

# 3 POINT FLAIL MOWERS

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155FLAIL, 175FLAIL, 185FLAIL, JD155FLAIL, JD175FLAIL,  
JD185FLAIL  
191522, 191523, 191524, 191679, 191680, 191681



## 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!

## IMPORTANT NOTE BEFORE FIRST USE

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- ADD SAE 90 GEAR OIL. DO NOT OVERFLOW. SEE PAGE 15.
- Before first operation, ensure roller weldment is adjusted to proper setting.

## IMPORTANT SAFETY INFORMATION

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### THESE ARE STANDARD PRACTICES THAT MAY NOT APPLY TO THE PRODUCTS DESCRIBED IN THIS MANUAL.

#### SAFETY AT ALL TIMES

Thoroughly read and understand the instructions given in this manual before operation. Refer to the "Safety Label" section, read all instructions noted on them. Do not allow anyone to operate this equipment who has not thoroughly read and comprehended this manual. Do not allow anyone who has not adequately trained in the safe operation of the equipment.

- The operator should be familiar with all functions of the unit.
- Operate implement from the driver's seat only.
- Make sure all guards and shields are in place and secured before operating the tool.
- Do not leave a tractor or implement unattended with the engine running.
- Dismounting from a moving tractor could cause severe injury or death.
- Do not allow anyone to stand between tractor and implement while backing up to implement.
- Keep hands, feet, and clothing away from power-driven parts.
- Wear snug-fitting clothing to avoid entanglement with moving parts.
- Watch out for wires, trees, etc., when raising implements. Make sure all persons are clear of the working area.
- Turning the tractor too tight may cause implement to ride upon wheels. This activity could result in injury or equipment damage.
- Do not carry passengers on the tool at any time.



#### LOOK FOR THE SAFETY ALERT SYMBOL

The **SAFETY ALERT SYMBOL** indicates a potential hazard to personal safety, and individuals must take safety precautions. When you see this symbol, be alert and carefully read the message that follows it. In addition to the design and configuration of equipment, hazard control and accident prevention depend on the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage.

## **BE AWARE OF SAFETY ALERT WORDS**

**DANGER:** Indicates imminently hazardous practices. A situation that, if not avoided, will result in death or severe injury. The signal word is limited to the most extreme situation, typically for machine components that, for functional purposes, cannot be guarded.

**WARNING:** Indicates a potentially hazardous situation that, if not avoided, could result in death or severe injury, and includes hazards that are exposed when guards remove. Use warnings to alert against unsafe practices.

**CAUTION:** Indicates a potentially hazardous situation that may result in minor or moderate injury if not avoided. It may also be used to alert against unsafe practices.

## **FOR YOUR PROTECTION**

Thoroughly read and understand the "Safety Label" section, read all instructions noted on them.

## **SHUTDOWN AND STORAGE**

- Lower machine to the ground, put the tractor in park, turn off the engine, and remove the key.
- Detach and store implements in an area where children typically do not play

## **USE SAFETY LIGHTS AND DEVICES**

- Slow-moving tractors, self-propelled equipment, and towed implements can create a hazard when driven on public roads. They are challenging to see, especially at night.
- Flashing warning lights and we recommend turn signals whenever driving on the public road.

## **TRANSPORT MACHINERY SAFELY**

- Comply with state and local laws
- The maximum transport speed for implement is 20 mph, DO NOT EXCEED. Never travel at a rate that does not allow adequate control of steering and stopping. Some rough terrain requires a slower speed.
- Sudden braking can cause a towed load to swerve and upset. Reduce speed if the towed load is not equipped with brakes.

Use the following maximum speed – tow load weight ratios as a guideline:

- 20 mph when weight is less than or equal to the weight of the tractor.
- 10 mph when weight is double the weight of the tractor.

**IMPORTANT:** Do not tow a load that is more than double the weight of the tractor.

## **KEEP RIDERS OFF MACHINERY**

- Riders obstruct the operator's view; they could be struck by foreign objects or thrown from the machine.
- Never allow children to operate equipment.
- Practice Safe Maintenance
- Understand procedure before doing work. Use proper tools and equipment; refer to

Operator's Manual for additional information.

- Work in a clean, dry area
- Lower the implement to the ground, put the tractor in park, turn off the engine, and remove the key before maintenance.
- Allow implement to cool completely.
- Do not grease or oil implement while it is in operation.
- Inspect all parts. Make sure details are in good condition and installed correctly.
- Remove the buildup of grease, oil, or debris.
- Remove all tools and unused parts from implementation before operation.

### **PREPARE FOR EMERGENCIES**

- Be prepared if a fire starts.
- Keep a first aid kit and fire extinguisher handy
- Keep emergency numbers for doctor, ambulance, hospital, and fire department near the phone.

### **WEAR PROTECTIVE EQUIPMENT**

- Wear protective clothing and equipment appropriate for the job. Avoid loose-fitting clothing.
- Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- Operating equipment safety requires the full attention of the operator. Avoid wearing radio headphones while operating machinery.

### **AVOID HIGH-PRESSURE FLUIDS HAZARD**

- Escaping fluid under pressure can penetrate the skin causing severe injury.
- Avoid the hazard by relieving pressure before disconnecting hydraulic lines or performing work on the system.
- Ensure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system.
- Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.
- Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- If an accident occurs, see a doctor immediately. Remember, any fluid injected into the skin must be treated within a few hours, or gangrene may result.

### **TIRE SAFETY**

- Tire changing can be dangerous, and trained personnel should be the only ones using correct tools and equipment.
- When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.
- When removing and installing wheels, use wheel handling equipment adequate for the weight involved.

## SAFETY LABELS

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Your flail Mower comes equipped with all safety labels in place. They were designed to help your safety operate your implement. Read and follow their directions.



This shows the grease position.

## INTRODUCTION

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### APPLICATION

The Flail Mowers are designed for Category 1, Three-Point Hitch Mounting. These fixed bar Flail Mowers are ideal for ripping, leveling, finish grading, and backfilling applications at outdoor arenas, building sites, and farm and ranch lanes or roadways maintenance operations.

## SECTION 1: ASSEMBLY AND SET-UP

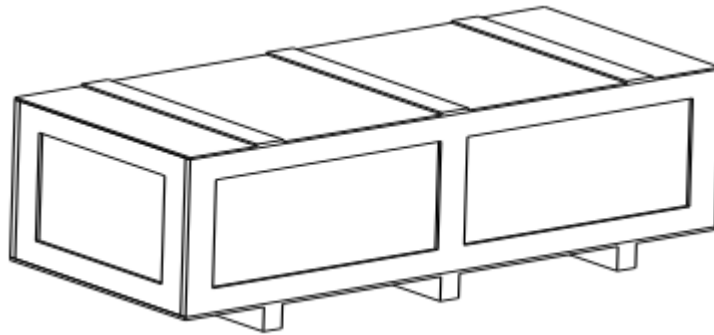
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### TRACTOR REQUIREMENTS

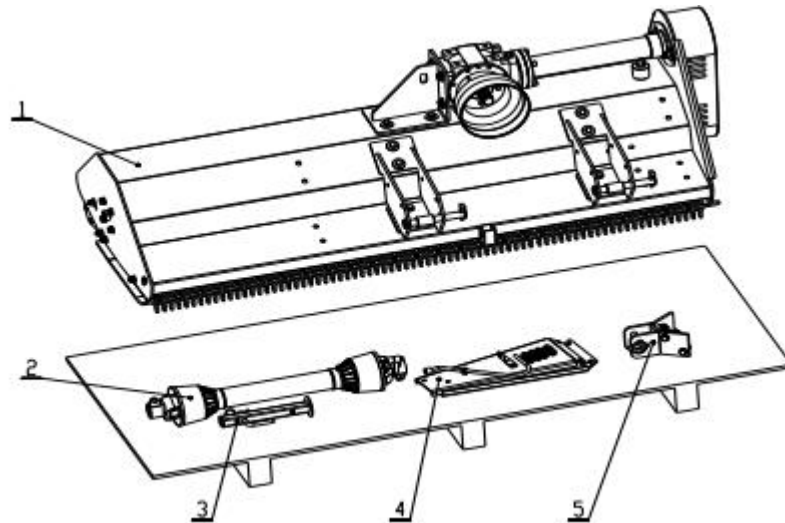
This mower is designed with a Category 1, 3 Point Hitch. Tractor horsepower rating should not exceed 60 PTO horsepower.

### PACKING DESCRIPTION

- Remove and check
- Remove the packing, check goods without defect and omission



*Figure 1-1: Your New Mower as It Is Shipped to You*



*Figure 1-2: The Mower and Accessory in Package*

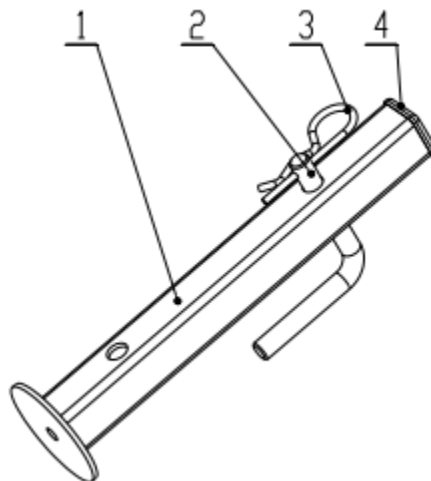
## PACKING LIST

THE DETAILED PACKING LIST OF THE MOWER AND ACCESSORY AS THE FOLLOWING TABLE 1.

Item	Description	QTY	Package Form
1	Main body of the mower	1	None
2	Driveline Shaft	1	None
3	Boot Sub-Assembly	1	Bubble Film
4	R&L Hitch plates and fittings	1	Bubble Film
5	Hitch Bracket weldment and fittings	1	Bubble Film

*Table 1-1: Packing List of The Mower and Accessory*

### THE DETAILED DESCRIPTION OF BOOT SUB-ASSEMBLY



*Figure 1-3: Boot Sub-Assembly*

Item	Description	QTY
1	Boot weldment	1
2	Boot pin	1
3	R-pin	1
4	Plastic Plug	1

*Table 1-2: Boot Sub-Assembly List*

## THE DETAILED DESCRIPTION OF R&L HITCH PLATES AND FITTINGS

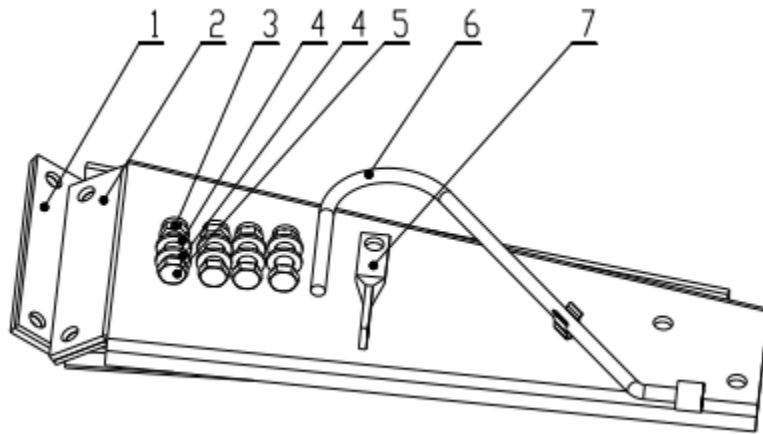


Figure 1-4: R&L Hitch plates and Fittings

Item	Description	Qty.
1	Hitch plate - R	1
2	Hitch plate - L	1
3	Locknut M12	4
4	Plain washer 12	8
5	Bolt M12x40	4
6	Driveline shaft hook	1
7	Hook bracket	1

Table 1-3: R&L Hitch plates and Fittings List

## THE DETAILED DESCRIPTION OF HITCH BRACKET WELDMENT - UPPER AND FITTINGS

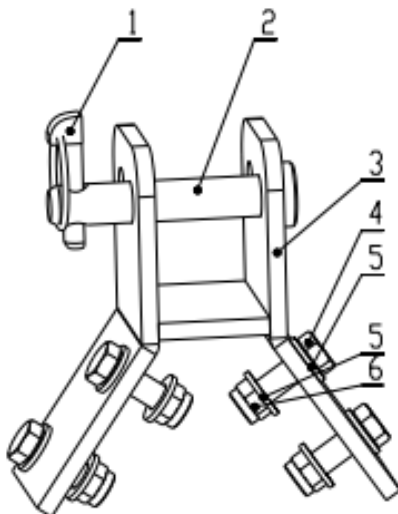


Figure 1-5: Hitch Bracket Weldment Upper and Fittings

Item	Description	Qty.
1	Safety lock pin	1
2	Hitch pin - Upper	1
3	Hitch bracket weldment - Upper	1
4	Bolt M12x40	4
5	Plain washer 12	8
6	Locknut M12	4

Table 1-4: Hitch Bracket Weldment - Upper and Fittings List



## ASSEMBLY

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The assembly instruction will guide you to finish the final assembly of your new mower.

### TOOLS REQUIRED

- ½" Ratchet wrench with 19mm sleeve,
- 17-19 Spanner.
- TORQUE APPLICATION
- Refer to bolt torque in the Appendix.

### INSTALLING BOOT SUB-ASSEMBLY

1. Remove the packaging of Boot sub-assembly, pull out the R pin from the Boot subassembly as well as the Boot pin.
2. Insert the Boot weldment into the tube on the hood panel as well as the Boot pin and insert R pin into the hole on the Boot pin.

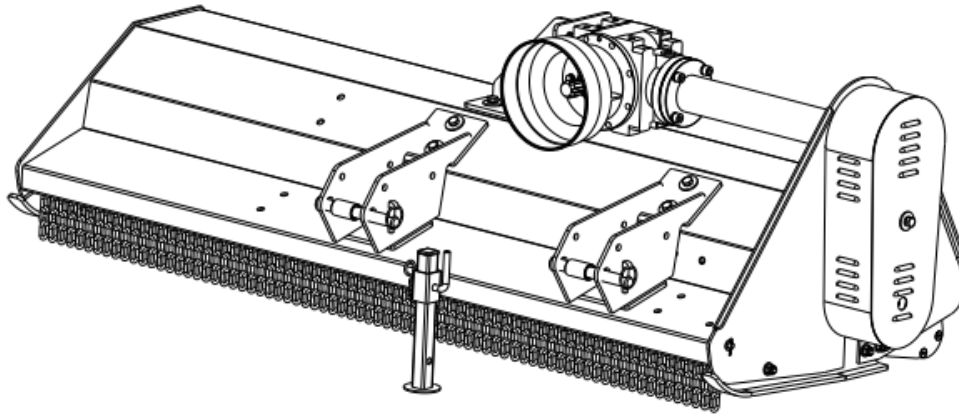


Figure 1-6: Installing Boot Sub-Assembly

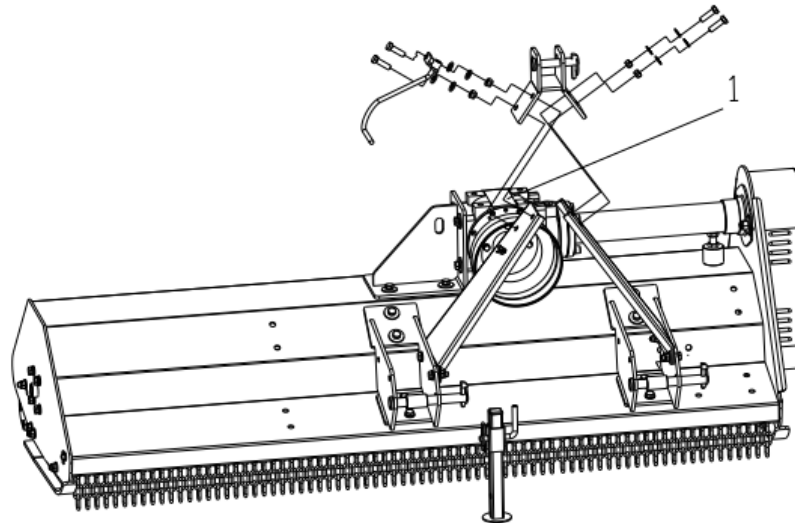


Figure 1-8: Installing Hitch Bracket Weldment - Upper and Fittings



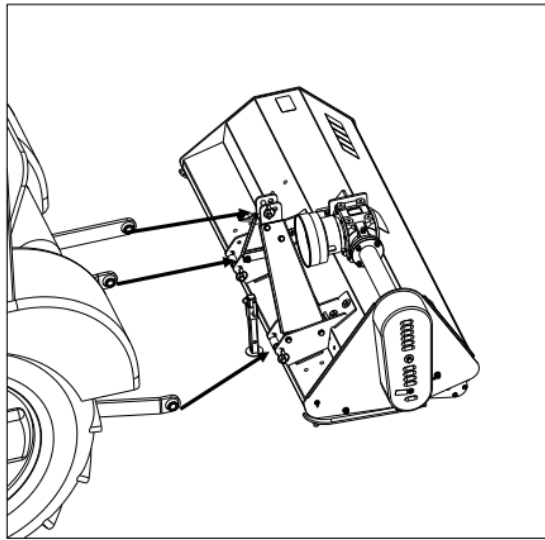
### WARNING

**FILL THE GEARBOX WITH PROPER AMOUNT OF SAE 90 GEAR OIL BEFORE OPERATION.**

## TRACTOR HOOK-UP

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1. Be certain that the tractor drawbar will not interfere. Move drawbar ahead or remove if required. The drawbar should also be checked for clearance when the unit is raising for the first time.
2. Align lower link arms of the tractor to hitch clevises on the mower. Insert lower hitch pins into lower ball swivels and attach link pins.
3. Attach tractor top link to upper floating hitch on mower with pin supplied. Secure with lock pin.
4. Adjust tractor top link in or out to place upper hitch pin vertically above or slightly behind lower hitch pins to allow mower flotation. The mower should be running with the back 15 degrees lower than the front.



*Figure 1-9: Tractor Hook-up*

## OPERATING INSTRUCTIONS

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### TRACTOR SHUT DOWN PROCEDURE

It is essential that the tractor be shut down as noted below before making inspection, maintenance and /or repairs to the tractor and/or mower.

1. Park tractor on a level ground. Don't Park the implement on a steep incline.
2. Place tractor in park and set park brake.
3. Disengaged PTO if operating.
4. Shut engine off and remove key.
5. Wait for PTO shaft to stop completely before disconnect tractor.
6. Wear safety glasses.

## TRANSPORTING

*NOTE: Always disengage PTO before raising mower to transport position.*

1. When raising the mower to transport position, ensure that the driveline does not contact the tractor or mower. Adjust and set tractor drawbar height so the driveline does not reach the mower deck in the fully raised position.
2. Be sure to reduce tractor ground speed when turning, leaving enough clearance so that the mower does not contact obstacles such as buildings, trees, or fences.
3. Select a safe ground travel speed when transporting from one area to another. When traveling on roadways, transport in such a way that faster moving vehicles may pass safely.
4. When traveling over rough or hilly terrain, shift the tractor to a lower gear.



### CAUTION

When traveling on public roads, whether at night or during the day, use accessory lights and devices for adequate warning to operators of other vehicles. Comply with all Federal, State, and Local laws.

## MOWING INSTRUCTIONS

1. Clear area to be mowed of objects and debris that might be picked up and thrown by the mower blades.
2. Grass is best cut when it is dry. Mowing wet grass can cause plugging resulting in grass clumps behind the mower.
3. Grass should be mowed frequently as shorter clippings deteriorate faster.
4. If mowing extremely tall grass, it is best to raise cutting height and mow the area, then lower cutting height and mow a second time at the desired height.

## OPERATING INSTRUCTIONS

Proper servicing and adjustments are the keys to the long life of any machine. With the careful and systematic inspection of the mower, users can avoid the cost of maintenance, time, and repair.

Before beginning to mow, the user should perform the following inspection:

1. Check oil level in gearbox.
2. Check that all plugs in the gearbox are properly replaced and tightened.
3. Be sure all mower blades, bolts, and nuts are tight.
4. Be certain all guards and shields are in place and secure.
5. Grease driveline shaft and all other grease fittings.
6. Clear area to be mowed of rocks, branches, and other foreign objects.
7. Lower mower to ground. Set tractor throttle at approximately  $\frac{1}{4}$  open. Engage PTO to start blades rotating.
8. Operate with 540 rpm PTO tractor.
9. At first begin mowing at a slow forward speed and shift up until the desired speed is achieved maintaining 540 rpm PTO

10. Mower blades will cut better at a faster blade speed than at reduced throttle.
11. After mowing the first 50 feet, stop and check to see that the mower is adjusted correctly.
12. Do not make sharp turns or attempt to back up while the mower is on the ground.
13. Do not engage PTO with the mower in the fully raised position. Do not engage PTO at full throttle.
14. Do not allow anyone, including yourself, near the mower when it is operating.
15. Periodically check for foreign objects wrapped around the rotor shaft and remove them after disengaging PTO, turning off the tractor, and removing the ignition key.

## **SECTION 3: ADJUSTMENTS**

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### **LEVELING THE MOWER**

NOTE: Tractor and mower should be on level ground. Leveling can be adjusted at the tractor draw bars

1. Park tractor and mower on a level ground.
2. Slowly raise mower by tractor draw bars until it is about 1" to 2" above the ground.
3. Ensure that the lower draw bars are stabilized to prevent excessive side movement.
4. Place a level on the top of the mower deck from left to right and adjust one of the tractors lower draw bars up or down until the mower is level from left to right.
5. Adjust tractor's upper draw bar to place the upper hitch pin vertically above or slightly behind the lower hitch pins.
6. Slowly operate the tractor draw bars up and down to check for clearance between the tires, frame, drawbar, etc.

### **CUTTING HEIGHT ADJUSTMENT**

NOTE: Before first operation, ensure roller weldment is adjusted to proper setting.

1. The machines cutting height depends upon the position of the rear roller.
2. Remove the bolts that fix the roller on both sides.
3. Lift or lower both sides of roller in equal measurements.
4. Replace bolts and retighten.

## BELT TENSION

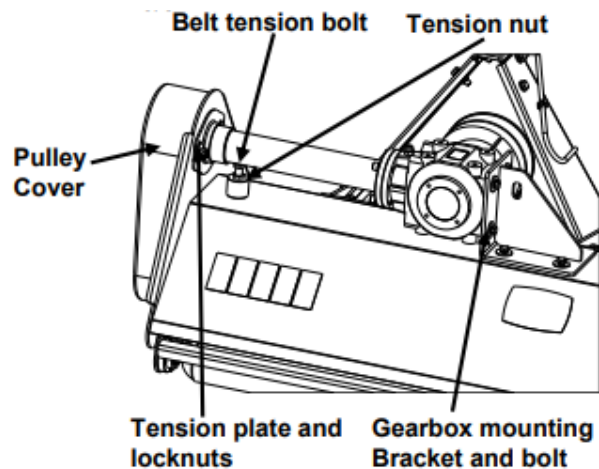


### CAUTION

Excessive tension on the belt may lead to premature failure of belt and drive components. Excessive tension on the belt may also lead to a safety hazard to the operator or bystanders.

The belt tension should be checked after the first 20 hours of use. And then every 40 hours of use.

1. Check belt tension by applying approximately 22 pounds of pressure halfway between the pulleys. The belt should deflect approximately 3/8".



*Figure 3-1: Belt tension*

2. Remove pulley cover and loosen gearbox mounting bracket bolts as well as tension plate locknuts.
3. Turn bolt until desired tension is achieved. Tighten tension nut and then retighten tension plate bolts, lastly retighten gearbox mounting bolts. When the belt has the correct tension, the gearbox should be adjusted so that the gearbox extension is running straight (parallel) with the flail mower.

## SECTION 4: MAINTENANCE

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### MAINTENANCE

Proper servicing and adjustment are the key to the long life of any farm implement. With careful and systematic inspection, you can avoid costly maintenance, time, and repair.



### CAUTION

For safety reasons, each maintenance operation must be performed with tractor PTO disengaged, mower lowered completely to ground, and tractor engine shut off with ignition key removed.

- After using the mower 2 hours, check all bolts to be sure they are tight and check drive belt tension.

### KNIFE REPLACEMENT

**IMPORTANT:** Make sure that the replacement knife is the same type and similar weight as the others on the mower. This will keep the rotor rotation balanced. Hammer blade is the standard configuration of this mower. If required, Y-type blade is optional.

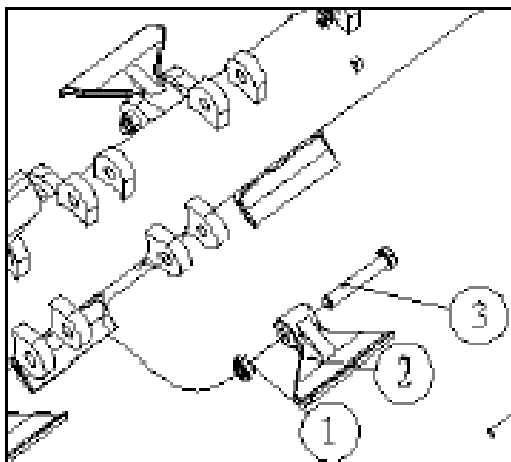


Figure 4-1: Hammer Blade Replacement

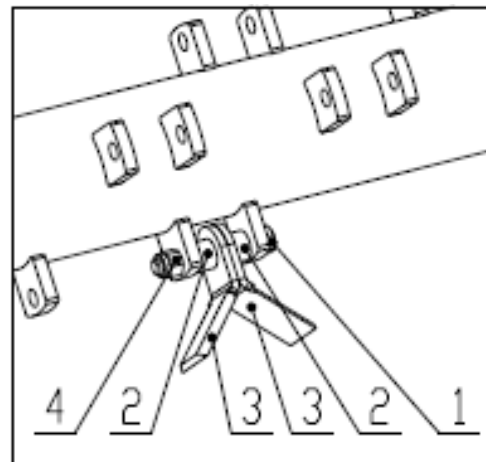


Figure 4-2: Y-Type Blade Replacement

1. Remove locknut (#1), bolt (#3) for hammer blade or bolt (#1), spacer (#2), locknut (#4) for Y-type blade.
2. Replace new hammer blade or Y-type blade and reinstall bolt & locknut as well as retighten it.

*NOTE: The Y-type blade have a crushing edge on both the leading and trailing edge. When the leading edge wears out, you can continue to use just turn existing blade around 180 degree and reinstall it.*

### V-BELT INSTALLATION

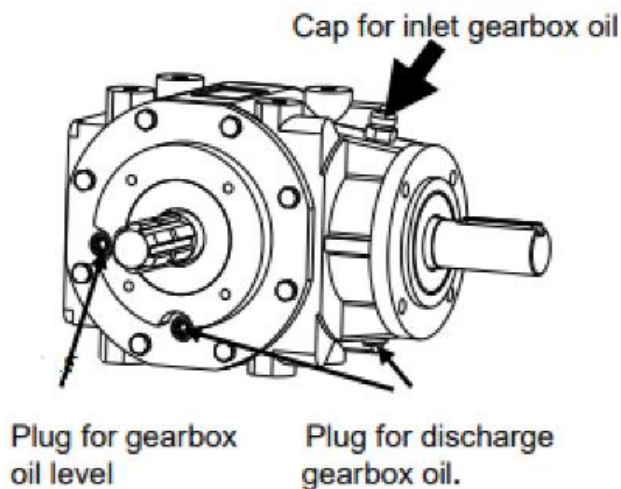
1. Remove belt cover and loose gearbox mounting bracket bolts as well as adjusting bracket bolts.
2. Loose tension bolt and nut to disengage belt tension until belt can be removed.
3. Replace new belt and turn the tension bolt until desired tension is achieved. Retighten tension nut and then retighten tension plate bolts, last retighten gearbox mounting bolts. When the belt has the correct tension, the gearbox should be adjusted so that the gearbox extension is running straight (parallel) with the flail mower.
4. Re-install pulley cover.

## STORAGE

At the end of the working season or when the mower will not be used for a long period. It is good practice to clean off any dirt or grease that may have accumulated on the mower and any of moving parts.

1. Cleaning necessary.
2. Check blades for wear and replace if necessary.
3. Inspect mower for loose, damaged, or worn parts and adjust or replace as needed.
4. Store unit inside, if possible, for longer life.
5. Repaint parts where paint is worn or scratched to prevent rust.

## GEARBOX



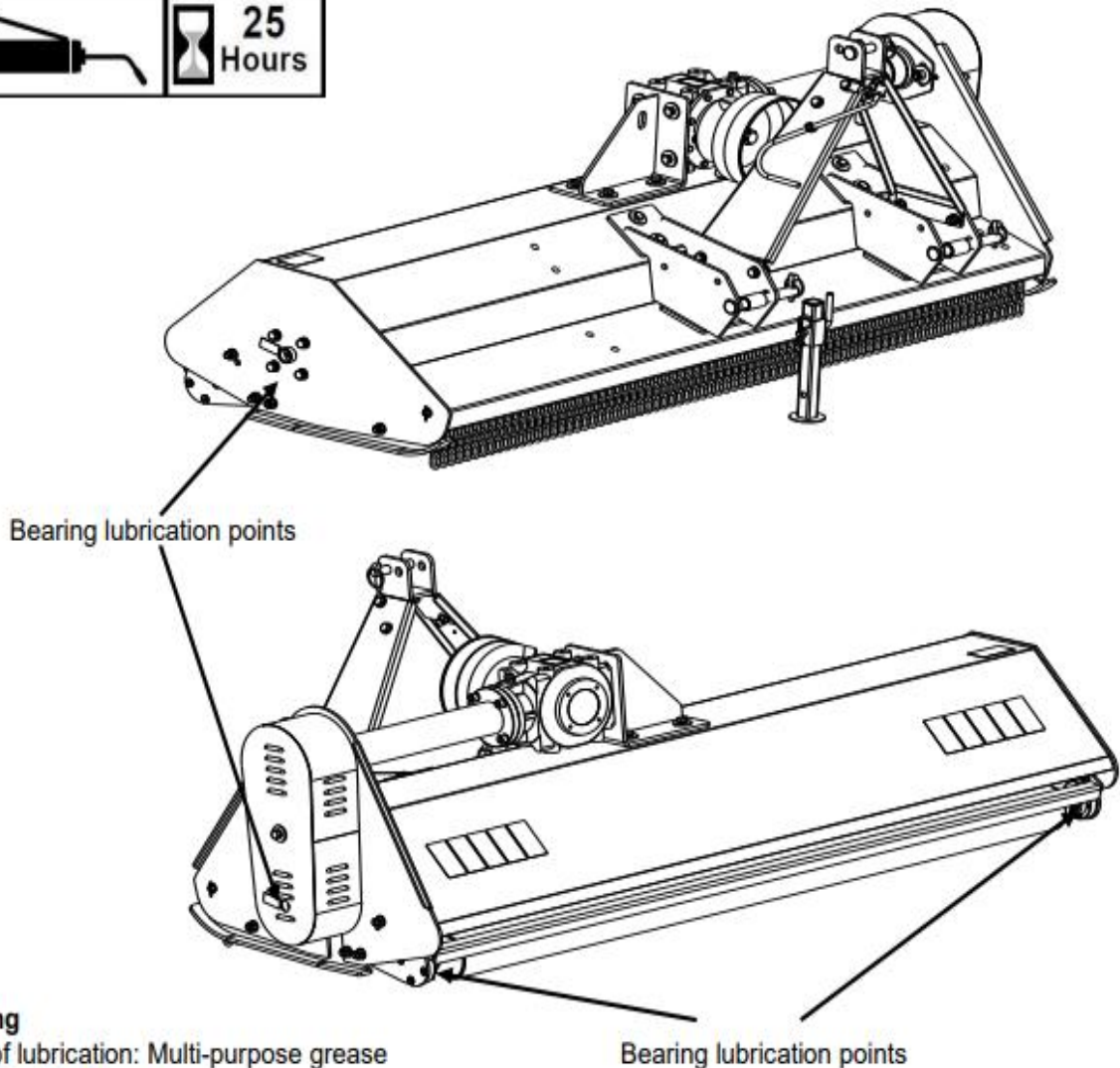
### GEARBOX

Type of lubrication: SAE EP 90W Gear Oil. Check oil level through cap for gearbox oil level.

### DO NOT OVERFILL!

**WARNING: OVERFILLING OR UNDERFILLING gear oil may gearbox cause gearbox seizing or damage and driveline shaft twisting.**

Check oil level in gearbox by removing the cap located on the right-hand side. Oil should be level with middle side of plug hole, add oil, if necessary, by removing top cap and side plug. Add oil until it flows om middle side plug hole.




**Bearing**  
 Type of lubrication: Multi-purpose grease  
 Quantity: 5 to 8 pumps

## SECTION 5: SPECIFICATION AND CAPACITIES

TITAN-TFMO Series Mower Specifications			
MODEL	FLAIL 155	FLAIL 175	FLAIL 185
STRUCTURE WEIGHT	270Kg	290Kg	310Kg
CUTTING WIDTH	1550mm	1750mm	1850mm
BLADE NUMBER	24 flail hammers	28 flail hammers	32 flail hammers
PTO TURNING SPEED	540r/min		
POWER REQUIRED	30-60HP		



## SECTION 6: TROUBLESHOOTING

Problem	Solution
 <b>CAUTION</b> Do not try to clean rear discharge area when mower is running. Bodily harm may occur!	
Belt slipping	Unplug and clean mower deck
	Remove pulley cover and clean grooves
	Replace belt
Patches of uncut grass	Mower at full throttle (540 PTO rpm), check PTO speed and tractor engine
	Shift transmission to a lower gear
	Tighten belts
	Replace missing knives
Excessive vibration	Replace knives
	Replace drive belt
	Replace pulley and align
	Remove pulley cover & clean debris from belt area & grooves
Gearbox noisy	Check gear oil level
Problem	Solution
Knives scalping grass	Raise cutting height by tractor draw bars
	Change mowing pattern
	Reduce speed turns
Uneven cut	Shift to a lower gear
	Level mower
	Replace missing knives
Tractor loaded down by mower	Mow at full throttle (540 PTO rpm)
	Shift to a lower gear
	Clean mower
Gearbox noisy	Check gear oil level
Gearbox is locked and PTO shaft is twisted	Check gear oil level
	Check Swellable sleeve of driving pulley and retighten
	Replace PTO shaft
	Check pulley and align

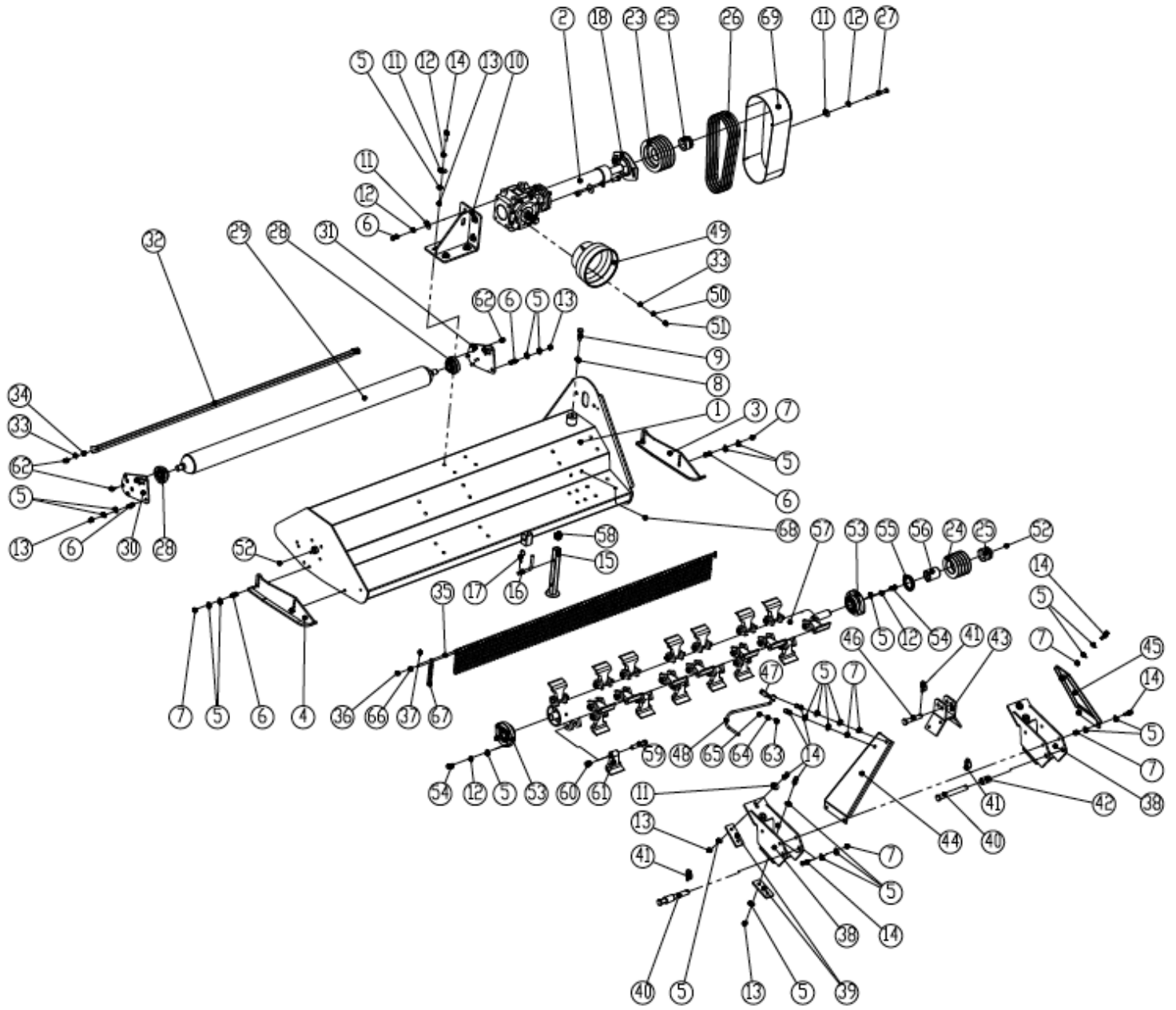
## BOLT TORQUE

The tables shown below give correct torque values for various bolts and cap screws. Tighten all bolts to the torques specified unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Torque Values Chart for Common Bolt Sizes													
Bolt Size (Inches)	Bolt Head Identification						Bolt Size (Metric)	Bolt Head Identification					
	Grade 2		Grade 5		Grade 8			Class 5.8		Class 8.8		Class 10.9	
in-tpi <sup>1</sup>	N·m <sup>2</sup>	ft-lb <sup>3</sup>	N·m	ft-lb	N·m	ft-lb	mm x pitch <sup>4</sup>	N·m	ft-lb	N·m	ft-lb	N·m	ft-lb
1/4" - 20	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
1/4" - 28	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
5/16" - 18	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
5/16" - 24	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
3/8" - 16	27	20	42	31	59	44	M10 X 1.5	33	24	52	39	72	53
3/8" - 24	31	22	47	35	67	49	M10 X 0.75	39	29	61	45	85	62
7/16" - 14	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
7/16" - 20	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
1/2" - 13	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
1/2" - 20	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
9/16" - 12	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	215	160
9/16" - 18	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
5/8" - 11	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
5/8" - 18	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
3/4" - 10	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
3/4" - 16	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
7/8" - 9	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
7/8" - 14	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1" - 8	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1" - 12	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1-1/8" - 7	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
1 1/8" - 12	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
1 1/4" - 7	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
1 1/4" - 12	750	555	1680	1240	2730	2010	<sup>1</sup> in-tpi = nominal thread diameter in inches-threads per inch <sup>2</sup> N·m = newton-meters <sup>3</sup> ft-lb= foot pounds <sup>4</sup> mm x pitch = nominal thread diameter in millimeters x thread pitch						
1 3/8" - 6	890	655	1990	1470	3230	2380							
1 3/8" - 12	1010	745	2270	1670	3680	2710							
1 1/2" - 6	1180	870	2640	1950	4290	3160							
1 1/2" - 12	1330	980	2970	2190	4820	3560							

Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.

FLAIL SERIES MOWER PARTS DIAGRAM/EXPLODED VIEW



Item	Ref. No.	Part Description	Qty.	Remark
1	4030100018	Hood panel	1	FLAIL 155
	4030100020		1	FLAIL 175
	4030100021		1	FLAIL 185
2	EFGC165.07.00.000	Gearbox drive assy	1	FLAIL 155
	EFGC175.07.00.000		1	FLAIL 175-185
3	4030100009	Skate - L	1	
4	4030100010	Skate - R	1	
5	7040100006	Plain washer 12	56	
6	7010100005	Bolt M12x35	12	
7	7030500006	Locknut M12 class 8	12	
8	7030400001	Nut M16x1.5	1	
9	7010300003	Bolt M16x1.5x50	1	
10	4030100011	Gearbox mounting bracket	1	
11	7040300006	Large plain washer 12	13	
12	7040400006	Spring washer 12	17	
13	7030500018	Locknut M12 class 5	16	
14	7010100008	Bolt M12x40	20	
15	4030100012	Raker	1	
16	4020000007	Raker pin	1	
17	4300100001	R pin $\phi$ 4x75	1	
18	4010000014	Tension plate	1	
19	7040300007	Large plain washer 14	2	
20	7040100007	Plain washer 14	2	
21	7030500007	Locknut M14	2	
22	7010100009	Bolt M14x35	2	
23	4050000003	Driving pulley - 3 grooves	1	FLAIL 155
	4050000001	Driving pulley - 4 grooves	1	FLAIL 175-185
24	4050000004	Driven pulley - 3 grooves	1	FLAIL 155
	4050000002	Driven pulley - 4 grooves	1	FLAIL 175-185
25	4130000001	Swellable sleeve Z3-35x60	2	
26	4150100001	Belt B991	3	FLAIL 155
			4	FLAIL 175-185
27	7010200002	Bolt M12x110	1	FLAIL 155
	7010200001	Bolt M12x130	1	FLAIL 175-185
28	7070100002	Bearing seat	2	
29	4030100018	Roller	1	FLAIL 155
	4030100020		1	FLAIL 175
	4030100021		1	FLAIL 185
30	4010000015	Roller mounting plate - R	1	
31	4010000016	Roller mounting plate - L	1	
32	4030100025	Mud shield	1	FLAIL 155
	4030100027		1	FLAIL 175
	4030100028		1	FLAIL 185

Item	Ref. No.	Part Description	Qty.	Remark
33	7040100004	Plain washer 8	6	
34	7030500016	Locknut M8	2	
35	4020000012	Guard chain rod	1	FLAIL 155
	4020000014		1	FLAIL 175
	4020000015		1	FLAIL 185
36	7040100005	Plain washer 10	2	
37	7100100001	Cotter pin $\phi$ 3x25	2	
38	4030100029	Hitch bracket - lower	2	
39	4010000020	Splint	4	
40	4020000018	Hitch pin - lower	2	
41	4300100004	Safety lock pin $\phi$ 11x50	3	
42	4020000019	Hitch pin spacer	2	
43	4030100032	Hitch bracket - upper	1	
44	4030100030	Hitch bracket -L	1	
45	4030100031	Hitch bracket -R	1	
46	4020000017	Hitch pin - upper	1	
47	4010000021	Hook holder	1	
48	4010000022	PTO hook	1	
49	4100200006	PTO dust cover	1	
50	7040400004	Spring washer 8	4	
51	7010100006	Bolt M8x20	4	
52	4300400002	Pressure lubricator M8x1	2	
53	7070100003	Bearing seat	2	
54	7010100004	Bolt M12x30	8	
55	4100500002	Oil seal TC55x80x8	1	
56	4020000022	Oil seal sleeve L=48	1	FLAIL 155
	4020000020	Oil seal sleeve L=65	1	FLAIL 175-185
57	4030100036	Blade axle	1	FLAIL 155
	4030100038		1	FLAIL 175
	4030100039		1	FLAIL 185
58	4100200007	Tube plug 30x30	1	
59	7010500006	Bolt M16x1.5x85	24	FLAIL 155
			28	FLAIL 175
			32	FLAIL 185
60	7030800001	Locknut M16x1.5	24	FLAIL 155
			28	FLAIL 175
			32	FLAIL 185
61	4290200002	Hammer blade	24	FLAIL 155
			28	FLAIL 175
			32	FLAIL 185
62	7020300001	HSCHS M8x25	10	
63	7110200001	Spring holder $\phi$ 10	1	
64	7040400001	Spring washer 4	1	

Item	Ref. No.	Part Description	Qty.	Remark
65	7020500001	PHSCS M4x10	1	
66	4020000040	Chain spacer	68	FLAIL 155
			77	FLAIL 175
			81	FLAIL 185
67	4270100002	Guard chain	67	FLAIL 155
			76	FLAIL 175
			81	FLAIL 185
68	4100200010	Round plug $\phi$ 14 orange	11	
69	4030100014	Pulley cover	1	FLAIL 155
	4030100013		1	FLAIL 175-185

## 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.**



**NEED HELP? CONTACT US FIRST.**

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