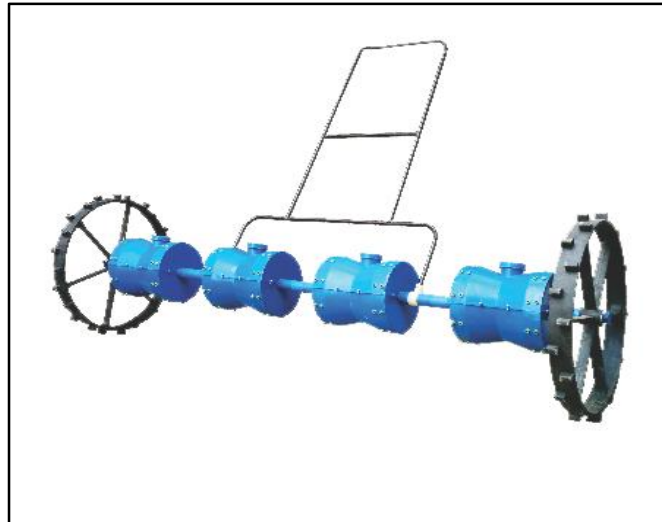


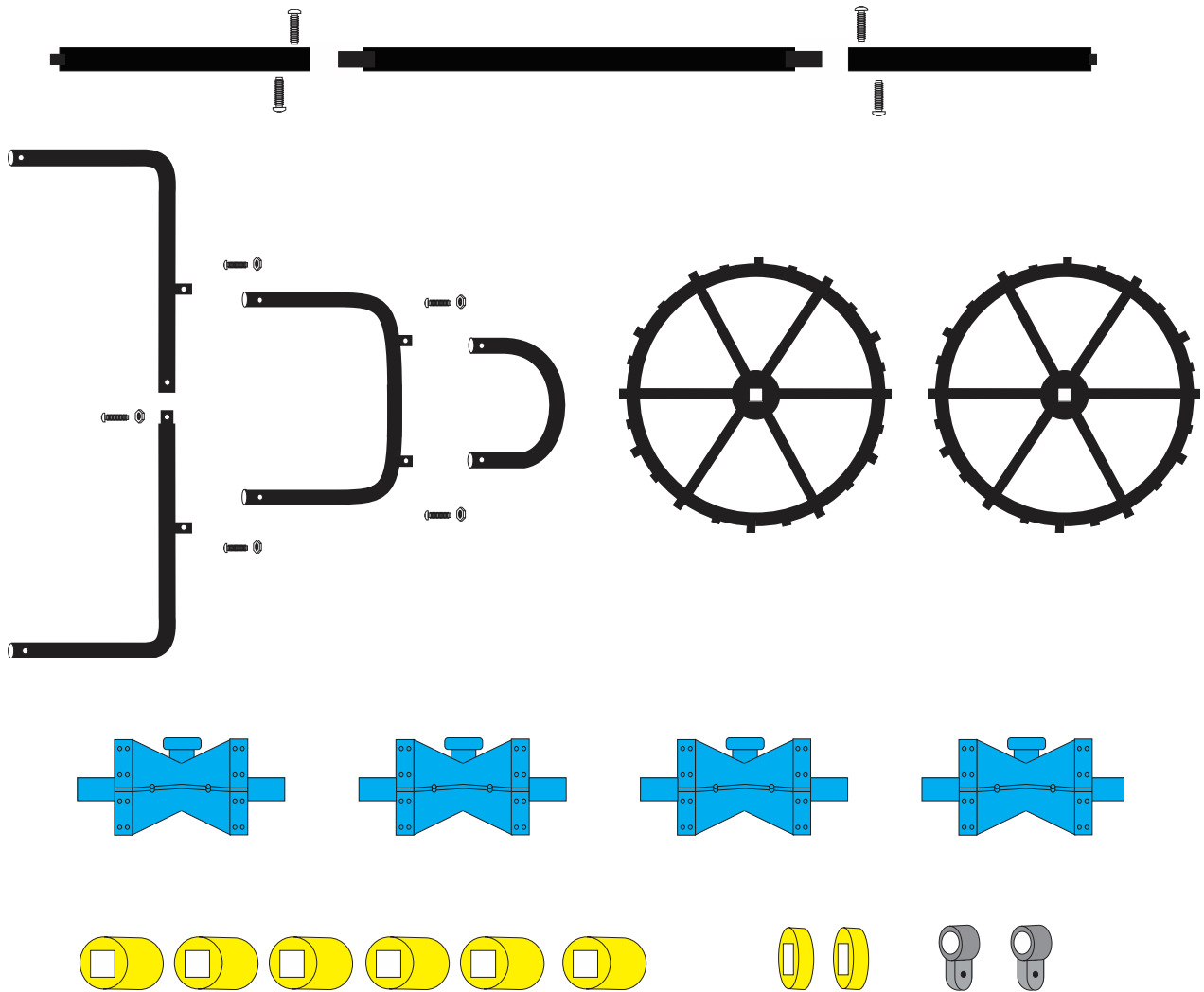
USER'S MANUAL



INTRODUCTION:

- Venus Paddy Drum Seeder is used for direct sowing of paddy seeds eliminating the need for transplantation and thus reducing labour cost in phenomenal measures.
- Seed sowing is in uniform rows resulting in easy care of paddy plants.
- There is marked benefit of reduction in seed rate and thinning cost.
- This process completely eliminates continuous drilling of seeds.
- Venus Paddy Drum Seeder is manufactured on a strong and durable frame, which can withstand any kind of physical stress.
- The wheels of Venus Paddy Drum Seeder are light in weight but strong enough to ensure optimum high speed maneuvering.
- Venus Paddy Drum Seeder can be easily assembled for use and equally easily disassembled for cleaning, maintenance and storage.
- Venus Paddy Drum Seeder can be used in any kind of rice growing field provided that all instructions given in this manual are strictly adhered to.
- Fully assembled Venus Paddy Drum Seeder is very light in weight, single person can carry and handle it.
- The user is advised to strictly follow the complete instructions given in this manual to ensure maximum advantages of using Venus Paddy Drum Seeder.

ASSEMBLING THE VENUS PADDY DRUM SEEDER :



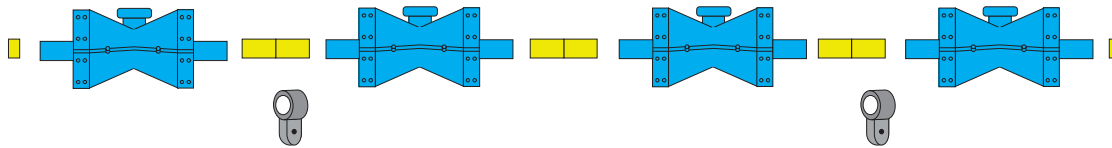
- Venus Paddy Drum Seeder can be assembled in a few minutes.
- The Axle is in 3 parts. The centre part has two square shaped plugs at each end. Insert the plug into corresponding sockets of the other two axle parts and tighten the same with screws provided. (Refer to the diagram provided). Now your axle is ready for use.



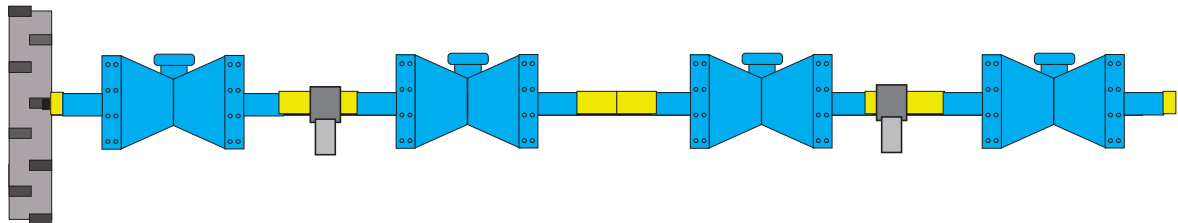
- First attach one wheel to one end of axle securing it with axle fastener. (Wing bolt)



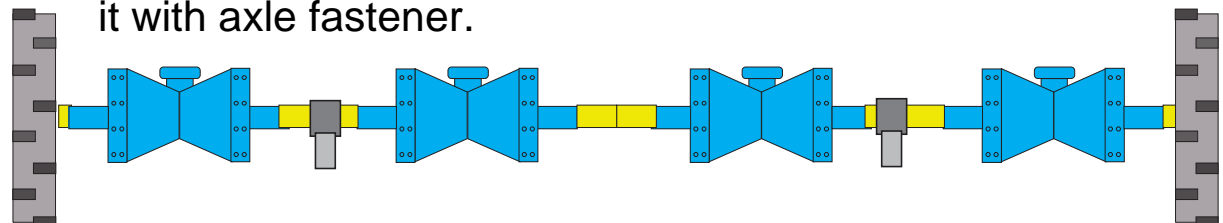
- Lay out the four drums on the ground in the preferred order with spacers in between. The width between rows can be adjusted by using spacers. (Please take help of diagram provided)



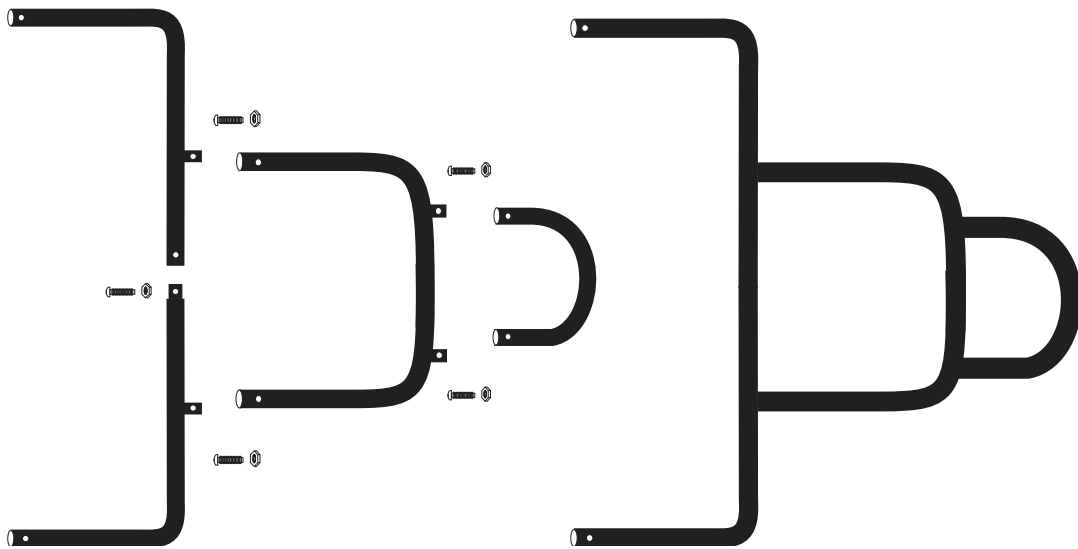
- Slide the drums and spacers over the square axle in the chosen order.



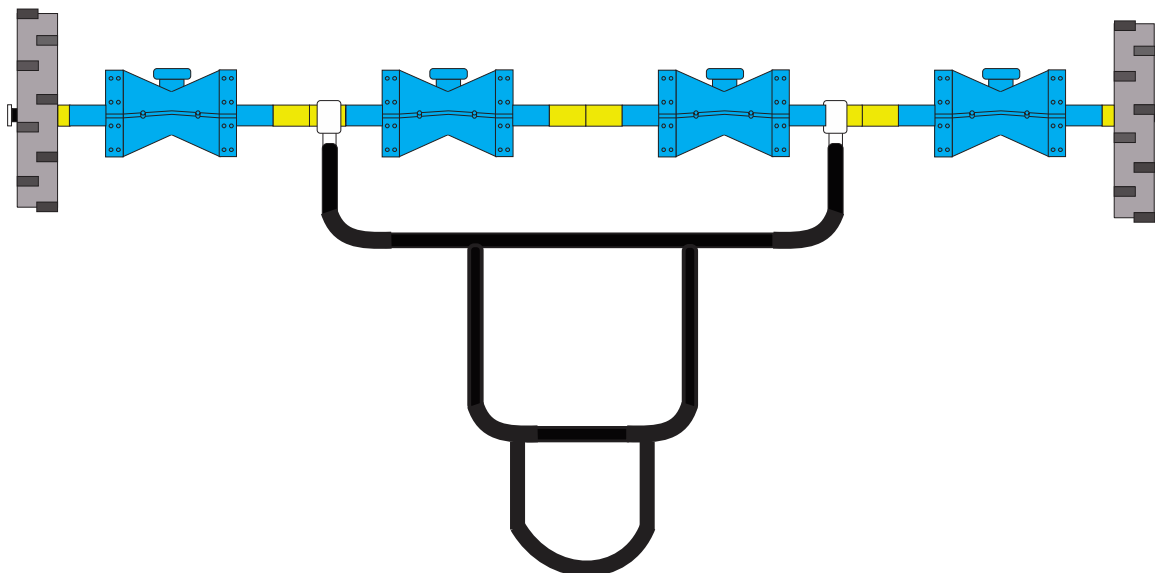
- Do not forget to insert the handle holders in their appropriate positions.
- The inlets (Filling Caps) of the drums must be in one straight line. (As per the diagram provided)
- Attach the other wheel to the other end of axle securing it with axle fastener.



- The handle is in 4 parts. First connect together two 'L' shaped pieces of the handle together and fasten them with bolt and nut provided. Now connect central and the 'C' shaped handle pieces with the help of the bolts and nuts provided. (Refer to the diagram provided). Your handle is ready.



- Attach handle to the seeder with the fasteners provided.



- One person can lift and move the drum seeder wherever required because of it is very light in weight (about 12 kilograms).
- Venus Paddy Drum Seeder is now ready for use

FIELD PREPARATION FOR SOWING:

- The rice field to be sown must be filled with water and leveled thoroughly. Proper flooding and land leveling can increase yield by a considerable percentage (over 20%).
- A properly leveled rice field will ensure improved water coverage. This helps in reducing weeds to a very large extent.

- Land leveling also enhances reliability of direct seeding and can reduce labour requirement and cost substantially.
- Excess water must be drained out 24 hours before sowing.
- While sowing only a paper thin film of water should be uniformly spread out over the field.
- Ensure that no patch or area of the field is left dry and exposed to the sun.
- A manageable and effective drainage system of the entire paddy field is essential to control water level at least for a month after sowing.
- Once the plants grow to a desirable height the paddy field can be flooded to need-based level, never engulfing the seedlings.
- In areas where heavy rains occur, water management becomes the 'key' towards success of direct seeding by ensuring that newly sown seeds are not drained away by rainwater.

PREPARATION OF SEEDS FOR DIRECT SOWING:

- The rice seeds used for sowing are newly sprouted (pre germinated) in such a way that shoots do not become very long.
- The best way to achieve this is to soak the seeds in gunny bags for about 20 to 25 hours.
- Allow 10 hours of incubation before sowing for seeds to germinate.
- Immediately before sowing, the seeds have to be spread out in shade for about 10 to 30 minutes so that they are dry enough for rolling inside the drums.
- When ready, fill up the drums about half to two-thirds drum capacity using hands, or with the help of funnel.
- Close the inlet mouths of the drums tightly with the caps provided.
- While sowing, refill the drums as soon as they become more than three-fourth empty in the same way as instructed above.
- Approximately, 12 to 15 kilograms of seeds are required in an acre.

PROCEDURE FOR DIRECT SEEDING:

- Once the drums have been filled with sprouted seeds and the paddy field is ready for sowing, the Drum Seeder is placed at one end of the field.
- Remove PVC plugs fitted on drums and open the required seeding holes of drums as per the desired sowing distance between the seeds.
- The seeder is pulled by a single person walking at normal and constant speed of about 1 kilometer an hour.
- It is pulled backwards with help of handle making the drums roll, dropping off seeds from the seeding holes in straight rows.
- Make sure that the seeder is pulled in straight line and does not move in zigzag fashion. This will ensure seeding in straight and uniform rows.
- Usually 8 rows are sown in straight lines with row-to-row spacing of 20 centimeters.
- After completing the first line, the seeder is lifted and turned around placing it such that the wheel of second line should move on the wheel impression of the first line. This will help to maintain uniform row-to-row spacing.
- Keep checking the drums at regular intervals for refills. The drums must never be filled more than $2/3^{\text{rd}}$ of their capacity and must be refilled before they become empty.
- Steady walk while pulling in a straight line ensures uniformity of rows.
- A watch must be kept occasionally on dropping of seeds from seeder holes. If clogged or obstructed, the holes must immediately be cleaned open. ***The drums must never touch the field or its water film, at any point!***
- A single person can easily sow an area of two-and-a-half acres in a day, approximately.
- The crops from direct seeding mature at least a week earlier as compared to crops that are raised by the cumbersome and cost intensive 'Transplantation' method.

CARE OF PADDY FIELD AFTER DIRECT SEEDING HAS BEEN COMPLETED:

- Water level must be properly managed after sowing so that the seeds take root and grow without getting dried out in the sun or washed away with excess water.
- Fill the field with water once in 3 days after sowing and drain it out immediately.
- This practice is to be followed for two weeks.
- Thereafter, as the seedlings grow, the depth of water can be increased respectively.
- The seedlings must never get completely submerged in water.
- Water level can be raised as plants grow. With water flooding the field weeds are controlled naturally.
- After two weeks, when the plants are firm, the field should be kept continuously filled with water increasing the level as the plants grow, never submerging the plants completely.
- Extra care must be taken during wet rainy season since rainfalls can easily wash away newly sown seeds.

WEEDING:

- Growth and proliferation of weeds is arrested naturally if the rice field is kept flooded with water as instructed above.
- However regular care is important and physical weeding may be required at regular intervals.
- Usually first proper weeding is undertaken about ten days after sowing.
- Two more physical weedings may be required in intervals of ten days as seedlings grow and mature.
- ***The use of Venus Cono weeder has proved very helpful in weeding the fields sown with Drum seeder.***

MAINTENANCE AND CARE:

- Once the complete sowing of paddy is achieved, the drum seeder must be disassembled and thoroughly cleaned.

- Axle and handle should be stored without dismantling to avoid unnecessary wear and tear.
- All parts of the drum seeder must be dried and packed properly for storage and reuse.
- ***Special care should be taken so that Rats and other rodents do not chew and destroy the plastic parts of the drum seeder.***

SPARE PARTS:

- All parts of the Venus Paddy Drum Seeder are available on payment.
- The user can refer to the Venus Paddy Drum Seeder website www.drumseeders.com and send a request to any of the contacts given there.

Specification

Type	Manually operated
Row to row spacing	200 mm and 250 mm
Shape of the seed drum	Hyperboloid
Number of rows	8 rows (2 rows on each drum)
Diameter of the drum	240 mm
Diameter of the seed outlet orifice	9 mm
Number of seed outlet orifice	36 Nos. (9 on each row)
Weight of the unit	12 Kg.
Type of ground wheel	Lugged wheel
Diameter of the ground wheel	600 mm
Operating speed	0.75-1.2 Km/hrs
Capacity of seed drum	26 Kgs (6.5Kgs each drum)
Recommended capacity	3.25 Kgs each drum (Half filled)
Material used	PP CP
Seed rate	20 to 25 kg per hectare.