

ILLUSTRATED STEPS / SAVE IT. FIND IT. BUILD IT.

WOODEN LATCH

A sliding wooden bolt holds a small cupboard door closed.



START HERE

01

GET READY

Tools + clickable build map

02

FOLLOW THE STEPS

One clearly numbered stage at a time

03

FIND IT AGAIN

Quick reference + PDF bookmarks

A complete free guide for your small indoor cupboard. Dimensions are an unprototyped example; no security, child-safety or load rating. Optional support receives the same guide.

NUKE ON TIKTOK

MORE FREE BUILD GUIDES

SOURCES / National Hardware: commercial barrel bolt, case and strike

BUILD MAP

NEXT

YOUR BUILD MAP

Tap a step to jump there. The printed page numbers work offline too.

HAVE THESE READY

- Three 25 by 70 by 30 mm dry wood blocks
- 12 mm dowel, 190 mm long; split collar blank
- Six 4 by 40 mm and two 3 by 20 mm pan-head screws
- Ruler, square, saw, drill/bits, screwdriver
- Clamps, backing wood, sandpaper, eye protection

BEFORE YOU START

Unprototyped small-cupboard example. Align guides and fixed keeper; clear screws and retract before opening. No security, child-safety or load rating.

KEEP THIS COPY

Save the PDF with its guide ID. Use the build map, bookmarks, or your PDF reader's search to find a step later. Video and source links need internet; the instructions do not.

READ IN ORDER

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SETUP

PREP

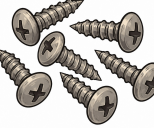
Choose sound wood and a suitable cupboard

READ BEFORE STEP 01

Use a small outward-opening door with hinges on the left and its opening seam on the right.



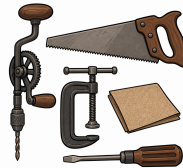
Sound wood



Wood screws



Straight dowel



Tools and clamps

CHECK THE MOUNTING FACES

- **The closed door and its fixed frame must have flush outer faces.**
- Use sound solid wood at least 18 mm thick where each screw enters.
- Reject thin skins, hollow panels, cracked wood and a sagging door.
- Keep the space on both sides of the sliding bolt clear.
- If the faces are stepped or the frame is too narrow, choose another cupboard; this example does not teach shimming.

LAY OUT THE KIT

- **Use three dry blocks, one straight wooden dowel and a small wood blank for the handle.**
- Add six 4 mm by 40 mm pan-head wood screws and two 3 mm by 20 mm handle screws, subject to the measured-fit checks.
- Bring a ruler, square, pencil, saw, drill and suitable bits, screwdriver, clamps, backing scraps, sandpaper and eye protection.
- Use sound untreated wood without hidden metal.

SETUP

Mark the door edge as zero

READ BEFORE STEP 01

PREP

All dimensions are millimetres. Illustrations are not to scale; use the written layout. Positive positions lie to the right, toward the fixed frame.



Illustration not to scale

MAKE A FULL-SIZE PAPER LAYOUT

- **Use a 12 mm diameter dowel, 190 mm long.**
- Each guide block is 25 wide along the bolt, 70 high and 30 deep from the mounting face.
- Place the rear door guide from minus 150 to minus 125; the front door guide from minus 55 to minus 30.
- The 70 mm space between guides is for a 20 mm wide handle and its travel.

SEPARATE THE MOVING AND FIXED PARTS

- **The door ends at zero.**
- Allow a 3 mm seam; the fixed frame begins at plus 3.
- Put the keeper from plus 5 to plus 30, entirely on that frame.
- All three bore centres are on one horizontal line, 15 mm out from the flush faces and midway up each block.
- This example needs the illustrated room; do not shrink parts independently.

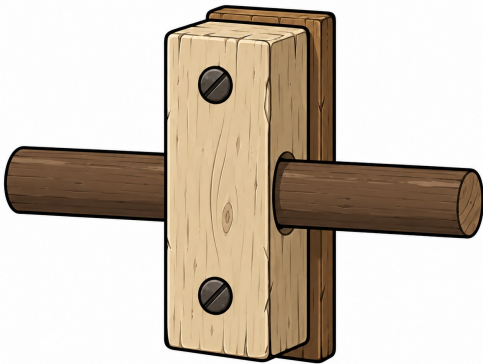
SETUP

Keep screws away from the bolt

READ BEFORE STEP 01

PREP

The sliding holes run sideways through the blocks; mounting screws run inward toward the cupboard.



Screws above and below the sideways bore

MARK TWO SEPARATE SCREW PATHS

- **For each block, mark mounting screws halfway across its 25 mm width, with one centre 12 mm from its top and one 12 mm from its bottom.**
- They sit 23 mm above and below the bolt axis.
- Use clearance holes through the block and pilot holes into the cupboard.
- Select pilot size for the actual screw and wood, following the screw maker; test on matching scrap.

CHECK DEPTH BEFORE DRILLING

- **A 40 mm pan-head screw through a 30 mm block reaches about 10 mm into the cupboard, leaving about 8 mm before the back of an 18 mm panel.**
- Include the screw tip in this check.
- Do not countersink these heads or substitute longer screws.
- Use a depth stop for panel pilots; check both sides and keep the drill clear of contents.
- These dimensions are geometry, not a joint-strength rating.

SOURCES / USDA Forest Products Laboratory: Fastenings, Chapter 8

BUILD MAP

PREVIOUS

NEXT

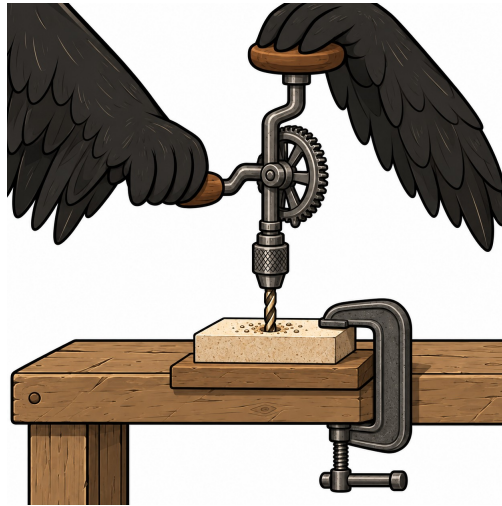
STEP

Drill three matching sliding holes

1 OF 4 / READ IN ORDER

01

Prepare each block on the bench before attaching anything to the cupboard.



CLAMP AND DRILL SQUARE

- **Mark the centre of each 70 by 30 end face.**
- Drill along the 25 mm width, square to that face, using the same setup for all three blocks.
- For the example 12 mm dowel, try a 13 mm bore in scrap first.
- Clamp each block firmly against a sacrificial backing piece; never hold it in your hand.
- Use eye protection and keep hands out of the bit path.

FIT BEFORE MOUNTING

- **Sand the bore mouths and remove splinters without rounding away the block faces.**
- The actual dowel must pass through each block freely without forcing.
- The example leaves 1 mm total diameter clearance, or half a millimetre per side when centred.
- That is an initial fit allowance, not a humidity guarantee.
- Reject split, wandering or badly oversized holes; remake the part.

SOURCES / CCOHS: safe drilling and clamping · USDA Forest Products Laboratory: Moisture and dimensional changes, Chapter 13

[BUILD MAP](#)[PREVIOUS](#)[NEXT](#)

STEP

Attach the two guides to the moving door

2 OF 4 / READ IN ORDER

02

The rear and front guides both stay on the door; the keeper is still loose.



PREPARE AND FASTEN IN ORDER

- **Transfer the two guide positions from the paper layout.**
- Drill the marked block clearance holes and depth-limited cupboard pilots before inserting screws.
- With the door securely supported, fasten the blocks lightly.
- Slide the dowel through both to check alignment, then snug the screws with the dowel removed from the tool path.
- Reinsert and check again.

KEEP THE SLIDER STRAIGHT

- **The dowel should move horizontally without levering either guide.**
- Check that each block sits flat and neither screw enters its bore.
- Stop for binding or a split; reposition or remake the faulty piece.
- Do not loosen screws permanently just to obtain movement.
- Keep the right tip clear of the opening seam while opening or closing the door.

SOURCES / USDA Forest Products Laboratory: Fastenings, Chapter 8

STEP

Fix the third block to the frame

3 OF 4 / READ IN ORDER

03

Close the door normally without lifting it or pushing it out of alignment.



USE THE BOLT AS AN ALIGNMENT CHECK

- **Hold the keeper entirely on the fixed frame at plus 5 to plus 30.**
- Slide the dowel through its bore and verify that all three holes share an axis.
- Mark the keeper position, withdraw the dowel, then drill clearance holes and depth-limited frame pilots before fitting the screws.
- Recheck free movement after tightening.

CHECK THE TWO BOLT POSITIONS

- **With its right tip at minus 5, the bolt is fully clear of the seam.**
- Pushing it 40 mm places that tip at plus 35: it passes through the keeper and projects 5 mm beyond it.
- The entire 25 mm keeper bore is engaged.
- Pull clear before opening; no block or bolt should scrape the frame through the door swing.

BUILD MAP

PREVIOUS

NEXT

STEP

Clamp the handle around the bolt

4 OF 4 / READ IN ORDER

04

Fit the smaller split wooden collar between the two door guides, then test the complete catch.



POSITION AND SECURE THE GRIP

- **Make the handle as described in the Handle detail note.**
- At the retracted position, with the bolt tip at minus 5, the collar spans minus 120 to minus 100.
- Tighten its two short screws gradually so it grips the dowel without splitting or crushing it.
- The screws pass above and below the dowel, never into it.
- Tug and twist the collar; stop if it slips.

CYCLE BOTH MARKED POSITIONS

- **Mark the 40 mm working travel.**
- At each end the handle has 5 mm clearance from its nearest guide.
- Grip its front, keeping fingers away from closing gaps.
- Latch, retract fully, open and close the cupboard several times.
- Test again without holding the door up.
- Stop for binding, loose fasteners, handle movement or scraping; correct the cause before use.

BUILD MAP

PREVIOUS

NEXT

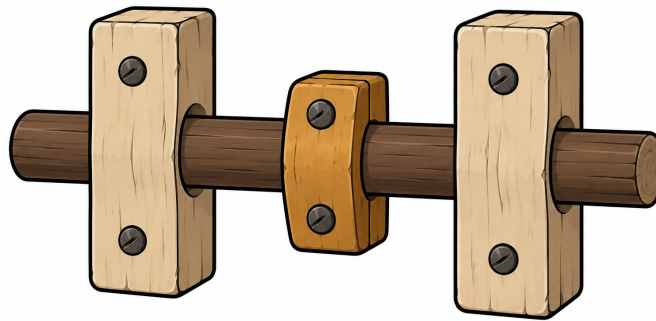
NOTE

Make a split collar, not a screw through the dowel

REF

KEEP THESE LIMITS WITH THE STEPS

The small ochre handle is different from the three larger pale guide blocks.



Two screws grip the split collar around the bolt

BORE AND SPLIT THE BLANK

- **Start with a sound blank 20 mm along the bolt, 40 mm high and 24 mm deep.**
- Drill a matching 12 mm hole through the 20 mm length, centred in the 40 by 24 end face.
- Clamp and back it as for the guides.
- Saw a thin split through the bore centre, separating front and back halves; keep the matching halves together.
- A paper model does not replace clamped tool work.

ROUTE THE HANDLE SCREWS

- **Put two 3 mm by 20 mm pan-head screws through the front half into pilots in the back half, at the width centre and 7 mm from the top and bottom.**
- Their axes are 13 mm above and below the dowel.
- Use clearance holes in the front half.
- Check actual assembled thickness: screw tips must stay inside the wood and the collar back must clear the cupboard.
- Stop tightening when the grip is firm; reject cracks or stripped threads.

SOURCES / USDA Forest Products Laboratory: Fastenings, Chapter 8 · CCOHS: safe drilling and clamping

[BUILD MAP](#)[PREVIOUS](#)[NEXT](#)

NOTE

Trace the motion before cutting

KEEP THESE LIMITS WITH THE STEPS

REF

The paper layout verifies planned positions; it cannot verify strength, drilling quality or friction.



Use the written coordinates for both positions

CHECK BOTH DOWEL ENDS

- **Retracted, the 190 mm dowel runs from minus 195 to minus 5.**
- Latched, it runs from minus 155 to plus 35.
- Both guides remain fully supported in both states.
- Check room for the long left end, the right projection and the entire outward door swing.
- Do not shorten the bolt without repeating this overlap check.

CHECK THE HANDLE ENVELOPE

- **The collar spans minus 120 to minus 100 retracted and minus 80 to minus 60 latched.**
- A 20 mm collar in the 70 mm guide gap has 50 mm maximum geometric movement.
- Use the inner 40 mm marked travel, leaving 5 mm at either end.
- The handle can limit overtravel, but should not be slammed into the guides or used as a load-bearing stop.

BUILD MAP

PREVIOUS

NEXT

NOTE

Keep the catch easy to release

KEEP THESE LIMITS WITH THE STEPS

REF

This educational wooden catch is for a small accessible indoor storage cupboard.



RESPOND TO A CHANGE IN FIT

- **Wood changes size with moisture, and a door can sag.**
- Recheck after humidity changes and periodically during use.
- If movement becomes stiff, stop and check alignment, swelling, damage and screw tightness.
- Correct the cause with the parts removed as needed; do not hammer the bolt or force the door.
- A larger hole is not a cure for every fault.

KEEP THE SCOPE MODEST

- **Store ordinary low-risk items such as the soap from the earlier episode.**
- Do not rely on this catch to secure hazards, restrain a child or animal, prevent burglary, or control an exit.
- No security, durability or load testing has been performed.
- Use suitable rated commercial hardware when the consequence of opening matters.
- Keep this guide with the example measurements and record any changes you make.

SOURCES / USDA Forest Products Laboratory: Moisture and dimensional changes, Chapter 13

QUICK REFERENCE

Read the full steps first. Tap any row to return to its instructions.

BEFORE STEP 01

Unprototyped small-cupboard example. Align guides and fixed keeper; clear screws and retract before opening. No security, child-safety or load rating.

01	Make guides Clamp and back each block. Drill matching square bores; test free slide and reject splits.	P06
02	Fit door guides Pilot before screws. Fasten both guides only to the moving door; recheck alignment.	P07
03	Align keeper Third block goes only on fixed frame. Withdraw bolt before drilling; verify full clearance and engagement.	P08
04	Handle and test Clamp collar above/below bolt with short screws. Confirm grip, 40 mm marked travel and free door swing.	P09

NUKE SAYS

The soap is contained. The apocalypse remains a separate project.

SOURCES / USDA Forest Products Laboratory: Moisture and dimensional changes, Chapter 13