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OPERATING INSTRUCTIONS

The MOTY-COMBI is a multi-purpose unit, equipped with 2 speed reversing gear, turnable drive handlebar and main closing device. The unit can be equipped with additional working units as: mowing unit, lawn mower, double lawn mower, rotary snow disposer, snow plough, rotary tiller, cultivator etc.

BASIC UNIT

MOTOR

The unit is provided with a Rotax two-stroke engine 8 hp/5.9 kW or 12 hp/8.8 kW or with a MAG four-stroke engine 9 hp/6.6 kW. Before starting the engine, carefully read the supplied manual in which you will also find the maintenance instructions.

CHASSIS

The power is transmitted from the motor to the gear by the multiple plate clutch which is operated by the clutch lever on the left handlebar. The gear operates as reversing gear, that means operating forward and backward with two speeds each. The power take-off shaft can be connected at both speeds and has the same direction of rotation driving either forward or reverse. The power is transmitted to the wheels by a worm gear with automatic brake, which means, when changing gears on a slope, full braking capacity is effected. Therefore a separate brake was not necessary.

Note: On a slope the power transmission to the wheels must not be disconnected with lever No. 2, or otherwise the automatic brake will not function.

MAIN CONNECTION DEVICE

The main connection device permits a quick change of working units. The connection between working units and power take-off is effected by a spring operated adjustable eccentric lock to guarantee a tight fit. This considerably prolongs the service-life.

DRIVE HANDLEBAR

The handlebar with its rubber shock absorber is smoothly adjustable to the sides and height. Loosen clamping screw No. A — adjust to required tight-tighten clamping screw. By loosening the clamping-screw Nr. B the handlebar can be adjusted to the left or right or turned by 180° to work with the rotary tiller.

Note: Take care not to damage the cables and shift cables which run through the clamp when turning the handlebar. Remember to always tighten the clamping screws.

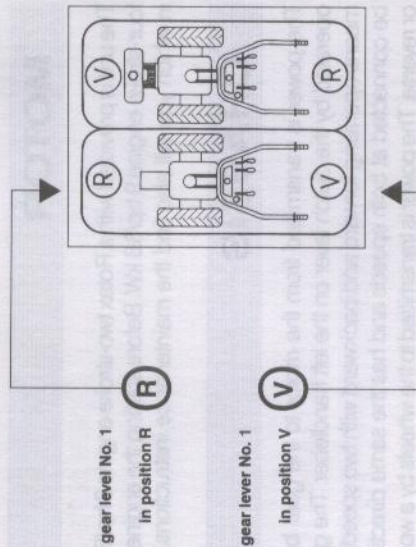
GEARING

Gear lever No. 1 forward — stop — reverse
 Gear lever No. 2 wheels on — off
 Gear lever No. 3 1st gear — 2nd gear
 Gear lever No. 4 power take-off on — off

FORWARD- AND REVERSE DRIVE

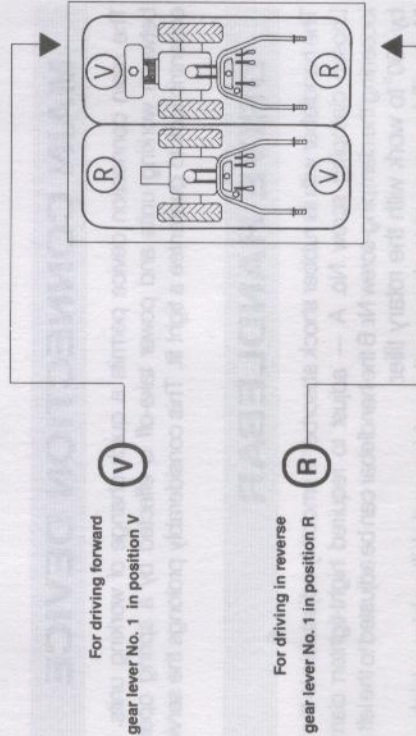
If the machine is equipped with frontal units as for example cutterbar, lawn mower, rotary snow disposer etc. watch the LEFT SIDE instruction stick-on label (engine to the rear, working unit to the front)

For driving in reverse:



For driving forward

When using rear units as: rotary tiller, ridge plough etc. the handlebar must be turned by 180°, watch the RIGHT SIDE instruction stick-on label (engine to the front, working unit to the rear)



ATTENTION: When driving in reverse with the rotary tiller for reason of safety the power take-off must be switched off!

WHEELS

The machine is equipped with tires 4,00 — 8. By adjusting the wheels the width of the track can be changed. Make sure to mount the wheels with the arrow mark on the tire in the right position. The round notch on the axle must match the one on the hub. In both tires the pressure should be 1.5 bar (atü). Additional grid wheels and rubber wheels may be mounted.

MOWING UNIT

The mowing unit is attached to the chassis by quick action coupling.

KNIFE HEAD

The front rocker transmits the power to the mowing knife via an adjustable knife head. The play between the rocker and the knife head adjusting screw should be as little as possible (0,2 — 0,4 mmtrs.) It must be checked and reset after each knife change by loosening both locking screws 9, set play by tightening adjusting screw 10, then tighten the locking screws.

FINGER BAR

Finger bars are available in the models: mediumcut, mediumcut with mountain finger (tyrolfinger) or taifun in the widths 1.2 mtrs., 1.4 mtrs. or 1.6 mtrs. The taifun bar operates with far less clogging because of the wider distance between the fingers (3 inches).

MAINTENANCE

Every time after using the finger bar, it should be washed (idle wheels and allow knife to run slowly, while spraying water). Then oil knife wearing plate.

KNIFE CHANGE

Unscrew the two knife head screws and pull knife out sideways. When grinding the blades make sure that the grinding angle is correct and that the blade edges do not get overheated. If the blades have come loose, fix them with rivets before grinding. When the new knife is inserted, the blades must rest precisely on the finger plates, otherwise adjust knife guides. Tighten adjusting screw 11, the knife guide will then press against the knife. After adjusting, the knife head be sure that the knife head snug bolt snap into the grooves on the knife back. Tighten the knife head screws very fast and retighten after mowing for 15 to 30 minutes.

CUTTING HEIGHT

The cutting height is adjusted by lifting or lowering the lateral slip heels.

MULCHING BAR DOUBLE KNIFE BAR

The mulching bar holds a particular advantage in that it works without getting clogged, and it is therefore used for difficult tasks, for instance, mowing in orchards or vineyards, in cultivated areas where the grass is allowed to rot, and for municipal applications. Careful cleaning after each use is essential (spraying with water)

KNIFE CHANGE

TOP KNIFE:

loosen the two knife head screws and pull out knife sideways.

BOTTOM KNIFE: loosen the 4 (resp. 6) locking screws on the bottom part of the bar and pull out knife sideways. If the blades have come loose, fix them with rivets. Straighten any blades that are bent. When grinding, make sure grinding angle is correct, do not overheat the blades. On mounting the top knife it is important that the blades are positioned precisely above the bottom knife. If this is not correct, adjust knife guides by tightening screw 11. The top knife must still move easy back and forth.

OIL CHANGE — LUBRICATION

The 6 lubricator nipples on the shift cables must be greased twice a year. The lubricator nipple on the main connection device and the 2 nipples on the mowing bar drive are to be greased after every 20 working hours.

GEAR OIL

The gear oil (SAE 90) is first to be changed after 50 working hours and then once a year.
Oil drain screw No. 6
Refill screw No. 7
Oil level control screw No. 8
Fill up with oil until it runs out of control screw hole, the machine standing level.

MOTOR OIL

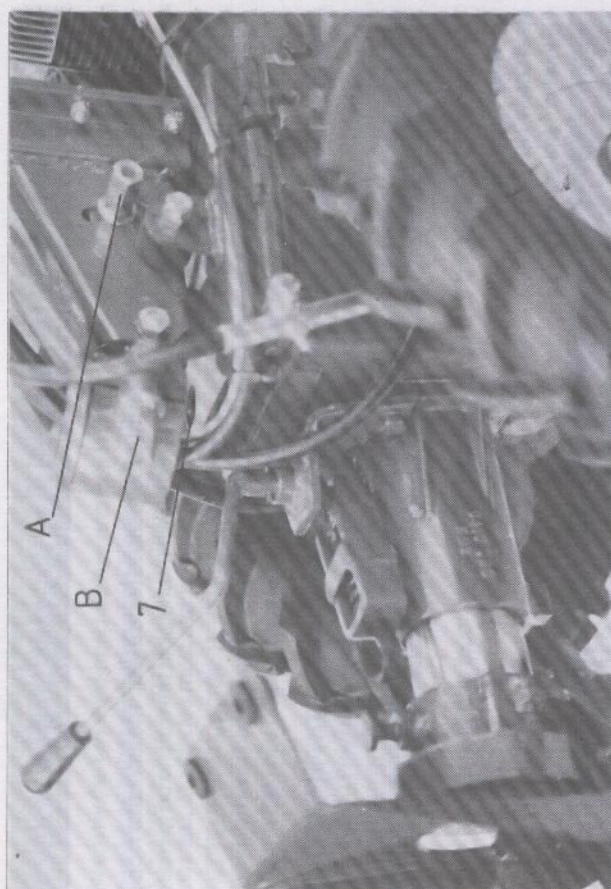
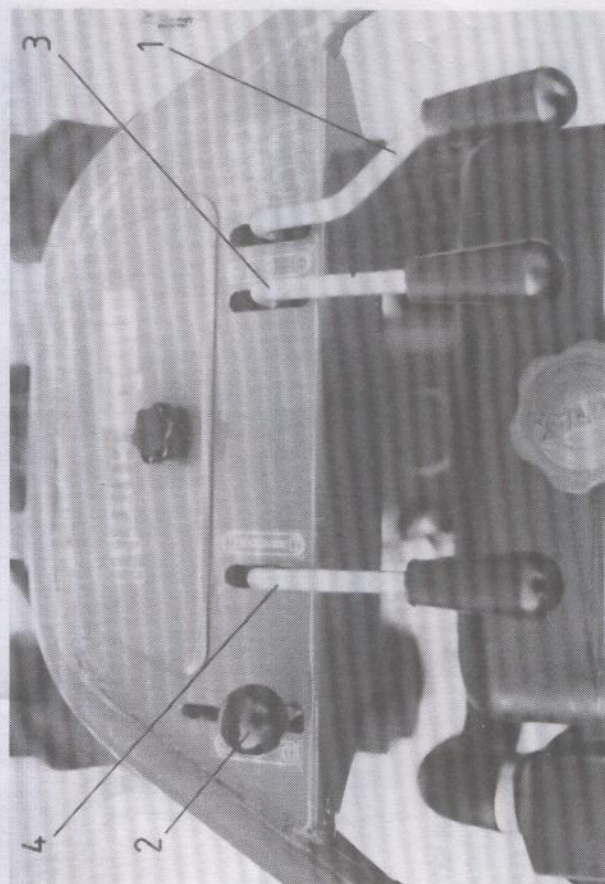
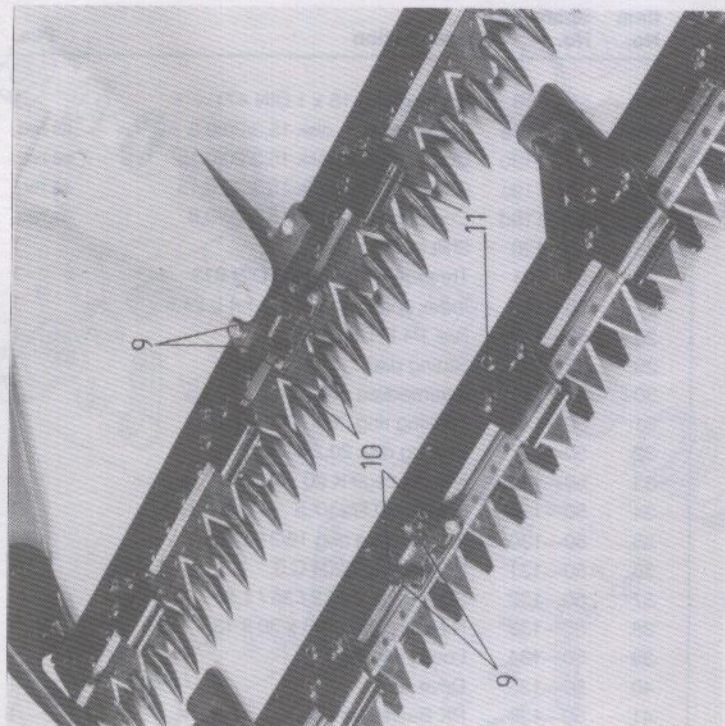
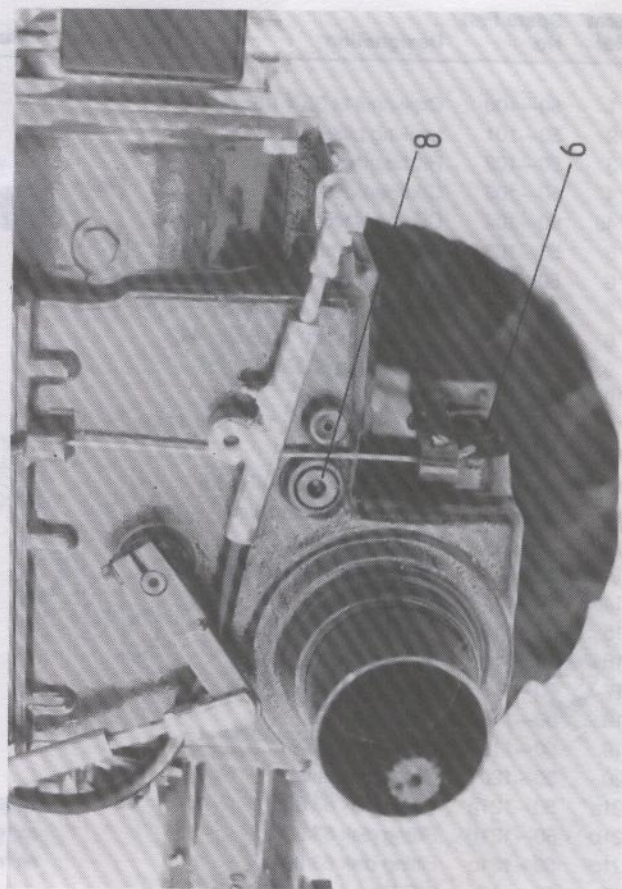
Only MAG 4 stroke engines need oil change according to motor manual.

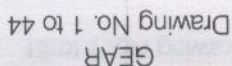
OIL BATH AIR FILTER

Check daily for contaminants, if necessary, change oil (SAE 90).

WINTERING

Clean unit thoroughly, replace defective parts, preserve motor as prescribed in relevant instructions, grease, change oil, oil mowing gear parts lightly.





PCS.

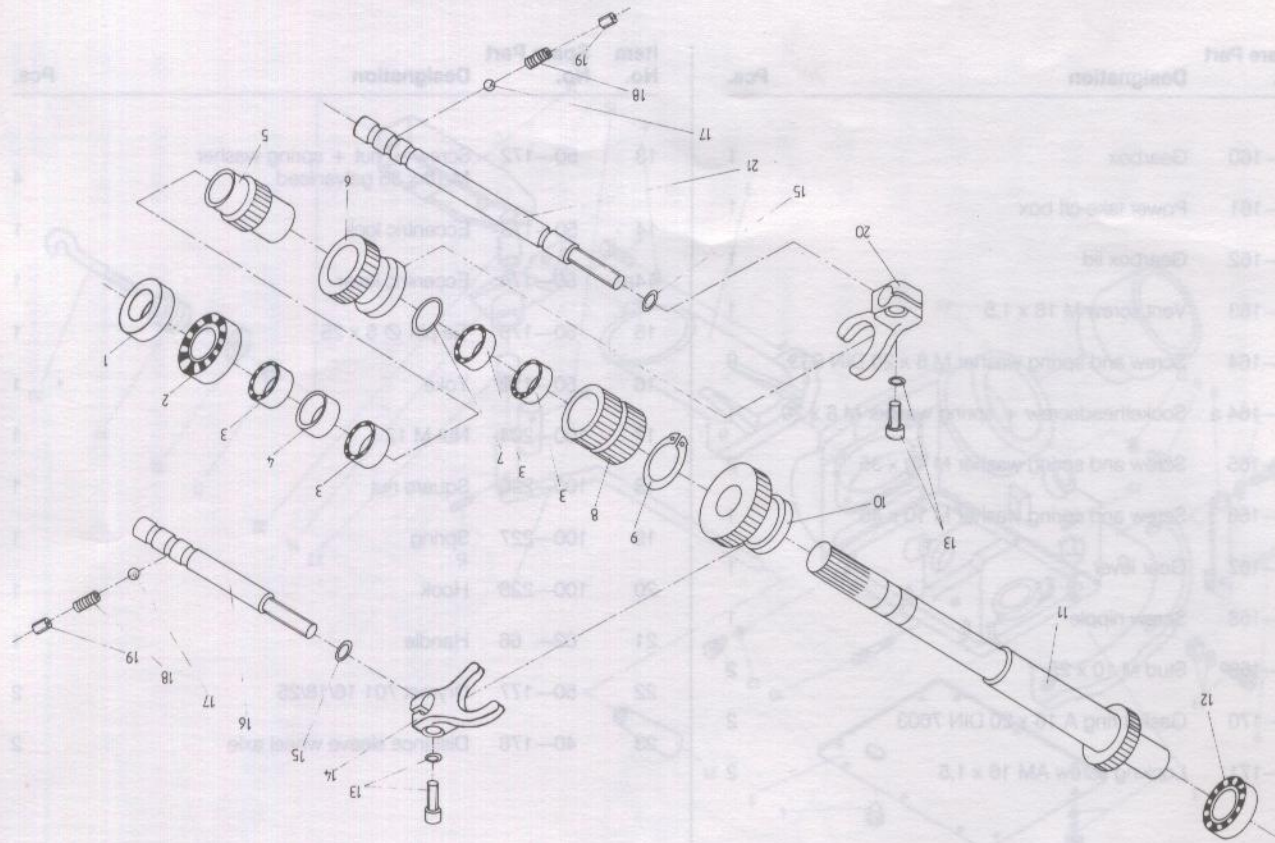
Item No. Spare Part Designation Pcs.

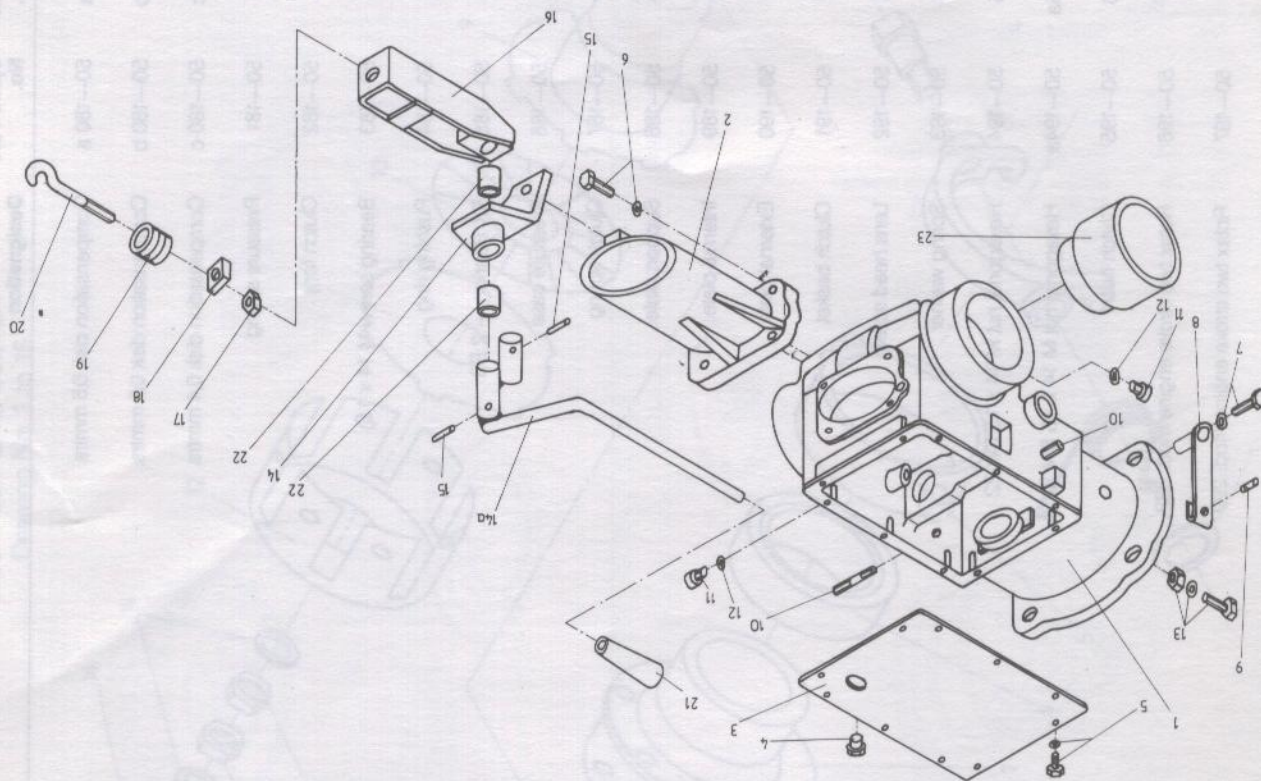
1	50-140	WD Ring AS 25 x 40 x 7	1
2	50-136	RK Bearing 6005 C 3	1
3	50-141	Needle cage K 25 x 30 x 17	4
4	50-142	Spacer 25,2 / 29 / 14,5	1
5	50-143	Loose cog 20 Z	1
6	50-144	Switch wheel 41 Z	1
7	50-145	Starting disk 25,5 / 34 / 1	1
8	50-146	Profile hub	1
9	50-147	Circlip A 45	1
10	50-148	Switch wheel 47 Z	1

Item No. Spare Part Designation Pcs.

11	50-149	Power take-off	1
12	50-136	RK Bearing 6005 C3	1
13	50-150	Cylindr. screw M8 x 25 DIN 912	2
14	50-151	Shift fork	1
15	50-152	O-Ring 9,5 - 1,9 NBR 70-80 SH	2
16	50-153	Switch rod	1
17	50-123	Ball 1/4 III DIN 5401	2
18	50-122	Index spring DM 4,6 L 24,4	2
19	50-121	Threaded pin M 8 x 8 DIN 913	2
20	50-154	Shift fork	1
21	50-155	Switch rod	1

GEAR
Drawing No. 1 to 21



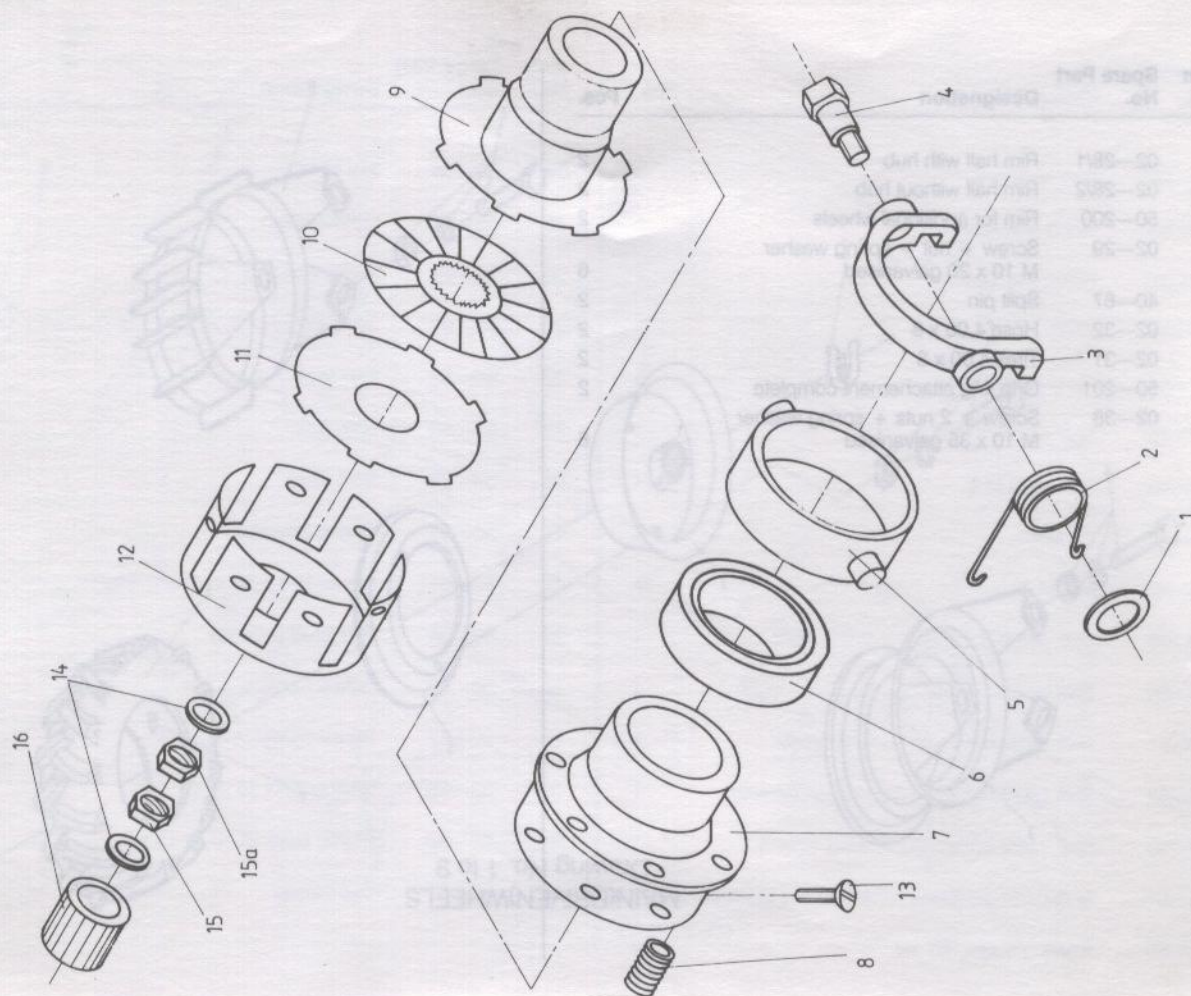


GEARBOX
Drawing No. 1 to 23

Item No.	Spare Part	Designation	Pcs.
1	50-160	Gearbox	1
2	50-161	Power take-off box	1
3	50-162	Gearbox lid	1
4	50-163	Vent screw M 18 x 1,5	1
5	50-164	Screw and spring washer M 8 x 20 DIN 933	9
5a	50-164 a	Sockethead screw + spring washer M 8 x 20	1
6	50-165	Screw and spring washer M 10 x 35	2
7	50-166	Screw and spring washer M 10 x 45	1
8	50-167	Gear lever	1
9	50-168	Screw nipple	1
10	50-169	Stud M 10 x 25	2
11	50-170	Gasket ring A 16 x 20 DIN 7603	2
12	50-171	Locking screw AM 16 x 1,5	2

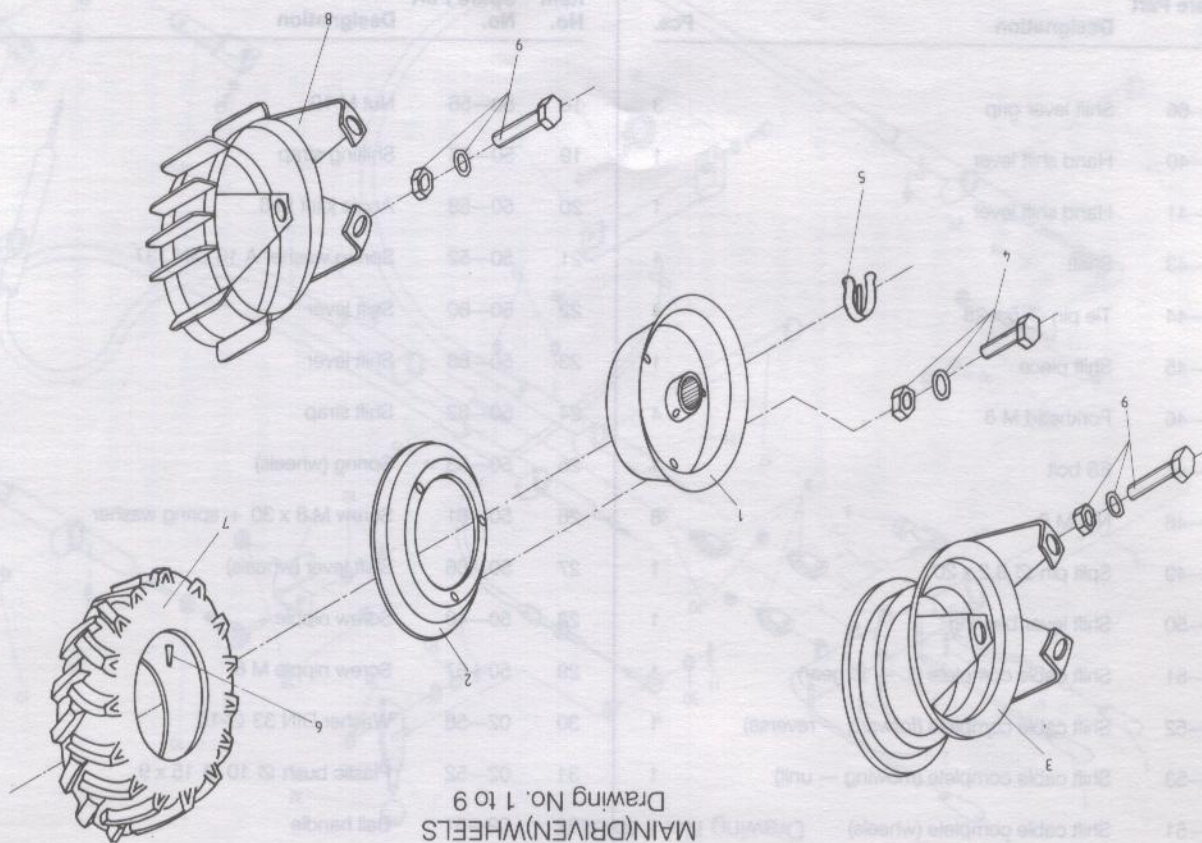
Item No.	Spare Part	Designation	Pcs.
13	50-172	Screw + nut + spring washer M 10 x 35 galvanised	4
14	50-173	Eccentric lock	1
14a	50-174	Eccentric lever	1
15	50-175	Tie pin Ø 5 x 25	1
16	50-176	Yoke	1
17	100-204	Nut M 12	1
18	100-226	Square nut	1
19	100-227	Spring	1
20	100-228	Hook	1
21	02-66	Handle	1
22	50-177	Drymet 701 16/18/25	2
23	40-178	Distance sleeve wheel axle	2

MULTIPLE PLATE CLUTCH
Drawing No. 1 to 16



Item No.	Spare Part No.	Designation	Pcs.
1a	50—180 a	Compensation disk 0.6 mmtrs.	as req.
1b	50—180 b	Compensation disk 0.5 mmtrs.	as req.
1c	50—180 c	Compensation disk 0.4 mmtrs.	as req.
2	50—181	Pressure spring	1
3	50—182	Clutch fork	1
4	50—183	Bearing screw M 14 x 1.5	1
5	50—184	Pushing ring	1
6	50—185	RK Bearing — 2 RS	1
7	50—186	Pressure case	1
8	50—187	Clutch spring	6
9	50—188	Support plate	1
10	50—189	Internal plate	1
11	50—190	External plate	1
12	50—191	Clutch basket	1
13	50—192	Lens head screw	6
14	50—193	Spring washer	2
15	50—194	Hexagonal nut M 14 x 1.5 SW 22	1
15a	50—194a	Hexagonal nut M 14 x 1.5 SW 19	1
16	50—195	Clutch hub	1
50—196		Rotax two stroke engine mod. 232	1
50—197		Rotax two stroke engine mod. 299	1
50—198		MAG four stroke engine mod. 1029 SRL	1

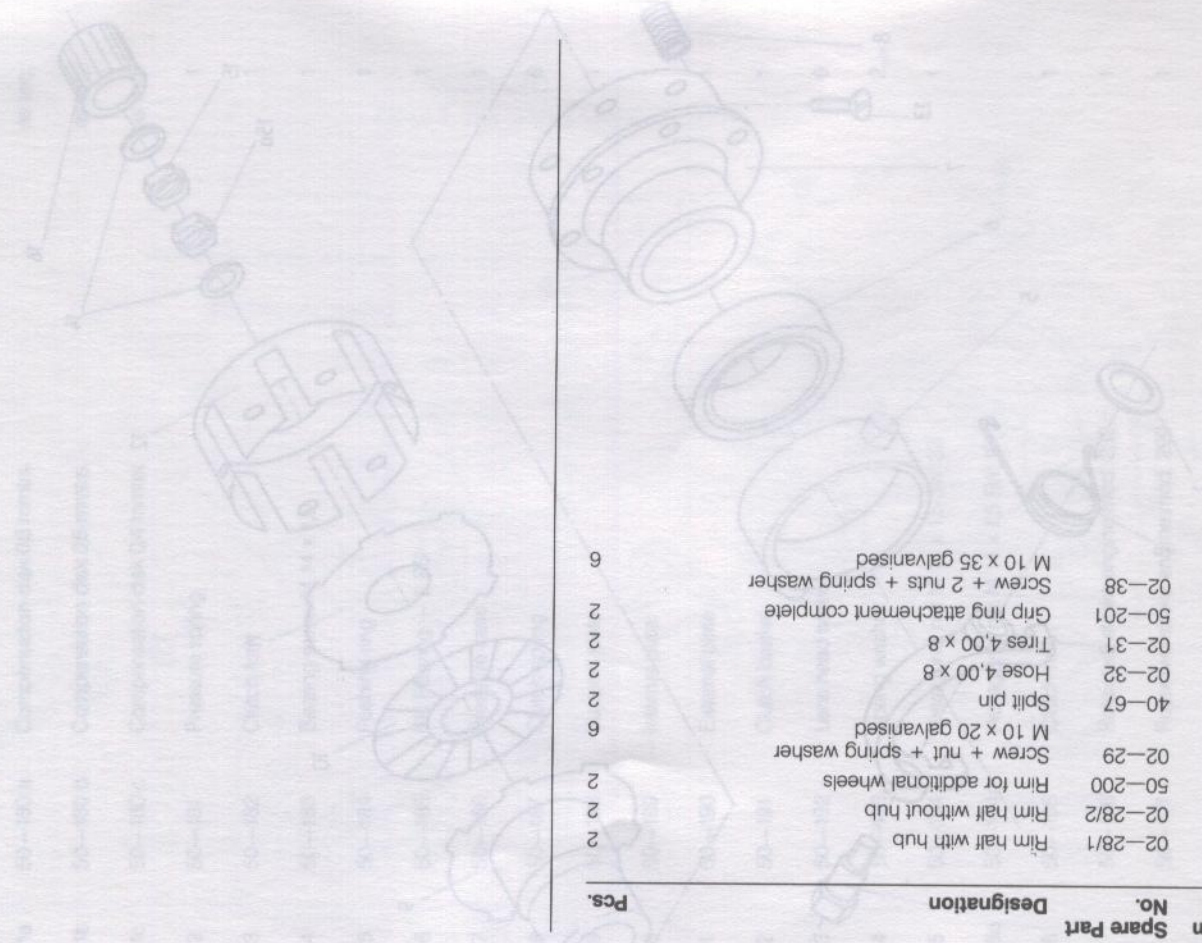
Engine not shown!



Drawing No. 1 to 9
MAIN(DRIVEN)WHEELS

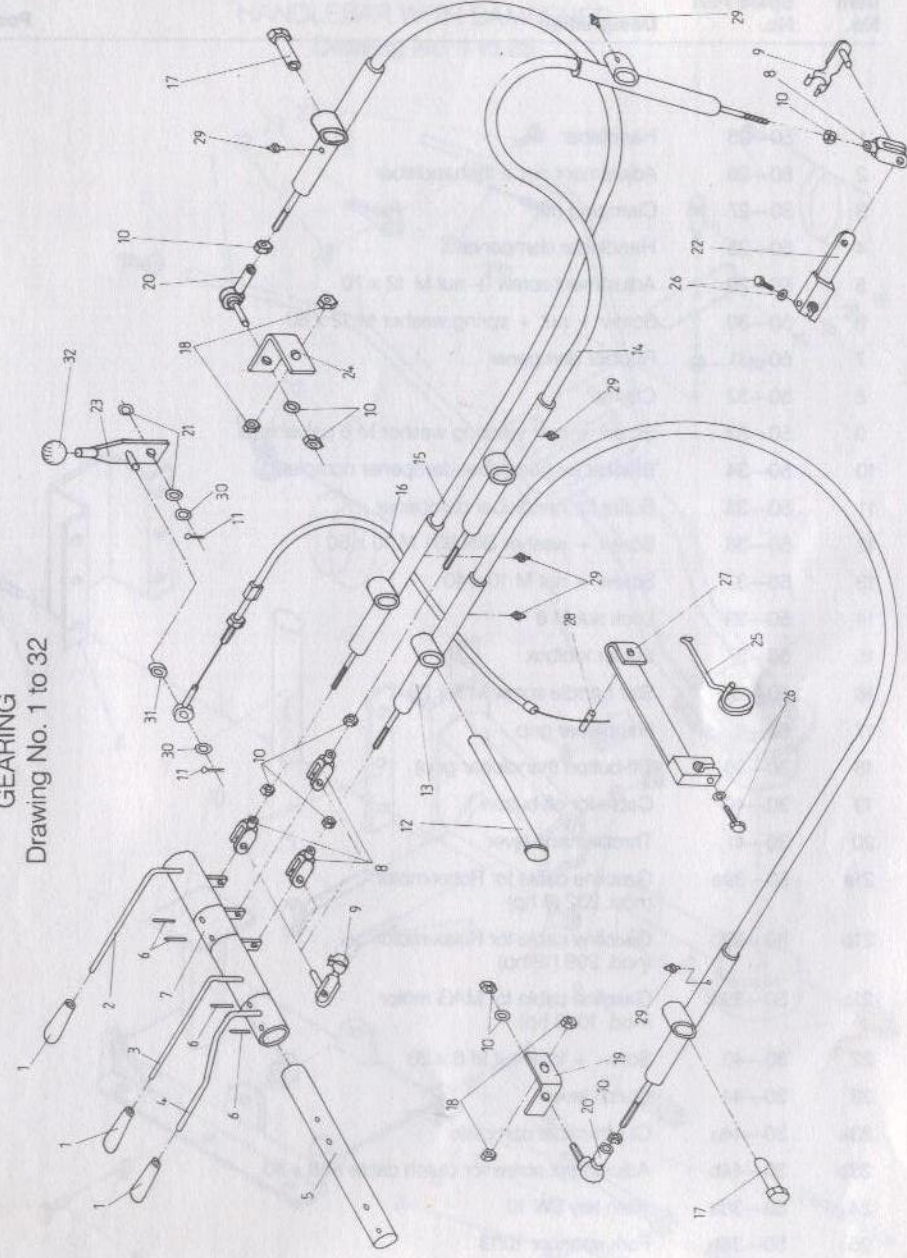
Item No.	Spare Part	Designation	Pcs.
1	02-28/1	Rim half with hub	2
2	02-28/2	Rim half without hub	2
3	50-200	Rim for additional wheels	2
4	02-29	Screw + nut + spring washer	2
5	40-67	M 10 x 20 galvanized	6
6	02-32	Split pin	2
7	02-31	Hose 4,00 x 8	2
8	50-201	Tires 4,00 x 8	2
9	02-38	Grip ring attachment complete	2
		Screw + 2 nuts + spring washer	2
		M 10 x 35 galvanized	6

Drawing No. 1 to 10
MULTIPLE PLY CLUTCH



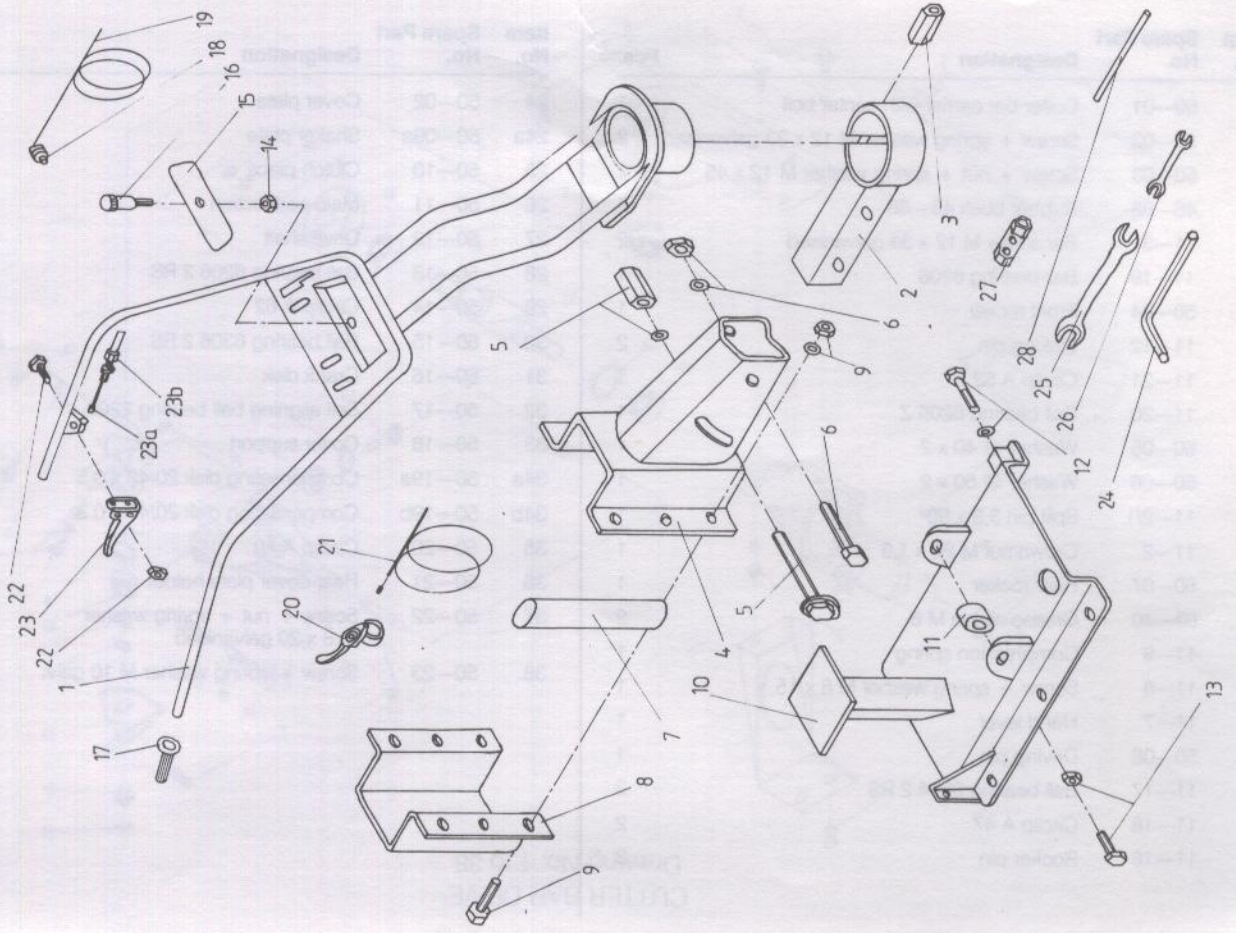
Item No.	Spare Part No.	Designation	Pcs.	Item No.	Spare Part No.	Designation	Pcs.
1	02-66	Shift lever grip	3	18	50-56	Nut M 10	4
2	50-40	Hand shift lever	1	19	50-57	Shifting strap	1
3	50-41	Hand shift lever	1	20	50-58	Angle joint M 8	2
5	50-43	Shaft	1	21	50-52	Spring washer A 10 DIN 137	2
6	50-44	Tie pin $\varnothing$ 6 x 25	4	22	50-60	Shift lever	1
7	50-45	Shift piece	1	23	50-68	Shift lever	1
8	50-46	Forkhead M 8	4	24	50-62	Shift strap	1
9	50-47	ES bolt	1	25	50-63	Spring (wheels)	1
10	50-48	Nut M 8	8	26	50-61	Screw M 8 x 30 + spring washer	2
11	50-49	Split pin $\varnothing$ 3,2 x 20	1	27	50-66	Shift lever (wheels)	
12	50-50	Shift lever bearing	1	28	50-40	Screw nipple	6
13	50-51	Shift cable complete (1. — 2. gear)	1	29	50-67	Screw nipple M 6	1
14	50-52	Shift cable complete (forward — reverse)	1	30	02-58	Washer DIN 33 $\varnothing$ 10	2
15	50-53	Shift cable complete (mowing — unit)	1	31	02-52	Plastic bush $\varnothing$ 10 $\varnothing$ 15 x 9	1
16	50-51	Shift cable complete (wheels)	1	32	02-51	Ball handle	1
17	50-55	Bearing screw SW 19	2				

GEARING
Drawing No. 1 to 32



Item No.	Spare Part No.	Designation	Pcs.
1	50-25	Handlebar	1
2	50-26	Adjustment piece for handlebar	1
3	50-27	Clamping nut	1
4	50-28	Handlebar dampener	1
5	50-29	Adjustment screw + nut M 12 x 70	1
6	50-30	Screw + nut + spring washer M 12 x 60	1
7	50-31	Rubber dampener	4
8	50-32	Clamp	1
9	50-33	Screw + nut + spring washer M 8 galvanised	6
10	50-34	Bracket for handlebar dampener complete	1
11	50-35	Buffer for handlebar dampener	2
12	50-36	Screw + washer DIN 931 M 10 x 50	1
13	50-37	Screw + nut M 10 x 40	2
14	50-39	Lock nut M 8	1
15	50-37	Lid for toolbox	1
16	50-38	Star handle screw M 8 x 25	1
17	02-6	Handlebar grip	2
18	30-39	Off-button (handlebar grip)	1
19	30-40	Cable for off-button	1
20	30-41	Throttle hand lever	1
21a	50-39a	Gasoline cable for Rotax-motor mod. 232 (8 hp)	1
21b	50-39b	Gasoline cable for Rotax-motor mod. 299 (12 hp)	1
21c	50-39 c	Gasoline cable for MAG motor mod. 10 (9 hp)	1
22	30-43	Screw + lock nut M 6 x 20	1
23	30-44	Clutch lever	1
23a	30-44a	Clutch cable complete	1
23b	30-44b	Adjustment screw for clutch cable M 8 x 30	1
24	50-38a	Allen key SW 10	1
25	50-38b	Fork spanner 10/13	1
26	50-38c	Fork spanner 17/19	1
27	50-38d	Spark plug spanner	1
28	50-38d	Spike Ø 8	1
22			

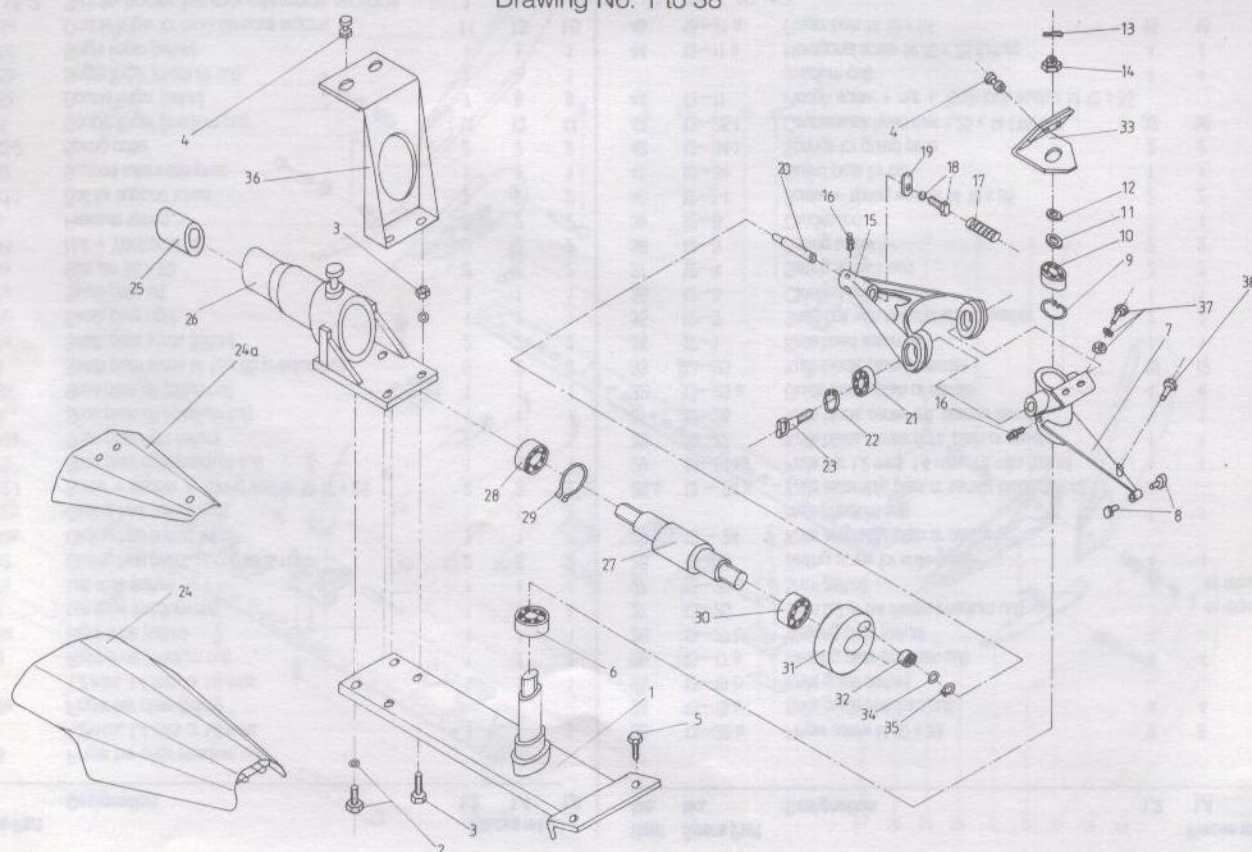
HANDLEBAR WITH DAMPENER
Drawing No. 1 to 28

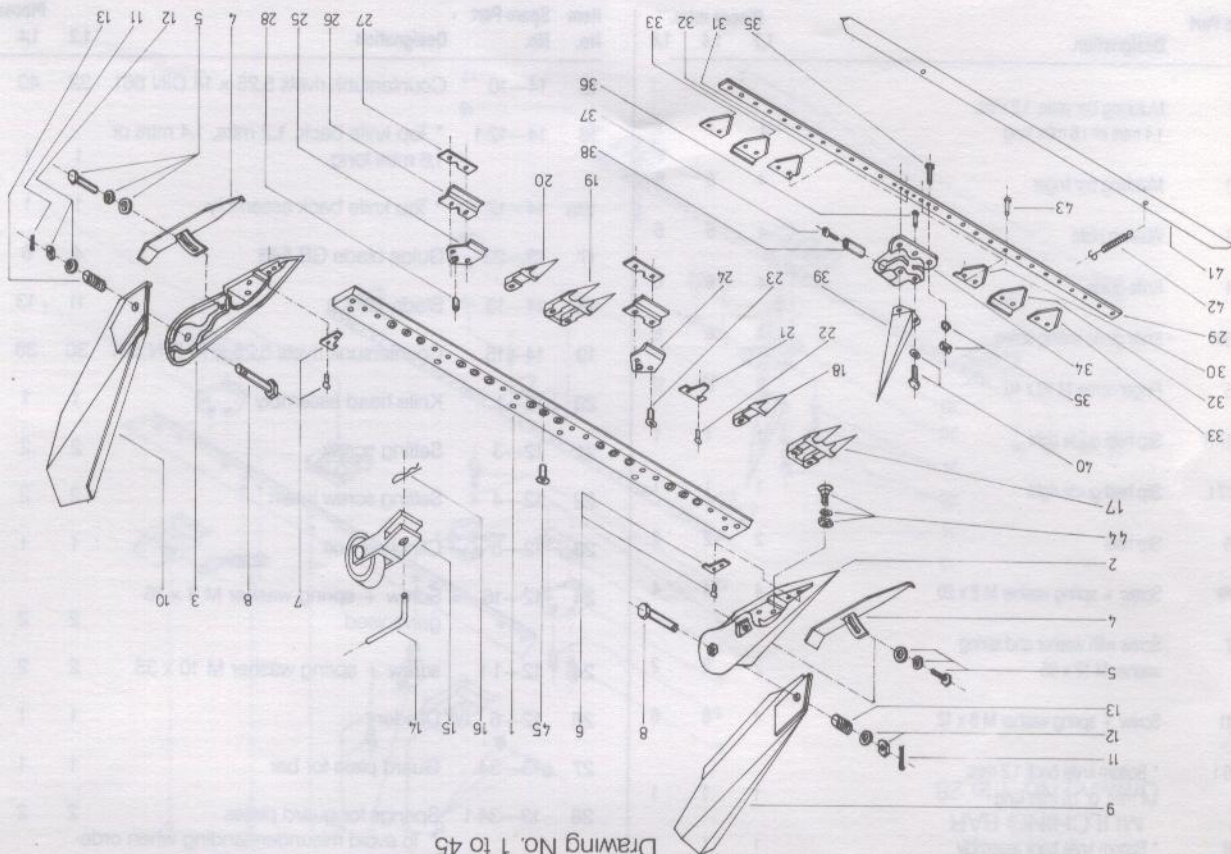


Item No.	Spare Part No.	Designation	Pcs.
1	50-01	Cutter bar carrier with center bolt	1
2	50-02	Screw + spring washer M 12 x 33 galvanised	2
3	50-03	Screw + nut + spring washer M 12 x 45	2
4	46-88	Rubber bush 46-88	4
5	11-3	Bar screw M 12 x 33 galvanised	2
6	11-19	Ball bearing 6206	1
7	50-04	Front rocker	1
8	11-12	Striking pin	2
9	11-21	Circlip A 52	1
10	11-20	Ball bearing 6205 Z	1
11	50-05	Washer Ø 40 x 2	1
12	50-06	Washer Ø 50 x 2	1
13	11-2/1	Split pin 3,5 x 50	1
14	11-2	Crown nut M 20 x 1,5	1
15	50-07	Rear rocker	1
16	02-40	Grease nipple M 6	2
17	11-9	Compression spring	1
18	11-8	Screw + spring washer M 8 x 15	1
19	11-7	Hand lever	1
20	50-08	Driving pin	1
21	11-17	Ball bearing 6204 2 RS	2
22	11-18	Circlip A 47	2
23	11-16	Rocker pin	2

Item No.	Spare Part No.	Designation	Pcs.
24	50-02	Cover plate	1
24a	50-09a	Shaker plate	1
25	50-10	Clutch piece	1
26	50-11	Main connection	1
27	50-12	Drive shaft	1
28	50-13	Ball bearing 6206 2 RS	1
29	50-14	Circlip A 62	1
30	50-15	Ball bearing 6306 2 RS	1
31	50-16	Crank disk	1
32	50-17	Self aligning ball bearing 2203	1
33	50-18	Cover support	1
34a	50-19a	Compensating disk 20/40 x 0.5	as req.
34b	50-19b	Compensating disk 20/40 x 0.3	as req.
35	50-20	Circlip A 40	1
36	50-21	Rear cover plate holder	1
37	50-22	Screw + nut + spring washer M 8 x 20 galvanised	2
38	50-23	Screw + spring washer M 10 galv.	1

CUTTER BAR DRIVE
Drawing No. 1 to 38

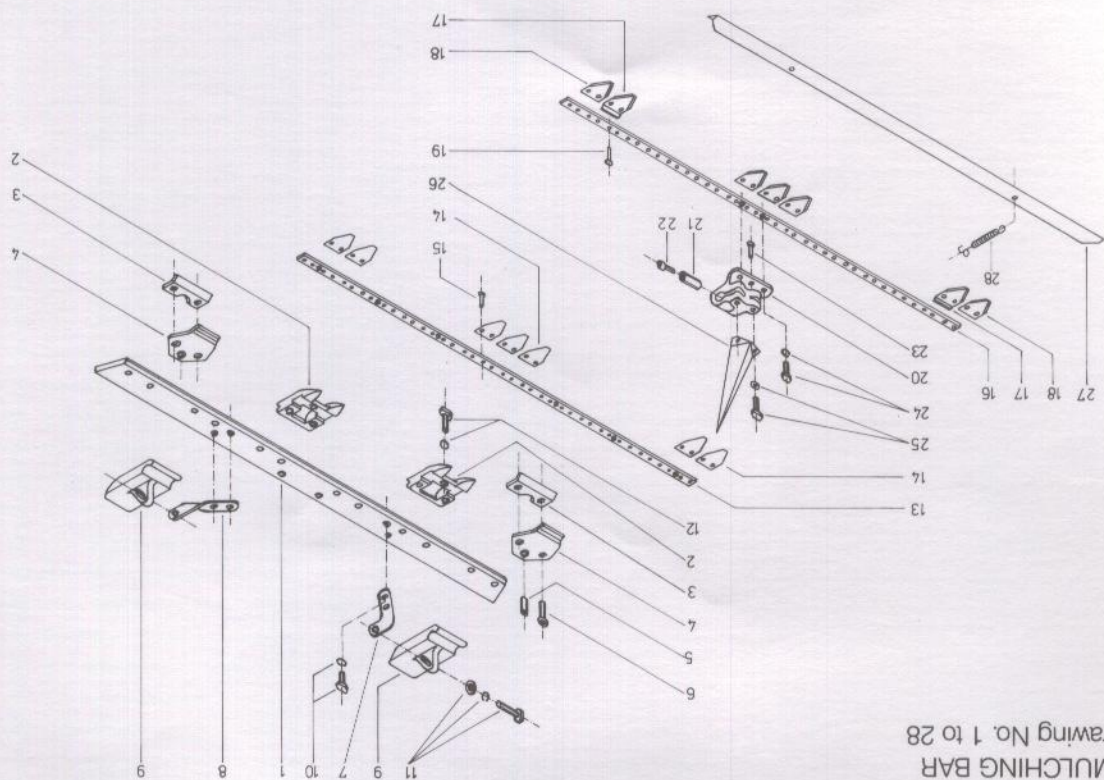




FINGER BAR
Drawing No. 1 to 45

Item No.	Spare Part	Designation	1,2	1,4	1,6	Pieces mtrs.
1		Finger bar plate (medium cut)	1	1	1	1
2		Right shoe (medium cut)	1	1	1	1
3		Left shoe (medium cut)	1	1	1	1
4		Left shoe (tailun)	1	1	1	1
5		Gliding heel (medium cut) left & right	2	2	2	2
6		Gliding heel (tailun) left	1	1	1	1
7		Gliding heel (tailun) right	1	1	1	1
8		Screw + washer + spring washer M 12 x 25	1	1	1	1
9		Shoe plate right (medium cut)	1	1	1	1
10		Shoe plate right (tailun)	1	1	1	1
11		Shoe plate left (medium cut)	1	1	1	1
12		Shoe plate left (tailun)	1	1	1	1
13		Shoe plate left (medium cut)	1	1	1	1
14		Shoe plate left (tailun)	1	1	1	1
15		Swath plate screw M 12 x 65 (medium cut)	2	2	2	2
16		Swath plate right	2	2	2	2
17		Swath plate left	2	2	2	2
18		Split pin 3.5 x 20	1	1	1	1
19		Nut + Washer M 12	2	2	2	2
20		Pressure spring	2	2	2	2
21		Bolt for support rollers	2	2	2	2
22		Support rollers complete	2	2	2	2
23		Spring cotter	2	2	2	2
24		Double finger (medium cut)	11	11	11	11
25		Double finger (tailun)	13	13	13	13
26		Single finger (medium cut)	7	7	7	7
27		Single finger (tailun)	1	1	1	1
28		Double finger for mountainous regions	1	1	1	1
29		Single finger for mountainous regions	11	11	11	11
30		Finger plate	1	1	1	1
31		Finger bar plate (tailun)	1	1	1	1
32		1,2 mtrs, 1,4 mtrs or 1,6 mtrs	1	1	1	1
33		1,2 mtrs, 1,4 mtrs or 1,6 mtrs	1	1	1	1
34		Finger bar plate (medium cut)	1	1	1	1
35		Countersunk rivet S 25 x 22 DIN 61	1	1	1	1
36		as required	—	—	—	—
37		as required	—	—	—	—
38		as required	—	—	—	—
39		as required	—	—	—	—
40		as required	—	—	—	—
41		as required	—	—	—	—
42		as required	—	—	—	—
43		as required	—	—	—	—
44		as required	—	—	—	—
45		as required	—	—	—	—

Item No.	Spare Part	Designation	1,2	1,4	1,6	Pieces mtrs.
1		Finger screw M 10 x 33	8	4	4	8
2		Knife guide (medium cut)	4	4	4	4
3		Knife guide (tailun)	4	4	4	4
4		Wearing plate (medium cut)	4	4	4	4
5		Wearing plate (tailun)	4	4	4	4
6		Shim 0,2 or 0,4 mtrs (medium cut)	4	4	4	4
7		Shim (tailun)	4	4	4	4
8		Setting screw for knife guide	4	4	4	4
9		Knife assembly, plain or serrate	4	4	4	4
10		Knife blade, plain or serrate	4	4	4	4
11		Knife blade, center left, plain or serrate	4	4	4	4
12		Knife blade, center right, plain or serrate	4	4	4	4
13		Knife blade, center left, plain or serrate	4	4	4	4
14		Knife blade, center right, plain or serrate	4	4	4	4
15		Knife head assembly	4	4	4	4
16		Snug bolt with nut and spring washer	4	4	4	4
17		Clinched bolt	4	4	4	4
18		Setting screw insert	4	4	4	4
19		Setting screw	4	4	4	4
20		Divider rod	4	4	4	4
21		Screw + spring washer M 10 x 35	4	4	4	4
22		Guard plate for bar	4	4	4	4
23		Spring for guard plate	4	4	4	4
24		Countersunk head rivet 5,25 x 14 DIN 661	4	4	4	4
25		Plough screw + nut + tooth lock washer M 12 x 35	4	4	4	4
26		(medium cut)	4	4	4	4
27		Hexagonal screw M 10 x 25 (tailun)	4	4	4	4
28		Finger bolts M 10 x 24	4	4	4	4
29		as required	—	—	—	—
30		as required	—	—	—	—
31		as required	—	—	—	—
32		as required	—	—	—	—
33		as required	—	—	—	—
34		as required	—	—	—	—
35		as required	—	—	—	—
36		as required	—	—	—	—
37		as required	—	—	—	—
38		as required	—	—	—	—
39		as required	—	—	—	—
40		as required	—	—	—	—
41		as required	—	—	—	—
42		as required	—	—	—	—
43		as required	—	—	—	—
44		as required	—	—	—	—
45		as required	—	—	—	—



MULCHING BAR
Drawing No. 1 to 28

Item No.	Spare Part	Designation	Pieces mtrs.
1	14-1	Mulching bar plate, 1,2 mtrs.	1
2	14-2	Mulching bar finger	1
3	14-3	Wearing plate	1
4	14-4	Knife guide	1
5	13-33	Knife guide setting screw	1
6	14-5	Finger screw M 10 x 40	1
7	14-17 R	Slip heel guide right	1
8	14-17 L	Slip heel guide right	1
9	14-6	Slip heel	1
10	14-18	Screw + spring washer M 8 x 20	1
11	14-7	Screw with washer and spring washer M 12 x 35	1
12	14-11	Screw + spring washer M 8 x 12	1
13	14-8-1	* Bottom knife back 1,2 mtrs.	1
13a	14-8	* Bottom knife back assembly	1
14	14-9	Blades 1014 a	1
15	14-10	Countersunk rivets 5,25 x 14 DIN 661	32
16	14-12-1	* Top knife back, 1,2 mtrs, 1,4 mtrs or 1,6 mtrs long	1
16a	14-12	* Top knife back assembly	1
17	13-23	Guide blade GB 543	1
18	14-13	Blade 7014 a	1
19	14-15	Countersunk rivets 5,25 x 14 DIN 661	30
20	12-1	Knife head assembly	1
21	12-3	Setting screw	1
22	12-4	Setting screw insert	1
23	12-5	Clinched bolt	1
24	12-16	Screw + spring washer M 8 x 16	1
24	12-1-1	screw + spring washer M 10 x 35	1
26	12-6	Divider	1
27	13-34	Guard plate for bar	1
28	13-34-1	Springs for guard plates	1
* To avoid misunderstanding when ordering cutter knives and knife backs, state number of blades.			
1,2	1,4	1,6	



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Operating instructions
Spare parts list

