hours)  Spare part designation  Engine Oil Filter Fuel Filter
Stck. 1 1 1	(1500,2500,3500,4500,550)  Part Number  01140320  01477080  01477140  00682430	Maintenance I. 500 operating hours  O, 6500,7500, 8500 Betriebsstunden- Operating hours)  Spare part designation  Engine Oil Filter  Fuel Filter  Fuel pre filter insert (water separator)
Stck. 1 1 1 1	(1500,2500,3500,4500,550)  Part Number  01140320  01477080  01477140  00682430  Operating resources	m- Maintenance I. 500 operating hours 0, 6500,7500, 8500 Betriebsstunden- Operating hours)  Spare part designation  Engine Oil Filter Fuel Filter Fuel pre filter insert (water separator)  Air Filter
Stck. 1 1 1	(1500,2500,3500,4500,550)  Part Number  01140320  01477080  01477140  00682430	Maintenance I. 500 operating hours  O, 6500,7500, 8500 Betriebsstunden- Operating hours)  Spare part designation  Engine Oil Filter  Fuel Filter  Fuel pre filter insert (water separator)

### **Maintenance Parts Hako Citymaster 650**

#### Hako- System- Maintenance II. 1000 operating hours

(5000, 7000 Betriebsstunden- Operating hours)

Stck.	Part Number	Spare part designation
1	01140320	Engine oil filter
1	01477080	Fuel filter
1	01477140	Fuel pre filter insert (water separator)
1	00682430	Air Filter
1	00682420	Safety catridge air filter
1	01082600	Venting filter hydraulic oil tank
1	01472210	Return filter (Hydraulic)
1	01477020	Diaphragm in valve cover (Yanmar engine)
1	01477150	Valve cover gasket (Yanmar engine)
1	01065540	Cabine air filter with AC
1	01063650	Cabine air filter without AC
2	01471350	Bowdencable broom arm
1	00009720	Oil sample set (take oil sample and send in)
Liter	Operating resources	
6.7	Engine Oil, Manufacturer Fuchs	Fuchs Titan CARGO 5W-40, or comparable engine oil Specification: ACEA E9, API CJ-4, CAT ECF-3.

### Maintenance Parts Hako Citymaster 650

## Hako- System- Maintenance II. 2000 operating hours (extended scope)

(4000, 8000 Betriebsstunden - Operating hours)

Stck.	Part Number	Spare part designation
1	01140320	Engine oil filter
1	01477080	Fuel filter
1	01477140	Fuel pre filter insert (water separator)
1	00682430	Air filter
1	00682420	Safety cartridge air filter
1	01082600	Venting filter hydraulic oil tank
1	01472210	Return filter (Hydraulic)
1	01477020	Diaphragm in valve cover (Yanmar engine).
1	01477150	Valve cover gasket (Yanmar engine)
1	01065540	Cabine air filter with AC
1	01063650	Cabine air filter without AC
1	01142880	V- belt alternator
1	01471320	V-belt air condition compressor
2	01471350	Bowdencable broom arm
2	01470230	Bowdencable brake
1	01470260	Bowdencable brake
1	01167520	Bowden cable flap suction mouth (suction nozzle).
1	01132270	Bowden cable recirculation water valve
1	00009720	Oil sample set (take oil sample and send in)
Liter	Operating resources	
6.7	Engine Oil, Manufacturer Fuchs	Fuchs Titan CARGO 5W-40, or comparable engine oil Specification: ACEA E9, API CJ-4, CAT ECF-3.
8.0	Engine coolant	Glaceelf Auto Supra, VW- G12+ or G13, 40 - 60% coolant content or use a finished product (ready mixed).

Maintenance	Parte	Hako	Citymaster	650
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# Hako- System Maintenance II. 3000 operating hours (extended scope) (6000, 9000 Betriebsstunden- Operating hours)

Stck.	Part Number	Spare part designation
1	01140320	Engine oil filter
1	01477080	Fuel filter
1	01477140	Fuel pre filter insert
1	00682430	Air filter
1	00682420	Safety catridge air filter
1	01082600	Venting filter hydraulic oil tank
1	01472210	Return filter (Hydraulic)
1	01477020	Diaphragm in valve cover (Yanmar engine)
1	01477150	Valve cover gasket (Yanmar engine)
1	01065540	Cabine air filter with AC
1	01063650	Cabine air filter without AC
2	01471350	Bowdencable broom arm
Liter	Operating resources	
6.7	Engine Oil, Manufacturer Fuchs	Fuchs Titan CARGO 5W-40, or comparable engine oil Specification: ACEA E9, API CJ-4, CAT ECF-3.
35	Hydraulic- Oil (HVLP 46)	For example: Total Equivis AF 46, Exxon DTE10 Excel 46

#### Hako- Maintenance system Citymaster 650- Maintenance Times The indicated maintenance times refer to maintenance and inspection work. Any repairs will be charged separately! The indicated maintenance times refer to maintenance carried out in a workshop (with lifting platform). For maintenance carried out in the field or at the customer's site without a workshop, longer working times must be calculated. Hako system maintenance after 50 Hako system maintenance after 250 operating hours (one-time) operating hours (one-time) **3.50** hours **3.00** hours Hako system maintenance I. after 500 operating hours **3.50** hours Hako system maintenance II. Hako system maintenance I. after 1000 operating hours after 1500 operating hours **6.00** hours **3.50** hours Hako system maintenance II. Hako system maintenance I. after 2000 operating hours with engine after 2500 operating hours coolant change **3.50** hours **6.00** hours Hako system maintenance II. Hako system maintenance I. after **3000** operating hours after 3500 operating hours with hydraulic oil change **3.50** hours **7.00** hours Hako system maintenance II. Hako system maintenance I. after 4000 operating hours after 4500 operating hours (change engine coolant) **3.50** hours **6.00** hours Hako system maintenance II. Hako system maintenance I. after 5000 operating hours after 5500 operating hours **6.00** hours **3.50** hours Hako system maintenance II. Hako system maintenance I. after 6000 operating hours after 6500 operating hours with hydraulic oil change **3.50** hours **7.00** hours Hako system maintenance II. Hako system maintenance I. after 7000 operating hours after 7500 operating hours **6.00** hours **3.50** hours Hako system maintenance II. Hako system maintenance I. after 8000 operating hours after 8500 operating hours

**3.50** hours

(change engine coolant)

**6.00** hours

Hako system maintenance II.	Hako system maintenance I.
after 9000 operating hours	after <b>9500</b> operating hours
with hydraulic oil change	<b>3.50</b> hours
<b>7.00</b> hours	
Hako system maintenance II.	Hako system maintenance I.
after 10000 operating hours	after <b>10500</b> operating hours
<b>6.00</b> hours	<b>3.50</b> hours
Hako system maintenance II.	Hako system maintenance I.
safety check after 11000 operating hours	after <b>11500</b> operating hours
<b>6.00</b> hours	<b>3.50</b> hours

Hako- Citymaster 650- Hako system maintenance							
Hako system maintenance before delivery A (factory specification). To be carried out by authorised Hako service.							
Machine-Nr.:							
Operating hours:							
Operating hours: Customer:		I		I .			
Work to	he	carried out		Technical data:			
Work		carried out	✓	recilinati data.			
Assembly group:	С	Check engine oil level, top up if necessary		6.7 Ltr. Fuchs Titan CARGO, 5W-40			
Engine		Check coolant level in expansion tank, top up if necessary.		VW G13, 40 - 60% Coolant additive (anti-freeze)			
		Check service and parking brake for correct function.					
Brake		Check lighting, working functions, horn etc. for function.					
Electrical system		Fully charge the battery before delivery!					
Tyres	С	Check wheel bolts for tightness. retighten!		130 Nm			
		Check tyre inflation pressure					
		Tyre size 23X8.5 12TT 10PR front/reare		1.9 bar/ 2.7 bar			
		Tyre size 23 X10.5 - 12TL 6PR front/reare		1.5 bar/ 2.0 bar			
		Check for transport damage					
Vehicle	_	Equip and refuel					
	С	Check scope of delivery including all attachments.					
	С	User manual for basic machine					
	С	User manual for attachments					
	С	Function check for all attachments to be delivered according to the order, check completeness of the coding plugs for attachments from other manufacturers.					
Test drive and function check	С	Visual inspection of the hydraulic system at the hydraulic cylinders, check screw connections and hydraulic lines for leaks. Carry out function test. The visual inspection must be carried out after the function test.					
Hydraulic	С	Check hydraulic oil level after attaching implements, test drive and function test, top up if necessary.					
Hydraulic	С	incl. safety instructions and function of the coding plugs.					
Driver briefing	С	Substitute driver, holiday replacement, shift work					
Driver training ** against separate invoice				C = Check R = Replace			

#### Hako- Citymaster 650- Maintenance system Maintenance and care work to be carried out by the operator Daily maintenance and care work to be carried out Technical data: Assembly group: 6.7 Ltr. Fuchs Titan CARGO, C Check engine oil level, top up with **Engine** engine oil if necessary. 5W-40 VW G13, 40-60% Coolant C Check the coolant level in the expansion additive (antifreeze) tank and the radiator antifreeze, top up if necessary. Observe frost protection for winter operation! C Check the combi radiator and radiator Cooling system grille for dirt, clean with compressed air if necessarv. C Check emergency steering function Steering C Check service and parking brake for Brake function. Electrical equipment C Check lighting, working functions, horn etc. for function. Machine cleaning: Vehicle, sweepings Vehicle and sweeping system container, circ, water system, suction mouth, suction pipe, suction fan Technical data: Weekly maintenance and care work to be carried out Assembly group: C Check engine oil level, top up with 6.7 Ltr. Fuchs Titan CARGO. **Engine** engine oil if necessary. 5W-40 C Check the coolant level in the expansion VW G13, 40 - 60% tank and the radiator antifreeze, top up if Coolant additive necessary. Observe frost (antifreeze) protection for winter operation! C Check the combi radiator and radiator Cooling system grille for dirt, clean with compressed air if necessary. Fuel system Filling up with fuel R Empty water separator HVLP 46 C Check oil level, top up if necessary. Hydraulic C Check emergency steering function Steering C Check service and parking brake for Brake function. C Check lighting, working functions, horn Electrical equipment

etc. for function.

Weekly maintenance and care	✓	Technical data:		
Assembly group:				
Vehicle and sweeping system	С	Machine cleaning: Vehicle, sweepings container, circulating water system, suction mouth, suction pipe, suction fan		
Sweeping system	С	Check sweeping unit, suction section, sweepings container, fresh water and circulating water system for function and damage.		
Lubrication service		Door hinges 4X		Lubricating grease
For details see lubrication chart CM 650		Front lifting cylinders 4X		
		Front power lift 2X		
		Dirt flap on suction unit 1X		
		Steering hinge 4X		
		Hydraulik steering cylinder 2X		
				C = Check R = Replace

Hako- Citymaster 65		Hako Maintenance system		
Hako system maintenan	റമ aft	ter <b>50</b> operating hours (to be carried ou	t one	20)
To be carried out by the			COIN	5 <del>0</del> ).
Machine Nr.:				
Operating hours:				
Customer:				
Work to be parried out	Hake	s system maintanance offer EO		Technical data:
operating hours (to be		o system maintenance after 50 ed out once)	1	reciinicai data.
Assembly group:	T			
Engine Control Unit	С	Read out the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.		Yanmar Engine Diagnosticsystem
Particel filter	С	Check the loading condition of the diesel particle filter, carry out a service regeneration if necessary.		Yanmar Engine Diagnosticsystem
	R	Change Engine oil.		ca. 6.7 Ltr. Fuchs Titan CARGO, 5W-40
	R	Change the engine oil filter.		RP-Nr. 01140320
	R	Change fuel filter.		RP-Nr. 01477080
	С	Fuel pre-filter insert - Empty water separator		RP-Nr. 01477140
Cooling system	С	Check coolant hoses and radiator for leaks.		
	С	Check the coolant level in the expansion tank and the radiator antifreeze, top up if necessary. Observe frost protection for winter operation!		VW G13, 40 - 60% Coolant additive (antifreeze)
Radiator	С	Check the combi radiator and radiator grille for dirt, clean with compressed air if necessary.		
Engine mount	С	Check engine mounts for damage, cracks and tight fit.		
V- Belt	С	V-belt generator Check condition and tension.		
	С	Air conditioner V-belt Check condition and tension.		
Exhaust System	С	Check the exhaust system for function and tightness.		
Fuel System	С	Check fuel lines for function and tightness.		
Air Intake System	С	Check air intake line for function and tightness.		
	<del> </del>			

Work to be carried out:	Hako s	ystem maintenance after <b>50</b>		Technical data:
operating hours (to be o	arried	out once).	✓	
Assembly group:				
Control Unit work hydrauliks	С	Read out the entries in the working hydraulics control unit and eliminate the fault if necessary. Check software status, carry out software update if necessary.		
Control Unit hydrostatic drive	С	Read out the entries in the hydrostat control unit and eliminate the fault if necessary.  Check software status, carry out software update if necessary.		
Hydraulic	С	Check oil level, top up if necessary.		HVLP 46
	С	Check the function of the hydraulic system.		
	C	Check hydraulic lines and hydraulic hoses for chafing and damage. Check the hydraulic system for leaks at the		
		hydraulic cylinders, screw connections and hydraulic lines.		
	С	Check the function of the hand pump by lifting the sweepings container with the hand pump.		
Steering (Hydr.)	С	Check function and ease of movement. Check steering for tightness.		
Electrical equipment	С	Function check, lighting, working functions, horn, etc.		
Cabels, wiring harnesses	С	Check cables (electrical lines) for chafing and damage.		
		Check positive and ground connections to battery and frame for tight fit and chafing, clean if necessary. Protect battery terminals with terminal grease.		
Battery	С	Check the charge status of the battery.		
Oakina	С	Clean the cabin air filter.		
Cabine				
	С	Check heating for function.  Check the function of the air conditioner.		
	C	Check windscreen washer fluid level, refill if		
With Air Condition	С	necessary.  Check the condenser of the air conditioning system (radiator) on the rear wall of the cabin for dirt and clean it with compressed air if necessary.		
Brake	С	Check service brake for function and carry out a brake test		
	С	Check parking brake for function,		
Tyres	С	Check wheel bolts for tightness. retighten!		130 Nm
	С	Check tyre inflation pressure		
		Tyre size 23X8.5 12TT 10PR front/rear		1.9 bar/ 2.7 bar
		Tyre size 23 X10.5 - 12TL 6PR front/rear		1.5 bar/ 2.0 bar

Work to be carried out: operating hours (to be		system maintenance after <b>50</b>		Technical data:
	Jameu	out once).	<b>√</b>	
Assambly group:				
Sweeping Unit	С	Check for wear and damage, replace		
		defective parts if necessary.		
	С	Check the broom sweep level, adjust if		
	С	necessary. Fresh water system: Water spray system:		
		Check spray nozzles, spray nozzle filter and		
		sieve filter for function and clean if		
		necessary.		
		inocossary.		
Suction Unit	С	Check for wear and damage, replace		
		defective parts if necessary.		
	С	Check suction mouth settings, adjust if		Distance to floor: Laterally
		necessary		5mm: Rear 10-15 mm.
	С	Check the suction hose for damage and		
		correct fit.		
	С	Check seal between suction pipe and		
		sweepings container, replace if necessary.		
	С	Check the fresh water nozzle and the		
		circulating water system at the suction mouth		
		for function.		
	С	Check circulation water valve and hoses for		
		function and damage.		
	С	Check the suction mouth flap for function		
		and damage.		
	С	Check Bowden cables for function, damage		
		and ease of movement, replace if necessary.		
Dirt Hopper	С	Check for dirt, clean if necessary.		
• •	С	Sump floor flap Check function.		
	С	Check suction strainer in the sweepings		
		container for dirt, clean if necessary.		
	С	Check the hydraulic motor for the suction fan		
		and the hydraulic lines for leaks.		
Container flap of the	С	Check the seals on the container flap for		
Dirt Hopper		leaks and damage.		
•	С	Check the lid joints and the bearing of the		
		container flap.		
	С	Check the exhaust air side of the container		
		flap for dirt.		

Work to be carried out: Hak	to system maintenance after <b>50</b>		Technical data:
operating hours (to be carri	ed out once).	✓	
Assambly group:			
Lubrication service	Door hinges 4X		
	Front lifting cylinders 4X		
	Front power lift 2X		
	Dirt flap on suction unit 1X		
	Steering hinge 4 X		
	Steering Cylinder (Hydr.) 2X		
Visual condition of the machine	Colouring, corrosion, signs, stickers (25km/h)		
Test drive	Test of all functional and safety-relevant components, brake test		
Driver briefing	If necessary, supplementary instructions on operation, maintenance and safety		
Driver training **	for substitute drivers, holiday replacement, shift work		
C = Check			
R = Replace			
Remarks; Service Notes f	or the customer:		
Location:	Date:		
Signature Customer:			
Signatuer Service Technicia	an:		

Hako Maintenance S	Syst	em CM 650		
	•			
_		er <b>250</b> operating hours (to be carried o	ut o	nce).
To be carried out by auth	iorise	ed Hako service.		
Machine Nr.:				
Operating hours:				
Customer:				
				<u> </u>
		system maintenance after 250		Technical data:
operating hours (to be ca	rried	out once).	✓	
Assembly group:				
Engine	С	Read out the error memory of the engine		Yanmar Engine
Control Unit		control unit, delete sporadic errors, repair clear errors if necessary.		Diagnosticsystem
Particle Filter	С	Check the loading condition of the diesel		Yanmar Engine
		particle filter, carry out a service regeneration		Diagnosticsystem
		if necessary.		,
	С	Check engine oil level, top up if necessary.		ca. 6.7 Ltr. Fuchs Titan CARGO, 5W-40
Fuel system	С	Fuel pre-filter insert- Empty water separator		RP-Nr. 01477140
Cooling System	С	Check coolant hoses and radiator for leaks.		
	С	Check coolant level in expansion tank u, top		VW G13, 40 - 60%
D. P. C.	С	up if necessary.  Check the combi radiator and radiator grille		Coolant additive (antifreeze)
Radiator		for dirt, clean with compressed air if necessary.		
Engine mount	С	Check engine mounts for damage, cracks and tight fit.		
V- Belt	С	V-belt generator Check condition and tension.		
	С	Air conditioner V-belt Check condition and		
_		tension.		
Exhaust System	С	Check the exhaust system for function and		
Fuel Lines	С	tightness. Check fuel lines for function and tightness.		
Air Intake System	C	Check air intake line for function and		
Mi make Oystem	L	tightness.		

Work to be carried out: V		Technical data:		
maintenance after 250 of	perat	ing hours (to be carried out once).	✓	
Assambly group:				
Control Unit Work Hydrauliks	С	Read out the entries in the working hydraulics control unit and eliminate the fault if necessary. Check software status, carry out software update if necessary.		
Control Unit Drive Hydrauliks	С	Read out the entries in the hydrostat control unit and eliminate the fault if necessary. Check software status, carry out software update if necessary.		
Hydraulik system:	С	Check oil level, top up if necessary.		HVLP 46
	С	Check the function of the hydraulic system.		
	С	Check hydraulic lines and hydraulic hoses for chafing and damage.		
	С	Check the hydraulic system for leaks at the hydraulic cylinders, screw connections and hydraulic lines.		
	С	Check the function of the hand pump by lifting the sweepings container with the hand pump.		
Steering (Hydr.)	С	Check function and ease of movement. Check steering for tightness.		
	С	Lubricate steering cylinder and articulated joint.		

		system maintenance after 250		Technical data:
operating hours (to be c	arried	out once).	✓	
Assembly group:				
Electrical Equipment	С	Function check, lighting, working functions, horn, etc.		
Cable and Wire harnesses	С	Check cables (electrical lines) for chafing and damage.		
		Check positive and ground connections to battery and frame for tight fit and chafing, clean if necessary. Protect battery terminals with terminal grease.		
Battery	С	Check the charge status of the battery.		
Cabine	С	Clean the cabin air filter.		
	С	Check heating for function.		
	С	Check the function of the air conditioner.		
	С	Check windscreen washer fluid level, refill if necessary.		
With Air Condition	С	Check the condenser of the air conditioning system (radiator) on the rear wall of the cabin for dirt and clean it with compressed air if necessary.		
Duelle	С	Check the service brake for function and		
Brake		carry out a brake test.		
	С	Check parking brake for function,		
Tyres	С	Check wheel bolts for tightness. retighten!		130 Nm
	С	Check tyre pressure.		
		Tyre size 23X8.5 12TT 10PR front/rear		1.9 bar/ 2.7 bar
		Tyre size 23 X10.5 - 12TL 6PR front/rear		1.5 bar/ 2.0 bar

C (R) C	Check for wear and damage, replace defective parts if necessary.  Check the broom sweep level, adjust if	<b>√</b>	
(R) C	defective parts if necessary.		
(R) C	defective parts if necessary.		
C			
	Check the broom sweep level, adjust if		<del> </del>
С			
C	necessary.		
	Fresh water system: Water spray system:		
	Check spray nozzles, spray nozzle filter and		
	-		<u> </u>
			Distance to floor: Laterally
			Distance to floor: Laterally 5mm: Rear 10-15 mm.
D	-		Silili. Real 10-15 lilli.
	_		
`			
	· ·		
(11)	oweopings container, replace if ricoeddary.		
С	Check the fresh water nozzle and the		
(R)			
()			
С	Check circulation water valve and hoses for		
(R)	function and damage.		
Č	Check the suction mouth flap for function		
(R)	and damage.		
С	Check Bowden cables for function, damage		
(R)	and ease of movement, replace if necessary.		
С	Check for dirt, clean if necessary.		
С	Sump floor flap Check function.		
С	Check suction strainer in the sweepings		
	. •		
С			
С	Check the seals on the container flap for		
	leaks and damage.		
C	Check the lid joints and the hearing of the		
	· · · · · · · · · · · · · · · · · · ·		
С			†
			+
	C P R C R C R C R C C C C C	sieve filter for function and clean if necessary.  C Check for wear and damage, replace defective parts if necessary.  C Check suction mouth settings, adjust if necessary  P Check the suction hose for damage and (R) correct fit.  C Check seal between suction pipe and sweepings container, replace if necessary.  C Check the fresh water nozzle and the circulating water system at the suction mouth for function.  C Check circulation water valve and hoses for function and damage.  C Check the suction mouth flap for function and damage.  C Check Bowden cables for function, damage and ease of movement, replace if necessary.  C Check for dirt, clean if necessary.  C Check suction strainer in the sweepings container for dirt, clean if necessary.  C Check the hydraulic motor for the suction fan and the hydraulic lines for leaks.  C Check the seals on the container flap for leaks and damage.  C Check the lid joints and the bearing of the container flap.	sieve filter for function and clean if necessary.  C Check for wear and damage, replace defective parts if necessary.  C Check suction mouth settings, adjust if necessary  P Check the suction hose for damage and correct fit.  C Check seal between suction pipe and sweepings container, replace if necessary.  C Check the fresh water nozzle and the circulating water system at the suction mouth for function.  C Check circulation water valve and hoses for function and damage.  C Check the suction mouth flap for function and damage.  C Check Bowden cables for function, damage and ease of movement, replace if necessary.  C Check for dirt, clean if necessary.  C Check suction strainer in the sweepings container for dirt, clean if necessary.  C Check the hydraulic motor for the suction fan and the hydraulic lines for leaks.  C Check the seals on the container flap for leaks and damage.  C Check the lid joints and the bearing of the container flap.  C Check the exhaust air side of the container

	/ork to be carried out: Hako system		Technical data:
	perating hours (to be carried out once).	✓	
Assembly group:			
Lubrication service	Door hinge 4X		
	Front lifting cylinders 4X		
	Front power lift 2X		
	Dirt flap on suction unit 1X		
	Steering hinge 4 X		
	Steering cylinder (Hydr.) 2X		
Visual condition of the machine	Colouring, corrosion, signs, stickers (25km/h)		
	T ( )   ( )   ( )		
Test drive	Test of all functional and safety-relevant components, brake test according to legal requirements.		
Driver briefing	If necessary, supplementary instructions on operation, maintenance, safety		
Driver training **	for substitute drivers, holiday replacement,		
Driver training ***	shift work		
C= Check			
R= Replace			
Remarks; Service Notes	s for the customer:		
Location:	Date:		
Customer signature:	_ 3.0.		
Signature of service techn	nician:		

Hako Maintenanc	e syste	em CM 650	
Bh, 6500 Bh, 7500 Bh	, 8500 E	•	3500Bh, 4500 Bh, 5500
To be carried out by a	ullionse	eu nako service.	1
Vehicle Nr:			
Operating hours:			
Customer:			
Bh, 3500Bh, 4500 Bh,	, 5500 B	500 operating hours (1500 Bh, 2500, 8h, 6500 Bh, 7500 Bh, 8500 Bh, 9500 athorised Hako service.	Technical data:
Assembly group:			
Engine Control Unit	С	Read out the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.	Yanmar Engine Diagnosis
Particel Filter	С	Check the loading condition of the diesel particle filter, carry out a service regeneration if necessary.	Yanmar Engine Diagnosis
	R	Change engine oil.	ca. 6.7 Ltr. Fuchs Titan CARGO, 5W-40
	R	Change the engine oil filter.	RP-Nr. 01140320
	R	Change fuel filter.	RP-Nr. 01477080
	R	Change fuel prefilter element.	RP-Nr. 01477140
	R	Change air filter element	RP-Nr. 00682430
Cooling System	С	Check coolant hoses and radiator for leaks.	
	С	Check the coolant level in the expansion tank and the radiator antifreeze, top up if necessary. Observe frost protection for winter operation!	VW G13, 40 - 60% Coolant additive (antifreeze)
Radiator	С	Check the combi radiator and radiator grille for dirt, clean with compressed air if necessary.	
Engine mount	С	Check engine mounts for damage, cracks and tight fit.	
V - Belt	С	V-belt generator Check condition and tension.	
	С	Air conditioner V-belt Check condition and tension.	
Exhaust System	С	Check the exhaust system for function and tightness.	
Fuel - System Air Intake	C	Check fuel lines for function and tightness.  Check air intake line for function and	
		tightness.	

	0, Bh	system maintenance I, <b>500</b> hours of , 3500Bh, 4500 Bh, 5500 Bh, 6500 Bh).	<b>✓</b>	Technical data:
Assembly group:				
Control Unit Work Hydrauliks	С	Read out the entries in the working hydraulics control unit and eliminate the fault if necessary. Check software status, carry out software update if necessary.		
Control Unit Drive Hydrauliks	С	Read out the entries in the hydrostat control unit and eliminate the fault if necessary. Check software status, carry out software update if necessary.		
Hydraulic System	С	Check hydraulic oil level, top up if necessary.		HVLP 46
	С	Check the function of the hydraulic system.		
	С	Check hydraulic lines and hydraulic hoses for chafing and damage.		
	С	Check the hydraulic system for leaks at the hydraulic cylinders, screw connections and hydraulic lines.		
	С	Check the function of the hand pump by lifting the sweepings container with the hand pump.		
Steering (Hydr.)	С	Check function and ease of movement. Check steering for tightness.		
	С	Check steering cylinder for play and wear. Lubricate steering cylinder, 2X.		
	С	Check articulated joint for play and wear.  Lubricate articulated joint, 4X.		

operation (1500 Bh, 250	0, Bh	system maintenance I, <b>500</b> hours of , 3500Bh, 4500 Bh, 5500 Bh, 6500		Technical data:
Bh, 7500 Bh, 8500 Bh, 9	1000 E	DII).	<b>√</b>	
Assembly group:				
Elektric	С	Function check, lighting, working functions, horn, etc.		
Cable and wire	С	Check cables (electrical lines) for chafing		
harnesses		and damage.		
	С	Check positive and ground connections to battery and frame for tight fit and chafing, clean if necessary. Protect battery terminals with terminal grease.		
Battery	С	Check the charge status of the battery.		
Cabine	С	Clean the cabin air filter.		
	С	Check heating for function.		
	С	Check the function of the air conditioner.		
	С	Check windscreen washer fluid level and top up if necessary.		
Air - Condition	С	Check the condenser of the air conditioning system (radiator) on the rear wall of the cabin for dirt and clean it with compressed air if necessary.		
Brake	C (R)	Check service brake for function and wear and carry out a brake test, replace necessary parts if necessary.		
	С	Check parking brake for function, adjust if necessary.		
	С	Check the Bowden cables of the parking brake for chafing.		
Tyres	С	Check wheel bolts for tightness. retighten!		130 Nm
	С	Check tyre pressure.		
		Tyle size 23X8.5 12TT 10PR front/rear		1.9 bar/ 2.7 bar
		Tyre size 23 X10.5 - 12TL 6PR front/rear		1.5 bar/ 2.0 bar

Work to be carried ou operation (1500 Bh, 2 Bh, 7500 Bh, 8500 Bl	2500, Bh,	<b>✓</b>	Technical data:	
Assembly group:				
Sweeping unit	C (R)	Check the sweeping unit for wear and damage, replace defective parts if necessary.		
	C (R)	Check the broom adjustment Bowden cables for damage and wear, replace if necessary.		
	С	Check the broom sweep level, adjust if necessary.		
	С	Fresh water system: Water spray system: Check spray nozzles, spray nozzle filter and sieve filter for function and clean if necessary.		
Suction Unit	C (R)	Check for wear and damage, replace defective parts if necessary.		
	С	Check suction mouth settings, adjust if necessary		Distance to floor: Laterally 5mm: Rear 10-15 mm.
		Check the suction hose for damage and correct fit.		
		Check seal between suction pipe and sweepings container, replace if necessary.		
	С	Check the fresh water nozzle and the circulating water system at the suction mouth for function.		
	C (R)	Check circulation water valve and hoses for function and damage.		
	P (W)	Check the suction mouth flap for function and damage.		
	C (R)	Check Bowden cables for function, damage and ease of movement, replace if necessary.		
Dirt Hopper	С	Check for dirt, clean if necessary.		
	С	Sump floor flap Check function.		
	С	Check suction strainer in the sweepings container for dirt, clean if necessary.		
	С	Check the hydraulic motor for the suction fan and the hydraulic lines for leaks.		

Work to be carried out: I operation (1500 Bh, 250 Bh, 7500 Bh, 8500 Bh, 9	<b>√</b>	Technical data:		
Assembly group:				
Container flap of the sweepings container	С	Check the seals on the container flap for leaks and damage.		
, , , , , , , , , , , , , , , , , , ,	С	Check the lid joints and the bearing of the container flap.		
	С	Check the exhaust air side of the container flap for dirt.		
Lubrication service:		Door hinge 4X		
		Front lifting cylinders 4X		
		Front power lift 2X		
		Dirt flap on suction unit 1X		
		Steering hinge 4 X		
		Steering cylinder (Hydr.) 2X		
Visual condition of the machine	С	Couloring, corrosion, signs, stickers 25 km/h		
Test drive		Test of all functional and safety-relevant components, brake test according to legal requirements		
C = Check				
R = Replace				
Remarks; Service Note	s for	the customer:		
Location:		Date:		
Customer signature:				
Signature of service tech	nnicia	n:		

Maintenance Syst	tem Ha	nko Citymaster 650		
mannonano o o o				
Hako system mainten	ance II.	after <b>1000</b> operating hours (5000 Bh,70	000	Bh).
To be carried out by a	•			<i></i>
Vehicle Nr.:				
Operating hours:				
Costumer:				
Work to be done:			1	Technical data:
	I	T	<b>✓</b>	reciiiicai data.
Assambly group: Engine	С	Read out the error memory of the engine		Yanmar Engine diagnosis
Control Unit	ľ	control unit, delete sporadic errors, repair		Turmar Engine diagnosis
Control Offic		clear errors if necessary.		
Particel filter	С	Check the loading condition of the diesel		Yanmar Engine diagnosis
		particle filter, carry out a service regeneration if necessary.		
	R	Change Engine Oil		ca. 6.7 Ltr. <b>Fuchs</b> Titan
				CARGO, 5W-40
	R	Change the engine oil filter.		RP-Nr. 01140320
	R	Change fuel filter.		RP-Nr. 01477080
	R	Change fuel prefilter element.		RP-Nr. 01477140
	R	Change air filter element		RP-Nr. 00682430
	R	Change the safety cartridge of the air filter		RP-Nr. 00682420
	С	Check valve clearance when engine is cold		Inlet/exhaust valves: Valve
	D	and adjust valve clearance if necessary.		clearance 0.20 mm
	R R	Replace valve cover gasket Change the diaphragm in the valve cover of		RP.Nr. 01477150 RP-Nr. 01477020
		the engine ventilation.		141.01477020
	С	Check coolant hoses and radiator for leaks.		
	С	Check the coolant level in the expansion tank		VW- G13, 40 - 60%
		and the radiator antifreeze, top up if		Engine Cooling additive
		necessary. Observe frost protection for		(antifreeze)
		winter operation!		
Radiator	С	Check the combi radiator and radiator grille		
		for dirt, clean with compressed air if necessary.		
Engine mount	С	Check engine mounts for damage, cracks		
		and tight fit.		
V - Belt	С	V-belt generator Check condition and		
	С	tension.  Air conditioner V-belt Check condition and		
		tension.		
	С	Check ECO, standard and maximum speed		1900/ 2250/ 2630 1/min
Exhaust System	С	Check the exhaust system for function and		
Exhaust System		tightness.		
Fuel System	С	Check fuel lines for function and tightness.		
Air Intake System	С	Check air intake line for function and		
		tightness.		
	I	1		•

Work to be carried out operating hours (5000		system maintenance II after <b>1000</b> 0 Bh).	<b>✓</b>	Technical data:
Assembly group:				
Control Unit Work Hydraulik	С	Read out the entries in the working hydraulics control unit and eliminate the fault if necessary. Check software status, carry out software update if necessary.		
Control Unit Drive Hydraulik	С	Read out the entries in the hydrostat control unit and eliminate the fault if necessary. Check software status, carry out software update if necessary.		
Hydraulic	R	Change the return filter of the hydraulic system.		RPNr.01472210
	R	Change breather filter hydraulic oil tank		RPNr.01082600
	С	Take an oil sample and have it tested		RP Nr.00009720
	С	Check hydraulic oil level, top up if necessary.		HVLP 46
	С	Check the function of the hydraulic system.		
	С	Check hydraulic lines and hydraulic hoses for chafing and damage.		
	С	Check the hydraulic system for leaks at the hydraulic cylinders, screw connections and hydraulic lines.		
	С	Check the function of the hand pump by lifting the sweepings container with the hand pump.		
Steering	С	Check function and ease of movement. Check steering for tightness.		
	С	Check steering cylinder for play and wear. Lubricate steering cylinder, 2X.	Ī	
	С	Check articulated joint for play and wear.  Lubricate articulated joint, 4X.		

Work to be carried ou operating hours (500)		system maintenance II after 1000	✓	Technical data:
Assembly group:	0 11,700			
Elektric system	С	Function check, lighting, working functions, horn, etc.		
Cable and wire harnesses	С	Check cables (electrical lines) for chafing and damage.		
Cable and wire harnesses	С	Check positive and ground connections to battery and frame for tight fit and chafing, clean if necessary. Protect battery terminals with terminal grease.		
Battery	С	Check the charge status of the battery.		
Cabine	R	Cabin air filter with air conditioning.		RPNr 01065540
	R	Cabin air filter without air conditioning.		RPNr 01063650
	С	Check heating for function.		
	С	Check the function of the air conditioner.		
	С	Check windscreen washer fluid level and top up if necessary.		
Air Condition System	С	Check the condenser of the air conditioning system (radiator) on the rear wall of the cabin for dirt and clean it with compressed air if necessary.		
Brake	C (R)	Check service brake for function and wear and carry out a brake test, replace necessary parts if necessary.		
	С	Check parking brake for function, adjust if necessary.		
	С	Check the Bowden cables of the parking brake for chafing.		
Tyres	С	Check wheel bolts for tightness. Retighten!		130 Nm
	С	Check tyre pressure.		
		Tyre size 23X8.5 12TT 10PR front/reare		1.9 bar/ 2.7 bar
		Tyre size 23 X10.5 - 12TL 6PR front/reare		1.5 bar/ 2.0 bar

Work to be carried out: operating hours (5000 B)		system maintenance II after <b>1000</b> 00 Bh).	<b>√</b>	Technical data:
Assembly group:	1	· ,	•	
Sweeping Unit	R	Replace the Bowden cables on the broom arms.		RPNr. 01471350 <b>(2X)</b>
	C (R)	Check the sweeping unit for wear and damage, replace defective parts if necessary.		
	С	Check the broom sweep level, adjust if necessary.		
	С	Fresh water system: Water spray system: Check spray nozzles, spray nozzle filter and sieve filter for function and clean if necessary.		
Suction Unit	C (R)	Check for wear and damage, replace defective parts if necessary.		
	C	Check suction mouth settings, adjust if necessary		Distance to floor: Laterally 5mm: Rear 10-15 mm.
	C (R)	Check suction hose for damage and correct fit.		
	C	Check seal between suction pipe and		
	(R)	sweepings container, replace if necessary.		
	C	Check the fresh water nozzle and the		
		circulating water system at the suction mouth for function.		
	C (R)	Check circulation water valve and hoses for function and damage.		
	С	Check the suction mouth flap for function		
	(R)	and damage.		
	C (R)	Check Bowden cables for function, damage and ease of movement, replace if necessary.		
Dirt Hopper	С	Check for dirt, clean if necessary.		
	С	Sump floor flap Check function.		
	С	Check suction strainer in the sweepings container for dirt, clean if necessary.		
	С	Check the hydraulic motor for the suction fan and the hydraulic lines for leaks.		
	С	Check the fan speed of the suction fan in the sweepings container.		2800 1/Min bei 2600 1/Min Engine speed
Container Flap of the Dirt Hopper	С	Check the seals on the container flap for leaks and damage.		
	С	Check the lid joints and the bearing of the container flap.		
	С	Check the exhaust air side of the container flap for dirt.		

	ako system maintenance II after <b>1000</b>		Technical data:		
operating hours (5000 Bh,7	7000 Bh).	✓			
Assembly group:		$\bot$			
Lubrication service	Door hinges 4X				
	Front lifting cylinder 4X				
	Front power lift 2X				
	Dirt flap on suction unit 1X				
	Steering hinge 4 X				
	Steering cylinder (Hydr.) 2X	$T_{\_}$			
Visual condition of the machine	Coloring, corrosion, signs, stickers 25 km/h				
Test Drive	Test of all functional and safety-relevant components, brake test according to legal requirements.				
C = Check					
R = Replace					
Remarks; Service Notes	for the customer:				
Location:	Date:				
Customer signature:					
Signature of service techni	cian:				

Maintenance Svs	tem Ha	ko Citymaster 650		
mamitonanio e y e				
Hako system mainter Bh). To be carried ou		extended, every <b>2000</b> operating hours (a	400	O Bh, 8000 Bh, 10000
Vehicle Nr:				
Operating hours:				
Customer:	<u>l</u>			
Work to be carried ou every <b>2000</b> operating		system maintenance II extended, 000 Bh, 8000 Bh)	✓	Technical data:
Assembly group:				
Engine Control Unit	С	Read out the error memory of the engine control unit, delete sporadic errors, repair clear errors if necessary.		Yanmar Engine Diagnosis
Particel Filter	С	Check the loading condition of the diesel particle filter, carry out a service regeneration if necessary.		Yanmar Engine Diagnosis
	R	Change engine oil		ca. 6.7 Ltr. <b>Fuchs</b> Titan CARGO, 5W-40
	R	Change engine oil		RP-Nr. 01140320
	R	Change fuel filter		RP-Nr. 01477080
	R	Change air filter element		RP-Nr. 00682430
	R	Change the safety cartridge of the air filter.		RP-Nr. 00682420
	R	Change fuel prefilter element.		RP-Nr. 01477140
	C	Check valve clearance when engine is cold and adjust valve clearance if necessary.		Inlet/exhaust valves: Valve clearance 0.20 mm
	R	Replace valve cover gasket		RP.Nr. 01477150
	R	Change the diaphragm in the valve cover of the engine ventilation.		RP-Nr. 01477020
V - Belt	R	V-belt alternator change		RP.Nr 01479560
	R	Changing the air conditioner V-belt		RP.Nr. 01471320
Cooling System	R	Change the engine coolant. Change the engine coolant after 2 years at the latest! Observe frost protection for winter operation!		VW- G12+ G13, 40 - 60% Cooling additive (antifreeze)
	С	Check coolant hoses and radiator for leaks.		
Radiator	С	Check the combi radiator and radiator grille for dirt, clean with compressed air if necessary.		
Engine Mount	С	Check engine mounts for damage, cracks and tight fit.		
	С	Check ECO, standard and maximum speed		1900/ 2250/ 2630 1/min
Exhaust System	С	Check the exhaust system for function and tightness.		
Fuel System	С	Check fuel lines for function and tightness.		
Air Intake	С	Check air intake line for function and tightness.		

	Work to be carried out: Hako system maintenance II extended, every <b>2000</b> operating hours (4000 Bh, 8000 Bh).					
Assembly group:						
Control Unit Work Hydrauliks	С	Read out the entries in the working hydraulics control unit and eliminate the fault if necessary. Check software status, carry out software update if necessary.				
Control Unit Drive Hydraulik	С	Read out the entries in the hydrostat control unit and eliminate the fault if necessary. Check software status, carry out software update if necessary.				
Hydraulic	R	Change the return filter of the hydraulic system		RPNr.01472210		
	R	Change breather filter hydraulic oil tank		RPNr.01082600		
	С	Take an oil sample and have it tested		RP Nr.00009720		
	С	Check hydraulic oil level, top up if necessary.		HVLP 46		
	С	Check the function of the hydraulic system.				
	С	Check hydraulic lines and hydraulic hoses for chafing and damage.				
	С	Check the hydraulic system for leaks at the hydraulic cylinders, screw connections and hydraulic lines.				
	С	Check the function of the hand pump by lifting the sweepings container with the hand pump.				
Steering (Hydr.)	С	Check function and ease of movement.check steering for tightness.				
	С	Check steering cylinder for play and wear. Lubricate steering cylinder, 2X.				
	С	Check articulated joint for play and wear. Lubricate articulated joint, 4X.				

	Vork to be carried out: Hako system maintenance II extended, very <b>2000</b> operating hours (4000 Bh, 8000 Bh).					
Assembly group:	<u> </u>	·				
Electric System	С	Function check, lighting, working functions, horn, etc.				
Cable and wire harnesses	С	Check cables (electrical lines) for chafing and damage.				
	С	Check positive and ground connections to battery and frame for tight fit and chafing, clean if necessary. Protect battery terminals with terminal grease.				
Battery	С	Check the charge status of the battery.				
Cabine	R	Change cabin air filter with air conditioning system		RPNr 01065540		
	R	Changing the cabin air filter without air conditioning		RPNr 01063650		
	С	Check heating for function.				
	С	Check the function of the air conditioner.				
	С	Check windscreen washer fluid level and top up if necessary.				
Air Condition	С	Check the condenser of the air conditioning system (radiator) on the rear wall of the cabin for dirt and clean it with compressed air if necessary.				
Brake	R	Change the Bowden cables of the parking brake.		RPNr. 01470230 <b>(2X)</b> RPNr.01470260 <b>(1X)</b>		
	С	Check parking brake for function, adjust if necessary.				
	C (R)	Check service brake for function and wear and carry out a brake test, replace necessary parts if necessary.				
Tyres	С	Check wheel bolts for tightness. retighten!		130 Nm		
-	С	Check tyre pressure.				
		Tyre size 23X8.5 12TT 10PR front/rear		1.9 bar/ 2.7 bar		
		Tyre size 23 X10.5 - 12TL 6PR front/rear		1,5 bar/ 2,0 bar		

Work to be carried out: every <b>2000</b> operating h		system maintenance II extended, .000 Bh, 8000 Bh).	Technical data:
Assembly group:			
Sweeping Unit	R	Replace the Bowden cables on the broom arms.	RPNr. 01471350 (2X)
	C	Check the sweeping unit for wear and	
	(R)	damage, replace defective parts if necessary.	
	С	Check the broom sweep level, adjust if	
	С	necessary.  Fresh water system: Water spray system:	
		Check spray nozzles, spray nozzle filter and sieve filter for function and clean if necessary.	
Suction Unit	R	Replace the Bowden cable for the coarse material flap.	RPNr. 01167520
	С	Check for wear and damage, replace defective parts if necessary.	
	C (R)	Check suction mouth settings, adjust if necessary.	Distance to floor: Lateral 5mm:Rear 10-15 mm.
	C	Check the suction hose for damage and	Jillin.real 10-13 lillin.
		correct fit.	
	C (W)	Check seal between suction pipe and sweepings container, replace if necessary.	
	С	Check the fresh water nozzle and the circulating water system at the suction mouth for function.	
	C (R)	Check circulation water valve and hoses for function and damage.	
	C	Check the suction mouth flap for function	
	(R)	and damage.	
Dirt Hopper	Р	Check for dirt, clean if necessary.	
	C	Sump floor flap Check function.	
	С	Check suction strainer in the sweepings container for dirt, clean if necessary.	
	С	Check the hydraulic motor for the suction fan	
	С	and the hydraulic lines for leaks.  Check the fan speed of the suction fan in the	2800 1/Min bei 2600 1/Min
		sweepings container.	Engine Speed
Container flap of the Dirt Hopper	С	Check the seals on the container flap for leaks and damage.	
	С	Check the lid joints and the bearing of the container flap.	
	С	Check the exhaust air side of the container flap for dirt.	
		map for unit.	

Work to be carried out: every <b>2000</b> operating ho		system maintenance II extended, 1000 Bh, 8000 Bh).	1	Technical data:
Assembly group:		, ,		
Lubrication Service:		Door hinges 4X		
		Front lifting cylinders 4X		
		Front power lift 2X		
		Dirt Flap on Suction Unit 1X		
		Steering hinge 4 X		
		Steering Cylinder (Hydr.) 2X		
Visual condition of the machine	С	Coloring, corrosion, signs, sticker 25 km/h		
Test drive	С	Test of all functional and safety-relevant components, brake test according to legal requirements		
C = Check				
R = Replace				
Remarks; Service Note	es for	the customer:		
1 0		<b>5</b> /		
Location: Signature Customer:		Date:		
Signature Service Techi	nicion			
Signature Service reciti	iiciai i.	•		

Maintenance Syste	m Ha	ko Citymaster 650		
wantenance byste	111 110	iko oityinaster 030		
Hako system maintenar	nce II e	extended every <b>3000</b> operating hours (	3000	) Rh 9000 Rh 12000
Bh). To be carried out b			3000	7 БП, 3000 БП, 12000
Vehicle Nr:	1			
Operating hours:				
Customer:				
Oustorner.				
Work to be carried out:	Haka	system maintenance II extended		Technical data:
every <b>3000</b> operating ho		=	1	recillical data.
Assambly group:	1			
Engine	С	Read out the error memory of the engine		Yanmar Engine diagnosis
Control Unit		control unit, delete sporadic errors, repair		
Particel filter	С	clear errors if necessary.  Check the loading condition of the diesel		Yanmar Engine diagnosis
		particle filter, carry out a service regeneration		Tanıman İnginis siaginesis
	D	if necessary.		ca. 6.7 Ltr. <b>Fuchs</b> Titan
	R	Change engine oil.		CARGO, 5W-40
	R	Change the engine oil filter.		RP-Nr. 01140320
	R	Change fuel filter.		RP-Nr. 01477080
	R	Change fuel prefilter element.		RP-Nr. 01477140
	R	Change air filter element		RP-Nr. 00682430
	R	Change the safety cartridge of the air filter		RP-Nr. 00682420
	С	Check valve clearance when engine is cold		Inlet/exhaust valves:
		and adjust valve clearance if necessary.		Valve clearance 0.20 mm
	R	Replace valve cover gasket		RP.Nr. 01477150
	R	Change the diaphragm in the valve cover of the engine ventilation.		RP-Nr. 01477020
Cooling System	С	Check coolant hoses and radiator for leaks.		
		Charly the applicational in the average and		VAV. C42. 40. C00/
	С	Check the coolant level in the expansion tank and the radiator antifreeze, top up if		VW- G13, 40 - 60% Cooling additive (antifreeze)
		necessary. Observe frost protection for		3
Dadiotor	С	winter operation!  Check the combi radiator and radiator grille		
Radiator		for dirt, clean with compressed air if		
		necessary.		
Engine mount	С	Check engine mounts for damage, cracks and tight fit.		
V - Belt	С	V-belt generator Check condition and		
	С	tension.  Air conditioner V-belt Check condition and		
		tension.		
	С	Check ECO, standard and maximum speed		1900/ 2250/ 2630 1/min
Exhaust System	С	Check the exhaust system for function and		
-		tightness.		
Fuel System	С	Check fuel lines for function and tightness.		
Air Intake System	С	Check air intake line for function and tightness.		

		system maintenance II extended		Technical data:
every 3000 operating	hours (6	6000 Bh, 9000 Bh).	✓	
Assembly group:				
Control Unit Work Hydraulics	С	Read out the entries in the working hydraulics control unit and eliminate the fault if necessary. Check software status, carry out software update if necessary.		
Control Unit Drive Hydraulic	С	Read out the entries in the hydrostat control unit and eliminate the fault if necessary. Check software status, carry out software update if necessary.		
Hydraulic System	R	Change hydraulic oil approx. 35L (HVLP46)		z.B. Mobil DTE Excel 46
	R	Change the return filter of the hydraulic system		RPNr.01472210
	R	Change breather filter hydraulic oil tank		RPNr.01082600
	С	Check the function of the hydraulic system.		
	С	Check hydraulic lines and hydraulic hoses for chafing and damage.		
	С	Check the hydraulic system for leaks at the hydraulic cylinders, screw connections and hydraulic lines.		
	С	Check the function of the hand pump by lifting the sweepings container with the hand pump.		
Steering (Hydr.)	С	Check function and ease of movement. Check steering for tightness.		
	С	Check steering cylinder for play and wear. Lubricate steering cylinder, 2X.		
	С	Check articulated joint for play and wear. Lubricate articulated joint, 4X.		
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Work to be carried out every <b>3000</b> operating h		system maintenance II extended 6000 Bh, 9000 Bh).	<b>√</b>	Technical data:
Assembly group:		, ,	·	
Elektric Equipment	R	Function check, lighting, working functions, horn, etc.		
Cable and wire harnesses	R	Check cables (electrical lines) for chafing and damage.		
	R	Check positive and ground connections to battery and frame for tight fit and chafing, clean if necessary. Protect battery terminals with terminal grease.		
Battery	R	Check the charge status of the battery.		
Cabine	R	Cabin air filter with air conditioning.		RPNr 01065540
	R	Cabin air filter without air conditioning.		RPNr 01063650
	С	Check heating for function.		
	С	Check the function of the air conditioner.		
	С	Check windscreen washer fluid level and top up if necessary.		
Air Condition	С	Check the condenser of the air conditioning system (radiator) on the rear wall of the cabin for dirt and clean it with compressed air if necessary.		
Brake	C (R)	Check service brake for function and wear and carry out a brake test, replace necessary parts if necessary.		
	С	Check parking brake for function, adjust if necessary.		
	С	Check the Bowden cables of the parking brake for chafing.		
Tyres	С	Check wheel bolts for tightness. retighten!		130 Nm
<b>,</b>	С	Check tyre pressure		
		Tyre size 23X8.5 12TT 10PR front/reare		1.9 bar/ 2.7 bar
		Tyre size 23 X10.5 - 12TL 6PR front/reare		1.5 bar/ 2.0 bar

	The state of the s	Technical data:
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R	Replace the Bowden cables on the broom arms.	RPNr. 01471350 (2X)
C (R)	Check the sweeping unit for wear and damage, replace defective parts if necessary.	
С	Check the broom sweep level, adjust if necessary.	
С	Fresh water system: Water spray system: Check spray nozzles, spray nozzle filter and sieve filter for function and clean if necessary.	
C (R)	Check for wear and damage, replace defective parts if necessary.	
С	Check suction mouth settings, adjust if necessary	Distance to floor: Laterally 5mm: Rear 10-15 mm.
(R)	Check the suction hose for damage and correct fit.	
C (R)	Check seal between suction pipe and sweepings container, replace if necessary.	
С	Check the suction hose for damage and correct fit.	
С	Check circulation water valve and hoses for	
С	Check the suction mouth flap for function	
С	Check Bowden cables for function, damage and ease of movement, replace if necessary.	
	Check for dirt. cloop if pageagary	
	,	
C	Check suction strainer in the sweepings	
С	Check the hydraulic motor for the suction fan	
С	Check the fan speed of the suction fan in the	2800 1/Min bei 2600 1/Min Engine Speed
С	Check the seals on the container flap for leaks and damage.	
С	Check the lid joints and the bearing of the container flap.	
С	Check the exhaust air side of the container flap for dirt.	
	C (R) C (R) C (C) C C C C C C C C C C C C C C C C	arms.  C Check the sweeping unit for wear and damage, replace defective parts if necessary.  C Check the broom sweep level, adjust if necessary.  C Fresh water system: Water spray system: Check spray nozzles, spray nozzle filter and sieve filter for function and clean if necessary.  C Check for wear and damage, replace defective parts if necessary.  C Check suction mouth settings, adjust if necessary.  C Check seal between suction pipe and (R) correct fit.  C Check seal between suction pipe and sweepings container, replace if necessary.  C Check the suction hose for damage and correct fit.  C Check circulation water valve and hoses for function and damage.  C Check the suction mouth flap for function and damage.  C Check Bowden cables for function, damage and ease of movement, replace if necessary.  C Check the function strainer in the sweepings container for dirt, clean if necessary.  C Check the hydraulic motor for the suction fan and the hydraulic lines for leaks.  C Check the seals on the container flap for leaks and damage.  C Check the lid joints and the bearing of the container flap.  C Check the exhaust air side of the container

		system maintenance II extended		Technical data:
every 3000 operating h	ours (6	5000 Bn, 9000 Bn).	<b>√</b>	
Assembly:				
Lubrication Service:		Door hinge 4X		
		Front lifting cylinders 4X		
		Front power lift 2X		
		Dirt Flap on Suction Unit 1X		
		Steering hinge 4X		
		Steering Cylinder (Hydr.) 2X		
Visual condition of the machine	С	Colouring, corrosion, signs, stickers 25km/h		
	С			
Test Drive	С	Test of all functional and safety-relevant components, brake test according to legal requirements.		
C = Check	•	•	•	
R = Replace				
Remarks; Service Not	es for	the customer:		
·				
Location:		Date:		
Signature Customer:		Bato.		
Signature Service techr	nician:			
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