



## Blackmore Company Inc.

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A leading supplier of equipment, plastic trays and other products to the horticulture industry

### Direct Sowing Attachment Installation/Operation Instructions

Parts included:

- (1) Clear plastic drop tube(s) with mounting screws (1/4"-20 x 1/2" socket head holochrome)
- (1) Top pusher assembly (piece with hinges)
- (1) Top pusher support and guide block (white plastic)
- (1) Flat support plate with gray plastic legs and 1/4-20 adjustable feet – 4 ft long

- (1) Drive wheel extension bracket and 10-32 x 1/2 and 10-24 x 1/2 screws \*

- (1) 1/4" holochrome shoulder bolt with 1 1/4" shoulder\*

\* supplied only for sowing 12-02, 12-01 or 18-01 or other pot type trays, see section B

Tools required:

Screwdriver

Set of hex wrenches



Directions: (see drawings and instructional video also)

1. Remove the plug tray drop tube assembly.
2. Remove the plug tray top pusher assemblies, #1, #2, #3.
3. To prevent the flat from "rolling" as it advances through the seeder, a support plate must be installed to keep the flat level. Adjust the guide rails to keep the flat centered and so it activates the container limit switch
4. Using the 1/4 - 20 x 1/2 holochrome socket head screws provided, mount the new plastic drop tube assembly on the seeder. Then reposition the rails as necessary to align the tray with the drop tube.  
(If sowing the 12-02, or 18-01 see section B before continuing).
5. The direct sow top pusher assembly fits over the top of the existing #2 pusher mounting block. The thumb screw on the bracket holds the assembly to the existing mounting block. Do not tighten the screws, as the bracket position may need to be adjusted later.
6. The direct sow top pusher support and guide block fits over the aluminum angle next to the container limit switch, and is held in place with two thumb screws, see image. There is a larger image on the web site under the technical tips column for the Turbo seeder, or go directly to [http://www.blackmoreco.com/tech\\_tips\\_turbo.html#direct\\_sow](http://www.blackmoreco.com/tech_tips_turbo.html#direct_sow)
7. Change the drive linkage arm to the #4 or #5 hole on both the drive wheel hole and the rod connector block. This will provide sufficient stroke for the flat to be indexed between cells.

## Section B

If you are sowing the 12-02, 18-01 or similar container without ribs that run across the cell complete this section and review the video before returning to step 5 above.

A. Remove the drive linkage arm from the drive wheel and tray indexing block. Making sure that the screws match the threads in the wheel (most have 10-32 fine thread rather than a 10-24 thread), **mount the drive wheel extension bracket (dog)** on the container drive wheel in the holes that it aligns with. In effect, this will make the wheel larger and allow the additional stroke needed to go from one pack to the next. Attach the drive linkage arm to the newly installed bracket.

B. Using a file, make a little nick to mark the position on the drive rod of the rod connector block (so you can return the block to the same location when returning to plug tray sowing).

**NOT NECESSARY FOR 32-01 or 6-06**

C. Using the longer shoulder 1/4" shoulder bolt provided, attach the linkage to the rod connector block in the #1 hole. Make sure that the linkage arm is parallel to the seeder. To keep it that way, cut short pieces of hose from your vacuum lines on the seeder and use them as spacers on either side of the shoulder bolt/ linkage

D. Run the seeder very slowly and stop it when the screw holding the linkage to the new wheel mounting bracket is in about the eight o'clock position. This is the maximum back point in the stroke. While keeping it in that position, push the rod that goes through all the blocks towards the input end of the seeder until the rod barely protrudes from the bracket just behind the drop tube of the seeder. The end of the rod should be almost flush with the starting edge of that rod guide. **NOT NECESSARY FOR 32-01 or 6-06**

E. With the linkage arm in the drive wheel at the eight o'clock spot, and the rod almost out of the middle rod guide bracket, tighten the rod connector block to the rod. Test-run the seeder to make sure it can complete the full stroke. If not, repeat step "D", perhaps trying a slightly different position from eight o'clock. Test-run the seeder again.

F. Once you have the proper stroke, put a container in the machine and return to step 5 in the section above.

Operation:

1. You may have to slide the #2 pusher mounting bracket along the rod to allow room for the direct sow top pusher and to stop the flat properly beneath the drop tubes.
2. Tighten the clutch assembly so that it does not slip when trying to push the heavier flat. You may need to make the clutch tighter so it doesn't slip. Tighten by hand only, using pliers will not help. Keep the flat as light as possible, ie, use a dry mix, 5 LBS or less is preferred.
3. Put a flat in the seeder. With the speed control set at about 30 on the dial, check to see that the flat is indexed properly. The hinged pusher should catch on the cell dividers.
5. The container switch should "read" the beginning of the flat correctly, just as on a plug tray. **Do not make the machine push more than one flat at a time as that is too much weight.**
6. The green needle works best for sowing large seed. Cucumbers, Sugar Baby watermelon, and zucchini all work well with this manifold. Although you may not be able to get more than 2-4 inches of vacuum because the holes are so large, the volume of air makes up for it. To regulate the number of seeds sown per cell, block holes off with blank needle tips
7. Because the seeds are very large, seed inventory is crucial. Too few seeds and they are not picked up, too many seeds and they get knocked off the manifold as it leaves the tray. Your own experiments will determine the proper level.

If you have questions please call BLACKMORE at 1-800-874-8660 in the USA/Canada or (734) 483-8661

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