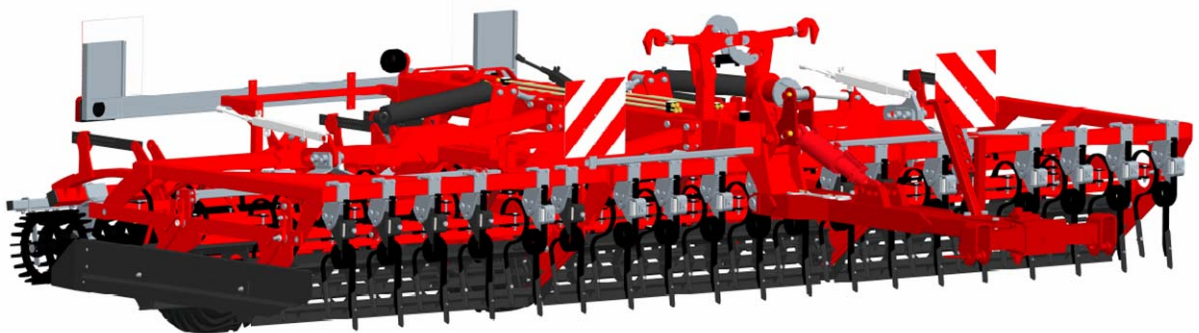


GRÉGOIRE  **BESSON**

PRECILITOR SP DT

**Seed bed preparing harrow semi-mounted
For deep tillage**

OPERATOR'S MANUAL MAINTENANCE INSTRUCTIONS



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Any use and / or reproduction of all or part of this manual without written authorization from Grégoire-Besson is strictly prohibited.

NOTES

1. INTRODUCTION



READ CAREFULLY THIS MANUAL



To properly start, operate and service your equipment, follow all instructions given in this manual.

THIS MANUAL SHOULD BE CONSIDERED AS A PART OF THE EQUIPMENT AND SHOULD FOLLOW IT WHEN YOU SELL IT.

LEFT HAND SIDE AND RIGHT HAND SIDE, FRONT AND REAR are determined looking from equipment towards tractor when in work.

ALL INFORMATIONS, PICTURE, SPECIFICATIONS in this manual are based on the newer information available at the time of publication. Pictures and drawings might not represent standard equipment and show optional attachments.

Manufacturer reserves right to make any changes at all time **without any obligation to notice or to modify any delivered or already sold machine.**

If the machine has been modified in any way from the original design without written agreement from Grégoire-Besson, the manufacturer does not accept any liability for injury or warranty. Warranty would become void.



This symbol is used in the following manual to **catch your attention on warnings concerning your safety.**

So please when you see it in this manual or on the equipment, **strictly follow given information.**

Grégoire-Besson equipments are exclusively designed to be used by professionals for regular farm tillage in farmed fields. Manufacturer shall not be responsible for damage or injury resulting from any other use.

Grégoire Besson equipments are designed according to applicable european regulation : EEC directive 2006/42. The CE logo is on identification plate. Provided Declaration of Conformity testifies that machine complies with essential health and safety requirements for users.

PRODUCT IDENTIFICATION

Please record here purchasing date, model and serial number of your equipment (refer to identification plate on hitch). Always refer to these information to get prompt and good service. Fill and send back machine registration form for warranty.

Purchasing date :

Model :

Serial number :

Salesman's phone :

2. SAFETY INSTRUCTIONS

2.1. SAFETY STICKERS



Reference : UI 1980

READ OPERATOR'S MANUAL

Read operator 's manual and safety instructions before starting the use of your equipment and follow them while using.



Reference : UI 1978

STAY IN A SAFE POSITION

Do not climb on the machine. Do not strand between machine and tractor.



Reference : UI 127

MOVE AWAY FROM THE MACHINE

Danger in the working area, stay clear from the machine.



Reference : UI 126

UNFOLDING AREA

Stay clear of equipment when folding or unfolding.



Reference : UI 131

SECURE THE MACHINE BEFORE ACTION

Always install all lockup devices to secure machine before any intervention on it.



Reference : UI 1979

MOVING PARTS

Always stay far away from parts in movement.



Reference : UI 128

HYDRAULIC LEAK AND MAINTENANCE

Caution, high pressure fluids can cause injury. Follow safe practices.



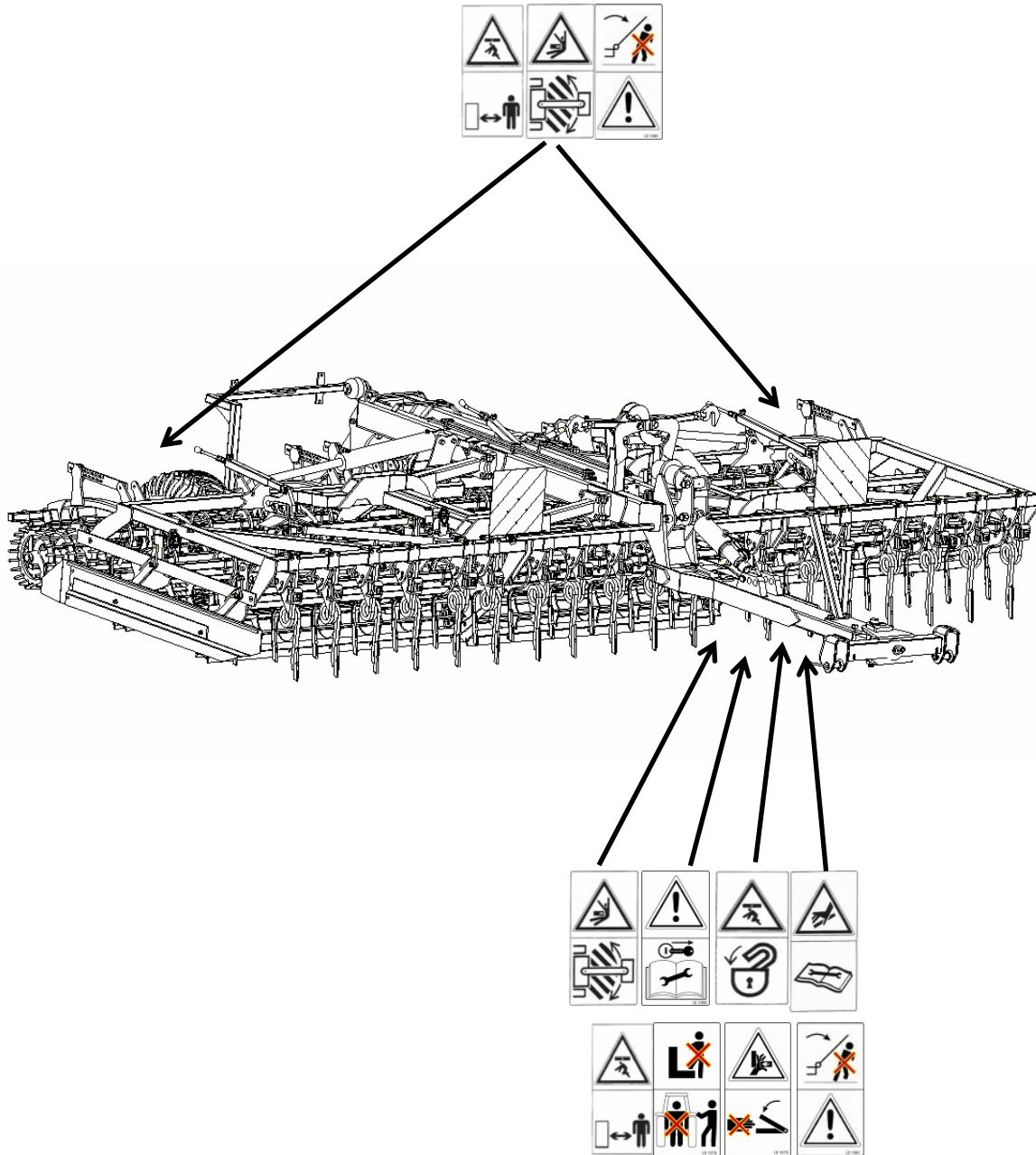
Reference : UI 1981

MACHINE UNFOLDING

Never stand under machine lateral sections. Always store machine unfolded.

Positioning safety stickers on the machine

When cleaning the machine, do not damage stickers.
Replace any damaged or missing sticker.



2.2. SAFETY WHILE ATTACHING AND DETACHING



- Do not let **anyone to stand between the machine and the tractor** when you back up to hitch.
- Before leaving the tractor to hitch or unhitch, set tractor parking brakes.
- Never attempt to attach the machine if pins, tractor hitching balls, tractor drawbar, or machine linkage are worn, cracked or not compatible.
- Completely lower the machine to the ground before unhitching. Make sure it is on a level and firm surface.
- Remove pressure from hydraulic lines before disconnecting them.
- Before leaving the machine for storage, make sure it is in a safe place and that there is no risk to damage whether anything or anyone.

2.3. SAFETY WHILE CONNECTING HYDRAULIC LINES



- Hydraulic circuit might be highly pressurised.
- **Never use your hands to locate a hydraulic leak.** Hydraulic fluids escaping under pressure have sufficient force to penetrate the skin, causing severe injury. In case of any injury, **see a doctor immediately.**
- For equipments loaded with several hydraulic connectors, **make logical and appropriated connections.**
- Before connecting hydraulic circuit, **make sure that there is no pressure on both sides (tractor and machine).**
- Regularly check hydraulic lines and connections. **Replace any damaged or leaking component** by an original part with the same specifications.
- Before any intervention on hydraulic circuit, **lower machine to the ground and release pressure moving control lever in the tractor's cab.**

2.4. SAFETY WHILE OPERATING MACHINE

- **Never attempt** any intervention on the machine while it is in motion.
- Do **not** allow anyone to **stand close to pivot points** : bottoms safety device (shearing bolt or non-stop), all pivoting linkage.
- Wear close **fitting clothing** and **appropriate safety devices** for the job you have to do (heavy leather gloves, safety shoes, earplugs, ...).
- Do not allow anyone to stand close to the machine.
- Do not attempt to do any adjustment if you have not perfectly understood its procedure.
- Always use tools or equipments appropriate to the job you are doing. All Grégoire-Besson equipments are metric standards.
- Learn how to operate your machine and how to use its controls. Do not let anyone operate without instruction.
- Do not extend turnbuckle adjusters too much to avoid any threads damaging or intempesive pulling out.
- Only one person (the operator) should be in the tractor's cab when it is in operation. **No one on the machine while working or travelling on the road.**
- When earring or feeling unusual vibrations, stop the machine. Find the problem and solve it before starting operating again.



If your machine is equipped with a hydraulic folding mechanism, **always use it from tractor's cab**, once you are sure that folding area is free from spectators or obstacles.

2.5. SAFETY FOR MAINTENANCE



- Maintenance area shall be **clean, dry, with enough light and ventilation**.
- For any intervention on the machine in raised position, **always securely support all components** before starting maintenance.
- **Maintenance operations on elements under pressure or under tension** (resorts, accumulators, ...) require specific procedure and equipments. **Only qualified persons shall perform them in appropriate conditions.**
- After servicing remove all tools, components and parts you used.
- Regularly **check tightness of wheel studs, wearing parts bolts, and all other bolts and nuts.**
- **Always use genuine parts corresponding to manufacturer's technical specification requirements.**

2.6. SAFETY FOR ON HIGHWAY TRANSPORT

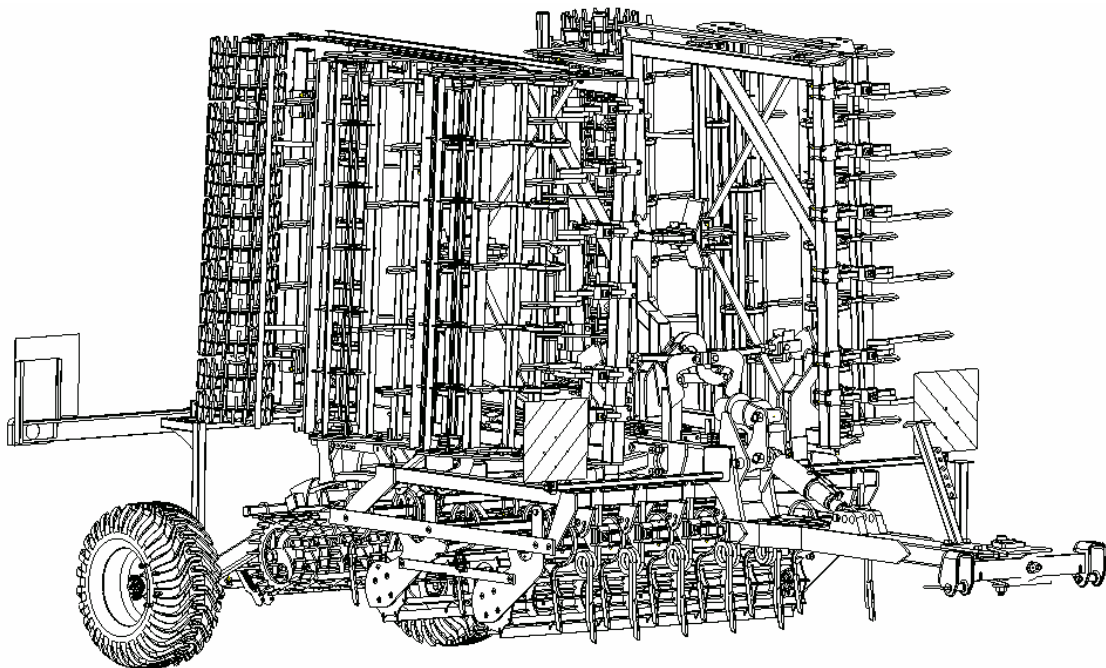
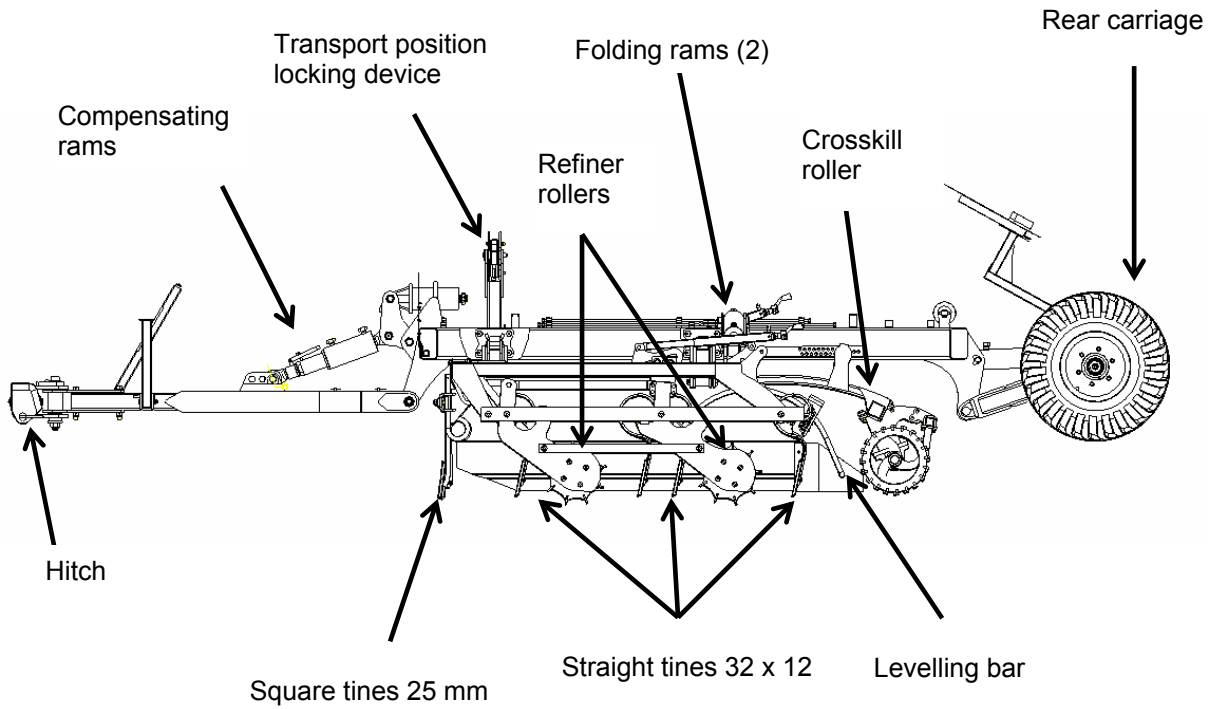


FOR YOUR OWN SAFETY AND THE ONE OF THE OTHER, RESPECT THE FOLLOWING RULES :

- All Grégoire-Besson equipments shall be used **complying with area's current rules and laws** concerning **safety instructions, accident prevention and provision of Highway Code**.
- Before road transport, always **check for wheels studs** and wheels mounting brackets carriage bolts **tightness** ; **check tyres general state and pressure** : do not drive with low pressure, cuts or damaged tyres or rims.
- **Use all devices required by your area's current laws** (lights, reflectors, signs, ...). They might be removed during field operation to prevent from any damage. It is the operator's responsibility to comply with current law and to follow its evolutions.
- Regularly check hitching pins, change them if necessary. Tractor's ball joint may also wear, do not hesitate to replace them with new ones having at least Waltersheid fabrication quality.
- Drive **at reasonable speed** complying with local laws **to always keep control** of tractor and equipment. Pay special attention on irregular or rough roads. **Do not attempt to drive down a hill faster than it could be possible to drive it up.**
- Tractor used for road transport shall have the same power rating and weight as the one used for field operations.
- **Never attempt any manoeuvre if area is not free from spectators.**
- If your machine is equipped with a **folding mechanism** (manual or hydraulic), **use it making sure folding area is free from spectators** and obstacles.
- Follow all **safe driving practices** when travelling, moreover **on corners, rough or narrow roads**.
- When **leaving tractor** even for a short period, **shut off engine, remove ignition key and set parking brakes**.
- Forbid anyone to stand between tractor and machine or on the machine travelling on the road.

3. MACHINE DESCRIPTION

3.1. IDENTIFICATION VIEWS



3.2. TECHNICAL SPECIFICATIONS

Specification	Standard equipment	Optional equipment
Hitch	<ul style="list-style-type: none"> Pivoting hitch on lower link arms cat. II-III 	
Chassis	<ul style="list-style-type: none"> Semi-mounted single tube frame Working width 5.0 m or 6.0 m 3 parts foldable, 100° over centre folding, 2 DA rams, transport width 2.90 m Mechanical transport locking device with automatic hydraulic control (linked to folding hydraulic circuit) 	
Tines and rollers	<ul style="list-style-type: none"> 1 row of square tines 25 mm, adjustable in depth and width (= track eradicator), shear bolt safety device 1 row of straight tines 32 x 12 1 refiner roller Ø 390 mm 2 rows of straight tines 32 x 12 1 refiner roller Ø 390 mm 1 row of straight tines 32 x 12 1 levelling bar 1 consolidation roller = row of crosskill rings Ø 400 mm Lateral deflectors on parallelogram linkage 	
Rear carriage	<ul style="list-style-type: none"> DA lift ram Hydraulic shock absorber Square shaft 70 mm 2 wheels low pressure tyres 400/60/15.5 	<ul style="list-style-type: none"> Hydraulic brakes Pneumatic brakes Wheels tyres 19.0/45x17 (reinforced)

A large choice of options is available to improve machine's job. Grégoire-Besson authorized dealers know area and working conditions. They may give information according to technical choices and latest equipments evolutions. Grégoire-Besson is also represented on farm equipment shows.

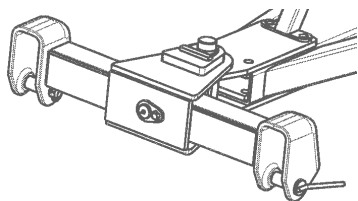
3.3. DIMENSIONS AND WEIGHTS

Working width	Transport width	Over all length	Over all height	Approx. weight
5.00 m	2.90 m	7.50 m	2.60 m	5 800 kg
6.00 m	2.90 m	7.50 m	3.00 m	6 500 kg

Dimensions and weights are indicative and subject to variations according to equipments and options.

Note : after use, ground or residue accumulations may increase machine's weight des machines.

3.4. HITCH ON TRACTOR'S LOWER LINK ARMS



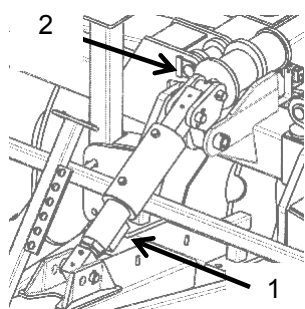
Hitch on tractor's lower link arms allows safe hitching and unhitching operations from the cab. It allows sharp turns, improving machine drivability.

Used with a drawbar compensating ram, it contributes to a good weight transfer from the machine to the rear of the tractor.

This hitch is dedicated to tractors equipped with locking devices (lateral and vertical).

For any transport on public road, follow hitch height recommendation (refer to operator's manual) and lock hitch position.

3.5. COMPENSATING RAM ON DRAWBAR



Screw type adjustable head of compensating ram (1) is used for front to rear levelling of the machine which shall always work parallel with the ground.

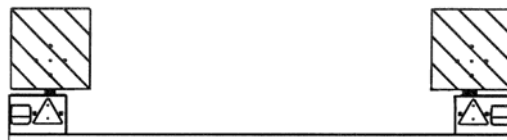
In working position, ram gives rigidity to the machine to tractor linkage. Machine is more stable, weight transfer is improved.

For more comfort (especially during transport) there is a rubber shock absorber (2).

3.6. LIGHTS AND SIGNS KITS

Light and signs kits are available for all Grégoire-Besson equipments. Contact an authorized dealer.

Note: it is the operator's responsibility to comply with local current applicable law before any transport on public road.



NOTES

4. PREPARING THE TRACTOR

Follow recommendations given in the safety section of this manual. They are not restrictive.

4.1. REQUIRED HORSE POWER

Tractor requirements may vary according to ground and working conditions (type of soil, type of tractor, type of tyres, ...). Following data are only indicative. Ask an authorized Grégoire-Besson dealer for any further information.

Machine	Working width	Indicative HP requirement
PCR SP 501	5.00 m	200 HP
PCR SP 601	6.00 m	250 HP

4.2. TRACTOR WHEELS

4.2.1. Tractor tyres

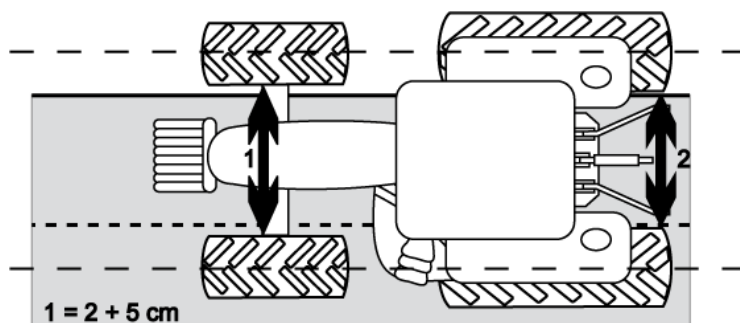
Check tractor tyres general state and pressure. Pressure should be the same on both sides of the tractor for a nice drivability in the field and on the road.



IMPORTANT : inflate tyres following manufacturer's recommendations.

4.2.2. Distance between tractor tyres

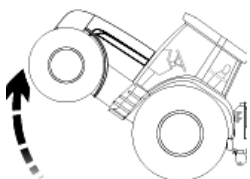
Generally, using a large tillage equipment, the wider is the distance between tyres, the better is the drivability.



To be able to steer the tractor, the middle of the front axle shall be lined up with the middle of the rear axle.

In sloping fields, a large distance will provide good stability.

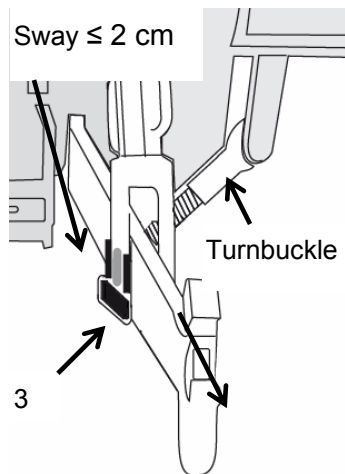
4.3. FRONT END WEIGHTING



Wheels weights (front and rear) and front end weights may be required to avoid excessive slippage and to increase stability in rough and sloppy grounds.

Weights shall not be added once all slippage is eliminated. Refer to tractor operator's manual and to tractor's dealer. Follow tyre manufacturer's recommendations.

4.4. POSITIONING STABILIZERS

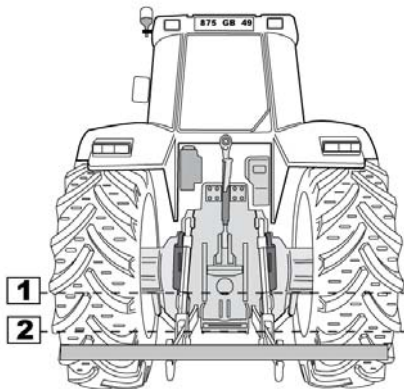


To hitch any tillage equipment on lower link arms, stabilizers shall be set so that arms have minimum lateral sway (≤ 2 cm) and are centred with tractor traction line. This will both prevent from any risk of shock during manoeuvre or road transport and keep machine lined up behind tractor at work.

Note : it is easier to adjust and / or service stabilisers bolts and threads before hitching the machine.

Horizontal lift links pins (3) shall be in fixed position to avoid any loose and / or damageable shock.

4.5. LIFT LINKS LENGTH



Lift link arms length determines tractor hitch levelling and lift cylinder position at working depth.

- Set lift links length so that tractor hitch is level (refer to picture).
- Set lift links length to have at least 30 mm clearance on lift cylinder rod when machine is working at desired depth. This will give adjustment possibilities for front gang depth from tractor's cab and allow efficient tractor draft control

5. ATTACHING AND DETACHING

Follow recommendations given in the safety section of this manual. They are not restrictive.

IMPORTANT : always make sure that hitching never leads to :

- overload : respect maximum admissible hitch load,
- unbalance: load tractor front end if necessary. Refer to point 4.3.

5.1. ATTACHING MACHINE TO TRACTOR

Before any manoeuvre, check for diameter and length compatibility between hitch pins and tractor tie rods.

5.1.1. Tractor equipped with tie rods lower links

- Remove safety bolts and hitch pins.
- Back up tractor to line up tie rods and machine hitch holes.
- Install pins and secure them with their safety clips.
- If holes are difficult to line up : extend telescopic arms as indicated in tractor operator's manual. Once hitch pins are inserted and secured with their safety clips, slowly back up tractor to lock back lift arms. Check for lift arms locking.
- Connect hydraulic lines.

5.1.2. Tractor equipped with automatic hooks lower links

- Remove safety bolts and hitch pins.
- Remove balls from tractor lift link automatic hooks.
- Install balls on pins through lower machine hitching holes. Secure with safety bolts.
- Slowly back up tractor till automatic hooks are lined up underneath hitch balls.
- Raise tractor hitch about 5 cm above ground surface till automatic hooks are locked.
- Check for automatic hooks latch handles good locking.
- Connect hydraulic lines.



IMPORTANT : make sure to have enough clearance between machine yoke hitch and tractor lower lift links to avoid any possibility of contact from working to raised position. A second verification shall be done once machine is in the field in truth working conditions.

5.2. DETACHING THE MACHINE

Before detaching, make sure that ground is flat and firm enough to support the machine. Use safety blocks to support machine components and / or parking stand if necessary.



DANGER : do not let any part of your body underneath the machine when lowering it to the ground.

Crushing may lead to death.

Proceed in the logical attaching opposite way :

- 1) Put machine in working position = it shall stay on its discs
- 2) Completely lower the machine to the ground,
- 3) Remove pressure and disconnect hydraulic lines
- 4) Detach lower lift links.

Always operate with care.

6. HYDRAULIC CONNEXIONS

Follow recommendations given in the safety section of this manual. They are not restrictive.

6.1. REQUIRED HYDRAULIC REMOTES

- 1 DA for rear carriage
- 1 DA for hydraulic folding + automatic transport locking device.

6.2. HYDRAULIC CONNECTIONS

- Always wipe hydraulic couplers with a clean rag on both tractor and machine sides before connecting circuits.
 - Always check for machine hydraulic connectors and tractor remotes compatibility.
 - Logically connect hydraulic lines for the user :
- ⇒ Put most frequently used functions on closest lever
- ⇒ Watch for the way hydraulic flow is delivered : pull the lever to put machine in transport position (raise up / fold), push it to put machine in working position (lower / unfold).
- ⇒ Identify hoses using colour collars and signs (+ to extend rods, - to retract them).
- Check for hydraulic hoses length : too short they may break during sharp turns, too long they may interfere with tractor lift arms or tyres.

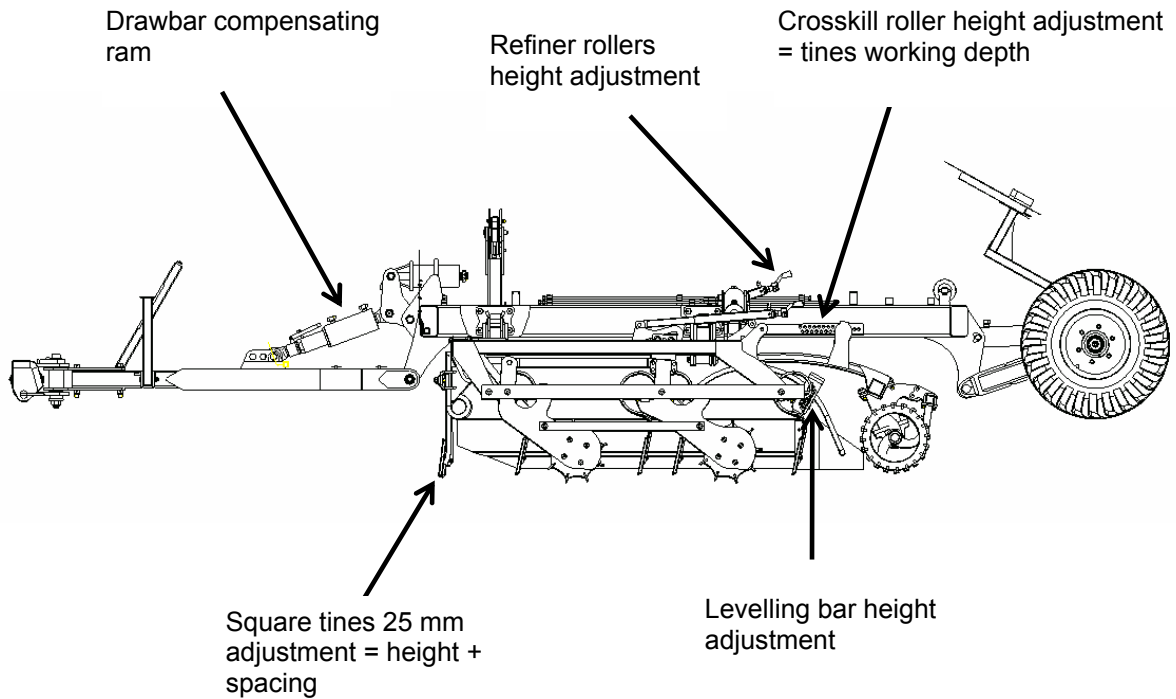
In case of any problem, do not hesitate to contact an authorized Grégoire-Besson dealer.

7. PREPARING THE MACHINE

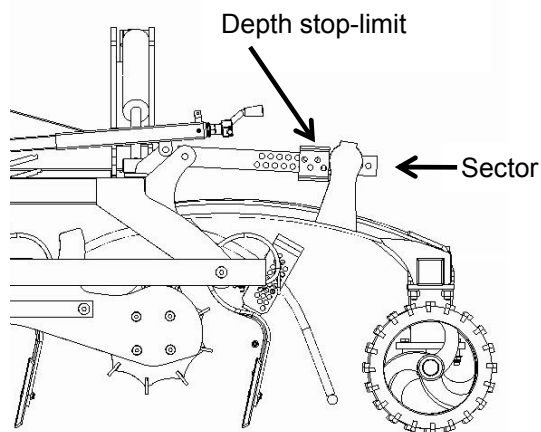
Follow recommendations given in the safety section of this manual. They are not restrictive.

7.1. ADJUSTING POINTS LOCALIZATION

Find adjusting points and check their lubrication and work. Doing this checking task close from a machine shop is better than doing it in the field.



7.2. CROSSKILL ROLLER HEIGHT ADJUSTMENT



Crosskill roller is used to control tines working depth = machine working depth. This adjustment is done positioning depth stop-limit on sector.

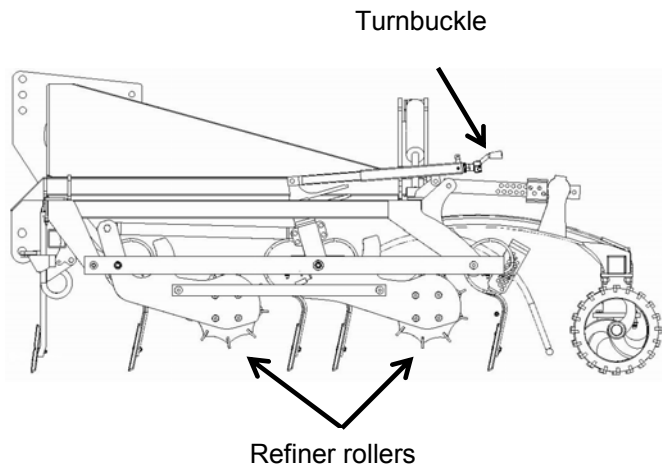
- To increase working depth, move depth stop-limit forward = toward tractor.
- To reduce working depth, move depth stop-limit backward = towards roller.

Procedure for this adjustment :

- Remove R clip and pin to release depth stop-limit.
- Change stop limit position.
- Install back pin and R clip.
- On adjustment sector, rear bolt controls roller vertical sway = its stroke when raising up the machine. The closer it is from depth stop-limit, the shorter is the stroke

Note : every roller is held by two adjustable arms. For machine to work correctly, **depth stop-limits shall be set the same on all arms.**

7.3. REFINER ROLLERS ADJUSTMENT



To obtain an even tilth, machine shall be used at constant speed and depth. Then refiner rollers height adjustment allows precise seed bed refinement adjustment according to conditions : clods size, moisture, crop requirement, ...

Procedure for this adjustment :

- Raise the machine and stop tractor
- Release turnbuckle handler
- Change refiner rollers height adjustment :

=> level 0 on indicator = minimal refinement : roller is lowered to the maximum, as low as tines

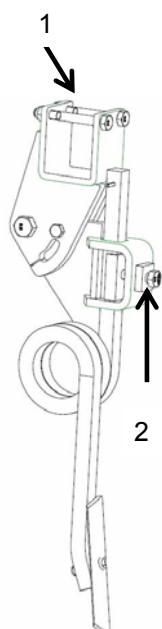
=> level 9 on indicator = maximal refinement : roller is raised to the maximum

- Lock back turnbuckle handler
- **All refiner rollers shall be adjusted the same so that machine works evenly**
- Modify adjustment as soon as necessary till you reach the desired result.

7.4. SQAURE TINES 25 mm ADJUSTMENT

Square tines 25 mm are used to « open the soil » and as « track eradicators » since they are adjustable :

- vertically = up and down : tines situated just behind tractor wheels may be lowered up to 3 cm lower regarding the other ones
- laterally = from L.H. to R.H. : to be positioned just behind tractor wheels



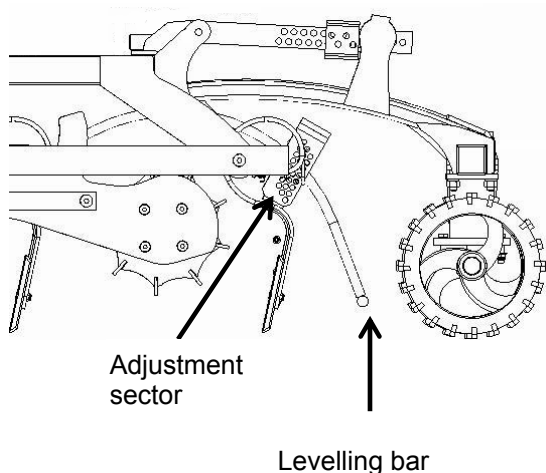
Procedure for this adjustment :

- Raise the machine and stop tractor
- Loose all carriage bolts 1 and 2 on every tine which shall be adjusted(refer to drawing)
- Square tine adjustment :

=> vertical position : do not lower a tine more than 3 cm regarding the others
=> lateral position : let enough clearance between tines to avoid any plugging risk

- Tight back all carriage bolts 1 and 2 on adjusted tines
- Modify adjustment as soon as necessary till you reach the desired result.

7.5. LEVELLING BAR ADJUSTMENT



Levelling bar erases tracks let by rear row of tines before crosskill roller. Bar height adjustment is made through sector. It may be set :

- in raised position : bar is raised to the maximum so that it does not move ground. Pin is put under bar mounting bracket
- in fixed lower position : pin is put above bar mounting bracket to control its height.

Procedure for this adjustment :

- Raise the machine and stop tractor
- Remove safety clip and pin
- Change pin position and install clip back
- **All sectors shall be adjusted the same for machine to work correctly**
- Modify adjustment as soon as necessary till you reach the desired result.

8. TRANSPORTING

Follow recommendations given in the safety section of this manual. They are not restrictive.

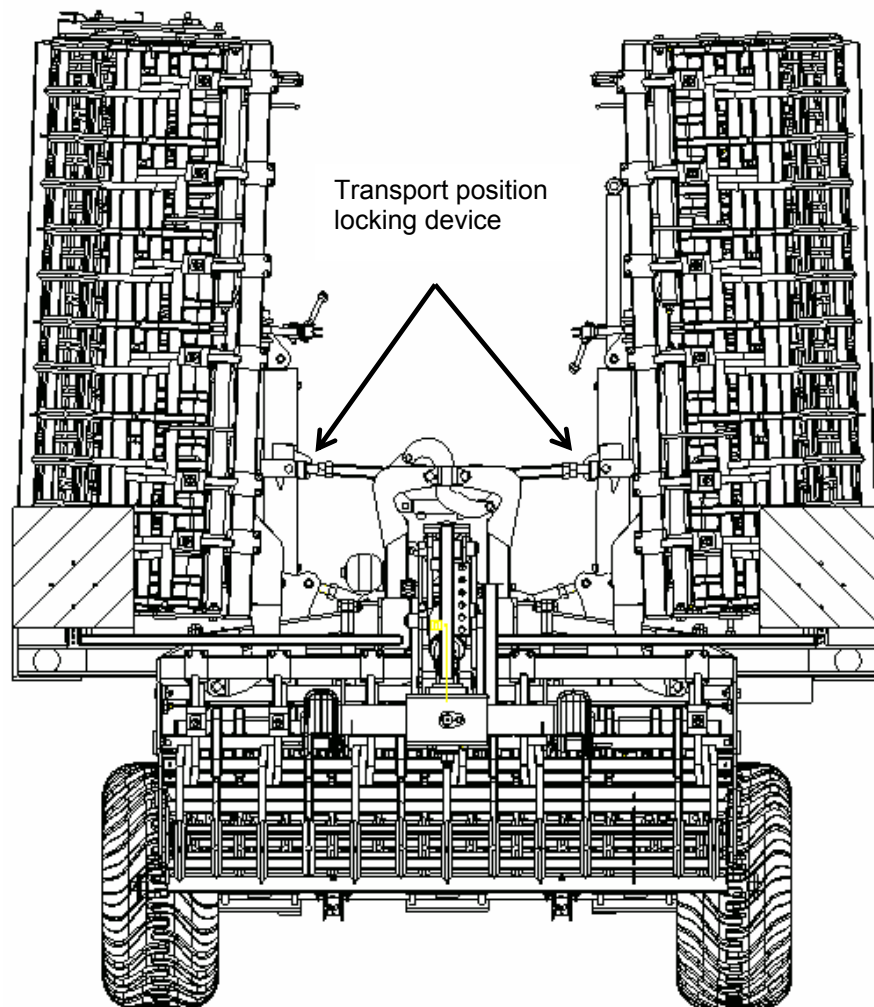
8.1. CHANGING TO TRANSPORT POSITION

Before driving on a public road with the machine, put it in transport position :

- **Raise machine to the maximum.**
- **Fold lateral wings.**
- **Check for good transport locking device positioning.**
- Lower the machine to lower gravity centre if necessary. Do not lower too much to avoid any contact with the ground.
- **In the cab lock all control levers** (hydraulic remotes, hitch, ...), to prevent any unforeseen movement and potential accident.
- **Install all lights, reflectors and signs required by current applicable law.**

Transporting machine hooked on tractor's lower link arms :

- Respect hitch height recommendation (refer to tractor operator's manual).
- Lock hitch position.



8.2. CHANGING TO WORKING POSITION

Follow here above described procedure in the opposite way.

During unfolding manoeuvre, in a first time transport safety locking device unlocks and then machine lateral frames come in working position.

Remove lights and signalisation kits if necessary.

8.3. DRIVING ON PUBLIC ROAD

Before driving on a public road :

- **Be sure all signs, reflectors and lights required by local current law are in place, clean and visible to traffic.**
- Make sure there are no interferences between tractor and machine.
- Adopt a gentle attitude towards other public road users.

On public road, comply with local applicable laws :

- Tractor required for road transport shall equal the size and the horse power rating of the tractor used to work in the field.
- Do not drive over 25 km/h (= 15 mph).
- Drive at a reasonable speed to maintain complete control of both tractor and machine.
- Reduce speed on corners and on rough grounds.
- Do not drive down a hill faster than it could be possible to drive it up.
- Do not apply the tractor brakes to attempt a sharp turn.
- Always check wheel studs tightness before driving on a public road. They may get loose because of vibrations.
- Respect authorized maximum size for transport load (width, weight, length). For over sized loads, comply with current law taking all necessary precautions (signs, lights, escort, authorizations, ...).
- Respect the maximum wheel axle load and the maximum total driving load. Make sure front axle carries at least 20% of tractor's tare. Use front end weights if necessary.

ATTENTION : driving on public roads, operator is responsible for both tractor and equipment. He has to comply with current applicable law (getting in conformity with it and following its evolutions).

9. FIELD ADJSUTMENT

Follow recommendations given in the safety section of this manual. They are not restrictive.

9.1. FIELD UTILIZATION

Put machine in working position (refer to previous section).

To reach a decent finish, operating speed shall be between 7 and 12 km / h (= 4.5 to 6.5 mph).

Always lift up machine before manoeuvring or turning on headlands.

Never attempt a sharp turn with the machine in the ground.

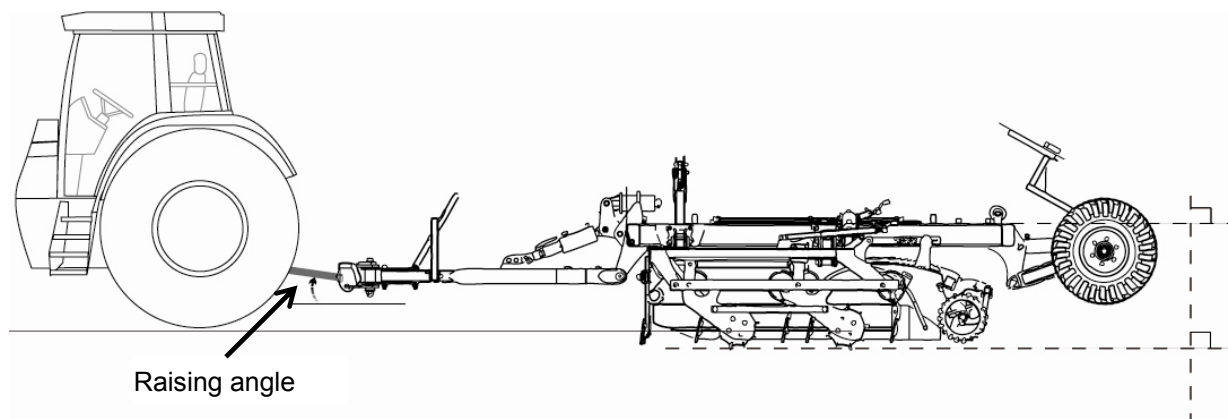
Reduce speed before manoeuvring or crossing obstacles (ditch, ridge, rocky spots, ...).

IMPORTANT : before beginning field utilization, entirely read this chapter to understand all adjustments, their order and procedure.

IMPORTANT : always do one adjustment at a time. Then it is easier to check its performance and to change it if necessary.

9.2. FIELD ADJUSTMENT

9.2.1. Depth control and front to rear levelling



Machine working depth = tines working depth. It is set at the rear by crosskill roller height and at the front by compensating ram. To set working depth :

- raise refiner rollers to the maximum
- set crosskill roller height
- lower the machine to the ground and work a few meters
- set compensating ram length (screw type head) so that machine runs level front to rear

9.2.2. Side to side levelling

In working position, machine shall run level from side to side.

- All machine equipments shall be set the same : crosskill roller, refiner rollers, ...
- Folding rams shall be let under pressure
- Check folding rams head adjustment : raise machine unfolded above a perfectly flat surface and make sure it is perfectly levelled.

Note : when machine is in the ground at desired depth, back up a few meters to check its levelling.

9.2.3. Refinement adjustment

For machine to leave a perfect tilth, once it is working level at desired depth and speed, adjust refiner rollers height (also refer to section 7.3.) :

- lower rollers to reduce refinement = larger clods,
- raise rollers to increase refinement = smaller clods.

9.2.4. If ground is not levelled

If machine does not leave a perfectly levelled surface, check and modify if necessary the following adjustments :

- machine levelling : front to rear and side to side,
- square tine 25 mm adjustment : refer to section 7.4.
- levelling bar adjustment : refer to section 7.5.

10. MAINTENANCE

Follow recommendations given in the safety section of this manual. They are not restrictive.

10.1. GENERAL INSTRUCTIONS



Operator and owner are responsible for good machine maintenance.



Inspect machine before and after each use. Repairs and service have to be done immediately so that they are not forgotten. Always leave the machine in a good state.

Cleaning the machine facilitates inspection. Check general state of machine, weldings, wheels studs, tyres, ...

Be careful with hydraulic lines : frictions may lead to excessive wearing and lines may leak. Never search a leak with your hands. Immediately replace any defective component. Spare components shall have the same characteristics.

Parts working in the ground may be sharpened and cause severe injury. Take particular care and use heavy leather gloves to remove them.

Never attempt any intervention on the machine while tractor engine is running.

Always properly secure all components before starting any maintenance operation underneath the machine.

Before using the machine for the first time, check all bolts tightness. Verify after 50 working hours and then at the beginning of each season. Pay special daily attention on :

- wheel studs tightness
- wearing parts bolts and nuts tightness in rocky or dry conditions (lots of vibrations).

Wrong waste management is a danger for environment : collect waste oil, paint removers, accumulators, worn tyres ... Bring them back to a distributor or to an authorized collector. Do not let them in the nature.

10.2. LUBRICATION

A good lubrication of all moving parts will both allow the machine to work fine and insure its long-lasting.

Grease fittings are installed on all pivot points. Grease both lubricates moving parts and chases away abrasive dust or water that could come into pivot points.

Use quality grease, type Unil – Opal MS02 or equivalent.

Always wipe grease fittings with a clean rag before introducing grease. Do not hesitate to change any worn or broken grease fitting. Check for good grease course.

Remove all grease accumulation around grease fittings or moving parts.

Refer to grease fittings placement and frequency on the following drawing. Hard or intense conditions would require more.

The best is to grease regularly with regular quantity. Do not over grease.

Grease fitting placement	Frequency
Bearing of refiner roller (1 per bearing)	10 h
Bearing of crosskill roller (1 per bearing)	10 h
Refiner roller adjustment sector	10 h
Refiner roller adjustment turnbuckle	once a year
Lateral frames articulations	50 h
Hydraulic rams lifting and folding	50 h

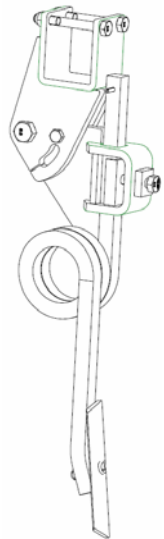
10.3. SPARE PARTS

Genuine Grégoire-Besson parts have been specially designed and developed. Only the use of these parts will ensure proper fit, longevity and field quality work of the machine.



Using any other spare part than certified from Grégoire-Besson will void warranty.

Changing wearing parts too late may be source of poor quality work (penetration troubles, poor mixing ...) and may damage structure parts°.



Track eradicator 25x25 R.H.
 Track eradicator 25x25 L.H.
 Point vibro 35x6
 Bolt M10x50 TFCC
 Bracket for tube 80x80 complete
 Safety bolt Screw H M12x60 8.8 Z
 Nyloc nut H M12

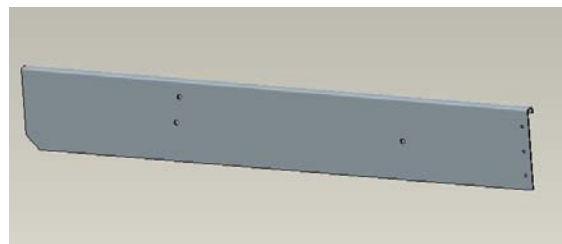
DSDEC25D
 DSDEC25G
 DFSODC25
 VI 1006
 DEHBRD25
 VI 2913
 VJ 322

Straight tine 32 x 12 comp. DBDT3212
 Straight point 215 x 38 x 6 FOMA0017
 Bolt 10x38 TOCC BB103800



Crosskill ring cast steel Ø 400 width 140 R.H. DMC400DR
 Crosskill ring cast steel Ø 400 width 140 L.H. DMC400GA
 Crosskill ring cast steel Ø 400 width 140 centre DMC400CE
 Bearing complete PASE 50 DIPASE50
 Refiner roller bearing complete FOMA0007

Lateral deflector R.H. DEHTLD00
 Lateral deflector L.H. DEHTLG00



10.4. STORAGE SAFETY

- Before detaching the machine for storage, make sure ground is clean, flat and firm enough.
- Use parking stand and all other locking devices to prevent from any unforeseen movement during detachment or later on.
- Always store machine in working position (= unfolded).
- Block machine wheels to avoid any unforeseen movement.
- During storage, wheels shall not carry any weight.
- NEVER detach machine in raised position.
- Remove pressure from hydraulic circuit (engine shut off, shake hydraulic control lever in the cab).
- Store machine away from human activity.
- Store machine in a dry and dust free area (shed). Protect ram rods that cannot be retracted from rust using grease or oil.

CAUTION : never let children play around farm equipment.

11. QUICKLY STARTING - PRECILITOR SP DT

Take all precautionary measures. Respect safety recommendations.

PREPARING THE TRACTOR

- 1. Check tyre pressure**
It should be the same on both sides on each axle.
Always follow tyre manufacturer recommendations.
- 2. Adjust tractor hitch levelling**
Set lift links length for tractor hitch to be perfectly level with the ground.
Arms shall be long enough so that working at desired depth there is still 30 mm chrome visible on lift ram.
- 3. Adjust lift links sway**
Lateral sway minimum (≤ 2 cm)

HITCHING

- 4. Attach lower links**
- 5. Make sure there are no interferences between machine and tractor**
There should be no contact between tractor lift links and machine yoke hitch.
- 6. Connect hydraulic lines**

FIELD ADJUSTMENT

- 7. At work, at desired speed and depth, machine shall run level**
Front to rear levelling find the right balance on machine depth control devices : crosskill roller at the rear and compensating ram at the front
Lateral levelling all adjustments shall be the same on both sides of the machine
- 8. Final adjustments : refinement and levelling**
Once machine is set at desired depth and working at constant speed, finalize adjustments
refinement with refiner rollers height
levelling with square tines 25 mm and levelling bar

MAINTENANCE

- 9. Follow recommendations given in this manual according to lubrication and maintenance of the machine**

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