

IM 1861

TURBOMOWER 1300

(INCLUDING REPLACEMENT PARTS INFORMATION)

ISSUE 1

IMPORTANT

NOTE HERE THE SERIAL NUMBER OF YOUR MACHINE AND ALWAYS QUOTE IT IN ANY COMMUNICATION WITH US OR YOUR DEALER. THIS IS PARTICULARLY IMPORTANT WHEN ORDERING SPARES. REMEMBER TO INCLUDE ALL NUMBERS AND LETTERS.

MACHINE SERIAL NUMBERS _____

THE INFORMATION GIVEN THROUGHOUT THIS MANUAL IS CORRECT AT THE TIME OF PUBLICATION. HOWEVER, IN THE COURSE OF CONSTANT DEVELOPMENT OF BOMFORD TURNER MACHINES, CHANGES IN SPECIFICATION ARE INEVITABLE. SHOULD YOU FIND THE INFORMATION GIVEN IN THIS BOOK TO BE AT VARIANCE WITH THE MACHINE IN YOUR POSSESSION, YOU ARE ADVISED TO CONTACT THE BOMFORD TURNER SERVICE DEPARTMENT WHERE UP-TO-DATE INFORMATION WILL BE PROVIDED.

THE MANUAL CAN CONTAIN STANDARD AND OPTIONAL FEATURES AND IS NOT TO BE USED AS A MACHINE SPECIFICATION.

THE MACHINE HAS BEEN TESTED AND IS CONSIDERED SAFE IF CAREFULLY USED. ENSURE YOUR OPERATOR IS PROPERLY TRAINED IN ITS USE AND MAINTENANCE.

IMPORTANT

NOTEZ ICI LES NUMEROS DE SERIE DE VOTRE MACHINE ET MENTIONNEZ LES DANS TOUTE COMMUNICATION AVEC NOS SERVICES OU VOTRE REVENDEUR. CECI EST IMPORTANT POUR LA COMMANDE DE PIECES DETACHEES. PENSEZ A NOTER TOUS LES NUMEROS ET TOUTES LES LETTERS.

NUMEROS DE SERIE DE LA MACHINE _____

LES INFORMATIONS DONNEES DANS CE MANUEL SONT CORRECTES CEPENDANT, DU FAIT DE DEVELOPPEMENT CONSTANT DES MACHINES BOMFORD TURNER.

CHANGEMENTS DANS LES CARACTERISTIQUES SONT INEVITABLES.

SI VOUS TROUVEZ QUE LES INFORMATIONS DONNEES NE CORRESPONDENT PAS A VOTRE MACHINE VEUILLEZ CONTACTER LE SERVICE DES REPARATIONS OU DES INFORMATIONS PLUS RECENTES VOUS SERONT DONNEES.

CE MANUEL PEUT MONTRER DES CARACTERISTIQUES OPTIONNELLES ET NE PEUT PAS ETRE CONSIDERE COMME SPECIFICATION DE LA MACHINE.

CETTE MACHINE A ETE TESTEE, ET ELLE EST CONSIDEREE COMME FIABLE A CONDITION D'UNE BONNE UTILISATION. ASSUREZ-VOUS QUE VOTRE OPERATEUR EST QUALIFIE EN CE QUI CONCERNE L'UTILISATION DE LA MACHINE AINSI QUE SON ENTRETIEN.

WICHTIG

TRAGEN SIE HIER DIE SERIENNUMMERN IHRER MASCHINE EIN UND GEBEN SIE DIESE IMMER AN, WENN SIE SICH AN UNS ODER IHREN HÄNDLER WENDEN. DAS IST BESONDERS BEI ERSATZTEILBESTELLUNGEN WICHTIG. VERGESSEN SIE NICHT, ALLE ZAHLEN UND BUCHSTABEN ZU NOTIEREN.

SERIENNUMMERN DER MASCHINE _____

DIE ANGABEN IN DIESEM HANDBUCH SIND BEI VERÖFFENTLICHUNG KORREKT. AUFGRUND DER KONSTANTEN WEITERENTWICKLUNG VON BOMFORD TURNER MASCHINEN SIND JEDOCHÄNDERUGDEN IN DER SPEZIFIKATION UNVERMEIDLICH. WENN DIE INFORMATION IN DIESEM HANDBUCH NICHT MIT IHRER MASCHINE ÜBEREINSTIMMEN, NEHMEN SIE BITTE KONTAKT MIT DER BOMFORD TURNER KUNDENDIENSTABTEILUNG AUF, DIE IHNEN GERNE DIE AKTUELLEN INFORMATION ZUKOMMEN LÄSST.

DAS HANDBUCH KANN SOWOHL BESCHREIBUNGEN FÜR DIE STANDARD AUSFÜHRUNG ALS AUCH FÜR ZUBEHÖR ENTHALTEN UND IST NICHT ALS MASCHINENSPEZIFIKATION ZU VERWENDET.

DIE MASCHINE IST GETESTET UND BEI SACHGEMÄSSEM BETRIEB ALS SICHER BEFUNDEN WORDEN. SORGEN SIE DAFÜR, DASS IHR BEDIENPERSONAL IN ANWENDUNG UND WARTUNG RICHTIG GESCHULT WIRD.

**This manual covers the Bomford Turbomower 1300
lightweight trailed flail mower**

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IMPORTANT

This machine is designed for vegetation control
and must not be used for any other purpose

It is potentially hazardous to fit or use
Any parts other than genuine **Bomford Turner** parts

The company disclaims all liability for the
consequences of such use, which in addition
voids the machine warranty

We reserve right to modify the technical data and characteristics of the machines at any time without prior notice.

EC DECLARATION OF CONFORMITY

Conforming to EEC Directive 98/37/EC

We,

Bomford Turner Ltd, PO Box 18, Salford Priors, Evesham, Worcestershire WR11 5SW

Declare under our sole responsibility that

The product (type): ***Tractor Mounted Flail Mower***

Product Code : ***MA13***

Serial No.....

Date

Manufactured by the above company

*Complies with the required provisions of the Directive 98/37/EC and,89/336/EEC
AMD 92/31/EEC, AMD 93/68/EEC, and Conforms with European Norm. BS EN 292.*

**Part 1:1991 Safety of Machinery – Terminology, Methodology.
Part 2 1991 Safety of Machinery – Technical Specifications**

*And other national standards associated with its design and construction
as listed in the Technical File.*

Signed
On behalf of ***Bomford Turner Ltd*** *Responsible Person*

Status: ***Engineering Manager***

Date: ***03/10/01***

1. GENERAL INFORMATION

1.1 Before Use

This operation and maintenance manual is intended for operators and maintenance personnel and should be read and fully understood before operating or working on the machine. It is mandatory to follow these instructions in order to prevent events which could endanger the operator's and other people's safety. In case of doubt, do not experiment; call Bomford Customer Service Department or your local Bomford dealer.

1.2 Machine Identification

Each mower is fitted with an identification plate with the data necessary to identify the model and serial number. The information stamped on the plate should be quoted to order replacement parts or after sales service.

1.3 Replacement Parts

It is strongly recommended to use genuine replacement parts to avoid altering the technical features of the mower. Bomford Turner do not accept responsibility for any damage or injuries to people due to unauthorised modifications or the use of non-genuine replacement parts.

2. TECHNICAL INFORMATION

2.1 Designed Use

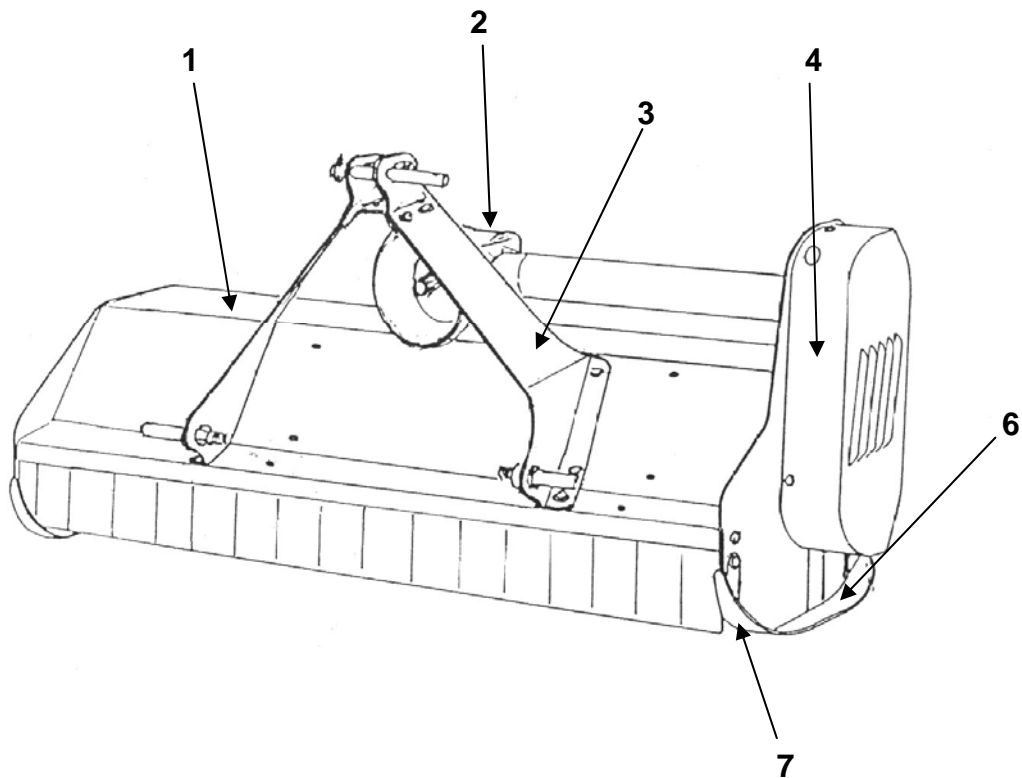
The Turbomower has been designed to cut amenity areas, light scrub, vegetable crop residues and most annual growth

Any other use is considered improper and the manufacturer disclaims all responsibility for any consequential injuries to people, or for damage to the machine. Read the safety and maintenance rules provided by the manufacturer.

Its light weight and low power requirement make it best suited to small tractors.

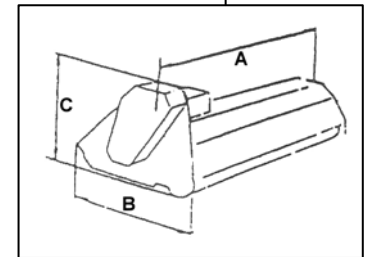
2.2 General Arrangement (see diagram below)

- 1 - Cowl
- 2 - Gearbox
- 3 - A frame
- 4 - Drive guard
- 5 - Rear adjustable roller
- 6 - Adjustable skids
- 7 - Flails

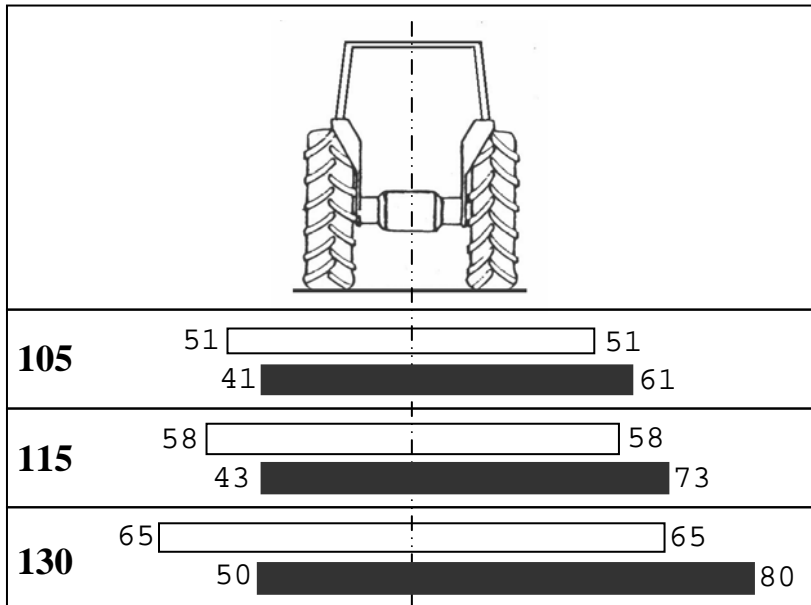


2.3 Technical Specification

SPECIFICATION		MMT 105	MMT 115	MMT 130
Width of cut.	cm.	105	115	130
Min. req'd.tractor power.	KW/HP	14-20/18-26	15-23/20-30	23-27/30-35
PTO speed.	rpm.	540	540	540
Weight.	kg.	160	170	185
Tractor attachment.	Cat.	II	II	II
Flails.	No.	28	32	36
Hammer blades.	No.	14	16	18
Width 'A'	cm.	120	130	145
Length 'B'	cm.	80	80	80
Height 'C'	cm.	80	80	80



2.4 Width of Cut



2.5 Equipment

EQUIPMENT	105	115	130
Hammer.	Std.	Std.	Std.
Y-Blades, flails.	Opt.	Opt.	Opt.
Rear roller.	Std.	Std.	Std.
Mechanical side movement 2 fixed positions.	Std.	Std.	Std.

Std. = Standard Equipment
Opt. = Optional Equipment

3. SAFETY INFORMATION

3.1 General Safety Rules:

- It is mandatory to read and follow the instructions for the use and maintenance before carrying out any operation with the mower
- Improper or incorrect use may seriously damage the machine or injure people.
- Both the operator and the maintenance fitter must be aware of the dangers resulting from improper use or incorrect repairs.
- Before starting, checks on tractor and mower must be carried out with regard to Functionality, road safety, accident prevention rules.
- Even when using the mower correctly, stones or other objects may be thrown a long distance. Therefore nobody must stand within the danger area. Special attention must be paid when working near roads or buildings.
- Use tractors with safety cabs.
- The condition of flails and of all guards must be checked before beginning work. They must be replaced if damaged or missing.
- During checks or repairs, make sure nobody could start the tractor or mower by mistake,
- Never wear loose clothes.
- Never carry passengers on the tractor or mower.
- Never connect the power take off with the engine running
- Never approach the mower until the rotor shaft has completely stopped.
- Do not enter the working zone of the PTO shaft. It is dangerous to approach the rotating parts of the machine.
- Keep the PTO shaft guard in good order.
- Before starting check the surrounding area for the likely presence of children and/or animals.
- Do not stand in the range of the operation of the machine.
- The PTO shaft must be fitted and removed with the engine stopped and the starting key removed.
- Before connecting the power takeoff, check that the speed and the rotational direction correspond to those of the mower.
- Before leaving the tractor with the mower attached, proceed as follows:
 1. Disconnect the power takeoff,
 2. Lower the machine to the ground (with the tractor hydraulics)
 3. Apply the hand brake and, if on a steep slope, chock the tractor.
 4. Remove the ignition key.
- Immediately replace any safety sign, or any missing or damaged decal.

3.2 Safety Rules concerning Road Traffic

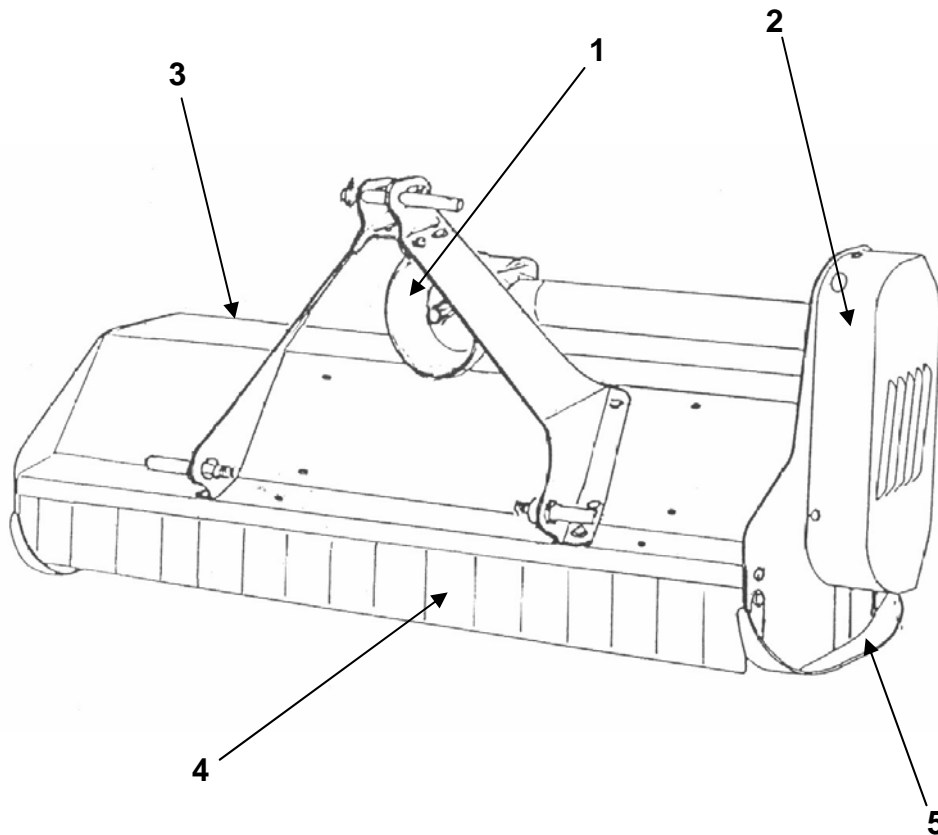
- In transport, reduce speed, especially on bumpy roads. The weight of the mower may make driving difficult and damage the mower itself.
- Check that the levers that operate the hydraulics are locked, to avoid the lowering of the machine during transport.
- When driving on public roads, respect all road rules.
- Never transport the mower with the rotor moving.

3.3 Safety Rules during use

- Pay special attention when working to avoid fixed objects, such as road drain covers, walls, shafts, kerbs, guard rails, tracks etc. These could cause the breakage of the flails, debris from which would be thrown at very high speed.
- If wires, ropes or chains should get entangled in the rotor, stop immediately, to prevent damage or dangerous situations; stop the rotor and the tractor, take out the starting key. Put working gloves on; clear the rotor with the aid of pliers or shears. Do not try to disentangle by reversing the rotor to clear itself.
- Do not use the machine when there is vibration in the flail head, as this could cause breakage or serious damage. Stop the machine and investigate the cause of the vibration.

3.4 List of Guards fitted to the Mower (see diagram below)

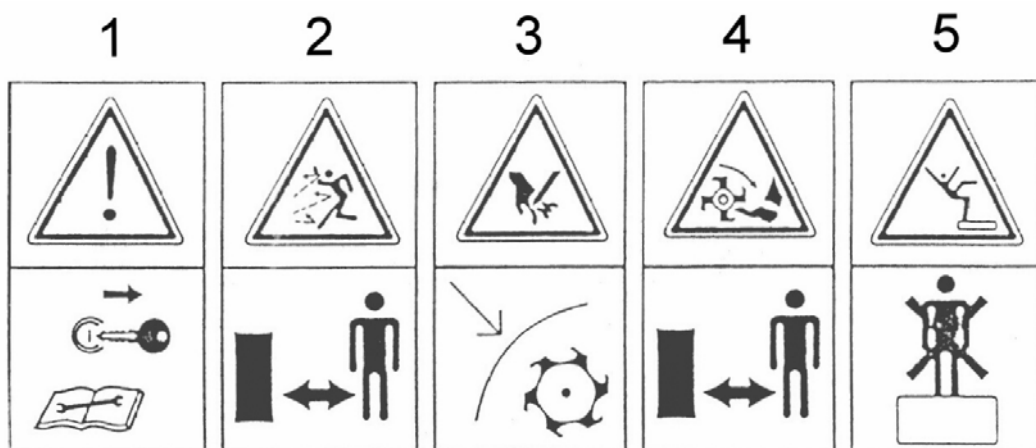
1. PTO shaft guard
2. Belt guard
3. Danger and warning decals
4. Front guard
5. Side guard-skids



3.5 Description and Location of Safety Decals

Carefully follow the instructions given on the decals (*see illustrations below*).

- 1 Always remove the ignition key and read the instructions carefully before starting servicing and/or maintenance operations.
- 2 Keep bystanders at a safe distance from the machine to avoid the risk of flying of objects.
- 3 never remove the guards while the parts of machine are moving. It is dangerous and may cause injury.
- 4 Keep at a safe distance from the machine to avoid the risk of injuring feet.
- 5 It is forbidden to ride or travel on the machine because of the risk of falling or injury



4. INSTALLATION AND HANDLING

4.1 Lifting and Moving

To move the mower use a fork lift truck with a lifting capability suitable for the weight of the machine (*see technical specifications on page 5*).

4.2 Unpacking

To make transport easier, the machine can be supplied with the A frame removed. In this case use the bolts, locknuts and washers supplied to fix the frame and the brackets on the machine.

4.3 Attachment To and Removal from Tractor

Before carrying out this operation and whenever the mower is used, it is mandatory to:

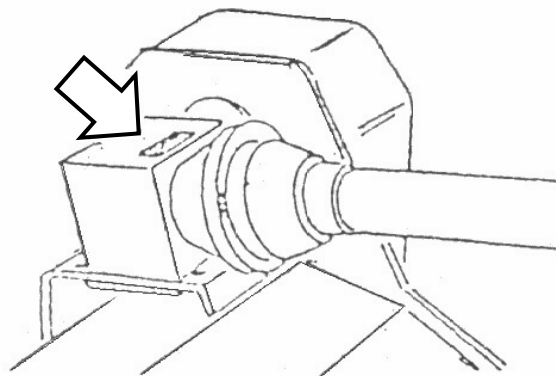
Visually check the machine in general for damage

Check that all guards are fitted and in good condition.

Check that all flails are in place and in good condition.

Grease the bearings and any other part as indicated by the decal.

Check that the number of revolutions and the rotational direction of the power takeoff correspond to those required by the machine (*see diagram below*).



To attach the machine to the tractor: (see illustration below)

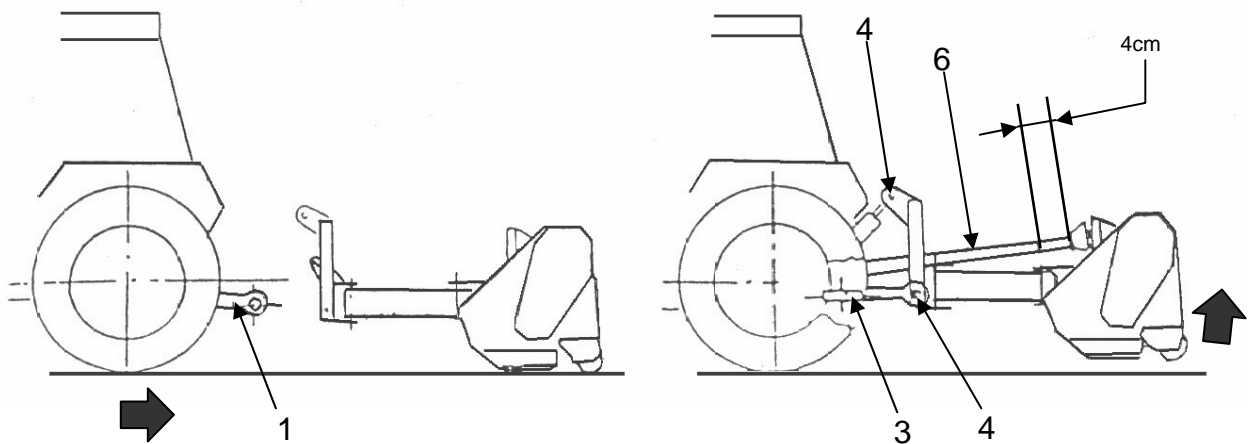
Position the tractor lower links (1) near the machine, in line with the pins.

Insert the pins (2) and secure them with the spring clips (3).

Fit the top link (4), and raise the machine to a position parallel with the ground.

Adjust the two-tractor lower linkage stabilisers (3) thus fixing the machine to the tractor in a central position.

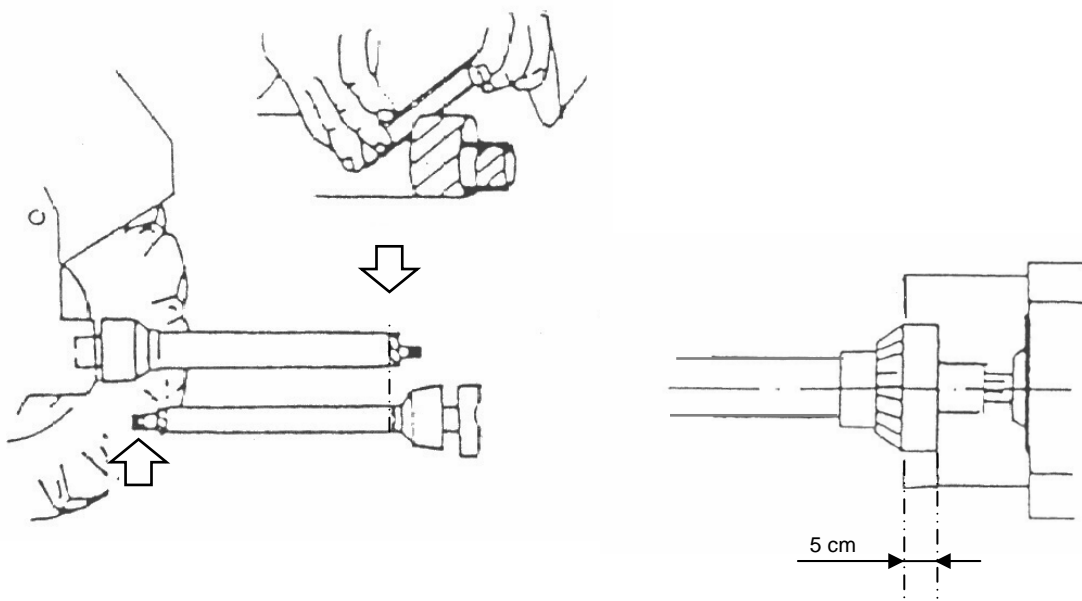
Proceed in reverse order to detach the mower from the tractor.



4.4 Fitting the PTO shaft

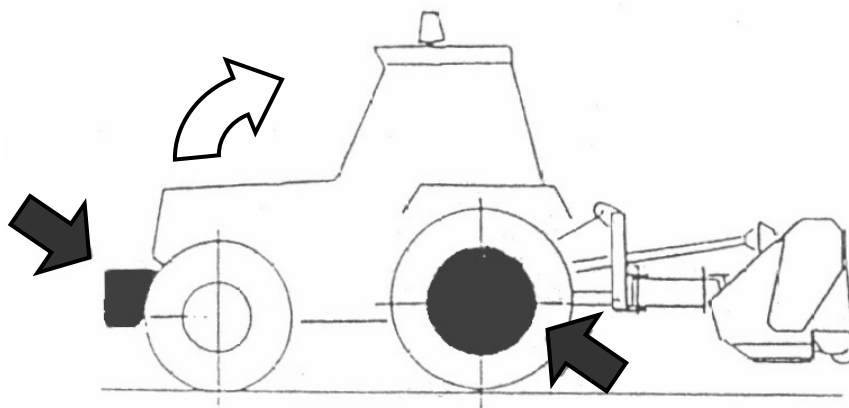
Follow the Instructions in 4.3 then assemble the PTO shaft (6) and check that the overlap is not less than $\frac{2}{3}$ of L. Be sure to keep a 4 cm backlash (see illustration above) if it needs shortening, proceed as shown below (see illustration).

The guards of the PTO shaft must be fixed to the machine and to the tractor with chains, to prevent rotation. The minimum overlap of the guard and the PTO shaft must not be less than 5 cm. (see illustration below).



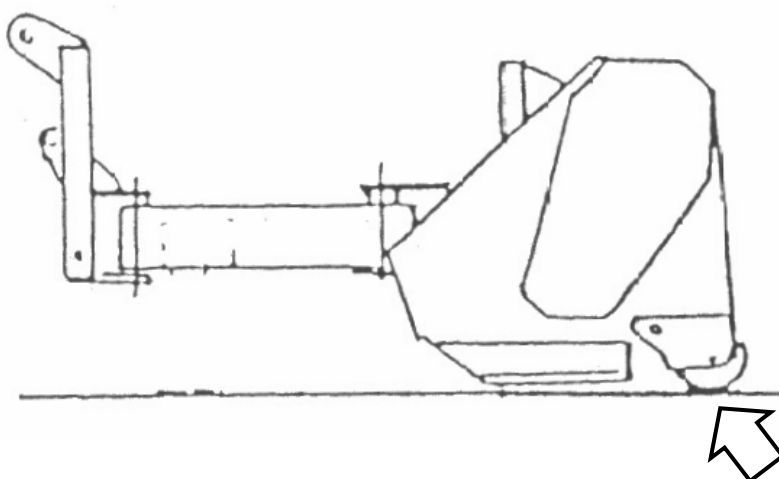
4.5 Tractor Stability

Due to the design of the mowers and the work they do, it is essential to ensure tractor stability, in order to eliminate any risk of overturning. Lift the machine and check that the tractor is stable. Ballast the rear wheel of the tractor opposite to the offset of the mower (if necessary) and at the front of the tractor (see *illustration below*).



4.5 Parking

Park the machine in a safe place on flat and firm ground in order to prevent the risk of rolling over. Lower the mower to the ground with the aid of the tractor hydraulics. (See *illustration below*).

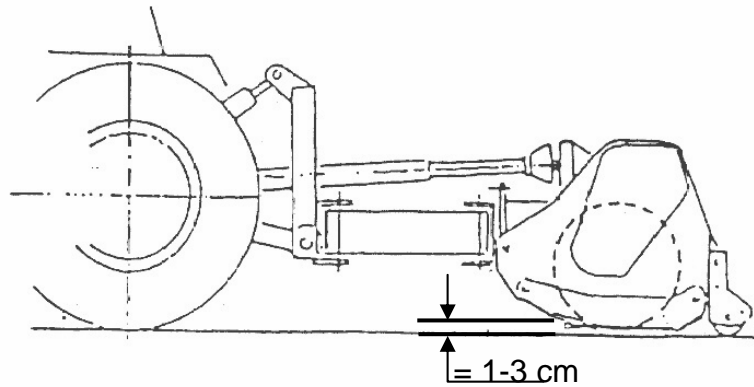


5. ADJUSTMENT AND SETTING UP

5.1 Adjustment

Adjustment of the height of cut is obtained by moving the rear roller in order to suit the material to be cut (*see illustration below*). Do not adjust the height with the top link.

IMPORTANT: Flails must never touch the ground.



6.USE AND OPERATING INSTRUCTIONS

6.1 Starting

Before using the mower check the tightness of all bolts and the condition and security of all guards. Check that the number of revolutions and the rotational direction of the power takeoff of the tractor correspond to those required by the machine. Refer to decal on the gearbox (see *page 9*). Engage the PTO at low engine RPM to avoid damaging the transmission gearbox and belts.

6.2 Working Mode

Adjust the machine to suit the type of work to be done and the material to be cut: adjust the height of cut, as shown (see *illustration on page 12*).

Working speed is chosen to suit the material to be cut and the degree of shredding required. The optimum speed ranges from 3 to 8 km per hour.

IMPORTANT: if you want to adjust the machine from the central to an offset position proceed as follows:

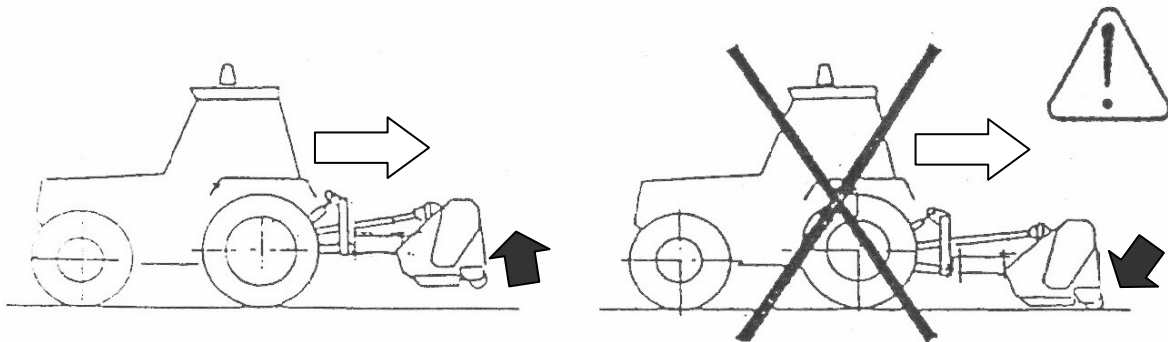
Remove the A frame.

Drill the holes on marked points. (*Upper cover already has got the holes*).

Put the A frame in the new position.

Tighten the screws.

IMPORTANT: When reversing lift the machine off the ground to avoid damage.



6.3 Stopping

Lower the machine to the ground.

Stop the tractor, take out the starting key and apply the hand brake.

Disconnect the power takeoff.

If the ground is sloping, block the tractor wheels.

6.4 Transport Position

For transport it is mandatory to:

Observe all road transport requirements and note the necessary warning signs.

Reduce speed especially on bumpy roads, The weight of the machine may render driving difficult and damage the machine itself.

The power take off must be disconnected.

IMPORTANT:

During transport on bumpy roads it is mandatory to move the machine into the central position.

7. MACHINE MAINTENANCE

7.1 General

All maintenance, cleaning and repair operations must be carried out with the mower firmly lowered to the ground and detached from the tractor, or with the PTO, disconnected and the tractor engine switched off and starting key out.

After the first two hours operation from new (or after fitting new belts) check belt tension.

Regularly and after every 8 hours of machine operation:

Tighten bolts and nuts.

Check wear and condition of flails.

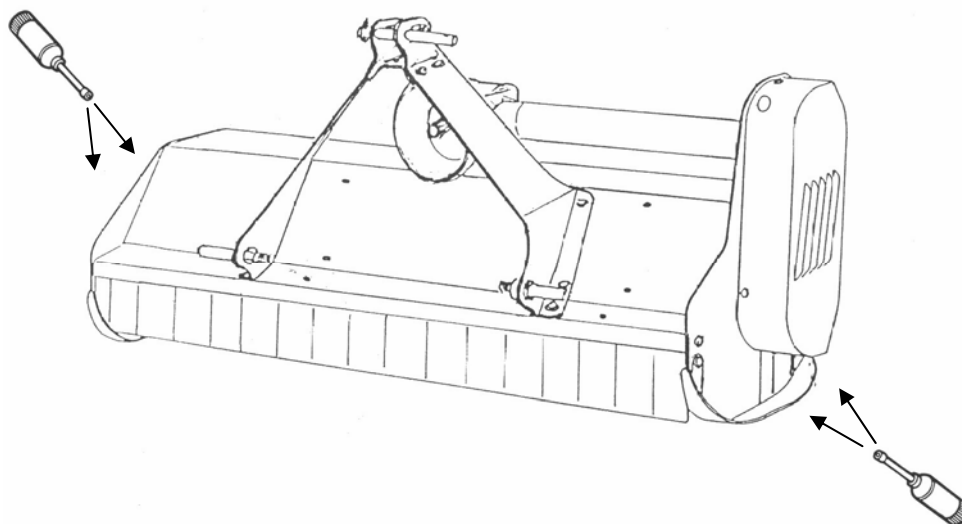
Check the safety guards.

Check belt condition.

Visually check the frame to detect possible damage caused by earlier work.

Check gearbox and oil levels.

Grease the parts indicated on the appropriate decal. (*See below*).



Every
hour's

operation grease the moving parts of the PTO shaft, extracting the two parts of the shaft.

At the end of each working day or when storing the machine remove mud or other material from the cowl and rotating parts (bearing, pins etc.) in order to avoid rust and possible seizure. Fully grease the machine as described above.

After long periods of inactivity, repeat the operations above before using the machine.

Use grease classification DIN 51825 (KR 2 K)

For gearbox use compatible oils - classification ISO VG 220

7.2 Trouble Shooting Chart

PROBLEM	CAUSES	REMEDIES
Irregular cut	- Worn, bent or broken flails. - Machine is not in level with the ground. Clogged material due to excessive working speed.	- Replace. - Level. - Reduce working speed.
Machine noise	- Loose bolts. - Cracks or initiation of flail head.	- Tighten bolts. - Have it repaired in specialized workshops.
Gearbox noise	- Lack of oil. - Worn gears. - Worn bearings.	- Fill to level. - Replace. - Replace.
Vibration	- Broken or worn flails. - Unbalanced rotor. - Worn rotor bearings.	- Replace. - Replace in authorized workshops.
Premature flail wear	- Flails touching the ground.	- Adjust the height of cut.
Excessive backlash in joints	- Worn pins.	- Replace.
Breakage of roller bearings	- Violent impact on the ground when the machine is lowered. - Dirty or little greased bearings.	- Lower it gently. - Clean and grease.
Belts overheating	- Flails touching to the ground. - Working speed unsuitable to the amount of the material to be cut.	- Adjust the height of cut. - Reduce speed.

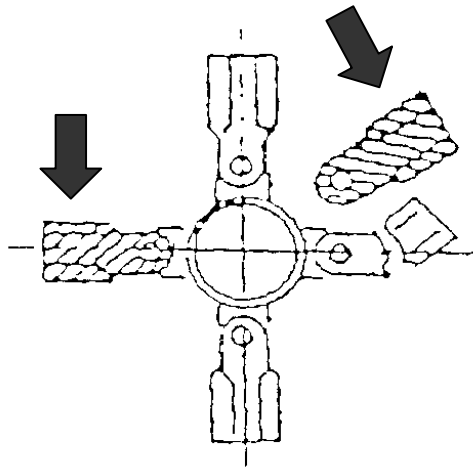
7.3. Replacing Parts

Before carrying out any work, it is mandatory to:

- Lower the machine to the ground
- Disconnect the power takeoff, stop the tractor and take out the starting key.
- Wear working gloves

7.3.1 Flail replacement

When the flails are worn, they must all be replaced. In case of a partially broken flail it is advisable to replace the broken one and the one diametrically opposite, in order to maintain the balance (*see illustration on page 17*).



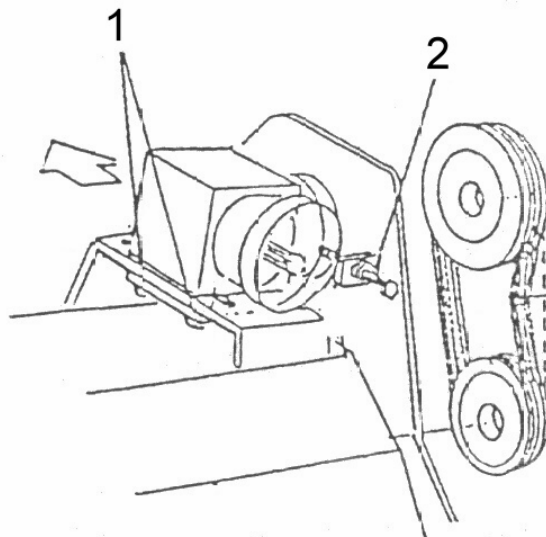
7.3.2 Belt Replacement

This operation must be carried out with the machine resting on the ground, the power take-off disconnected and the starting key out.

Remove the belt guard, slacken the screws (1) (see diagram below),

Unscrew the adjuster (2), remove the belts and replace them with identical ones (dimension and type).

IMPORTANT: more complex operations must be carried out in authorised workshops.



8.1 Safe Disposal of Machine

When the machine is at the end of its useful life and beyond economical repair it should be disposed of in a safe and proper manner. The materials forming the machine that have to be separated are:

Steel

Mineral oil

Rubber

Plastic

Disposal of the above materials must be in accordance with current local legislation

For best performance...

USE ONLY GENUINE SERVICE PARTS

To be assured of the latest design improvements purchase your 'Genuine Replacements' from the Original Equipment Manufacturer through your local Dealer or Stockist.

Always quote:

- *Machine Type*
- *Serial Number*
- *Part Number*

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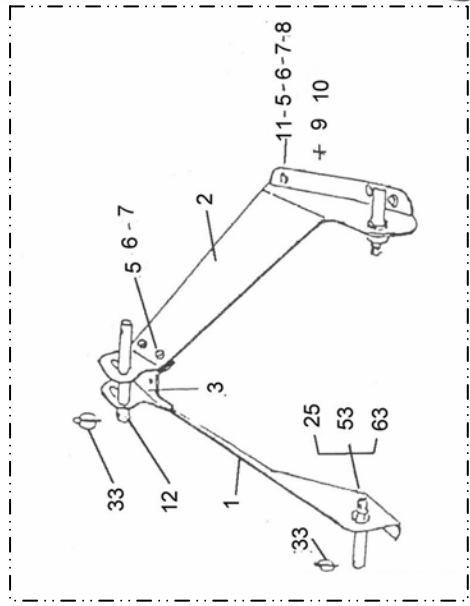
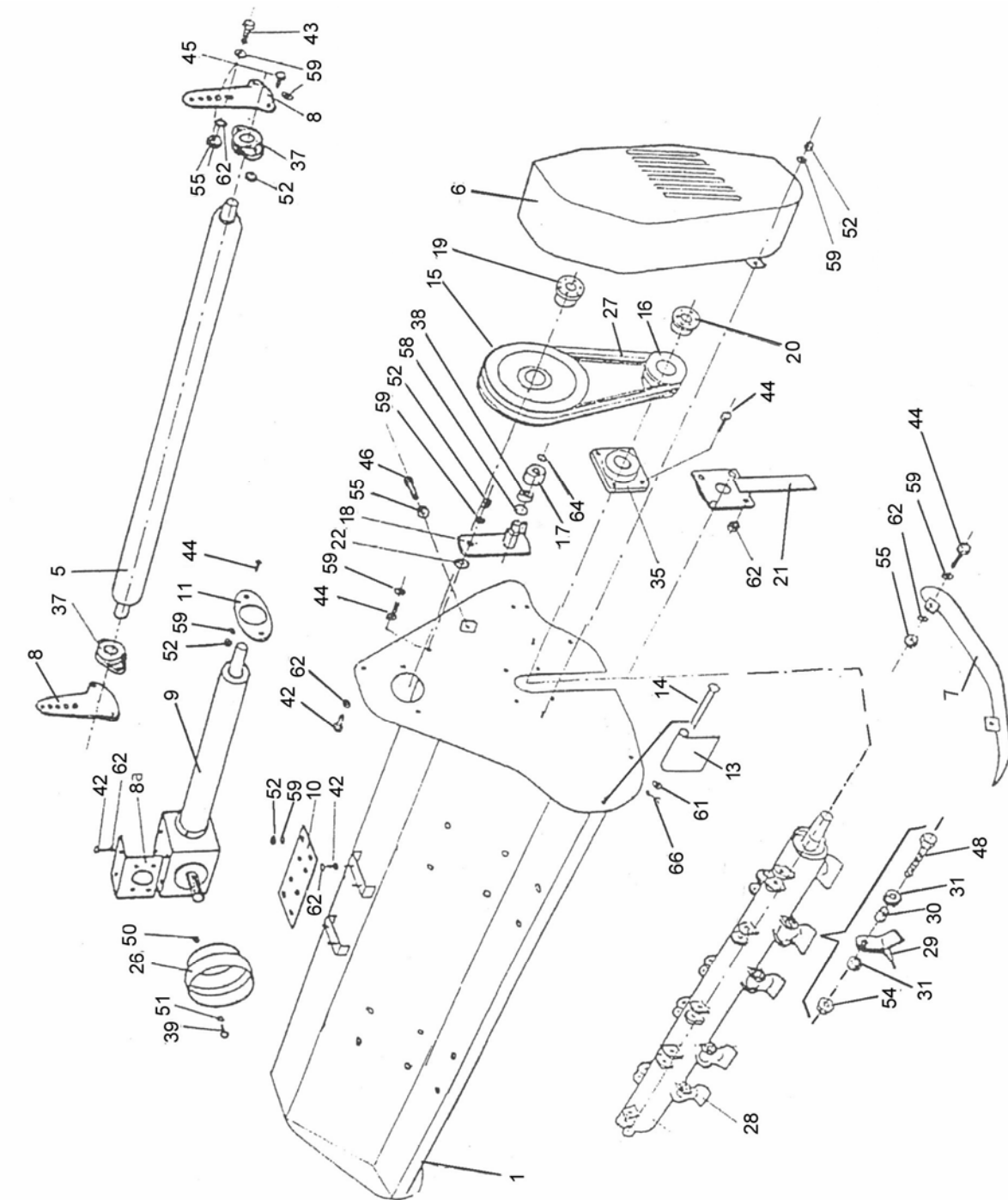
REPLACEMENT PARTS

1001

Replacement Parts Section
Design Improvements may have altered some of the parts listed in this manual – The latest part will always be supplied when it is interchangeable with an earlier one.

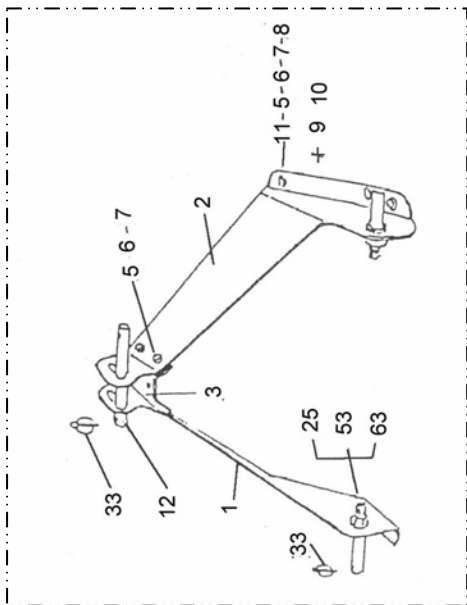
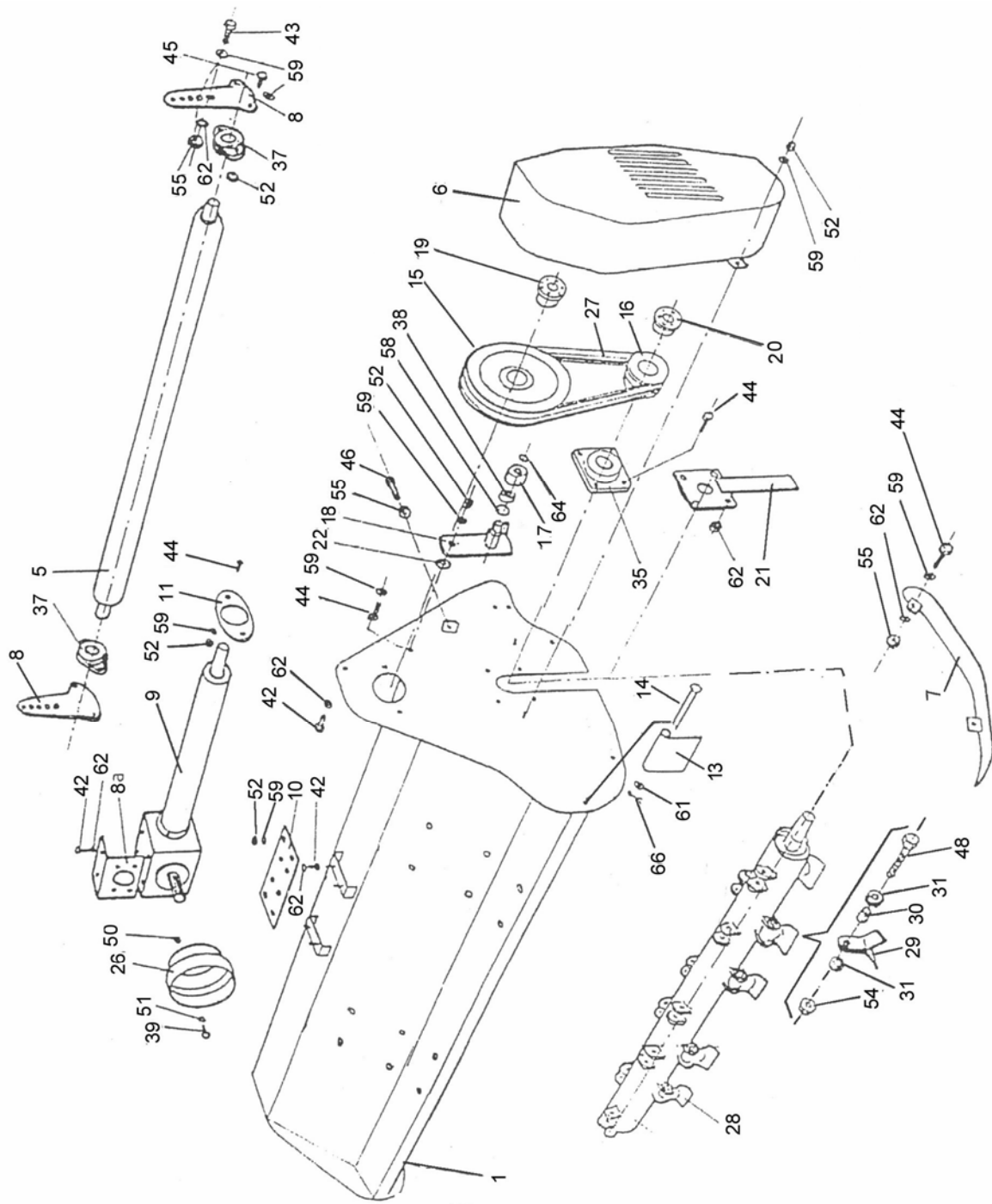
11 Parts Lists

<i>Nr.</i>	<i>Description</i>	Code	105	115	130
1	Frame 105	10291	1		
	Frame 115	10292		1	
	Frame 130	10293			1
2b	A Frame c/plete-2001	15119	1	1	1
4	Rotor 105	10433	1		
	Rotor 115	10434		1	
	Rotor 130	10435			1
5	Roller rear 105	10454	1		
	Roller rear 115	10455		1	
	Roller rear 130	10456			1
6	Belt shield	10461	1	1	1
7	Skid left	10467	1	1	1
	Skid right	10468	1	1	1
8	Roller Bracket	10445	2	2	2
8a	PTO shield holder	10510	1	1	1
9	Gearbox	10468	1	1	1
10	Drive plate	10460	1	1	1
11	Drive flange	10472	1	1	1
13	Flap	11436	5	6	7
	Flap	10473	2	2	2
14	Flap rod 105	10477	1		
	Flap rod 115	10478		1	
	Flap rod 130	10479			1
15	Pulley 200	10504	1	1	1
16	Pulley 90	10505	1	1	1
17	Idler pulley	10542	1	1	1
18	Belt tensioner	10359	1	1	1
19	Elve clutch 25	12207	1	1	1



Parts List

<i>Nr.</i>	<i>Description</i>	Code	105	115	130
20	Elve clutch 30	12208	1	1	1
21	Rotorflange	10419	2	2	2
22	Washer 10	10509	1	1	1
23	Distance sleeve	10355	1	1	1
24	Pivot pin 19	10357	1	1	1
25	Pivot pin 24	10940	2	2	2
26	Shaft shield	15104	1	1	1
27	Belt	10507	2	2	2
28	Hammerblade	12052	14	16	18
29	Y blade	10867	28	32	36
30	Y blade sleeve	10770	14	16	18
31	Y blade distance sleeve	10771	28	32	36
33	Safety pin 10	11618	3	3	3
35	Bearing with casing 16206	10783	2	2	2
37	Bearing with casing 16205	11641	2	2	2
38	Bearing 6204	10379	1	1	1
39	Bolt 8/15	11624	4	4	4
42	Bolt 10/20	10257	7	7	7
43	Bolt 10/25	10511	4	4	4
44	Bolt 10/30	10259	15	15	15
45	Bolt 10/40	11701	4	4	4
46	Bolt 10/60	10263	1	1	1
47	Bolt 12/30	10998	2	2	2
48	Bolt 14/80	10243	14	16	18
49	Bolt 14/90	11838	1	1	1
50	Nut 8	10543	4	4	4
51	Washer 8	10218	4	4	4
52	Locknut 10	10202	13	13	13
53	Locknut 12	10203	2	2	2
54	Locknut	10204	1	1	1
55	Nut 10	10189	5	5	5



Parts List

<i>Nr.</i>	<i>Description</i>	Code	105	115	130
56	Nut 24	11886	2	2	2
58	Slide piece	10406	1	1	1
59	Washer 10	10219	17	17	17
60	Washer 12	10220	2	2	2
61	Washer 14	10221	2	2	2
62	Spring washer 10	10232	23	23	23
63	Spring washer 24	11631	2	2	2
64	Slide piece	11653	1	1	1
66	Split pin	10449	1	1	1

Connecting bow cpl./2001

<i>Nr.</i>	<i>Description</i>	Code	105	115	130
1	Bow – right	15109	1	1	1
2	Bow – left	15110	1	1	1
3	Centre bracket	15113	1	1	1
5	Bolt 12/35	10270	4	4	4
6	Locknut 12	10203	4	4	4
7	Washer 12	10220	14	14	14
8	Spring washer	10233	6	6	6
9	Locknut 12	10203	6	6	6
10	Washer 12	10220	6	6	6
11	Bolt 12/30	10995	6	6	6
12	Pivot pin connect 19/25	10991	1	1	1

76.754.01 MISCILLANIOUS PARTS

Part No.	Description	Qty
05.774.07	SERIAL NUMBER PLATE	1
05.227.01	HAMMER DRIVE SCREW	4
43604.01	DECAL – TURBOMOWER	1
43604.02	DECAL – 1300	1
45645.02	DECAL – BOMFORD	1
45846.01	END COVER (Rotor Shaft Non Drive End)	1
7490250	PTO ASSEMBLY	1