

# hope

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### TECH3 X2 usage chart

DH / FREERIDE	
ENDURO	
ALL MOUNTAIN	
CROSS COUNTRY	
XC RACING	
TRIALS	N/A
ROAD	N/A

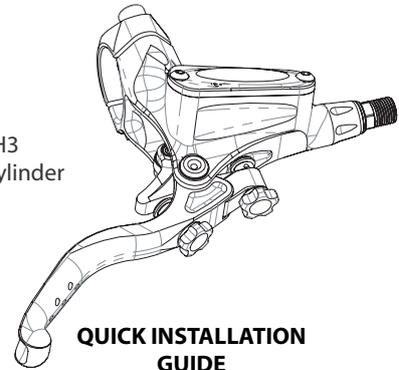
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## TECH3

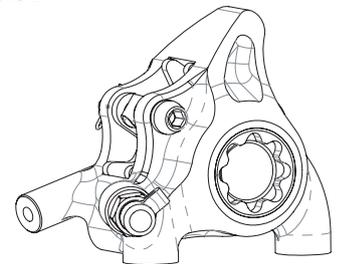
### X2 FLAT MOUNT

HYDRAULIC DISC BRAKE SYSTEM

TECH3  
Master Cylinder



### QUICK INSTALLATION GUIDE



X2 Flat Mount Caliper



### WARNING PLEASE READ FIRST

. Don't overestimate your technical capacities. This brake system must be fitted by a competent cycle mechanic using the correct tools. Incorrect installation could result in brake failure that could cause serious or fatal injuries.

. Please refer to the website videos and technical documents for more information including servicing and maintenance - [www.hopetech.com](http://www.hopetech.com) / Tech support section.

The video logo  indicates you can find some useful tips on the website

. This brake system has been designed to be used only on two-wheel vehicles with human propulsion. Any other application is not advisable and could result in the failure of this product.

. Your brake system will generate heat during braking. Never touch either the disc or caliper after long braking period as this could cause severe burns.

. Before each ride always check the brake for proper function, the brake pad for wear and that there is no system damage resulting in fluid leaks.

. It's common sense to also check that your wheels axles systems are securely installed and tightened.

. Your braking performance will improve in almost all conditions. Please take time to become familiar with your new brake. Always ride within your own ability.

. Brake pad contaminated with brake fluid, chain lubricant or unsuitable bike cleaner will need replacing because the overall brake performance will be greatly diminished.

. If you have any doubts or questions please contact your dealer or the appropriate distributor for your country.

. If you decide to ignore these important safety warnings and instructions, you are doing so at your own risk and Hope Technology cannot be held responsible for any consequences resulting of the misuse of the brake system.

### TOOLS REQUIRED

Once again, don't overestimate your technical skills. If you are not familiar with this sort of installation we advise that this brake system should be fitted by a competent cycle mechanic.

- + Torx T25 driver
- + 5mm Allen key
- + 4mm Allen key
- + 8mm spanner
- + Flat blade screw driver

### INTRODUCTION

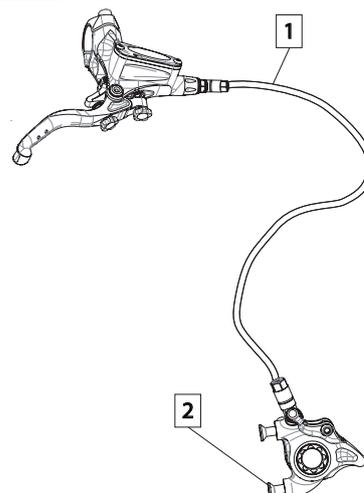
Congratulations, you have just acquired the highly versatile and reliable HOPE hydraulic disc brake system proudly made in our Barnoldswick factory in Great Britain. The TECH3 master cylinder associated with the X2 flat mount caliper will suite any latest frame design.

The new TECH3 master cylinder has been designed to make your riding even more enjoyable. The proven piston and cam cinematic will give a smooth and progressive feel. With the finger reach and bite point adjustments, you can be sure the lever will feel comfortable and suit your riding style. It also features a split clamp for easy fitting, integrated reservoir for easy bleeding and gear shifter direct mounting options.

The one piece caliper is machined from a solid billet of aircraft spec aluminium. The caliper is designed to maximise power and stiffness. As the caliper is FlatMount type, depending on forks, frame and rotor size, an adaptor bracket may be required.

With this particular brake we would recommend the use of  $\varnothing 140\text{mm}$  (rear only) and  $\varnothing 160\text{mm}$  rotors.

### BOX CONTENTS



1. Brake system, fully bled if full brake purchased

2. M5 x 12mm countersink caliper screws

## INSTALLATION STEPS

Please refer to the website videos and technical documents if you require more information about setting up this brake system, servicing and maintenance. [www.hopetech.com](http://www.hopetech.com) / Tech support section



### 1. ATTACHING THE DISC TO THE HUB

With this brake system it is highly recommended that you use only HOPE rotors. Our discs have been especially developed to work in association with our calipers and brake pads.

- Attach the disc rotor to the hub using the bolts provided with your disc.
- Make sure that the laser marked arrow on the disc is pointing in the same direction as the forward wheel rotation.
- Using a Torx 25 driver, tighten the M5 disc bolts in a cross pattern. Recommended tightening torque : 5-6 N.m

Note : A mild engineering adhesive could be used on disc bolts to prevent them unscrewing. Do not use permanent adhesive.

### 2. ATTACHING THE LEVER TO THE BARS

a) Attach the lever assembly to the handlebars. When you are happy with the orientation of the lever, tighten alternately the M5 clamp bolts using a 4mm Allen key. Recommended tightening torque : 4-5 N.m.

b) Route the hose and caliper down to the fork brake mount or along the frame to the rear brake mount.



Avoid situations that could damage the brake hose and/or your bike frame and components

Note: In the first instance it is recommended that you install your brake as supplied without disconnecting and routing the hose through frame guide (if present) or attempting to shorten the hose.

At a later date you can shorten the brake hose if required. For this operation, follow the instructions in the how to videos of our website.

### 3. ATTACHING THE CALIPER TO THE FORK OR FRAME

**This particular HOPE X2 caliper is FlatMount type. You will therefore be very likely to have to use an adaptor bracket to fit it.**

To ensure that the caliper is properly aligned and to help avoid squealing or bad lever feel - prior to fitting the brake, it is important that the tabs of your fork or frame are clear of any paint or burrs.

#### 3.1 MOUNTING THE CALIPER WITHOUT USING ADAPTOR MOUNTS

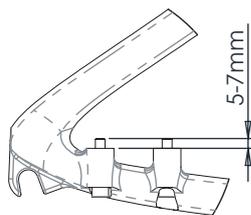
**Important warning :** Full thread engagement is required when installing the caliper. 5 to 7mm of the 2x M5 screw must be engaged in the caliper body. Beware of this type of fitting as tab thickness can vary from one frame to another, see figure below.

Also pay attention not to bottom out the screws in case they are too long, you may need to use washers under the bolt head to achieve correct thread length.

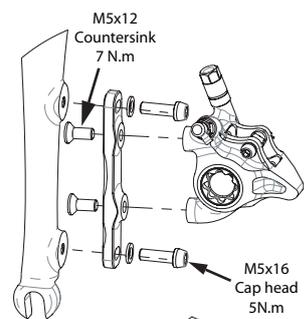
We recommend the use of a mild engineering thread lock on caliper bolts to prevent them unscrewing, do not use permanent thread lock!



Length of thread showing above rear flat mount tabs  
5 to 7mm of thread



#### 3.2 MOUNTING THE CALIPER USING ADAPTOR MOUNTS



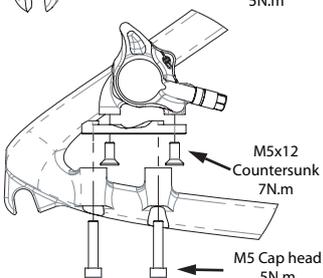
**Important warning :** Full thread engagement is required when installing the caliper. We recommend the use of a mild engineering thread lock on caliper bolts to prevent them unscrewing, do not use permanent thread lock!

##### Front mount :

- If not already fitted, use the provided countersunk M5x12 screw to fasten the caliper to the brake adaptor. Tightening torque: 7 N.m
- Fasten the mount to the forks using the M5x16 cap screws. Tightening torque: 5 N.m

##### Rear mount :

- If not already fitted, use the provided countersunk M5x12 screw to fasten the caliper to the brake adaptor. Tightening torque: 7 N.m
- Fasten the mount to the forks using suitable screws to ensure 5 to 7mm of thread engagement in the caliper mount.

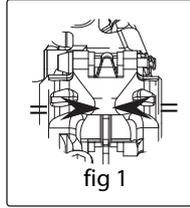


### 4. CENTRALISE THE CALIPER AND PADS OVER THE DISC



a) Before attaching the caliper ensure that the brake pads are fully retracted in the caliper. If not, gently push the piston back using a plastic tyre lever or something similar. Beware not to damage the pads. Take them off if necessary. Push on the left hand side pad backplate to push the right hand side piston and vice versa.

b) There is some side to side adjustment possible for the caliper. At both front and rear of the caliper, adjust its position so it is central over the rotor (see arrows on fig 1) then secure the caliper or mount screws to secure the position.

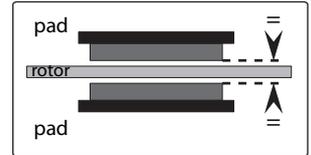


We do not recommend pumping the lever to push pads out to align caliper at this point. See next paragraph regarding the initial setting of pads.

**This step is very important and mustn't be ignored.**

Gently pump the lever in order to bring the pads closer to the disc. One pad might enter in contact with the disc before the other. If this happens, hold the disc against the pad that is already in contact with the disc to allow the other one to move.

For an optimised lever feel, both pads **must** enter in contact with the disc at the same time and allow the same clearance (see arrows) when retracted. The disc should not be flexing at any time.



## PERSONAL SETTINGS

The TECH3 lever allows two types of personal adjustment to fit all preferences.

a) **The Bite Point adjustment :** This will modify the free stroke of the lever blade before the pads enter in contact with the disc. With your fingers, turn the bite point adjuster knob clockwise to reduce the free stroke and anti-clockwise to increase the free stroke.

b) **Finger reach adjustment :** This refers to the position of the lever blade relative to the bars. After adjusting the bite point, you will need to set or re-set your lever reach as it will change when adjusting the BPC.

With your fingers, turn the adjuster screw clockwise to increase the reach and anti-clockwise to reduce it.

Note: You may have to reproduce step a) and b) several times before reaching your optimum setting.

## NOTE ON GEAR SHIFTERS DIRECT MOUNTS

For Shimano shifter users : you will be able to directly mount your I-spec or I-spec B shifter onto the master cylinder using the nut and bolt provided with your shifter.

For SRAM shifter users : you can purchase as an option our SRAM shifter direct mount for TECH3 master cylinder.

## BREAK IN PERIOD AND MAINTENANCE

Before riding and before every ride, check the correct action of the brake and that braking effort is applied as the lever is pulled.

To achieve the maximum braking performance, the new pads will need bedding in. Please note that sintered pads take longer to bed in than organic pads.

To bed in the pads, ride a short distance whilst alternatively gently applying the brake on and off without attempting to stop. This procedure will achieve good braking performance but will reach its full potential after a few rides.

About maintenance tips refers to our "how to" videos on the website.

To optimise the performance of the brake it is important to keep the caliper pistons lubricated using silicon lubricant only. We advice doing this at least at every pad replacement.

For brake bleeds use only dot 5.1 or dot 4 brake fluid from a clean container.

## WARRANTY

All Hope Technology disc brake systems are covered for 2 years from original date of purchase against manufacturer defects in material and workmanship. Proof of purchase is required. Products must be returned to the original place of purchase or to Hope Technology to process any warranty claim.

This warranty does not cover any damage caused through mis-use or failing to comply by the recommendations given in this manual.

This warranty does not affect your statutory rights.