



**FL FLA FLAR**

**FP FPA FPXA**

**FPSR FPSRA FPSRXA**

## **MILLING MACHINES**

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**FL FLA FLAR**

**FP FPA FPXA**

**FPSR FPSRA FPSRXA**

## **MILLING MACHINES**



This manual shall be kept for the whole working life of the machine to which it refers.

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**USE AND MAINTENANCE HANDBOOK**  
**TRANSLATION FROM THE ORIGINAL LANGUAGE**

**SERIAL NUMBER** .....  
**VERSION** .....

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# 1 GENERAL INFORMATION



Please read this handbook carefully before any operation on the machine(1).

## 1.1. AIM OF THIS HANDBOOK

This handbook has been drawn up by the manufacturer and it is an essential part of the machine.

Informations contained herein is intended for skilled users(2) only.

For a quick reference to the topics that are dealt with herein, please refer to the table of contents.

This handbook defines the aim this machine is manufactured for and contains all necessary information to ensure it is safely and correctly operated.  
Drawings are included as examples.

The figures that are contained herein may differ from your actual machine, nevertheless the information this handbook provides about your machine is correct and safe.

Parts of the text that should not be overlooked are in bold type and follow the below mentioned symbols.



### **DANGER - WARNING**

It refers to imminent dangers that may cause serious injuries; be very careful.



### **CAUTION**

Accidents or damages to things could be incurred and operators are required to behave appropriately.



### **INFORMATIONS**

Technical and particularly important instructions.

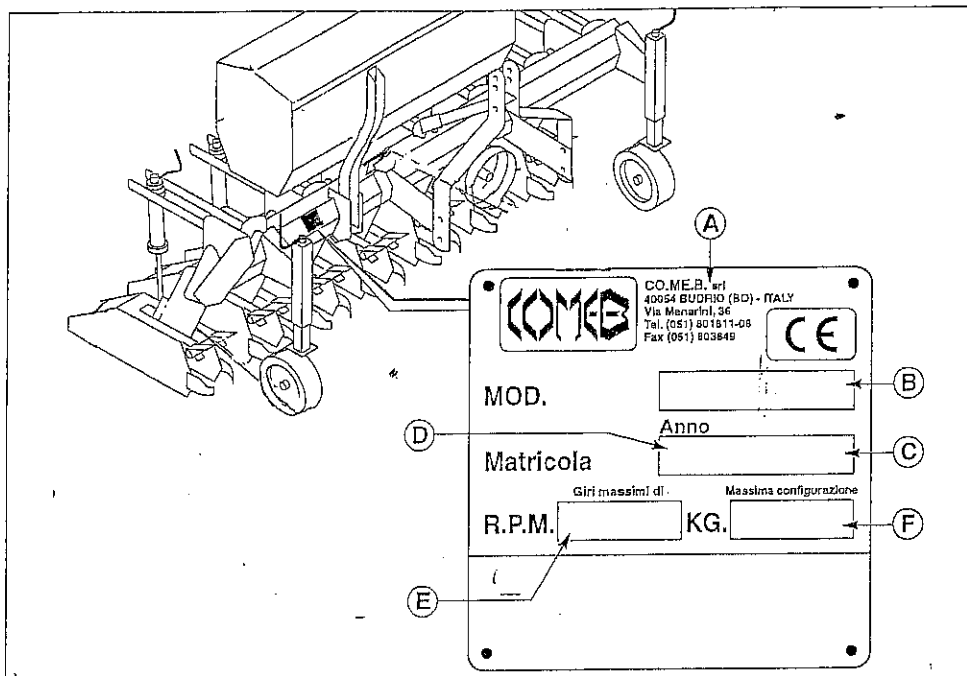
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(1) The term machine replaces the tradename this manual refers to (see cover).

(2) The term refers to persons who are qualified for operating the machine and trained for using the machine as appropriate.

# 1 GENERAL INFORMATION

## 2 MACHINE AND MANUFACTURER'S IDENTIFICATION



- A- manufacturer's identification
- B- machine model
- C- serial number
- D- year of production
- E- max allowed RPM
- F- machine mass



### INFORMATIONS

Always report the serial number to the manufacturer whenever information, spare parts, etc are needed.

### 1.3. ENCLOSED DOCUMENTS

This handbook also contains the following documents:

- CE Declaration of conformity
- Use and maintenance handbook for the cardan shaft.





## 2

## TECHNICAL INFORMATION

### 2.1. GENERAL MACHINE DESCRIPTION

FL          FP          FPSR    series milling machine  
hereafter defined as "machine", it is suitable for day-working.  
The machine does not have its own lighting for use during the night.

#### FL SERIES

It may be applied to small-medium power agricultural tractors ( 20-40 HP ) equipped by a 3rd point and hydraulic lifting. It can be equipped from 2 to 13 milling units. Depending on the working requirements, the width of each milling unit can be varied from 14 to 76 cm.

#### FP SERIES

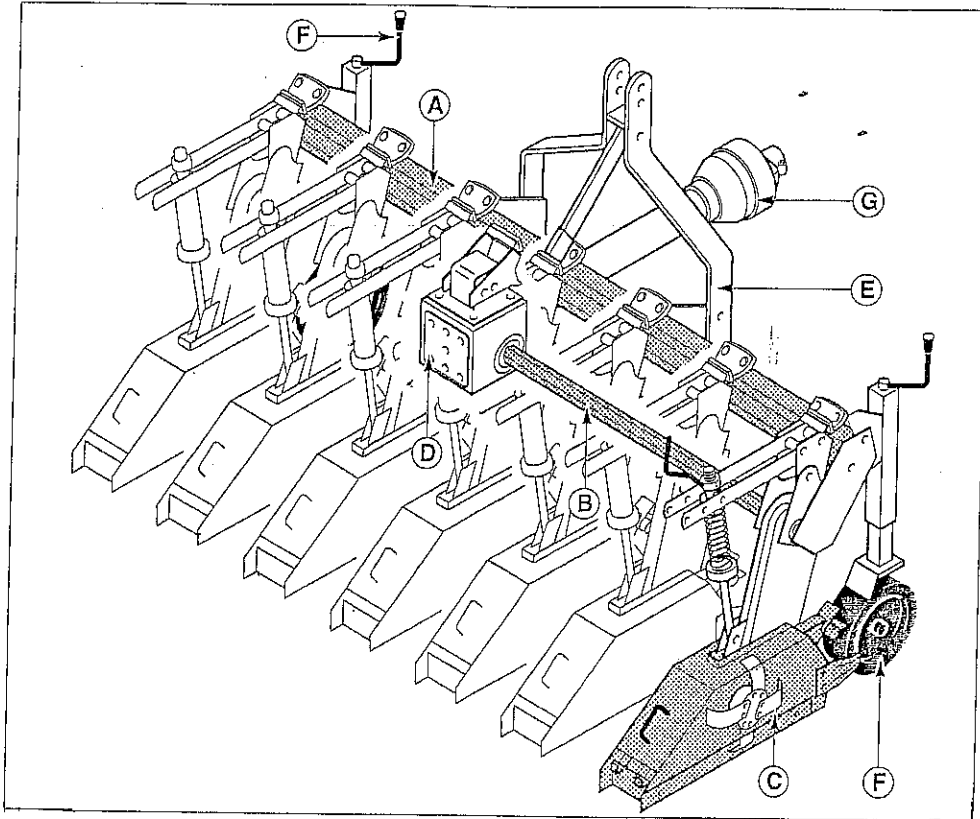
It may be applied to medium power agricultural tractors ( 40-80 HP ) equipped by a 3rd point and hydraulic lifting. It can be equipped from 2 to 13 milling units. Depending on the working requirements, the width of each milling unit can be varied from 22 to 120 cm.

#### FPSR SERIES

It may be applied to medium power agricultural tractors ( 50-100 HP ) equipped by a 3rd point and hydraulic lifting. It can be equipped from 2 to 13 milling units. Depending on the working requirements, the width of each milling unit can be varied from 27 to 120 cm.

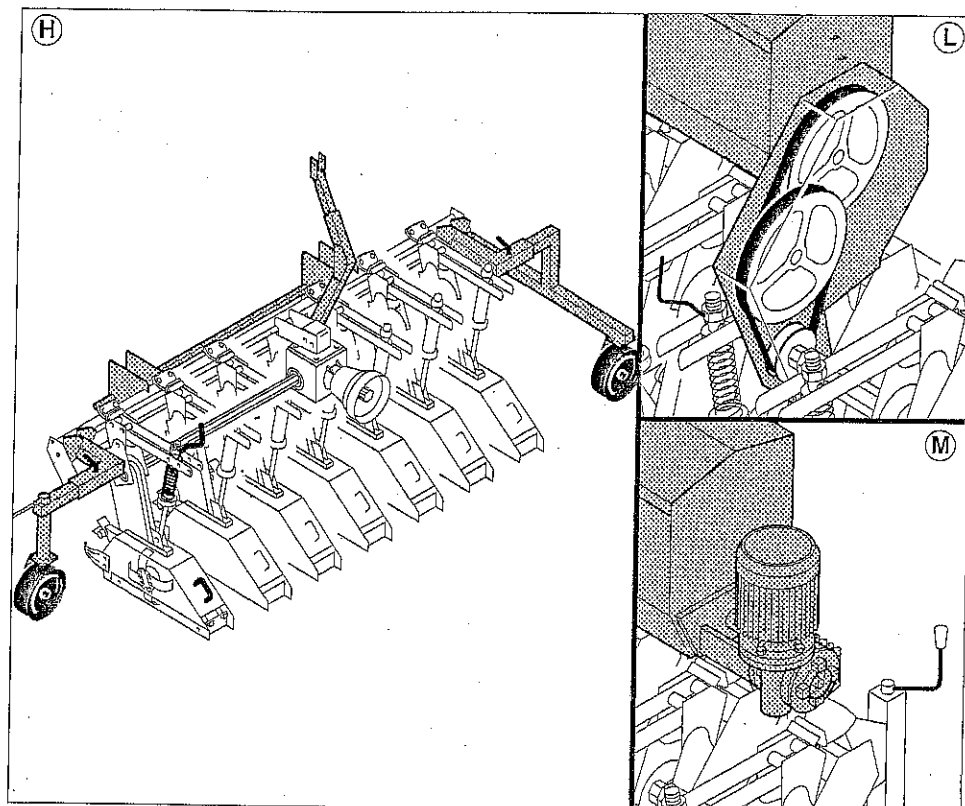
## 2 TECHNICAL INFORMATION

### 2.2 MAIN MACHINE MEMBERS



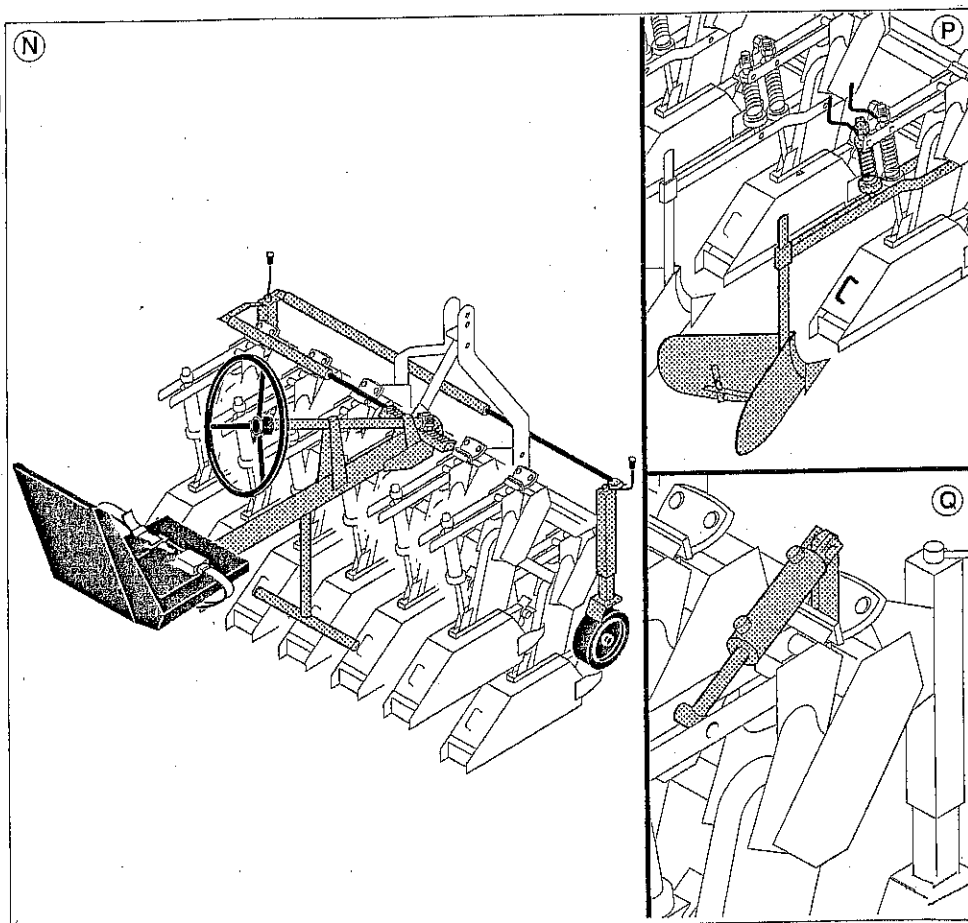
- A- Holding frame
- B- Hexagonal shaft
- C- Milling units
- D- Gearbox
- E- 3rd point hitch frame
- F- Wheels unit
- G- Pto

### 2.3. OPTIONAL UNITS (mod.FL FLA-R FP-A-XA FPSR-A-XA)



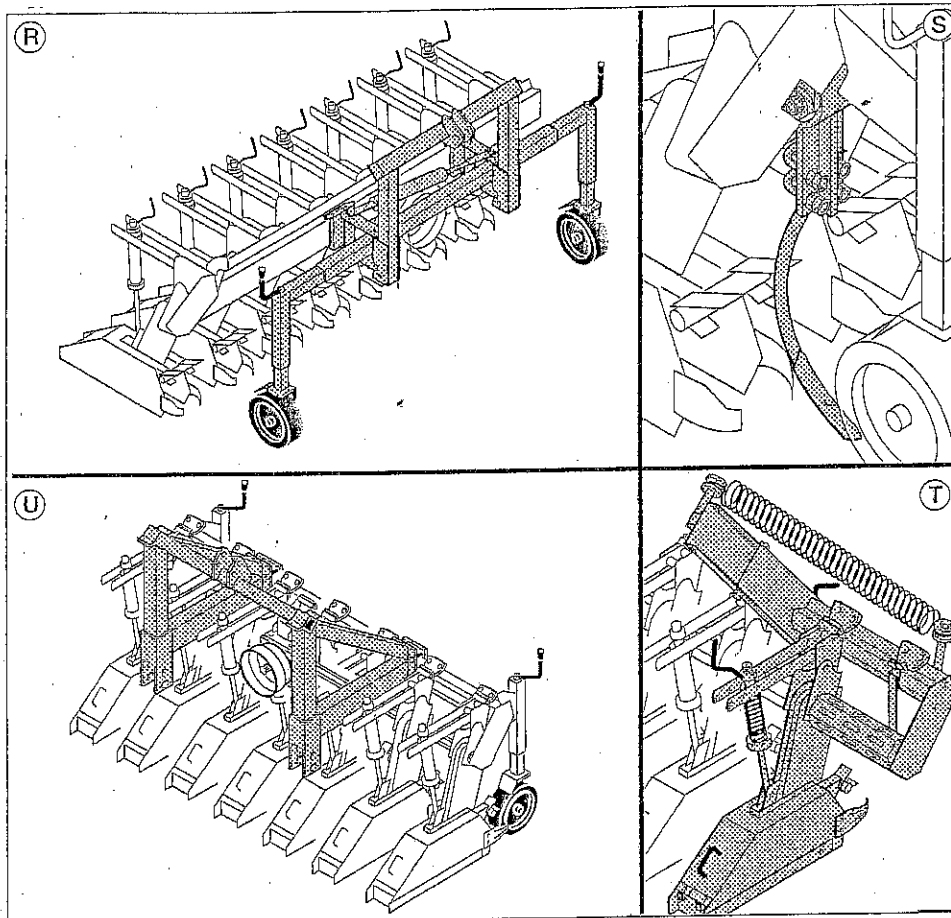
- H- Maschine fitted with Fendt tractor carriage
- L- Fertilizer box with driving belt
- M- Fertilizer box with gearmotor

## 2 TECHNICAL INFORMATION



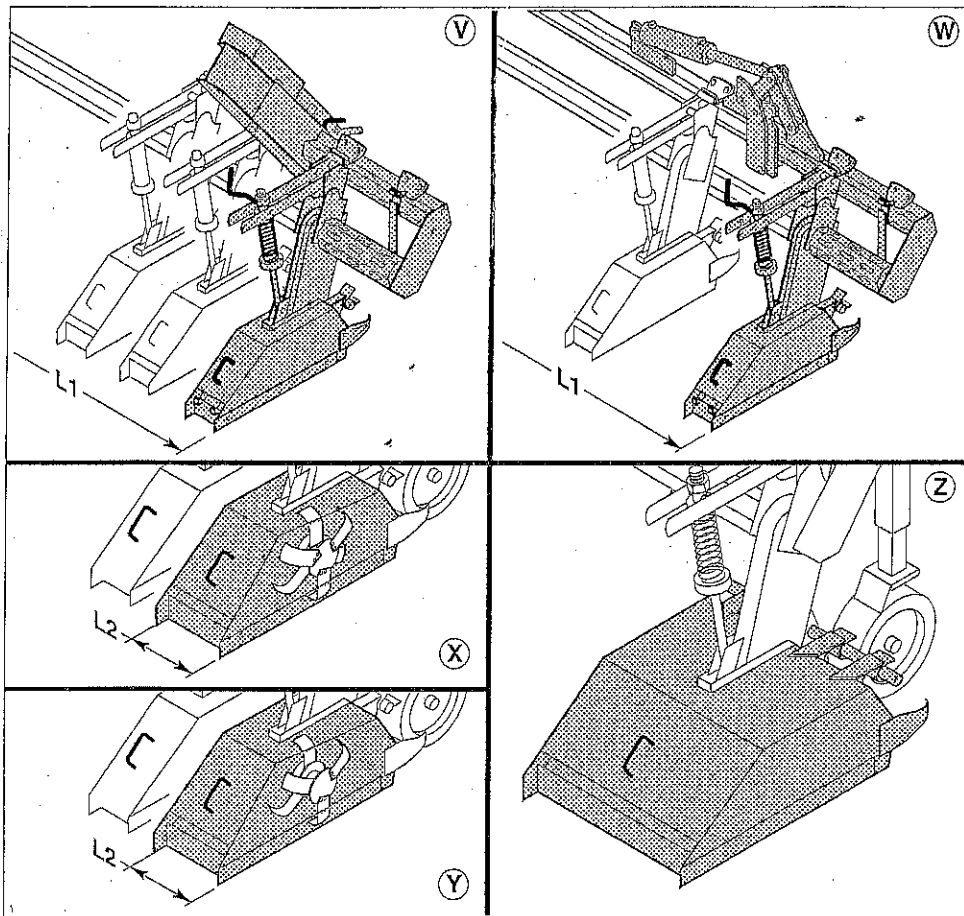
(mod.FL FLA-R FP-A-XA FPSR-A-XA)

- N- Manual steering guide
- P- Ridger
- Q- Hydraulic device for milling units lifting

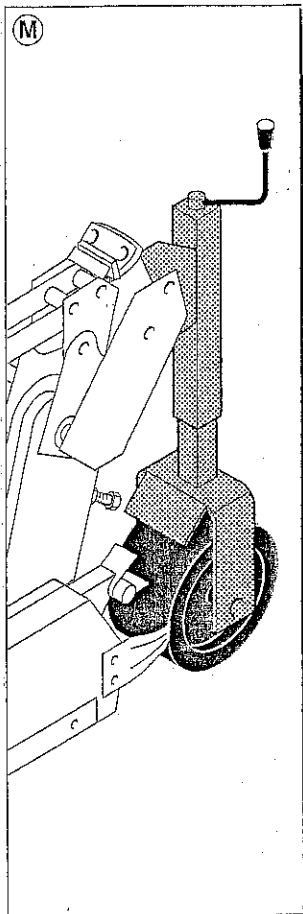


(mod. FLA-R FP-A-XA FPSR-A-XA)

- R- Hydraulic steering guide
- S- Depth skid
- T- Manual folding frame
- U- Frontal 3rd point hitch frame

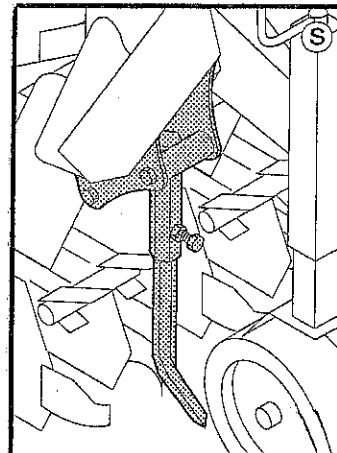
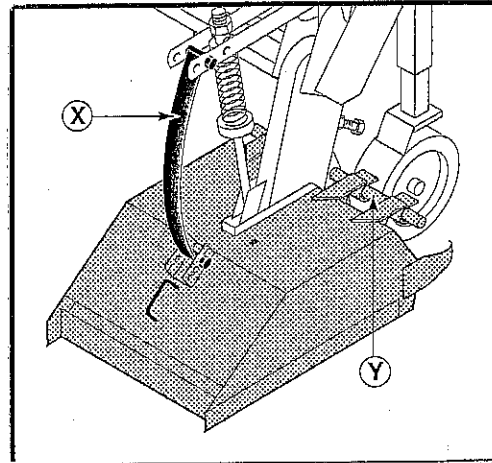
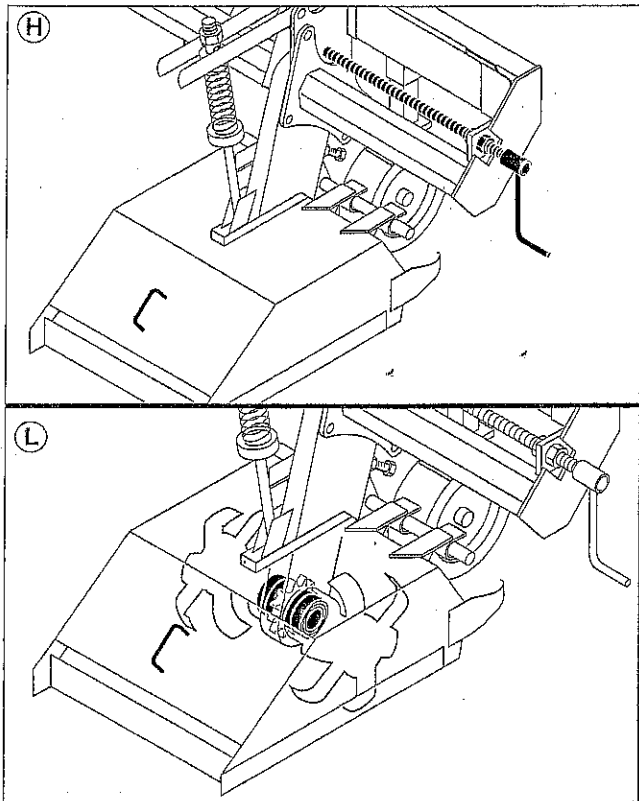


- V- Hydraulic folding frame (L1=330 cm) mod. FLA- R FP-A-XA FPSR-A-XA
- W- Special hydraulic folding frame (L1=460 cm) mod. FP-A-XA FPSR-A-XA
- X- Milling units supplied with special flange (L2=30cm) mod. FP-A-XA
- Y- Milling units supplied with special flange (L2=35cm) mod. FP-A-XA
- Z- Double coupling shield mod.FP-A-XA FPSR-A-XA  
only from 80 to 120 large milling head



(mod. FP-A-XA FPSR-A-XA)

M- Reinforced large wheel

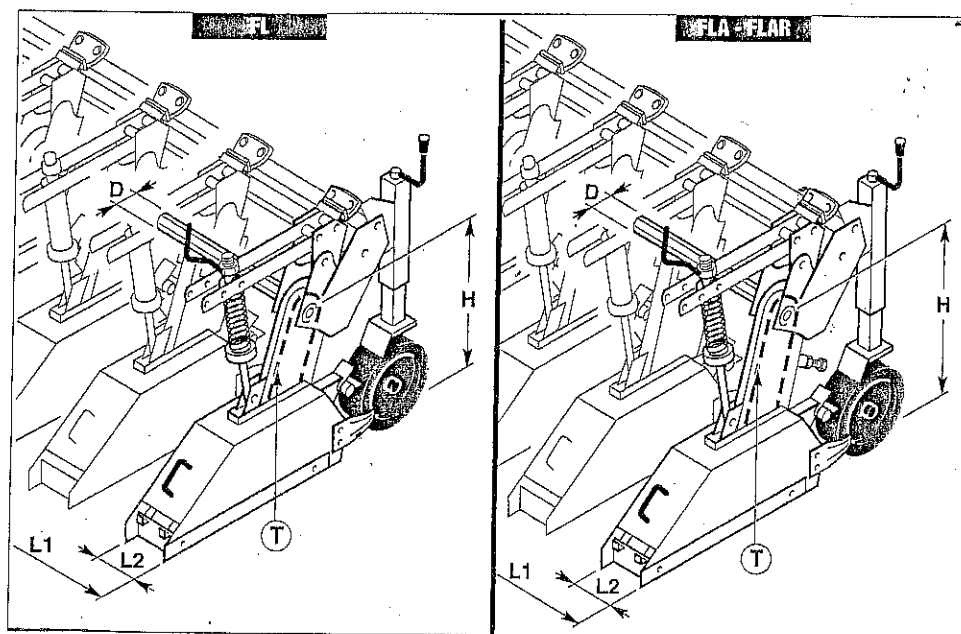


( mod. FPSR-A-XA)

- H- Milling units handling crank device  
(for two milling units version only)
- L- Milling units with double bearing and double dust cover
- S- Depth skid type "B"
- X- Shield supporting spring



### 2.4. MODEL DESCRIPTION



There are three light basic models:

FL light low milling machine

FLA light milling machine

FLAR light milling machine with reinforced and adjustable transmission T

Models that are fitted with folding frame are marked with the following symbols:

FLAP FLARP

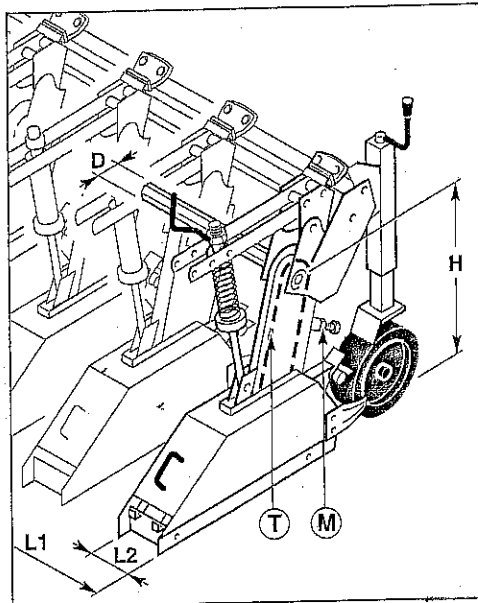
Models that are fitted with hydraulic folding frame are marked with the following symbols:

FLAPI FLARPI.

Each model may be supplied with a variable number of milling units at 4 blades having different features.

FP-A-XA

FPSR-A-XA



There are three medium-heavy basic models:

FP medium-heavy milling machine

FPA high medium-heavy milling machine with adjustable transmission M

FPXA extra high medium-heavy milling machine with adjustable transmission M

Models that are fitted with folding frame (option) are marked with the following symbols:

FPP FPAP FPXAP

Models that are fitted with hydraulic folding frame are marked with the following symbols:

FPPI FPSPI (with reinforced flange and gearbox) FPAPI FPXAPI

Each model may be supplied with a variable number of milling units at 4 or 6 blades having different features.

There are three heavy basic models:

FPSR heavy milling machine with reinforced transmission T

FPSRA high heavy milling machine with reinforced transmission T

FPSRXA extra high heavy milling machine with reinforced transmission T

Models that are fitted with folding frame (option) are marked with the following symbols:

FPSRP FPSRAP FPSXAP

Models that are fitted with hydraulic folding frame are marked with the following symbols:

FPSRPI FPSRAPI FPSRXAPI

Each model may be supplied with a variable number of milling units at 4 blades having different features.

## 2.5. TECHNICAL DATA

Dimension - Tractor power

							540-1000 R.P.M.	
MODEL		L1 (cm)	L2 (cm)	n°units	H (cm)	D (mm)	HP	KW
FL FLA FLAR	SS	165	14-18	7	35 47	30	20-40	15-29
	S		18-22-26	5				
	M		30-34-38	5				
	L		42-46-50	3				
	L60		54-60	3				
	SL		72-76	2				
FL FLA FLAR	SS	225	14-18	9	35 47	30	20-40	15-29
	S		18-22-26	7				
	M		30-34-38	5				
	L		42-46-50	4				
	L60		54-60	4				
	SL		72-76	3				
FL FLA FLAR	SS	330	14-18	9	35 47	30	20-40	15-29
	S		18-22-26	9				
	M		30-34-38	7				
	L		42-46-50	5				
	L60		54-60	5				
	SL		72-76	4				
FL FLA FLAR	SS	400	14-18	9	35 47	30	20-40	15-29
	S		18-22-26	10				
	M		30-34-38	9				
	L		42-46-50	6				
	L60		54-60	5				
	SL		72-76	5				
FL FLA FLAR	SS	500	14-18	13	35 47	30	20-40	15-29
	S		18-22-26	13				
	M		30-34-38	10				
	L		42-46-50	8				
	L60		54-60	7				
	SL		72-76	6				

## Legend

SS	Extra narrow
S	Narrow
M	Medium
L	Large
L60	Large
SL	Extra large

## 2 TECHNICAL INFORMATION

### 2.5. TECHNICAL DATA

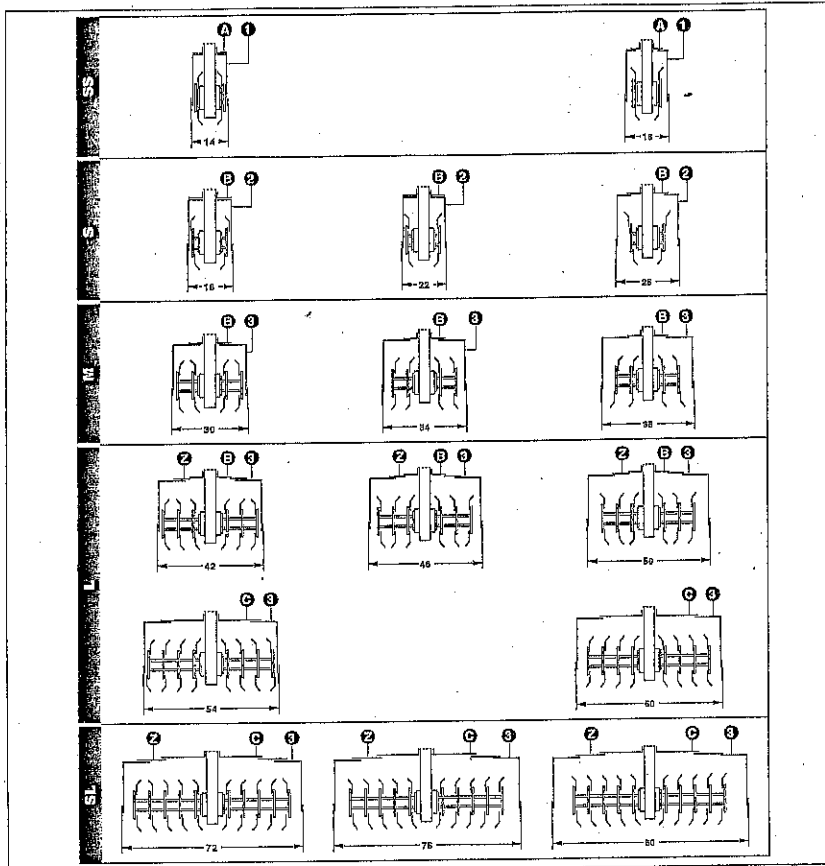
Dimension - Tractor power

MODEL		L1 (cm)	L2 (cm)	n° units	H (cm)	D (mm)	540-1000 R.P.M.	
							HP	KW
FP FPA FPXA	SS	165	22-27	5	50 66 78	41	40-80	30-59
	S		30-35-40	4				
	M		45-50-55	3				
	L		60-65-70	2				
	L80		75-80	2				
	SL		90-95-100	2				
FP FPA FPXA	SS	225	22-27	7	50 66 78	41	40-80	30-59
	S		30-35-40	5				
	M		45-50-55	3				
	L		60-65-70	3				
	L80		75-80	3				
	SL		90-95-100	2				
FP FPA FPXA	SS	330	22-27	9	50 66 78	41	40-80	30-59
	S		30-35-40	8				
	M		45-50-55	5				
	L		60-65-70	4				
	L80		75-80	4				
	SL		90-95-100	3				
FP FPA FPXA	SS	460	22-27	12	50 66 78	41	40-80	30-59
	S		30-35-40	10				
	M		45-50-55	7				
	L		60-65-70	5				
	L80		75-80	5				
	SL		90-95-100	4				
FP FPA FPXA	SS	600	22-27	13	50 66 78	41	40-80	30-59
	S		30-35-40	12				
	M		45-50-55	9				
	L		60-65-70	7				
	L80		75-80	6				
	SL		90-95-100	5				

#### Legend

SS	Extra narrow
S	Narrow
M	Medium
L	Large
L80	Large
SL	Extra large

## 2.6. BLADES ASSEMBLY DIAGRAMS FL FLA-R



## Legend

- SS cm.14  
 S Narrow  
 M Medium  
 L Large  
 SL Extra large

REF	QT	NAME	DENOMINATION
1	1	SS	SHIELD
2	1	S	SHIELD
3	1	L	SHIELD
4	1RH+1LH	14	SIDE SHIELD
5	1RH+1LH	S	SIDE SHIELD
6	1RH+1LH	M	SIDE SHIELD
7	2		TOP EXTENSION SHIELD

## 2.5. TECHNICAL DATA

Dimension - Tractor power

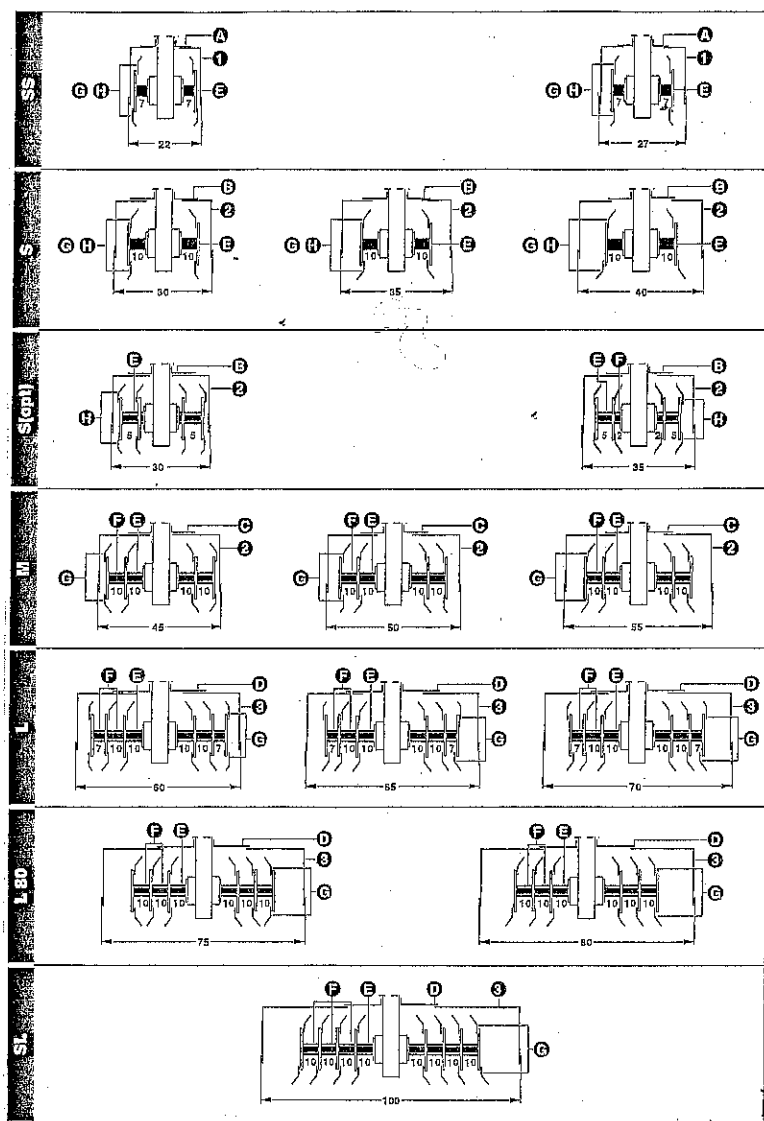
MODEL		L1 (cm)	L2 (cm)	n°units	H (cm)	D (mm)	540-1000 R.P.M.	
							HP	KW
FPSR FPSRA FPSRXA	SS	165	27-30	5	50	41-50	50-100	38-76
	S		30-35-40	4				
	M		45-50-55	3				
	L		60-65-70	2				
	L80		75-80	2				
	SL		90-95-100	2				
FPSR FPSRA FPSRXA	SS	225	27-30	7	50	41-50	50-100	38-76
	S		30-35-40	5				
	M		45-50-55	3				
	L		60-65-70	3				
	L80		75-80	3				
	SL		90-95-100	2				
FPSR FPSRA FPSRXA	SS	330	27-30	9	50	41-50	50-100	38-76
	S		30-35-40	8				
	M		45-50-55	5				
	L		60-65-70	4				
	L80		75-80	4				
	SL		90-95-100	3				
FPSR FPSRA FPSRXA	SS	460	27-30	12	50	41-50	50-100	38-76
	S		30-35-40	10				
	M		45-50-55	7				
	L		60-65-70	5				
	L80		75-80	5				
	SL		90-95-100	4				
FPSR FPSRA FPSRXA	SS	600	27-30	13	50	41-50	50-100	38-76
	S		30-35-40	12				
	M		45-50-55	9				
	L		60-65-70	7				
	L80		75-80	6				
	SL		90-95-100	5				

## Legend

SS	Extra narrow
S	Narrow
M	Medium
L	Large
L60	Large
SL	Extra large

## 2 TECHNICAL INFORMATION

### 2.6. BLADES ASSEMBLY DIAGRAMS FP-A-XA

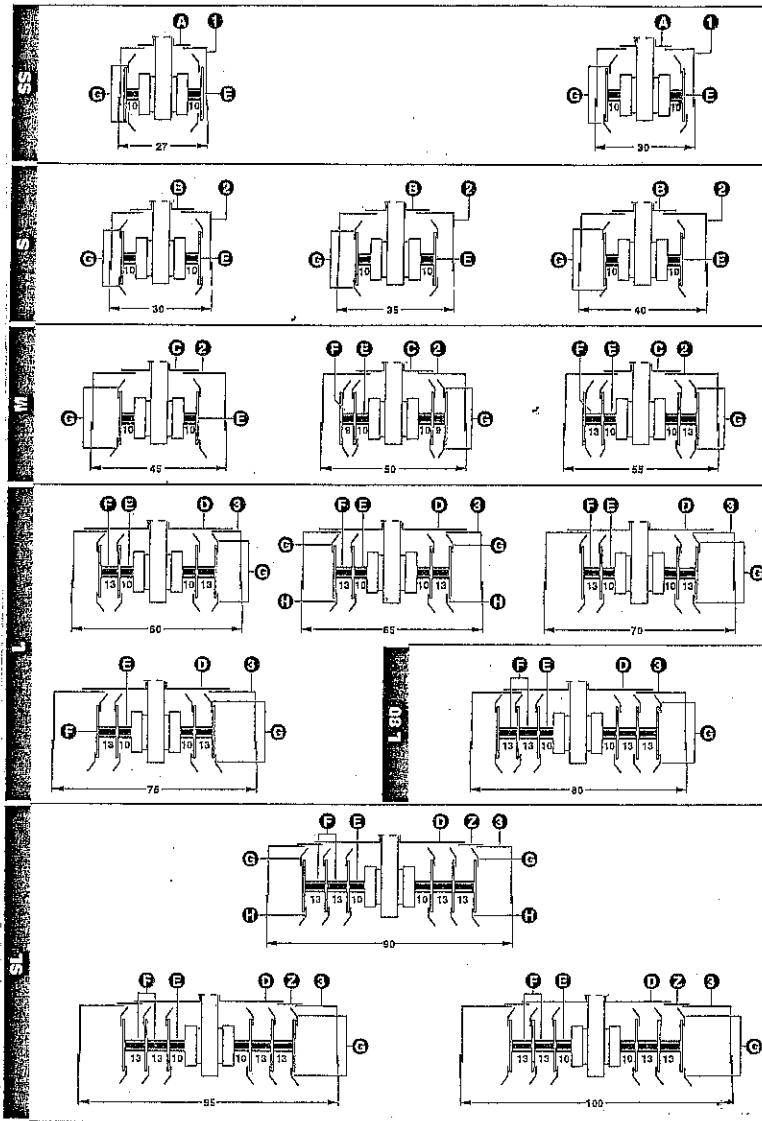


REF	QT	NAME	DENOMINATION
1	1	SS	SHIELD
2	1	S	SHIELD
3	1	M	SHIELD
4	1	L	SHIELD
5		5 cm	HUB
6		7 cm	HUB
7		10 cm	HUB
8		2 cm	SPACER
9		7 cm	SPACER
10		10 cm	SPACER
11			LONG BLADES
12			SHORT BLADES
13	1RH+1LX	SS	SIDE SHIELD
14	1RH+1LX	S	SIDE SHIELD
15	1RH+1LX	L	SIDE SHIELD

Legend

- SS cm.22-27
- S Narrow
- S (opt) Narrow with special flange
- M Medium
- L Large
- L80 Large 80
- SL Extra large

## 2.6. BLADES ASSEMBLY DIAGRAMS FPSR-A-XA



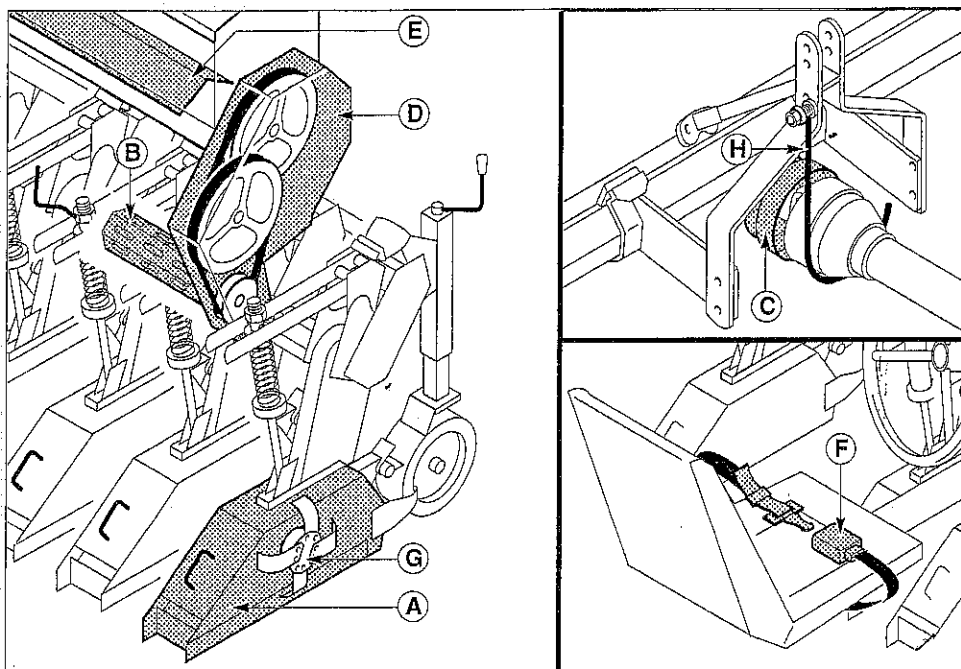
REF	QT	NAME	DENOMINATION
A	1	SS	SHIELD
B	1	S	SHIELD
C	1	M	SHIELD
D	1	L	SHIELD
E		10 cm	HUB
F		9 cm	SPACER
G		13 cm	SPACER
H			LONG BLADES
I			SHORT BLADES
J	2		TOP EXTENSION SHD
K	1RH+1LH	SS	SIDE SHIELD
L	1RH+1LH	S	SIDE SHIELD
M	1RH+1LH	L	SIDE SHIELD

## Legend

SS	cm.27
S	Narrow
M	Medium
L	Large
L80	Large 80
SL	Extra large



### 2.7. SAFETY DEVICES



#### **DANGER - WARNING**

You may not use the machine without the following safety devices.

A - Milling unit's shield:

it prevents the rotating blades G from being accidentally touched.

B - Propeller shaft cover:

it prevents kink due to accidental contacts.

C - PTO cover:

it prevents any contact with the pto.

D - Pulley-belt unit cover:

it prevents the transmission gears of the fertilizer box from being accidentally touched.

E - Stirring shaft guard:

it prevents upper limbs from getting entangled or squeezed during manure loading operations.

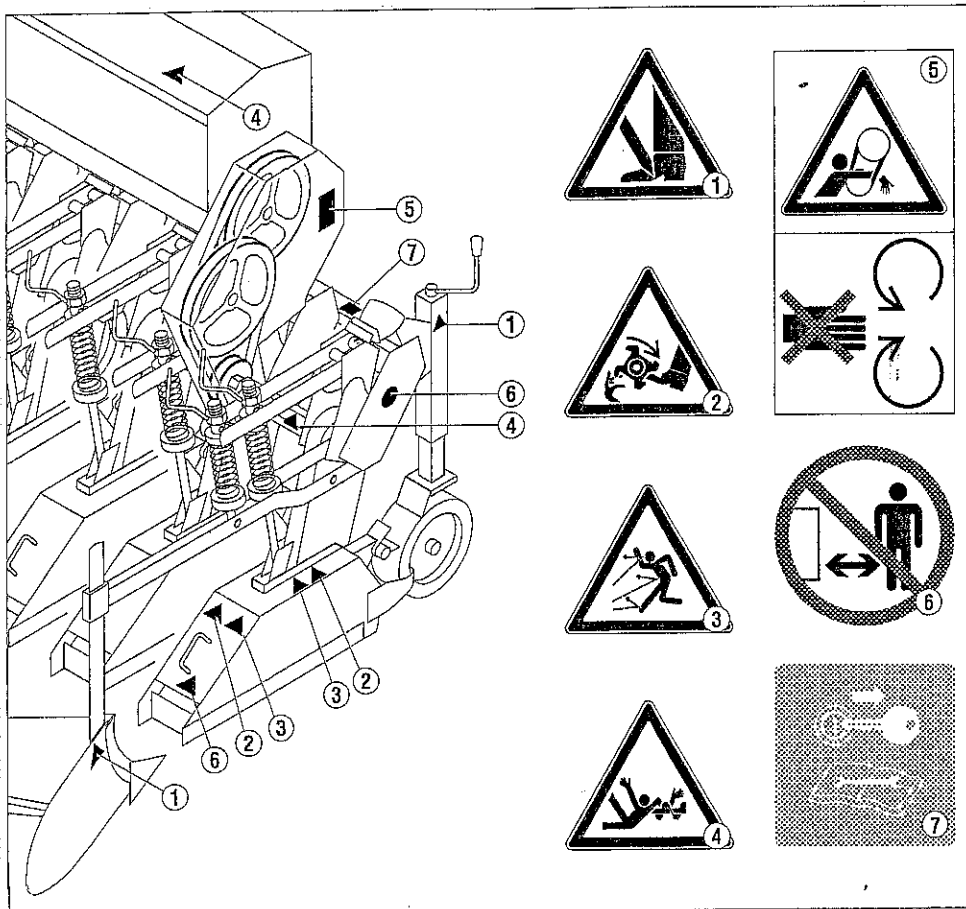
F - Steering's safety belt:

it prevents the seated operator from falling.

H - PTO hook:

it supports the pto during the hitching of the implement to the tractor and when the implement is "on standstill".

### 2.8. SAFETY PLATES - POSITIONNING



#### **DANGER - WARNING**

Verify that the safety devices are presents intact before using the machine.

- 1- Danger of injury to lower limbs: do not approach the area.
- 2- Danger of wounding or dissection of legs and arms: do not approach this area.
- 3- Danger of hurling parts: do not stand near the machine.
- 4- Danger of catching: do not approach the machine with the upper limbs during the Archimedean screw rotation.
- 5- Danger of getting trapped: do not take the protection device when the machine is in motion.
- 6- Do not stay in the machine range of action.
- 7- Stop the engine and remove the key before carrying out any servicing or repair whatsoever.



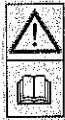
### 3

## INFORMATION ON SAFETY

### 3.1. GENERAL SAFETY RULES



Read the use and maintenance handbook carefully before starting, using, servicing the machine etc.



#### DANGER - WARNING

Read the safety plates carefully which are attached to the machine and keep to the instructions contained therein.

### 3.2. SAFETY NORMS FOR MACHINE HANDLING



#### CAUTION

Lifting and handling operations must be carried out with suitable means by skilled operators who are properly trained for this type of manoeuvres.

- . An assistant is useful for signalling when the machine is to be moved.
- . The machine must be lifted with appropriate means and the operation must be carried out with caution as recommended to ensure persons or things cannot get damaged.
- . Nobody is allowed to stay close to the overhung load, within the reach of the crane, of the lift truck or of any other means of lifting and transport.

### 3.3. SAFETY NORMS FOR USE AND ADJUSTMENT

- . Always wear robust working footwear, as provided for by the accident prevention rules that are in force.
- . Never use controls or hoses as grips.
- . Never leave the machine unattended when it is in operation.
- . Never let persons ( especially children and disabled) or animals approach the machine when in operation.
- . Never operate the machine if covers or guards have been removed.
- . Never use the machine if safety devices are disconnected or out of order.
- . Never use the machine as a means of transport.
- . Stay seated on the tractor's driver seat when operating the machine.
- . Never drive on very uneven grounds, such as slopes, ravines, etc.
- . Never use the machine on asphalted grounds.

### **3 INFORMATION ON SAFETY**

---

- . The machine has been designed for day-use on farming areas. Should it be used in different ways or places, then fit it with a suitable lighting system according to the new working conditions.
- . For road circulation use all safety devices as envisaged by the rules of the road that are in force.
- . The pto's guard must be always entire and fastened with a proper chain to prevent it from rotating.
- . After the machine has been used for a long time, never touch the gearbox otherwise you may get burned.
- . Never modify the structure and the safety devices.
- . Users and/or operators can only use the machine for the operations it has been expressly designed for.

#### **3.4. SAFETY NORMS FOR SERVICING**

- . Never let unauthorised persons service or repair the machine.
- . Extraordinary maintenance and repairs are carried out by authorised repair shops that are equipped as appropriate.
- . Take off all hanging clothes which could get entangled in the MACHINE UNITS WHILE IN MOTION.
- . Release oil pressure before servicing the hydraulic system.
- . Before any operation on the machine is carried out, disengage the tractor's engine.
- . Before any storage period clean the machine thoroughly, lubricate it and park it in a safe place, away from children and disabled.

#### **3.5. RESIDUAL RISKS**

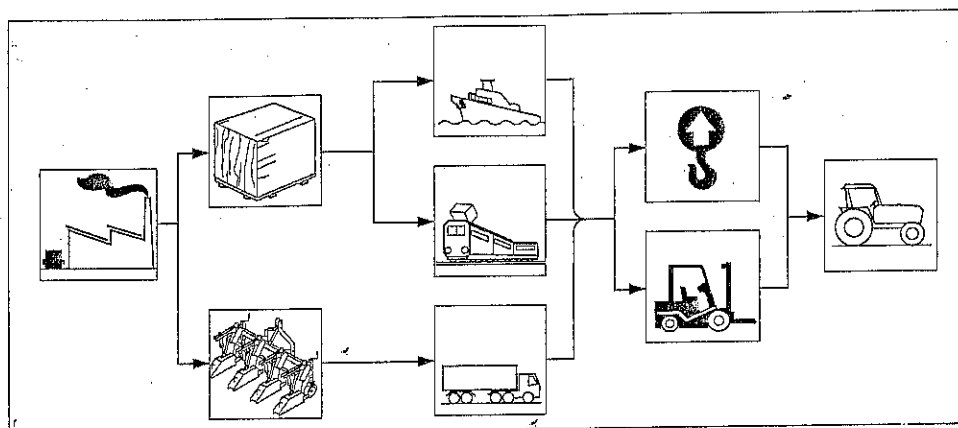
Even though all safety regulations are complied with, and the implement is correctly used, as per the instructions contained in this manual, residual risks may nevertheless remain:

- . Risk of touching the rotating blades.
- . Risk of touching transmission members ( pto, chain, sprockets, etc.).

**Safety can be only assured if operators always pay the utmost attention.**

## 4 HANDLING AND INSTALLATION

### 4.1. TRANSPORT AND HANDLING



The machine can be either shipped by road, by rail or by sea.  
No packing is needed on road transport.

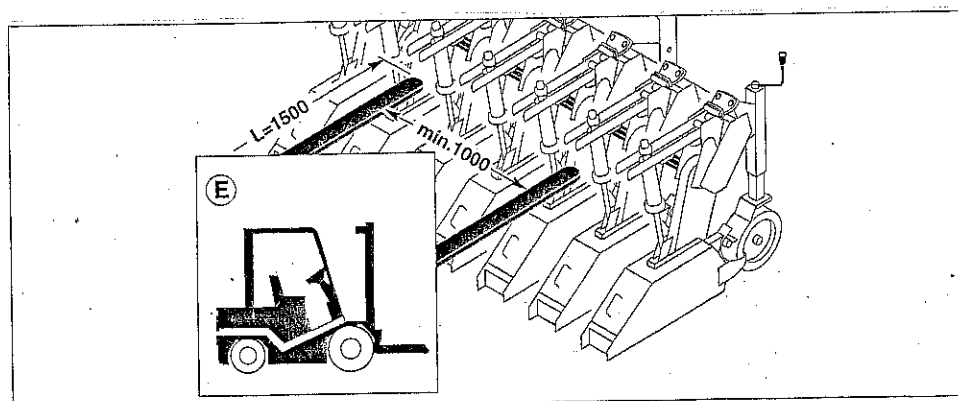
### 4.2. LOADING - UNLOADING - UNPACKING



**WARNING**

Lifting and handling operations must be carried out with suitable means and by skilled operators who are trained for this type of manoeuvres.

#### 4.2.1 MACHINE LIFTING



Provide a powered lift truck E of adequate capacity, and position it as shown in figure.  
Slowly lift and handle with utmost care, avoid any oscillation.

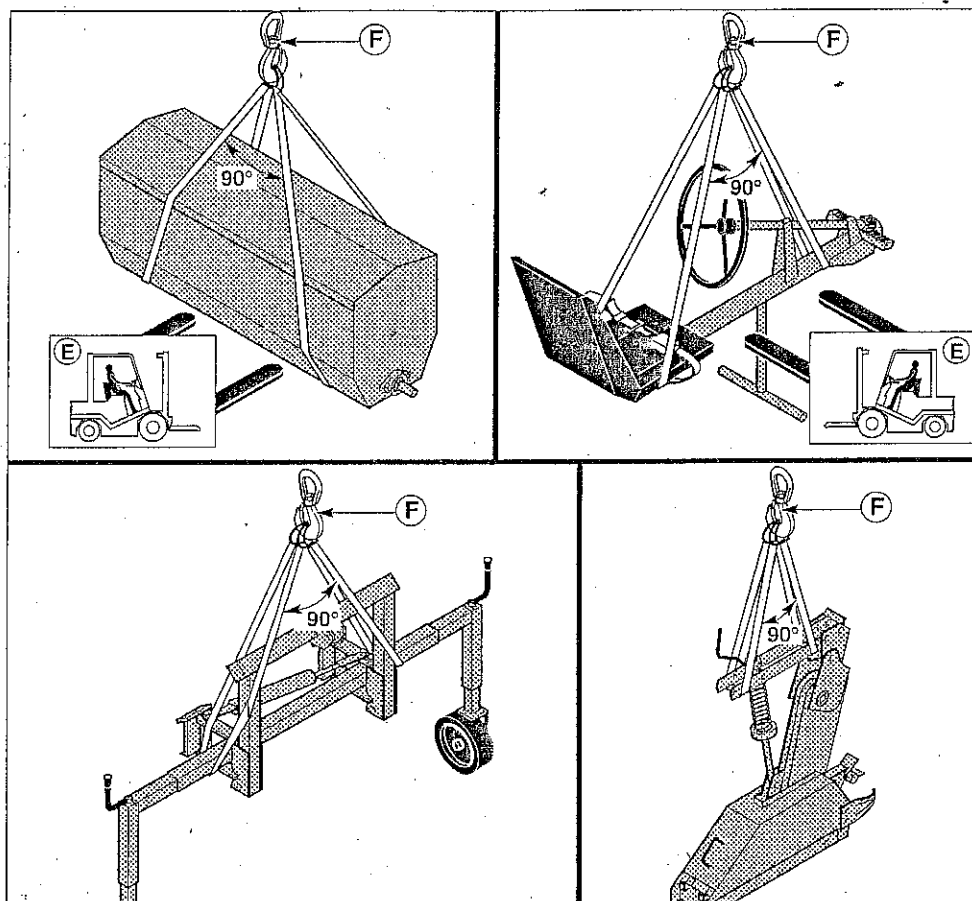
## 4 HANDLING AND INSTALLATION



### DAANGER - WARNING

Lifting and handing operations of parts which, according to the relevant marks, have a mass exceeding 30 kg, must be carried out with suitable means and by skilled operators who are trained for this type of manoeuvres.

#### 4.2.2 UNITS LIFTING



Provide a powered lift truck E or a hook F of adequate capacity, then position it as shown in figure.

Slowly lift and handle with almost care. Avoid any oscillation.

## 4 HANDLING AND INSTALLATION

### 4.3. OPTIONAL UNITS INSTALLATION - FOREWORD

On request, the machine can be equipped with various optional units. When supplied, these units could be disassembled from the machine main structure due to packing and transport requirements.

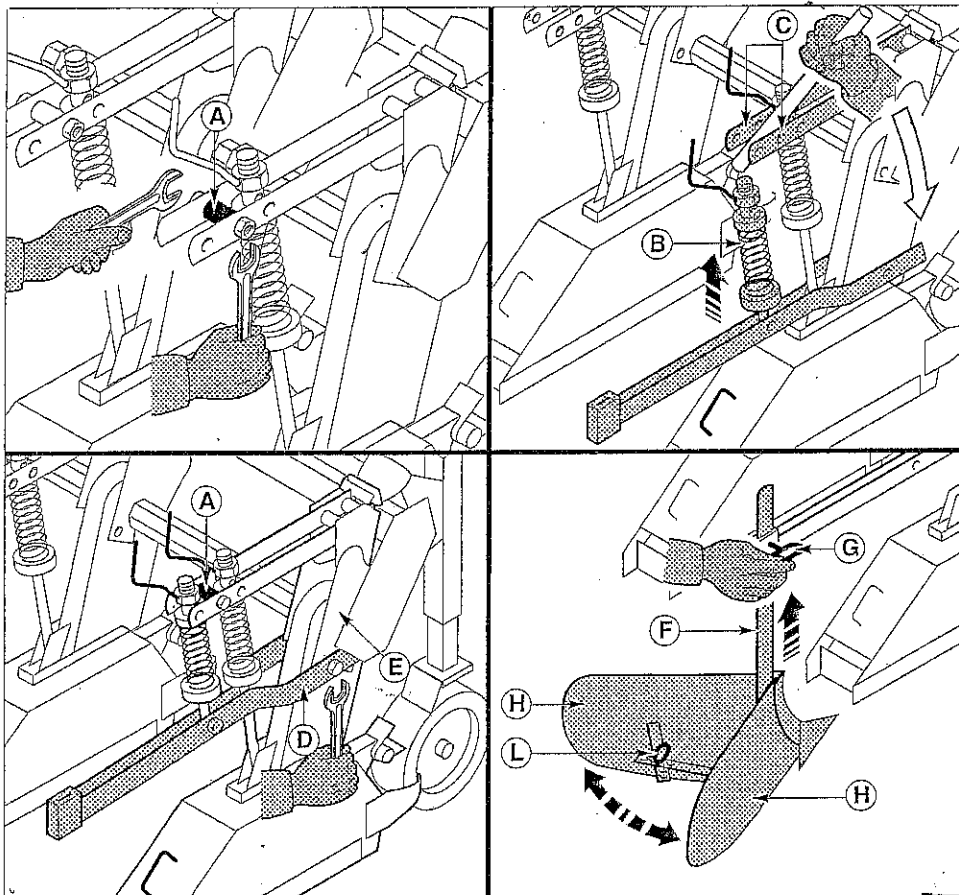
Assemble them as follows:



**CAUTION**

Use safety gloves during all assembly operations.

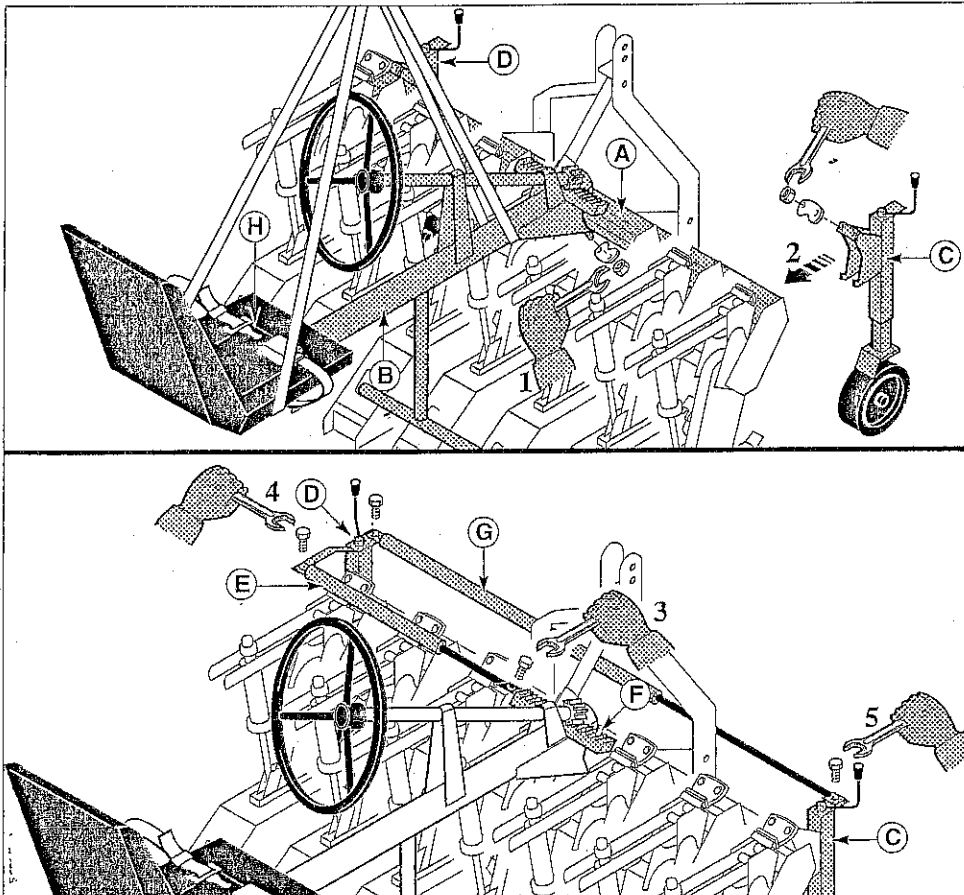
#### 4.3.1 RIDGER - INSTALLATION



- \_ Remove the spacer A
- \_ Widen both arms C to fit the spring unit B
- \_ Assemble the spacer A again
- \_ Fasten both arms D to the milling unit E
- \_ Fit the ridger F and tighten it where appropriate by means of the screw G
- \_ Fasten the wings H by means of the screw L.

## 4 HANDLING AND INSTALLATION

### 4.3.2 MANUAL STEERING GUIDE - INSTALLATION



- \_Fasten the steering unit B and the wheels C-D to the frame A
- \_Connect the tie rod E with the rack F and the wheel D
- \_Fit the shackle bar G.



**CAUTION**

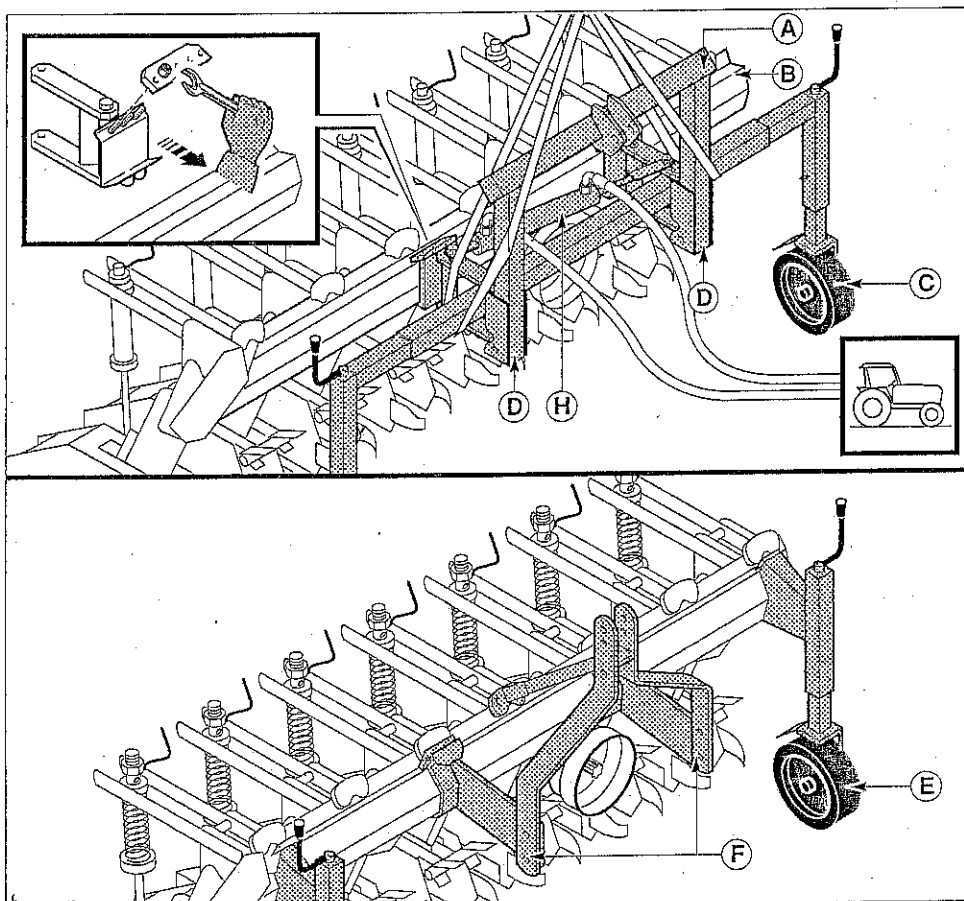
Always wear the safety belts (H) when you sit on the driver's seat of the steering guide.

- \_ In case of dusty grounds we recommend that you wear a dust-mask
- \_Never use the steering guide on slopes whose gradient exceeds 10%.



## 4 HANDLING AND INSTALLATION

### 4.3.3 HYDRAULIC STEERING GUIDE - INSTALLATION



The steering guide A is equipped with the wheels C and the hitches D for tractor connection; before assembling the steering unit, remove the existing wheels E and hitches F.

\_Fit the steering guide A on the frame B

\_Connect the jack H to the tractor's hydraulic system.

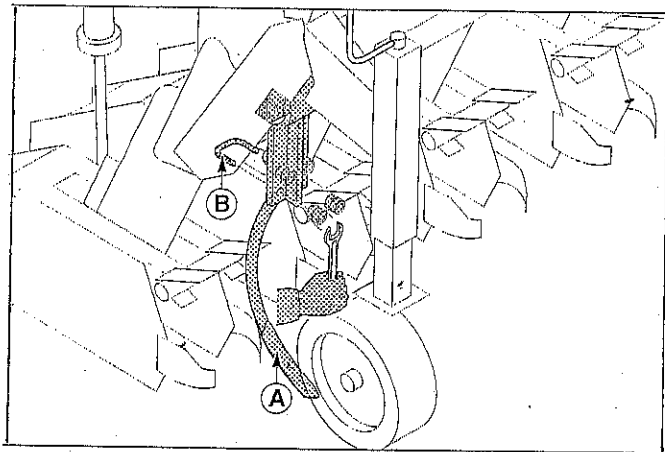
## 4 HANDLING AND INSTALLATION



### INFORMATION

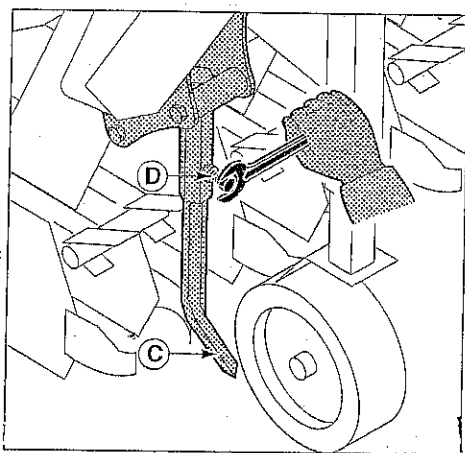
This installation is only possible on machines that have been purposely pre-set for it.

#### 4.3.4 DEPTH SKID - INSTALLATION



\_Fasten the tine A by means of the U bolts B

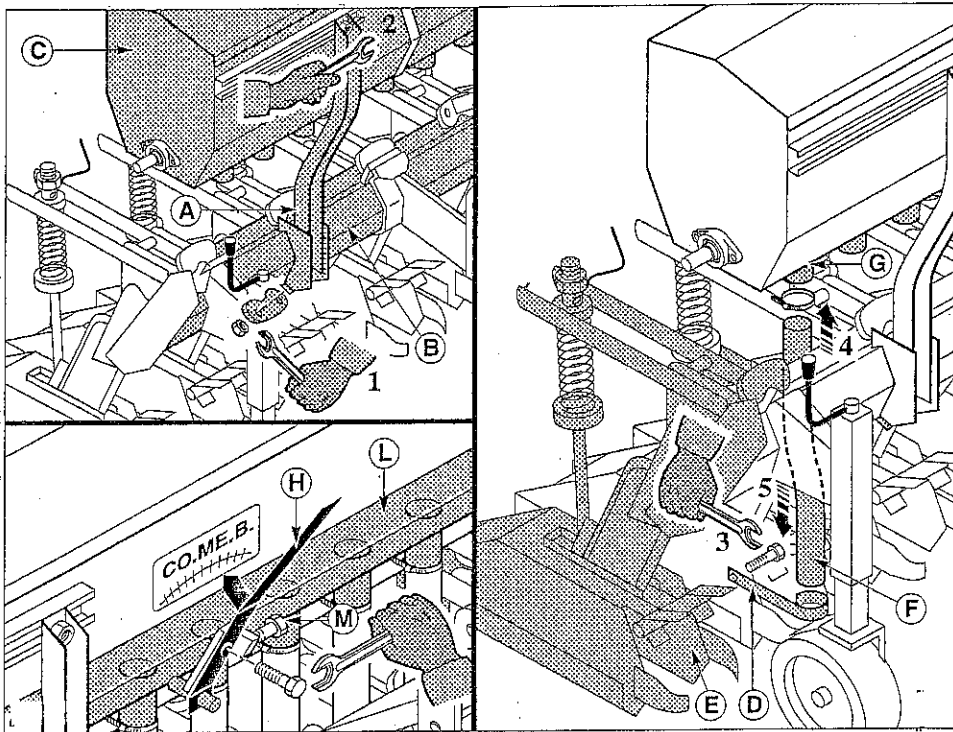
#### DEPTH SKID "B" TYPE - INSTALLATION



\_Fasten the spur C by means of screw D.

## 4 HANDLING AND INSTALLATION

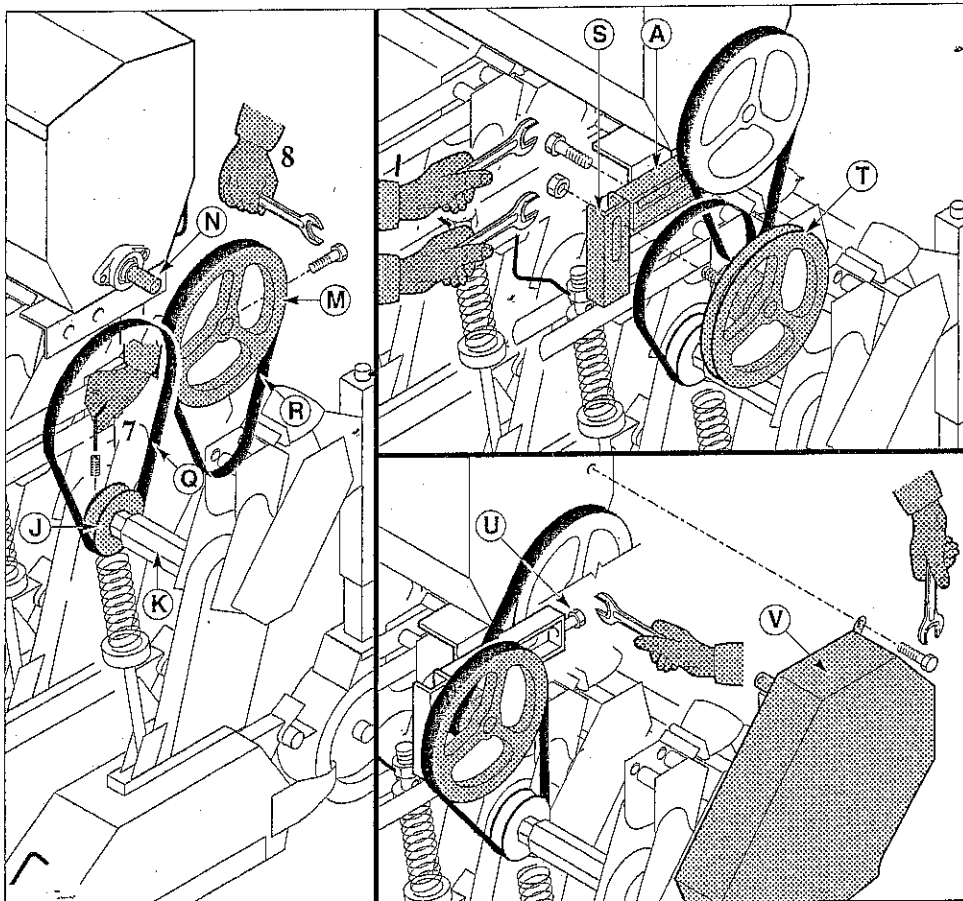
### 4.3.5 FERTILIZER BOX - INSTALLATION



- \_ Assemble the two brackets A to the box C
- \_ Fasten the two brackets A to the frame B
- \_ Fasten the pipe holder D to the cover rear support E
- \_ Fit the pipes F to the pipe holders D and to the connections G, then tighten with clamps
- \_ Install the adjusting lever H by fitting it into the pin of the gate valve L
- \_ Tighten the nut and the screw M for manure flow adjustment.

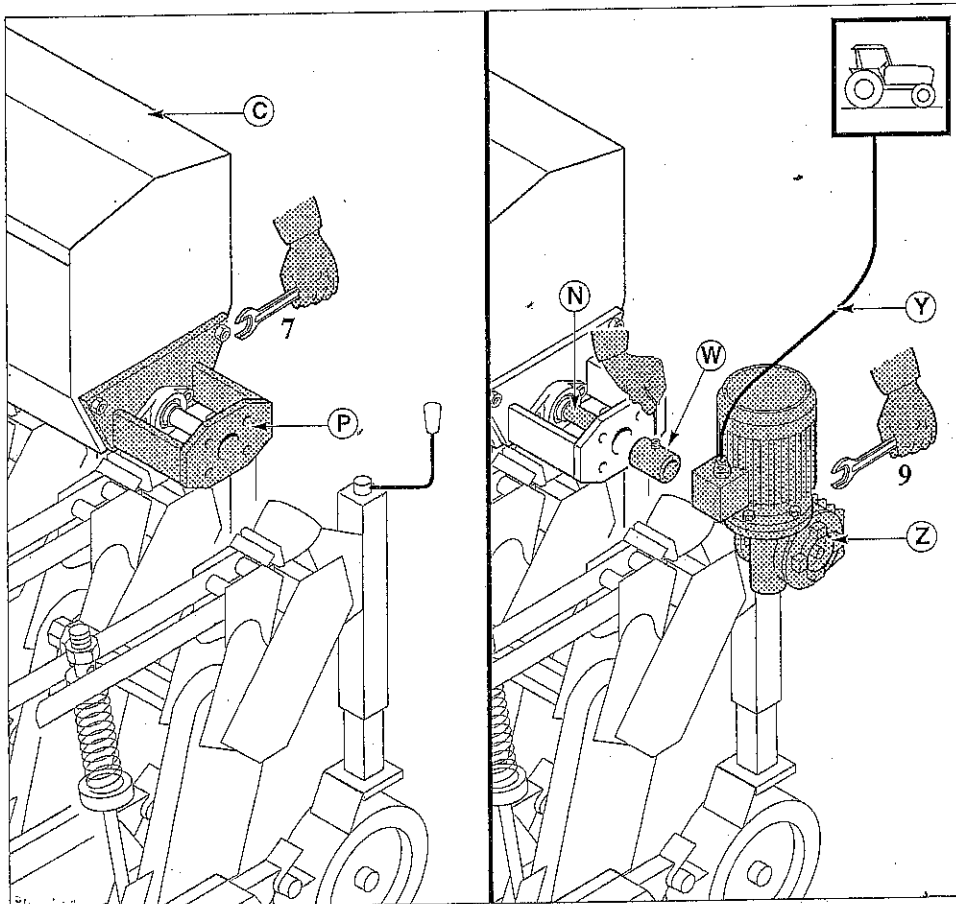
## 4 HANDLING AND INSTALLATION

### 4.3.6 FERTILIZER DRIVE BELT INSTALLATION



- \_Fit the pulley J on the shaft K
- \_Install the pulley M on the stirring shaft N
- \_Insert the belts Q and R into the pulleys J and M respectively
- \_Fasten the support S to the plate A
- \_Install the pulley T on the support S and fit the belts Q and R
- \_Tighten the belts by lifting the pulley T tightening the screw U
- \_Install the cover V.

### 4.3.7 FERTILIZER GEARMOTOR INSTALLATION

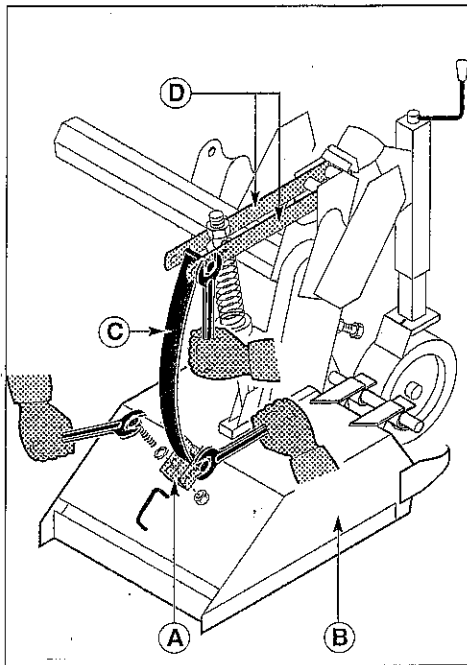


- \_Fasten the motor support P to the box C
- \_Install the joint W and the gearmotor Z on the shaft N
- \_Connect the cable Y to the tractor's electric system.

## 4 HANDLING AND INSTALLATION

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### 4.3.8 SHIELD SUPPORTING SPRING - INSTALLATION



- \_Fasten the support A to the shield B
- \_Tighten the spring C between arms D and to the support A

## 4 HANDLING AND INSTALLATION

### 4.4 ATTACHMENT TO THE TRACTOR

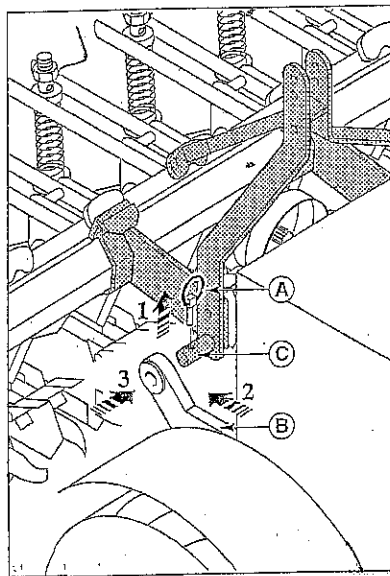


#### INFORMATION

For machines with cat I 3rd point hitch frame

Lower couplings

- \_ Remove the split pins A
- \_ Insert the tractor's arms B into the pins C
- \_ Lock with the split pins A

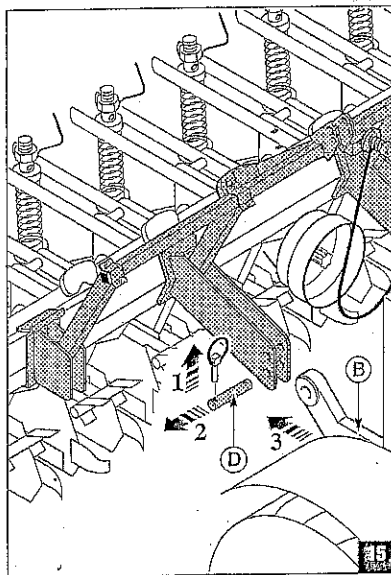
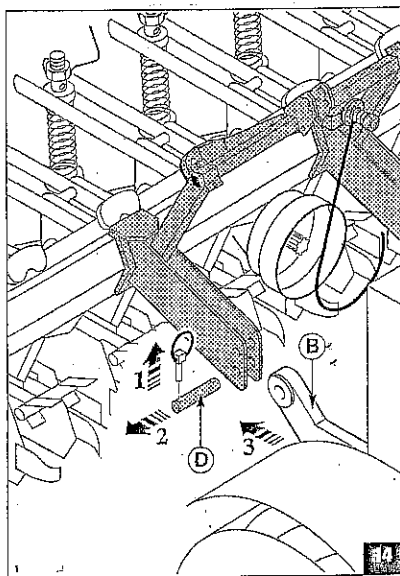


#### INFORMATION

For machines with cat II 3rd point hitch frame (fig. 14)

For machines (frame over 330 cm) with cat II reinforced 3rd point hitch frame (fig. 15)

Lower couplings



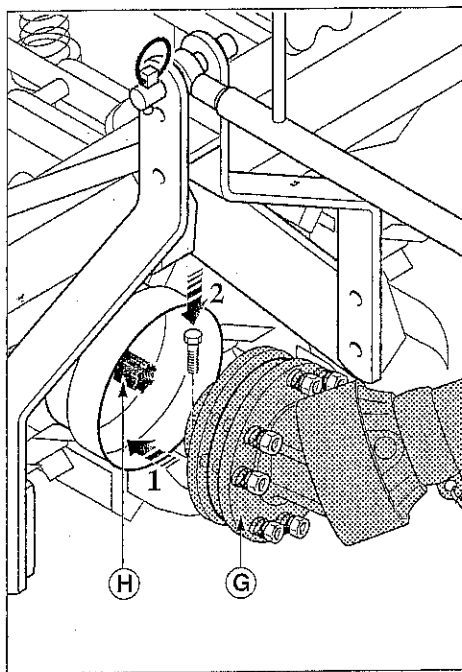
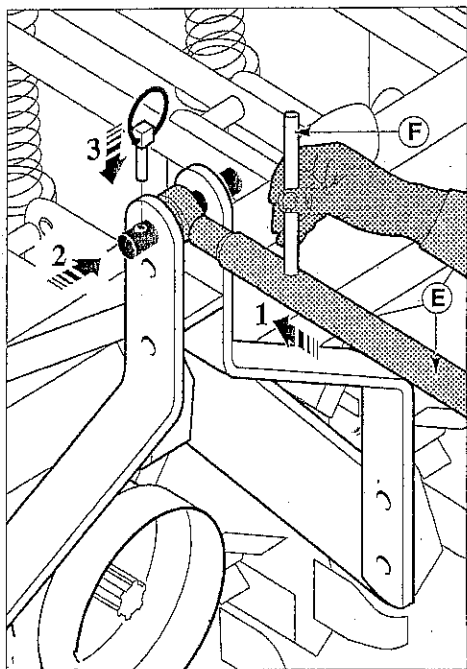
- \_ Remove the split pins A
- \_ Remove the pins D
- \_ Insert the arms B
- \_ Insert the pins D
- \_ Lock with the split pins

## 4 HANDLING AND INSTALLATION



### DANGER - WARNING

The following operation can only be carried out if the pto is disengaged.  
Connect the pto first to the machine, then to the tractor.



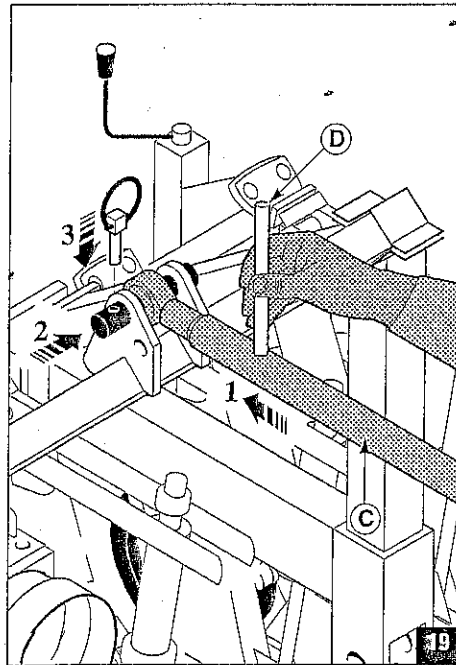
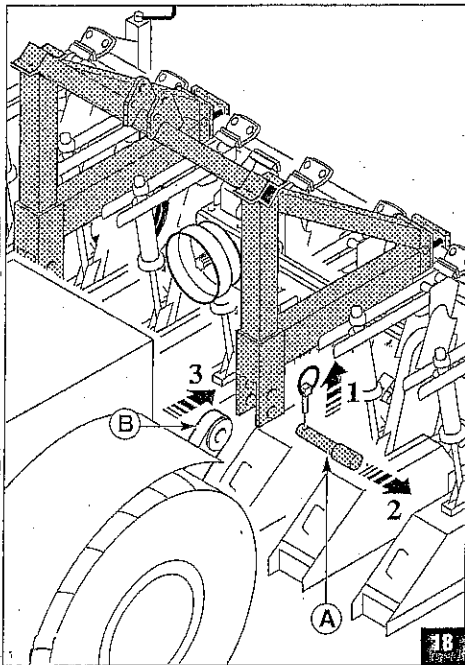
### Upper coupling

- \_Fit the tie rod E to the machine
- \_Connect the tie rod and the 3rd point hitch frame to the tractor
- \_Pull the lever F until the machine is in horizontal position
- \_Fit the pto G into the gearbox H and into the tractor's pto.



## 4 HANDLING AND INSTALLATION

### 4.5 FRONT MOUNTED COUPLING TO THE TRACTOR (OPTIONAL)



#### Lower couplings ( fig.18)

- \_Remove the pins A
- \_Position the lower arms B and introduce the pins A

#### Upper coupling (fig.19)

- \_Assemble the tie rod C on the machine and connect it to the 3rd point hitch frame
- \_Pull the lever D until the machine is in horizontal position

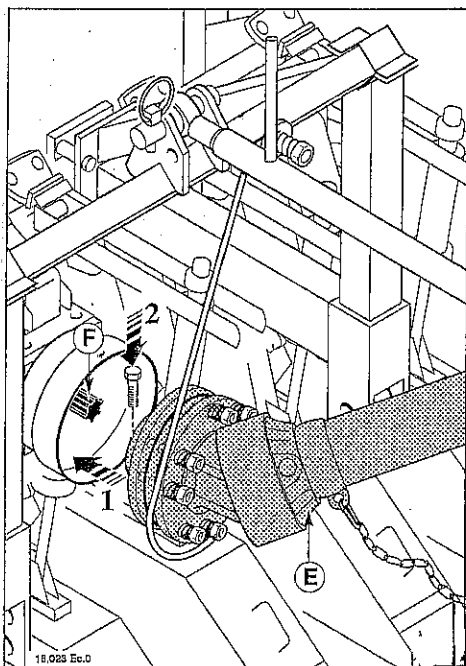
## 4 HANDLING AND INSTALLATION

### 4.6 PTO ATTACHMENT



#### DANGER - WARNING

The following operation can only be carried out if the pto is disengaged.  
Connect the pto first to the machine, then to the tractor.



\_Fit the pto E into the gearbox F and into the tractor's pto.

## 5 SETTING AND ADJUSTMENT

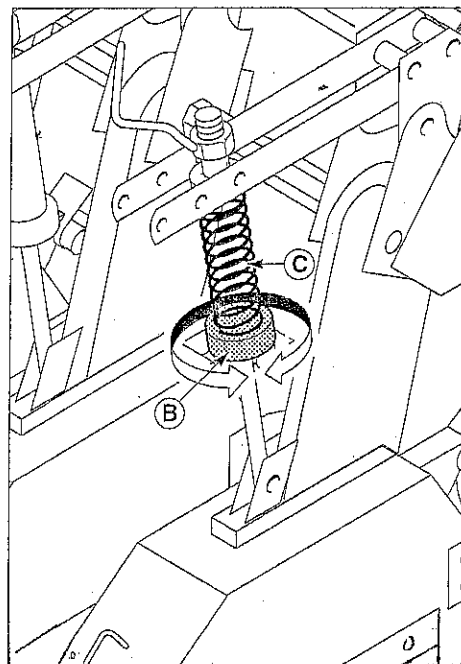
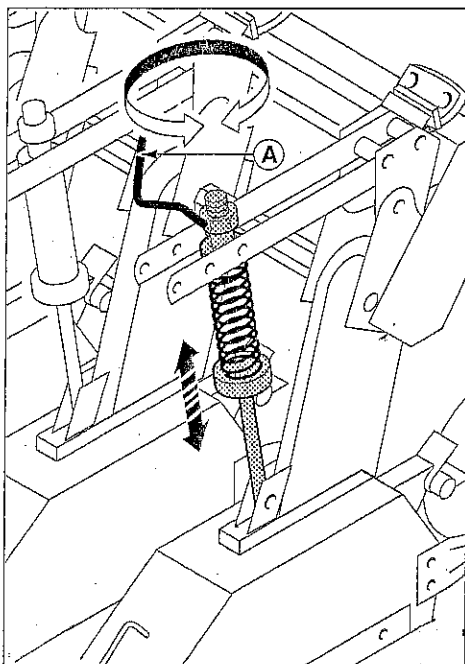


### DANGER - WARNING

Stop the tractor and disengage the pto before carrying out any setting operation.

Always wear safety gloves.

### 5.1 MILLING UNITS - ADJUSTMENT



#### Pre-tension adjustment

\_Rotate the crank A

#### Tension adjustment

\_Rotate the cap B



### CAUTION

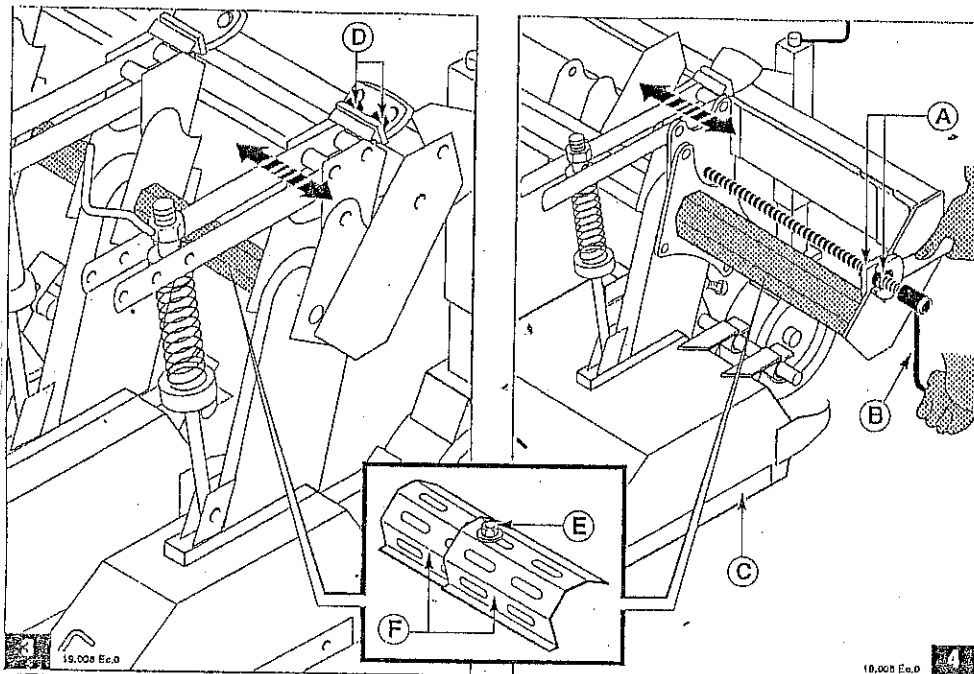
Never use the machine if the spring C is not under tension.

## 5 SETTING AND ADJUSTMENT



### CAUTION

Loosen the nuts E and position the covers F so that the total hexagonal shaft can be ensured.



### Manual adjustment of the milling units position

(fig.3)

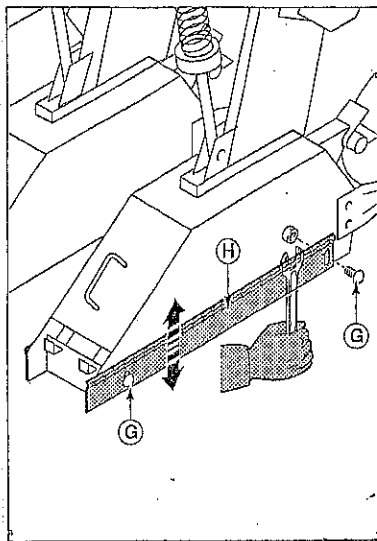
- \_Lift the machine
- \_Loosen the nuts D and shift the milling unit to the desired position

### Adjustment of the milling units position by a crank device

(fig.4)

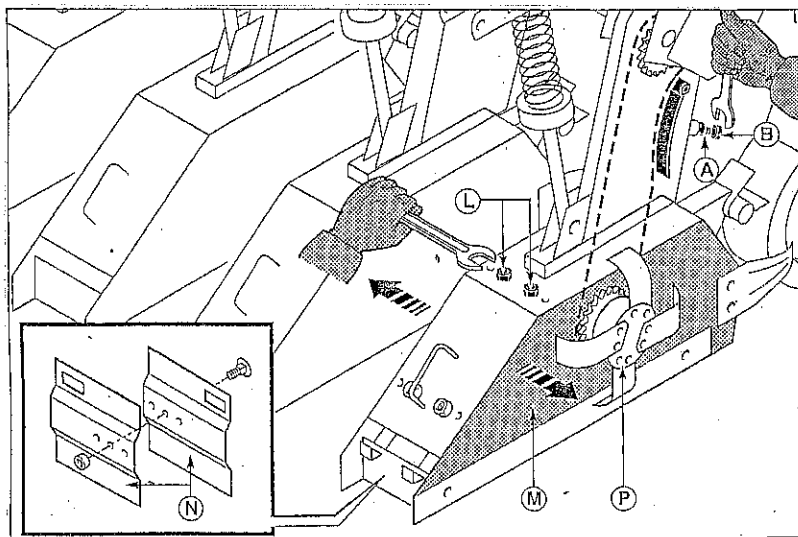
- \_Lift the machine
- \_Untighten the counter-nuts A and operate the crank B in order to place the unit C into the proper position
- \_Tighten the counter-nuts A.

## 5 SETTING AND ADJUSTMENT



### Protections guards adjustment

\_Loosen the screws G and make the guards H skim the ground.



### Width adjustment

\_Unscrew the nuts L and position the side shield M as appropriate

\_Adjust the guards N



### INFORMATION

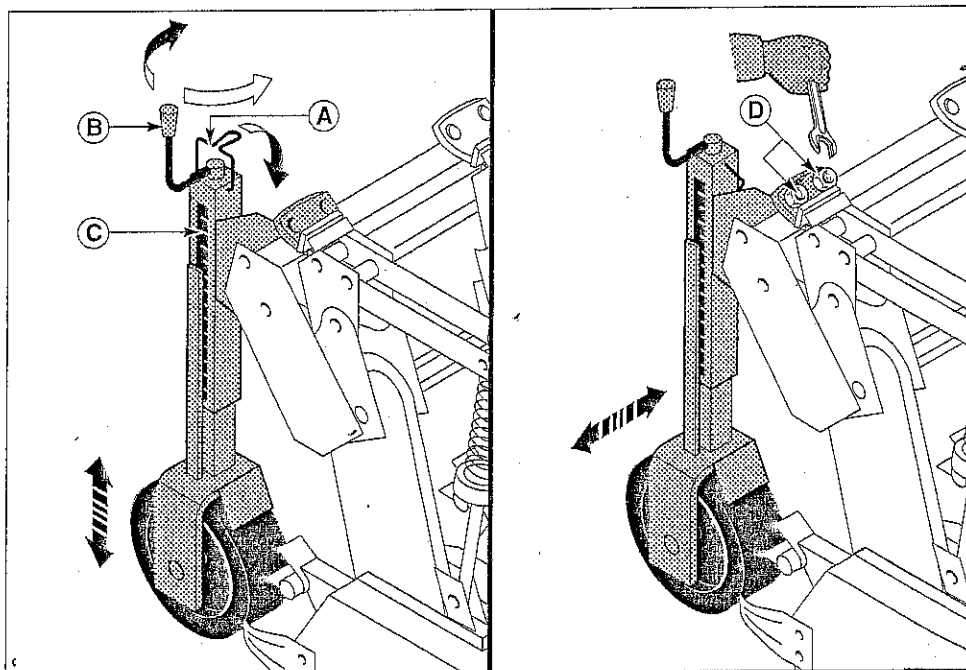
In order to change the milling units' dimensions replace the flanges P and the shield M (§2.6)

### Chain transmission tightening (version FLAR FPA-XA FPSR-A-XA)

\_Loosen the lock nut A and tighten the screw B.

## 5 SETTING AND ADJUSTMENT

### 5.2 DEPTH WHEELS - ADJUSTMENTS



#### Height adjustment

\_Release the spring A and rotate the crank B. Use the plate C for the reference

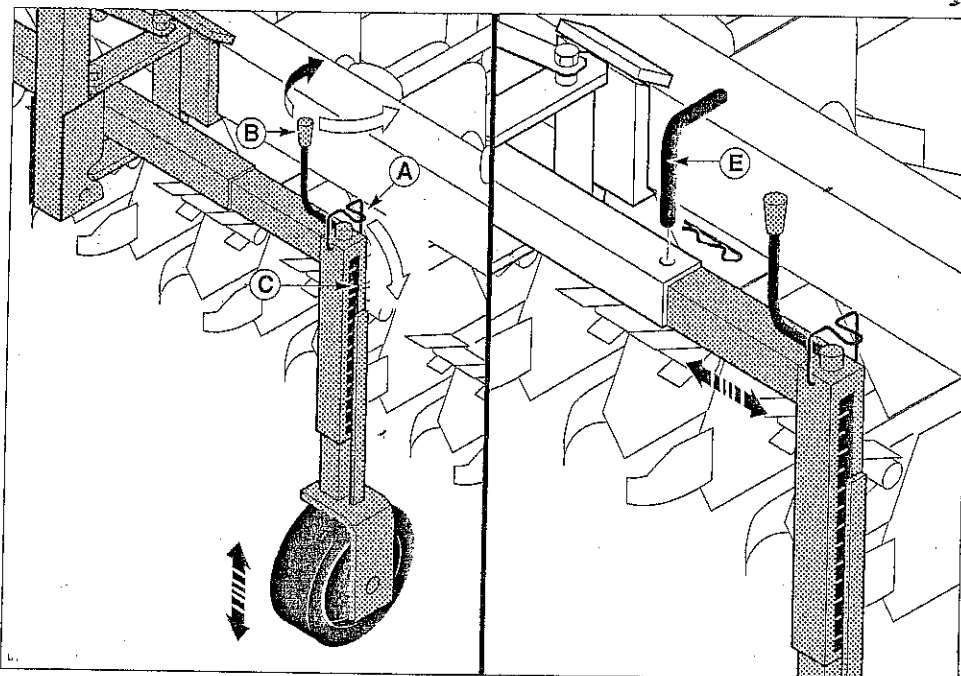
#### Axle base adjustment

\_Lift the machine

\_Loosen the screws D and move the wheel unit to the desired position.

## 5 SETTING AND ADJUSTMENT

### 5.3 DEPTH WHEELS ( HYDRAULIC STEERING GUIDE ) - ADJUSTMENTS



#### Height adjustment

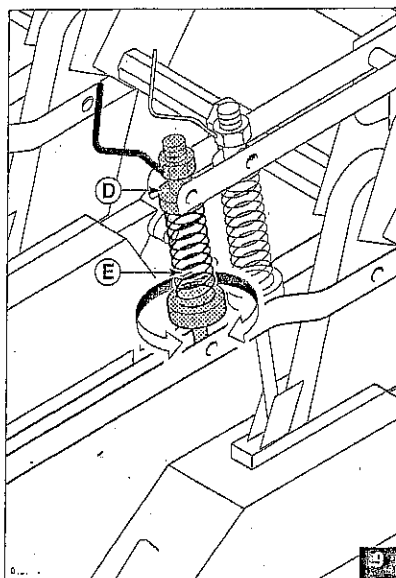
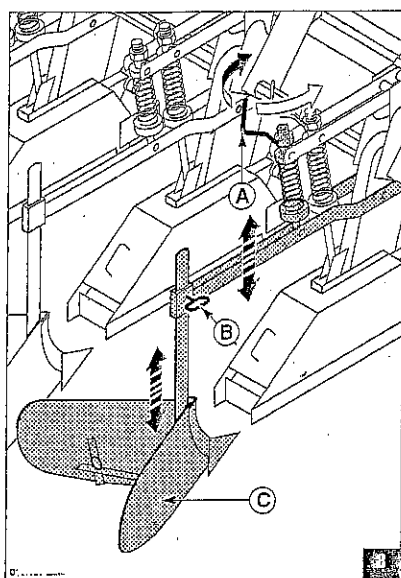
\_Release the spring A and rotate the crank B. Use the plate C for reference

#### Axle base adjustment

\_Lift the machine

\_Take out the pin E and move the wheel unit to the desired position.

## 5.4 RIDGER - ADJUSTMENTS



### Height adjustment (fig.8)

- \_ Rotate the crank A for a better adjustment
- \_ Loosen the screw B and adjust the ridger C.

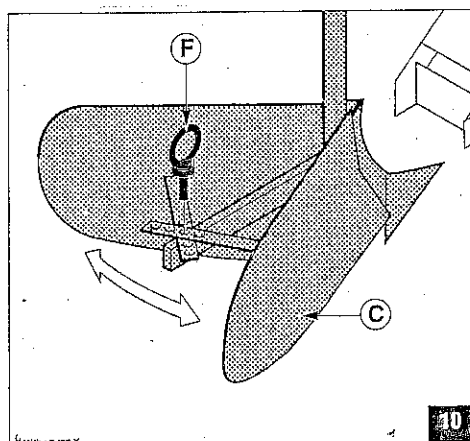
### Spring tension adjustment (fig.9)

- \_ Adjust by means of the cap D



**CAUTION**

Never use the machine if the springs E are not under tension.



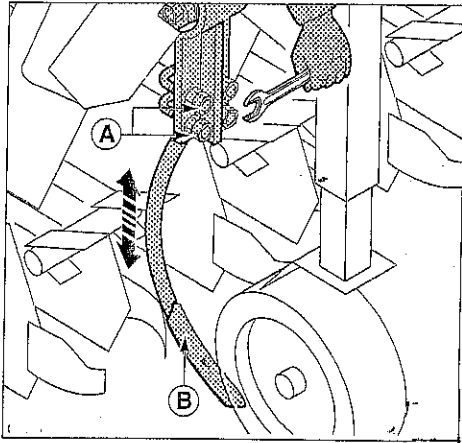
### Tongue adjustment (fig.10)

- \_ Unloose the screw F and position the tongues C.



## 5 SETTING AND ADJUSTMENT

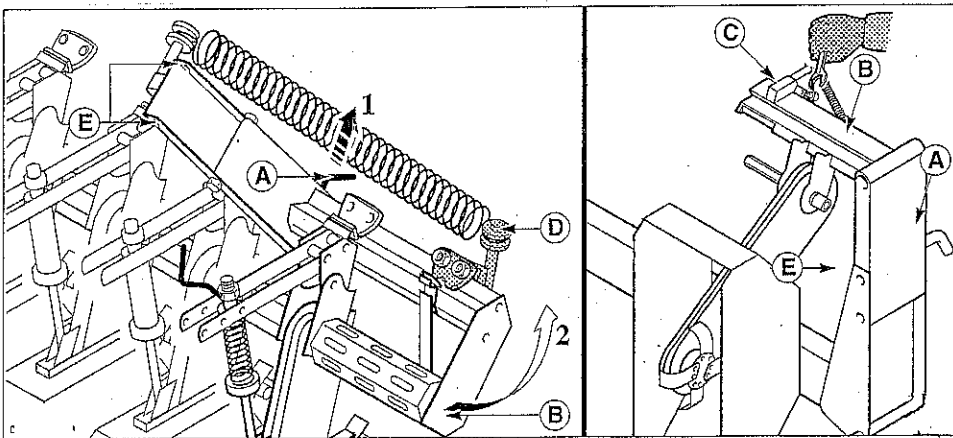
### 5.5 DEPTH SKID - ADJUSTMENT



#### Tongue adjustment

- \_ Untighten the screws A
- \_ Dig the tine B into the soil, about 5 cm under the tractor's wheel tracking.

### 5.6 MANUAL FOLDING FRAME - ADJUSTMENT



#### Tensioning

- \_ Remove the pin A
- \_ Lift the frame B and fit the pin A into the holes E
- \_ Loosen the nuts C and move the spring lock D.

# 6

## USE AND MAINTENANCE

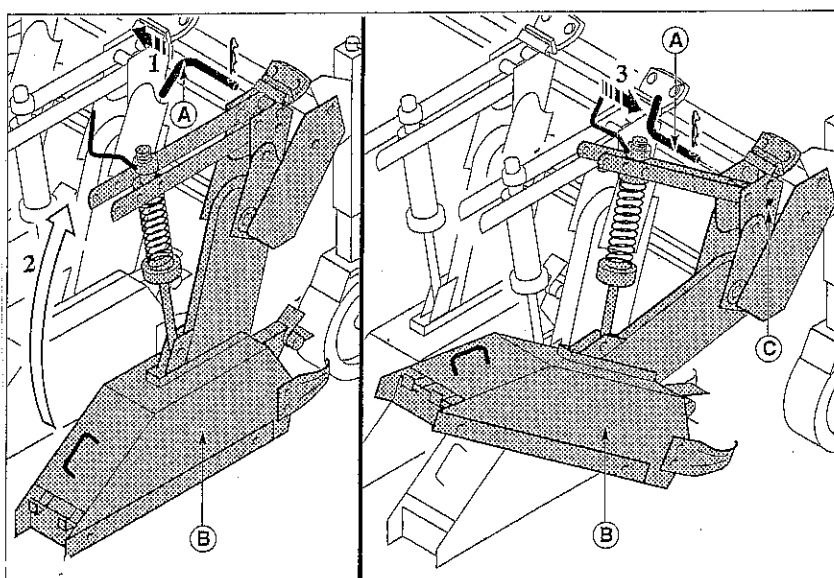
### 6.1 INFORMATION ON USE

Once all connections and adjustments are completed the machine is ready for operation. It is essential that you take into consideration the running-in period of moving machine members and make sure they are lubricated ( see section 7 ).

Comply with all the safety rules that are provided for in section 3 of this handbook and carefully read the literature on how to use the tractor.

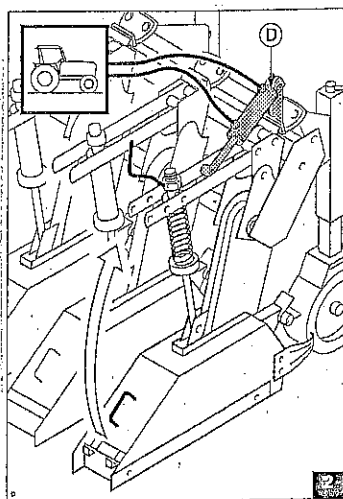
### 6.2 MILLING UNITS - DISENGAGEMENT

#### Manual device



- \_Take out the pin A
- \_Overturn the milling unit B
- \_Fit the pin A into the hole C.

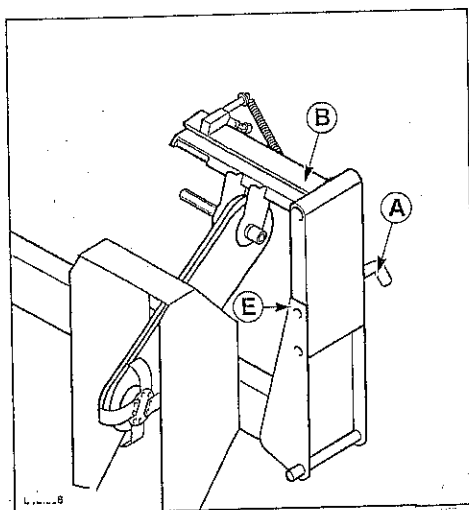
#### Hydraulic device ( option )



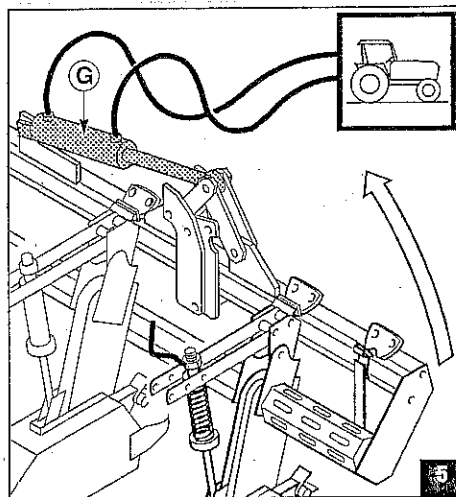
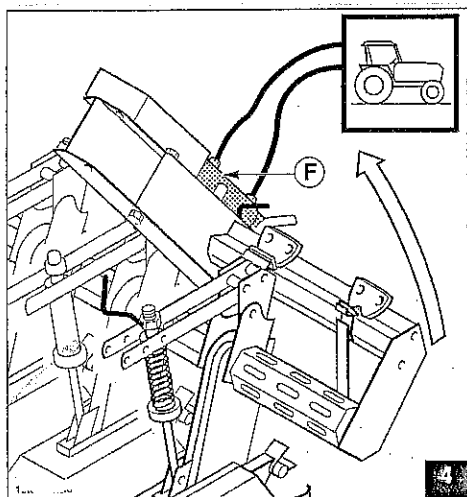
- \_Operate the lifting jack D from the tractor.

## 6 USE AND MAINTENANCE

### Manual folding frame



\_Lift the frame B and fit the pin A into the holes E.



### Hydraulic folding frame (fig.4)

- \_Take out the pin A
- \_Operate the lifting jack F from the tractor

### Special hydraulic folding frame (fig.5)

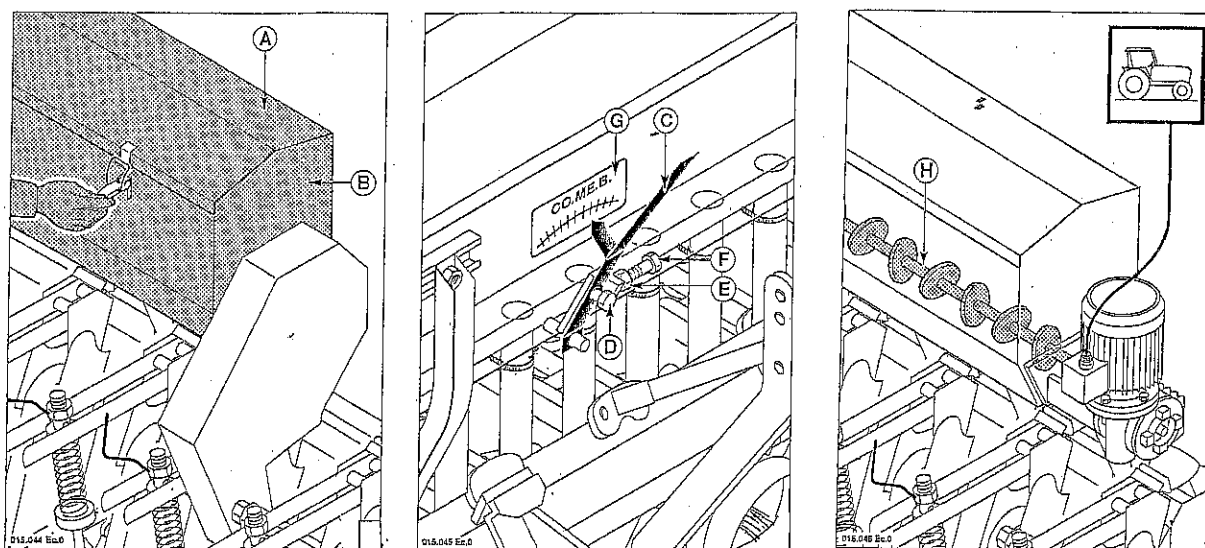
- \_Take out the pin A
- \_Operate the lifting jack G from the tractor

### 6.3 FERTILIZER BOX - INFORMATION ON USE



#### DANGER - WARNING

Never let unauthorized persons approach the implement.



#### Loading manure

\_ Stop the tractor and disengage the pto, open the lid A and fill the box B with manure.

#### Fertilizer box equipped with driving belt

Read the table 6.4. then proceed as follows:

- \_ loosen the screw D and the lock nut E
- \_ By means of the screw F position the lever C according to the index G.

#### Fertilizer box equipped with gearmotor

- \_ Position lever C according to the instructions shown in table
- \_ By means of the tractor's potentiometer adjust the RPM of the stirring shaft H.



#### INFORMATION

Keep a constant working speed.

### 6.4 Manure spreading table

Manure	fertilizer box length m.	spreading width m.	tractor speed km/h	Amount of spread manure kg/h index			
				2	3	4	5
Ammonium nitrate	2.00	3.30	3.3	205	225	248	273
			4.2	190	210	230	253
			5.3	160	180	202	228
			6.8	120	140	163	190
			8.5	96	105	116	127
Urea	2.00	3.30	3.3	250	310	330	354
			4.2	275	295	316	340
			5.3	250	270	292	315
			6.8	200	220	242	266
			8.5	160	176	194	214

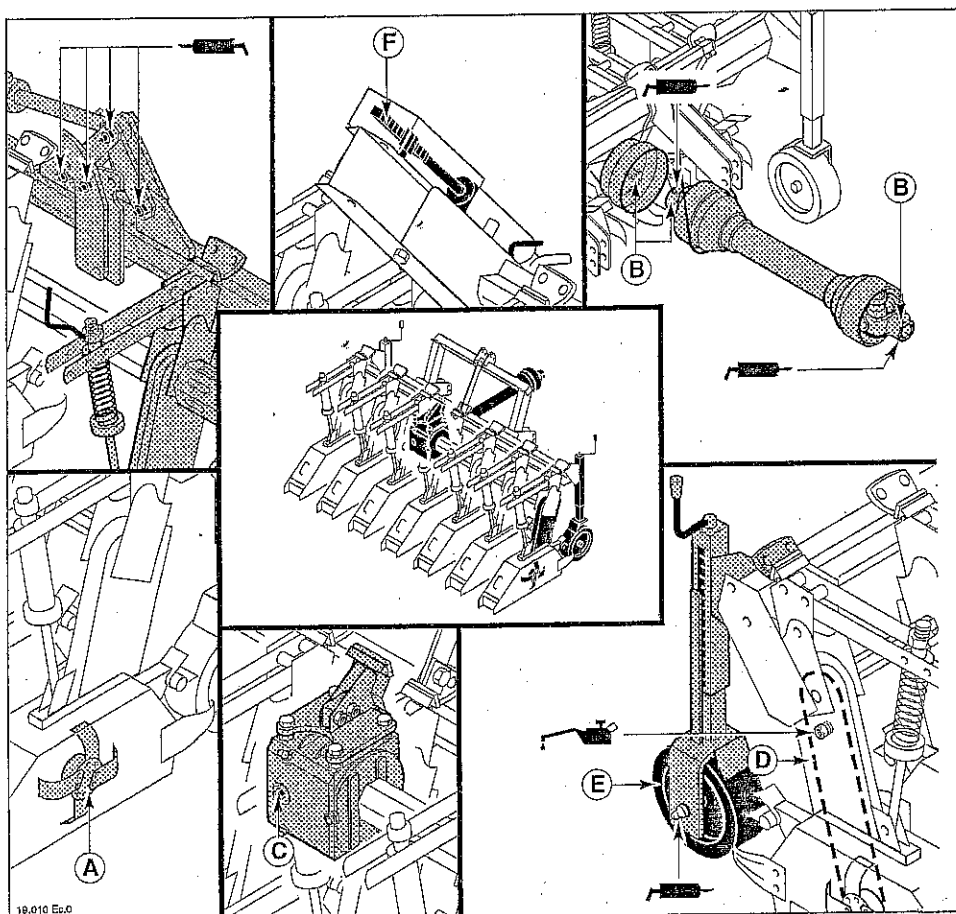
## 7 MACHINE MAINTENANCE

### 7.1 ROUTINE MAINTENANCE

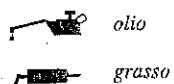


**PERICOLO - ATTENZIONE**

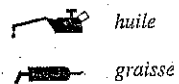
Routine maintenance is carried out after the tractor has been stopped and the pto has been disengaged.  
Maintenance operations are carried out in a properly equipped and lighted area.



Legenda:



Légendes:

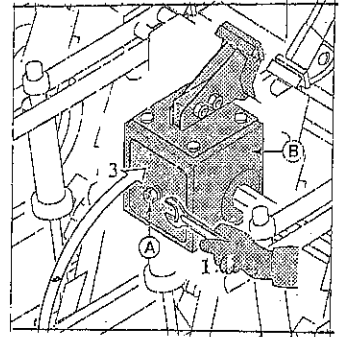


INSPECTION	FREQUENCY	ACTION
<b>BLADES ( A )</b>		
check if they are fixed	daily	tighten the fastening screws of the blades A completely
<b>TRANSMISSION</b>		
check greasing	daily	grease the pto B
<b>GEARBOX ( C )</b>		
check oil level	weekly	refill with oil if necessary (SAE 140 EP)
<b>TRANSMISSION</b>		
check if it is cleaned and lubricated	daily	clean the pto B with naphta and grease
<b>MACHINE</b>		
check if bolts are tightened	weekly	tighten the bolts completely
<b>MILLING UNITS DEPTH SKID AND CASE GUARD</b>		
wear checking	weekly	tighten the bolts completely
<b>GEARBOX ( C )</b>		
lubricant change	after the first 30 working hours, then every 500 hours	replace oil (SAE 140 EP) as shown in 7.1.1 o 7.1.2
<b>TRANSMISSION CASE (D)</b>		
check level	monthly	refill with oil (SAE 90) max capacity 0,3 kg
<b>DEPTH WHEELS ( E )</b>		
check greasing	monthly	inject grease
<b>HYDRAULIC FOLDING FRAME RACK (F)</b>		
lubrification	weekly	spread with grease
<b>SPECIAL HYDRAULIC FOLDING FRAME PINS</b>		
lubrification	weekly	inject grease

## 7 MACHINE MAINTENANCE

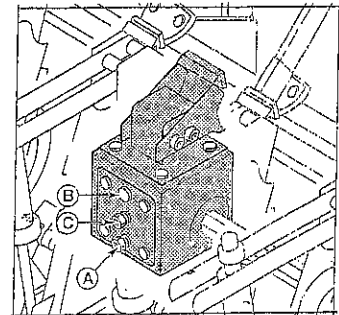
### 7.1.1 SMALL 40HP GEARBOX MOD.FL FLA FLAR OIL REPLACEMENT

- \_Unscrew the plug A
- \_Overturn the machine and drain worn oil from the gearbox B
- \_Bring the machine back to initial position and refill the gearbox with new oil up to the fill hole; then tighten the plug A.



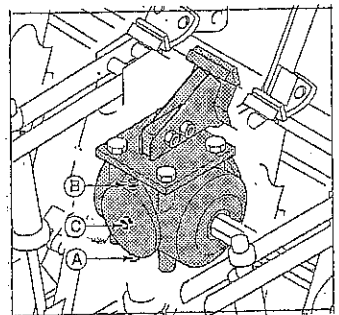
### 7.1.2 MEDIUM 60HP GEARBOX MOD.FL FLA FLAR FP A XA OIL REPLACEMENT

- \_Loosen the plug A and drain worn oil
- \_Screw the plug A again and refill the gearbox with new oil through the plug B up to level C.



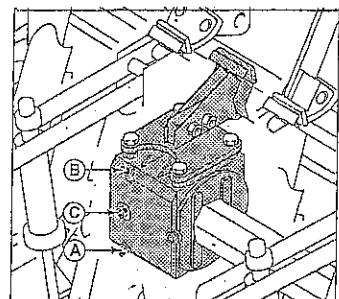
### 7.1.3 BIG 80HP GEARBOX MOD.FP A XA FPSR OIL REPLACEMENT

- \_Loosen the plug A and drain worn oil
- \_Screw the plug A again and refill the gearbox with new oil through the plug B up to level C.



### 7.1.4 REINFORCED 100HP GEARBOX MOD.FP A XA FROM 460CM-HEX.50 FPSR A XA OIL REPLACEMENT

- \_Loosen the plug A and drain worn oil
- \_Screw the plug A again and refill the gearbox with new oil through the plug B up to level C.



# 8

## TROUBLESHOOTING

### 8.1. TROUBLES - CAUSES - CURES

If the machine incorrectly used, troubles will occur in the long run. What follows is a list of troubles with possible causes and cures.

TROUBLE	CAUSE	CURE
THE UNITS DO NOT PENETRATE THE SOIL AS APPROPRIATE	worn blades	replace blades
	blades have been incorrectly assembled	assemble the blades correctly
GEARBOX OR CHAINCASE ARE OVERHEATED	lack of oil	check oil level and refill, if necessary
	exhausted oil	change oil
	blocked milling units	remove material under the milling units
THE MACHINE VIBRATES IRREGULARY	bolts are loosened	check if the milling machine's bolt are tightened
	the pto number of rounds are higher than those allowed	adjust the pto rounds
	the hexagonal shaft is short or bent	let the hexagonal shaft be replaced by an authorised repair shop
	transmission parts are worn out	overhaul and, if necessary, replace worn parts
THE PTO AND THE GEARBOX ARE IN OPERATION BUT THE MILLING UNITS HAVE STOPPED	transmission breakdown	replace the broken parts
THE PTO VIBRATES AND LOOKS BENT	the machine lifting exceeds the working axis	check if the machine is correctly lifted in line with tractor's pto





## 9 PARTS REPLACEMENT

### INFORMATION

Use original spare parts only.

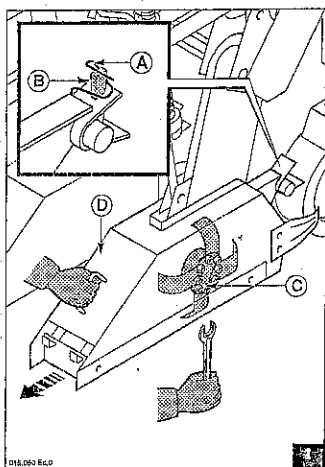


### CAUTION

Parts must be replaced by skilled staff at a repair shop that is properly equipped.

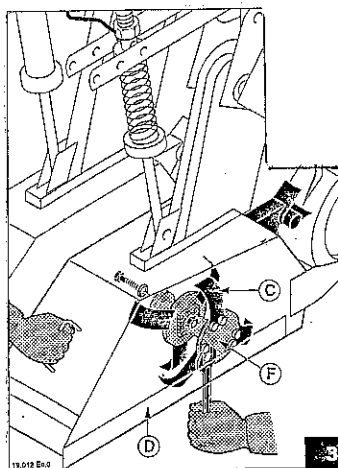
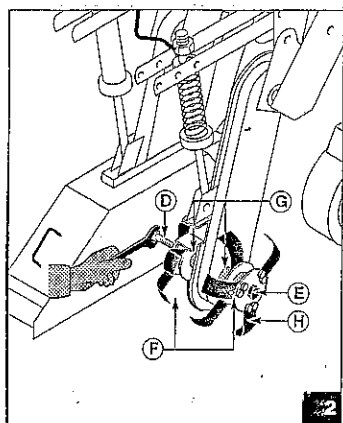
The component parts replacement must be carried out with the engine stopped.

### 9.1. BLADES - REPLACEMENT



\_ Remove both springs A and the relevant pins B

\_ Take out the shield D.



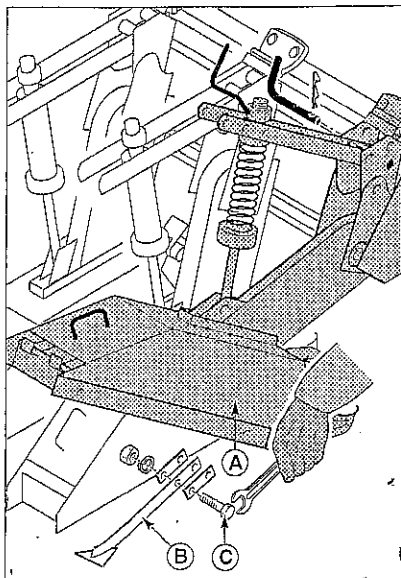
\_ Untighten nut and washer D (mod.FL FLA-R) bolt and washer D (mod.FP-A-XA FPSR-A-XA)

\_ Remove pin E ( mod.FL FLA-R FP-A-XA fig.2)

\_ Remove the flanges F if necessary (fig.3)

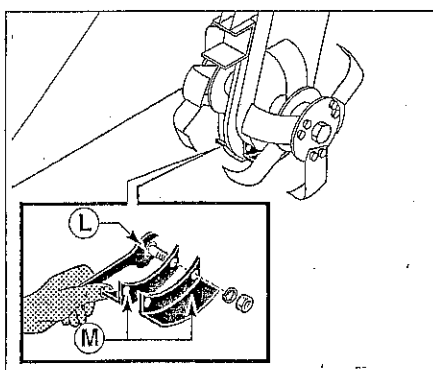
\_ Remove the worn out blades H and assemble the new blades in the same position.

9.2. MILLING UNIT'S TINE - REPLACEMENT



- \_Lift the milling unit A
- \_Unloose the screws C for the tine B replacement

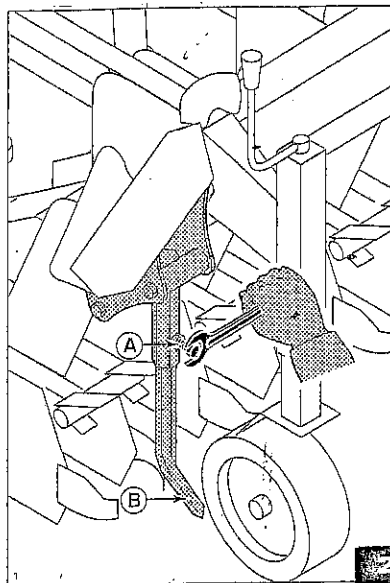
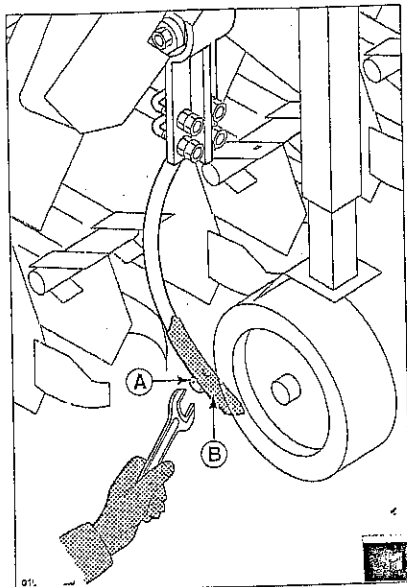
9.3. GUARDS FL FLA-R GP-A-XA - REPLACEMENT



- \_Remove springs A, pins B and shield C
- \_Untighten screws L and remove guards M.

9.4. DEPTH SKID - REPLACEMENT

(fig.1)

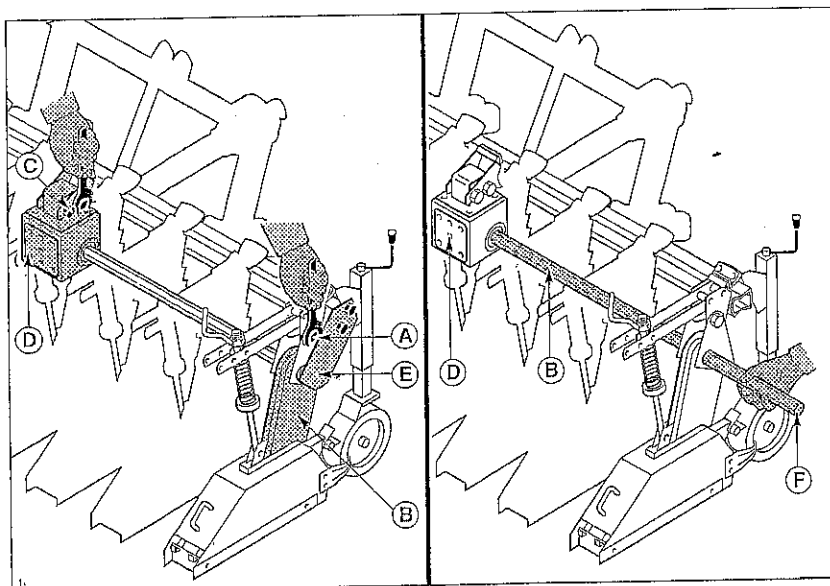


- \_ Unloose the screw A
- \_ Remove the worn depth skid B

"B" type mod. FPSR-A-XA (fig.2)

- \_ Unloose the screw A
- \_ Remove the worn depth skid B

9.5. HEXAGONAL BAR - REPLACEMENT



- \_ Loosen screws A relevant to milling units B
- \_ Loosen screws C relevant to gearbox D
- \_ Remove the case E and the hexagonal bar F.

## **10** *SCRAPPING*

### **10.1 MACHINE SCRAPPING**

When the machine is to be dismantled please apply to the appropriate structure, who shall arrange for or authorise the machine disassembly in compliance with all safety regulations. In these machines lubricating oil and hydraulic oil (optional) are present. They must be disposed according to applicable laws of the country where the disposal is effected.