



Checchi & Magli

WOLF

IT MANUALE D'USO E MANUTENZIONE

EN *USE AND MAINTENANCE MANUAL*

FR MANUEL D'UTILISATION ET D'ENTRETIEN

DE *BEDIENUNGS-UND WARTUNGSANLEITUNG*

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Aim of the manual

This instruction manual is produced by the manufacturer to provide all those who have dealings with the planting machine (which may also be referred to hereinafter as the "work vehicle") with all the necessary information and criteria to apply for its use.

Apart from adopting good use practices, operators (in compliance with their job responsibilities) are also required to read and understand the information contained in this use manual and put it into practice exactly as stated.

The original instructions are supplied by the manufacturer in english language.

To fulfil legal or commercial requirements, the original instructions may be supplied by the manufacturer in other languages.

This manual is an integral part of the work vehicle; it must be kept for future reference, in an easily accessible place known to all those concerned, for the entire working life of the work vehicle.

If the work vehicle is sold on, the seller is required to pass on the manual to the new owner.

To highlight certain parts of the manual's contents deemed important for safety or information reasons the following symbols have been used, whose meanings are outlined below.



Danger - Warning

This indicates seriously hazardous situations which, if ignored, could put the health and safety of those involved at risk.



Caution

This shows that appropriate behaviour must be adopted in order to prevent the health and safety of those involved being at risk.

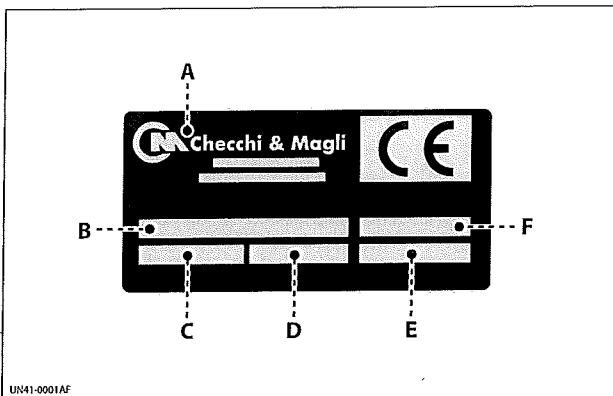


Information

This highlights vital technical information which must not be overlooked.

Manufacturer and machine registration details

The plate shown, which is applied directly to the work vehicle, contains all the essential information for identifying the machine and the manufacturer.



- A - Manufacturer's registration details
- B - Machine type
- C - Machine model
- D - Gross machine weight
- E - Serial number
- F - Year of manufacture

Annexed documentation

As well as this handbook, the Customer is provided with the instructions for use and maintenance of any optional units that may be fitted on the work vehicle.

Assistance request procedure

All requests for technical assistance must be made to the manufacturer's technical assistance service or the authorised service centres.

Whenever making requests for technical assistance concerning the work vehicle, remember to quote the data shown on the data plate and the fault encountered.

Disclaimer notice

The machine is delivered to the user under the conditions applicable at the time of purchase and specified in the sale agreement.

- Any alterations not authorised by the manufacturer
- machine misuse
- use of the machine by untrained or unauthorised personnel

- lack of maintenance
 - total or partial failure to comply with the use and maintenance instructions
 - use of non-original spare parts or parts not designed specifically for the model concerned
- shall result in forfeiture of the warranty and shall relieve the manufacturer of all and any liability. .

Glossary of terms

Plastic mulching machine: machine which spreads plastic mulch sheeting wound round a reel.

Plastic mulch: strip of polyethylene commonly used to cover the ground in which the seedling will be planted.

Row spacing: the distance between each row.

Plant spacing: this is the distance between one seedling and the next in the same row.

Drilling cup: this is the part in which the seedling is placed, which then plants it in the ground.

Plastic mulch pressing skids: part fitted on the plastic mulching machine when mulching to ensure the sheet of plastic fits tightly against the ground while the drilling cup is removed from the ground.

Overview

This work vehicle is designed and built for planting seedlings of various kinds (e.g. horticultural, floral, tobacco, nursery-grown, etc.), rooted in conical, cylindrical or pyramid-shaped root balls, as well as seedlings with hardly developed leaf apparatus, those with bare roots, and also bulbs and seeds.

The work vehicle is a semi-carried device, equipped with a frame for attaching to the three-point hitch on a tractor and it is suitable for planting in fields, greenhouses and through plastic mulch.

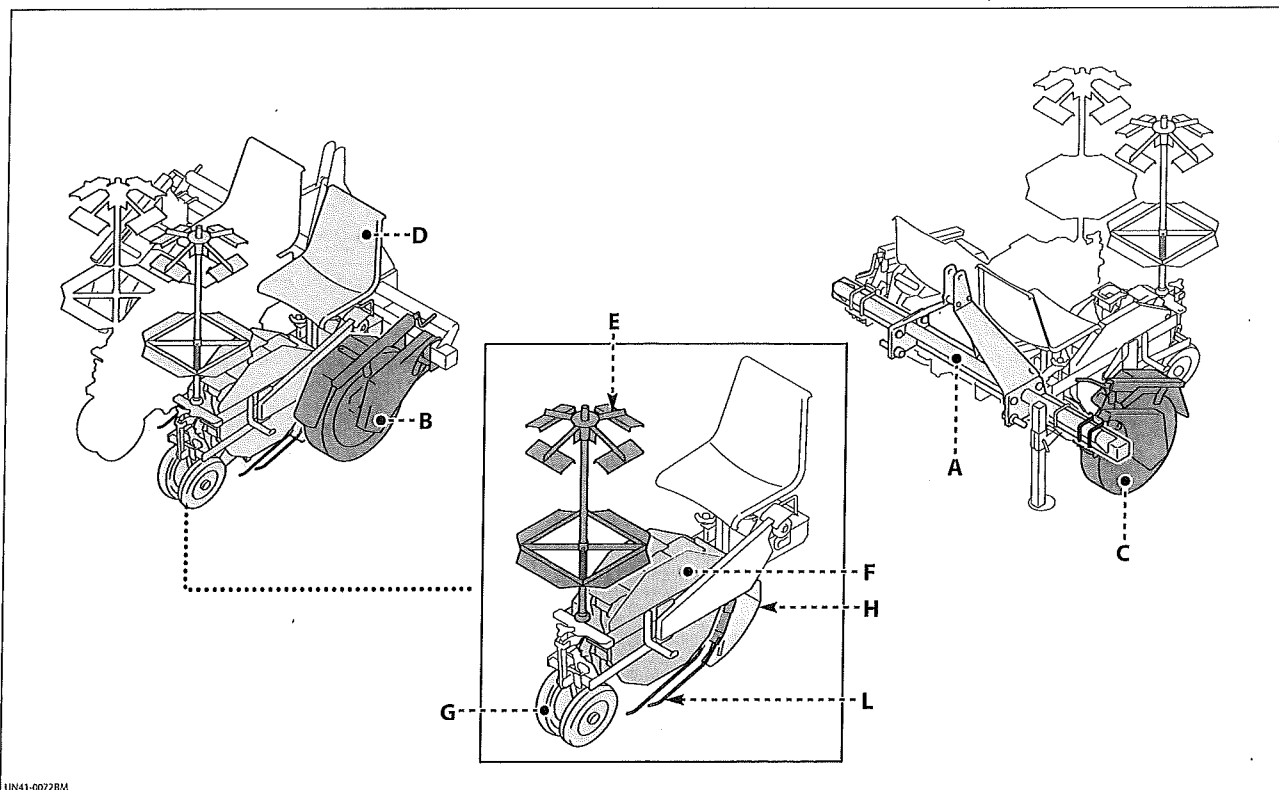
The moving parts (dispenser with drilling cups, etc.) are driven by the work vehicle's driving wheels (when these are touching the ground) and the movement of the tractor.

The work vehicle is manufactured in several models which differ mainly in terms of the number of planting units featured.

The (rear and left) driving wheels can both be power driven, or one can be powered while the other is idle. The model featuring one work unit has just one driving wheel.

Main parts

The illustration shows the work vehicle with two planting units.

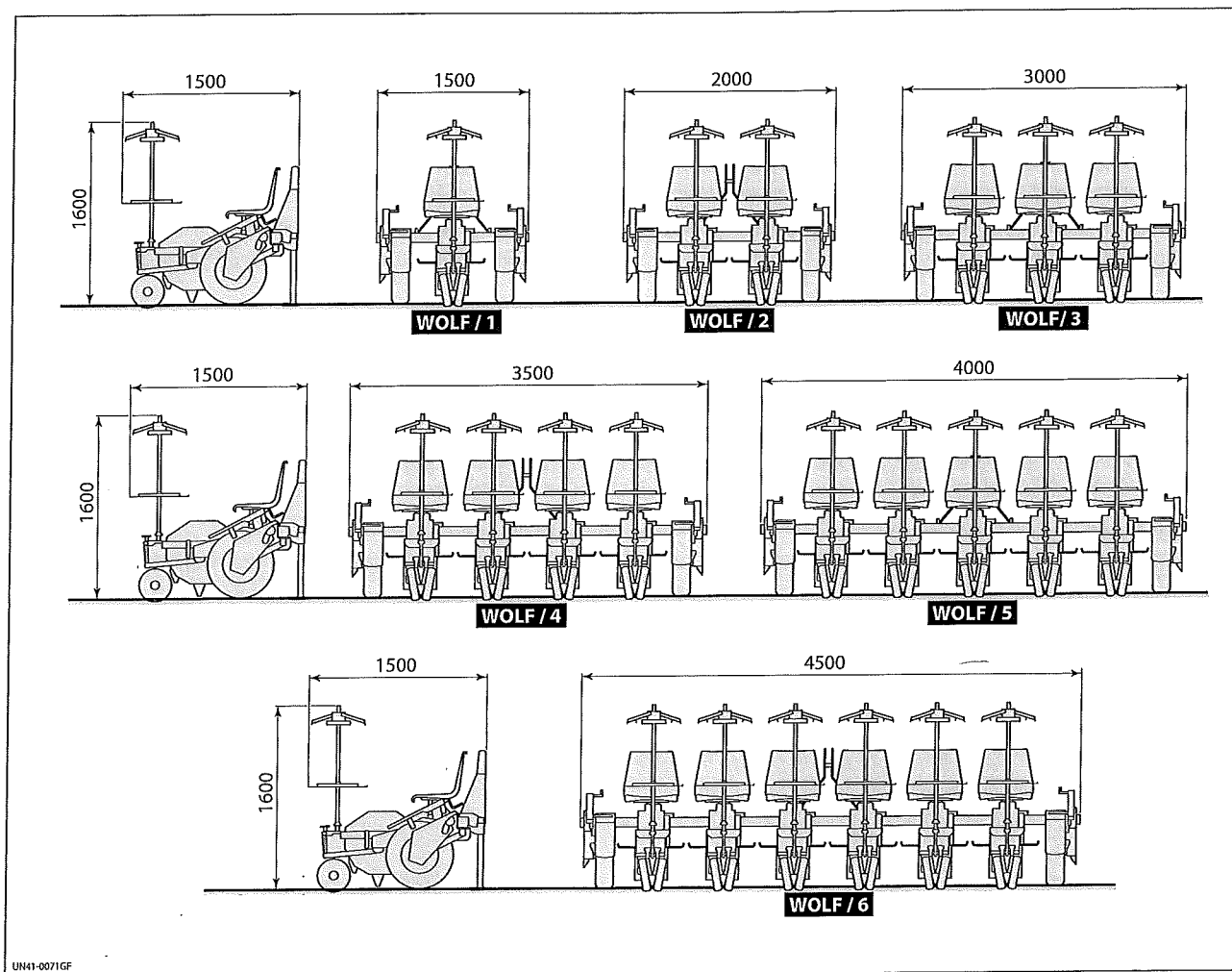


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- A) Structure for attaching to the three-point hitch on a tractor (frame)
- B) RH driving wheel
- C) LH driving wheel
- D) Planting unit
- E) Tray holder
- F) Dispenser
- G) Packing wheels
- H) Float skid
- L) Plastic mulch pressing skid (for planting through plastic mulch)

Overall dimensions

The illustration shows the work vehicles' overall dimensions.



UH41-0071GF

Technical characteristics

		WOLF/1	WOLF/2	WOLF/3	WOLF/4	WOLF/5	WOLF/6
Required tractor power	HP	20	25	30	40	50	60
Minimum row spacing	cm	30		50			
Plant spacing	cm	20 - 198					
Planting unit	N°	1	2	3	4	5	6
Tyre pressure levels	bar	2,5					
Weight	kg	180	310	480	590	700	850

Drilling cups arrangement

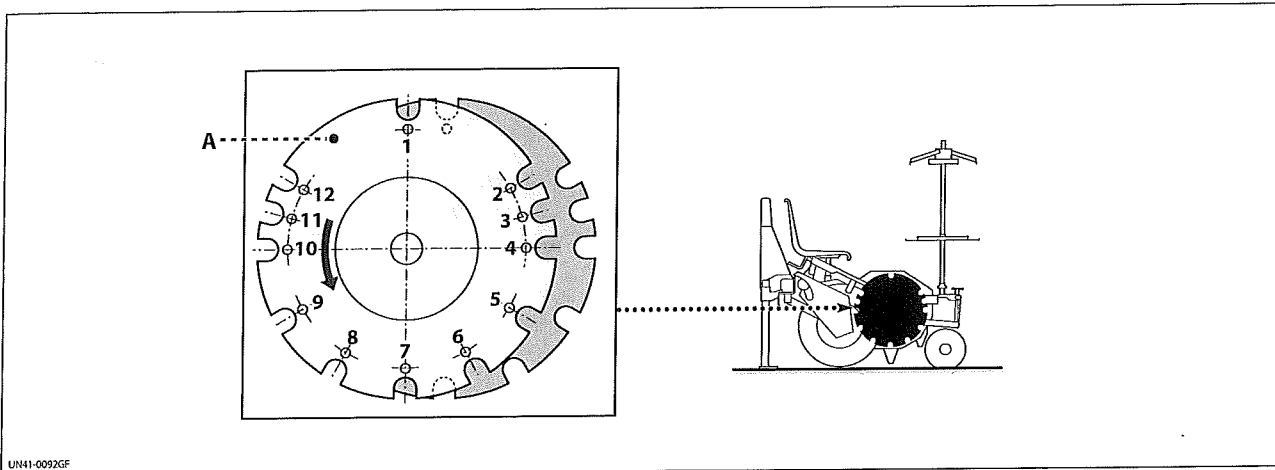
The dispenser can have up to six drilling cups fitted on it.

Each housing on the drilling cup control disk (A) is marked with a number (1 - 12).

There must always be a drilling cup fitted in position (1) (drilling cup size is irrelevant).

To ensure dispenser integrity, fit the phasing unit in the free housings, as illustrated in the diagram in the chart.

The figure shows the housing references on the control disk (A).



UN41-0092GF

The chart shows the layout of the cups and phasing units on the control disk.

Cups n.	Cups housing reference						Phasing units n.	Phasing units housing reference					
	1	2	5	7	9	12		-	-	-	-	-	-
6	1	2	5	7	9	12	-	-	-	-	-	-	-
5	1	3	6	8	11	-	-	-	-	-	-	-	-
4	1	4	7	10	-	-	-	-	-	-	-	-	-
3	1	5	9	-	-	-	-	-	-	-	-	-	-
2	1	7	-	-	-	-	2	4	10	-	-	-	-
1	1	-	-	-	-	-	2	5	9	-	-	-	-

Plant spacing range

The distance between one seedling and the next (plant spacing) depends on the number of drilling cups fitted on the dispenser and the transmission ratio between the rubberised wheel and the dispenser.

According to the plant spacing, the chart shows the number of cups to fit on the dispenser, the type of gear to use (number of teeth) and the most suitable plant spacing to adopt for the type of soil.

N. cups on dispenser	Planting distance (plant spacing) in cm						
	20	22	25	28	29	30	33
6	20	22	25	28	29	30	33
5	25	27	30	33	35	37	39
4	31	34	37	41	44	46	49
3	41	45	50	55	58	62	66
2	62	67	74	82	87	93	99
1	123	135	148	165	175	185	198
N. teeth on the pinion	24	22	20	18	17	16	15
Reference	A	B			C		

A - Plant spacing applicable to spongy soils only.

C - Plant spacing to avoid, especially for plastic mulch.

B - Preferable plant spacing on either bare ground or plastic mulch.

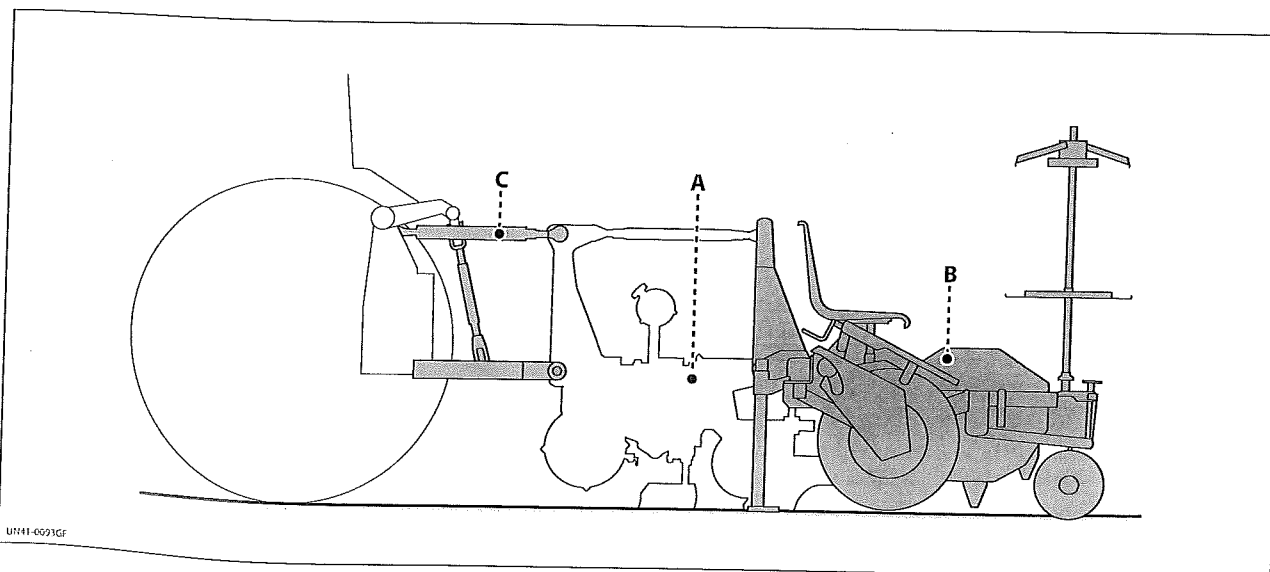
Possible planting machine and plastic mulching machine couplings

The chart shows the possible work vehicle / mulching machine combinations.

The plastic mulch and plant the seedlings in a single operation. For use of the mulching machine (which spreads plastic mulching), see the use and maintenance manual for models PS14, PS19, PS14 PLUS, or PLUS PS19.

The following work vehicle models: **WOLF/1**, **WOLF/2**, **WOLF/3**, **WOLF/4** can be coupled to the (appropriately adapted) plastic mulching machine in order to spread out

Plastic mulching machine model	Planting machine model			
	WOLF/1	WOLF/2	WOLF/3	WOLF/4
PS14 - PS14 PLUS	X	X	X	-
PS19 - PS19 PLUS	X	X	X	X



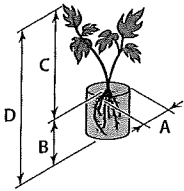
A) Plastic mulching machine
B) Planting machine

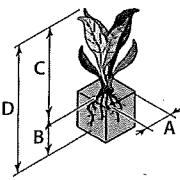
C) Three-point hitch for tractor

Type of seedlings and bulbs to plant

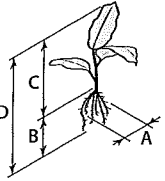
This work vehicle can plant seedlings rooted in conical, cylindrical or pyramid-shaped root balls, as well as seedlings with bare roots, and also bulbs and seeds. The largest bulb or seed size is 6 cm (diameter).

The charts show the type and size of seedlings that the work vehicle can plant.

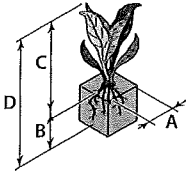
Seedling size			
 UN41-0073BM	A (cm)	min	1
		max	6
	B (cm)	min	4
		max	7
	C (cm)	min	4
		max	15
	D (cm)	min	8
		max	22

Seedling size (1)			
 UN41-0074GF	A (cm)	min	3
		max	4
	B (cm)	min	3
		max	7
	C (cm)	min	4
		max	15
	D (cm)	min	8
		max	22

(1) Seedlings with cubic root balls (dimensions: 3x3 and 4x4); the relative insert must be placed in each drilling cup (see "Inserts for drilling cups").

Size of seedlings with bare roots (3)			
 UN41-0075GF	A (cm)	min	1
		max	4
	B (cm)	min	5
		max	7
	C (cm)	min	8
		max	15
	D (cm)	min	13
		max	22

(3) Bare root seedlings (nursery cuttings, peppers, onions, leeks, etc.); the leaf apparatus must not be well developed.

Seedling size (2)			
 UN41-0074GF	A (cm)	min	5
		max	6
	B (cm)	min	5
		max	7
	C (cm)	min	4
		max	15
	D (cm)	min	9
		max	22

(2) Seedlings with cubic root balls (dimensions: 5x5 and 6x6); the relative drilling cups must be fitted (see "Changing and replacing drilling cups").

Optional accessories

The following chart shows the optional accessories available for installation. Information about the accessories (fitting, use, etc.) is provided with the said accessories.

Manual lift row tracers (max. row spacing: 110 cm)
Manual lift row tracers (max. row spacing: 150 cm)
Inter-cup watering device
300 l tank for one row (for models without manure spreader only)
300 l tank for two rows (for models without manure spreader only)
300 l tank for three rows (for models without manure spreader only)
300 l tank for four rows (for models without manure spreader only)
Sloping box holder
Plant box
Insert for 4x4 cm cubic root balls (standard cup)
Insert for 4x4 cm cubic root balls (5x5 cup and long cup)
Ø 70 mm extender insert for leafy plants (up to three cups and without watering device only)
Special cushioned seat
Min. 30 cm row spacing kit (for WOLF/2 only)
Fastwolf facilitator (for seedlings with conical and pyramid-shaped root balls - dispenser with 4, 5, 6 cups - min. 40 cm row spacing)
Transversal 2-shelf tray holder (shelf size: 150 cm)
Transversal 2-shelf tray holder (shelf size: 200 cm)
Transversal 2-shelf tray holder (shelf size: 250 cm)
Transversal 2-shelf tray holder (shelf size: 300 cm)
2-shelf tray holder (350 cm), complete with rear frame and support wheels
2-shelf tray holder (400 cm), complete with rear frame and support wheels
Brush kit for external drilling cup cleaning
Hiller disk kit (Ø 410 mm)
Front flex compactor roller (Ø 250x200)
Standard drilling cup
Long drilling cup
5x5 drilling cup
7x7 drilling cup
Planting unit locking kit (raised WOLF)
Microgranular fertiliser spreader (with linear dispensing function and mechanical transmission)
Manure spreader (with linear dispensing function and mechanical transmission)
Root ball separator with depth adjustment feature (not compatible with Front Flex compactor roller)

Drilling cups inserts

In the event of differences between the seedlings, suitable inserts can be placed in the drilling cups in order to improve planting precision and to prevent damage to

the plant's leafy fronds.

If necessary, contact the manufacturer to obtain the relative inserts.

Permitted gradients

The ground conditions (slippery, sloping, etc.) and the type of tractor used can reduced the stability of the tractor/work vehicle assembly and cause sudden, dangerous movements, especially when the work vehicle is lifted off the ground.

It is up to the tractor driver to assess the environmental conditions of the work area and not to exceed the permitted gradients established for the tractor with the equipment mounted on it (see tractor user manual).

Declaration of conformity
CHECCHI & MAGLI s.r.l.

Via Guizzardi n° 38
40054 – BUDRIO (BOLOGNA) - ITALIA

hereby declares, under its own responsibility that the planting machine in question, i.e. models **WOLF/1, WOLF/2, WOLF/3, WOLF/4, WOLF/5, WOLF/6** comply with the Essential and Health Safety Requirements provided for by Directive 2006/42/CE.

The following regulations in particular have been applied: UNI EN ISO 12100-1, UNI EN ISO 12100-2 and UNI EN 13857, on machine safety.

Budrio

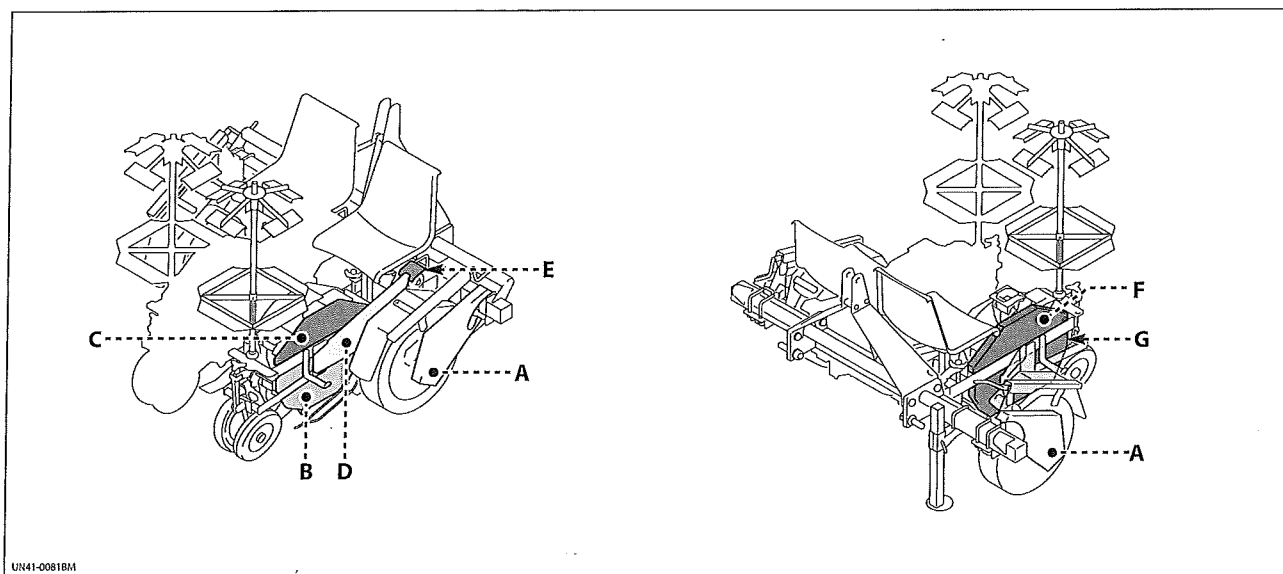
CHECCHI & MAGLI s.r.l.
Legal representative
Nerio Checchi

Guards


Danger - Warning

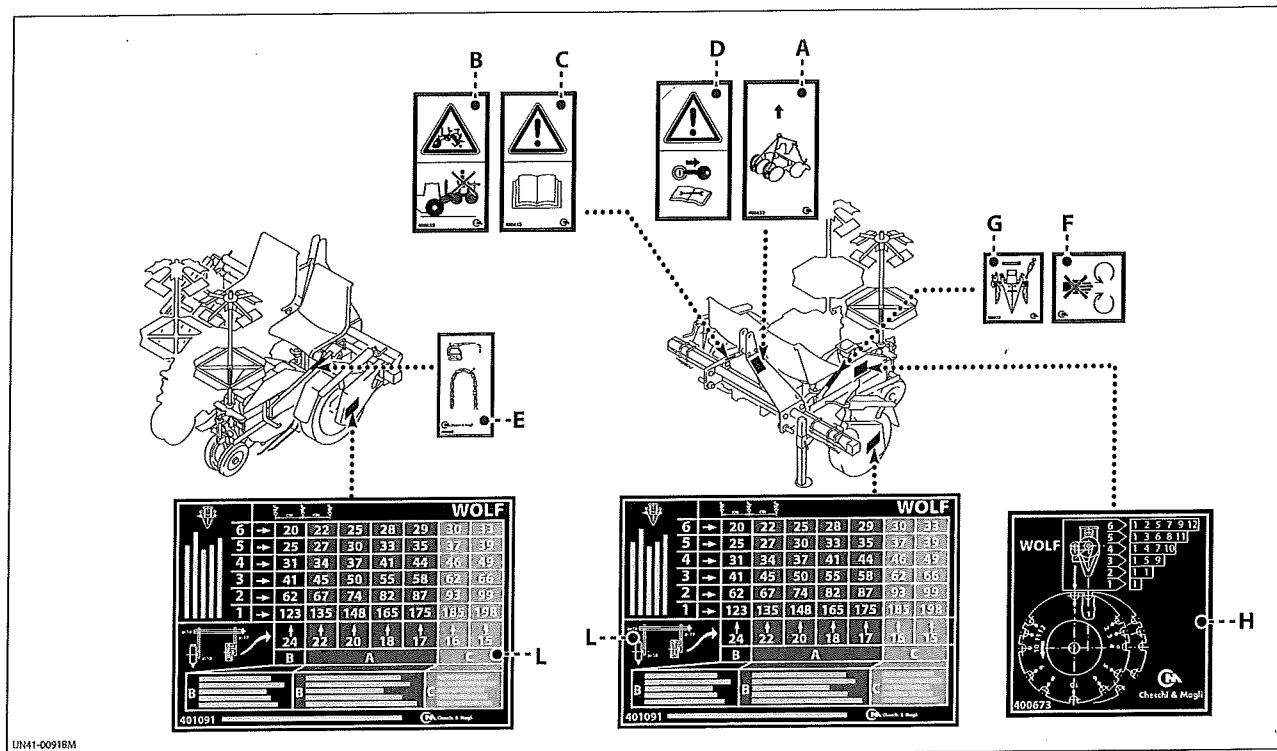
Never use the machine without the safety guards.

The work vehicle is fitted with guards covering the transmission components to prevent accidental contact with the moving parts. The illustration shows the protective casings (**A - B - C - D - E - F - G**) fitted. The casings are fitted on each planting unit.



UN41-0081BM

Information and safety signs



- A) **Hazard plate:** strap up at the anchor points shown to lift the work vehicle.
- B) **Hazard plate:** do not remain on the seat with the work vehicle lifted off the ground.
- C) **Hazard plate:** read the use and maintenance manual before using the work vehicle.
- D) **Hazard plate:** switch off the tractor before carrying out any type of work on the work vehicle.
- E) **Information plate:** lubricate the chain inside the casing to which the plate is affixed.

- F) **Hazard plate:** this highlights a risk of hands being crushed in the moving parts of the dispenser featuring drilling cups.
- G) **Information plate:** lubricate rotating parts of the drilling cups.
- H) **Information plate:** this shows the number of cups and their layout on the control disk.
- L) **Plant spacing plate:** this shows the number of cups to fit on the dispenser, the type of gear to use (number of teeth) and the most suitable plant spacing to adopt for the type of soil.

Noise

Having the planting machine coupled to the tractor does not mean a significant increase in the noise levels of the tractor.

Check the tractor manufacturer's manual to decide which PPE to adopt for hearing protection.

Residual risks

During the design and construction stages, the manufacturer has focused particular attention on safety aspects; nevertheless the risks described below remain.

- Risk of cuts and shearing (upper limbs) between the drilling cups and the dispenser discs.

- Risk of getting caught/dragged/trapped by the moving parts of the transmission.
- Risk of slipping when getting on and off the planting unit seat.

Read this manual carefully before proceeding with any operations concerning use, maintenance or other work on the work vehicle.

Heed and comply with the symbols on the machine, especially those concerning safety.

To reduce risks of accidents as much as possible, the tractor must be driven by a trained operators who is able to coordinate the work of all the other staff involved in the work.

The machine must only be put to the uses specified by the manufacturer; misuse may cause safety and health risks and could result in damage of a financial nature.

Before using the work vehicle check that the guards are all fitted correctly.

Before hitching the work vehicle up to the tractor, make sure the tractor is in good condition.

Check that the work vehicle coupling to the tractor at the third point of the hitch is securely locked so that it cannot work loose.

During use, wear the personal protective equipment and clothing envisaged by the laws in force on safety in the workplace.

In the event of a failure, do not carry out any repairs on site unless you are certain that the area you are in is appropriate and the equipment required is available; it is more advisable to take the time needed to return the business premises rather than carry out repair work in poor safety conditions!

When driving on the roads, the driver must comply with the highway code, ensuring the tractor is road-worthy and the relative signs to signal jutting objects are affixed.

Do not carry people on the work vehicle when moving from one area to another or on the roads.

Maintenance and adjustment work must be carried out with the work vehicle on flat, compact ground, with the tractor engine off, parking brake engaged, ignition key removed.

Never leave the driver's seat when the tractor engine is running.

Before leaving the tractor, lower the work vehicle to the ground, stop the engine, engage the parking brake, and remove the ignition key from the control panel and store in a safe place.

Safety advice for handling and transportation

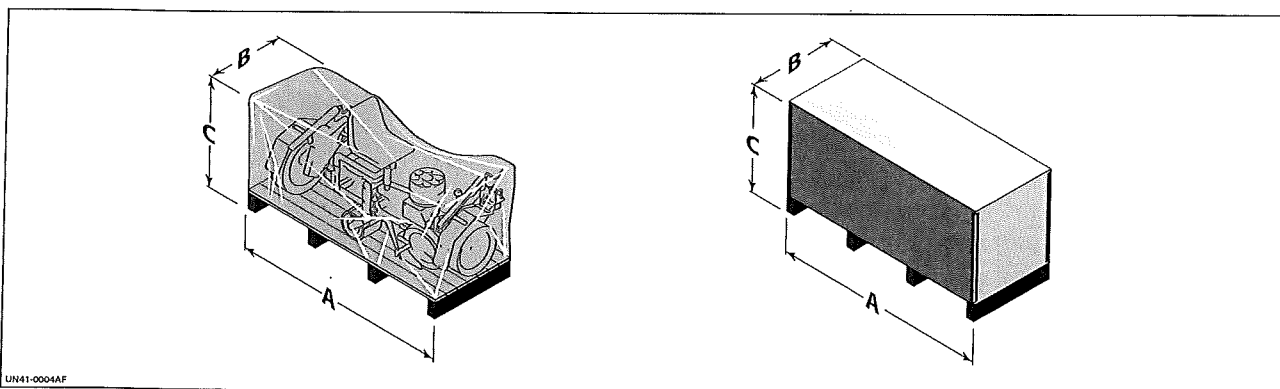
Perform handling and transportation manoeuvres in compliance with the information provided by the manufacturer and stated directly on the machine, on the packing and in the instructions for use.

The staff assigned to handling the load must have the required ability and experience and must be skilled in the use of the lifting means adopted.

Packing

The type of packing is chosen according to the selected means of transport and the destination. To contain packing as far as possible, the machine is delivered dismantled and in one or more parcels.

The illustration shows the type of packing most commonly used.



UN41-0004AF

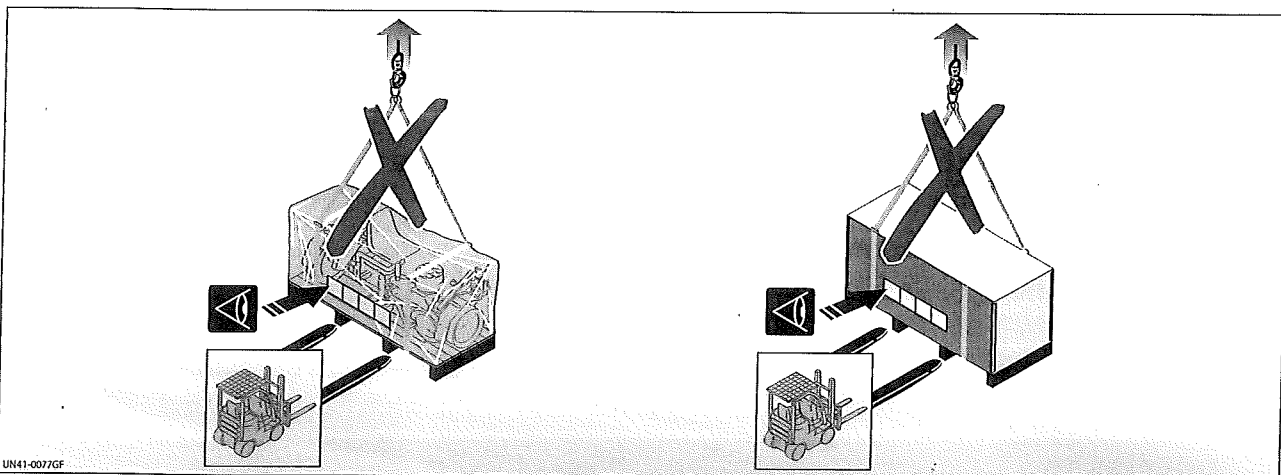
Approximate packing dimensions								
Parcels	n°	WOLF/1	WOLF/2	WOLF/3	WOLF/4	WOLF/5		WOLF/6
A	cm	1	1	1	2	1	1	2
B		220	220	220	220	220	220	220
C		55	55	80	55	80	55	80
		110	110	110	110	110	110	110

Handling and lifting the packed unit



All the loading / unloading information is printed on the packing.

Lift the packed machine using appropriate hoisting means for the load to lift.
Check the parcel weight stated on the packing itself.

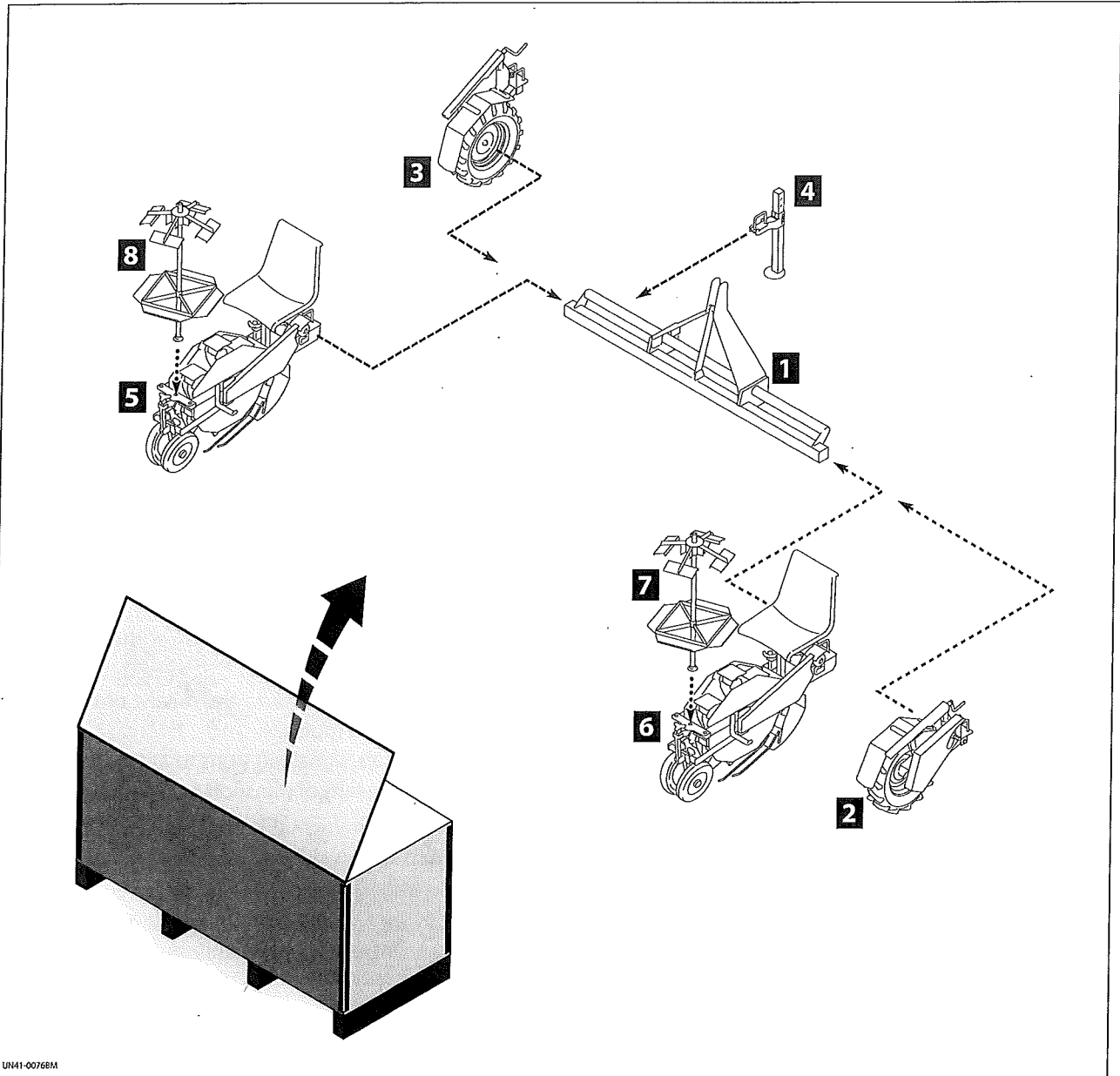


UN41-0077GF

Unpacking and assembly

During unpacking, check that the components are in good condition and tally with the number stated; in the event of damage, report the damage to the retailer or directly to the manufacturer within 8 days of receiving the machine.

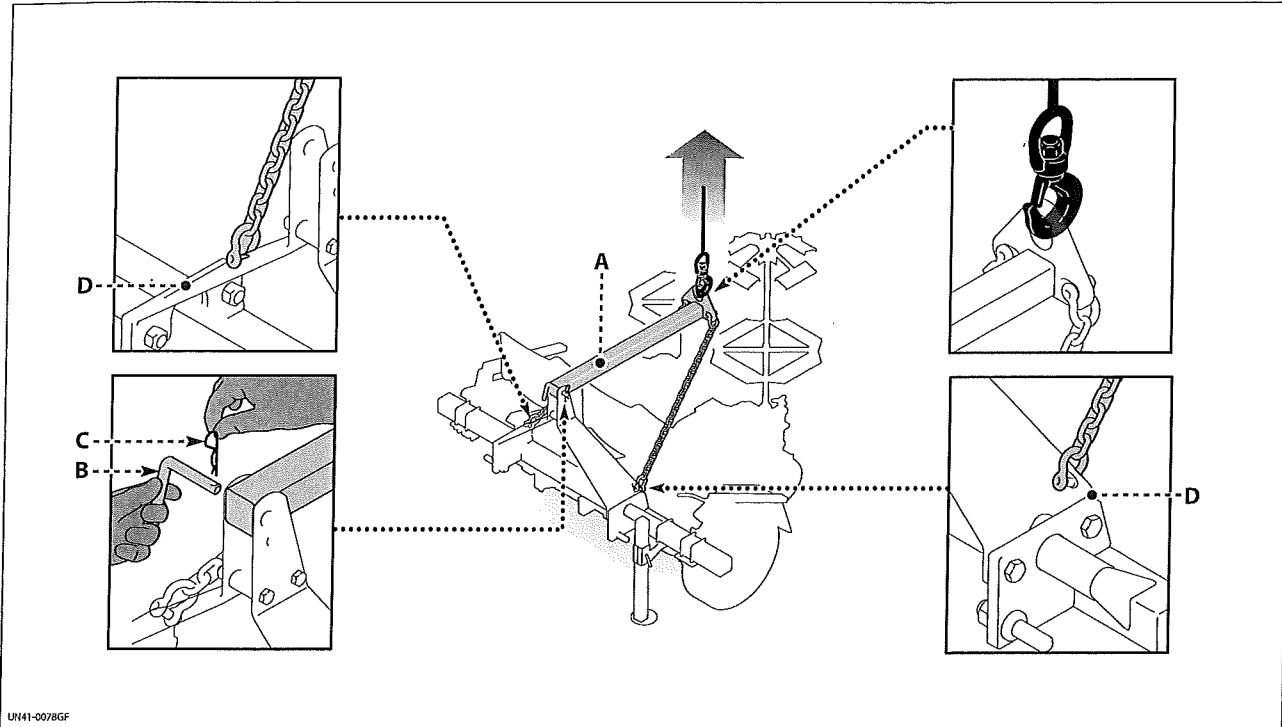
The packing materials must be appropriately disposed of or recycled in accordance with the laws in force. The illustration shows the work vehicle assembly diagram with two planting units. The assembly procedure shown applies for all the work vehicle models specified in the manual.



Lifting and transporting the work vehicle

The lifting procedure shown applies for all the work vehicle models specified in the manual.
For models **WOLF/1, WOLF/3, WOLF/5** the seat must be removed to allow the lifting means to be fitted.

The illustration shows the work vehicle with two planting units.



Proceed as outlined below.

- 1) Use the specific tool (A) provided with the work vehicle for lifting.
- 2) Strap up the work vehicle as shown in the figure.
- 3) Check that the pin (B) is secured by the lock pin (C) and that the chains are fastened stably to the frame (D).
- 4) Lift the work vehicle and place it on the means of transport.
- 5) Anchor the work vehicle to the means of transport with wedges and ropes.
- 6) Affix the relative signalling signs to any parts jutting out from the means of transport.

Loading, transporting and unloading the work vehicle / tractor assembly

The loading / unloading of the work vehicle / tractor assembly must be carried out using appropriate means of transport equipped with suitable ramps.

Proceed as outlined below.

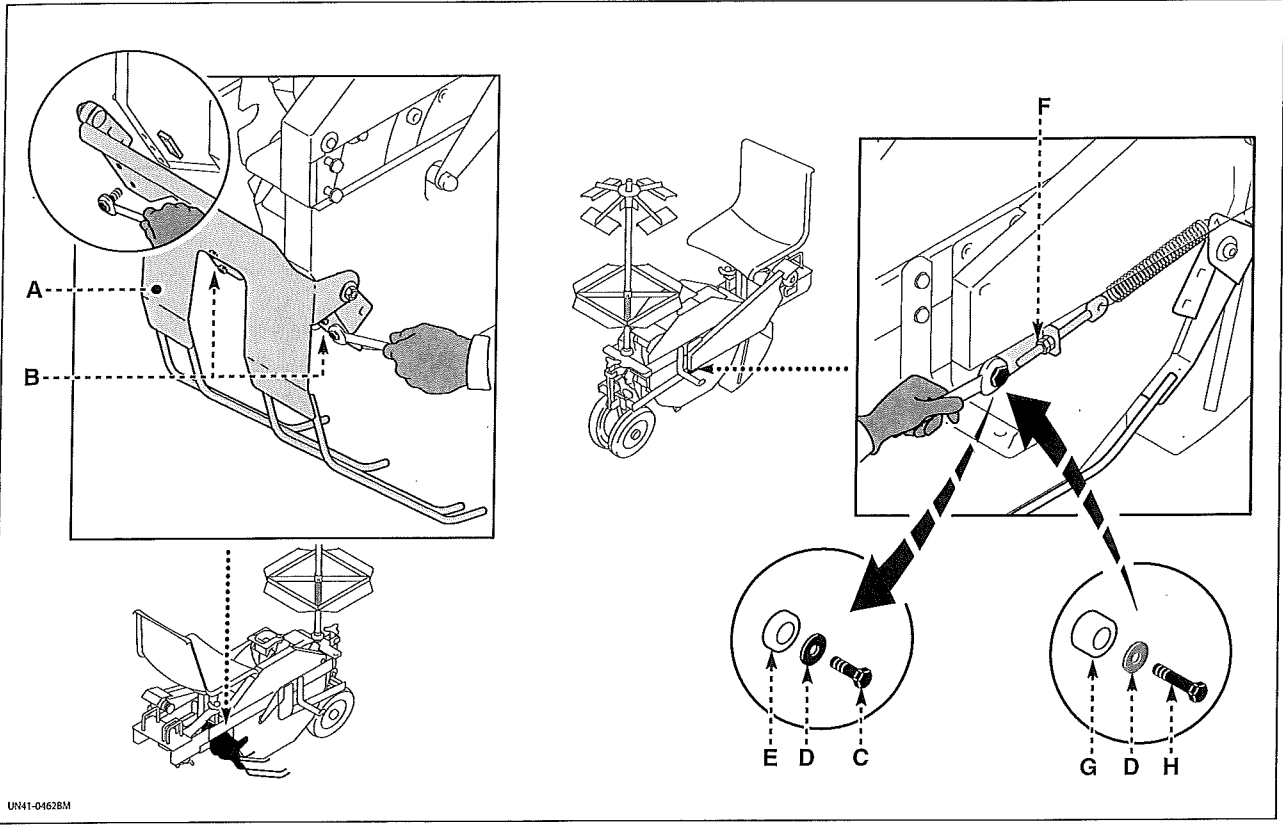
- 1) Start the tractor and lift the work vehicle as far off the ground as is permitted.
- 2) Get into the means of transport from the tractor's driving seat.
- 3) Lower the work vehicle onto the truck bed.
- 4) Switch off the tractor engine and engage the parking brake.
- 5) Anchor the work vehicle / tractor assembly to the means of transport with wedges and ropes.
- 6) Affix the relative signalling signs to any parts jutting out from the means of transport.

Installing the plastic mulch pressing skids

These skids only need to be fitted if you are laying plastic mulch sheets and their task is to keep the sheets fitted tightly against the ground when the drilling cup moves in and out of the soil.

! Danger - Warning

Secure the work vehicle in position (lifted off the ground) with external means (trestles, etc.). Do not stand under the hoisted machine unless it is suitably secured in position.



Proceed as outlined below.

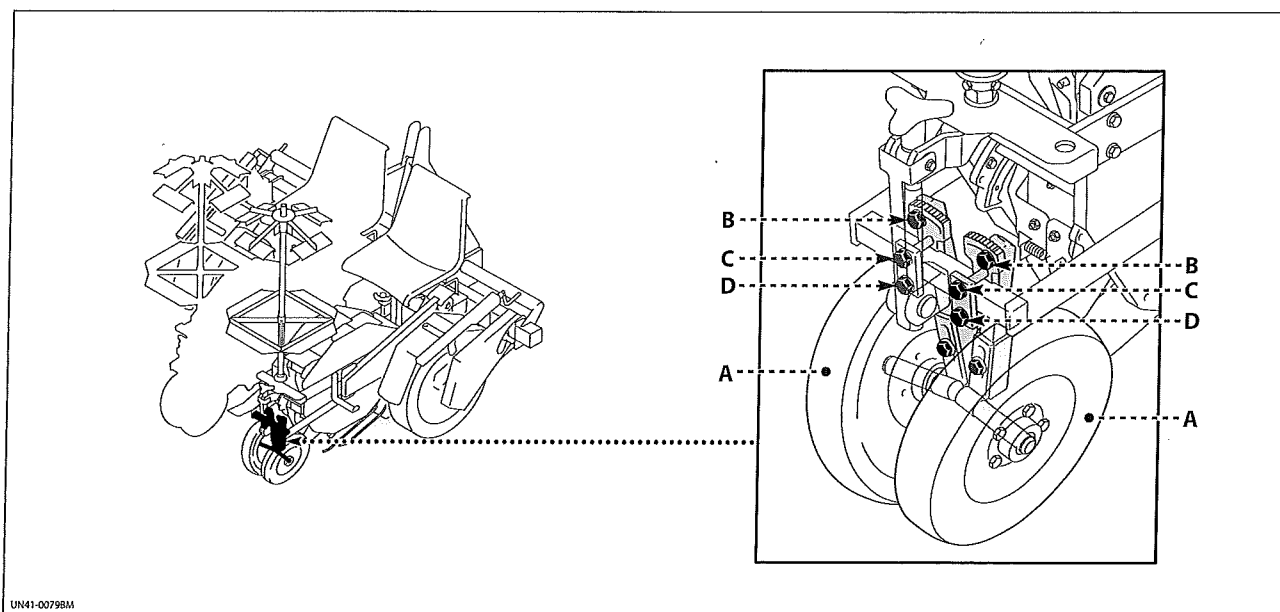
- 1) Lift the work vehicle off the ground.
- 2) Position the plastic mulch pressing skid (A). Align the fastening holes in the plastic mulch pressing skid with the holes in the protective casing in order to mount the skid in the lowest position.
- 3) Tighten the screws (B).
- 4) Unscrew the screw (C) and remove the washer (D).
- 5) Remove the spacer (E).
- 6) Fit the tensioning unit (F) in position.
- 7) Fit the new bushing (G) provided with the skid.
- 8) Position the washer (D) and tighten the screw (H) provided with the skid.
- 9) Attach the spring to the plastic mulch pressing skid.
- 10) Adjust the pressure that the plastic mulch pressing skid has to apply to the plastic mulch (see "Adjusting the plastic mulch pressing skid").
- 11) Lower the work vehicle onto the ground.

UN41-0462BM

Safety advice concerning adjustments

Maintenance and adjustment work must be carried out with the work vehicle on flat, compact ground, with the tractor engine off, parking brake engaged, ignition key removed, and adopting all the necessary safety measures required to work safely.

Adjusting the packing wheels



UN41-00798M

The packing wheels (A) are used to ridge and compact the soil around the planted seedlings.

Their arrangement (spacing and tilt) determines the way the soil accumulates around the seedlings and the effectiveness of the packing.

Adjust the packing wheel (A) distance and tilt as required according to the principles outlined below.

- The more the wheels are tilted, the more soil accumulates around the seedlings.
- The less the wheels are tilted, the less soil accumulates around the seedlings.
- The farther apart the wheels are, the less efficient the packing is.
- The closer the wheels are, the more efficient the packing is.

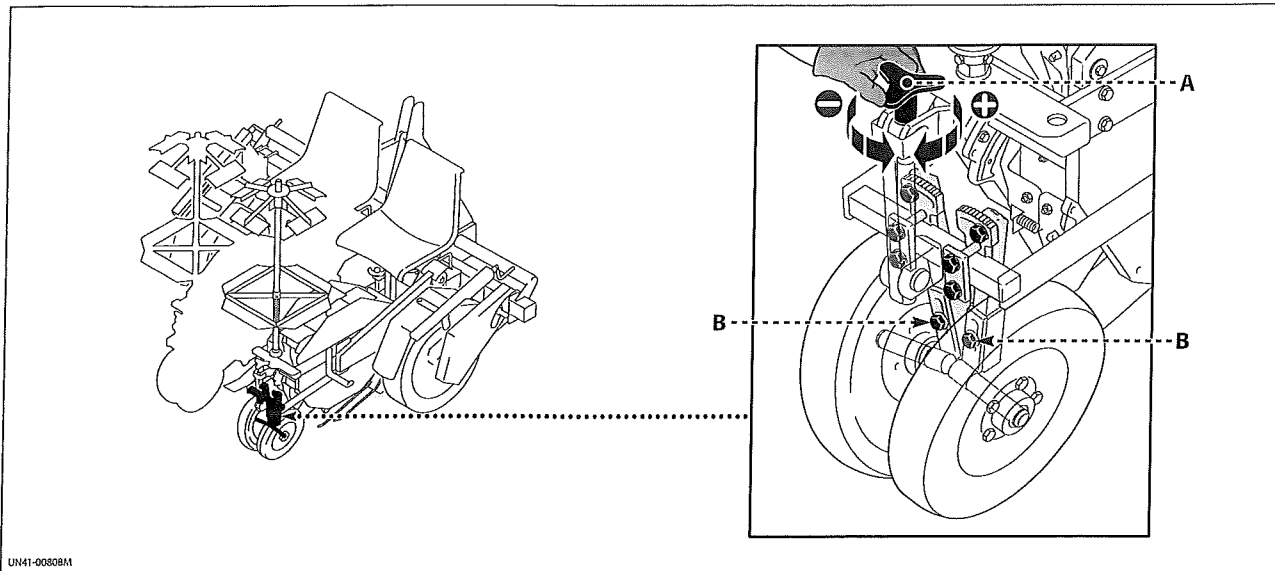
To tilt the wheels, proceed as outlined below.

- Lift the packing wheels off the ground.
- Loosen the screws (B) and (D) on each packing wheel.
- Tilt the wheels as required for the purposes of the job in hand.
- Tighten the screws (B) and (D) on each packing wheel.
- Lower the wheels onto the ground.

To move the wheels apart, proceed as outlined below.

- Lift the packing wheels off the ground.
- Loosen the screws (C) and (D) on each packing wheel.
- Widen the wheels as required for the purposes of the job in hand.
- Tighten the screws (C) and (D) on each packing wheel.
- Lower the wheels onto the ground.

Planting depth adjustment



Proceed as outlined below.

- 1) Turn the handwheel (A) to increase or decrease the planting depth.
The planting depth can be further increased or decreased by raising or lowering the packing wheels.

To adjust the packing wheels, proceed as outlined below.

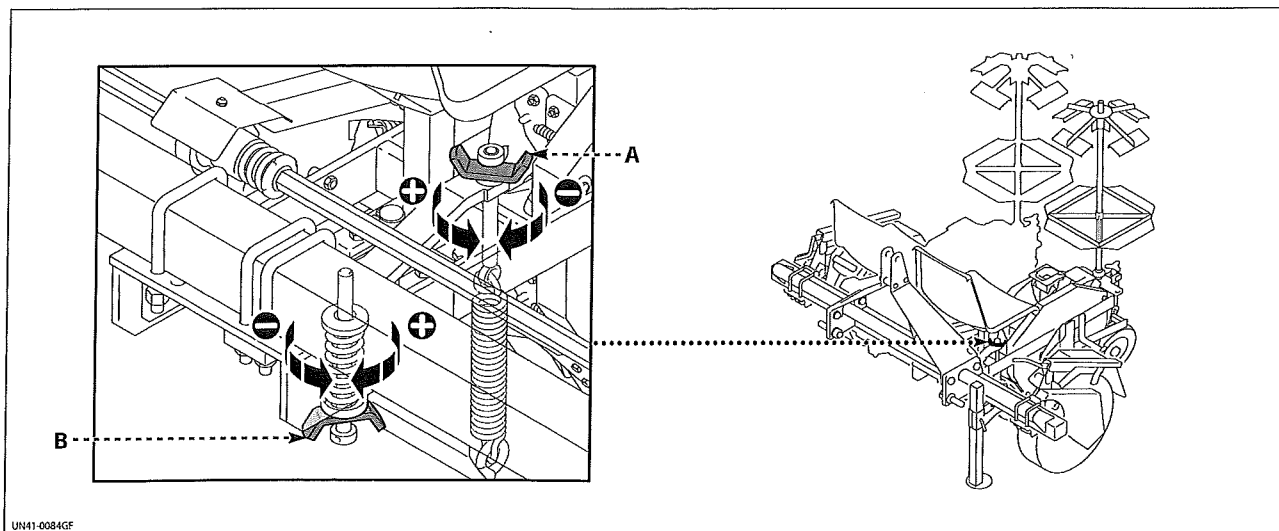
- 1) Lift the packing wheels off the ground.
- 2) Loosen the screws (B) on each packing wheel.

- 3) Raise or lower the wheels as required for the purposes of the job in hand.
- 4) Tighten the screws (B).
- 5) Lower the wheels onto the ground.

i Information

If installed, check the position of the plastic mulch pressing skid, since it may be necessary to lower it in order for it to work properly (see "Adjusting the plastic mulch pressing skid").

Adjusting the planting force (load applied to ground)



Proceed as outlined below.

- 1) Use handwheel (A) to decreases the weight on the packing wheels.
- 2) Use handwheel (B) to increases the weight on the packing wheels.

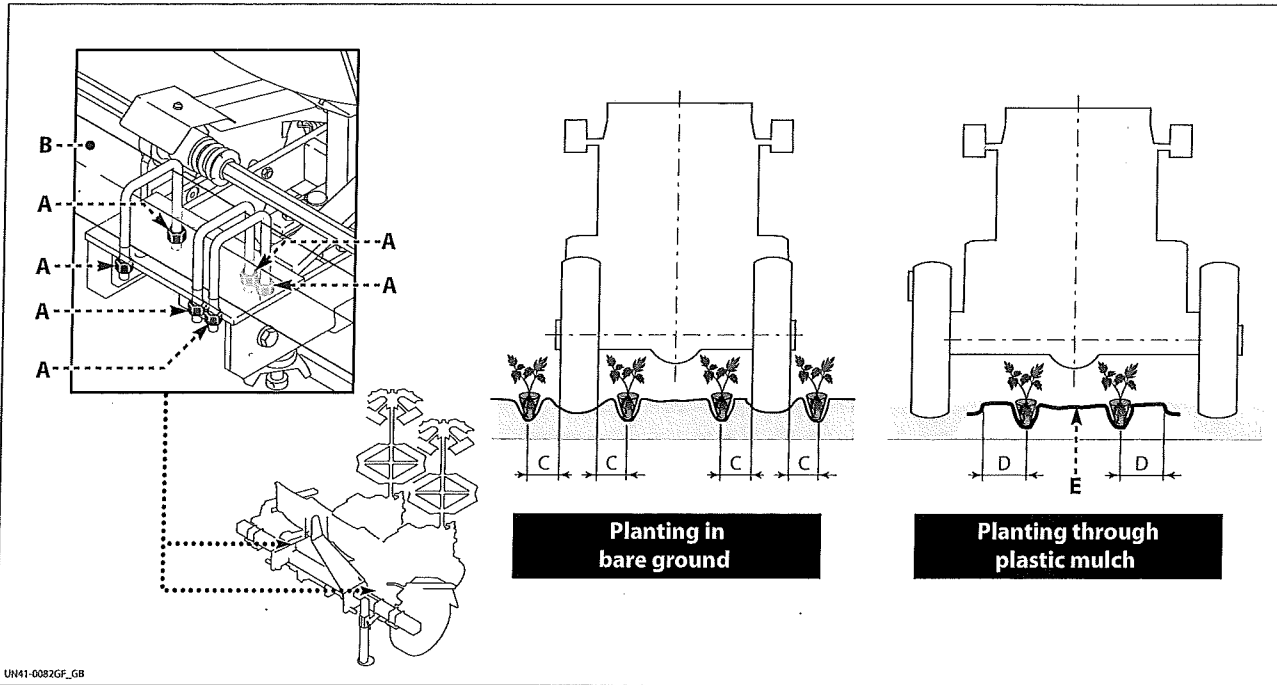
The correct weight to apply to the packing wheel is obtained by turning both handwheels.

Adjusting the row spacing



Danger - Warning

Secure the work vehicle in position (lifted off the ground) with external means (trestles, etc.).
Do not stand under the hoisted machine unless it is suitably secured in position.



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Adjust the gap between the planting units to obtain the row spacing required (for distances envisaged, see "Specifications").

Proceed as outlined below.

- 1) Lift the work vehicle slightly off the ground.
- 2) Loosen the nuts (A).
- 3) Slide the planting unit along the frame (B) until the required planting spacing is obtained.
- 4) Tighten the nuts (A).

- To plant the seedlings in bare ground, adjust the planting units so that the seedlings are kept (C) 10 - 12 cm away from tractor wheel.

- To plant the seedlings under plastic mulch, adjust the planting units so that the seedlings are kept a distance "D" of 15 cm away from the soil ridging the sides of the plastic mulch (E).

We recommend you position the work vehicle's transmission wheels aligned with the tractor's wheels.

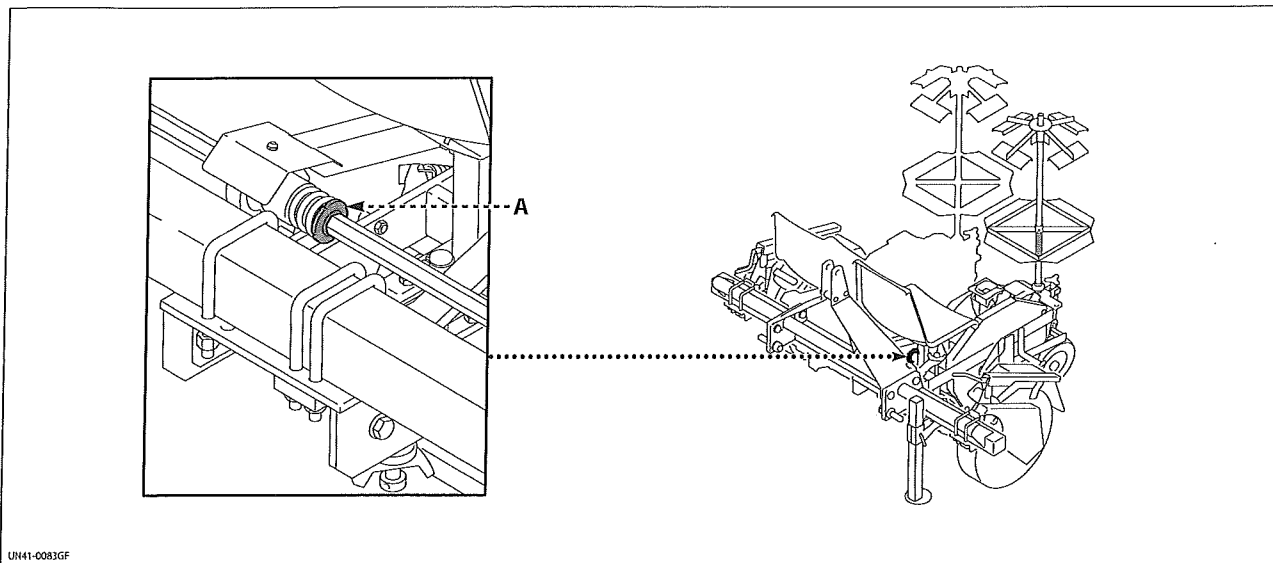
Adjusting the plant spacing

Plant spacing can be adjusted by changing the drive wheel pinion.

To choose the right pinion for the plant spacing required, see "Plant spacing range"

To replace the pinion, see the section titled "Replacing the driving wheel pinion".

Adjusting the automatic safety release function



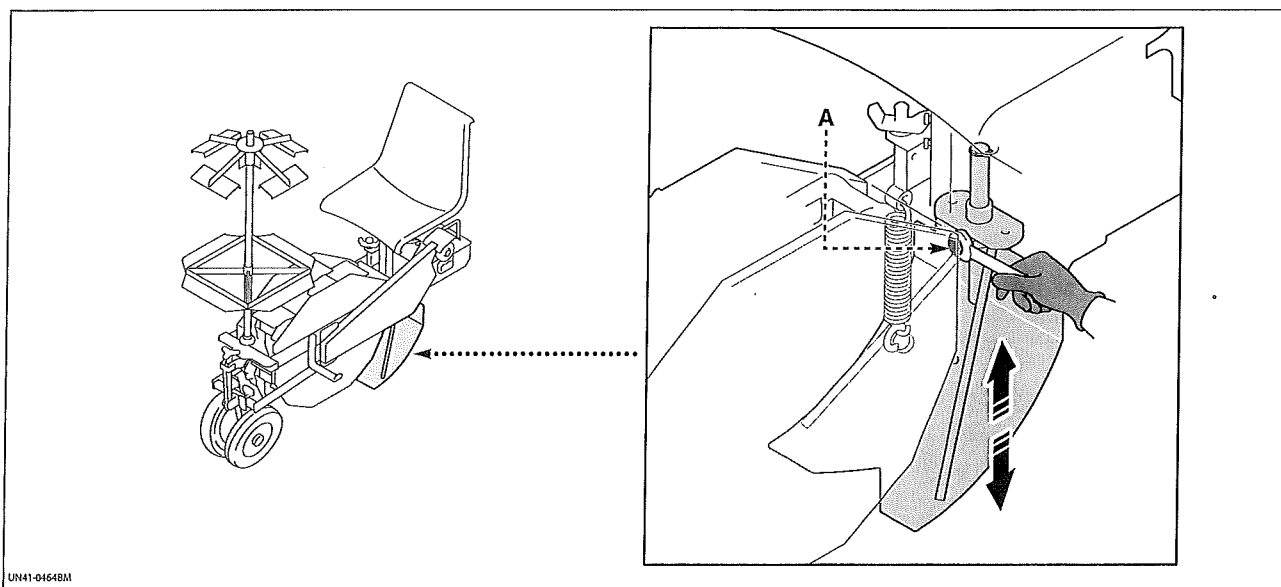
UN41-0083GF

The automatic release is designed to protect the transmission components from overloads (e.g. if the dispenser or ejector jams). The device is already set by the manufacturer during the testing stage, but can be adjusted by the user according to requirements.

For adjustments, proceed as outlined below.

- 1) Turn the ring nut (A) clockwise to increase the release resistance (i.e. less sensitive).
Turn the ring nut (A) anticlockwise to decrease the release resistance (i.e. more sensitive).

Adjusting the float skid

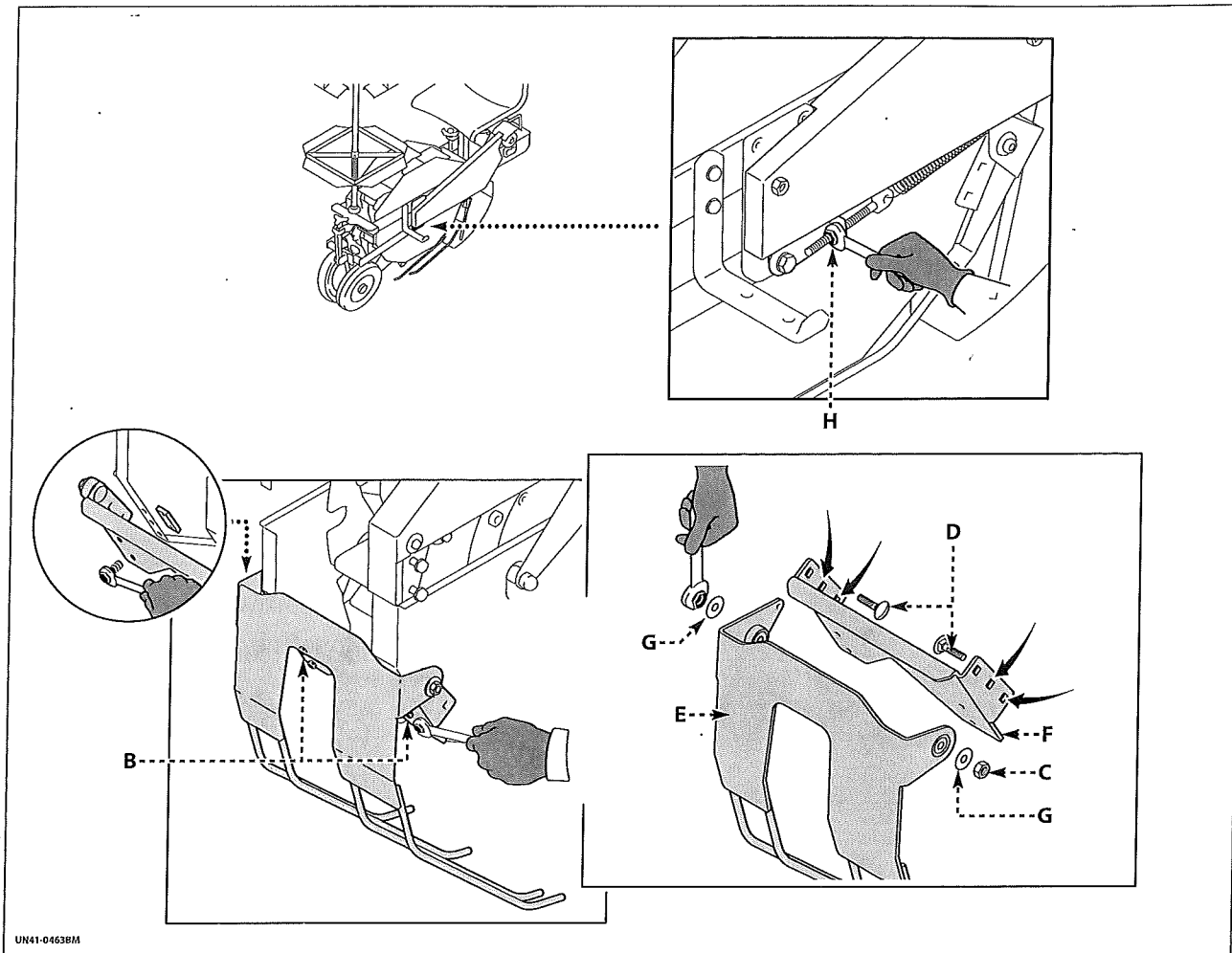


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Proceed as outlined below.

- 1) Loosen the screw (A).
- 2) Raise or lower the float skid.
- 3) Tighten the screw (A).
- 4) Adjust the load applied to the ground (see "Adjusting the planting force" - page 17).

Adjusting the plastic mulch pressing skid



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To adjust the skid pressure on the plastic mulch, proceed as outlined below.

- 1) Turn the nut (H) to change the skid pressure on the plastic mulch.

To lower the skid, proceed as outlined below.

- 1) Turn the nut (H) to slacken the spring tension.
- 2) Unscrew the screws (B).
- 3) Remove the skid.
- 4) Unscrew the nuts (C).
- 5) Remove the screws (D).
- 6) Lower the part (E) until the fastening holes are aligned with the holes in the support.
- 7) Insert the screws (D) and the washers (G).
- 8) Tighten the nuts (C).
- 9) Fit the skid (see "Installing the plastic mulch pressing skids").

Safety advice concerning use

This ensures the machine can only be used by fit and healthy personnel, who are suitably trained and authorised, and hold the appropriate category driving licence for a tractor.

Make sure nobody and no animals are in the machine work and manoeuvring area.

It is up to the tractor driver to establish whether the environmental conditions of the work area are hazardous and to work safely.

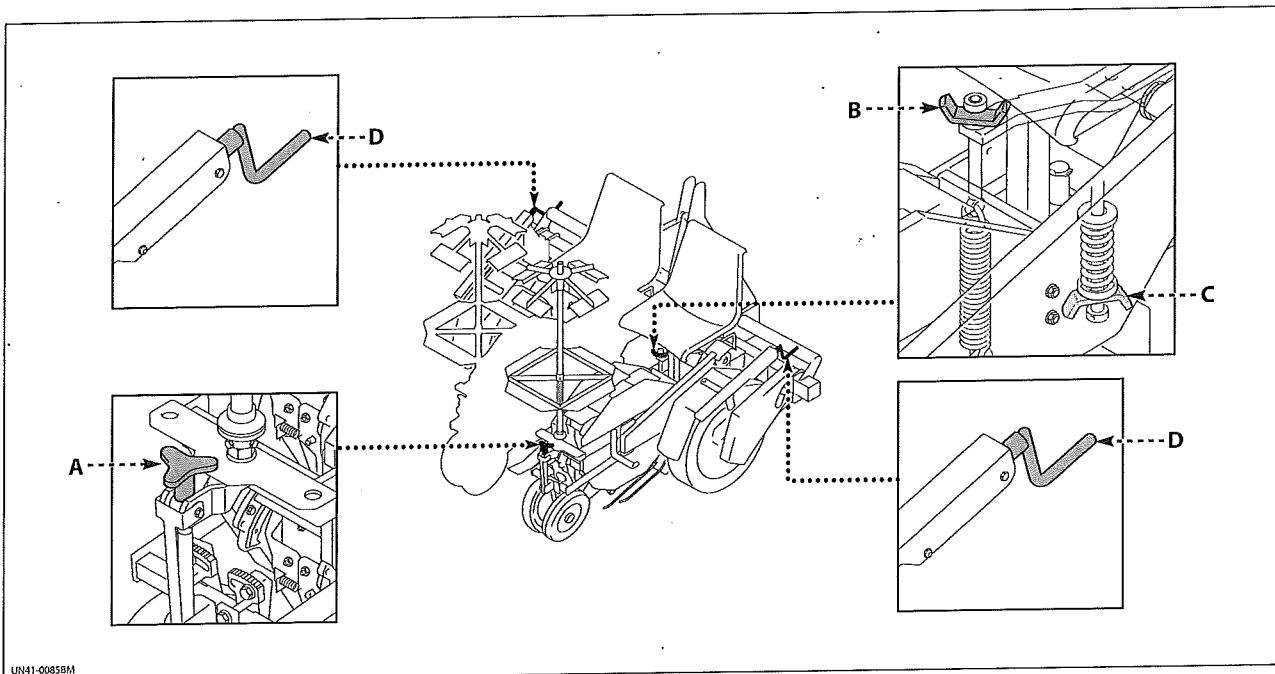
Do not exceed the permitted gradients established for the tractor with the equipment mounted on it (see tractor user manual).

Keep the parts where operators tread clean to prevent loss of balance when getting on and off the work vehicle.

Before transiting on public roads, check that the tractor / work vehicle assembly complies with highway code regulations.

Check that the tractor exhaust gas is not emitted in the direction of the work vehicle's operators.

Description of the controls



- A) Knob:** this is used to adjust the planting depth (see page 17).
- B-C) Handwheels:** this are used to adjust the weight on the packing wheels (see page 17).

- D) Lever:** this is used to adjust the set up of the dispenser(s) so that the seedlings are planted in the ground upright. The lever is featured on both driving wheels (see pages 23 and 24).

Hitching and unhitching the work vehicle to and from the tractor



Danger - Warning

Hitching the work vehicle up to the tractor is one of the riskiest moments as it could require the involvement of several people at once, carrying out synchronised manoeuvres between the tractor driver and the operators on the ground, which - if badly organised - could result in accidents.

The work vehicle must only ever be coupled to a tractor with an appropriate power rating which is equipped with a lift that complies with the regulations in force, observing the maximum weight limit on the rear axle and the gross vehicle weight (see tractor user manual).

Check that the work vehicle coupling to the tractor at the third point of the hitch is securely locked so that it cannot work loose.

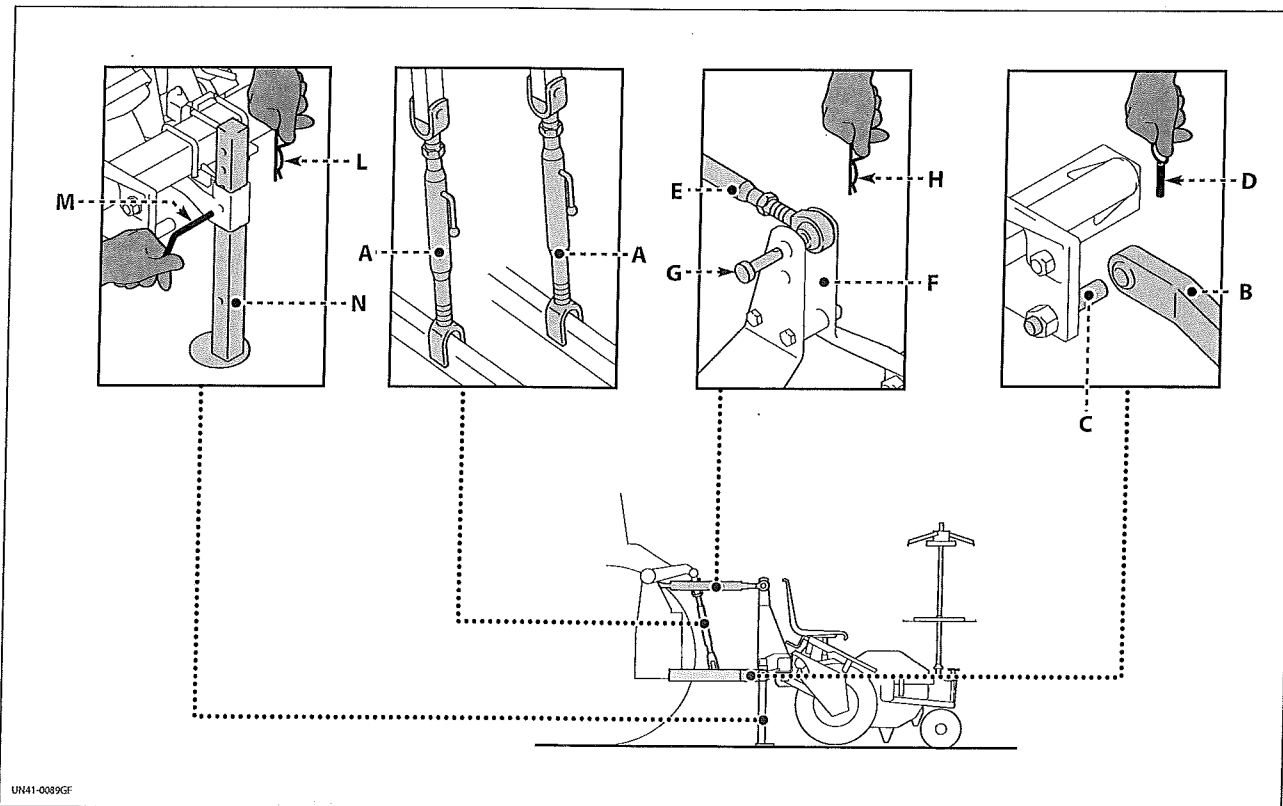
For hitching, proceed as outlined below.

- 1) Position the work vehicle on flat, solid ground in a risk-free area.
- 2) Move the tractor so that it is positioned near the work vehicle lift frame.
- 3) Align the arms of the lifting unit with the coupling points on the work vehicle.
- 4) Switch off the tractor engine and remove the key from the ignition.

- 5) Turn the tie rods (A) to adjust the height of the lift arms (B) (see tractor instruction manual).
- 6) Insert the pins (C) into the lift arms and fit in the lock pins (D).
- 7) Turn the tie-rod (E) to adjust the space between the tie-rod and the upper coupling (F) of the support frame.
- 8) Insert the pin (G) and the lock pin (H).
- 9) Remove lock pin (L), slide out pin (M) and lift the resting foot (N) off the ground.
- 10) Adjust the tie-rod (E) so that the work vehicle is parallel with the ground.

For unhitching, proceed as outlined below.

- 1) Select an area with flat, solid ground to park the work vehicle - tractor.
- 2) Using the tractor's controls, lower the work vehicle to the ground.
- 3) Lower the resting foot (N), insert pin (M) and lock pin (L).
- 4) Switch off the tractor engine and remove the ignition key from the dashboard.
- 5) Take out the lock pin (H) and remove the pin (G).
- 6) Slide out the lock pins (D) and remove the lift arms (B) from the work vehicle's coupling points.



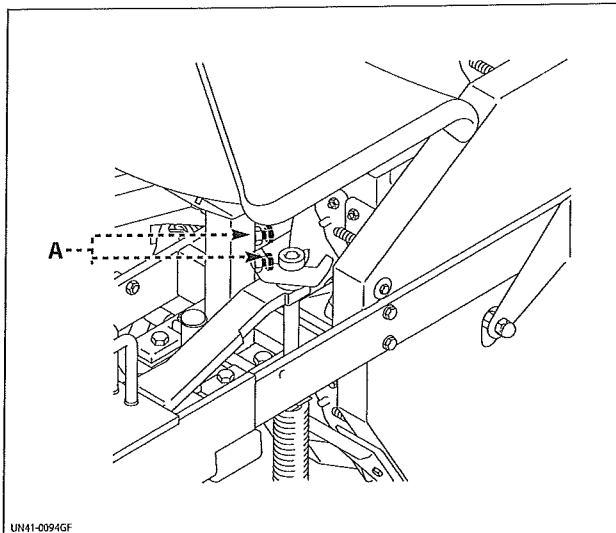
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Seat positioning

Poor work posture will tire the operator and could lead to mistakes being made; therefore, before starting work, adjust the seat and secure it in the position that offers maximum comfort.

Proceed as outlined below.

- 1) Loosen the screws (A) and adjust the seat height.
- 2) Tighten the screws to secure the seat in the right position.



Planting in bare ground mode

The seedlings must be planted in soil which has been finely tilled with a harrow or hoeing machine and lightly compacted on the surface.

We recommend you dampen the root ball well (but without causing dripping) to help the dispenser plant the seedling and ensure the plant is more likely to take root. Do not work on extremely spongy spoil, or extremely compact soil, nor on very wet ground, as these conditions would all affect planting quality negatively.

During planting, the work vehicle's driving wheels must grip the ground at all times and the tractor lift must be fully lowered.

Preliminary operations

Before starting the planting, the following operations must be carried out.

- 1) Check that the plant spacing is correct. The plant spacing depends on the number of drilling cups fitted on the dispenser (see "Changing and replacing the drilling cups" - page 31) and/or the number of teeth on the pinion that transmits the motion to the dispenser (see "Replacing the driving wheel pinion" - page 32).
- 2) Check that the row spacing is correct (see "Adjusting the row spacing" - page 18).
- 3) Assess the soil consistency in order to adjust the distance between the packing wheels and the ploughshare (see "Adjusting the packing wheels" - page 16).

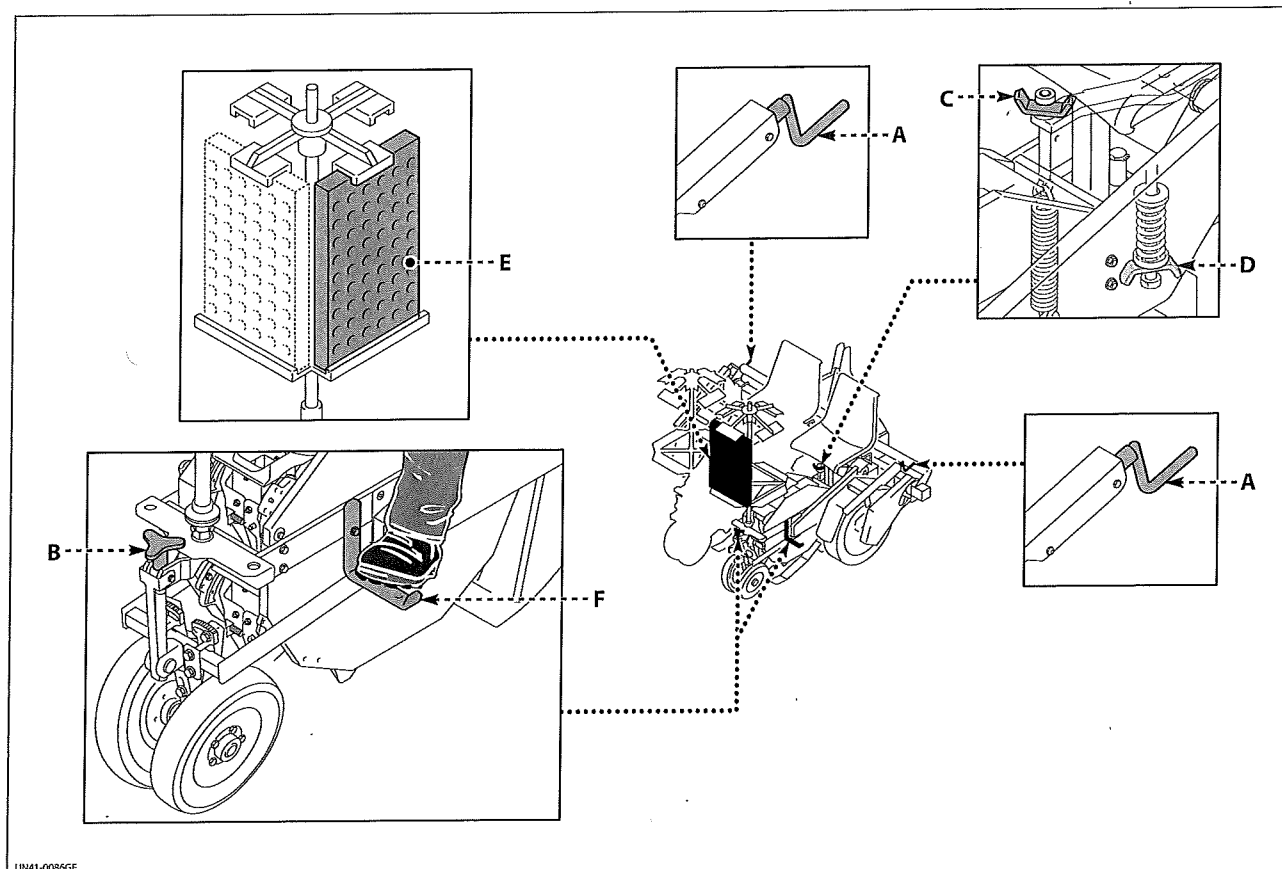
- 4) Turn the lever(s) (A) by the same amount to set the dispenser(s) parallel to the ground. With machines with one driving wheel only, position the powered wheel lower than the idle wheel to guarantee correct motion transmission.
- 5) Use the handwheel (B) to adjust the planting depth (see "Planting depth adjustment" - page 17).
- 6) Turn the handwheels (C) and (D) to adjust the planting force to apply to the ground (see "Adjusting the planting force" - page 17).
- 7) Position the trays (E) safely in the tray holder.

Planting operations

- 1) To prevent overloads, the operator on the tractor must lower the work vehicle with the tractor moving forwards at low speed. Do not reverse the tractor with the work vehicle on the ground as this could damage the drilling cups and the motion transmission to the dispenser.
- 2) Stop the tractor and let the operators get on the work vehicle. In the planting stage, the operators on the work vehicle must adopt a correct posture (with their feet resting on the footboard (F) and must agree - together with the tractor driver - on the most effective speed of travel.
- 3) Move forwards with the tractor before starting the planting.

4) The operators must take the seedlings from the trays and place them in the drilling cups which, alternatively, will be positioned at the top of the dispenser.

5) The operators on the work vehicle must check the planting quality constantly. In the event of anomalies, stop the tractor moving forwards and adopt corrective measures (see "Information on adjustments" and "Troubleshooting" - pages 16 and 30).



Planting through plastic mulch mode

i Information

During the planting stage, lift the float skid to its stroke limit to prevent damage to the plastic mulch.

The seedlings must be planted in soil which has been finely tilled with a harrow or hoeing machine, lightly compacted on the surface, and covered with a plastic mulch sheet.

The mulch sheet must be laid out suitably taut with the soil ridged up along the side edges.

We recommend you dampen the root ball well (but without causing dripping) to help the dispenser plant the seedling and ensure the plant is more likely to take root. Do not work on extremely spongy spoil, or extremely compact soil, nor on very wet ground, as these conditions would all affect planting quality negatively.

During planting, the work vehicle's driving wheels must

grip the ground at all times and the tractor lift must be fully lowered.

Preliminary operations

Before starting the planting, the following operations must be carried out.

- 1) Lift the float skid to the stroke limit (see "Adjusting the float skid" - page 19).
- 2) Check that the plant spacing is correct. The plant spacing depends on the number of drilling cups fitted on the dispenser and/or the number of teeth on the pinion that transmits the motion to the dispenser (see "Plant spacing range" - page 6).
- 3) Check that the row spacing is correct (see "Adjusting the row spacing" - page 18).
- 4) Check that the plastic mulch pressing skids (G) are fitted, and if they are not, proceed by fitting them (see "Installing the plastic mulch pressing skids" - page 15).

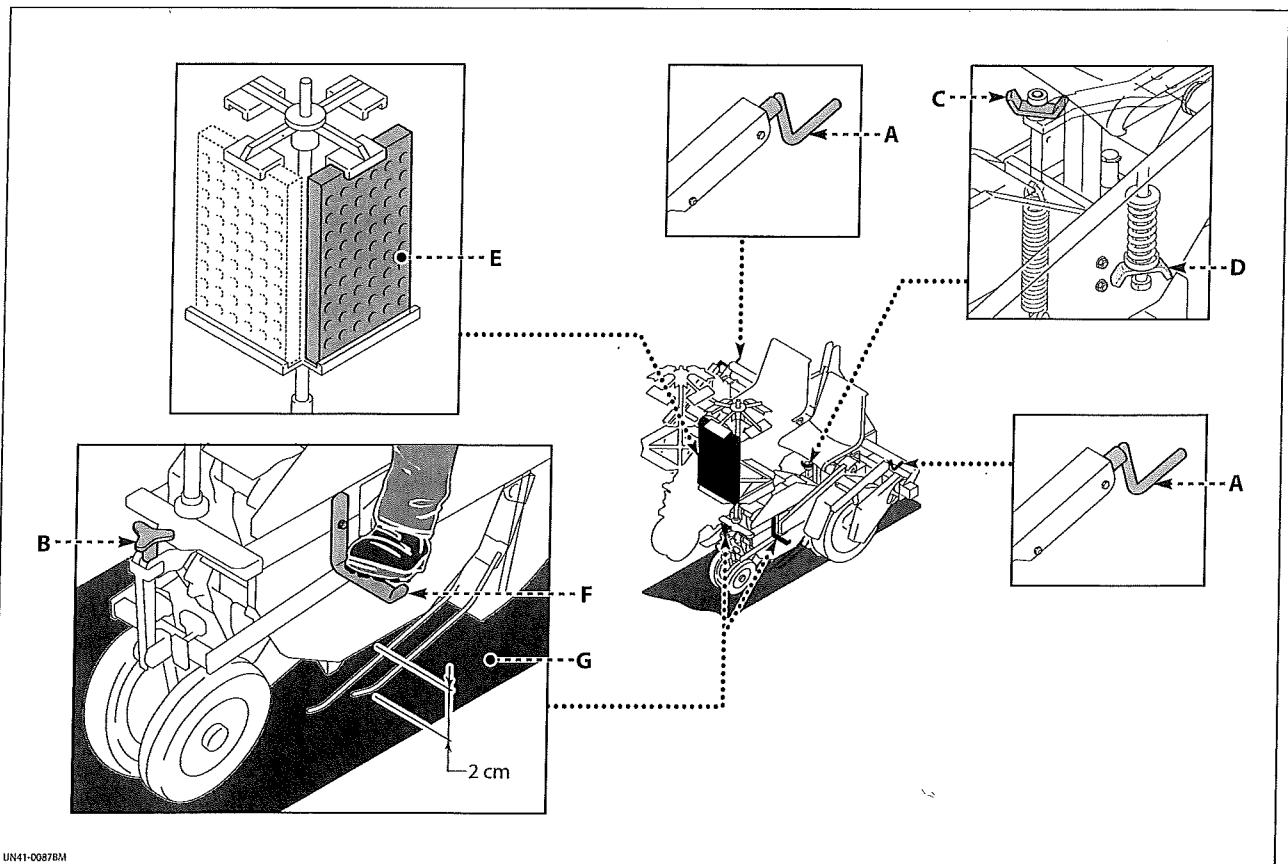
- 5) Assess the soil consistency in order to adjust the arrangement of the packing wheels (see "Adjusting the packing wheels" - page 16).
- 6) Turn the levers (A) by the same amount to set the dispenser(s) parallel to the ground.
With machines with one driving wheel only, position the powered wheel lower than the idle wheel to guarantee correct motion transmission.
The dispenser must be at least 2 cm away from the plastic mulch.
- 7) Use the handwheel (B) to adjust the planting depth (see "Planting depth adjustment" - page 17).
- 8) Turn the wing screws (C) and (D) to adjust the planting force to apply to the ground (see "Adjusting the planting force - page 17).
- 9) Position the trays (E) safely in the tray holder.

Planting operations

- 1) To prevent overloads on the ploughshare, the tractor driver must lower the work vehicle with the tractor moving forwards at low speed. Do not reverse

the tractor with the work vehicle on the ground as this could damage the drilling cups and the motion transmission to the dispenser.

- 2) Stop the tractor and let the operators get on the work vehicle.
- 3) In the planting stage, the operators on the work vehicle must adopt a correct posture (with their feet resting on the footboard (F) and must agree - together with the tractor driver - on the most effective speed of travel.
- 4) Move forwards with the tractor before starting the planting.
- 5) The operators must take the seedlings from the trays and place them in the drilling cups which, alternatively, will be positioned at the top of the dispenser.
- 6) The operators on the work vehicle must check the planting quality constantly; in the event of anomalies, stop the tractor moving forwards and adopt corrective measures (see "Information on adjustments" and "Troubleshooting"- pages 16 and 30).



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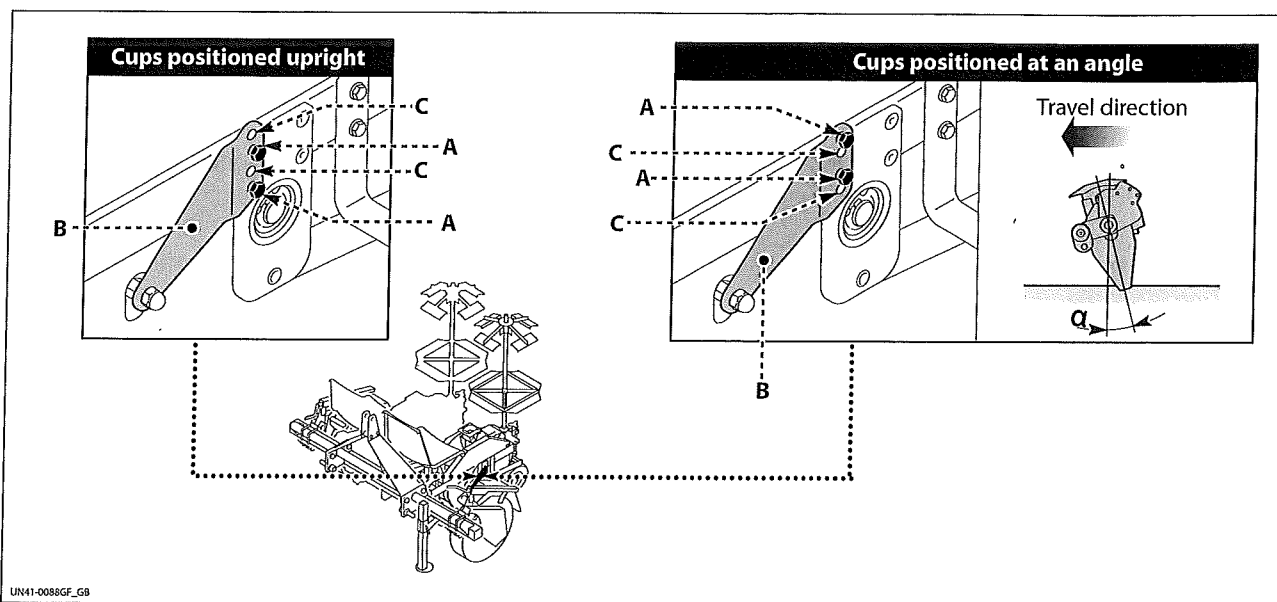
Night-time work or poor visibility conditions

Working at night or in poor visibility conditions increases the risks arising from machine use; in these conditions, proper lighting must be provided to ensure safe work.

Changing the tilt of the cups

The cups only need to be tilted if the seedlings need to be planted through plastic mulch and widely spaced. Tilting the cups means the mulch sheet will rip less.

Arrange the cups in the same way for all the work units.



To change the cup tilt angle, proceed as outlined below.

- 1) Check that the dispenser and the cups can move freely.
- 2) Unscrew the screws (A).
- 3) Align the unused holes (C) in the plate (B) with the screw fastening (A) holes.
- 4) Tighten the screws (A).

Transit on public roads



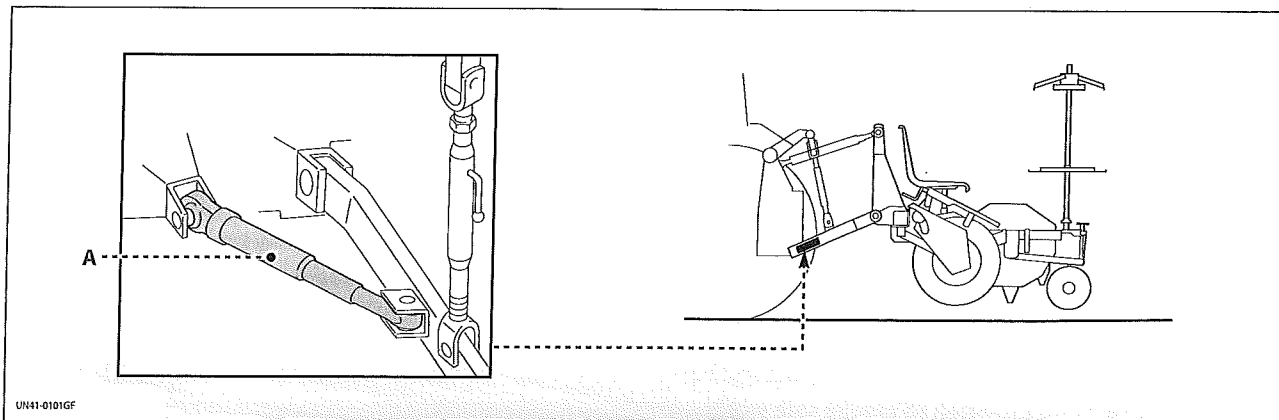
Danger - Warning

It is prohibited to carry people and/or things on the work vehicle.

Before any on-the-road driving remove all the trays from the tray holder and clean the working and pneumatic parts to remove any soil residues.

When transporting the work vehicle / tractor assembly, the regulations of the highway code must always be complied with.

The three-point hitch must be secured with the relative bars (A) to prevent the work vehicle swinging and the speed of travel must be adjusted to prevent loss of control of the vehicle.



Prolonged disuse of the work vehicle

If the work vehicle is not due to be used for long periods, proceed as follows.

- 1) Clean the machine thoroughly, taking care to remove any chemical or fertiliser residues (see "Machine cleaning").
- 2) Check the condition of the all the machine's parts and replace any that are worn or damaged.
- 3) Always check that the bolts / screws are correctly tightened.
- 4) Apply grease to all the unpainted parts.
- 5) Grease the parts that require lubrication (see "Lubrication diagram").
- 6) Park the machine carefully on flat ground in a dry area protected from the weather.

Leave enough room around the work vehicle for the hitching up and unhitching manoeuvres.

Lower the resting foot to the ground to guarantee work vehicle stability.

Maintenance advice

Maintenance work must be carried out with the work vehicle on flat, compact ground, with the tractor engine off, parking brake engaged, and ignition key removed, and adopting all the necessary safety measures required to work safely.

Any maintenance operations that can be carried out on the business premises come under the ordinary maintenance envisaged in the instruction manual. Special maintenance operations require a specialised workshop on the premises which meets the requirements specified by the relative laws in force (appropriate equipment suitably trained staff etc.); if you do not have a compliant workshop, contact an authorised one.

Maintenance schedule

To guarantee constant, efficient and safe machine operation, ensure all the maintenance envisaged by the manufacturer is carried out.

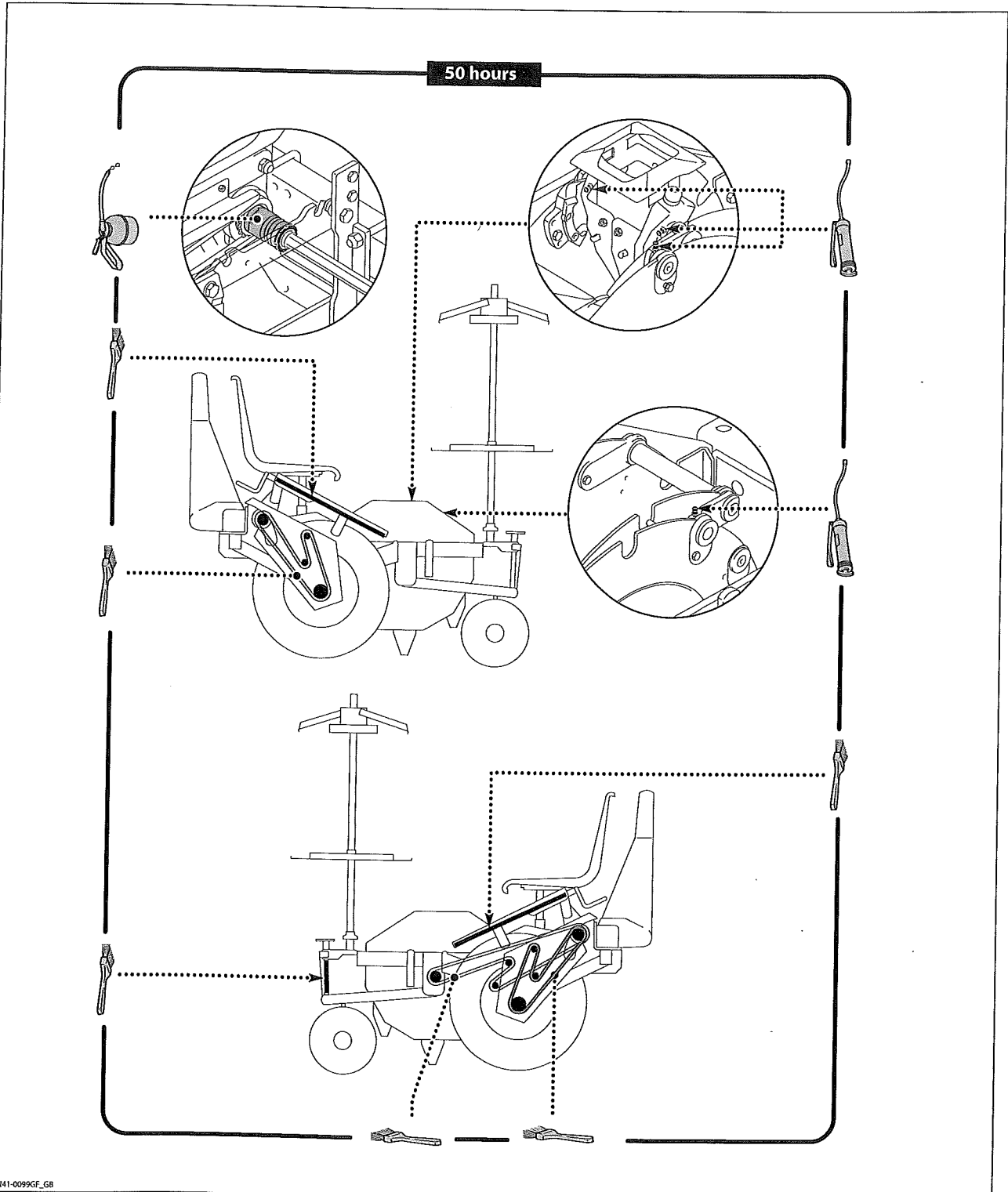
Maintenance schedule

Frequency	Component	Type of work	Manual reference
Every hour	Dispencer	Cleaning	
	Drilling cups	Cleaning	Drilling cup cleaning
Every day	Lift frame	Inspection	
	Safety devices	Inspection	
	Warning and hazard plates	Inspection	
Every 50 hours	Machine components	Greasing	
	Nuts and bolts	Tightening inspection	
Every 150 hours	Tyres	Pressure check	Pressure check




Lubrication diagram

Lubricate the parts shown at the times and in the ways specified.
 Before lubricating, clean the components concerned and the greasing nipples to prevent contamination of the lubricant.

Use universal grease for traction in farming and industrial machinery, which is water-repellent with a 180° drop point.



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 Grease	 Grease	 Oil
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UN41-0102HA

Cups cleaning

Clean the moving parts of the drilling cups to remove any product residues so that the cups can move freely.

Tyres check

Check the tyres for wear and if they feature tears or signs of ageing, they must be replaced.

Check tyres pressure and restore if necessary (see "Specifications").

The pressure must be checked with the weight of the work vehicle entirely on the ground and with nothing and nobody on the work vehicle.

Cleaning the work vehicle

Clean the work vehicle with a high-pressure water jet and, if necessary, with approved detergents.

The liquid used for washing could be hazardous for the environment due to the presence of pollutants such as detergents, oils, etc., therefore do not simply dump the

wastewater; dispose of it in suitable areas equipped with separation devices for the pollutants.

Dry with compressed air and lubricate the components shown (see "Lubrication diagram").

Troubleshooting

The following list contains a number of common problems that may arise during work, together with the ways to solve them.

Problem	Likely cause	Solution
The seedling planted is too close to the surface or too deep	Incorrect planting depth	Make the relative adjustment (see "Adjusting the planting depth")
The hole made in the plastic mulch by the drilling cup is too long	Incorrect transmission ratios for the soil type	Select the correct ratio (see "Plant spacing range") and replace the pinion (see "Replacing the pinion")
The soil has not been properly compacted on top of the seedlings	Packing wheels not set correctly	Adjust the packing wheels (see "Adjusting the packing wheels")
There is soil building up in front of the resting skid	Transplanting unit is applying too much force to the ground	Adjust the force applied to the ground by the unit (see "Adjusting the planting force")
The plastic mulch is being damaged	Transplanting unit is applying too much force to the mulch sheet	Adjust the force applied to the plastic mulch by the unit (see "Adjusting the planting force")

When replacing worn or damaged parts, original spares must always be used.

Special maintenance operations (non included in this handbook) require a specialised workshop on

the premises which meets the requirements specified by the relative laws in force (appropriate equipment suitably trained staff etc.); if you do not have a compliant workshop, contact an authorised one.

Changing and replacing the drilling cups

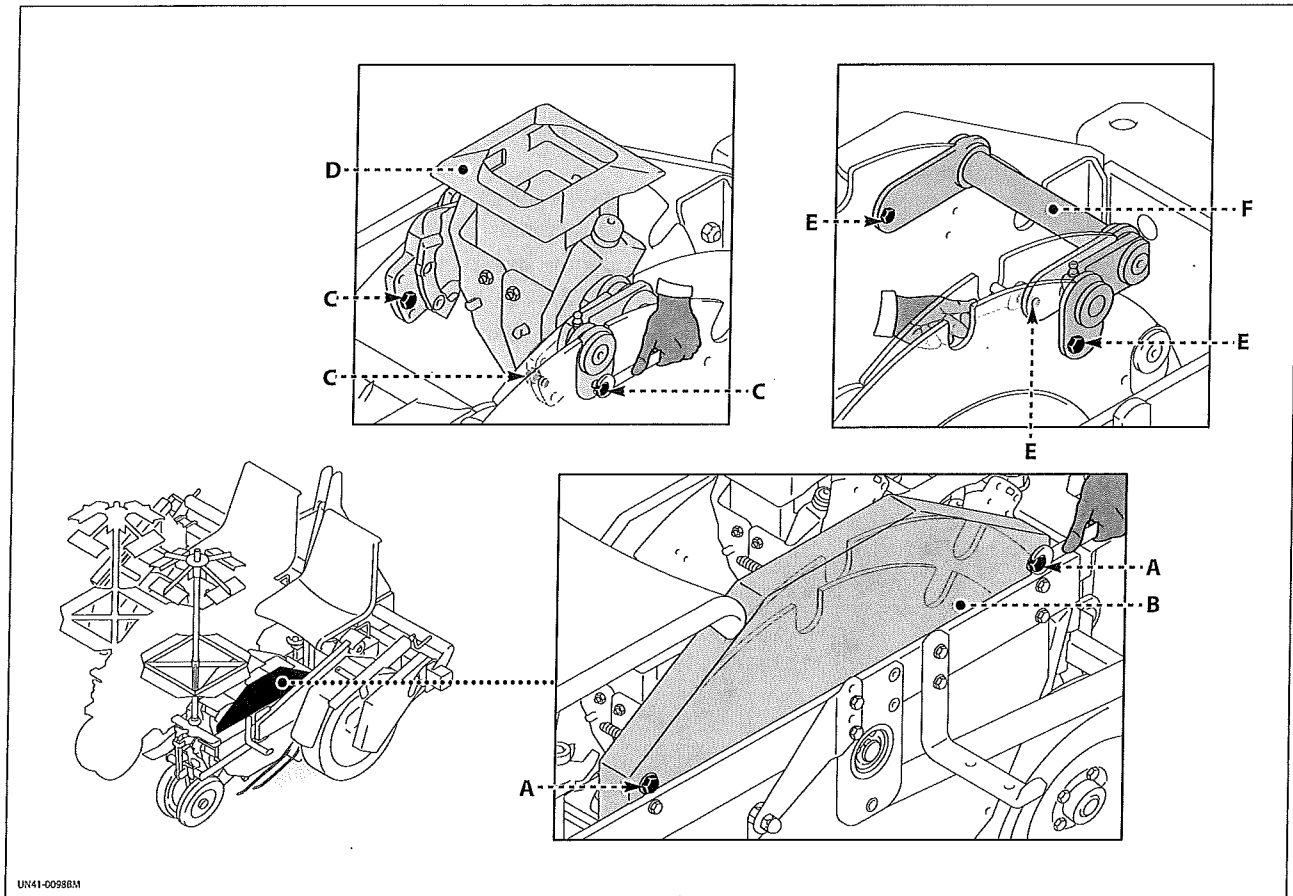
The dispenser can have up to six drilling cups fitted on it.

In the set-up with one or two drilling cups, you will need to fit the phasing units to ensure dispenser integrity (see "Drilling cups arrangement" - page 5).



Caution

To prevent damage to the transplant unit transmission, use the driving wheel to rotate the dispenser.



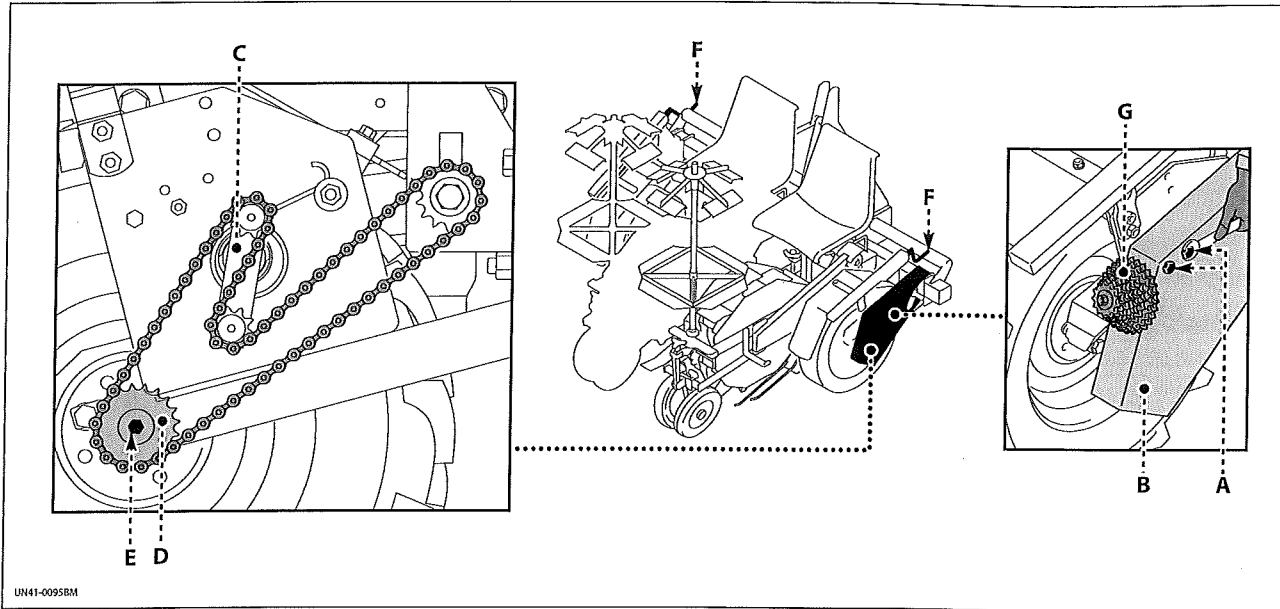
Proceed as outlined below.

- 1) Lift the work vehicle off the ground.
- 2) Unscrew the screws (A).
- 3) Remove the mobile guard (B).
- 4) Unscrew the screws (C) on each drilling cup (D) and remove it.

Set up the drilling cup control disk and any phasing units required (see "Drilling cups arrangement").

- 5) Fit the cups in the housings.
- 6) Tighten the screws (C) on each drilling cup.
- 7) If necessary, fit the phasing unit/s (F).
- 8) Tighten the screws (E) on each phasing unit.
- 9) Fit the casing (B) and tighten the screws (A).
- 10) Lower the work vehicle onto the ground.

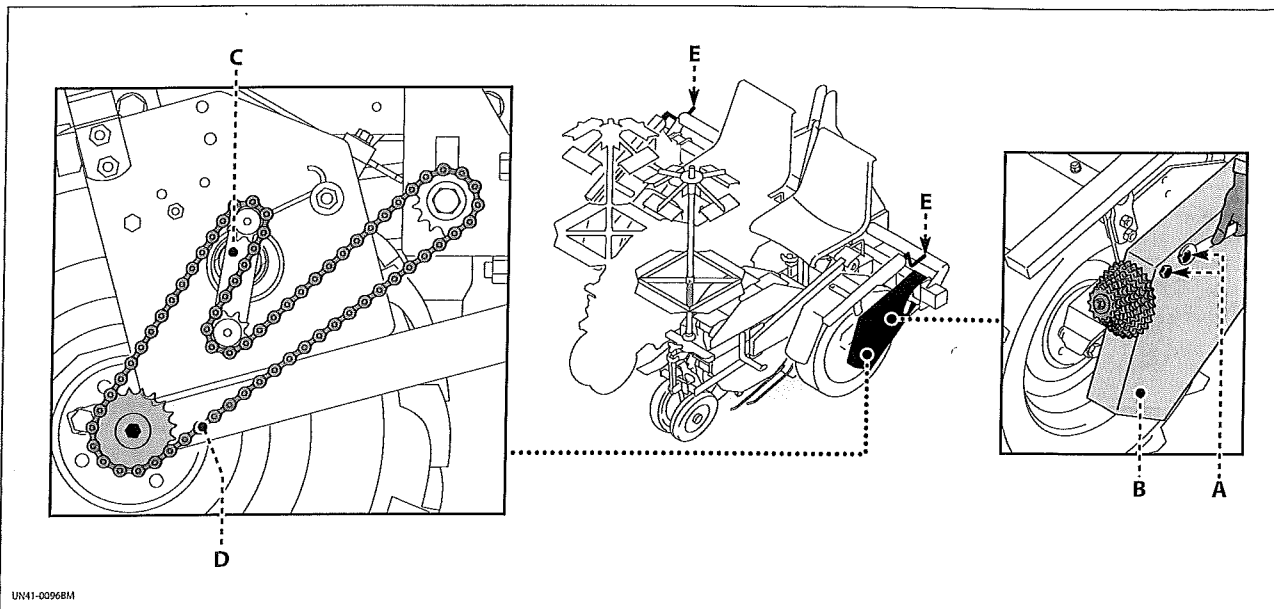
Replacing the driving wheels pinion



Proceed as outlined below.

- 1) Turn the levers (F) to slacken off the chain.
- 2) Unscrew the nuts (A) and remove the casing (B).
- 3) Move the tensioner (C) and remove the chain from the pinion (D).
- 4) Unscrew the screw (E) and remove the pinion (D).
- 5) From the range of pinions (G), select the most suitable pinion to obtain the required plant spacing.
- 6) Fit the new pinion and tighten the screw (E).
- 7) Fit the chain on the pinion.
- 8) Fit the casing (B) and tighten the nuts (A).

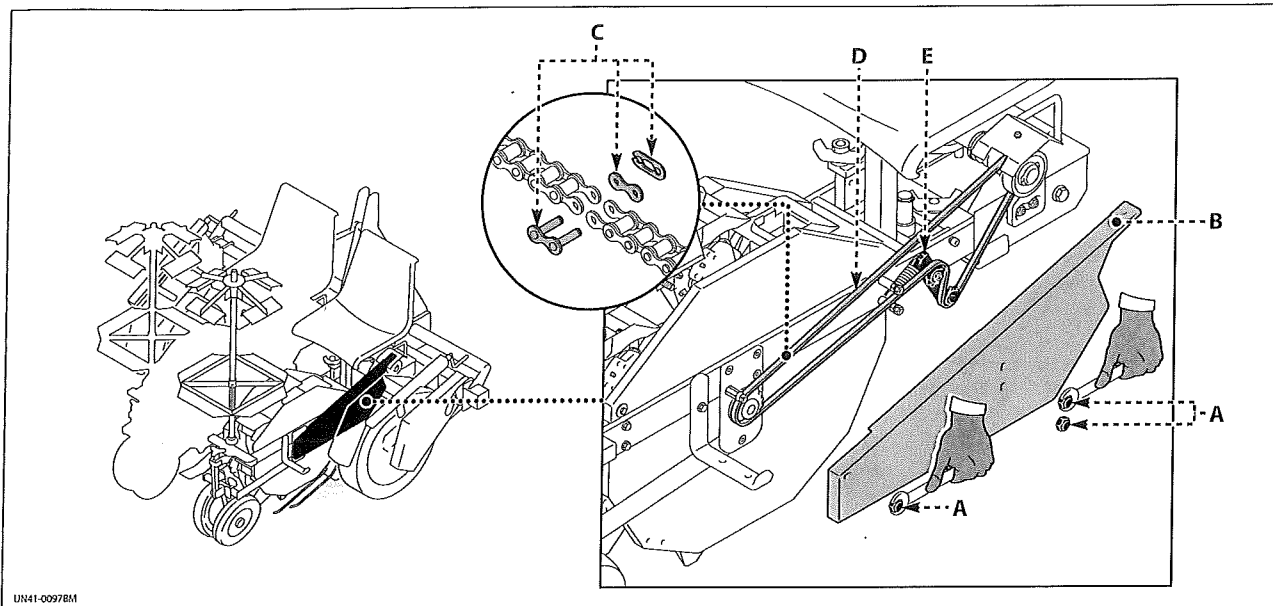
Replacing the driving wheels chain



Proceed as outlined below.

- 1) Turn the levers (E) to slacken off the chain.
- 2) Unscrew the screws (A) and remove the casing (B).
- 3) Move the tensioner (C) and remove the chain (D).
- 4) Fit a new chain.
- 5) Fit the casing (B) and tighten the screws (A).

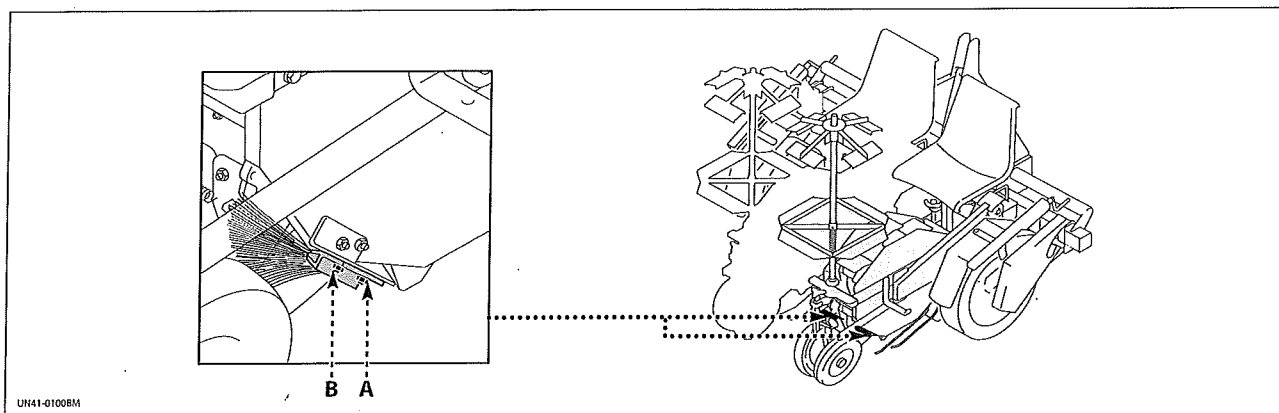
Replacing the planting unit chain



Proceed as outlined below.

- 1) Unscrew the nuts (A).
- 2) Remove the casing (B).
- 3) Remove the joining link (C).
- 4) Remove the chain (D).
- 5) Fit the new chain on the pinions and on the chain tensioner (E).
- 6) Fit the joining link (C).
- 7) Fit the casing (B).
- 8) Tighten the nuts (A).

Replacing the brushes



Proceed as outlined below.

- 1) Unscrew the screws (A).
- 2) Remove the brushes (B).
- 3) Fit the new brushes and tighten the screws (A).

Scrapping the work vehicle

The scrapping operations must be handled by specialised personnel with suitable skills for the job. The components removed must be sorted according to

the type of materials they contain and in compliance with the laws in force concerning "waste collection, sorting and disposal".