SOLVE / DSK-923 HYDRAULIC DISC BRAKE INSTRUCTIONS

Thank you for choosing this Promax brake system. With a focus on innovation and pushing bicycle technology forward, all of our products are designed and manufactured without compromise to meet the demands of riders everywhere.

To ensure the best performance and reliability, please follow the instructions provided. If you have any questions please contact an authorized dealer or Promax representative. Enjoy and ride safely!

⚠ **WARNING:** Cycling can be dangerous. Bicycle products should be installed and serviced by a professional mechanic. Never modify your bicycle or accessories. Read and follow all product instructions and warnings including information on the manufacturer's website. Inspect your bicycle before every use and always wear a helmet.

For additional Product Safety and Warranty information please see promaxcomponents.com/safety

INCLUDED HARDWARE

Qty	Description
1	Brake Caliper
1	Brake Lever
2	Brake Pads
2	Mounting Bolts

TOOLS FOR CALIPER INSTALLATION:

- 2mm and 5mm hex wrench
- Torque wrench with 4mm and 5mm hex sockets
- T25 Torx Wrench (rotor install)

TOOLS AND MATERIALS NEEDED FOR SHORTENING HYDRAULIC HOSE AND BLEEDING BRAKES:

- 8mm open end wrench
- Needle-nose pliers
- Piston press or flat head screwdriver
- 50mL mineral oil*
- 2 hydraulic bleed syringes*
- 2 bleed fittings*
- Bleed block*
- Housing cutter*
- Caliper hose fittings
- Hose

*Included in the Promax Bleed Kit

PROMAX DISC BRAKE CALIPER AND ADAPTER CONFIGURATIONS

FORK/FRAME TO CALIPER MOUNT CONFIGURATION	MOUNT TYPE	ROTOR SIZE			
		140mm	160mm	180mm	203mm
Post Mount to Post Mount	140 Post Mount	None / Direct Fit	PM180F	-	-
	160 Post Mount	-	None / Direct Fit	PM180F	PM203F
	180 Post Mount	-	-	None / Direct Fit	-
	203 Post Mount	-	-	-	None / Direct Fit
IS Mount to Post Mount	160 IS Mount FRONT	-	IS160F	IS160R / IS180F	-
	140 IS Mount REAR	IS160F	IS160R / IS180F	IS180R	-
Flat Mount to Flat Mount	Flat Mount FRONT	FH160F / FH140F	FH160F / FH140F / FM160F*	-	-
	Flat Mount REAR	None / Direct Fit	FM160R	-	-
Flat Mount to Post Mount	Flat Mount FRONT	FP140F	FP160F	-	-
	Flat Mount REAR	FP140R	FP160R	-	-

DISC BRAKE INSTALLATION

Disc brake installation is a four-step process.

1. Install brake rotor (optional)
2. Mount brake lever.
3. Mount brake caliper on frame/fork.
4. Apply brake lever and tighten caliper mounting bolts.

STEP 1: INSTALL BRAKE ROTOR (OPTIONAL)

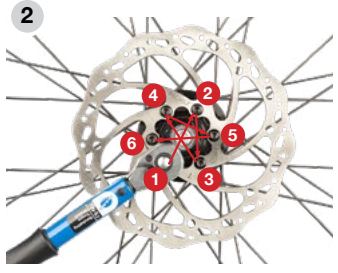
1

⚠ **WARNING:** Avoid touching the rotor face with your bare hands. Gloves are recommended as fingerprint oil and grease deposits on the rotor face can contaminate the brake pads, resulting in a significant loss of braking force. Handle the brake rotor only by the radial spoken or center mounting ring. If you accidentally touch the rotor face, clean with a rag and isopropyl alcohol.

Remove the wheel per manufacturer's instructions.

Position the rotor onto 6-bolt hub with the direction arrow following the forward rotation of the wheel.

2



While applying a clockwise rotation to the rotor use T25 Torx wrench to install and tighten the bolts 1/4 turn at a time following the pattern shown. Continue until the bolts are tightened to 5Nm.

Reinstall the wheel per manufacturer's recommendation.

STEP 2: INSTALL BRAKE LEVER

Remove handlebar grip and slide new brake lever onto handlebar. Re-install handlebar grip and position brake lever to your preferred position. Tighten brake lever to 3–5Nm using 4mm hex socket.

If lever reach needs to be adjusted, use 2mm hex wrench.

STEP 3: MOUNT BRAKE CALIPER ON FRAME/FORK

1

Run hydraulic hose along the frame where needed. Ensure housing makes smooth bends.

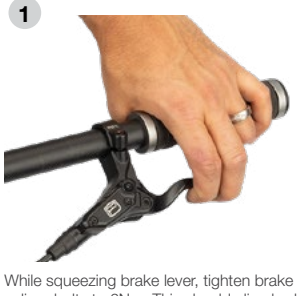
2

Remove brake pad spacer. Secure brake caliper loosely to frame using bolts. If adapter is needed, see Promax adapter chart.

WARNING: Once the brake pad spacer is removed, do not apply the brake lever until the caliper is installed with a rotor. Doing so will dislodge the brake piston(s) resulting in a fluid leak and an inoperative brake.

STEP 4: APPLY BRAKE AND TIGHTEN CALIPER MOUNTING BOLTS

1



While squeezing brake lever, tighten brake caliper bolts to 6Nm. This should align brake caliper pads to rotor.

2

Release the brake lever and rotate the wheel. If the brake pads rub the rotor surface, loosen caliper mounting bolts to make final adjustments to caliper / rotor position.

SHORTENING HYDRAULIC HOSE AND BLEEDING BRAKES

WARNING: When shortening hose or bleeding brakes, remove or cover brake pads and rotors. The performance of brakes will be greatly diminished if rotors or pads are contaminated with mineral oil.

STEP 1: PREPARE BICYCLE FOR HOSE SHORTENING AND BRAKE BLEEDING

1

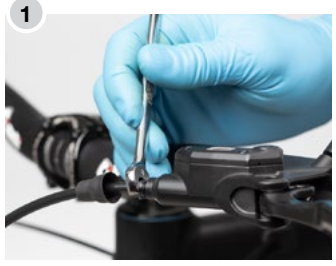
Remove the wheel from bicycle per wheel manufacturer's instructions.

2

Remove brake pads using needle nose pliers to prevent contamination with mineral oil. Then, using a piston press or flat head screwdriver, push pistons back into caliper as far as they will go. Insert the caliper block into the pad's recess and fasten with rubber band. Set the brake pads aside in a clean, dry place.

STEP 2: DISCONNECT BRAKE HOSE FROM LEVER

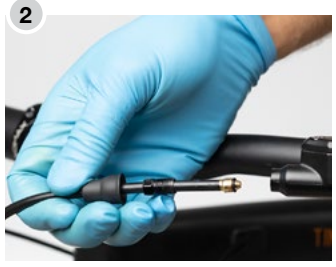
1



WARNING: Do no squeeze brake lever when removing hydraulic hose as it will result in loss of mineral oil from the lever.

Loosen the lever clamp with 4mm hex socket and raise the lever so that it is parallel to the ground. Tighten lever clamp.

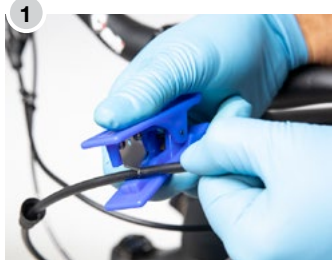
2



Pull away dust cover, then unscrew the compression nut from the lever using 8mm wrench. Slightly wiggle the brake hose and carefully pull it out from the brake lever to avoid spilling mineral oil. Make sure O-ring is also pulled out.

STEP 3: MEASURE & CUT HOSE TO LENGTH

1

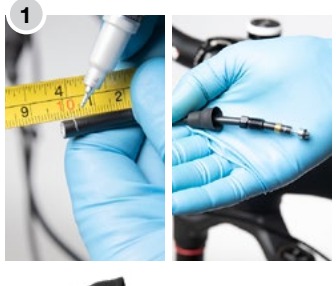


Run housing along the frame. Ensure housing makes smooth bends and that handlebars can rotate completely in both directions without pulling on the hose. Mark the hose cut area and cut it to the desired length.

WARNING: Make sure cut is straight as hose cut at an angle will not properly seal brake system.

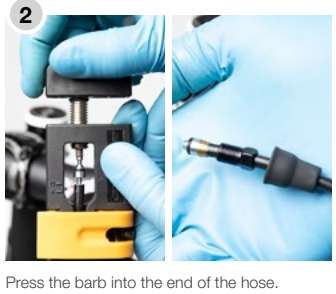
STEP 4: CONNECT BRAKE HOSE TO LEVER

1



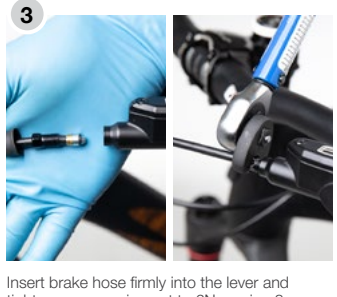
Measure 3.5mm from the end of hose length and mark it. In the following order mount dust cover, compression nut, and olive. Note: Olive is cone shaped and the wider part of it must be positioned towards the barb.

2



Press the barb into the end of the hose. Make sure the barb is inserted all the way into the hose and olive covers 3.5mm mark when pressed against the barb.

3



Insert brake hose firmly into the lever and tighten compression nut to 6Nm using 8mm torque wrench. Install dust cover.

STEP 5: PREPARE LEVER FOR BRAKE BLEED

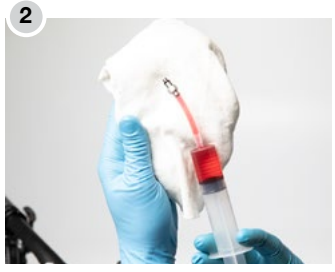
1

Assemble lever syringe by installing plastic housing and bleed connector to syringe. Note: lever bleed port connector bolt is smaller (M5) than caliper bleed bolt connector (M6).

WARNING: By cutting brake hose, air is introduced into the brake system. Bleeding brakes is necessary to remove air bubbles and restore braking performance.

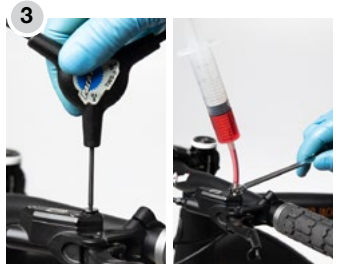
WARNING: Do not use DOT fluid. Only mineral oil by Promax and Shimano is compatible with Promax hydraulic brakes.

2



Fill lever syringe 1/3 full with mineral oil. While holding syringe in upright position with paper towel or rag covering bleed bolt, press syringe plunger to get rid of any air bubbles in the syringe.

3



Using T10 Torx wrench, remove lever bleed port screw. Thread the lever bleed syringe tightening it with 8mm wrench.

STEP 6: PREPARE CALIPER FOR BRAKE BLEED

1

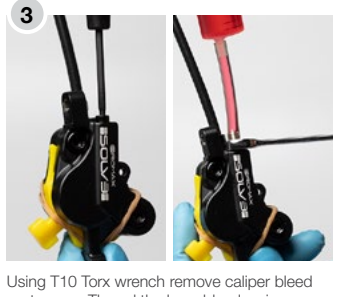
Detach caliper from frame / fork.

Assemble caliper syringe by installing plastic housing and bleed connector to syringe. Note: lever bleed port connector bolt is smaller (M5) than caliper bleed bolt connector (M6).

2

Fill caliper syringe 2/3 full of mineral oil. While holding syringe in upright position with paper towel or rag covering bleed bolt, press syringe plunger to get rid of any air bubbles in the syringe.

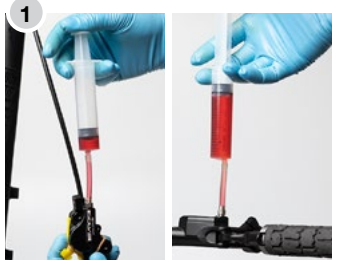
3



Using T10 Torx wrench remove caliper bleed port screw. Thread the lever bleed syringe tightening it with 8mm wrench.

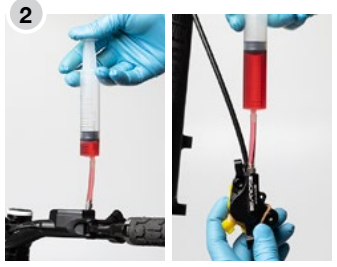
STEP 7: BLEED THE BRAKE SYSTEM

1



Holding the caliper syringe upright, slowly push plunger down until caliper syringe is 1/4 full and lever syringe is 3/4 full.

2



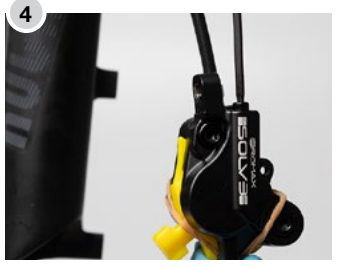
Reverse bleed process: holding the lever syringe upright, slowly push plunger down until lever syringe is 1/4 full and caliper syringe is 3/4 full.

Note: If bleeding old hydraulic brakes, be sure to replace old mineral oil to prevent contamination! Before performing reverse bleed process, remove lever syringe, discard old and re-fill lever syringe with fresh mineral oil. Continue with bleed process as follows.

3

Repeat cycle a couple of times until air bubbles have escaped the brake system.

4

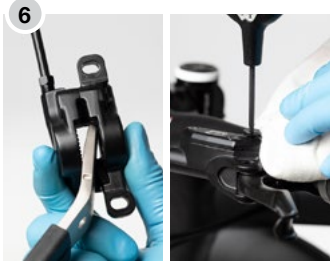


Remove caliper syringe with 8mm wrench and reinstall bleed port screw using T10 Torx wrench. Wipe off excess oil with paper towel and isopropyl alcohol.

5

Pull on lever syringe to create negative pressure and remove any remaining air bubbles. Quickly squeeze and release the brake lever, then repeat until no more air bubbles leave the lever.

6



Remove lever syringe with 8mm wrench and cover bleed hole with tissue paper. Remove rubber band from the caliper and remove bleed block. Then push the pistons back as far they will go with flat head screwdriver. Some mineral oil will come out of lever bleed port. Replace the O-ring and tighten lever bleed port bolt using T10 Torx wrench. Clean lever surface with tissue paper and isopropyl alcohol.

7

Install brake pads. Loosely re-install brake caliper to frame or fork. Install wheel per wheel manufacturer's instructions. Loosen the lever clamp with 4mm hex socket, and adjust brake lever to desired position.

8

Squeeze the brake lever to return pistons to correct position. It may take 3 or 4 pulls for pads to make firm contact with the appropriate lever throw. While squeezing brake lever, tighten brake caliper bolts to 6Nm. This should align brake caliper pads to rotor.

NEW BRAKE PAD BED-IN PROCEDURE

The brake pad break-in procedure is critical to achieving quiet operation, maximum performance and long brake pad life. The procedure heats up the brake pad and "embeds" a thin film of friction material onto the face of the rotor. Perform the break-in procedure immediately after installation and before performing any long rides.

- Accelerate to a moderate speed and firmly apply brakes until you slow to walking speed. Do not lock your wheels during the procedure. Repeat 20 times.
- Accelerate to a faster speed and firmly apply brakes until you slow to walking speed. Do not lock your wheels during the procedure. Repeat 10 times.

⚠ **WARNING:** Disc brakes apply more stopping power than rim brakes. Use less braking pressure than normal during the first few bed-in stops to prevent wheel lockup, crash, and serious injury. Increase brake pressure on each successive braking sequence as you become accustomed to their operation.

ONGOING DISC BRAKE MAINTENANCE

CLEANING

Disc brake performance is reduced significantly by the presence of oil or grease, mud, snow or ice on the rotor face. Remove ice and snow before and during your ride. Rinse mud off the rotor using clean water. Remove oil and grease with isopropyl alcohol and a clean rag.

CHECK PAD THICKNESS

Replace brake pads when the pad material is worn to 0.5mm or less (not including the backing plate).

REPLACEMENT PAD SHAPE