TECH GUIDE – Nutt Y-2 Hydraulic Brakes

Rev 2.0

Overview

Nutt Y-2 hydraulic brakes have been used on several MY21/22 VelectriX models. They are all identical with the only difference being the hose length and rotor diameter.

Y-2

FEATURES

- Open system, Dual piston
- Forged Aluminum body
- Automatic caliper positioning
- Easy pads replacement
- Non-corrosive mineral brake fluid with excellent heat expansion properties
- Mount type: International standard mount type & Post mount type

Nutt brakes are supplied to the VelectriX factory 95% assembled for fitment on the production line. After bicycle assembly the bikes are test ridden to confirm correct brake operation as part of normal quality control.

Regardless, inspection of the brake operation should be a normal part of bike assembly in store before sale.

If upon inspection there appears to be a problem with the brakes, the problem must be rectified before the bike is sold to a consumer.

The following information will assist with the repair and maintenance of Nutt brakes.

Further information and spare parts are available by contacting VelectriX:

- 1300 531031
- store@velectrix.com.au

Brake Pad Replacement

The Nutt Y-2 Caliper is self-adjusting so no pad adjustment is required during the life of the pad.

- It is recommended that pads should be replaced if wear is greater than 0.8mm
- Pads **must** be replaced if the overall pad thickness is 2.7mm, or less, to ensure safe riding
- If pads are exposed to oils, lubes, greases etc, their performance will be impaired and should be replaced

The pads are a common shape and readily available

The pad shape is the same as some Avid and SRAM models such as Elixir, Elixir CR, Elixir R and XX

1. Remove the 2 x M6 bolts from the caliper mount to free the caliper
2. Clean the rotor with brake cleaner or similar solvent
3. Remove the brake pad split pin
4. Remove the pads from the front of the caliper
5. Use a lever and gently push the caliper piston back into their bores
6. Fit the new pads, along with the pad spring
7. Fit a new split pin and bend the open end of the pin to secure

Adjusting The Caliper

1. Remount the caliper over the clean rotor and fit the 2 x M6 bolts, finger tight
2. Then, at the same time, pull on the brake lever while rocking the caliper so the correct position can be found
3. Lightly tighten the 2 x M6 bolts while still holding the lever
4. Spin the wheel and if there is no rubbing between the pad and the disc, tighten the 2 x M6 bolts to 8Nm
5. If there is rubbing, repeat the process or adjust the caliper by eye until both pads have clearance to the rotor. True the rotor with an appropriate tool if the runout is excessive

6. Lever reach can be adjusted with a 2mm allen key

7. Test ride the bike to confirm proper brake operation. Perform 5 or 6 hard stops to begin the pad break in process. The braking performance will improve as the break in continues over the first few km of riding

Brake Bleeding

** Only use mineral oil in the Nutt Y-2 brake. Never use DOT type brake fluid **

Nutt recommend the use of 2 syringes and appropriate adaptors for brake bleeding. The adaptor fittings use a common M5 x 0.8mm thread. Shimano and others use the same thread.

The Nutt adaptor for the brake lever needs to be longer than some available adaptors. Adaptors can be purchased from VelectriX.

1. Fill one syringe with 15-20ml of mineral oil. Leave the second syringe empty
2. Remove the bleed screw on the brake caliper with a T10 Torx wrench and screw in the full syringe:

   NOTE: To ensure maximum air bleed from the system, it may be necessary to remove the caliper from its mount, so it is at the lowest point possible. Failure to do this may allow air to be trapped in the caliper and it will be difficult to obtain a hard brake lever. Ensure a pad spacer is used in the caliper when doing this

3. Loosen the brake lever clamp screw and adjust the lever until it is level

4. Remove the brake lever bleed screw with a T10 Torx wrench and screw in the empty syringe

5. Push fluid from the syringe at the caliper until half the fluid volume is in the syringe at the lever

6. Pump both syringes alternatively until no air can be seen coming from the system. It may be helpful to tap the brake hose and caliper gently, and repeatedly with the handle of a screwdriver to shake the air from the system

7. Remove the syringe from the caliper and re-fit the bleed screw
8. Pump the syringe at the lever again to ensure no air is present
9. Remove the syringe from the lever and re-fit the bleed screw
10. Pump the brake lever a few times to confirm the lever is hard and has a good bite point. **If the lever is soft, air is still trapped in the system and will need to be bled again.** If the lever feels correct, adjust the leaver reach and the bleed is complete

Component Replacement

If there is an issue that requires component replacement, parts can be sourced from VelectriX.

- VXAUS10689 – Front brake assembly complete. Can be installed without bleeding (unless hose length requires modification)
- VXAUS10691 – Rear (Left hand) brake lever. Fluid filled
- VXAUS10692 – Rear brake caliper with hose. Fluid filled
- VXAUS10690 – Nutt brake rotor 160mm
- VXAUS10510 – Nutt olive and needle set
- VXAUS10744 – Nutt M5 brake bleed adaptor

When fitting a left hand lever, rear brake caliper with hose, or both please note:

- These parts come full of fluid
- The short length of hose in the lever must be removed and discarded

- The caliper hose is fitted with a “homing head” to contain the fluid and assist in running the hose through the bike frame

- When the homing head is removed the treaded insert serves as the needle and only a new olive is required on the hose. The threaded insert does not need to be replaced with a new needle

- Bleeding will be required to ensure that no air has been introduced during this process and that the brake lever is hard

Torque Specifications

- Rotor bolts – 5Nm
- Caliper to caliper mount – 8Nm
- Lever clamp bolt – 6Nm
- Bleed screws – 1Nm
- Brake hose compression nut – 10Nm