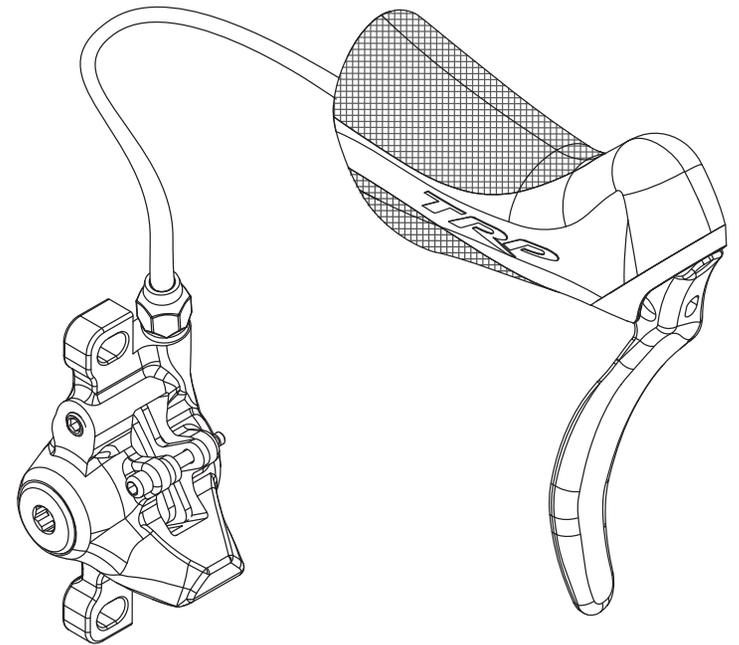


# HYLEX

## HYDRAULIC DISC BRAKE SYSTEM



Rev. A070213

**TRP**

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**TRP**

# TRP HYLEX OWNER'S MANUAL



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## INTRODUCTION

PLEASE READ THIS OWNER'S MANUAL COMPLETELY BEFORE ATTEMPTING TO INSTALL, SERVICE OR USE YOUR HYLEX HYDRAULIC DISC BRAKE SYSTEM. FAILURE TO UNDERSTAND HOW TO PROPERLY INSTALL, USE AND MAINTAIN YOUR HYLEX SYSTEM MAY LEAD TO INJURY AND DEATH. TRP RECOMMENDS HAVING YOUR HYLEX SYSTEM INSTALLED BY A PROPERLY TRAINED BICYCLE MECHANIC.

### a. Welcome to TRP

TRP manufactures performance oriented brakes for discerning individuals. Our brakes, levers, calipers and accessories are designed to offer premium performance across a variety of applications. Each product is thoroughly designed and tested to meet the needs of first-in-class end users like you!

### b. HYLEX

Thank you for your purchase of a HYLEX Hydraulic Disc Brake System. The HYLEX system is designed to offer superior performance and unsurpassed durability in all conditions. This hydraulic brake system has been field tested by some of the worlds best riders and each system is fully vetted in the laboratory prior to shipping by our 250/250/24 QC procedure. HYLEX systems are spec'd with either 140 or 160mm rotors. Depending on your application choices, you can switch to a different rotor size with the appropriate adapter.

### c. Break In Period and Preferred Fluids

Disc brakes have a 30-40 cycle break-in period to achieve optimal pad seating and performance. Exercise caution for the first 30-40 cycles each time you replace the brake pads. Your HYLEX disc brake is engineered to use TRP/Tektro branded Mineral Oil, which is environmentally friendly and offers increased performance by limiting the absorption of water better than DOT based oils. Use of other manufacturers' oils will void the warranty and may negatively impact the performance of the brakes leading to injury or death.

## II. SAFETY WARNINGS & INFORMATION

### a. Safety Precautions and Considerations

**WARNING** - This braking system was designed for use on a single rider bicycle. Use of this system on any other vehicle or apparatus will void the warranty and possibly causing you great personal harm and injury.

**WARNING** - Disc brakes systems, including the calipers and rotors get **VERY HOT** during regular use. **DO NOT TOUCH** or attempt to service the rotor, caliper or brake assembly until you've allowed for sufficient cooling to occur.

**WARNING** - These hydraulic brakes offer a significant increase in performance over traditional cable actuated systems. Follow the break-in recommendations listed in this manual allowing yourself time to learn and become accustomed to the braking characteristics.

**WARNING** - Leaking oil indicates a potential **BRAKE FAILURE**. If your system is leaking oil, stop immediately and determine the nature of the problem. **DO NOT** continue to ride a leaking system.

**WARNING** - If your bike is involved in a fall or crash, stop and fully check the brake function including: lever, caliper, and rotor are securely attached to the bike, pads are correctly installed and functioning, oil line is free from kinks, nicks, and leaks, and master cylinder is intact and functioning correctly.

Always have a qualified mechanic check the brakes if you have any doubts.

**WARNING** - Pad thickness must be at least 0.8 mm per side. Confirm this before each ride. Keep pads clean and free of oil or hydraulic fluid. If pads become contaminated, discard and replace.

**CAUTION** - Read this manual completely before attempting to install or work on your TRP Brakes. If you are unfamiliar with any element of assembly or maintenance of this braking system, please consult a qualified mechanic for assistance.

**CAUTION** - Only use TRP or TEKTRONIC branded replacement Mineral oil when servicing the brakes. Other disc brake fluids, **ESPECIALLY DOT based oils**, will harm the system and compromise braking performance.

**CAUTION** - Store Mineral oil at normal room temperature in a dark place. Keep out of direct sunlight.

### b. Emergency Information

**CAUTION** - As with any oil, precautions in handling and clean up of any spills should be handled according to accepted best practices as governed by your state or country. Our Mineral oil is Non-Toxic, but help the world and clean up any spills promptly and completely.

**CAUTION** - If Mineral oil gets in your eyes **IMMEDIATELY FLUSH WITH WATER** for several minutes and go to the hospital.

**CAUTION** - If Mineral oil comes in contact with your skin, **IMMEDIATELY RINSE** with soap and water.

**CAUTION** - Do not inhale Mineral Oil, it is harmful. If inhaled, move to a well ventilated environment and proceed to the hospital for appropriate care.

**CAUTION** - If you ingest Mineral Oil, it may cause vomiting and/or diarrhea.

**CAUTION** - Please keep out of reach of children.

### III. EQUIPMENT ITEM LIST

HYLEX – each complete brake comes with the following

- Fully bled brake system – READY TO RIDE!
- 140mm or 160mm Stainless Steel Rotors
- Integrated Master Cylinder in flat, ergonomically shaped hoods
- 800 mm Hose (front), 1500 mm Hose (rear)
- Post Mount Forged Aluminum Caliper with IS Mount Adapter

### IV. DETAILED INSTALLATION INSTRUCTIONS

#### a. Tools Needed for Assembly and Maintenance

The following tools will help you complete the installation:

- 2mm, 3mm, & 5mm Allen Wrench
- 8mm Open Ended Box Wrench
- Torque Wrench
- T15 and T25 Torx Driver
- TRP / TEKTRO Hydraulic Brake Bleed Kit
- TRP / TEKTRO Mineral Oil Based Brake Fluid
- Disc Brake Piston Setting Tool
- Hydraulic Hose Cutter
- Hydraulic Hose Barb Press
- Electrical Tape
- Cable Ties
- Rags

#### b. Mounting the Rotor

NOTE : Be sure the rotation arrows point in the same direction as the rotation of the wheel.

Remove wheel from bike.

Clean the disc and hub-mounting surface with isopropyl alcohol [Do not use disc brake cleaner].

Using a Torx T25 driver, attach the rotor to the hub using supplied bolts and tighten to 4–6 Nm (52–69 in-lbs). Use a star-pattern sequence to tighten the disc screws. DO NOT simply tighten them clock-wise or counter-clockwise. ( see Fig. 1 )

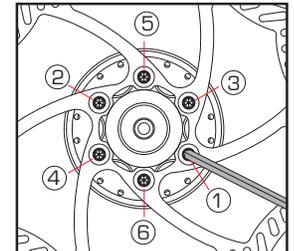


Fig. 1

Replace the wheel per manufacture's specifications.

Check and re-torque disc bolts after a few hours, and after the first ride or two.

**WARNING : DO NOT touch the disc immediately after use – it will be HOT !**

### c. Installing the Brake Lever Assembly

Pull back the brake lever hood to expose the 5mm handlebar clamping bolt. Note: HYLEX levers are right and left hand specific.

Using a 5mm allen wrench, loosen the handlebar clamping bolt.

Slide the brake lever assembly onto the handlebar. Once positioned, tighten the handlebar clamping bolt to 4-6 Nm [35-53 in lbs.] [Fig. 1a]

**Note:**

*Secure brake line down to the handlebar after installation and bleeding is complete. For future maintenance, the brake hose can remain secured to the handlebar. [Fig. 1b]*

**Note:**

*The brake lever reach can be adjusted using the 2mm allen wrench on the front of the levers as shown. [Fig. 1c]*



Fig. 1a



Fig. 1b



Fig. 1c

### d. Installing the Caliper

Remove the wheels prior to installing the front or rear caliper. If your frame and/or fork utilizes IS disc brake mounts you will need the included IS-to-post mount caliper adapter. To install the adapter, hold the adapter so that the stamped "F" or "R" is facing you - away from the bike, rotor and wheel. Align the adapter with the frame or fork mounting holes. Affix the adapter to the frame or fork using the supplied mounting bolts. Tighten to 6-8Nm [53-71 in-lbs]. [ Fig. 2 ]

Attach the caliper to the mounting bracket (or directly to the frame or fork in the case of post style mounts) and leave the bolts loose at this time. Final tightening will be completed at a later step.

### e. Modifying Hose Length

Ensure that the hydraulic line routing is free of any clearance issues.

Pull to remove the plastic cap and unscrew the compression nut. [ Fig. 3 ]

Pull gently on the hose to free it from the caliper. Some fluid will drip out. Measure the new hose length making sure you have enough free length for full rotation of your handlebars. Cut the hose to the desired length using a hydraulic hose cutter.

Install the barb ensuring that it is fully seated within the cut end of hydraulic tubing. Slide on the compression nut, then the olive with the tapered end oriented to engage the compression nut. [Fig. 4] Reinsert the hose into the caliper and tighten the compression nut to 4-6Nm [35-53in-lbs].



Fig.2



Fig.3



Fig. 4

Wipe any excess fluid from the system. Replace the plastic cap and secure the hydraulic tubing to the frame and fork using the bike manufacturer's specified routing.

## f. Bleeding the System

THIS STEP REQUIRES THE USE OF A TRP OR TEKTRONIC BRAND HYDRAULIC BRAKE BLEED KIT AND TRP / TEKTRONIC BRAND MINERAL OIL BRAKE FLUID.

Remove the brake pad retaining bolt clip and remove the brake pad retaining bolt using a 3mm Allen wrench. [ Fig. 6a ]

*RECOMMENDED: Removal of the brake pads is recommended to prevent contamination during the subsequent bleeding process.*

Insert a disc brake piston setting tool or other non-sharp tool and push the pistons back into the caliper. [ Fig. 6b ]

Fold back the brake lever hoods from the bottom up to expose the T15 bleed plug.

Remove the plug on the brake lever master cylinder using a T15 Torx driver. Install one of the two bleed fittings supplied with the bleed kit. Secure the fluid exit hose onto the bleed fitting with the free end of the hose emptying into a container suitable to catch mineral oil based brake fluid. [ Fig. 7 ]

Fill the syringe halfway with brake fluid. Hold the syringe vertically with the tip up and tap out any air bubbles.



Fig. 6a



Fig. 6b



Fig. 7

Using a 3mm allen wrench remove bleed nipple plug and install the other bleed fitting supplied with the bleed kit. Secure the oil-filled syringe hose to the bleed fitting. [ Fig. 8a & 8b ]

Use a disc brake piston setting tool or equivalent spacer to keep the pistons from moving. While holding the pistons in place, begin pushing fluid through the system.

Tapping the syringe, syringe line and hydraulic tubing line will break free any air bubbles that may be trapped within. Continue to push the fluid through until there are no more air bubbles coming out of the exiting hose.

With light pressure on the syringe, remove the master cylinder bleed fitting and replace the master cylinder bleed plug. Tighten with a T15 Torx to 2-4Nm, [18-35 in-lb.] [Fig. 9]

*Note: If oil gets on the folded back hoods, clean them thoroughly with alcohol. Otherwise, the hoods will slip on the lever bodies during riding.*

Remove syringe, tube and caliper bleed fitting. Replace caliper bleed plug with a 3mm allen wrench. Tighten to 4-6Nm, [35-53 in-lb.]

Squeeze the brake lever a few times - the action should feel stiff and not spongy. Wipe the lever body, caliper, and hose with a lint-free towel. Isopropyl alcohol can be used to clean up excess oil.



Fig. 8a



Fig. 8b



Fig. 9

**Tip:**

*When threading in the master cylinder bleed plug, place a shop towel/rag around the brake lever body to wick away displaced oil.*

[Fig. 10]



Fig. 10

### g. Installing Brake Pads

Using a disc pad setting tool, (or other non-sharp tool, such as a plastic tire lever,) be sure each piston is fully retracted by pushing it back into it's housing.

Install new pads and spring assembly into the calipers.

Reinsert brake pad retaining bolt into the caliper and reattach the cotter pin. Tighten the brake pad retaining bolt. Take care to be sure the small tabs on the ends of the pads are properly aligned and seated in the notch on the top of the caliper.

[ Fig. 11 ]



Fig. 11

### h. Aligning the Caliper

The HYLEX system uses the mounting bracket to align and center the brake.

Reattach the wheel.

Squeeze the lever to self-align the caliper to the rotor then secure the mounting bolts. Tighten to 6-8 Nm (53-71 in lbs).

Release the lever and check that the pads are aligned equally and that the wheel spins freely. Repeat for other wheel. [Fig.12-13]



Fig. 12

### i. Breaking In the System

For best performance, it is recommended that the HYLEX system be broken in prior to spirited riding.

On an even flat riding surface, accelerate to approximately 15mph(24kph) and apply one brake at a time to decelerate to approximately 5mph (8kph).

Repeat 10 times for each brake.



Fig. 13

## V. MAINTENANCE

### Before Every Ride:

Spin the wheel to ensure the rotor is aligned.

Inspect the HYLEX components for fluid leaks.

Apply the brakes to ensure proper braking force.

Inspect the pads for wear confirming that at least 0.8mm of brake pad material remains.

Check all bolts for proper tightness. Refer to the torque chart on page 15 for torque values.

### Periodic Maintenance

Your HYLEX system may require periodically changing the brake pads and bleeding/flushing the brake fluid. Refer to the steps in section e and section f of this owner's manual.

## VI. TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION CORRECTIVE ACTION
Lever falls to handlebar	Air in system System leak	Re-bleed look for leak and See "fluid loss"
Disc rotor rubbing on pads	Caliper not centered Inadequate clearance Bent disc / rotor	Re-center caliper over disc Push pistons back Replace disc / rotor
Spongy lever	Air in system	Re-bleed
No braking power	Dirty disc / rotor Contaminated pads	Clean disc / rotor with alcohol Replace pads
Fluid Loss	Banjo leaking Hose leaking Master cylinder cap leaking	Replace hose Tighten hose nut Replace hose Tighten cap screws

**CAUTION** - Cleanliness is a very important part of any maintenance of the TRP hydraulic disc brake. If the pads or rotor become contaminated with oil, or if the hydraulic system becomes contaminated with impurities, braking performance will be greatly impaired. Use only Tektro/TRP brake fluid with the TRP hydraulic disc brake. Other brake fluids are not compatible and will damage the system.

## VII. TORQUE CHART

ITEM	TORQUE
Disc / Rotor Bolts	4 - 6 Nm (35 - 53 in-lbs)
Handlebar Clamp Bolt	6 - 8 Nm (53 - 71 in-lbs)
Master Cylinder Banjo Bolt	6 - 8 Nm (53 - 71 in lbs)
Master Cylinder Bleed Plug, T15	2 - 4 Nm (17 - 35 in lbs)
Reservoir Cap Screw	0.5 - 0.6 Nm (4.3 - 5.3 in lbs)
Adapter Bolts	6 - 8 Nm (53 - 71 in lbs)
Hydraulic Tubing Compression Nut	4 - 6 Nm (35 - 53 in lbs)
Caliper Mount Bolts	6 - 8 Nm (53 - 71 in lbs)

## VIII. WARRANTY AND CONTACT

TRP's HYLEX Hydraulic Disc Brake Systems are warranted against manufacturing defects in materials and/or workmanship for two years from the date of original retail purchase.

Not covered under this warranty is damage resulting from improper installation, adjustment or maintenance, lack of maintenance, alterations, crashes or use judged by TRP to be excessive or abusive.

For warranty related questions or more information on the HYLEX Hydraulic Disc Brake System or any other TRP product, please visit our website at [www.trpbrakes.com](http://www.trpbrakes.com) or contact your nearest TRP service center.

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