



**PLANTING
MACHINE**

**BABY
COMPACT**

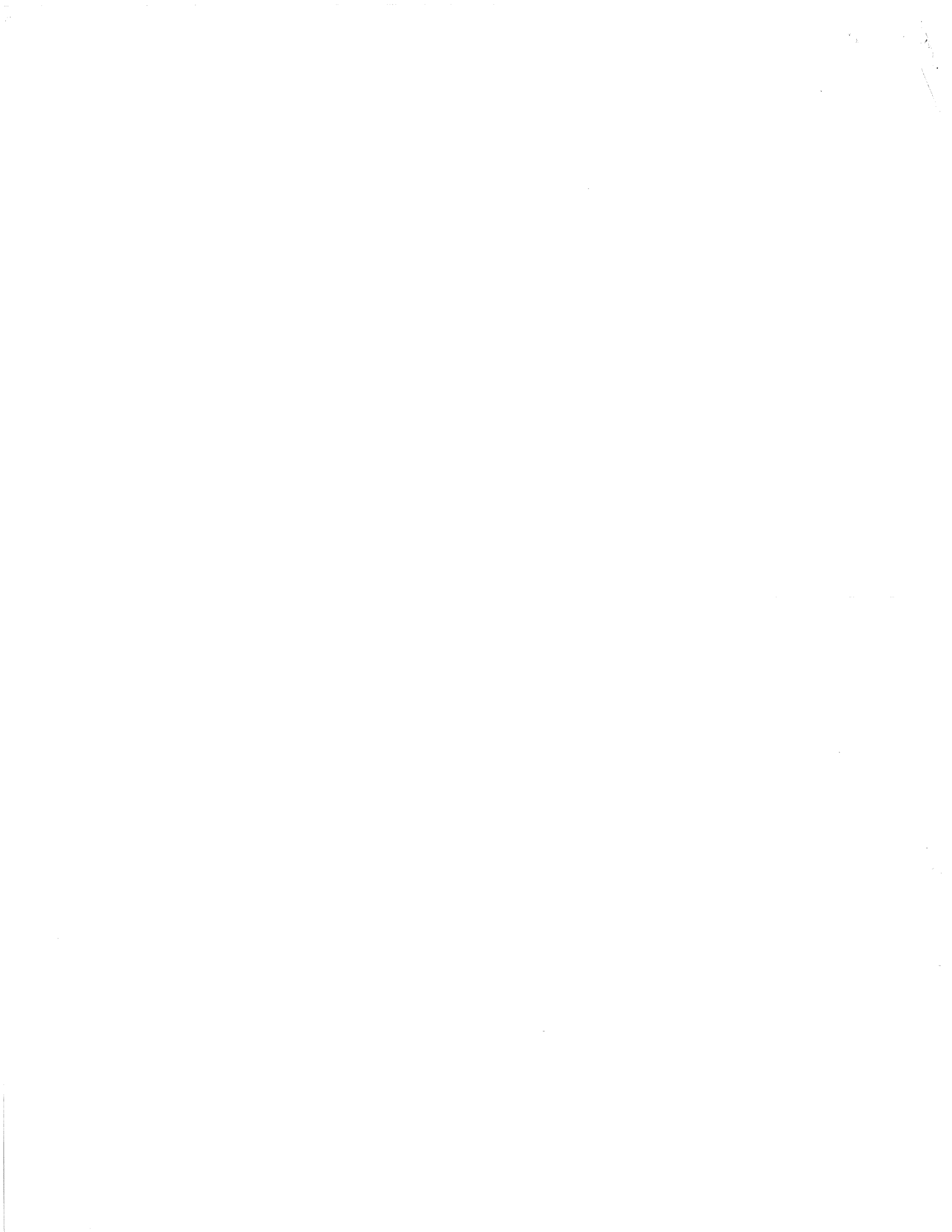
**USE
AND MAINTENANCE
MANUAL**

Original instructions in english language

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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.



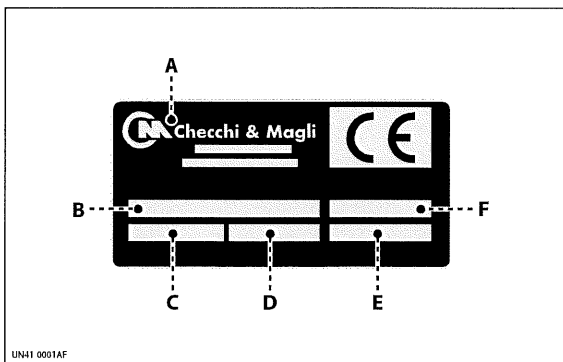
Information

This highlights vital technical information which must not be overlooked.

The illustrations may differ from the actual configuration of the work unit however this does not affect in any way the instructions provided.

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 identification details

B - Work vehicle type

C - Work vehicle model

D - Work vehicle gross 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 work vehicle is delivered to the user under the conditions applicable at the time of purchase and specified in the sale agreement.

- Any modification which is not authorised by the manufacturer
- work unit misuse
- use of the work vehicle by the untrained or unauthorised personnel

- lack of maintenance
 - the partial or total failure to comply with the instructions for use and maintenance
 - 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 for damage caused to persons, animals and property.

Glossary of terms

Row spacing: the distance between each row.

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

Cup: this is the container which holds the plant inside the dispenser.

The number of cups depends on the type of dispenser.

General description

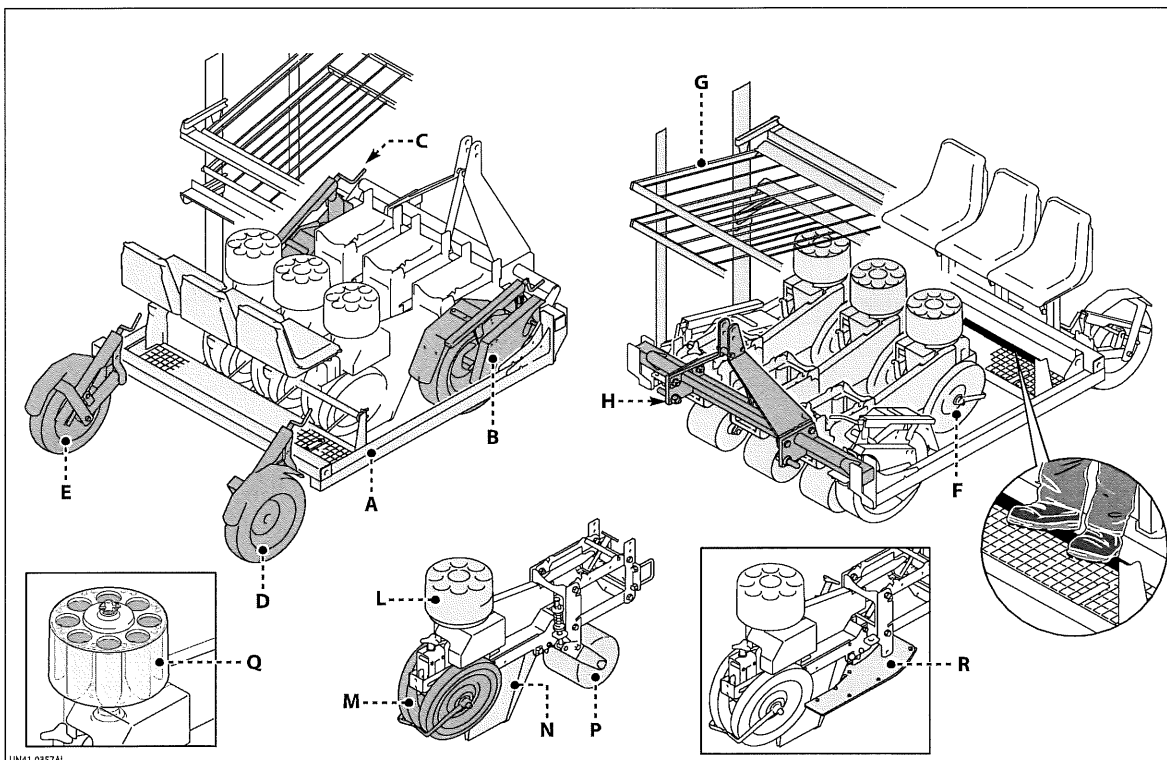
This work vehicle is designed and built for planting seedlings of various kinds (e.g. horticultural, floral, tobacco, nursery-grown, etc.), rooted in conical or pyramid-shaped root balls, including small plants with hardly developed leaf apparatus (See "Seedling size").

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

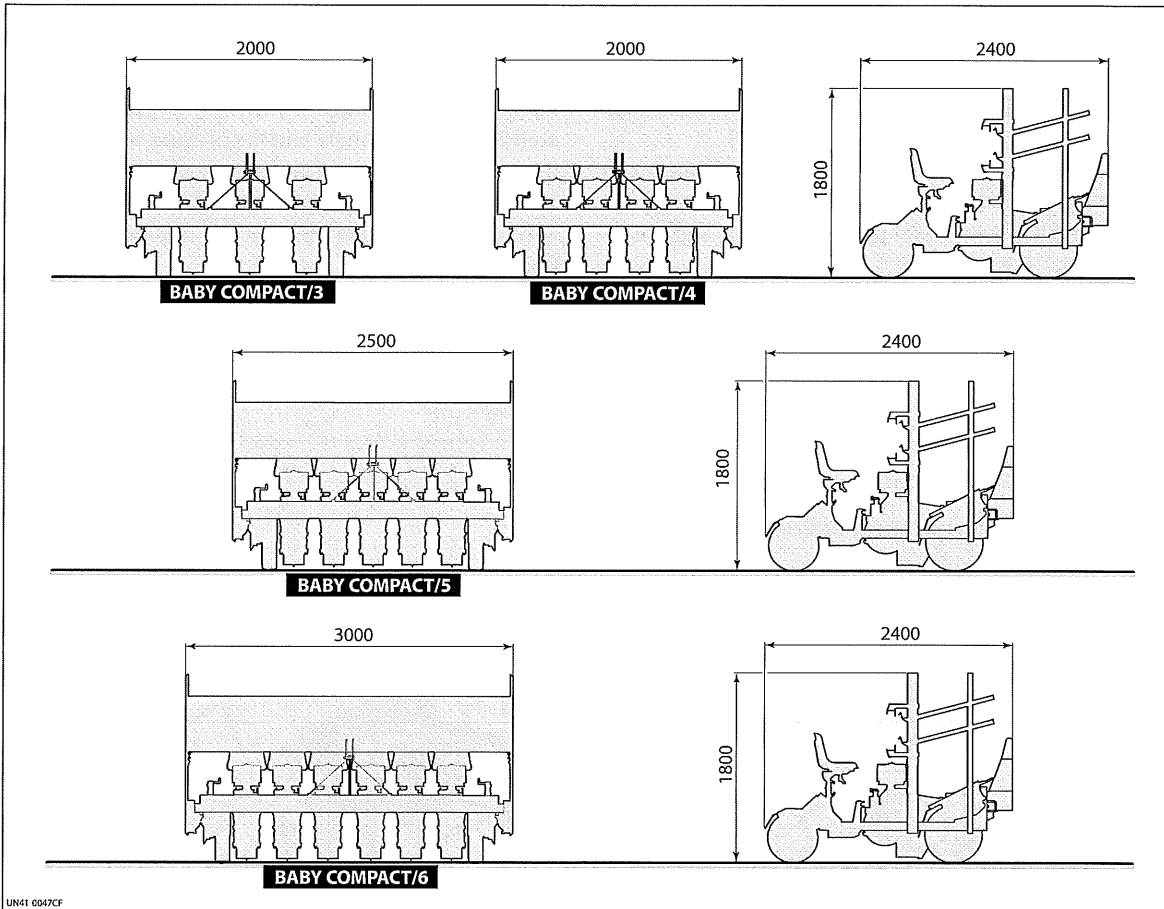
The moving parts (dispenser, ejector, etc.) are driven by the work vehicle's driving wheels (when these are touching the ground) and the movement of the tractor. The seedling falls from the dispenser into the furrow created by the ploughshare and the packing wheels fill back up and compact the soil around the seedling root ball. The work vehicle is manufactured in several models which differ mainly in terms of the number of planting units featured.

Main parts

The illustration shows the work vehicle with three planting units.



- A) Frame
- B) RH driving wheel
- C) LH driving wheel
- D) RH support wheel
- E) LH support wheel
- F) Planting unit
- G) Tray loader
- H) Structure for attaching to the three-point hitch on a tractor
- L) Drag dispensing unit
- M) Packing wheels
- N) Ploughshare
- P) Small wheel
- Q) Dispensing unit with cups that open (as alternative to the drag dispensing unit)
- R) Skid (used instead of the small wheel); suitable for use on spongy or sandy soil

Specifications

Technical characteristics

			BABY COMPACT/3	BABY COMPACT/4	BABY COMPACT/5	BABY COMPACT/6
Required tractor power		HP	30	40	50	60
Minimum row spacing		cm	28			
Plant spacing distance	standard	cm	minimum 14 - maximum 50			
	31 - 82 option	cm	minimum 31 - maximum 82			
	10 - 50 option	cm	minimum 10 - maximum 50			
Planting unit		N°	3	4	5	6
Tyre pressure levels		bar	2,5			
Weight		kg	675	790	935	1085

Seedling size

	A (cm)	min	1,5
		max	3
	B (cm)	min	4
		max	7
	C (cm)	min	6
		max	16
	D (cm)	min	10
		max	23

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Permitted gradients

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

The tractor driver is responsible for assessing the hazards associated with envisaged environmental conditions, e.g., specific ground conditions (loose soil, slippery, sloping ground, etc.) which require special precautions, and it is up to the driver to take the necessary measures to eliminate or reduce these hazards.

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 **BABY COMPACT/3, BABY COMPACT/4, BABY COMPACT/5, BABY COMPACT/6** comply with the Essential and Health Safety Requirements provided for by Directives 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

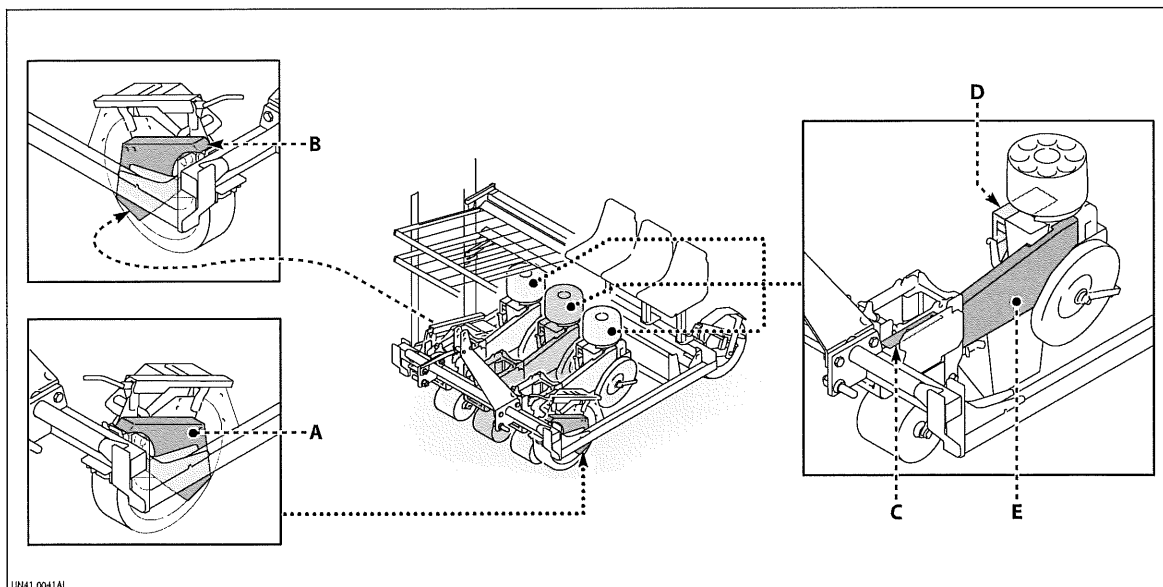


Danger - Warning

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**) installed on the machine with three planting units. The casings (**B - C - D - E**) are fitted on each planting unit.



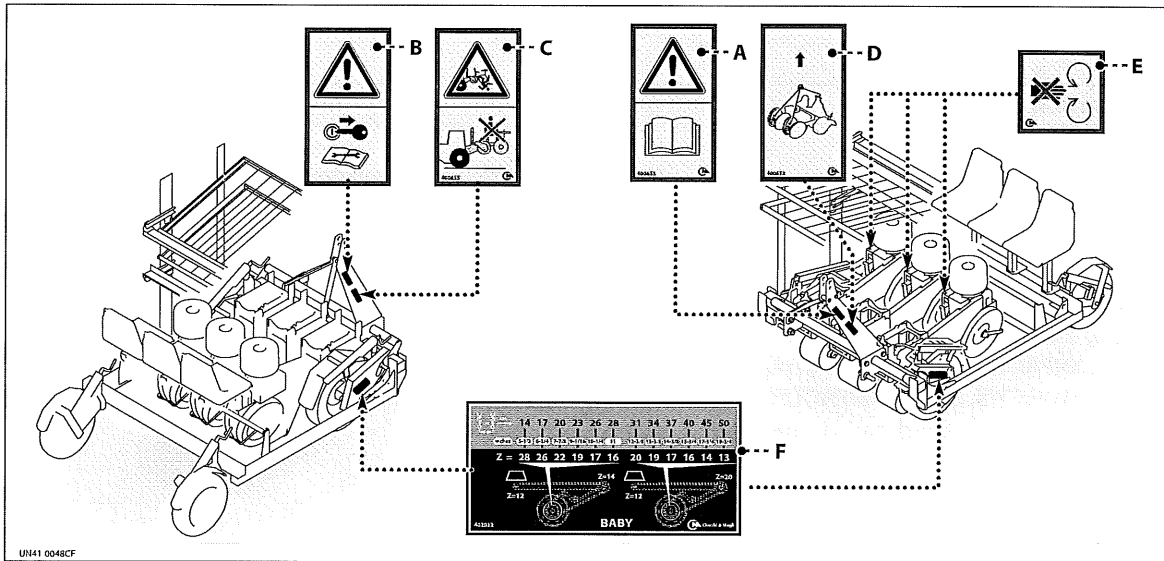
UNI EN ISO 12100

Information and safety signs

! Danger - Warning

Check that all the plates are legible; if they are not, clean them or - if they are damaged - replace them, applying the new ones in the same place as the old ones.

The illustration shows the locations and meanings of the applied signs.



- A) Hazard plate:** read the use and maintenance manual before using the work vehicle.
- B) Hazard plate:** switch off the tractor; remove the ignition key and store in a safe place before carrying out any type of work on the work vehicle.
- C) Hazard plate:** do not remain on the seat with the work vehicle lifted off the ground.
- D) Information plate:** strap up at the anchor points shown to lift the work vehicle.
- E) Hazard plate:** this highlights a risk of hands being crushed between the dispenser and the dispenser disc.
- F) Plant spacing distance plate:** this shows the type of pinion to fit according to the plant spacing required.

Optional accessories

The following chart shows the optional accessories available for installation.

Manual lift row tracers (max. row spacing: 110 cm)
Manual lift row tracers (max. row spacing: 150 cm)
Hydraulic lift row tracers
Continuous flow watering device positioned between the ploughshares BABY COMPACT
Optional kits for distances on the row (31 - 82 cm)
Plant spacing kit 10 - 12 cm
Transversal tray holder additional shelf (200 cm)
Transversal tray holder additional shelf (250 cm)
Transversal tray holder additional shelf (300 cm)
Transversal tray holder additional shelf (350 cm)
Transversal tray holder additional shelf (400 cm)
Hosepipe laying device
BABY COMPACT front flex wheel kit (not compatible with skid)
BABY COMPACT narrow ploughshare kit
BABY COMPACT standard ploughshare kit
BABY COMPACT medium ploughshare kit
Kit of disks in front of the ploughshare (only skid version)
BABY COMPACT semi-cup dispensing unit

Noise

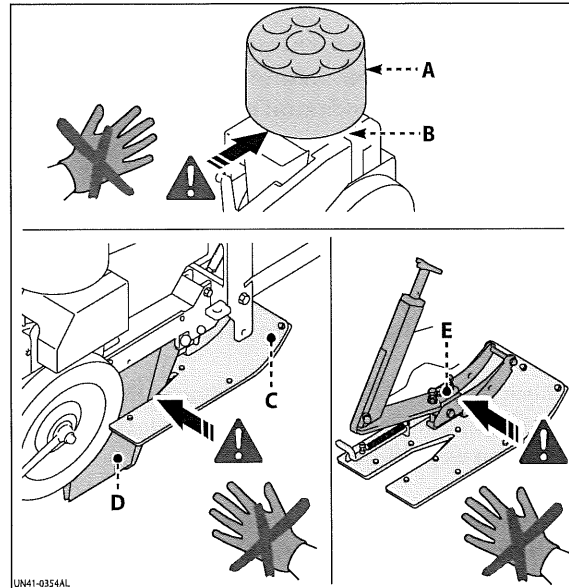
The use of the planting machine does not mean a significant increase in the noise levels of the tractor to which the planting machine is hitched.

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 between the dispenser (**A**) and the dispenser disc (**B**) on each planting unit.
- Risk of getting caught/dragged/trapped by the moving parts.
- Risk of slipping when getting on and off the planting unit seat.
- Danger of getting crushed or trapped when hitching and unhitching the work unit to and from the tractor.
- Risk of crushing between the skid (**C**) and the ploughshare (**D**) and between the skid and the skid support (**E**) during the skid release/engagement steps.



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 work vehicle, 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, and the work vehicle resting on the ground.

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

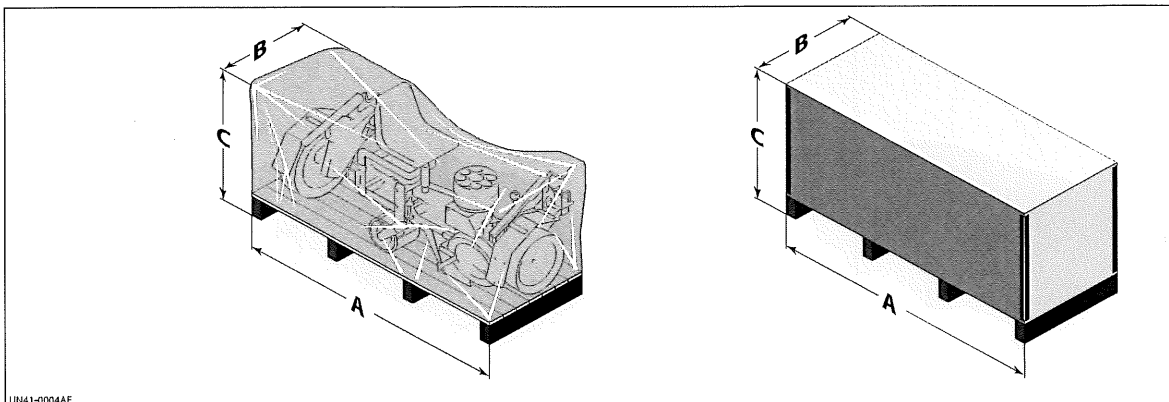
Perform handling and transportation manoeuvres in compliance with the information provided by the manufacturer and stated directly on the machine, on the packing and in the instructions for use.

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 types of packing most commonly used.



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Approximate packing dimensions

		BABY COMPACT/3	BABY COMPACT/4	BABY COMPACT/5	BABY COMPACT/6
Parcels	n°	2	1	1	3
A	cm	150	150	150	150
B		56	56	80	80
C		100	100	100	100

Handling and lifting the packed unit



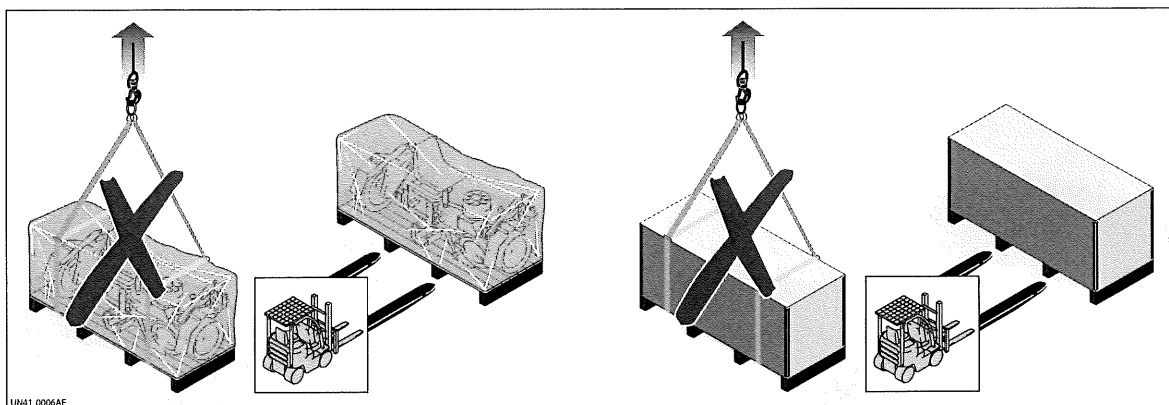
Danger - Warning

Lift the packed machine using appropriate hoisting means for the load to lift.



Danger - Warning

Check the parcel weight stated on the packing itself.



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Unpacking and assembly

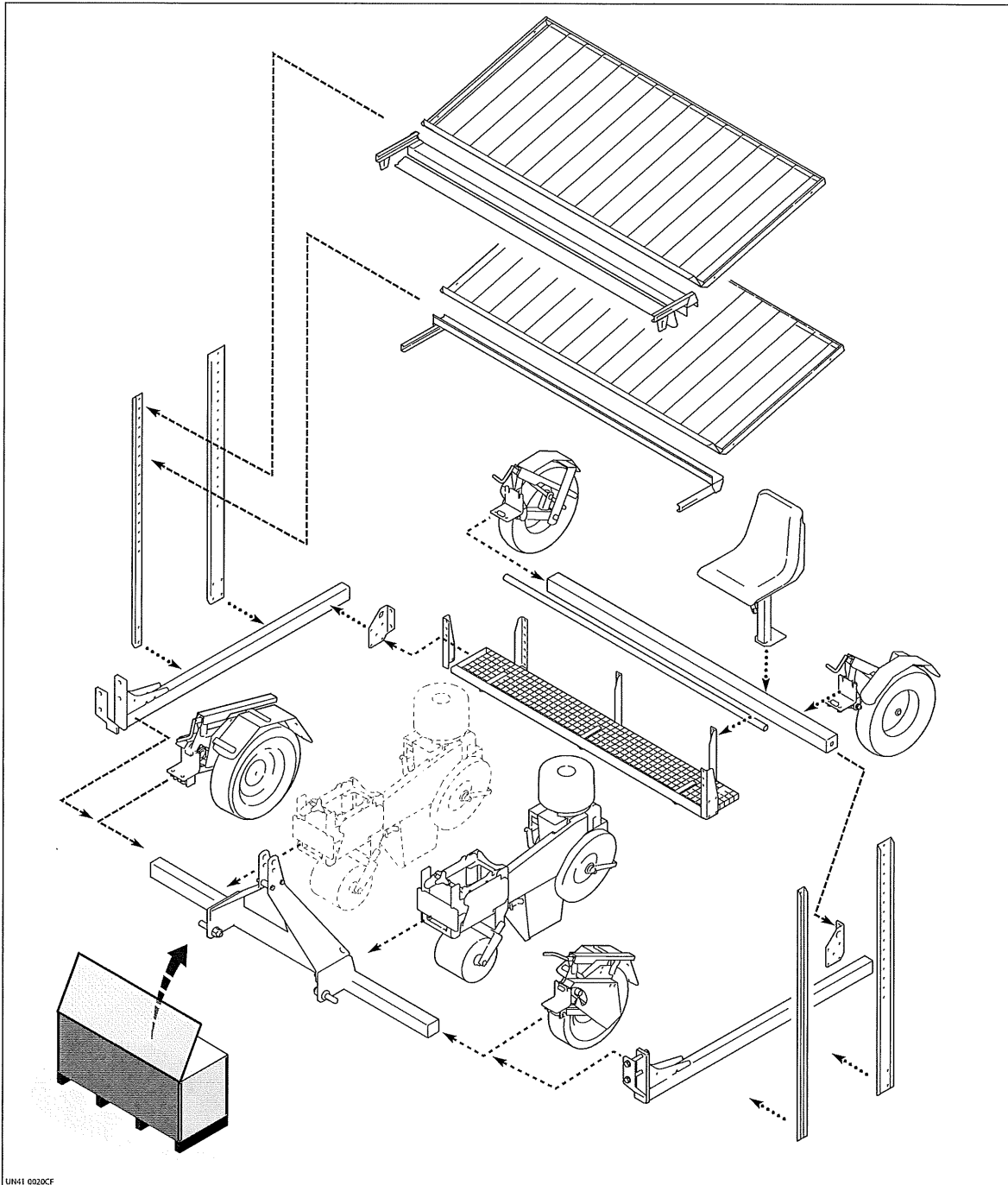
During unpacking, check that the components are in good condition and tally with the number stated; in the event of damage, report the damage to the retailer or directly to the manufacturer within 8 days of receiving the machine.

The packing materials must be appropriately disposed

of or recycled in accordance with the laws in force.

The illustration provides a brief outline of the work vehicle assembly diagram with two planting units.

The assembly procedure shown applies for all the work vehicle models specified in the manual.

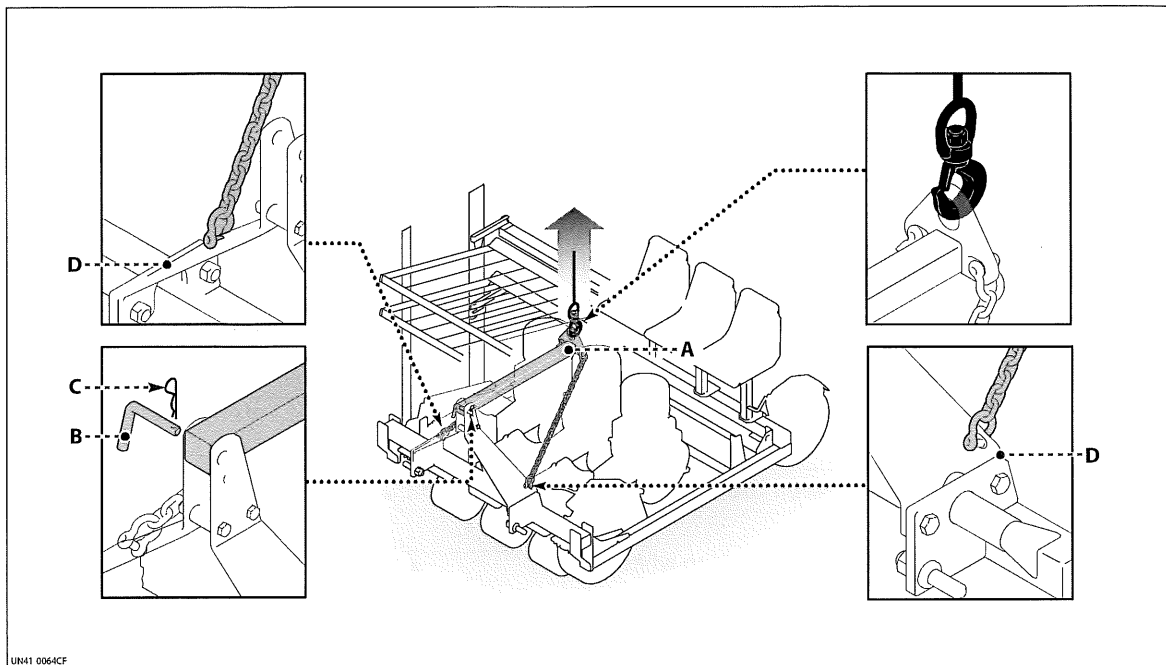


Lifting the work unit

The lifting procedure shown applies for all the work vehicle models specified in the manual.

For models **BABY COMPACT/3** and **BABY COMPACT/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.

Safety advice concerning adjustments

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

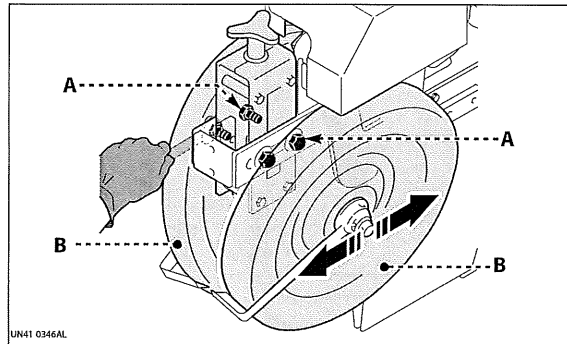
engaged, ignition key removed, and adopting all the necessary safety measures required to work safely.

Adjusting the spacing between the packing wheels and the ploughshare

The distance between the packing wheels and the ploughshare must be adjusted according to the type of ground.

Proceed as outlined below.

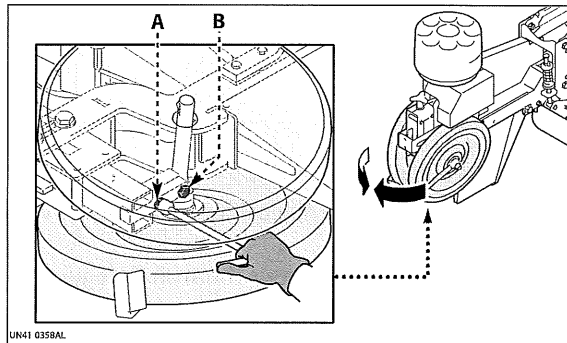
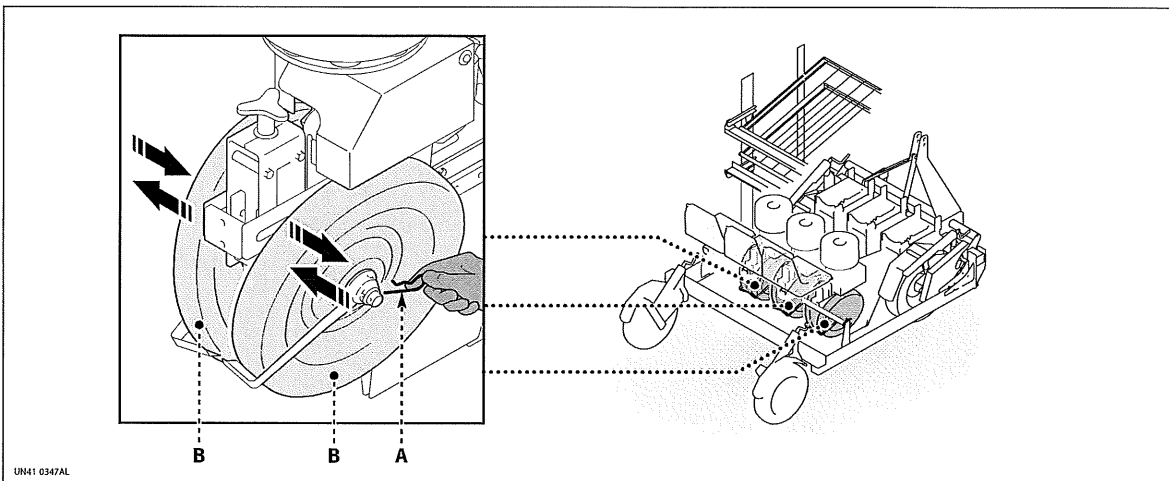
- 1) Loosen the screws (A).
- 2) Move the packing wheel unit (B) as required.
- 3) After adjustment, tighten the screws (A).


Adjusting the symmetry between the packing wheels and the ploughshare

Because of their incorrect position, the packing wheels may rub against the share.

Proceed as outlined below.

- 1) Loosen screw (A) and screw (B).
- 2) Centre the packing wheels with the ploughshare.
- 3) Tighten the screws (A - B).


Adjusting the packing efficiency


Adjust the spacing between the packing wheels (**B**) as required.

The farther apart the wheels are, the less efficient the packing is.

The closer the wheels are, the more efficient the packing is.

Proceed as outlined below.

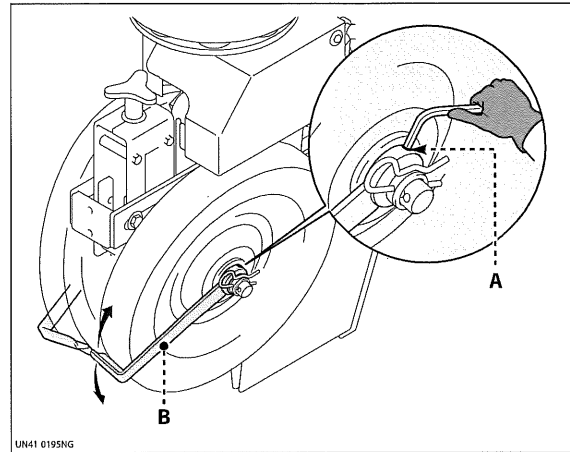
- 1) Remove the pins (**A**).
- 2) Open out the packing wheels (**B**) as required and then lock them in position with the relative pins (**A**).

Adjusting the packing wheel scraper

The scraper is used to clean the packing wheels, removing any soil and debris that has built up.

Proceed as outlined below.

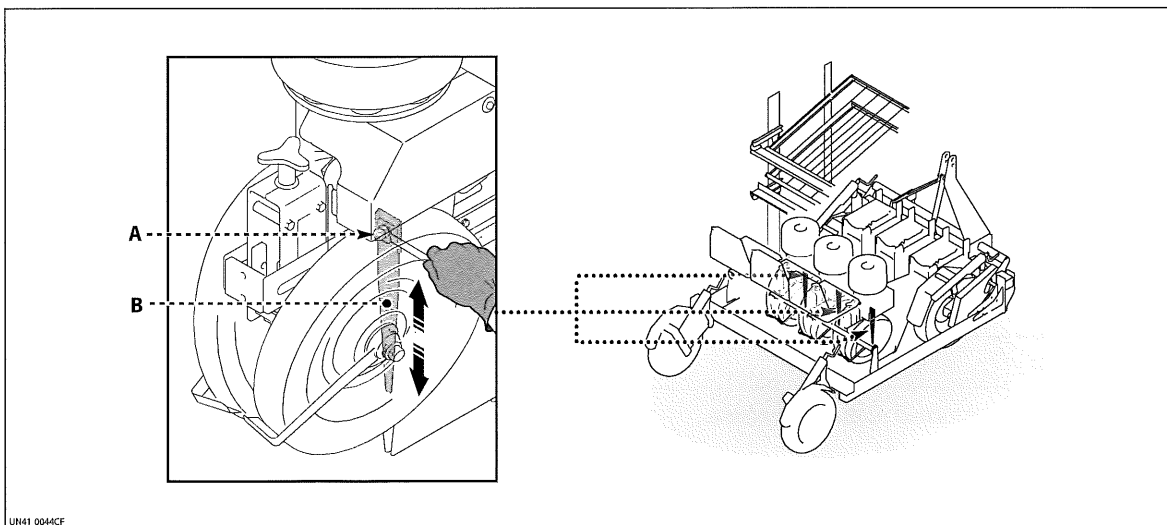
- 1) Loosen the screw (**A**).
- 2) Turn the scraper (**B**) until it reaches the desired position.
- 3) Tighten the screw (**A**).
- 4) Repeat the same procedure for the other scraper.



Adjusting the plant control plate

The plant control plate stops the seedlings falling downwards before they are ejected.

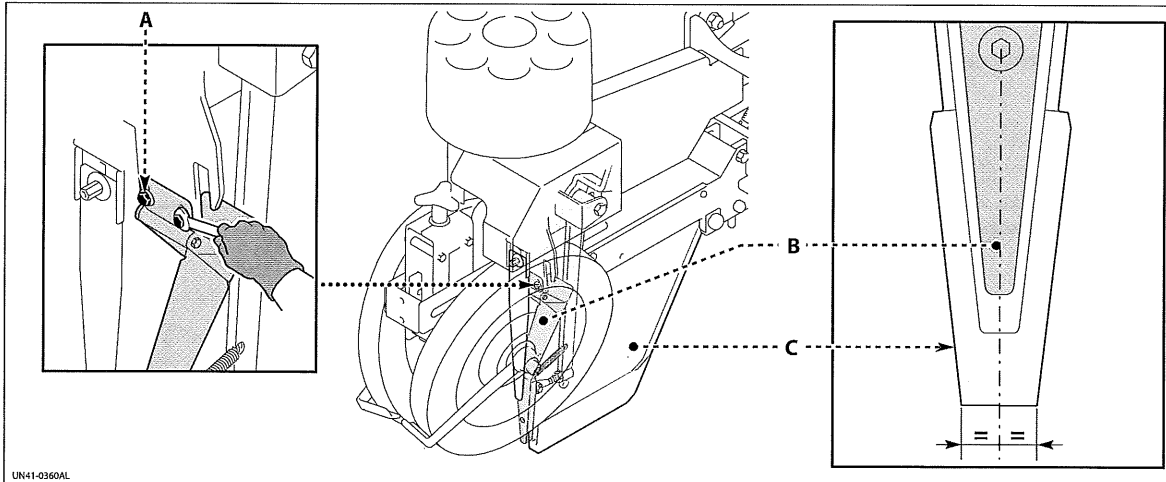
Move the plate down for smaller seedlings and up for taller seedlings.



Proceed as outlined below.

- 1) Loosen the nut (**A**).
- 2) Adjust the plate (**B**) as required.

- 3) After adjustment, tighten the nut (**A**).

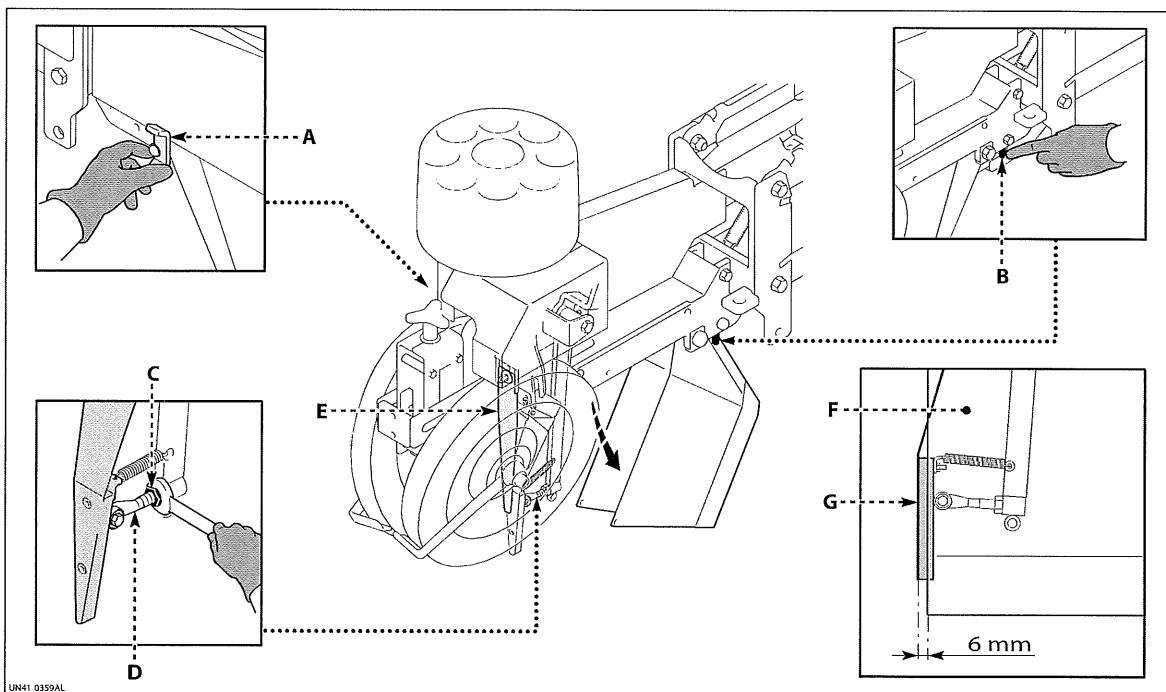
Adjusting the flexible plate centring


For this operation, proceed as outlined below.

- 1) Loosen the screws (A).
- 2) Centre the flexible plate (B) in relation to the share (C).
- 3) Tighten the screws (A).


Caution

Check that the flexible plate does not rub against the ploughshare.

Adjusting the flexible plate position


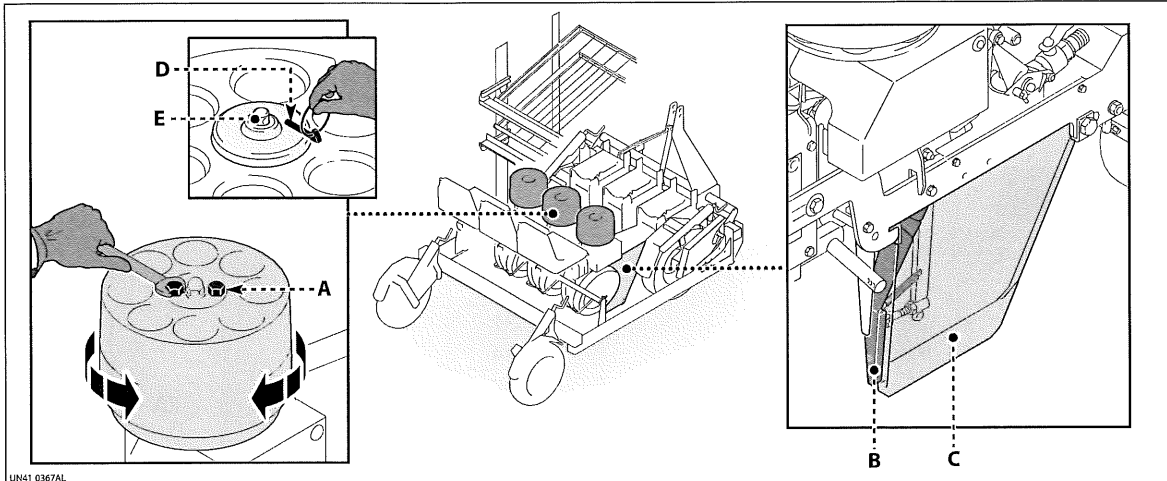
For this operation, proceed as outlined below.

- 1) Loosen the wing nut (A).
- 2) Turn the lock lever (B).
- 3) Push the ploughshare forwards and turn it so it is facing downwards.
- 4) Loosen the nut (C).
- 5) Turn the element (D) to position the flexible plate (G) with respect to the ploughshare (F) as shown in the figure.
- 6) Tighten the nut (C).
- 7) Refit the share in the work position.
- 8) Check that the plant control plate (E) is inside the share.
- 9) Make sure that the share is secured in place with the lock lever (B).
- 10) Tighten the wing nut (A).

Adjusting the dispensing / ejection timing

When the plant falls into the ploughshare (C), the ejector (B) should be in the rear position and should then start pushing the plant to eject it.

If the conditions allow high- or low-speed planting, correct timing between the dispenser and the ejector can be maintained by adjusting the dispenser.



Proceed as outlined below.

- 1) Remove the plug (D).
- 2) Remove the lid (E).
- 3) Loosen the screws (A).
- 4) Turn the dispenser clockwise to speed up the ejector's pushing action or rotate the dispenser anticlock-

wise to delay the pushing action. The notches on the dispenser allow accurate timing adjustment.

- 5) Tighten the screws (A).
- 6) Place the lid (E) on the dispensing unit.
- 7) Insert the plug (D).

Adjusting the opening of the cup

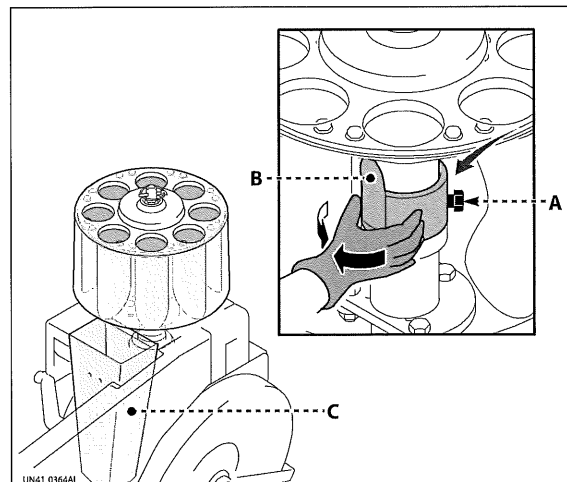
The opening can be adjusted if the work vehicle is equipped with a dispensing unit with cups that can be opened.

For this operation, proceed as outlined below.

- 1) Loosen the screws (A).
 - 2) Turn the cam (B).
- The cup must reach maximum opening approximately at the centre of the hopper (C).
- 3) Tighten the screws (A).

Information

After the adjustment check the correct timing between the dispensing unit and the ejector (see "Adjusting the dispensing / ejection timing").



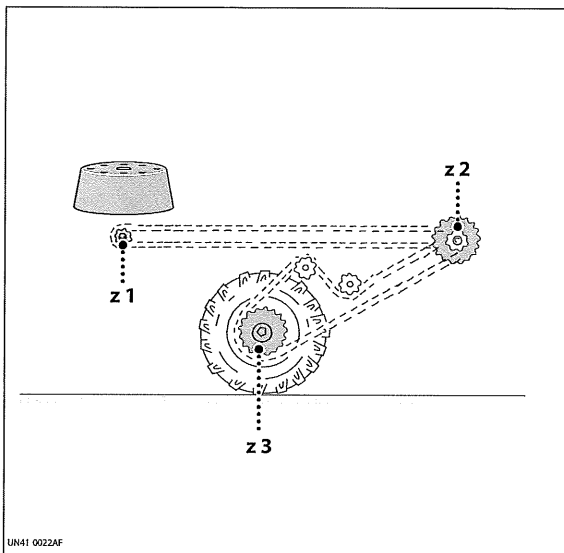
Adjusting the plant spacing

The gap between one plant and the next depends on the number of teeth on the pinions installed.

A series of pinions may be fitted to ensure the required plant spacing is obtained.

When replacing the pinions, the replacement must be carried out on both driving wheels.

The charts state the possible distances between one seedling and the next according to the pinions fitted.



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STANDARD EQUIPMENT PACKAGE				
Plant spacing		N. teeth on the pinions		
cm	inches	z 1	z 2	z 3
14	5 - 1/2	12	14	28
17	6 - 3/4			26
20	7 - 7/8			22
23	9 - 1/16			19
26	10 - 1/4			17
28	11			16
31	12 - 3/8		20	20
34	13 - 3/8			19
37	14 - 5/8			17
40	15 - 3/4			16
45	17 - 3/4			14
50	19 - 3/4			13

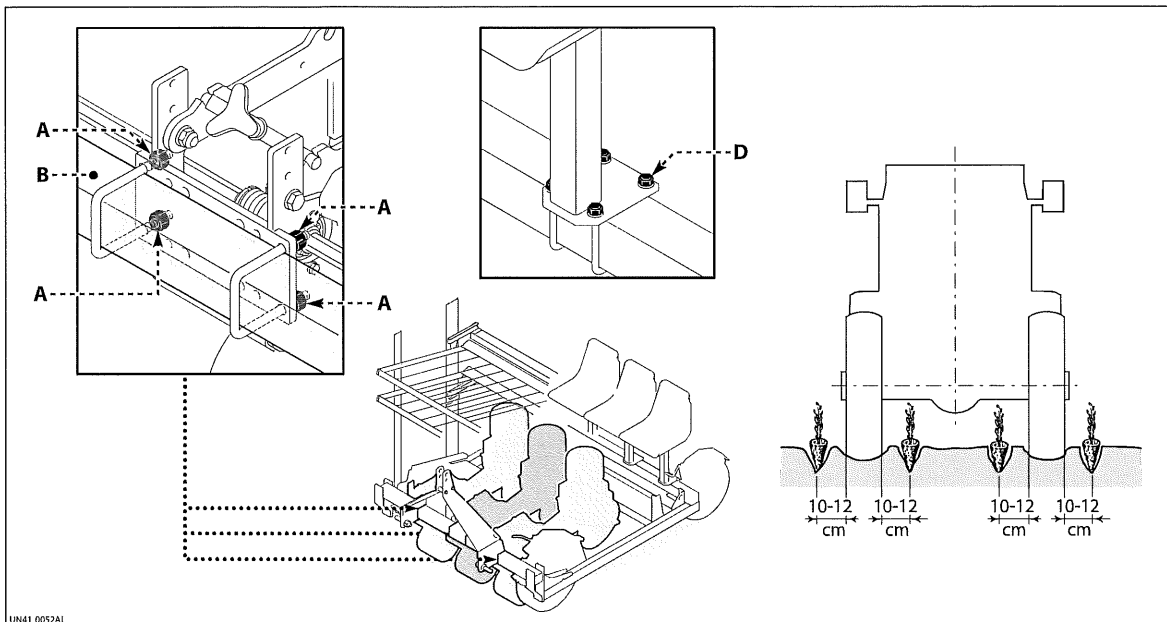
OPTIONAL EQUIPMENT PACKAGE 10 - 50				
Plant spacing		N. teeth on the pinions		
cm	inches	z 1	z 2	z 3
10	3 - 7/8	12	14	40
14	5 - 1/2			28
17	6 - 3/4			26
20	7 - 7/8			22
23	9 - 1/16			19
26	10 - 1/4			17
28	11		20	16
31	12 - 3/8			20
34	13 - 3/8			19
37	14 - 5/8			17
40	15 - 3/4			16
45	17 - 3/4			14
50	19 - 3/4		13	

OPTIONAL EQUIPMENT PACKAGE 31 - 82				
Plant spacing		N. teeth on the pinions		
cm	inches	z 1	z 2	z 3
31	12 - 3/8	19	14	22
34	13 - 3/8			20
36	14 - 1/4			19
40	15 - 3/4			17
43	17			16
50	19 - 3/4			14
60	23 - 3/4		20	16
66	26			15
70	27 - 1/2			14
76	30			13
82	32 - 1/4			12

Adjusting the row spacing

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

Keep the minimum distance stated on the illustration between the seedlings and the tractor wheels. Adjust the seat position accordingly.



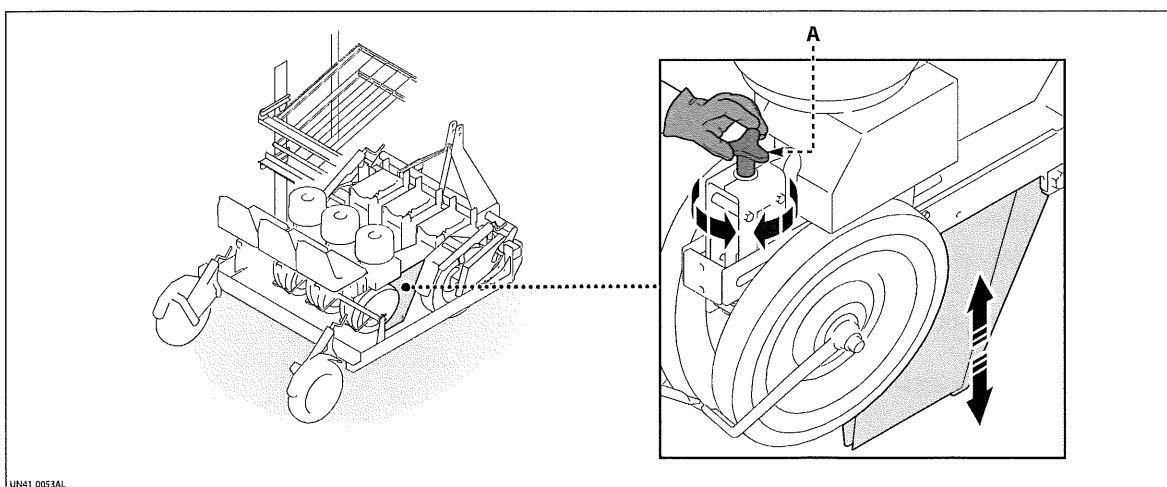
Proceed as outlined below.

Adjust the planting units so that the seedlings are kept (C) 10 - 12 cm away from tractor wheel.

- 1) Loosen the nuts (A).
- 2) Slide the planting unit along the frame (B) until the required planting spacing is obtained.

- 3) Tighten the nuts (A).
- 4) Loosen the nuts (D).
- 5) Move the seats to the midline of the respective planting unit.
- 6) Tighten the nuts (D).

Planting depth adjustment



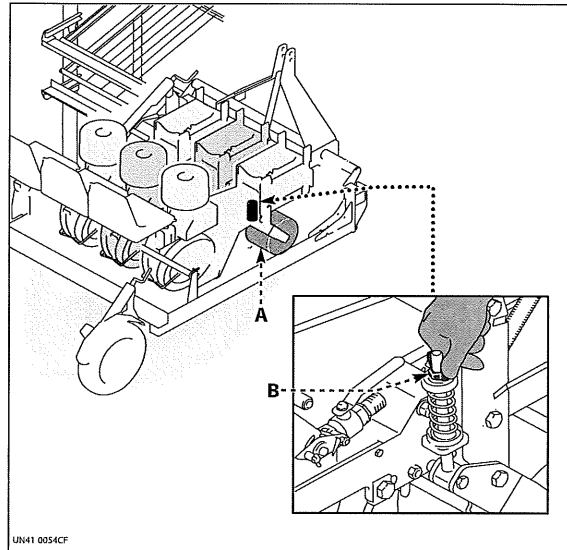
Proceed as outlined below.

- 1) Turn the handwheel (A) to increase or decrease the depth of the furrow.

Adjusting the small wheel load

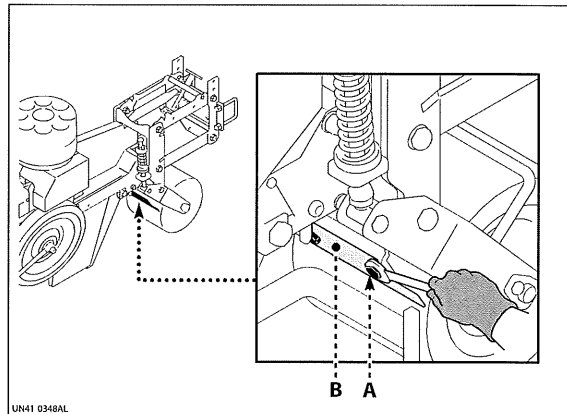
Proceed as outlined below.

- 1) Turn the knob **(B)** clockwise or anticlockwise to increase or decrease the load of the small wheel **(A)** on the ground.


Adjusting the the small wheel scraper

Proceed as outlined below.

- 1) Loosen the screws **(A)**.
- 2) Position the scraper **(B)** so that it is just touching the small wheel.
- 3) Tighten the screws **(A)**.


Adjusting the skid load

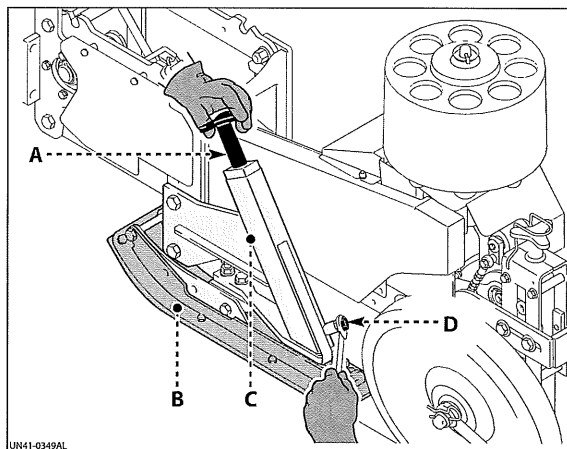
The skid is recommended for use of the prime mover on spongy or sandy soil.

Proceed as outlined below.

Turn the knob **(A)** clockwise to increase the skid **(B)** load on the ground.

Turn the knob **(A)** anticlockwise to decrease the skid **(B)** load on the ground.

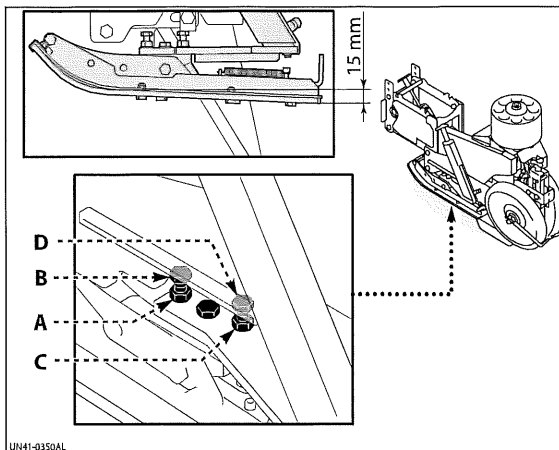
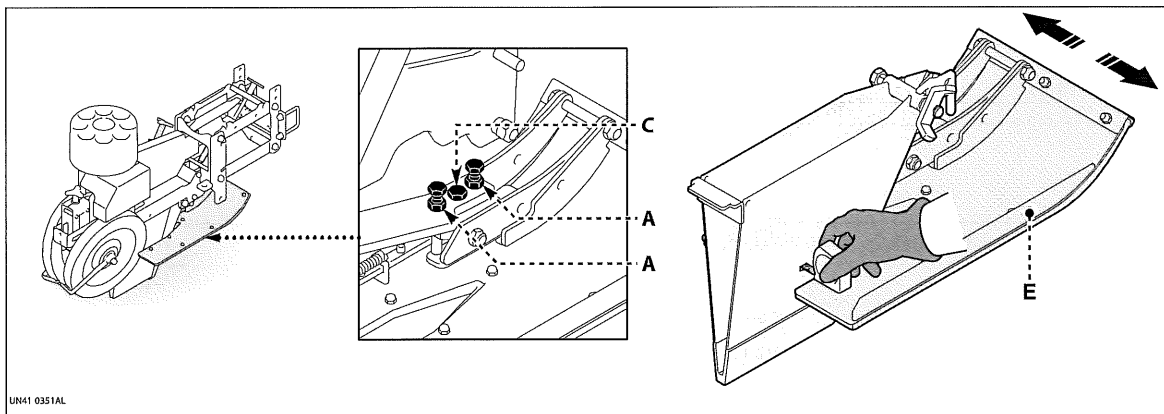
Decide whether the clearance of pipe **(C)** needs adjusting with screw **(D)**.



Adjusting the skid inclination

Proceed as outlined below.

- 1) Loosen nuts **(A)** and **(C)**.
- 2) Alternately loosen and tighten the screws **(B)** and **(D)** to tilt the skid by the amount shown.
- 3) Tighten nuts **(A)** and **(C)**.


Adjusting the skid crosswise


Proceed as outlined below.

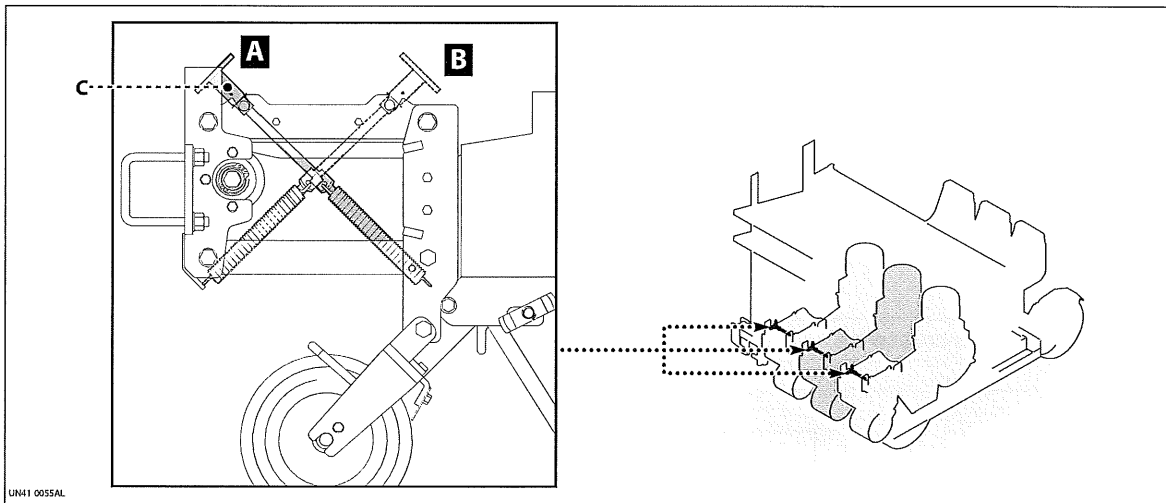
- 1) Loosen nuts **(A)**.
- 2) Loosen screw **(C)**.
- 3) Place the skid **(E)** on the ploughshare centreline.
- 4) Tighten screw **(C)** and nuts **(A)**.

Adjusting the planting unit load

The adjustment unit is usually mounted in position **(A)**.
 Setting the unit to position **(A)** decreases the weight on the packing wheels.
 Setting the unit to position **(B)** increases the weight on the packing wheels.

Proceed as outlined below.

- 1) Turn the handwheel **(C)** clockwise or anticlockwise to increase or decrease the load of the planting unit on the ground.

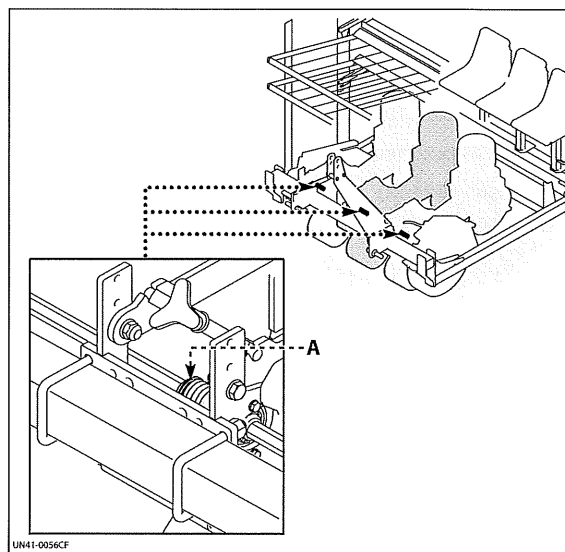

Adjusting the automatic safety release function

The automatic release is designed to protect the transmission components from overloads (e.g. if the dispenser or ejector jams).

The device, installed on every planting unit, 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 tray loader shelves

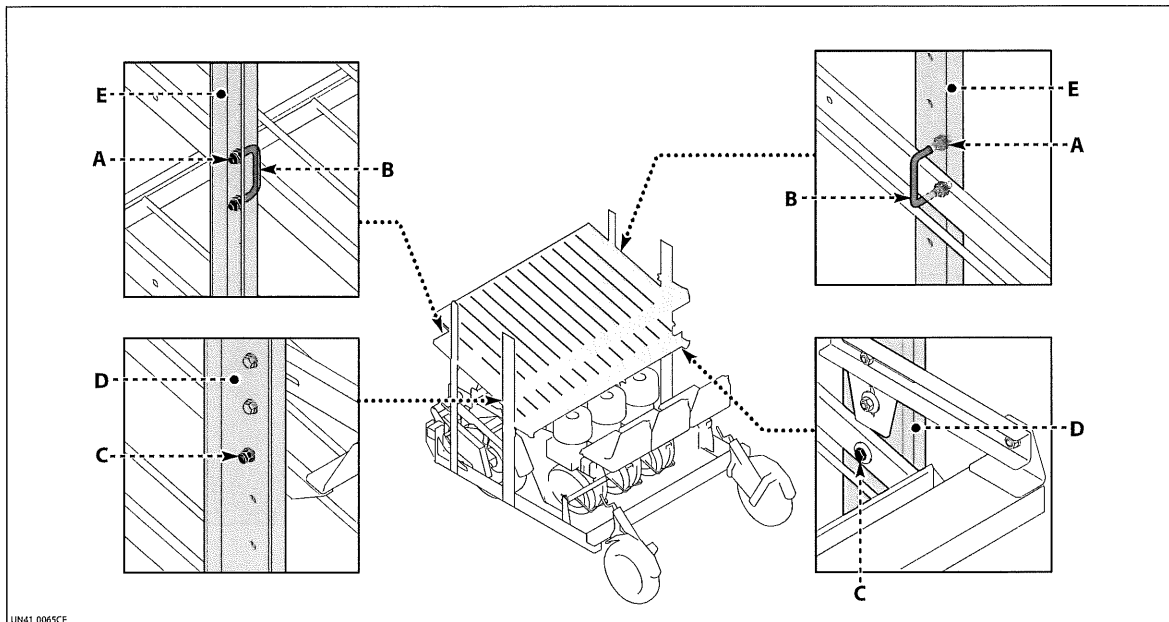
The shelves can be adjusted heightwise, they can be moved either farther apart or closer together, and the tilt angle can also be altered.

Adjust the shelves according to the size of seedlings, positioning them so that the operator is as comfortable as possible when picking up the seedlings from the trays.



Danger - Warning

Before unscrewing the nuts and bolts, prop up the shelves to prevent any sudden movements causing an accident.



Proceed as outlined below.

- 1) Unscrew the nuts (A), remove the parts (B).
- 2) Unscrew the bolts (C).
- 3) Position the shelves at the required height so that the

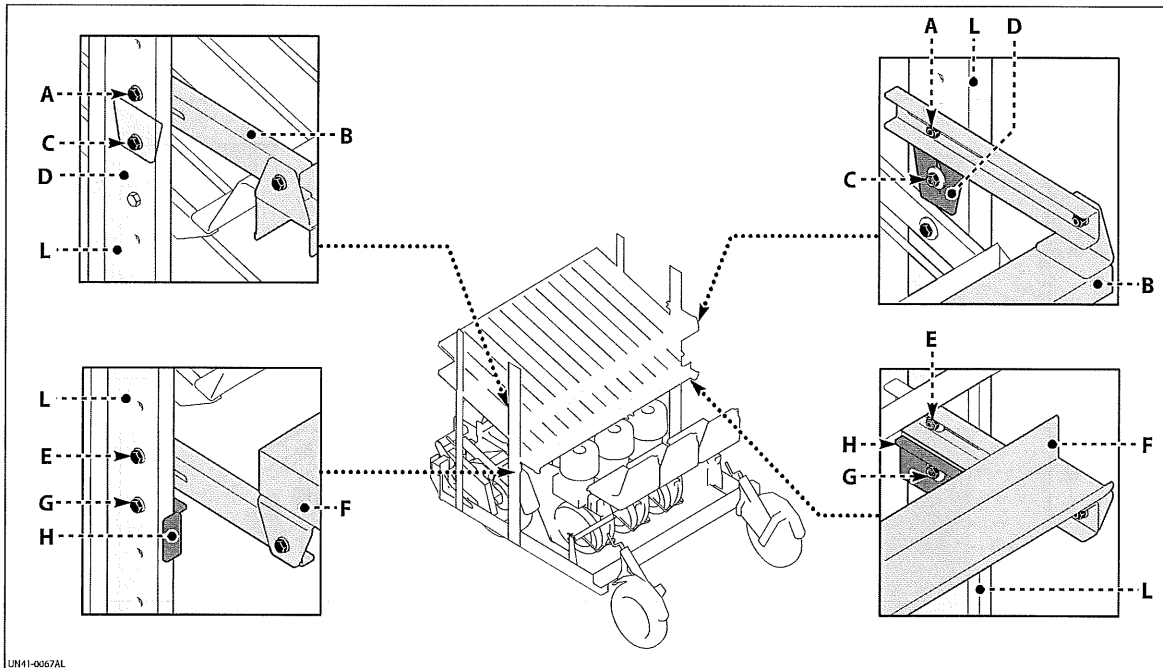
existing holes in the uprights (D) and (E) can be used for fastening purposes.

- 4) Fit the parts (B) and screw the nuts (A).
- 5) Screw up the bolts (C).

Adjusting the tray runners

Adjust the runner spacing according to the size of the trays.

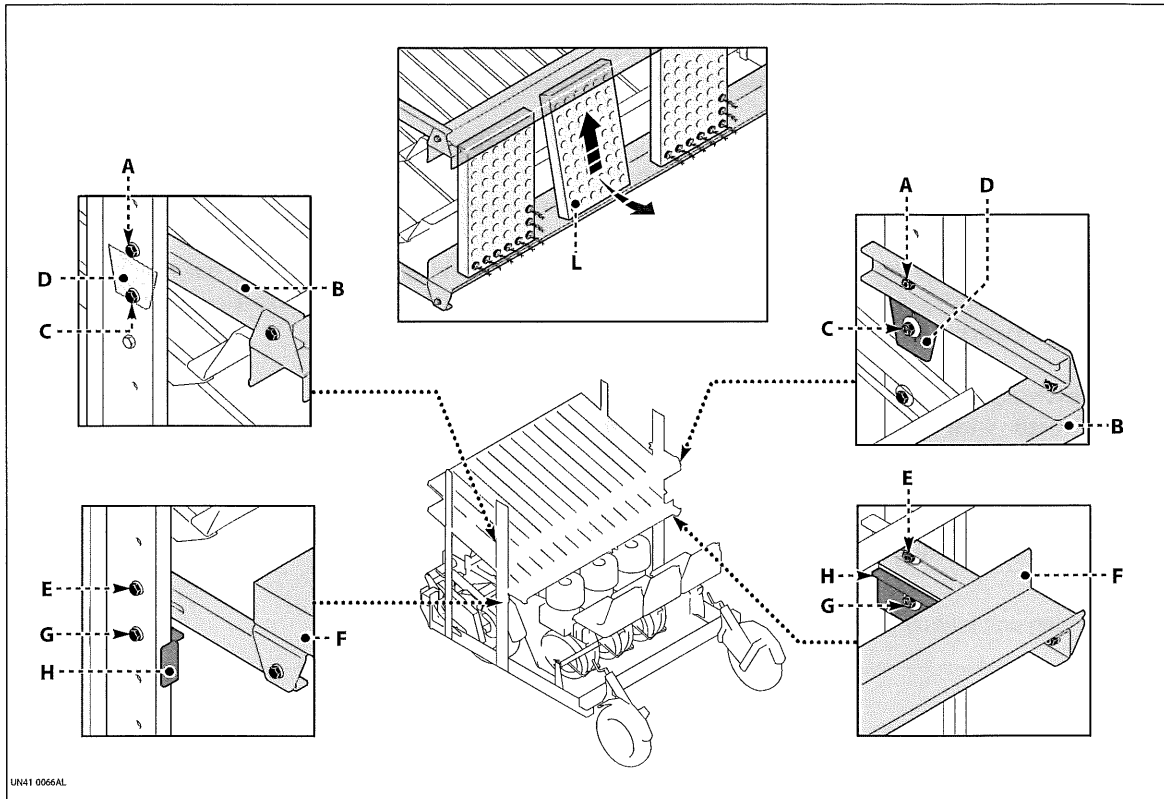
There must be enough clearance between the runners and the tray to allow the tray to be inserted and removed without having to slide it along the runners.



Proceed as outlined below.

- 1) Unscrew the bolts **(A)**.
- 2) Remove the tray runner **(B)**.
- 3) Unscrew the bolt **(C)** and remove the part **(D)**.
- 4) Unscrew the bolts **(E)** and remove the tray runner **(F)**.
- 5) Unscrew the bolts **(G)** and remove the part **(H)**.
- 6) Position the runners (according to required height and spacing) so that the existing holes in the uprights **(L)** can be used for fastening purposes.
- 7) Screw the bolts **(A)** and **(E)**.
- 8) Fit the parts **(D)** and **(H)**.
- 9) Screw the bolts **(C)** and **(G)**.
- 10) Adjust the clearance (see "Adjusting the clearance between the runners and the trays").

Adjusting the clearance between the runners and trays



Adjust the clearance between the runners and trays as described below.

- 1) Loosen the runner bolts (A) and (E).
- 2) Loosen the bolts (C) and (G) and lower the parts (D) and (H).
- 3) Place a tray inside the runners.
- 4) Adjust the runners so that correct clearance is guaranteed.

There must be enough clearance between the runners (B) and (F) and the tray (L) to allow the tray to be inserted and removed without having to slide it along the runners.

- 5) Screw the bolts (A) and (E).
- 6) Position the parts (D) and (H) so they are touching the respective runners (B) and (F).
- 7) Screw the bolts (C) and (G).

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).

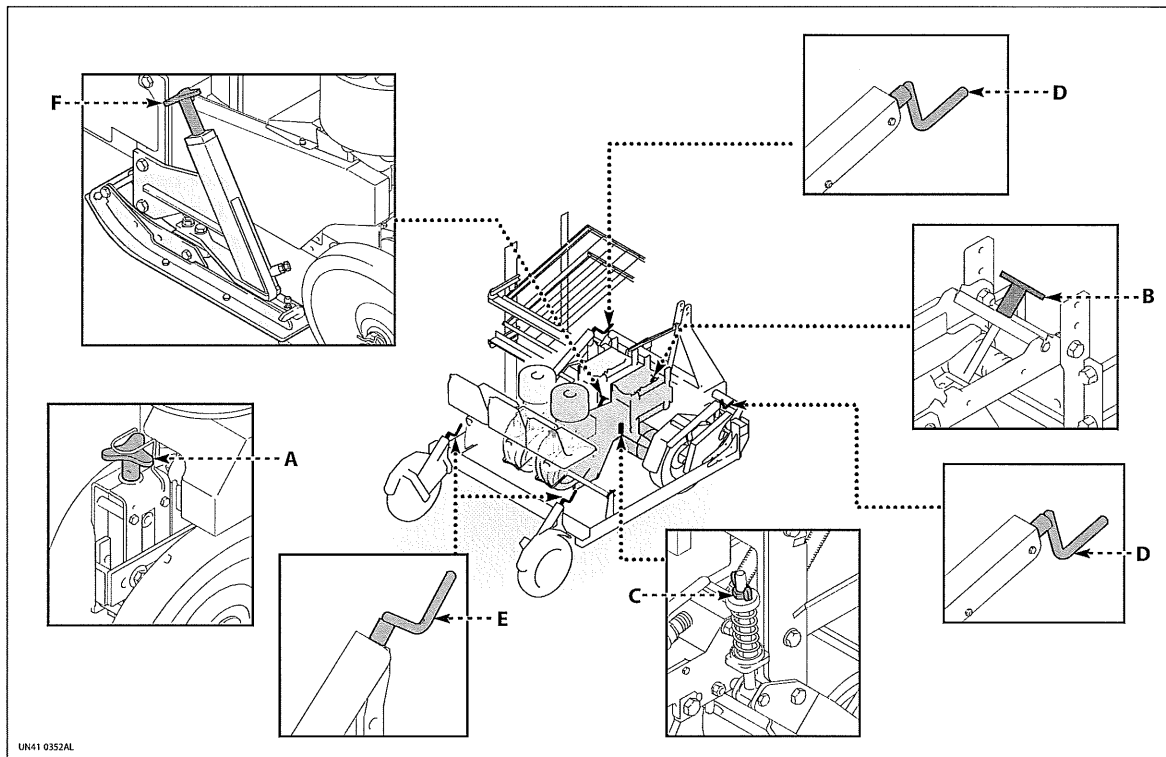
Keep the parts where operators tread clean to prevent loss of balance when getting on and off the work vehicle.

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

Each planting unit is equipped with independent controls.



- A) Knob:** this is used to adjust the furrow depth (see page 17).
- B) Knob:** this adjusts the weight on the packing wheels (see page 20).
- C) Knob:** this is used to adjust the small wheel load on the ground, if fitted, (see page 18).
- 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.

- E) Lever:** this is used to change the position of the support wheel in relation to the soil and to help maintain correct work vehicle positioning during work. The lever is featured on both support wheels.
- F) Knob:** this is used to adjust the skid load on the ground (see page 18).

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.

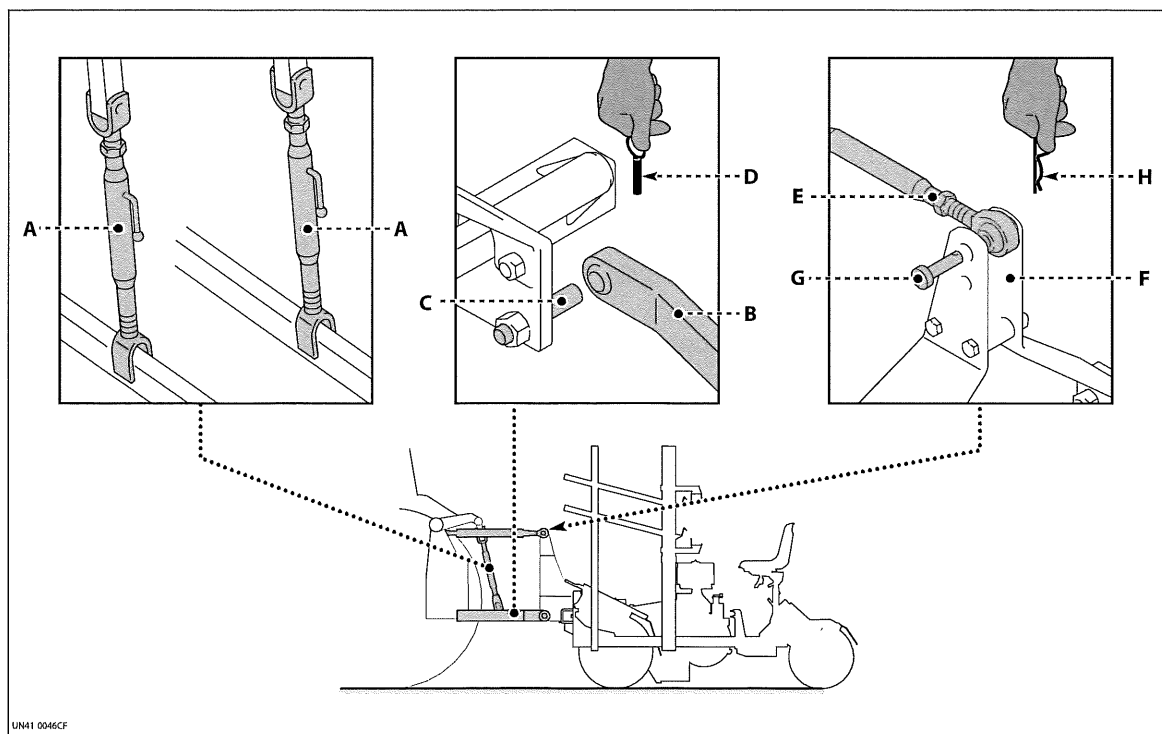
For hitching, proceed as outlined below.

- 1) Position the work vehicle on flat, solid ground in a risk-free area.
- 2) Start moving the tractor to move the three-point hitch up to the lift frame.
- 3) Align the arms of the three-point hitch with the coupling points on the lift frame.

- 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) 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.
- 2) Using the tractor's controls, lower the work vehicle to the ground.
- 3) Switch off the tractor engine and remove the ignition key from the dashboard.
- 4) Take out the lock pin (H) and remove the pin (G).
- 5) Slide out the lock pins (D) and remove the lift arms (B) from the work vehicle's support frame.



Planting procedure

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

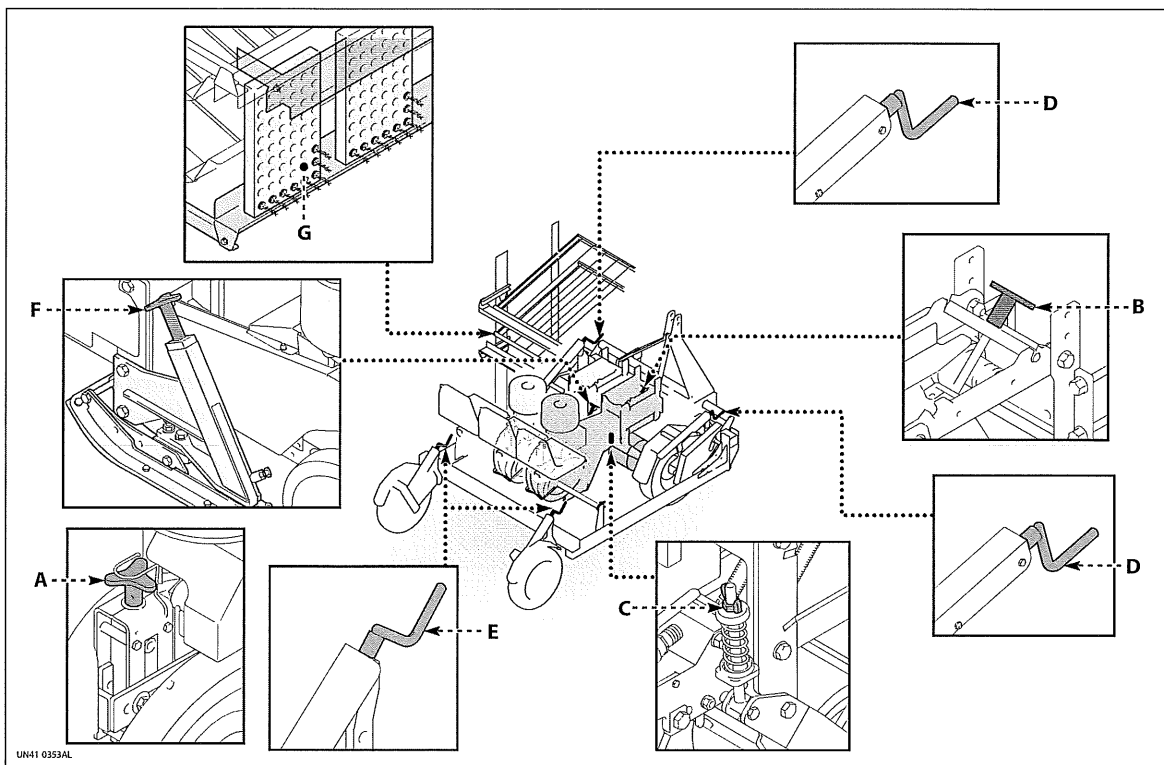
Do not load any seedlings into the dispenser that have the root ball (or parts of it) missing as these will not be planted properly.

We recommend you dampen the root ball well (but without causing dripping) to help the seedling fall from the

dispenser better and also take root.

Do not work on extremely spongy soil, 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, the support wheels must be touching the ground and the tractor lift must be fully lowered.



Preliminary operations

Before starting planting, position the machine on flat ground and carry out the following operations.

- 1) Check the tray/runner clearance (see "Adjusting the clearance between the runners and the trays" - page 23).
- 2) Check that the plant spacing is correct (see "Adjusting the plant spacing" - page 16).
- 3) Check that the row spacing is correct (see "Adjusting the row spacing" - page 17).
- 4) Assess the soil consistency in order to adjust the distance between the packing wheels and the ploughshare (see "Adjusting the spacing between the packing wheels and the ploughshare" - page 12).
- 5) Decide whether the gap between the packing wheels is large enough to ensure the correct pressure is applied to the root ball (see "Adjusting the packing efficiency" - page 12).
- 6) Turn the levers (**D**) by the same amount to set the dispenser(s) parallel to the ground.
- 7) Turn the levers (**E**) to lower the support wheels to the ground.
- 8) Use the handwheel (**A**) to adjust the furrow depth (see "Adjusting the planting depth").
- 9) Turn the handwheel (**B**) to apply pressure to position the planting unit on the ground (see "Adjusting the planting unit load").
- 10) Turn knob (**C**) to apply the small wheel load to the ground (if wheel is fitted) (see page 18) or knob (**F**) to apply the skid load to the ground (see page 18).
- 11) Place the trays in the tray loader.
- 12) Position the trays (**G**) safely in the tray holder.
- 13) Position the seat so that it offers maximum comfort (see "Seat positioning").

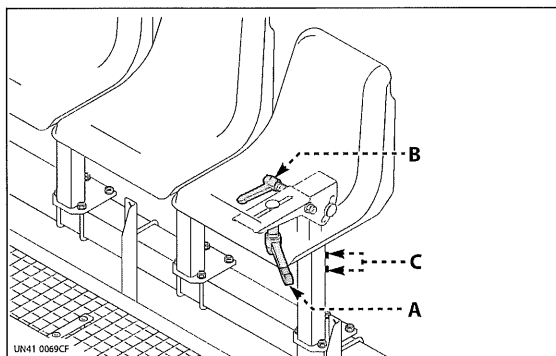
Planting operations

- 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 ploughshare.
- 2) Load the seedlings into the dispenser and keep it loaded during the planting stage.
Do not load the seedlings into the front cups as they are continually opening and closing.
- 3) The operators on the work vehicle must decide on the tractor's speed of travel together with the tractor driver so that a least 60 seedlings can be placed in the dispenser per minute and correct ejector/seedling timing is obtained.
- 4) Move forwards with the tractor before starting the planting.
- 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 12 and 33).

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.

- A) Lever:** this is used to adjust the seat lengthways.
Release the lever and then move the seat forwards or backwards.
Secure the seat in the right position using the lever.
- B) Lever:** this is used to adjust the seat tilt.
Release the lever and then tilt the seat forwards or backwards.
Secure the seat in the right position using the lever.

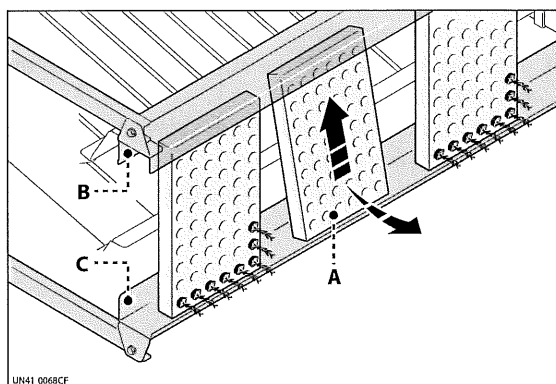


- C) Screws:** these are used to adjust the seat height.
Unscrew the screws and then raise or lower the seat.
Tighten the screws to secure the seat in the right position.

Tray changeover

Swap the empty trays for full ones as outlined below.

- 1) Push the empty tray (A), upwards and turn it so it comes off the lower runner; now lift it out of the tray holder runners completely.
- 2) Place the full tray so that it is touching the upper runner (B), turn it round and then lower it onto the lower runner (C).



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.

Transporting the work vehicle

Danger - Warning

For work vehicle loading/unloading, use lifting equipment with a suitable capacity for the load to be lifted.

Use all possible caution when lifting to avoid damaging the machine and causing injuries to persons involved in operations.

Strap up the unit at the lifting points envisaged by the manufacturer.

See the strap-up points and lifting procedures in the sections titled "Lifting the work unit" on page 11.

Anchor the work unit to the means of transport with ropes and secure the wheels with wedges.

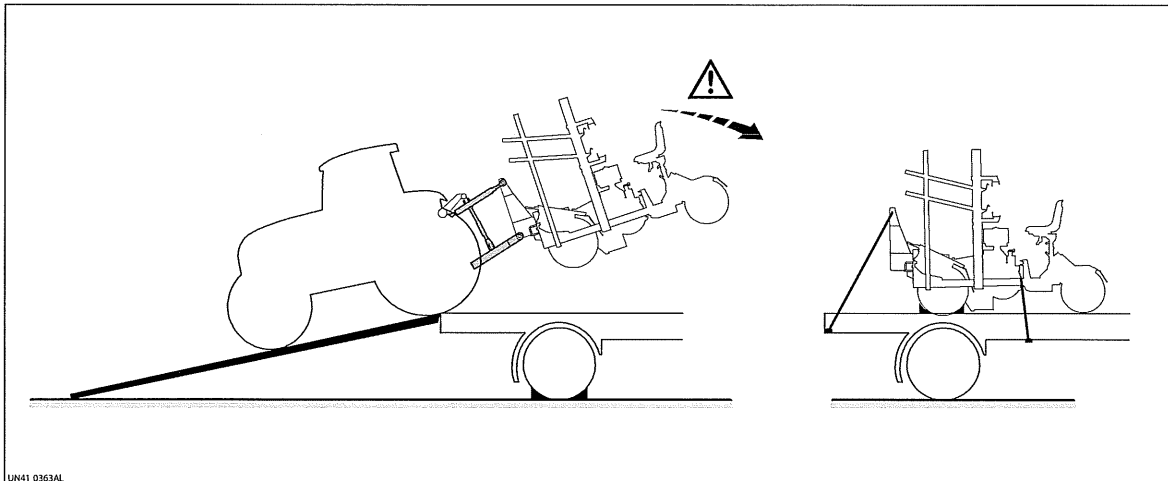
Units which are narrower than the maximum width allowed by the Highway Code can be loaded, coupled to the tractor, onto suitable means of transport using loading ramps.


Danger - Warning

Thoroughly clean the ramps and loading platform before boarding the vehicle.

Position the ramps on the transport means and fix them in a stable way to the truck bed using the fastening devices (pins, screws, chains, etc.).

Where the ramps meet the truck bed there is a dangerous bump so move the machine very carefully over this point.



Proceed as outlined below.

- 1) Start the tractor and lift the work vehicle as far off the ground as is permitted.
- 2) Board the means of transport, as shown in the figure, travelling at low speed.
- 3) Lower the work vehicle onto the truck bed.
- 4) Off the tractor engine and engage the parking brake.
- 5) Anchor the work unit-tractor assembly to the means of transport with ropes and secure the wheels with wedges.
- 6) Affix the relative signalling signs to any parts jutting out from the means of transport.

Transit on public roads

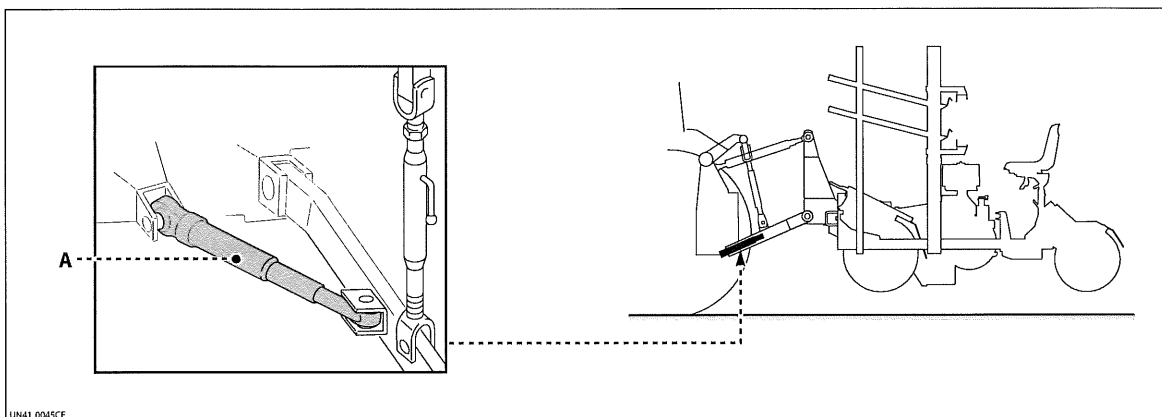

Danger - Warning

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 parts and the tires 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 against the tractor and the speed of travel must be adjusted to prevent loss of control of the tractor.



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 "Cleaning the work vehicle").
- 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 points 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 foot to the ground (if featured) to guarantee work vehicle stability.

Safety advice for maintenance

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 (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.

Maintenance interval schedule

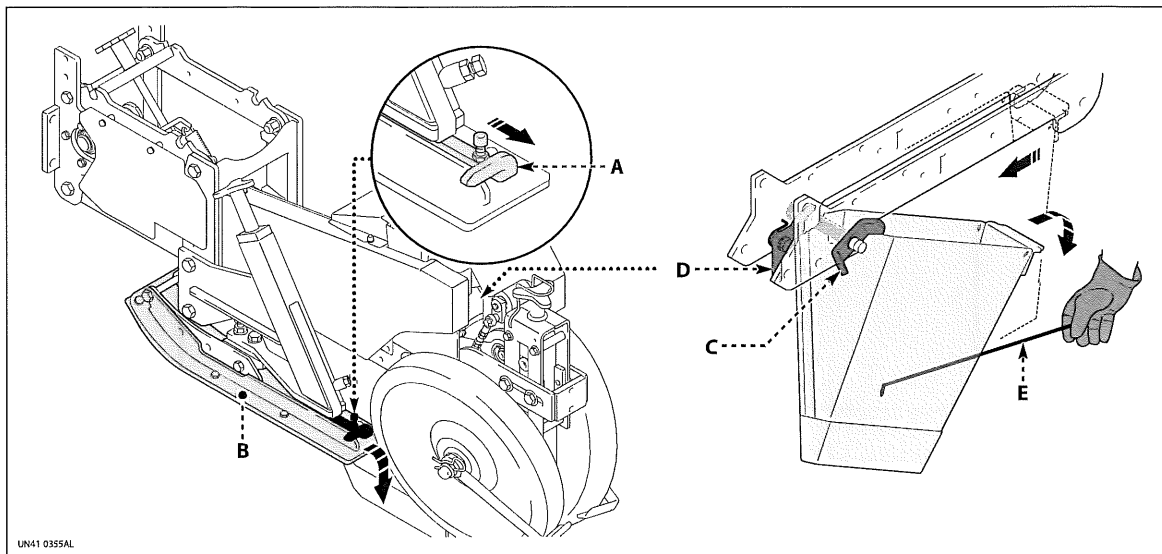
To guarantee constant, efficient and safe machine operation, ensure all the maintenance envisaged by the manufacturer is carried out.

Frequency	Component	Type of work	Manual reference
Every hour	Dispenser	Cleaning	
	Ploughshare	Cleaning	Cleaning the ploughshare
Every day	Lift frame	Inspection	
	Safety devices	Inspection	Guards
	Warning and hazard plates	Inspection	Information and safety signs
Every 50 hours	Machine components	Greasing	Lubrication diagram
	Nuts and bolts	Tightening	
Every 150 hours	Tyres	Pressure check	Tyres check

Cleaning the ploughshare

Clean the ploughshare to remove any debris, mud, peat, plant residues etc that may have built up during use.

Lack of cleaning will limit the ejector range, therefore, as well as affecting the machine's operation, it also causes serious mechanical damage.



Proceed as outlined below.

- 1) Lift the work vehicle off the ground.
- 2) Move the lever (A) and turn the guide (B) downwards, if fitted.
- 3) Loosen the wing nut (C).
- 4) Turn the lock lever (D).
- 5) Push the ploughshare forwards and turn it so it is facing downwards.
- 6) Clean the ploughshare with the tool provided (E).
- 7) Once the cleaning is complete, replace the plough-

share in the working position and check that the lock lever (D) is holding it in position.

- 8) Tighten the wing nut (C).
- 9) Turn the guide (if fitted) downwards and secure it in position with lever (A).

i Information

Check that the plant control plate is inside the share.

Tyres check

Check the tyres for wear and if they feature tears or signs of ageing, they must be replaced.
Check tyre pressure and restore if necessary (see "Technical characteristics" schedule).

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

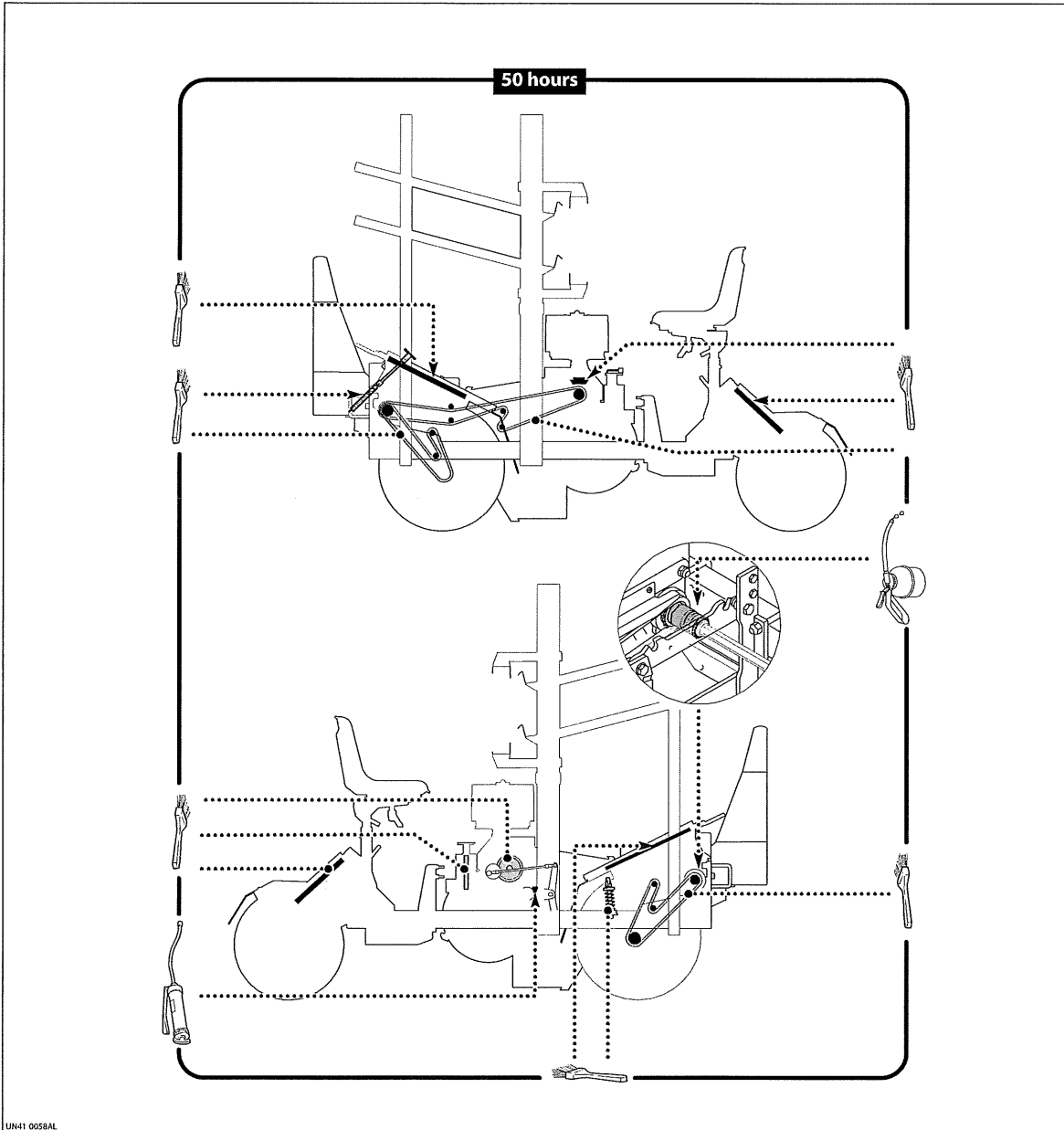
Clean the work vehicle with a high-pressure water jet and, if necessary, with approved detergents.
The liquid used for washing could be hazardous for the environment due to the presence of pollutants such as detergents, oils, etc., therefore do not simply dump the

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").

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.



Troubleshooting

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

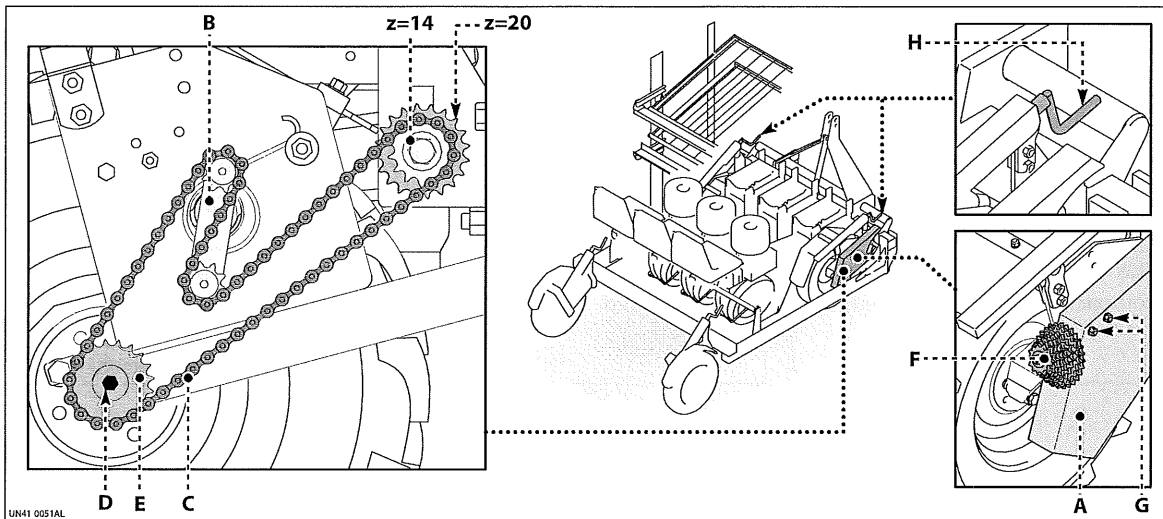
Problem	Likely cause	Solution
The seedling planted is too close to the surface or too deep	Incorrect planting depth	Make the relative adjustment (see "Adjusting the planting depth")
	The dispenser is not synchronised with the ejector	Adjust the timing (see "Dispenser / ejector timing adjustment")
The seedling is planted at an angle	The dispenser is not synchronised with the ejector	Adjust the timing (see "Dispenser / ejector timing adjustment")
	The plant control plate is not in the right position	Adjust the plant control plate (see "Plant control plate adjustment")
The seedling is lying overturned on the ground	The plant control plate is outside the share	Position the plant control plate inside the share
The soil has not been properly compacted on top of the seedlings	The packing wheels are not properly adjusted	Adjust the packing wheels (see "Adjusting the spacing between the packing wheels and the ploughshare" and "Adjusting packing efficiency")

Safety advice in case of replacements

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

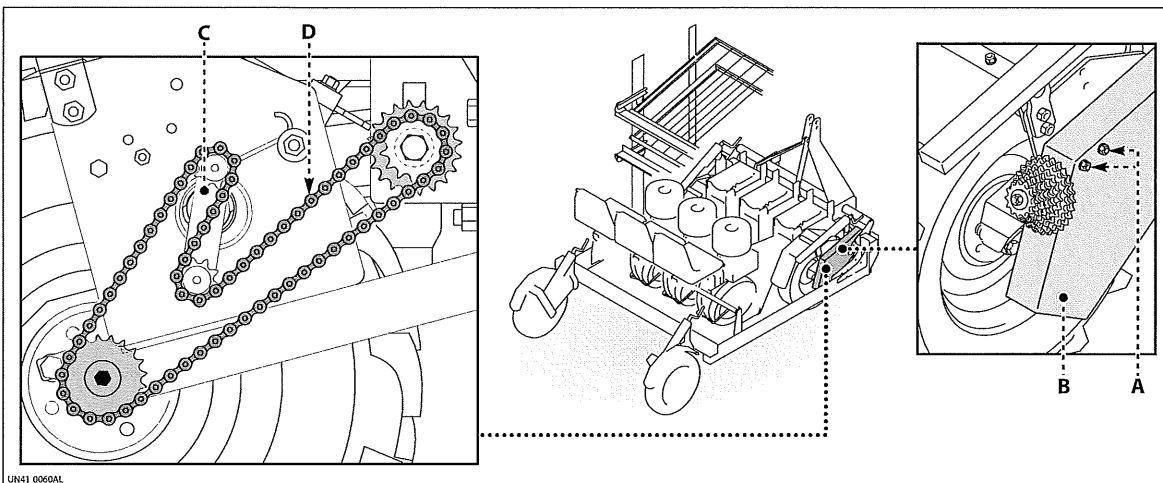
the premises which meets the requirements specified by the relative laws in force (appropriate equipment suitably trained staff etc.); if you do not have a compliant workshop, contact an authorised one.

Replacing the driving wheels pinion


Proceed as outlined below.

- 1) Turn the levers (H) to lift the wheels and slacken off the chain.
- 2) Unscrew the screws (G) and remove the casing (A).
- 3) Move the tensioner (B) to slacken the chain (C).
- 4) Remove the chain from the pinions.
- 5) Unscrew the fastening screw (D) and remove the pinion (E).

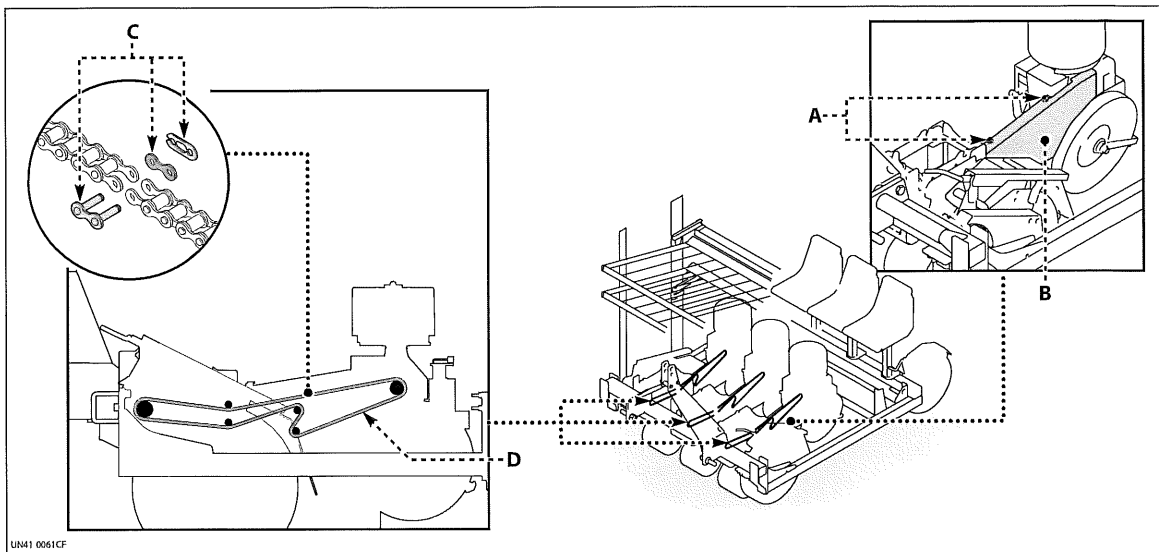
- 6) From the range of pinions (F), select the most suitable pinion to obtain the required plant spacing (see page 16).
- 7) Fit the chosen pinion and tighten the fastening screw (D).
- 8) Fit the chain on the pinions and the tensioner to keep the chain taut.
- 9) Fit the casing (A).

Replacing the drive chain


Proceed as outlined below.

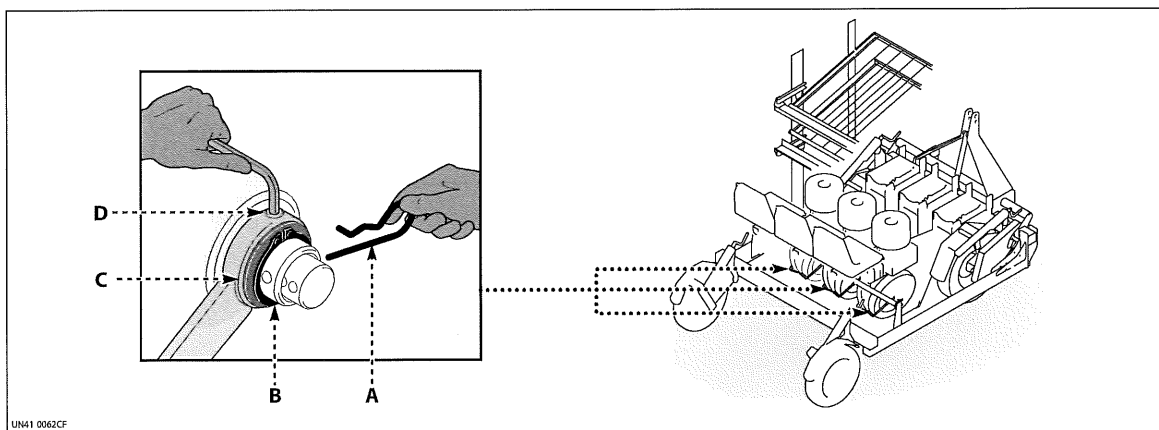
- 1) Unscrew the screws (A) and remove the casing (B).

- 2) Move the tensioner (C) and remove the chain (D).
- 3) Fit a new chain.
- 4) Fit the casing (B) and tighten the screws (A).

Replacing the transmission chain


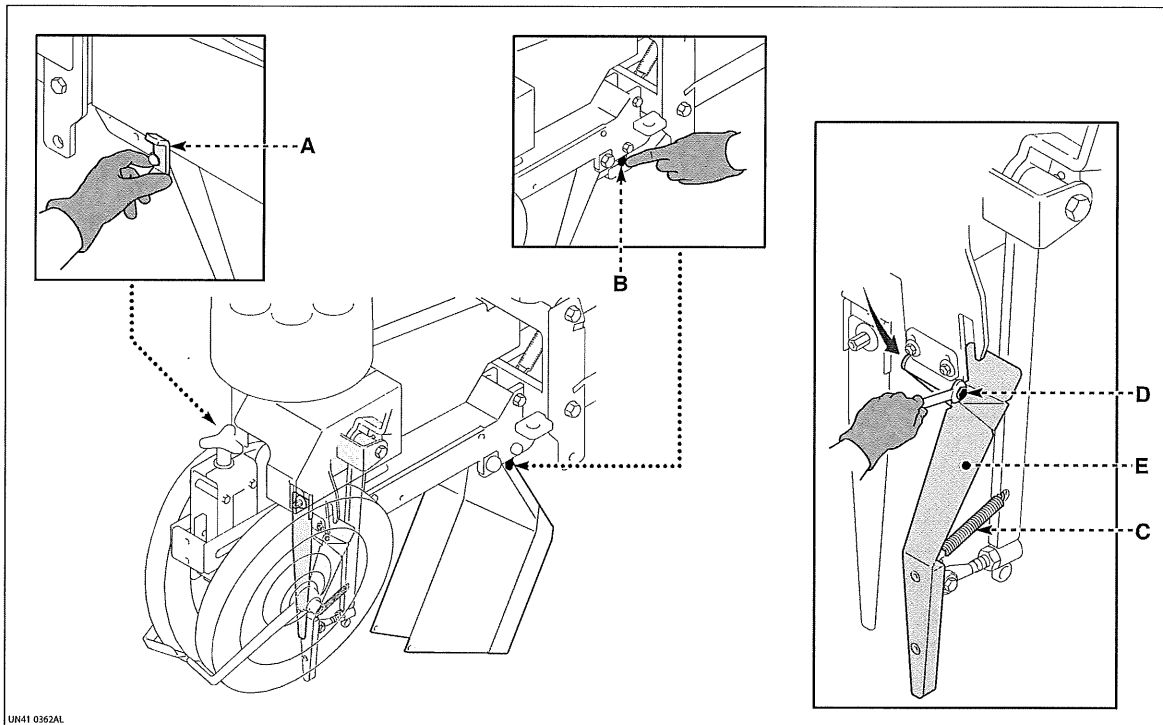
Proceed as outlined below.

- 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.
- 6) Remove the joining link **(C)**.
- 7) Fit the casing **(B)**.
- 8) Tighten the nuts **(A)**.

Replacing the packing wheels scraper


Proceed as outlined below.

- 1) Remove the lock pin **(A)**.
- 2) Remove the circlip **(B)**.
- 3) Remove the washer **(C)**.
- 4) Unscrew the screw **(D)**.
- 5) Slide the scraper off the shaft.
- 6) Fit the new scraper.
- 7) Tighten the screw **(D)**.
- 8) Fit the washer **(C)** followed by the circlip **(B)**.
- 9) Insert the lock pin **(A)**.

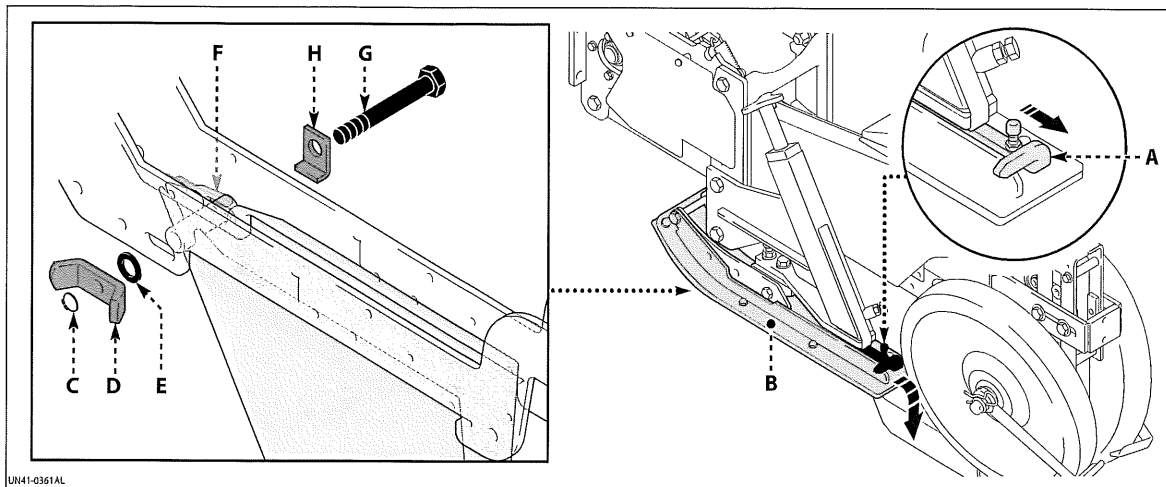
Replacing the flexible plate


For this operation, proceed as outlined below.

- 1) Loosen the wing nut **(A)**.
- 2) Turn the lock lever **(B)**.
- 3) Push the share forwards and turn it so it is facing downwards.
- 4) Release the spring **(C)**.
- 5) Unscrew the screws **(D)**.
- 6) Remove the flexible plate **(E)**.
- 7) Fit the new flexible plate in position.
- 8) Tighten the screws **(D)**.
- 9) Attach the spring **(C)**.
- 10) Make sure the flexible plate is centred (see "Adjusting the flexible plate centring").
- 11) Check the position of the flexible plate with respect to the share (see "Adjusting the flexible plate position").
- 12) Refit the share in the work position.
- 13) Make sure that the share is secured in place with the lock lever **(B)**.
- 14) Tighten the wing nut **(A)**.

Information

Check that the plant control plate is inside the share.

Replacing the ploughshare


Proceed as outlined below.

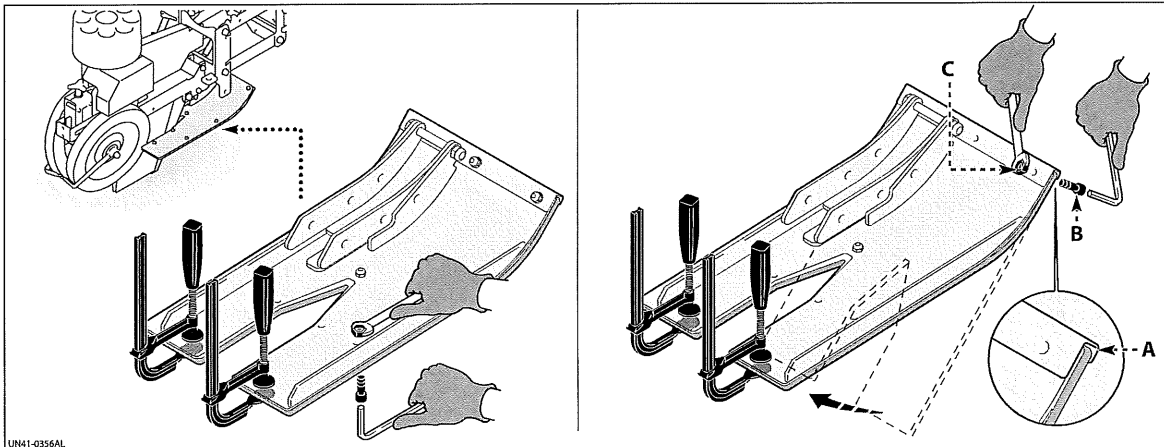
- 1) Move the lever **(A)** and turn the guide **(B)** downwards, if fitted.
- 2) Remove the circlip **(C)**.
- 3) Unscrew the wing nut **(D)**.
- 4) Remove the washer **(E)**.
- 5) Lift and hold the clamping device **(F)**.
- 6) Push the ploughshare forwards and turn it so it is facing downwards.

- 7) Hold the ploughshare and remove the screw **(G)** and washer **(H)**.

For the assembly, carry out the same operations as for disassembly but proceeding in reverse order.

Information

Check that the plant control plate is inside the share.

Replacing the slider


Danger - Warning

During disassembly, watch out for the elasticity of the slider since, when it is released from the rail, it springs back to the starting position (straight) and could cause injury.

When the slider wears down to a thickness of 6 mm, it must be replaced.

Proceed as outlined below.

Disassembly

- 1) Secure the slider to the skid using suitable clamps.
- 2) Unscrew the nuts and remove the screws securing the slider to the skid.
- 3) Slowly release the slider and remove it from the skid.

Assembly

- 1) Fit the new slider into the guide (A).
- 2) Tighten screws (B) and nuts (C).
- 3) Position the slider against the guide and secure it in position using suitable tools.
- 4) Secure the slider to the guide using the relative screws and nuts.
- 5) Remove the tools used to temporarily secure the slider.

Scrapping the work vehicle

Scrapping operations must be handled by specialised personnel with suitable skills for the job. The person authorised to scrap the machine will have

to dismantle and separate the components according to the type of constituent material and dispose of them separately, in accordance with applicable laws.



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