

# ATV TOW- BEHIND FLAIL MOWERS

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**AT100, AT120**

191530,191498



## Operator's Manual



Read the Operator's Manual entirely. When you see this symbol, the subsequent instructions and warnings are serious follow without exception. Your life and the lives of others depend on it!

## INTRODUCTION

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Thank you for purchasing a TITAN BRANDS product. Please read this Manual carefully and familiarize yourself and other persons that will be using the machine with its contents, to ensure the optimum performance and working life of your machine.

The Tow-Behind Flail Mower hooks up to the ball receiver on any ATV or UTV. It is equipped with a Briggs and Stratton 420cc XR Professional Series Engine with an electric start and 13.5 Gross Horsepower. By using this flail mower with an ATV or UTV, you can cut through tough terrain that is covered in heavy weeds with ease.

### **PLEASE READ THE FOLLOWING PAGES CAREFULLY BEFORE USING YOUR MACHINE**

TITAN BRANDS machines are guarded for your protection, but you must always observe certain basic precautions. Machines are potentially dangerous, and **ALL OPERATORS MUST** read this manual and are aware of all safety precautions.

1. NEVER attempt any adjustment unless the machine is **COMPLETELY** at a standstill.
2. NEVER attempt to clear any obstructions around the mower unless the machine is **COMPLETELY** at a standstill.
3. NEVER remove belt guards unless the machine is **COMPLETELY** at a standstill.
4. NEVER remove safety guards which are provided for your protection.
5. NEVER operate the mower with people behind, keep safe distance of minimum 60 feet.
6. Regularly inspect the **BLADES AND FIXING BOLTS**.
7. Replace blades **IMMEDIATELY** if any signs of fracture or excess wear becomes apparent. Serious damage may result from using your mower with an unbalanced rotor. When replacing blades, always fit new mounting bolts and nuts to ensure that the rotor is balanced and running smoothly.
8. **Engine oil is 10W-30 grade SJ, and regular gasoline is recommended for the Briggs and Stratton 420cc XR Professional Series Engine. The operator can find oil capacity and specification from the engine manufacturer's instructions. Always check the oil level before starting the mower.**

## **IMPORTANT ATV SAFETY WARNINGS**

### **BODY PROTECTION**

- Remember that when riding on an ATV the only form of protection that you have is what you wear. ALWAYS wear a helmet, eye protection and suitable robust clothing.
- Never operate an ATV or attachments while under the influence of alcohol or non-prescription drugs.
- Contact your doctor before operation of an ATV or attachments while under the influence of any prescription drugs.

### **ATV MANUAL**

Before coupling any implement to your ATV refer to your ATV handbook.

### **STABILITY**

- When using equipment coupled to an ATV it is very important to remember that the handling characteristics of your ATV will change dramatically, whether the additional

load is placed on the front or rear rack or trailed on the towing ball hitch.

### **WEIGHT CAPACITY**

- Always ensure that the implement or attachment that you are coupling to the ATV is within the ATV's drawbar loading or weight carrying capacity. Refer to the ATV manufacturer's handbook to obtain information on the specific capacities.
- It is most important that you know the weight of your load, especially when on slopes or hillsides.
- As a guide, on level ground with an unbraked implement, the weight of the implement should be approximately no more than twice the unladen weight of the ATV. This should be reduced on sloping, uneven, or rough ground.

### **TOWING**

- Never tow loads larger or heavier than recommended for your ATV. (See ATV handbook).
- Never tow or turn across a slope.
- Never tow down a steep slope with a large or heavy load.
- When towing heavy loads there is a significant risk of jack-knifing or overturning.

### **ROUGH TERRAIN**

- Always take care when operating implements on rough terrain or uneven ground.
- Take special care when operating on slippery surfaces especially hill sides or slopes.
- Take extra care when towing on hillsides, slopes, or rough terrain.

### **OPERATING ON ROADS**

- Implements are not designed for travelling distances on roads but when crossing or going short road distances always travel slowly
- Make sure that your equipment complies with Road Vehicle Lighting Regulations.
- Ensure that you have the correct insurance cover and comply with all relevant laws.

### **PASSENGERS**

- Never carry passengers on any kind of implement or attachment, especially children.

### **MAINTENANCE**

- Service your ATV and attachments as per the manufacturer's handbook. Regular servicing of your ATV will ensure that it will steer, stop and handle to its best ability and your attachment will operate as safely and effectively as possible. Regular servicing helps ensure the longest possible working life for your equipment.

### **EQUIPMENT SAFETY INSPECTION**

Check tire pressure, incorrect tire pressure can seriously affect the handling of your ATV. (See Operators handbook).

Maintain your equipment regularly to keep it in safe working order.

### **ROUTE / RISK ASSESSMENT**

- Assess and plan the route that you intend to travel to avoid any type of hazards i.e., rocks, boulders, ditches, hidden fences or wire, potholes, low hanging branches or any other type of hazard.

- Where possible stay with a routine route to avoid hazards.
- The risk may change in wet or wintery conditions, avoid slopes where possible.

## **USE YOUR MOWER**

**It is recommended that every machine is inspected after one hour of operation to check that all nuts, bolts, screws, or any other types of fixings are tight. Further inspections should be carried out at regular intervals thereafter.**

### **OPERATION**

1. Manual Clutch - Always start the engine with the clutch disengaged. IMPORTANT - To commence cutting, engage the clutch slowly!
2. Suitable forward speed will be determined by the amount, type, and condition of material to be cut. In very difficult conditions, better results will be obtained by making two passes, and adjusting cutting height accordingly.
3. Cutting height is adjusted by turning the adjustment handle in the relevant direction.

### **BELT ADJUSTMENT**

1. Remove the belt cover.
2. Loosen clamping bolt.
3. Tighten belts using adjusting screw and lock off.
4. Retighten clamp bolt.
5. Replace the belt cover

**MAINTENANCE IMPORTANT! Check all fastening sets (bolts and nuts) are tight after the first hour of operation.**

### **LUBRICATION**

- DAILY (8-10 working hours)
- Grease main rotor bearings.
- Grease roller bearings.
- Grease wheel bearings.

### **FLAIL BLADES**

- The condition of the flail blades should be inspected daily. Damaged flail blades cause imbalance in the rotor and in turn, will cause serious damage to the mower.
- If the mower begins to vibrate, stop work immediately and investigate. Almost certainly the cause will be damaged flail blades, or foreign objects around the flail rotor.

### **FLAIL BLADES - CHANGING**

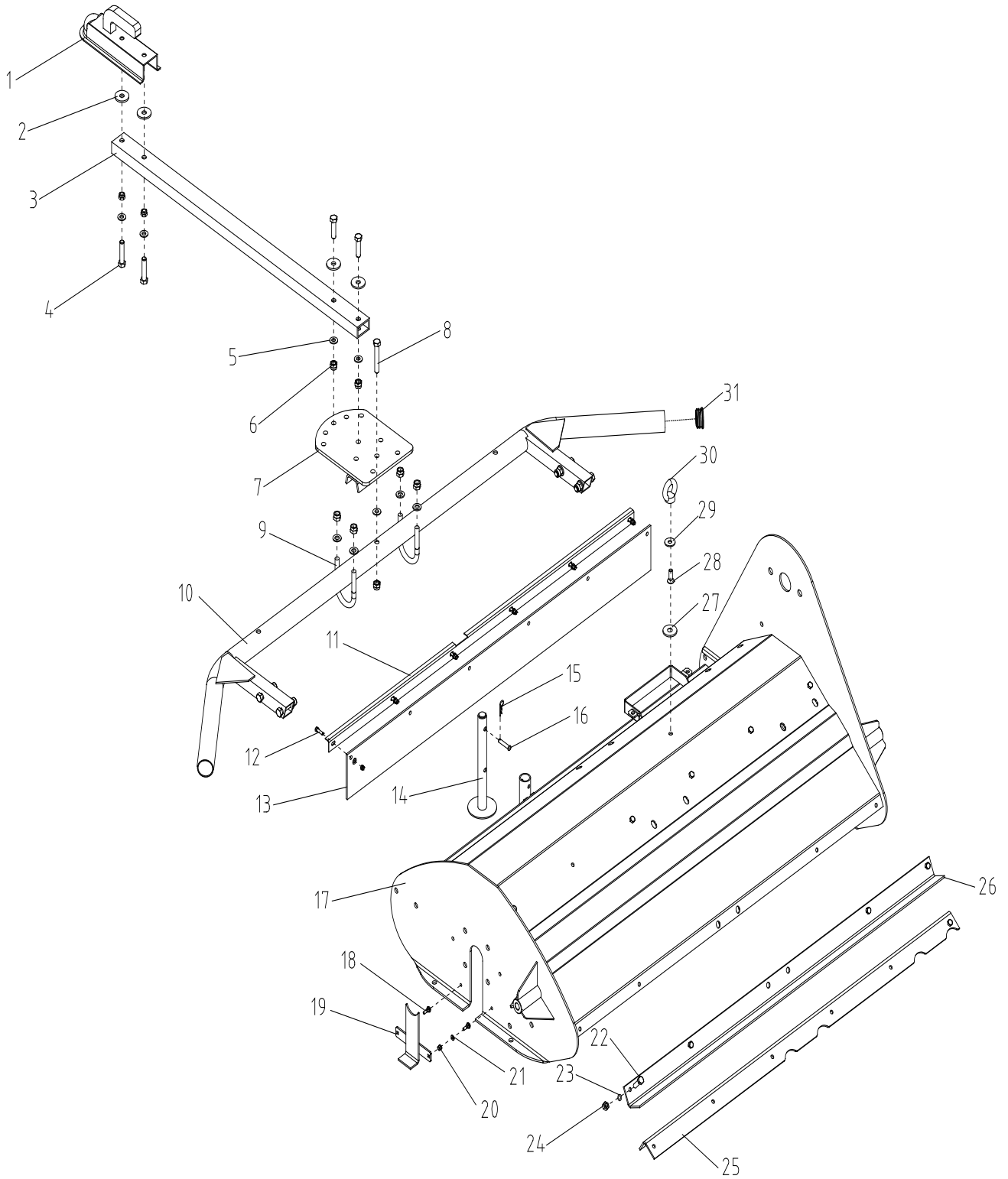
- When fitting new flail blades, unhitch the mower from the tractor/ATV and lift the mower up enough to access the blades, (preferably with a hoist or mechanical lifting equipment). Remove the damaged flail blades and replace.
- It is important that the rotor remains balanced. Always fit new bolts and nuts when replacing the flails and preferably fit a full set. If only one or two flails are being replaced, they should be fitted opposite to each other on the rotor, to keep the rotor balanced.

## TROUBLESHOOTING

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Issue	Cause	Fix
Leaving wheel track uncut	1. Forward speed too fast 2. Cutting height too high	Reduce forward speed Lower cutting height
Bad quality of cut	1. Forward speed too fast 2. Excessive blade wear 3. Belt slipping	Reduce forward speed Replace blades Tighten belts
Narrow strip uncut	1. Possibly missing or broken blade	Inspect blades and replace as necessary
Excessive vibration	1. Damaged or missing blades 2. Bent flail rotor 3. Main rotor bearing failed 4. Loose part	Inspect blades and replace blades Inspect rotor Inspect bearing, replace if damaged Check all nuts and bolts are tight
Excessive scalping	1. Cutting height too low	Raise cutting height.

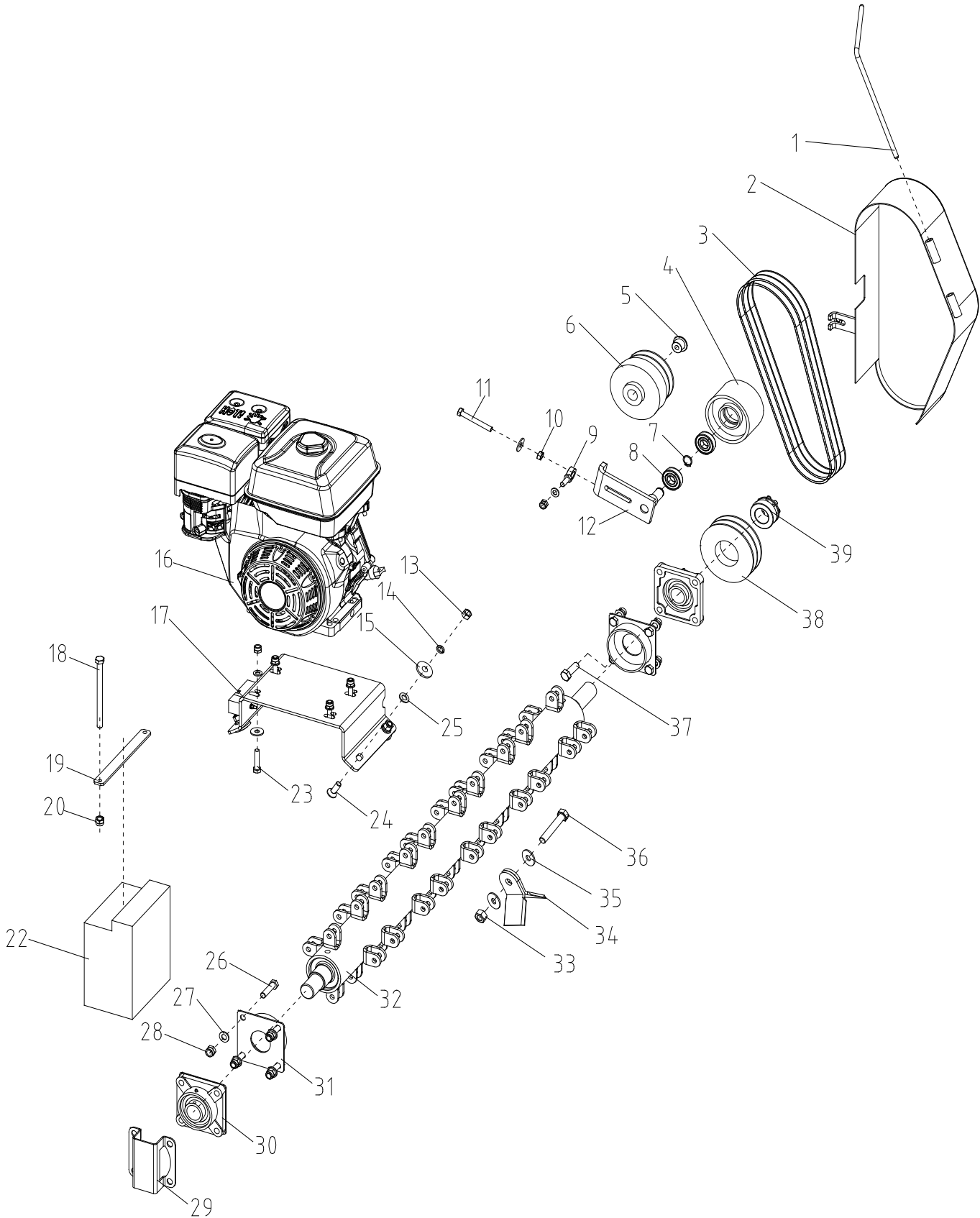
# COVER ASSEMBLY PARTS DIAGRAM / EXPLODED VIEW



COVER ASSEMBLY PARTS LIST

REF	PART NUMBER	DESCRIPTION	QTY
1	GM-8610	TRAILER COVER 50*50	1
2	MF120.01.101	BIG FLAT MAT Φ13	4
3	MF120.01.102	SQUARE TUBE	1
4	GB/T5782-2000	BOLT M12X60	8
5	GB/T97.1-2002	FLAT MAT 12	13
6	GB/T889.1-2000	NUT M12	13
7	MF120.01.013	TURNTABLE WELDMENT	1
8	GB/T5782-2000	BOLT M12X90	1
9	MF120.01.103	U HOOP 68	2
10	MF120.01.012	PIPE WELDMENT	1
11	MF120.01.109	RUBBER PLATEN	1
12	GB/T5782-2000	BOLT M6X25	6
13	MF120.01.108	RUBBER SHEET	1
14	MF120.01.015	SUPPORTING FRAME	1
15	FEL300.114	PIN Φ2R	1
16	GB/T882-2000	B PIN 8X40	1
17	MF120.01.011	THE COVER WELDMENT	1
18	GB/T12-2000	BOLT M6X20	2
19	MF120.01.014	BAFFLE WELDMENT	1
20	GB/T889.1-2000	NUT M6	8
21	GB/T97.1-2002	FLAT MAT 6	8
22	GB/T5782-2000	BOLT M8X20	10
23	GB/T97.1-2002	FLAT MAT 8	10
24	GB/T889.1-2000	NUT M8	10
25	MF120.01.107	GRASS BOARD	1
26	MF120.01.105	STRAW BOARD	1
27	MF120.01.106	CONE GASKET	1
28	GB/T70.3-2000	SCREW M10X30	1
29	GB/T96.1-2002	BIG FLAT MAT 10	1
30	JB/T7382	NUT M10	1
31	MF120.01.104	PLASTIC CAP	2

# TRANSMISSION ASSEMBLY PARTS DIAGRAM / EXPLODED VIEW





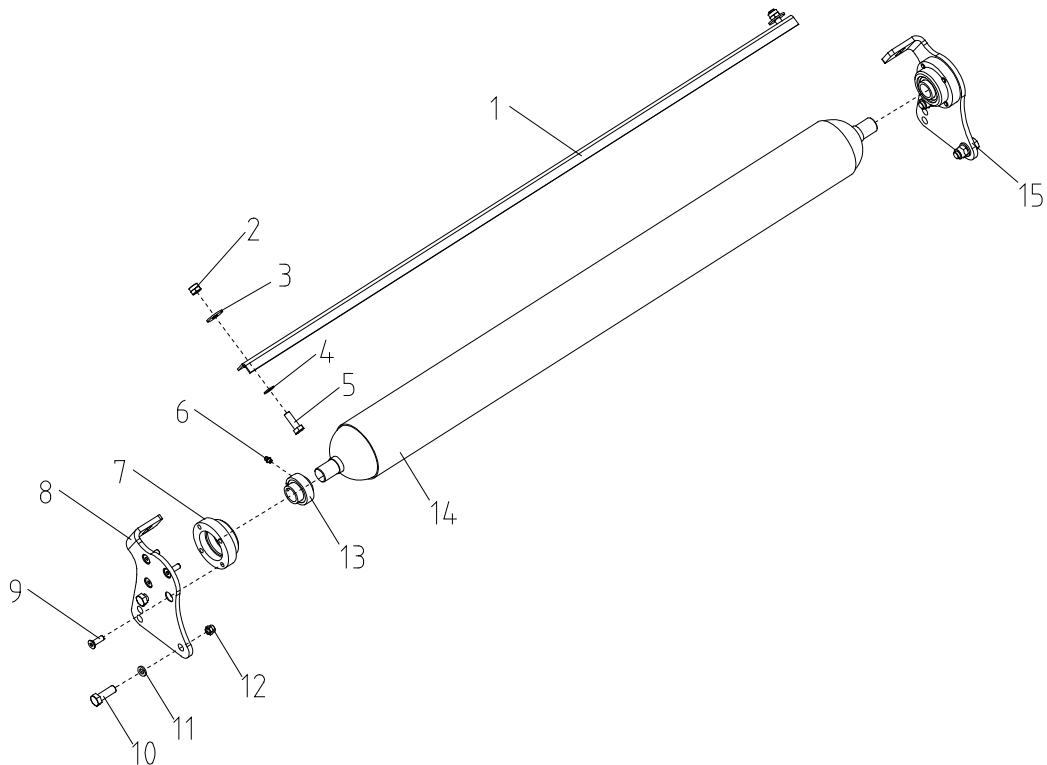
**TRANSMISSION ASSEMBLY PARTS LIST**

<b>REF</b>	<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QTY</b>
1	MF120.02.107	LOCATING ROUND STEEL	1
2	MF120.02.013	BELT PULLEY COVER	1
3	GB/T1154-97	STRAP SPB1393	2
4	MF120.02.108	TIGHTENING WHEEL	1
5	MF120.02.102	PRESSING SLEEVE	1
6	L65BH 120XSPBX2-25.4A	CENTRIFUGAL CLUTCH	1
7	GB/T894.2-1986	CIRCLIP 20	1
8	GB/T276-1994	BEARING 6204-2RS	2
9	MF120.02.014	PULL RING WELDMENT	1
10	GB/T6170-2000	NUT M10	1
11	GB/T5783-2000	BOLT M10X80	1
12	MF120.02.015	ARM TIGHTENING	1
13	GB/T6170-2000	NUT M12	14
14	GB/T93-2002	SPRING WASHER 12	4
15	GB/T97.1-2002	FLAT MAT 12	4
16	JF420A	MANUAL GASOLINE ENGINE	1
17	MF120.02.103	ENGINE BASE	1
18	GB/T5782-2000	BOLT M8X200	2
19	MF120.02.110	BATTERY PRESSURE PLATE	1
20	GB/T889.1-2000	NUT M8	2
21	MF120.02.109	BATTERY COVER	1
22	V-36A	BATTERY 36A	1
23	GB/T97.1-2002	FLAT MAT 1	5
24	GB/T70.3-2000	SCREW M12X35	4
25	MF120.01.106	CONE GASKET	4
26	GB/T5782-2000	BOLT M12X45	4
27	GB/T97.1-2002	FLAT MAT 12	8
28	GB/T889.1-2000	NUT M12	8
29	MF120.02.106	COVER PLATE	1
30	GB/T7180-1995	BEARING UCFU207	2
31	MF120.02.012	DUST COVER	1
32	MF120.02.011	CUTTER SHAFT	1
33	GB/T889.1-2000	NUT M10	47
34	MF120.02.101	BLADE	80
35	GB/T96.1-2002	BIG FLAT MAT 10	127

36	GB/T5782-2000	BOLT M10X50	44
37	GB/T5782-2000	BOLT M12X50	4
38	MF120.02.104	PULLEY	1
39	JB/T7934-00	EXPANSION 35X60	1

**ROLLER ASSEMBLY PARTS DIAGRAM / EXPLODED VIEW**

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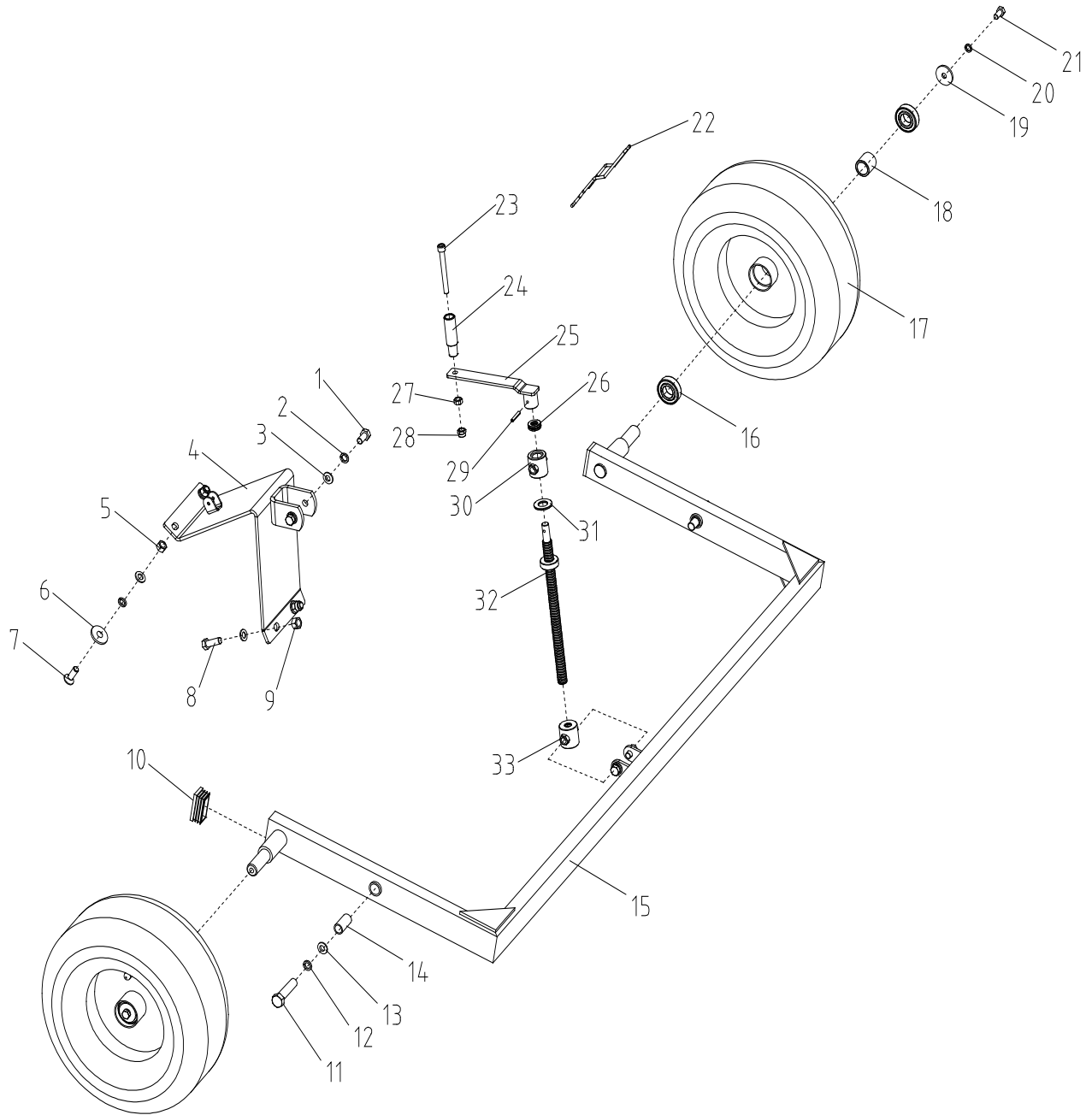


**ROLLER ASSEMBLY PARTS LIST**

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<b>REF</b>	<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QTY</b>
1	MF120.03.102	SCRAPER	1
2	GB/T889.1-2000	NUT M10	2
3	GB/T96.1-2002	BIG FLAT MAT 10	2
4	GB/T97.1-2002	FLAT MAT 10	2
5	GB/T5782-2000	BOLT M10X30	2
6	GB/T1152-89	OIL CUP	2
7	EFGC125.107	BEARING	2
8	MF120.03.101	SUPPORTING FOR ROLLER (R)	1
9	GB/T70.3-2000	SCREW M8X25	8
10	GB/T5782-2000	BOLT M12X35	4
11	GB/T97.1-2002	FLAT MAT 12	4
12	GB/T889.1-2000	NUT M12	4
13	GB/T3882-2000	BEARING UC205	2
14	MF120.03.011	ROLLER WELDMENT	1
15	MF120.03.103	SUPPORTING FOR ROLLER (L)	1

# TIRE RACK ASSEMBLY PARTS DIAGRAM / EXPLODED VIEW



**TIRE RACK ASSEMBLY PARTS LIST**

<b>REF</b>	<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QTY</b>
1	GB/T5782-2000	BOLT M12X20	4
2	GB/T93-2002	SPRING WASHER 12	6
3	GB/T97.1-2002	FLAT MAT 12	8
4	MF120.04.012	ROCKER BASE	1
5	GB/T6170-2000	NUT M12	2
6	MF120.01.106	CONE GASKET	2
7	GB/T70.3-2000	SCREW M12X35	2
8	GB/T5782-2000	BOLT M12X35	2
9	GB/T889.1-2000	NUT M12	2
10	MF120.04.103	PLASTIC COVER	2
11	GB/T5782-2000	BOLT M16X70	2
12	GB/T93-2002	SPRING WASHER 16	2
13	GB/T97.1-2002	FLAT MAT 16	2
14	MF120.04.104	BUSHING	2
15	MF120.04.011	BRACKET WELDMENT	1
16	GB/T276-	BEARING 6205-2RS	4
17	4P/TL16*6.5-8	TIRE 16*6.5-8	2
18	MF120.04.101	BEARING SPACER	2
19	MF120.04.102	BIG FLAT MAT $\Phi$ 11	2
20	GB/T93-2002	SPRING WASHER 10	2
21	GB/T5782-2000	BOLT M10X20	2
22	MF120.04.105	LOCK CATCH	1
23	GB/T70.1-2000	BOLT M10*90	1
24	MF120.04.107	PLASTIC HANDLE	1
25	MF120.04.016	ROCKER ARM WELDMENT	1
26	GB/T301	BEARING 51102	1
27	GB/T6170-2000	NUT M10	1
28	GB/T889.1-2000	NUT M10	1
29	GB/T879.2-2000	ELASTIC PIN	2
30	MF120.04.015	TURN SLEEVE WELDMENT	1
31	MF120.04.106	COPPER PAD	1
32	MF120.04.013	SCREW SLEEVE	1
33	MF120.04.014	ROCKER WELDMENT	1
34	MF120.04.108	PLASTIC COVER	2

## ACKNOWLEDGEMENT OF RISK AND RELEASE OF LIABILITY

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The use of any equipment, including this one, involves the potential risk of injury. Apart from any warranty claim that might be presented for a claimed defect in material or workmanship of the product, you accept and assume full responsibility for any and all injuries, damages (both economic and non-economic), and losses of any type, which may occur, and you fully and forever release and discharge Titan, its insurers, employees, officers, directors, associates, and agents from any and all claims, demands, damages, rights of action, or causes of action, present or future, whether the same be known or unknown, anticipated, or unanticipated, resulting from or arising out of the use of said equipment.

This equipment must be used with care by capable and competent individuals under supervision, if necessary.

## WARNING

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**Do not overfill!** Mower should be level when checking oil in gear box.



some activities might be able to cause electric shock



Sharp objects may be involved.  
Use protective cover during maintenance.

## TITAN LIMITED WARRANTY: TERMS, EXCLUSIONS AND LIMITATIONS OF REMEDIES

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This product comes with a one (1) year limited warranty that can be found at [www.palletforks.com/warranty.html](http://www.palletforks.com/warranty.html). Please review the same for all details regarding the Titan Limited Warranty.

**THE TITAN LIMITED WARRANTY FOUND AT [WWW.PALLETFORKS.COM/WARRANTY.HTML](http://WWW.PALLETFORKS.COM/WARRANTY.HTML) IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE, EACH OF WHICH IS HEREBY DISCLAIMED.**



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**1-800-605-7595**

[info@palletworks.com](mailto:info@palletworks.com)  
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