

# Pragmasis Shed Shackle

## Detailed Fitting Reference for Wooden Sheds

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This document is intended as a backup to the pictorial Fitting Instructions provided with each Shed Shackle. This document provides more detail and may help those users with limited DIY experience or facing unusual installation requirements.

### Important Requirements

**Caution:** Be careful when fixing the shear nuts and also when using a chain or lock with any valuable items: The nuts will shear suddenly and you should be careful to avoid catching yourself when this happens; It is also easy to cause damage by dropping a heavy lock etc on a valuable bicycle! Being careful should allow you to fit the Shed Shackle easily and to use it without incident.

Any security installation is only as strong as its weakest link:

The Shed Shackle should be used in conjunction with an appropriately fitted Sold Secure-approved lock and chain or D-lock. If you are locking a bicycle, be sure to secure the frame and ideally both wheels.

The shed is vulnerable to attack. Keep the shed door locked whenever possible and fit an alarm if you can. DIY stores offer simple but effective movement detector alarms that are battery powered. The combination of the Shed Shackle as a physical deterrent and the noise made by an alarm should encourage a thief to leave empty-handed.

If you are unsure, please contact your supplier for advice.

### What Tools Will I Need?

The fitting kit includes all parts that are required, as well as an appropriate drill bit. The only tools you will normally require are:

- An electric drill with at least a 10mm chuck capacity
- A 16mm AF spanner or adjustable wrench
- Eye protection – goggles or a visor should be worn
- A pencil or felt pen or similar for marking holes to drill
- Perhaps a small hammer
- Optionally, some threadlock (e.g. *Loctite*)

### How Long Should I Allow to Fit a Shed Shackle?

30 minutes as a guideline. Be careful and don't rush.

Fitting a Shed Shackle is *easy*. These instructions may seem long but they explain even the smallest step, to make it easy for people with little experience.

### What Parts Should be in the Fitting Kit?

The Shed Shackle fitting kit contains:

- M8 x 80mm long coach bolts, fully threaded (qty. 8)  
(longer bolts available as options)
- M8 security shear nuts (qty. 8)
- M8 penny washers (qty. 8)
- Plastic caps to cover the bolt-ends (qty. 8)
- 8.0mm HSS drill bit
- The 2-side Fitting Instructions sheet.

## How to Fit a Shed Shackle

The Shed Shackle is designed to be fitted by a typical DIYer. You should be comfortable using a drill to make holes in wood, but little experience is required beyond that.

**You should read through these instructions in their entirety *before starting to fit a Shed Shackle*.** If you are not confident of your ability, you should ask an experienced person or professional to help.

**The Shed Shackle is normally fitted *internally*, i.e. inside the shed.**

In the following instructions, the term *bicycle* is used to mean any valuable item that you wish to secure with your Shed Shackle.

The following details the typical fitting sequence with the Shackle itself on a vertical member of the shed frame, an extension bar above and another below, and the side brace fitted perpendicularly to the top extension bar. You can modify this if you want to fit the parts in different orientations. Contact your supplier for advice if you are unsure.

**1. Check the contents of the Fitting Kit:** Ensure the fitting kit is complete (the items are listed above). Contact your supplier if there are any parts missing or damaged.

**2. Choosing a good location:** The Shed Shackle is generally fitted to a vertical framing member of a shed. It is supplied with two long extension bars and one short brace. The extension bars are usually fitted vertically, one above and one below the Shackle itself; the short brace is usually fitted perpendicularly to one of the extensions, to resist sideways twisting attacks. All of these should be fitted to structural members of the shed.

If you are able to put part of the assembly next to a window, or between two windows, with the brace going underneath a window, you will make an attack more noisy and therefore much less attractive to a thief. If it's not possible to mount it near a window, you can usually mount it lower down, with the side brace going just above the floor and the Shackle & extension bars all above it.

The Shed Shackle is easy to fit but you should think it through in advance to be sure that you get the best position and therefore the best combination of fixings.

Be careful to choose an appropriate location for fitting your Shed Shackle. It is designed for permanent installation so take time to ensure the chosen position will allow you to secure your bicycle with the chain etc that you have chosen. Putting it at the right height and choosing the location such that the bicycle restricts access to the Shackle can make it a lot harder for a criminal to attack, as can keeping chains and locks off the floor. The fitting kit includes security shear nuts that expose only a smooth conical surface and thereby make an attack difficult.

There are some photographs of Shed Shackle installations with some example configurations of bicycles etc on our web site at [www.SecurityForBikes.com/shed-shackle.php](http://www.SecurityForBikes.com/shed-shackle.php). You may find these help you to choose a good location.



*A good location will allow you to place the side brace close to a window or above the floor. The arrows indicate **alternative positions for the side brace**. We will use the top option in this shed. The Shackle itself will be between the arrows (see next photo)*

We recommend that you hold the Shackle and an extension bar against the wall whilst checking the height and relative position of the bicycle frame. The Shackle must be within range of the chain, ideally when it is wrapped around more than one member of the frame and the wheels as well. Time spent now checking the intended location is much better than realising later that you can't get the bicycle within the range of your chain!

**Remember that the Shackle is only as good as the substrate it is fitted to.**



*Checking height of Shackle with bicycle top tube*

*The following instructions assume you are fitting the Shed Shackle in the typical arrangement, below a window. If you have no suitable window and are using an alternative configuration, please adjust the sequence accordingly or contact your supplier for advice.*

**Note: Do not expect to fit a bolt through every possible hole in the extension bars.** Additional holes are provided to allow a variety of fixing arrangements, but you will typically end up with a total of 3 holes without bolts. All 4 holes in the Shackle itself should be used in all arrangements.

**3. Mark the first hole to drill:** The first hole should be at the intersection between the main vertical framing member chosen and a horizontal framing member. Ideally, the horizontal will be under a window, but it can alternatively be at the top or bottom of the shed wall. The short brace can be fitted to any of the holes in an extension bar *except* for the hole at the end that will link to the Shackle itself.

The first hole will typically be for an extension bar, with the Shackle itself ending up one or more holes below.

*Carefully* mark the first hole to drill using a pencil or felt pen, for example.

**Check carefully that the first hole is centred on the wooden member.**

**4.** Move all items out of the way and then, using eye protection and the supplied 8.0mm HSS drill bit, carefully **drill the first hole**. You may need to remove the drill occasionally to clear wood from the drill bit, especially if the wood is damp. Try to reduce the pressure on the drill when you are about to burst through the far side of the wood, to avoid splitting.

**Do not be surprised if the drill encounters a nail:** The drill bit supplied is suitable for drilling through nails that might be encountered. This is quite likely at the intersection between framing members of the shed.



*Drilling the first hole*

The Shed Shackle will reinforce the wall of the shed so much that it is unlikely that any problems will result from drilling through any nails. Feel free to add more nails or screws to any joints if you are concerned.

**5. Push the first bolt through the wall of the shed:** Go outside the shed and push the first bolt through the wall. It is intended to be a close fit in the hole drilled – ensure the hole is clear of sawdust and tap the bolt with a hammer if necessary. Do not worry that the bolt head does not sit snug against the wall at this stage – the square section under the bolt head will sink into the wood when the nut is tightened later on.



*Push a coach bolt through from outside the shed  
(Note that your bolts may have a coloured coating pre-applied)*

**What if the bolt is too short?** If your timbers are unusually thick, you may find that you need to *counterbore* the hole from the outside of the shed, or to use longer bolts than are supplied in the kit. We can supply longer M8 coach bolts (as can most DIY stores) and you can use these instead, if required.

**6. Fit the extension bar over the first bolt:** Hold the extension bar over the bolt that is now protruding on the inside of the shed.

**Be sure to use the right hole in the bar!** If you are using the standard arrangement as photographed, this is the second hole in the bar, not the first.

**7. Drill the hole at the top of the extension bar:** Use the extension bar to mark the position of the next drill hole, then move items out of the way and drill the hole, checking again that it is centred on the wooden member.



*Marking the top extension hole*



*Drilling the top extension hole*

**8. Push the second bolt through the wall of the shed and re-fit the extension bar.** Alignment errors can be corrected by using the drill to draw the hole a little. This is done by putting sideways pressure on the drill when it is spinning in the hole already drilled. Be careful not to put a lot of pressure on the drill – moving it in and out and taking your time should allow you to elongate the hole in the desired direction without too much difficulty and without risk of breaking the drill bit.

The extension bar should be fitted with the cranked end at the bottom and standing away from the wooden member. The Shackle will fill the gap shortly.

**9. Drill the hole at the bottom of the extension bar:** Use the extension bar again but this time leave it in place as a guide to actually drill the hole, checking again that it is centred on the wooden member.

**10. Push the third bolt through the wall of the shed, through the top hole of the Shackle, and through the extension bar.** The bolt at the bottom of this extension bar goes through the top hole of the Shackle itself. The Shackle goes behind the extension bar, with the cranked bend allowing the rest of the extension bar to sit flat against the woodwork.

There is still no need to fit any nuts – they will all be fitted later.

The photo shows the extension and Shackle loosely in place

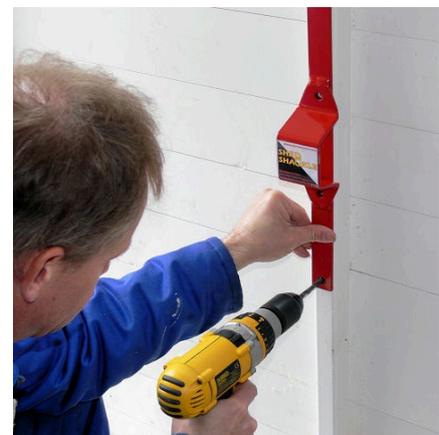


**11. Drill the hole at the bottom of the Shackle:**

Use the Shackle to mark the position of the drill hole at its bottom end, then move it out of the way and drill the hole, checking again that it is centred on the wooden member.

**12. Push the next bolt through the wall of the shed and through the bottom hole of the Shackle.**

This bolt locates the Shackle and its other bolt holes can be drilled similarly, using the Shackle as a guide. All four holes through the Shackle are used to give maximum strength to the centre section.



**13. Push the other bolts through the shed wall and through the remaining holes in the Shackle.** You should now have three bolts supporting the top extension bar, with the lowest also supporting the Shackle, and three more bolts through the Shackle. The Shackle is fixed through all four bolt holes whereas the extension bars typically use 2 bolts (and maybe a third for the side brace such as in the configuration shown here).

No nuts should be fitted yet – be patient 😊 The bolts should protrude far enough to provide sufficient support without needing nuts yet.

**14. Fit the lower extension bar:** Use the lower extension bar as a guide to mark its lowest hole; drill the hole; fit a bolt through the shed wall and through the extension bar. The lower extension bar has the cranked end upwards, so that end sits above the Shackle with the rest of the extension bar sitting against the woodwork.

All bolts should now be in place, loosely, on the main vertical member. There is one more hole to drill, for the last bolt that fixes the side brace.



**15. Fit the side brace:** The last bolt will be fitted on the side brace, usually perpendicularly from the top extension bar. Another option would be with it fitted horizontally just above the floor, bolted to the bottom of the lower extension bar.

You can use the brace as a guide when drilling the hole. Then fit the last bolt through the wall of the shed and through the side brace.

All holes have now been drilled and the Shackle and its extension bars and side brace should all now be in position, albeit loosely.



**16. Optional: Apply Threadlocking Compound to the Bolts:**

This is not essential as the shear nuts provide a good anti-tamper fixing on their own, and there are 8 of them! If you wish to make them harder to remove, you can apply a little threadlock to each bolt. **Note that the threadlock should be applied and all of the nuts tightened within a few minutes. This is easy, but don't have a cup of tea part way through this part of the process!**

With the Shackle and associated bars pushed against the woodwork, apply threadlock to each of the bolts. The bolt heads will pull into the woodwork when the nuts are tightened so threadlock should be applied close to the Shackle metalwork. The equivalent of 1-2 drips is plenty for each bolt.

**Caution:** Threadlock compounds may produce an allergic reaction and can be harmful by inhalation. After contact with skin, wash immediately with plenty of soap and water. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice, showing the threadlock tube.



**17. Fit the penny washers and Security Shear Nuts:**

Fit a washer and then add a shear nut, loosely, on each bolt. The shear nut is fitted with the hexagonal head pointing outwards. Spin the nut onto the bolt thread in each case.



*Fit a washer to each bolt*



*Then fit a shear nut on top of the washer*

**18. Tighten all of the nuts:** Using a 16mm AF spanner/socket or adjustable wrench, tighten each of the nuts until the hexagonal head shears off, leaving just the conical anti-tamper surface.

If the bolt spins, you can use a hammer to tap the bolt head into the woodwork. The square section under the bolt head locates in the wood as the nut is tightened. A gentle tap with a hammer is usually sufficient to stop the bolt from spinning while the nut is tightened.

**Caution:** Be careful that you do not slip or graze your knuckles when the nut head shears off. Reposition the spanner or wrench regularly so that the head shearing off will result in your hand moving away from the other bolts etc.

You may find that the wood is somewhat crushed under the head of each bolt. Do not be too concerned by this as it is all becoming steel-reinforced. You should continue to tighten each nut until the head shears off. However, be wary if the bolt is near a window as you don't want to break the glass! If you find the wood is really too weak and just continues to crush, you can weaken the shear nut by tapping the side of its hexagonal head with a hammer (or nicking under the head with a hacksaw) and then trying again with the spanner. This will usually allow the nut to shear, but if it continues to crush the wood, simply weaken it further with a hacksaw until it can be sheared satisfactorily.



*Tightening shear nuts with a ring spanner...*

**19. Fit the protective caps over the ends of the bolts:** Plastic push-on caps are provided to protect from accidental contact with the exposed bolt ends. One of these caps should be pushed onto the end of each bolt. It is not normally necessary but you may wish to use a hacksaw in advance to trim excess length from the exposed bolt ends if they pose a risk or inconvenience. If you want to make it even more awkward for a thief to undo the nuts, feel free to glue the caps on with a general purpose adhesive!

**20. The installation is complete once the threadlock has hardened (where applicable).** Threadlock continues to harden for 24 hours. The Shackle can be used immediately. Well done 😊

## Using a Shed Shackle

A properly installed Shed Shackle should give you many years of trouble-free service.

Remember that you must use an appropriately fitted Sold Secure-approved lock and chain or U-lock or cable lock to be confident in your security provisions. A chain and lock generally offer better security than a U-lock or a cable lock. Conversely, U-locks and cable locks tend to be more portable and may therefore allow their use when the bicycle is away from home.

There are some photographs of various Shed Shackle installations on our web site at [www.SecurityForBikes.com/shed-shackle.php](http://www.SecurityForBikes.com/shed-shackle.php).

A 1 metre (3 foot) chain or cable is usually sufficient to go through the Shackle and around a single framing member of a bicycle or similar item.

A 2 metre (6 foot) chain or cable can usually be used to go through both wheels and the frame of a single bicycle. If two bicycles can be positioned closely, a similar length can often be used to secure the wheels and frames on both of them.

Some chains may be too bulky to go through the gaps between spokes.

Positioning the bike with the chainset towards the wall may offer improved protection for various components.

Try to keep these items off the ground if possible.

Try to keep the shed door locked closed whenever possible. Use a good quality hasp & staple and padlock on the door. The hasp should be fixed to the shed with at least one coach bolt (or similar anti-tamper fixing), and the same for the staple and again for each side of each of the door hinges. Ordinary screws can be pulled out with a crowbar or even a garden spade. Anti-tamper screws make no difference if the thief simply pulls them out.

No maintenance is required for the Shed Shackle.

## Shed Shackle Fixing Queries

### What if the shed framing members are too thin?

The Shed Shackle is designed to be fitted to sheds made with framing members from 30mm up to 50mm deep, with up to 15mm additional thickness of boarding on the outside of the shed. The bolts are fully threaded so that they can be used on thin frames but these will naturally provide a poorer quality fixing than more substantially-framed structures. You can purchase various sections of timber from DIY stores or timber merchants if you feel that the shed's frame is inadequate for your needs.

If the frame is really unusable, something like the Torc Ground Anchor in a concrete base may offer a superior alternative.

Feel free to contact your supplier for advice.

### What if the bolts distort the boarding on the outside of the shed?

Tightening the nuts will cause the bolt heads to pull into the cladding on the outside of the shed. This is deliberate. Poorer quality boarding may be crushed somewhat before the nuts will shear. If this causes a particular problem, such as if the wood is rotten, you should ideally find more substantial members for fitting the Shed Shackle. If this is impossible, you should purchase additional wood etc to reinforce the mounting area or follow the instructions above for helping the nuts to shear. Remember that any type of anchor is only as good as the substrate to which it is fitted.