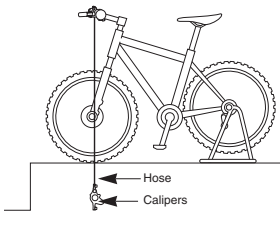


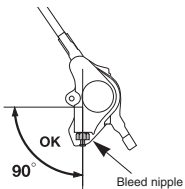
Adding mineral oil and bleeding air

When carrying out the air bleeding operation for the BR-M985, you will need the SM-DISC (oil funnel and oil stopper).

With the spacer for bleeding (yellow) still attached to the calipers, place the bicycle into a bicycle stand or similar as shown in the illustration.

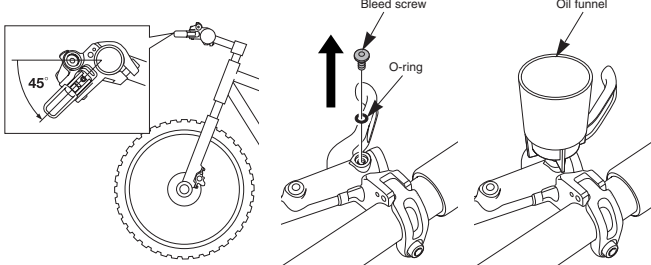


Note:
Carry out the steps within the following range so that the end with the bleed nipple is facing downward as shown in the illustration. If the steps are outside this range, complete air bleeding may not be possible.

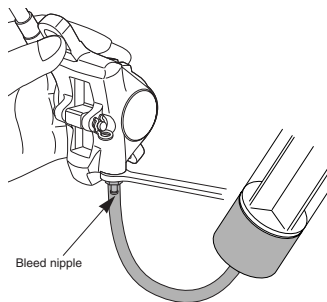


■ When using the bleed nipple

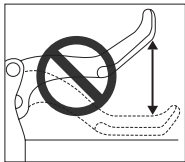
1. Set the brake lever so that it is in the riding position at a 45 degree angle to the ground, and then remove the upper bleed screw and the O-ring and insert the oil funnel. Do not insert the oil stopper at this time.



2. Set a 7 mm socket wrench in place, fill the syringe with oil, connect a tube to the bleed nipple, and then loosen the bleed nipple by 1/8 of a turn to open it. Push the plunger of the syringe to add oil. The oil will start coming out from the oil funnel. Continue adding oil until there are no more air bubbles mixed in with the oil that is coming out.

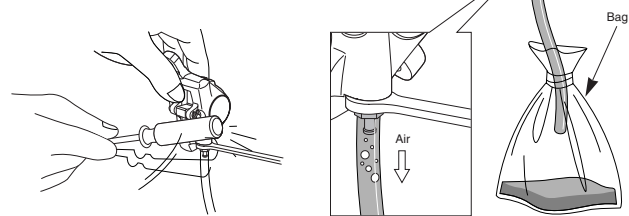


3. Once there are no more air bubbles mixed in with the oil, temporarily close the bleed nipple.

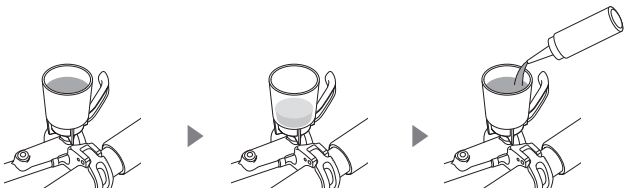


Do not continually squeeze and release the lever at this point.
If this is not observed, air bubbles may remain mixed in with the oil inside the caliper, and it will take longer to bleed the air. (If the lever is continually squeezed and released, drain out all of the oil and then add oil again.)

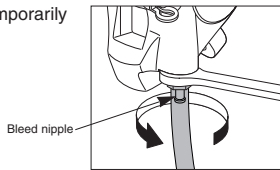
4. Set a 7 mm socket wrench in place as shown in the illustration, and then attach the bag to the tube. Connect the tube to the bleed nipple and then loosen the bleed nipple. After a little while, the oil and air will flow naturally from the bleed nipple into the tube. In this way it will be possible to easily extract the greater part of the air remaining inside the brake system. It may help to shake the hose gently or to tap the reservoir tank or caliper gently with a screwdriver or move the position of the caliper at this time.



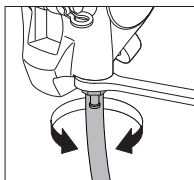
5. The level of liquid inside the funnel will drop at this time, so keep filling the funnel with oil to maintain the level of liquid so that air is not drawn in (air does not get inside).



6. Once air bubbles stop coming out from the bleed nipple, temporarily tighten the bleed nipple.



7. With the brake lever depressed, open and close the bleed nipple in rapid succession (for approximately 0.5 seconds each time) to release any air bubbles which may be in the calipers. Repeat this procedure about 2 to 3 times. Then tighten the bleed nipple again.

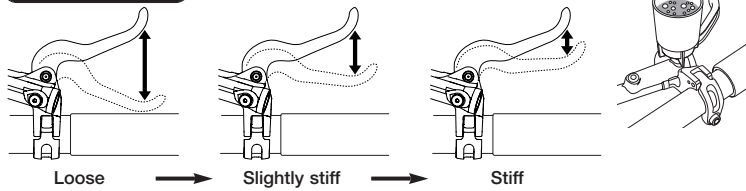


Tightening torque:
4 - 6 N·m {35 - 53 in. lbs.}

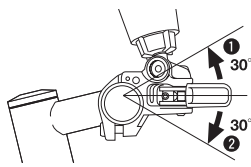


8. If the brake lever is then operated, air bubbles in the system will rise up through the port into the oil funnel. Once the bubbles stop appearing, depress the brake lever as far as it will go. The normal condition is for the lever to be stiff at this point.

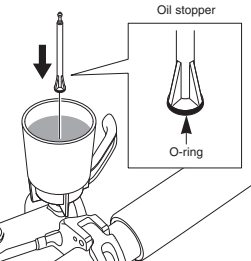
Lever operation



9. Set the lever unit to the horizontal position as shown in the illustration and tilt it in the direction of ① by 30 degrees, and then carry out step 8 to check that there is no air remaining. Next, tilt the lever unit 30 degrees in the direction of ②, and carry out step 8 again to check that there is no air remaining. If any air bubbles appear, repeat the above procedure until they stop appearing.



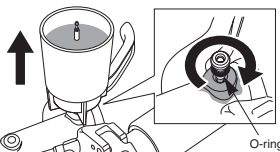
10. Plug the oil funnel with the oil stopper so that the side with the O-ring attached is facing downward.



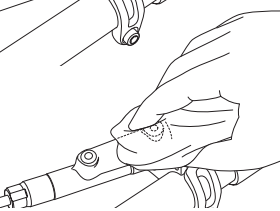
11. Remove the oil funnel while it is still being plugged with the oil stopper, and then attach the O-ring to the bleed screw and tighten it until oil flows out to make sure that there are no air bubbles remaining inside the reservoir tank.

* Do not operate the brake lever at this time, otherwise air may get inside the cylinder.

Tightening torque:
0.3 - 0.5 N·m {2.7 - 4.4 in. lbs.}



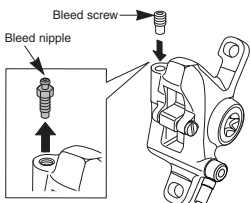
12. Wipe away any oil which has flowed out.



<Replace the bleed nipple with the bleed screw>

Remove the brake calipers from the frame.

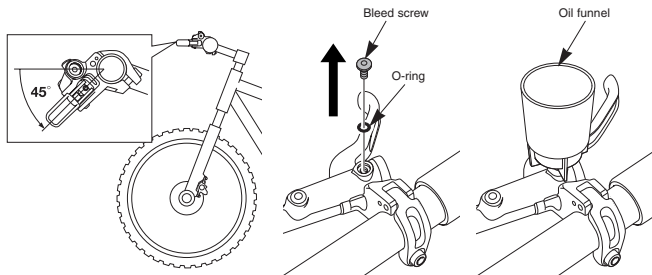
Hold the calipers so that the bleed nipple is facing upward and then remove the bleed nipple and install the bleed screw. At this time, tighten the bleed screw until oil flows out to make sure that there are no air bubbles remaining inside the calipers. After this, wipe away any oil which has flowed out.



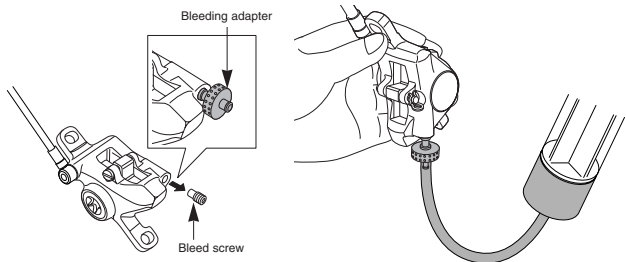
Tightening torque:
4 - 6 N·m {35 - 53 in. lbs.}

■ When using the bleed screw

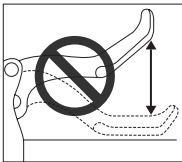
1. Set the brake lever so that it is in the riding position at a 45 degree angle to the ground, and then remove the upper bleed screw and the O-ring and insert the oil funnel. Do not insert the oil stopper at this time.



2. Remove the bleed screw of the bleed unit from the calipers, and install the bleeding adapter. Fill the syringe with oil and connect a tube to the bleeding adapter, and then loosen the bleeding adapter by 1/8 of a turn to open it. Push the plunger of the syringe to add oil. The oil will start coming out from the oil funnel. Continue adding oil until there are no more air bubbles mixed in with the oil that is coming out.

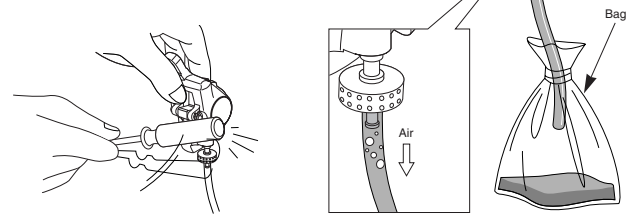


3. Once there are no more air bubbles mixed in with the oil, temporarily close the bleeding adapter.

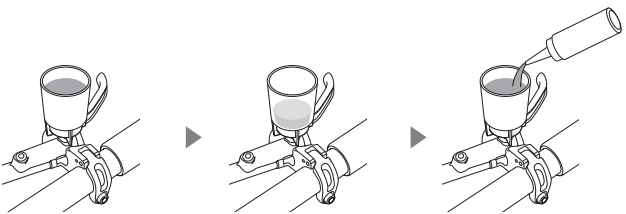


Do not continually squeeze and release the lever at this point.
If this is not observed, air bubbles may remain mixed in with the oil inside the caliper, and it will take longer to bleed the air. (If the lever is continually squeezed and released, drain out all of the oil and then add oil again.)

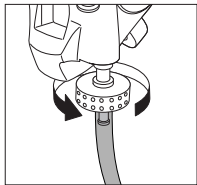
4. Attach a bag to the tube. Connect the tube to the bleeding adapter, and then loosen the bleeding adapter. After a little while, the oil and air bubbles will flow naturally from the bleeding adapter into the tube. In this way it will be possible to easily extract the greater part of the air bubbles remaining inside the brake system. It may help to shake the hose gently or to tap the reservoir tank or calipers gently with a screwdriver or move the position of the calipers at this time.



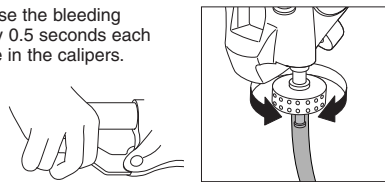
5. The level of liquid inside the funnel will drop at this time, so keep filling the funnel with oil to maintain the level of liquid so that air is not drawn in (air does not get inside).



6. Once air bubbles stop coming out from the bleeding adapter, temporarily tighten the bleeding adapter.

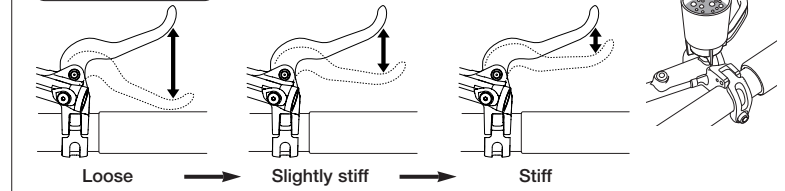


7. With the brake lever depressed, open and close the bleeding adapter in rapid succession (for approximately 0.5 seconds each time) to release any air bubbles which may be in the calipers. Repeat this procedure about 2 to 3 times. Then tighten the bleeding adapter again.

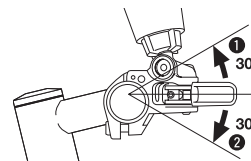


8. If the brake lever is then operated, air bubbles in the system will rise up through the port into the oil funnel. Once the bubbles stop appearing, depress the brake lever as far as it will go. The normal condition is for the lever to be stiff at this point.

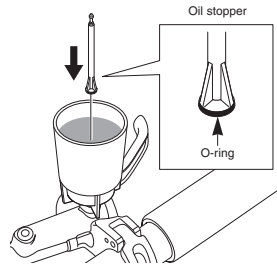
Lever operation



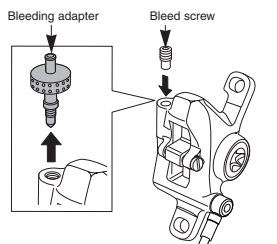
9. Set the lever unit to the horizontal position as shown in the illustration and tilt it in the direction of ① by 30 degrees, and then carry out step 8 to check that there is no air remaining. Next, tilt the lever unit 30 degrees in the direction of ②, and carry out step 8 again to check that there is no air remaining. If any air bubbles appear, repeat the above procedure until they stop appearing.



10. Plug the oil funnel with the oil stopper so that the side with the O-ring attached is facing downward.



11. Set the bleeding adapter so that it is facing upward and then remove it, and then insert and tighten the bleed screw. At this time, tighten the bleed screw until oil flows out to make sure that there are no air bubbles remaining inside the calipers.

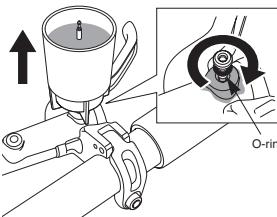


Tightening torque:
4 - 6 N·m {35 - 53 in. lbs.}

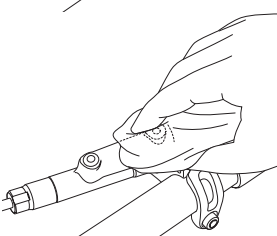
12. Remove the oil funnel while it is still being plugged with the oil stopper, and then attach the O-ring to the bleed screw and tighten it until oil flows out to make sure that there are no air bubbles remaining inside the reservoir tank.

* Do not operate the brake lever at this time, otherwise air may get inside the cylinder.

Tightening torque:
0.3 - 0.5 N·m {2.7 - 4.4 in. lbs.}



13. Wipe away any oil which has flowed out.



SHIMANO

SHIMANO AMERICAN CORPORATION
One Holland, Irvine, California 92618, U.S.A. Phone: +1-949-951-5003

SHIMANO EUROPE B.V.
Industrieweg 24, 8071 CT Nunspeet, The Netherlands Phone: +31-341-272222

SHIMANO INC.
3-77 Oimatsu-cho, Sakai-ku, Sakai-shi, Osaka 590-8577, Japan

* Service Instructions in further languages are available at : <http://techdocs.shimano.com>
Please note: specifications are subject to change for improvement without notice. (English)
© May 2010 by Shimano Inc. XBC SZK Printed in Japan.

XTR Front Disc Brake

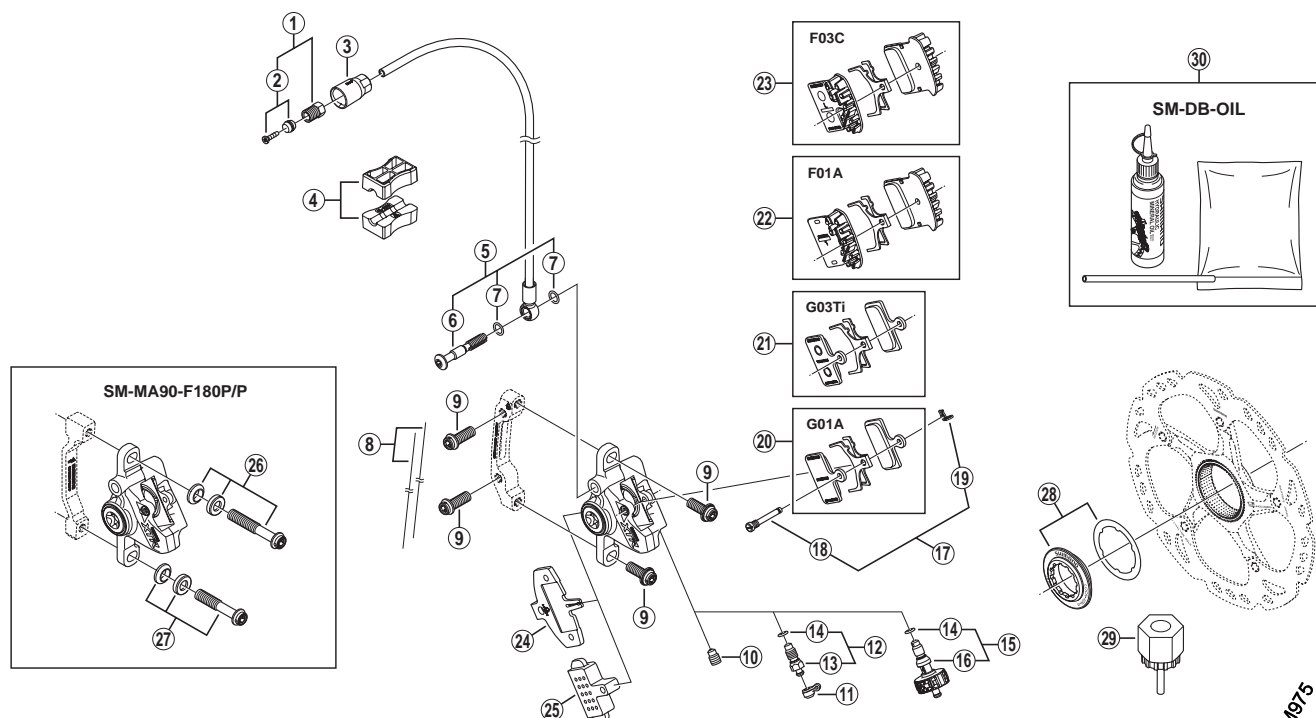
BR-M985 SM-RT98

Brake Caliper

Disc Rotor

SM-BH90-SB

Brake Hose



BR-M985

ITEM NO.	SHIMANO CODE NO.	DESCRIPTION	INTERCHANGE-ABILITY
1	Y8JA98010	Connecting Bolt Unit	
2	Y8JA98020	Olive & Connector Insert	
3	Y8JA07000	Cover	
4	Y8H198030	TL-BH61 Special Tool (2 pcs.)	A
5	Y8JA98030	Banjo Bolt & O-Ring	
6	Y8JA04000	Banjo Bolt	
7	Y8SY28000	O-Ring	
8	Y8B298010	Wire (2 pcs.)	A
9	Y8J721000	Caliper Fixing Bolt (M6 x 15.2)	
10	Y8C506100	Bleed Screw	
11	Y8B214000	Bleed Nipple Cap	A
12	Y8CL98050	Bleed Nipple & Seal Ring	A
13	Y8CL24000	Bleed Nipple	A
14	Y8B511001	O-Ring for Bleed Nipple	A
15	Y8J798050	TL-BR52 Bleed Adapter & O-Ring	
16	Y8J724000	TL-BR52 Bleed Adapter	
17	Y8J798060	Pad Axle & Snap Ring	
18	Y8J710000	Pad Axle	
19	Y8J716000	Snap Ring	
20	Y8J798030	Resin Pad (G01A) & Spring	
21	Y8J798040	Metal Pad (G03Ti) & Spring	
22	Y8J798010	Resin Pad (F01A) w/Fin & Spring	
23	Y8J798020	Metal Pad (F03C) w/Fin & Spring	
24	Y8J709000	Pad Spacer	
25	Y8J712000	Bleeding Spacer	
26	Y8JB98010	Caliper Fixing Bolt Unit (M6 x 36.3)	
27	Y8JB98020	Caliper Fixing Bolt Unit (M6 x 30.5)	
28	Y8J998010	Lock Ring & Washer	
29	Y12009230	TL-LR15 Lock Ring Removal Tool	A
30	Y83998010	Mineral Oil Bleed Kit (50 ml)	A

A: Same parts.

B: Parts are usable, but differ in materials, appearance, finish, size, etc.

Absence of mark indicates non-interchangeability.

Jun.-2010-3075

© Shimano Inc. I

Specifications are subject to change without notice.

SHIMANO

XTR Rear Disc Brake

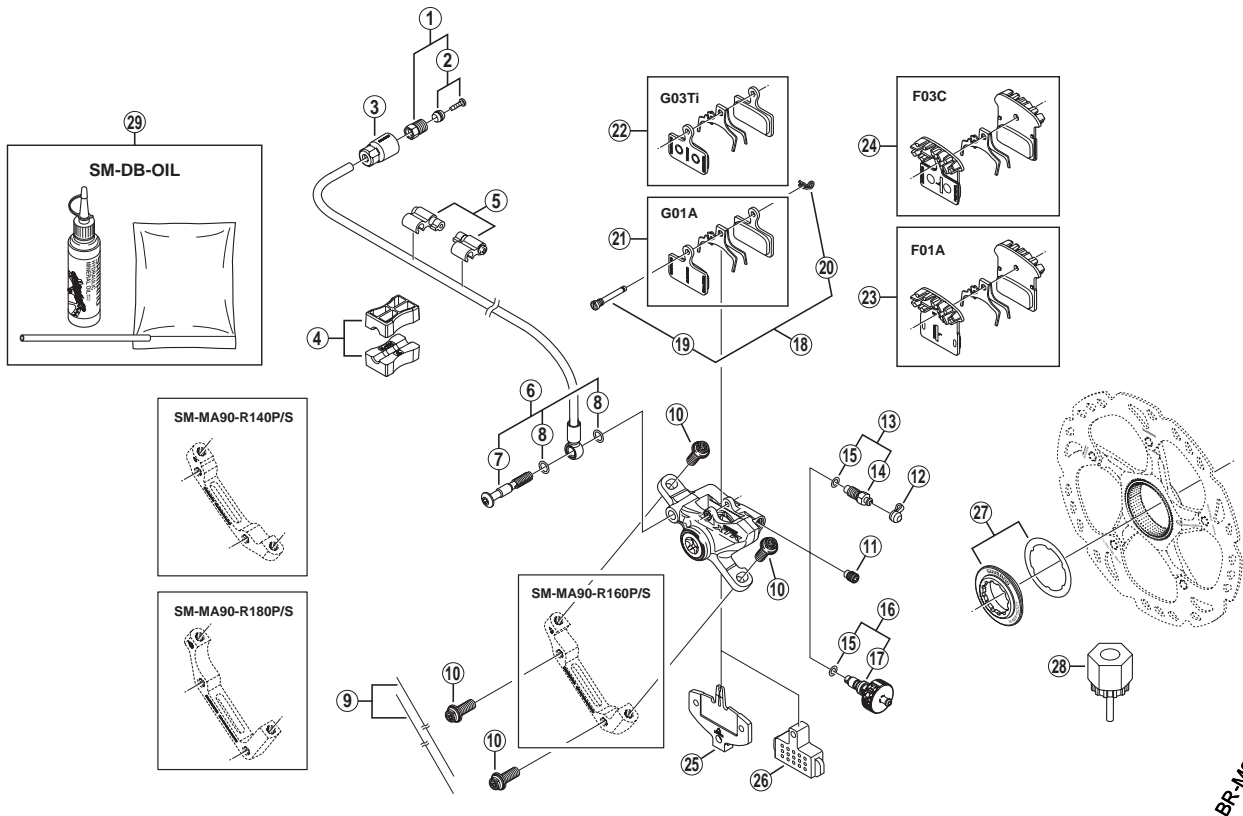
BR-M985 SM-RT98

Brake Caliper

Disc Rotor

SM-BH90-SB

Brake Hose



ITEM NO.	SHIMANO CODE NO.	DESCRIPTION	INTERCHANGEABILITY
1	Y8JA98010	Connecting Bolt Unit	
2	Y8JA98020	Olive & Connector Insert	
3	Y8JA07000	Cover	
4	Y8H198030	TL-BH61 Special Tool (2 pcs.)	A
5	Y83098040	SM-HANG Hose Supporter A & B	A
6	Y8JA98030	Banjo Bolt & O-Ring	
7	Y8JA04000	Banjo Bolt	
8	Y8SY28000	O-Ring	
9	Y8B298010	Wire (2 pcs.)	A
10	Y8J721000	Caliper Fixing Bolt (M6 x 15.2)	
11	Y8C506100	Bleed Screw	
12	Y8B214000	Bleed Nipple Cap	A
13	Y8CL98050	Bleed Nipple & Seal Ring	A
14	Y8CL24000	Bleed Nipple	A
15	Y8B511001	O-Ring for Bleed Nipple	A
16	Y8J798050	TL-BR52 Bleed Adapter & O-Ring	
17	Y8J724000	TL-BR52 Bleed Adapter	
18	Y8J798060	Pad Axle & Snap Ring	
19	Y8J710000	Pad Axle	
20	Y8J716000	Snap Ring	
21	Y8J798030	Resin Pad (G01A) & Spring	
22	Y8J798040	Metal Pad (G03Ti) & Spring	
23	Y8J798010	Resin Pad (F01A) w/Fin & Spring	
24	Y8J798020	Metal Pad (F03C) w/Fin & Spring	
25	Y8J709000	Pad Spacer	
26	Y8J712000	Bleeding Spacer	
27	Y8J998010	Lock Ring & Washer	
28	Y12009230	TL-LR15 Lock Ring Removal Tool	A
29	Y83998010	Mineral Oil Bleed Kit (50 ml)	A

A: Same parts.

B: Parts are usable, but differ in materials, appearance, finish, size, etc.

Absence of mark indicates non-interchangeability.

Jun.-2010-3076

© Shimano Inc. I

Specifications are subject to change without notice.

SHIMANO