

REPAIR MANUAL

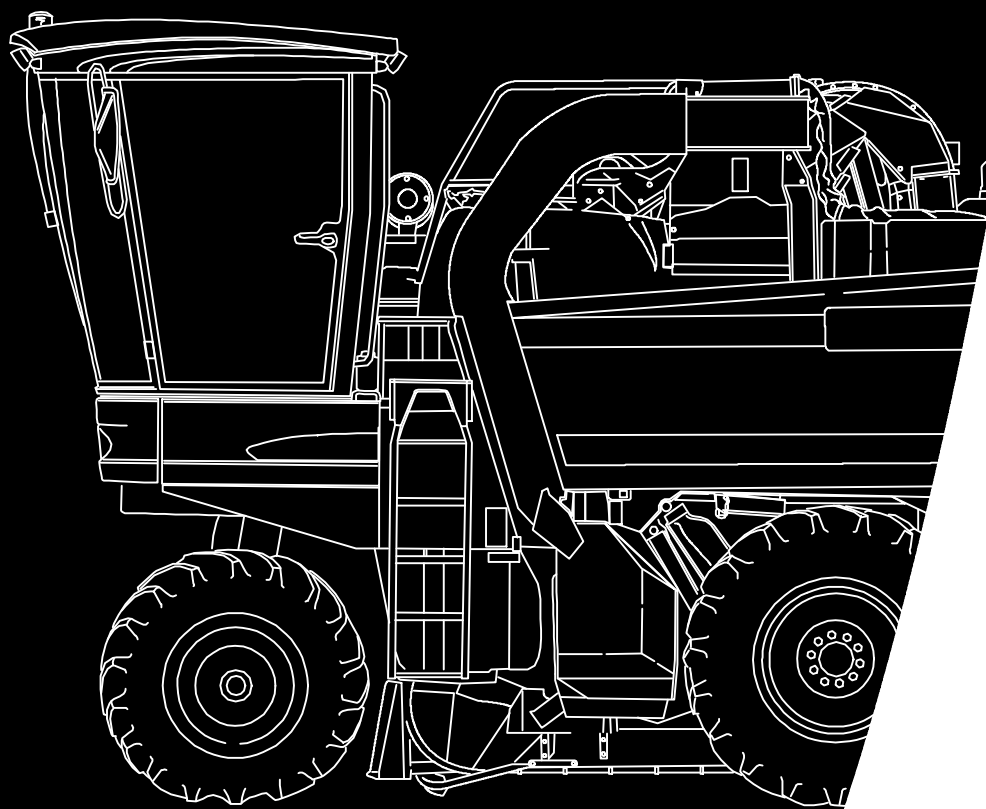
NEW HOLLAND

VM3080

VL5060

VL5070

VL5080



NEW HOLLAND

R1_04 08

Machine name change Correspondence

Previous name	New name
VL 550 Up to series 008	VL 5080 Starting from series 009
VL 540 Up to series 008	VL 5060 Starting from series 009
VL 530 Up to series 008	
VM 340 Up to series 008	VM 3080 Starting from series 009

REPAIR MANUAL

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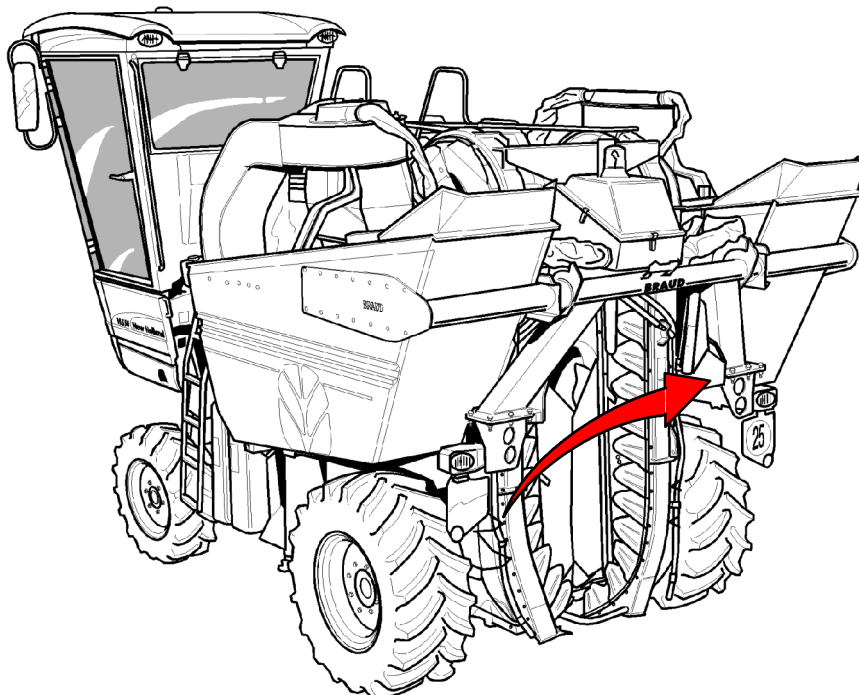
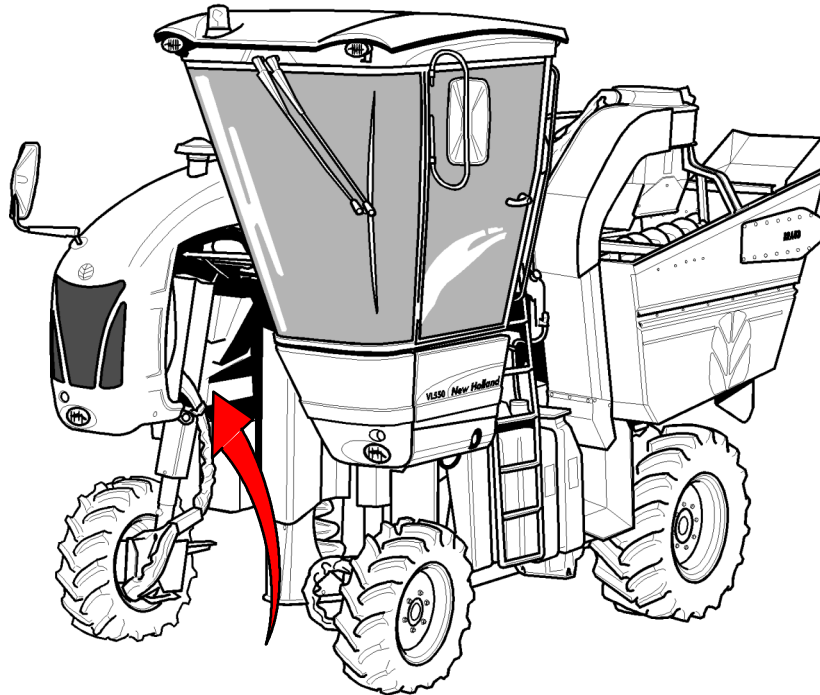
NOTE: corresponding to machines starting from series 002.

SPECIFICATIONS

Chapter 1

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MACHINE IDENTIFICATION DATA

Model	Type	Serial no.	Machine number
VL5080	653	009	001
VL5070	653	009	001
VL5060	653	009	001
VM3080	633	009	001

NOTE: the harvesting equipment number is the same as the self-propelled machine one.

A = manufacturer's label

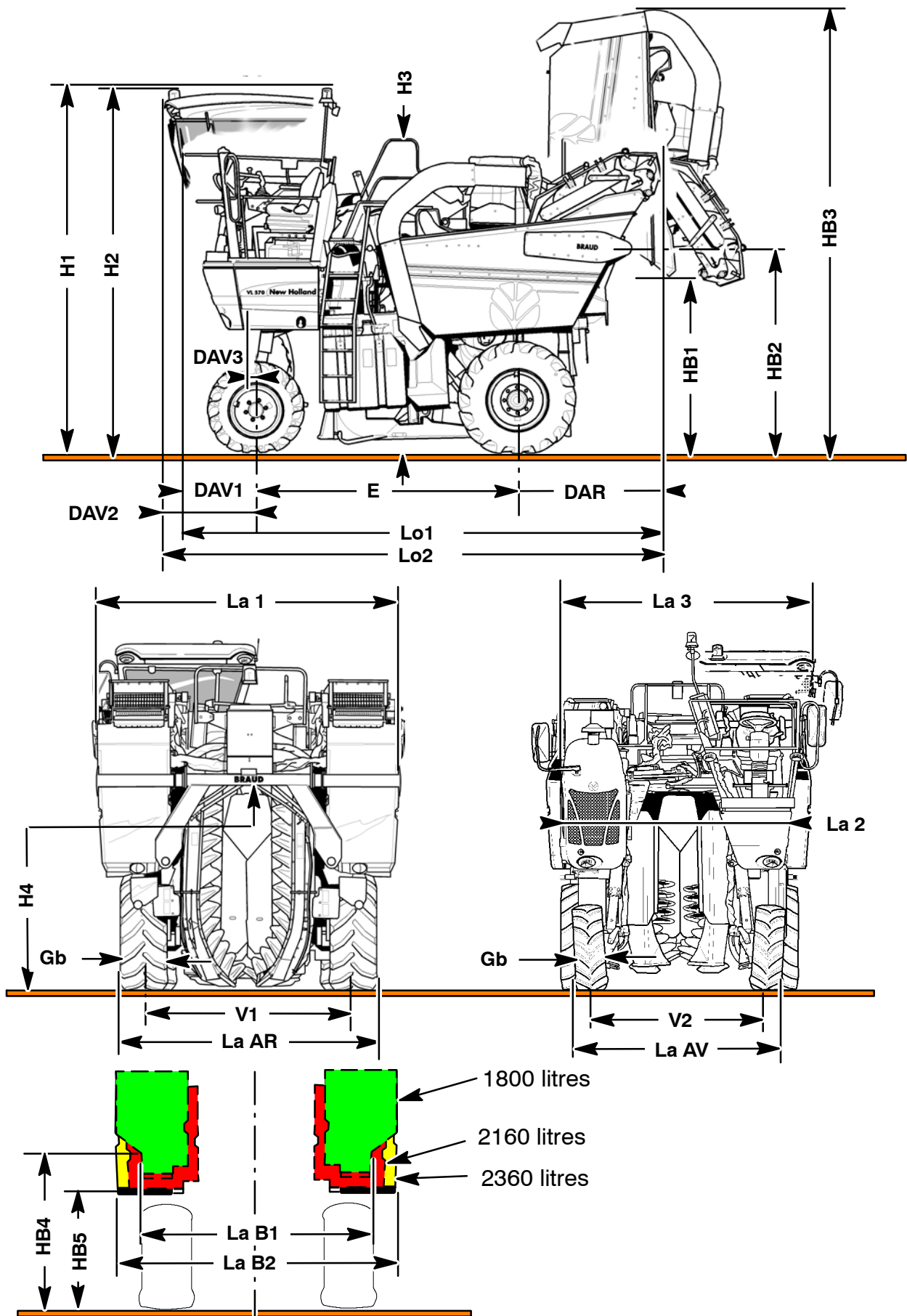
B = stamped frame number

OPERATOR'S MANUAL

Reference: 87612986 (GB)

SPARE PART CATALOGUE

Reference:



COMMERCIAL DESCRIPTION			VL5080 / 5070 / 5060	VM3080
Code	DIMENSIONS (mm)			
H1	Height:	without cab	3160	3040
		(at the revolving beacon)	(3745)	(3615)
H2	(harvesting equipment on the ground)	with cab at the revolving beacon	3605	3475
H3	Harvesting equipment height at the railings		3285	3185
H4	Clearance under the harvesting equipment		from 1950 to 2450	from 1800 to 2300
HB1	Clearance under tilted up hoppers		1730	1600
HB2	Tilting axle height		2110	1980
HB3	Max. height with lifted hoppers		4620	4490
HB4	Clearance under the	hoppers, 1800 litres frame	1700	1550
HB5	Clearance under the frame	hoppers, 2160 litres	----	1150
		hoppers, 2360 litres	1150	----
E	Pitch		2760	
La1	Max. width at the hoppers	hoppers, 2360 litres	3000	2800
		2360 litres + cab	3000	2800
La2	Max. width from cover to cover	Only self-propelled machine	2540	2340
La3	Max. width from cab top to right cover	Only self-propelled machine	2750	2540
LaB1	Hopper width	1800 litres	2480	2290
LaB2		2160 litres	----	2800
		2360 litres	3000	----
La AR	Outer width at the rear wheels: (V1 + Gb = La AR)	Tyres 11.2 R24 (1)	----	1680 + 291 = 1971
		Tyres 11.2-24 T35	----	1680 + 305 = 1985
		Tyres 340/85 R24	----	1780 + 366 = 2146
		Tyres 420/70 R24	2090 + 431 = 2521	----
		Tyres 460/70 R24	2120 + 462 = 2582	----
		Tyres 480/65 R24 (2)	2120 + 484 = 2604	----
La AV	Outer width at the front wheel level on ground: (V2 + Gb = La AV) (V2 at ground level)	Tyres 280/70 R20	----	1720 + 275 = 1995
		Tyres 320/70 R20	1920 + 315 = 2235	1720 + 315 = 2035
Lo1	Max. length	without cab	4900 (5090)	
Lo2	without (with) destemmers	with cab	4990 (5180)	
DAV1	Front offset	without cab	880	
DAV2		with cab	970	
DAV3	Offset of front supports for multipurpose		40	
DAR	Rear offset without (with) destemmers		1260 (1450)	

NOTE: in road position, the noria is at 200 mm from the ground

(1) not produced anymore

(2) an additional equipment with destemmers on a VL5080 equipped with upper and lower extractors and tyres 480 / 65 R 24 is not allowed.

COMMERCIAL DESCRIPTION		VL			VM
		5080	5070	5060	3080
WEIGHTS					
PTAC - Total allowed weight under load (kg)		8000			7800
Partition	Front axle (kg)	3400		4700	from 3100 to 3400
	Rear axle (kg)	from 4960 to 5200			from 4600 to 4800
Empty weight (kg) with harvesting equipment		6940		6600	6440
- with hoppers (litres), standard wheels and cab, but without destemmers and without lower extractors.		2400		1800	2200
- with destemmers, add (kg)		580		580	580
Weight of one wheel (kg)					
Thermal engine weight (kg)					
FEEDING / EXHAUST					
Fuel tank	Capacity (litres)	160			
Engine (cylinders) - - ISO power (kW/CV) - Displacement (cm³/rev.)		4 94/128	4 74/100 4485	4 94/128	
Air filter	Make	DONALDSON			
	Type	FPG090225	FPG090225	FPG090225	
Engine cooling	Water capacity (litres)				
	Fan	●			
Air/air intercooler		●	*	●	

NOTE: * only with TIER 3 engine

COMMERCIAL DESCRIPTION		VL			VM
		5080	5070	5060	3080
DRIVE					
Variable displacement inch- ing hydraulic pump	Make Displacement elimination Control Total displacement (cm ³ /rev.)	REXROTH A4VG90 ● control 90			
Priming pump	Displacement (cm ³ /rev.) Capacity (l/minute), output 0.9	25 56.25			
Front wheel motor	Make Type Displacement (cm ³ /rev.)	POCLAIN MSE 05 688			
Rear wheel motor	Make Type Displacement (cm ³ /rev.)	POCLAIN MSE 11 843/843			
Double steering valve		●			
Front drive wheels in road position		●			
"Twin lock" antiskid		●			
Torque decrease on front wheels		optional			
Max. speed in road position (km/h)		25			
Max. speed in field position (km/h)		11			
Hydraulic oil					
Capacity (litres)	Reservoir	65			
Oil type	New Holland	Hydrosystem 68 Hydrosystem 68 BIO S			
Hydraulic filtering (intake/return)		●			

COMMERCIAL DESCRIPTION		VL			VM
		5080	5070	5060	3080
DRIVE (follows)					
Conveyor and extractor pump	Make	SAUER			
	Displacement (cm ³ /rev.)	44			
	Empty operating speed (rpm)	engine speed			
	Capacity (l/minute), output 0.9	99			
Double pump - for shaking	Make	SAUER			
	Displacement (cm ³ /rev.)	22			
	Empty operating speed (rpm)	(1.02 x engine speed)			
	Capacity (l/minute), output 0.9	50.49			
- for steering/ lifting/hoppers	Displacement (cm ³ /rev.)	11			
	Empty operating speed (rpm)	(1.02 x engine speed)			
	Capacity (l/minute), output 0.9	25.24			
STEERING		Hydrostatic			
Type	Make	EATON			
	Displacement (cm ³ /rev.)	100			
Service brake		Supplied by the hydrostatic transmission			
Parking brake (acting on the two rear wheels)		•			
Park brake		manual control, on the left			
Electrically-operated independent brakes		No			

COMMERCIAL DESCRIPTION	VL			VM
	5080	5070	5060	3080
TILTING CORRECTION				
Max. tilting (%)	25			
Max. tilting in road position (%)	8			
Max. tilting in work position (%) (with destemmers or special implements and front wheels with ballasts)	32			
FRAME				
Harvesting header quick uncoupling	No			
Link fitting possibility	●			
Front and rear tracks = see relevant SB	●			
PLATFORM CAB				
Heated and A/C cab, optional	Optional			
Activated charcoal filter	Available as spare part			
ELTEC control panel	No			
MC control panel	●			
Pneumatic seat, optional	●			
Multifunction lever: number of push buttons	11			
Electrical inching control, adjusted through sensors	●			
Electrical presetting for:				
- electrically-operated rear view mirrors (with cab)	●			
- CDHA	No			
- rear viewing	No			

COMMERCIAL DESCRIPTION		VL			VM
		5080	5070	5060	3080
LIGHTING AND WARNING LIGHTS					
High/low beams		2			
Front parking lights		2			
Rear parking lights		2			
Direction indicator lights	Front	2			
	Rear	2			
	Side	2			
Stop lights		2			
License plate light		1			
Reflector Rear		2			
Revolving beacons		2			
Supply voltage (V)		12			
Alternator (A)		120			
Battery (Ah)		135	92	135	
Starting presetting (A)		760	495	760	

COMMERCIAL DESCRIPTION		VL			VM
		5080	5070	5060	3080
HARVESTING EQUIPMENT					
HARVESTING HEADER					
Harvesting header hour counter		No			
Type – swinging, self-aligning		●			
SDC shaking system		●			
Number of shakers		14	12	12	10
Straight/elbow flexible connecting rod		13/1	11/1	11/1	9/1
Shaking start	Motor	SAUER	EATON		
	Displacement (cm³/rev.)	22	46		
	Reducer control unit:	●	No		
	- ratio	1/4			
	- grease (kg)	1.2			
	AMBRA GR75MD				
Chain			●		
Toe-in adjustable from the operator’s seat		●	No		
Amplitude settings		3			
Removable shakers, optional		●	No		
Min. clearance under the frame (mm)		1950/2450			1800/2300
Grape harvesting useful height (mm)		1050			900
Harvesting tunnel width (mm)		500			
RECEIVING / TRANSPORTATION					
Noria system	Large buckets	55			52
	Small buckets				
	Fastening by rivets	2 x 2			
	Drive gears	17/58			
Width of flexible stake-guides (mm)		195/265			165/235
Tightness length (mm)		1750			
Harvesting min. height (mm)		150			

COMMERCIAL DESCRIPTION		VL			VM
		5080	5070	5060	3080
HARVESTING EQUIPMENT (follows)					
Operation	Motor	EATON			
	Displacement (cm³/rev.)	395			
Harvesting conveyors	Width (mm)	450			
	Speed (rpm) max.				
	Reverse	●			
Single operation	Motor	EATON			
	Displacement (cm³/rev.)	31.6			
CLEANING					
2 upper extractors with removable stalk choppers	Diameter (mm)	430			
	Motor	SAUER			
	Displacement (cm³/rev.)	11			
	Speed adjustment: electrically-operated	●			
2 lower extractors (optional)	Diameter (mm)	430	No		
	Motor	SAUER			
	Displacement (cm³/rev.)	6			
	Speed adjustment: electrically-operated	●			
2 independent stalk choppers, enabled by noria in proportional	Motor	EATON			
	Displacement (cm³/rev.)	8.2			
HOPPERS					
Capacity (litres)	2 x 900			2 x 900	
	----			2 x 1080	
	2 x 1180			----	
Distribution auger	Motor	EATON			
	Displacement (cm³/rev.)	31.6			
	Adjustable speed				

SECTION 00 - MAINTENANCE

Chapter 1

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LUBRICANT AND LIQUID CAPACITIES

Item to be supplied	Quantity dm ³ (litres)	Recommended product	Corresponding international classification
Self-propelled machine grease fittings		Grease AMBRA GR 9	Lithium-calcium based grease, consistency NLGI 2
Harvesting machine grease fit- tings		Grease Food type	24 cartridges re. 62777339
Noria ECU	1		
Shaking rear connecting rod articulations		Grease	Teflon silicone grease Sitef degree 3 410-g cartridge, re. 920019780
Shaking ECU	1.2 kg	GR 75 MD NH 720 A	Re. 661874 molybdenum bisulfide grease, consistency NLGI 2
Engine sump and filter/s 4-cylinder engine	9.5	Oil AMBRA MASTER GOLD HSP 15W - 40	SAE 15W40 NH 330H API CI - 4CH - 4 ACEA E3/E5
Reservoir	65	Oil AMBRA HYDROSYSTEM 68	ISO 68 DIN 51524 - part 2
Cooling system	20	AMBRA AGRIFLU (50%) + clean water (50%)	

NOTE: the integrated joints of the rear shaking flexible connecting rods do not require greasing.

THERMAL ENGINE MAINTENANCE

a) After the first 50 hours

- Let the engine run until it reaches the standard operating temperature.
- Replace diesel oil filter cartridge/s.
- Check alternator and compressor belt tension.
- Check engine tightness.

b) Every day, or every 10 hours, check:

- oil level,
- coolant level,
- check the cleaning conditions of the radiator core.

c) Every 400 hours, or before each harvesting season, replace:

- engine oil,
- replace oil filter cartridge/s,
- replace diesel oil filter cartridge/s.
- Check the belt tension.
- Check the radiator core cleanliness.
- If the air filter clogging indicator comes on, clean the main cartridge by compressed air, blowing inside out.
Be careful not to use a pressure over 6 bar; shift the nozzle downwards and hold it at about 3 cm from the paper.

d) Only before each campaign:

- replace the air filter main cartridge.

e) Every 1200 hours:

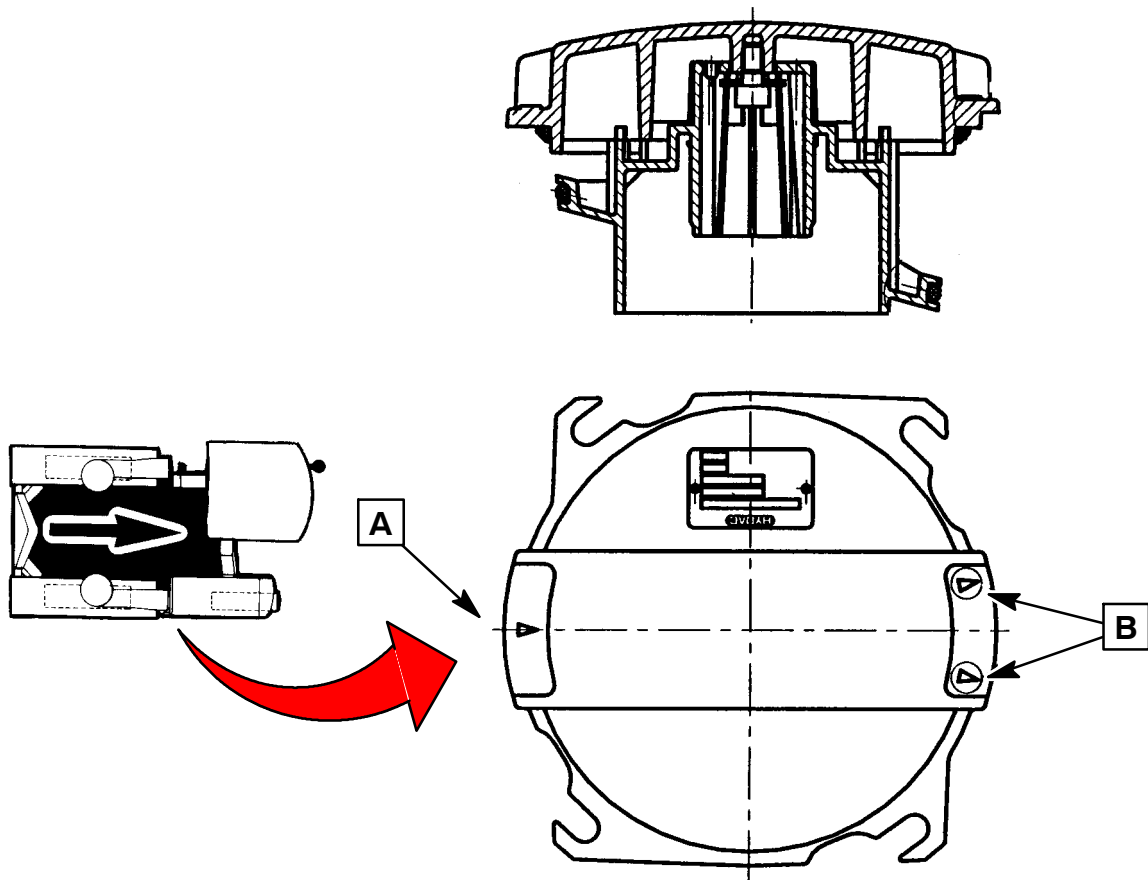
- adjust the tappets.
- Adjust the injector setting.

NOTE: the diesel oil filter cartridges should be replaced more often if the diesel oil conditions require it.

GREASE POINTS - VL5080 VL5070 VL5060 and VM3080

Position and number of grease fittings	Greasing frequency	
	10 h	50 h
SELF-PROPELLED MACHINE		
Front legs 2 x 3	6	
Steering cylinder articulation		2
Steering relays		2
Steering bar ball joints		4
Rear wheel link articulation 2 x 2		4
Rear lifting cylinder articulation 2 x 2		4
Total: 22		
HARVESTING EQUIPMENT		
Shaking front plate 2 x 2	4	
Shaking control connecting rods 2 x 2	4	
Shaking shaft bearing 1 (or 2x1*)	1 (2*)	
Left side noria shaft bearing 1	1	
Belt bearings 2 x 4	8	
Hopper tilting cylinder 2 x 1		2
Hopper articulation 2 x 1		2
Harvesting equipment rear articulation 1		1
Lower stalk chopper 2 x 1		2
Total 25 (26*)		

(*) depending on shaking type



Hydraulic filter cover

During reassembly, **pay attention** to the assembly direction:

- the (A) side with only one arrow on the cover must be directed towards the return line,
- the (B) side with two arrows on the cover must be directed towards the intake lines.

MACHINE WASHING

To avoid sugar deposits and harvesting equipment clogging and to preserve the harvesting quality, the machine must be washed once or more times a day, especially after its utilization.

The tractor unit should be cleaned with the engine at a standstill, but for proper cleaning of the harvester unit it is necessary to operate the norias, conveyors and extractor fans with the machine in a permanent location. **This is anyway a departure from the general safety requirements specified in the Operator's manual.**

This operation requires thus a **special care** and the absolute **compliance** with the following precautions:

- first of all, this operation must be made by a **single operator**, skilled in the control of this machine.
- The machine should be **at a standstill**, inside a suitable washing area, if possible asphalted and levelled, by at least 5x8 m, with a water draining system, complying with the regulations as for environmental preservation.

The washing area should be equipped as follows:

- a hose having a minimum diameter by 35 mm, long enough for cleaning the machine all around;
- a sufficient water flow to get a 2-m water jet, or a motor-pump unit with high capacity, with a water reserve of 3-4 m³;
- an adjustable nozzle to direct the water jet to about 5 m;
- a ladder about 3.5-m high and a hook about 0.7-m long.

NOTE: the use of a high pressure cleaning machine is definitely not recommended.

MACHINE ARRANGEMENT FOR WASHING AT THE END OF THE CAMPAIGN

Before emptying the last hoppers, stop the thermal engine.

- Alight from the driver's seat, gain access to the inside of the harvester and cause any build-up of crop around the shaker plates and on the rear frame to fall into the buckets.
- Move all the machine round and, starting from below, remove all the accumulated dirt or scrap material.
- Climb onto the driver's seat and start up the engine, the extractor fans and the conveyors. Place the norias in the cleaning position. Run the engine for 10 seconds, then empty the hoppers.

WASHING

(in the washing area)

After entering the washing area, lower the machine to about 10 cm from the ground and tilt the hoppers fully. Make sure the inching lever is in neutral, engage the hand brake, stop the thermal engine, get off the driver's seat and position the hopper safety stops.

- Place the ladder in the machine rear side to reach the upper part of the rear arch; from this position, drop the clogged or deposited sarments around the plastic cover and in the nearby area, using the hook.
- Then, move the ladder and place it against the pipe fastening the side plates, to release the elastic bands holding the side plates and let the accumulated residues fall down.
Make sure that the plate upper part folds correctly against the lower one, to prevent it from being trapped in the hoppers during tilting.
This operation must be carried out on both machine sides.
- Put the ladder away and remove the hopper stops.
- Detach the elastic bands from the rear sealing plates and remove any debris trapped behind.
- Remove the possible plastic caps closing the noria rear lower part.
- Climb onto the driver's seat and operate the engine at medium speed, lower the hoppers, engage the extractor fans and conveyors, then place the norias in the washing position.
- Get off the driver's seat leaving the harvesting equipment in operation.



WARNING: this is a departure from the general safety requirements specified in the Operator's Manual.

- Open the water supply valve, pick up the hose without the nozzle and climb onto the harvesting equipment platform located behind the driver's seat. From there, wash the top of the machine, the conveyors, the hopper augers, the norias, etc. for about 10 minutes.
- Get off the machine and, starting from the ground, clean, from the harvesting machine front part, the tunnel inner part:
 - cloth, shaking frame, shakers;
 - pour in water in the right and left front deflectors, through the special openings.
- Now go to the back of the machine, open the saloon doors and clean the rear part of the harvesting tunnel:
 - the shaking frame assembly, washing in particular the shaker connecting rods;
 - the plates and the lower sealing sheets.
- Pour in water through the side openings of the conveyor cases.
- Spray a lot of water in the hoods of the lower extractors, remaining at a sufficient distance from the stalk choppers.



DANGER: the extractor rotors are fitted with stalk chopper knives.
Do not try and fit the pipe or the nozzle when the thermal engine is running.

- Wash carefully the machine rear outer part and clean carefully the rear deflector inner part. Inject water into the rear left and right deflectors through the special openings.
- Lay the pipe (shut off the water supply if necessary) and get on the tractor; lift the right hopper by about 50 cm, to clear the extractor suction hood.
- Place the left hopper in the same position.
- Increase the engine speed at max. speed.
- Get off the tractor, to recover the pipe and get on the harvesting equipment platform to wash the extractor inner part, washing them one after the other, at intervals of 7 seconds.
- Get off the harvesting equipment platform, shut off the water supply, climb onto the driver's seat and stop the harvesting functions (extractors, conveyors and norias).
- Operate the machine to empty the hoppers and return to the washing area.
- Lift the machine at half height, tilt the hoppers fully, **stop the thermal engine** and engage the hand brake.
- Get off the tractor, fit the nozzle on the water pipe and open water supply. One side after the other, direct the jet toward and around each conveyor, paying special attention to the lateral opening of the conveyor housings, to the plates, etc...
- Go to the back of the machine, wash the hoppers and the container auger end.
 - Turn around the machine again and wash the wheel links, the wheels, the safety covers, the lower extractor outlets, the cab, etc...
 - Shut off the water supply and open the conveyor housing inspection doors through the inside of the harvesting tunnel.
- Climb onto the driver's seat, start the thermal engine and set it to idling. Lower the machine keeping the hoppers lifted, start the extractors, the conveyors, the shaking and norias in washing position. Let the machine run for 2-3 minutes, so that all excess water drops down.

Optional operation

Now, you can control the cleaning conditions of the extractor slides opening the suitable covers, after making sure that the stalk choppers are completely stopped.

At the end of the washing operation, the machine must undergo the daily greasing procedure.

NOTE: after greasing, remember to reposition the inspection doors, the plates, etc... which were opened during the washing operations.

HYDROSTATIC AND HYDRAULIC SYSTEM MAINTENANCE

1) Intake and return filter cartridge replacement

This cartridge must be replaced:

- c) every 800 hours,
- d) or every two years,
- e) at each emptying.

2) Circuit filling - emptying

Drain the circuit every 800 hours and at least every two campaigns.

Comply with the following precautions:

- a) fill the tank completely with the recommended oil, at the end of the campaign, to avoid any condensate build-up during the intermediate season.
The oil must be filled by means of a pump through the quick return coupling, so as to filter the oil, or through the suitable coupling.
- b) Before the following campaign and, compulsorily, before starting the thermal engine, empty the tank partially to ensure a perfect oil settling.
- c) Check the oil level in the reservoir.



WARNING: *when topping oil up, use the same type used for the initial filling.*

When draining oil, work with great care and cleanliness. Clean the drain and filling holes before disassembling them, by a jet of compressed air or a clean brush and oil, so that no foreign impurities or matters enter the circuit.

Remove the drain nut under the reservoir. Empty the reservoir only.

During drain operations, replace the cartridges of the intake filter and of the return filter.



DANGER: *bleed the shaking pump (see corresponding diagram in section 35).*

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