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FACT SHEET

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How to Build a Tree Planter from a Plow

You can build a satisfactory and economical tree planter from either a trailer or mounted plow. The conversion is easiest with a single bottom plow. On multi-bottom plows, you must remove or cut off all beams except the one to which you will attach the planting shoe.

Use plows in reasonably good mechanical condition. If you use a trailer plow, make sure the lifting mechanism works properly so that the planting shoe can be lifted out of the ground at the end of the row.

To convert a plow to a tree planter, you must:

1. Remove the mold board, share, and frog from the beam to which you will attach the planting shoe.

2. Remove the rear furrow wheel.

3. Build a planting shoe or trencher that will open a furrow for planting trees. Attach it to the plow beam.

4. Build a frame to support the operator and trays to hold the young trees. Attach two wheels to the frame to support the operator and to pack the earth around the trees after they are planted.

5. Reconstruct the plow hitch so that the load formerly carried by the rear furrow wheel will be carried by the two remaining wheels.

You must make the face of the planting shoe from hard steel. Work the point out to a shape somewhat like the point of a cultivator shovel. You can use a heavy truck spring or a spring tooth from a tillage implement as stock.

It is important that you make the face smooth and symmetrical so the same amount of earth will be moved to each side. If you don't, the planter will not run straight. Make the sides of the shield from 3/8-inch steel plate. Make the shield at least 12 inches high and not more than 25 inches long from the point to the rear end. The inside width at the back should be 3 to 4 inches. In western Minnesota, where planting heavy rooted stock is common, greater widths may be necessary.

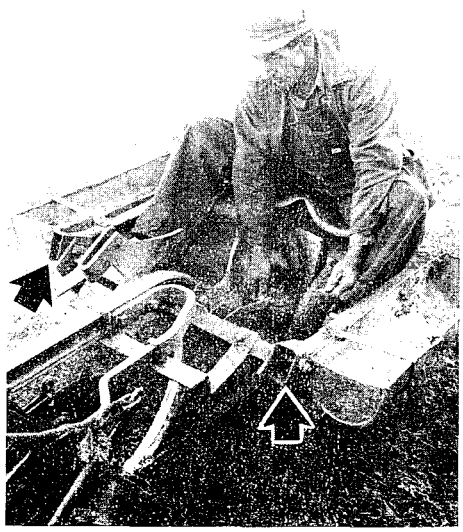
An old automobile frame or material of similar strength is suitable for making the frame. The operator rides on the frame and the packing wheels and trays for holding the trees are attached to it. Pin the frame at each end of a crosspiece you have bolted to the plow beam. This connection allows the wheels supporting the frame to be in contact with the ground at all times the planter is in use. The connection also makes possible vertical adjustment of the frame to suit the operator's convenience.

Make the crosspiece from a 2 x 3 x $\frac{1}{4}$ inch or heavier channel iron 30 inches long. Bolt it to the forward edge of the beam at the point where the beam starts to curve downward. On each end, weld a 3/8-inch plate 6 inches long and 4 or more inches wide. Make five uniformly spaced holes $\frac{1}{2}$ inch in diameter in each plate for vertical adjustment. Locate the plates so that all the holes can be used.

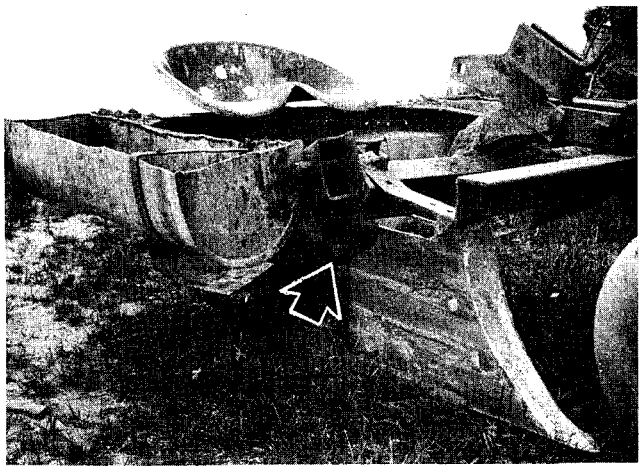
Mount the seat so there are 22 inches between its front edge and the rear edge of the planting shoe. If you desire, you can mount the seat so it can be adjusted back and forth. In such a case, the 22-inch measurement should be to the center of the adjustment.

Carrying and packing wheels should have 4.00-8 inch tires. Wheels like those used on wheelbarrows are satisfactory. Such wheels usually have sleeve bearings. For longer life, use regular trailer wheels with sealed bearings.

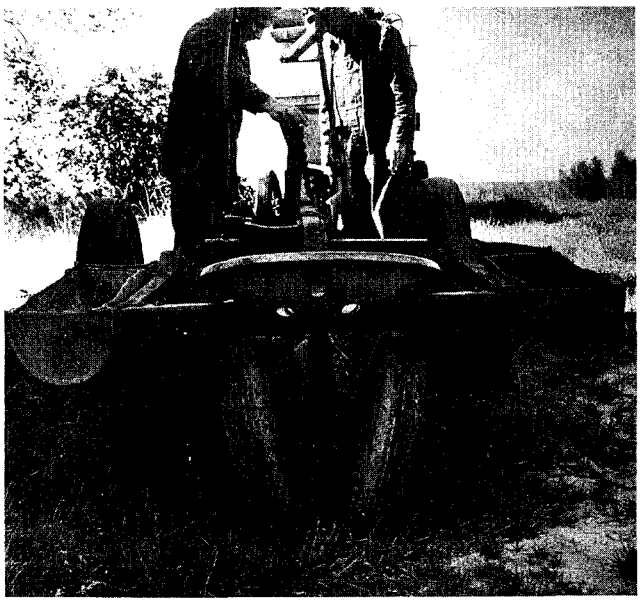
Make mounts for the wheels from 5/8 x 1$\frac{1}{2}$ inch strap iron welded to the frame. Incline the wheels at an angle of 12-15 degrees from the vertical.



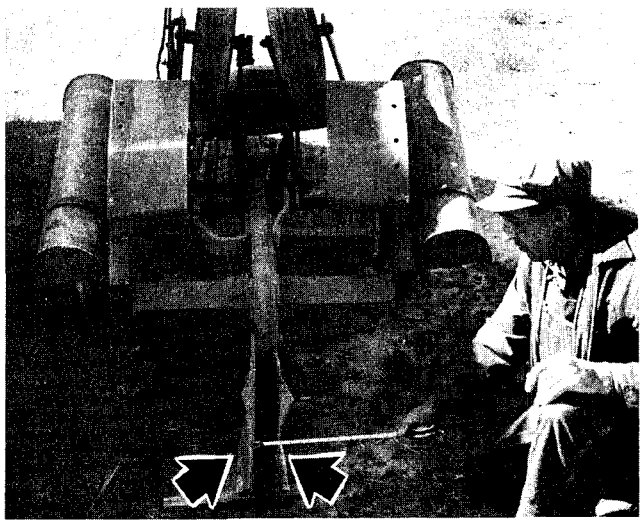
1. The frame on which the operator rides is hinged, so the packing wheels are always in contact with the ground during planting. The crossbar on which the frame pivots should be 18 inches above the bottom of the shoe.



2. The tilt of the planter frame can be varied to suit the operator by making a vertical adjustment at the ends of the crossbar. A large coulter must be mounted ahead of the trencher and correctly aligned.



3. When in use, 4.00-8 inch tires carry the planter frame, support the operator, and act as packing wheels. The opening between the wheels must line up directly with the opening in the trencher. Wheels should be inclined at an angle of 12-15 degrees.

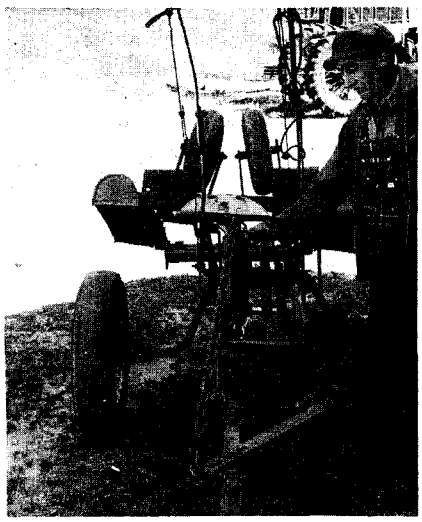


4. The inside width of the shoe should be 3 inches or more. Note the flanges on the bottom. The planter frame is tilted forward for easy transport between jobs.

Make some provision to regulate the depth of the planting shoe and to enable the lifting mechanism to raise the planting shoe out of the ground. Bolt a vertical standard 12-14 inches long to the plow beam and connect a piece of log chain between it and the plow hitch. Make the standard of material 2 x 5/8 inch or heavier. Make sure the standard is well braced, as it will be subjected to severe stress when the planter is moved over rough ground. Cut a slot in the top so chain lengths can be hooked into it. You control the depth of the planting shoe by lengthening or shortening the chain.

Make sure the hitch is securely fastened to the tractor with a bolt and nut to resist the lifting force on it.

Mount a 17-inch or larger coulter in front of the planting shoe. Set it in line with the center of the shoe so the planter will run straight.



5. To support the load formerly carried by the rear furrow wheel, attach a heavy standard to the plow beam and connect it to the hitch with a piece of log chain. You control the depth of planting by lengthening or shortening the chain.

6. This two-man planter attached directly to the tractor is controlled hydraulically. The only plow part used is the beam. Because the planter is directly connected, the rear end will lift up when planting is done over rough ground.

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