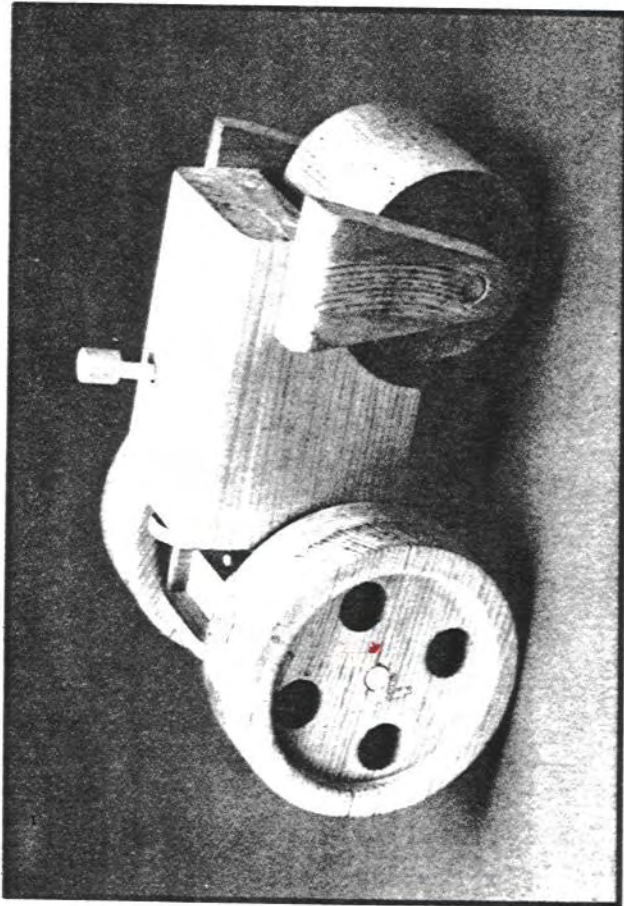


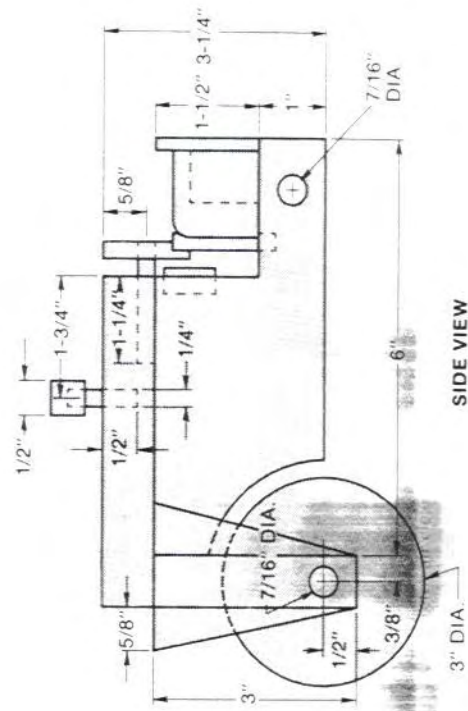
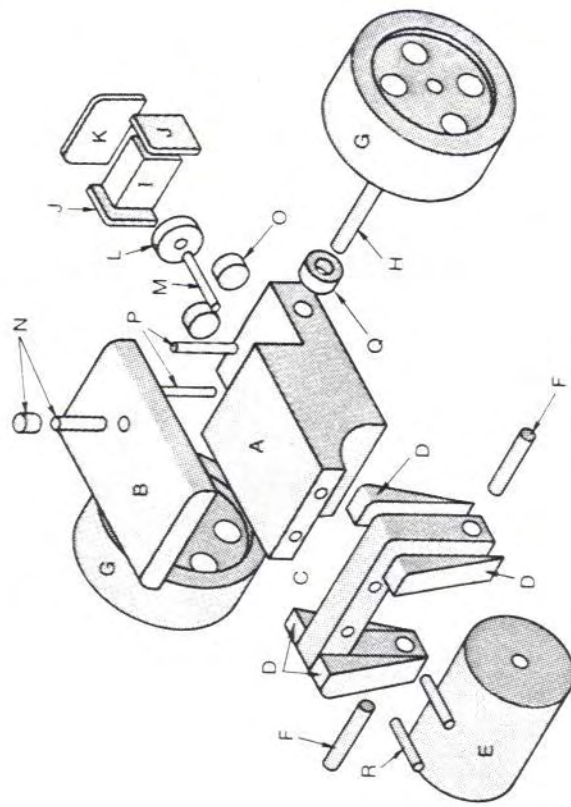
STEAMROLLER



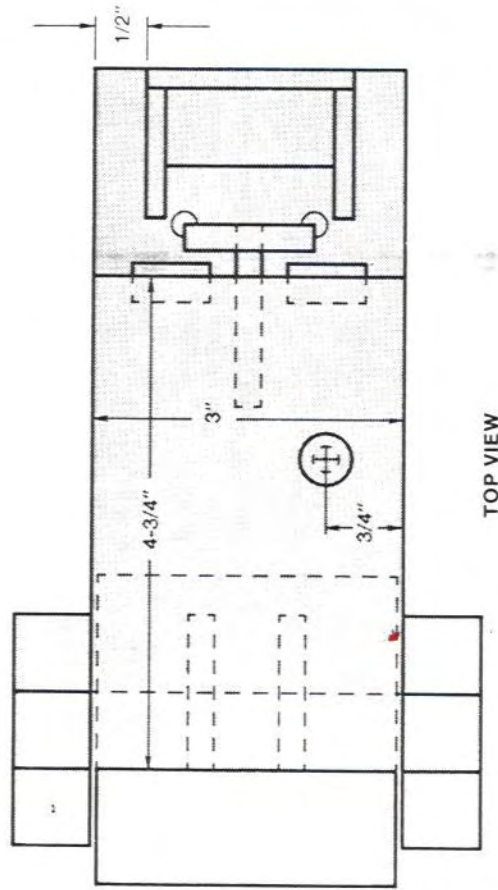
No construction site would be complete without a steamroller to smooth out the ground after all the leveling and grading have been finished. The powerful steamroller fascinates children by the way it can easily flatten anything in its path. And grown-ups are amazed by the power this mighty machine can exert.

To round out the construction toys, the steamroller makes a perfect companion to the road grader and the bulldozer. Any child can have fun with this toy on the carpet or in the sandbox.

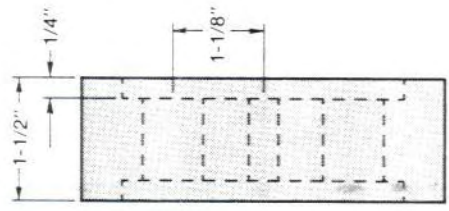
As with the other toys, read all the instructions first before making any cuts. When you finish this toy, you could make a low-boy trailer for it, too—just like the one you can make for the bulldozer.



SIDE VIEW

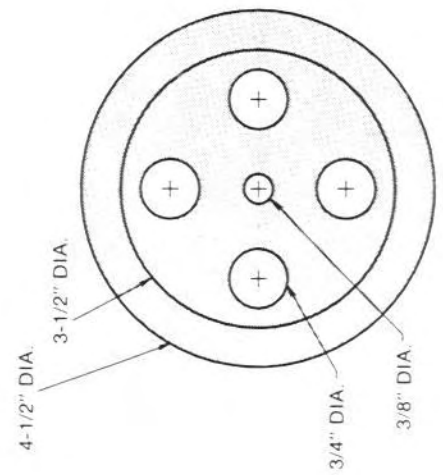


TOP VIEW

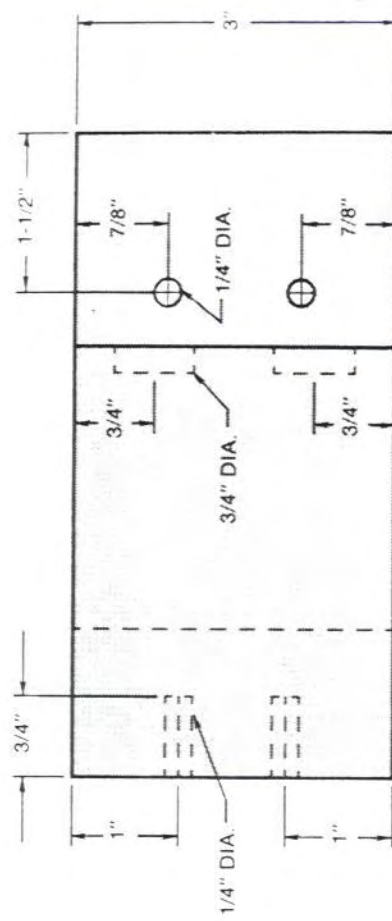


FRONT VIEW

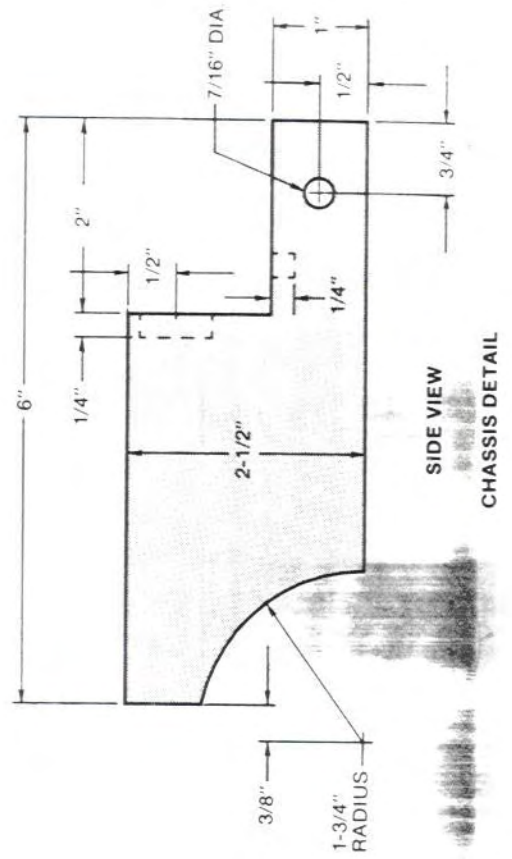
REAR WHEEL DETAIL



SIDE VIEW

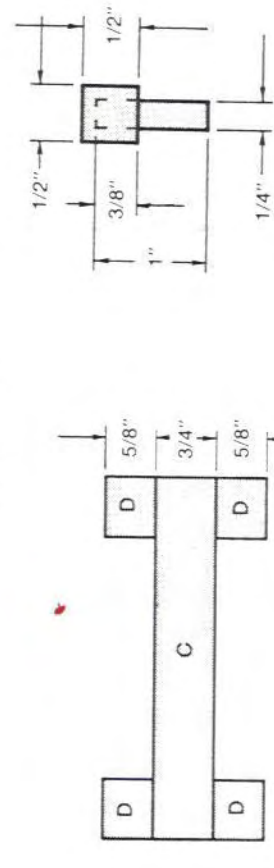
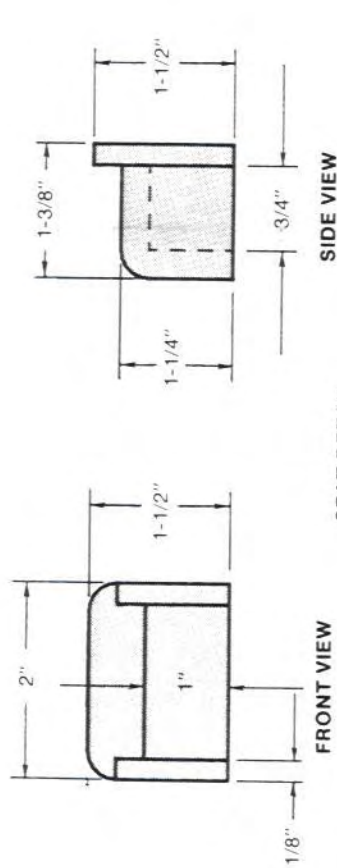


TOP VIEW

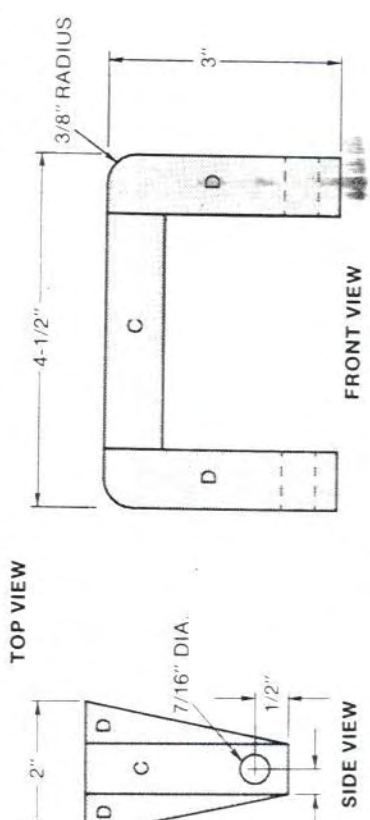


SIDE VIEW

CHASSIS DETAIL



EXHAUST STACK



YOKE Yoke

PROCEDURE

1. STOCK PREPARATION

This project requires some lathe work, so it's important to prepare turning stock ahead of time. Read through the steps on making the roller (E) and rear wheels (G). Then prepare the stock according to the method you prefer. The only other stock you'll need to prepare is the chassis, which requires gluing and clamping together four pieces of 3/4" stock. Cut the rest of the pieces to size according to the list of materials.

2. CHASSIS

Once the glued stock for the chassis (A) has dried, sand the block square, then use a bandsaw or scroll saw to cut out the contour in the back for the seat and control levers.

Before cutting out the front curved section, drill the 1/4" deep holes for the gauges. Drilling them now is easier, since there's plenty of stock to support the front end as you drill. Notice, though, that the steering wheel column hole has to be drilled after the front yoke is in place.

The round concavity in the front for the roller is a little tricky to do, but not difficult. Place a 3/4" piece of stock on the front of the chassis to mark the location of the cut. Next, place the point of a compass even with the bottom of the chassis (see Fig. 1). Draw a 1-3/4" radius on the chassis. Cut out the recessed area using a bandsaw or scroll saw;

then sand the area smooth with a drum sander.

Complete the chassis by drilling a 7/16"-diameter hole for the rear wheel axle as indicated in the drawings.

3. ROLLER YOKE

The roller yoke assembly has five parts for appearance as well as strength. Begin construction of the yoke by drilling a 7/16"-diameter hole through the piece of 3/4" x 3" x 4 1/2" roller yoke (C).

Now use the bandsaw or scroll saw to cut out the yoke profile. As you can see, the arms of the yoke are weak at this point because of grain direction, so be careful handling the piece once it's cut out.

Glue and clamp the roller yoke (C) to the front of the chassis flush with the top. After the glue has dried, drill two 1/4"-diameter holes through the yoke and into the chassis; then glue in two dowel pins for reinforcement. Allow the dowels to protrude about 1/16"; then sand flush when the glue has dried.

Cut out the roller yoke supports (D) using a bandsaw or scroll saw; then glue and clamp them to the roller yoke. After the glue has dried, round the top edges of the yoke with a sander or rasp.

4. ENGINE COVER

The engine cover (B) fits over the top of the chassis and gives

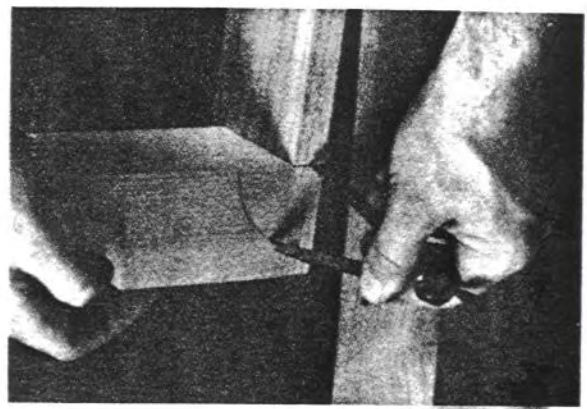


Fig. 1. Locate the radius for the roller by placing the chassis on a piece of 3/4" scrap

it a finished look. If you didn't cut the engine cover to size in step 1, do so now. Drill the 1/2"-deep hole for the exhaust stack as shown in the plans. Then round the top edges of the cover using a belt or disc sander, and sand the top of the chassis assembly so it's flat and even. Glue and clamp the cover to the chassis.

After the glue has thoroughly dried, drill the 1/4"-diameter steering column hole in the chassis. (It's important that the glue is dry since the steering column hole is so near the glue line.)

5. REAR WHEELS

The rear wheels (G) are made from two pieces of laminated stock that's been glued and clamped for at least 24 hours. After the glue has completely dried, cut out the rear wheels with a bandsaw or scroll saw.

Now, if you have a lathe, mount one of the wheels on a screw center and make a 1/4"-deep recess with a parting tool

and roundnose chisel (see Fig. 2). Mark the center of the wheel while it is spinning.

Turn the wheel around, remount it, then cut the recess on the other side. Repeat this process for the other wheel. After you've finished cutting the recesses, sand the wheels while they are still on the lathe.

Drill the 3/4"-diameter holes where indicated in the plans. To guarantee against any splintering when drilling these holes, drill them part way through from one side until the bit just penetrates the other side. Stop drilling, then turn the wheel over and complete the hole.

Because of the recess cut into the wheels, they must clear the rear of the chassis, so two spacers (O) must be made. Make these 1"-diameter pieces with a 1-1/8"-diameter hole saw. After cutting the 1"-

diameter blanks, enlarge the hole from 1/4" to 3/8" diameter. Using a twist drill bit, expand the holes in the spacers.



Fig. 2. The recesses on the rear wheels (G) are made by mounting the wheel blanks to a lathe and using a parting tool and roundnose chisel to turn the profile.

CAUTION: The spacers must be clamped securely while drilling. Do not attempt to hold the spacers by hand when drilling.

6. ROLLER

The roller (E) is made from four pieces of glued-up stock. When cutting the stock for this part, make the pieces at least 3" long. (Longer stock would be better since you can always use round stock to make more steamrollers or the other toys in this book.) After the turning stock has been clamped for at least 24 hours, turn it on a lathe to 2-7/8" diameter.

If you don't have a lathe, try cutting an old rolling pin to length. If the hole diameter of a rolling pin is different than 7/16", adjust the hole in the yoke (C) and the diameter of the roller pins (F) accordingly.

7. STEERING WHEEL

The steering wheel (L) is made like most wheels in this book—with a hole saw. Use a 1-3/8" hole saw to make the 1-1/4"-diameter steering wheel out of 1/4"-thick stock. Again, make extras and set them aside for other toys. Glue the steering wheel to the steering column (M) and glue the assembly into the chassis/cover assembly. Then glue the control levers (P) in place.

8. SEAT

The seat (I/J/K) can be made from either 3/16"- or 1/8"-thick stock. Cut the sides (J) and back (K) out of 3/16"-thick stock. Next, cut the seat (I) to size and glue and clamp the seat together. After the glue

has dried, sand the seat and glue and clamp it in place on the chassis.

9. FINISHING TOUCHES

Finishing up the construction of this toy is simple. Make the parts for the exhaust stack and

in place, but don't forget to put the spacers on both sides between the chassis and the wheels. After gluing the wheels and roller, wait 15 minutes, then test them to make sure they're not glued in place.

glue and clamp these parts together. Once this assembly has dried, glue and clamp it into the engine cover.

Finally, glue the front roller into place with the two pins (F). Glue the rear wheels

MATERIALS

Part	Description	Pieces	Dimensions (finished dimensions in inches)
A	Chassis	1	3 × 2-1/2 × 6
B	Engine cover	1	3/4 × 3 × 4-3/4
C	Roller yoke	1	3/4 × 3 × 4-1/2
D	Roller yoke supports	4	3/4 × 5/8 × 3
E	Roller	1	3 dia. × 2-7/8
F	Roller pins	2	3/8 dia. × 2
G	Rear wheels	2	4-1/2 dia. × 1-1/2
H	Rear wheel axle	1	3/8 dia. × 5-5/8
I	Seat	1	3/4 × 1 × 1-5/8
J	Seat sides	2	1/8 × 1-1/4 × 1-1/4
K	Seat back	1	1/8 × 1-1/2 × 2
L	Steering wheel	1	1-1/4 dia. × 1/4
M	Steering column	1	1/4 dia. × 1-3/4
N	Exhaust stack	1	1/4 dia. × 1
O	Gauges	1	1/2 dia. × 1/2
P	Control levers	2	3/4 × 3/8
Q	Wheel spacers	2	1/4 dia. × 1-1/2
R	Dowel pins	2	1/4 dia. × 3/8
R	Dowel pins	2	1/4 dia. × 1-1/2

CONSTRUCTION NOTES

1. Use a 1-1/8" hole saw to make part (O), and a 1-3/8"-diameter hole saw to make part (I).
2. Use a 1/4"-diameter hole saw to make part (O), and a 1-3/8"-diameter hole saw to make part (I).