



SUPER-JECT AERATOR

Model no: BA-6100

Operation & Parts Manual

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GORDON BANNERMAN LIMITED

41 Kelfield Street, Rexdale, ON M9W 5A3 Canada

T: (416) 247-7875 F: (416) 247-6540

www.sportsturfmagic.com

Super-Ject Aerator

Model: BA-6100

Dear Owner,

Welcome to Bannerman, the Home of Sports Turf Magic.

Your new **Bannerman BA-6100 Super-Ject Aerator** is designed to meet and exceed your turf aeration requirement. The ease of operation and low maintenance will give you many trouble free hours of operation. Please make sure that you read and understand the important instructions for the assembly, adjustment, operations, safety, and maintenance contained in this manual. If there are any instructions which you do not fully understand, contact either your dealer, or Bannerman Ltd. for clarification prior to using the unit

When in need of replacement parts, specify the model and the serial number of your new **BA-6100 Super-Ject Aerator**. The serial plate that identifies your model number and the serial number is located on the three point hitch mast. To give you many years of service, regular preventative maintenance is required. Should you require further assistance, please feel free to contact your local Bannerman dealer or Bannerman directly.

Regards,



George Bannerman
Corporate Secretary

GORDON BANNERMAN LIMITED

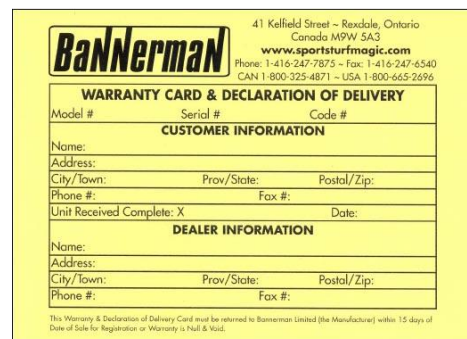
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Warranty Statement

Bannerman Ltd warrants all **Bannerman BA-6100 Super-Ject Aerators**, when appropriately applied and installed, to be free from defects in material and workmanship under normal use and service, for 1 year from the date of use. We must receive the Warranty Card, and Declaration or Delivery Card filled out in its entirety, via mail, fax, or email within 15 days of the date of sale. It is the responsibility of the end user to make sure that the Warranty Card is filled out and submitted to **Bannerman Ltd**. This warranty does not guarantee a particular service life of the products. Service life will vary with application, operating environment, level of maintenance and other factors beyond our control.



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CAN 1-800-325-4871 - USA 1-800-665-2696

WARRANTY CARD & DECLARATION OF DELIVERY

Model #	Serial #	Code #
CUSTOMER INFORMATION		
Name:		
Address:		
City/Town:	Prov/State:	Postal/Zip:
Phone #:	Fax #:	
Unit Received Complete: X	Date:	
DEALER INFORMATION		
Name:		
Address:		
City/Town:	Prov/State:	Postal/Zip:
Phone #:	Fax #:	

This Warranty & Declaration of Delivery Card must be returned to Bannerman Limited (the Manufacturer) within 15 days of Date of Sale for Registration or Warranty is Null & Void.

Bannerman Ltd's sole responsibility for the **BA-6100 Super-Ject Aerator**, or parts determined to be defective and covered by this warranty, is limited to repairing the product or part. An allowance is to be applied to the labour cost for the removal and replacement.

Prior authorization from Bannerman Ltd must be obtained before replacing or returning any part(s) or incurring any cost of labour. No charges for expenses incurred for parts, labour or transportation, by unauthorized persons, will be allowed under this warranty. Bannerman Ltd reserves the right to any part or Bannerman assembly (with transportation prepaid) claimed to be covered under this warranty.

Bannerman Ltd shall not be liable, in the event of proximate, incidental, consequential, special or other damages. This includes, but is not limited to, damages for loss of production, loss of profit, loss of opportunity, or injury to persons arising out of any breach of this warranty.

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR PARTICULAR PURPOSE, OR ANY OTHER WARRANTY EXTENDING BEYOND THAT SET FORTH ABOVE

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Bannerman Super-Ject Aerator

Model: BA-6100

Description

The Bannerman Super-Ject Aerator is the best 6' aerator in its class. With 5 different tine styles available and 2 transportation modes, it is the most versatile aerator you'll ever own.

Specifications

Length	37.5 inches	95.25 cm
Width	72 inches	182.88 cm
Height	49 inches	124.46
Weight	900- 1,100 lbs.	408.23 - 498.95kg
Aeration Width	61 inches	154.94 cm
Weight Tray Capacity	1600 lbs	(725.76 Kg)
Average Weight w/ Tines	950 lbs	(430 Kg)
Tractor Requirements:	20-35 horsepower	
Standard Equipment:	<ul style="list-style-type: none"> • All tubular steel frame construction • 4 legs that slide down for storage, or up for operation • Skid shoes located at the end frames of the main frame to prevent damage to turf • Integrated weight tray • Independently mounted and rotating tine wheels 	
Hitch	<ul style="list-style-type: none"> • Three point "float feature" and 4 storage legs 	
Tines	<ul style="list-style-type: none"> • Tine Shaft - 64" solid steel, diameter: 3-1/2" • Reel spacing centre to centre: 7-1/2", with choice of: <ul style="list-style-type: none"> - 100 3/4" Core Tines - 36 Fracture Tines, up to 7 1/2" penetration - 36 Slitter Tines, 5mm or 8mm (7-1/2" length) 	
Optional Equipment	<ul style="list-style-type: none"> • Free Floating Roller Attachment • Tow Behind Hydraulic Lift Kit 	

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Work Safely - Follow These Rules!

-A careful operator is the best insurance against an accident-



Warning: Read this operation manual carefully and understand the controls before handling any equipment or commencing work.

- Before and during operation the area should be checked to assure that the area is clear of obstacles, hazards and personnel.
- Caution should be exercised when operating close to ditches, fences or on hill sides.
- Do not operate this machine on a steep gradient
- Wear protective safety clothing: safety footwear, ear protectors, gloves, goggles, etc.
- Hands, feet, clothing and other objects must be kept away from all moving parts.
- Use extreme care when making adjustments.
- Always use the proper tools or equipment for the job at hand.
- Before starting work, visually check machines for damage or wear to working parts.
- Do not allow any unauthorized person to handle machines at any time.



Warning: Gasoline/Petrol is highly flammable

- No riders other than the tractor operator. Never allow anyone to ride on the aerator.
- Before and during operation, the area should be checked to assure the absence of any obstacles, hazards, as well as idle personnel.
- **WARNING:** The tines are sharp. Do not attempt to remove obstructions while the aerator is in motion.
- Know where and how deep any gas, water, and electrical lines are on site.
- Drive at a reasonable speed. This will allow the operator to maintain complete control of the tractor and implement at all times. Do not exceed 15 m.p.h (24 k.p.h)
- Do not over-ballast the weight box, resulting in the loss of front steering and jeopardize the tractors stability. In extreme cases front counter balancing may be required.
- When not in use the BA-600 Super-Ject three point hitch model attachment should have all the legs extended down and the safety pins engaged. This prevents the aerator from tipping over when detached from the tractor and damaging the machine or its tines.
- When working under or around the tines, the frame must be supported by the legs provided and/or the trailing kit.
- Prior to lowering and unhitching the aerator, lower jack legs and insert jack safety pins.
- Remove all tools, parts and maintenance equipment from the weight tray after servicing
- Always place the aerator in the "Transport Position" when moving extended distances.
- The tractor used for the proper transportation of the unit should be equal in size and horsepower to the tractor used for field operations.
- Aerator transporters are not intended for highway operation.

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Shaft Installation Procedure

Out Board Bearings (Figure #1)

1. Identify and check that all the loose components are included in the box. Check the shaft for the identifying mark. This is stamped into the end of the shaft.
2. Fully extend the jack legs. A block under the jack legs may be required to allow sufficient clearance when installing shafts with long tines.
3. Position the shaft into the aerator main frame, locating the tine shaft stub ends in the notches of the end plate (See Figure #1). Slip the bearings over the stub shaft.
4. Locate the 4 holes and insert the bolts from the outside of the end plates through the bearing, secure with stover nuts and torque to 60-65ft.lbs. Repeat the same procedure for the other end of the tine shaft.
5. Tighten the 8 nuts and bolts and install the nylon insert nuts. Thread the nylon insert nuts up to the locking collars. Thread the nylon insert shaft and nuts up to the inner race of bearing. Do not overtighten shaft and nuts.

Note: Position the grease fitting with the grease nipple pointing towards the rear of the aerator (See Figure #1).

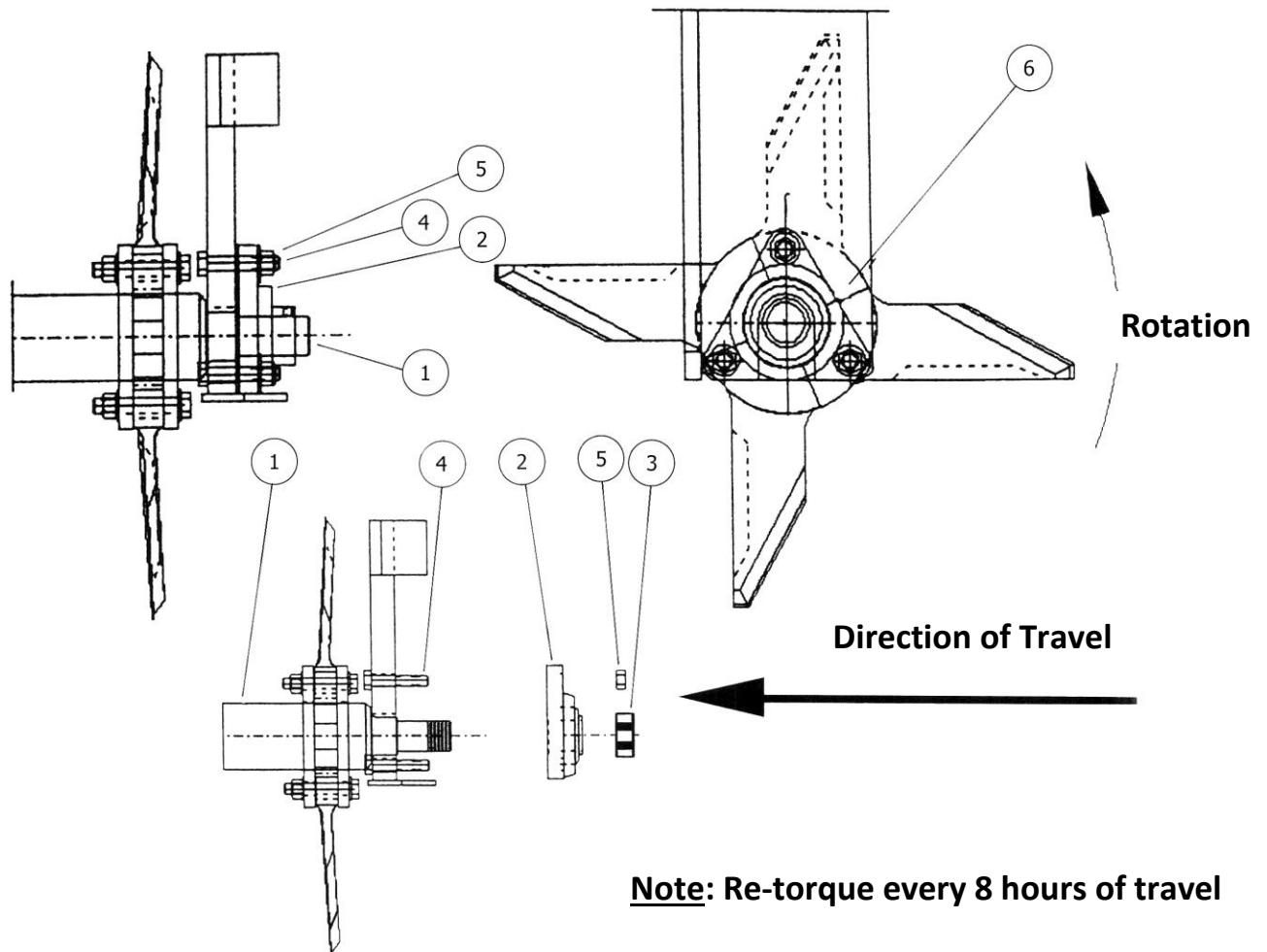
FIGURE #1			
Item #	Part #	Description	Qty.
1	08541	Shaft Assembly	1
2	08548	Bearing	2
3	08536	Jam Lock Nut	2
4	11223	1/2" – 20 x 2-1/2" Hex Bolt	6
5	08549	1/2" – 20 Stover Nut	6
6	08036	Grease Nipple	2

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FIGURE #1

Three Point Hitch Attachment Procedure

1. Prior to hitching to the BA-6100 Super-Ject Aerator, it must be held in an upright, level position by the jack legs.
2. Back the tractor up until the lower link arm ball joint is inside the aerator double lugs. (See Figure #2)
3. Install the proper class of link pins supplied to retain both lower link arms.
Note: 7/8" flat washers must be on both ends of the hitch pins.
4. Attach the upper link (turnbuckle or hydraulic top link) between the aerator double lugs, using the proper class of top link pin and lynch pin.
5. Once the BA-6100 Super-Ject Aerator is attached, adjust the lateral limiters, or sway chains/bars, using the turnbuckles, to remove slack in the lower link arms. Make sure that the unit is squared to the tractor and has no side sway when raised or lowered.

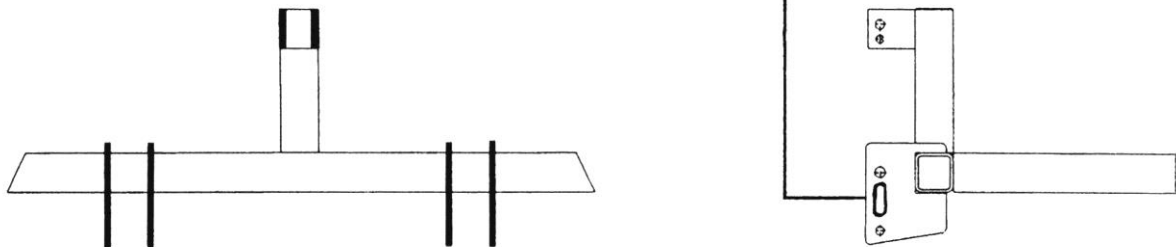
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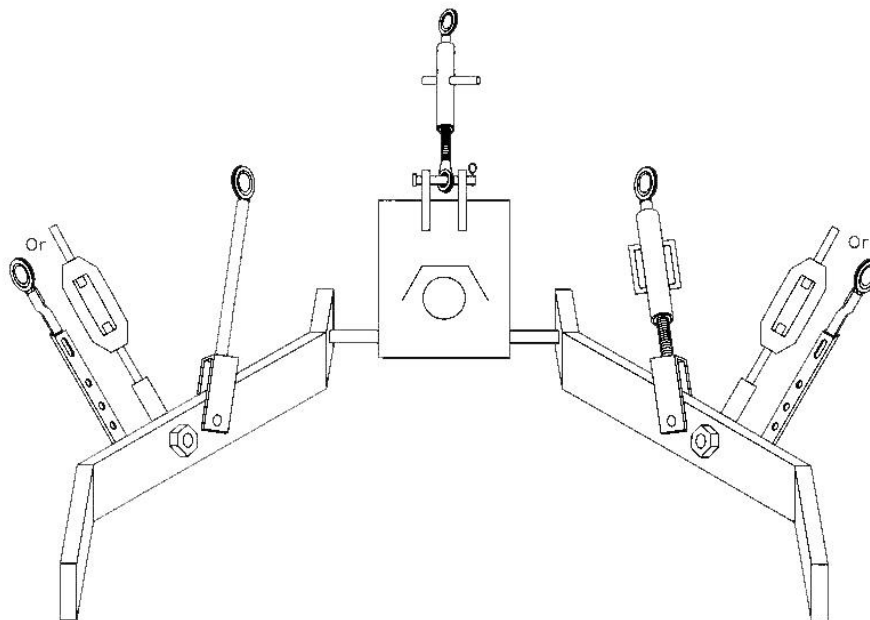
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6. Lift the BA-6100 Super-Ject Aerator hydraulically; completely retract the jack legs.
Warning: Tines are sharp. To avoid injury, keep hands and feet away from the tine shafts
7. Lower the BA-6100 Super-Ject Aerator to the ground; adjust the top link turnbuckle or hydraulic top link until the aerator's mast is perpendicular to the ground.
Note: This adjustment will ensure that the aerator will be in the correct position, both vertical and level when operating.
8. From the rear of the BA-6100 Aerator, add ballast to the weight box frame until full depth tine penetration into the ground is achieved. The amount of the ballast weight required will be determined by soil type, moisture content and the amount of compaction present.
Warning: Maximum ballast weight is 1600lbs.

FIGURE #2

Three Point Hitch



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Operating the Super-Ject Aerator

We want you to obtain the best performance from your new Bannerman **BA-6100 Super-Ject Aerator**. If you have any difficulty in carrying out the following instructions please contact us or your local representative or dealer.

To operate the Super-Ject Aerator:



Danger: Contact with buried gas, electrical cable or irrigation pipes can result in serious injury or death. Know the location of these underground obstructions prior to aerating an area.

1. Lower the aerator into the ground with the tines at full depth penetration (or partial penetration if so desired by the operator).
2. Drive the tractor at speeds which are safe) tractor stability and steering ability is maintained) and comfortable for the operator.
Caution: Excessive tractor speed or radical operation when turning can endanger vehicle operation and operator safety.
3. Do not make sharp turns with the tines in the ground. The tines must be lifted out of the ground when making turns.
4. Severely compacted traffic areas may have to be aerated several times in 30 degrees cross section patterns.
5. When the BA-6100 Super-Ject Aerator is not in use, remove the jack retaining pin, extend the leg to the maximum extension, re-insert the jack pin. Always use the extended jack legs for safe storage.

Warning, Please Note:

- Never operate the tractor if the front steering is inadequate or light in the front end.
- If the combined weight of the aerator and the ballast exceeds the hydraulic lift capabilities of the tractor's Three Point Hitch, then a tow behind unit is to be used.
- Excessive ballast in the weight box will result in loss of tractor stability and the loss of steering ability on Three Point Hitch. In these extreme cases, front counter-balancing is required.
- Insure that all weight used as either ballast, or counter balancing is properly secured.
- In excessive stony conditions reduce ballast, operating speed, and ensure hitch arms are in "float" slots on hitch or aerator.

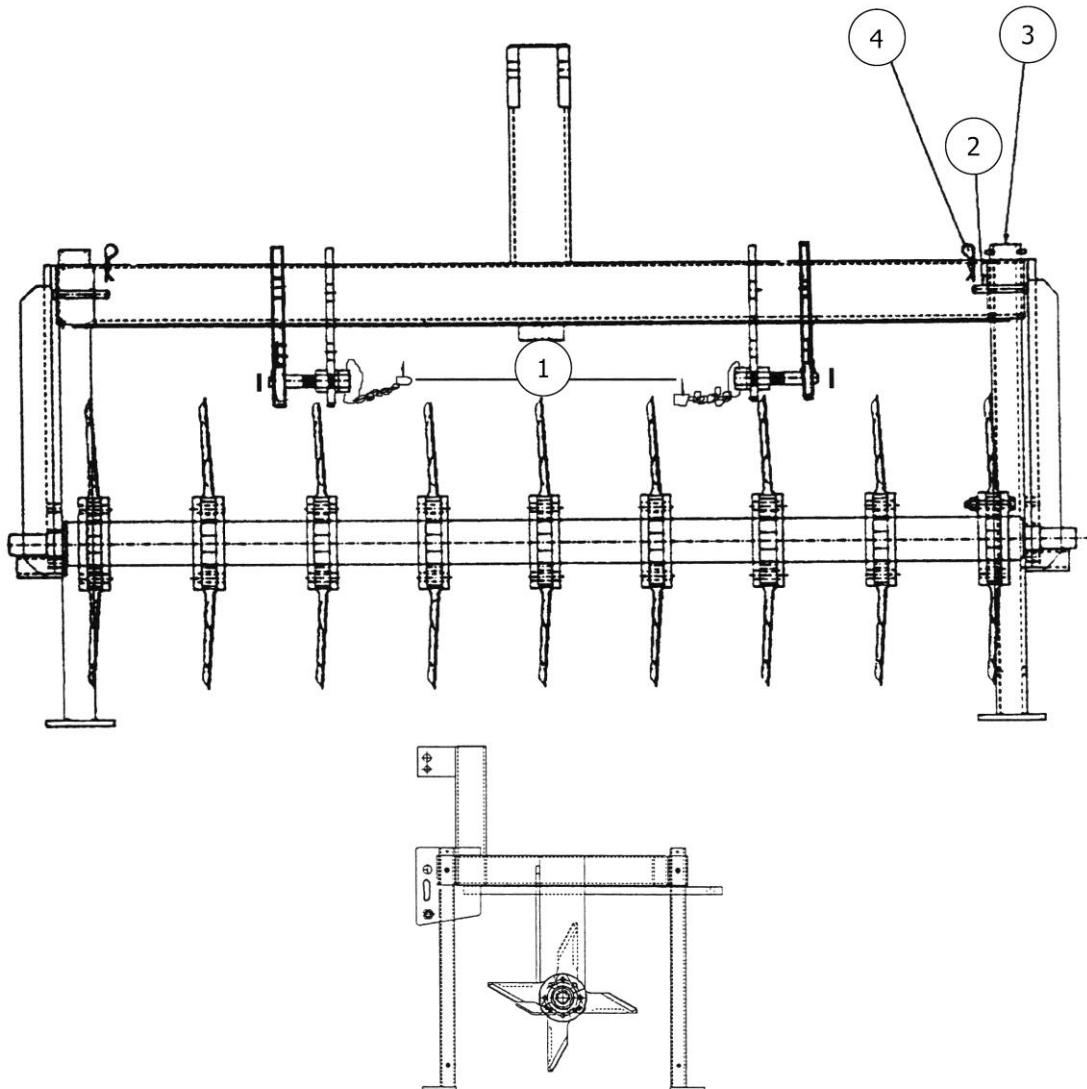
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BA-6100 Legs and Pins Diagram



BA-6100 Legs and Pins Parts List

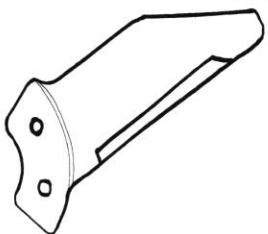
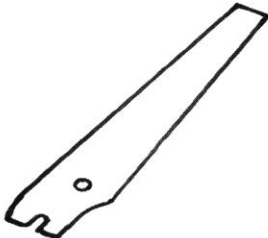
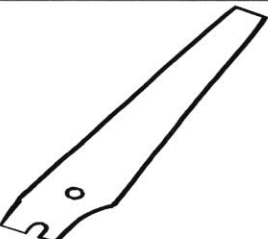
Item #	Part #	Description	Qty.
1	15116	Hitch Pin w/Chain and Lynch Pin	2
2	08535	Clevis Pin	4
3	08542	Jack Leg	4
4	08174	Hair Pin	4

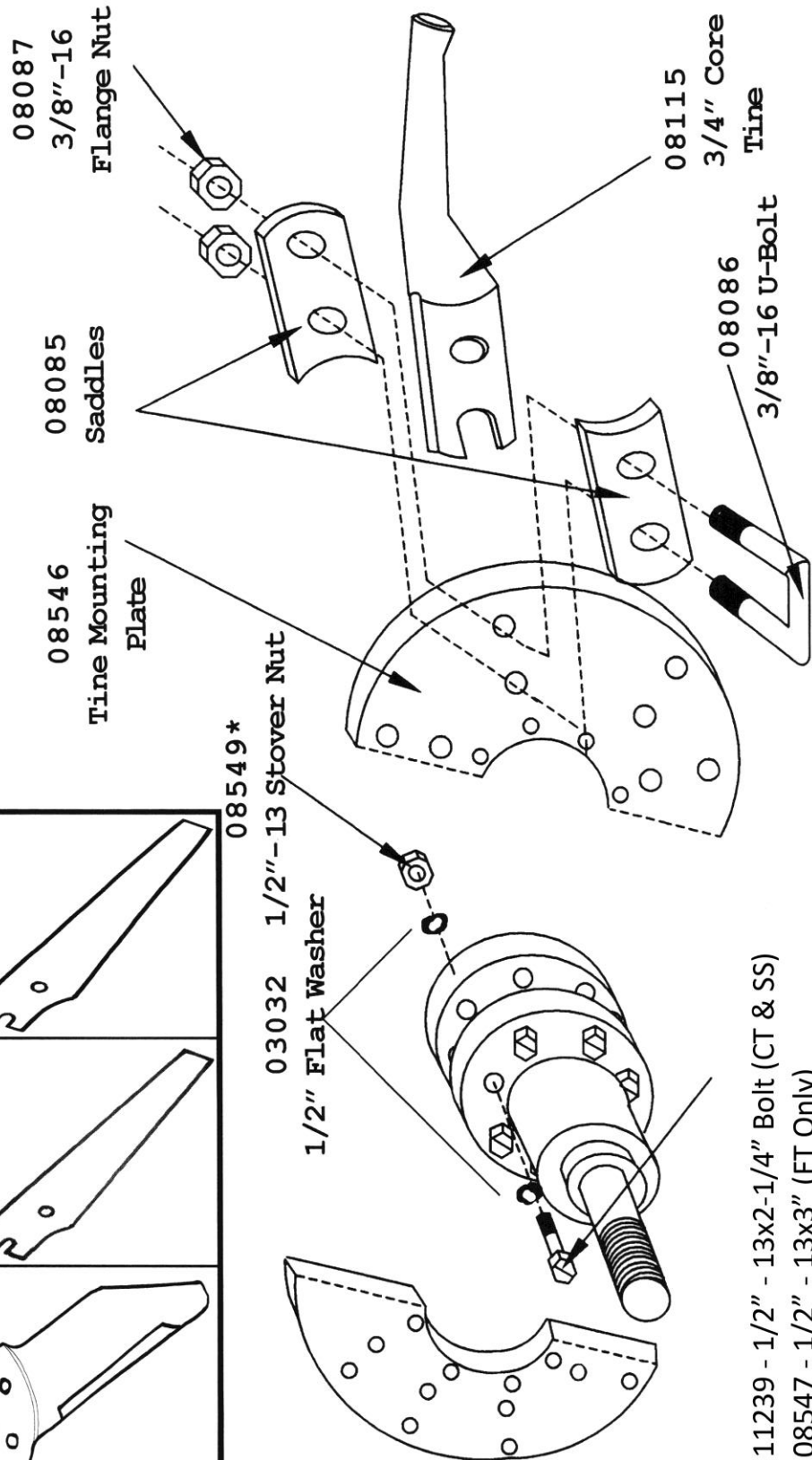
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08543 Fracutre Tine	
08544 Slitter/Slicer 5mm	
08545 Slitter/Slicer 8mm	



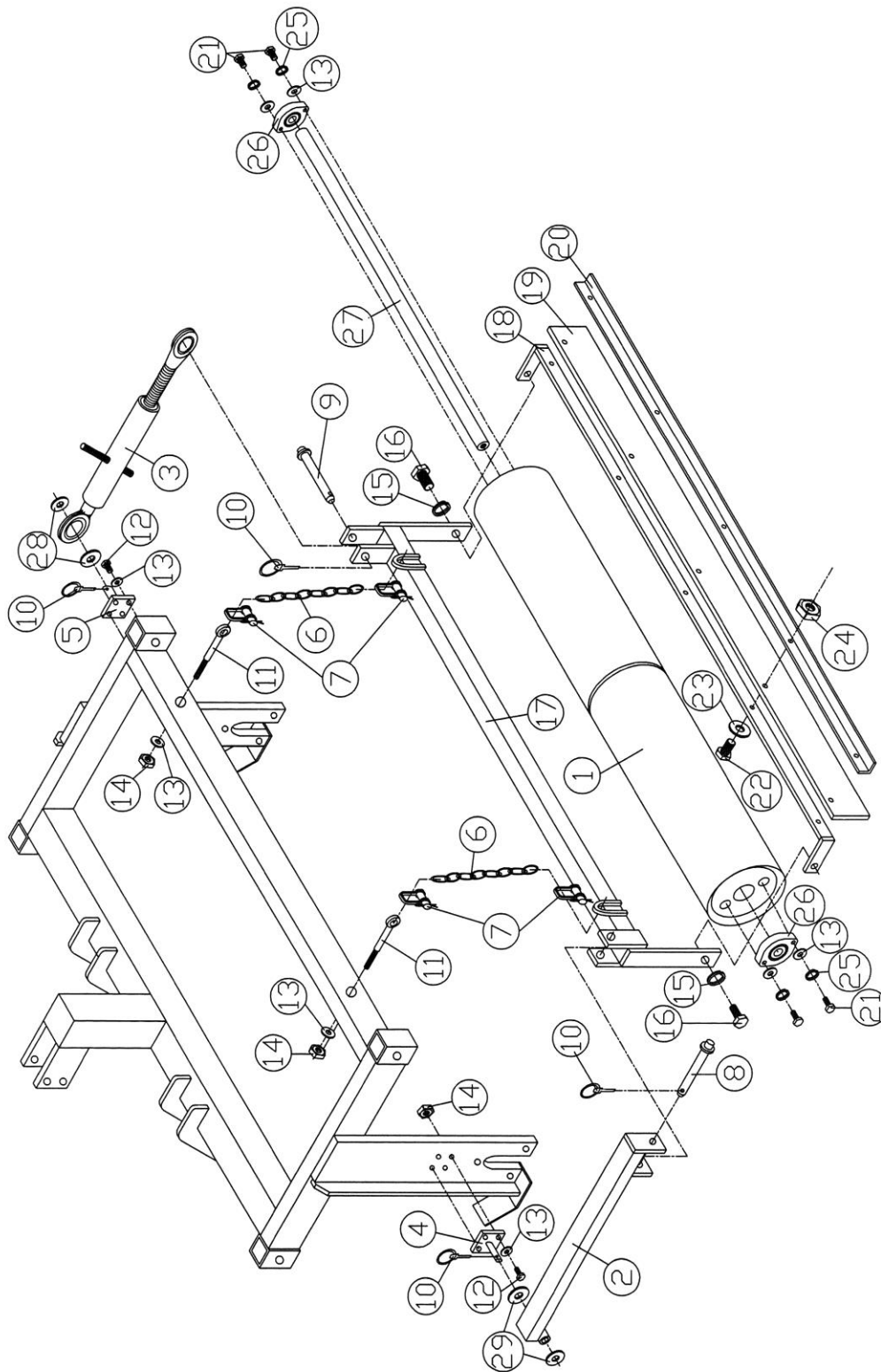
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BA-6100 Roller Kit Parts Diagram



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BA-6100 Roller Kit Parts List

Item No.	Part No.	Part Description	Qty.
1	15026	Roller, 3' Half	2
2	08518	Roller Arm	1
3	08175	Link - Adjusting	1
4	08517	Pivot Assembly 7/8"	1
5	08516	R/H Pivot Block	1
6	08520	Chain, Suspension 5/16" X 16 Link	2
7	08171	Chain, Shackle	4
8	08173	Pin, Long	1
9	08152	Pin, Short	1
10	15045	Pin, Lynch	4
11	15111	Bolt, 5/8"-11x3"	2
12	04038	Nut, Nylon Insert 5/8"-11	8
13	02024	Washer, 3/8" Flat SAE	14
14	03022	Nut, Nylon Insert 3/8"-16	10
15	15042	Washer, 3/4" Lock	2
16	15041	Bolt, 3/4"-10 X 2" HHC	2
17	08519	Frame, BA-6100 Roller	1
18	15016	Scraper - Bar	1
19	15024	Rubber - Scraper	1
20	15017	Scraper - Clamp	1
21	03016	Bolt, 3/8"-16X1" HHC	4
22	03057	Bolt, 5/16"-18 X 1.5	8
23	02005	Washer, 5/16" SAE	8
24	02004	Nut, Nylon Insert 5/16"-18	8
25	03057	Washer, 3/8" Lock	4
26	15027	Bearing, Roller	2
27	15025	Shaft Roller	1
28	06037	Washer, 3/4" Flat SAE	2
29	11258	Washer, 7/8" Flat SAE	2
30	15019	Collar - Roller	2
31	11225	Bolt - 1/2"-13 X 1.75" HHC	2
32	03024	Nut - 1/2"-13 Nylon Insert	2
33	03032	Washer - 1/2" Flat SAE	2

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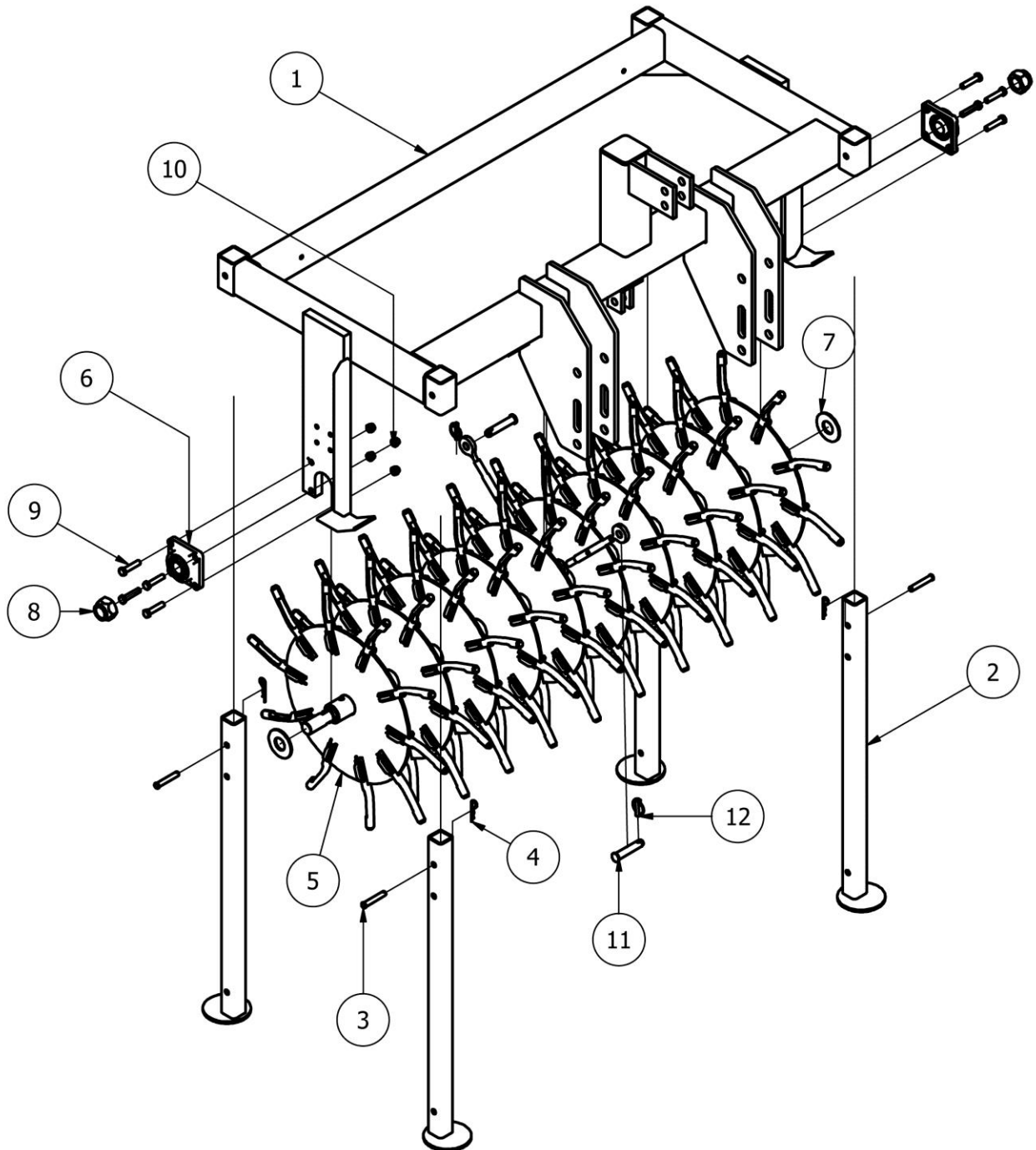
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BA-6100 Super-Ject Aerator

Core Tine Parts Diagram



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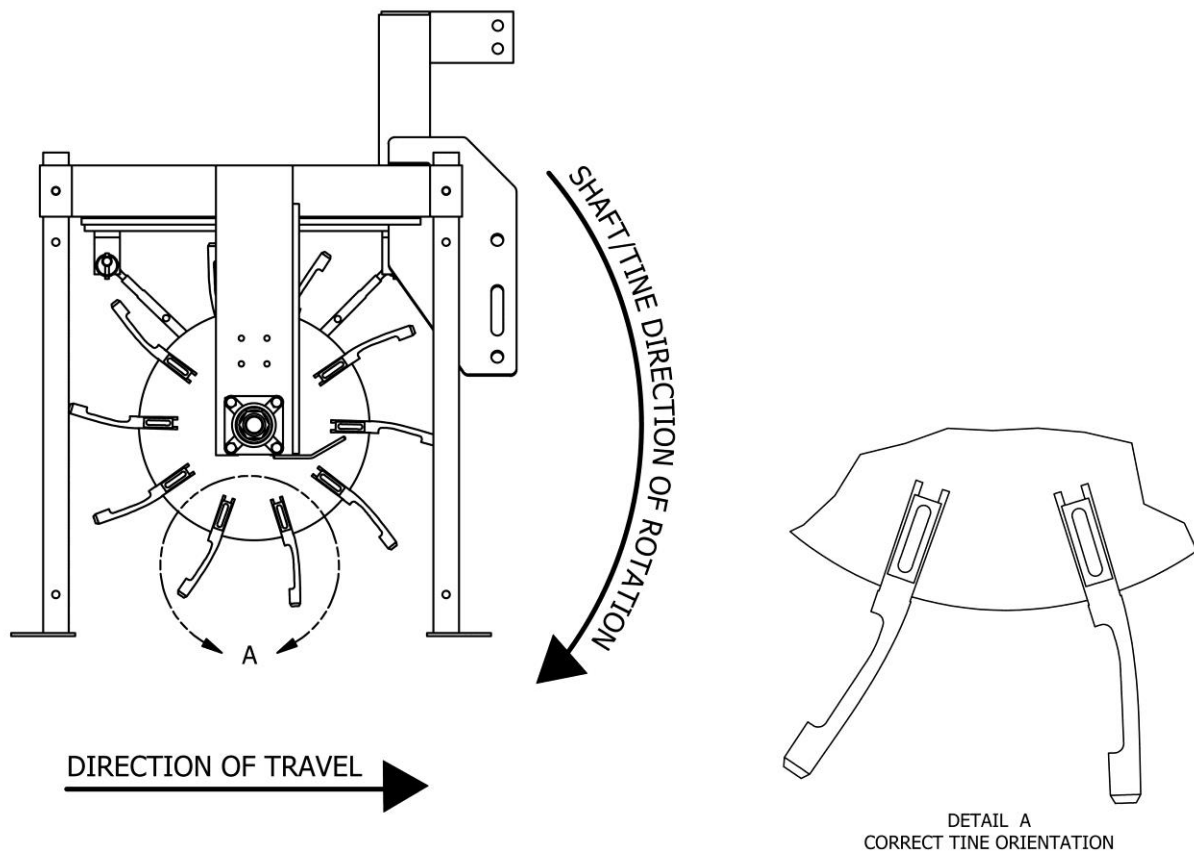
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BA-6100 Super-Ject Aerator

Core Tine Parts List

Item #	Part #	Description	Qty.
1	08540	Frame Assembly	1
2	08542	Leg	4
3	08535	Clevis Pin; Leg	4
4	08174	Hitch Pin	4
5	08562	Core Tine Reel Plate	10
6	08534	Reel Bearing	2
7	08537	Reel Shaft Washer	2
8	08533	Reel Nylock Nut	2
9	11239	Hex Head Cap Screw 1/2 -13 X 2 1/4	8
10	08549	Stover Lock Nut	8
11	15111	Bolt; Reel Support 5/8-11 X 3	2
12	04038	Nylon Insert Nut 5/8-11	2



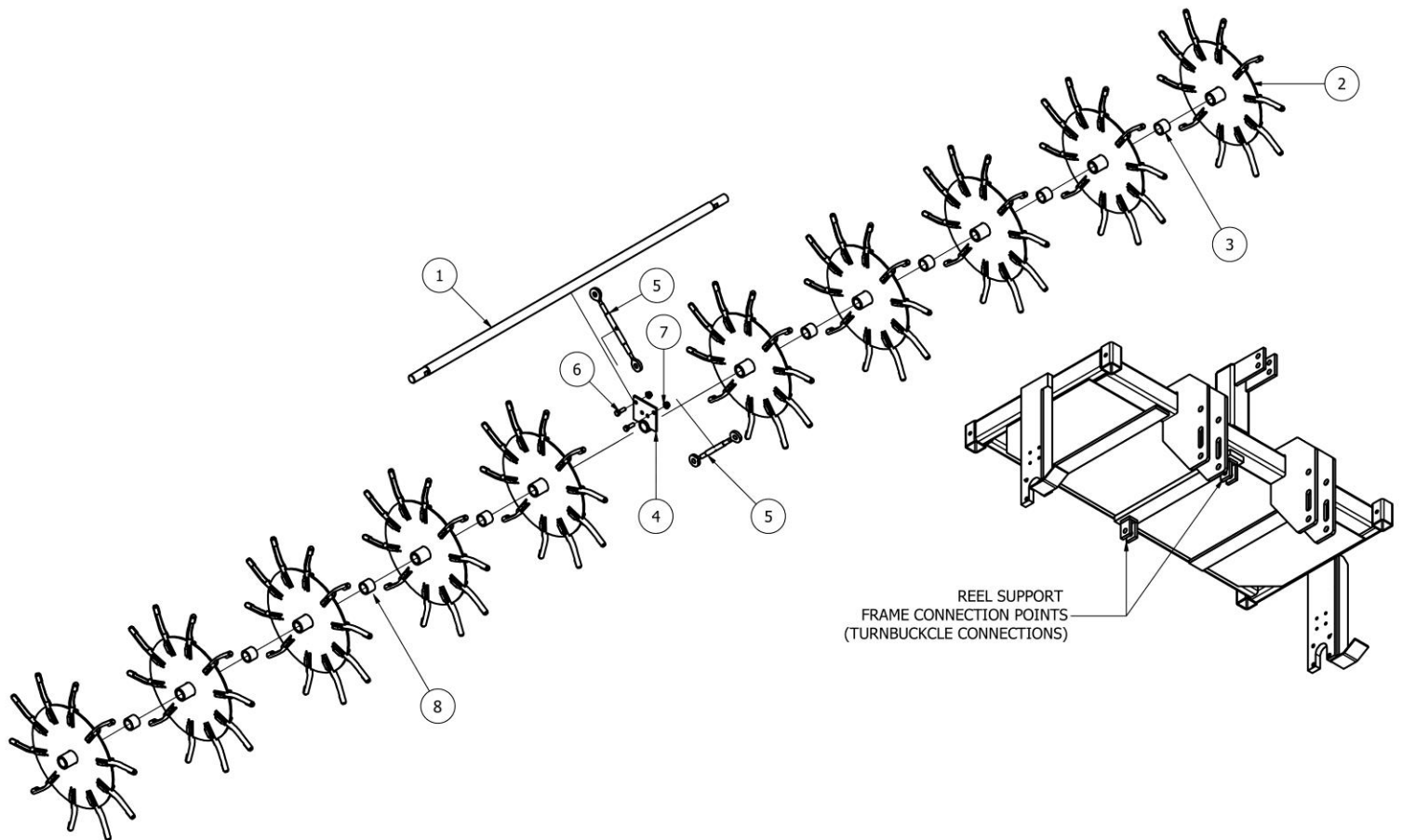
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BA-6100 Super-Ject Aerator Core Tine Reel Diagram



Core Tine Reel Diagram Parts List

Item #	Part #	Description	Qty.
1	08567	Reel Shaft	1
2	08562	Tine Wheel Sub-Assembly	10
3	08566	Tine Wheel Spacer	8
4	08563	Reel Shaft Center Support	1
5	08569	Turn Buckle Sub-Assembly	2
6	15113	Hex Head Bolt, 1/2 – 13 X 1 1/4	2
7	03024	Hex Nylon Insert Nut, 1/2 – 13	2
8	08568	Bronze Bushing – Tine Plate	20

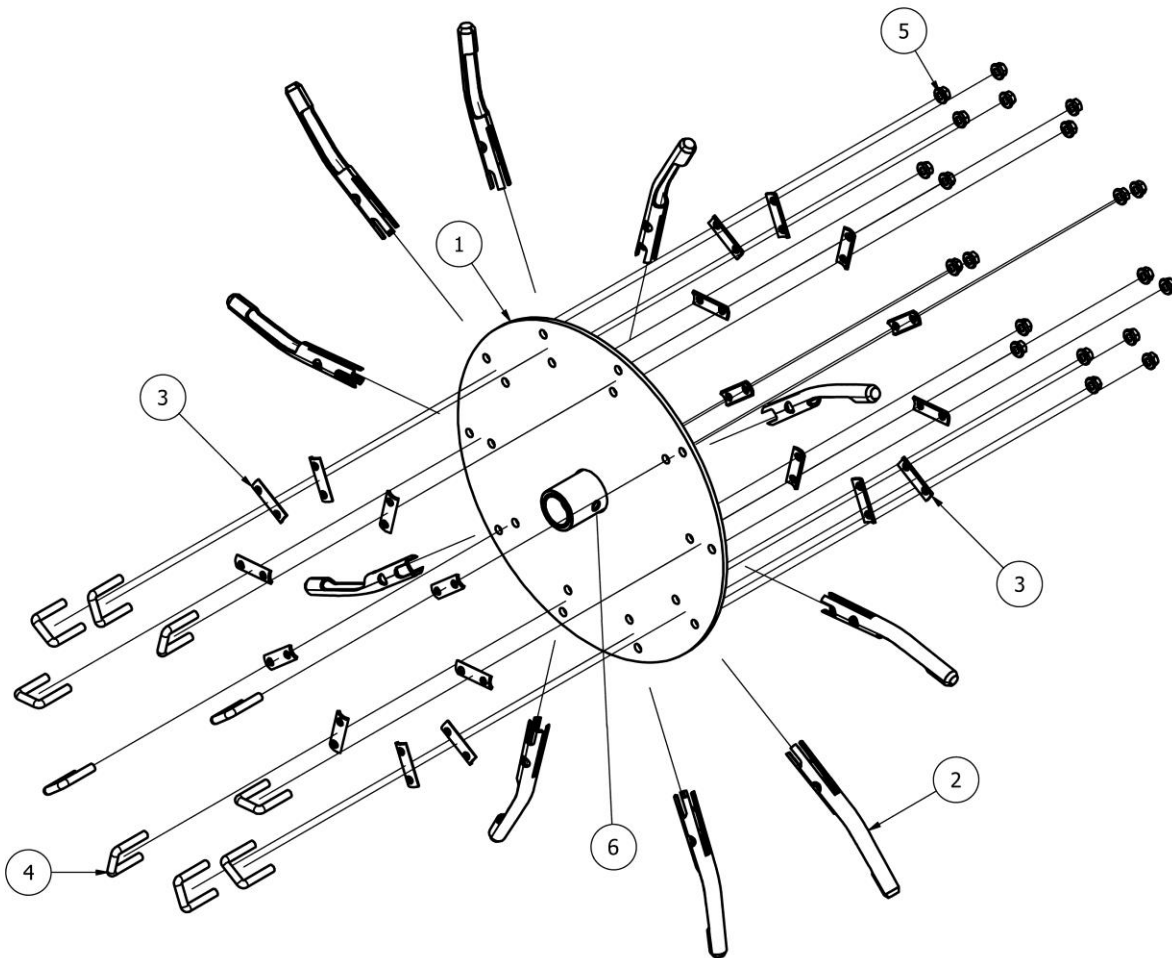
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BA-6100 Super-Ject Aerator Tine Wheel Assembly Diagram



Tine Wheel Assembly Parts List

Item #	Part #	Description	Qty.
1	08562	Tine Wheel Sub-Assembly	1
2	08115	3/4" Core Tine	10
3	08085	Saddle	20
4	08086	U-Bolt	10
5	08087	Stover Flange Nut	20
6	08036	Grease Fitting	1

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