ALL-WEATHER MORRIS CHAIR

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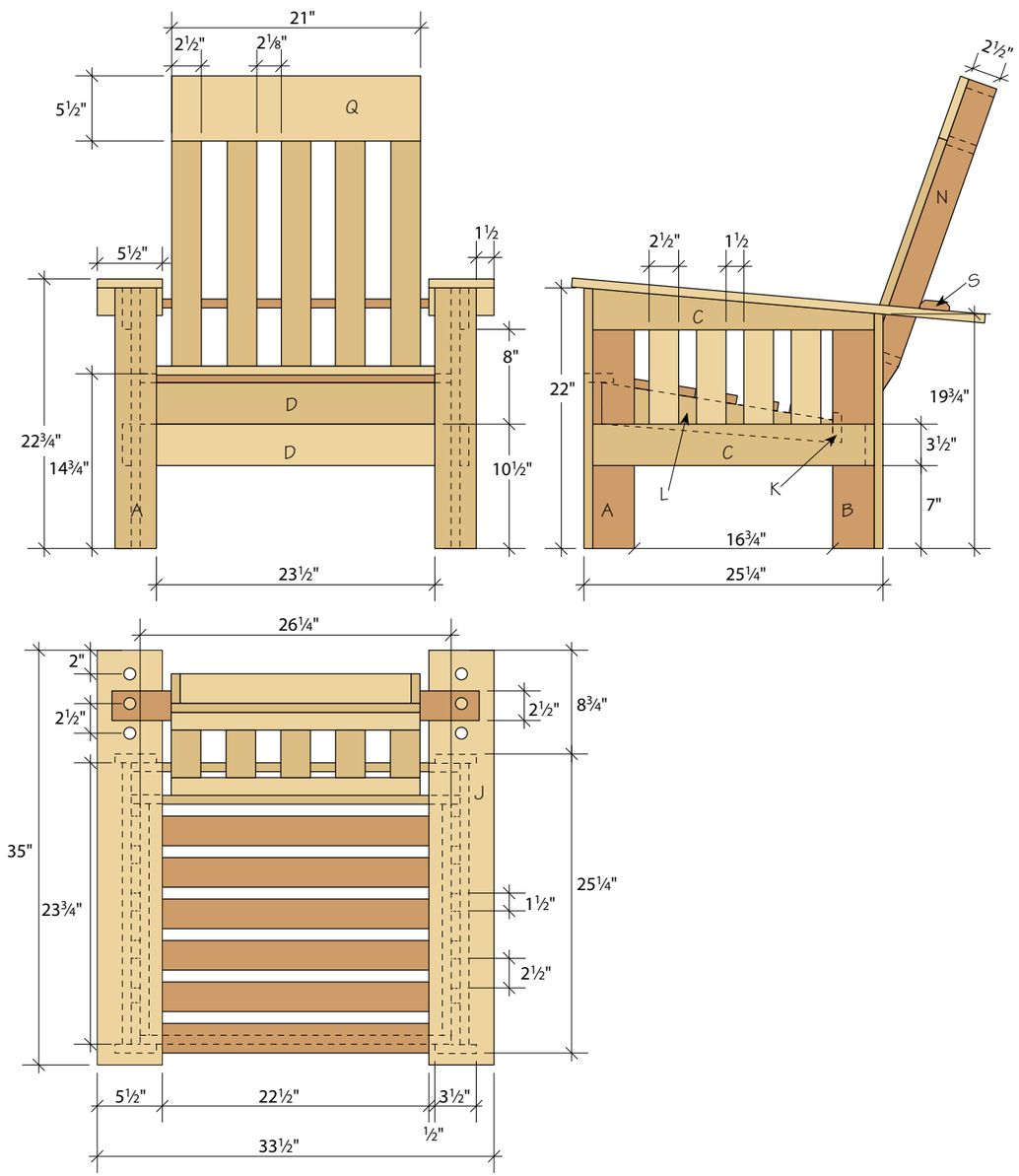
If you read the introduction to this book, then you know that this next project is special to me. It was the spark for all of my one-by furniture designs, and is still the most comfortable. The original All Weather Morris Chair was designed to fit a seat and back cushion. This made the chair comfortable, but if it had just rained and the cushions were wet, the bare chair wasn't designed for sitting comfortably. The chair shown here is version 4.0 and I've modified it to work with, or without cushions, and I've adjusted some design and building techniques. I think it's an excellent upgrade. Oh, did I mention the price? Built from pine, each chair runs about $60 in materials, plus the cost of the hinge. A good coat of exterior paint and you've got a great chair for under $100.



ALL-WEATHER MORRIS CHAIR • INCHES (MILLIMETERS)

REFERENCE	QUANTITY	PART	STOCK	THICKNESS	(mm)	WIDTH	(mm)	LENGTH	(mm)
A	4	front legs*	pine	¾	19	3½	89	22	559
B	4	rear legs*	pine	¾	19	3½	89	20	508
C	4	side strtchrs**	pine	¾	19	3½	89	23¾	603
D	2	f&b stretchers	pine	¾	19	3½	89	26¼	667
E	2	side slats*	pine	¾	19	2½	64	14½	368
F	2	side slats*	pine	¾	19	2½	64	14⅛	359
G	2	side slats*	pine	¾	19	2½	64	13¾	349
H	2	side slats*	pine	¾	19	2½	64	13½	343
J	2	arms	pine	¾	19	5½	140	35	889
K	1	rear support	pine	¾	19	2½	64	26¼	667
L	2	side spprts***	pine	¾	19	5½	140	19½	495
M	6	seat slats	pine	¾	19	2½	64	26¼	667
N	2	back frame	pine	¾	19	2½	64	30	762
P	3	back frame	pine	¾	19	2½	64	19½	495
Q	2	back plates	pine	¾	19	5½	140	21	533
R	5	back slats	pine	¾	19	2½	64	19	483
S	1	back suppport	pine	¾	19	2½	64	31	787
T	2	dowels	hrdwd	1D	25			2	51

* 5° angle, one end

** 5° slope on top edge of two

*** Cut to match template.

You might notice that the lumber in the photos looks a little weird. It is. Half of it is over 40 years old. In rehabbing our house, I pulled out some old pine closets. Rather than throw the boards away, I tucked them aside, and when this project came around, I knew I could be earth conscious and reuse them. Since the whole piece was getting painted, no one would be the wiser. I did cut all the pieces to standard home center sizes, so I wasn't cheating.

There are a lot of pieces to this chair, but if you go ahead and cut them all to length, assembly will move pretty quickly.

BUILDING THE LEGS

Each of the legs is made of two pieces of wood screwed together length-wise to create a T-shape.

1 The T-shaped front and back legs have a 5° bevel at the top. It's easiest to cut that bevel before assembly. With the four front- and rear-facing pieces cut to the length given in the cutting list, set the saw for a 5° bevel and trim one end of each piece.

But to give the chairs their backward slope, the tops of the legs are cut back at a 5° angle. This means the front legs (with the flat piece facing forward) need a 5° angle on the top edge of the front piece, across the thickness of the board. The leg of the T that fits behind the front piece, needs a 5° cut from the front-to-back on the width of the board. This process is reversed on the two back legs, since the flat piece is to the rear of the leg. Take your time marking and identifying the angles before making the cuts with your miter saw.

The chair is essentially screwed together. I used a countersink bit to drill clearance holes and recesses for wood plugs in one motion.

Start by marking the center of each flat piece of the front and back legs. Drill the countersink holes and screw the legs together.

MAKING THE SIDES

To join the front and back legs to create left and right leg sets, mark up 7" on the outside of each leg. Make sure you have front and back pairs. Then screw the two lower side stretchers in place on the legs.

The upper side stretchers will require a 5° slope on the top edge. Place an upper stretcher in position, flush with the top edge of the front leg, and make sure the space between the stretchers is even at front and back. Then make a mark at the leg heights at both the front and back ends of the upper stretcher.

2 Transfer the bevel location from the four cut pieces to the side-facing pieces of the legs. Remember that the front and rear legs are mirror images of one another, with the shorter "leg" pair to the rear. The legs are shown above positioned as they will be, with the rear (shorter) set on the left. The L's will become T's when the horizontal pieces are screwed to the center of the vertical pieces.

3 After marking the bevel locations, cut the other four pieces on the flat.

4 All four legs have the leg of the T centered on the flat of the T. Mark the center line for screws.

5 Drill three or four countersunk holes in each leg flat.

6 Then screw the leg pairs together, flushing the bevel ends to form the T. Pilot drill and countersink to avoid splitting.

7 The lower side stretchers are located up 7″ from the bottom of each leg.

Connect the two marks to create a straight line, then cut the angle with a jigsaw. Clean up the cut with a bench plane if necessary. Mark the other upper stretcher the same way, then cut the slope.

Screw each upper stretcher in place on the outside of each leg, and you're getting closer.

To create the box of the chair, the front and back stretchers are screwed in place with the front stretcher located 10½" up on the inside of the front legs. The back stretcher is located 7" up on the inside of the back legs.

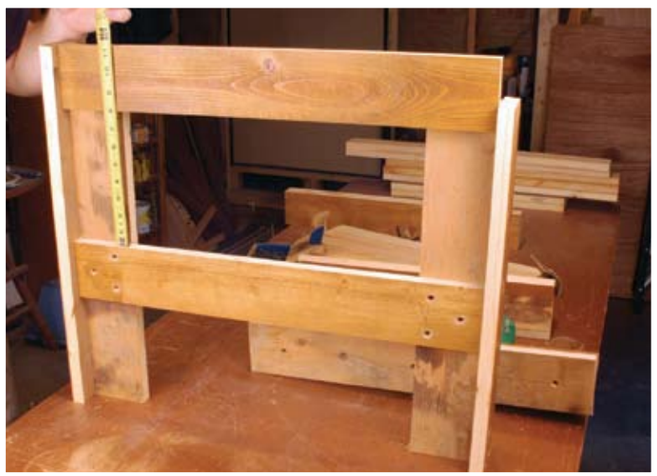
SIDE SLATS

The next step is to attach the side slats. You'll see that I've provided individual lengths for each slat in the cutting list. Each slat also gets a 5° angle cut on the top edge. I've found it easiest to mark the locations of the slats (spaced 1⅜" apart, starting from the back of the front leg), then hold the slat in place and mark the angle on the top of each slat.

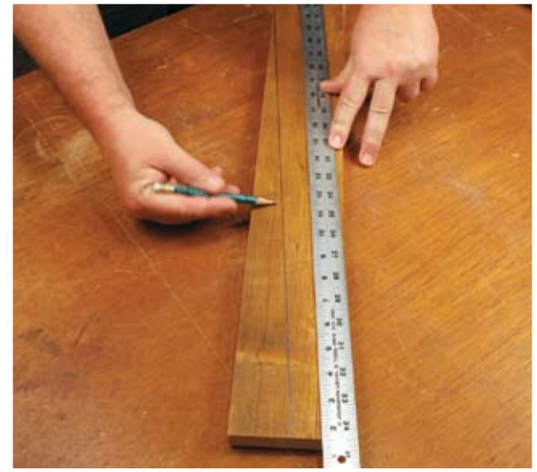
Because I want each slat top flush to the top of the upper side stretcher, I cut the slats a little short, letting the bottom of the slat fit up slightly from the bottom edge of the lower side stretchers.

Screw the slats in place with a single screw at top and bottom. I couldn't countersink these screws because the two ¾"-thick pieces don't allow enough room to add a plug. If you want to hide the screws, then you will need to add wood putty and then sand it

8 Screw the side stretchers in place on the outside of the legs.

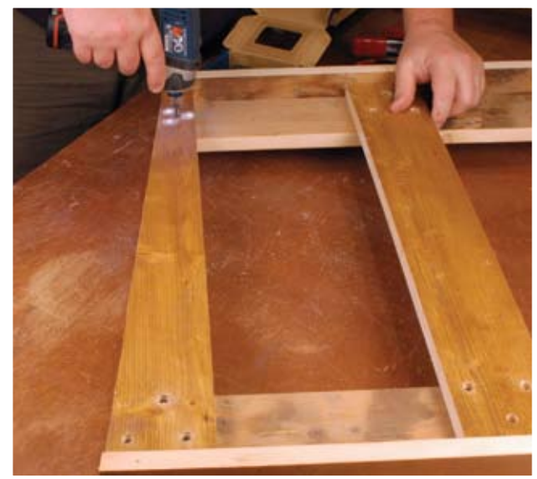


9 Space the upper side stretcher 8" above the lower stretcher, which should be even at the top edge with the top edge of the front leg.



10 Connect your front and rear marks with a straight edge.

11 Jigsaw wide of your pencil mark to leave room for cleanup.



12 Screw the upper stretchers in place to complete the leg sides.

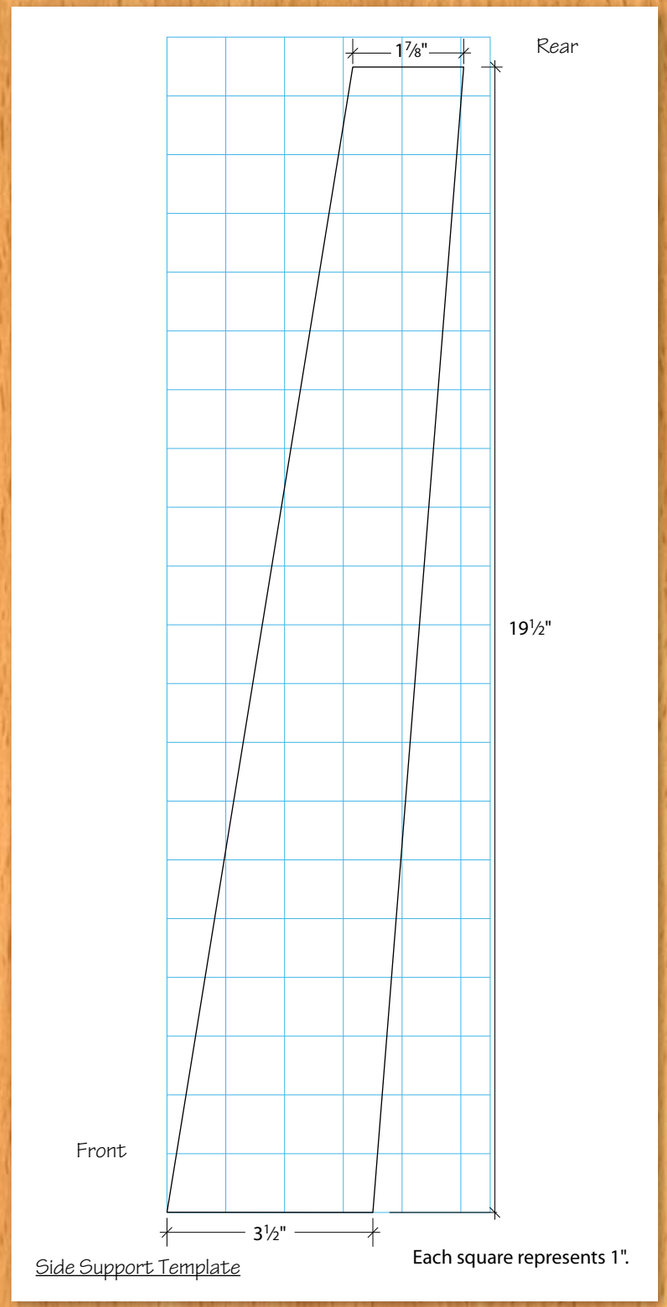
13 The front and back stretchers are screwed in place to the front and back legs. Check for squareness where the stretchers meet the legs.

14 I prefer to mark the slat lengths with each slat held in place.

15 A single screw in the center of each slat (top and bottom) holds things comfortably in place.

16 The seat supports fit flush to the top of the front stretcher, and attach to the slats.

17 At the rear of the seat support, a 1 x 3 is screwed in place between the two legs. Another screw from the rear holds the piece against the ends of the supports.



Side Support Template

smooth. I just allowed the paint to hide the screw heads.

SIDE SUPPORTS

With the slats in place, I checked the pattern (shown at left) for the shape of each side seat support. Though the supports are cut from 1×6 boards, the only cuts necessary are on the two long edges. The short ends keep the "squared" cuts from cutting the 1×6's to length. Transfer the pattern to your board and cut the side supports to shape with your jigsaw.

Clean up the cut edges with a hand plane, then screw the supports in place on each side.

One last piece to hold things together. The rear support is the piece that will support the back frame of the chair. It's essentially a mount for the hinge. It's screwed between the two rear legs, and tight up against the back end of the two seat side supports. This piece is screwed through the back legs, and through the back support into the ends of the side supports.

MORE SLATS AND ARMS

We're now ready to add the seat slats. This is pretty straightforward, with the slats spaced 1" apart. The front slat is notched ⅞"-deep to fit around the front legs, and then is screwed in place to the front stretcher. This allows an overhang on the front slat. The front slat gets four screws, but all the others get two. A single screw on each end. I countersunk these holes for plugs.

The arms seem to bring things more than a step further somehow. One of the things that makes a Morris chair special is the ability to recline the back. To make this simple, three holes are drilled in the arms to offer three reclining positions. The holes are centered and at the back of each arm. The back support has two dowels attached that fit into the holes. This is also the reason why the arms extend so far beyond the back of the seat, and it's one of the things that makes this chair a Morris! Clever folks! The arms should overhang the legs 1" at the front and by 1½" on the outside edges.

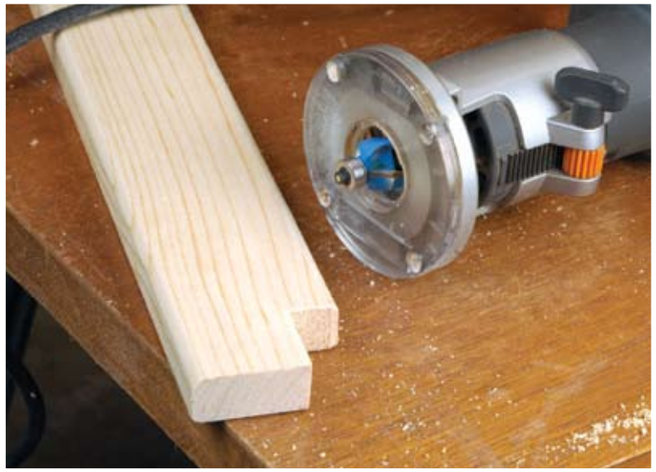
BUILDING THE BACK

The chair back is screwed together (countersink for plugs) with three horizontal cross members. The two at the top are spaced to fit a headrest plate, and the bottom to accommodate a matching plate (for symmetry). Both the plates should cover only half of the horizontal cross member, allowing you to nail or screw both the plates and the back slats to the same cross member.

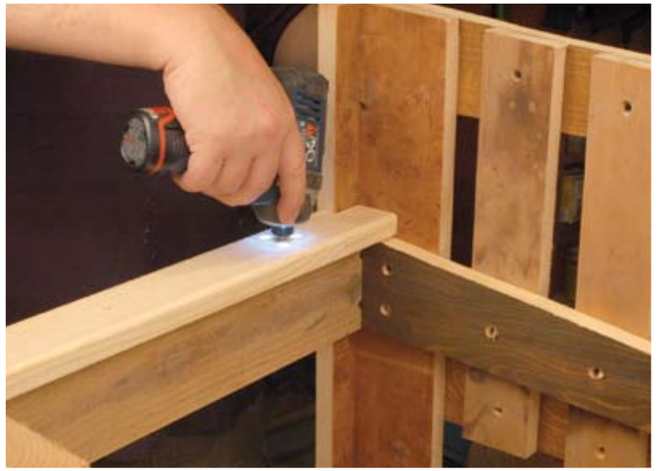
With the cross members positioned correctly, screw them in place through the back's frame sides. Next screw the top and bottom plates in place.

Lastly, to allow the proper swing of the back, clip the back corners of the seat at a 45° angle with your jigsaw.

To complete the back, simply screw the slats in place on the frame. The two outside slats are



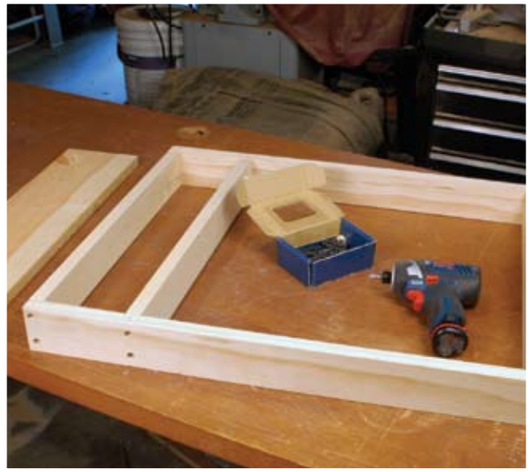
18 After notching the front seat slat to fit around the legs, I used a roundover bit in my trim router to round the long edges of each slat. Less chance of pinching something important.



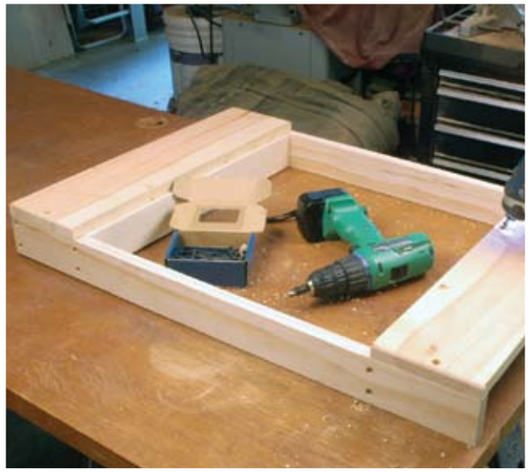
19 The front slat is screwed in place on the front stretcher.

20 The rest of the seat slats are screwed into the seat supports on either side

21 The two arms are also rounded with the router, Then screwed in place.



22 Three cross members are screwed in place between the two frame sides.



23 The top and bottom plates are then screwed to the front of the frame, lipping only half way over the two middle cross members.

held flush to the sides of the back, with the other slats spaced evenly between. You'll notice a difference between the illustrations and the picture. On the chair in the front photo I used three 3½"-width slats, with two 2½" slats between. Either design is fine, I just decided to play a bit with the spacing. Feel free to be creative with your chair!

I rounded over the top edges of the back support (using my trim router), then drilled two ¼"-deep holes marked directly from the holes on the chair arms. By doing this rather than measuring, I'm assured a proper fit.

Next, the two 2"-long pieces of 1"-diameter dowels are screwed in place on the back support.

A good final sanding to all surfaces and I was ready to paint. Any decent Krylon color will put a great finish on the chair. I used spray cans, and honestly, it took about six, so prepare for that.

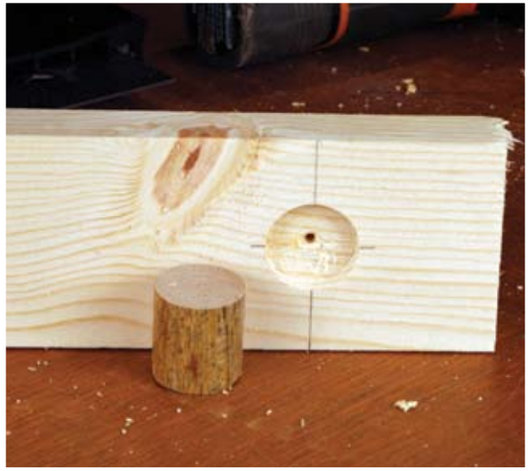
The last step is to mount the back to the chair. I've used a variety of hinges over the years, but I've found I get the best look and performance from a continuous, or piano, hinge.

That's it! You're ready to kick back and enjoy the day.

24 A 45-degree cut at the bottom of the back allows the back to swing to full-back position.

25 The back slats are then screwed in place.

26 After carefully marking the location for the dowels on the back support, I drill a shallow hole to protect the top of the dowel from the weather, and to locate the dowel accurately.



27 The 2" chunk of dowel can then be glued (if you prefer) and/or screwed in place.

28 After painting, the last step is to screw the continuous hinge to the back, then rest it in place on the chair and screw the other leaf of the hinge in place on the back seat suppot.