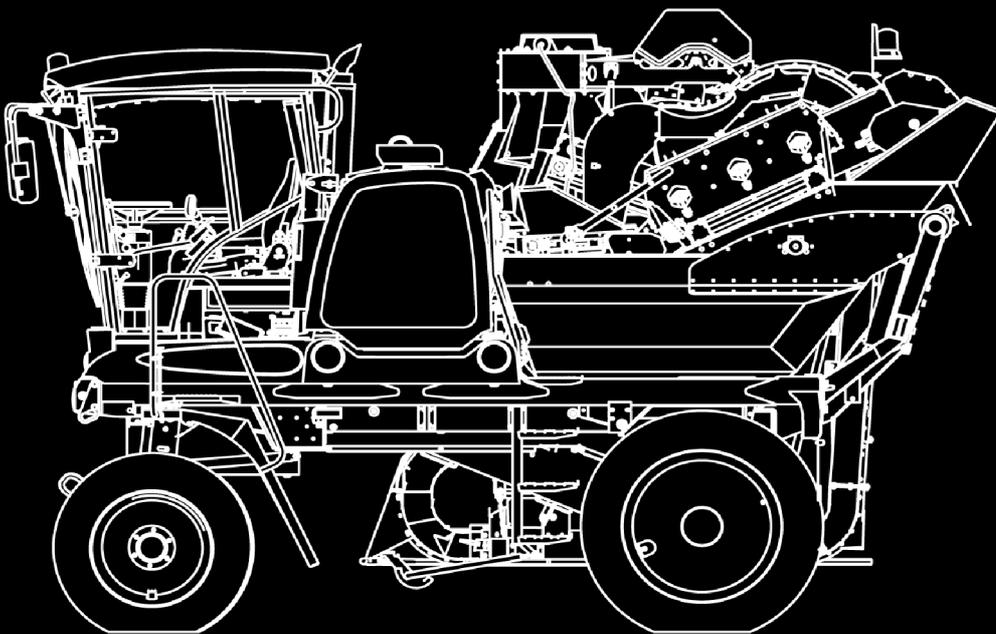


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AGRICULTURE

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REPAIR MANUAL

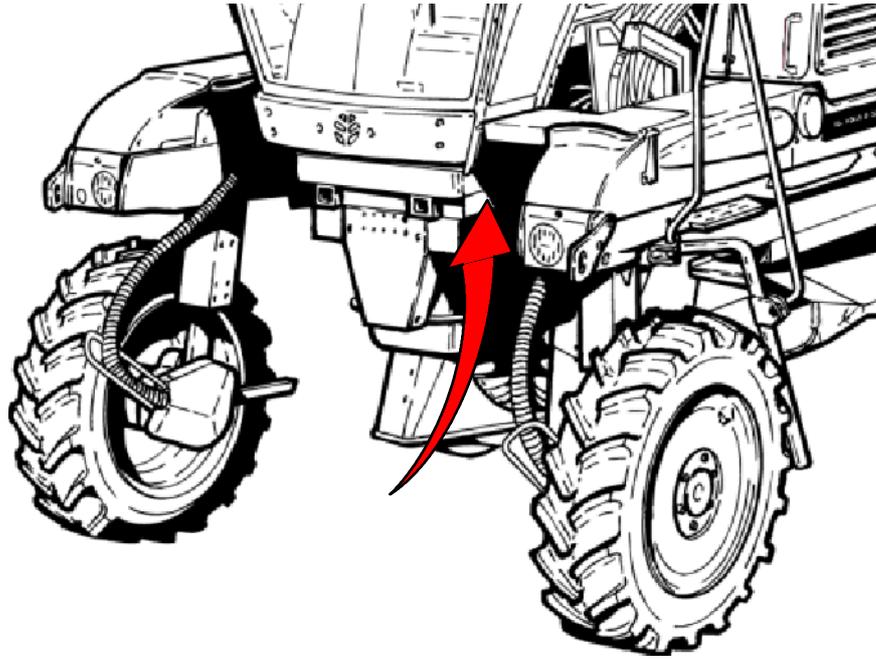
CONTENTS

Section	Description
	Specifications
00	Maintenance
05	Preparing the machine
10	Engine
29	Hydrostatic transmission
33	Brakes
35	Hydraulic system
39	Frame
41	Steering
44	Front axle and wheels
50	Cab
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SPECIFICATIONS

CONTENTS

Description	Page
Numbering	3
Description	5
Utilization limit in sloping/tilting	7
Dimensions	9
Specifications	13



Model	Type	Serial no.	Machine number
VN 2080	640	001	001

A = manufacturer's label

B = stamped frame number

OPERATOR'S MANUAL

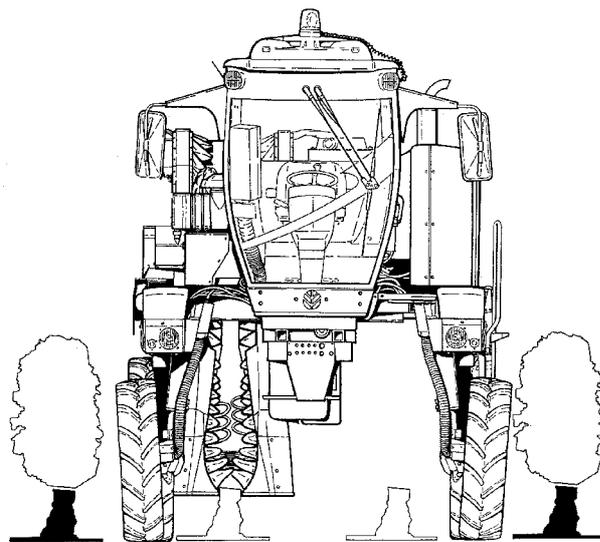
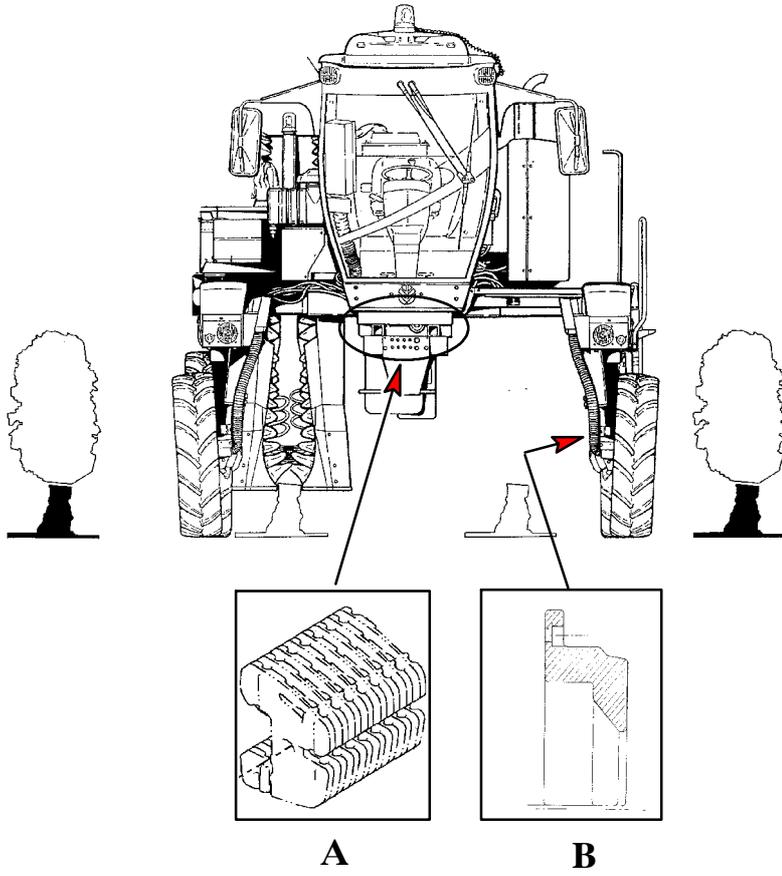
VN 2080: (F) 87743401

VN 2080: (I) 87743403

VN 2080: (Eng) 87746458

SPARE PART CATALOGUE

Reference:



SELF – PROPELLED MACHINE

FRAME:

VN 2080 – for vineyard gauge ranging between 0.90 and 1.50 m

- Square tubular frame, open at the back, for a fast disassembly of the harvesting header.
 - Gauge, 450 mm per side, adjustable from the operator's seat
 - Frame clearance: 1.45 m or 1.60 m

- No sloping correction possibility
- Max. allowed sloping: 20%

- The two front legs for wheel support are sliding and pivoting. They ensure:
 - steering in forward range, with steering angle of 80/90°
 - the hydraulic bar, with a 150-mm swinging.

- Installation of ballasts to be used on sloped grounds (see following table)
 - (A) kit of 8 front ballasts on central frame (Re.: 713186005)
 - (B) kit of 2 half-ballasts in the rear left wheel (Re.: 713022055)

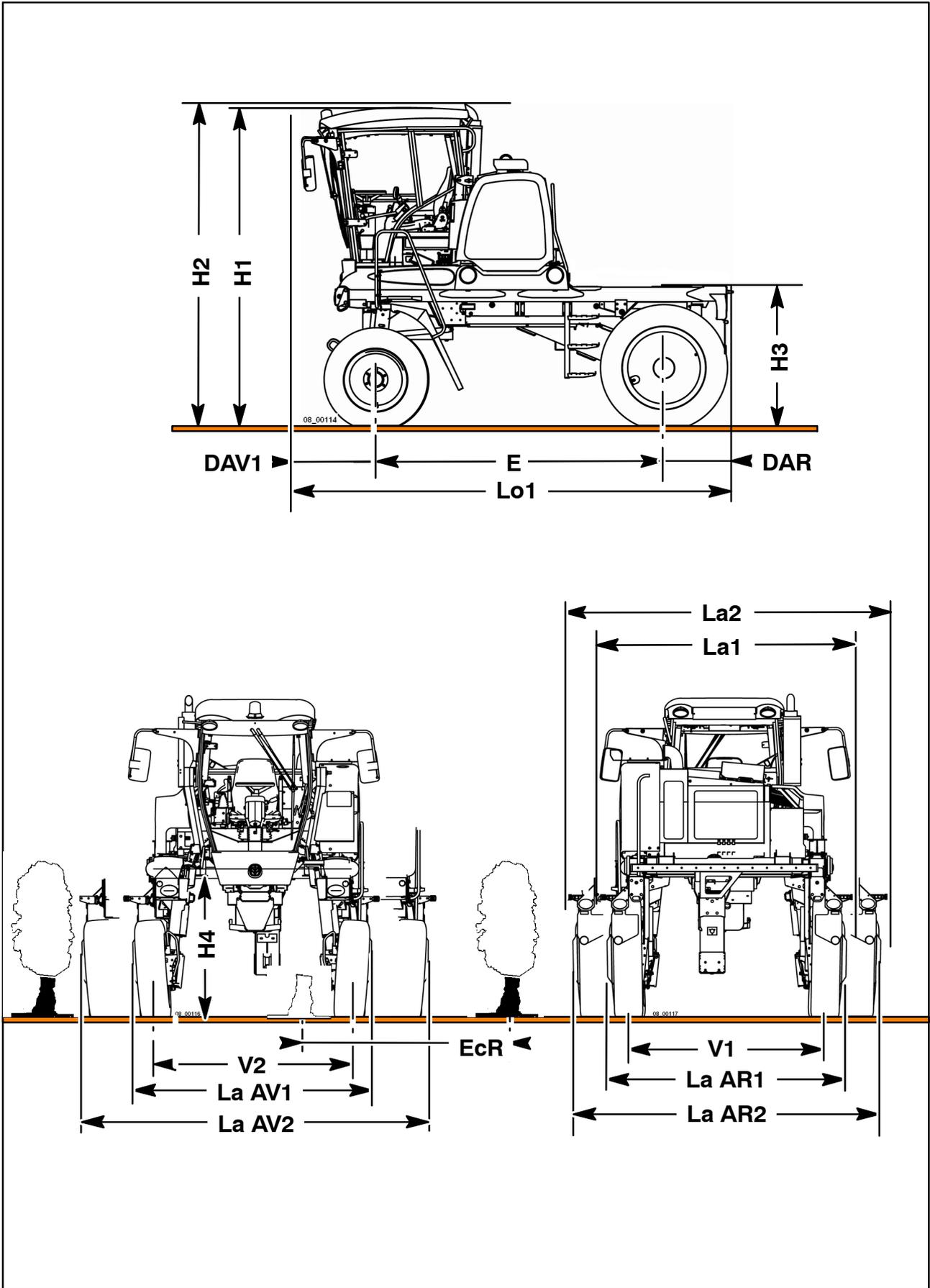
UTILISATION LIMIT IN CASE OF TILTING AND ON SLOPES

TRACTOR + HARVESTING EQUIPMENT

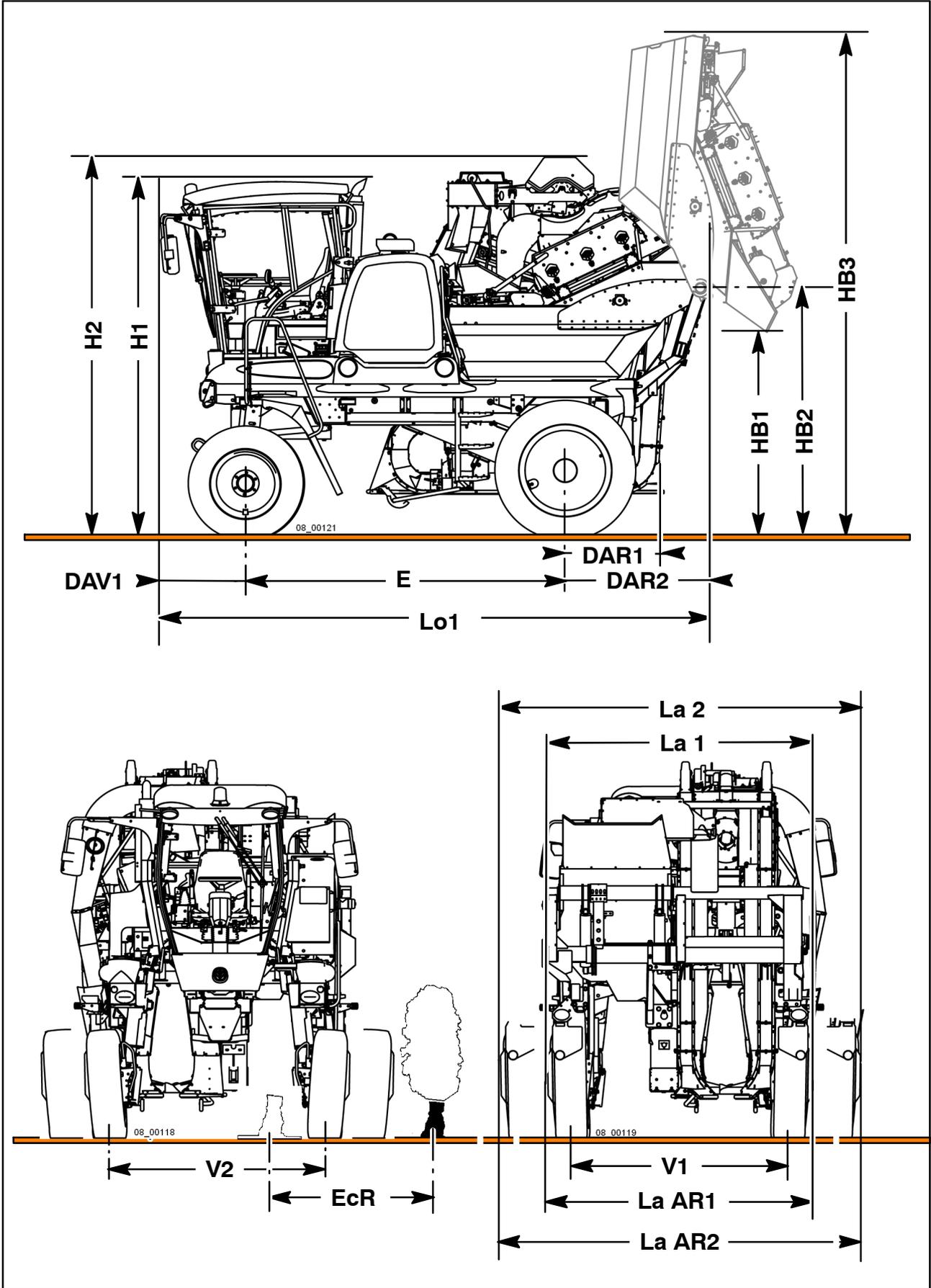
Sloping	Machine gauge	Options	Front wheel liquid ballasting	Kit of 8 ballasts - 713186005	Rear left ballast 713022055	
					Sloping < 10%	Sloping > 10%
from 0 to 20%	lower than 1.30 m	Without des-temmers	○	○	○	●
		With des-temmers	●	◐	○	●
	higher than 1.30 m	Without des-temmers	○	○	○	●
		With des-temmers	●	◐	○	●
from 20 to 40%	lower than 1.30 m	Without des-temmers	◐	◐	○	●
		With des-temmers	●	●	○	●
	higher than 1.30 m	Without des-temmers	◐	To be proved	●	●
		With des-temmers	●	●	●	●
from 40 to 43%	lower than 1.30 m	Without des-temmers	●	●	◐	●
		With des-temmers	Exceeding the machine capacity			
	higher than 1.30 m	Without des-temmers	●	●	●	●
		With des-temmers	Exceeding the machine capacity			

Key:

- Useless ○
- Recommended ◐
- Compulsory ●



COMMERCIAL DESCRIPTION		VN2080(1)	VN2080(2)
Only self-propelled machine - axle clearance: (1) = 1450; (2) = 1600			
Code	DIMENSIONS (mm)		
H1	Height at the revolving beacon		
H2	Height at the cab roof		3300 3450
H3	Height at the longitudinal members		1440 1440
H4	Axle clearance		1450 1600
EcR	For vineyard gauge		from 0.90 to 1.50 m
La1	Max. width (min. position)	270 / 95 R32 tyres	2420
	Only self-propelled machine	420 / 85 R24 tyres	2440
La2	Max. width (max. position)	270 / 95 R32 tyres	3320
	Only self-propelled machine	420 / 85 R24 tyres	3340
V1	Extensible track	back	from 2000 to 2900
V2	Extensible track	front	from 2050 to 2950
La AR1	Outside width at the rear wheels		
	La AR Tyres 270 / 95 R32 (V1 + Gb)		2000 + 293 = 2293
	La AR Tyres 270 / 95 R32 (V1 + Gb + guards)		2000 + 293 + 127 = 2420
	La AR Tyres 420 / 85 R24 (V1 + Gb)		2000 + 440 = 2440
La AR2	Outside width at the rear wheels		
	La AR Tyres 270 / 95 R32 (V1 + Gb)		2900 + 293 = 3193
	La AR Tyres 270 / 95 R32 (V1 + Gb + guards)		2900 + 293 + 127 = 3320
	La AR Tyres 420 / 85 R24 (V1 + Gb)		2900 + 440 = 3340
La AV1	Outside width at the front wheels, min. position	Tyres 11.2-24 T35 12PR TT	2050 + 305 = 2355
	(V2 + Gb = La AV)		
	(V2 at ground level)		
La AV2	Outside width at the front wheels, max. position	Tyres 11.2-24 T35 12PR TT	2950 + 305 = 3255
	(V2 + Gb = La AV)		
	(V2 at ground level)		
Lo 1	Overall length		4180
E	Pitch		2970
DAV1	Front offset		610
DAR	Rear offset	270 / 95 R32 tyres	656
		420 / 85 R24 tyres	666



COMMERCIAL DESCRIPTION		VN2080(1)	VN2080(2)
Self-propelled machine and harvesting equipment axle clearance: (1) = 1450; (2) = 1600			
Code	DIMENSIONS (mm)		
H1	Height at the revolving beacon	3580	3730
H2	Height at the cab roof	3430	3580
H4	Clearance under harvesting tunnel (on the ground)	1500	
La1	Max. width (min. position)	270 / 95 R32 tyres	2840
	Only self-propelled machine	420 / 85 R24 tyres	2900
La2	Max. width (max. position)	270 / 95 R32 tyres	3640
	Only self-propelled machine	420 / 85 R24 tyres	3700
ER	For vineyard gauge	from 0.90 to 1.50 m	
V1	Extensible track	back	from 2100 to 2900
V2	Extensible track	front	from 2050 to 2950
La AR1	Outside width at the rear wheels		
	La AR Tyres 270 / 95 R32 (V1 + Gb)		2100 + 293 = 2393
	La AR Tyres 270 / 95 R32 (V1 + Gb + guards)		2100 + 293 + 127 = 2520
	La AR Tyres 420 / 85 R24 (V1 + Gb)		2100 + 440 = 2540
La AR2	Outside width at the rear wheels		
	La AR Tyres 270 / 95 R32 (V1 + Gb)		2900 + 293 = 3193
	La AR Tyres 270 / 95 R32 (V1 + Gb + guards)		2900 + 293 + 127 = 3320
	La AR Tyres 420 / 85 R24 (V1 + Gb)		2900 + 440 = 3340
La AV1	Outside width at the front wheels,		
	min. position	Tyres 11.2 R24	2150 + 284 = 2434
	(V2 + Gb = La AV)	Tyres 11.2-24 T35 12PR	2150 + 305 = 2455
	(V2 at ground level)	TT	
La AV2	Outside width at the front wheels,		
	max. position	Tyres 11.2 R24	2950 + 284 = 3234
	(V2 + Gb = La AV)	Tyres 11.2-24 T35 12PR	2950 + 305 = 3255
	(V2 at ground level)	TT	
Lo 1	Overall length	4980	
E	Pitch	2970	
DAV1	Front offset	610	
DAR1	Offset behind the harvesting equipment	920	
DAR2	Offset behind the hoppers	1400	
HB1	Clearance under tilted up hopper		
HB2	Hopper tilting axle height	2150	
HB3	Max. height with lifted hopper		

COMMERCIAL DESCRIPTION		VN2080(1)	VN2080(2)
Self-propelled machine axle clearance: (1) = 1450; (2) = 1600			
WEIGHTS			
Total authorised loaded weight on roads (kg)			
Max. total allowed load on front axle (kg)			
Max. total allowed load on rear axle (kg)			
Unladen weight, self-propelled machine only: xxxx kg	Total Front axle Rear axle		
Unladen weight, self-propelled machine + harvesting equipment: xxxx kg	Total Front axle Rear axle		

THERMAL ENGINE	
Model	F4GE9684B*J601
Make	CNH
Type	Diesel
Cycle	alternated
Intake system	
- boost	Turbo
- cooler	air/air
Stroke number	4
Cylinder number and position	6, in line
Piston diameter/stroke (mm)	104/132
Total displacement (cm ³)	6728
Gross power (ISO TR 14396) kW (CV)	129 (175)
Maximum rated speed (rpm)	2300

FEEDING / EXHAUST		
Fuel tank	Used fuel Capacity (litres)	Diesel oil 240
Engine feeding system		
Dry-type air cleaner		two-stage filtration
Engine cooling	Water capacity (l) Fan	blowing

COMMERCIAL DESCRIPTION	VN2080(1)	VN2080(2)
Self-propelled machine axle clearance: (1) = 1450; (2) = 1600		
DRIVE		
Variable delivery hydraulic pump (cm ³ /rev.)	140	
Adjusted electric control	1 radar and 1 sensor	
Front wheel motor (cm ³ /rev.)	934	
Rear wheel motor (cm ³ /rev.)	1406 and 1170	
Max. speed (km/h) in road position (2WD)	25	
Driving in road speed	By front motors and Twin-Lock between 0 and 12 km/h	
Max. speed (km/h) in field position (4WD)	14	
Front/rear antiskid	Automatic (Twin-Lock)	
Right/left antiskid	Capacity divider operated by the left pedal in the operator's seat	
Front drive reduction	Operated by the left pedal and by a switch in the operator's seat	
Double hydraulic pump		
- for steering and service (displacement cm ³ /rev.)	14.4	
- for shaking (displacement cm ³ /rev.)	19.2	
"Rexroth" hydraulic pump for extractors / conveyors (displacement cm ³ /rev.)	from 0 to 45	
Hydraulic oil - Type - Reservoir total capacity	AMBRA Hydrosystem 68 77 litres	

STEERING	
Type	hydrostatic
Steering diameter (m)	7.90

BRAKING SYSTEM	
Service brake (on the four wheels)	Ensured by the hydrostatic drive
Multidisk parking brake (acting on the two rear wheels)	Ensured by a lever on the operator's seat
Front brakes	Without
Right/left independent brakes (field speed)	Ensured by the right pedal, synchronized with: - the steering in max. steering position - Intervention on inching lever switch

COMMERCIAL DESCRIPTION	VN2080(1)	VN2080(2)
Self-propelled machine axle clearance: (1) = 1450; (2) = 1600		
SLOPING AND TILTING		
Max. allowed sloping during work with destemmer, up to:	40% *	
Max. allowed sloping during work without destemmer, up to:	43% *	
Sloping indicator	By warning lights on the operator's seat	
Max. allowed tilt during work	20%	
OPERATOR'S PLATFORM		
Heated and A/C cab	yes	
Pneumatic seat (with optional seat belt)	yes	
Multi Function Handle	yes	
Dashboard	yes	
Board computer	yes	
Sound level in the operator's seat (dB(A))		
Electrically-operated rear view mirrors	2	
Rear viewing: colour camera	2	
ELECTRIC CIRCUIT		
Supply voltage (battery)	12 V / 180 Ah	
Alternator	120 A	
Switch	on negative	
LIGHTING AND WARNING LIGHTS		
High/low beams	2	
Work lights	2	
at the front of the cab	2	
behind the cab	2	
in the front right tunnel	1	
at the back of the harvesting equipment	1	
Front parking lights	2	
Rear parking lights	2	
Direction indicators:	Front	2
	Rear	2
Stop lights	2	
License plate light	1	
Reflex reflector:	Rear	2
Revolving flash light	2	

- * = with ballasting depending on the gauge (see table)

MULTIPURPOSE		
Front hydraulic block as standard outfit. It supplies, in the corresponding multipurpose mode:		
- single-acting cylinders		4
or		
- double-acting cylinder		1

COMMERCIAL DESCRIPTION	VN2080(1)	VN2080(2)
Self-propelled machine axle clearance: (1) = 1450; (2) = 1600		

Grape harvester	
HARVESTING HEADER	Swinging, self-aligning
Servo-steering	Warning lights on the operator's seat

SHAKING	
Number of shakers	12 supplied
Motor drive (displacement cm ³ /rev.)	10.8 and reducer
Amplitude settings	not adjustable
Tunnel minimum clearance	1500
Useful harvesting height	550

RECEIVING / TRANSPORTATION		
Noria system: (BRAUD patent)	Number of buckets per chain Synchronized	54 in field speed
Stake-guide gauge:		150
Sealing length		1700
Minimum harvesting height		150
Drive: motor (displacement cm ³ /rev.)		395
Central conveyor	Belt width	250
	Drive: motor (displacement cm ³ /rev.)	38.1
	Sliding direction reversal	yes
Cross conveyor	Belt width	225
	Drive: motor (displacement cm ³ /rev.)	36
	Sliding direction reversal	yes

COMMERCIAL DESCRIPTION	VN2080(1)	VN2080(2)
Self-propelled machine axle clearance: (1) = 1450; (2) = 1600		
CLEANING		
1 front extractor	Diameter	430
	Drive: motor (displacement cm ³ /rev.)	Sauer 8
1 rear extractor	Diameter	350
	Drive: motor (displacement cm ³ /rev.)	Sauer 6
HOPPER		
Capacity (litres)		1400
Emptying		rear
Plane harvested product division: Drive: motor (displacement cm cm ³ /rev.)		160
Destemmer (variant)		
Sorting conveyor Belt width (mm)		450
Destemmer with 3 rotors: Width (mm) Diameter (mm)		475 (like VL hr) 335 (like VL Std)
Stalk ejection:		Between 2 rows of vines (it avoids the non-harvested row)

SECTION 00 - MAINTENANCE

CONTENTS

Description	Page
Capacities	2
Thermal engine maintenance	3
Greasing	5
Hydraulic filter	8
Routine maintenance and winter storage	9

LUBRICANT AND LIQUID CAPACITIES

Item to be supplied	Quantity	Recommended product	Corresponding international classification
Self-propelled machine grease fittings		AMBRA GR 9 grease	Lithium-calcium grease, consistency NLGI 2
Harvesting machine grease fittings		Grease Food type	24 cartridges re. 62777339
Noria ECU	1 kg		
Shaking ECU	0.5 kg	AMBRA GR 75 MD NH 720 A	Re. 661874 molybdenum bisulfide grease, consistency NLGI 2
Engine sump and filter 6-cylinder engine	16 l	Oil AMBRA MASTER GOLD HSP 15W - 40	SAE 15W40 NH 330H API CI - 4 CH4 ACEA E3/E5
Reservoir	77 l	Oil AMBRA HYDROSYSTEM 68	ISO 68 DIN 51524 - part 2
Cooling system	20 l	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,
- the radiator core cleanliness.

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

- engine oil,
- oil filter cartridge/s,
- 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.

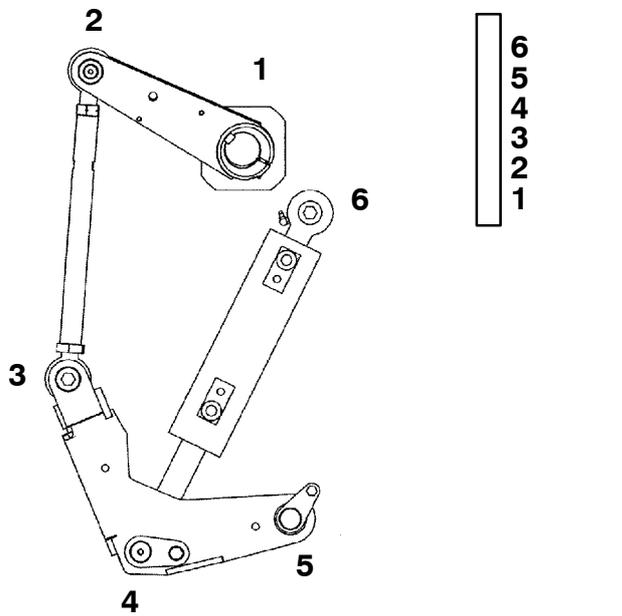
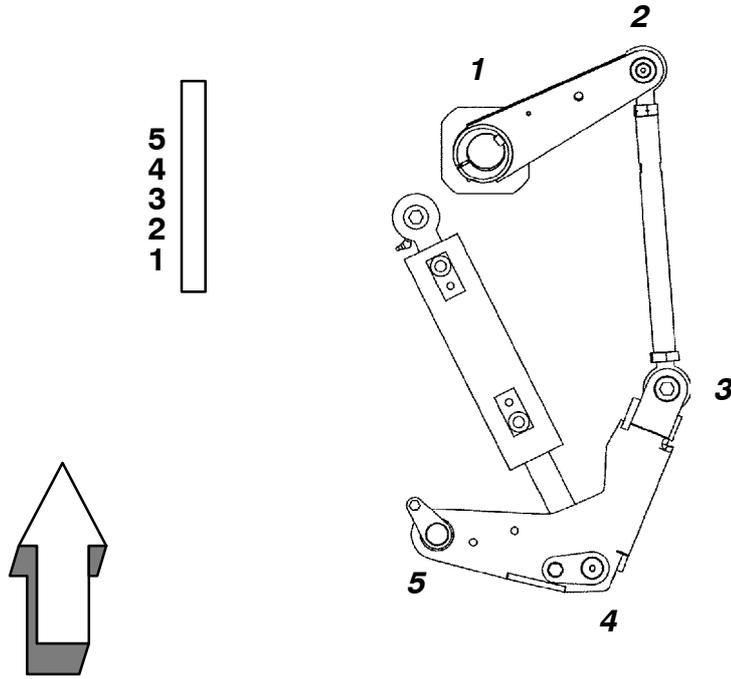
d) Only before each campaign:

- 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.



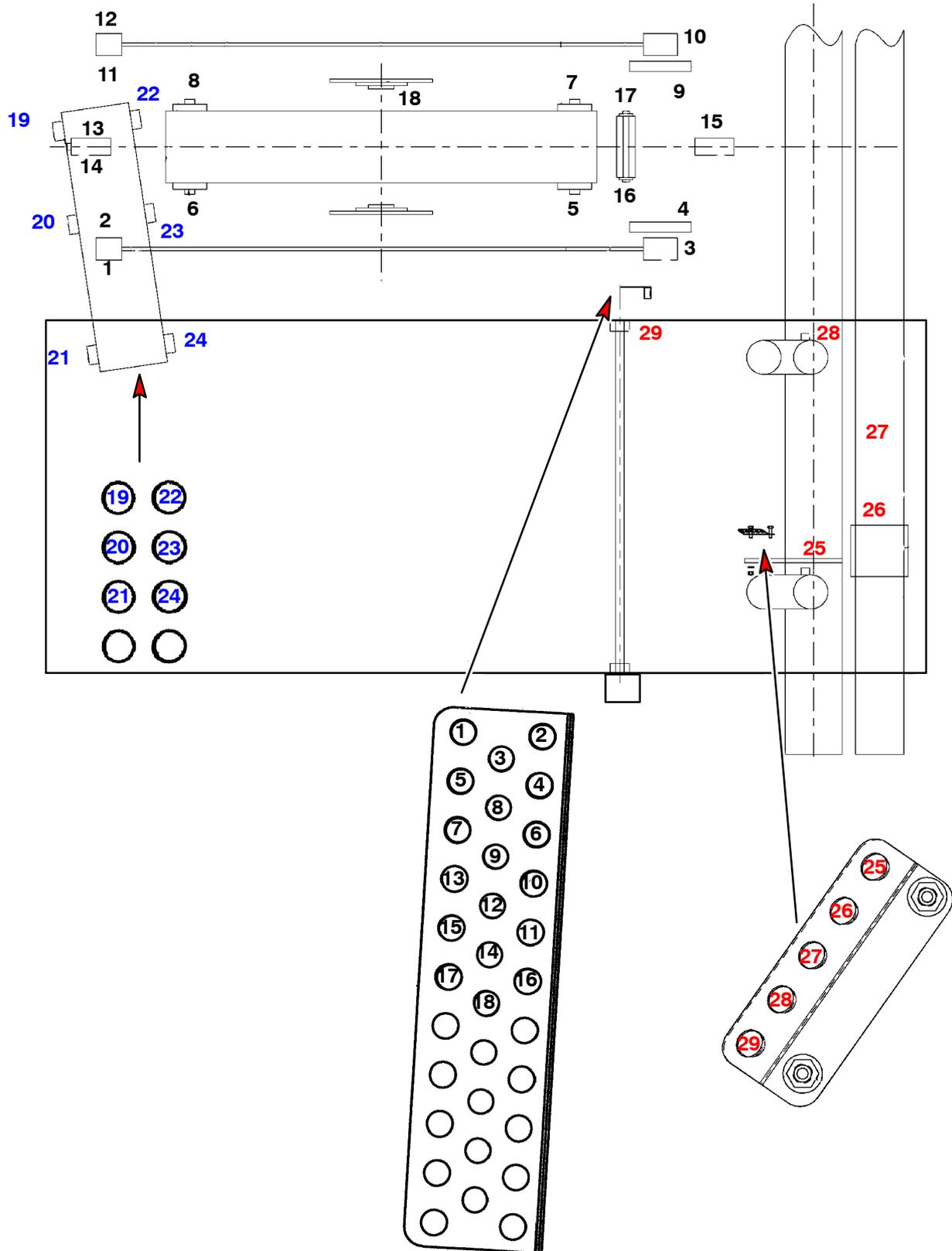
VN 2080**Self-propelled machine greasing**

The diagram shows the relationship between greaser and bearing, position 6 is not present on the right side.

The following parts are not localised:

- 2 x 2 grease fittings on the front legs
- 2 x 2 grease fittings on the extension chutes
- 1 greaser on the steering cylinder foot, on the right side

TOTAL: 20



VN 2080**GREASING OF THE HARVESTING EQUIPMENT****On the rear left B-post**

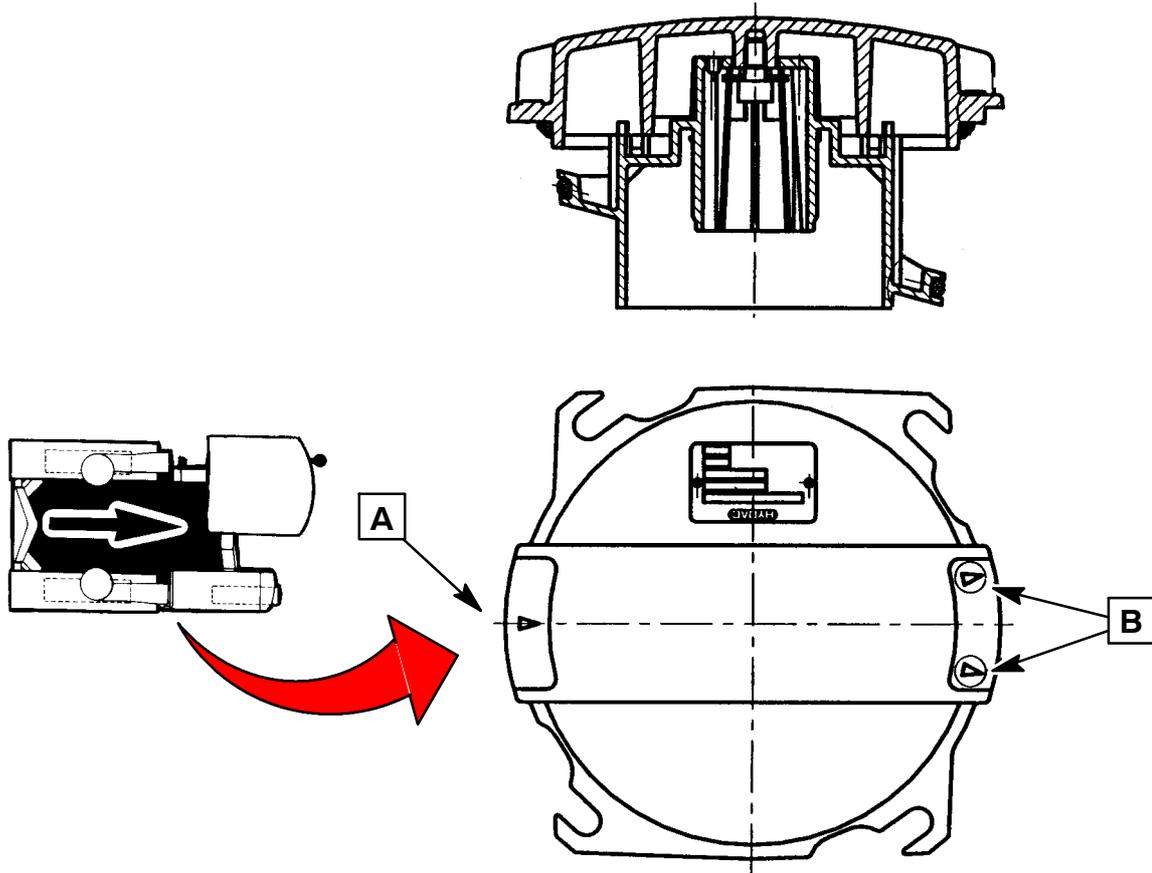
- 1) Left shaking connecting rod front bearing
- 2) Left shaking plate bearing
- 3) Left shaking connecting rod rear bearing
- 4) Shaking shaft left bearing
- 5) Central conveyor rear roller left bearing
- 6) Central conveyor front roller left bearing
- 7) Central conveyor rear roller right bearing
- 8) Central conveyor front roller right bearing
- 9) Shaking shaft right bearing
- 10) Right shaking connecting rod rear bearing
- 11) Right shaking plate bearing
- 12) Right shaking connecting rod front bearing
- 13) Harvesting equipment front pivot
- 14) Harvesting equipment front pivot
- 15) Harvesting equipment rear pivot
- 16) Rear extractor inlet roller left bearing
- 17) Rear extractor inlet roller right bearing
- 18) Noria shaft right bearing

Placed under the cross conveyor

- 19) Cross conveyor right front bearing
- 20) Cross conveyor chute
- 21) Cross conveyor left front bearing
- 22) Cross conveyor right rear bearing
- 23) Cross conveyor chute
- 24) Cross conveyor left rear bearing

Under the rear arch

- 25) Hopper lifting cylinder stem pin
- 26) Hopper articulation bearing
- 27) Arch telescoping tube
- 28) Hopper lifting cylinder stem pin
- 29) Hopper division control shaft bearing



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.

HYDROSTATIC AND HYDRAULIC SYSTEM MAINTENANCE

1) Intake and return filter cartridge replacement

This cartridge must be replaced:

- a) every 800 hours,
- b) or every two years,
- c) at each emptying.

2) Circuit filling - emptying

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

Always 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 filling must be made by a pump through the relevant fast fitting that filters oil during filling itself.
- 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 section 35).**

ROUTINE MAINTENANCE

Thermal engine

- Oil change every 400 hours or once a year (in case of corresponding oil).
- Oil and fuel filter change every 400 hours or once a year.
- Belt tension adjustment every 400 hours or once a year.
- Level check and cleaning of the radiator core every day or every 10 hours.
- Tappet adjustment every 1200 hours (see section 10).
- Injector calibration adjustment every 1200 hours (see section 10).

Hydraulic system

- Oil change every 800 hours or every 2 years.
- Oil filter change every 800 hours or every 2 years.
- Protection sleeve condition control.
- Detection and repair of possible leaks.
- Check the priming and exchange pressures.

Mechanical system

Wheel tightening check (see section 44)
every 50 hours and then every 400 hours.

Steering limiter adjustment check (see section 41) every 50 hours and then every 1200 hours.

A/C system

Every 2000 hours or every 2 years the dehydrator filter should be replaced.

WINTER STORAGE

IMMEDIATELY AFTER EACH CAMPAIGN

Disassemble:

- the shakers, then relocate the hooks;
- the right and left bucket chains;
- the conveyor belts.

Clean carefully all the assemblies.

Repair the buckets with breakages and the removed small blocks.

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