

RAW MUDFLAP

Installation Instructions

Thank you for purchasing a RAW mudflap. You and your ride mates will now be staying cleaner in wet or muddy road conditions. RAW mudflaps come in two shapes, which are referred to as "front" and "back". We have found these to be the more optimal shape to use in these positions but there is no reason why these can't be reversed or two front or back flaps used if you prefer.



The rear flap (left) aims to stop the high arc of spray that comes from your back wheel and into the faces of riders behind you. The "back" flap is narrow where it attaches which allows it to bend (or flap) without bending your mudguard too much when you turn your bike up on its back wheel and catch the flap.



The front flap (right) is wider to stop splash coming from your front wheel over a wider horizontal area, protecting your bike's transmission and keeping your feet a bit drier. The wider top takes on the cross sectional curve of the mudguard and has extra rigidity – it's only when you take the front wheel out that it needs to bend and you should be careful how you support your bike in that case.

The best way to install RAW Mudflaps is using the bolts, which will require you to drill holes in your mudguard, unless suitable ones exist. If you don't have any holes in your mudguard and don't want to make any, you can skip to **"Attaching the flap with adhesive pads"**. Whilst the pads are hard-wearing and very water and dirt resistant, you should bear in mind this will probably not be as robust as attaching them with bolts. Also you will need to modify your front flap and it won't be quite as effective.

If you have no holes within 30mm of the end of your mudguard, skip to the **"Making holes in your mudguard"** section over the page.

Please note: **MAKING HOLES IN THE MUDGUARD OR FLAP SHOULD NOT BE ATTEMPTED BY ANYONE UNDER THE AGE OF 18 WITHOUT ADULT SUPERVISION.**

If you do have one or more holes within 30mm of the end your mudguard then you should be able to use them to attach the flap rather than drilling new ones. Continue on to the **"Checking the existing holes"** to see if they are suitable.

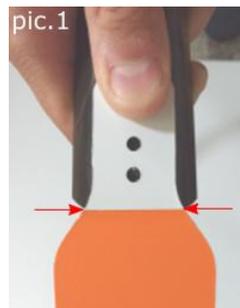
Checking the existing holes

If you do have holes drilled you need to check that they are compatible with the flaps pre-cut holes. Once fitted, the line on the flap or the top edge of the coloured covering should be in line with the end of the mudguard. For the back flap, when fitted at this line the flap has a bit of extra rigidity but at the same time will not overly distort the mudguard if you turn the bike up on its back wheel and force the flap outwards. For the front the line is more for aesthetics.

Hold the flap centred against the outside of the mudguard (see pic.1) so that the end of the coloured covering (or fitting line for plain black or club flaps) lines up with the end of the mudguard. It needs to line up at the edges of the flap rather than in the middle so that the narrow top part of the flap is hidden. The back flap is shown here but the same applies to the front flap.

If your existing holes line up with two of the holes on the flap then you can simply attach the flap using these holes. Skip to the **"Attaching the flap"** section on the other side.

If you only have one hole you may wish to consider drilling another hole. Two nuts and bolts are provided for each flap but they can be attached with one or two bolts. One bolt is normally adequate and when done up sufficiently tightly it will not rotate easily in normal use. Two bolt fitting offers the benefit that your flap will never rotate sideways but if you decide to drill another hole it is critical



you get it in the centre of your mudguard otherwise your flap will not be straight. To make a second hole go to the “**Making holes in your mudguard**” section on the next page and skip through to step 7 to make the second hole.

If you have two holes in the mudguard but can only line up one of them at a time, you could make another hole in the flap as follows:

1. Line up your flap again as in pic.1 but with one of the holes this time on the inside of the mudguard. This is not straightforward if you are fitting the front flap and it may be easier to get someone to help you.
2. Ensuring the flap is straight compared to the mudguard vertically (otherwise the flap will lay to one side), make a pencil mark through the other hole in the mudguard. If it overlaps with another hole in the flap, that doesn't matter, you will just enlarge that hole.
3. Now remove the flap ready to make the hole. The flap is easy to drill. Piercing with a hot skewer is also effective but extreme care must be taken.
4. Put the flap on an old piece of wood or similar surface you don't mind damaging. Drill or pierce a 4-5mm hole in the flap on your pencil mark.

Now proceed to the “**Attaching the flap**” section.

Making holes in your mudguard

If your mudguards have no holes pre-drilled within 3cm of the end of the mudguard you will need to make one or two holes.

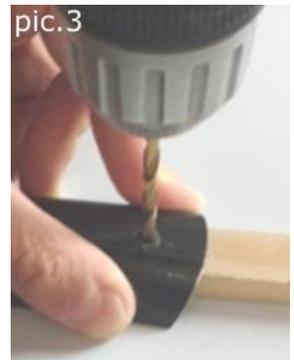
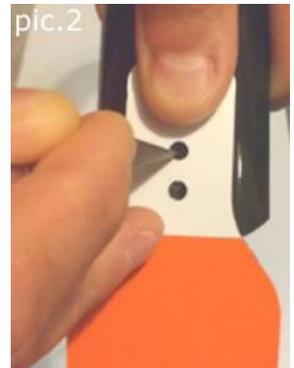
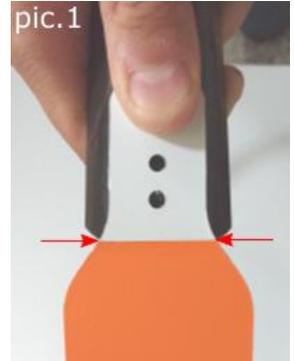
One bolt is normally adequate and when done up sufficiently tightly it will not rotate easily in normal use. Two bolt fitting offers the benefit that your flap will never rotate sideways but it is critical you get the two holes in line otherwise your flap will not be straight.

WHEN DRILLING THE HOLE YOU SHOULD NEVER DRILL THROUGH THE MUDGUARD WITHOUT REMOVING OR PROTECTING THE TYRE.

1. Before beginning choose either to:
 - A. Remove the wheel of the mudguard you are fitting to and support your bike using a work stand.
 - B. Loosen off the mudguard stays and insert an old piece of wood between the tyre and the end of the mudguard.
 - C. Remove the mudguard completely so you can drill into it on a work bench (probably overkill but the most accurate)
2. Select which hole(s) you will use. For one-bolt fixing use the central or bottom hole on the flap and for two-bolt fixing use any two but top and bottom is probably best.
3. Hold the flap centred against the outside of the mudguard (pic.1) so that the end of the coloured covering (or fitting line for plain black or club flaps) lines up with the end of the mudguard. It needs to line up at the edges of the flap rather than in the middle so that the narrow top part of the flap is hidden. The back flap is shown here but the same applies to the front flap.
4. Make a mark on the mudguard with something sharp in the centre of the hole you will use if using one bolt or just one of the two holes if using two bolts (pic.2)
5. Remove the flap and check the mark you have made is in the centre of the mudguard. If not correct with a deeper mark.
6. Drill a 4mm hole centred on your mark (pic.3). Take care as the shiny surface of the mudguard makes the drill slip easily. The mark in the surface of the mudguard should help.

If you are using one bolt move on to the “**Attaching the flap**” section or for two bolts:

7. Place the flap against the mudguard again with your first holes lined up and the flap in line with the mudguard so that the flap is not wonky.
8. Make another mark through the second selected hole in the same way as the first (as in pic.2).
9. Remove the flap and check again the mark you have made is in line vertically with the first.
10. Carefully drill the second 4mm hole centred at your mark.



Attaching the flap

This is easiest attempted with the wheel removed and the bike on a stand. Failing that, loosen off the mudguard stays adjustment so that you have more space between the tyre and the mudguard.

1. Take one or two bolts each with a washer fitted and insert them into your selected hole(s) from the non-logo side of the flap (pic.4 below).

IMPORTANT: Flat head bolts have been selected as they have a low profile and should be easy to remove even when covered in grime. You should always have the bolt head on the inside of the mudguard so that it is less likely things will get lodged against the bolt and so that you can remove the bolt when required.

2. Thread the bolts through the holes in the mudguard (pic.5 below).
3. Attach another washer to each bolt on the outside of the mudguard and then a nyloc nut (pic.6 below).
4. Tighten the nut (which is 7mm) and bolt using a spanner and a flat head screwdriver (pic.7 below). DO NOT OVERTIGHTEN as this could crack your mudguard.
5. **IMPORTANT:** You should now adjust your mudguard stays to maintain the clearance between the bolt head and the tyre following the recommendations of your mudguard manufacturer as things could become lodged between the bolt and the tyre and potentially cause an accident. In the absence of those recommendations, ensure at least a centimetre of clearance.



Attaching the flap with adhesive pads

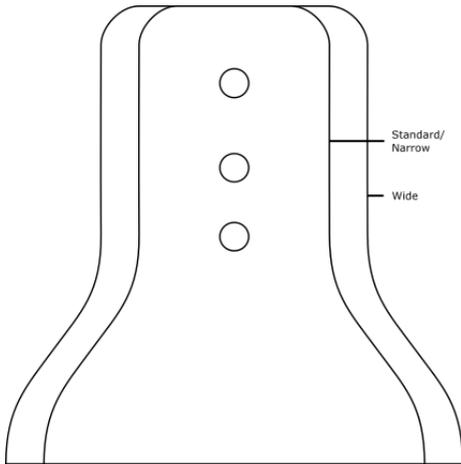
If you are attaching a front flap you need to modify the shape to make the top narrower so that the pad will be effective. Leaving the full width at the top is likely to result in the pad coming unstuck as the bend forced in the flap by the mudguard puts pressure on the adhesion. To modify the shape of the flap:

1. Use the back flap, or, if you didn't buy one, cut out the diagram over the page as a guide. Position it in the centre of the front flap as in pic.8, lining up the holes.
2. Draw around the guide with a pencil from where the back flap shape starts to narrow on each side (pic.9). Smoothly connect up to the edge of the front flap if the pencil line doesn't reach the edges.
3. Carefully, cut out along your pencil line with scissors.

Now to attach the flap using the pad; this is easiest attempted with the wheel removed and the bike on a stand. Failing that, loosen off the mudguard stays adjustment so that you have more space between the tyre and the mudguard:

1. Thoroughly clean the inside of the end of the mudguard where the flap will attach, preferably with something like nail varnish remover.
2. Take the pad and peel off the white side.
3. Attach it to the thin neck of the flap align at the bottom to the pencil line or edge of coloured covering as seen in pic.10 over page.
4. Before sticking, carefully line up the line on the flap with the end of the mudguard and ensure the flap is straight compared to the mudguard when looking from above (you can't adjust it afterwards) and stick the flap to the mudguard.





Care / Usage

Take care when you turn the bike up on its back wheel. The flap can take a fair amount of punishment but repeated bending and scraping on the floor will cause it to snap off. If you have mounted the flap higher than the level recommended above you may also damage your mudguard.

If you have a front flap attached, take care to lay or position your bike carefully when you take the front wheel out. Try to avoid resting it on the flap and the end of mudguard as this will put outwards pressure on the end of the mudguard and will shorten its life.

If you have a coloured flap, the covering is 4 – 7 year outdoor rated vinyl, which should stand up to the worst water, dirt and grime but, if scratched, dirt will collect in those scratches.

Now you have your flaps fitted and are staying cleaner make sure the rest of your group reciprocates!

Please send us your pictures via Instagram or Twitter.

If you have any comments, suggests or ways we can improve please email us: rawmudflaps@gmail.com

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