



Owner's Manual

48" LAWN AERATOR



RULES FOR SAFE OPERATIONS

Remember, any power equipment can cause injury if operated improperly or if the user does not understand how to operate the equipment.



LOOK FOR THIS SYMBOL TO POINT OUT IMPORTANT SAFETY PRECAUTIONS. IT MEANS-ATTENTION! BECOME ALERT! YOUR SAFETYS INVOLVED.



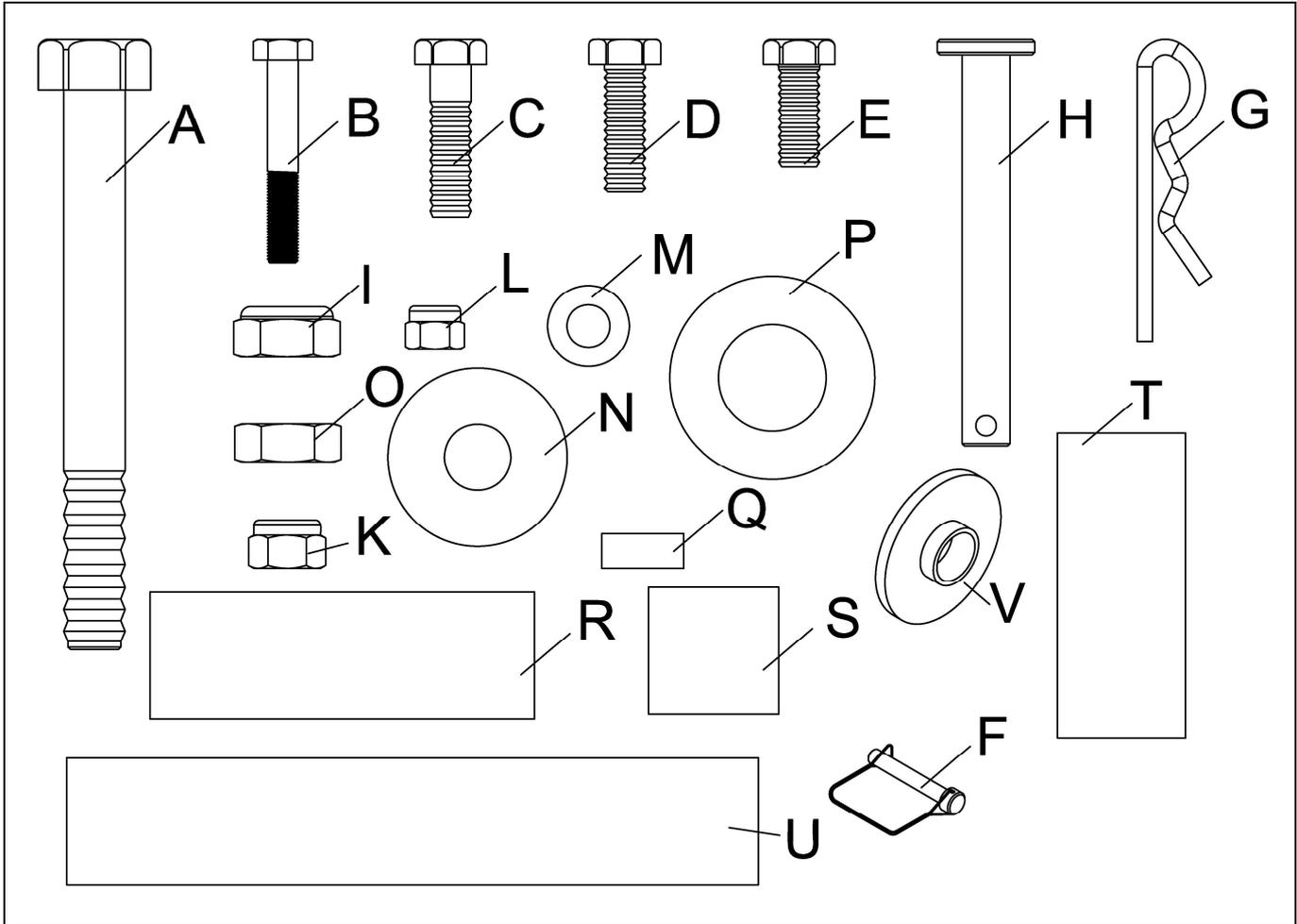
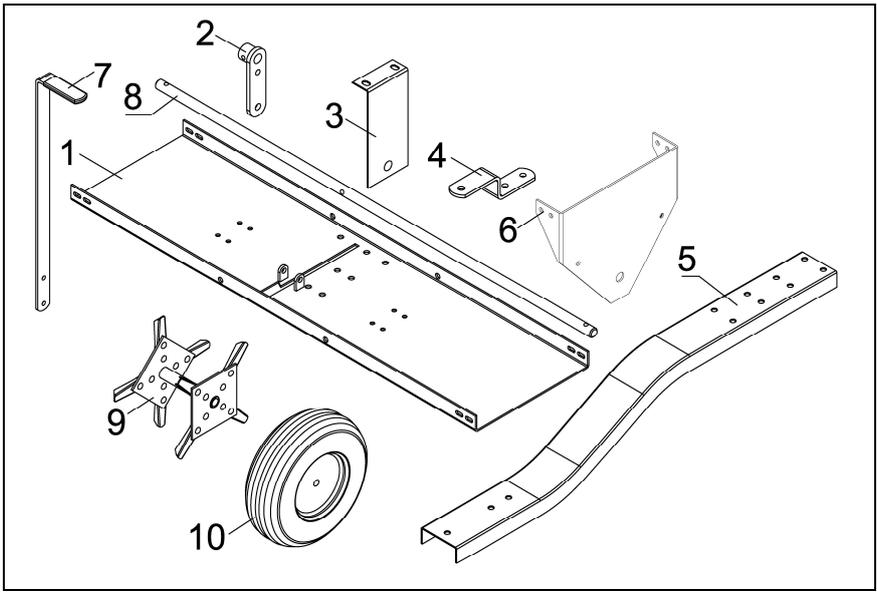
CAUTION: VEHICLE BRAKING AND STAILITY MAY BE AFFECTED WITH THE ADDITION OF AN ACCESSORY OR AN ATTACHMENT. BE AWARE OF CHANGING CONDITIONS ON SLOPES.

Exercise caution at all times when using power equipment.

1. Read this owners manual carefully for operating and service instructions before attempting to assemble or operate this equipment. Be thoroughly familiar with the proper use of this equipment.
2. Read the vehicle owners manual and vehicle safely rules, and know how to operate the vehicle before using this equipment.
3. Never allow children to operate the tractor or plug aerator attachment, and do not allow adults to operate without proper instructions.
4. This aerator attachment has sharp knife points. Always handle with care and wear substantial foot wear when operating this aerator.
5. Do not allow anyone to ride or sit on plug aerator attachment frame or on towing vehicle.
6. Keep the area of operation clear of all persons, particularly small children, and also pets.
7. Always begin with the transmission in first (low) gear and engine at low speed, and gradually increase speed as conditions permit.
8. The vehicle braking and stability may be affected with the attachment of this equipment. Be aware of changing conditions on slops. Refer to safety rules in the vehicle owner's manual concerning safe operation on slopes **STAY OFF OF STEEP SLOPES.**
9. Always operate up and down a slope, never across the face of a slope.
10. This equipment should be operated at reduced speed on rough terrain, along creeks and ditches and on hillsides, to prevent tipping and loss of control. Do not drive too close to a creek or a ditch.
11. Do not tow this equipment on a highway or any other public thoroughfare.
12. Follow the maintenance instructions as outlined in this owner's manual.

Carton Contents

- | | |
|-----------------------|--------------------------------|
| 1. Tray | 6. End Plates (2) |
| 2. Wheel Brackets (3) | 7. Lift Handle |
| 3. Middle Brace | 8. Shaft |
| 4. Hitch Bracket | 9. Double Spool Assemblies (4) |
| 5. Tongue | 10. Wheels (2) |



HARDWARE PACKAGE CONTENTS

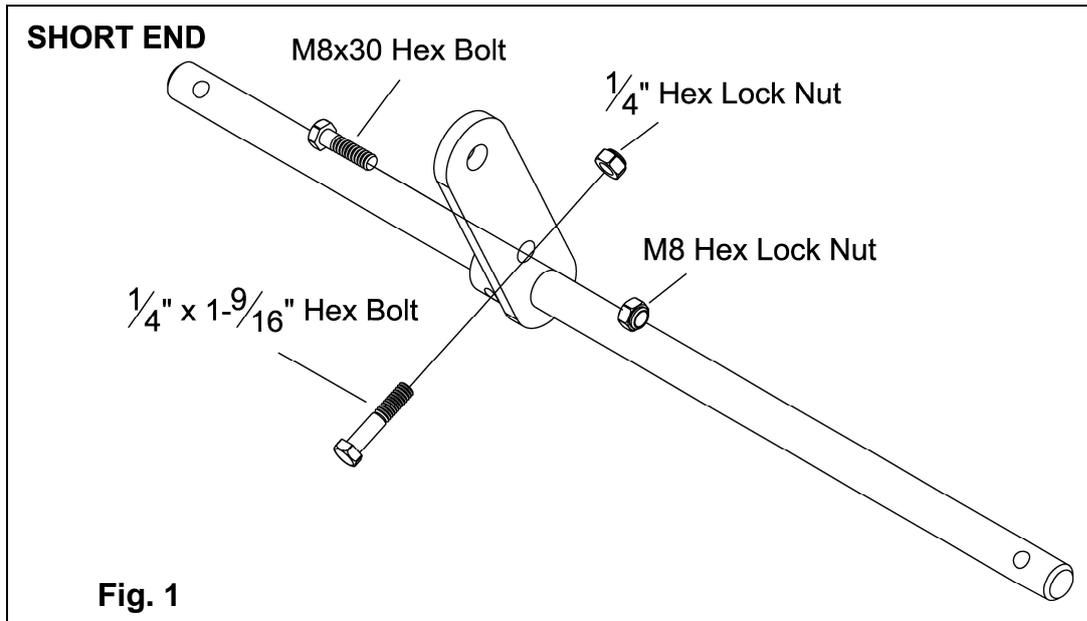
No.	Qty	Description	No.	Qty	Description
A	2	Hex Bolt, M12 x 110	M	8	Flat Washer, Ø8
B	3	Hex Bolt, 1/4"x1-9/16"	N	2	Big Flat Washer, Ø 12
C	6	Hex Bolt, M8 x 30	O	2	Hex Nut M12
D	6	Hex Bolt, M8 x 25	P	6	Flat Washer, Ø20
E	8	Hex Bolt, M8 x 20	Q	8	Spacer 1/4" Long
F	1	Lock Pin	R	1	Spacer Tube, 2.95" Long
G	1	Hair Cotter Pin	S	2	Spacer Tube, 1.00" Long
H	1	Hitch Pin	T	1	Spacer Tube, 2.36" Long
I	2	Hex Lock Nut, M12	U	2	Spacer Tube, 5.31" Long
K	20	Hex Lock Nut, M8	V	1	Shoulder Spacer
L	3	Hex Lock Nut, 1/4"			

ASSEMBLY INSTRUCTIONS

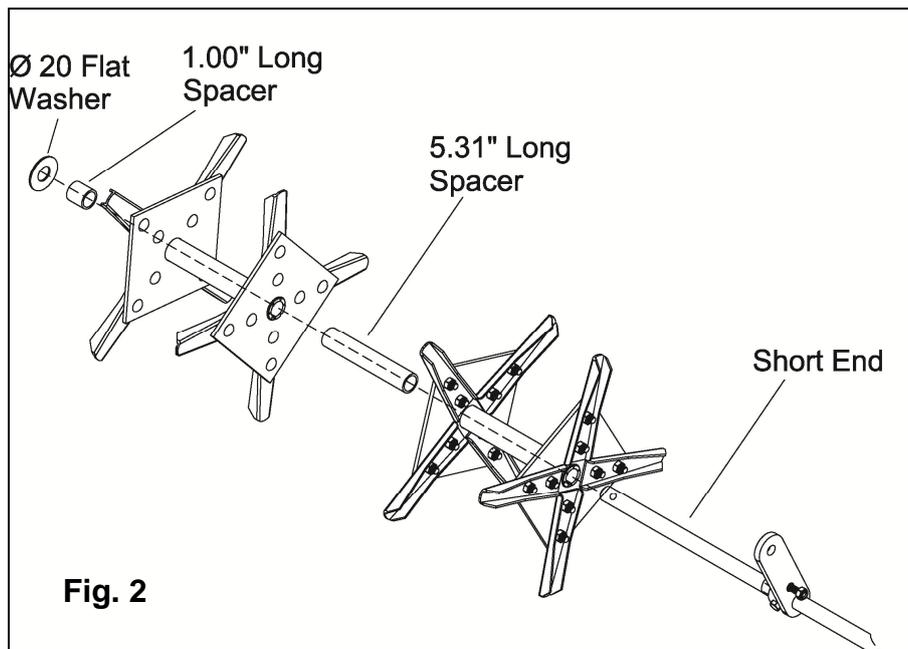
Before assembling the aerator, lay out all the parts and hardware as shown on previous pages.

	<p>CAUTION: POINTS OF AERATOR KNIVES ARE SHARP! EXERCISE CAUTION AT ALL TIMES WHILE ASSEMBLING AND USING THE AERATOR.</p>
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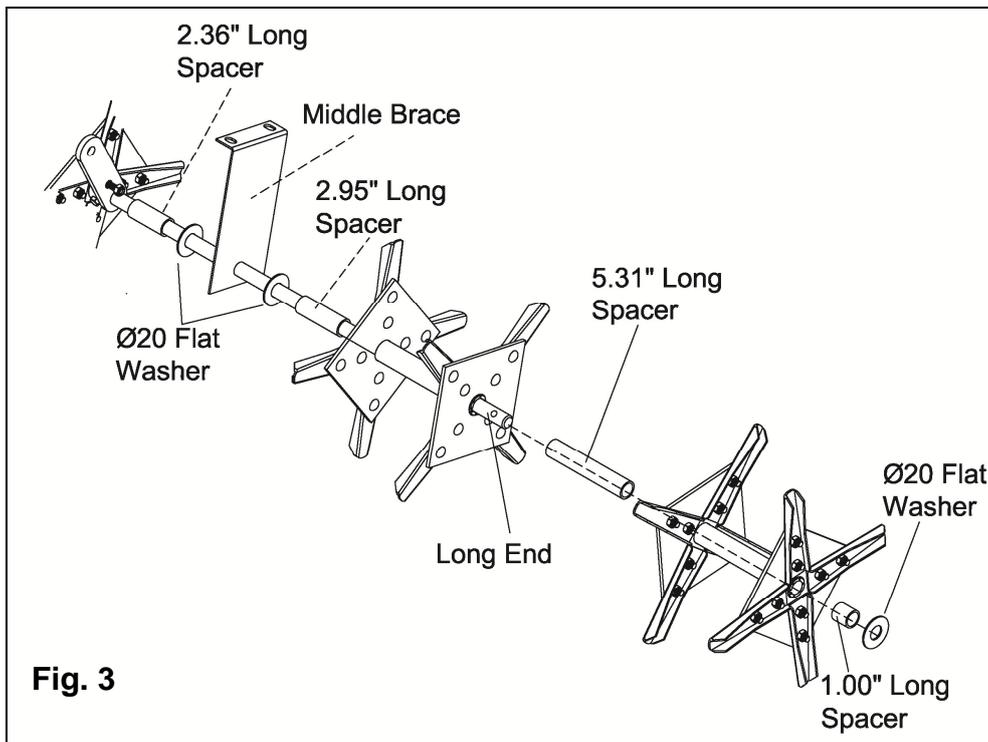
- Step 1:**
1. Assemble a wheel bracket to the middle hole in the shaft so that the hub faces the short end of the shaft. Fasten the bracket to the shaft using a 1/4"x1-9/16" hex bolt and a 1/4" hex lock nut. Tighten.
 2. Pre-assemble a M8x30 hex bolt and M8 hex lock nut to the smaller hole in the wheel bracket. Insert the bolt from the hub side of the bracket. **Do not tighten yet. See Fig.1.**



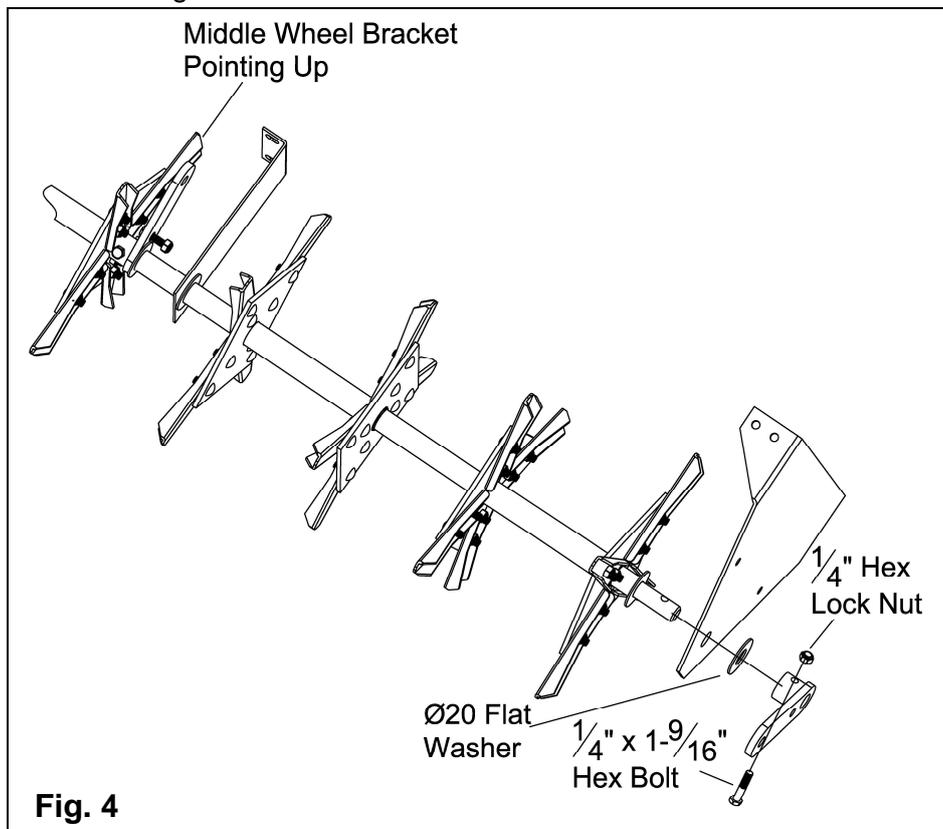
Step 2: Assemble a double spool assembly (knives facing in), a 5.31" long spacer, another double spool assembly (knives facing out), a 1.00" long spacer and a Ø20 flat washer onto the **short end** of the shaft. See Fig.2.



Step 3: Assemble a 2.36" long spacer, a Ø20 flat washer, the middle brace, a Ø20 flat washer, a 2.95" long spacer, a double spool assembly (knives facing in), a 5.31" long spacer, a double spool assembly (knives facing out), a 1.00" long spacer and a Ø20 flat washer onto the long end of the shaft, the bent lip of the middle brace must face the short end of the shaft. See Fig.3.



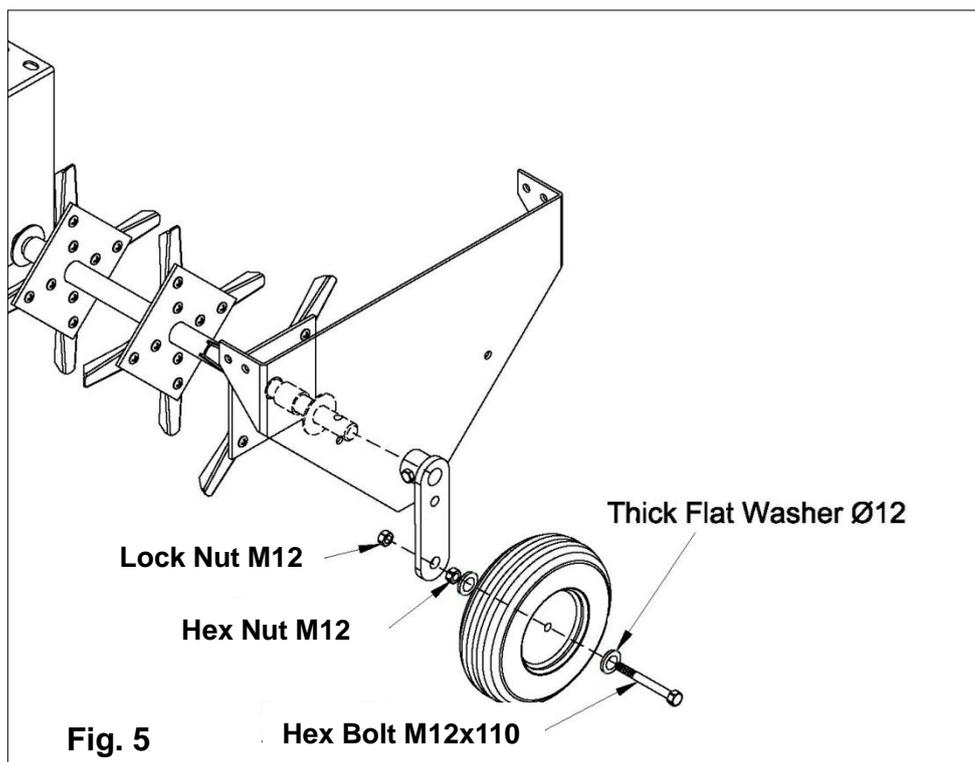
Step 4: Rotate the wheel bracket fastened to the middle of the shaft so that it is pointing up. Assemble an end plate, a Ø20 flat washer and a wheel bracket onto the long end of the shaft. Point the wheel bracket as shown in Fig.4. Fasten to the shaft using a 1/4"x1-9/16" hex bolt and 1/4" hex lock nut. Tighten. Repeat for other end of shaft. See Fig.4



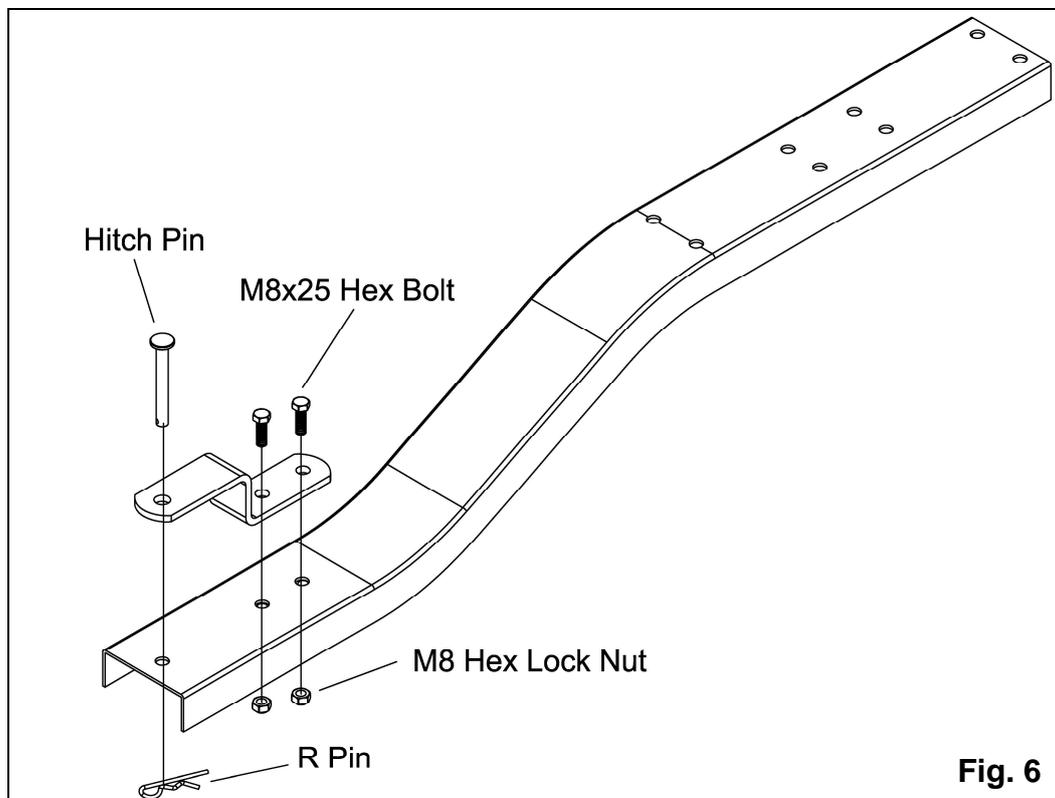
Step 5: 1. Add a thick flat washer $\phi 12$ to M12x110 hex bolt (A), then insert the bolts through the wheel (8), add a thick flat washer $\phi 12$.
2. Put the M12 hex nut (I) on the end and tight, then loosen the hex nut (I) a 1/2 turn.
3. Slide wheel assembled through wheel bracket (9) and fasten with M12 lock nut (J).

4.Repeat steps 1-3 for the other side and tighten all hardware.

NOTE: Make sure the both wheels spin freely after assembly.



Step 6: 1.Assemble the hitch bracket to the tongue using two M8x25 hex bolts and M8 hex lock nuts. Tighten.
2. Assemble the hitch pin through the hitch bracket and the tongue. Secure it with the hair cotter pin. See Fig.6.



Step 7: 1. Assemble the tongue to the tray, placing the wide end of the tray slot to the front. Use two M8x25 hex bolts, two M8x30 hex bolts, four 0.27" long spacers, four M8 hex lock nuts are shown in Fig.7. **Tighten.**

2. Assemble two M8x30 hex bolts, four 0.27" long spacers, two M8 hex lock nuts to the holes on the right side of the slot in the tray. Tighten. See Fig 7.

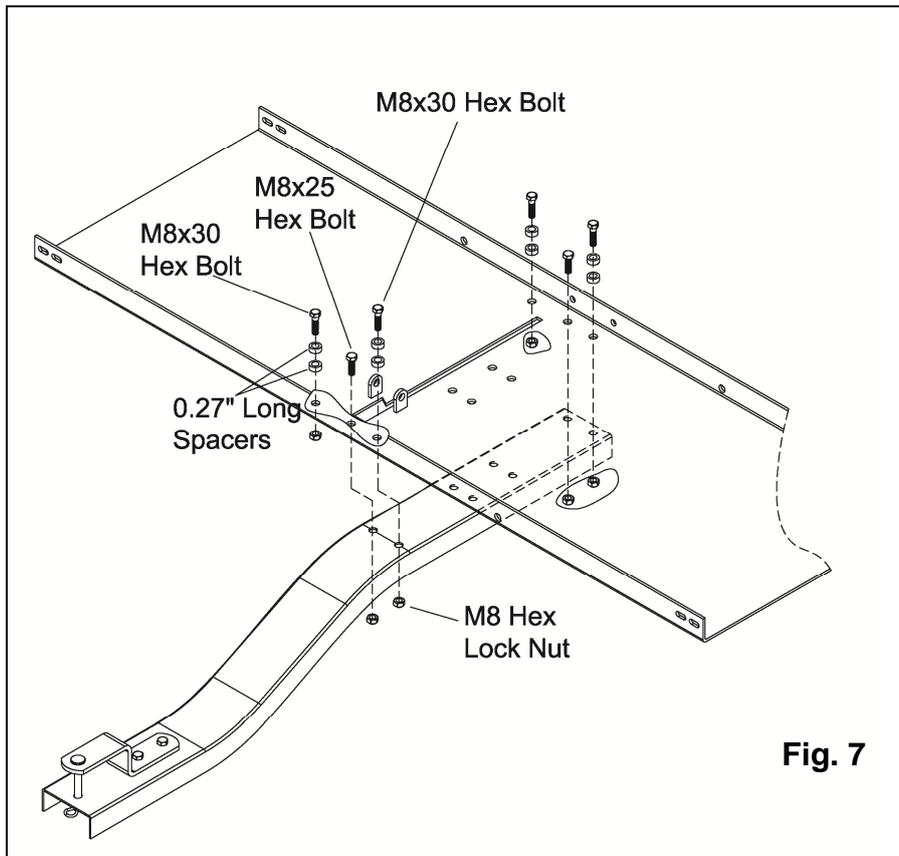


Fig. 7

Step 8: 1.Align the tray between the end plates. Use three M8x20 hex bolts to temporarily secure three corners of the tray to the end plates. Leave one upper corner empty. See Fig.8.

2.Rotate the middle brace up against the tongue, aligning it with the holes that are closest to slot in the tray, fasten the brace to the tongue using two M8x25 hex bolts, M8 hex lock nuts. Do not tighten till final step. See Fig.8.

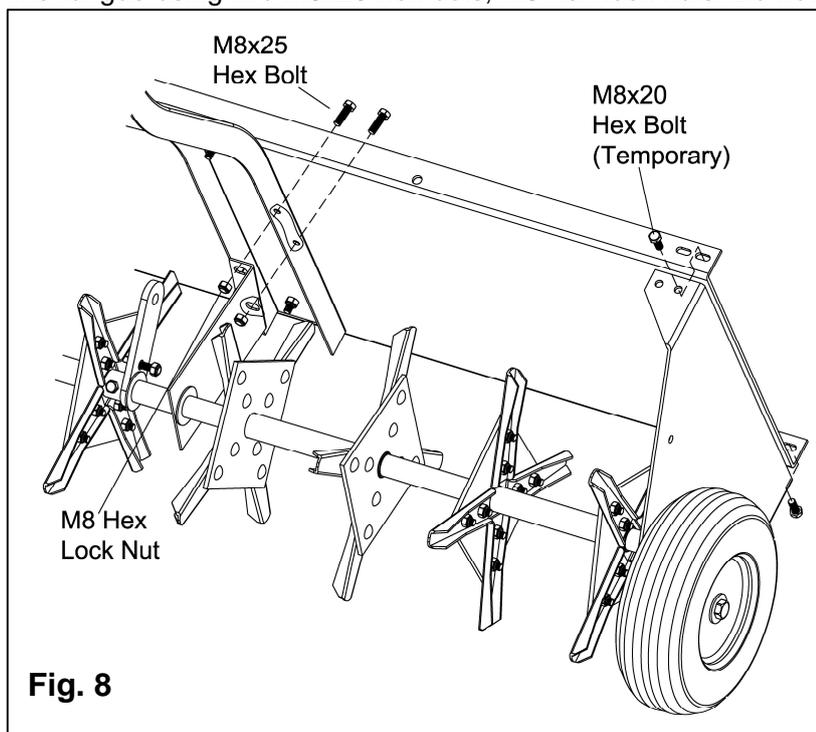
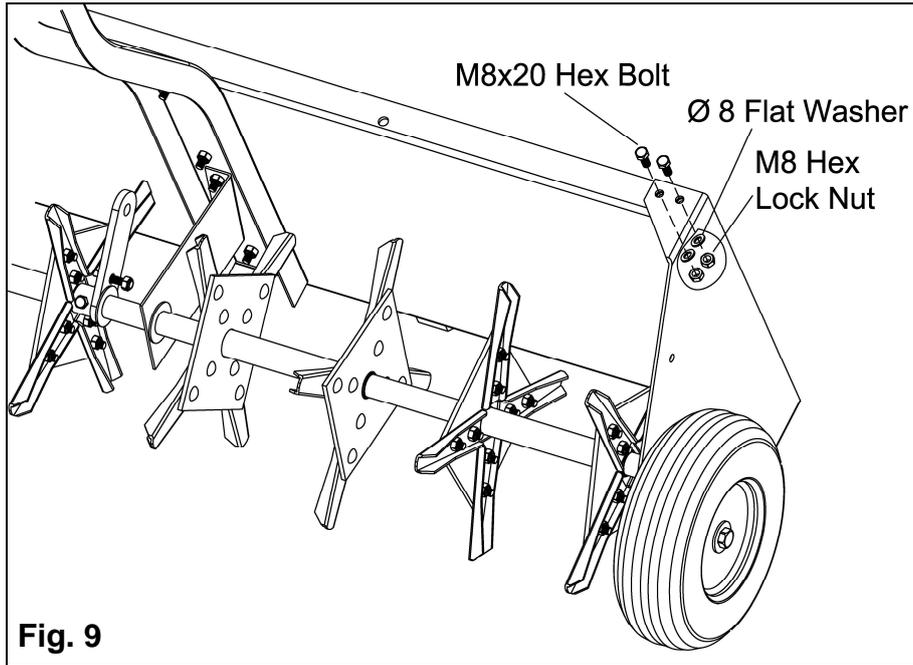


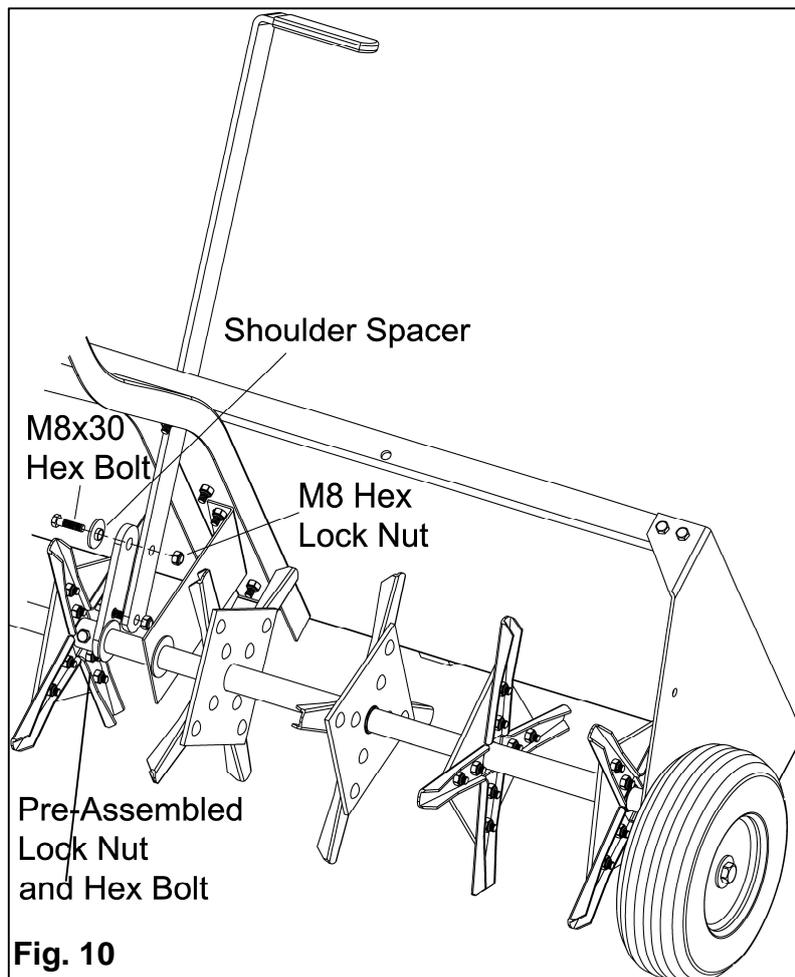
Fig. 8

Step 9: Assemble both of the end plates to the tray using eight M8x20 hex bolts, Ø8 Flat washers M8 hex

lock nuts. **Do not tighten till final step.** See Fig.9.



Step 10: Place the lift handle through the slot in the tray. Fasten the lift handle to the smaller hole in the middle wheel bracket using the bolt and hex lock nut which you pre-assembled earlier (Fig.1). Fasten the lift handle to the larger hole in the wheel bracket using a M8x30 hex bolt, the shoulder spacer, a M8 hex lock nut. Tighten. See Fig.10.



Step 11: Place the aerator right side up its wheels, locking the lift handle into the offset at the front of the tray

slot. Perform the following steps to assure correct alignment of the lift handle with the slot. Refer to Fig.11.

1. Adjust the tray side to side until the lift handle rests against the right side (viewed from rear) of the offset at the front of the slot.
2. Straighten the end plates and then tighten the eight bolts at the corners of the tray, making sure the lift handle still rests against the right side of the slot offset.
3. Straighten the middle brace and tighten the two bolts which fasten it to the tongue.

Make sure the lift handle still rests against the right side of the slot offset. You should have to force the handle over into alignment with the slot when lowering the aerator.

The licking device could help to prevent the handle be sliding out when the aerator in running. But if you feel this device is not convenient, just take out the pin.

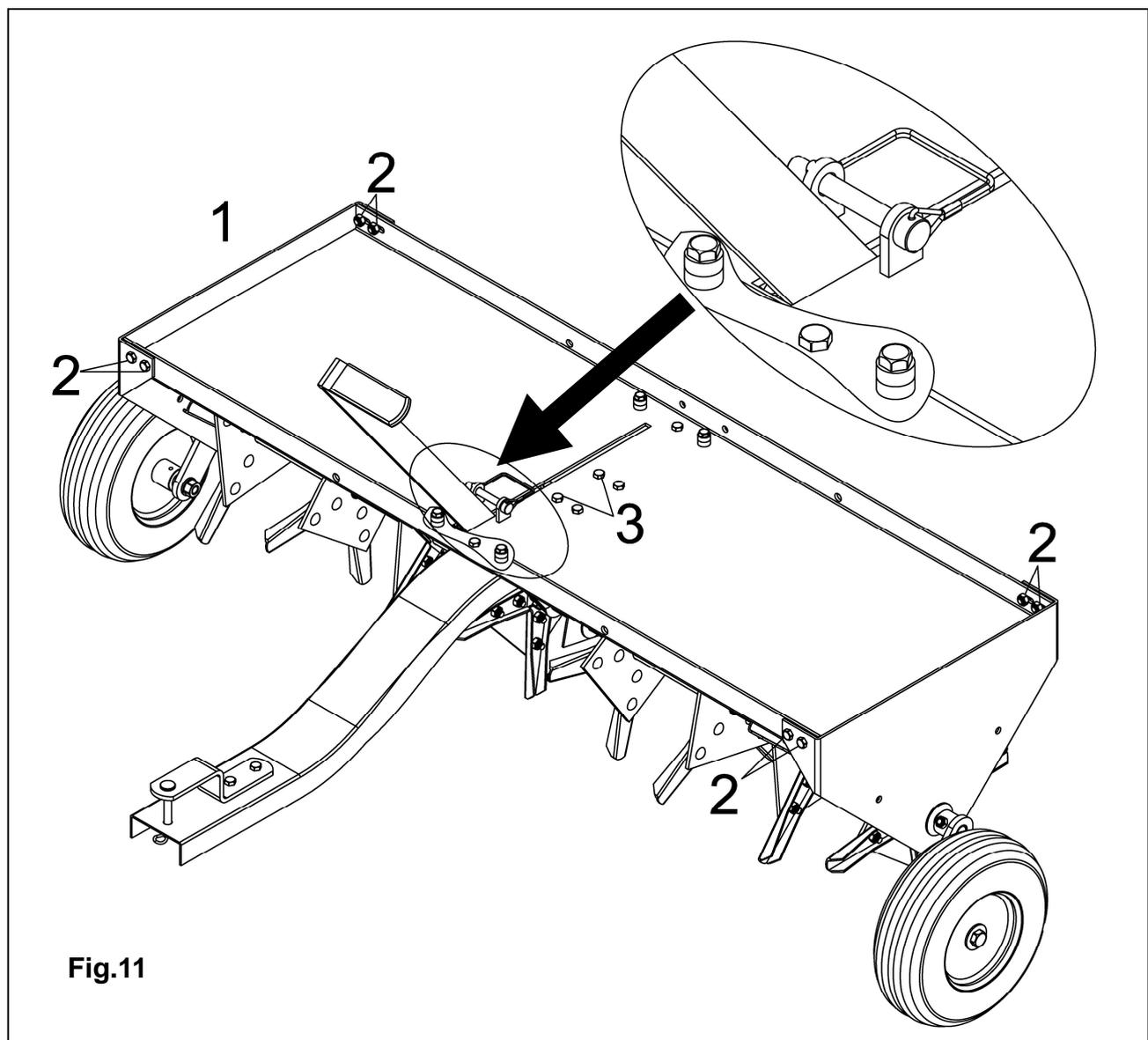


Fig.11

OPERATION

Aerating means pulling small soil plugs, ranging up to three inches in length, from the soil to create small reservoirs that will bring oxygen, fertilizer and water down into the roots.

For best aerator performance, the following lawn preparations and operating procedures are recommended.



CAUTION: POINTS OF AERATOR KNIVES ARE SHARP! EXERCISE CAUTION AT ALL TIMES WHILE USING THE AERATOR.

1. Mow lawn and remove loose clippings prior to use of lawn aerator
2. Start tractor engine with controls in neutral and place throttle at slow engine speed
3. Engage shift lever at lowest possible forward speed and lower aerator, allowing plugger points to enter the ground. Increase speed as conditions permit.
4. Aerate in the straightest line possible making overlapping passes to increase the plugger point pattern.
5. Avoid extremely sharp turns with plugger points engaged in ground to prevent damage to lawn.
6. DO NOT cross over walks or drives without first raising the aerator to the transport position.
7. On sloped lawns, always aerate in an up and down direction. DO NOT attempt to follow the corner of the ground.
8. To increase the depth of plugger point penetration, up to 440lbs, of weight, such as bags of sand or concrete blocks, may be added to the tray. The weight can be secured to the tray with ties or straps fastened to the front and rear of the tray. Fasten so that the ties or straps cannot become entangled on rotating parts.
9. If the ground is extremely hard and dry, it is recommended that it be sprinkled or watered down for one or two hours prior to aerating.
10. DO NOT attempt to aerate if ground is too wet, (muddy).
11. Do to small rocks and gravel which are normally present in aerated soil plugs, it is recommended that the plugs be rakes; otherwise damage to the lawn mower blades may arise, especially when reel type mowers are used.



CAUTION: TO PREVENT INJURY, DISMOUNT FROM TRACTOR TO RAISE OR LOWER AERATOR CONTAINING ADDED WEIGHT.

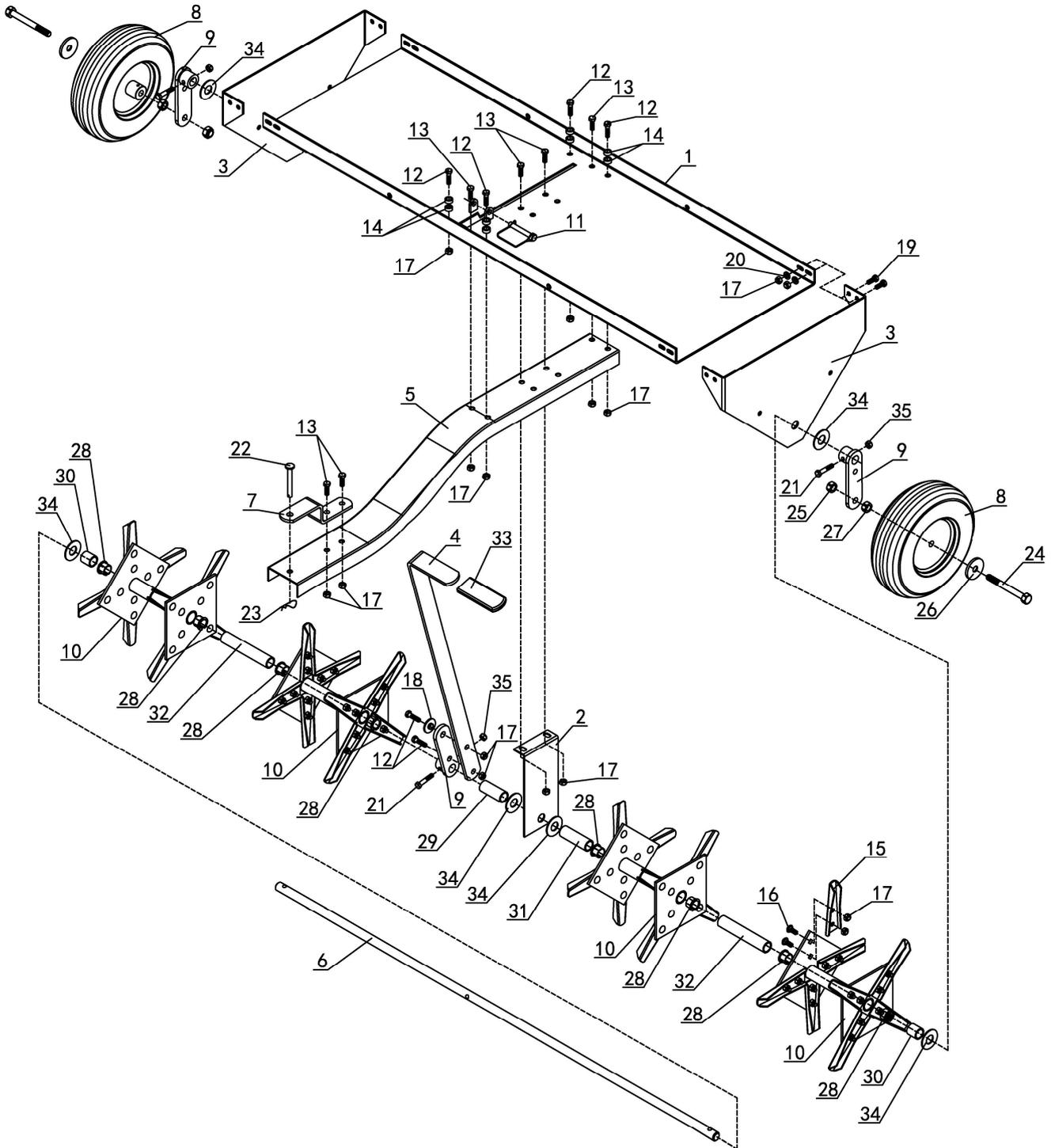
MAINTENANCE

1. Plugger points can periodically be sharpened with a small grinder to maintain good penetration. Points should be removed to sharpen. Follow original angle and contour of points when grinding.
2. For storage, clean the aerator and lightly oil all exposed metal parts to prevent rust.

LUBRICATION

1. Oil the spool assemblies and shaft as needed.
2. Oil the wheel as needed.

PARTS DRAWING



PARTS LIST

Part No	Desc	Qty	Part No	Desc	Qty
1	Tray	1	19	Hex Bolt M8x20	8
2	Middle Brace	1	20	Flat Washer Ø8	8
3	End Plate	2	21	Hex Bolt 1/4" X 1-9/16"	3
4	Lift Handle	1	22	Hitch Pin	1
5	Hitch Tongue	1	23	R Pin	1
6	Shaft	1	24	Hex Bolt M12x110	2
7	Hitch Bracket	1	25	Lock Nut M12	2
8	Wheel	2	26	Big Flat Washer Ø12	2
9	Wheel Bracket	3	27	Hex Nut M12	2
10	Double Spool Assembly	4	28	Plastic Bushing	8
11	Lock Pin	1	29	2.36" Long Spacer	1
12	Hex Bolt M8x30	6	30	1.00" Long Spacer	2
13	Hex Bolt M8x25	6	31	2.95" Long Spacer	1
14	0.27" Long Spacer	8	32	5.31" Long Spacer	2
15	Knife Tool	32	33	Handle Grip	1
16	Carriage Bolt M8x20	64	34	Flat Washer Ø20	6
17	Lock Nut M8	84	35	Lock Nut 1/4"	3
18	Shoulder Spacer	1			