



HYDRAULIC DISC BRAKE

INSTALLATION, SERVICE, MAINTENANCE MANUAL

45-17692Web

Congratulations. You have purchased a Hayes Disc Brake system. This Manual is intended to provide the information necessary for normal maintenance and service of the Hayes Disc Brake system. Although the steps and procedures are relatively simple, they should not be attempted until you are thoroughly familiar with the entire set of procedures. Images have been provided to help you in the steps and procedures.

SAFETY INFO

Warning: As a serious rider you are well aware of the need to practice safety in all aspects of the sport. This includes service and maintenance practices as well as riding practices. Before each ride, always check your brakes for proper function and the brake pads for wear. When you ride, always wear a helmet.

Warning: When you need to install any of the disc brake components, that installation work should be done by a qualified technician with the proper tools. Improper installation could cause severe or fatal injuries.

Warning: This brake has been designed for use on a single person mountain bike. The use on any other vehicle or device will void the warranty and can cause serious injury.

Warning: With use, disc brake components may become very hot. Always allow components to cool before attempting to service your bike.

Warning: When following any of the procedures below, be sure to keep your hands and fingers from getting caught in the disc. Failure to do so could result in injury.

Warning: For riders using the brakes in downhill conditions, it is recommended that you use the 8" disc version of the Hayes Brake. Not all frames and forks will accept an 8" disc. Please check with your frame or fork manufacturer or www.hayesdiscbrake.com for 8" disc compatibility. Consistently using the 6" disc in downhill conditions may cause the brake fluid to boil.

CAUTIONS, WARNINGS, NOTES, ETC

Within this manual are specifically labeled comments intended to bring special attention to a general procedure or detailed step. Be aware of, and understand, the meaning of these labels.

Warning: Means that there is the possibility of personal injury to you or to others.

Caution: Means that there is the possibility of damaging the brake or the bike.

Note: Provides general information.

Hint: Provides information that can help you properly complete a specific procedure.

STARTING OUT

Personal Preference and Adjustment

In most cases, the Hayes Disc Brake system has been pre-assembled for your bike. However there are a couple of adjustments that you can make to match your particular physical characteristics or personal preferences.

- **Positioning the Master Cylinder and Lever**

1. Loosen, but do not remove, the handle bar clamp screw
2. Then, position the Master Cylinder and Lever on the handlebar in your desired position.
3. Torque the handlebar clamp screw to 15-20 in-lbs (1.7-2.26 Nm)

- **Power Adjustment Dial (Figure 1)**

Adjusting the amount of power the brake provides can be done by turning the "Power Adjustment Dial". Turning the dial clockwise will reduce the amount of power the brakes provides. Turning the dial counter clockwise will increase the power the brake provides.

Warning : DO NOT attempt to force the "Power Adjustment Dial" beyond its limits.

Note: When adjusting the "Power Adjustment Dial" it will change the lever reach. Follow the instructions to set your lever reach.

- **Lever Reach Adjustment (Figure 1)**

Adjust the brake lever reach by turning the reach adjustment knob. Turning the knob counter clockwise will adjust the lever closer to the handle bar. Turning the knob clockwise will adjust the lever farther from the handle bar.

Warning : Do not attempt to force the adjustment screw beyond its limits.

Warning : Due to the different diameters of grips and twist shifters, DO NOT adjust the reach adjustment screw too far counter clockwise. Doing so could allow the lever blade to contact the grip, which may reduce braking power.

- **Caliper Hose Routing (Figure 1)**

The banjo on the caliper can be rotated to accommodate your frame or fork. Loosen the banjo bolt ¼ turn and rotate the banjo to the desired location. (Note: loosening the banjo bolt more than ¼ turn may introduce air in the system). Tighten the banjo bolt to 60 +/- 5 in/lb (6.7 +/- .5 Nm).

Burnish

Disc brakes require a special burnish period to achieve maximum braking power. This burnish period will last for about 30-40 stops. During this period some noise may occur.

Recommended Fluids and Lubricants

Use only DOT 3 or DOT 4 brake fluid. Do not use any petroleum-based lubricants, as this will cause the rubber parts to swell. Hayes recommends the use of DOT 3 or DOT 4 brake fluid. Clean the disc and pads only with isopropyl alcohol.

INSTALLATION

If you have purchased a bike new – with Hayes disc brakes already installed, you will not immediately be required to follow all of the following procedures.

A. Tools Required

Torx T25 driver	Small Phillips screwdriver
Open-end wrenches: 6mm, 8mm, 9mm	Small flathead screwdriver
Scissors or cable cutters	Allen Drivers: 2.5mm, 4mm, 5mm
Torque Wrench	Hayes Caliper Bore Plug Tool

B. Mounting the Disc to the hub (Figure 2)

Note: Mounting the brake disc to the wheel is a simple matter, but one that requires care. If the wheel has to be rebuilt, have it done by a qualified technician using a 3 cross spoke pattern. We recommend the use of steel, quick release skewers only.

1. Clean the disc and hub mounting surface with isopropyl alcohol (not disc brake cleaners).
2. Place the disc on the hub mounting surface. Be sure that the arrow on the disc is pointing in the same direction as that of the forward wheel rotation.
3. Using a Torx T25 driver, install, tighten, and torque the disc screws to 50 +/- 5 in-lb (5.65 +/- .55Nm), in a star pattern sequence.

C. Mounting the Caliper to the Frame or Fork

Warning: When following any of the procedures below, be sure to keep your hands and fingers from getting caught in the disc. Failure to do so could result in injury.

1. Remove the wheel(s).
 2. For some installations it will be necessary to mount a mount bracket to accept the Hayes Disc Brake caliper. Mount the mount bracket to the frame or fork using (2) M6 x 1.0 / 18.4mm long mount bolts. Torque the bolts to 110 in-lbs (12.43 Nm).
 3. Mount the caliper to the frame or mount bracket using (2) M6 x 1.0 / 18.4mm long mount bolts and (2) mount washers. Snug the bolts, but leave them loose enough so that caliper will move on its slots.
- Caution: For Manitou forks you will need to use (2) M6 x 1.0 / 22mm long mount bolts. These bolts are supplied in your aftermarket kit or supplied from the bike manufacture. Failure to use the longer bolt may result in fork damage that will not allow you to tighten down your caliper properly.

Caution: For Manitou forks, torque the mounting bolts to 80 in-lbs (9,0 Nm) .

4. Re-install the wheel(s).
5. Squeeze and hold the brake lever. While holding the brake lever, shake the caliper to position it in its natural centered position over the disc. While squeezing the lever, tighten the mounting bolts.

Warning: Do not adjust the caliper while the caliper is hot.

Warning: Do not adjust the caliper while the wheel is spinning.

6. Release the lever, spin the wheel. Check that it spins freely and that the gaps, between the pad and the disc, are equal. If the gaps are unequal, or if there is drag, readjust the caliper position by loosening the mounting bolts and adjusting the caliper as needed. Hint: A white piece of paper can be used as a background to help sight down the disc looking for equal clearance between the pads and disc.

7. When the gaps are equal and the wheel spins freely (without drag), torque the mounting bolts to 110 in-lbs (12.43 Nm).

Caution: For Manitou forks, torque the mounting bolts to 80 in-lbs (9,0 Nm) .

8. Repeat above procedure for other wheel.

SERVICE

A. Hose Removal and Assembly

The follow procedures are to be used when replacing or removing the hose.

• Master Cylinder Hose Removal (Figure 5)

1. To take the hose off of the master cylinder end, slide the nose cone down the hose.
2. Using a 8mm box wrench, remove the hose nut and slide it all the way down the hose. Note: sometimes it is best to first cut the hose and use the box end of the 8mm wrench to better grab the 8mm hose nut.
3. Slide the hose out of the end of the master cylinder. There will be some residual fluid in the hose and master cylinder / caliper. Be careful to avoid spilling that fluid.
4. A new hose insert/compression bushing combination will be needed each time the hose is re-installed. Remove the old compression bushing and hose insert by cutting the hose next to the compression bushing. The cut needs to be clean with no frayed ends.

• Master Cylinder Hose Assembly

1. Locate the end of the hose without the permanent crimp.
2. Cut the hose to the desired length with good scissors or cable cutters. The cut end must be clean and perpendicular to the hose itself.
3. Slide the nose cone onto the master cylinder side of the hose.
4. Slide the hose nut over the hose.
5. Push the longer end of the barbed hose insert/compression bushing combination into the end of the hose. Be sure it is inserted flush with the end of the hose. Always use a new hose insert/compression bushing combination .
6. Slide the hose into the master cylinder and install the hose nut. Be sure that the hose is inserted completely into the master cylinder end. Be sure the hose remains inserted while tightening.
7. Using a 8mm open-end wrench, torque the hose nut to 70 +/- 5 in/lb.
8. Bleed the system

• Caliper Hose Removal (Figure 5)

1. To take the hose off the caliper end, remove the banjo bolt using a 4mm Allen wrench.
 2. When removing the banjo assembly completely from the caliper, be sure that the two banjo o-rings are not lost.
- Note: The end of the El Camino caliper hose is a permanent crimp. Therefore the connection cannot be trimmed to size or repaired. Shortening of the hose must be done at the master cylinder end. If the caliper hose connection is damaged, the hose must be completely replaced with a new hose with a permanent crimp attached.

• Caliper Hose Assembly

1. Install the banjo bolt through the banjo. Be sure that there is a banjo o-ring on each side of the banjo.
2. Position the angle of the banjo to your desired location for your frame or fork.
3. Tighten the banjo bolt to 60 +/- 5 in/lb (6.7 +/- .5 Nm).

B. Bleeding

Air trapped in the hydraulic system of the disc brakes can decrease performance of the system and should be removed by “bleeding” the system and replenishing the system with new brake fluid. The system is filled by pumping fluid from the lowest point (at the caliper), through the system, to the highest point, the bleeder on the master cylinder.

Caution: Use only new DOT 4 or DOT 3 brake fluid from a closed, sealed container. Use of any other fluid can cause the rubber parts to degrade and cause the brake to fail.

Caution: DOT 4 or DOT 3 brake fluid will strip paint. Use extreme caution to avoid getting DOT 4 or DOT 3 brake fluid on paint. If DOT 4 or DOT 3 brake fluid comes in contact with paint, wipe it off immediately and rinse with isopropyl alcohol.

Warning: If you get any brake fluid on the brake pads, discard them and replace with new pads. If you get any brake fluid on the disc, clean it thoroughly with isopropyl alcohol.

Warning: DOT 4 and DOT 3 brake fluid can be an irritant when it comes into contact with human tissue. For skin contact, brake fluid should be washed off in flowing water. For eye contact, the eye area should be irrigated with flowing water immediately and continuously for 15 minutes. Consult with medical personnel. If effects occur from inhaling brake fluid fumes, move to an area with fresh air. Consult a physician. If brake fluid is ingested, induce vomiting and consult medical personnel. Used brake fluid should be disposed of in accordance with local laws.

• Bleed Kit Assembly (Figure 4 C)

1. Screw the cap onto the end of the bottle.
2. Cut a 2" section of hose
3. Push the short section of hose over the cap until it slides past the ridge on the cap
4. Push the long section of hose into the master cylinder bleed fitting.

NOTE: There are three fittings with the kit. The black plastic fitting is to be used with the “El Camino”.

• Bleeding the System

1. Remove the wheel.
2. Remove the brake pads so that any spilled fluid does not contaminate the pads. (See “Maintenance” instructions for pad removal)
3. Push the caliper pistons all the way into their bores using the box end of a 9mm end wrench. Caution: Don’t push on the post in the center of the piston because that will bend the post.
4. Position the bike in a stand so that the brake caliper bleeder screw is perpendicular to the ground, and the reservoir bleeder screw on the master cylinder is the highest point on the brake system. NOTE: For the “El Camino” the bike should remain horizontal to the ground, and the lever should remain in its normal riding position. (Figure 4 - A and B)
5. Remove the master cylinder bleed screw and press the fitting with the hose into the hole (note: there is one on each side of the master cylinder body, when bleeding only remove the bleed screw pointing up). The other end of the hose should go into a cup or bottle to catch the excess fluid. (Note: you will need to provide your own catch bottle) Be sure not to submerge the end of the hose in fluid. Hint: Taping a spoke to a bottle and bending it to hook around the handlebars makes a convenient hanger (Figure 4 B)
6. Completely remove the caliper bleeder’s rubber cap.
7. Fill the plastic filler bottle with fresh DOT 3 or DOT 4 brake fluid.
8. Close the caliper bleeder.
9. Place the hose from the fluid bottle onto the caliper bleeder. Pump the fluid bottle until there is no air in the hose. (Figure 4 C)
10. Open the caliper bleeder 1/4 turn.
11. Squeeze the fluid bottle firmly – forcing fluid into the caliper for a count of five. Stop squeezing until the bottle returns to its natural shape. When the squeeze is released, air should be drawn out of the caliper. Continue alternately squeezing the fluid bottle, for a count of five, and releasing until no air bubbles come out of the caliper.
12. After all the air is out of the caliper; squeeze the bottle until fluid comes out at the master cylinder with no air bubbles.
13. While squeezing the bottle, quickly stroke the lever to the handlebars, and release. Repeat this until no more air bubbles come out of the master cylinder.
14. With the bottle still being squeezed, close the caliper bleeder. Torque should be only to seal the bleeder. Do Not Over-torque! Then release and remove the bottle and filler hose.
15. Remove the hose and fitting from the master cylinder and insert the bleed screw.
16. Clean the caliper and master cylinder with isopropyl alcohol. Take great care to remove all brake fluid because if the fluid comes into contact with the disc or brake pads, performance will forever be greatly reduced.
17. Clean the disc with isopropyl alcohol if it is contaminated with oil or brake fluid.
18. Replace the caliper’s rubber bleeder cap, the brake pads, and the wheel/disc assembly.
19. Pump the brake lever to push the pads to the proper location.
20. Center the caliper over the disc.

C. Master Cylinder Service (Figure 5)

The right hand and left hand master cylinders are identical and will be rebuilt in the same manner. Rebuilding must be done with the master cylinder removed from the bike.

NOTE: The Power Adjustment Dial is a non-serviceable item. DO NOT try to repair or replace the assembly.

• Master Cylinder Hose Removal

(See instruction under Hose Removal and Assembly)

• Lever Blade Removal

1. Remove the lever blade by first removing the two 2.5mm Allen head bolts on each side of the master cylinder.
2. Remove the two plastic bushings that fit between the sides of the lever and the body.
3. Firmly grab and pull the “push rod reach adjustment knob” and remove it from the push rod.
4. Using a 2.5mm Allen wrench, turn the push rod clockwise until it is removed from the adjuster bushing and the thread retention bushings.

• Lever Blade Assembly

1. Put the adjuster bushing and thread retention bushings into the hole in the lever. Using a 2.5mm Allen wrench, thread the push rod through the hole in the bushing.
2. Firmly push the reach adjustment knob onto the end of the push rod. Note: Be sure it securely snaps over the retaining ring.
3. Put both plastic lever bushings into the lever, and then slide the lever into place. Line up the washers with the hole in the lever and the holes in the master cylinder body.
4. Drop the pivot pin through the body, lever bushings, and lever hole. Tighten the 2.5mm Allen heads bolts until tight.

• Master Cylinder Piston

Note: it is not necessary to remove the hose from the master cylinder

1. Remove the lever blade. (Note: see instructions)
2. Remove the push rod, master cylinder piston, and spring by removing the snap ring and washer using a snap ring tool. DO NOT attempt to take the rubber seals off of the master cylinder piston.

Warning: Always wear safety glasses when removing a snap ring.

3. Clean and inspect the inside of the master cylinder and all parts. Replace those parts that are damaged with new service parts. Thoroughly clean all of the parts by spraying them with isopropyl alcohol and wiping them with a clean rag.

4. Begin reassembly by dropping the spring and master cylinder assembly into the lever body.
5. Place a small amount of the yellow Versilube onto the ball end of the pushrod.
6. Install the ball end of the threaded push rod into the master cylinder piston. Push on the threaded push rod to assure that all parts are properly in place.
7. Place the retaining washer over the threaded end of the push rod.
8. Using a snap ring tool, install the snap ring into the snap ring groove on the inside of the master cylinder body. Push on the threaded push rod to assure that all parts are properly in place.
9. Install Lever Blade (Note: see instructions)
10. Put the completed master cylinder back onto the handlebars.
11. Bleed the system.

• Master Cylinder Reservoir Cap and Bladder Service (Figure 5)

Note: The reservoir is located in the clamp of the master cylinder body. You will need to remove the master cylinder assembly from the handlebar to perform the below service.
 Note: When you remove the bladder assembly from the master cylinder body, there is no need to remove the hose from the end of the master cylinder.

1. Remove the Master Cylinder from the handlebar.
2. Remove the reservoir cap by removing the two T-10 Torx screws holding the reservoir cap onto the body.
3. Using a needle nose pliers, Carefully remove the bladder from inside the master cylinder body. Caution: If you pull too hard on the bladder, you may tear it.
4. Clean and inspect the area of bladder and cap assembly. Replace those parts that are damaged with new service parts. Thoroughly clean all parts by spraying them with isopropyl alcohol and wiping with a clean rag.
5. Place the bladder into the master cylinder body. Be sure that it is seated properly.
6. Install reservoir cap and secure with the two T-10 Torx bolts. (Torque to 2.5 +/- .5 in.-lb. (.28 +/- .05 Nm)
7. Install master cylinder assembly back on to the handle bar.
8. Bleed the System.

D. Caliper Service (Figure 5)

To repair the caliper, it must be removed from the bike and disassembled.

• Piston Removal

1. Remove the caliper from the bike by removing the two mount bolts.
2. Remove the brake pads.
3. Completely remove the caliper hose assembly.
4. Using the Hayes Caliper Plug Tool, remove the outer caliper plug. (Figure 5)
5. Completely remove the outer caliper piston by pushing it towards the center of the caliper.
6. Remove the inner caliper piston with compressed air.

Warning: Wear safety glasses.

Caution: Do not grab hold of the piston post with pliers. This can destroy the piston.

7. Temporarily block off the fluid port inside the outer caliper half, angle the caliper so the piston is facing downward, then direct pressurized air thru the banjo hole that the hose connects to. This will force the piston out of the caliper.
8. Carefully remove both square seals from inside the caliper. Caution: Do not scratch the groove in the caliper. This can cause leakage. Use a sharpened wood or plastic stick.
9. Clean all of the parts. Then rinse each part with isopropyl alcohol. Be sure to clean the caliper through all the holes.

• Piston Assembly

1. Begin re-assembly of the caliper by lightly lubricating the new square seals with DOT 4 or DOT 3 brake fluid.
2. Install the two square seals by carefully pushing the seal into each of its seal groove – making sure that the seal is worked into the groove all the way around the seal groove.
3. Install a new seal around the caliper plug. Note: It is important to use a new seal on the caliper plug each time you remove the plug. A new seal is included in the piston kit.
4. Using the Hayes Caliper Plug tool, install the outer caliper plug. Tighten to 240 +/- 12 in.-lb. (27.1 +/- 1.4 Nm)
5. Install the inner piston by sliding it through the center of the caliper and pushing it into the caliper bore with the use of a 9mm box wrench.
6. Repeat the previous step for the outer piston.

7. Clean the caliper of any excess brake fluid by spraying it with isopropyl alcohol and wiping it down with a clean cloth.

Note: Bleeders do not have to be replaced every time the caliper is rebuilt. If it is necessary to replace the bleeder, it is available as a service kit. The thread sealant on the bleeder is there only to seal during the bleeding process. If it wears off, replace it with a wrap of Teflon tape thread sealant.

8. Ensure all parts of the hose connections are clean and free of any hair, dirt, etc., and that the O-rings are not torn or chipped.
9. Install the hose connection back onto the caliper in the original position.
10. Reattach the caliper to the frame or fork and bleed the system.

MAINTENANCE

A. Brake Pad Change

Due to wear, contamination, or damage, the brake pads will, on occasion have to be replaced. The following procedure is to be followed for that change of brake pads.

(Note: The pads on the El Camino are removed and installed from the top of the caliper) (Figure 3)

1. Remove the wheel.
2. Using the tab on the pad backing plate, pull the pad toward the center of the caliper and out. There is a spring that holds them in place. That spring snaps on to the post at the center of the piston.
3. Repeat the steps for the other pad.
4. Using the box-end of a 9 mm wrench, push the caliper pistons back until they bottom. This will give you more room to fit in the new pads. Take care not to push on the aluminum post in the center of the piston

Caution: Don't push on the post in the center of the piston because that will bend the post. Walk the piston back and forth until the piston is all the way back in the bore. Do the same thing on the other side.

Note: There are two different brake pads, an inner and outer. The pads are labeled "inner" or "outer" on the back of the pad.

5. When installing the pads, use the tab on the pad backing plate to push the new pads into place. Angle the pad slightly so the post is towards the center of the caliper and push the pad until it snaps into place. Check that the pad is locked into position.
6. Now repeat the procedure for the other pad.
7. Install the wheel.

B. Piston(s) Pumped Out (Figure 3)

If the brake lever is stroked without the disc between the pads (and this is possible when brake pads are being changed), the self-adjusting feature will allow the pads to push out. The caliper pistons will be pumped out of their bore. This would cause excessive drag on the disc when the wheel and disc are reinstalled, or even make it impossible to install the wheel and disc.

To fix this problem...

1. Remove the brake pads from the caliper if they are not already removed.

HINT: If the pads are pushed together tight, slide the Hayes travel spacer between the pads and enlarge the gap until it is larger enough to pull the pads out

2. With the pads removed, push the pistons all the way back into the caliper using the box end of a 9mm end wrench. **Caution:** Don't push on the post in the center of the piston because that will bend the post. Walk the piston back and forth until the piston is all the way back in the bore. Do the same thing on the other side.

3. When the pistons are back into their Bores, replace the pads – putting them in at a slight angle so that the spring catches the post on the piston.

C. Cleaning and Care

The brake disc and pads should only be cleaned with isopropyl alcohol (not disc brake cleaner).

TORQUE CHART

Disc Screws	50 +/- 5 in-lbs (5.65 +/- .55 NM)
Handle Bar Master Cylinder Clamp Screw	15-20 in-lbs (1.7-2.26 Nm)
Caliper Bleeder	35 +/- 5 in-lbs (3.95 +/- .5 Nm) (Torque to Seal, Do not Over- torque)
Caliper Mount Bolts	
74mm caliper with mount bracket	110 +/- 10 in-lbs (12.42 +/- 1.1 Nm)
74mm Caliper with Manitou Forks	80 +/- 5 in-lbs (9,0 Nm)
Banjo Bolt	60 +/- 5 in-lbs (6.7 +/- .5 Nm)
Hose Connections	70 +/- 5 in-lbs (7.9 +/- .55 Nm)
Reservoir Cap Screws	2.5 +/- .5 in-lbs (0.28 +/- .05 Nm)
Bore Plugs	240 +/- 12 in-lbs (27.1 +/- 1.4 Nm)
Lever Pins	17 +/- 3 in-lbs (1.9 +/- .34 Nm)
MC bleed Screws	2.0 +/- .5 in-lbs (.22 +/- .05 Nm)

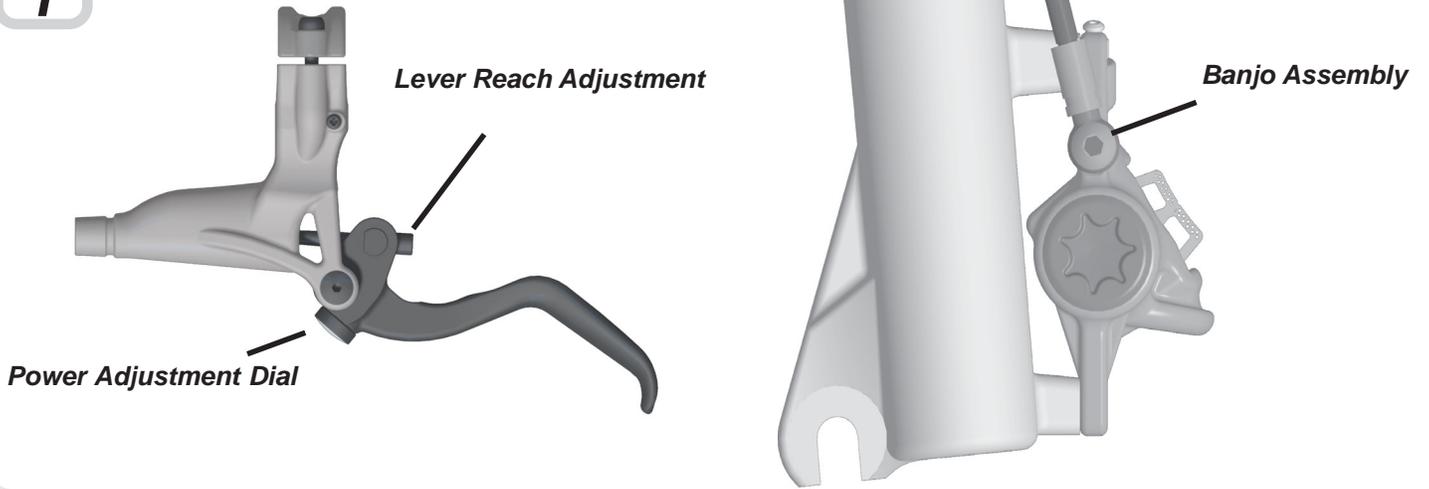
WARRANTY INFORMATION

Any Hayes Disc Brake found by the factory to be defective in materials and/or workmanship within two years from the date of purchase will be repaired or replaced at the option of the manufacturer, free of charge, when received at the factory with proof of purchase, freight prepaid. Any other warranty claims not included in this statement are void. This includes assembly costs (for instance by the dealer), which shall not be covered by Hayes Disc Brake. This warranty does not cover breakage, bending, or damage that may result from crashes or falls. This warranty does not cover any defects or damage caused by alterations or modifications of new Hayes Disc Brakes or parts or by normal wear, accidents, improper maintenance, damages caused by the use of parts of different manufactures, improper use or abuse of the product, or failure to follow the instructions contained in an instruction manual for Hayes Disc Brake. Any modifications made by the user will render the warranty null and void. The cost of normal maintenance or replacement of service items, which are not defective, shall be paid for by the original purchaser. This warranty is expressly in lieu of all other warranties, and any implied are limited in duration to the same duration as the expressed warranty herein. Hayes Disc Brake shall not be liable for any incidental or consequential damages.

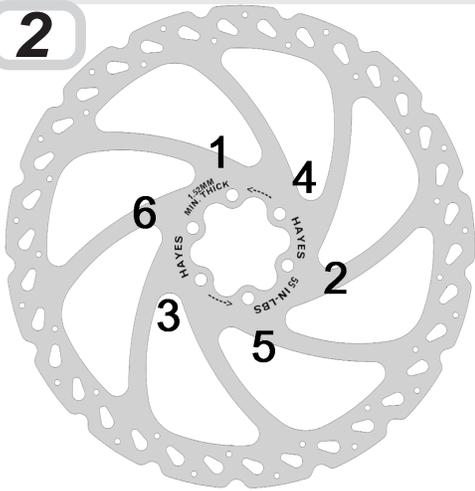
If for any reason warranty work is necessary, return the brake to the place of purchase. In the USA, contact Hayes Disc Brake for a return authorization number (RA#) at (888) 686-3472. At that time, instructions for repair, return, or replacement shall be given. Customers in countries other than USA should contact their dealer or local Hayes Disc Brake distributor.

STARTING OUT

1

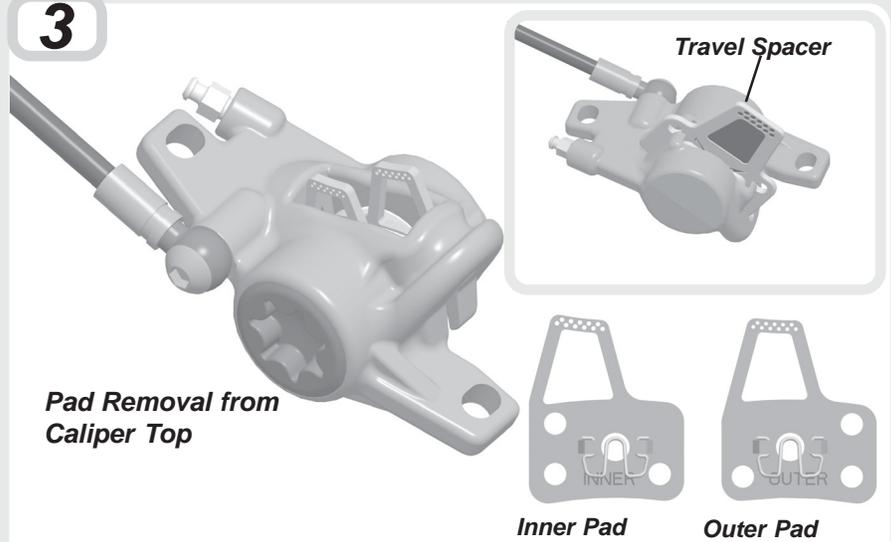


2



Disc Screw Torqueing Sequence

3



BLEEDING THE SYSTEM

4



A

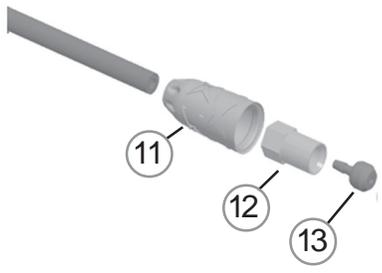


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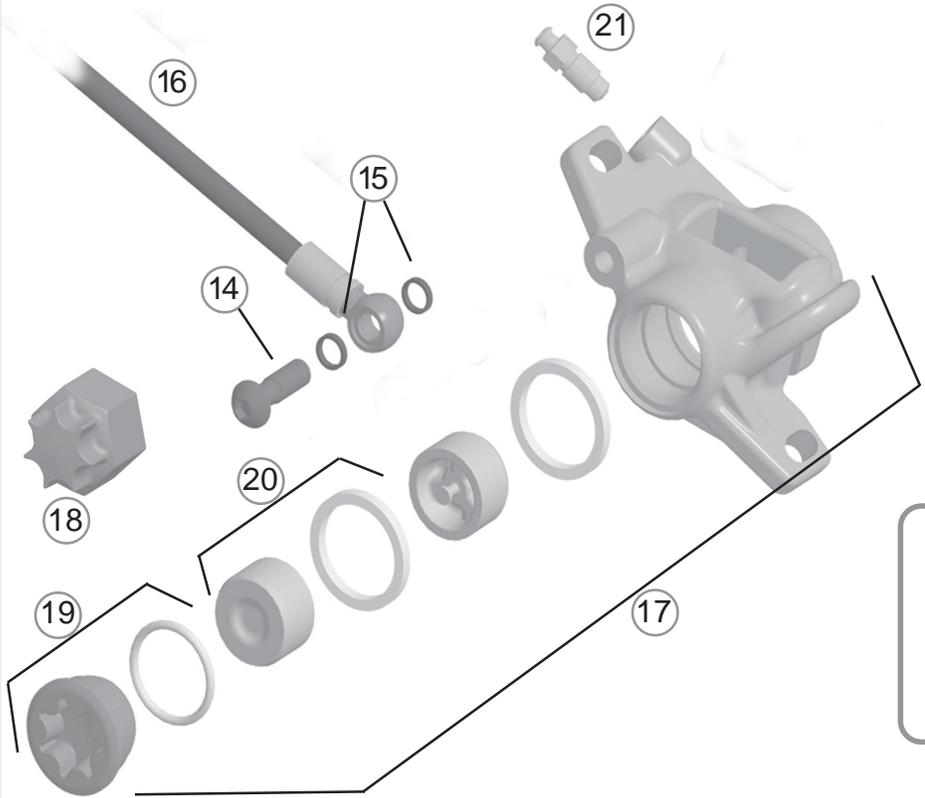
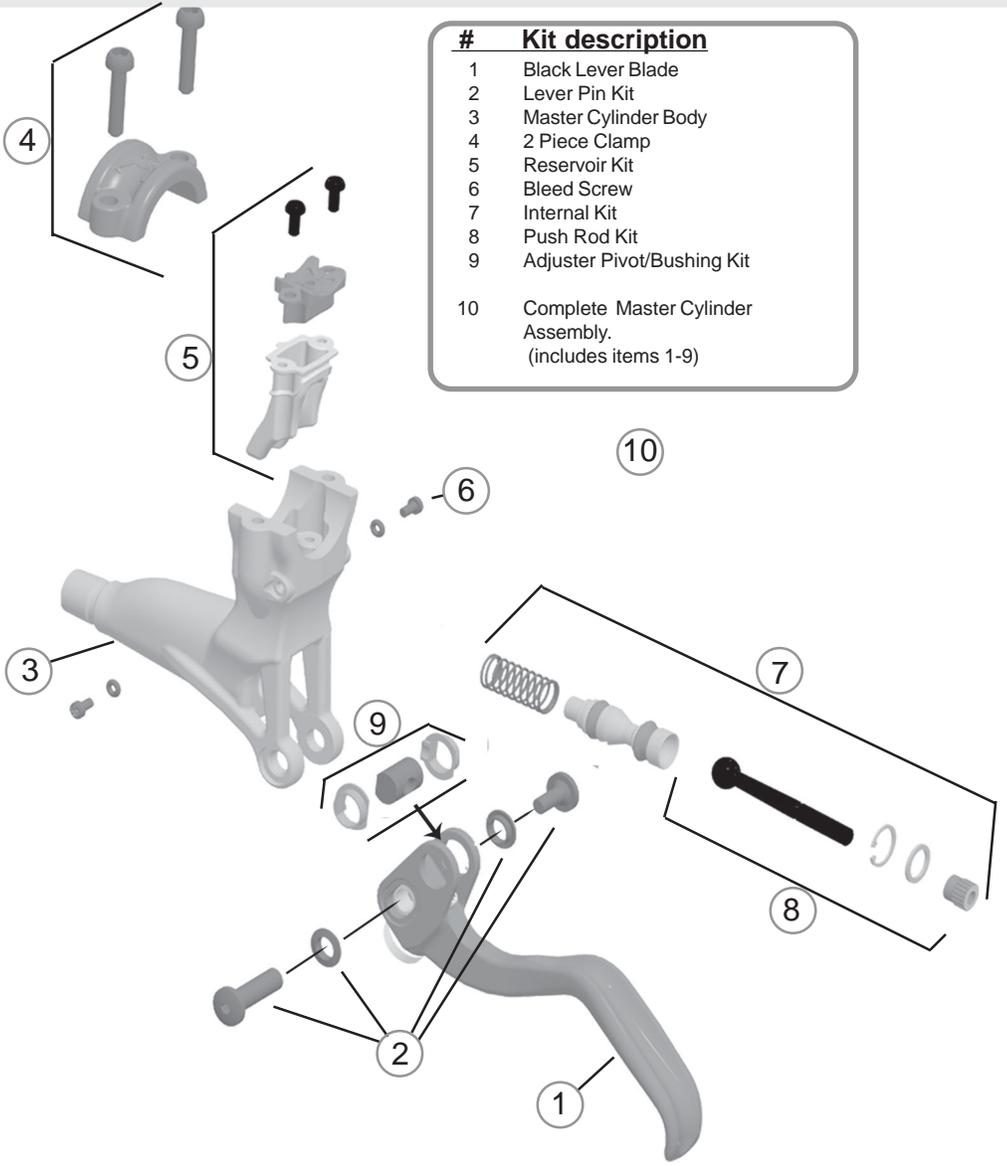


C

#	Kit description
1	Black Lever Blade
2	Lever Pin Kit
3	Master Cylinder Body
4	2 Piece Clamp
5	Reservoir Kit
6	Bleed Screw
7	Internal Kit
8	Push Rod Kit
9	Adjuster Pivot/Bushing Kit
10	Complete Master Cylinder Assembly. (includes items 1-9)



#	Kit description
11	Nose Cone
12	Compression Nut
13	Hose Insert and Compression Bushing
14	Banjo Bolt
15	O-Ring Seal
16	Hose Kit (includes hose and items 11-15)



#	Kit description
17	Complete caliper
18	Service tool for bore cap
19	Bore Cap/Seal Kit
20	Piston Kit
21	Caliper Bleeder Fitting Kit
22	Brake pads