ROADLOK

XRA Installation Manual

Fitting and daily use. XRA-80, XRA-100, XRA-108 and XRA-C100R.

The lock body sits on the front brake caliper and stays on the bike. It is held by the supplied mounting bolts, which are longer than the original caliper bolts and pass through the lock body, the spacers and the caliper into the fork leg. The lock can be fitted with the bike on its side stand on level ground, on a center stand, or on a workshop lift. Fitting at home needs no special stand or lift, and the front wheel does not need to be removed or raised.

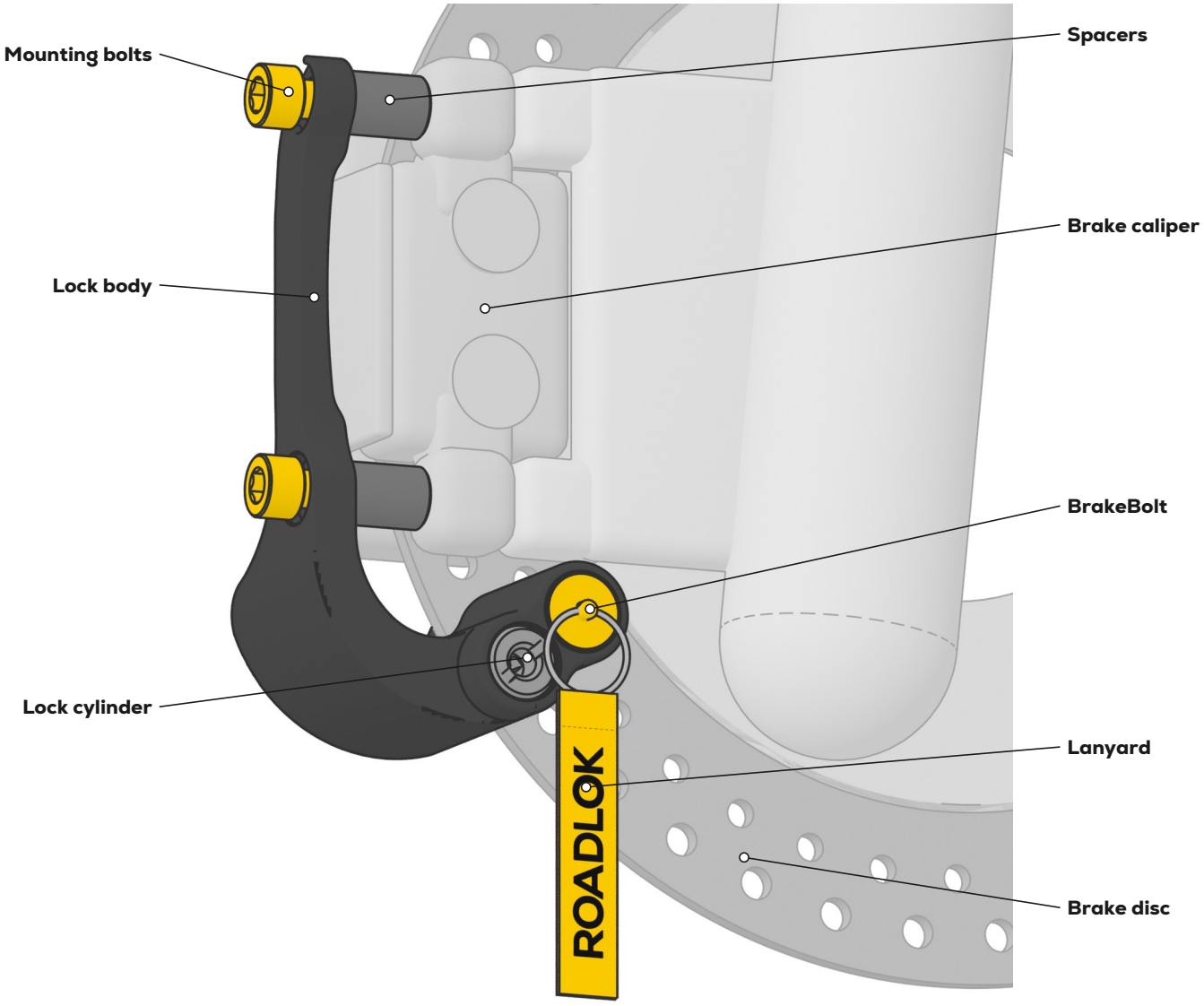


Figure 1. XRA-100R fitted to a radial front brake caliper, locked. The figures show the XRA-100R. The other XRA models differ in shape and fit the same way.

READ FIRST

WARNING

The ROADLOK is installed on your vehicle's braking system and therefore must be installed by a trained technician with a thorough understanding of motorcycle braking systems. Improper installation of the system can severely compromise the safety of your motorcycle. Improper installation can lead to a loss of control or wheel lock up, with subsequent serious accident and injury or even death. If you have any question about the proper installation of your system do not ride your motorcycle. Take it to a local dealership who will have the appropriate tools and equipment to properly and safely install the system.

KEY REGISTRATION

REGISTER YOUR KEYS AFTER FITTING

Replacement keys can only be cut from the key code, and only ROADLOK supplies them. Complete the installation first to confirm the fit, then register at **roadlok.com/registration**.

Before fitting, write down the key code and the serial number.

Key code	On the metal tag supplied with the keys.
Serial number	Under the QR code on the lock body, or on a small white label on the inside bridge of the lock body.

SCAN TO REGISTER

REFERENCE DOCUMENTS

ALL ROADLOK DOCUMENTS

The latest version of this manual, and the reference documents for spacers, bolts, caliper type, the BrakeBolt and the lock cylinder.

SCAN FOR ROADLOK.COM/ DOCUMENTATION

FITMENT

CHECK YOUR FIT

Check which XRA fits your bike by make, model and year. If your bike is not listed, three questions about the brake caliper give the answer.

SCAN FOR ROADLOK.COM/ FITMENT

IN THE BOX

Part	Qty	Notes
Lock body with lock cylinder	1	Fits one front caliper. See the model name note below.
BrakeBolt™	1	Spring-loaded locking pin. Supplied locked in the lock body. When you park, you insert it into the lock body and it passes through a hole in the brake disc.
Keys	2	Supplied with the metal key code tag.
Dust plug	1	Fills the BrakeBolt chamber in the lock body while riding.
Rubber lock cylinder cap	1	Loops over the head of the dust plug and covers the keyhole while riding.
Lanyard	1	For carrying the BrakeBolt.
Mounting bolts, spacers and shims	Set	Matched to your lock model and bike. See the table below.

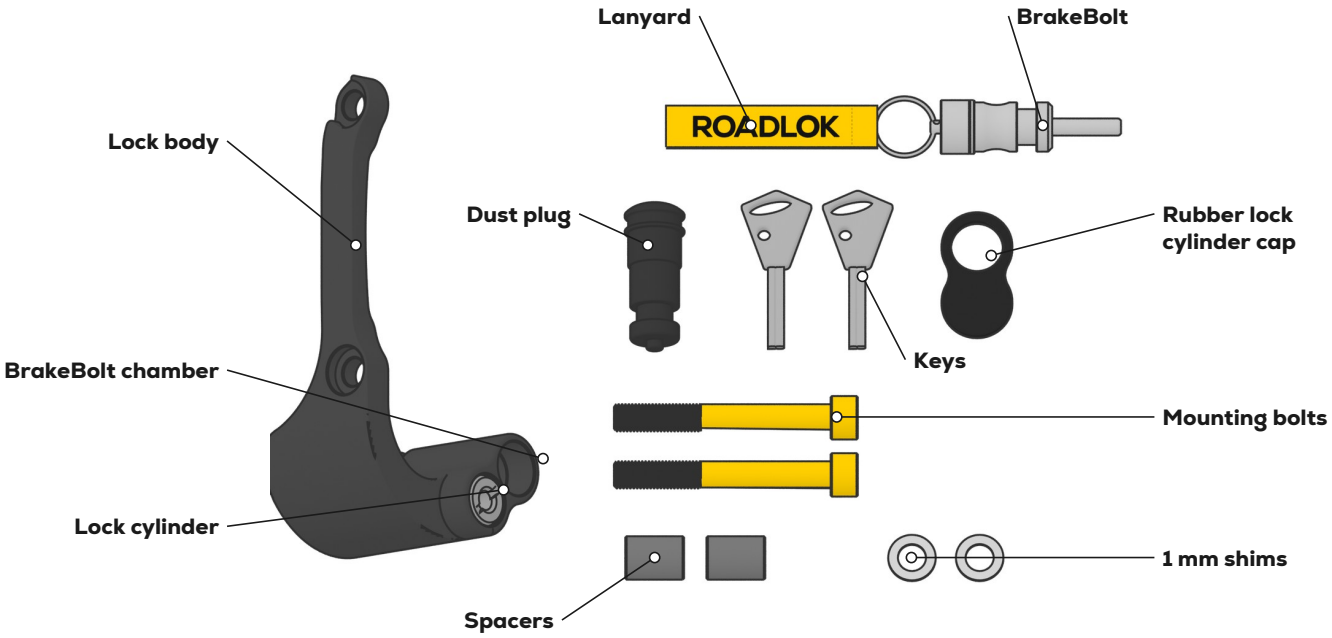


Figure 2. The parts in the box. One pair of mounting bolts and one pair of spacers shown.

The letter at the end of the model name gives the side: R for the right-hand front caliper and L for the left-hand front caliper, as seen sitting on the bike. The number in the model name is the distance between the centers of the two caliper bolts in millimeters (80, 100 or 108). It is not a bolt length.

IN THE BOX (CONTINUED)

Lock	Mounting bolts	Spacers (one pair of each)
XRA-100 and XRA-108, standard	2 x M10 x 1.25 x 80 mm 2 x M10 x 1.25 x 90 mm 2 x 5 mm shims	A, B, C, D, E, G, J
XRA-100, BMW and Harley-Davidson	2 x M10 x 1.5 x 90 mm 2 x 5 mm shims	B, C, E, K
XRA-C100R (Honda)	2 x M10 x 1.25 x 80 mm 2 x M10 x 1.25 x 90 mm 2 x 5 mm shims	H, J, K
XRA-80	2 x M8 x 1.0 x 80 mm (M8 x 1.25 x 80 mm for BMW) 2 x 5 mm shims	15.0, 16.5 and 18.0 mm (not lettered)

Every kit also contains one pair of 1 mm stainless steel shims. M10 x 1.25 x 80 mm means a bolt 10 mm in diameter, with a thread pitch of 1.25 mm, 80 mm long. Thread pitch is the distance from one thread to the next.

Each lettered spacer is stamped with its letter. From shortest to longest, the lettered spacers run A, B, C, D, E, G, J, K, H. Spacer lengths are listed in the **XRA Spacer Reference**. All ROADLOK documents are at roadlok.com/documentation.

TOOLS

Fitting needs a tool for the original caliper bolts, a hex key or hex bit socket that fits the supplied mounting bolts, a torque wrench, a medium-strength threadlocker such as Loctite 243, and a steel ruler marked in millimeters. A digital measuring gauge is needed only to identify a spacer with no readable stamp. Have the motorcycle manufacturer's torque figure for the front caliper mounting bolts ready. It is in the owner's manual or the workshop manual.

FITTING

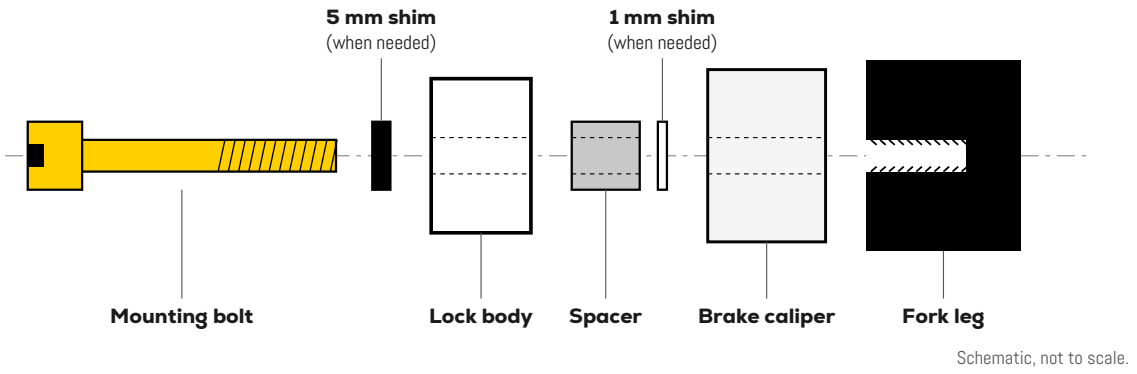


Figure 3. The order of parts at each mounting bolt.

1 Measure the original caliper bolt

The caliper bolts are the two bolts that hold the front brake caliper to the fork leg. On the front caliper that your lock fits (right for an R model, left for an L model), unscrew the upper caliper bolt until its threads are clear of the fork leg, but leave it in the caliper. Rest the tip of the bolt in the mouth of the threaded hole without turning it. Measure from the underside of the bolt head to the face of the caliper that the head sits against. This is measurement 1 (Figure 4).

Write down measurement 1 and keep it. It is needed again whenever the spacers are changed.

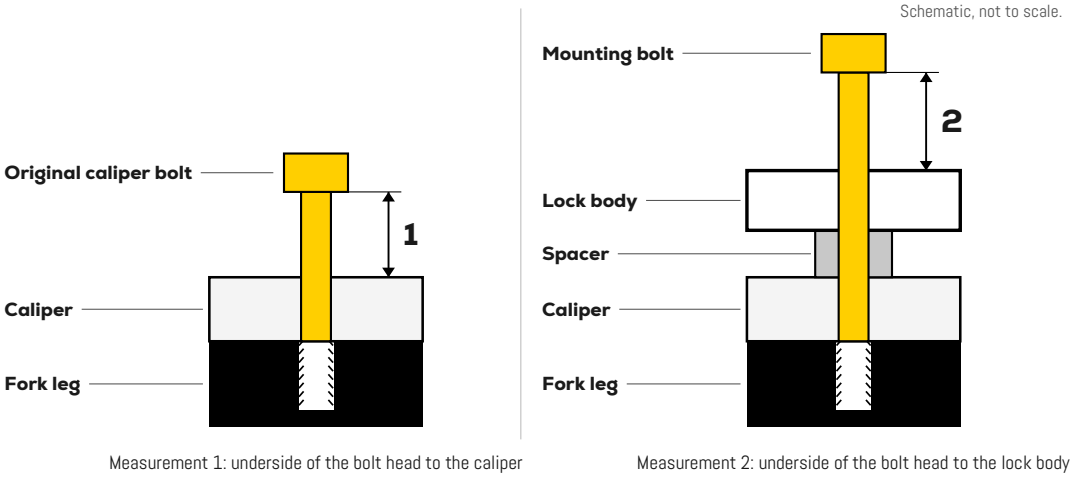


Figure 4. Thread depth. Rest each bolt tip in the mouth of the threaded hole without screwing it in. Measurement 2 must be equal to or greater than measurement 1. If it is less with the longest bolts in the kit, the setup needs approval from ROADLOK support (Fitting Step 5).

2 Confirm the mounting bolt thread pitch matches the original bolts

Remove both caliper bolts and keep them. Lay one of the supplied mounting bolts beside an original caliper bolt, parallel, with the threads touching, in good light. When the thread pitch matches, the ridges of the two threads line up along the whole length of the shorter thread. If the ridges drift out of line, do not fit the mounting bolts. Email support@roadlok.com with your bike's make, model and year and your lock model.

Use only the mounting bolts supplied for your bike. On the XRA-100, BMW and Harley-Davidson forks take M10 x 1.5 bolts and all other makes take M10 x 1.25 bolts. The XRA-108 and XRA-C100R take M10 x 1.25 bolts. The XRA-80 uses M8 bolts: M8 x 1.25 for BMW and M8 x 1.0 for every other make. If your kit has 80 mm and 90 mm bolts, start with the 80 mm pair.

WARNING

A bolt with the wrong thread pitch strips the threads in the fork leg, and a fork leg with stripped threads cannot hold the brake caliper. The result can be loss of front braking, serious injury or death. Do not fit the original caliper bolts through the lock body, and do not use bolts from any other source.

If the lock has been on a different bike, read **Mounting Bolts: Thread Pitch, Thread Depth and Torque** before fitting.

3 Fit the lock body

The lock is supplied with the BrakeBolt locked in the lock body. Before fitting, insert the key fully, turn it fully clockwise, and take the BrakeBolt out of the BrakeBolt chamber.

Spacers create clearance between the lock body and the brake caliper, and line up the BrakeBolt with a hole in the brake disc. If the product page or ROADLOK support suggests a spacer for your bike, start with that spacer. Otherwise start with the shortest spacer in your kit. If the lock body itself touches the caliper once both bolts are hand-tight, move up to the next longer spacer. If the suggested spacer does not pass the test in Fitting Step 4, go back to the shortest spacer and work up.

ROADLOK's fitment list is based on the original brake discs. Aftermarket discs can place the holes differently. With an aftermarket disc, find the spacer by testing in Fitting Step 4.

NOTICE

Do not grind, file or otherwise modify the lock body, the spacers, the bolts or the caliper.

Hold the lock body with its keyhole facing out from the side of the bike and the BrakeBolt chamber over the brake disc (Figure 5). Place one spacer at each bolt position, between the lock body and the caliper (Figure 3). Pass a mounting bolt through the lock body, the spacer and the caliper at each position, and hand-tighten both bolts into the fork leg. Do not torque the bolts yet.

CAUTION

Hand-tighten the bolts only while testing spacers. Torquing and removing the bolts repeatedly wears the threads in the fork leg.

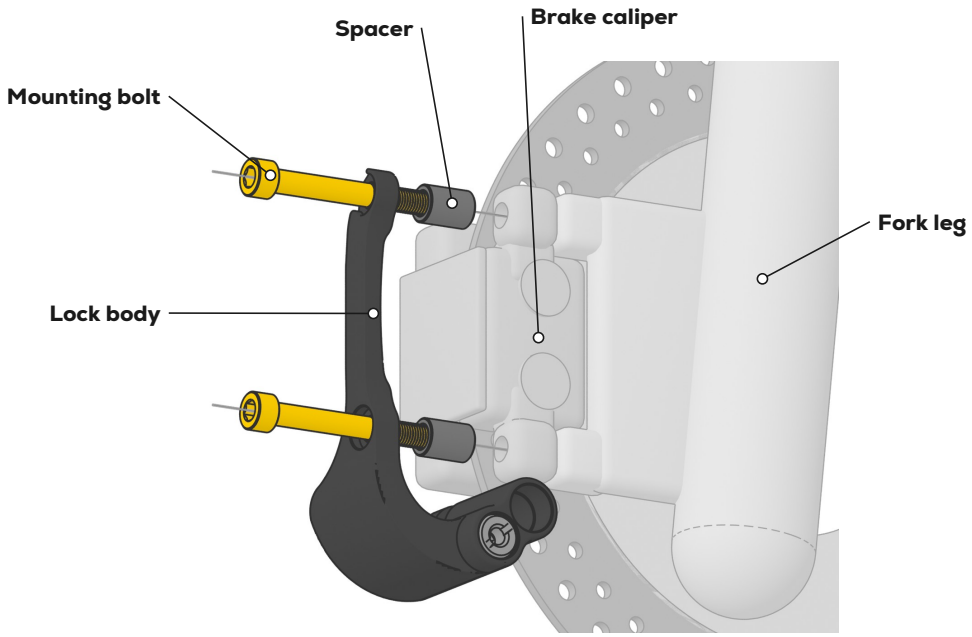


Figure 5. Fitting the lock body. Shims not shown.

4 Test the spacer with the BrakeBolt

1. With the key turned fully clockwise, push the BrakeBolt fully into the lock body and hold it there.
2. Turn the key fully counterclockwise and remove it.
3. Roll the bike forward or backward until the BrakeBolt clicks into place through a hole in the brake disc. On a center stand or workshop lift, rotate the front wheel forward or backward by hand instead. The tip of the BrakeBolt rests on the face of the brake disc until a hole lines up with it, normally within a few centimeters of rolling.

Result	Action
The BrakeBolt clicks through a hole and the front wheel is locked (Figure 6, A).	The spacer is correct. Insert the key, turn it fully clockwise and remove the BrakeBolt. Go on to the thread depth check.
The BrakeBolt does not click through a hole within a quarter turn of the front wheel, rolling forward or backward (Figure 6, C).	Insert the key, turn it fully clockwise and remove the BrakeBolt. Remove the bolts, fit the next longer spacer and test again.
No spacer passes, but with one spacer the BrakeBolt catches the edge of a hole, or, looking through the empty BrakeBolt chamber with a disc hole lined up, a thin crescent of disc shows on the side toward the center of the wheel (Figure 6, B).	Insert the key, turn it fully clockwise and remove the BrakeBolt. Refit that spacer with a 1 mm shim between the spacer and the caliper on each bolt, and test again.
No spacer in the kit, with or without the 1 mm shims, lets the BrakeBolt pass through a hole.	Email support@roadlok.com with your bike's make, model and year, the lock model, the spacers you tried and a photo of the lock on the caliper.

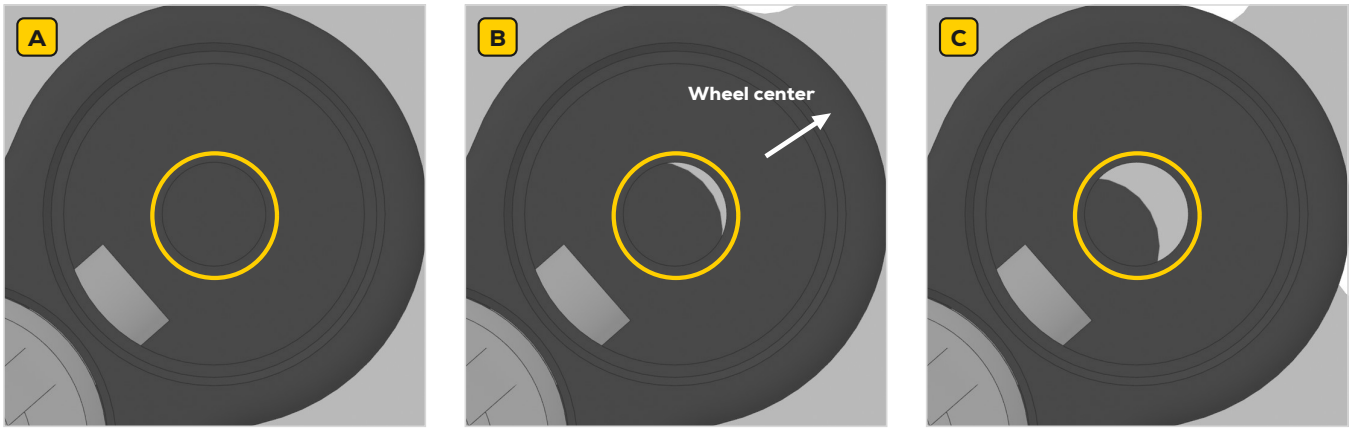


Figure 6. Looking through the empty BrakeBolt chamber with a disc hole rolled into line. The yellow ring marks the pin hole at the end of the chamber. In A the disc hole is lined up. In B a thin crescent of disc shows on the side toward the center of the wheel, and the 1 mm shims are the fix. In C the view is mostly disc, and the next spacer is the fix.

On some bikes more than one spacer works. Any spacer that clears the caliper and lets the BrakeBolt pass through a hole is correct.

5 Check the thread depth

Leave the chosen spacers in place with the lower bolt hand-tight. Unscrew the upper bolt until its threads are clear of the fork leg, and rest its tip in the mouth of the threaded hole without turning it. Measure from the underside of the bolt head to the lock body. If a 5 mm shim is fitted under the head, measure from the underside of the bolt head to the face of the shim. This is measurement 2 (Figure 4). Hand-tighten the upper bolt again, then measure the lower bolt the same way. Compare both with measurement 1.

Hand-tighten both bolts until their heads sit against the lock body, or against the 5 mm shim if one is fitted.

Result	Action
Measurement 2 is equal to or greater than measurement 1 on both bolts, and both bolt heads sit tight.	Thread depth is correct. Go on to threadlocker and torque.
Measurement 2 is less than measurement 1 on either bolt.	Fit the longest bolts in the kit and measure again. If measurement 2 is still less with the longest bolts, do not torque the bolts. Email support@roadlok.com with both measurements and your bike's make, model and year. Continue only if support approves the setup for your bike.
A bolt stops turning while there is still a gap under its head, or while the lock body can still move.	The bolt has reached the bottom of the threaded hole in the fork leg. Fit a 5 mm shim under the bolt head, or use a shorter bolt, and measure again.

WARNING

A bolt that reaches the bottom of its threaded hole can reach full torque while the lock body and caliper are still loose. A loose front caliper can cause total loss of front braking, serious injury or death. Do not torque the bolts until the thread depth check passes on both bolts or ROADLOK support has approved the setup for your bike.

6 Apply threadlocker and torque the bolts

Remove the upper mounting bolt, keeping its spacer, and its 1 mm shim if one is fitted, in place between the lock body and the caliper. Apply a medium-strength threadlocker such as Loctite 243 to the bolt threads and refit the bolt through the lock body, spacer and caliper, with its 5 mm shim if one is fitted. Repeat with the lower bolt.

Torque both mounting bolts to the motorcycle manufacturer's figure for the front caliper mounting bolts. As a guide, most figures fall between 25 and 40 N·m (about 18 to 30 ft-lb), and most BMW models specify 38 N·m (about 28 ft-lb). Always confirm the figure for your bike in its owner's manual or workshop manual.

WARNING

Use a calibrated torque wrench set to the manufacturer's figure. A bolt that is under- or over-tightened can let the caliper move or cause the bolt to fail, resulting in loss of front braking, serious injury or death.

After torquing, confirm by hand that the lock body does not move.

7 Before riding, fit the dust plug

When riding, the BrakeBolt is removed from the lock completely and stored separately. Insert the key and turn it fully clockwise. Push the dust plug fully into the BrakeBolt chamber, turn the key fully counterclockwise to secure it, and remove the key. Fit the rubber lock cylinder cap over the keyhole.

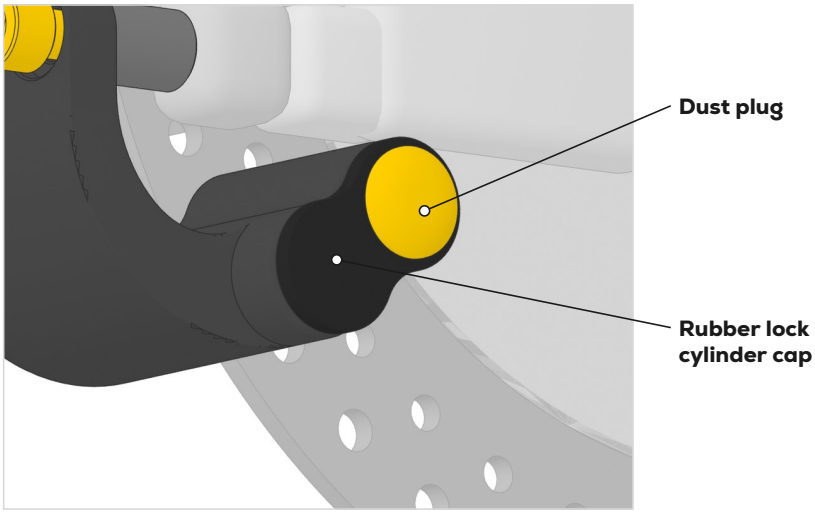


Figure 7. Ready to ride, with the dust plug in the BrakeBolt chamber and the rubber lock cylinder cap over the keyhole.

Before riding, roll the bike forward and backward and check that the front wheel turns freely. On a center stand or workshop lift, rotate the front wheel by hand.

Keep the original caliper bolts, the unused spacers, shims and bolts, and your note of measurement 1.

FITTING COMPLETE

REGISTER YOUR KEYS NOW

Register at **roadlok.com/registration**. In the bolts and spacers field, enter the spacer letter, the bolt length and any shims you fitted.

SCAN TO REGISTER

DAILY USE

Locking the bike when parked

1. Remove the rubber lock cylinder cap.
2. Insert the key fully, then turn it fully clockwise.
3. Remove the dust plug.
4. Push the BrakeBolt fully into the lock body and hold it there.
5. Turn the key fully counterclockwise and remove it.
6. Roll the bike forward or backward until the BrakeBolt clicks into place through a hole in the brake disc. The front wheel is now locked.

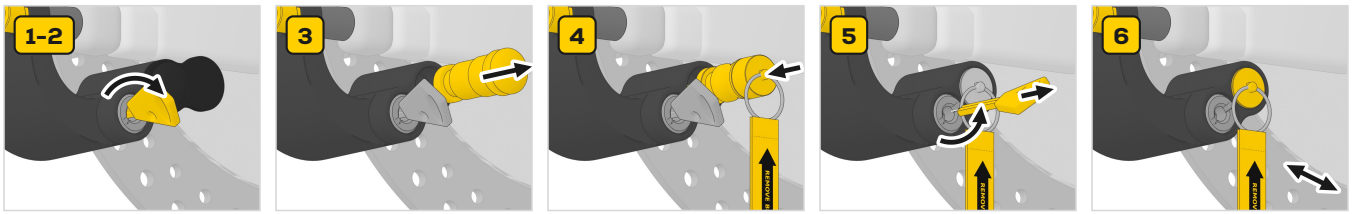


Figure 8. Locking the bike. The panel numbers match the steps.

The bike is locked only when the BrakeBolt is in the lock body, the key has been turned fully counterclockwise and removed, and the BrakeBolt has clicked into place through the brake disc (Figure 9).

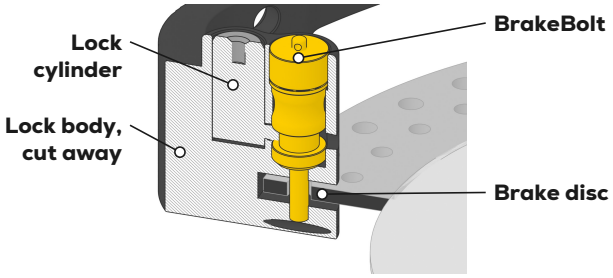


Figure 9. The BrakeBolt through a hole in the brake disc, with the lock body cut away.

Unlocking the bike before riding

1. Insert the key fully, then turn it fully clockwise.
2. Pull the BrakeBolt out. If it will not come out, see Troubleshooting below.
3. Push the dust plug fully into the BrakeBolt chamber.
4. Turn the key fully counterclockwise to secure the plug, and remove the key.
5. Fit the rubber lock cylinder cap over the keyhole.

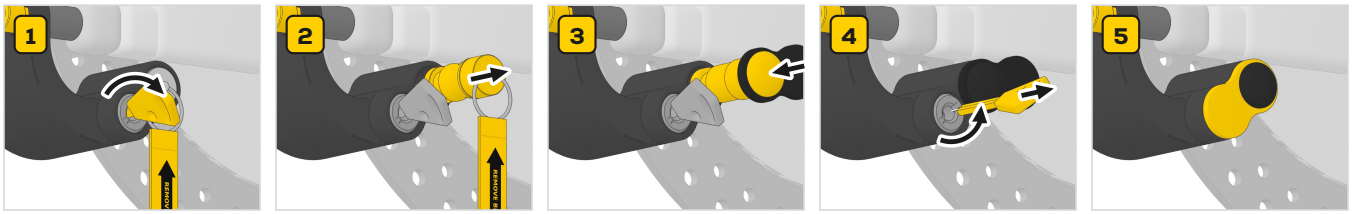


Figure 10. Unlocking the bike. The panel numbers match the steps.

Ride with the dust plug in the BrakeBolt chamber and the rubber lock cylinder cap fitted. Carry the BrakeBolt on the lanyard, a keyring or in a pocket. Never ride with the BrakeBolt in the lock body. On a slope, leave the transmission in gear.

TROUBLESHOOTING

Problem	Action
The BrakeBolt will not go into the lock body.	Insert the key fully before turning it, then turn it fully clockwise to the stop. Rinse any grit out of the BrakeBolt chamber with fresh water. If the key will not reach the stop, see **Lock Cylinder: Care, Troubleshooting and Replacement**.
The BrakeBolt does not click through a hole when the bike is rolled.	Rinse any dirt out of the disc holes and roll the bike slowly forward or backward again. If the BrakeBolt still does not pass through a hole within a quarter turn of the front wheel, remove both mounting bolts, clean the old threadlocker off their threads, and repeat Fitting Steps 3 to 7.
The BrakeBolt will not come out.	Keep the key turned fully clockwise, press upward on the handlebar on the same side of the bike as the lock, or push the front wheel or the fork leg gently against the direction the bike is trying to roll, and pull the BrakeBolt at the same time. If the bike is on its side stand, also turn the front wheel straight ahead with that handlebar. If it is still held, rock the bike back and forth slightly while pulling. More detail is in **BrakeBolt Pin Troubleshooting**.
The key will not go in fully, or will not turn.	Do not force the key. See **Lock Cylinder: Care, Troubleshooting and Replacement**.
The BrakeBolt is lost.	The BrakeBolt is the same for every XRA lock. Replacements are sold as the Replacement BrakeBolt in the ROADLOK store.
The keys are lost.	Replacement keys are cut to your key code and supplied only by ROADLOK, two keys per order. Order them from the ROADLOK store using your key code, and allow 2 to 3 weeks for delivery. If you do not have the key code, email support@roadlok.com. Support can find the code if it was registered.

CARE

Rinse the lock cylinder with fresh water and dry it with compressed air every 2 to 3 months. After cleaning, puff a dry lubricant such as graphite into the keyhole. Do not use oil, spray lubricants such as WD-40, or white lithium grease for routine care. In harsher climates or riding conditions, such as salted roads or a bike kept outdoors, clean and lubricate the lock cylinder more often. If the bike is stored for a long period, especially outdoors or uncovered, do not leave the lock unused. Turn the key and operate the lock, and clean and lubricate the lock cylinder, at regular intervals during storage.

To move the lock to a different bike, read **Mounting Bolts: Thread Pitch, Thread Depth and Torque** first.

DOCUMENTS AND SUPPORT

Reference documents for spacers, bolts, caliper type, the BrakeBolt and the lock cylinder are at roadlok.com/documentation. For help with fitting, email support@roadlok.com with your bike's make, model and year and your lock model.

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