

Faunamaster® SEEDER



Usermanual

Thank you for purchasing a Faunamaster Seeder

This manual provides the main technical parameters, safety rules, structure of main parts, installation, adjustment, operation and daily maintenance, as well as common faults and troubleshooting.

The main service object of the manual is the driver. It will help you to be familiar with the structure, installation method, safe operation, daily maintenance and adjustment of the machine, as well as the troubleshooting of common faults. In order to give full play to the good performance of the machine, extend the service life of the machine, and create considerable economic benefits for you, we hope you read this operation manual carefully before using the machine; strictly implement the provisions in the book, use, maintain and maintain the seeder; and welcome you to write to our company about the valuable experience and opinions accumulated in the process of using the machine, so that we can make further progress Step by step to improve the design and product quality.

This instruction manual is not a product quality guarantee, so it is not allowed to put forward any requirements based on the data, illustrations and instructions in this book. With the development of technology and the needs of users, this product will continue to improve and perfect. The contents in the manual may be different from the actual structure. If there is any difference with the real object, the real object shall prevail without further notice. Please pay attention to it.

For assamble and adjustments instructions, get more info on www.Faunamaster.com





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1. Summary

Faunamaster seeder is designed for small tractor or ATV/UTV. The supporting power of this machine is 5 - 8kw, with function apply fertilizer, sowing seeds and press after sowing, mainly used for sowing wheat, millet, oil rape etc. On Faunamaster seeder row space can be adjusted when sowing maize, soybean, sorghum and other crops. The machine adopts the stepless transmission to adjust the seed rate, which is easy and flexible. The seed meter of this machine has special cogs, which is suitable for the stable seeding of different size seeds.

This machine adopts chain transmission, reliable transmission, convenient adjustment and maintenance. The structure of the whole machine is simple, flexible and reliable.

In this manual, the safety warning symbols indicate important safety information. When you see the symbol, you should be alert for possible injuries, read the information under the symbol carefully, and inform other operators.

-  **Danger: if not avoided, it will cause death or serious injury.**
-  **Warning: indicates the potential danger of death or serious injury if not avoided.**
-  **Note: indicates a potential hazard that may cause low or moderate injury if not avoided.**
-  **Important: if not avoided, the seeder may be damaged or the environment may be damaged.**

This manual is an integral part of the machine. It is provided to the user in PDF form together with the seeder. Please keep it properly. In the process of using this manual, if you don't understand the part, you can consult the dealer.

2. Intended use

Faunamaster seeder is only used for the conventional agricultural operation matched with tractor or four wheeled motorcycle, and can be used for the drill sowing of wheat, cereal, rape, corn, soybean, etc. The user should strictly abide by the use, maintenance, repair conditions and expected use requirements specified by the manufacturer.

Faunamaster seeder can only be operated, maintained and repaired by people who are familiar with its characteristics and have relevant safety operation knowledge. At all times comply with the rules to prevent accidents and other safety regulations and road traffic rules. The manufacturer will not be responsible for the degradation of machine performance, machine damage and personnel injury caused by unauthorized system reform.

3. Safety technical rules

3.1 safety precautions

1. ⚠ Before use, read the operation manual carefully, and be familiar with the structure, installation, performance, adjustment, maintenance and troubleshooting of the machine.
2. ⚠ Do not open or remove the safety shield when the machine is working to avoid the risk of winding.
3. ⚠ Sowing cannot be backward. Trial seeding should be conducted before formal sowing, and sowing can only be carried out after reaching the required sowing depth of the user.
4. ⚠ Do not turn before lifting the machine.
5. ⚠ Seed addition, seed cleaning and troubleshooting must be carried out after shutdown.
6. ⚠ 4.00-8 wheel must be disassembled after confirming that there is no air pressure.
7. ⚠ Make sure that the power supply from ATV/UTV is fitted with a 25 (A) fuse, to protect actuator against overload, overload can cause a burned actuator.

3.2 Safety warning signs



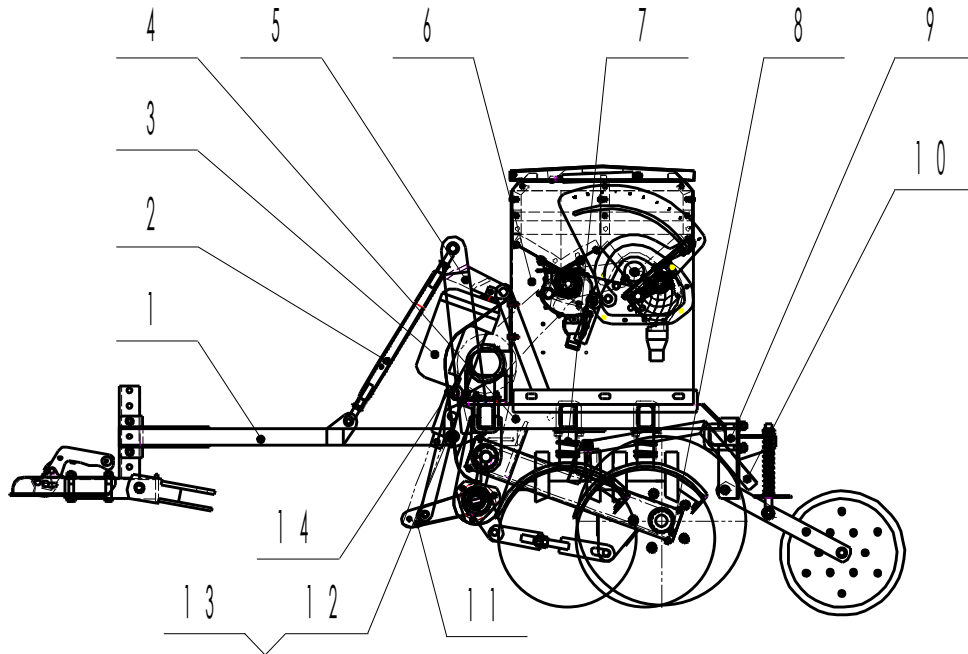
4. Main technical specifications

1	Model&Name	/	Faunamaster seeder 105 / 180
2	Structure	/	Mechanical; 3 Point Hitch (Trailed)
3	Working Dimension (L×W×H)	mm	1550x2190x1085 / 2300x2190x1085
4	Tractor (ATV)Horse Power	kW	5-8
5	Row Number	/	7 / 12
6	Basic Row Space	mm	150 (adjustable)
7	Working Width	mm	1050 / 1800
8	Sowing Depth	mm	0-80
9	Transmission	/	Chain
10	Seed/Fertilizer Box Capacity	L	45/40 - 80/71
11	Lifting mechanism	/	Actuator 12v max 25 (A)
12	Transport ground clearance(trailed)	mm	≥150
13	Transport ground clearance (3point Hitch)	mm	≥300
14	Fertilizer Meter	/	Fluted Type
15	Seed Meter	/	Cog Type
16	Driving mode of seed / fertilizer applicator	/	Ground Wheel Drive
17	Working Speed Δ	km/h	4-6
18	Ground Wheel Dia.	mm	410
19	Ground Wheel Type	/	Rubber pneumatic tire
20	Disc Opener Type	/	Double bearing double disc type

5. Structure of seeder

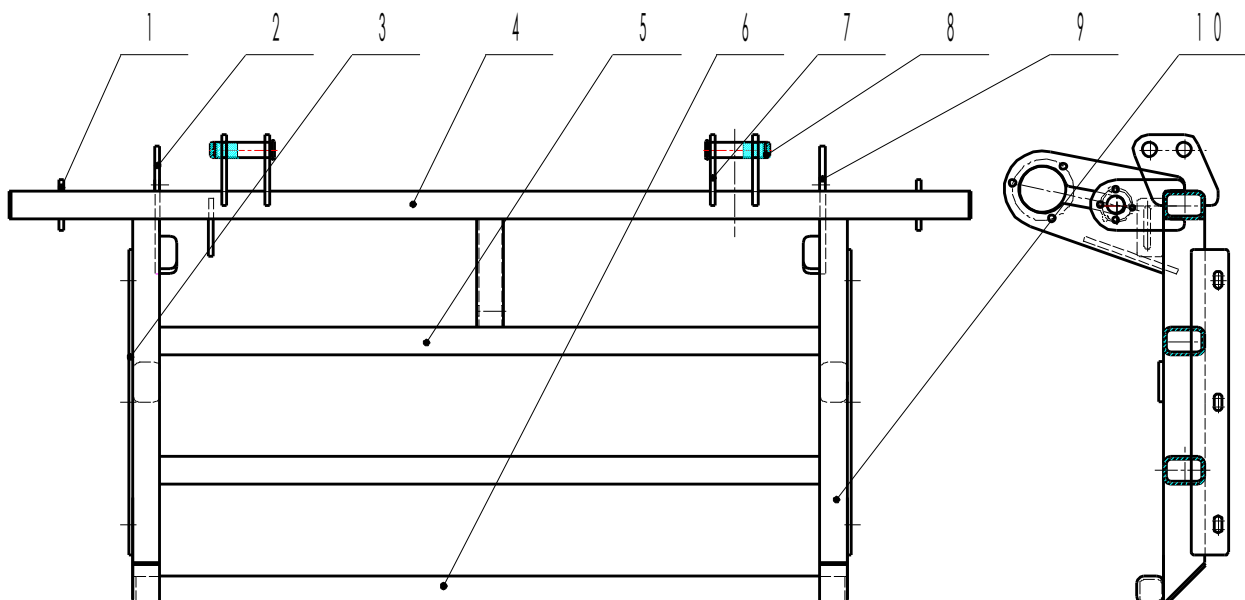
The seeder mainly includes:

1. Tow bar;
2. Tow adjustment angle;
3. Electric actuator;
4. Frame;
5. Upper 3 point suspension;
6. Fertilizer box;
7. Disc Oppener;
8. Left (right) ground wheel;
9. Pressing wheel assembly;
10. Mud retaining tile
11. Lift arm;
12. Clutch;
13. Clutch cover;
14. Chain cover welding combination.



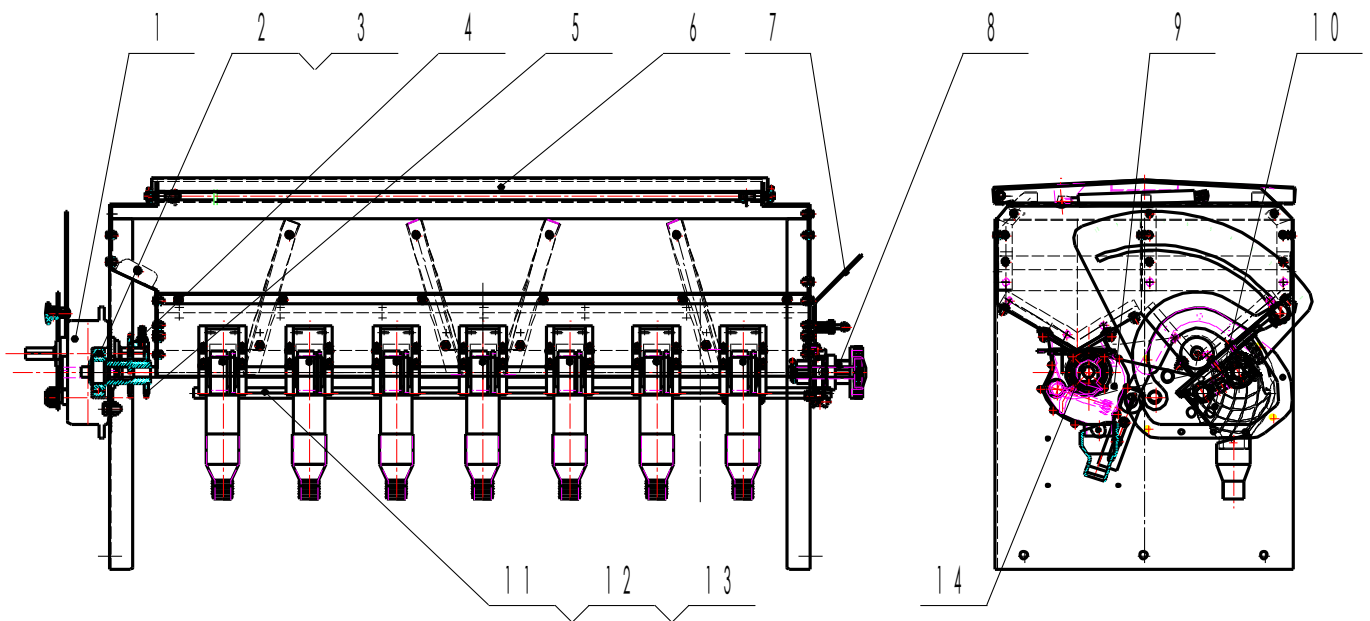
5.1 Faunamaster seeder frame welding mainly includes:

1. 403 arm outer fixing plate;
2. 408 left arm inner fixing plate;
3. 407 fertilizer box supporting plate;
4. 801 frame front beam;
5. 802 frame rear beam;
6. 805 pressing fixing beam;
7. 401 lower suspension plate;
8. Pin shaft B22 × 90;
9. 2402 right arm inner fixing plate;
10. 803 frame side longitudinal beam.



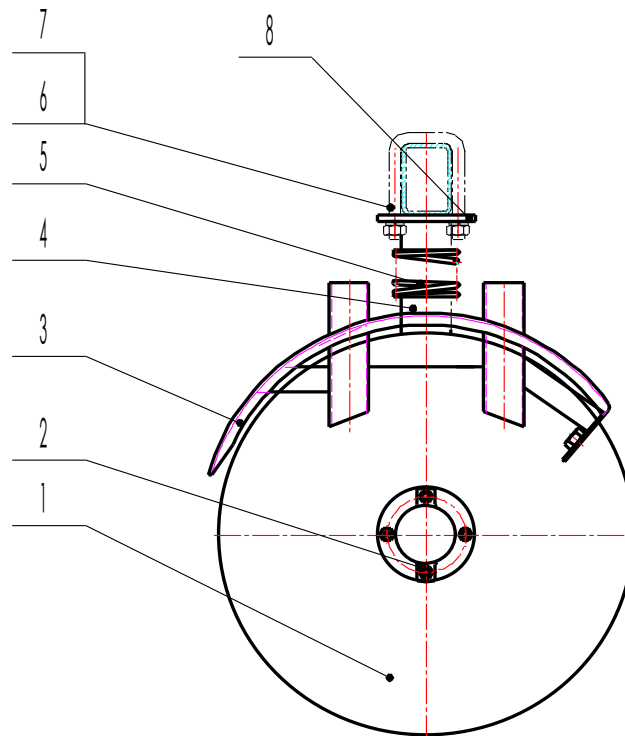
5.2 Seed&Fertilizer box assembly mainly include:

1. 2bfz14-2-8 stepless gearbox assembly;
2. 412 bearing seat;
3. Ball bearing 6207;
4. 14 tooth sprocket welding;
5. 1-1 sprocket shaft welding;
6. seed fertilizer box assembly;
7. 5 empty handle welding;
8. 6 nylon handwheel a;
- 9.1 fertilizer metering device assembly;
10. 2 seed metering device;
11. 602 fertilizer metering shaft;
12. 603 seed metering shaft;
13. 604 seed metering empty shaft;
14. 402 hexagonal shaft clip.



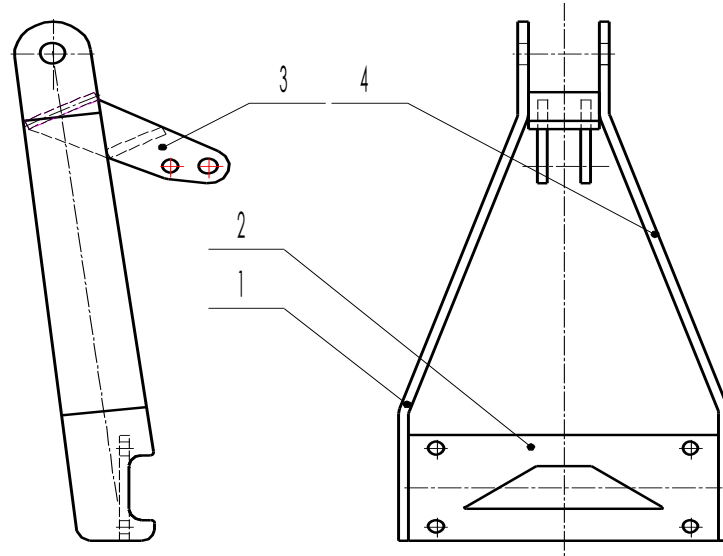
5.3 The assembly of Disc Opener mainly includes:

1. Riveting of Disc Opener disc;
2. Disc Opener cover;
3. Disc Opener retainer;
4. Welding of Disc Opener rod
5. Profiling spring;
6. 601x U-bolt;
7. 601 extended U-bolt;
8. 405 Disc Opener base plate.



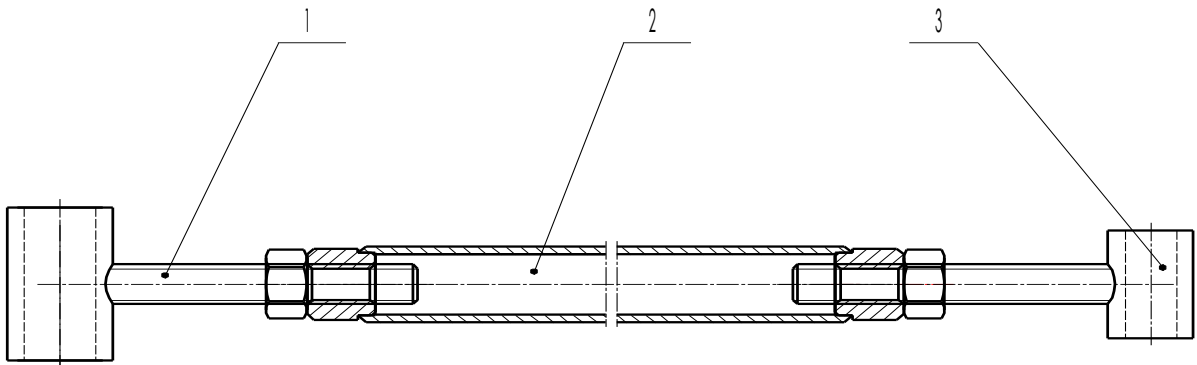
5.4. The upper suspension welding combination mainly includes:

1. 402 upper suspension arm right; 2. 403 upper suspension bottom plate;
3. Welding of 1 electric cylinder seat; 4. 401 upper suspension arm left.



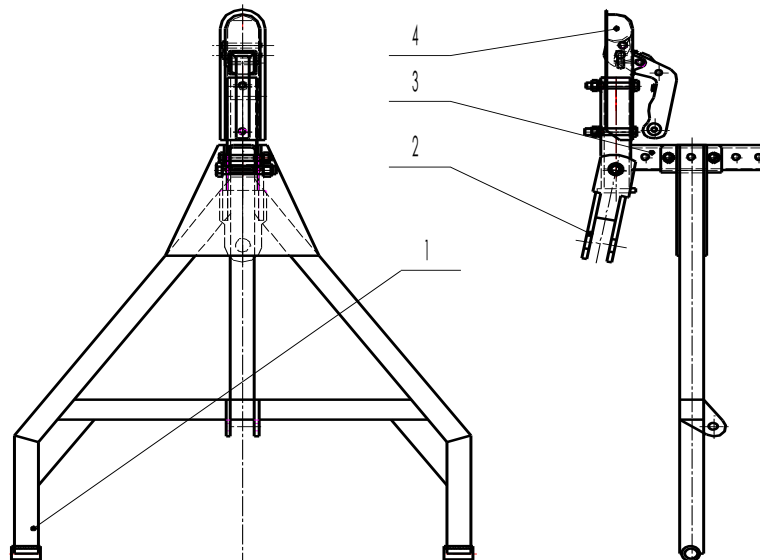
5.5 Adjustment rod welding combination mainly includes:

1. 5-1 adjustment lead screw welding right;
2. 5-2 adjustment pull rod welding;
3. 5-3 adjustment lead screw welding left



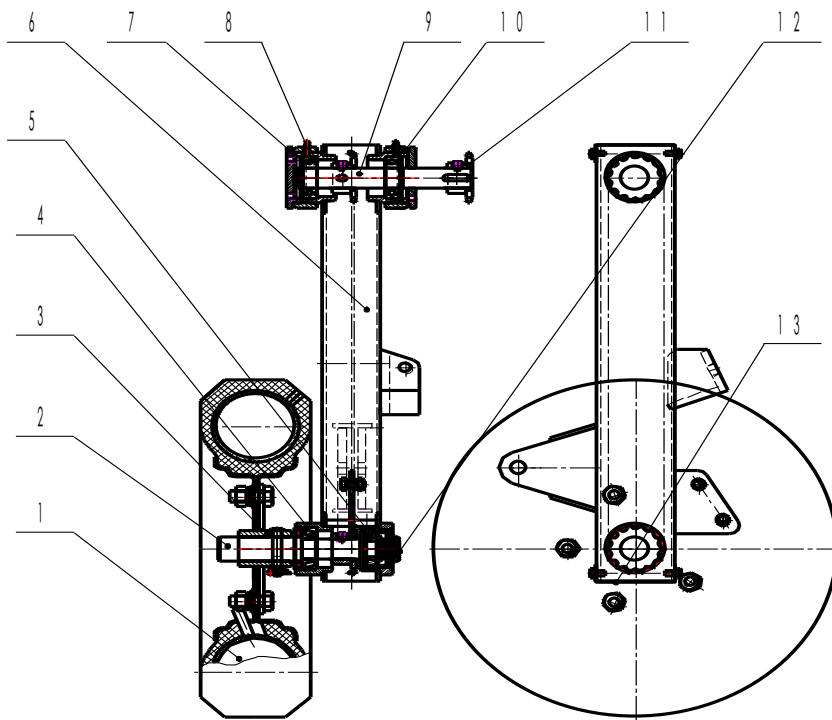
5.6 The welding combination of traction beam mainly includes:

1. 6-1 traction beam welding;
2. 6-3 traction ring welding;
3. 6-2 adjusting seat welding;
4. 6-4 trailer cover assembly.



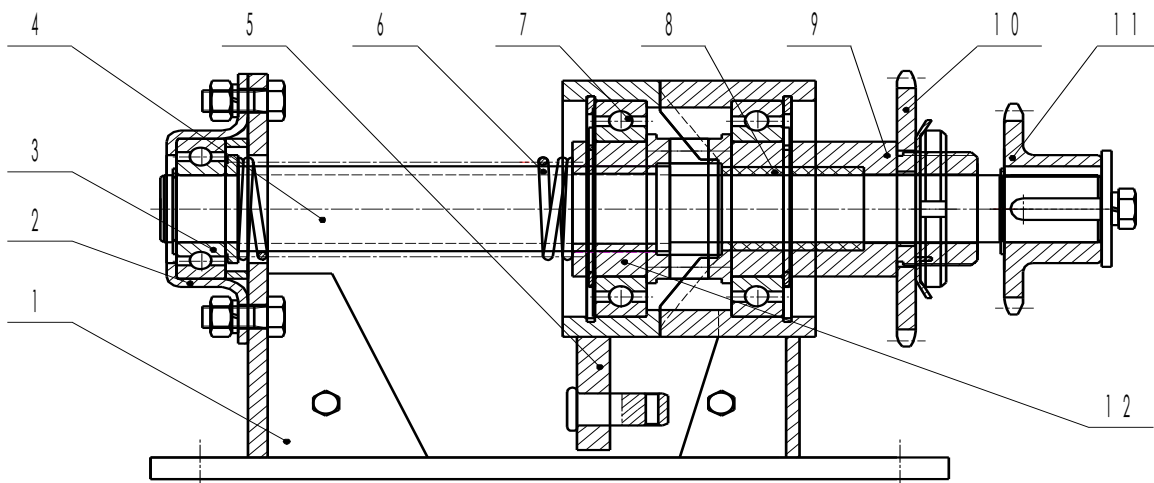
5.7 Ground wheel assembly mainly includes:

1. 4.00-8 tire combination (16 × 6.50-8 wide tire);
2. 7-601 ground wheel axle;
3. 7-1 hub welding (7-1a wide hub welding);
4. tapered roller bearing 3205;
5. tapered roller bearing 3204;
6. 7-1 left ground wheel arm welding (8-1 right ground wheel arm welding);
7. 7-3 axle sleeve welding A;
8. ball bearing 6205-2rs;
9. 7-602 arm shaft;
10. 7-4 shaft sleeve welding B;
11. 7-2 ground wheel sprocket welding; 12. 3-046 Disc Opener cover; 13. 7-408 arm baffle.



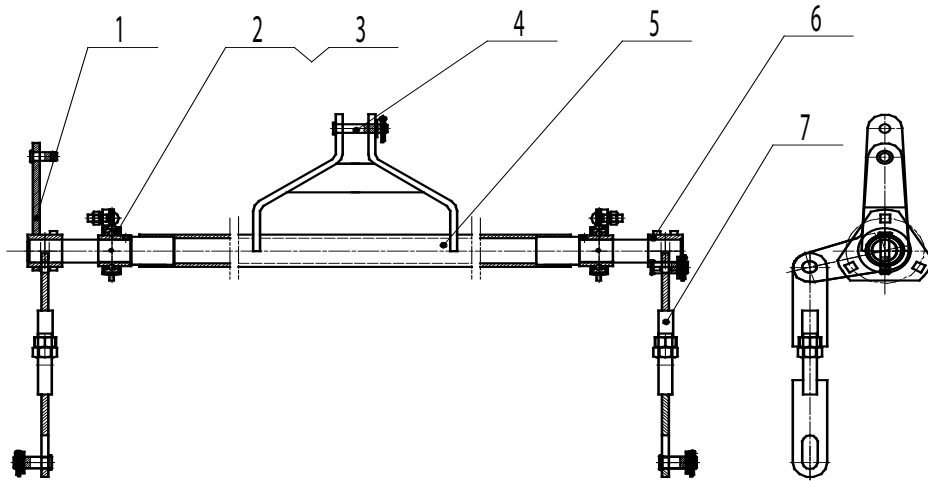
5.8 Clutch assembly mainly includes:

1. 9-1 clutch fixed seat welding;
2. 02-406 middle bearing seat;
3. ball bearing 6205-2rs;
4. 3-608x clutch shaft;
5. 9-2 clutch outer sleeve welding;
6. 3-605xc clutch spring;
7. ball bearing 6010-2rs;
8. 2FY24-3-001 clutch sleeve shaft sleeve;
9. 3-610x clutch right passive sleeve;
10. 9-401 clutch passive sprocket;
11. (408) clutch driving sprocket 18 teeth (36 teeth);
12. 2BFY24-3-609x clutch right active sleeve.



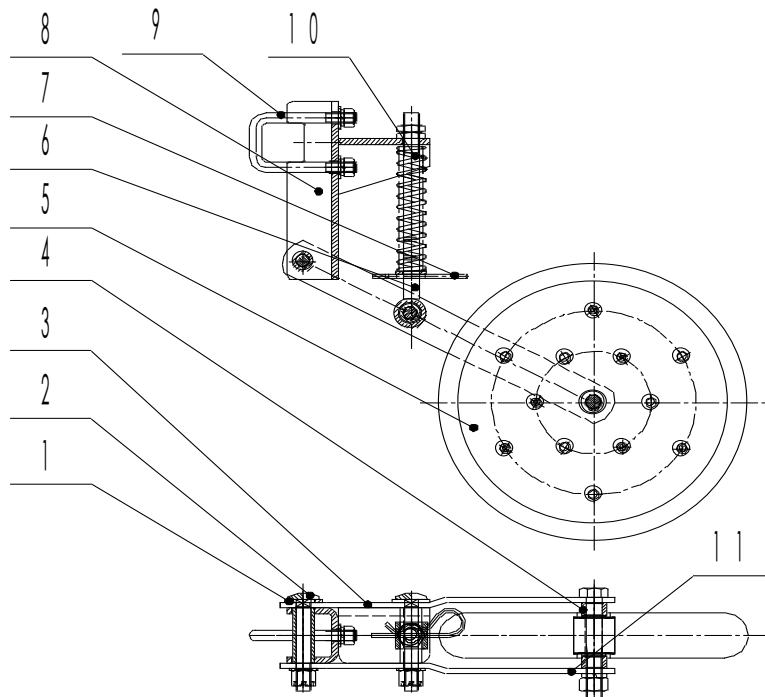
5.9 The rotating arm assembly mainly includes:

1. 10-3 outer arm welding;
2. Uc206 bearing;
3. Pft206 bearing seat;
4. Axle pin B12 × 60;
5. 10-1 arm shaft welding;
6. 10-2 short arm welding;
7. 10-4 pull rod welding assembly.



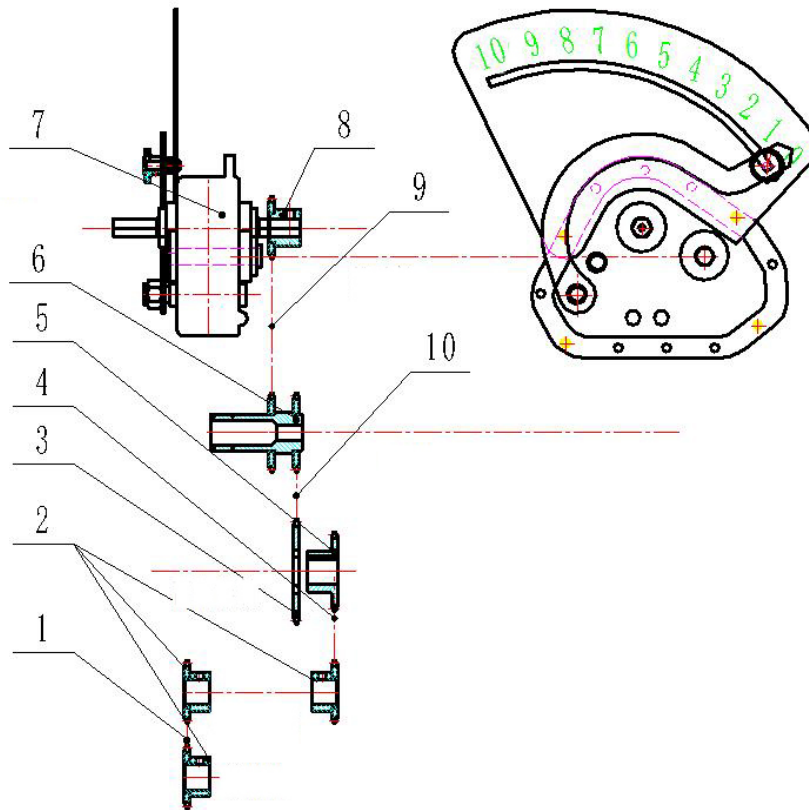
5.10 Pressing wheel assembly mainly includes:

1. Flat washer 20;
2. 02-605x square neck bolt;
3. 11-403 pressing wheel arm right;
4. 11-803 spacer;
5. 11-3 pressing wheel assembly;
6. 11-2 guide rod welding;
7. 4-602a spring pin;
8. 11-1 pressing wheel bracket welding;
9. 0-601 U-bolt;
10. 11-601 pressing spring;
11. 11-404 pressing wheel arm left.



5.11 Schematic diagram of transmission system

1. Chain 08ma-1 × 86;
2. 7-2 ground wheel sprocket welding 14 teeth;
3. 9-401 clutch driven sprocket 24 teeth;
4. chain 08ma-1 × 54;
5. 9-402 (408) clutch drive sprocket 18 teeth;
6. 2-1-1 sprocket shaft welding 18-18 teeth;
7. 2bfz14-2-8 gearbox assembly;
8. 2-4 14 teeth sprocket welding;
9. chain 08ma-1 × 42;
10. chain 08ma-1 × 62.



6. Installation of seeder

Before installing the seeder, first check the type and quantity of parts according to the packing list, place the parts in clean places separately, remove the dirt on the bearing and friction parts, and apply lubricating oil. According to the structure of seeder, the installation sequence is as follows:

1. Place the frame welding stably. The height shall not be less than 500mm.
2. Start mounting the spouts on seed and fertilizer meter. Clear and red spouts on fertilizer meter, black spouts on seed meter. Mount the rubber tubes with the clamps, seed meter tubes on the back of the disc opener, fertilizer tubes on front of the disc opener.
3. Install the pressing wheel assembly on the pressing frame beam of the frame with the U-shaped bolt on it. Align the front opener assembly. Start mounting the press wheels from right side of the seeder.
4. Install the U-shaped bolt for upper suspension welding in the middle front of the front beam of the frame.
5. Install the swivel arm assembly with the square neck bolt on the inner fixing plate of the left and right supporting arms of the frame.
6. Mount the wheels-cover and wheels, the ground wheel assembly is welded and fixed in the inner and outer fixed plate of the support arm of the frame with M8 × 16 bolts. Connect the pull rod assembly of the rotating arm assembly with the ground wheel.
7. Press the electric actuator cylinder on the upper suspension and arm combination.
8. Use B22 × 90 pin to install the traction beam welding assembly on the lower suspension of the frame, and use the pull rod assembly to connect the traction beam with the upper suspension arm.
9. Use U-bolt to assemble and install the clutch on the upper part of the front beam on the left side of the frame. The 24 tooth sprocket is aligned with the ground wheel sprocket, and the 18 or 36 tooth sprocket is aligned with the seed fertilizer box sprocket shaft sprocket.
10. The upper suspension is welded and connected with the frame by the suspension tie bar.
11. Use the clutch pull plate to weld and connect the rotating arm assembly with the clutch sleeve.

7. Adjustment of seeder

7.1 Row spacing adjustment

The basic row spacing of this machine is 150 mm, which can be adjusted according to different agronomic requirements. When adjusting, the distance between the openers is adjusted first, and then the corresponding assembly position of the pressing wheel is adjusted.

7.2 Adjustment of seeding rate

- Under the same speed, the longer the working length of the grooved wheel, the larger the fertilizer discharge, otherwise, the smaller the fertilizer discharge. When adjusting, loosen the nut on the nylon handwheel, exit the locking ring, and rotate the adjusting handwheel in a positive or negative direction. The working length of the Geneva becomes longer or shorter. After the working length of the Geneva is determined, lock the nut of the nylon adjusting handwheel.
- Adjust the working length of the groove wheel of a single fertilizer discharger, check the working length of all fertilizer dischargers, and the length error shall not be greater than 1 mm. If it is larger than 1 mm, it needs to be adjusted. When adjusting, loosen the fixing bolt of the fertilizer box, move the position of the fertilizer box axially, and after adjusting in place, fasten the fixing bolt of the fertilizer box.
- The seed metering device selects different working groove wheels according to different seed sizes, which is determined by opening the lower seed opening of different groove wheels by blocking the seed plate of the seed metering device. The adjustment of seeding rate mainly depends on the selection of Geneva and different transmission speed ratio.
- Sowing rate test: Lower the Faunamaster seeder so it sets on the disc, lift and turn left ground wheel or use a tractor to pull or set up the seeder, make the ground wheel rotate a few circles (make the seed box full of seeds), use a speed between 4-6 km/t to simulate the working speed, catch the seeds discharged by each seed metering device with a small container, then weigh the total weight, and calculate the sowing rate per hectare (1 hectare = 15 mu) according to the following formula. If the measured value does not conform to the specified sowing rate per hectare, the working length of the seed metering wheel should be adjusted or the transmission speed ratio of the rotation from the ground to the seed metering and fertilizer metering shaft should be changed.

Formel Hectares

The calculation formula of seeding rate per hectare is as follows:

$$Q = \frac{10000 \times G}{\pi \times D \times n \times B \times (1 + \delta)}$$

Q—Seeding rate per hectare kg/hm²

G—Total output of all seed metering boxes kg

D—Ground Wheel Diameter (0.41m)

n—Rotation number of ground wheel during test

B—Working Width m

δ— Wheel slip ratio δ=5%-10%

When there is a difference between the calculated seeding rate and agronomic requirements, the working length of seed metering wheel can be adjusted and the speed ratio of gearbox can be changed. After adjustment, experiment again until the requirements are met.

e) For the adjustment of seeding rate, please refer to the following tables:

(1) Reference value table of fertilizer discharge based on urea with 150 row spacing, full working length of sheave

	Ground Wheel to Clutch	Clutch to Fertilizer Axle	Total speed ratio	Maximum fertilizer per hectare (kg)
1	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	1.04	1891.5
2	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	0.52	945

(2) The reference value table of seed metering quantity based on Wheat under 150 row spacing of seed metering device and opening of big and small grooved cogs.

	Ground Wheel to Clutch	Clutch to Fertilizer Axle	Fertilizer Axle to Gearbox	Gearbox Pointer position	Gearbox Speed Ratio	Seed total speed ratio	Sowing rate per hectare of double grooved for wheat (kg)
1	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	10	0.32	0.43	553.2
2	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	9	0.29	0.39	497.25
3	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	8	0.26	0.35	451.65
4	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	7	0.23	0.31	400.2
5	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	6	0.20	0.27	348.75
6	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	5	0.17	0.23	291.45
7	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	4	0.14	0.19	240.15
8	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	3	0.11	0.14	182.85
9	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	2	0.08	0.10	131.4
10	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	1	0.04	0.06	74.25
11	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	10	0.32	0.22	276.6
12	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	9	0.29	0.19	248.7
13	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	8	0.26	0.18	225.75
14	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	7	0.23	0.16	200.1
15	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	6	0.20	0.14	174.3
16	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	5	0.17	0.11	145.8
17	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	4	0.14	0.09	120
18	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	3	0.11	0.07	91.5
19	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	2	0.08	0.05	65.7
20	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	1	0.04	0.03	37.2

(3) Table of reference values of plant spacing for large slot rotation maize with seed metering device

	Ground Wheel to Clutch	Clutch to Fertilizer Axle	Fertilizer Axle to Gearbox	Gearbox Pointer position	Gearbox Speed Ratio	Seed total speed ratio	Plant spacing of big grooved for maize (mm)
1	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	10	0.32	0.43	32.12
2	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	9	0.29	0.39	35.72
3	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	8	0.26	0.35	39.34
4	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	7	0.23	0.31	44.40
5	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	6	0.20	0.27	50.95
6	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	5	0.17	0.23	60.94
7	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	4	0.14	0.19	74.00
8	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	3	0.11	0.14	97.12
9	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	2	0.08	0.10	135.13
10	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	1	0.04	0.06	239.07
11	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	10	0.32	0.22	64.23
12	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	9	0.29	0.19	71.45
13	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	8	0.26	0.18	78.68
14	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	7	0.23	0.16	88.80
15	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	6	0.20	0.14	101.90
16	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	5	0.17	0.11	121.88
17	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	4	0.14	0.09	148.00
18	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	3	0.11	0.07	194.25
19	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	2	0.08	0.05	270.26
20	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	1	0.04	0.03	478.15

(4) small groove cog, 150 row spacing, row reference value based on Oil Rape

	Ground Wheel to Clutch	Clutch to Fertilizer Axle	Fertilizer Axle to Gearbox	Gearbox Pointer position	Gearbox Speed Ratio	Seed total speed ratio	Sowing rate per hectare of small grooved for oil rap (g)
1	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	10	0.32	0.43	45622.95
2	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	9	0.29	0.39	41014.95
3	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	8	0.26	0.35	37243.5
4	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	7	0.23	0.31	33000.6
5	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	6	0.20	0.27	28757.55
6	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	5	0.17	0.23	24043.2
7	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	4	0.14	0.19	19800.3
8	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	3	0.11	0.14	15085.95
9	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	2	0.08	0.10	10843.05
10	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	1	0.04	0.06	6128.7
11	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	10	0.32	0.22	22811.4
12	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	9	0.29	0.19	20507.55
13	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	8	0.26	0.18	18621.75
14	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	7	0.23	0.16	16500.3
15	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	6	0.20	0.14	14378.85
16	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	5	0.17	0.11	12021.6
17	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	4	0.14	0.09	9900.15
18	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	3	0.11	0.07	7543.05
19	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	2	0.08	0.05	5421.45
20	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	1	0.04	0.03	3064.35

Formel Acres

The calculation formula of seeding rate per hectare is as follows:

$$Q = \frac{2676253 \times G}{\pi \times D \times n \times B \times (1+\delta)}$$

Q—Seeding rate pound/acre

G—Total output of all seed metering boxes pound

D—Ground Wheel Diameter (1.345 inches)

n—Rotation number of ground wheel during test

B—Working Width inches

δ— Wheel slip ratio δ=5%-10%

(1) Reference value table of fertilizer discharge based on urea with 5.9 inches row spacing, full working length of sheave

	Ground Wheel to Clutch	Clutch to Fertilizer Axle	Gearbox Speed Ratio	Maximum fertilizer per acre (kg)
1	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	1,04	756,6
2	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	0,52	378

(2) The reference value table of seed metering quantity based on Wheat under 5.9 inches row spacing of seed metering device and opening of big and small grooved cogs.

	Ground Wheel to Clutch	Clutch to Fertilizer Axle	Fertilizer Axle to Gearbox	Gearbox Pointer position	Gearbox Speed Ratio	Seed total speed ratio	Sowing rate per acre of small grooved for wheat (lb)
1	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	10	0,32	0,43	486,816
2	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	9	0,29	0,39	437,58
3	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	8	0,26	0,35	397,452
4	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	7	0,23	0,31	352,176
5	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	6	0,2	0,27	306,9
6	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	5	0,17	0,23	256,476
7	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	4	0,14	0,19	211,332
8	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	3	0,11	0,14	160,908
9	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	2	0,08	0,1	115,632
10	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	1	0,04	0,06	65,34
11	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	10	0,32	0,22	243,408
12	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	9	0,29	0,19	218,856
13	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	8	0,26	0,18	198,66
14	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	7	0,23	0,16	176,088
15	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	6	0,2	0,14	153,384
16	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	5	0,17	0,11	128,304
17	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	4	0,14	0,09	105,6
18	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	3	0,11	0,07	80,52
19	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	2	0,08	0,05	57,816
20	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	1	0,04	0,03	32,736

(3)Table of reference values of plant spacing for large slot rotation maize with seed metering device

	Ground Wheel to Clutch	Clutch to Fertilizer Axle	Fertilizer Axle to Gearbox	Gearbox Pointer position	Gearbox Speed Ratio	Seed total speed ratio	Plan spacing for big grooved for maize (inch)
1	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	10	0,32	0,43	1,25268
2	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	9	0,29	0,39	1,39308
3	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	8	0,26	0,35	1,53426
4	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	7	0,23	0,31	1,7316
5	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	6	0,2	0,27	1,98705
6	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	5	0,17	0,23	2,37666
7	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	4	0,14	0,19	2,886
8	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	3	0,11	0,14	3,78768
9	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	2	0,08	0,1	5,27007
10	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	1	0,04	0,06	9,32373
11	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	10	0,32	0,22	2,50497
12	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	9	0,29	0,19	2,78655
13	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	8	0,26	0,18	3,06852
14	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	7	0,23	0,16	3,4632
15	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	6	0,2	0,14	3,9741
16	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	5	0,17	0,11	4,75332
17	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	4	0,14	0,09	5,772
18	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	3	0,11	0,07	7,57575
19	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	2	0,08	0,05	10,54014
20	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	1	0,04	0,03	18,64785

(4) small groove cog, 5.9 inches row spacing, row reference value based on Oil Rape

	Ground Wheel to Clutch	Clutch to Fertilizer Axle	Fertilizer Axle to Gearbox	Gearbox Pointer position	Gearbox Speed Ratio	Seed total speed ratio	Sowing rate per acre of small grooved for oil rap (lb)
1	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	10	0,32	0,43	40,148196
2	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	9	0,29	0,39	36,093156
3	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	8	0,26	0,35	32,77428
4	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	7	0,23	0,31	29,040528
5	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	6	0,2	0,27	25,306644
6	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	5	0,17	0,23	21,158016
7	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	4	0,14	0,19	17,424264
8	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	3	0,11	0,14	13,275636
9	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	2	0,08	0,1	9,541884
10	14 Gear Drive 18 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	1	0,04	0,06	5,393256
11	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	10	0,32	0,22	20,074032
12	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	9	0,29	0,19	18,046644
13	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	8	0,26	0,18	16,38714
14	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	7	0,23	0,16	14,520264
15	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	6	0,2	0,14	12,653388
16	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	5	0,17	0,11	10,579008
17	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	4	0,14	0,09	8,712132
18	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	3	0,11	0,07	6,637884
19	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	2	0,08	0,05	4,770876
20	14 Gear Drive 36 Gear	24 Gear Drive 18 Gear	18 Gear Drive 14 Gear	1	0,04	0,03	2,696628

7.3 Sowing depth adjustment:

First adjust the position of the upper limit screw of the ground wheel, then adjust the ballast pressure of the pressing wheel, improve the position of the spring pin, and increase the ballast pressure, so as to adjust the sowing depth. For hard soil, when the opener is shallow, the counterweight can be properly increased on the seeder.

The seed and fertilizer of this machine are arranged in the same ditch. If the amount of fertilizer is too large, it may cause the phenomenon of burning seeds. Please adjust the amount of fertilizer according to the nature of fertilizer and the requirements of agronomy.

Important matters: after the sowing rate is adjusted, the adjusting hand wheel should be tight and not loose, so as to avoid the change of sowing rate.

7.4. Adjusting the position of seed tongue

Adjust the position of the empty handle, clip the pointer into five different holes, and get five different positions of the seed metering tongue according to the instructions. The larger the indication is, the larger the gap between the metering tongue and the Geneva is. Therefore, it is suitable for seeds with different grain sizes.

8. Operating instructions

8.1 Inspection and lubrication before sowing

- (1) check and tighten all fasteners.
- (2) all parts to be lubricated shall be filled with lubricating oil.
Add CA based grease to the first and second place of the ground wheel, once per shift.
Arm shaft bearing and clutch shaft bearing are maintenance free
Check and add CA based grease to the ground wheel bearing once a year.
Check and add CA based grease to the bearing at the hub of the fertilizer chain of the seed fertilizer box once a year.
- (3) check whether the lifting, transmission, seeding, fertilizer and other parts work normally.
- (4) check whether the tractor is connected with the seeder correctly, and the frame of the seeder should be horizontal.

8.2 Precautions

- (1) Before sowing, the empty running test should be carried out, and each part can be put into use after working normally.
- (2) The tractor can only be started or stopped after the signal is sent out under the condition that the agricultural implement operators and the surrounding personnel confirm the safety.
- (3) It is not allowed to go backward or make a sharp turn under the sowing state. No seeds shall be added during transportation.
- (4) The machine must be suspended (raised) when turning, otherwise the opener will be twisted.
- (5) It is strictly forbidden to inject oil, add seeds, tighten nuts and adjust seeding rate in the process of agricultural machinery moving.
- (6) When the seeder is running, it is forbidden to stand between the tractor, ATV/UTV and the seeder or sit on the seed fertilizer box.
- (7) The troubleshooting and maintenance of agricultural machinery must be carried out after the operation of agricultural machinery is stopped.

8.3 Use of safety rules

- (1) stop driving strictly according to the regulations, and only after the signal is sent out under the safe condition can the tractor be started.
- (2) it is forbidden to inject oil, add seeds, clear seeds, tighten nuts, adjust the seeding amount and other operations during the progress of agricultural machinery and tools.
- (3) when the seeder is running, it is forbidden to stand between tractor ATV/UTV and seeder or sit on the fertilizer box.
- (4) the machine must be stopped and carried out after troubleshooting.

9. Maintenance and storage

9.1 Daily technical maintenance

- (1) At the end of each shift, the soil on the machine should be cleaned in time.
- (2) At the end of each shift, check the fasteners, bolts and nuts, of each part and tighten them, if necessary.
- (3) Check whether the transmission parts rotate flexibly. If not, check and adjust them in time.
- (4) The lubricating point should be filled with grease once per shift.
- (5) If the seeder is used for fertilizer, fertilizer box must be cleaned properly, and covered afterwards with wd40 oil, or a similar.

9.2 Storage in slack period

- (1) after the seasonal operation, all parts shall be thoroughly cleaned, with water and auto soap.
- (2) use kerosene/petroleum to clean the seed metering device, fertilizer metering device, Disc Opener and all transmission parts, and fill all oil filling points with oil, cover the seed and fertilizer box with a protection oil, wd40 or similar.
- (3) Paint damage must be repaired, otherwise it can cause corrosion, the parts of the seeder should be repainted, and the damaged and worn parts should be repaired or replaced.
- (4) the seeder should be put into the agricultural machinery shed which is dry and shelter from rain and snow.
- (5) the trench opener and ground wheel should be padded with wood.
- (6) remove the fertilizer pipe, clean it and store it in natural state.
- (7) the spare parts and tools of the machine should be kept properly, in dry conditions.

10. Common faults and troubleshooting

Fault phenomenon	Cause of failure	Exclusion method
The chain drive is noisy	Chain too loose	Adjust the position of the tensioning wheel
The disc opener does not rotate flexibly	1. Tight assembly 2. The bearing is damaged	1. Adjustment 2. Replace the bearing
There are no seeds in the furrow	1. Clay blocks the opener 2. The seed delivery pipe is blocked	1. Remove the cement 2. Clean the inside of the pipe
Disc Opener Backhoe and bulldozing	1. The disc doesn't work well 2. Clod 3. The soil is too soft	1. Adjustment 2. Removal 3. Lift the opener off the ground and then put it down
1. It is difficult for the opener to enter the soil 2. The sowing depth is not enough	1. The soil is too hard and the weight of the whole machine is insufficient 2. The relative height difference between the ground wheel and the disc opener is small	1. Increase the pressure and increase the counterweight appropriately 2. Adjust the position of ground wheel depth limit bolt

11. List of wearing parts

	Drawing Number	Name		Drawing Number	Name
1	9003	Seed/Fertilizer Tube	9	3-1	Disc Opener
2	GB/T14212	Detachable link 08MA-1	10	GB/T276	Bearing 6203
3	9018	Fertilizer Meter	11	2-8-2	Seed Meter
4	9009	Rotary sleeve welding A	12	9010	Rotary sleeve welding B
5	9013	Press Wheel Spring	13	9001	U bolt disc opener long
6	9002	U Bolt disc opener standard	14	9014	U bolt press wheels
8	06-601	U Bolt	16	2-607	Jump ring

12. Optional Parts

	Drawing Number	Name	Quantity	Remarks
1	9022	Wide wheels with hups	1 set	16x6 5-8

13. Appendix

13.1 Guarantees

1. The warranty period of this product is 24 months from the date of purchase (date of invoice filling).
2. During the Guarantees period, if the damage of machines and tools and deterioration of service performance caused by product quality are identified as the responsibility of the manufacturer, the Guarantees shall be given.
3. No guarantees beyond the guarantees period.

Under the following circumstances, the guarantees are not covered, and the reasonable charge for repair is implemented:

- (1) Due to improper use, maintenance and repair.
- (2) Self refitting due to violation of regulations.
- (3) No Three Guarantees certificate and delivery note.
- (4) The damaged part was not kept in its original state.
- (5) Failure caused by force majeure.
- (6) Faunamaster ApS, can not be held responsible, for any damage caused by or with Faunamaster seeder, it is the users responsibility, to ensure safe use.

13.2 Accompanying documents

User manual (PDF) Packing list (PDF)

Fauna
master[®]
SEEDER

Faunamaster ApS · Tårnvej 32 · VAT No. DK42053767

Phone +45 61404080 · Web: www.faunamaster.com · Mail: sales@faunamaster.com