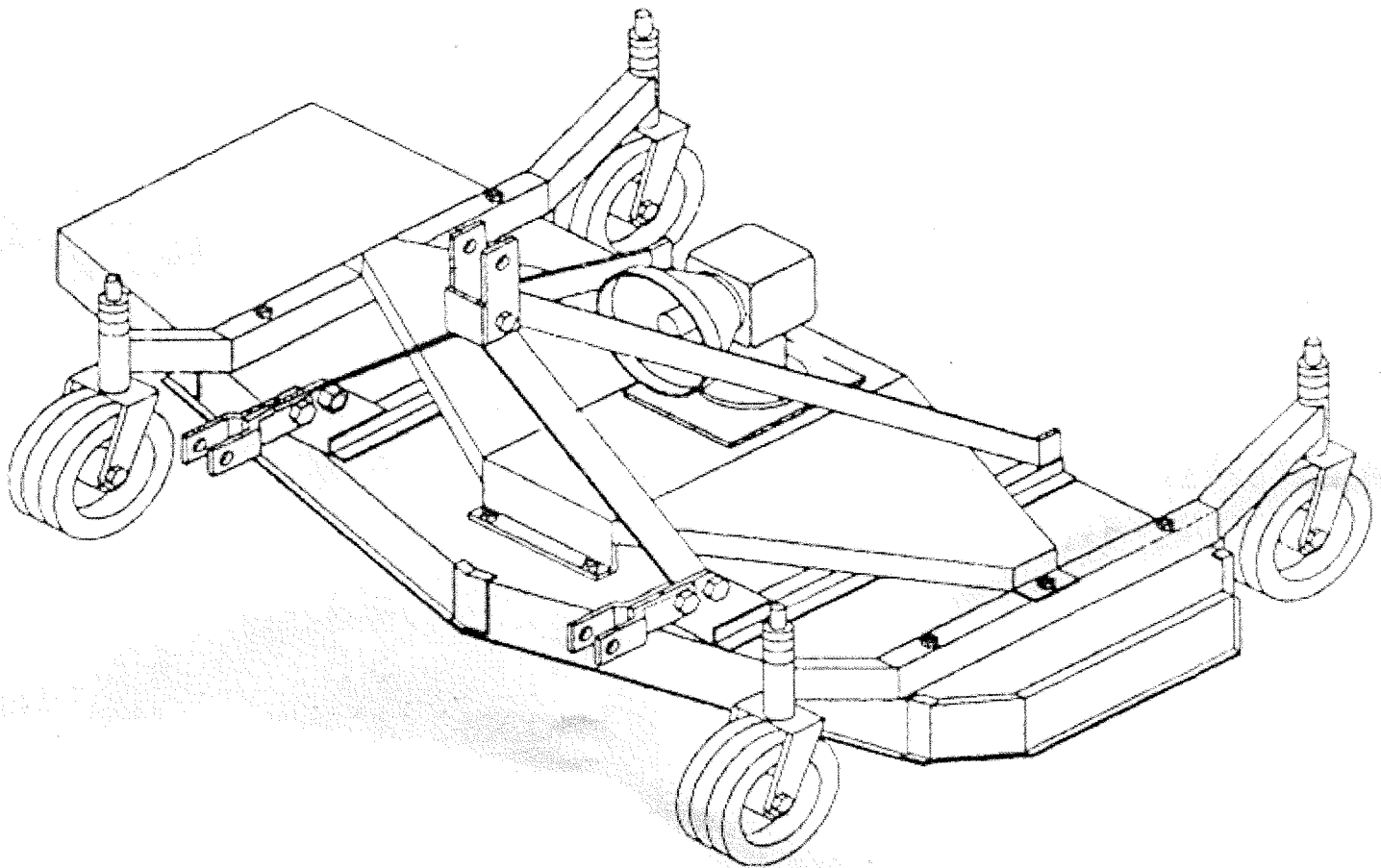


# OPERATOR MANUAL SPARE PART LIST



# CURTIS

by WALTON

## FINISHING MOWER

## TECHNICAL DATA

| MODEL             | FM120   | FM150 | FM180 |
|-------------------|---------|-------|-------|
| CUTTING WIDTH     | 4'      | 5'    | 6'    |
| CUTTING HEIGHT    | 1"-4"   | 1"-4" | 1"-4" |
| BLADES SPEED(rpm) | 3225    | 2610  | 2210  |
| N° BLADES         | 3       | 3     | 3     |
| POWER(Hp)         | 15/25   | 18/30 | 20/45 |
| DIMENSION         |         |       |       |
| WIDTH             | 4'4"    | 4'6"  | 4'8"  |
| LENGHT            | 4'7"    | 5'3"  | 6'7"  |
| HEIGHT            | 2'9"    | 2'9"  | 2'9"  |
| WEIGHT(lbs)       | 364     | 397   | 495   |
| PACKING DIMENSION |         |       |       |
| WIDTH             | 3'2"    | 3'4"  | 3'8"  |
| LENGHT            | 4'5"    | 5'5"  | 6'5"  |
| HEIGHT            | 1'      | 1'    | 1'    |
| OIL TIPE          | SAE W90 |       |       |
| QTY OF OIL        | 15 OZ   |       |       |

|  |          |
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## 1 - TRANSPORT AND INSTALLATION

### 1.1 - CHARACTERISTIC OF THE MACHINE

The finishing mowers for tractor is divided in two parts

\*An electrowelded structure which is also a supporting body where the connections (1st cat. and third point) are fixed for structural linkage to tractor.

\*A transmission unit consisting of a reduction unit and a belt transmission that transfer power from the tractor PTO to the blades.

The structure of the machine is linked to tractor with the connections (1st cat. and third point). Power is transferred from tractor PTO to the inlet spline shaft of the bevel gear pair by means of a cardan shaft.

The speed of rotation of the tractor PTO is 540 rpm.

The machine is used for mowing grass to aesthetic purposes for maintaining middle or large size lawns.

### 1.2 - ROAD TRANSPORTATION

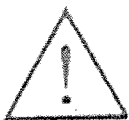
The driver of the machine shall be a competent operator. He shall use the machine in the best possible way.

The machine shall be transported with the best care and with adequate means.

The machine is delivered in a wooden case and half-disassembled. We advise you to make sure the case is in good conditions before any further operation.

Make sure no delicate parts are damaged when lifting the machine for transportation and positioning.

If the driver has not enough visibility due to the overall dimensions of the load, someone shall help him signals with from the ground.



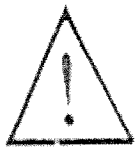
Make sure the machine at rest is perfectly stable

## 2 - USE

### 2.1 - GENERAL TIPS



The driver of the machine shall be a competent operator. He shall use the machine in the best possible way.



Before starting using the machine the operator shall make sure nobody is lingering in its ray of action.



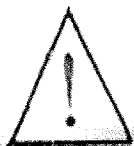
The operator shall prevent anybody from entering the ray of action of the machine



Make sure the ground is suitable to this type of machine



Please avoid wearing loose clothes or anything that might get caught in moving or rotating parts of the machine. Please wear safety shoes and gloves whenever you have to handle with blades or parts with sharp edges



For working on slopes follow the instructions of the manual for use and maintenance of the tractor.

## 2.2 - DANGEROUS AREAS - OPERATOR'S AREAS

All control, adjustment and maintenance operations are to be carried out on the machine off.

All operations for use, adjustment and maintenance shall be carried out by a competent operator only.



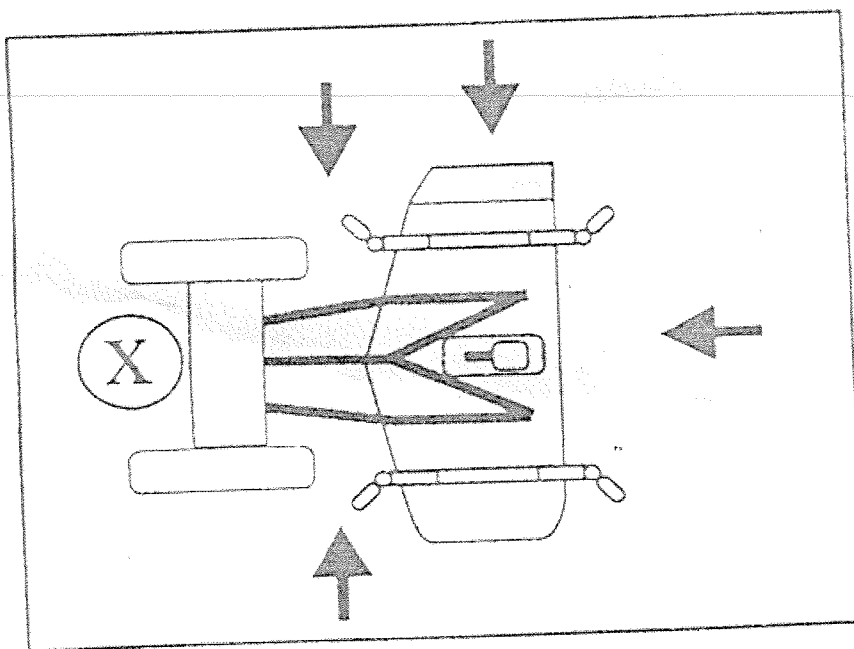
It is strictly forbidden to get close to or onto the machine when it is on.

The arrows in the picture indicates the dangerous areas during machine operation.

Particular care shall be taken when carrying out any operations inside any dangerous areas and when manoeuvring in the operating area.

The "X" in the picture indicates the operator's area when the machine is on.

Should the machine be used under conditions either than the ones allowed and specified in the manual for use and maintenance the operation could be irremediably compromised and the guarantee would automatically be null and void.



## **2.3 - HOW TO USE**

Do not use the machine under conditions either than the ones allowed and specified in the manual for use and maintenance: the guarantee would automatically become null and void.

If the machine is used under conditions either than the ones allowed and specified in the manual for use and maintenance the machine operation would be irremediably compromised.

The retailer checks the good operation of the machine when he sell it. The retailer gives the user instructions to exploit the machine performance at its best.

## **2.4 - INFORMATION ABOUT DEMOLITION**

The machine consists mainly of iron alloys, that are recyclable raw materials.

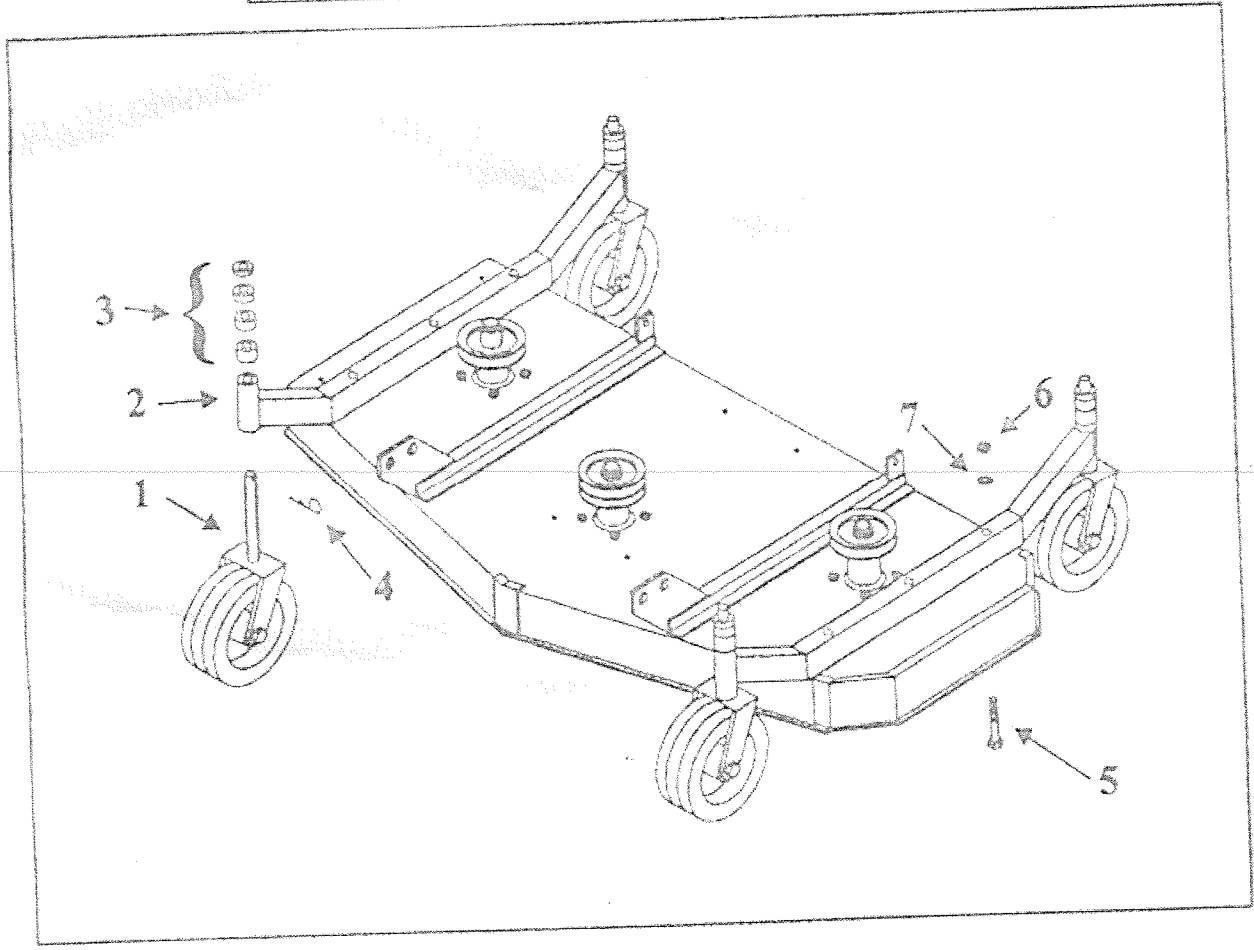
After changing, the exhaust oil from the pump shall be delivered to specialized companies for its disposal as well as any other lubricant or grease used in the operations of lubrication.

## 2.5 - ASSEMBLY

PIC. 1

Insert the four wheels [1] in bush [2] of the support by adjusting the cutting height with spacers [3] as mentioned in the table below. Position the wheel supports on the machine frame and tighten the two outer bolts [5,6,7] leaving the central hole open.

| SPACER [3]        | WIDTH |
|-------------------|-------|
| 1/4"              | 1"    |
| 1/4"+2/4"         | 2"    |
| 1/4"+2/4"+3/4"    | 3"    |
| 1/4"+2/4"+3/4"-1" | 4"    |





## 2.5.1 ASSEMBLY

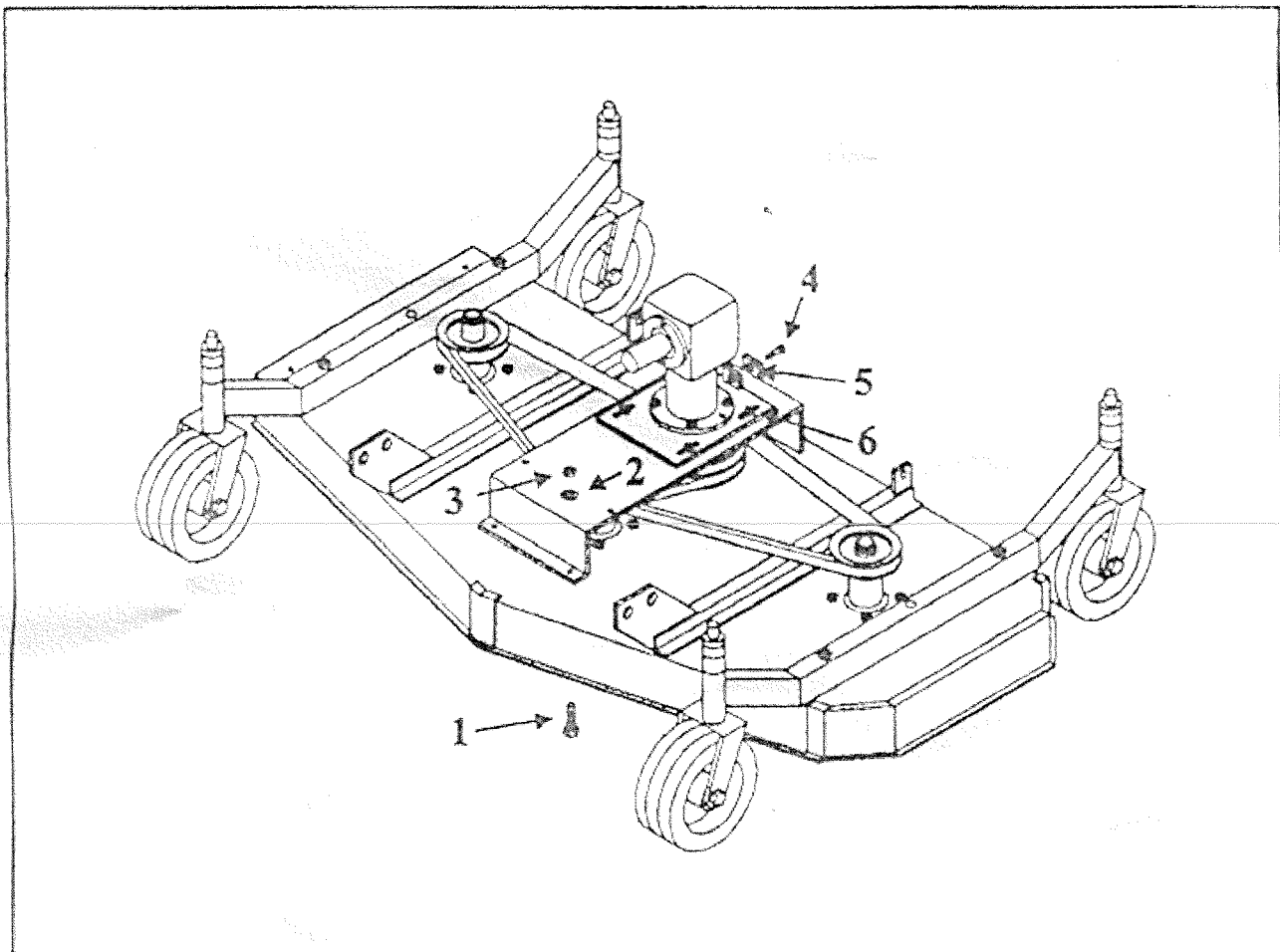
PIC. 2.

Insert belts on pulleys.

Put the support of the reduction gearbox on the machine, insert both belts on the pulley of the reduction gearbox in the relevant guides and tighten the four bolts [1,2,3]

Loosen the four screws of support [6] and tighten the belts by acting on the screw on the back of the support [4]. Then tighten the adjusting screw [4,5] and the four screws [6].

The belts shall not be too stretched. We advise you to make sure they can bend at least 1/2".



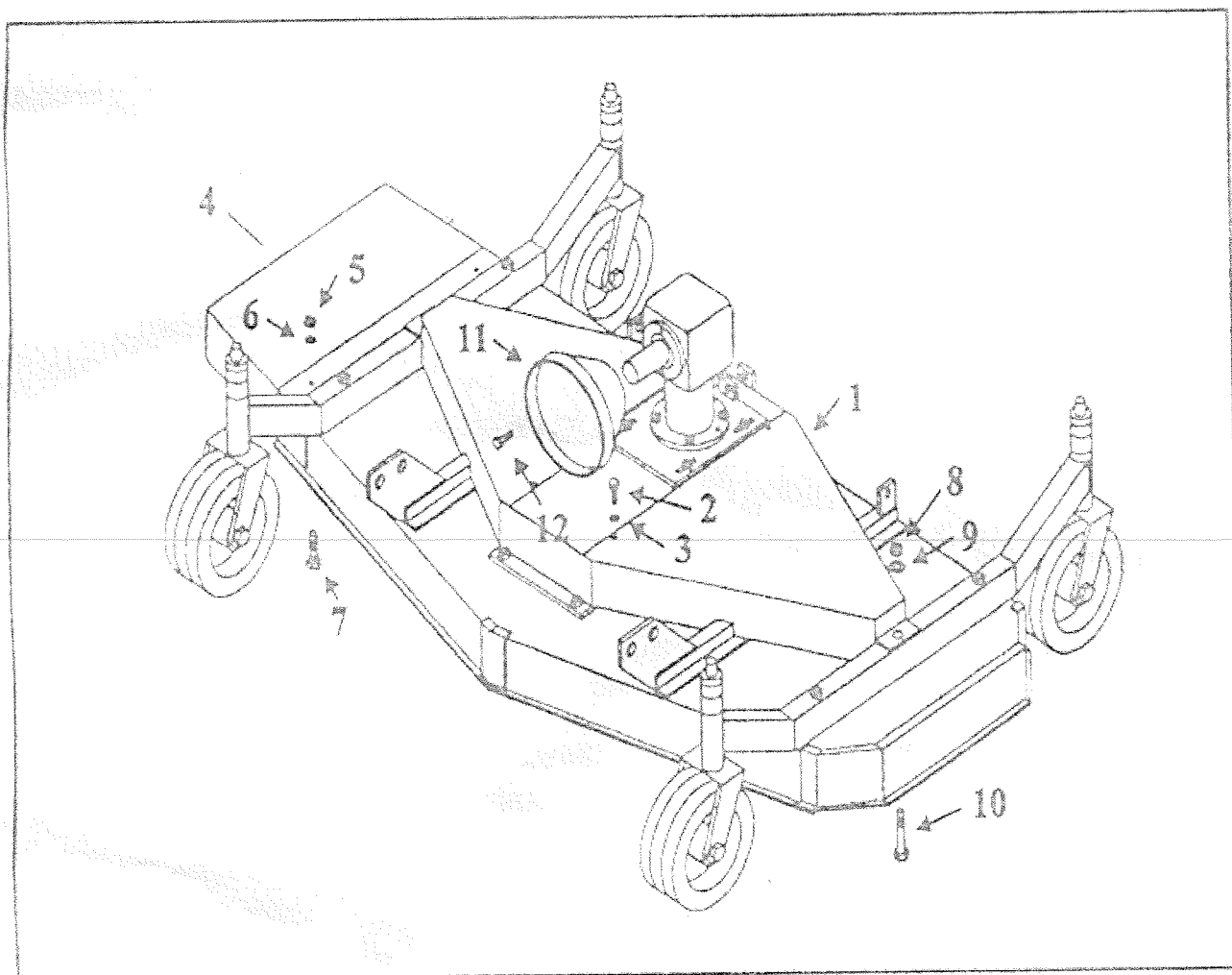
## 2.5.2 - ASSEMBLY

PIC. 3

Put guards [1] on belts and fix the four screws [2,3] on the reduction gear bearing, insert and tighten the remaining two bolts [8,9, 10] on the wheel supports, thus locking the guards

Insert side deflector [4] on the exhaust and fix it with the three screws [5,6,7]

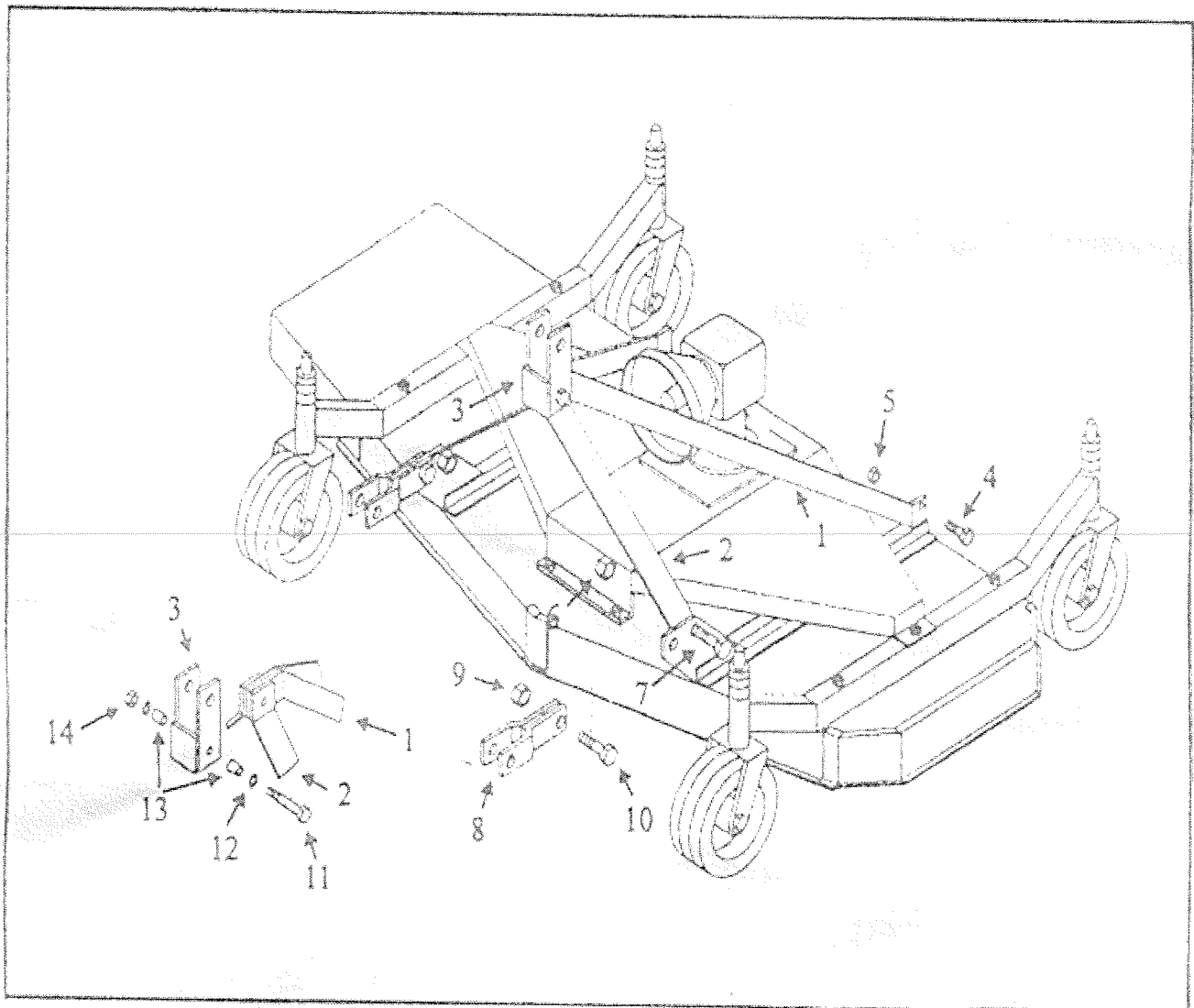
Cover the PTO with plastic guard [11] and use the 4 screws [12] to fix it



## 2.5.3 - ASSEMBLY

PIC. 4

Position tie rods [1] on the machine and lock them with both bolts [4,5].  
Position uprights [2] on the machine and lock them with bolts [6,7].  
Position floating hitches [8] on the machines and lock them with bolts [9,10].  
Insert both uprights and tie-rods in U-bolt [3] and fix them with bolt [11,12,14] and spacers [13] making sure the U-bolt can rotate freely on the bolt.



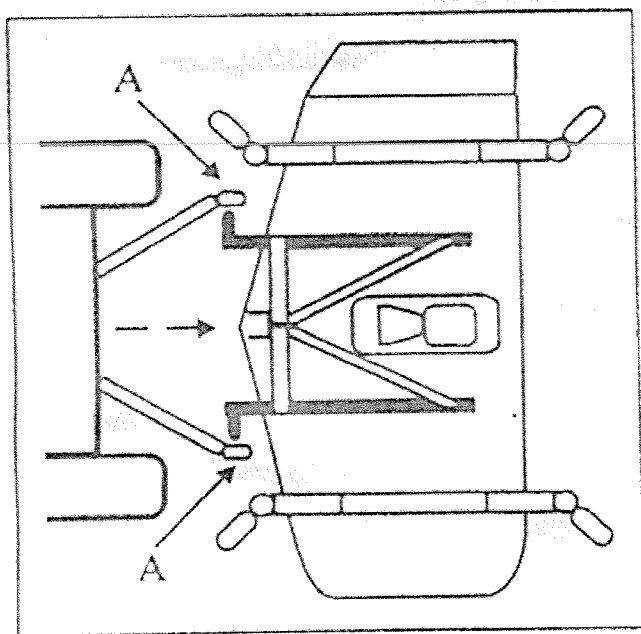
## 2.6 - HOW TO CONNECT

Before towing machine please read the manual for use and maintenance carefully and follow the instructions contained in this paragraph in the proper order.

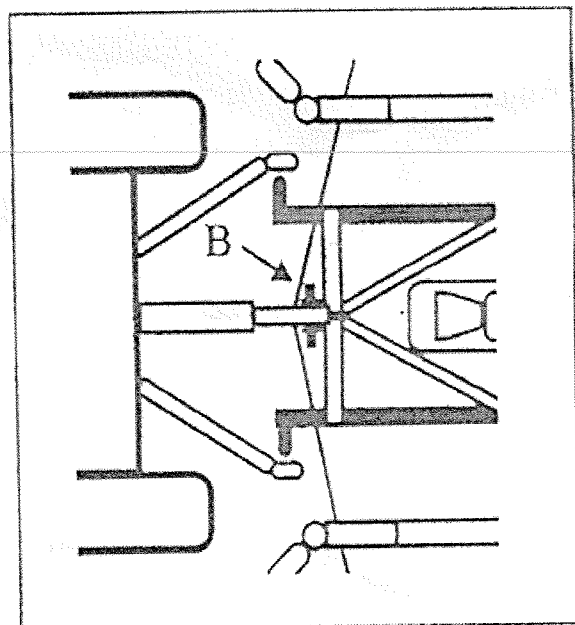
The machine is equipped with I cat. and third point linkage.

To tow it to tractor proceed as follows :

- \* position the machine on even ground
- \* move your tractor backwards until it comes close to the bottom linkage point (I cat. connections) **Pic.5**
- \* fix the bottom linkage point to the I cat. bolts of the machine and insert the safety washer (supplied with the tractor) **Pic. 5A**
- \* once this operation has been accomplished, connect the top linkage point of the machine to the third point of the tractor by inserting the bolt (Fig. 2) and insert the safety washer **Pic. 6B**



PIC. 5



PIC. 6

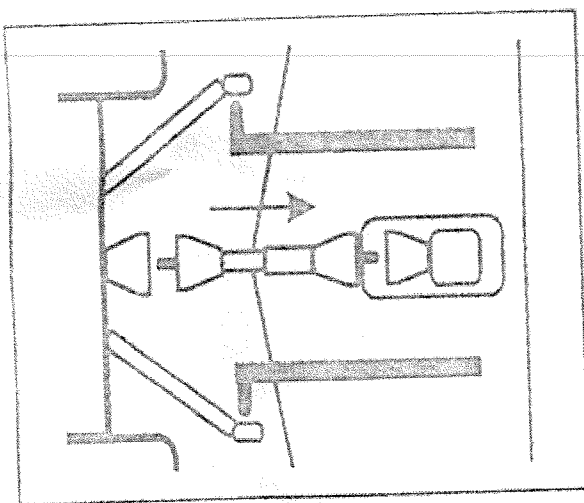
## 2.6.1 - HOW TO CONNECT

Once these operations are over, connect the cardan transmission with the spline shaft of the machine gearbox (covered by a safety cap) Fig. 7-8 and to the tractor PTO.

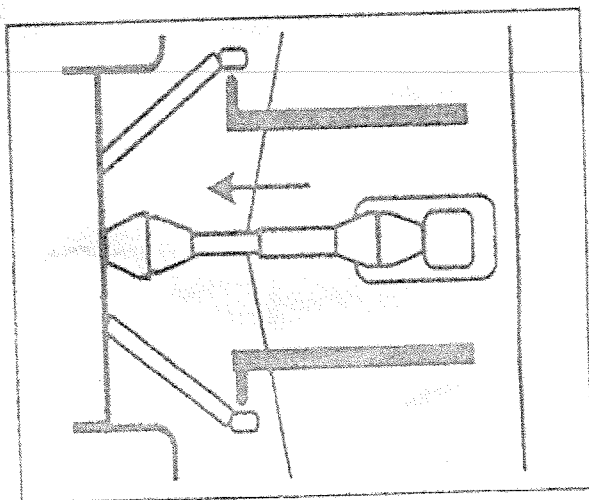
Hook the cardan shaft guards to the tractor and machine guards by means of the chains.

The PTO shaft shall always be connected to the tractor PTO last and shall be detached first when work is over.

Once connected, lift the machine to the road transport position and make sure it is correctly fixed to the three linkage points and the cardan shaft is correctly fit in.



PIC. 7



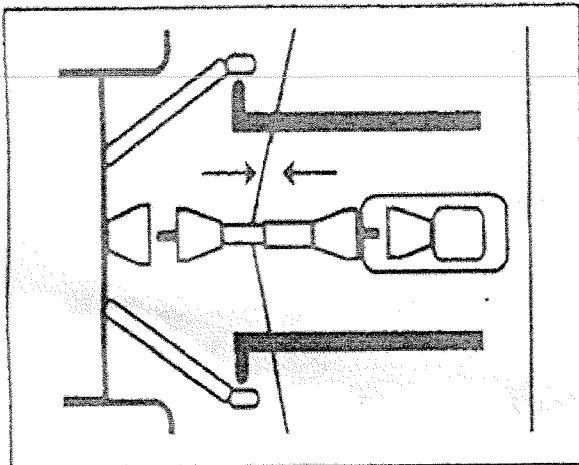
PIC. 8

## 2.7 - HOW TO DISCONNECT

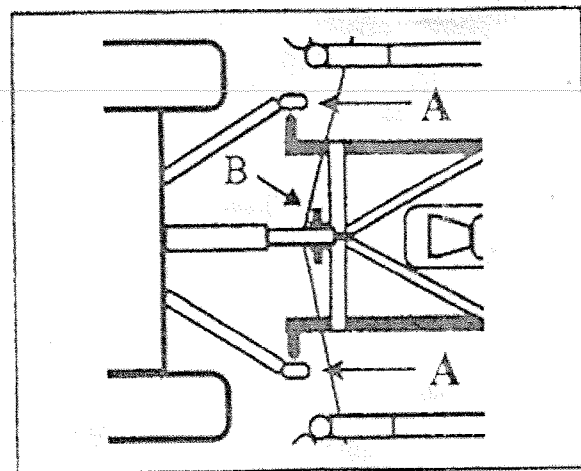
Before detaching the machine from tractor read the manual for use and maintenance carefully and follow the instructions in the following paragraph carefully with all operations in the right order.

Proceed as follows:

- \* tow the machine with tractor to a sheltered place on level ground
- \* take the machine down to ground (by acting on tractor lever)
- \* Detach cardan shaft from tractor PTO and machine PTO Fig. 9.
- \* detach the third point of the machine by taking out the safety lock washer and the connecting bolt Fig. 10B
- \* detach the linkage arms 1st Cat. of the machine after taking out the safety washers Fig.9A
- \* drive tractor slowly away from the machine
- \* make sure the machine is stable at rest



PIC. 9



PIC. 10

## 2.8 - DEFECTIVE OPERATION

The reasons for improper operation of the machine can be ascribed to a series of factors that can be grouped as follows:

- \* operating errors
- \* operating machine defective
- \* tractor defective.

### OPERATING ERRORS:

- \*the PTO does not clutch in
- \*wrong adjustment of the working height of the linkage point
- \*wrong adjustment of the working height of the blades
- \*grass cutting and unloading system dirty

In that case read the manual for use and maintenance carefully

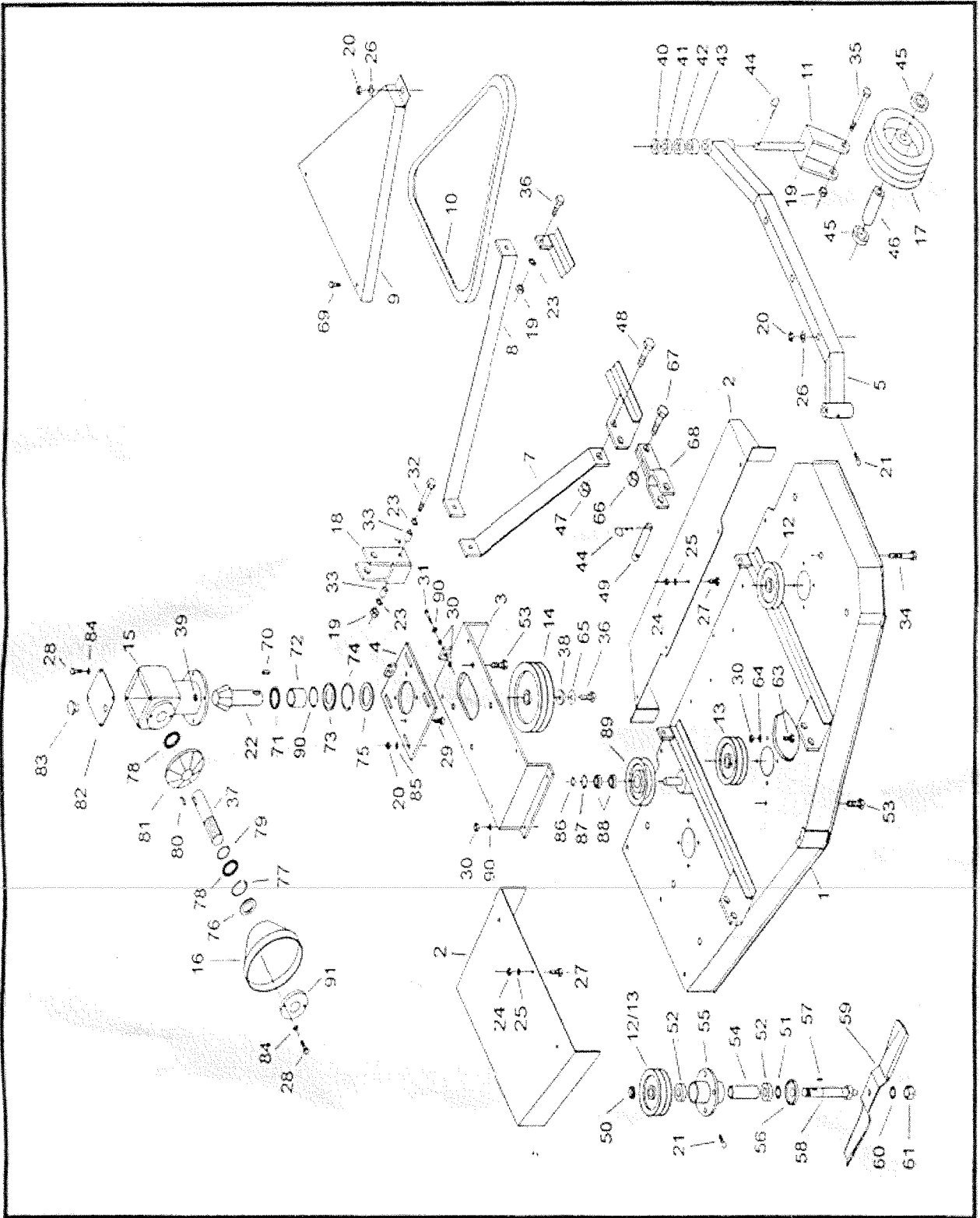
### OPERATING MACHINE DEFECTIVE:

Excessive wear of the blades  
blades damaged by the impact against objects laying on the grass such as stones, branches etc.

### DEFECTIVE TRACTOR:

See manual for use and maintenance of the tractor.

# 4.3 - SPARE-PART





## 4.4 - SPARE-PARTS DESCRIPTION

| POS. | DESCRIPTION                                | CODE   | POS. | DESCRIPTION              | CODE   |
|------|--|--------|------|--------------------------|--------|
| 1    | DECK FML 120 (4')                          | 308000 | 36   | SCREW Ø 12 X 35 mm       | 300027 |
| 1    | DECK FML 150 (5')                          | 308001 | 37   | SHAFT                    | 323075 |
| 1    | DECK FML 180 (6')                          | 308002 | 38   | SHIM FOR PULLEY          | 303061 |
| 1    | DECK FMR 120 (4')                          | 308003 | 39   | NUT Ø 14 mm              | 301014 |
| 1    | DECK FMR 150 (5')                          | 308004 | 40   | SPACER 7 mm              | 329029 |
| 1    | DECK FMR 180 (6')                          | 308005 | 41   | SPACER 13 mm             | 329030 |
| 1    | DECK FMR 230 (8')                          | 308006 | 42   | SPACER 25 mm             | 329031 |
| 2    | DEFLECTOR FML 120 (4')                     | 312000 | 43   | SPACER 31 mm             | 329032 |
| 2    | DEFLECTOR FML 150 (5')                     | 312001 | 44   | SPRING CLIPS Ø 4 mm      | 318002 |
| 2    | DEFLECTOR FML 180 (6')                     | 312002 | 45   | WHEEL SPACER             | 329042 |
| 2    | DEFLECTOR FMR 120 (4')                     | 312003 | 47   | NUT Ø 18 mm              | 301029 |
| 2    | DEFLECTOR FMR 150 (5')                     | 312004 | 48   | SCREW Ø 18 X 45 mm       | 300143 |
| 2    | DEFLECTOR FMR 180 (6')                     | 312005 | 49   | PIN                      | 325027 |
| 2    | DEFLECTOR FMR 230 (8')                     | 312011 | 50   | NUT                      | 301027 |
| 3    | GEARBOX SUPPORT                            | 603059 | 51   | SHIM Ø 24 mm             | 303066 |
| 4    | PLATE                                      | 631019 | 52   | BALL-BEARING 6205        | 310008 |
| 5    | WHEELS SUPPORT FM 120 (4')                 | 603053 | 53   | SCREW Ø 10 X 35 mm       | 300139 |
| 5    | WHEELS SUPPORT FM 150 (5') / 230 (8')      | 603054 | 54   | SPACER                   | 329038 |
| 5    | WHEELS SUPPORT FM 180 (6')                 | 603055 | 55   | SUPPORT                  | 603049 |
| 7    | VERTICAL -ROD FM 120 (4')                  | 628000 | 56   | DISK                     | 506003 |
| 7    | VERTICAL -ROD FM 150 (5')                  | 628001 | 57   | KEY                      | 326008 |
| 8    | TIE-ROD FM 120 (4')                        | 628003 | 58   | SHAFT                    | 323072 |
| 8    | TIE-ROD FM 150 (5')                        | 628004 | 59   | BLADE FM 120 (4')        | 636001 |
| 8    | TIE-ROD FM 150 (5') / 230 (8')             | 628005 | 59   | BLADE FM 150 (5')        | 636002 |
| 9    | COVER FM 120 (4')                          | 629006 | 59   | BLADE FM 180 (6')        | 636003 |
| 9    | COVER FM 150 (5')                          | 629007 | 60   | SHIM Ø 18 mm             | 303064 |
| 9    | COVER FM 180 (6')                          | 629008 | 61   | SELF LOOKING NUT Ø 18 mm | 301041 |
| 9    | COVER FM 230 (8') RIGHT                    | 629010 | 62   | SCREW Ø 10 X 30 mm       | 300139 |
| 9    | COVER FM 230 (8') LEFT                     | 629011 | 63   | SCREW Ø 10 X 25 mm       | 300005 |
| 10   | BELT FM 120 (4')                           | 542002 | 64   | SHIM Ø 10 mm             | 302002 |
| 10   | BELT FM 150 (5')                           | 542003 | 65   | SHIM Ø 12 mm             | 302001 |
| 10   | BELT FM 180 (6')                           | 542004 | 66   | NUT Ø 20 mm              | 301030 |
| 10   | BELT FM 230 (8')                           | 542005 | 67   | SCREW Ø 20 X 55 mm       | 300144 |
| 11   | FORK                                       | 532004 | 68   | HITCH                    | 632006 |
| 12   | LATERAL PULLEY                             | 600016 | 69   | SCREW Ø 10 X 16 mm       | 300157 |
| 13   | CENTRAL PULLEY                             | 600017 | 70   | KEY                      | 326012 |
| 14   | GEAR-BOX PULLEY FM 120 (4')                | 600018 | 71   | BALL-BEARING 6008        | 310031 |
| 14   | GEAR-BOX PULLEY FM 150 / FM 230 ( 5' / 8') | 600019 | 72   | SPACER                   | 329041 |
| 14   | GEAR-BOX PULLEY FM 180 (6')                | 600020 | 73   | BALL-BEARING 6208        | 310032 |
| 15   | HOUSING                                    | 314038 | 74   | CIRCLIP I 80 mm          | 313028 |
| 16   | PLASTIC COVER                              | 304031 | 75   | OIL SEAL 40 X 80 X 10 mm | 309016 |
| 17   | WHEEL                                      | 513011 | 76   | OIL SEAL 35 X 72 X 10 mm | 309017 |
| 18   | SUPPORT                                    | 540001 | 77   | CIRCLIP I 72 mm          | 313034 |
| 19   | NUT Ø 12 mm                                | 301001 | 78   | BALL-BEARING 6207        | 310013 |
| 20   | NUT Ø 10 mm                                | 301017 | 79   | SPACER                   | 346020 |
| 21   | GREASER                                    | 306000 | 80   | KEY                      | 326011 |
| 22   | SHAFT WITH PINION                          | 323076 | 81   | CROWN                    | 325011 |
| 23   | SHIM Ø 12 mm                               | 303001 | 82   | COVER                    | 515013 |
| 24   | NUT Ø 8 mm                                 | 301003 | 83   | OIL CAP                  | 317005 |
| 25   | SHIM Ø 8 X 32 mm                           | 303044 | 84   | SHIM Ø 8 mm              | 303000 |
| 26   | SHIM Ø 10 X 30 mm                          | 303045 | 85   | SHIM Ø 10 mm             | 303007 |
| 27   | SCREW Ø 8 X 20 mm                          | 300142 | 86   | CIRCLIP E 15 mm          | 313036 |
| 28   | SCREW Ø 8 X 16 mm                          | 300163 | 87   | CIRCLIP I 32 mm Ø        | 313037 |
| 29   | SCREW Ø 14 X 45 mm                         | 300155 | 88   | BALL-BEARING 8002        | 310034 |
| 30   | NUT Ø 10 mm                                | 301000 | 89   | PULLEY                   | 600022 |
| 31   | SCREW Ø 10 X 90 mm                         | 300156 | 90   | CIRCLIP E 40 mm          | 313038 |
| 32   | SCREW Ø 12 X 100 mm                        | 300138 | 91   | PLATE FOR PLASTIC COVER  | 802037 |
| 33   | SPACER                                     | 329028 |      | PTO SHAFT                | 311002 |
| 34   | SCREW Ø 10 X 80 mm                         | 300129 |      | GEAR-BOX                 | 315022 |
| 35   | SCREW Ø 12 X 110 mm                        | 300140 |      | SPINDLE COMPLETE         | 800040 |