

3 POINT FINISH MOWERS

FM48v1b, FM60v1b, FM72v1b, JDFM48v1b, JDFM60v1b,
JDFM72v1b

191656, 191657, 191658, 191682, 191683, 191684



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

FINISH MOWER INSTRUCTIONS

SAFETY INSTRUCTIONS

Do not attempt to operate the mower until you have read the operator's manual and all the safety signs on the mower.

NOTE: The words Danger, Warning or Caution on the safety signs indicate a hazard or unsafe practice, which could result in injury or death if proper precautions are not taken.

Do not attempt any unauthorized modifications to the mower as this could affect the function or the safety of the mower.

OPERATING SAFETY

1. Always keep all safety signs clean and legible. Replace damaged or missing safety signs.
2. Ensure all shields are in place and in good condition before operating.
3. Ensure everyone is clear of the area before operating.
4. Never start or operate the mower except from the operator's station on the power unit.
5. Do not permit riders.
6. Stop engine, set brake, remove key, and wait for all moving parts to stop before servicing, adjusting, repairing, and unplugging.
7. Never operate over 540 rpm PTO speed.
8. Inspect and clean the cutting area before cutting.
9. Never operate the mower in the raised position.
10. Do not wear loose fitting clothing during operation.
11. Keep hands, feet, clothing, and hair away from moving parts.
12. Keep all bystanders away from the unit when it is operating.
13. Check to see that all controls are in neutral before starting the tractor.

TRANSPORT SAFETY

1. Do not transport on a public road without a slow-moving vehicle sign and flashers on the tractor.
2. Never have the mower in operation during transport.
3. Travel speed with a raised mower should be slow enough to maintain stability of the tractor.

SERVICE AND MAINTENANCE SAFETY

1. Stop engine, set brake, remove key, and wait for all moving parts to stop before servicing, adjusting, repairing, or unplugging.
2. Block up before working beneath unit.
3. Replace all shields removed during servicing before operating.
4. Use heavy leather gloves to handle sharp blades.
5. The safety signs used on the mower must be in well condition and be read clearly.
6. Replace safety sign immediately if it became damaged, torn, or illegible.

OPERATING INSTRUCTIONS

1. The Finish Mower is designed to be used on a tractor with a standard category 1 three-point hitch.
2. Using excessive power will shorten the life of the drive train components.

CONNECTING TO TRACTOR

Park the mower and tractor on a level dry area free of debris and foreign objects.

1. Slowly back the tractor up to the mower.
2. Adjust the three-point arms to align with the mower lift pins.
3. Stop the tractor, set the parking brake and remove the ignition key before mounting.
4. With the engine on the tractor shut off, attach the PTO shaft. Both ends of the PTO have a standard 6 spline end with a spring-loaded locking collar.

Turn the round collar at the ends of the PTO clockwise to slide onto the spline shafts. Always check to see that both ends of the PTO shaft are securely attached every time the mower is used. This should always be done with the tractor engine shut off. Attach the safety chains supplied with the PTO shaft, allowing sufficient slack for the driveline during turns and operation.

NOTE: At least one third of the telescoping length of the PTO should overlap when the mower is in operation.

5. Attach the top link on the tractor to the link pin assembled in the upper lift pin bracket . Adjust the turnbuckle on the tractor top link so that the upper lift bracket hangs straight down with the tractor and mower both on level ground.

FIELD USE PREPARATION

1. Park the machine on hard level ground with the mower slightly raised.
2. Adjust the sway blocks or chains on the tractor so the mower is centered between the rear wheels.
3. Adjust the three-point arms to level the mower side to side.
4. Adjust the turnbuckle on the top of the three-point hitch arms to level the mower front and back.
5. Adjust the cutting height using the wheel spacers on the wheel yokes. The spacers should be set at the same height on all four wheels.
6. Check the oil level in the gearbox and add as required.
7. Grease spindle assembly, wheel bearings, wheel pivots and the PTO shaft.
8. Check tightness of belts, bolts and other hardware.
9. Check blades to see if they are damaged. Sharpen or replace blades if necessary. Check that blade bolts are tight.
10. Clear the working area of foreign objects and check that all bystanders are standing clear before starting.
11. Start the tractor with the mower resting on the ground on all four wheels.
12. Slowly engage the PTO and bring the PTO speed up to 540 rpm for cutting.

FIELD OPERATION

1. The mower works best on dry grass. Slower cutting speed and occasional cleaning may be required on damp or wet grass.
2. The PTO must run at the full 540 rpm for a good cut. Slower speeds or double cutting could be required for very high grass.
3. Use a higher blade setting for rough areas to prevent scalping of the surface.
4. Always cut counterclockwise so grass clippings are thrown on the grass already cut. This saves power and wear on the blades.
5. Sharpen blades if grass tears instead of cutting cleanly.
6. Slow down when cutting corners. Turning too sharply on corners can leave a small strip of grass uncut.

DISCONNECTING FROM TRACTOR

1. Park on a firm level area and clean the mower.
2. Lower the mower until the load is off the hitch arms.
3. Disconnect the hitch arms and the PTO shaft.
4. Cover the mower for storage to prevent rust.

MAINTENANCE

1. **GEARBOX:** The gearbox should be filled with SAE 90 oil to the bottom of level plug. Check the mower before using and at regular intervals (approx. every 40 hours). See that this oil level is maintained.
2. **GREASE:** Grease wheel yokes, wheel bushing and PTO u-joints approximately every 8 hours. Before using the mower for the first time, grease wheel bushings until you can see the grease squeezed out at the ends of the wheel hub. Lubricate the telescoping PTO tube and the quick release collars on the ends of the shaft about every 20 hours. Clean all grease fittings before injecting grease and immediately replace any damaged or missing grease fittings. When using the safety chains supplied with the PTO shaft, the shield bearings must be kept lubricated.
3. **SHIELDING:** Always keep all shielding in place and repair or replace if damaged.
4. **BLADES:** When replacing or grinding blades, all three blades must be replaced or reground at the same time to maintain the proper balance in the cutting unit. Block up the mower securely before attempting to remove the blades. Use heavy leather gloves to handle the blades. Be sure to tighten center bolt and lock washer securely when replacing blades.

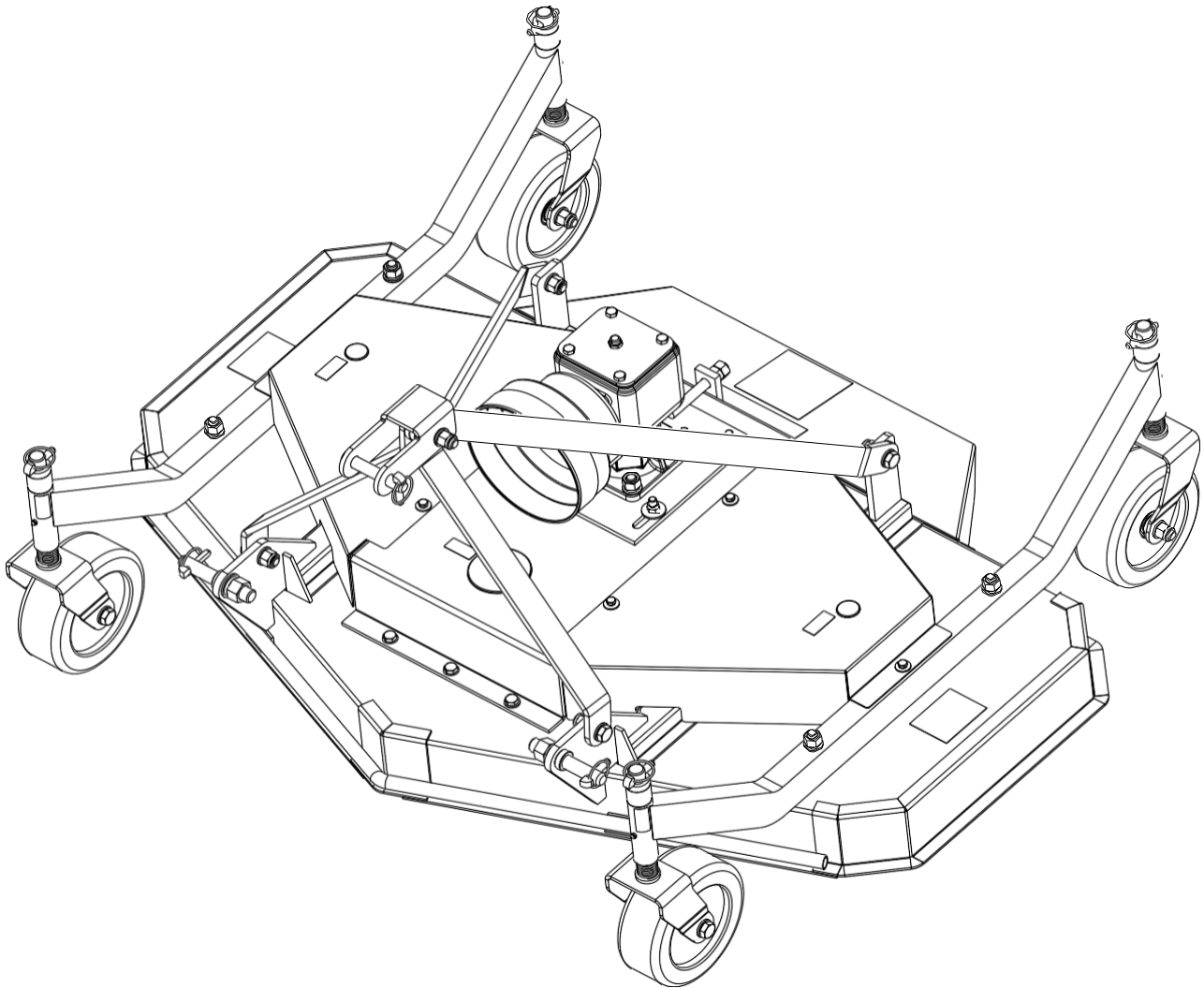
Always replace the lock washer with an extra heavy duty supplied with the spindle

5. **BELTS:** Remove the belt guards to check belt tightness. The center of the belt span should deflect about 10mm with nominal pressure. If the belts slip or are too loose, the bolts holding the gearbox must be loosened.

Use the threaded tightener rod on the gearbox mount to tighten the belts. Lock the rod in place and re-tighten the gearbox bolts when the belts are properly tightened. Replace belt guards. Changing belts follows the same procedure as given in the preceding paragraph, except you will have to loosen the belts further to remove them.

NOTE: Belts should always be replaced in matched sets.

FINISH MOWER PACKING LIST AND INSTALLATION INSTRUCTIONS



NOTE: Please check the mower and accessory packages carefully after receiving and read this instruction before installation.

PACKAGING DESCRIPTION

1.1 REMOVE AND CHECK

Remove any loose parts or packaging from the crate. Check goods without damage and omission.

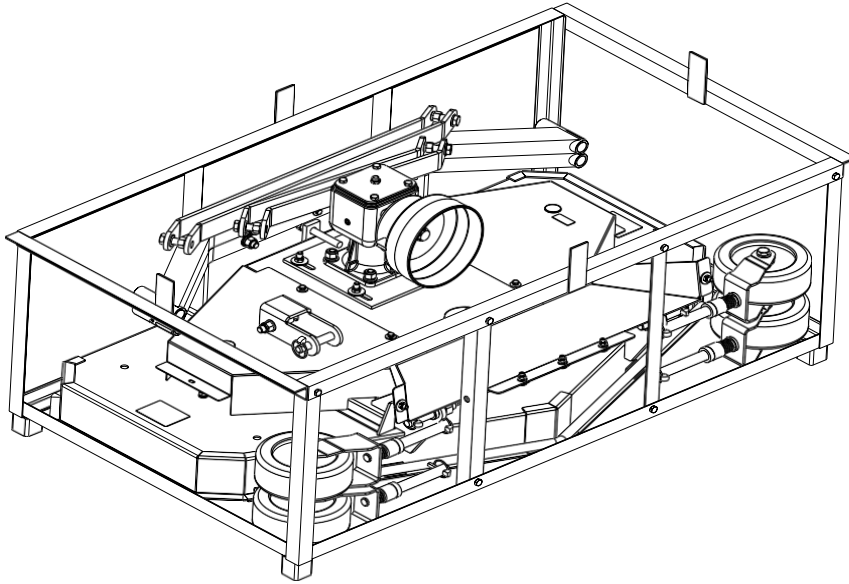


FIGURE 1: Your New Mower as It Is Shipped to You

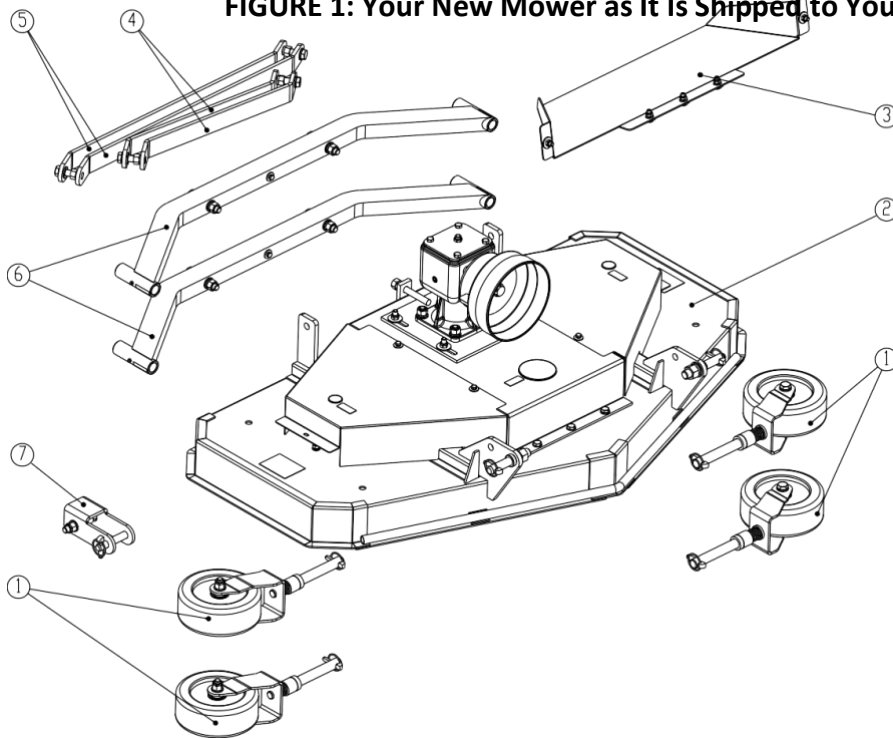


FIGURE 2: The Mower and Accessory In The Crate

1.2 PACKING LIST

The detailed packing list as the following table 1.

KEY	DESCRIPTION	QTY	Package Form
(1)	Wheel Bracket assy.	1	Bubble Film
(2)	Mower Deck Body	1	None
(3)	Discharge Guide and Fittings	1	Bubble Film
(4)	Short Pivot Bar and Fittings	2	Bubble Film
(5)	Long Pivot Bar and Fittings	2	Bubble Film
(6)	Wheel Frame and Fittings	2	Bubble Film
(7)	Upper Lift Bracket and Fittings	1	Bubble Film

TABLE 1: Packing List

The detailed description of wheel bracket assembly

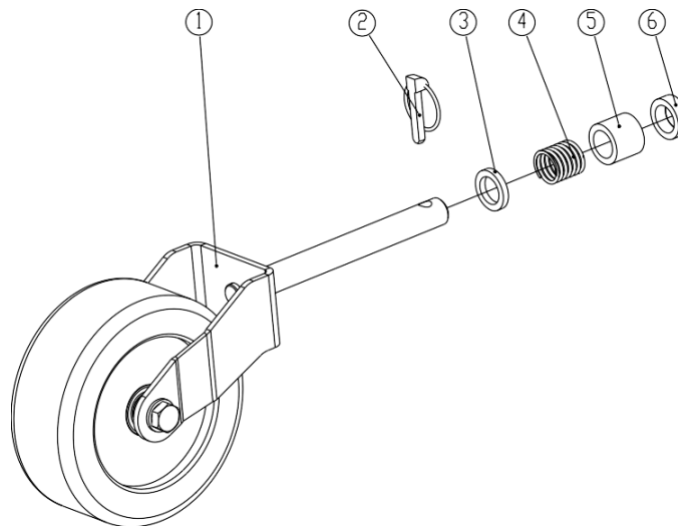


FIGURE 3: Wheel Bracket Assembly

KEY	DESCRIPTION	QTY
(1)	WHEEL BRACKET SUB-ASSEMBLY	1
(2)	SAFETY LOCK PIN	1
(3)	SPACER H=6	1
(4)	DAMPING SPRING	1
(5)	SPACER H=32	1
(6)	SPACER H=12	1

TABLE 2: Wheel Bracket Assembly List

The detailed description of discharge guide and fittings

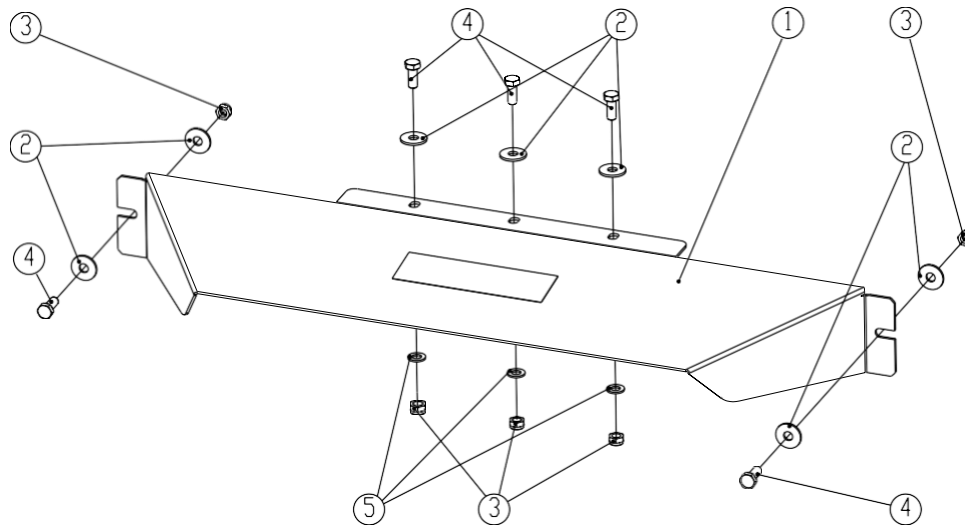


FIGURE 4: Discharge Guide and Fittings

KEY	DESCRIPTION	QTY
(1)	DISCHARGE GUIDE PLATE	1
(2)	LARGE PLAIN WASHER 10	7
(3)	LOCKNUT M10	5
(4)	BOLT M10X25	5
(5)	PLAIN WASHER 10	3

TABLE 3: Discharge guide and Fittings List

The detailed description of short pivot bar and fittings

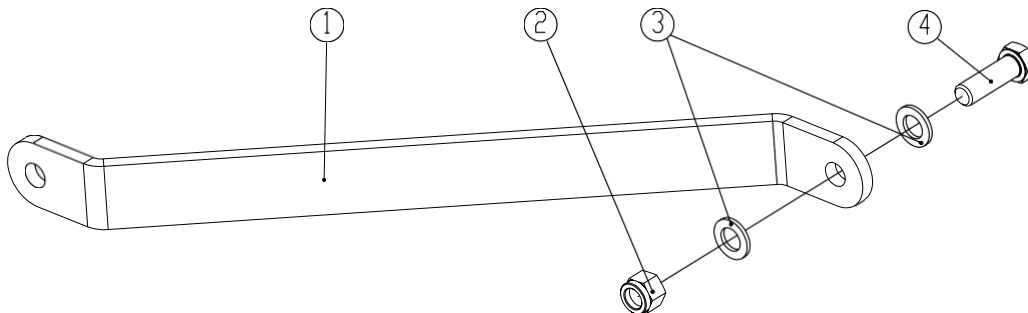


FIGURE 5: Short Pivot Bar and Fittings

KEY	DESCRIPTION	QTY
(1)	SHORT PIVOT BAR	1
(2)	LOCKNUT M16	1
(3)	PLAIN WASHER 16	2
(4)	BOLT M16X50	1

TABLE 4: Short Pivot Bar and Fittings List

The detailed description of long pivot bar and fittings

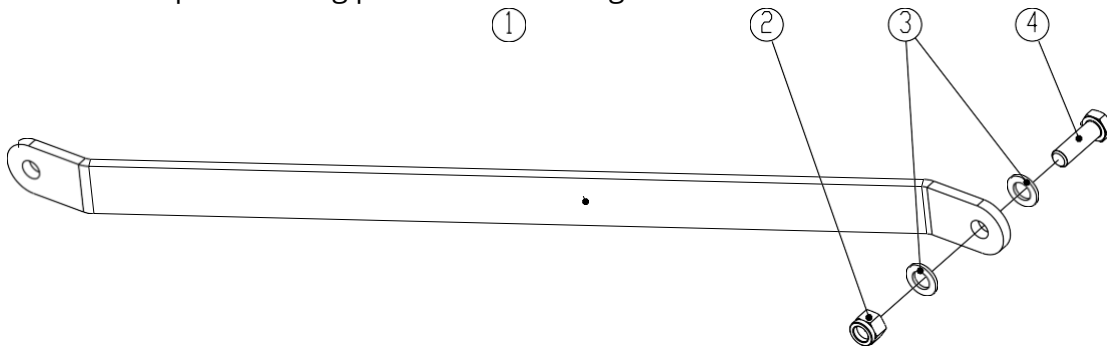


FIGURE 6: Long Pivot Bar and Fittings

KEY	DESCRIPTION	QTY
(1)	LONG PIVOT BAR	1
(2)	LOCKNUT M16	2
(3)	PLAIN WASHER 16	2
(4)	BOLT M16X50	1

TABLE 5: Long Pivot Bar and Fittings List

The detailed description of Wheel Frame and fittings

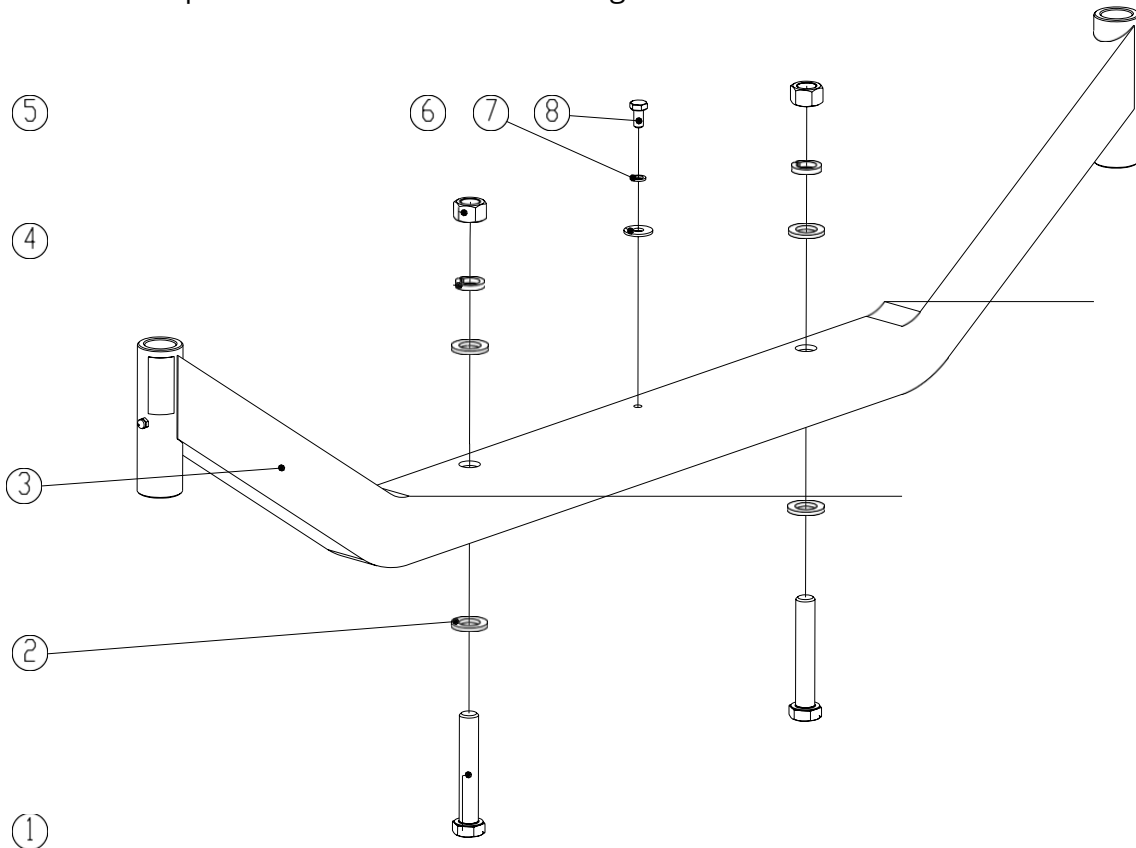


FIGURE 7: Wheel Frame and Fittings

KEY	DESCRIPTION	QTY
(1)	BOLT M16X95	2
(2)	PLAIN WASHER 16	4
(3)	WHEEL FRAME	1
(4)	SPRING WASHER 16	2
(5)	NUT M16	2
(6)	LARGE PLAIN WASHER 8	1
(7)	SPRING WASHER 8	1
(8)	BOLT M8X16	1

TABLE 6: Wheel Frame and Fittings List

The detailed description of Upper Lift Bracket and fittings

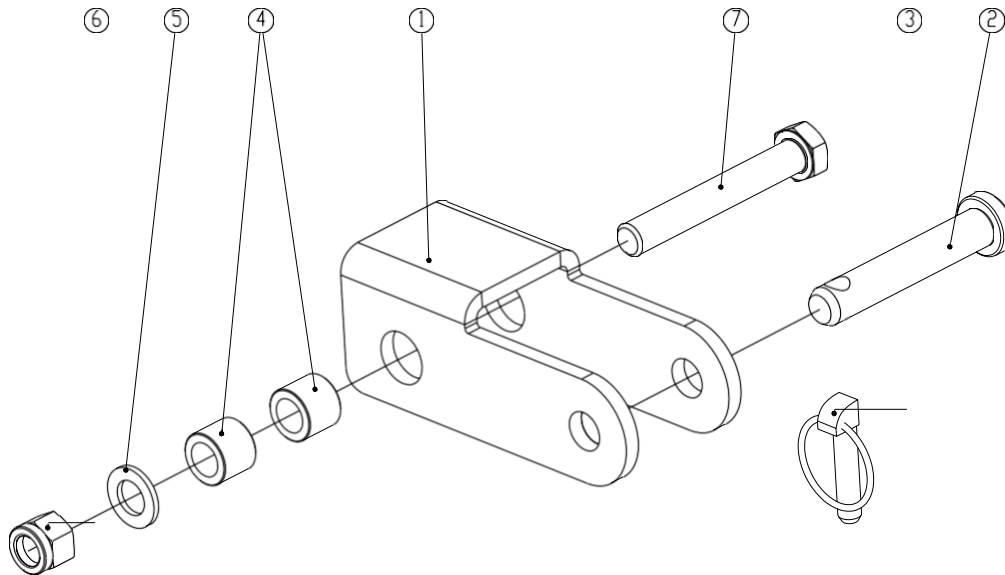


FIGURE 8: Upper Lift Bracket and Fittings

KEY	DESCRIPTION	QTY
(1)	UPPER LIFT BRACKET	1
(2)	HITCH PIN-UPPER	1
(3)	SAFETY LOCK PIN	1
(4)	BUSHING	2
(5)	PLAIN WASHER 16	1
(6)	LOCKNUT M16	1
(7)	BOLT M16X110	1

TABLE 7: Upper Lift Bracket and Fittings List

INSTALLATION WIZARD

The installation wizard will guide you to finish the final assembly of your new mower easily.

2.1 TOOL REQUIRED

- 1/2" Ratchet Wrench with 13mm,16mm,24mm sleeves
- 17-19, 22-24
- Spanner Side cutter or Industrial Scissors
- Safety Goggles and Gloves

2.2 TORQUE APPLICATION

TORQUE VALUES CHART FOR COMMON BOLT SIZES		
BOLT SIZE (METRIC)	BOLT HEAD IDENTIFICATION - CLASS 8.8	
	N.M	FT-LB
M8X16	26	19
M16X50, M16X95	225	165

**TORQUE TOLERANCE +0%, -15% OF TORQUING VALUES.
UNLESS OTHERWISE SPECIFIED USE TORQUE VALUES LISTED ABOVE.**

2.3 INSTALLATION

Cut all zip ties and disassemble shipping crate.

STEP1: INSTALLING LONG, SHORT PIVOT BAR, UPPER LIFT BRACKET AND FITTINGS

Remove the packaging of long, short pivot bar, upper lift bracket and fittings Assemble all above parts on the mower deck body.

PARTS: 2pcs of long pivot bars, 2pcs of short pivot bars, 1pcs of upper lifting bracket, 4pcs of bolts M16x50, 9pcs of plain washers 16, 5pcs of locknut M16, 1pcs of bolt M16x110 and 2pcs of bushings. Tighten locknut completely.

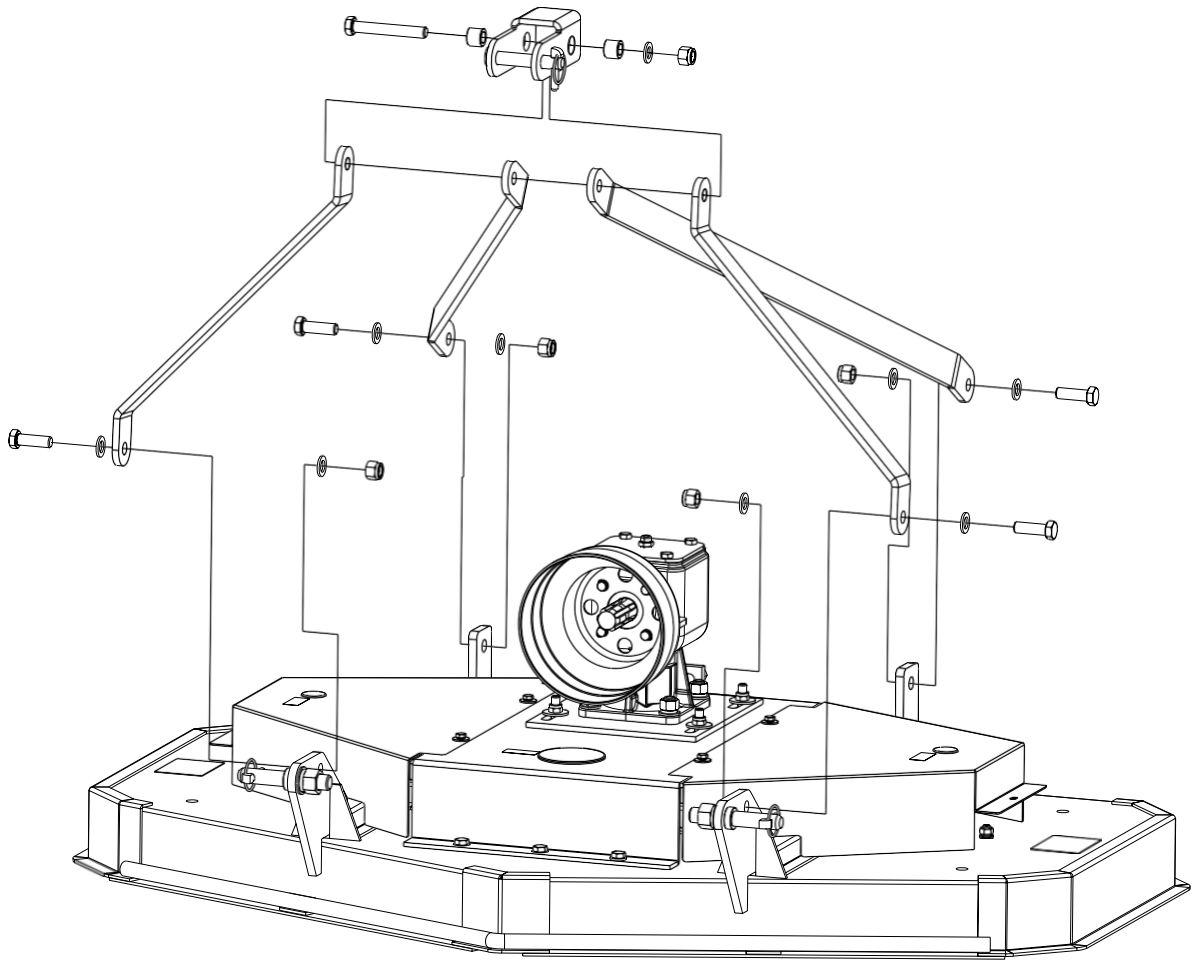


FIGURE 9: Installing Long, Short Pivot Bar, Upper Lift Bracket and Fittings

STEP2: INSTALLING WHEEL FRAME AND FITTINGS

Remove the packaging of wheel frame and fittings. Assemble 2pcs of wheel frames on the mower deck body

PARTS: 4pcs of Bolts M16x95, 8pcs of plain washers 16, 4pcs of spring washers 16, 4pcs of nuts M16, 2pcs of bolt M8x16, 2pcs of plain washers 8 and 2pcs of large plain washers 8.

TIGHTEN NUT AND BOLT COMPLETELY.



WARNING

Raise the mower deck body to ensure that the wheel frame can be installed with enough height.

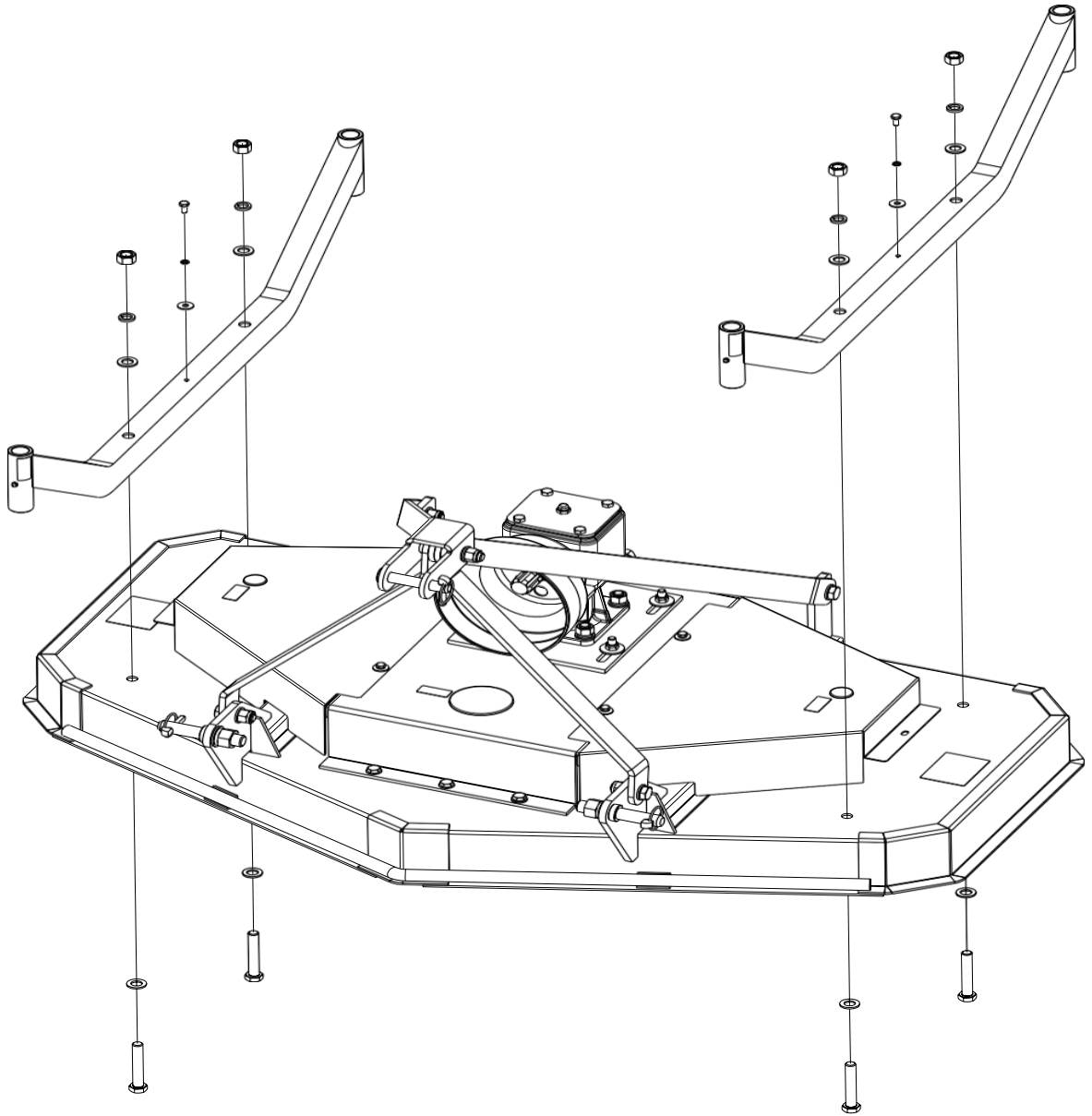


FIGURE 10: Installing Wheel Frame and Fittings

STEP3: INSTALLING WHEEL BRACKET ASSEMBLY AND FITTINGS

Remove the packaging of wheel bracket assembly and fittings. Assemble wheel bracket assemblies on wheel frame as well as spacers.

Through the combination of spacers with different height to get the mowing height you need.

PARTS: 4pcs of wheel bracket assemblies. Use safety lock pin to hold wheel bracket.



WARNING

Make sure all wheel height adjustments are same, otherwise it will lead to uneven mowing.

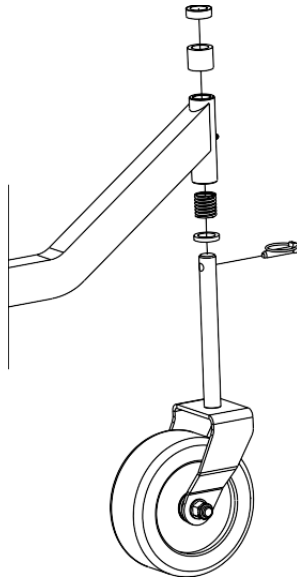


FIGURE 11: Installing wheel Bracket and Fittings

STEP 4: INSTALLING DISCHARGE GUIDE AND FITTINGS

Remove the packaging of discharge guide and fittings.
Assemble discharge guide on mower deck body using included fittings.

Parts: 4pcs of bolts M10x25, 3pcs of plain washers 10, 7pcs of large plain washer 10 and 5pcs of locknuts M10.

TIGHTEN ALL LOCKNUTS AND BOLTS COMPLETELY.

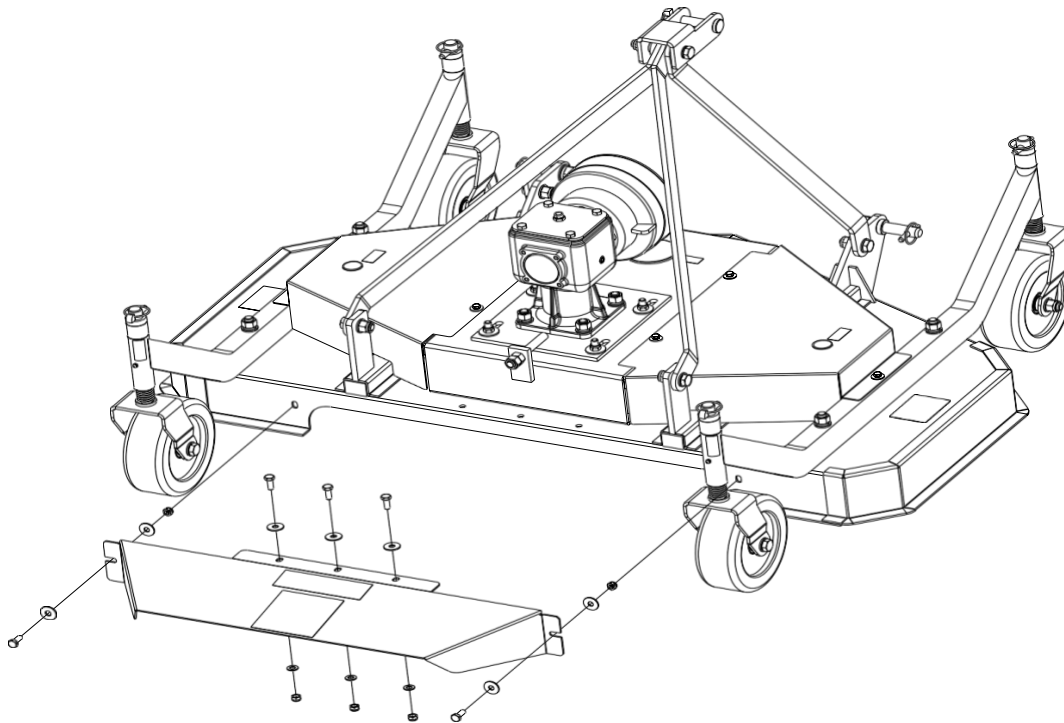


FIGURE 12: Installing Discharge Guide and Fittings

BELT REPLACEMENT INSTRUCTION OF FINISH MOWER

This instruction helps you to replace the belts of finish mower

1. Tools Required

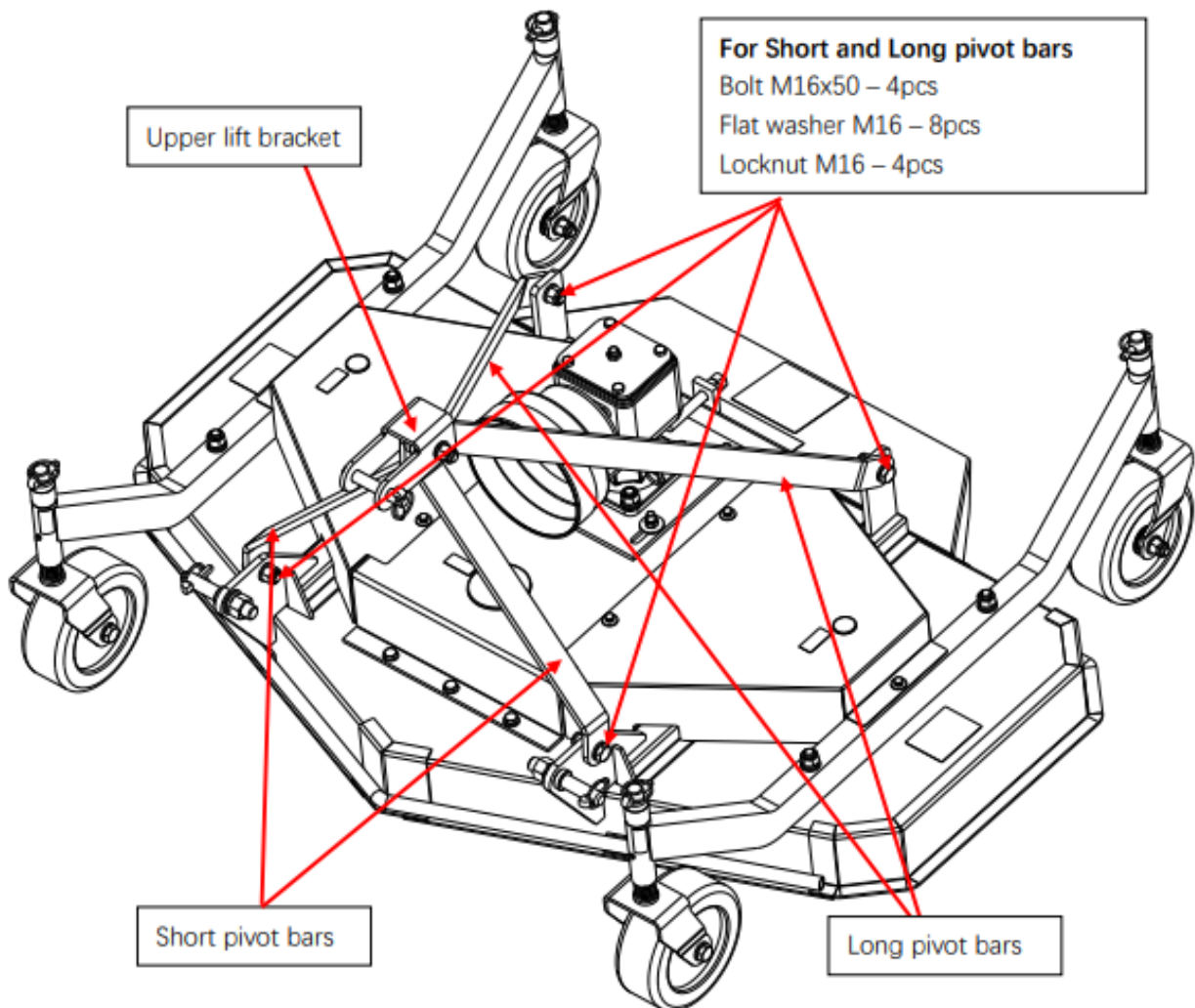
1/2" Ratchet Wrench with 14mm,17mm,19mm, 24mm socket

17-19, 22-24 spanner

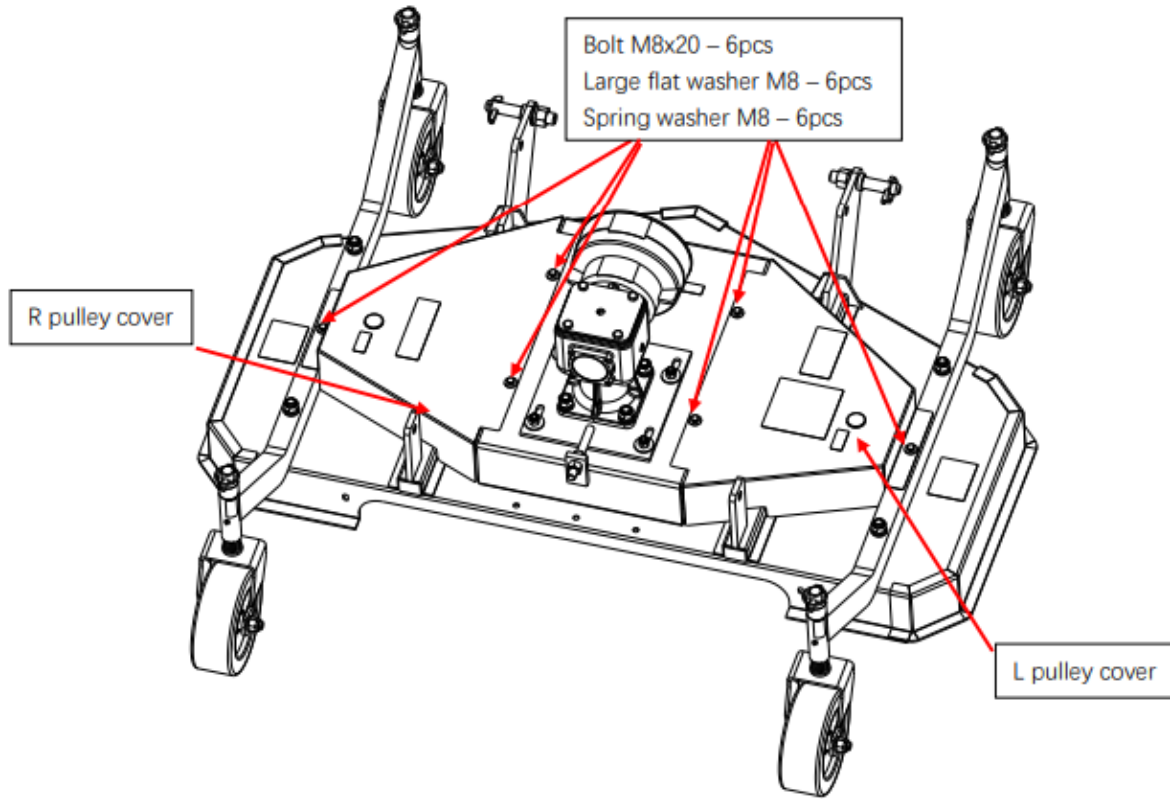
Safety Goggles and Gloves

2. Belt Replacement

2.1 Remove the short and long pivot bars as a whole.



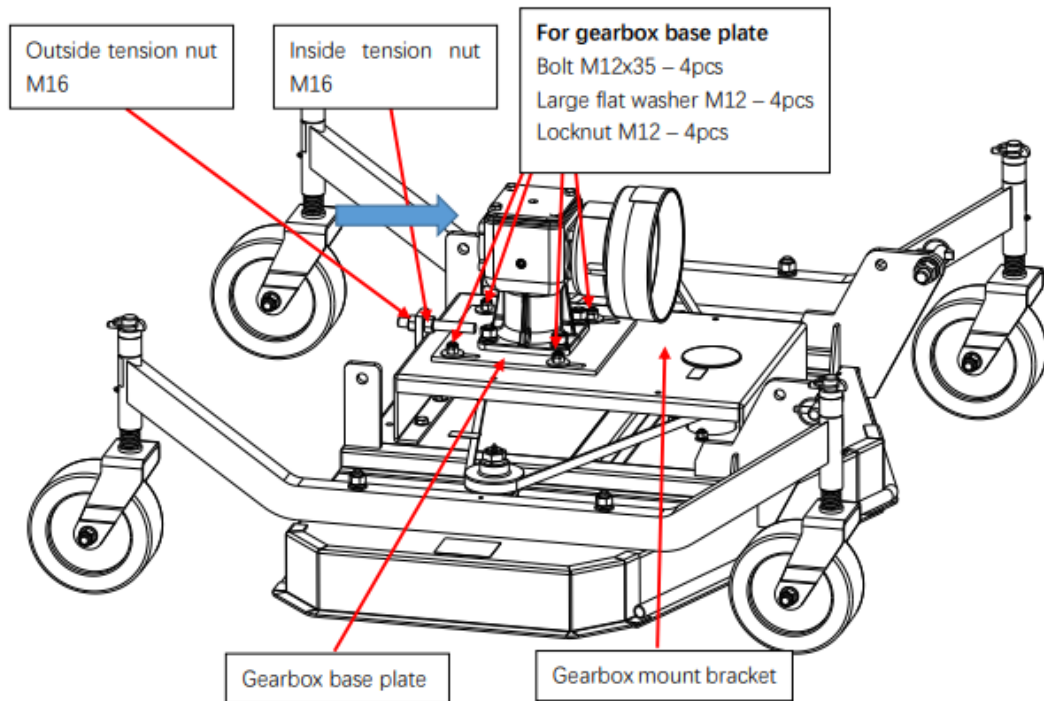
2.2 Remove R&L pulley cover



2.3 Release the belts tension

Release 4 pcs of locknut M12 for gearbox base plate but not remove.

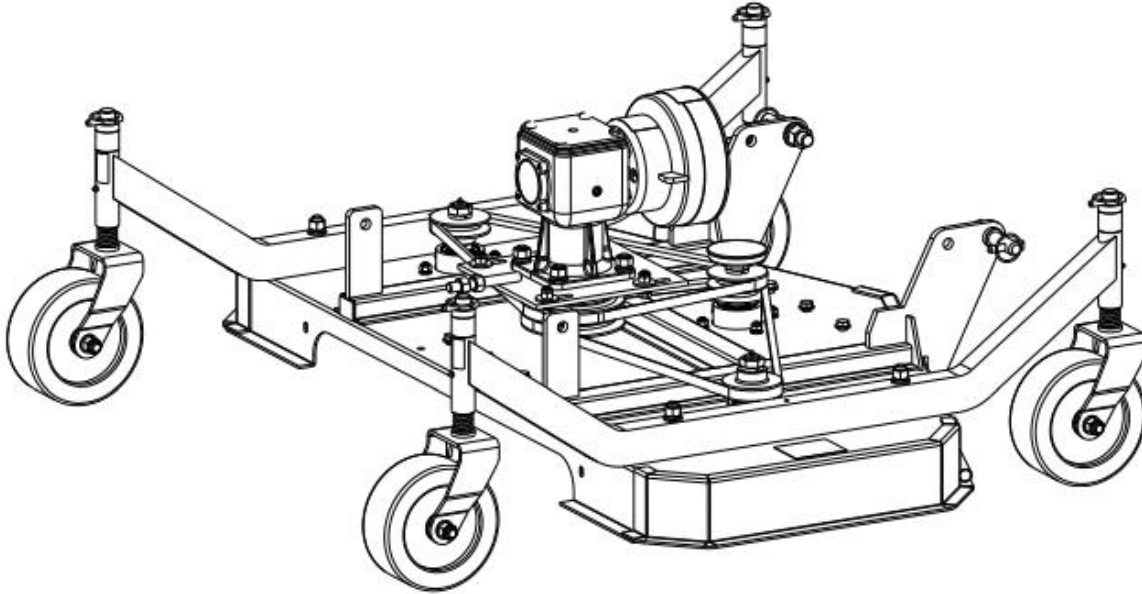
Release outside tension nut M16 and inside tension nut M16, and then push the gearbox toward as the following picture showing to release the belts tension.



2.4 Replace belts

Remove the old belts. Install new belts into the groove of the driving pulley and driven pulley. Refer to the following picture showing (L&R pulley covers are not displayed).

Keep your attention, the belts need to be installed in the corresponding belt groove, otherwise, the belts will be damaged when you operating the mower.



2.5 Tension belts

Tighten outside tension nut M16 and inside tension nut M16 to tension belts.

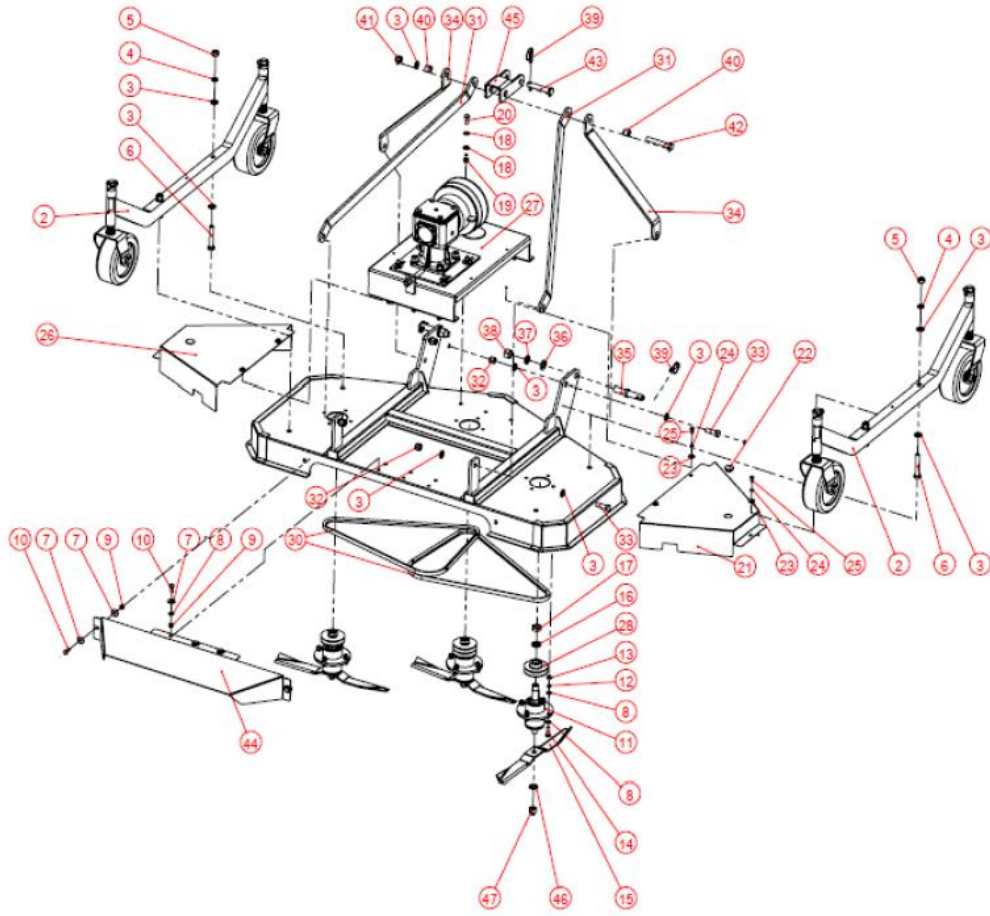
Re-tighten 4 pcs of locknut M12 for gearbox base plate. Refer to section 2.3.

2.6 Re-install R&L pulley cover

2.7 Re-install the short and long pivot bars as a whole

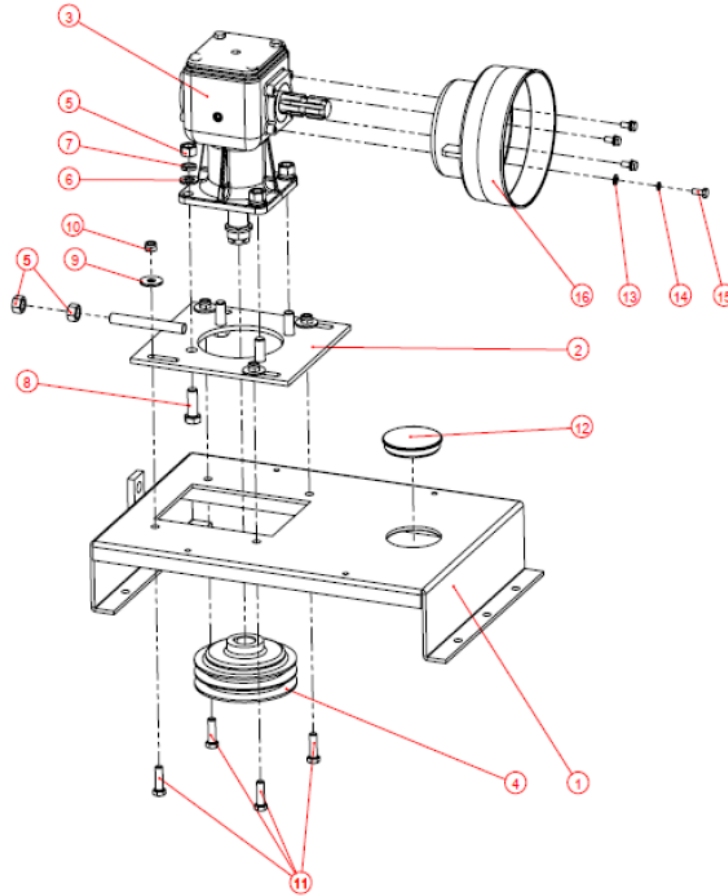
PARTS DIAGRAM / EXPLODED VIEW

Product: Finishing mower Series Mainbody
Version: A0
Date:2021-03-15
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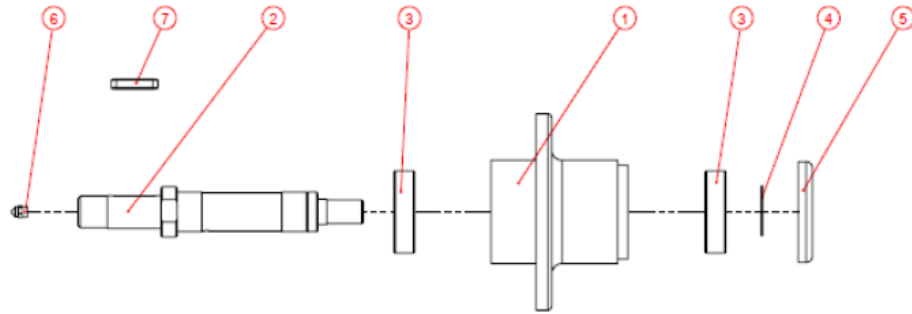
Finish Mower Mainbody Part List

Ref.	Part No.	Part Description	Qty.	Remarks
1	4030200024	Mower deck weldment	1	FM48
	4030200025		1	FM60
	4030200026		1	FM72
2	FM120.00.00.000-1	Wheel beam assy	2	FM48
	ATFM150.00.00.000-2		2	FM60 & FM72
3	7040100008	Plain washer 16	17	
4	7040400008	Spring washer 16	4	
5	7030100008	Nut M16	4	
6	7010200011	Bolt M16x95	4	
7	7040300005	Large plain washer 10	7	
8	7040100005	Plain washer 10	27	
9	7030500017	Locknut M10	5	
10	7010100013	Bolt M10x25	5	
11	ATFM150.00.00.000-4	Spindle assy	3	
12	7040400005	Spring washer 10	12	
13	7030100005	Nut M10	12	
14	7010100019	Bolt M10x35	12	
15	4290200009	Blade	3	FM48
	4290200010		3	FM60
	4290200011		3	FM72
16	7040400011	Spring washer 24	3	
17	7030400003	Hex. Nut M24x2 - L thread	3	
18	7040100006	Plain washer 12x2.5	12	
19	7030500006	Locknut M12	6	
20	7010100004	Bolt M12x30	6	
21	4010000139	Pulley cover -L	1	FM48
	4010000143		1	FM60
	4010000147		1	FM72
22	4100200021	Rubber plug φ30	2	
23	7040300004	Large plain washer 8	6	
24	7040400004	Plain washer 8	6	
25	7010100017	Bolt M8x16	6	
26	4010000138	Pulley cover -R	1	FM48
	4010000142		1	FM60
	4010000146		1	FM72
27	FM150.00.00.000-1	Gearbox drive assy	1	
28	4050000015	Single sheave pulley	2	
29	4050000014	Driven pulley	1	
30	4150100013	Belt B1448Li (1488Ld)	2	
	4150100007	Belt B1549Li (1589Ld)	2	
	4150100014	Belt B1753Li (1793Ld)	2	
31	4010000137	Long pivot bar	2	FM48
	4010000140		2	FM60
	4010000145		2	FM72
32	7030500008	Locknut M16	4	
33	7010100034	Bolt M16x50	4	
34	4010000141	Short pivot bar	2	
35	4020000001	Hitch pin - lower	2	
36	7040200010	Plain washer 22	2	
37	7040400010	Spring washer 22	2	
38	7030100010	Nut M22	2	
39	4300100004	Safety lock pin φ11x50	3	
40	4020000170	Driven pulley sleeve	2	
41	7030500020	Locknut M16	1	
42	7010200010	Bolt M16x110	1	
43	4020000017	Hitch pin - upper	1	
44	4010000076	Discharge guide	1	FM48
	4010000070		1	FM60
	4010000148		1	FM72
45	4010000144	Hitch connecting bracket	1	
46	7040100013	Plain washer 18x34x3	3	
47	7030800002	Locknut M18x1.5	3	



Gearbox Drive Assy Part List

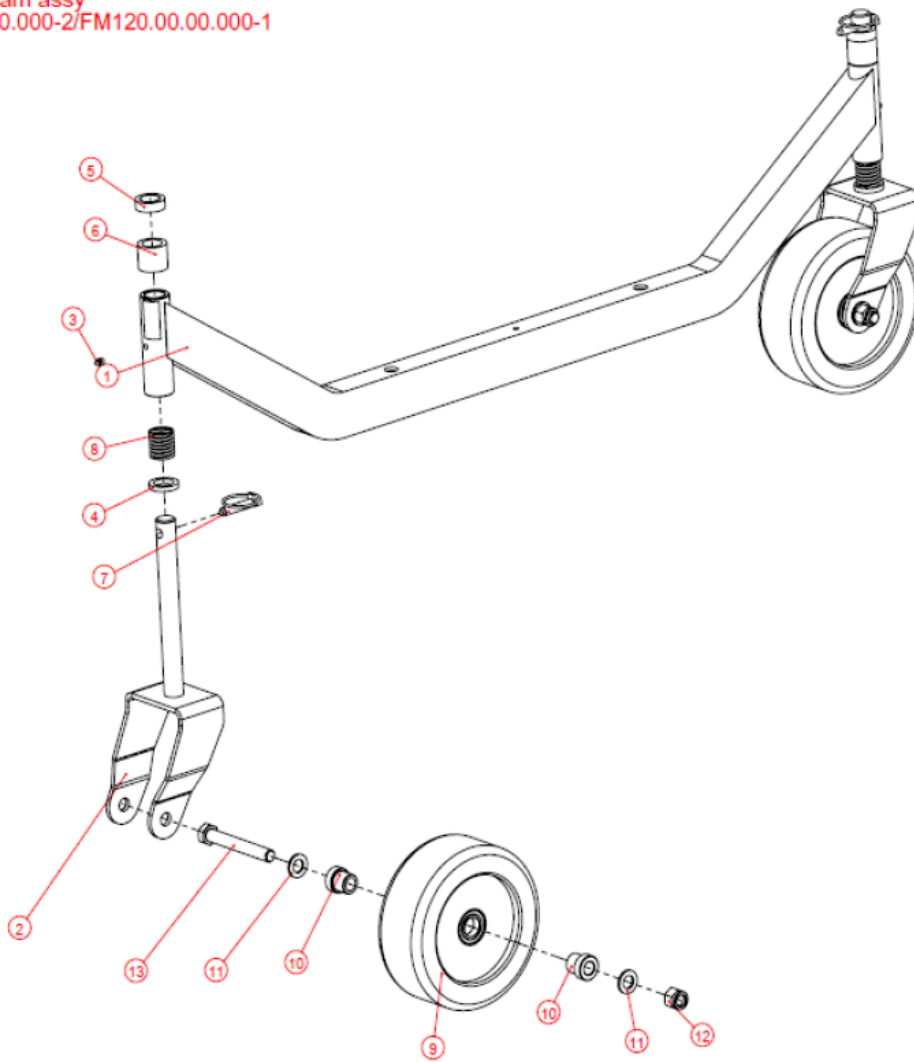
Ref.	Part No.	Part Description	Qty.	Remarks
1A	4030200027	Gearbox mount bracket	1	
2A	4030100251	Gearbox base plate	1	
3A	4040100015	Gearbox 20Hp	1	
4A	4050000016	Driving pulley	1	
5A	7030100008	Hex nut M16	6	
6A	7040200008	Plain washer 16	4	
7A	7040800008	Spring washer 16	4	
8A	7010100016	Bolt M16x45	4	
9A	7040300006	Large plain washer 12	4	
10A	7030500006	Locknut M12	4	
11A	7010100008	Bolt M12x40	4	
12A	4100200027	Rubber plug φ91.3	1	
13A	7040100004	Plain washer 8	4	
14A	7040400004	Spring washer 8	4	
15A	7010100006	Bolt M8x20	4	
16A	4100200006	PTO dust cover	1	



Spindle Assy Part List

Ref.	Part No.	Part Description	Qty.	Remarks
1C	4020000087	Bearing seat	1	
2C	4020000088	Spindle	1	
3C	7060100007	Bearing 6206 RZ	2	
4C	7090100003	Circlip for shaft φ30	1	
5C	4010000071	Protective cover	1	
6C	4300400002	Pressure lubricator M8x1	1	
7C	7080100004	Flat key 8x36	1	

Product: Wheel beam assy
 PN: ATFM150.00.00.000-2/FM120.00.00.000-1
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Wheel Beam Assy Part List

Ref.	Part No.	Part Description	Qty.	Remarks
1D	4030200004	Wheel beam weldment	1	FM60 & FM72
	4030200028		1	FM48
2D	4030200005	Yoke weldment	2	
3D	4300400002	Pressure lubricator M8x1	2	
4D	4020000081	Spacer H=6	2	
5D	4020000082	Spacer H=12	2	
6D	4020000083	Spacer H=32	2	
7D	4300100004	Safety lock pin ϕ 11x50	2	
8D	4320100002	Damping spring	2	
9D	4100700001	Wheel assy	2	
10D	4020000084	Bushing	4	
11D	7040100008	Plain washer 16	4	
12D	7030500008	Locknut M16	2	
13D	7010200029	Bolt M16x120	2	

ACKNOWLEDGEMENT OF RISK AND RELEASE OF LIABILITY

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



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

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

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