

# 02

## BRAKE SERVICE

---

Front Brake	Front Brake Information	2
	Checking Front Brake	3
	Changing Front Brake Pads	4
	Checking the Brake Fluid Reservoir	7
Rear Brake	Rear Brake Information	8
	Checking the Rear Brake	9
	Adjusting Rear Brake Performance	9
	Changing the Rear Brake Caliper	10

## FRONT BRAKE

Most of the braking power comes from the front braking, so it is critical to ensure that the front brake system is properly cared for. Hydraulic brakes use fluid to operate the caliper piston to press the pads to the brake disc. The brake fluid level and quality must be checked and changed according to the Recommended Maintenance Schedule.

### Recommended Maintenance Schedule

ITEM	MAINTENANCE	MILEAGE PERFORMED
Front Brake Rotor Disc	Replace if the rotor disc is 0.14" or 3.5 mm thick or less. If warped and/or cracked, replace immediately.	
Front Brake Pads	Replace if either pad's thickness is 0.03" (0.8 mm) or less. If the pads are worn unevenly, replace the set.	
Front Brake Fluid Change	Replace and bleed the brakes if the fluid is low or every XXX miles	

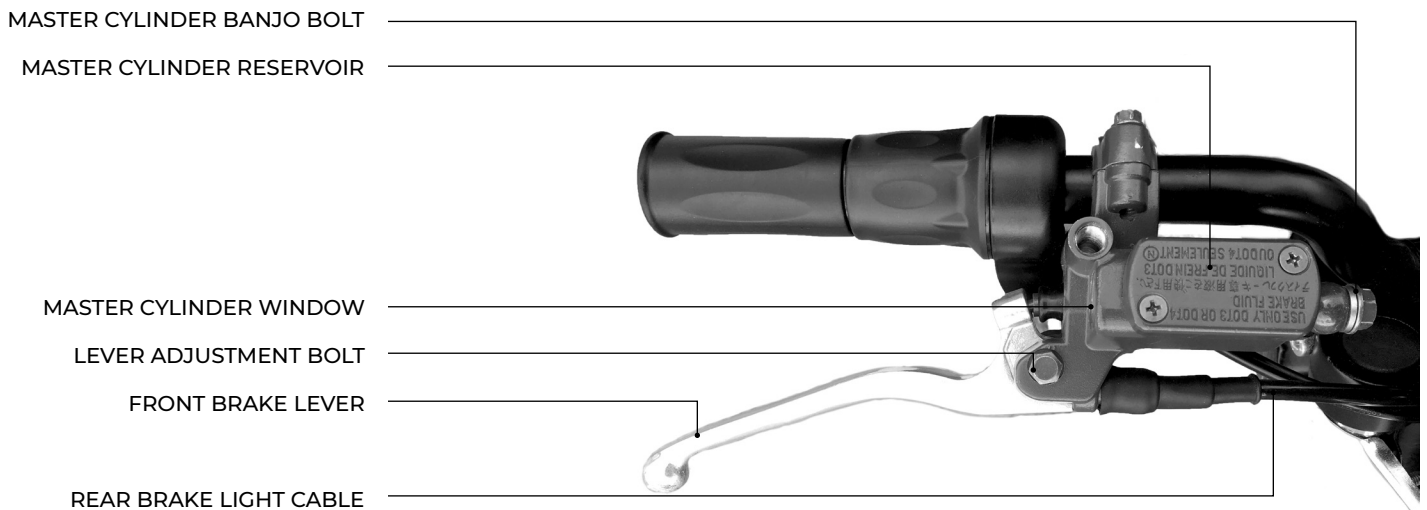
Compatible Replacement Brake Pads include: Yamaha Zuma 50 02-11; GY6 50CC Scooter; Jog 50cc YW50 09-10 BWS; Adly Fox50 07-09 Front; E-Ton Beamer50 04-08 Front; E-Ton Beamer50III '09 Front; TGB Key West 50 05-09 Front; Genuine Black Cat Front; Genuine Rattler50 Front; Genuine Rough House 50 Front

### Front Brake Specifications

ITEM	SPECIFICATION
Brake Type	Single-Piston Hydraulic 220 mm DIA Hydraulic Disc Brake
Brake Rotor Disc	Cross-Drilled Slots 220 mm DIA x 5 mm Thick
Brake Fluid Type	DOT-3
Brake Caliper Style	ZUMA50 BWS YW50 Front Left
Brake Pad Style	Yamaha Zuma 50 02-11, 49mm (61mm w/tabs) x 27mm x 4 mm Thick
Brake Pad Material	Semi-Metallic; Powerful Initial Bite with Long Life and Thermal Stability Up to 1,100 °F
Brake Operation	Right Hand

### FRONT BRAKE LEVER

TOP VIEW





- A soft or spongy feeling in the front brake lever can indicate the presence of air in the brake system hydraulic fluid. Air in the system will cause diminished braking capability and can result in loss of control. Inspect and bleed the brake system if necessary.
- Do not make contact with or ingest brake fluid. Follow the safety information on the brake fluid container for proper precautions and aid if you make contact with brake fluid.
- Brake fluid can corrode painted surfaces and plastic parts. Always clean up any spilled brake fluid immediately!
- Only top off or fill with new DOT-3 brake fluid from a new sealed container. Use of old or other brake fluid types can damage and deterioration to rubber seals can occur causing leakage and poor performance.
- Brake fluid is hygroscopic (absorbs water) and can pick up moisture over time in the braking system and if not stored properly. Water in brake fluid lowers the boiling point of the brake fluid, which can affect braking performance.

## CHECKING THE FRONT BRAKE

Check your front brake lever for function, making sure the lever activates the brakes and illuminates the taillight. Check along the steel braided brake line for evidence of wear or stress.

With the bike standing upright, use the window on the side of the master cylinder to check the brake fluid level. The window should be half full.

## ADJUSTING THE FRONT BRAKE

Use a 10mm wrench to loosen the adjuster bolt on the top of the lever, and loosen or tighten based on a desired responsiveness.

## CHANGING & SANDING THE FRONT BRAKE PADS

Inspect your front brake pads for wear by checking the thickness of the pads. They must be changed at 0.5mm thickness or less. Inspect the rotor for warping, cracks and change the rotors at 3.5mm thickness or less by following the steps below.

### TOOLS

- 13MM SOCKET
- 6MM ALLEN OR 13MM SOCKET (*depending on year*)
- TORQUE WRENCH
- 150-400 GRIT SANDPAPER

## FRONT BRAKE CALIPER ASSEMBLY

LEFT SIDE VIEW



CALIPER BRACKET BOLT

CALIPER BRACKET

CALIPER MOUNTING BOLT

CALIPER

BANJO BOLT

CALIPER PIVOT BOLT



1. Loosen the pivot bolt just below the banjo bolt.



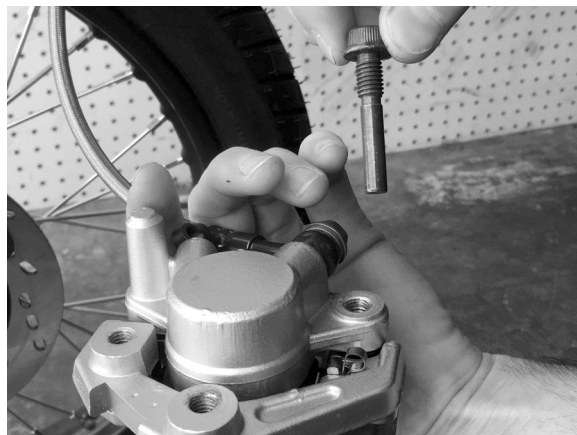
2. Loosen the outer 2 bolts holding the caliper on to the caliper bracket and remove the caliper.

Make note of the black spacers between the bracket and the caliper

**! NEVER PULL THE BRAKE LEVER WHEN THE CALIPER IS OFF THE DISK AS THIS WILL COMPRESS THE PADS.**



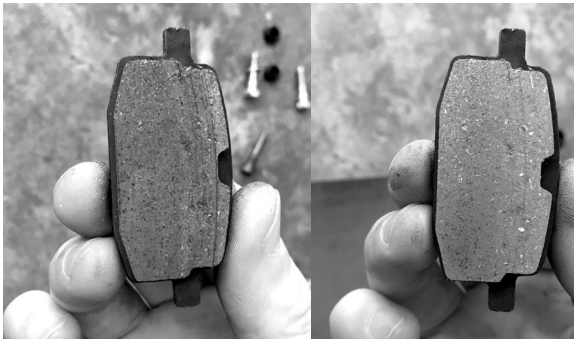
3. Remove the pivot bolt.



4. Swivel the two caliper pieces open. Note how the pads are seated in the retaining clips. Pop the pads out of the pad retaining clips.



5. Sand the pads until completely flat on a flat surface using sandpaper between 150-400 grit.



PAD BEFORE SANDING

PAD AFTER SANDING

6. Replace the pads into the retaining clips. Make sure the notches are facing the correct direction.



7. Reinstall the caliper onto the bracket by reversing steps 1—3.
8. Use a torque wrench to tighten the pivot bolt and the (2) caliper bracket bolts to 30nm.



9. Repeat this procedure anytime you get any front brake squeaks.

## CHECKING THE FRONT BRAKE FLUID

There is a small window on your master cylinder that will show how much brake fluid is in the system. When the bike is standing upright (off the kickstand) some fluid should be visible in the window of the reservoir.



*LOOKING AT THE WINDOW FROM THE RIGHT SIDE*

# REAR REGENERATIVE BRAKE

## Specifications

**ITEM**  
Rear Brake Caliper

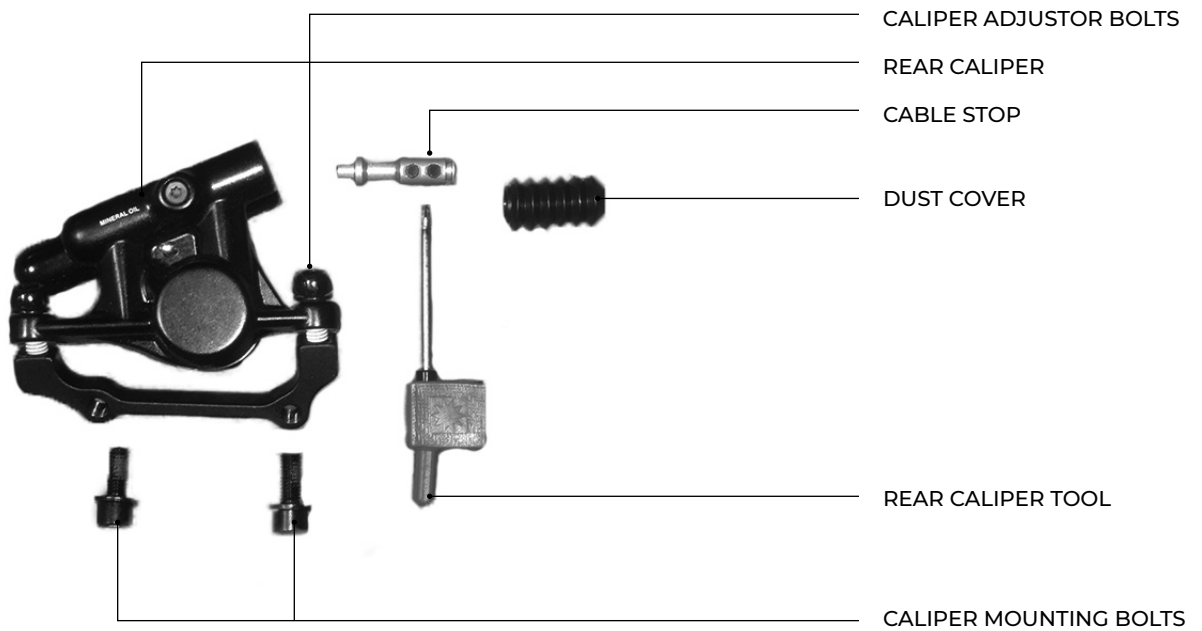
**SPECIFICATION**  
Mineral Oil Hydraulic Piston

TOP VIEW



## REAR BRAKE CALIPER (2020)

DISASSEMBLED VIEW





## CHECKING THE REAR BRAKE

Check your rear brake lever for function, making sure the lever engages the brake pads and illuminates the taillight.

Check the regenerative braking system by engaging the brake and cautiously giving some throttle. If the regen brake is working properly, the throttle should be unresponsive.

## ADJUSTING THE REAR BRAKE

Use the adjuster on the brake caliper to adjust how loose or tight the brake lever is.

The rear brake caliper can be adjusted laterally using the two adjuster bolts.

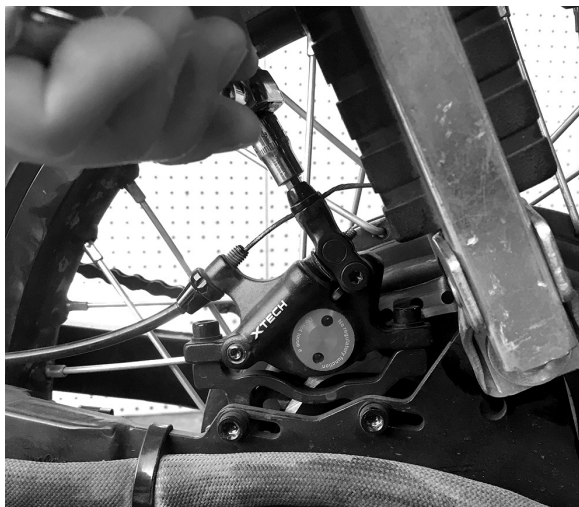
### PRO TIP

#### SQUEAKY BRAKES

Are your brakes squeaking? Time to sand your pads for a silent ride (*see p.5*). While there is an initial bed-in period for both front and rear brakes, they can still be chatty after many miles. This is caused by the compound of your brake pads. Remove your brake pads following the instructions in this chapter and sand them down using 150-400 grit sandpaper on a perfectly flat surface.

## REAR BRAKE REPLACEMENT

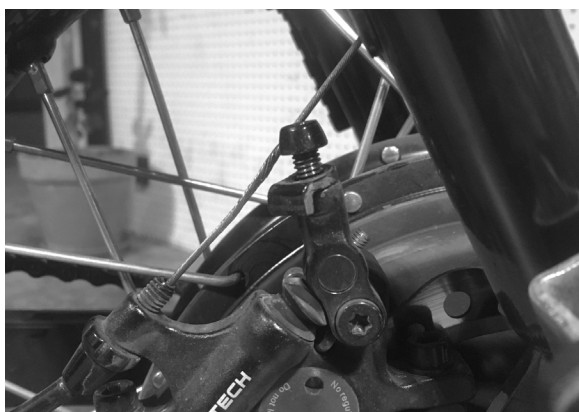
1. Loosen the rear brake cable clamp with a 5mm allen.



2. Use wirecutters to remove the cable nipple.



3. Slide cable out of the caliper cable adjuster.



4. Loosen and remove caliper mount bolts.



5. Throw away old caliper.

☺ **Alternatively, you may keep it as a relic of old stopping technology. Or save it a spot on your wall of shame.**

6. Slide new caliper over disk and install caliper mounting bolts and keep loose.



7. Slide caliper back until the outside diameter of the brake disk meets with the top of the brake pads.
8. Torque caliper mounting bolts to 12nm.

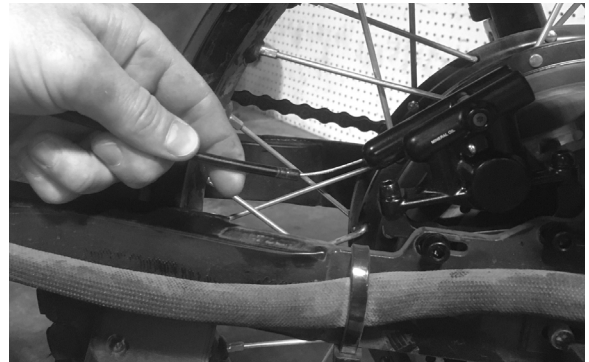


9. Looking from the rear, align the caliper centered over the disk and tighten the adjuster bolts to 13 nm.

**Make sure the caliper pads are grabbing as much of the disk as possible.**



10. Insert the rear brake cable into the rear brake caliper until the cable housing is up against the caliper.



11. Slide cable stop over the end of the cable and insert until the left lock nut is up against the caliper.



12. While pushing into caliper, tighten set screws very tight.

**Make sure there is absolutely no play in the cable.**

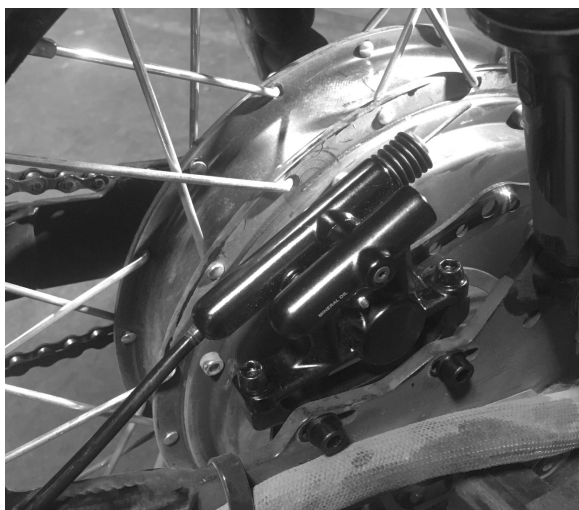






NEW CALIPER INSTALLED WITHOUT DUST COVER

13. Install dust cover with small opening out.



14. Install new nipple and pinch tight over the cable to secure.

