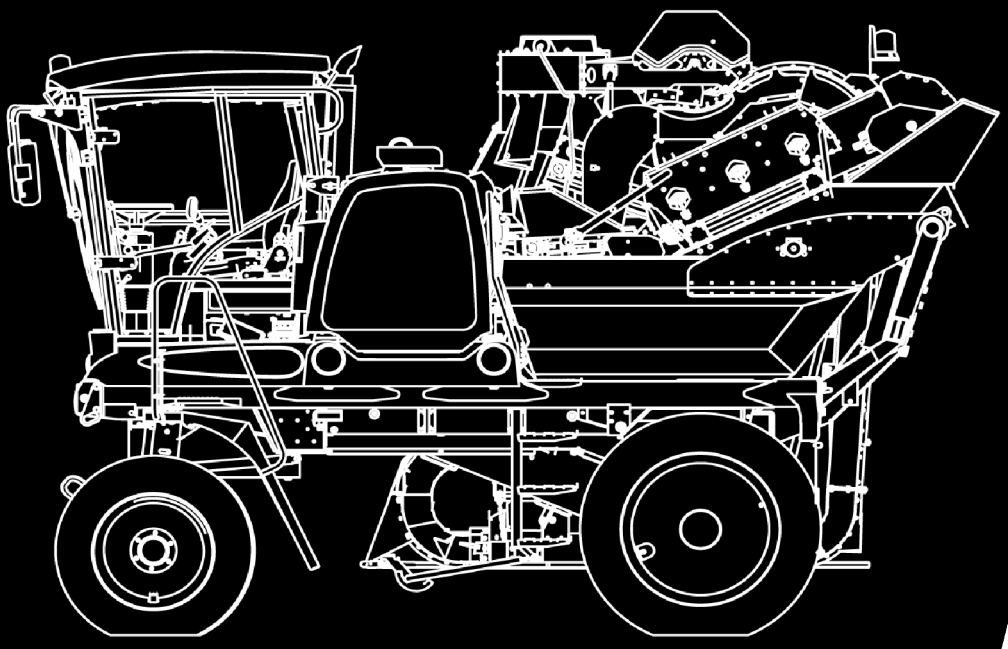
# REPAIR MANUAL

## NEW HOLLAND
## VN 2080



NEW HOLLAND
AGRICULTURE

# REPAIR MANUAL

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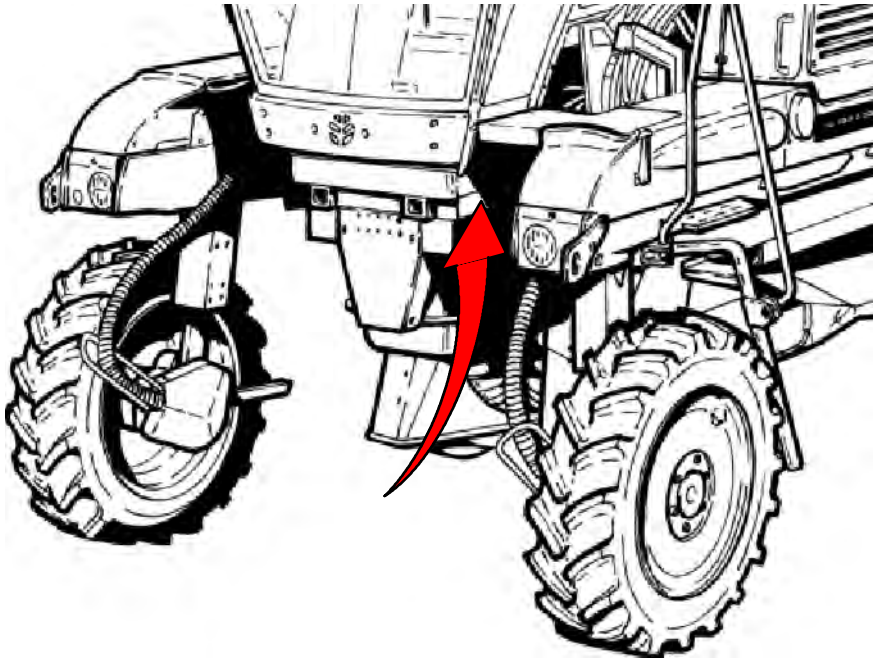
# SPECIFICATIONS

## CONTENTS



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

**A** = manufacturer's label

**B** = stamped frame number

# OPERATOR'S MANUAL

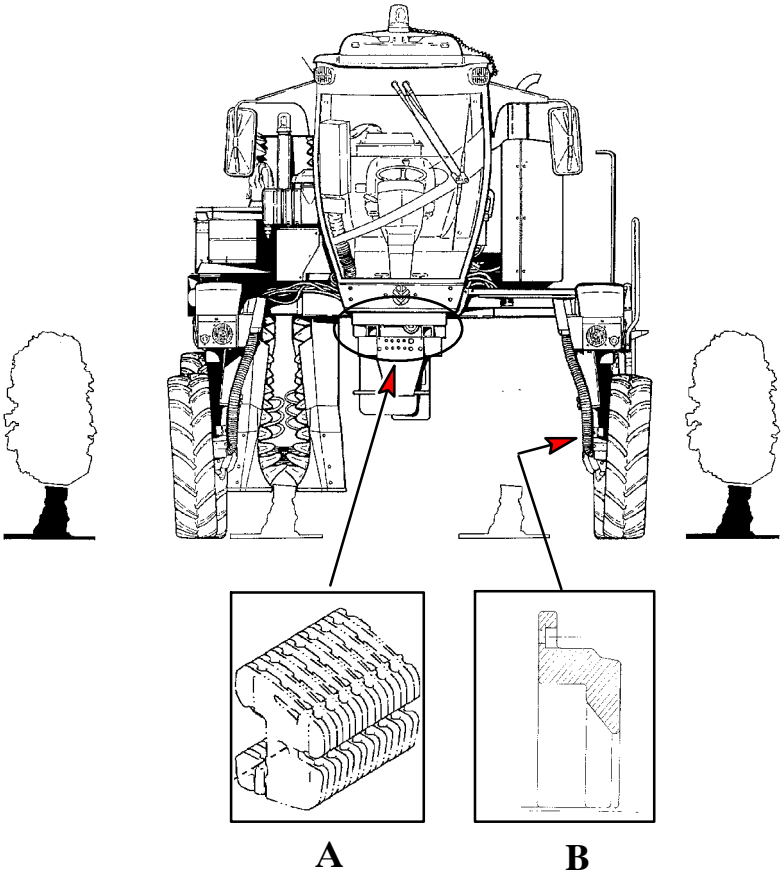
VN 2080: (F) 87743401

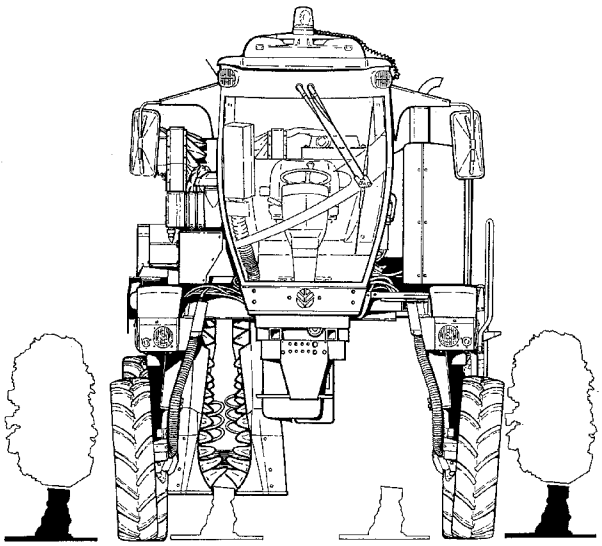
VN 2080: (I) 87743403

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)

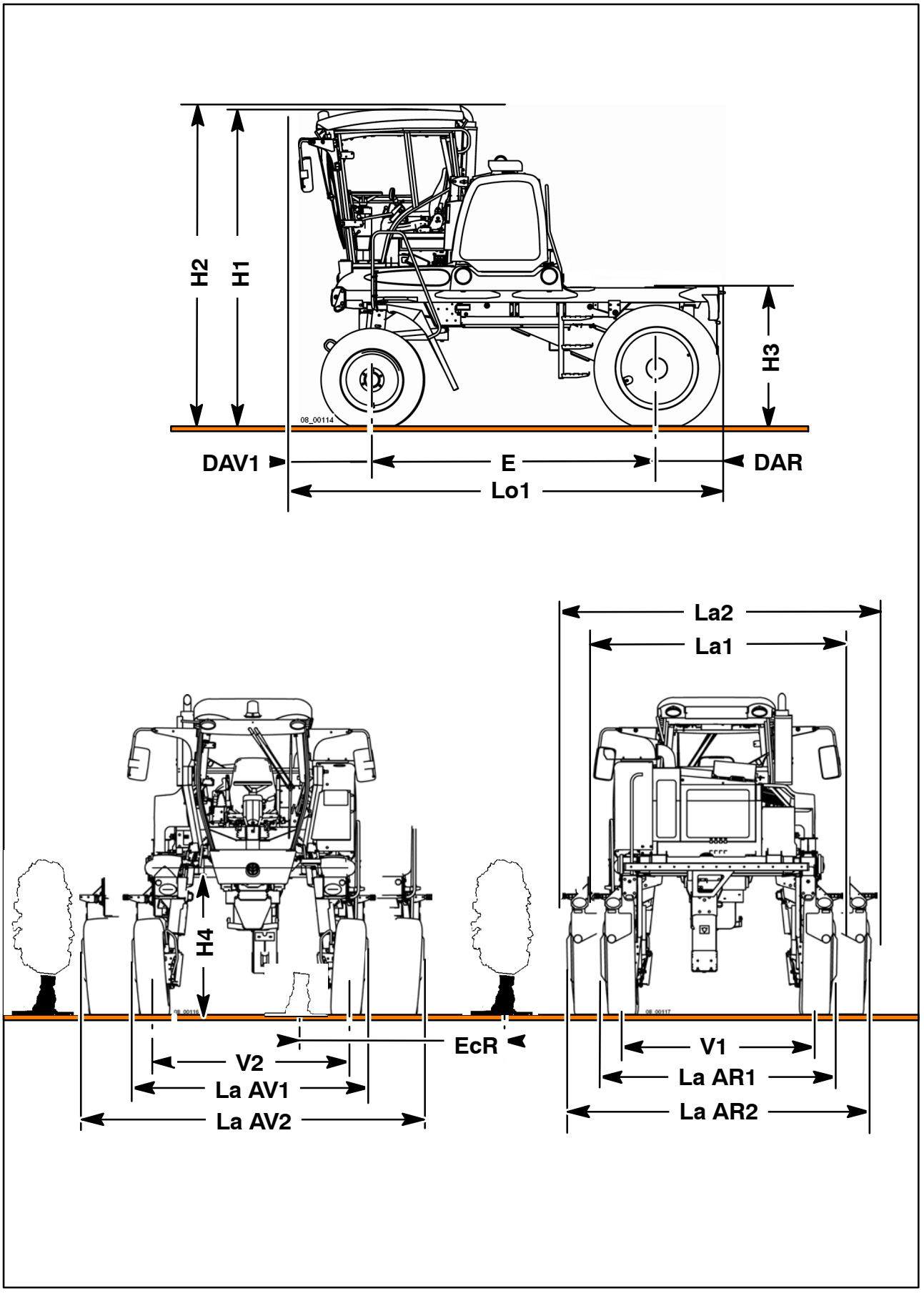
## UTILISATION LIMIT IN CASE OF TILTING AND ON SLOPES

## 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 destemmers | ○ | ○ | ○ | ● |
| | | With destemmers | ● | ◐ | ○ | ● |
| | higher than 1.30 m | Without destemmers | ○ | ○ | ○ | ● |
| | | With destemmers | ● | ◐ | ○ | ● |
| from 20 to 40% | lower than 1.30 m | Without destemmers | ◐ | ◐ | ○ | ● |
| | | With destemmers | ● | ● | ○ | ● |
| | higher than 1.30 m | Without destemmers | ◐ | To be proved | ● | ● |
| | | With destemmers | ● | ● | ● | ● |
| from 40 to 43% | lower than 1.30 m | Without destemmers | ● | ● | ◐ | ● |
| | | With destemmers | **Exceeding the machine capacity** | | | |
| | higher than 1.30 m | Without destemmers | ● | ● | ● | ● |
| | | With destemmers | **Exceeding the machine capacity** | | | |

Key:

- Useless ○
- Recommended ◐
- Compulsory ●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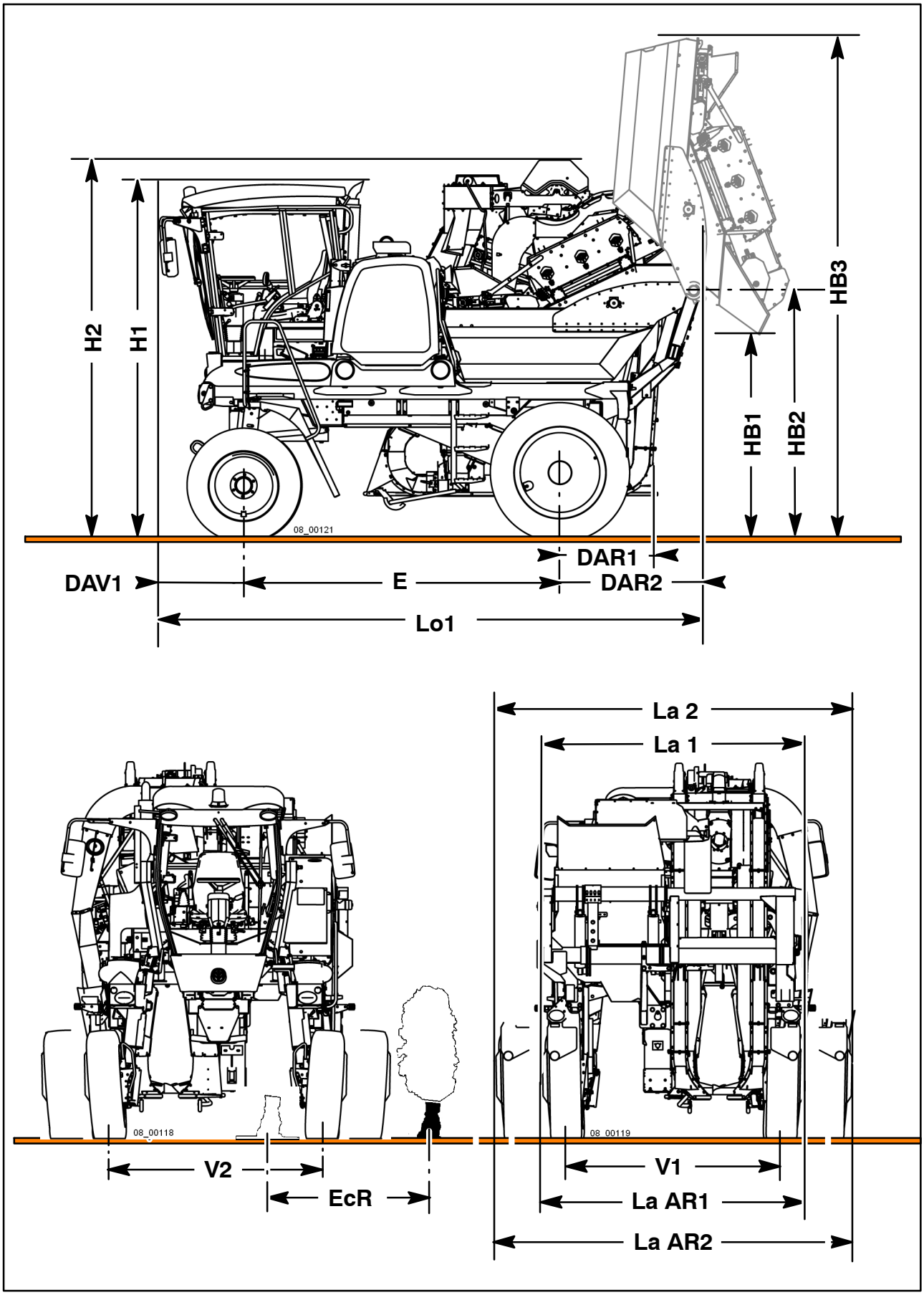
H3
DAV1
E
DAR
Lo1
La2
La1
H4
EcR
V2
La AV1
La AV2
V1
La AR1
La AR2

| 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)<br>Only self-propelled machine | 270 / 95 R32 tyres<br>420 / 85 R24 tyres | 2420<br>2440 | |
| La2 | Max. width (max. position)<br>Only self-propelled machine | 270 / 95 R32 tyres<br>420 / 85 R24 tyres | 3320<br>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<br>La AR Tyres 270 / 95 R32 (V1 + Gb)<br>La AR Tyres 270 / 95 R32 (V1 + Gb + guards)<br>La AR Tyres 420 / 85 R24 (V1 + Gb) | | <br>2000 + 293 = 2293<br>2000 + 293 + 127 = 2420<br>2000 + 440 = 2440 | |
| La AR2 | Outside width at the rear wheels<br>La AR Tyres 270 / 95 R32 (V1 + Gb)<br>La AR Tyres 270 / 95 R32 (V1 + Gb + guards)<br>La AR Tyres 420 / 85 R24 (V1 + Gb) | | <br>2900 + 293 = 3193<br>2900 + 293 + 127 = 3320<br>2900 + 440 = 3340 | |
| La AV1 | Outside width at the front wheels,<br>min. position<br>(V2 + Gb = La AV)<br>(V2 at ground level) | <br>Tyres 11.2-24 T35 12PR<br>TT | <br>2050 + 305 = 2355 | |
| La AV2 | Outside width at the front wheels,<br>max. position<br>(V2 + Gb = La AV)<br>(V2 at ground level) | <br>Tyres 11.2-24 T35 12PR<br>TT | <br>2950 + 305 = 3255 | |
| Lo 1 | Overall length | | 4180 | |
| E | Pitch | | 2970 | |
| DAV1 | Front offset | | 610 | |
| DAR | Rear offset | 270 / 95 R32 tyres<br>420 / 85 R24 tyres | 656<br>666 | |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La 2
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08_00119
V2
EcR
V1
La AR1
La AR2

| 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)<br>Only self-propelled machine | 270 / 95 R32 tyres<br>420 / 85 R24 tyres | 2840<br>2900 | |
| La2 | Max. width (max. position)<br>Only self-propelled machine | 270 / 95 R32 tyres<br>420 / 85 R24 tyres | 3640<br>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<br>La AR Tyres 270 / 95 R32 (V1 + Gb)<br>La AR Tyres 270 / 95 R32 (V1 + Gb + guards)<br>La AR Tyres 420 / 85 R24 (V1 + Gb) | | <br>2100 + 293 = 2393<br>2100 + 293 + 127 = 2520<br>2100 + 440 = 2540 | |
| La AR2 | Outside width at the rear wheels<br>La AR Tyres 270 / 95 R32 (V1 + Gb)<br>La AR Tyres 270 / 95 R32 (V1 + Gb + guards)<br>La AR Tyres 420 / 85 R24 (V1 + Gb) | | <br>2900 + 293 = 3193<br>2900 + 293 + 127 = 3320<br>2900 + 440 = 3340 | |
| La AV1 | Outside width at the front wheels,<br>min. position<br>(V2 + Gb = La AV)<br>(V2 at ground level) | <br>Tyres 11.2 R24<br>Tyres 11.2-24 T35 12PR<br>TT | <br>2150 + 284 = 2434<br>2150 + 305 = 2455 | |
| La AV2 | Outside width at the front wheels,<br>max. position<br>(V2 + Gb = La AV)<br>(V2 at ground level) | <br>Tyres 11.2 R24<br>Tyres 11.2-24 T35 12PR<br>TT | <br>2950 + 284 = 3234<br>2950 + 305 = 3255 | |
| 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<br>Front axle<br>Rear axle | | |
| Unladen weight, self-propelled machine + harvesting equipment: xxxx kg | Total<br>Front axle<br>Rear axle | | |

| THERMAL ENGINE | |
|---|---|
| Model | F4GE9684B*J601 |
| Make | CNH |
| Type | Diesel |
| Cycle | alternated |
| Intake system<br>- boost<br>- cooler | <br>Turbo<br>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<br>Capacity (litres) | Diesel oil<br>240 |
| Engine feeding system | | |
| Dry-type air cleaner | | two-stage filtration |
| Engine cooling | Water capacity (l)<br>Fan | <br>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<br>- for steering and service (displacement $cm^3$/rev.)<br>- for shaking (displacement $cm^3$/rev.) | <br>14.4<br>19.2 | |
| "Rexroth" hydraulic pump for extractors / conveyors (displacement $cm^3$/rev.) | from 0 to 45 | |
| Hydraulic oil - Type -<br>Reservoir total capacity | AMBRA Hydrosystem 68<br>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:<br>- the steering in max. steering position<br>- 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:<br>Max. allowed sloping during work without destemmer, up to: | 40% *<br>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 | 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:<br>- single-acting cylinders<br>or<br>- double-acting cylinder | <br><br>4<br><br>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:<br>(BRAUD patent) | Number of buckets per chain<br>Synchronized | 54<br>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<br>Drive: motor (displacement $cm^3$/rev.)<br>Sliding direction reversal | 250<br>38.1<br>yes |
| Cross conveyor | Belt width<br>Drive: motor (displacement $cm^3$/rev.)<br>Sliding direction reversal | 225<br>36<br>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)<br>Emptying | 1400<br>rear |
| Plane harvested product division:<br>Drive: motor (displacement cm $cm^3$/rev.) | 160 |
| | |
| **Destemmer (variant)** | |
| Sorting conveyor<br>Belt width (mm) | 450 |
| Destemmer with 3 rotors:<br>Width (mm)<br>Diameter (mm)<br>Stalk ejection: | 475 (like VL hr)<br>335 (like VL Std)<br>Between 2 rows of vines (it avoids the non-harvested row) |

# SECTION 00 - MAINTENANCE

## CONTENTS

# LUBRICANT AND LIQUID CAPACITIES

| Item to be supplied | Quantity | Recommended product | Corresponding international classification |
|---|---|---|---|
| Self-propelled machine grease fittings | | AMBRA GR 9<br>**grease** | Lithium-calcium grease, consistency NLGI 2 |
| Harvesting machine grease fittings | | Grease<br>**Food type** | 24 cartridges<br>re. **62777339** |
| Noria ECU | 1 kg | | |
| Shaking ECU | 0.5 kg | **AMBRA GR 75 MD**<br>**NH 720 A** | Re. 661874<br>molybdenum bisulfide grease, consistency NLGI 2 |
| Engine sump and filter<br>6-cylinder engine | 16 l | Oil<br>**AMBRA MASTER GOLD HSP**<br>**15W - 40** | SAE 15W40<br>NH 330H<br>API CI - 4 CH4<br>ACEA E3/E5 |
| Reservoir | 77 l | Oil<br>AMBRA<br>**HYDROSYSTEM 68** | ISO 68<br>DIN 51524 - part 2 |
| Cooling system | 20 l | AMBRA<br>**AGRIFLU (50%) +**<br>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.

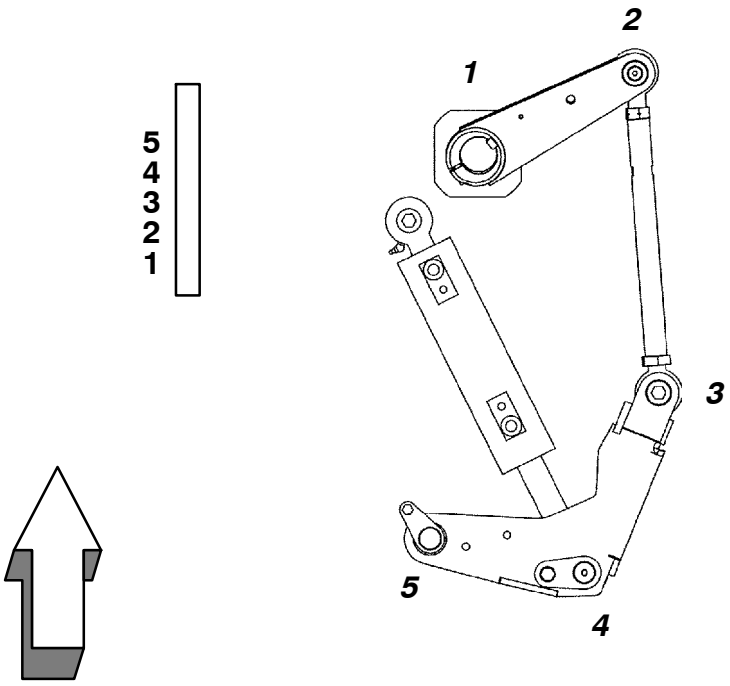
### d) Only before each campaign:

- 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.*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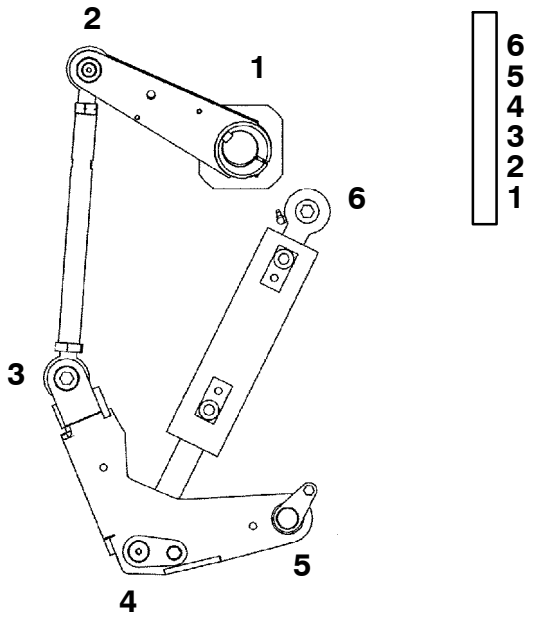
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# VN 2080

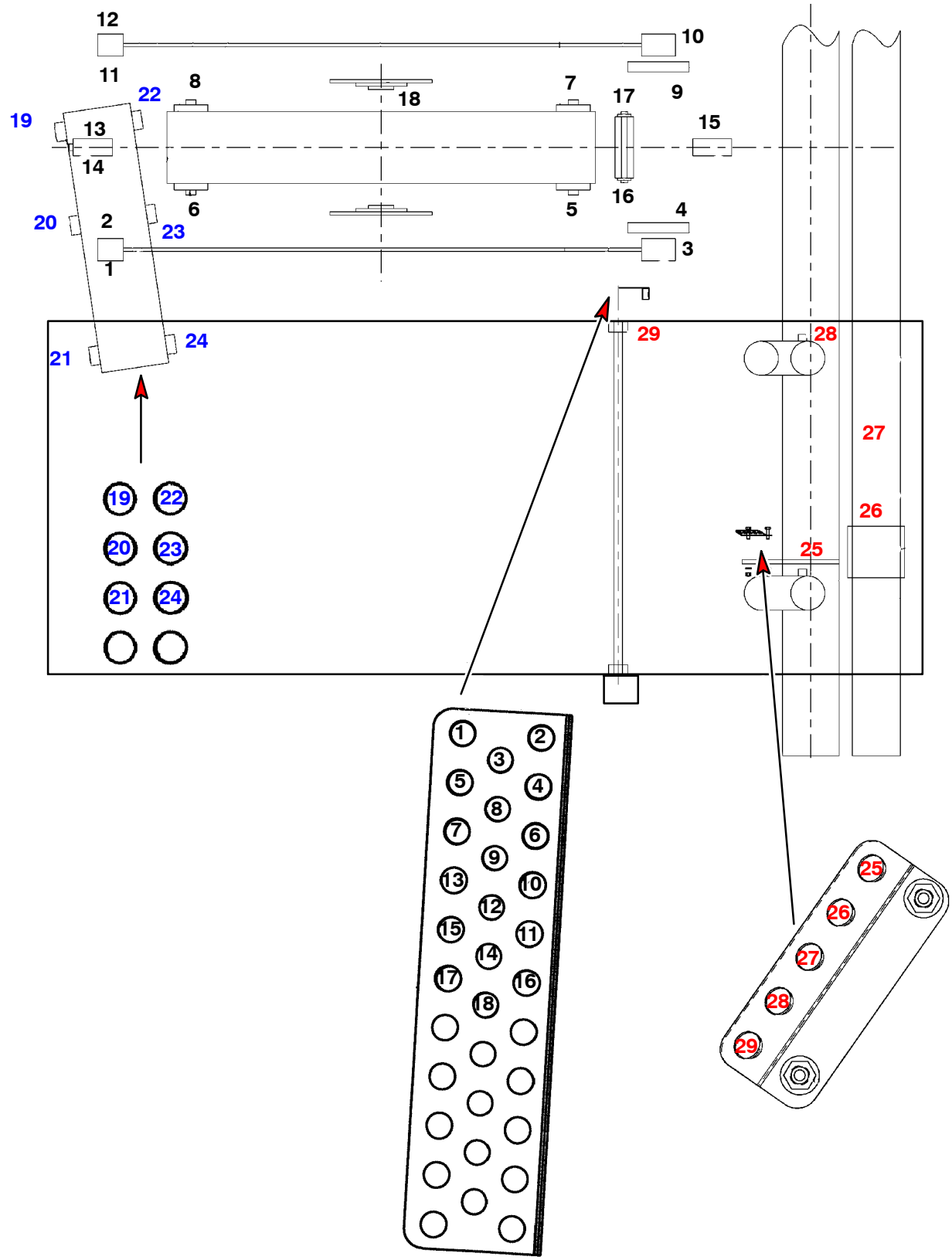
## Self-propelled machine greasing

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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# VN 2080

## GREASING OF THE HARVESTING EQUIPMENT

### On the rear left B-post

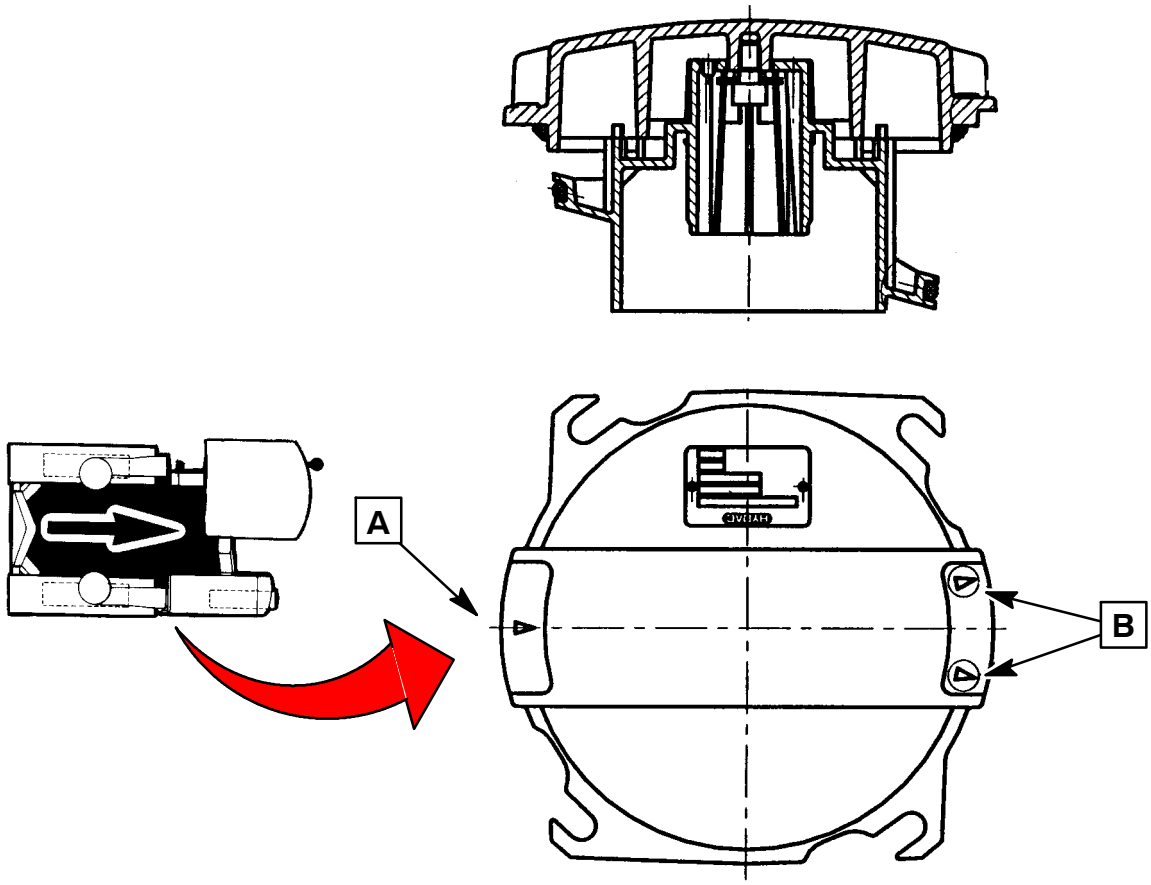
- 1) Left shaking connecting rod front bearing
- 2) Left shaking plate bearing
- 3) Left shaking connecting rod rear bearing
- 4) Shaking shaft left bearing
- 5) Central conveyor rear roller left bearing
- 6) Central conveyor front roller left bearing
- 7) Central conveyor rear roller right bearing
- 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.