

AGRICULTURAL MACHINERY
sitrex®
s.r.l.

***OPERATOR'S AND
SERVICE PARTS MANUAL***

COLUMBIA

TR 6/8 TR 7/9

HAY RAKE, PULL TYPE

PULL-TYPE RAKES: TR/6-8/7-9

INTRODUCTION

This manual includes full instructions for a correct use and maintenance of the machinery, and the recommended spare parts list.

In order to prevent any possible damage of the machine and/or the operator(s) you are kindly requested to go through this manual for a proper knowledge of the assembly of the implements, their use on the field, and their maintenance.

If any doubt, please contact your local dealer or distributor.

Should the machine be re-sold, you are kindly requested to supply this manual along with the machine to the new purchaser.

WARRANTY

SITREX s.r.l. warrants new Sitrex machinery at the time of delivery to the original purchaser to be free from defects in material and workmanship if properly set up and operated in accordance with this Operator's Manual.

Sitrex undertakes to repair or replace free of charge any defective part which should be returned by the purchaser (freight prepaid) and found to be defective by inspection authorized by Sitrex during the warranty period.

This warranty will be valid for 12 (twelve) months from the delivery of goods to the original purchaser.

In case the customer is not in a position to return the defective part to the manufacturer, the manufacturer cannot be held responsible for any cost due for repair or replacement of any part of the machine, he will only supply the part(s) required for the repair and/or replacement.

The warranty is null and void when it is evident that the machine has been improperly used or repaired or however repaired without authorization.

SITREX undertakes no responsibility for any obligation or agreement reached by any Sitrex employers, agents or dealers, which are not in compliance with the above warranty. The manufacturer cannot be held responsible for the consequent damages. This warranty substitutes any other warranty, express or implied, and any other manufacturer's obligation.

CAUTION FOR USE

It could be dangerous for people who are not familiar with this type of machine to use the rake, particularly when kids are there during the assembly or operation on field. We therefore recommend the use of the rake only to those people who are very familiar with the machine and the safety precautions.

ASSEMBLY SOLUTIONS

TR pull-type rake consists of a main frame and frame extensions for rakes from 6 to 9 finger wheels.

Here are the advantages:

- 1) Having a TR/6 rake you can convert it into a TR/8 rake by attaching a 2-wheel frame extension.
- 2) Having a TR/7 rake you can convert it into a TR/9 rake by attaching a 2-wheel frame extension.

SPECIFICATIONS

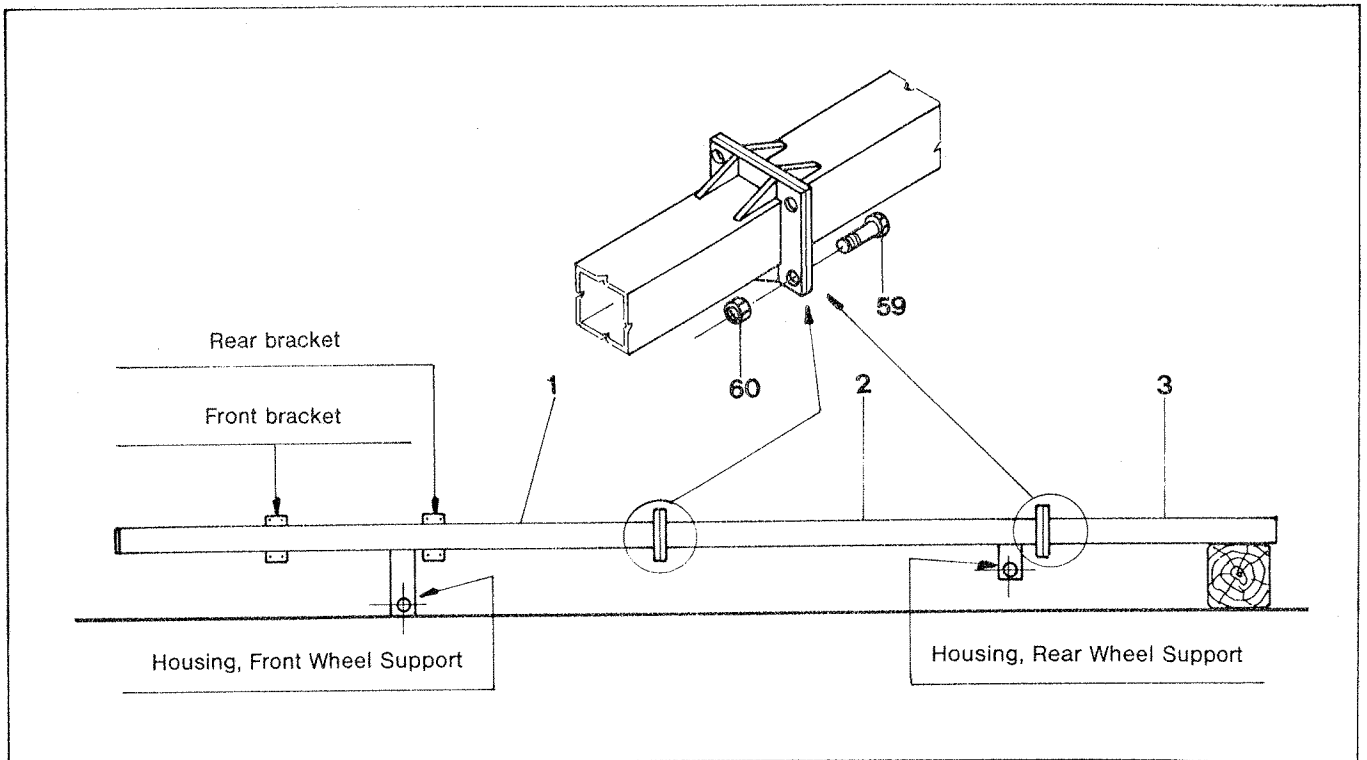
MODELS	TR/6	TR/8	TR/7	TR/9
Weight	535 Kg./1180 lbs.	605 Kg./1335 lbs.	565 Kg./1245 lbs.	640 Kg./1410 lbs.
Number of wheels	6	8	7	9
Number of tines on each wheel	40	40	40	40
Wheel Diam.	1,4 m. / 55"	1,4 m. / 55"	1,4 m. / 55"	1,4 m. / 55"
Raking working width	4 m. / 13' 2"	5 m. / 16' 5"	4,5 m. / 14' 9"	5,5 m. / 18'
Transport width	2,4 m. / 8'	3,2 m. / 10' 6"	3 m. / 10'	3,7 m. / 12' 1"
Working speed	22 Km/h/14 mph	22 Km/h/14 mph	22 Km/h/14 mph	22 Km/h/14 mph
HP required min.	30 HP / 22 Kw	30 HP / 22 Kw	30 HP / 22 Kw	30 HP / 22 KW
Tyre size	6.00x16	6.00x16	6.00x16	6.000x16

TR/6-8/7-9 RAKE ASSEMBLY INSTRUCTIONS

To save room in the container we supply the rakes partly knocked down. Please find below assembly instructions. For part numbers please refer to the enclosed parts breakdown.

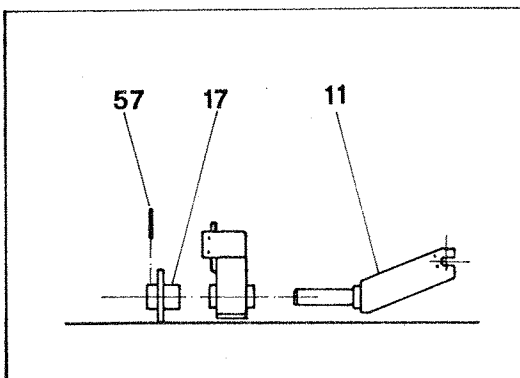
ASSEMBLING

- a) Build the frame as required and put the frame end on a balk as shown in picture 1.

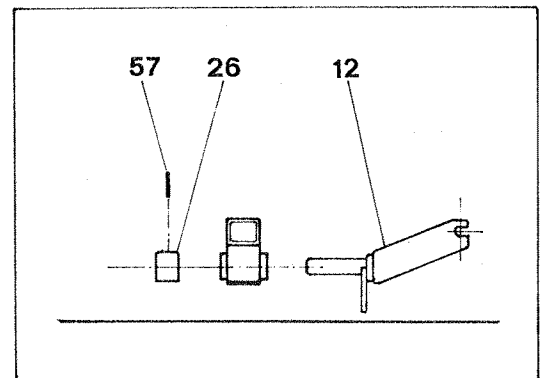


Pict. 1

- b) Fit the wheel supports (11-12) into their housings (pict. 1). Lock support (11) with bush (17) and pin (57) (pict. 2). Lock support (12) with bush (26) and pin (57) (pict. 3).

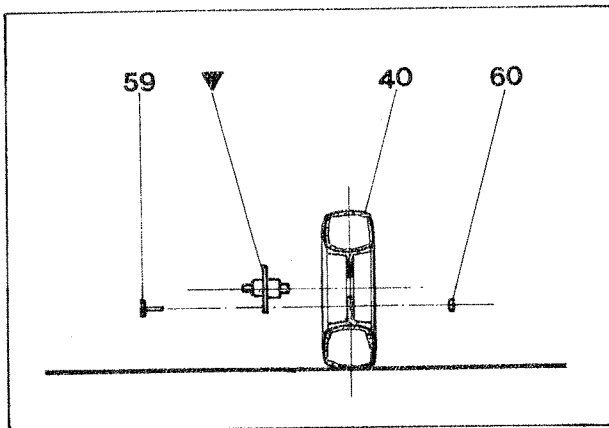


Pict. 2

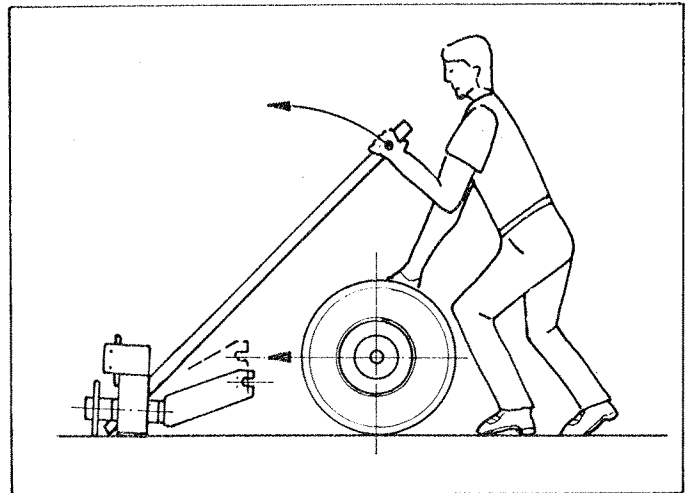


Pict. 3

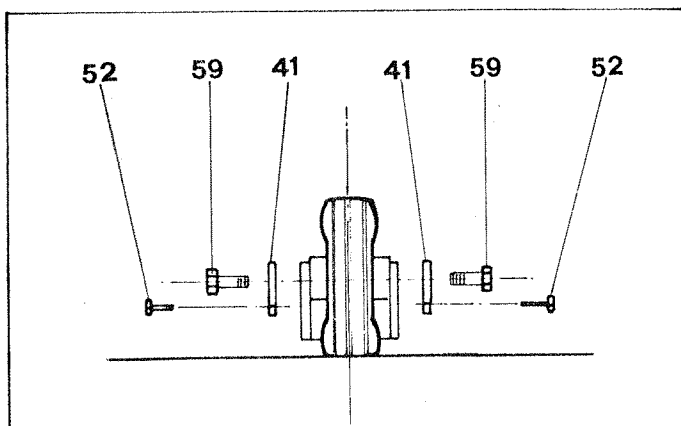
- c) Attach the wheels (40) to the relevant hub assy using bolts (59-60) (pict. 4). With a lever push the wheels inside the fork of supports (11-12) (pict. 5). Lock with plates (41) and screw (59-52) (pict. 6). Picture 7 shows the wheel after assembly.



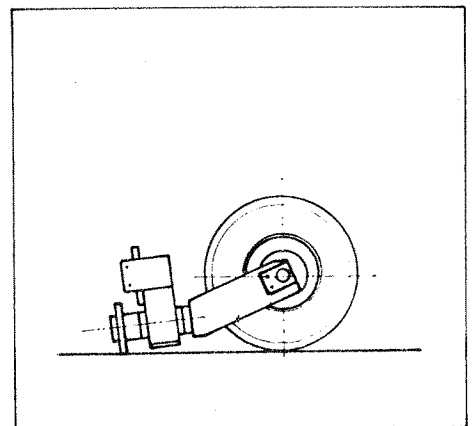
Pict. 4



Pict. 5

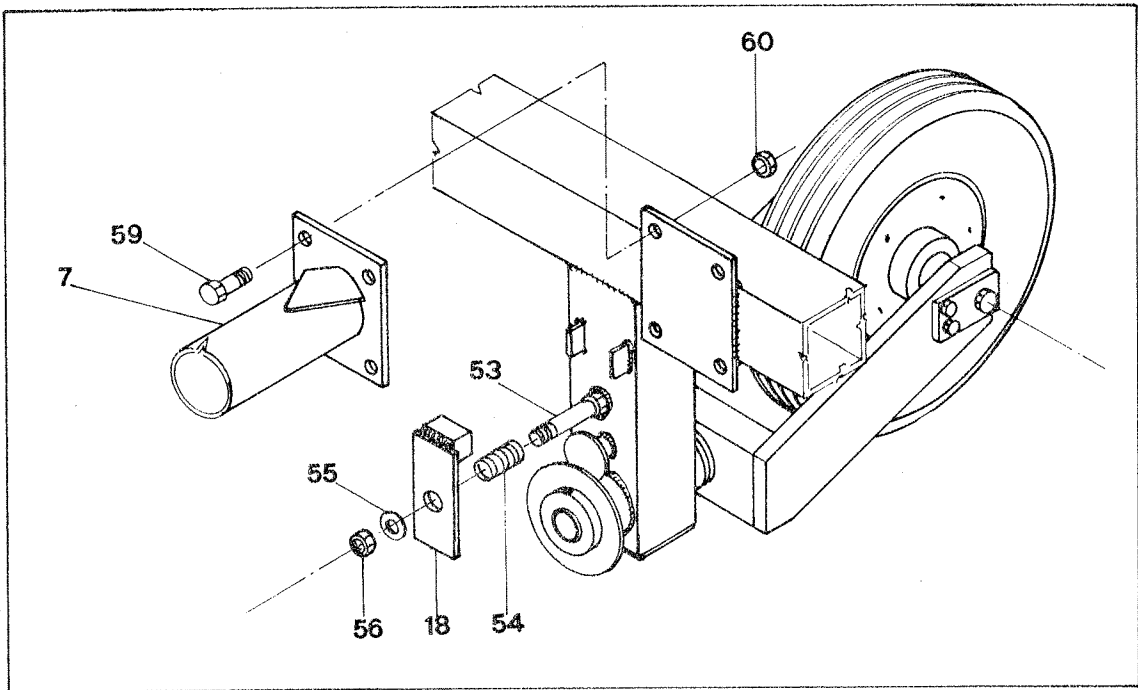


Pict. 6



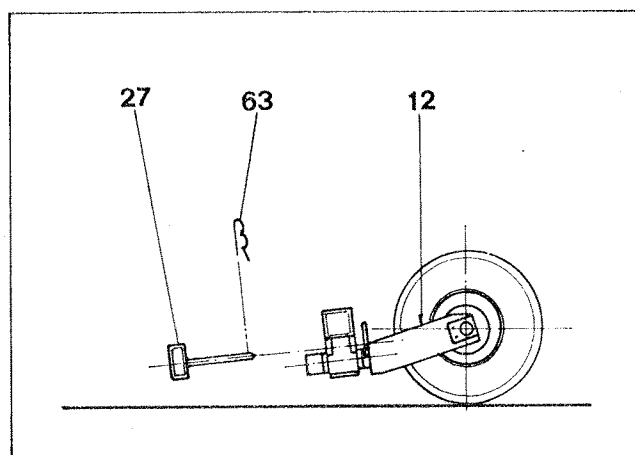
Pict. 7

- d) Fit spring 54 and brake 18 into screw (53) welded on main frame (pict. 8). Next, after mounting washer (55), lock the support with nut (56) in order to have the wheel positioned as shown in pict. 7.



Pict. 8

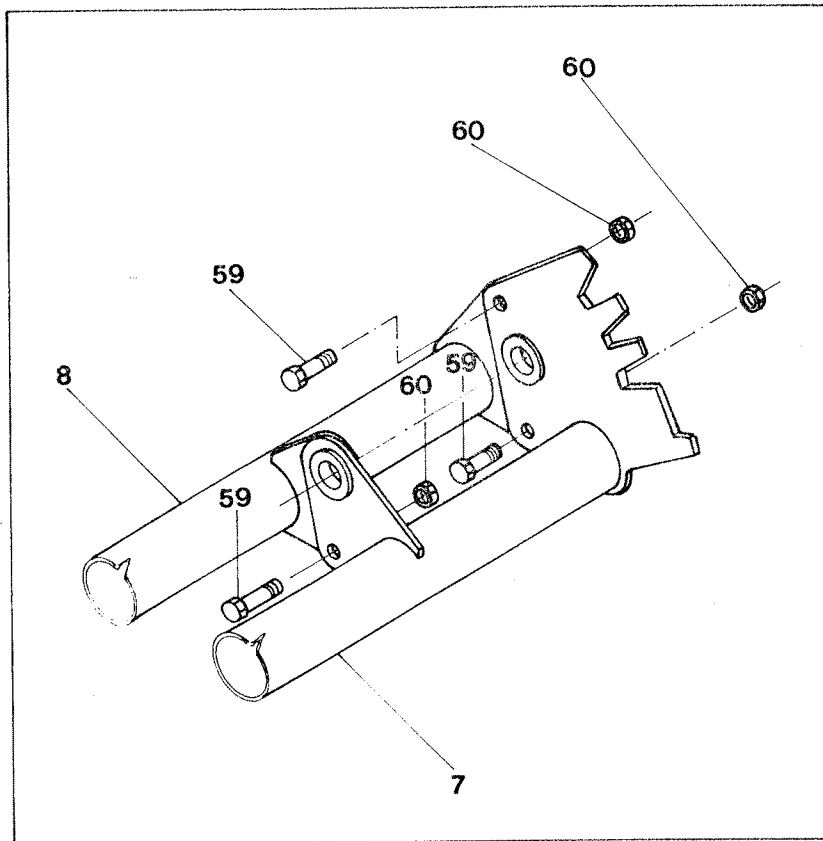
- e) Lock the rear wheel support with pin (27) (pict. 9).



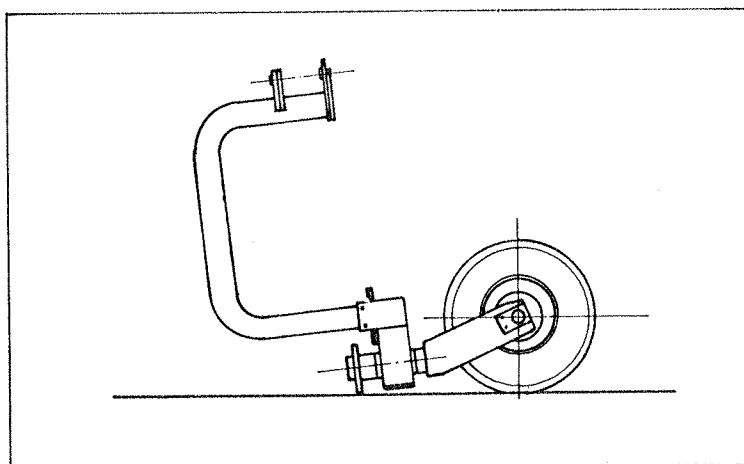
Pict. 9

- f) Attach the drawbar support (7) to the front plate of the main frame (pict. 1) and lock it with bolts (59-60) (pict. 8). In the same manner lock the drawbar support (8) to the rear plate of the main frame (pict. 1). Please note that after assembling, the scalloped side of support 7 should be on the plain side of support 8 (pict. 10).

Join supports (7-8) with bolts (59-60) (pict. 8). Picture 11 shows the machine at this stage of assembly.

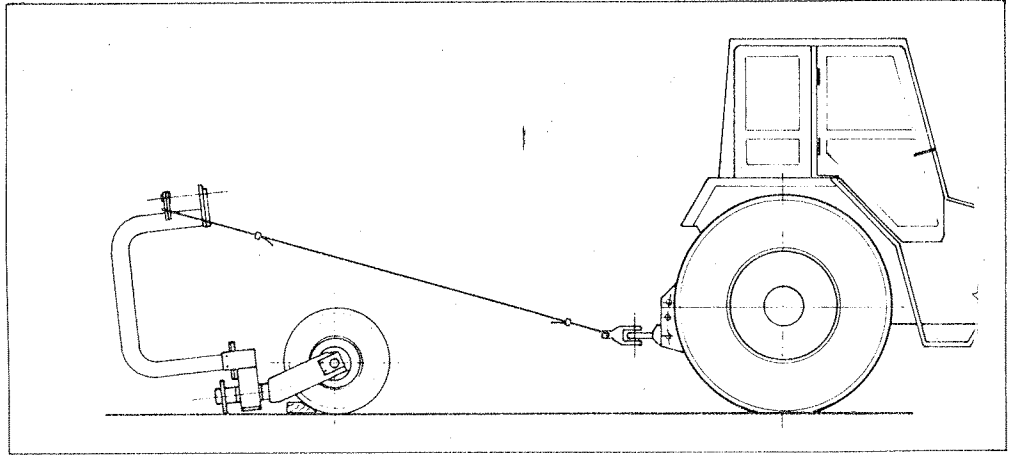


Pict. 10

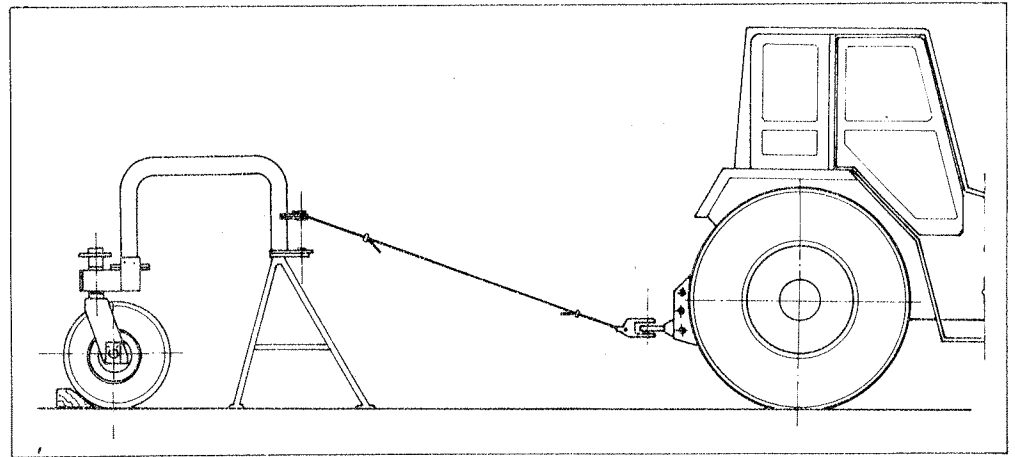


Pict. 11

- g) Wedge the wheels.
 Connect the scalloped side of drawbar's support (7) to the tractor (pict. 12). Pull the rake to the position shown in pict. 13. Use a stand to prevent the rake from falling to the ground (pict 13).

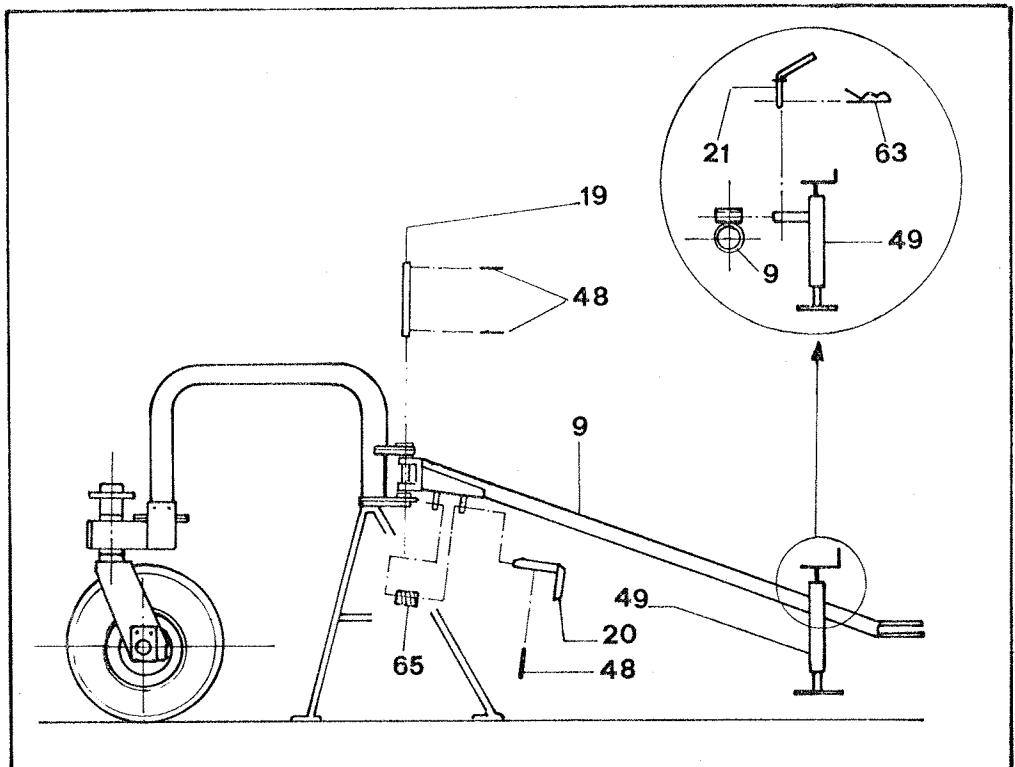


Pict. 12



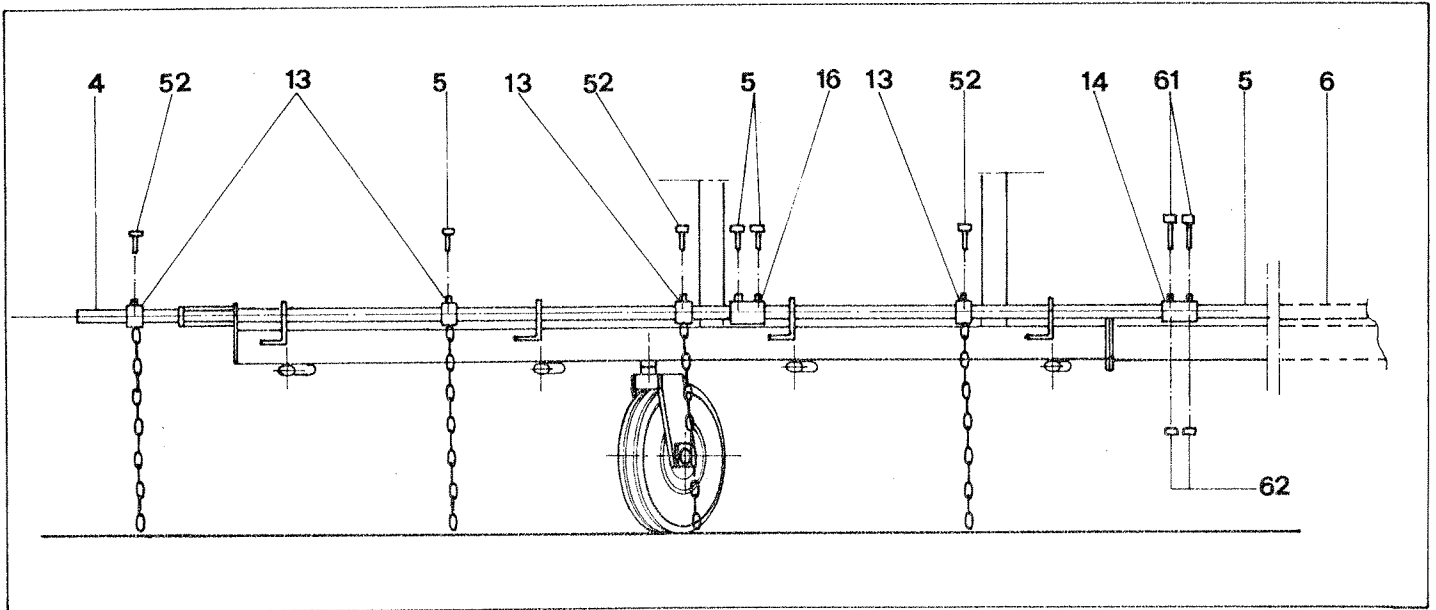
Pict. 13

- h) Attach drawbar (9) to supports (7-8) with pin (19) and pins (48) (pict. 14). Attach the parking stand (49) and lock with pin (21) and split pin (63) (pict. 14). Fit pin (20) and spring (65), then lock with pin (48)



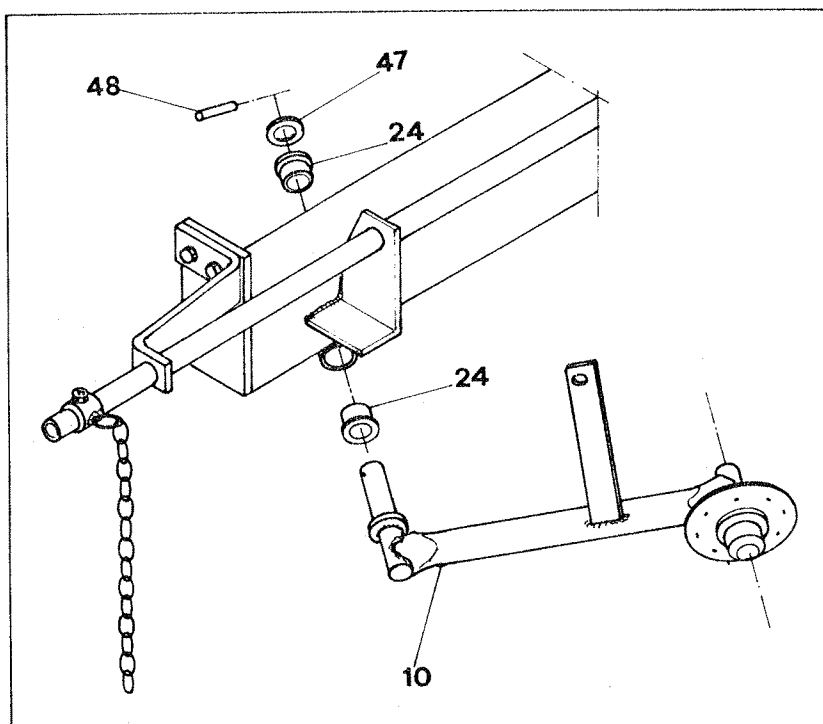
Pict. 14

- i) Lock bracket (15) to the main frame (see parts breakdown) with bolts (50-51)
- j) Attach the lifting pipes of the wheel arms (4-5 on TR/6-7 4-5-6 on TR/8-9) and fit the chain bushes (13) on them (pict. 15). On pipe (4) also fit the cylinder bush (16) after the 3rd chain bush (pict. 15). Lock chain bushes (13) and cylinder bush (16) with screws (52) (pict. 15). Join pipes 4-5-6 using bush (14) and screws (61-62) (pict. 15).



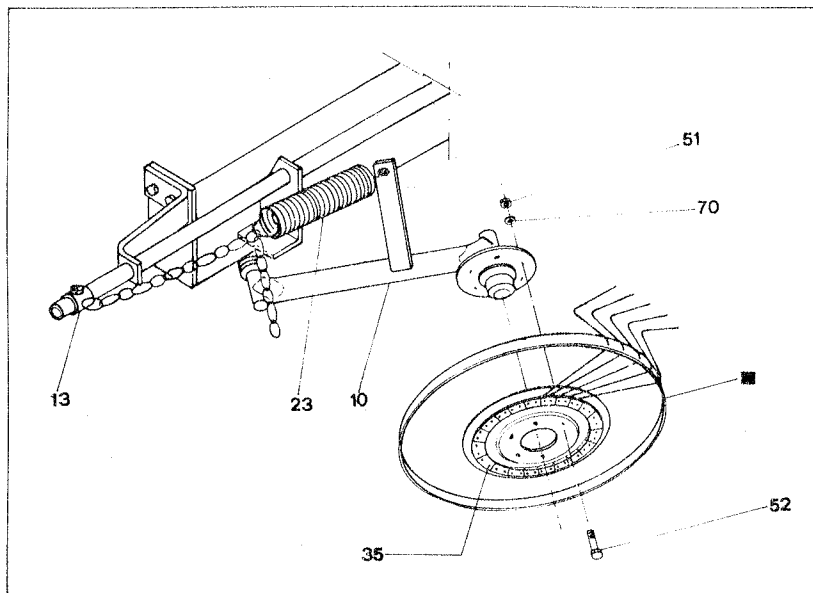
Pict. 15

- k) Fit bushes (24). Attach wheel arms (10) and lock them first with washer (47) and then with pin (48) (pict. 16).



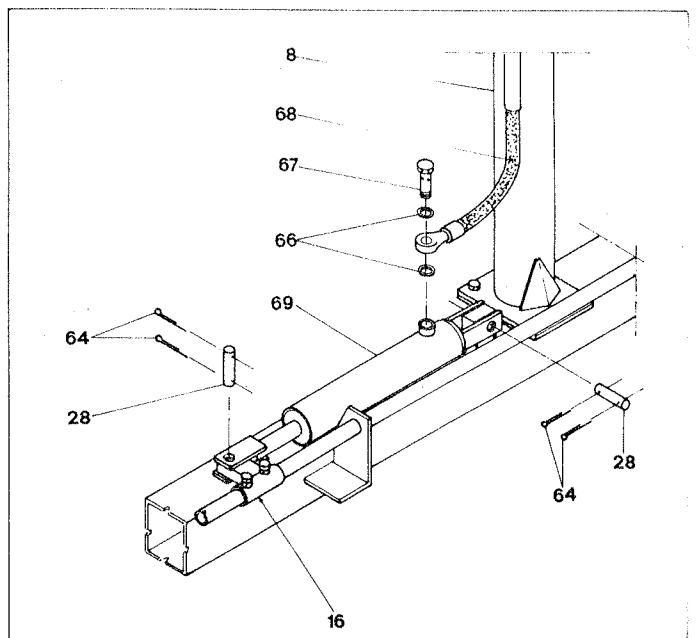
Pict. 16

- l) Connect one end of spring (23) with the chain of bush (13) and the other end with the lever welded on arm (10) (pict. 17). Next, attach the finger wheel assy and lock it to the arm hub flange with screws (52-70-51) (pict. 17). The finger wheel should be attached with the side bearing the tine clamps (35) turned to the opposite side of the hub flange (pict. 17).



Pict. 17

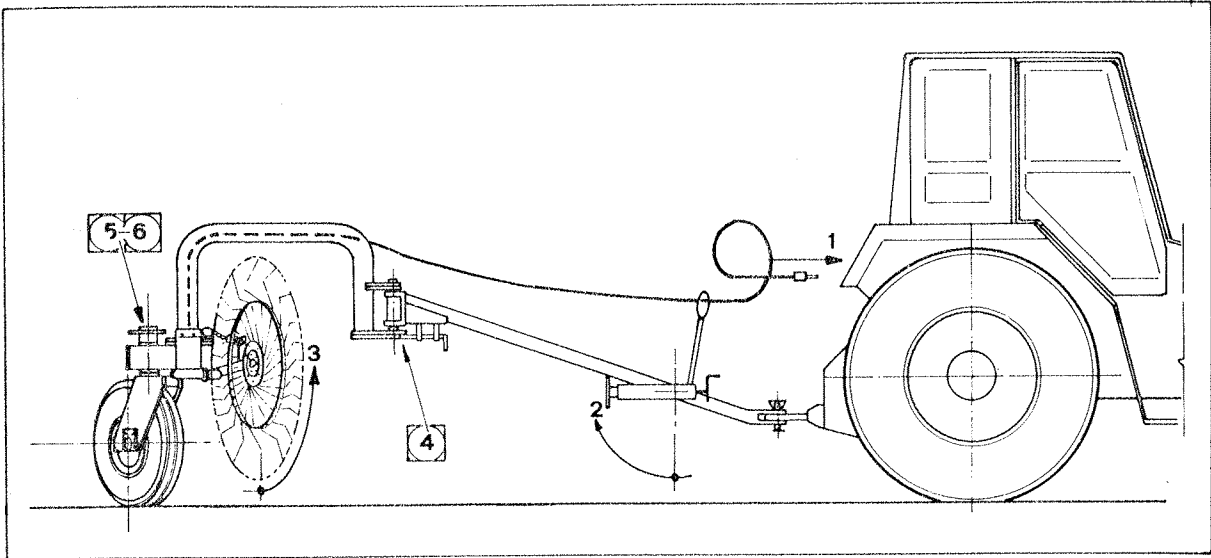
- m) Attach cylinder (69) to the hitch welded on the main frame (1) and on the mobile hitch (16) with pins (28) and the split pins (64). Slide hose (68) into two pipes welded on support (8) and connect it with cylinder (69) by fittings (66-67) (pict. 18). Also insert hose (68) into the eyelet of support (22) connected with drawbar (9) by screws (51-52) (See parts breakdown). Now the machine is fully assembled.



Pict. 18

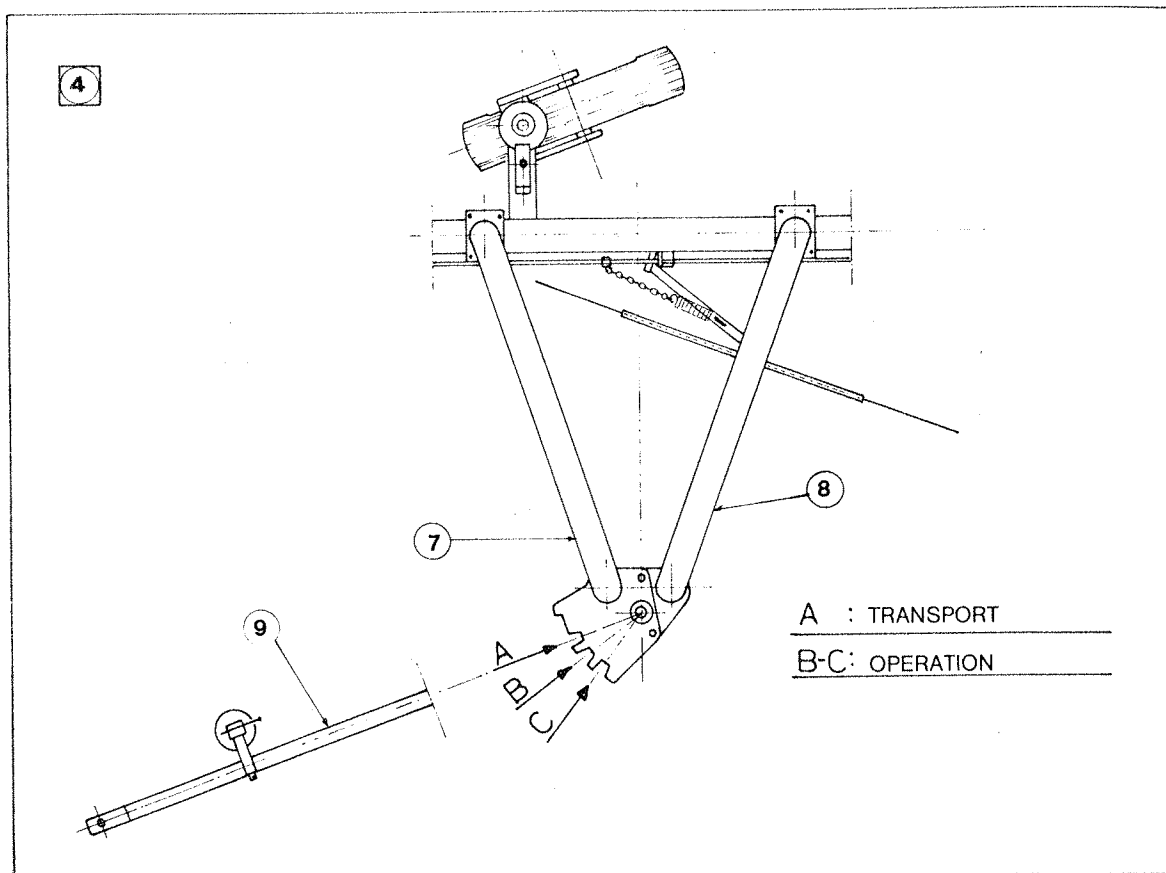
TRANSPORT

For transport follow instructions below (pict. 19):



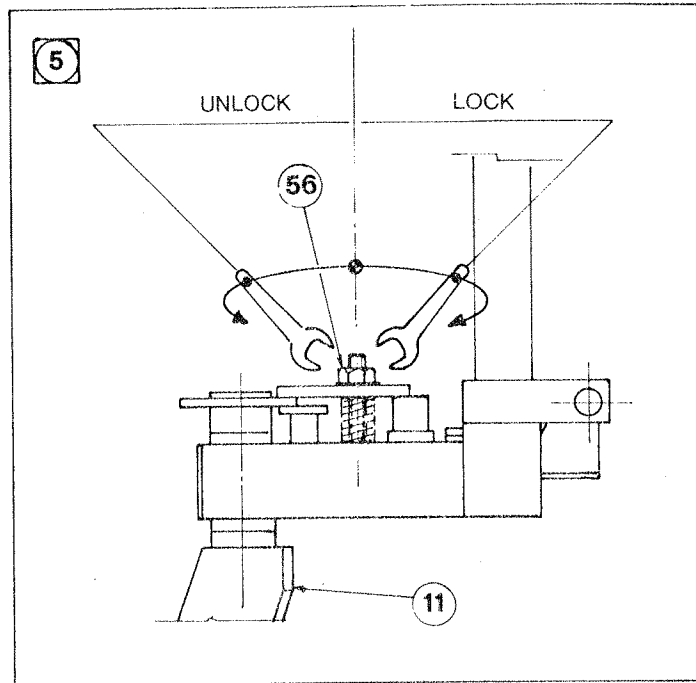
Pict. 19

- 1) Connect hose with tractor's distributor.
- 2) Fold up the parking stand.
- 3) lift the wheels by operating the tractor's distributor.
- 4) Fit the drawbar, with the supplied pin, into slot A (for transport). (pict. 20)



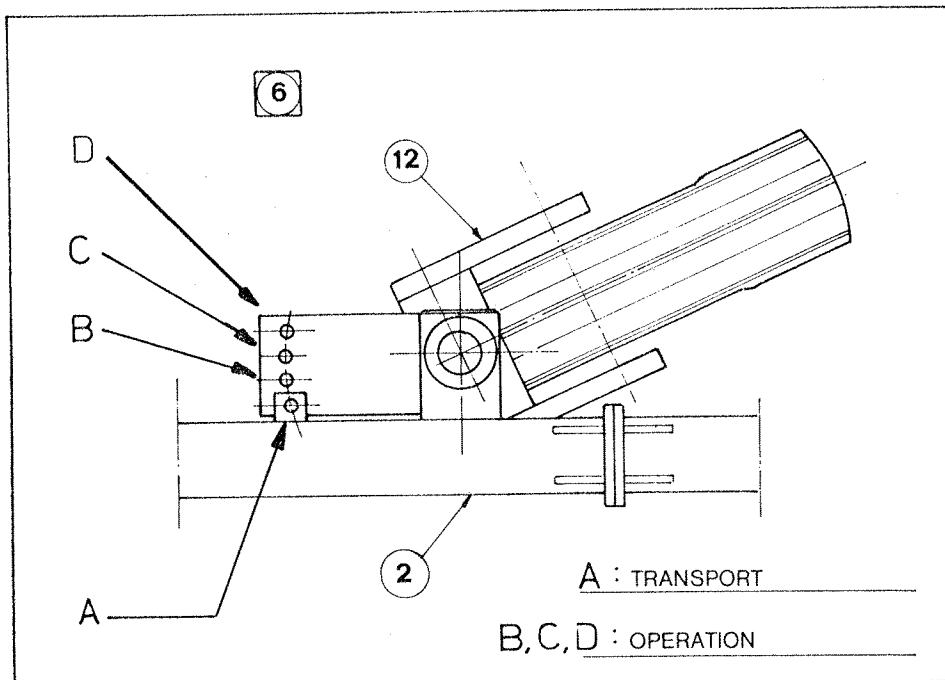
Pict. 20

- 5) With nut (56) reduce rotation of support (11) around its axis, in order to prevent a zig zag motion, which is typical of the machines with pivoting wheels (pict. 21).



Pict. 21

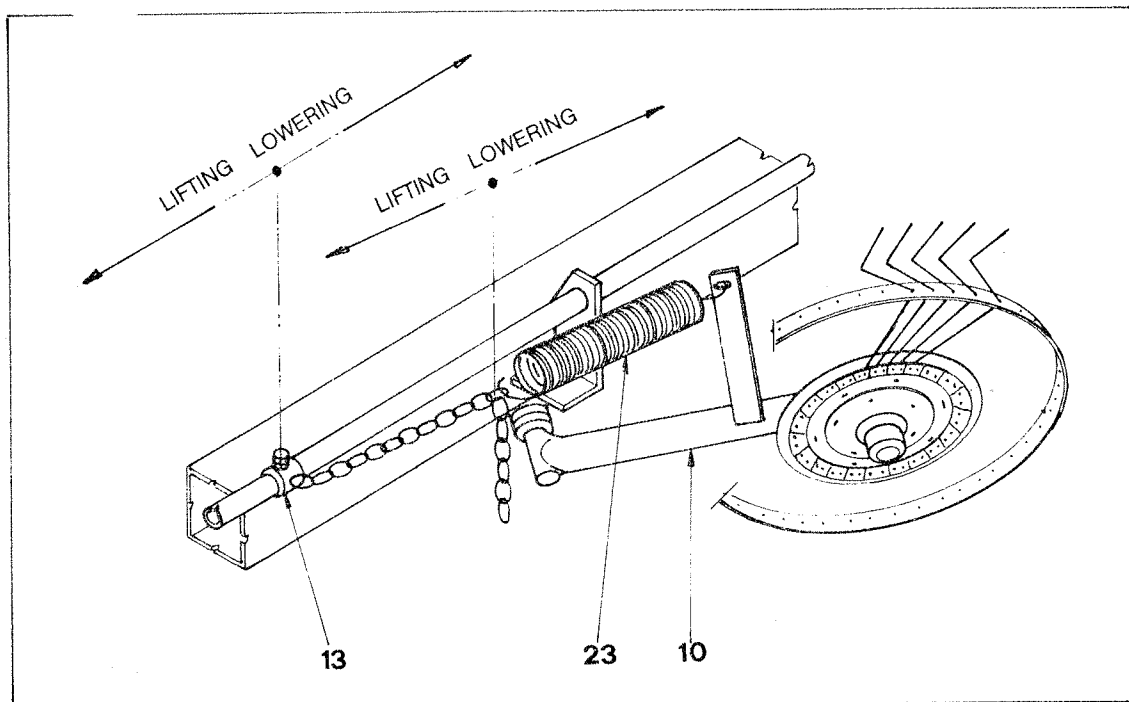
- 6) Lock support (12) into hole A (for transport) using the supplied pin (pict. 22).



Pict. 22

FINGER WHEEL BALANCE AND HEIGHT SETTING

To balance all finger wheels evenly and for height setting slide bush (13) as shown in picture 23, and if necessary adjust the chain links of the chain welded on bush (13) by connecting them with the spring (pict. 23).

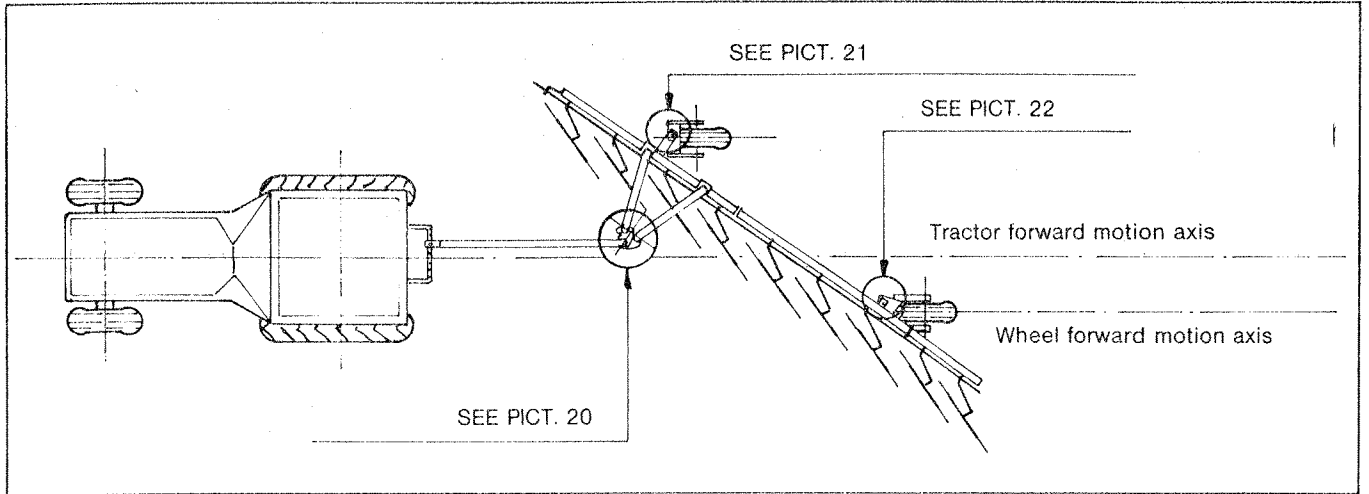


Pict. 23

ON THE FIELD

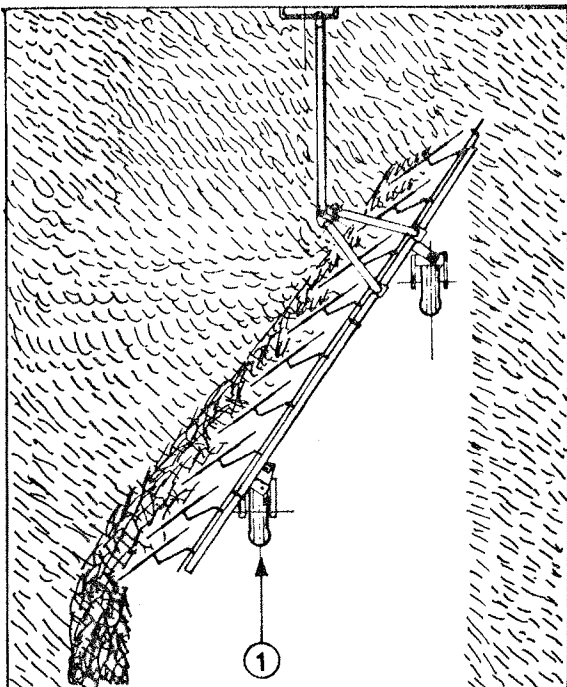
To optimize the performance of the machine you should set it as follows, but only when tractor, soil and hay are in the best conditions.

- 1) Fit drawbar (9) into slot B (for operation) (pict. 20)
- 2) Lock rear wheel support (12) into hole B or C using the supplied pin (pict. 22).
Select the hole which allows to position the wheel forward motion axis parallel to the tractor forward motion axis (pict. 24). The front wheel will automatically position because pivoting.

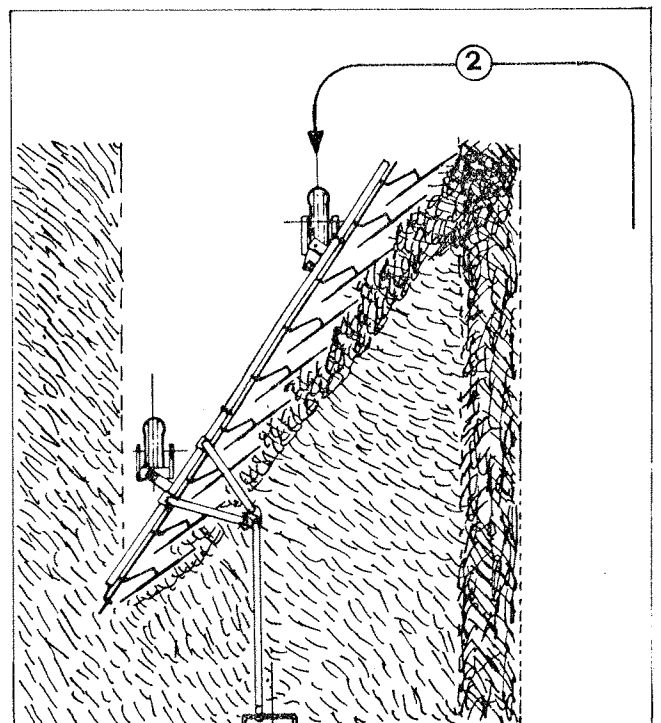


Pict. 24

- 3) Start working from point 1 (pict. 25)
- 4) Turn at the end of the field and join the two swaths (point 2 pict. 26).

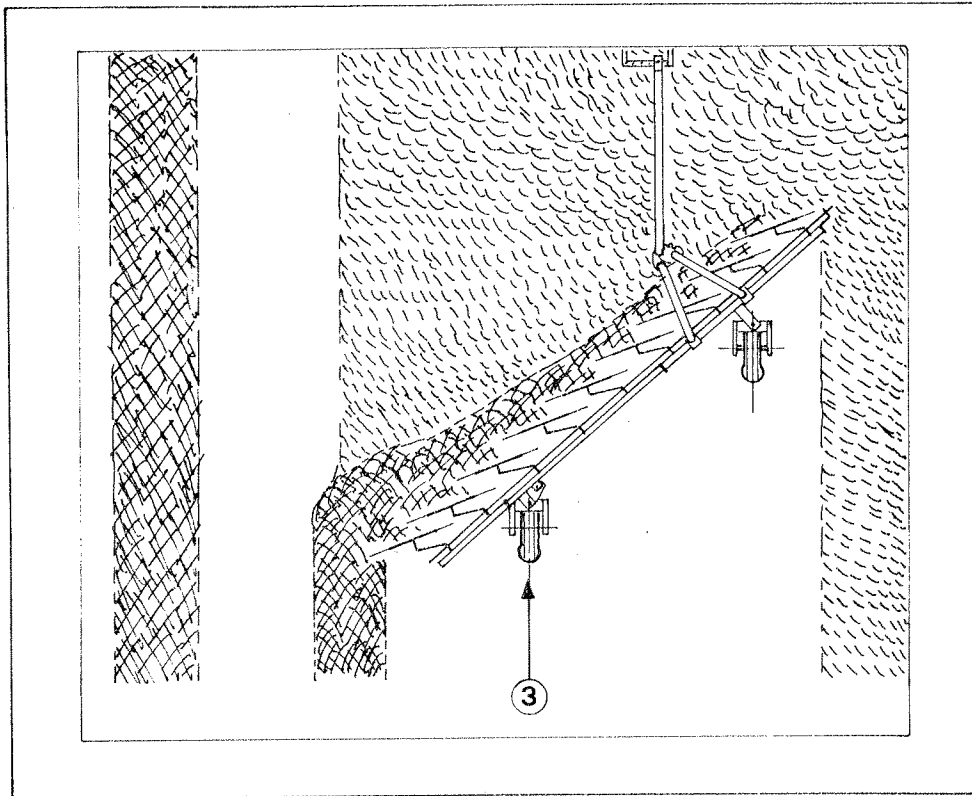


Pict. 25



Pict. 26

- 5) Fit the drawbar (9) into operation slot C (pict. 20).
- 6) Lock rear wheel support (12) into hole C or D using the supplied pin (pict. 22). Select the hole which allows to position the wheel forward motion axis parallel to the tractor forward motion axis (pict. 24). The front wheel will automatically position because pivoting.
- 7) Start again as shown at point 3 picture 27.

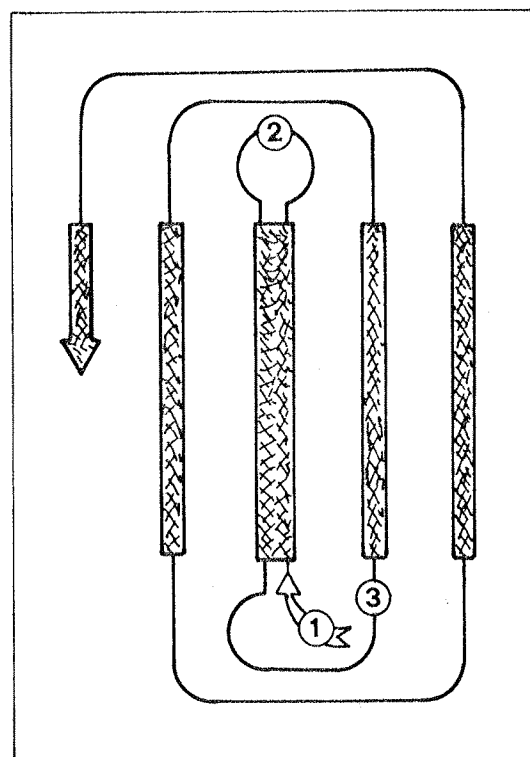


Pict. 27

Picture 28 shows operations as per items 1-2-3 (pict. 25-26-27) and following.

IMPORTANT:

Set the finger wheels as described under «Finger Wheel Balance and Height Setting» if necessary.



Pict. 28

FEATURES

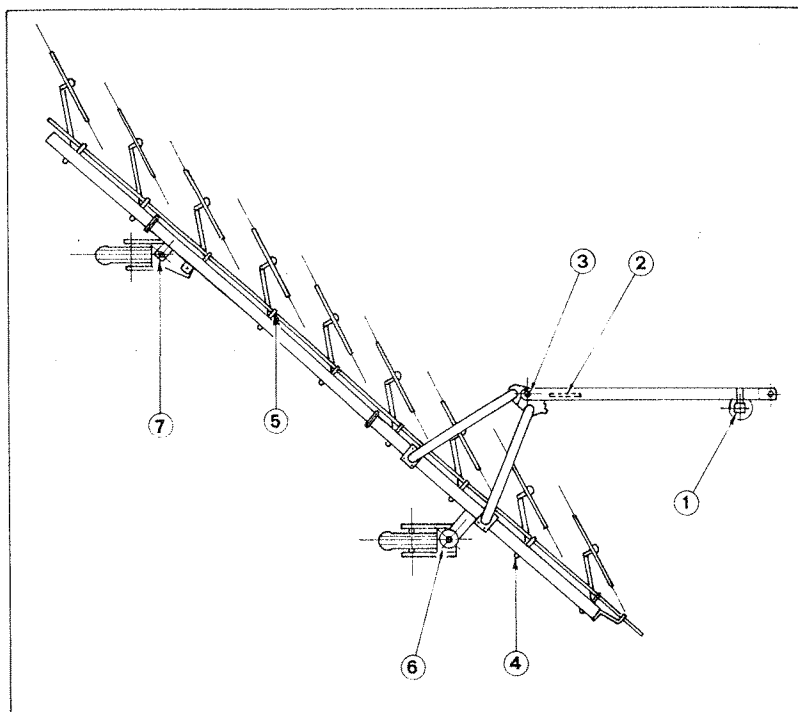
Sitrex TR hayrakes are basically made of a primary structure of tubular steel, which makes the implement particularly sturdy and flexible. Tines are also very flexible and many are the possible adjustments of the rake. For all this the implement can work fast and successfully even on slopes, on stony and rough soils. The finger wheel hubs are made of pressed steel and are equipped with 1st quality taper roller bearings, pre-lubricated, and protected with a dust cover, so that the wheels can properly turn.

MAINTENANCE

For this type of machine the maintenance has been reduced to a minimum and no special tools are therefore required.

Picture 29 shows the points requiring maintenance. For maintenance please follow instructions below:

- 1) Grease the parking stand every 20 hours.
- 2) With a spatula grease the pin, the springs and the slots of the drawbar's rotating device, every 20 hours.
- 3) Lubricate the drawbar's pivot pin every 20 hours.
- 4) Lubricate the wheel arm's pivot points every 20 hours.
- 5) Lubricate the lifting pipes near the brackets every 20 hours.
- 6) Grease the pivot point of front wheel's support every 20 hours.
- 7) Grease the pivot point of rear wheel's support every 20 hours.



Pict. 29

IMPORTANT

Every Sitrex rake is provided with identification label, as follows:

 sitrex [®] 06018 TRESTINA - PERUGIA - ITALY
TYPE <input style="width: 100px; height: 20px;" type="text"/> SERIAL N° <input style="width: 100px; height: 20px;" type="text"/>
PATENTED

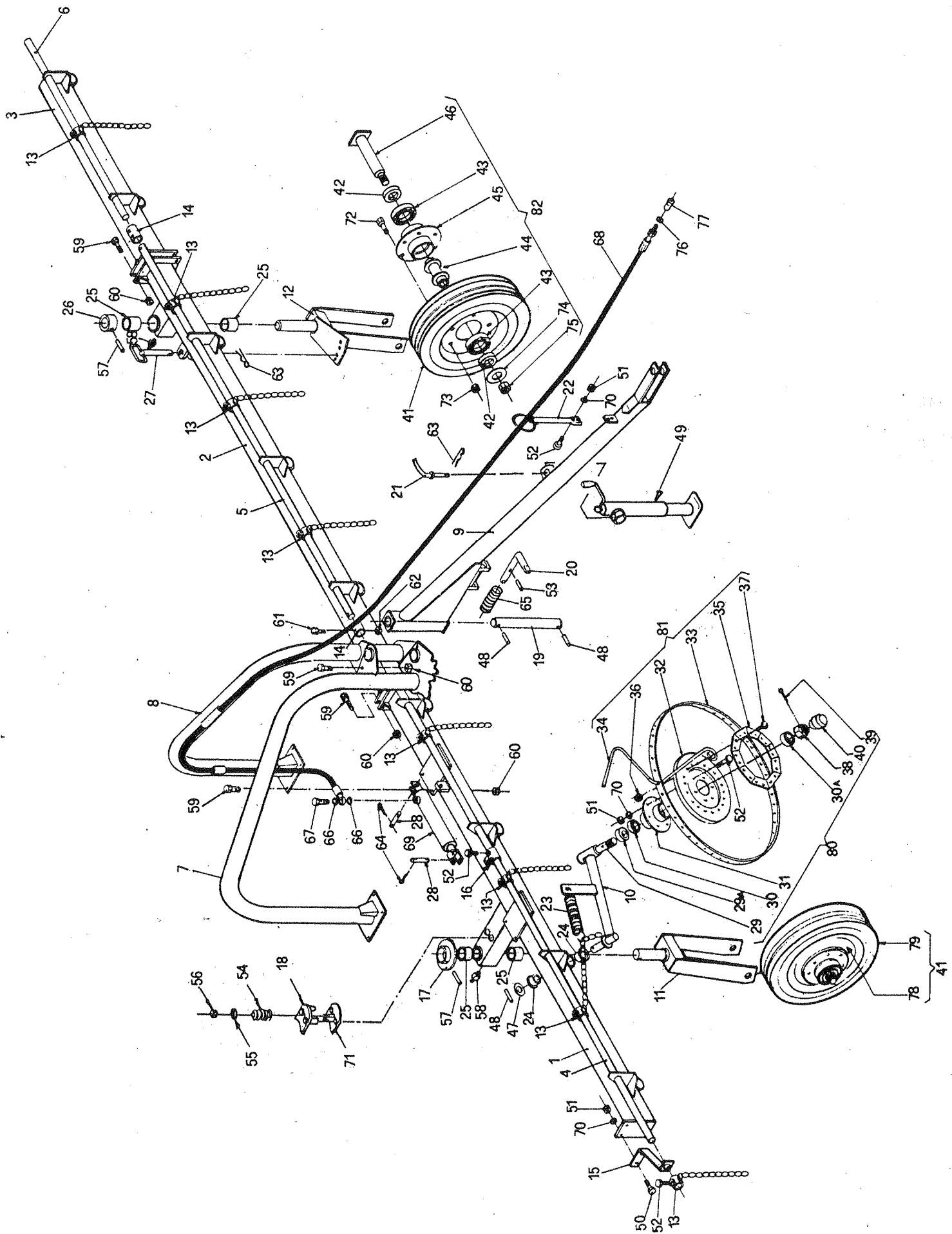
We recommend the use of SITREX original spare parts only, to get your implement working well for a long time. By ordering spare parts please always refer to the parts breakdown provided with this manual.

TROUBLES

CAUSES

REMEDIES

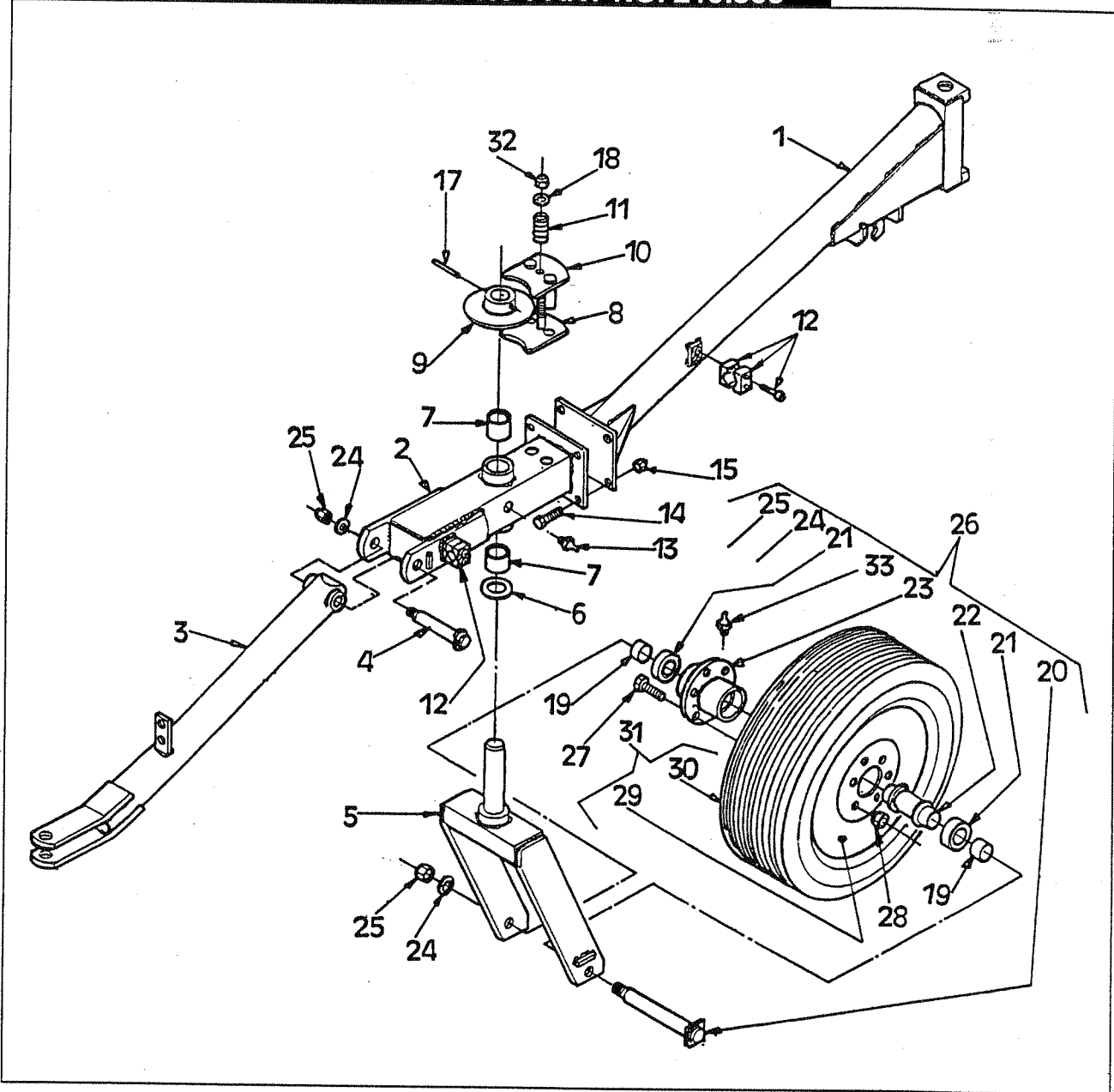
1) Wheel does not unload hay.	1) New tine, too much paint on it. 2) Mud on tine point due to moist soil.	1) Have the wheels be turning on gravelly soil until the tine is clean again. 2) The wheels are too close to the ground.
2) Tine failure	1) Going backwards with wheels not lifted. 2) Too much pressure on the wheels. 3) Tine rusted.	1) Lift the wheels before going backwards. 2) Lightly lift the rake. 3) Protect it by oiling.
3) The rake does not collect the hay.	1) Tine worn out.	1) We recommend to replace all tines for a uniform height.
4) Too much floating of wheels.	1) Wheels too far from ground.	1) Lightly lower the rake.
5) Bent tine.	1) Going backwards with the wheels not lifted. 2) Too much speed on rough soil. 3) Going across deep and narrow ditches or prominences. 4) Too much weight on the wheels.	1) Lift the wheels when going backwards. 2) Reduce speed. 3) Reduce speed. 4) Lightly lift the rake.



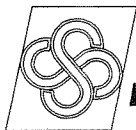
TR COLUMBIA											NOTE
ITEM	Q.ty TR 6	Q.ty TR 7	Q.ty TR 8	Q.ty TR 9	PART NO	DESCRIPTION	Q.ty TR 6	Q.ty TR 7	Q.ty TR 8	Q.ty TR 9	NOTE
1	1	1	1	1	200.001	MAIN FRAME					
2	1	-	1	-	200.002	FRAME EXTENSION					
2	-	1	-	1	200.042	FRAME EXTENSION					
3	-	-	1	1	200.038	FRAME EXTENSION					
4	1	2	1	2	200.039	MAIN PIPE					
5	-	-	1	-	200.040	PIPE					
6	-	-	1	1	200.041	PIPE EXTENSION					
7	1	1	1	1	200.003	SUPPORT					
8	1	1	1	1	200.004	SUPPORT					
9	1	1	1	1	210.668	DRAWBAR					
10	6	7	8	9	200.008	ARMS					
11	1	1	1	1	210.168	FRONT WHEEL SUPPORT					
12	1	1	1	1	210.281	REAR WHEEL SUPPORT					
13	6	7	8	9	200.023	CHAIN BUSH					
14	1	1	2	2	200.022	BUSH					
15	1	1	1	1	200.013	BRACKET					
16	1	1	1	1	200.036	BRACKET					
17	1	1	1	1	200.025	BUSH					
18	1	1	1	1	200.810	BRAKE					
19	1	1	1	1	200.031	PIN					
20	1	1	1	1	200.033	PIN					
21	1	1	1	1	200.222	PIN					
22	1	1	1	1	200.016	HOSE SUPPORT					
23	6	7	8	9	200.046	SPRING					
24	12	14	16	18	200.029	BUSH					
25	4	4	4	4	200.199	PVC BUSH					
26	1	1	1	1	200.024	BUSH					
27	1	1	1	1	200.034	PIN					
28	2	2	2	2	200.032	PIN					
29	6	7	8	9	205.277	PIN					
29A	6	7	8	9	600.011	DUST COVER					
30	6	7	8	9	600.012	BEARING 30205					
30A	6	7	8	9	600.014	BEARING 30204					
31	6	7	8	9	600.013	HUB					
32	6	7	8	9	200.010	FLANGE					
33	6	7	8	9	200.009	RIM					
34	240	280	320	360	210.621	TINE					
35	60	70	80	90	200.012	TINE CLAMP					
36	120	140	160	180	600.029	NUT M10 DIN 980					
37	120	140	160	180	600.005	SCREW M10 X 25 DIN 931 8.8					
38	6	7	8	9	600.015	SELF-LOCK NUT M18X1,5 - 6					
39	6	7	8	9	600.301	SPLIT PIN D 3 X 30 DIN 94 3.6					
40	6	7	8	9	600.016	CAP					

ITEM	Q.ty TR 6	Q.ty TR 7	Q.ty TR 8	Q.ty TR 9	PART NO	DESCRIPTION	NOTE
41	2	2	2	2	610.270	WHEEL ASSY	
42	4	4	4	4	210.170	SPACER	
43	4	4	4	4	600.609	BEARING 6206 2RS	
44	2	2	2	2	200.140	SPACER	
45	2	2	2	2	200.139	HUB	
46	2	2	2	2	210.184	PIN	
47	6	7	8	9	200.028	WASHER	
48	8	9	10	11	600.027	PIN D 8 X 50 DIN 1481	
49	1	1	1	1	220.197	PARKING STAND	
50	2	2	2	2	600.028	SCREW M10 X 40 DIN 931 8.8	
51	40	46	52	58	600.010	NUT M10 DIN 934 - 8	
52	44	52	58	64	600.006	SCREW M10 X 25 DIN 933 8.8	
53	1	1	1	1	600.487	PIN D 8 X 60 DIN 1481	
54	1	1	1	1	200.044	SPRING	
55	1	1	1	1	600.092	WASHER	
56	1	1	1	1	600.077	NUT M16 DIN 980	
57	2	2	2	2	600.033	PIN D 10 X 80 DIN 1481	
58	2	2	2	2	600.034	GREASE NIPPLE M8	
59	15	15	19	19	610.167	SCREW M16 X 40 DIN 933 8.8	
60	15	15	19	19	600.080	NUT M16 DIN 980	
61	2	2	4	4	600.036	SCREW M8 X 50 DIN 931 8.8	
62	2	2	4	4	600.076	NUT M8 DIN 980	
63	2	2	2	2	600.019	PIN	
64	4	4	4	4	600.038	SPLIT PIN D 6 X 35 DIN 94 3.6	
65	1	1	1	1	200.045	SPRING	
66	2	2	2	2	600.039	COPPER WASHER 3/8"	
67	1	1	1	1	600.040	FITTING D 3/8"	
68	1	1	1	1	600.041	HOSE SAE100 R1AT 3/8 O 3/8 - M 1/2	
69	1	1	1	1	200.136	CYLINDER	
70	40	46	52	58	600.024	SPRING WASHER D 10.5 DIN 127B	
71	1	1	1	1	210.931	COUNTER-BRAKE	
72	10	10	10	10	600.144	SCREW M16X1,5 X 40 DIN 961 8.8	
73	10	10	10	10	600.289	NUT M16 X1,5	
74	2	2	2	2	200.165	WASHER	
75	2	2	2	2	600.079	NUT M22 DIN 980	
76	1	1	1	1	600.269	COPPER WASHER 1/2"	
77	1	1	1	1	600.273	RAPID COUPLING 1/2"	
78	2	2	2	2	610.290	RIM	
79	2	2	2	2	610.291	TIRE	
80	6	7	8	9	205.041	HUB ASSY	
81	6	7	8	9	210.180	FINGER WHEEL ASSY	
82	2	2	2	2	210.169	HUB ASSY	
84	2	2	2	2	210.179	WASHER	

WHEEL DRAWBAR KIT FOR TR PART NO. 210.366



WHEEL DRAWBAR KIT FOR TR PART NO. 210.366				
ITEM	Q.ty	PART NO	DESCRIPTION	NOTE
1	1	210.259	DRAWBAR	
2	1	210.260	SUPPORT	
3	1	210.261	FRONT DRAWBAR	
4	1	210.262	PIN	
5	1	210.168	WHEEL SUPPORT	
6	1	210.179	WASHER	
7	2	200.199	BUSH	
8	1	210.931	BRAKE COUNTER PLATE	
9	1	200.025	BUSH	
10	1	200.810	BRAKE	
11	1	200.044	SPRING	
12	2	600.822	HOSE COLLAR	
13	1	600.034	GREASE NIPPLE M8	
14	4	600.035	SCREW M16 X 40 DIN 933 8.8	
15	4	600.080	NUT M16 DIN 980	
16	1	610.203	GREASE NIPPLE M8X45°	
17	1	600.033	PIN D 10 X 80 DIN 1481	
18	1	600.092	WASHER D12 X36	
19	2	210.170	SPACER	
20	1	210.184	PIN	
21	2	600.609	BEARING 6206 2RS	
22	1	200.140	SPACER	
23	1	200.139	HUB	
24	2	200.165	WASHER	
25	2	600.079	NUT M22 DIN 980	
26	1	210.169	HUB ASSY	
27	5	600.144	SCREW M16X1,5 X 40 DIN 961 8.8	
28	5	600.289	NUT M16 X1,5	
29	1	610.117	RIM	
30	1	610.116	TIRE	
31	1	610.115	WHEEL ASSY	
32	1	600.077	SCREW M12 DIN 980	



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