SERVICE MANUAL

VL570 / VL600 / VL610 / VL620 / VL630
VL640 / VL660 / VM370 / VM460 / VN300
Grape Harvester

Part number 6048233100
English
February 2006

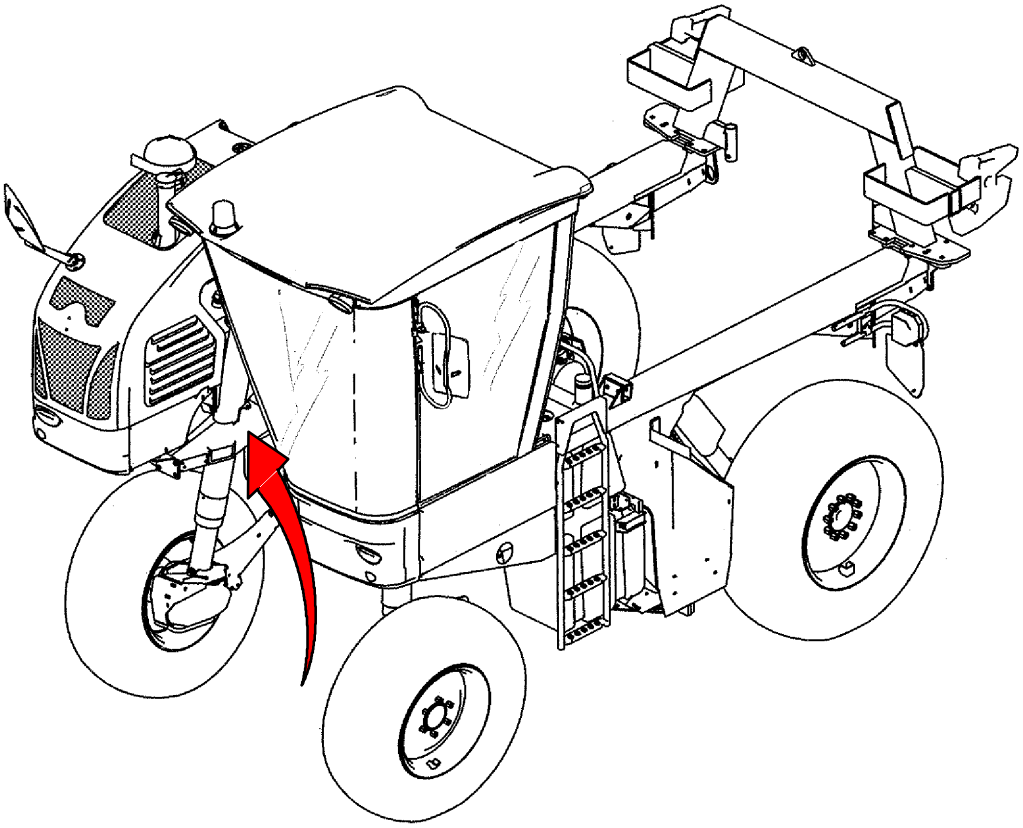
REPAIR MANUAL

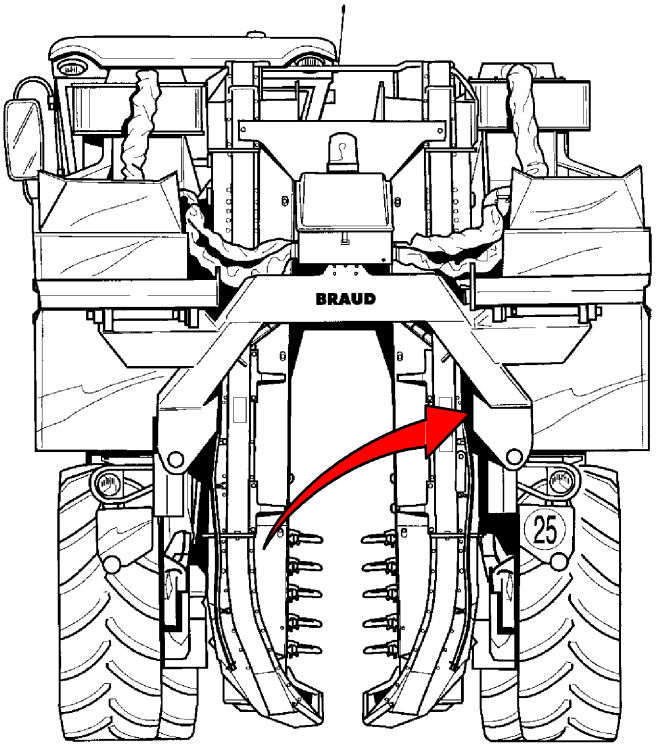
CONTENT

SPECIFICATIONS

Chapter 1

CONTENT




BRAUD
25

MACHINE IDENTIFICATION DATA

Model	Technical type	Serial no.	Machine no.
VL 660	664	001	001
VL 640	660	001	001
VL 630	660	001	001
VL 620	656	001	001
VL 610	656	001	001
VL 600	650	001	001
VM 460	636	001	001
VN 300	643	001	001
Harvesting equipment VL	657	001	001
Harvesting equipment VM	637	001	001
VL 570	655	001	001
VN 370	635	001	001
Harvesting equipment VL	654	001	001
Harvesting equipment VM	634	001	001

Note: the number of the harvesting equipment becomes like that of the self-propelled machine starting from series:
664011; 660011; 656011; 636005; 650001; 643001.

A = Manufacturer's label

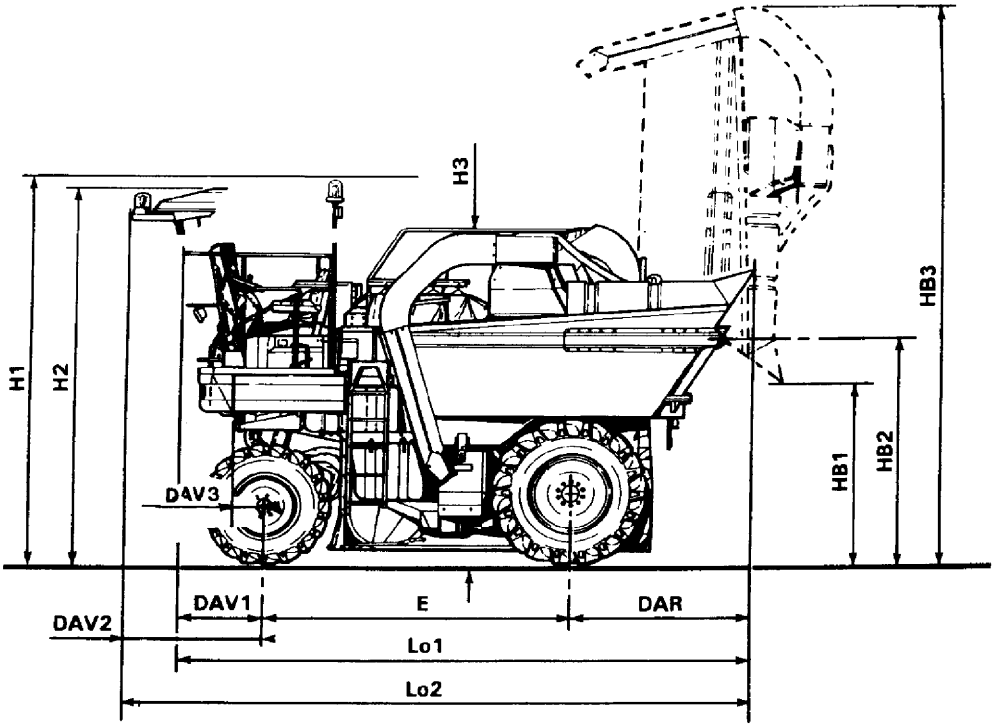
B = Printed frame number

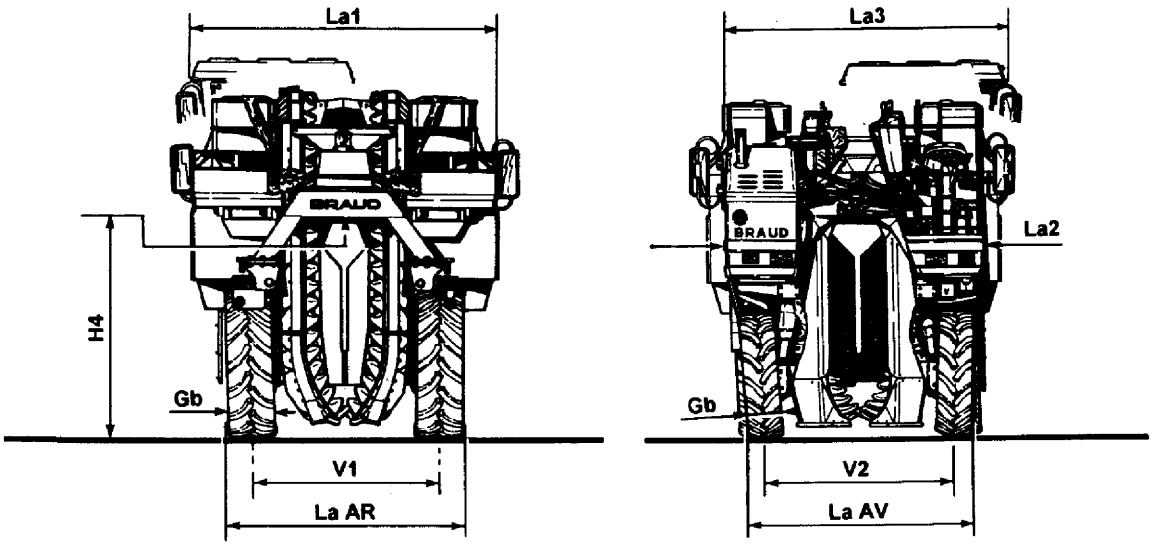
OPERATOR'S MANUAL

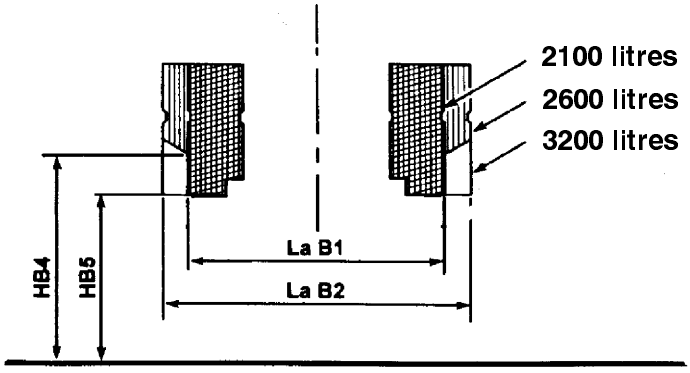
VL 610 ÷ 660 and VM 460: 6048020100 (GB)
VL 570 and VM 370: 6048023100 (GB)
VL 600: 6048025100 (GB)
VN 300: 6048026100 (GB)

SPARE PART CATALOGUE

Reference:


H3
H1
H2
HB3
HB1
HB2
DAV3
DAV2
DAV1
E
DAR
Lo1
Lo2


La1
BRAUD
H4
Gb
V1
La AR
La3
BRAUD
La2
Gb
V2
La AV


2100 litres
2600 litres
3200 litres
HB4
HB5
La B1
La B2

COMMERCIAL DESCRIPTION			VL 600 ÷ 660	VM 460
Code	DIMENSIONS (mm)			
H1 H2	Height: (with harvesting equipment on the ground)	without cab with cab at the revolving beacon	3635	
H3	Harvesting equipment height with (without) destemmers	at the railings	3380 (3520)	
H4	Clearance under the harvesting equipment		from 2000 to 2600	
HB1	Clearance under tilted-up hoppers		1710	
HB2	Tilting axle height		2100	
HB3	Max. height with lifted hoppers		5150	
HB4	Height under clearance	2600-l hoppers	1840	
HB5	Height under clearance	3200-l hoppers	1415	
E	Wheelbase		2850	
La1	Max. width at the hoppers	2100-l hoppers 2100 l + cab 2600 l or 3200 l	2800 (1) 3000 3000	2720 (2) 2800
La2	Max. width from cover to cover	Self-propelled machine only	2590	2390
La3	Max. width from cab top to right cover	Self-propelled machine only	2830	2630
LaB1 LaB2	Hopper width	2100 l 2600 l 3200 l	2530 3000 3000	2330 2800
La AR	Outer width at the back wheels: (V1 + Gb = La AR)		(⁜)(3)	(4)
		Tyres 420/85 R 28	2160 + 454 = 2614	1790 + 454 = 2244
		Tyres 480/70 R 28	2260 + 480 = 2740	1860 + 480 = 2340
		Tyres 540/65 R 28	2340 + 540 = 2880	
		Tyres 600/55-30.5	2360 + 600 = 2960	
La AV	Outer width at the front wheels (V2 + Gb = La AV) (V2 at ground level)	Tyres 420/70 R 24 Tyres 13.6 R 24	1930 + 420 = 2350 1930 + 350 = 2280	1730 + 420 = 2150 1730 + 350 = 2150
Lo1 Lo2	Max. length without (with) destemmers	without cab with cab	5360 (5510) 5490 (5650)	
DAV1 DAR2	Front offset	without cab with cab	930 1070	
DAV3	Offset of front supports for multipurpose		277	
DAR	Rear offset with (without) destemmers		1570 (1730)	

Note: in road position, the noria is at 190 mm from the ground

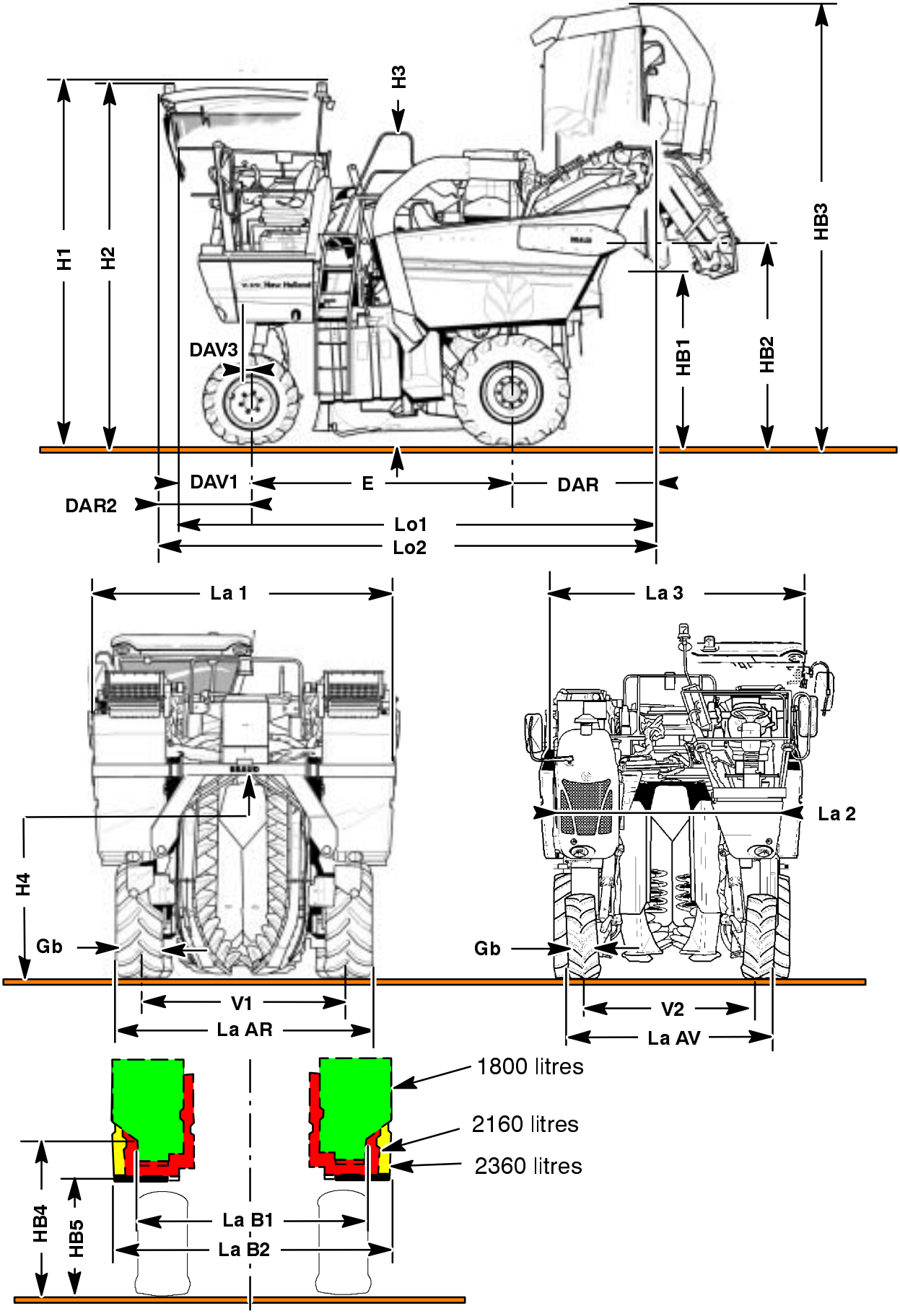
(1) Tyres 420/85 R28

(2) Tyres 480/70 R28

(⁜) Large track = narrow track + 160 mm

(3) Bearings on large track

(4) Bearings on narrow track


H3
H1
H2
HB3
HB1
HB2
DAV3
DAV1
E
DAR
DAR2
Lo1
Lo2
La 1
La 3
La 2
H4
Gb
Gb
V1
V2
La AR
La AV
1800 litres
2160 litres
2360 litres
HB4
HB5
La B1
La B2

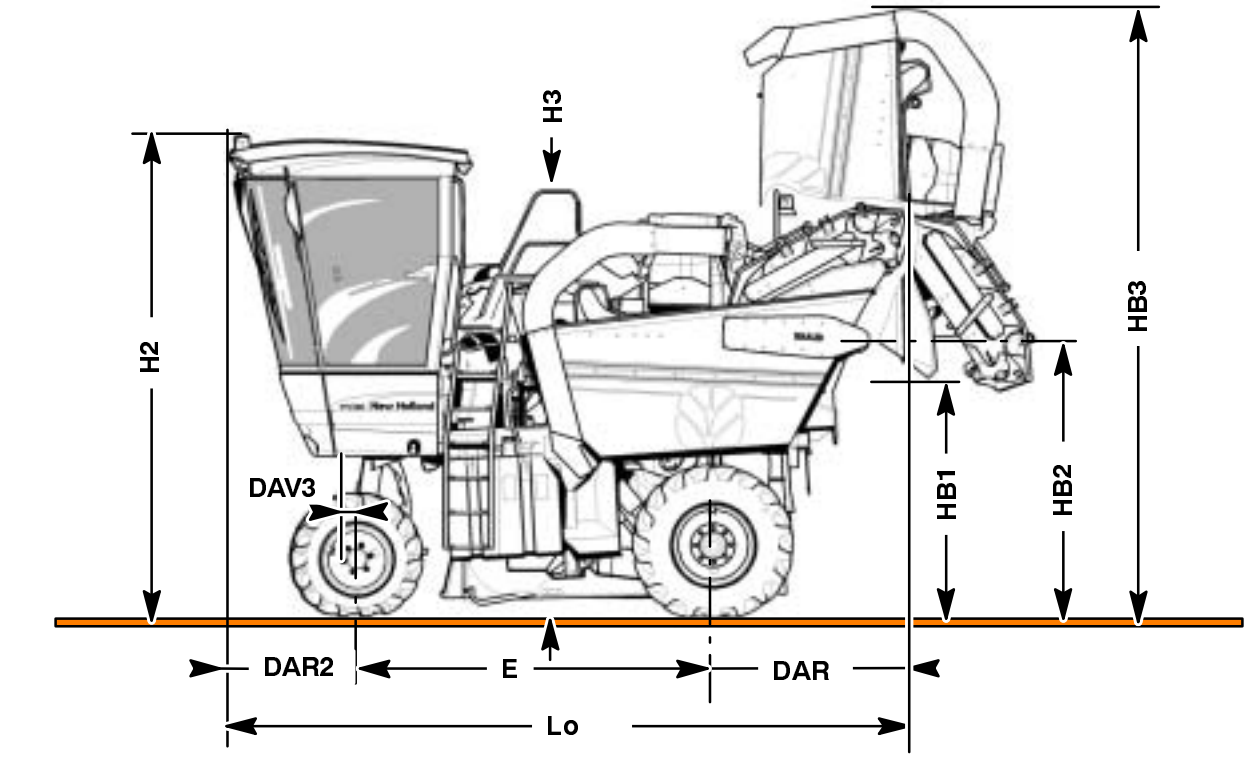
COMMERCIAL DESCRIPTION			VL 570	VN 370
Code	DIMENSIONS (mm)			
H1	Height:	without cab	3160	3040
		at the revolving beacon	(3745)	(3615)
H2	(with harvesting equipment on the ground)	with cab (at the revolving beacon)	3605	3475
H3	Harvesting equipment height	at the railings	3285	3185
H4	Clearance under the harvesting equipment		from 1950 to 2450	from 1800 to 2300
HB1	Clearance under tilted-up hoppers		1830	
HB2	Tilting axle height		2110	
HB3	Max. height with lifted hoppers		4620	
HB4	Height under clearance	1800-l hoppers	1700	1550
HB5	Height under clearance	2160-l hoppers	----	1150
		2300-l hoppers	1150	----
E	Wheelbase		2760	
La1	Max. width at the hoppers	2360-l hoppers	3000	2800
		2360 l + cab	3000	2800
La2	Max. width from cover to cover	Self-propelled machine only	2540	2340
La3	Max. width from cab top to right cover	Self-propelled machine only	2750	2540
LaB1	Hopper width	1800 l	2480	2290
LaB2		2160 l	----	2800
		2360 l	3000	----
La AR	Outer width at the back wheels: (V1 + Gb = La AR)	Tyres 11.2 R24 (1)	----	1680 + 291 = 1971
		Tyres 11.2-24 T35	----	1680 + 305 = 1985
		Tyres 340/85 R 24	----	1780 + 366 = 2146
		Tyres 420/70 R 24	2090 + 431 = 2521	----
		Tyres 460/70 R 24	2120 + 462 = 2582	----
		Tyres 480/65 R 24 (2)	2120 + 484 = 2604	----
La AV	Outer width at the front wheels (V2 + Gb = La AV) (V2 at ground level)	Tyres 280/70 R 20		1720 + 275 = 1995
		Tyres 320/70 R 20	1920 + 315 = 2235	1720 + 315 = 2035
Lo1	Max. length without (with) destemmers	without cab	4900 (5090)	
Lo2		with cab	4990 (5180)	
DAV1	Front offset:	without cab	880	
DAR2		with cab	970	
DAV3	Offset of front supports for multipurpose		40	
DAR	Rear offset with (without) destemmers		1260 (1450)	

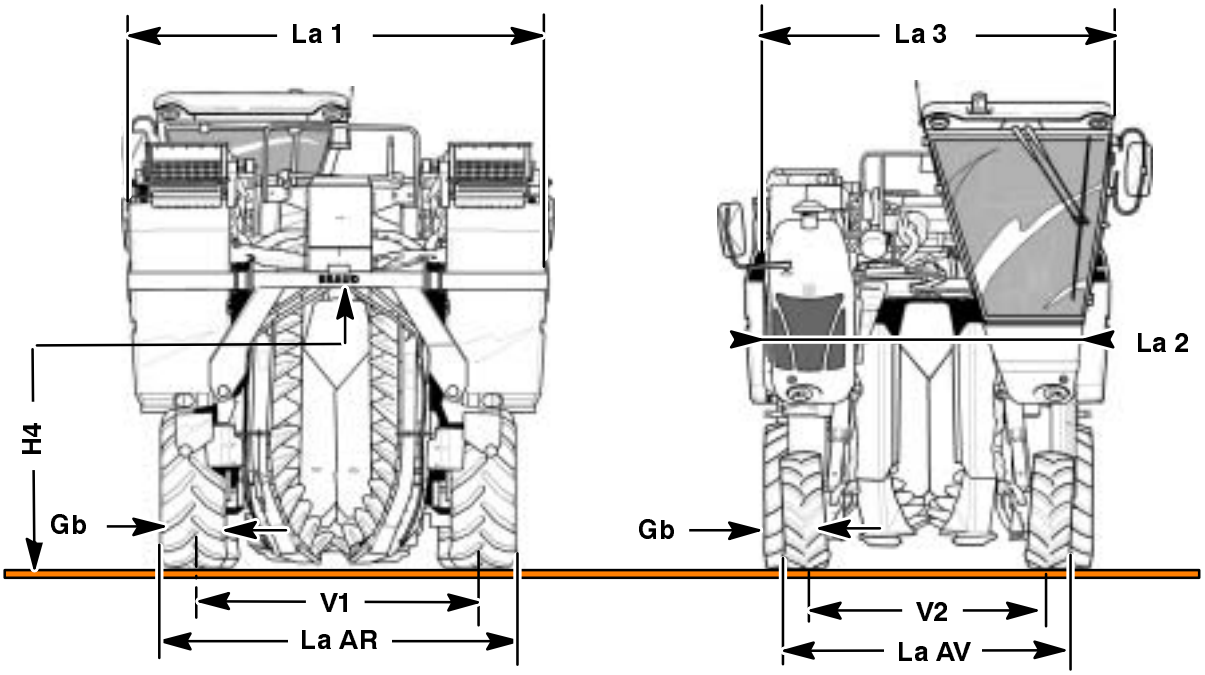
NOTE:

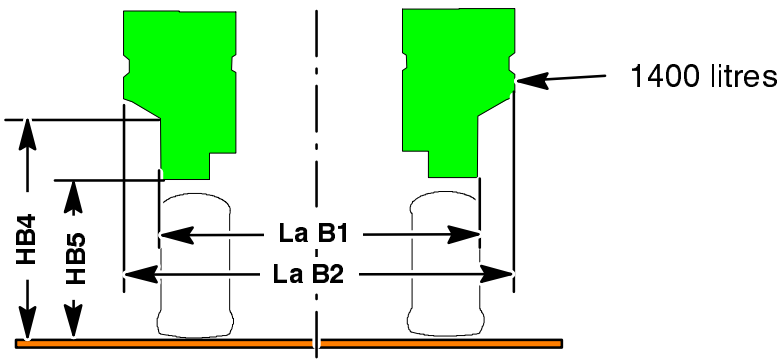
in road position, the noria is at 200 mm from the ground

(1) not more produced

(2) an additional equipment with destemmers on a VL570 with 480 / 65 R24 tyres is not allowed.


H3
H2
HB3
DAV3
HB1
HB2
DAR2
E
DAR
Lo


La 1
La 3
La 2
H4
Gb
Gb
V1
V2
La AR
La AV


1400 litres
HB4
HB5
La B1
La B2

COMMERCIAL DESCRIPTION			VN 300	
Code	**DIMENSIONS (mm)**			
H1 H2	Height: (with harvesting equipment on the ground)	without cab with cab at the revolving beacon	3475	
H3	Harvesting equipment height	at the railings	3025	
H4	Clearance under the harvesting equipment		from 1500 to 2000	
HB1	Clearance under tilted-up hoppers (under destemmers)		1735 (1570)	
HB2	Tilting axle height		1965	
HB3	Max. height with lifted hoppers		4490	
HB4	Height under clearance	1400-l hoppers	1340	
E	Wheelbase		2740	
La1	Max. width at the hoppers		2400	
La2	Max. width from cover to cover	Self-propelled machine only	2090	
La3	Max. width from cab top to right cover	Self-propelled machine only	2300	
LaB1 LaB2	Hopper width		2017 2400	
La AR	Outer width at the back wheels: (V1 + Gb = La AR)	Tyres 340/85 R 24	1540 + 365 = 1905	
La AV	Outer width at the front wheels (V2 + Gb = La AV) (V2 at ground level)	Tyres 320/70 R 20	1480 + 315 = 1795	
Lo	Max. length without (with) destemmers	without cab	4930 (5210)	
DAV1 DAR2	Front offset	without cab with cab	980	
DAV3	Offset of front supports for multipurpose		40	
DAR	Rear offset without (with) destemmers		1210 (1490)	

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

COMMERCIAL DESCRIPTION		VL 600 ÷ 660	VM 460
WEIGHT			
PTAC - Total allowed weight under load (kg) (1) (2)		from 9200 to 10500	from 9200 to 9600
Allowed partition (2)	front axle (kg)	from 3980 to 4200	from 3980 to 4200
	rear axle (kg)	from 5380 to 7300	from 5380 to 5540
Unladen weight with harvesting equipment, VL600 (VL610 ÷ 660)		8200 (8660)	8660
- *with hoppers (litres), standard wheels and cab, but without destemmers and without lower extractors*		2600	2200
- *with destemmers, add ....(kg)*		460	460
(1) up to 10000 kg for VL600 and up to 10500 kg for VL 610 and 660			
(2) depending on the tyres and on the load index			
FEEDING / EXHAUST			
Fuel tank	Used fuel	Diesel oil	
	Capacity (litres)	250	
Thermal engine (cylinders)		6	4
- ISO power (kW/CV)		VL 610 and 620 = 107/145	94/128
- Displacement = 1125 cm^3/cylinder		VL 630 and 640 = 120/160	
		VL 660 = 129/175	
Empty speed +/- 50 (rpm)		2500	2500
Air cleaner	Make	DONALDSON	
	Type	ELB 12-0265	
Engine cooling	Water capacity (litres)		
	Fan	Sucking	
Cooling fan ∅ (mm)		610	584
DRIVE LINE			
Pump for engine fan	Make	SAUER	
	Displacement (cm^3/rev.)	17	
	Idling speed (rpm)	(1.02 x engine speed)	
	Capacity (l/minute), output 0.9	38	
Fan motor	Make	SAUER	
	Displacement (cm^3/rev.)	12.2	
Variable displacement inching hydraulic pump:	Make	REXROTH	
	Type	A4VG	
	Total displacement (cm^3/rev.)	from 0 to 105	

COMMERCIAL DESCRIPTION		VL 600 ÷ 660	VM 460
DRIVE LINE (follows)			
Priming pump	Displacement (cm3/rev.)	26	
	Capacity (l/minute), output 0.9	58.5	
Front wheel motor	Make	POCLAIN	
	Type	MS 08	
	Displacement (cm3/rev.)	1043	
Rear wheel motor	Make	POCLAIN	
	Type	MSE 18	
	Displacement (cm3/rev.)	2636 (1406/1230)	
Max. speed (km/h) in road position		25 km/h	
Max. speed (km/h) in field position		12	
Hydraulic oil			
Capacity (litres)	Reservoir	65	
Oil type	New Holland:	Hydrosystem 68	
		Hydrosystem 68 BIO S	
Conveyor and extractor pump	Make	REXROTH	
	Displacement (cm3/rev.)	”Load sensing” from 0 to 45	
	Idling speed in rpm	2500 (see engine speed)	
	Capacity (l/minute), output 0.9	101.2	
Shaking pump	Make	SAUER	
	Displacement (cm3/rev.)	22	
	Idling speed in rpm	2500 (see engine speed)	
	Capacity (l/minute), output 0.9	49.5	
Steering/lifting/hopper pump	Make	SAUER	
	Displacement (cm3/rev.)	14	
	Idling speed in rpm	(1.02 x engine speed)	
	Capacity (l/minute), output 0.9	32	
STEERING		**Hydrostatic**	
Type		EATON QAMP 146 cm3/rev.	
BRAKING			
Service brake		Ensured by the hydrostatic drive	
Handbrake (acting on the two rear wheels)		Operated by ONE pedal and by the steering	
Parking brake		Operated by left hand lever	

COMMERCIAL DESCRIPTION		VL 600 ÷ 660	VM 460
TILTING CORRECTION		30%	
PLATFORM CAB			
Heated and A/C cab		Depending on the model	
Activated charcoal filter		Optional	
On-board computer		●	
Grand-Luxe seat			
Pneumatic seat		●	
Multifunction lever		●	
LIGHTING AND WARNING LIGHTS			
High/low beams		2	
Front parking lights		2	
Rear parking lights		2	
Direction indicator warning lights	Front	2	
	Rear	2	
	Side	2	
Stop lights		2	
License plate light		1	
Reflex reflector	Rear	2	
Revolving beacon		2	
Supply voltage	(V)	12	
Alternator	(A)	120	
Battery	(Ah)	180	
Starting presetting	(A)	1000	

COMMERCIAL DESCRIPTION		VL600	VL 600 ÷ 660	VM 460
HARVESTING EQUIPMENT				
HARVESTING HEADER				
Harvesting header hour-meter		No	Yes	
Type			swinging, self-aligning	
System			Shaking, S.D C	
Number of shakers			14	
Straight/elbow connecting rod			13/1	
Shaking operation	Motor manufacturer	EATON	SAUER	
	Displacement (cm3/rev.)	46	22	
	Control unit: - Ratio - Grease		1/4 AMBRA GR75MD 1.2 kg	
	Chain:	•		
Toe-in adjustable from the operator's seat		No	Yes	
Amplitude settings			4 or 3	
Min. clearance under the frame (mm)			2000	
Useful harvesting height (mm)			1650	
Harvesting tunnel width (mm)			500	
Noria system	Number of buckets per chain	63		61
	Type	XXL		small
	Synchronized	in field speed		
	Drive sprockets	16/59		
Flexible shoe-guide width (mm)		from 195 to 265		from 165 to 235
Sealing length (mm)		2100		
Minimum harvesting height (mm)		150		
Drive	Motor manufacturer	EATON		
	Displacement (cm3/rev.)	500		
Harvesting conveyors	Width (mm)	600		
	Max. speed rpm	about 750		
	Reverse	yes		
Single operation	Motor manufacturer	EATON		
	Displacement (cm3/rev.)	31.6		

COMMERCIAL DESCRIPTION		VL 610 ÷ 660	VM 460
RECEIVING/TRANSPORTATION			
Noria system	Number of buckets per chain	63	61
	Type	XXL (from 600 to 660)	small
	Synchronized	in field speed	in field speed
	Drive sprockets	16/59	16/59
Flexible shoe-guide width (mm)		from 195 to 265	from 165 to 235
Sealing length (mm)		2100	
Minimum harvesting height (mm)		150	
Drive	Motor manufacturer	EATON	
	Displacement (cm^3/rev.)	500	
Harvesting conveyors	Width (mm)	600	
	Max. speed rpm	about 750	
	Reverse	yes	
Single operation	Motor manufacturer	EATON	
	Displacement (cm^3/rev.)	31.6	
2 upper extractors with removable stalk choppers	Diameter (mm)	460	
	Drive	hydraulic	
	Motor manufacturer	SAUER	
	Displacement (cm^3/rev.)	11	
2 lower extractors with	Diameter	430	
	Drive	Hydraulic system	
	Motor manufacturer	SAUER	
	Displacement (cm^3/rev.)	6	
2 independent stalk choppers with enabling through shaking	Drive	Hydraulic system	
	Motor manufacturer	EATON	
	Displacement (cm^3/rev.)	8.2	
	Rotation direction	opposite to that of the wheels	

COMMERCIAL DESCRIPTION		VL 600 ÷ 660	VM 460
RECEIVING/TRANSPORTATION (follows)			
HOPPERS			
Capacity (litres)		2 x 1600	
		2 x 1300	2 x 1300
		2 x 1050	2 x 1050
Electrically-operated distribution auger		Control independent of the grape harvester	
Separating destemmers			
- Belt operation	Motor	EATON	
	Displacement (cm^3/rev.)	59	
	Speed		
- Distributor operation	Motor	EATON H plus	
	Displacement (cm^3/rev.)	36	
	Speed		

COMMERCIAL DESCRIPTION		VL 570	VN 370	VN 300
WEIGHT				
PTAC – Total allowed weight under load (kg) (1)		from 8000 to 8300	7800	7900
Allowed partition	front axle (kg) (1)	3440	from 3100 to 3400	3400
	rear axle (kg) (1)	from 4700 to 5200	from 4600 to 4800	4600
Unladen weight with harvesting equipment,		7140	6820	6760
– *with hoppers (litres), standard wheels and cab, but without destemmers and without lower extractors*		2400	2200	1500
– *with destemmers, add ....(kg)*		580	580	460
(1) depending on the tyres and on the load index				
FEEDING / EXHAUST				
Fuel tank	Capacity (litres)	160		
Engine (cylinders) –		4		
– Power ISO (KW/CV)		94/128		
– Displacement		4485		
Idling speed +/– 50 (rpm)		2500		
Air cleaner	Make	DONALDSON		
	Type	FPG090225		
Engine cooling	Liquid capacity (litres)			
	Sucking fan	●		
Air/air intercooler		●		

COMMERCIAL DESCRIPTION		VL 570	VN 370	VN 300
DRIVE LINE				
Variable displacement inching hydraulic pump	Make	REXROTH A4VG90		
	Displacement elimination:	●		
	Drive:	electrical		
	Total displacement cm3/rev.	90		
Priming pump	Displacement cm3/rev.	25		
	Capacity (l/minute), output 0.9	56.25		
Front wheel motor	Make ”Poclain”	POCLAIN		
	Type MSE 05	MSE 05		
	Displacement (cm3/rev.)	688		
Rear wheel motor	Make ”Poclain”	POCLAIN		
	Type MSE 11	MSE 11		
	Displacement (cm3/rev.)	843/843		
Double steering valve		●		
Front drive wheels in road position		●		
”Twin lock” antiskid		●		
Torque reduction on front wheels **optional**		●		
Capacity divider 50/50, RH/LH **optional**		NO	NO	●
Max. speed in road position (km/h)		25	25	20
Max. speed in field position (km/h)		11		
Hydraulic oil				
Capacity l/minute	Reservoir (litres)	65		
Oil type	New Holland	Hydrosystem 68		
		Hydrosystem 68 BIO S		
Hydraulic filtering (intake/return)		●		

COMMERCIAL DESCRIPTION		VL 570	VN 370	VN 300
DRIVE LINE (follows)				
Conveyor and extractor pump	Make	SAUER		
	Displacement cm3/rev.	44		
	Idling speed in rpm	engine speed		
	Capacity (l/minute), output 0.9	99		
Double pump	Make	SAUER		
- for shaking	Displacement cm3/rev.	22		
	Idling speed in rpm	(1.02 x engine speed)		
	Capacity (l/minute), output 0.9	50.49		
- for steering/ lifting/hopper	Displacement cm3/rev.	11		
	Idling speed in rpm	(1.02 x engine speed)		
	Capacity (l/minute), output 0.9	25.24		
STEERING		**hydrostatic**		
Type:	Make	EATON		
valve	displacement (cm^3/rev.)	100		
BRAKING				
Hydrostatic service brake		ensured by the hydrostatic drive		
Handbrake (acting on the two rear wheels)		●		
Parking brake		manually operated, on the left		
Electrically-operated independent brakes		No		
TILTING CORRECTION				
Max. tilt (%)		25		
Max. tilting in road position (%)		8		
Max. tilting in work position (%) (with destemmers or special implement and ballasted front wheels)		32		
FRAME				
Harvesting header quick uncoupling		●		
Link fitting possibility		●		No
Front and rear tracks = see relevant SB		●		No

COMMERCIAL DESCRIPTION		VL 570	VN 370	VN 300
PLATFORM CAB				
Heated and A/C cab				
Activated charcoal filter				
Dashboard	Make	ELTEC		
Imitation leather seat as standard outfit		●		No
Pneumatic seat with cab **optional**		●		Standard
Multifunction lever, number of push buttons		18		
Electric inching control, adjusted by sensors (**optional radar**)		●		
Electrical presetting for:				
- electrically-operated rear view mirrors		●	●	●
- CDHA		●	●	No
- rear viewing		●	●	●
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		
Reflex reflector	Rear	2		
Revolving beacons		2		
Supply voltage	(V)	12		
Alternator	(A)	120		
Battery	(Ah)	135		
Starting presetting	(A)	760		

COMMERCIAL DESCRIPTION		VL 570	VN 370	VN 300
HARVESTING EQUIPMENT				
HARVESTING HEADER				
Harvesting header hour-meter		Yes		
Type - swinging, self-aligning		●		
SDC shaking system		●		
Number of shakers		14	12	10
Flexible straight/elbow connecting rod		13/1	11/1	9/1
Shaking operation	Engine	SAUER		EATON
	Displacement (cm3/rev.)	22		46
	Reducer control unit: - ratio - grease	1/4 AMBRA GR75MD 1.2 kg		
	Chain			●
Toe-in adjustable from the operator's seat		●	●	No
Amplitude setting		3	3	1
Removable shakers, **optional**		●	●	No
Clearance under the frame (min./max. mm)		1950/2450	1800/2300	1500/2000
Useful harvesting height (mm)		1200	1100	1050
Harvesting tunnel width (mm)		500		300
RECEIVING/TRANSPORTATION				
Noria system	Large buckets	55		
	Small buckets		53	54
	Fastening by rivets	2 x 2	1 x 3	1 x 3
	Drive sprockets	17/58	16/59	16/59
Shoe-guide width (mm)		flexible type 195/265	flexible type 165/235	fixed type 165
Sealing length (mm)		1750		1900
Minimum harvesting height (mm)		150		
Operation	Motor	EATON		
	Displacement (cm3/rev.)	395		

COMMERCIAL DESCRIPTION		VL 570	VN 370	VN 300
RECEIVING/TRANSPORTATION (follows)				
Harvesting conveyors	Width (mm)	450		
	Speed (max. rpm)			
	Reverse	Yes		No
Single operation	Motor	EATON		
	Displacement (cm^3/rev.)	31.6		
CLEANING				
2 upper extractors with removable stalk choppers	Diameter (mm)	430		
	Motor	SAUER		
	Displacement (cm^3/rev.) (*)	8/11/14	8/14	8/14
	Speed adjustment:	electric control		
2 lower extractors (optional)	Diameter (mm)	430		
	Motor	SAUER		
	Displacement (cm^3/rev.)	6		
	Speed adjustment:	electric control		
2 independent stalk choppers with enabling through proportional norias	Motor	EATON		
	Displacement (cm^3/rev.)	8.2		
HOPPERS				
Capacity (litres)		2 x 900	2 x 900	2 x 700
		2 x 1180	2 x 1080	
Distribution auger	Motor	EATON		
	Displacement (cm^3/rev.)	31.6		
	Speed	adjustable		
Separating destemmers				
- Belt operation	Motor	EATON		
	Displacement (cm^3/rev.)	59		
	Speed			
- Distributor operation	Motor	EATON H plus		
	Displacement (cm^3/rev.)	36		
	Speed			

(*) depending on the outfit (see section 35)

SECTION 00 - MAINTENANCE

Chapter 1

CONTENT

CAPACITIES
LUBRICANTS AND FLUIDS

Item to be serviced	Quantity	Recommended product	International classification
Self-propelled machine greasers		Grease **AMBRA GR 9**	Lithium-calcium based grease, consistency NLGI 2
Harvesting machine greasers		Grease **Food type**	24 cartridges re. **62777339**
Noria ECU	1 kg		
Shaking rear connecting rod articulations		Grease	Teflon silicone grease Sitef degree 3 410-g cartridge, re. 920019780
Shaking ECU	1.2 kg	**AMBRA GR 75 MD** **NH 720 A**	Re.: 661874 molybdenum bisulfide grease, consistency NLGI 2
Engine sump and filter/s 6-cylinder engine 4-cylinder engine	 16 l 9.5 l	Oil **AMBRA SUPER GOLD HSP 15W - 40**	SAE 15W40 API CH - 4 ACEA E3/E5
Reservoir	65 l	Oil AMBRA **HYDROSYSTEM 68**	ISO 68 DIN 51524 - part 2
Cooling system	20 l	AMBRA **AGRIFLU (50%) +** Clean water (50%)	

THERMAL ENGINE MAINTENANCE

a) After the first 50 hours

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

b) Every day or every ten hours, check:

- the oil level,
- the coolant level,
- the radiator core cleanliness.

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

- the engine oil;
- the oil filter cartridge/s;
- the diesel oil filter cartridge/s;
- Check 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.

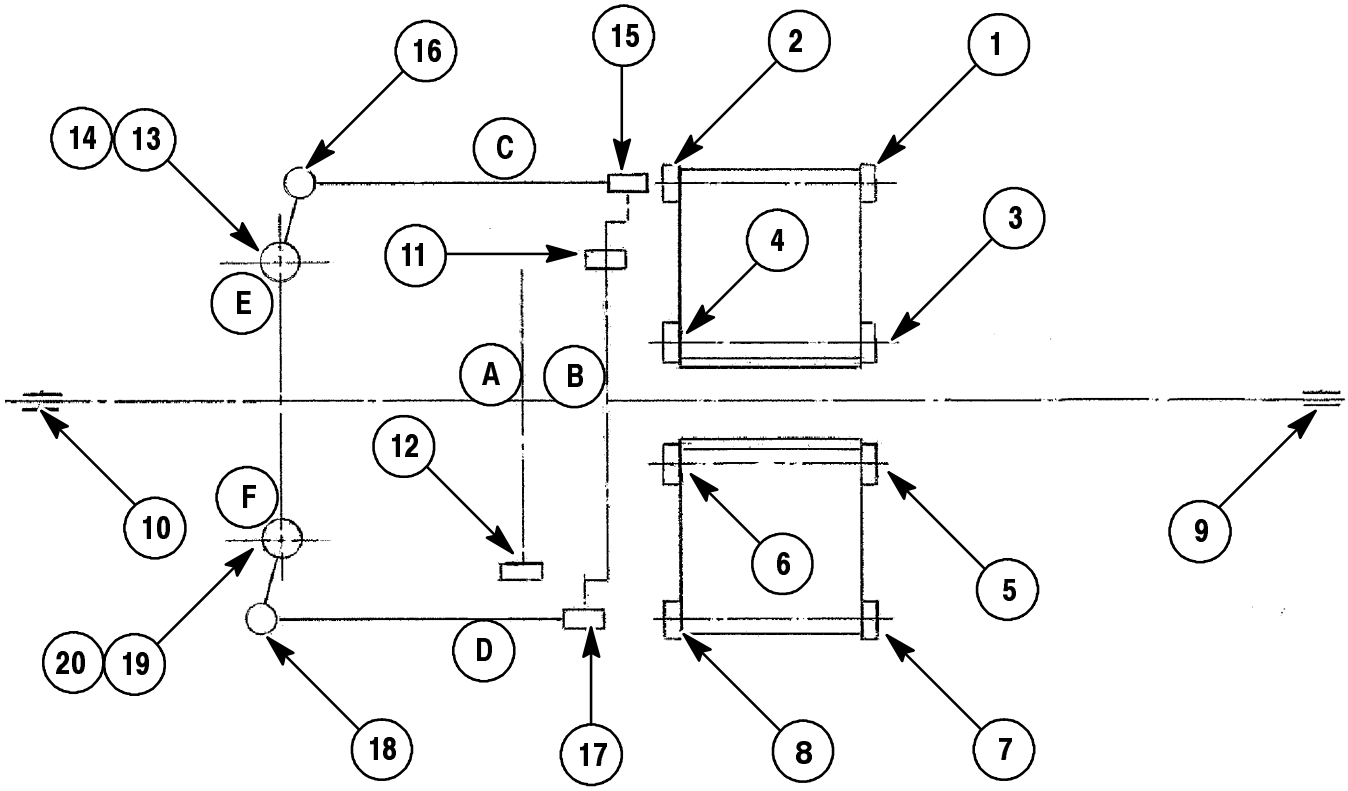
d) Only before each harvesting season:

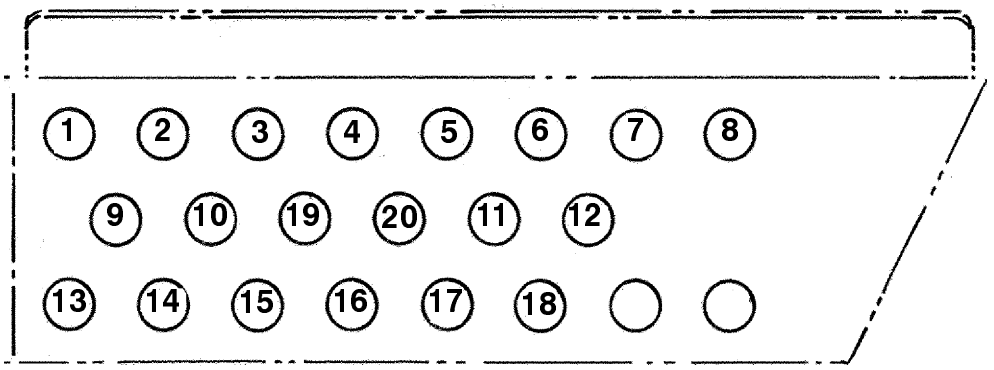
- replace the air filter main cartridge.

e) Every 1200 hours:

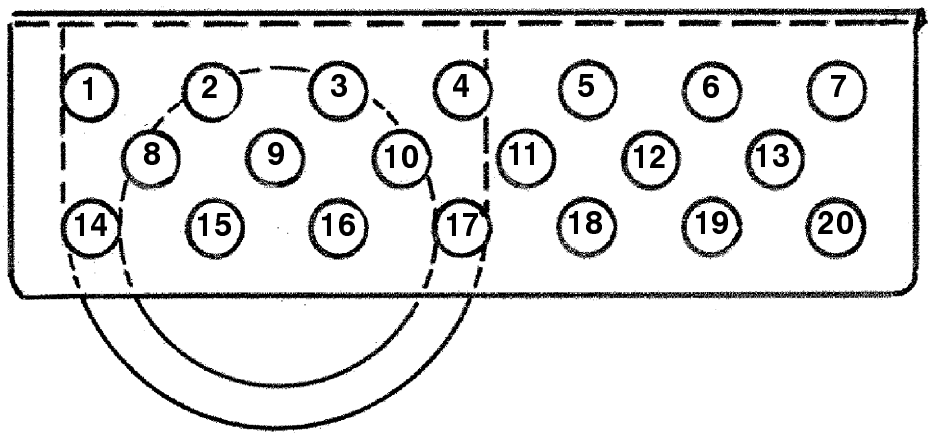
- Adjust the rockers
- Adjust the injector calibration

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





VL 610 ÷ 660



VM 460

HARVESTING EQUIPMENT GREASING POINT POSITION

VL 610 ÷ 660 and VM 460

The greasing ramp is located on the harvesting equipment central gangway. All these points must be greased with food-type grease every day, after washing.

A) Noria drive shaft

B) Shaking control shaft

C) Right shaking control connecting rod

D) Left shaking control connecting rod

E) Right shaking plate

F) Left shaking plate

These positions are not localised and should be greased every 50 hours:

- 2 x 2 greasers on the hopper cylinder axes
- 2 x 1 greaser on the lower stalk choppers

TOTAL: 26

VL600

They are not fixed; all these points shall be greased with food-type grease every day, after washing:

- Front shaking plate 2x2
- Shaking control connecting rod 2x2
- Under the left conveyor:
  - 4 belt bearings
  - 1 shaking shaft bearing
  - 1 noria shaft bearing

Under the right conveyor:

- 4 belt bearings
- 1 shaking shaft bearing

They are not fixed and must be greased every 50 hours:

- Lower stalk chopper 2x1
- Hopper tilting cylinder 2x2
- 1 harvesting equipment rear pivot pin

TOTAL: 26

SELF-PROPELLED MACHINE VL600 ÷ 660 and VM 460

There is no centralized greasing on the self-propelled machine, thus you need to grease daily only the following:

- 2 x 3 greasers on the front legs

To grease every 50 hours:

- 2 x 1 greaser on the steering cylinder pivot
- 2 x 2 greasers on the steering bar pivots
- 2 greasers on steering relay
- 2 x 2 greasers on the wheel link pivot
- 2 x 2 greasers on the rear lifting cylinder

TOTAL: 22