

1	GENERAL INFORMATION.....	1
2	TECHNICAL INFORMATION	3
3	SAFETY INFORMATION	12
4	SAFETY INFORMATION CONCERNING HANDLING AND INSTALLATION	13
5	ADJUSTMENT INFORMATION.....	18
6	INFORMATION FOR USE	24
7	MAINTENANCE INFORMATION	30
8	INFORMATION CONCERNING REPLACEMENTS.....	33

ANALYTICAL INDEX

A		
	Adjusting the automatic safety release function.....	23
	Adjusting the dispenser/ ejection timing.....	22
	Adjusting the packing efficiency.....	18
	Adjusting the packing wheel scraper	18
	Adjusting the plant control plate	19
	Adjusting the planting unit load	23
	Adjusting the plant spacing	21
	Adjusting the row spacing	20
	Adjusting the small wheel load.....	19
	Adjusting the spacing between the packing wheels and the ploughshare.....	18
	Adjusting the the small wheel scraper	20
	Aim of the manual	1
	Annexed documentation	1
	Assistance request procedure	1
B		
	BABY TRIUM DT (double frame) main parts.....	4
	BABY TRIUM DT overall dimensions	6
	BABY TRIUM DT technical characteristics	6
	BABY TRIUM main parts	3
	BABY TRIUM overall dimensions.....	5
	BABY TRIUM technical characteristics.....	5
C		
	Cleaning the ploughshare	30
	Cleaning the work vehicle.....	31
D		
	Declaration of conformity.....	7
	Description of the controls	24
	Disclaimer notice.....	2
G		
	Glossary of terms.....	2
	Guards	8
H		
	Handling and lifting the packed unit.....	14
	Hitching and unhitching the work vehicle to and from the tractor	25
I		
	Information and safety signs.....	8
L		
	Lifting the BABY TRIUM.....	14
	Lifting the BABY TRIUM DT.....	15
	Lubrication points diagram	32

M	
Maintenance advice	30
Maintenance intervals schedule	30
Manufacturer and machine registration details	1
N	
Night-time work or poor visibility conditions	28
Noise	11
O	
Optional accessories	10
Overview	3
P	
Packing	13
Permitted gradients	7
Planting depth adjustment	19
Planting procedure	27
Plant spacing	7
Prolonged disuse of the work vehicle	29
R	
Replacing the driving wheels chain	33
Replacing the driving wheels pinion	33
Replacing the planting unit chain	34
Replacing the ploughshare	35
Residual risks	11
S	
Safety advice concerning adjustments	18
Safety advice concerning replacements	33
Safety advice concerning use	24
Safety advice for handling and transportation	13
Scrapping the work vehicle	35
Seat positioning	26
Seedling size	7
T	
Transit on public roads	29
Transporting the work vehicle	28
Troubleshooting	31
Tyres check	31
U	
Unpacking and assembly	16

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.

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.

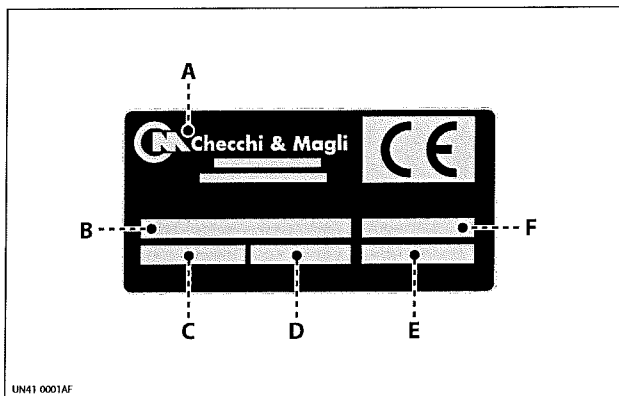


Information

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

Along with this handbook, the customer is given the documentation specified.

- The instructions for use and maintenance of any op-

tional units that may be provided with the work vehicle.

- EC Declaration of Conformity for 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 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.

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 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 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, ejector, etc.) are driven

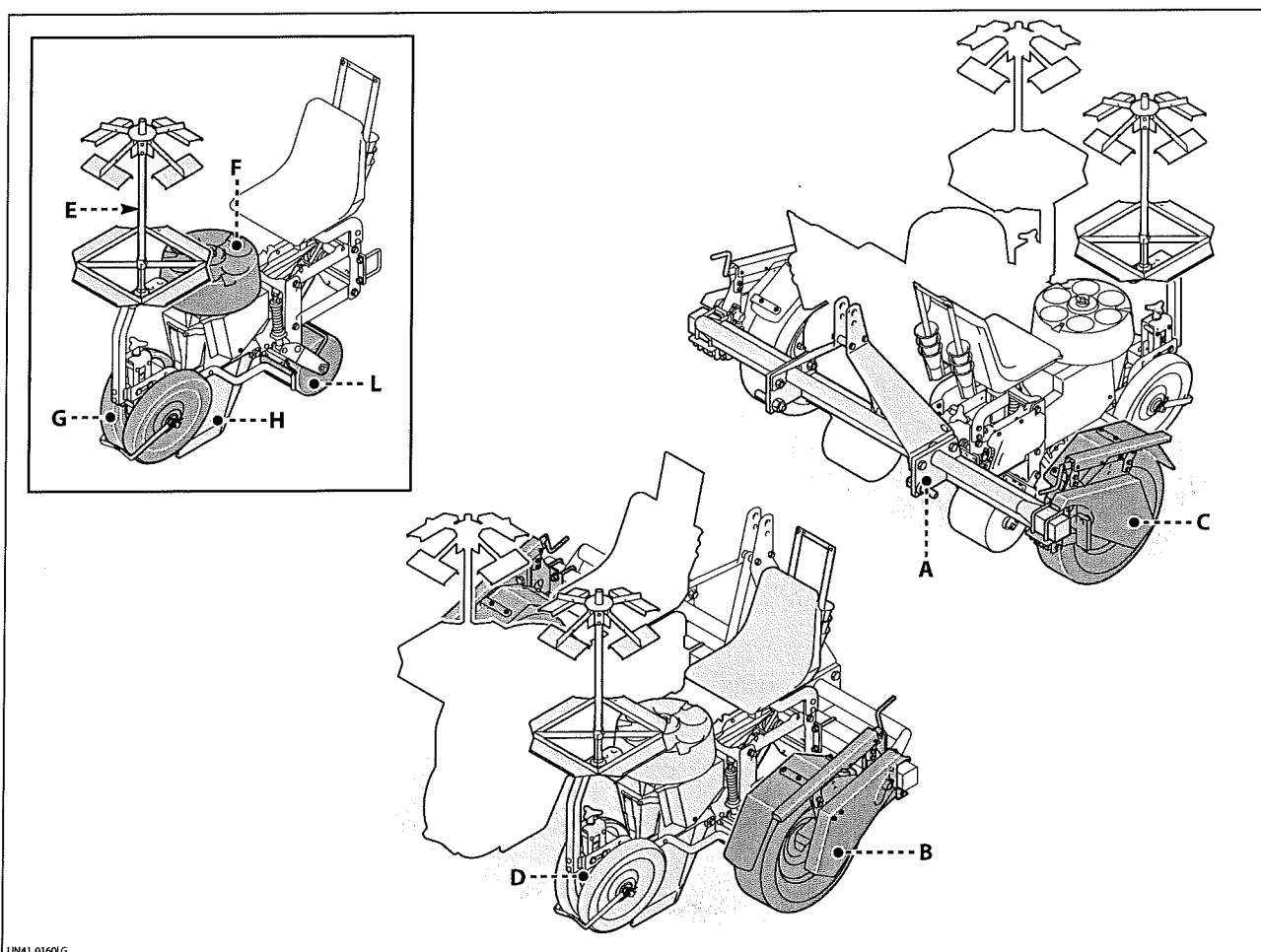
by the work vehicle's driving wheels (when these are touching the ground) and the movement of the tractor. The seedling falls from the dispenser into the furrow created by the ploughshare and the packing wheels fill back up and compact the soil around the seedling root ball.

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

A "DT" (double frame) version is also available, whose main feature is planting with a very small row spacing.

BABY TRIUM main parts

The illustration shows the work vehicle with two planting units.

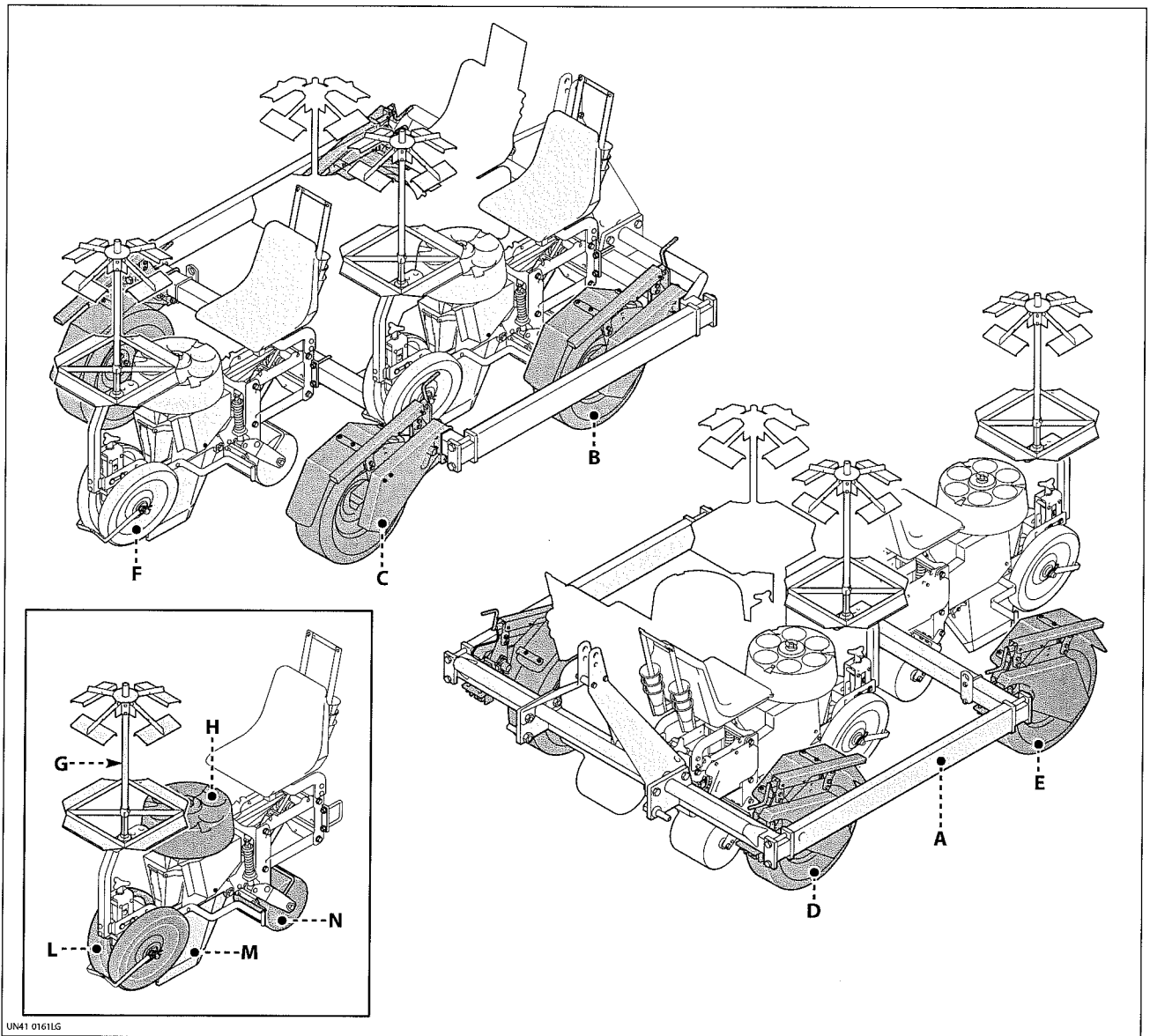


- A)** Structure for attaching to the three-point hitch on a tractor (frame)
- B)** RH wheel
- C)** LH wheel
- D)** Planting unit
- E)** Tray holder
- F)** Dispenser
- G)** Packing wheels
- H)** Ploughshare
- L)** Small wheel

The (rear and left) wheels can both be power driven, or one can be powered while the other is idle. For the number of driving wheels and idlers fitted to the specific machine model, please see the "Technical characteristics" section.

BABY TRIUM DT (double frame) main parts

The illustration shows the work vehicle with three planting units.



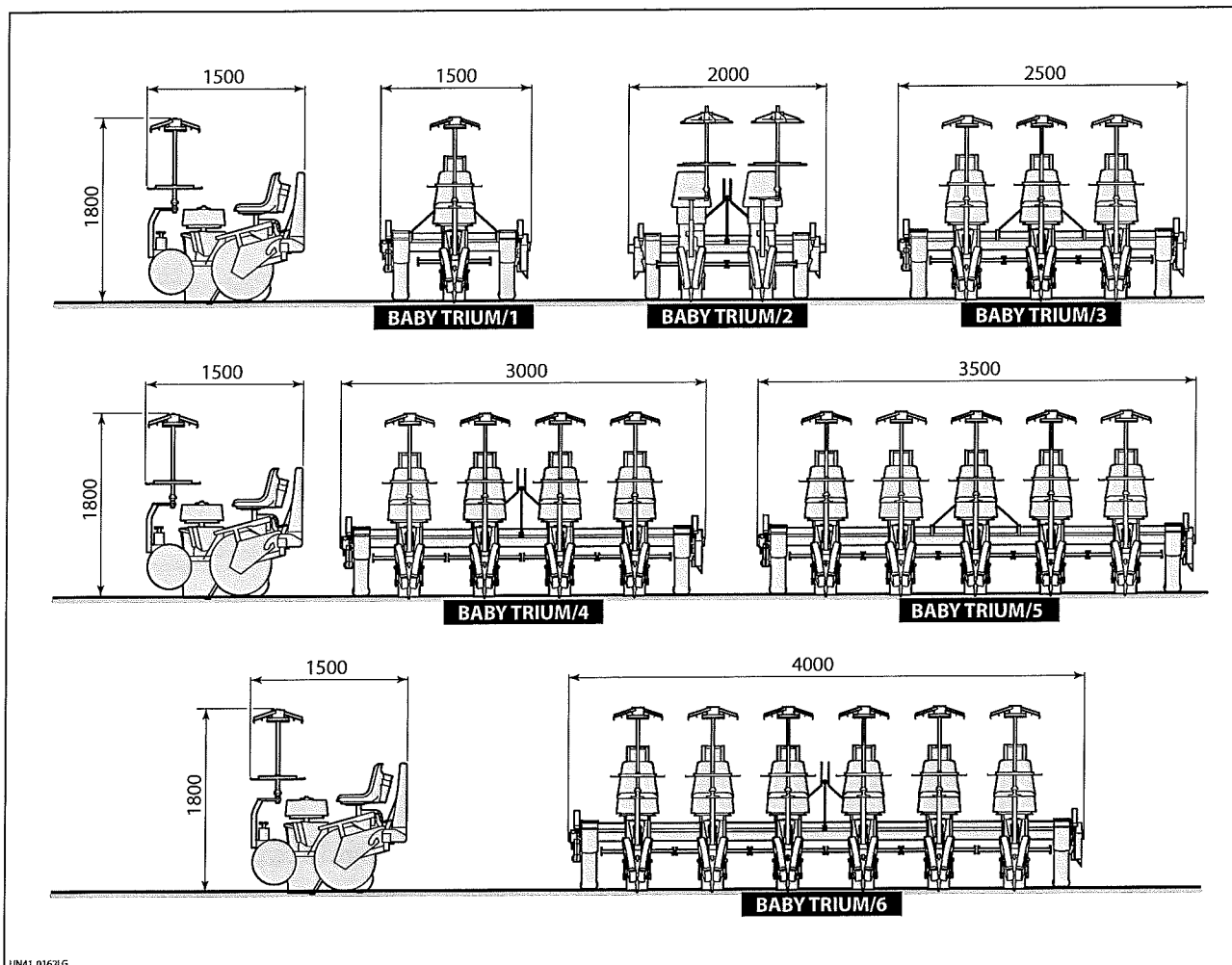
- A)** Structure for attaching to the three-point hitch on a tractor (double frame)
- B)** Front RH wheel
- C)** Rear RH wheel
- D)** Front LH wheel
- E)** Rear LH wheel
- F)** Planting unit
- G)** Tray holder
- H)** Dispenser
- L)** Packing wheels
- M)** Ploughshare
- N)** Small wheel

There may be two driving wheels and two idlers, three drivers and one idler, or all four wheels can be driving wheels.

For the number of driving wheels and idlers fitted to the specific machine model, please see the "Technical characteristics" section.

BABY TRIUM overall dimensions

The illustration shows the work vehicles' overall dimensions.



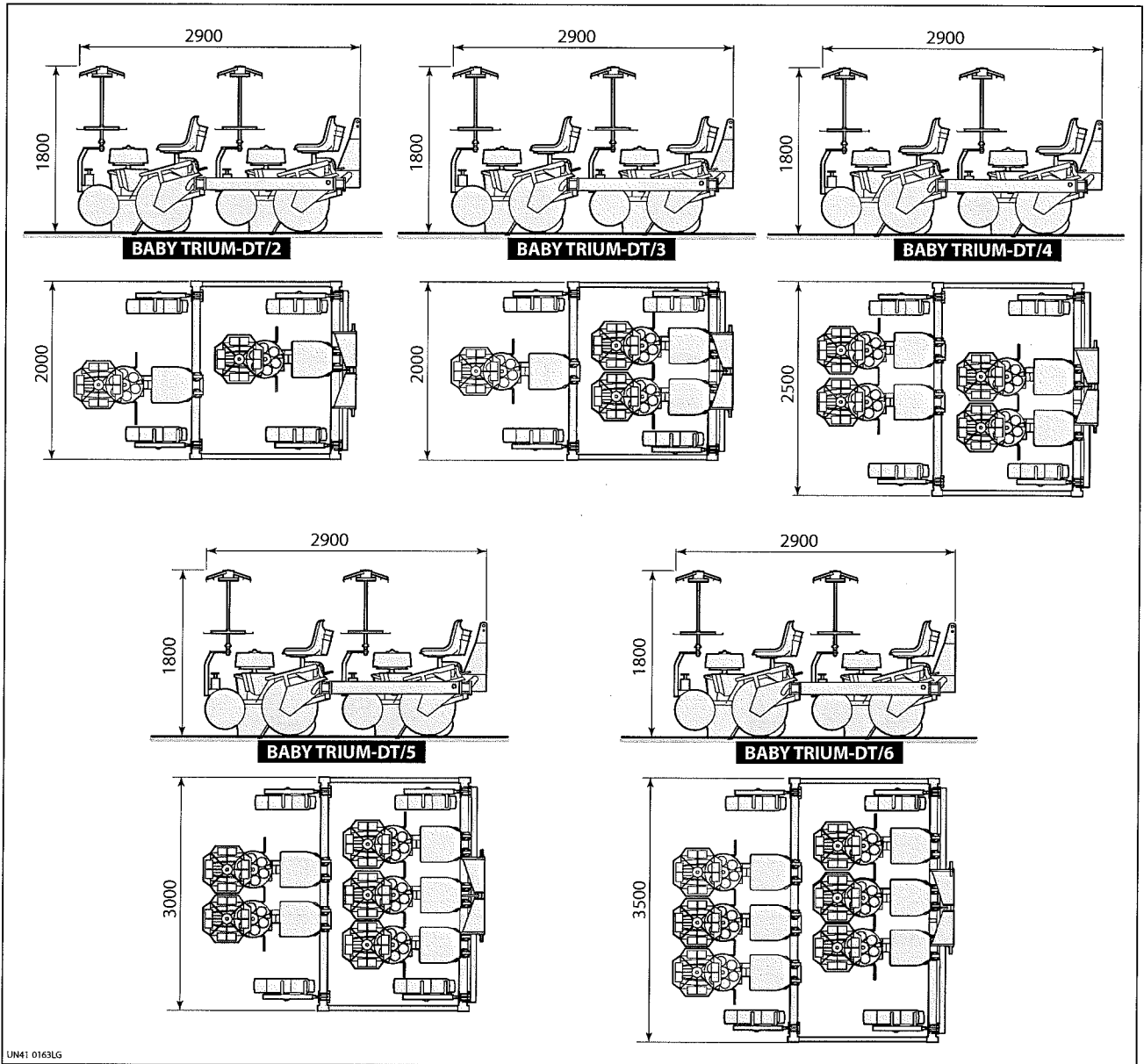
BABY TRIUM technical characteristics

BABY TRIUM technical characteristics

			BABY TRIUM/1	BABY TRIUM/2	BABY TRIUM/3	BABY TRIUM/4	BABY TRIUM/5	BABY TRIUM/6
Required tractor power		HP	20	25	30	40	50	60
Minimum row spacing		cm	40			50		
Plant spacing	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°	1	2	3	4	5	6
Driving wheels		n°	1	1	2	2	2	2
Idle wheels		n°	1	1	0	0	0	0
Tyre pressure levels		bar	2,5					
Weight		kg	280	420	550	690	830	970

BABY TRIUM DT overall dimensions

The illustration shows the work vehicles' overall dimensions.



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BABY TRIUM DT technical characteristics

BABY TRIUM DT technical characteristics							
			BABY TRIUM DT/2	BABY TRIUM DT/3	BABY TRIUM DT/4	BABY TRIUM DT/5	BABY TRIUM DT/6
Required tractor power		HP	25	30	40	50	60
Minimum row spacing		cm	25				
Plant spacing	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°	2	3	4	5	6
Driving wheels		n°	2	2	2	3	4
Idle wheels		n°	2	2	2	1	0
Tyre pressure levels		bar	2,5				
Weight		kg	540	680	820	960	1090

Seedling size

The chart shows the type and size of seedlings that the work vehicle can plant.

Seedling size			
	A (cm)	min.	1,5
		max.	6
	B (cm)	min.	4
		max.	7
	C (cm)	min.	8
		max.	23
	D (cm)	min.	12
		max.	30

Plant spacing

The work vehicle plants seedlings with variable spacing options.

For the range of possible spacing options, see "Adjusting the plant spacing".

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:

BABY TRIUM/1, BABY TRIUM/2, BABY TRIUM/3, BABY TRIUM/4, BABY TRIUM/5, BABY TRIUM/6, BABY TRIUM-DT/2, BABY TRIUM-DT/3, BABY TRIUM-DT/4, BABY TRIUM-DT/5, BABY TRIUM-DT/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

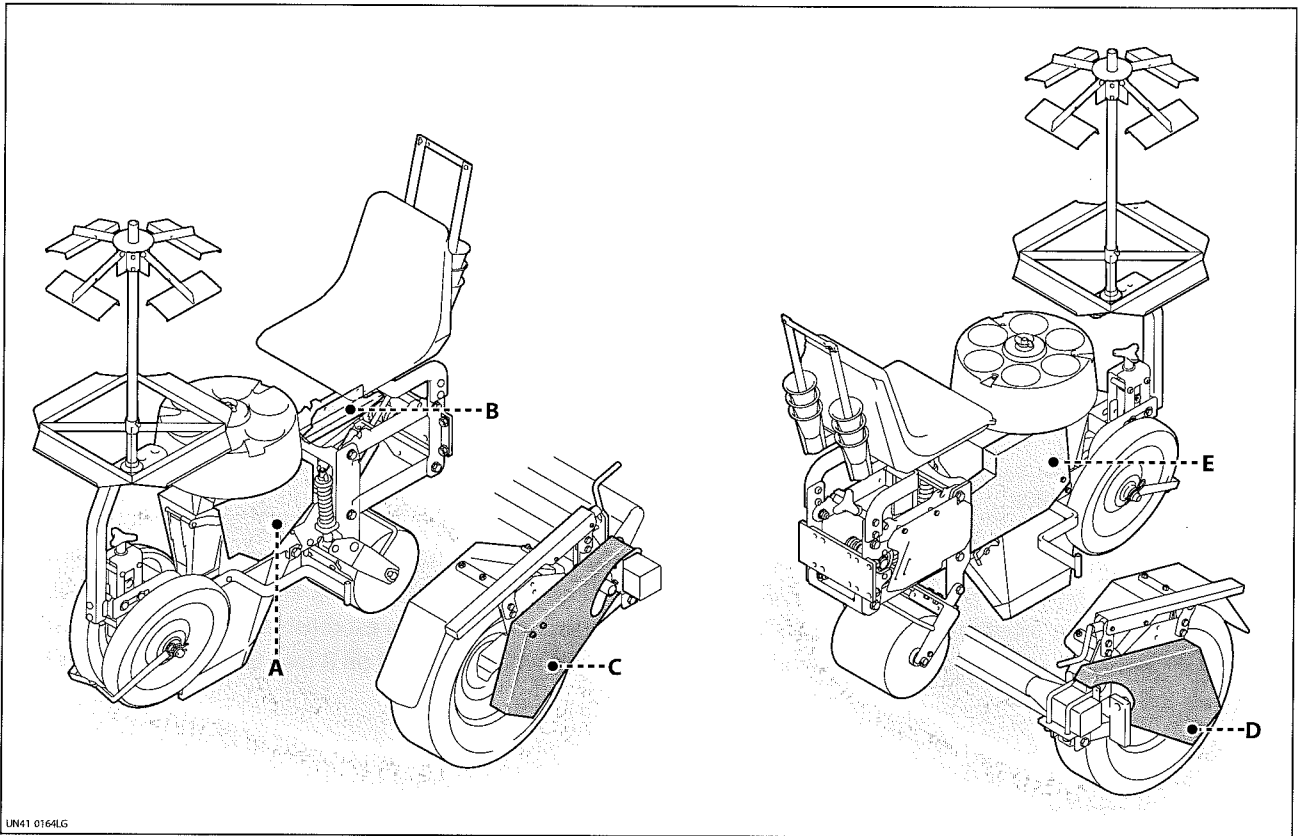
Guards

! 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) installed on each wheel and on each work unit.



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.

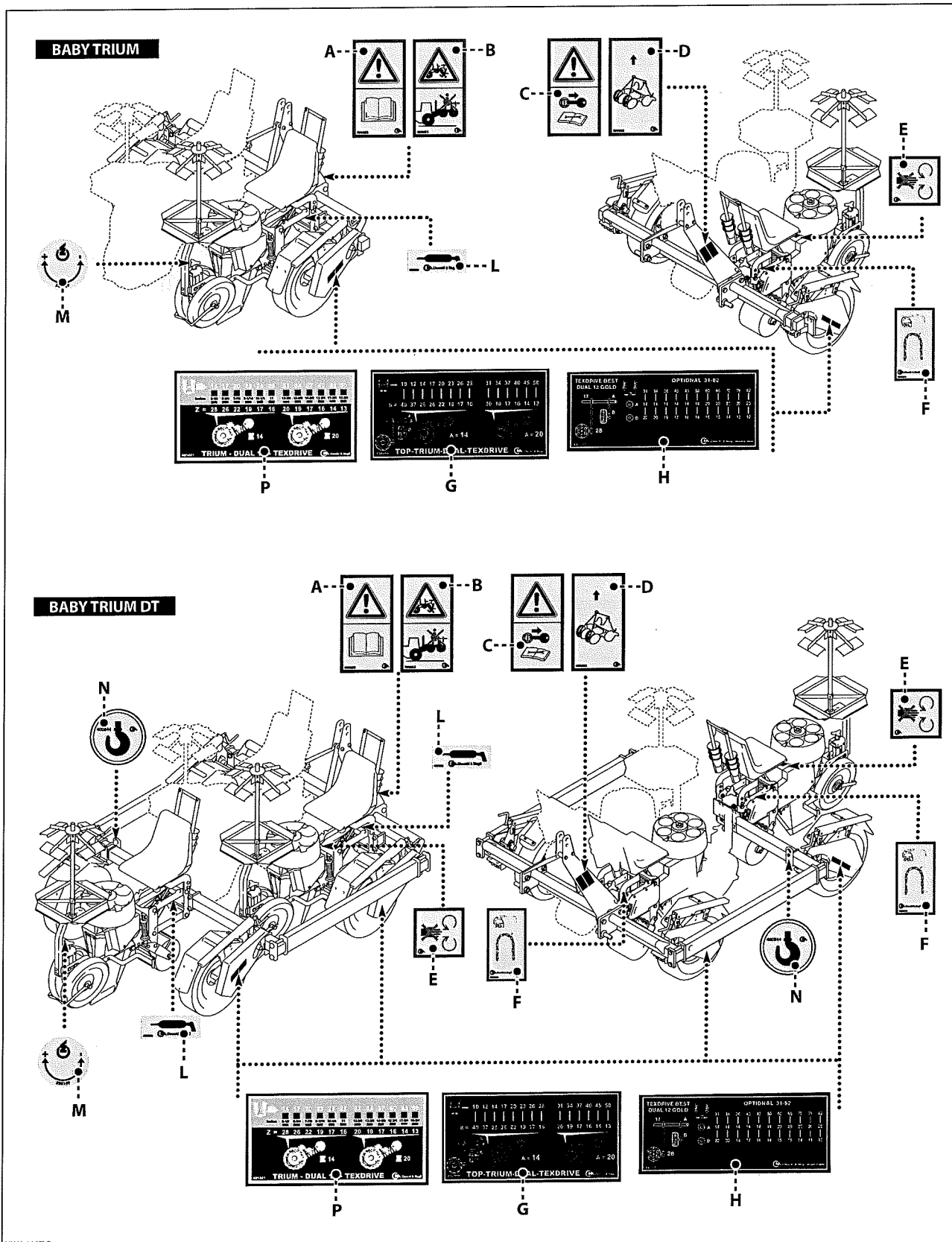
The illustration shows the locations and meanings of the safety signs.

- A) Hazard plate:** read the use and maintenance manual before using the work vehicle.
- B) Hazard plate:** do not remain on the seat with the work vehicle lifted off the ground.
- C) 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.

- 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) Information plate:** lubricate the chain inside the casing to which the plate is affixed.
- G) Plant spacing plate (standard):** this shows the type of pinion to fit according to the plant spacing required.
- H) Plant spacing plate (31 - 82 option):** this shows the type of pinion to fit according to the plant spacing required.
- L) Information plate:** this shows the greasing points.
- M) Information plate:** this indicates rotation of the part to which the plate is applied, showing the direction required to achieve the desired effect.

N) **Information plate:** hook up the work vehicle at the points shown to lift it.

P) **Plant spacing plate (10 - 50 option):** this shows the type of pinion to fit according to the plant spacing required.



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Optional accessories

Optional accessories	BABY TRIUM	BABY TRIUM DT
Manual lift row tracers (max. row spacing: 110 cm)	o	o
Manual lift row tracers (max. row spacing: 150 cm)	o	o
Hydraulic lift row tracers	o	o
Continuous flow watering device positioned between the ploughshares	o	o
300 l tank for one row (for models without manure spreader only)	o	o
300 l tank for two rows (for models without manure spreader only)	o	o
300 l tank for three rows (for models without manure spreader only)	o	o
300 l tank for four rows (for models without manure spreader only)	o	o
Optional kits for plant spacing (31 - 82 cm)	o	o
10 - 12 cm plant spacing kit	o	o
Extra side-mounted rotary tray holder (minimum row spacing: 120 cm)	o	o
Transversal 2-shelf tray holder (shelf size: 150 cm)	o	o
Transversal 2-shelf tray holder (shelf size: 200 cm)	o	o
Transversal 2-shelf tray holder (shelf size: 250 cm)	o	o
Transversal 2-shelf tray holder (shelf size: 300 cm)	o	o
Transversal 2-shelf tray holder (shelf size: 350 cm), complete with rear frame and support wheels	o	o
Transversal 2-shelf tray holder (shelf size: 400 cm), complete with rear frame and support wheels	o	o
Additional six-shelf tray holder	o	o
Additional shelf for six-shelf tray holder	o	o
TEXDRIVE BEST narrow ploughshare kit	o	o
TRIUM standard ploughshare kit	o	o
TRIUM medium ploughshare kit	o	o
BABY TRIUM dispenser extension	o	o
Hosepipe laying device	o	o
Skid (for compacting, used in conjunction with packing wheels for both spongy and dry soil)	o	o
Hydraulically removable frame (3 rows, width: 240 cm - 350 cm)	o	---
Paired row version, for row spacing below 50 cm, with min. 40 cm (e.g. for tomato planting)	o	o
Microgranular fertiliser spreader - 1 row	o	o
Microgranular fertiliser spreader - 2 rows	o	o
Microgranular fertiliser spreader - 3 rows	o	o
Microgranular fertiliser spreader - 4 rows	o	o
Microgranular fertiliser spreader - 5 rows	o	o
Microgranular fertiliser spreader - 6 rows	o	o
Manure spreader - 1 row	o	o
Manure spreader - 2 rows	o	o
Manure spreader - 3 rows	o	o
Manure spreader - 4 rows	o	o
Manure spreader - 5 rows	o	o
Manure spreader - 6 rows	o	o

Noise

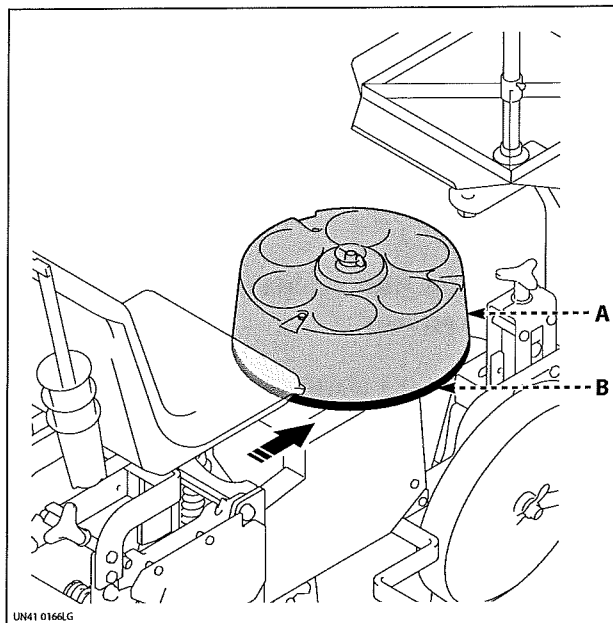
The use of the planting machine does not mean a significant increase in the noise levels of the tractor to which the planting machine is hitched.

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.



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, 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

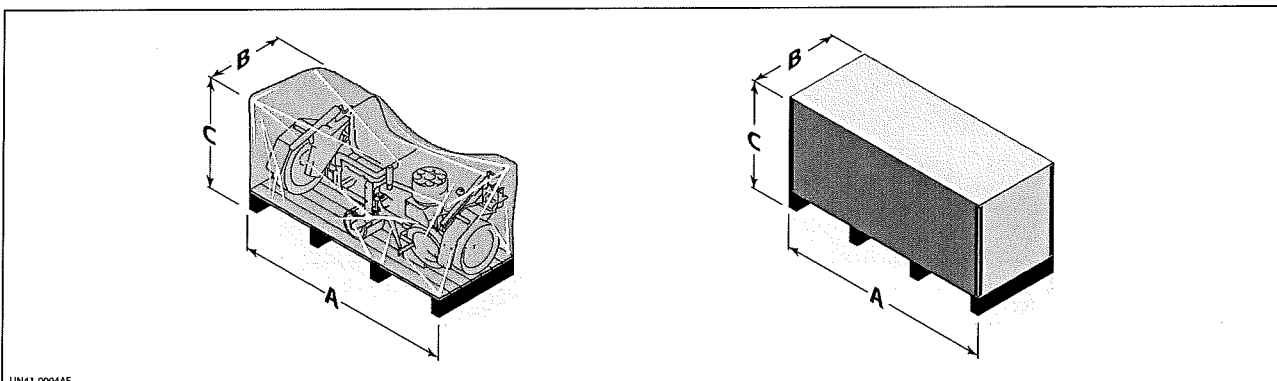
Perform handling and transportation manoeuvres in compliance with the information provided by the manufacturer and stated directly on the machine, on the packing and in the instructions for use.

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. The work vehicle can be delivered fully assembled, or to facilitate carriage, disassembled and packed in several packages.

If the **BABY TRIUM-DT/5** and **BABY TRIUM-DT/6** models do not fit into a single package, they will be shipped in two separate packages. The illustration shows the type of packing most commonly used.



BABY TRIUM approximate packing dimensions									
		BABY TRIUM/1	BABY TRIUM/2	BABY TRIUM/3	BABY TRIUM/4		BABY TRIUM/5		BABY TRIUM/6
Parcels	n°	1	1	1	1	1	2	1	3
A	cm	150	150	150	180	150	150	150	150
B		56	80	80	56	80	80	56	80
C		100	100	100	100	100	100	100	10

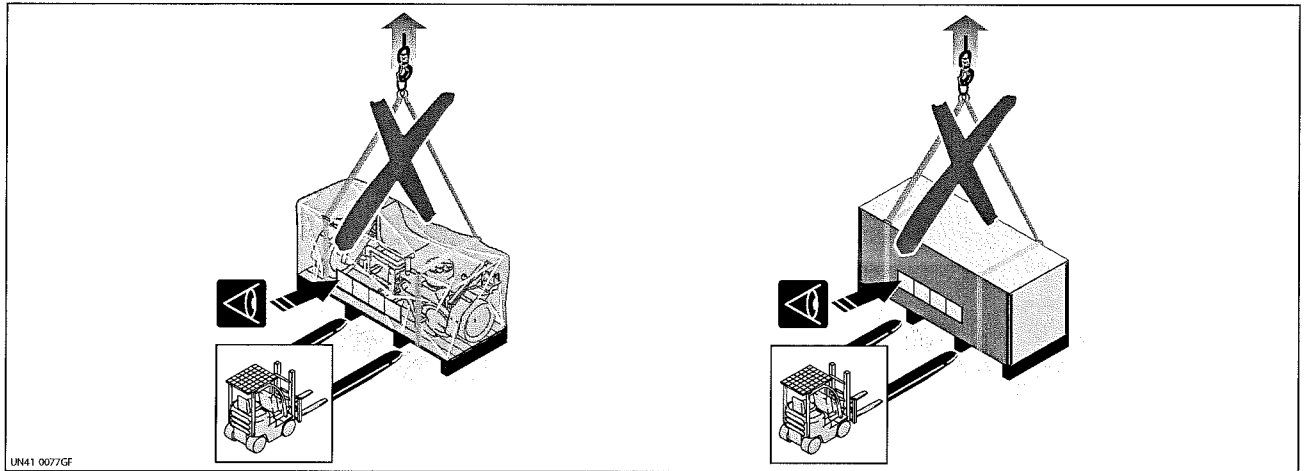
BABY TRIUM DT approximate packing dimensions						
		BABY TRIUM-DT/2	BABY TRIUM-DT/3	BABY TRIUM-DT/4	BABY TRIUM-DT/5	BABY TRIUM-DT/6
Parcels	n°	1	1	2	2	2
A	cm	150	220	150	150	220
B		80	80	56	80	80
C		100	100	100	100	100

Handling and lifting the packed unit

! Danger - Warning

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

All the information for safe loading/unloading procedures is printed on the packing.



Lifting the BABY TRIUM

! Danger - Warning

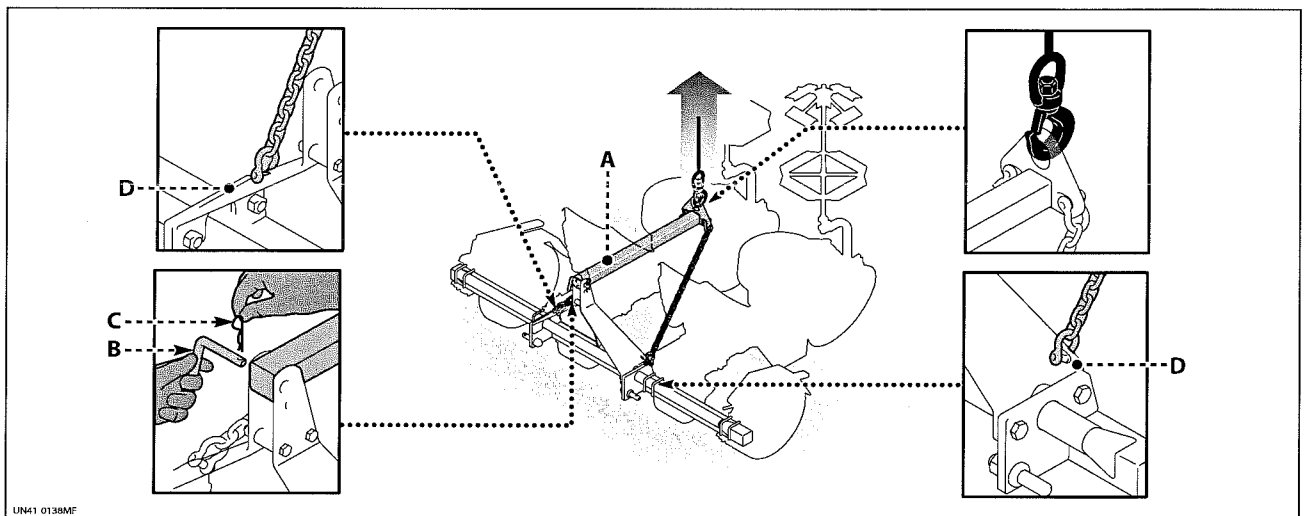
During lifting watch out for the load swinging, as the hook-up point is never perfectly at the centre of gravity.

in order to safeguard their own safety and that of the other people involved in the operations.

The illustration shows the hook-up points for lifting the work vehicle with two planting units fitted.

The hook-up points for lifting apply for all the **BABY TRIUM** models.

Lifting operations must be carried out using suitable means for the load to be lifted, by authorised personnel



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).

Lifting the BABY TRIUM DT



Danger - Warning

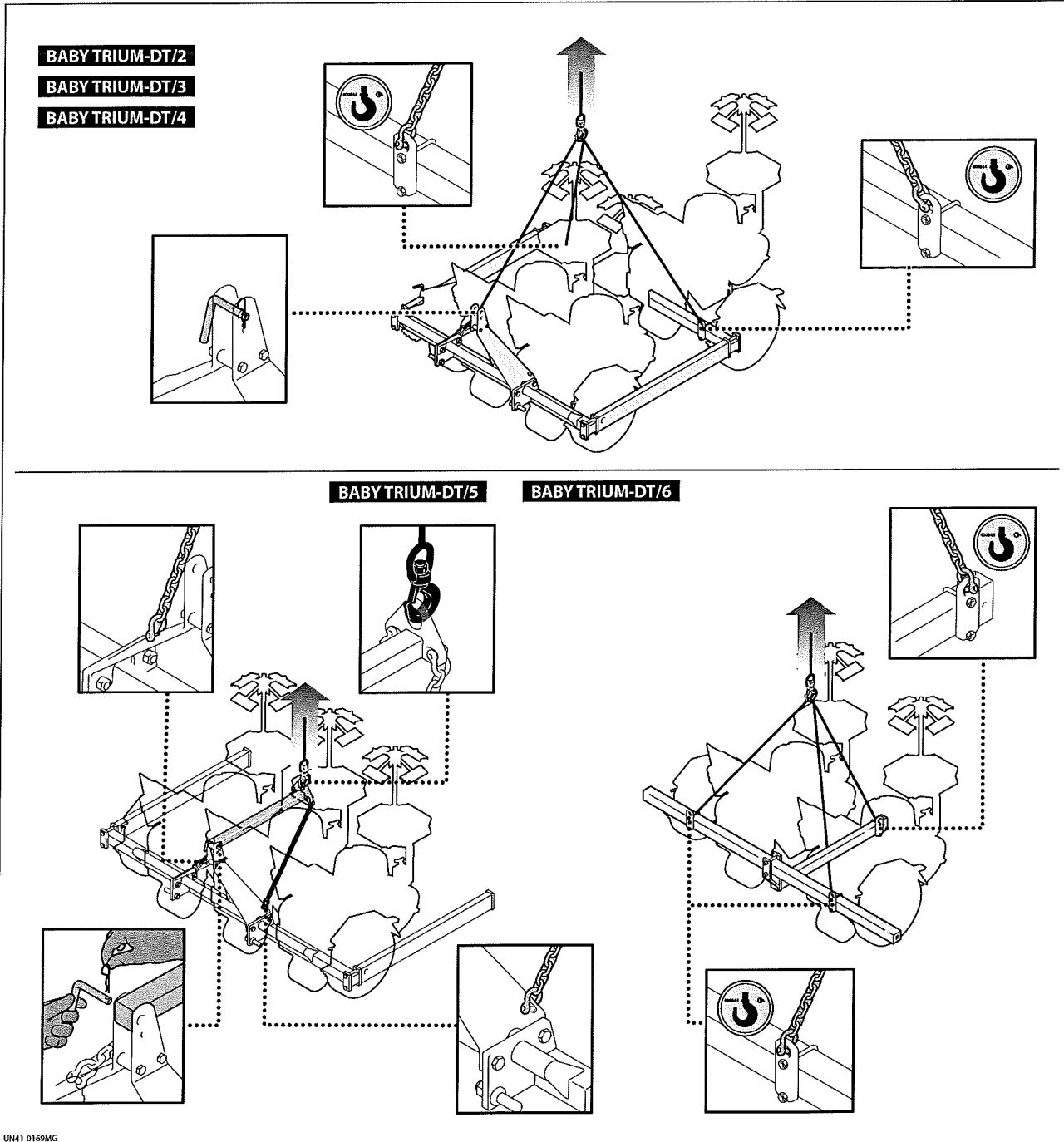
During lifting watch out for the load swinging, as the hook-up point is never perfectly at the centre of gravity.

Lifting operations must be carried out using suitable means for the load to be lifted, by authorised personnel in order to safeguard their own safety and that of the other people involved in the operations.

The machine is equipped with lifting plates marked with appropriate signs.

The illustration shows the points for lifting the work vehicle.

The **BABY TRIUM-DT/5** and **BABY TRIUM-DT/6** models must always be hoisted separately to avoid damage to the frame and possible injury to persons involved in the operations.



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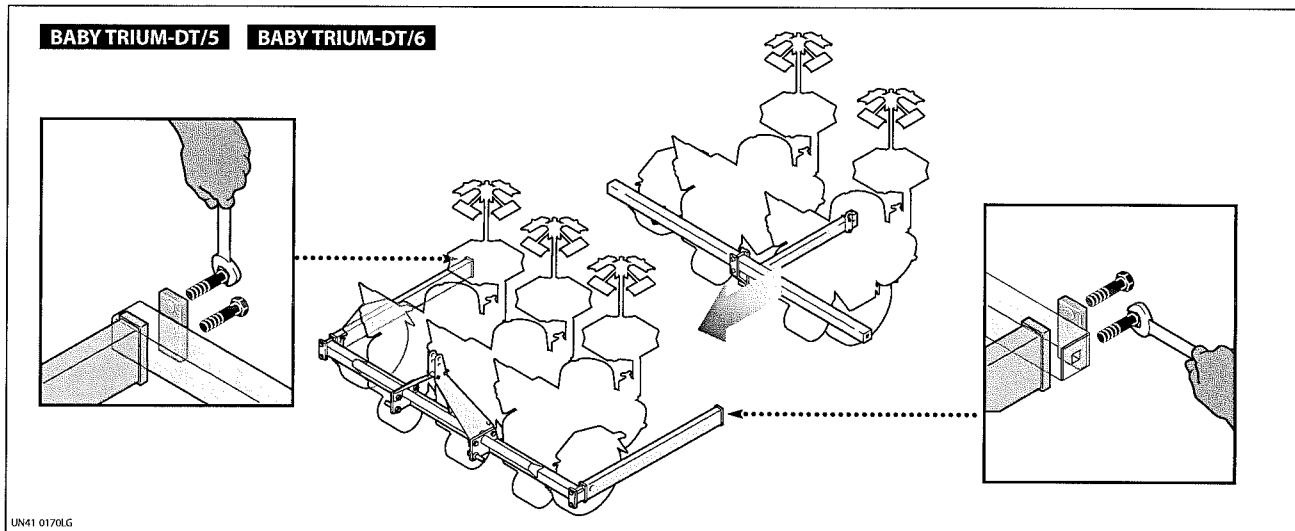
Proceed as outlined below.

- 1) Strap up the work vehicle or separate units as shown in the figure.
- 2) Before lifting check the stability of the harness.

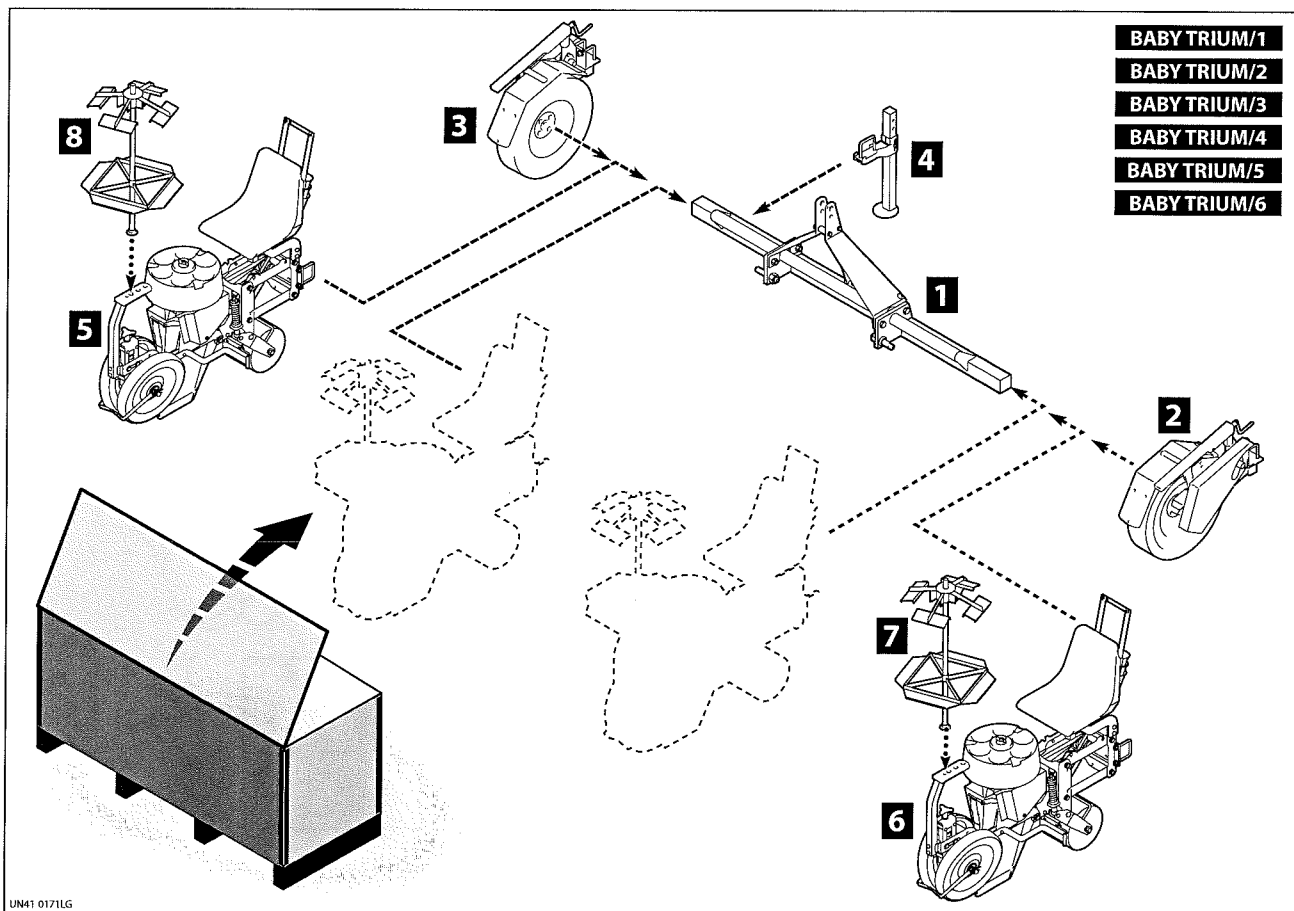
Unpacking and assembly

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.

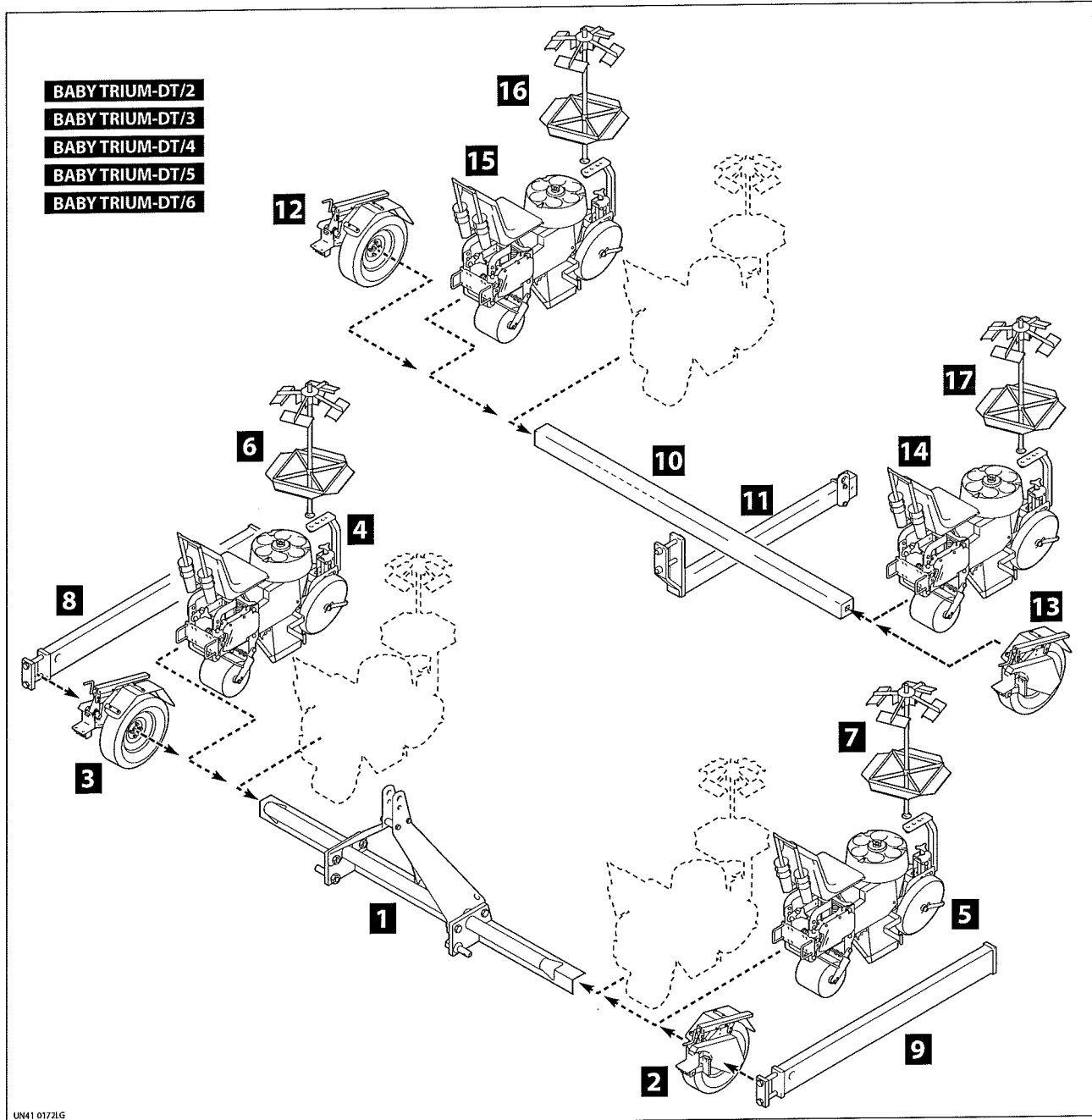
The packing materials must be appropriately disposed of or recycled in accordance with the laws in force. The illustration provides a rough outline of the work vehicle assembly divided into two units.



The illustration provides a rough outline of the work vehicle assembly.



The illustration provides a rough outline of the work vehicle assembly.



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.

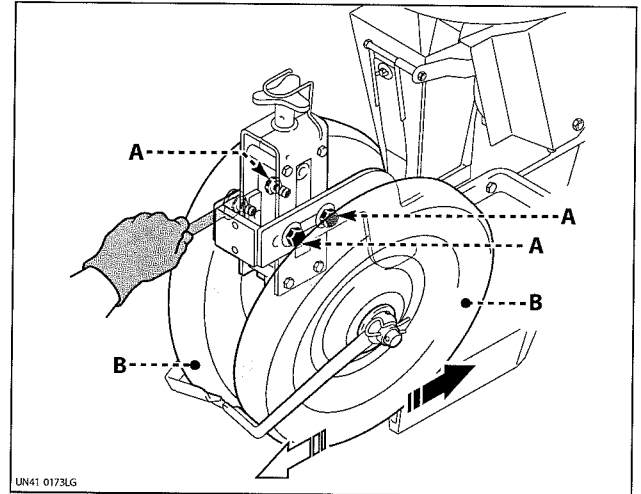
Adjusting the spacing between the packing wheels and the ploughshare

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

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 packing efficiency

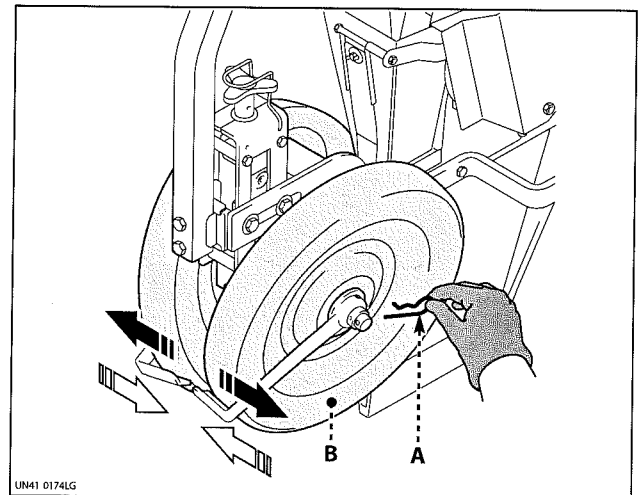
Adjust the spacing between the packing wheels (B) as required.

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).

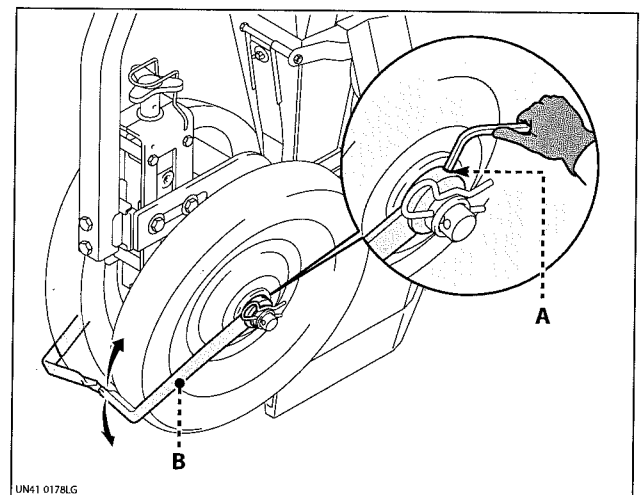


Adjusting the packing wheel scraper

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.



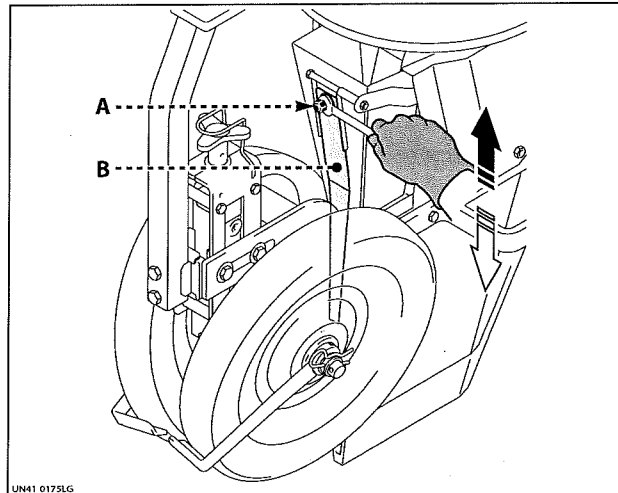
Adjusting the plant control plate

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.

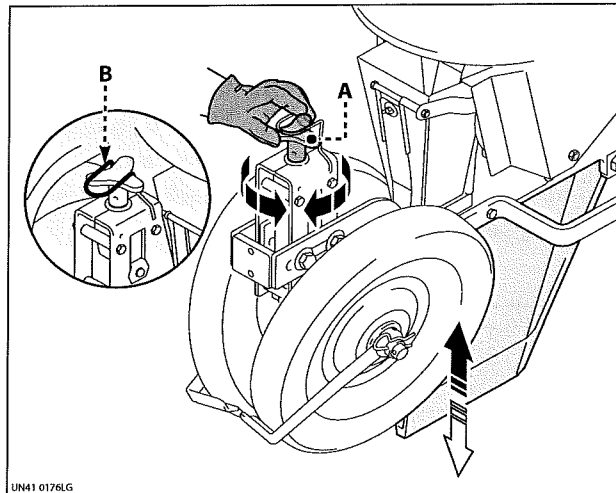
- 1) Loosen the nut (A).
- 2) Adjust the plate (B) as required.
- 3) After adjustment, tighten the nut (A).



Planting depth adjustment

Proceed as outlined below.

- 1) Use the lock (B) to release the knob (A).
- 2) Turn the knob (A) to increase or decrease the depth of the furrow.
- 3) After adjustment, tighten the nut to secure the knob with the lock (B).

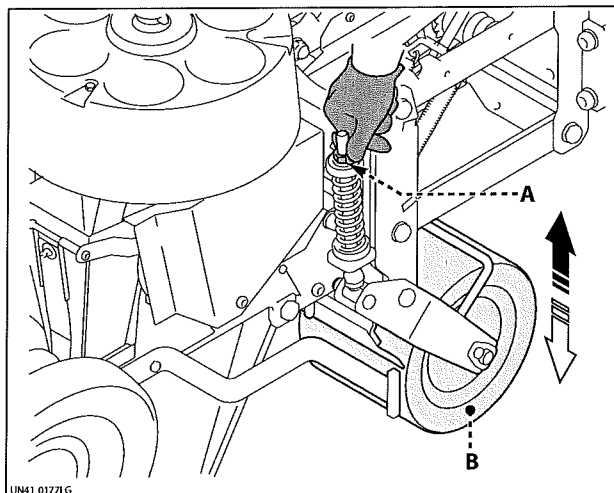


Adjusting the small wheel load

Proceed as outlined below.

Turn the knob (A) clockwise to increase the load of the small wheel (B) on the ground.

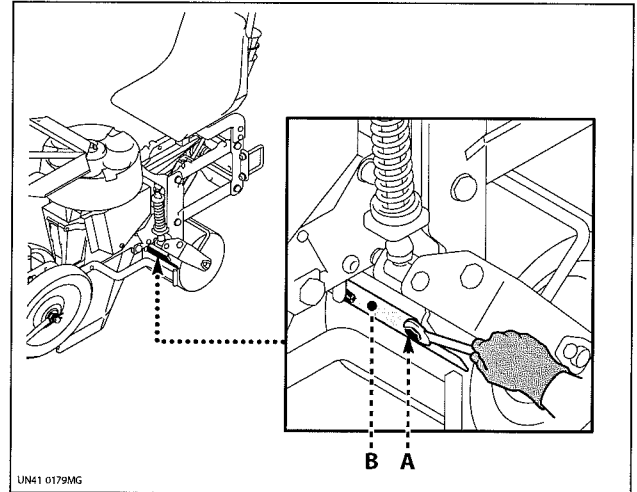
Turn the knob anticlockwise to decrease the load of the small wheel on the ground.



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 packing wheel.
- 3) Tighten the screws (A).

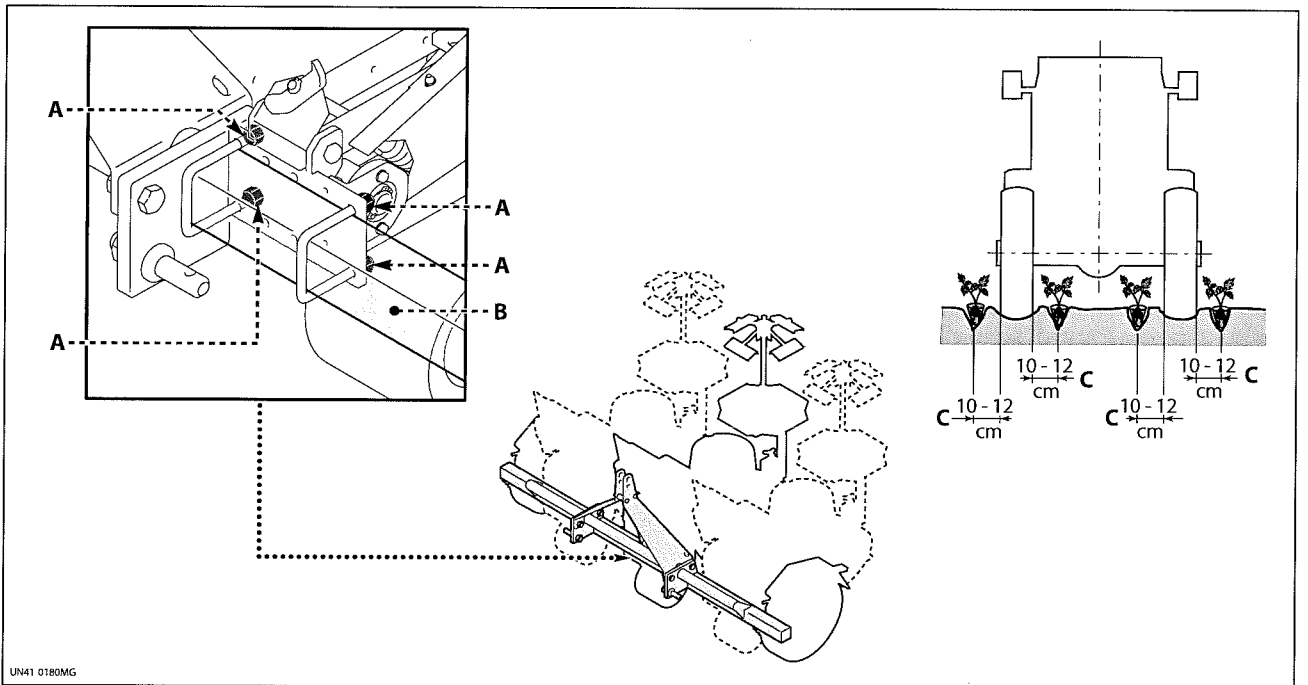


Adjusting the row spacing

! 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.

Adjust the gap between the transplanting units to obtain the row spacing required (for distances envisaged, see "Technical characteristics" for model concerned). Keep the minimum distance stated on the illustration between the seedlings and the tractor wheels.



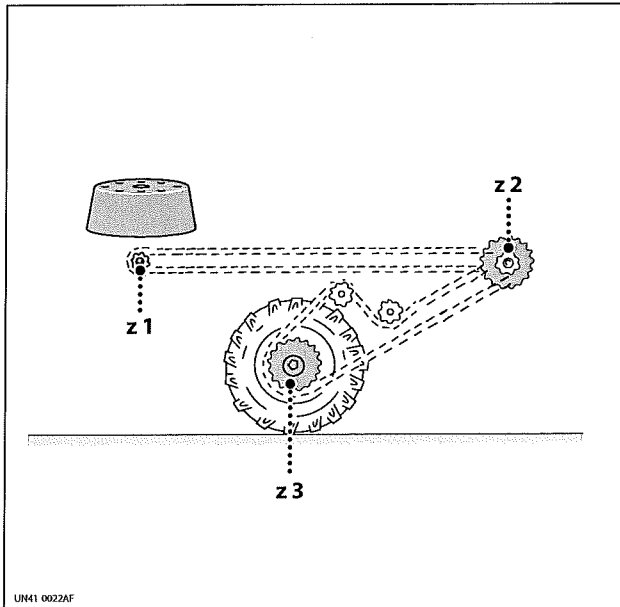
Proceed as outlined below.

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

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.

To mount the pinions, see the section on "Replacing the driving wheels pinion" on page 33. The charts state the possible distances between one seedling and the next according to the pinions fitted.



STANDARD EQUIPMENT PACKAGE				
Plant spacing		N. teeth on the pinions		
cm	inches	z 1	z 2	z 3
14	5 - 1/2	18	14	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	

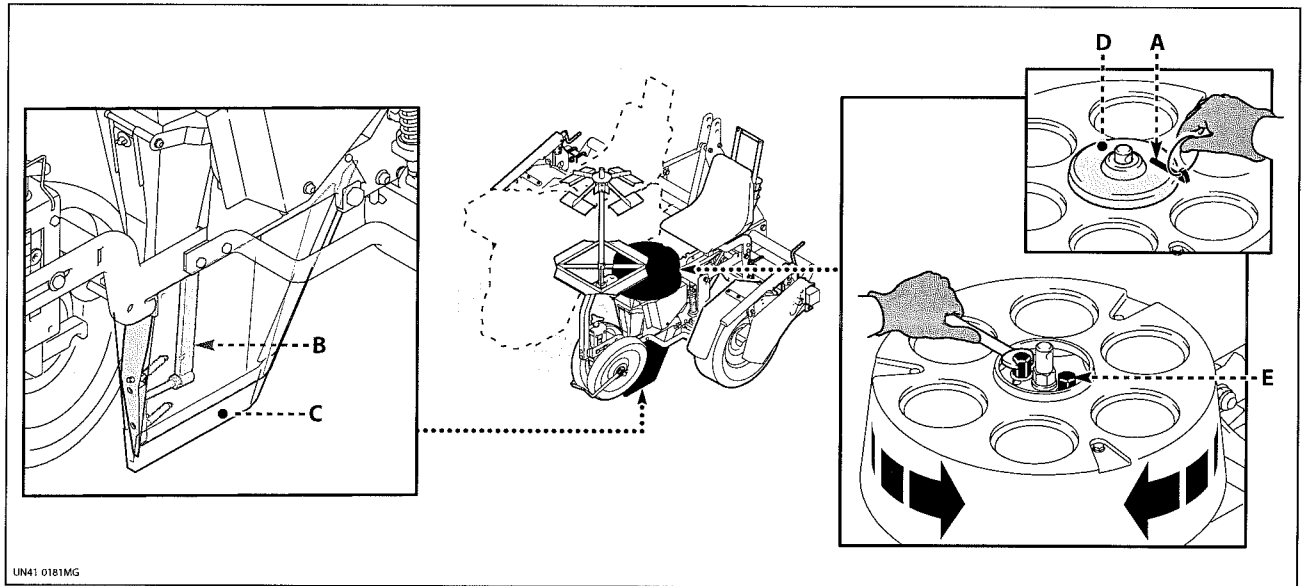
OPTIONAL EQUIPMENT PACKAGE 10 - 50				
Plant spacing		N. teeth on the pinions		
cm	inches	z 1	z 2	z 3
10	3 - 7/8	18	14	40
12	4 - 3/4			37
14	5 - 1/2			28
17	6 - 3/4			26
20	7 - 7/8			22
23	9 - 1/16		19	
26	10 - 1/4		17	
28	11		20	16
31	12 - 3/8			20
34	13 - 3/8			19
37	14 - 5/8	17		
40	15 - 3/4	16		
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	28	14	22
34	13 - 3/8			20
36	14 - 1/4			19
40	15 - 3/4			17
43	17			16
50	19 - 3/4		20	14
60	23 - 3/4			16
66	26			15
70	27 - 1/2			14
76	30			13
82	32 - 1/4		12	

Adjusting the dispenser/ 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) Slide out the plug (A).
- 2) Remove the cover (D).
- 3) Loosen the screws (E).
- 4) Turn the dispenser clockwise to speed up the ejector's pushing action or rotate the dispenser anticlockwise to delay the pushing action.
- 5) Tighten the screws (E).
- 6) Place the cover (D) on the dispenser.
- 7) Insert the plug (A).

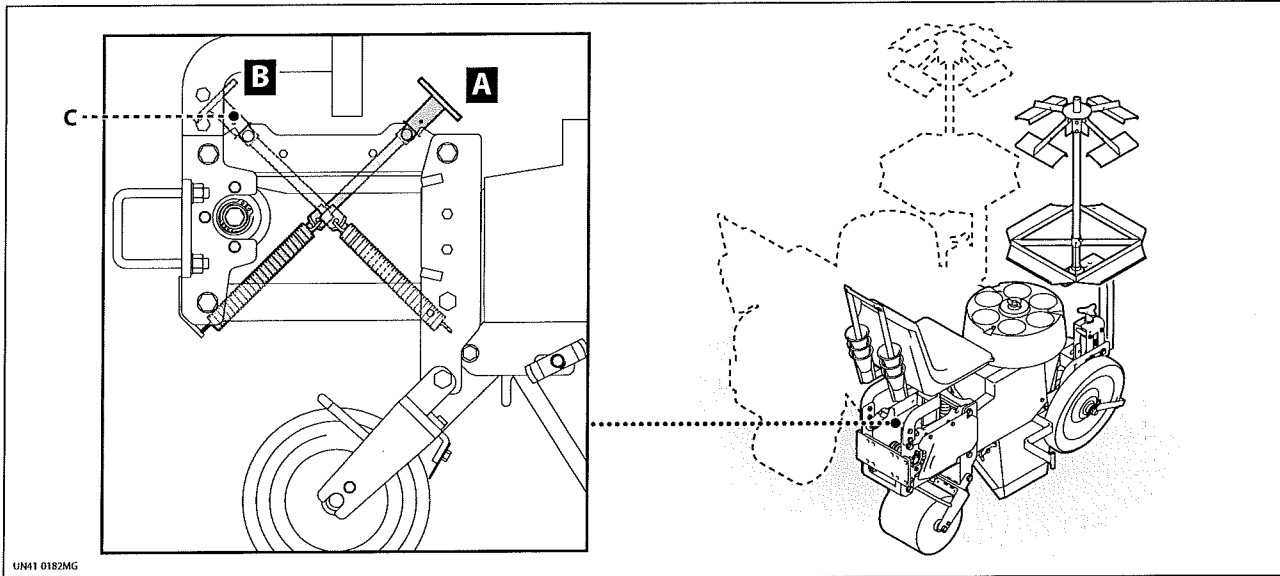
wise to delay the pushing action.

The notches on the dispenser allow accurate timing adjustment.

Adjusting the planting unit load

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

Setting the unit to position **(B)** decreases the weight on the packing wheels.

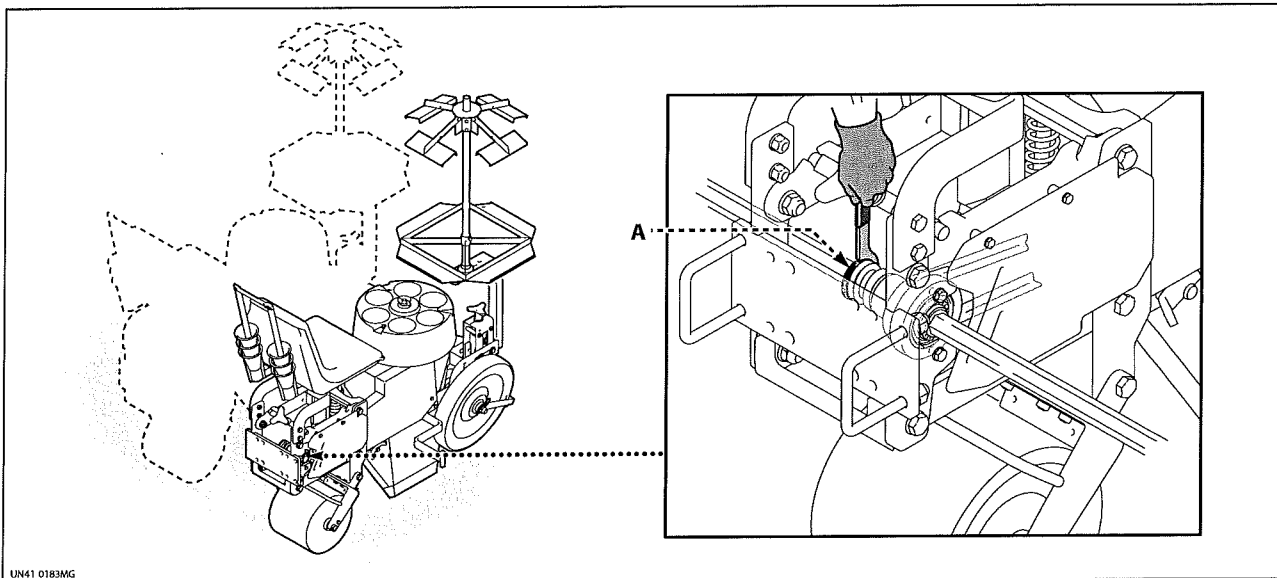


Proceed as outlined below.

- 1) With reference to the adjustment unit position, turn the handwheel **(C)** clockwise or anticlockwise to in-

crease or decrease the load of the packing wheels 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 jams).

The device, installed on each 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).

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 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).

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

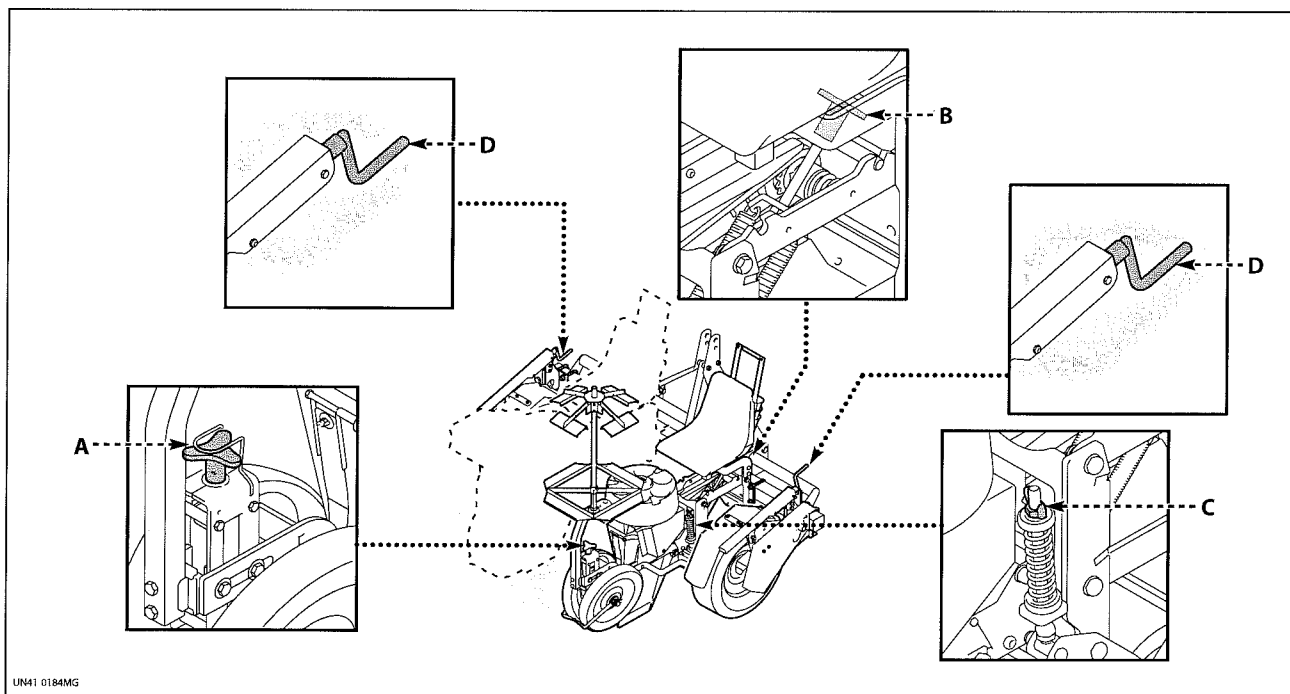
Keep the parts where operators tread clean to prevent loss of balance when getting on and off the work vehicle.

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 planting depth (see page 19).
- B) Knob:** this adjusts the weight on the packing wheels (see page 23).
- C) Knob:** this is used to adjust the small wheel load on the ground (see page 19).

- 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 fitted on all wheels (driving and idlers).

Hitching and unhitching the work vehicle to and from the tractor

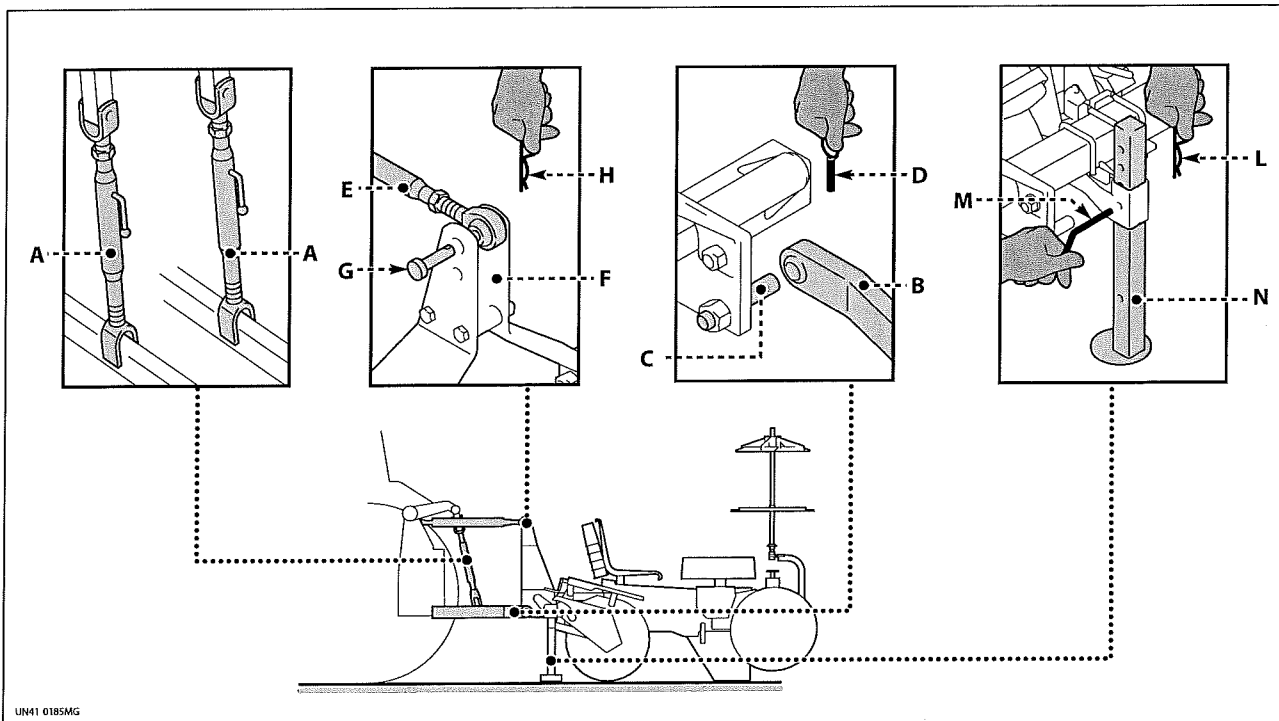


Danger - Warning

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 lifting unit with the coupling points on the work vehicle.
- 4) Switch off the tractor engine, remove the ignition key and store in a safe place.
- 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 the 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.

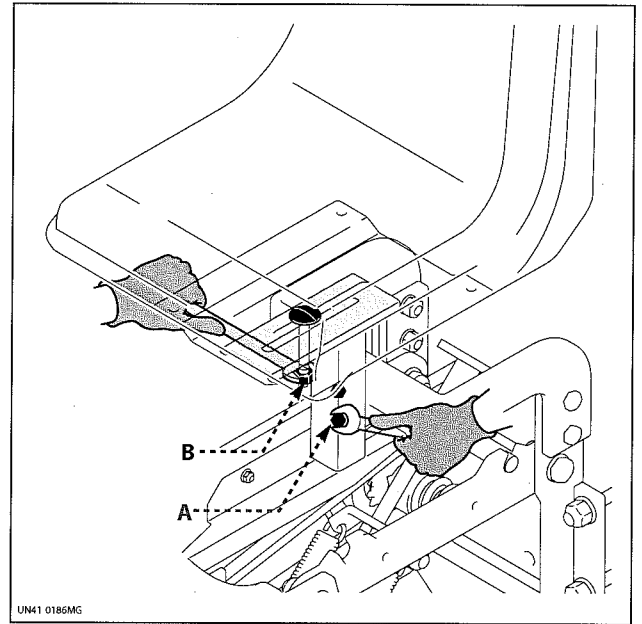
- 1) Select an area with flat, solid ground to park the work vehicle - tractor.
- 2) Using the tractor's controls, lower the work vehicle to the ground.
- 3) Lower the resting foot (N) on the ground, insert the pin (M) and the lock pin (L).
- 4) Switch off the tractor engine, remove the ignition key and store in a safe place.
- 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.

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 (**A**) to secure the seat in the right position.
- 3) Loosen the nut (**B**) to move the seat at right angles to the vehicle.
- 4) Tighten the nut (**B**) to secure the seat in the right position.



UN41 0186MG

Planting procedure

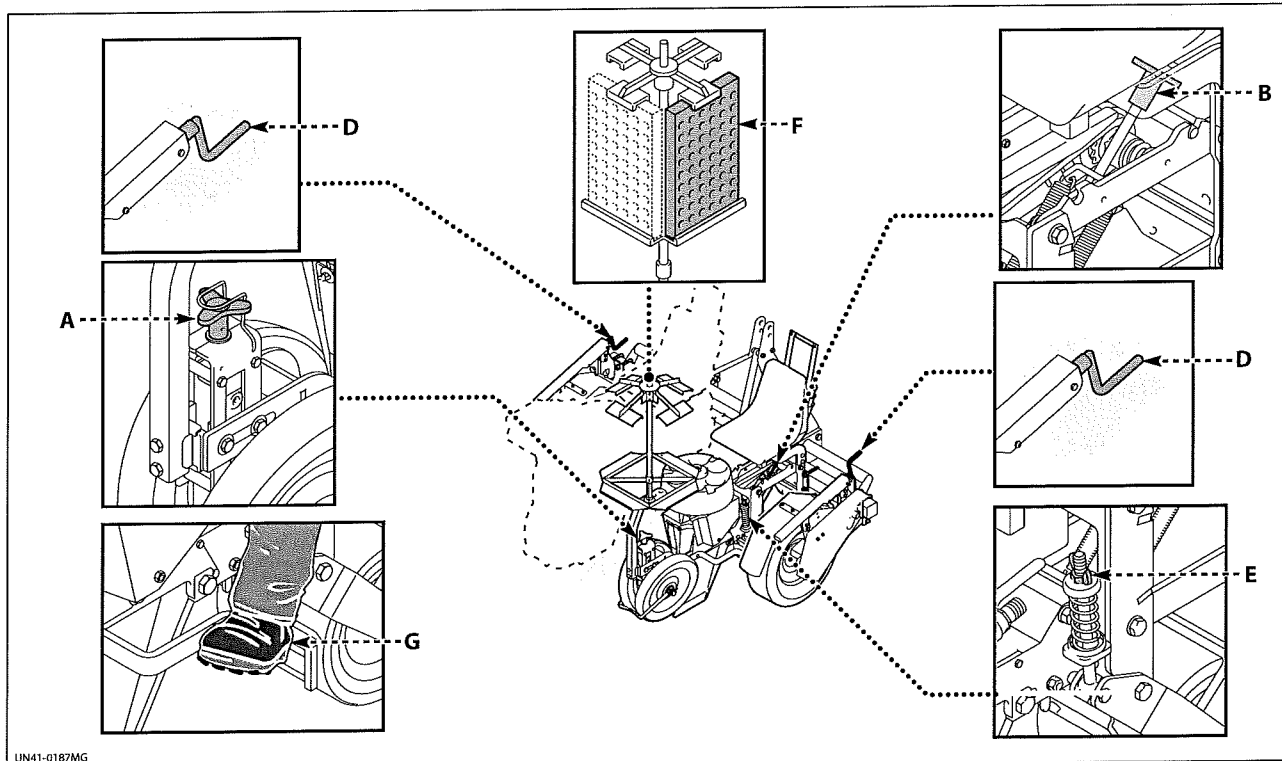
The seedlings must be planted in soil which has been finely tilled with a harrow or hoeing machine and lightly compacted on the surface.

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 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.



UN41-0187MG

Preliminary operations

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

- 1) Check that the plant spacing is correct (see "Adjusting the plant spacing" - page 21).
- 2) Check that the row spacing is correct (see "Adjusting the row spacing" - page 20).
- 3) Assess the soil consistency in order to adjust the disposition of the packing wheels (see "Adjusting the spacing between the packing wheels and the ploughshare" - page 18).
- 4) 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 18).
- 5) Turn the levers (D) by the same amount to set (depending on the machine model) the dispenser(s) parallel to the ground.
- 6) Use the knob (A) to adjust the furrow depth (see "Planting depth adjustment" - page 19).

- 7) Turn the knob (B) to adjust the planting force to apply to the ground (see "Adjusting the planting unit load" - page 23).
- 8) Turn the knob (E) to apply the load of the small wheel to the ground.
- 9) Position the trays (F) 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 ploughshare.
- 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 (G) and must agree - together with the tractor driver - on the most effective speed of travel.

- 3) 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.
- 4) 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.
- 5) Move forwards with the tractor before starting the planting.
- 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 18 and 33).

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 vehicle at the lifting points envisaged by the manufacturer.

See the strap-up points and lifting procedures in the sections titled "Lifting the BABY TRIUM" on page 14 or "Lifting the BABY TRIUM DT" on page 15.

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

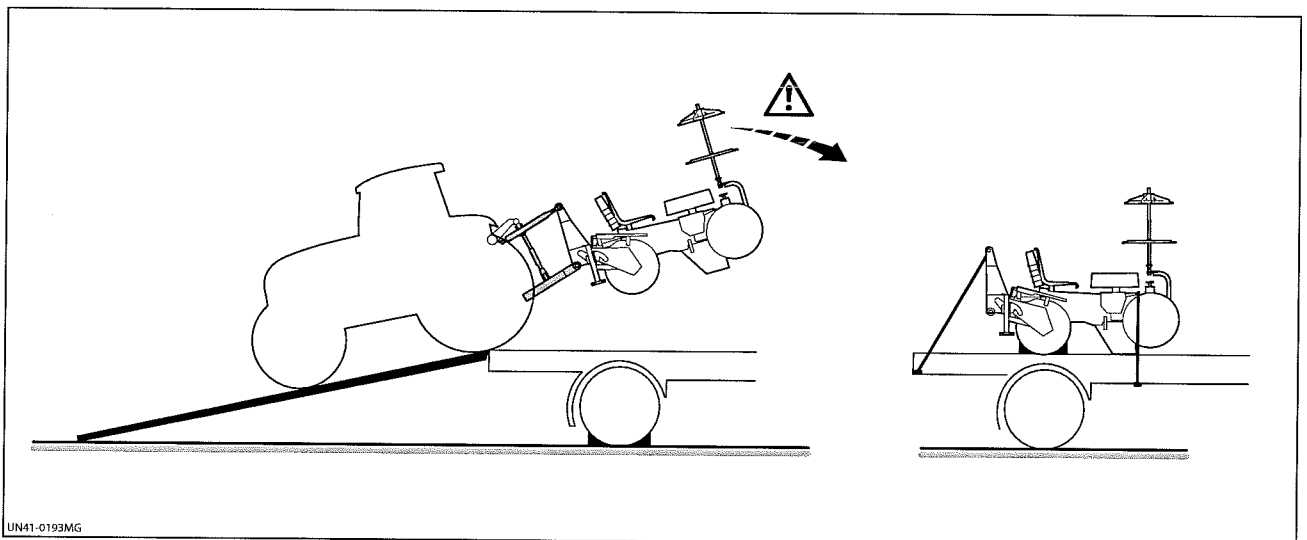
Vehicles which are narrower than the maximum width allowed by the highway code can be loaded, coupled to the tractor, onto suitable means of transportation using loading ramps.

! 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.



UN41-0193MG

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) Off the tractor engine and engage the parking brake.
- 5) Anchor the the tractor/work vehicle 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



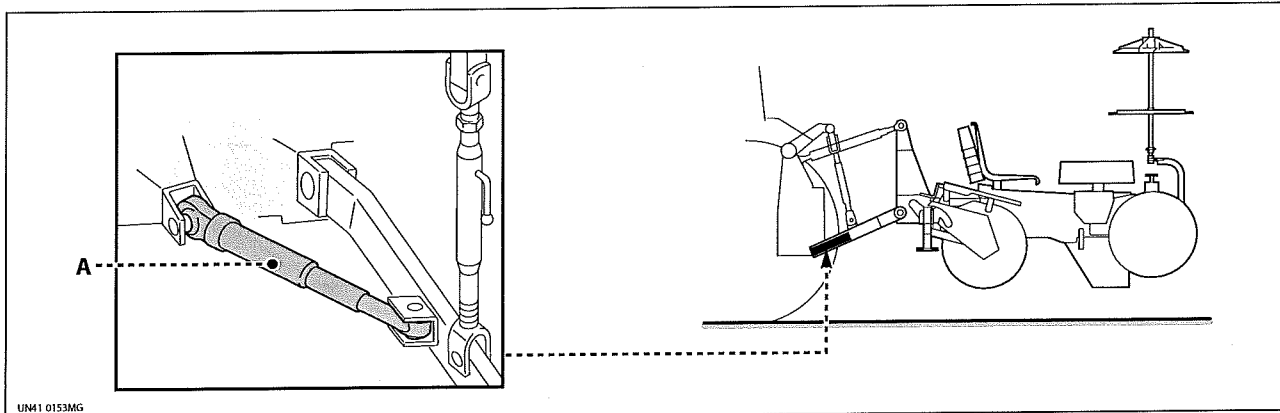
Danger - Warning

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 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 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.

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 (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 intervals schedule

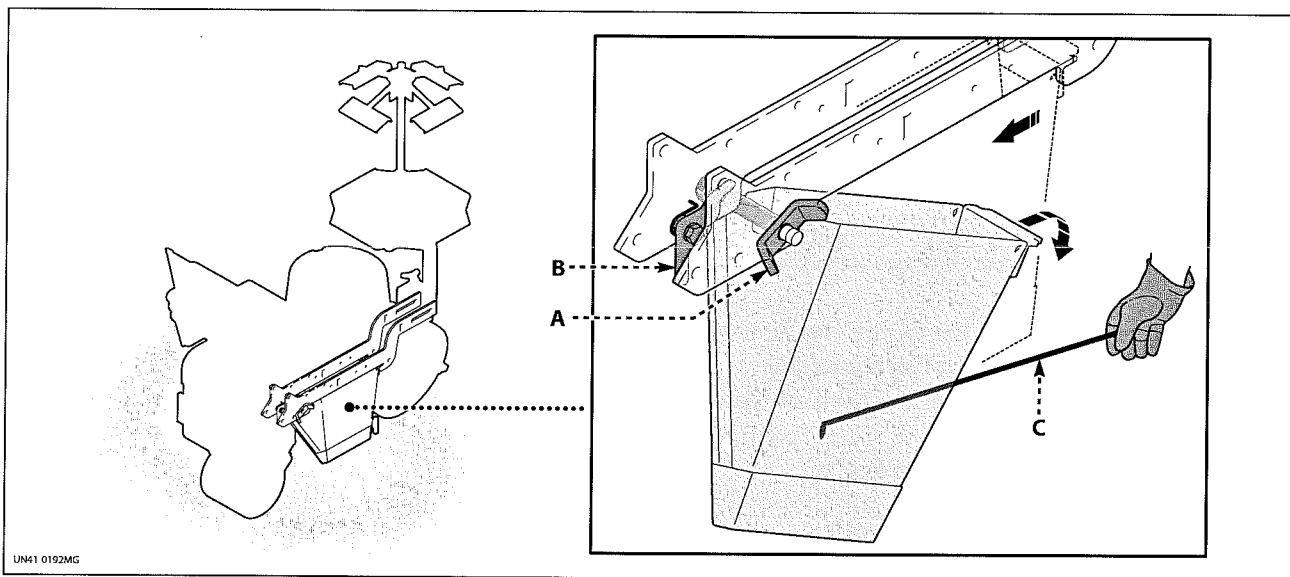
To guarantee constant, efficient and safe machine operation, ensure all the maintenance envisaged by the manufacturer is carried out.

Maintenance schedule

Maintenance intervals			
Frequency	Component	Type of work	Manual reference
Every hour	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 points 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) Loosen the wing nut (A).
- 3) Turn the lock lever (B).
- 4) Push the ploughshare forwards and turn it so it is facing downwards.
- 5) Clean the ploughshare with the tool provided (C).
- 6) Once the cleaning is complete, replace the ploughshare in the working position and check that the lock lever (B) is holding it in position.
- 7) Tighten the wing nut (A).

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 "Tech-

nical characteristics").

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 points diagram").

Troubleshooting

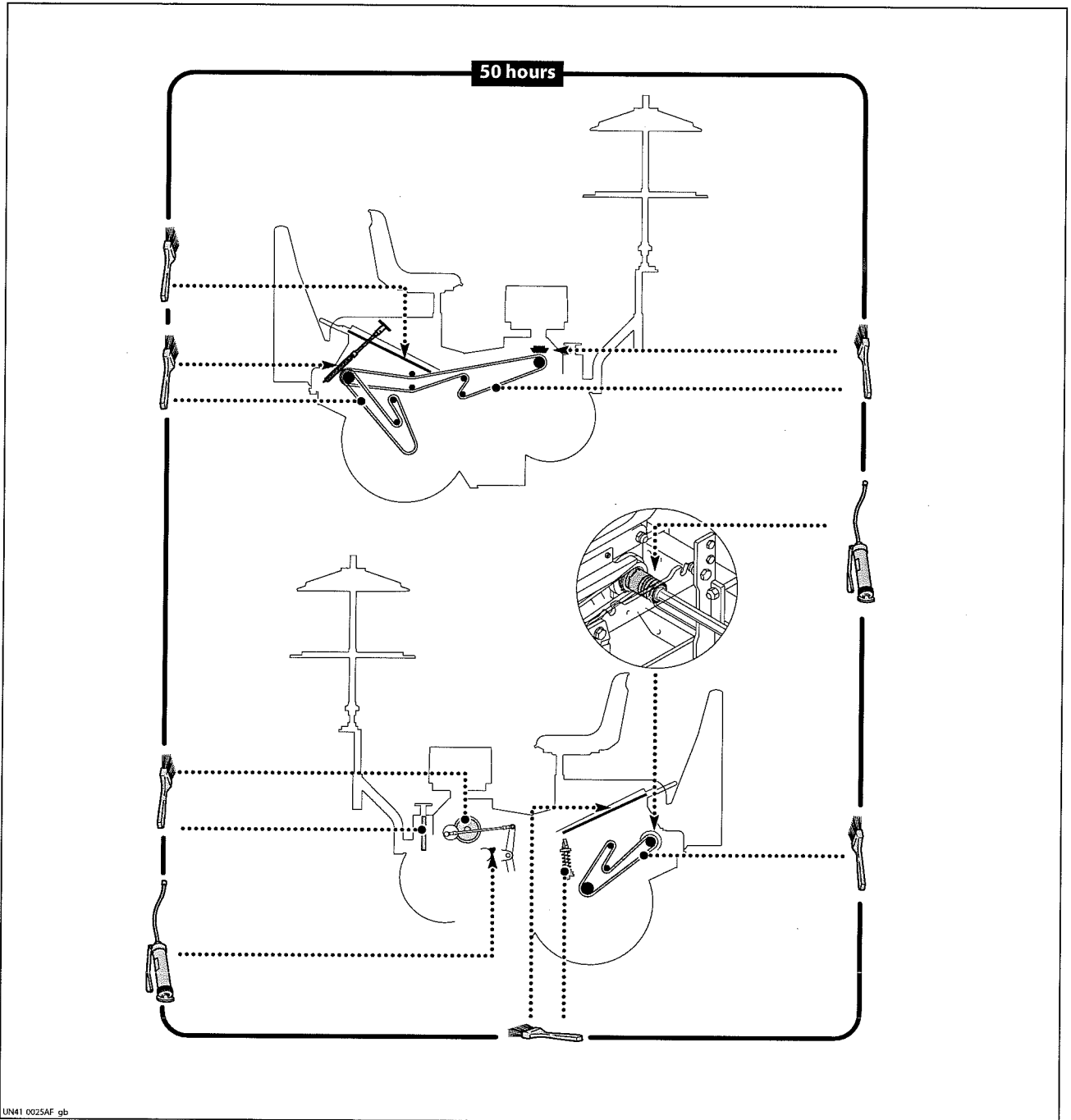
The following list contains a number of common problems that may arise during work, together with the ways to solve them.

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 dispenser is not synchronised with the ejector	Adjust the timing (see "Adjusting the dispenser / ejection timing")
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")
The seedling is planted at an angle	The dispenser is not synchronised with the ejector	Adjust the timing (see "Adjusting the dispenser / ejection timing")
	The plant control plate is not in the right position	Adjust the plant control plate (see "Plant control plate adjustment")




Lubrication points 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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 <p>Grease</p>	 <p>Grease</p>	 <p>Oil</p>
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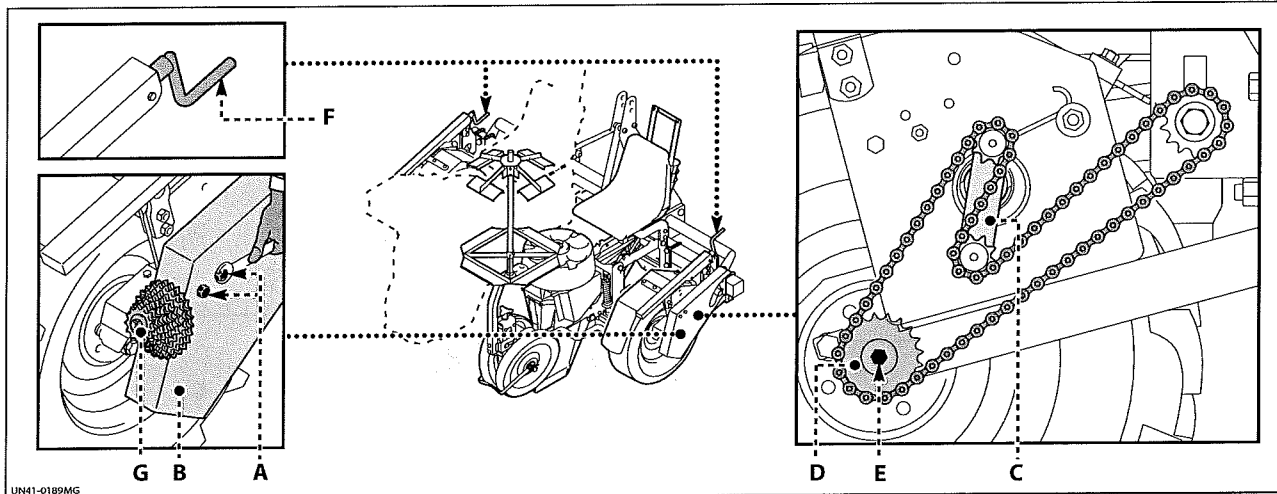
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Safety advice concerning replacements

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.

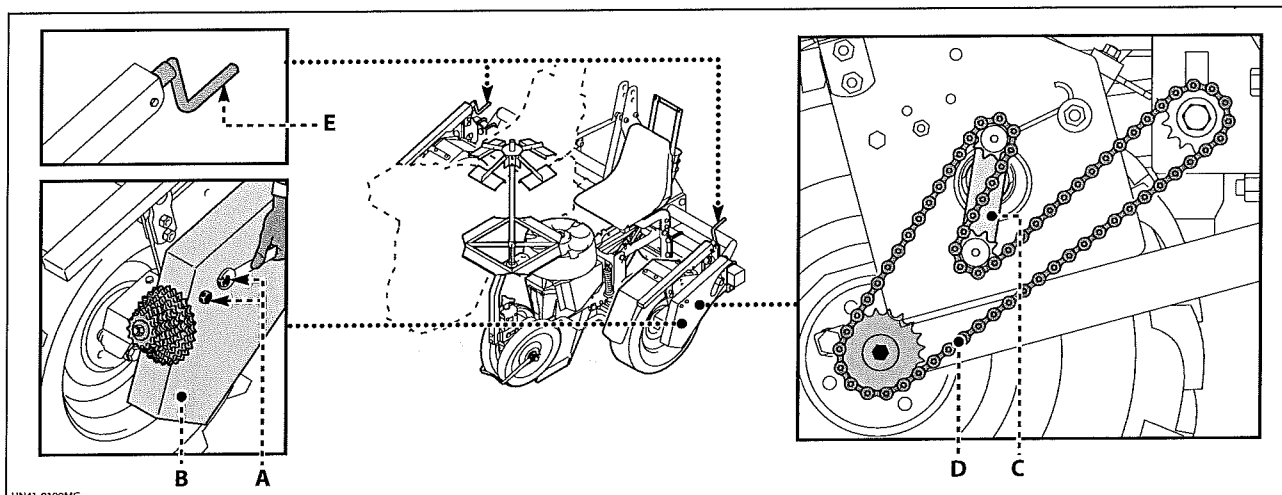
Replacing the driving wheels pinion



Proceed as outlined below.

- 1) Turn the levers (F) to lift the wheels and 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 pinions and the tensioner.
- 8) Fit the casing (B) and tighten the nuts (A).

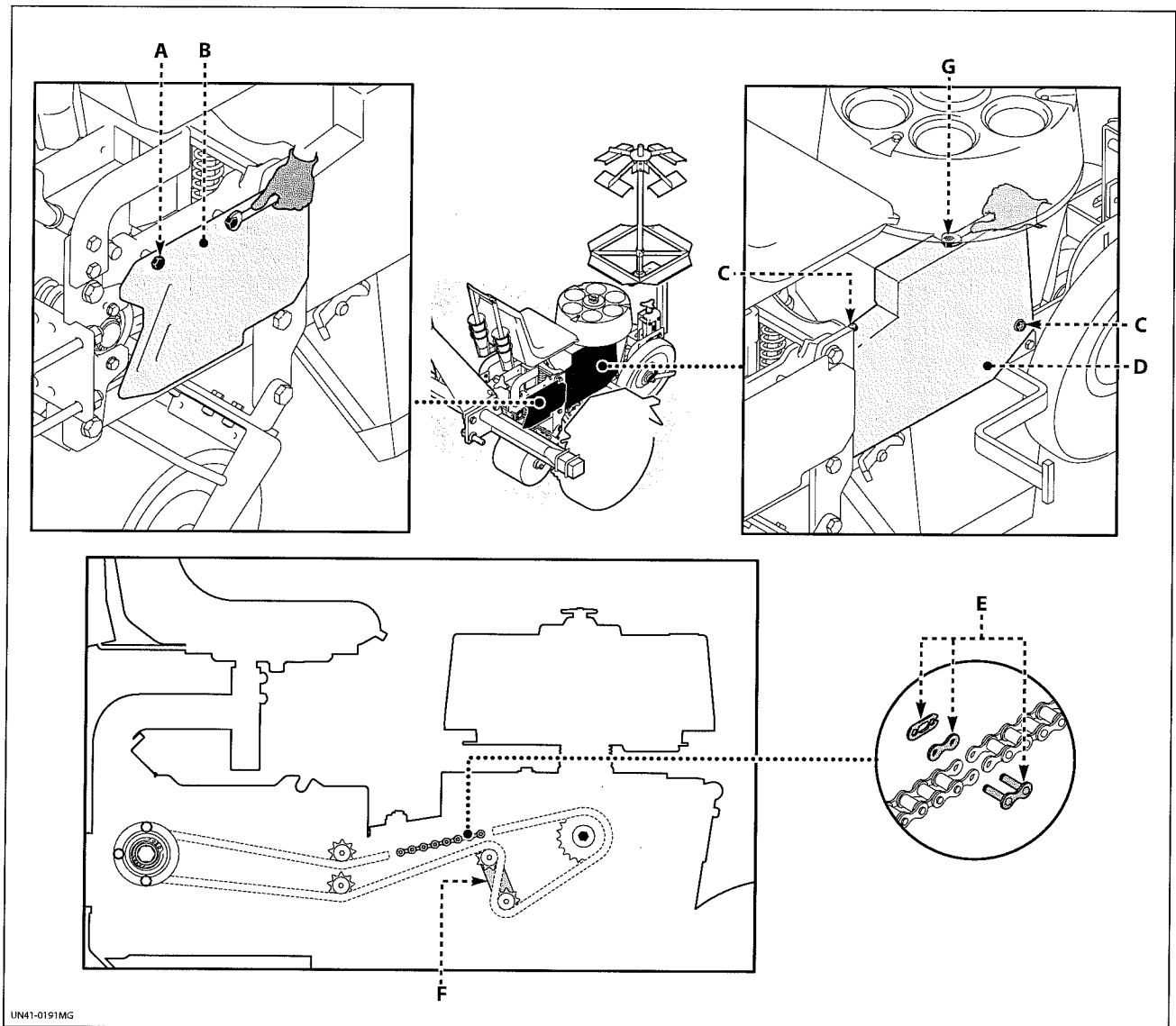
Replacing the driving wheels chain



Proceed as outlined below.

- 1) Turn the levers (E) to lift the wheels and slacken off the chain.
- 2) Unscrew the nuts (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 nuts (A).

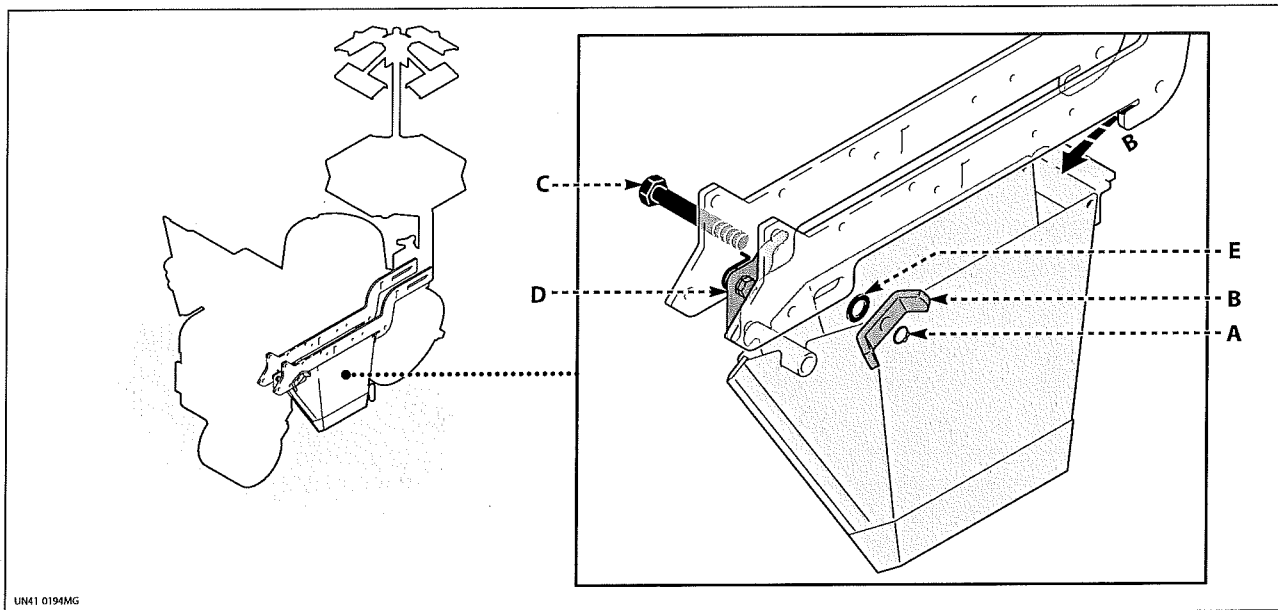
Replacing the planting unit chain



Proceed as outlined below.

- 1) Unscrew the screws (A) and remove the casing (B).
- 2) Unscrew the screws (G), the nuts (C) and remove the casing (D).
- 3) Use the tensioner (F) to slacken the chain.
- 4) Remove the joining link (E).
- 5) Remove the chain from the pinions.
- 6) Fit the new chain on the pinions and on the chain tensioners (F).
- 7) Fit the joining link (E).
- 8) Fit the casing (D) and tighten the nuts (C).
- 9) Fit the casing (B) and tighten the screws (A).

Replacing the ploughshare



Proceed as outlined below.

- 1) Remove the circlip (**A**).
- 2) Unscrew the wing nut (**B**).
- 3) Lift and hold the clamping device (**D**).
- 4) Push the ploughshare forwards and turn it so it is facing downwards.
- 5) Hold the ploughshare and remove the screw (**C**) and washer (**E**).

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

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.

