



## Installation Instructions:

### Thru Axle Fork Mount



Revision: -

Date: 1-12-21

The Unaka Gear Co Team is here to help. If you have issues or questions, please do not hesitate to contact us at [info@unakagearco.com](mailto:info@unakagearco.com).

---

## Contents

1. Overview .....	3
2. Disclaimer.....	3
3. Safety .....	3
4. Required Tools .....	3
5. Thru Axle Fork Mount Parts and Usage .....	3
5.1. Fork Mount Dimensions.....	4
5.2. Fork Mount Spacers .....	4
6. Installation Overview .....	4
6.1. Types of Installation Methods .....	6
6.1.1. Where to Buy Your Hardware .....	6
6.2. Fork Mount Installation on 8020 Extrusion .....	6
6.3. Bolted Connection Fork Mount Installation .....	8
6.4. Screwing Your Fork Mount to a Wooden Base .....	10

## 1. Overview

This set of instructions is a basic guideline on how to mount your Thru Axle Fork Mount. These are only a few suggested ways to install this fork mount. Your specific application may vary so be creative and use these methods as a guideline. If you have questions or issues with our product do not hesitate to contact us at [info@unakagearco.com](mailto:info@unakagearco.com).

## 2. Disclaimer

This installation manual is a general guideline for some suggested installation techniques. It is up to the customer to determine if they feel comfortable with their fork mount installation and whether it is secure enough to hold their bike safely. Each customer's installation requirements, materials, hardware, the type of vehicle, and the types of roads they drive on will vary. Unaka Gear Co. is not responsible for any issues or damaged caused to any customers bikes or vehicle caused by manufacturing issues, improper use, or a customer's installation issue. If you have any questions about our product, your installation, or how to effectively use this product please do not hesitate to contact us at [info@unakagearco.com](mailto:info@unakagearco.com).

## 3. Safety

Working with tools involves inherent risks that could result in injury or in extreme cases death. It is important to know how to perform the task and perform it safely. Always use the correct tools for the job and wear the required personal protective equipment (PPE) necessary for the job. If you are unsure of how to complete a task safely consult a friend or a professional. Below are some suggestions for PPE that will help you stay safe but as individuals may approach the installation differently, they may need to adjust the required PPE accordingly.

Suggested PPE:

- Safety Glasses
- Gloves
- Hearing Protection

## 4. Required Tools

The following tools or a combination of these tools should be used for this installation. Note each installation may vary so only some of these tools may be required for your specific installation.

- Drill / Driver
- Phillips driver bits
- 5/32" Allen Wrench

## 5. Thru Axle Fork Mount Parts and Usage

Each thru axle fork mount comes with the main components shown in

Figure 1. The fork mount without any spacers can be used for 20mm thru axles. The 15mm gray inserts or 12mm white inserts can be snapped into the top and bottom of the fork mount as needed so you can transport any of your bikes.



Figure 1: Thru axle fork mount main component breakdown

### 5.1. Fork Mount Dimensions

The overall dimensions for the thru axle fork mount can be found under our product manuals page or by following this link: [Thru Axle Fork Mount Dimensions](#)

### 5.2. Fork Mount Spacers

The Unaka fork mounts minimizes the mounting height required to secure your bike. This is great especially for van garages or inside of truck camper shells where height is everything. In some cases, our fork mounts are so low that part of your bike may not clear your mounting surface without a spacer. Each fork mount you purchase comes with one 1/4" spacer and one 1/2" spacer which can be combined to make a 3/4" spacer if needed. This manual goes over some suggested hardware lengths based on the spacers you may need to use and the materials you may be installing them to.

## 6. Installation Overview

Every other fork mount on the market has their hardware external to the actual profile of the fork mount which requires more mounting space. A unique feature to the Unaka Thru Axle Fork Mount is that our mounting hardware locations are internal to the footprint and hidden from view. This reduces the required mounting footprint and gives a finished look after your mount has been installed.

To access the hardware mounting location just remove the lower shaft insert by snapping it out. This will reveal 3 locations to install #10 flat head hardware. This can be #10-32 Flat Head Cap Screws or #10 Wood Screws. Figure 2 shows the three mounting hardware locations. These mounting locations are designed so that the tops of your flat head hardware will not interfere with your axle but sit safely under your axle inserts or your 20mm axle which does not use an insert.

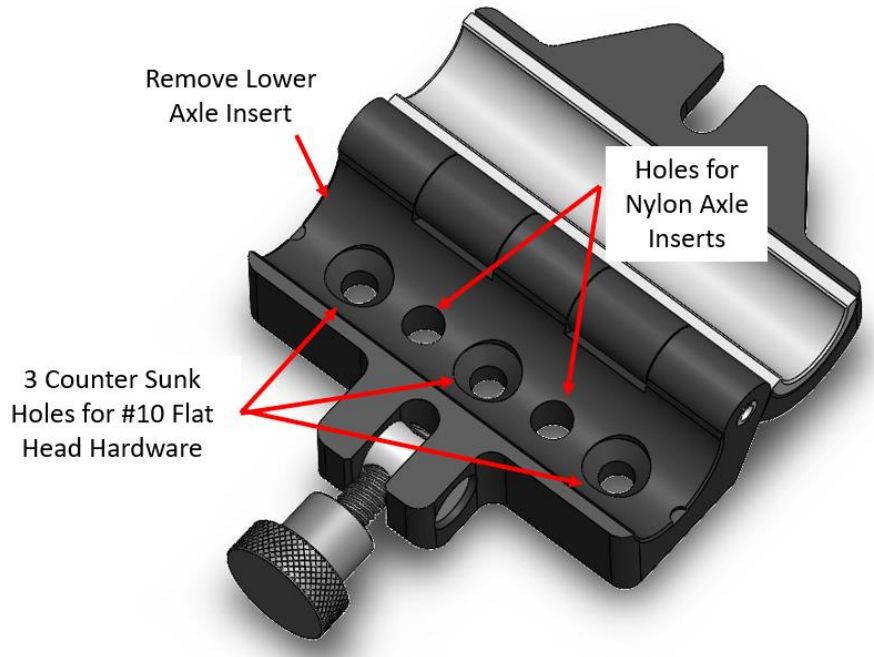


Figure 2: Mounting hardware location

The length of your hardware will vary based on your bike, the sub spacers required, and what material you are mounting your fork mount to.

Figure 3 shows the dimensions required to calculate your mounting hardware length.

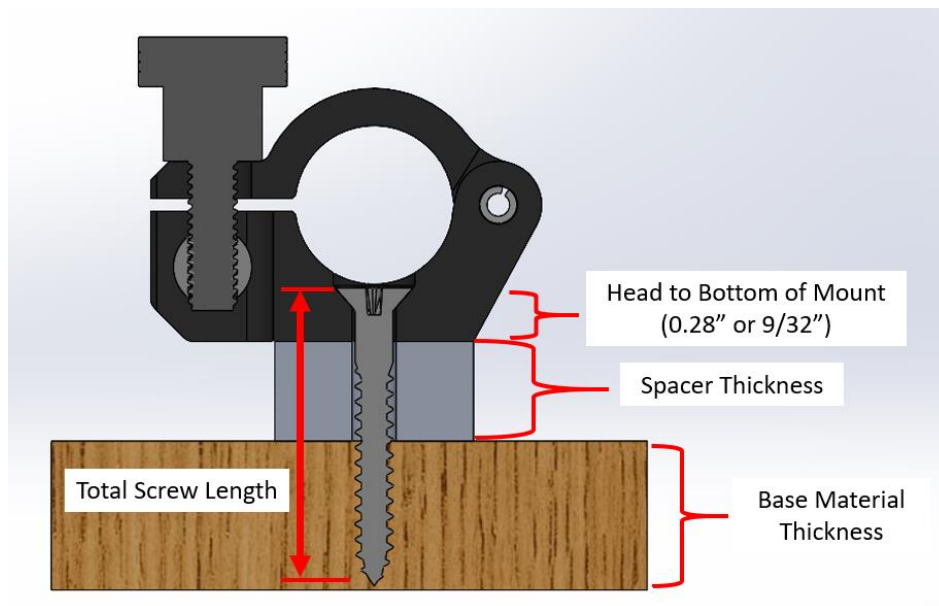


Figure 3: Mounting hardware reference dimensions

The dimensions called out in

Figure 3 are put into Equation 1 which will allow you to calculate the appropriate length hardware. This information is broken down in more detail with a table of specific hardware lengths per installation methods in their respective sub sections later in this manual.

Equation 1: Calculate total screw length

$$\text{Total Screw Length} = \text{Head to Bottom of Mount (0.28" or 9/32")} + \text{Spacer Thickness} + \text{Base Material Thickness}$$

### 6.1. Types of Installation Methods

There are three main methods for installing your fork mount: a bolted connection, installation using wood screws, or using a bolted connection with 8020 to allow for full flexibility of your fork mount,

Figure 4. All these connection types can provide you with a solid installation if done so correctly. These specific installation methods are covered in this manual along with suggested hardware lengths. These are just a few of the popular ways to install your fork mount. Other installation methods and materials can be used so be creative and come up with a solid mounting method for your fork mount.

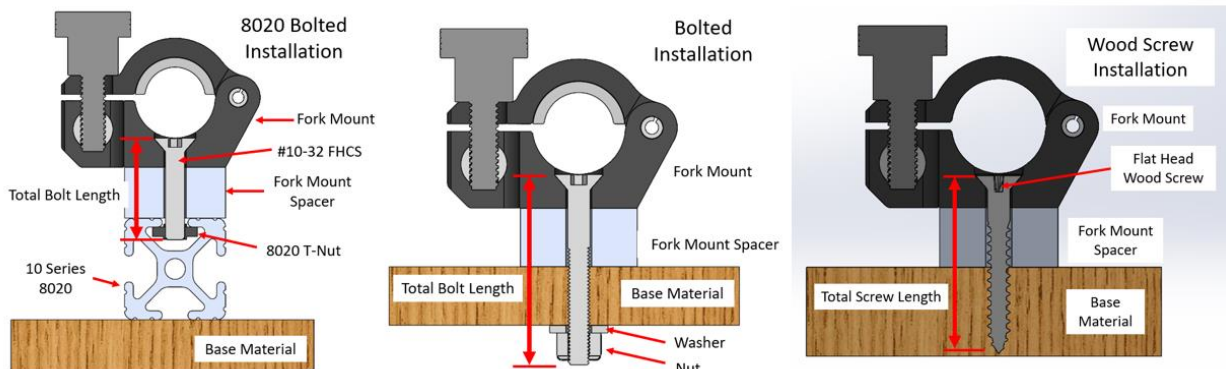


Figure 4: Main fork mount installation methods

#### 6.1.1. Where to Buy Your Hardware

You may be able to find the hardware you need at your local big box hardware store like Lowe's or Home Depot. Some of the smaller stores like Ace or True Value allow you to buy individual pieces of hardware instead of bags which may save you a few dollars. The large and small hardware stores may have limited selections so going to a specialty hardware store or buying your hardware online may allow you to find the specific size you need. McMaster-Carr is a great website to purchase hardware from as they have a large range of sizes available. Check their website out here at <https://www.mcmaster.com/>.

### 6.2. Fork Mount Installation on 8020 Extrusion

A more advance installation option is to install some 10 Series 8020 and bolt your Fork Mount to it. You may want to consider this option if you are installing your fork mount in a gear tray or another



location where you want the flexibility to easily re-position your fork mount side to side for different bikes, Figure 5. This section only covers how to secure your fork mount to your 10 Series 8020 cross bars, it does not go over how to install your 8020 mounting rails or cross bars. The standard 10 Series 8020 is a 1" x 1" aluminum extrusion profile with 4 slots that run the length of it. A half size 10 Series 8020 is available that is 1" wide by ½" tall and only has one slot in it. The half size 8020 can be used when you are really trying to save every bit of that vertical space.

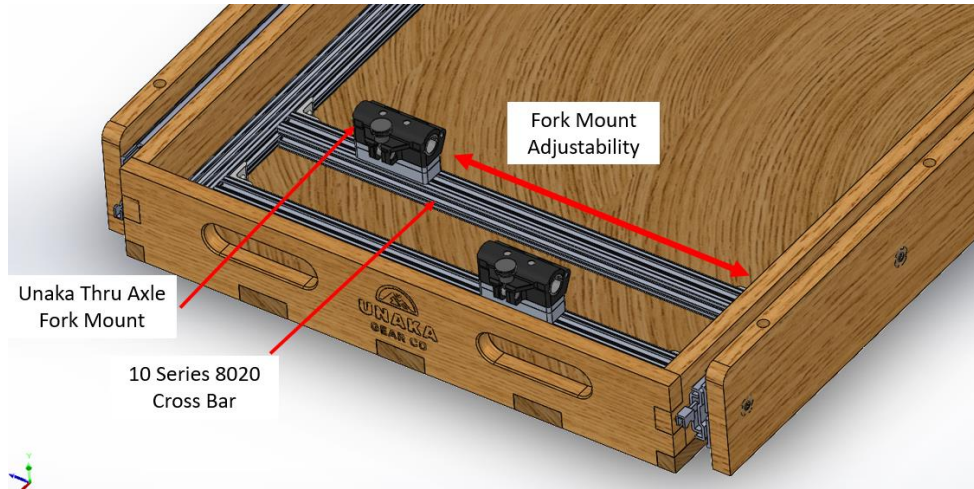


Figure 5: Example gear tray fork mount installation

We fully support our customers building their own gear tray and installing their own 8020 side rails and cross bars but if this is not for you, we got you covered. Check out the following products we offer to help you get your gear tray done faster:

- [Unaka 60" Full Extension Heavy Duty Drawer Slides](#)
- [Unaka Gear Tray Modular Attachment Kit](#)
- [Unaka Gear Tray Cross Bar Kit](#)
- [Unaka Heavy Duty Complete Gear Tray](#)

Figure 6 shows a cross section of a fork mount that is installed on top of 10 Series 8020. This figure shows a spacer that represents a generic thickness ranging from 0.25", 0.5", or ¾" which is achieved by combining the ¼" and ½" spacers.

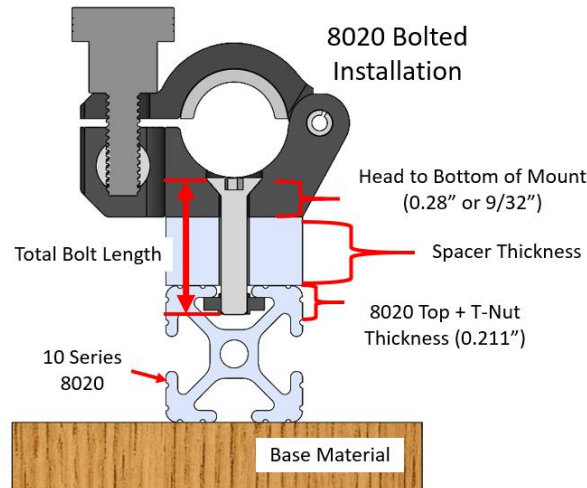


Figure 6: 8020 Fork Mount Installation

Table 1 shows our recommended bolt lengths by spacer thickness. Note these are rounded up to the nearest 1/8" past the minimum required length. With this type of installation there is a maximum allowed bolt length. If the bolt used is too long, it will contact the bottom of the 8020 t-slot and not allow the fork mount to be fully tightened down.

Table 1: 8020 hardware length recommendations

8020 Flat Head Bolt Length (in)			
Spacers Used	#10-32 FHCS Bolt Length (in)	Part # Link	Vendor
No Spacers	0.5	<a href="#">91253A003</a>	McMaster-Carr
1/4" Spacer	0.75	<a href="#">91253A008</a>	McMaster-Carr
1/2" Spacer	1.0	<a href="#">91253A010</a>	McMaster-Carr
3/4" Spacer (1/4" + 1/2" Spacer)	1.25	<a href="#">91253A012</a>	McMaster-Carr
8020 10-32 Economy T-Nut	NA	<a href="#">3276</a>	8020

Example: If you need to use a 1/4" spacer you would need to use #10-32 Flat Head Cap Screws that are 0.75" long.

### 6.3. Bolted Connection Fork Mount Installation

Whether you are securing your fork mount to a sheet metal tray, a wooden base, or to some other material, using a bolted connection will provide a secure method to attach your fork mount. A bolted connection typically consists of a bolts, nuts, and washers. Wood screws can strip out if not installed correctly or if they are repeatedly removed and replaced over time, but a bolted connection will not. A correct bolted connection should provide the same mounting security for many years to come. For this type of installation, we recommend using a flat washer and a locknut. A regular nut can be used but a locknut should minimize the chances that your hardware comes loose over time due to the vibrations a vehicle may experience while driving.



Figure 7 shows a cross section of a fork mount that is installed with a bolted connection. This figure shows a spacer that represents a generic thickness ranging from 0.25", 0.5", or ¾" which is achieved by combining the ¼" and ½" spacers.

NOTE: The washer plus nut thickness may vary based on manufacturer. It is important that your bolt goes through your nut by at least 1.5 threads.

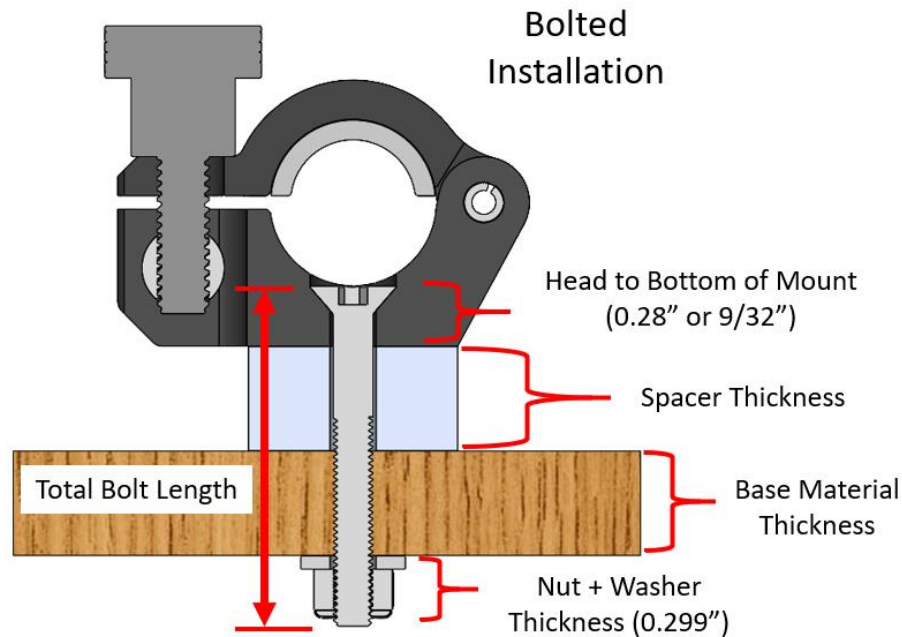


Figure 7: Bolted fork mount installation

Table 2 shows our recommended bolt lengths based on a combination of spacer thickness and mounting material thickness.

NOTE: These lengths are rounded up to the nearest 1/8" past the minimum required length which may not be a standard bolt length. If this bolt length is not available or does not give you at least 1.5 threads past the nut go to the next standard bolt size up.

Table 2: Bolted hardware length recommendations

Mounting Material Thickness	Flat Head Bolt Length (in)			
	0.5	0.625	0.75	1
No Spacers	1.125	1.25	1.375	1.625
1/4" Spacer	1.375	1.5	1.625	1.875
1/2" Spacer	1.625	1.75	1.875	2.125
3/4" Spacer (1/4" + 1/2" Spacer)	1.875	2	2.125	2.375

Example: If you need to use a ¼" spacer and were installing our mount on 0.5" wood, you will need to use #10-32 Flat Head Cap Screws that are 1.375" long or longer. Since a #10-32 x 1.375" Long Flat Head Cap Screw may not be available, you may need to go up to a #10-32 x 1.5" long piece of hardware.

## 6.4. Screwing Your Fork Mount to a Wooden Base

Whether you are screwing our fork mounts directly to your van’s wooden sub floor, a 2x4 in the back of your truck, or your awesome slide out gear tray you may decide that using regular wood screws is the best method for you. The holding strength of your wood screw attachment method will vary based on the type of wood used and the amount of screw engagement. In general, the more screw engagement you have the better. Having only a ½” of screw engagement in a piece of wood (especially plywood) may not give you the solid installation you are expecting. Using hardwood or higher quality plywood and ample wood screw engagement should help ensure a solid installation. Table 3 highlights some of the base material thicknesses you may consider using and some comments based on the type of connection you may want to use.

Table 3: Wood base material thickness

<b>Mounting Material Thickness (inches)</b>	<b>Installation Notes or Comments</b>
1/4"	We do not recommend using 1/4" wood for your base material. Unless properly reinforced, the 1/4" wood would flex in addition to not providing adequate hardware engagement. If 1/4" wood is used, we do not recommend using wood screws but instead use a bolted connection which is less likely to strip out over time.
1/2"	We consider a 1/2" wooden base as our recommended minimum allowable thickness. Your fork mount will be much more secure if you use a bolted connection with this material thickness. If wood screws are used and the installation allows it, try to let your screws go all the way through the base so that you have the full 1/2" of screw engagement in your base.
5/8"	A 5/8" wooden base is better than 1/2" but is still marginal if you don't plan to have your wood screws go all the way through the base. A bolted connection with this material thickness will provide a more stable installation.
3/4"	A 3/4" wooden base starts allowing sufficient wood screw engagement assuming the max length screw is used. A bolted connection is always stronger but with wood screws just long enough where they don't stick out the other side of your base should have adequate holding strength.
1"	Any wooden base 1" thick and over should be fine using wood screws for the installation assuming at least 3/4" of wood screw engagement in your base material.

Figure 8 shows a cross section of a fork mount without any spacers. For this set up the spacer thickness used in Equation 1 would be set to 0”.

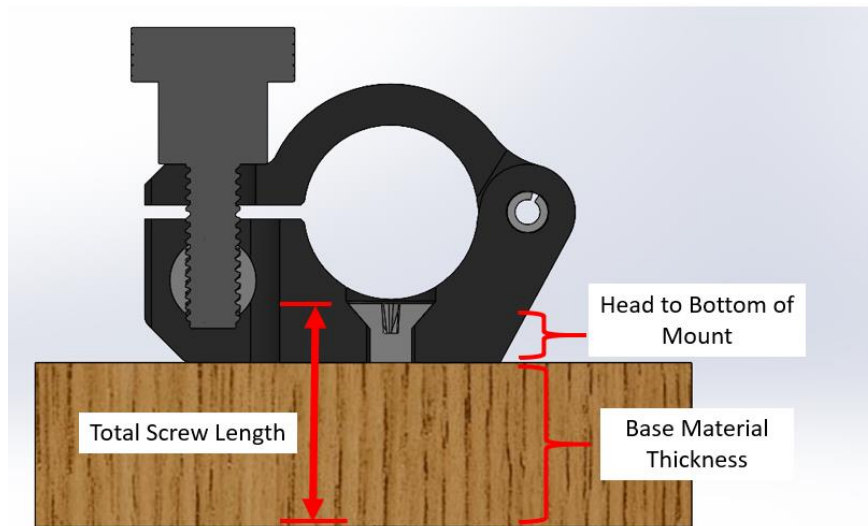


Figure 8: Wood fork mount installation with no spacer

Figure 9 shows a spacer that represents a generic thickness ranging from 0.25", 0.5", or ¾" which is achieved by combining the ¼" and ½" spacers.

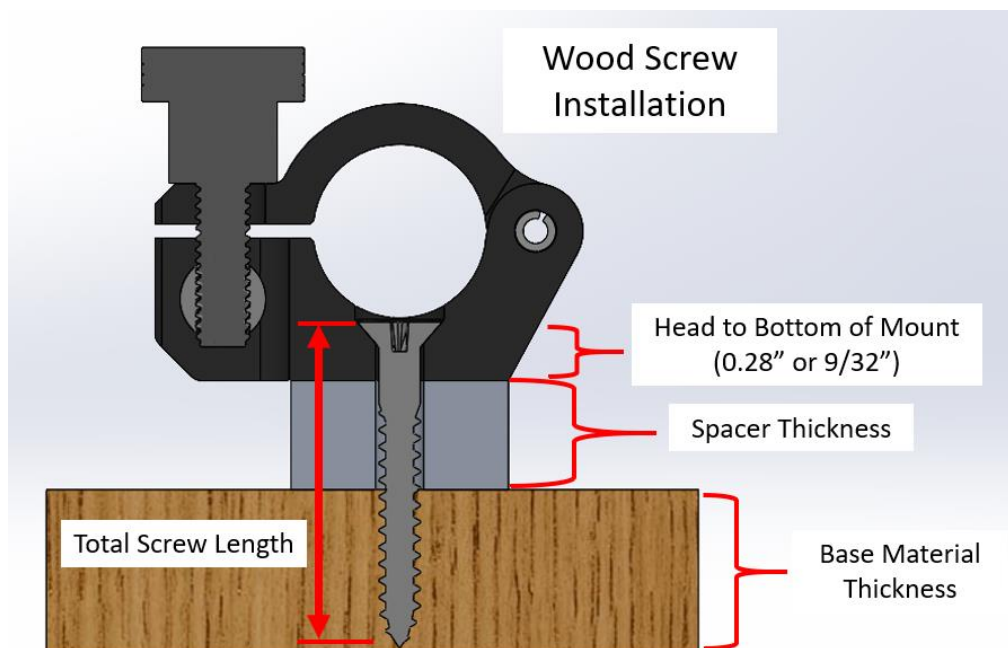


Figure 9: Wood fork mount installation with generic spacer place holder

Table 4 shows our recommended wood screw lengths based on a combination of spacer thickness and mounting material thickness.

NOTE: If you plan to use a 0.5" or 5/8" thick wooden base material, we suggest using longer lengths than the ones shown below so that your screws go all the way through the base to ensure full screw engagement. Even better if your installation allows it to use a bolted connection when possible.

Table 4: Wood installation hardware length recommendations

Mounting Material Thickness	Screw Length (in)			
	0.5	0.625	0.75	1
No Spacers	0.75	0.875	1.000	1.25
1/4" Spacer	1	1.125	1.250	1.5
1/2" Spacer	1.25	1.375	1.5	1.75
3/4" Spacer (1/4" + 1/2" Spacer)	1.5	1.625	1.75	2

Example: If you need to use 1/4" spacer and were installing our mount on 0.75" wood, you need to use #10 Wood screws that are 1.25" long. If your mounting material thickness is greater than 1" thick you can use longer screw lengths listed as that amount of engagement should be sufficient.

**Legal Disclaimer:**

Unaka Gear Co. makes no warranties whatsoever, expressed, or implied, oral, or written to any purchasers, except the limited warranty described on our website. Unaka Gear Co. is hereby specifically excluded from any implied warranty of incidental, secondary, or consequential damages of any kind whatsoever. All purchasers and users of products manufactured by Unaka Gear Co. agree to hold harmless and indemnify Unaka Gear Co from all claims arising from their use. Failure to receive notice of any limitations or the limitations contained in this disclaimer shall not serve to extend liability to Unaka Gear Co. for any claims arising out of use of its products.

