LandMax

Suppliers Of Quality Agricultural Machinery

21 Plummers Point Road, Tauranga



Titan 3

Flail Mower

Operator's Manual

FOREWORD

The purpose of this manual is to assist you in operating and maintaining your Flail mower. Read it carefully before operating and maintaining the Flail mower, it furnishes the specifications, construction, instructions and also the maintenance. Some information may be general in nature due to unknown and varying conditions. However, through experience and these instructions, you should be able to develop operating procedures suitable to your particular situation.

“Right” and “left” as used throughout this manual are determined by facing the direction the machine will travel when in use.

Please kindly note that the contents of this operations manual may be a little bit different from the Flail mower that you actually purchase. This is due to the continuous improvement and development of the Flail mower, however, the specifications and structure of the Flail mower shall be subject to change without notice.

We strive to make this operations manual as correct as possible. However, we do not guarantee the accuracy or recentness of the information herein. We assume no liability for errors or omission.

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CHAPTER Ⅰ SAFETY INFORMATION

PLEASE NOTE

Make sure all potential operators of this equipment review this manual and all safety messages contained within.

1.1 Safety First

Read this service manual before using the machine.



This safety alert symbol indicates important safety messages in this manual. When you see this symbol, carefully read this message that follows and be alert to the possibility of personal injury or death.

This machine is designed for pulverizing grass and short bramble, and shall be used in the indicated purpose. You take the responsibility if the machine is used in any other purposes.

For safety of personnel and good performance of the machine, you shall check the performance of the machine and the tractor before starting the machine.

All persons and animals shall keep away the machine when you start it.

The operator shall not put on too loose clothes during operating the machine.

Do not touch the rotor when the machine rotates.

Keep away the machine when it moves.

When the tractor and the machine are moving on the road, always keep the machine off.

Before repairing the machine, stop all movable parts and the tractor, keep the key with yourself.

Always keep the machine in a good state, if necessary, repair or change the defective parts.

Don’t use the machine to transport personnel.

Don’t modify the machine.

Pay attention to the sharp and pointed parts during repairing the machine.

All protective parts shall be guaranteed to be in good state before starting the machine.

Don’t leave the tractor when moving the machine; and always take away the key of the tractor with you.

The machine shall be operated in the recommended speed.

Don’t stay between the tractor and the machine.

Don’t start the machine in a closed place (due to the smoke from the tractor).

1.2 Safety Signs

1.2.1 Care of Safety Signs

1. Keep safety signs clean and legible at all times.
2. Replace safety signs that are missing or have become illegible.
3. If a component with a safety sign(s) affixed is replaced with a new part, make sure new safety sign(s) are attached in the same locations as the replaced components.

1.2.2 Safety Signs locations

The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your **SAFETY AWARENESS.**

No.	Photo	Remark
1		Caution: Danger Please read the user manual carefully before operating the machine. Beware of flying debris. Keep Bystanders at least 12 meters away. There is a serious risk of cutting injury. Rotating blades - keep your hands and feet away from the discharge area while the machine is running.
2		Please read the user manual carefully before operating the machine. There is a serious risk of cutting, burns and injuries Keep your hands and feet away from the exit when the machine is running.

CHAPTER Ⅱ SPECIFICATIONS

2.1 Brief Introduction

The Titan Flail mower is designed for pulverizing grass and short bramble, and shall be used in the indicated purpose.

The Flail mower consists of a rotating shaft with many blades attached to it. The blades cut the grass while traveling over the working area. Rotational power to the shaft is provided by the tractor PTO through the gearbox in the center of the machine.

The Flail mower attaches to the 3 point hitch on the tractor.

Fig. 2.1 Main components of the Flail mower

1. Blade axle 2. Blade axle cover 3. Combined fender 4.Supporting frame

5. Gearbox assembly 6. Suspension bracket 7. Transmission shaft 8. Belt wheel and belt

2.2 Specifications and Parameters for Flail Mower

Model	Titan 2.6	Titan 2.8	Titan 3
Weight (Kg)	851	900	950
Cutting Width (mm(	2600	2800	3000
Cutting Height (mm)	0-70	0-70	0-70
Rotor Diameter (mm)	203	203	2030
Roller Diameter (mm)	219	219	219
Belts	5	5	5
Y Blade + Middle blade	56+28	64+32	72+36
Power Required (hp)	70-110	80-120	90-130

CHAPTER III OPERATION



CAUTION: Be familiar with the machine before starting. Read this manual carefully to learn how to operate the machine safely and how to set it to provide maximum field efficiency.

3.1 Checking Before Operating



ATTENTION: Only use universal joint conforming to CE standard and protect them properly.

Before operating the machine, the following areas should be checked off:

1. **Pay attention to the warning stickers on each greasing point. Before starting the machine, please make sure lubricate each grease point with grease or oil according to requirement on the warning stickers.**
2. Use only an agricultural tractor of horsepower within limits of the machine specified.
3. Check that the machine is properly attached to the tractor. Be sure retainers are used on the mounting pins.
4. Be sure extra weights are mounted on the front of the tractor.
5. Check the oil level in the gearbox. Add as required.
6. Check that the tractor PTO shaft turns freely and that the machine driving shaft can telescope easily.
7. Check the blades. Be sure they are not damaged or broken and swing freely in their mount. Repair or replace as required.
8. Check and tighten the blade bolts.
9. Check for entangled material in all rotating parts. Remove this material.
10. Install and secure all guards, doors and covers before starting.
11. Before installing the universal joint, the tractor and the machine motor shall be stopped and the key be taken away. The universal joints shall be installed in good state, with proper protective parts.
12. The chain on the protective parts of the universal joint shall be guaranteed in good condition, in case, automatic rotation occurs.
13. All other persons shall leave the ground before connecting the driving power from the tractor. Keep the output of the tractor at 540 RPM.
14. Before cleaning, repairing and lubricating the machine, stop the motor and take away the key with you.
15. When the universal joint is not connected with the tractor, they must be connected again through the frame to protect the joint from damaging.
16. Don’t approach the machine when the macihne is running.

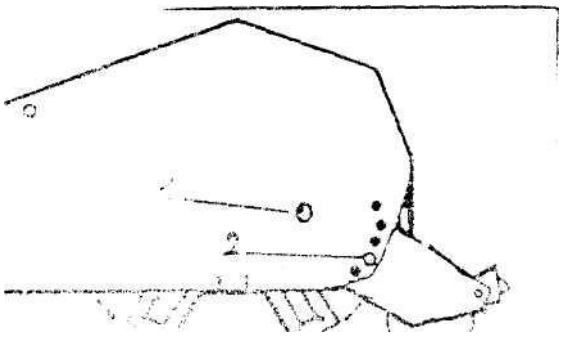
3.2 Adjusting the Height

In order to conduct precise work, the machine shall be operated according to the recommended cutting height.

For saving fuel and power, and reducing the wear of the machine, the cutting height must

be regulated correctly.

When regulating the working height, loosen the screw (1), remove the screws (2) on both sides; regulate the roller height (see following drawing); fix the parts on the set position. The lowest hole is the highest working height; put the screws (2) into the set hole; tighten screw (1) and screws (2).



3.3 Regulating the Tension of Driving Belt

ATTENTION: The machine shall always stand still for regulating the tension.

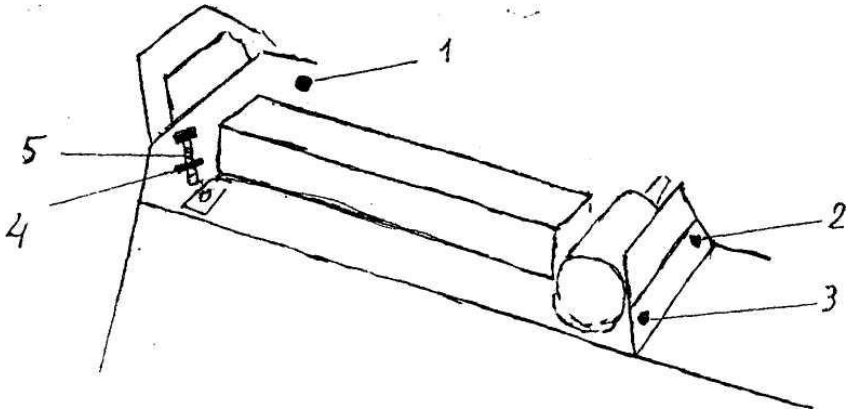
Remove the driving belt cover.

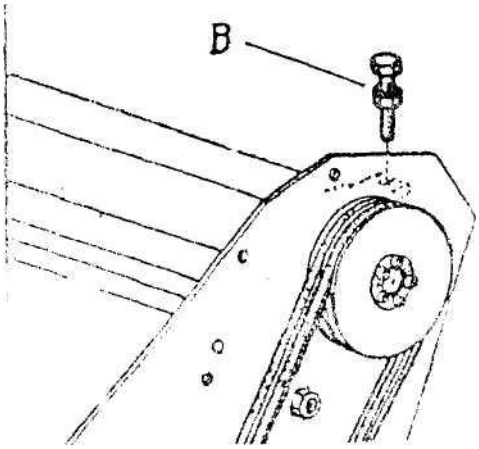
Loosen screws 1. 2. 3. 4.

Tighten the driving belt with screw 5.

Tighten the screws 1. 2. 3. 4.

Put back the driving belt cover.





The recommended moving forward speed is 1.5 km/h, according to the grass height, thickness and working condition.

The driving belts are tightened by hand at the regulating point B up to the correct tension. Tighten all screws after regulating.

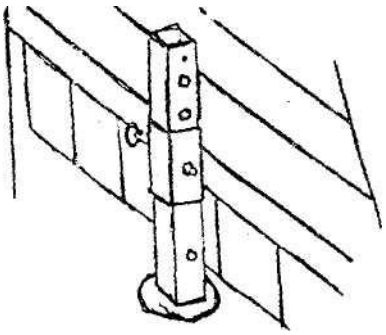
The driving belts shall be replaced when they are not in a good condition.

3.4 Starting up

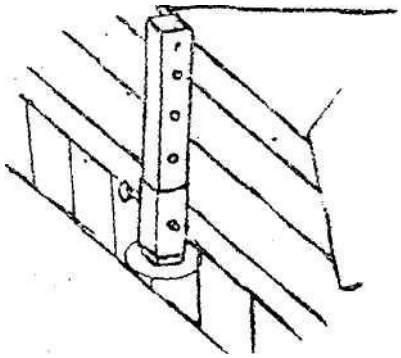
Before starting the machine, control and adjust the following items:

- Tension of trapezoidal driving belt.
- Oil level of gear.
- Point of lubrication
- All bolts, nuts and screws.

Working Position



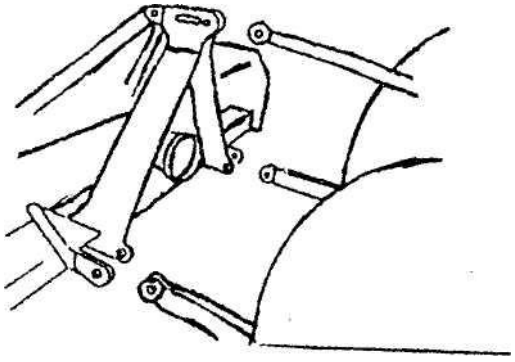
Moving Position

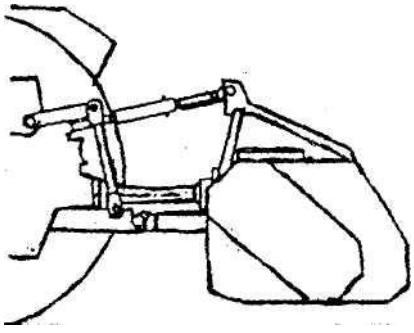


In order to keep the machine stable, install the supporting frame on the machine when the machine is stopped (see above drawing).

ATTENTION: When transferring the moving state of the machine to the working state, do not stand between the machine and the tractor.

The machine coupling is equipped with 3 pins so that the machine can be coupled with all tractors with universal coupling with 3 pins. Each telescopic pole on the machine can be adjusted properly according to the type of the tractor. Keep the Flail mower a certain distance away from the tractor. The universal joint shall be tense and the largest distance in the closed state shall be 5/10 cm.





Moving the lifting arm, and putting it between axes, insert the joint pins and fix them with pins. Fix the lifting arm with chain and tensioning device so as to prevent lateral movement of the machine. Connect the universal joint to the PTO shaft of the tractor on the side of the tractor. In any event, it cannot produce a collision in any position. While connecting 3 points, pay attention that the PTO shaft of the tractor shall be parallel with the ground. It is very important to keep the machine driving axle and the PTO shaft of the tractor in parallel.

The machine shall be lifted from the ground before moving the machine.

CHAPTER Ⅳ SERVICE AND MAINTENANCE

4.1 Service

4.1.1 FLUIDS AND LUBRICANTS

1. Grease:

   Use multi-purpose lithium based grease.

2. Gear Box Oil:

   Use N46 drive &hydraulic dual-purpose oil or equivalent for all operating conditions.
   Each Gearbox Capacity: 0.85 liter

3. Storing Lubricants:

   Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

4.1.2 GREASING

- Use a hand-held grease gun for all greasing.
- Wipe grease nipple with a clean cloth before greasing, to avoid injecting dirt and grit.
- Replace and repair broken nipple immediately.
- If nipples will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace nipple if necessary.

4.2 Maintenance



ATTENTION: All maintenance, repairing, cleaning and lubricating shall be conducted when the tractor and motor are stopped and the key is taken away.

By following a careful service and maintenance program for your machine, you will enjoy many years of trouble-free operation.

The period recommended is based on normal operating conditions. Severe or unusual conditions may require more frequent maintenance.

4.2.1 8 HOURS OR DAILY MAINTENANCE

- Check and screw all nuts and bolts in connection parts.
- Check the blade and fixing parts every day and replace the damaged parts if they are found damaged. Don't install damaged, worn and unbalanced blade. New sleeve shall be used to replace the worn fixing parts on the blade.

  NOTE:

  The operator shall put on gloves and use suitable tools before changing blade.

- Check the oil in gearbox. Fill them up to line if it's necessary.
- Press grease in each oil nipple three to five times.
- Clean the implement; remove all grass and mud.



IMPORTANT: Check the oil level only when the unit is cold and the machine is on the level.

4.2.2 SEASON MAINTENANCE

- Check the machine as below beside the terms of daily maintenance.
- Check the oil in gearbox; replace it if it is bad.
- Check the bearings of blade spindles whether mud and water have been enter because oil seals are damaged, if it's so, disassemble and clean them and replace them if it is necessary. And then apply grease to them.
- Check the distance between bearings and gears. Adjust them if it's necessary.

4.2.3 ANNUALLY MAINTENANCE

- Clean mud and grass on the machine thoroughly.
- Check all clearance between bearings and gears if you have replaced them. Please run it without load for 3-5 minutes.
- Check and clean blade axles. Replace oil seals and apply grease to them.
- Check all blades, replace then if they are wear-out or damaged.
- Repair the side skirts; let them to original technical condition. Replace damaged or broken protective devices.
- Remove the driving shaft from the machine. Pull the machine driving shaft apart. Check and replace any components that are damaged or worn. Install the driveline on the machine. The machine driving shaft should telescope easily and the guard turn freely on the shaft
- Let the oil in gearbox drain out thoroughly. Check and clean it. Fill new gear oil up to the dedicated oil level.

  The oil shall be drained off after 50 hours of using time. Then the oil shall be drained off every 250 hours. One time every year at least.

  The draining procedure is as follows: remove the draining bolt under the gear box, so that the oil drains off. After the oil is drained off, put back the cover and fill the gear oil up to the dedicated oil level.



ATTENTION: Don't forget to disconnect the generator cable and batteries when welding on the machine, while the machine is coupled with the tractor.

4.3 Storage

The machine inside and outside shall be cleaned carefully so as to avoid corrosion.

Don't spray water on the rolling bearing if you clean the machine with high pressure sprayer.

Check and clean the universal joint, driving belt press roller, or replace them if they are not in good state.

Spread oil on all parts required.

Recoat the parts rubbed and damaged for anti corrosion.

Store the machine in a dry, level area. Support the frame with planks if require.

4.4 Operation After Storage

Before the machine is started up, check the following items regularly:

Check oil level and add it if not enough.

Check and tighten all screws and nuts;

Check the regulated state of the machine.

Check the blade state.

Check the air hole on the gearbox. If it is blocked, clean or open the hole with compressed air.

Don’t spread oil or grease on the driving belts. If there is oil or grease on the belts, wipe the belts, in case belt sliding and wearing occurs.



ATTENTION: Check the machine every 10 hours. Repair the damaged parts or replace the blade according to the manufacturer’s recommendation, to keep the machine balancing.

Check all tightening parts and replace them if necessary.

Don’t remove the protective parts on some points and protect the machine.



ATTENTION: In the case of vibration, stop the machine and check the blade. If the blade breaks or is damaged, replace it with same type of the blade. If the machine vibrates still, send the machine to the authorized repairer.

CHAPTER Ⅴ ILLUSTRATED PARTS CATALOGUE

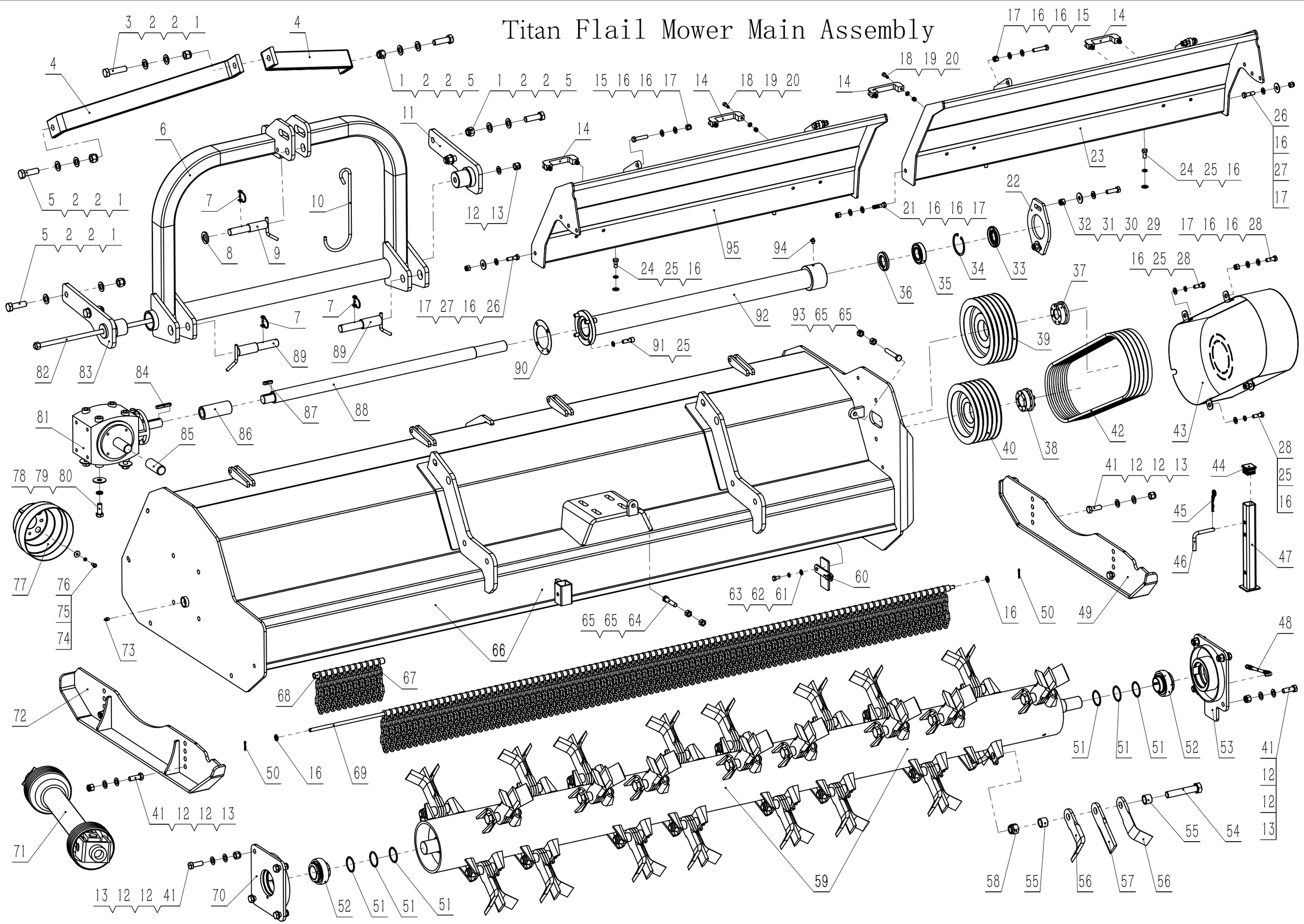
The manual contains a parts list for your machine. It is divided into major sections, which correspond to the groups shown in the Table of Contents and the accompanying illustration.

The first page of each major section lists the contents of that section, each of which consists of exploded views and related tabular listings.

When ordering parts

Always give your dealer the Model of your machine to assist him in ordering and obtaining the correct parts. Use the exploded view and tabular listing of the area of interest to exactly identify the required part.

Titan Flail Mower Main Assembly

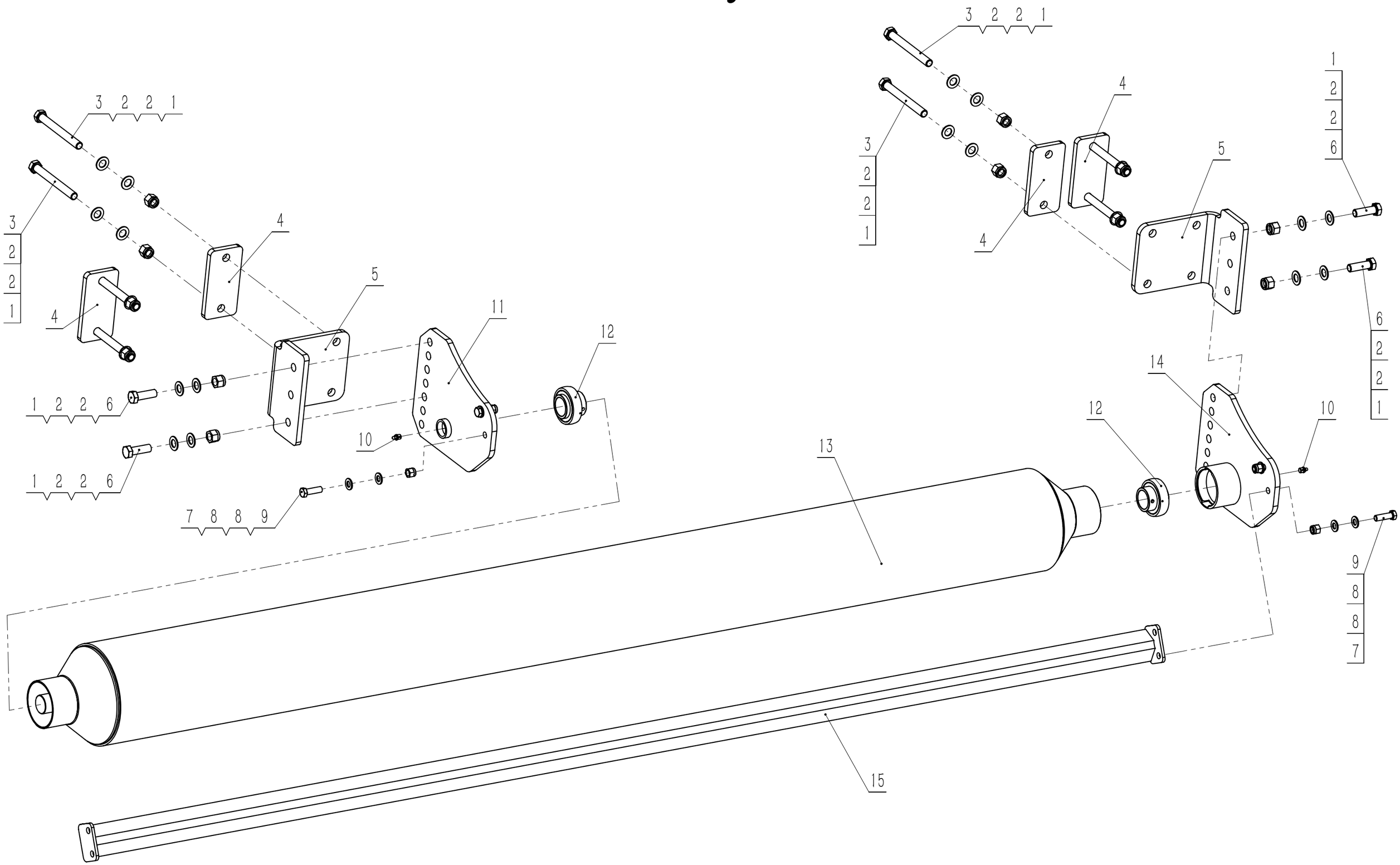


S/N	Part Number	Name & Specification	Q'ty	Remark
1	GB/T 889.1-M20	Lock nut M20	7	
2	GB/T 97.1-Ø20	Flat washer 20	14	
3	GB/T 5782-M20×80	Bolt M20×80	1	
4	EFQ280.106	Suspension plate	2	
5	GB/T 5783-M20×65	Bolt M20×65	6	
6	EFQ280.012	Suspension weldment	1	
7	AG170.115	Lock pin 4.5	3	
8	GB/T 1230-Ø24	High-strength washer for steel structure 24	1	
9	FVH200.025	Upper suspension pin weldment	1	
10	AGL125-111	Hook	1	
11	EFQ280.014	Suspension right connecting plate	1	
12	GB/T 97.1-Ø16	Flat washer 16	25	
13	GB/T 889.1-M16	Lock nut M16	13	
14	DK2000-LS120	Plastic handle (center hole 120)	4	
15	GB/T 5782-M12×55	Bolt M12×55	4	
16	GB/T 97.1-Ø12	Flat washer 12	24	
17	GB/T 889.1-M12	Lock nut M12	9	
18	GB/T 70.1-M8×25	Hexagon socket head screw M8×25	8	
19	GB/T 97.1-Ø8	Flat washer 8	8	
20	GB/T 889.1-M8	Lock nut M8	8	
21	GB/T 5782-M12×45	Bolt M12×45	1	
22	AG170.109	Transmission shaft support plate	1	
23	EFQ280.025	Right rear cover weldment	1	280...300
24	GB/T 5783-M12×25	Bolt M12×25	4	
25	GB/T 93-Ø12	Spring washer 12	10	
26	GB/T 5783-M12×40	Bolt M12×40	2	
27	GB/T 96.1-Ø12	Large flat washer 12	2	
28	GB/T 5783-M12×35	Bolt M12×35	4	
29	GB/T 5783-M14×45	Bolt M14×45	2	
30	GB/T 97.1-Ø14	Flat washer 14	2	
31	GB/T 96.1-Ø14	Large flat washer 14	2	
32	GB/T 889.1-M14	Lock nut M14	2	
33	GB/T 13871.1-40×80×10	TC skeleton oil seal 40×80×10	1	
34	GB/T 893.1-Ø80	Elastic retaining ring for hole 80	1	
35	GB/T 276-6208-2RZ	Deep groove ball bearing 6208-2RZ	1	
36	GB/T 13871.1-45×72×10	TC skeleton oil seal 45×72×10	1	

37	AGF140.151	Z3 expansion sleeve 40×80	1	
38	EFK190.151	Z3 expansion sleeve 45×80	1	
39	EFQ280.117	Large pulley	1	
40	EFQ280.116	Small pulley	1	
41	GB/T 5783-M16×45	Bolt M16×45	12	
42	GB/T 11544-BX(17)×1650	Belt BX(17)×1650	5	
43	EFQ280.028	Pulley cover weldment	1	
44	AT120-123	Cover	1	
45	EFGC175.130	R pin 3.5	1	
46	EFGC175.115	Support foot pin	1	
47	EFH260.016	Support foot weldment	1	
48	AGH200.057	Refueling pipe assembly	1	
49	EFQ280.023	Right bottom plate weldment	1	
50	GB/T 91-4×25	Split pin A type 4×25	2	
51	EFH260.115	Adjusting washer	6	
52	GB/T 3882-UK211+H2311	External spherical ball bearing with locking sleeve UK211 +H2311	2	SKF
53	EFH260.022	Right cutter shaft be weldment	1	
54	GB/T 5782-M24×130	Bolt M24×130	32/36	280/300 (10.9Grade)
55	EFH260.107	Blade spacer	64/72	280/300
56	EFH260.103	Y-shaped blade	64/72	280/300
57	EFH260.118	Vertical blade	32/36	280/300
58	GB/T 889.1-M24	Lock nut M24	32/36	280/300 (10Greade)
59	EFQ280.015	Blade shaft weldment	1	280...300
60	EFQ280.033	T-type baffle weldment	1	
61	GB/T 97.1-Ø10	Flat washer 10	2	
62	GB/T 93-Ø10	Spring washer 10	2	
63	GB/T 5783-M10×20	Bolt M10×20	2	
64	GB/T 5783-M14×70	Bolt M14×70	1	
65	GB/T 6170-M14	Nut M14	4	
66	EFQ280.011	Hood weldment	1	280...300
67	EFK190.118	9-link chain	107/115	280/300
68	FM120.109	Suspension spacer	107/115	280/300
69	EFQ280.115	Baffle shaft	1	280...300
70	EFH260.023	Left knife shaft bearing seat weldment	1	
71	T5S-Y6W-05-05-1000	PTO 05B1000	1	
72	EFQ280.024	Left bottom plate weldment	1	

73	JB/T 7940.1-M10×1	Oil cup M10×1	1	
74	GB/T 96.1-Ø8	Large flat washer 8	4	
75	GB/T 93-Ø8	Spring washer 8	4	
76	GB/T 5783-M8×16	Bolt M8×16	4	
77	EFGC175.123	PTO protective cover	1	
78	GB/T 96.1-Ø16	Large flat washer 16	4	
79	GB/T 93-Ø16	Spring washer 16	4	
80	GB/T 5786-M16×1.5×40	Bolt M16×1.5×40	4	
81	XH65.300Z.02W	Gearbox assembly	1	
82	EFQ280.030	Threaded rod weldment	1	
83	EFQ280.013	Suspension left connecting plate	1	
84	GB/T 1096-10×65	Ordinary flat key A type 10×65	1	With Gearbox
85	EFGC175.133	Spline shaft dust cover	1	
86	EFGC175.105	Shaft sleeve	1	
87	GB/T 1096-10×40	Ordinary flat key A type 10×40	1	
88	EFQ280.105	Drive shaft	1	
89	EFQ280.031	Lower suspension pin weldment	2	
90	EFGC175.118	Paper washer	1	
91	GB/T 70.1-M12×1.25×35	Hexagon socket hea M12×1.25×35	4	With Gearbox
92	EFQ280.027	Drive shaft tube weldment	1	
93	GB/T 5783-M14×90	Bolt M14×90	1	
94	GB/T 1153-M10×1×90°	Oil cup M10×1×90°	1	
95	EFQ280.026	Left rear cover weldment	1	280...300

Titan Roller Assembly



S/N	Part Number	Name & Specification	Q'ty	Remark
1	GB/T 889.1-M16	Locknut M16	12	
2	GB/T 97.1-Ø16	Flat washer 16	24	
3	GB/T 5782-M16×150	Bolt M16×150	8	
4	EFQ280.108	Mounting plate	4	
5	EFQ280.107	Drum connecting plate	2	
6	GB/T 5783-M16×50	Bolt M16×50	4	
7	GB/T 889.1-M12	Locknut M12	4	
8	GB/T 97.1-Ø12	Flat washer 12	8	
9	GB/T 5783-M12×40	Bolt M12×40	4	
10	JB/T 7940.1-M10×1	Oil cup M10×1	2	
11	EFQ280.017	Drum left hanging plate	1	
12	GB/T 3882-UC208	External spherical ball bearing with top screw UC208	2	
13	EFQ280.016	Drum weldment	1	280...300
14	EFQ280.018	Drum right hanging plate	1	
15	EFQ280.019	Scraper weldment	1	280...300

The information contained in this operations manual is a general introduction only. The information contained herein may be modified at any time, for any reason. Modification may affect the details or specifications of the product described in this manual. Therefore, users – dealers must include the manufacturing date and serial number when placing an order for spare parts and components. Thanks.

November 2025