

Please read carefully before the installation. And also please keep this manual until scrapping this product.

COMMON SPECIFICATIONS

FULL SPEC MASTERCYLINDER / VRC(Variable Ratio Control) TYPE

■ Features

- ★ Variable lever ratio
Unique variable lever ratio control system can adjust in 0.25mm step.
Max. 2mm adjusting range from supporting point to operating point.
- ★ Forged aluminum body
High-pressure forged aluminum material. High stiffness and light weight.
- ★ Radial pump
To align and set up pushrod and cylinder at right angle against handlebar realizes less friction, more direct brake feeling and better braking control. It reduces the damage on the mastercylinder when tipping over.
- ★ Folding lever blade
Power lever is assembled for brake / Straight lever is assembled for clutch
- ★ Lever blade shape
Quick and safe release system just by loosening one bolt.
- ★ Quick release handlebar clamp

■ Product line

● Brake mastercylinder

Part #	Piston dia.	Lever ratio	Clamp type
VRC19-19B	φ 19	20-18mm	Standard
VRC19-19BM			Rear-view mirror
VRC19-19BT			Reservoir
VRC19-17B			Standard
VRC19-17BM	φ 16	18-16mm	Rear-view mirror
VRC19-17BT			Reservoir
VRC16-17B			Standard
VRC16-17BM			Rear-view mirror
VRC16-17BT	Reservoir		

● Clutch mastercylinder

Part #	Piston dia.	Lever ratio	Clamp type
VRC19-19C	φ 19	20-18mm	Standard
VRC19-19CM			Rear-view mirror
VRC19-19CT			Reservoir
VRC16-17C			Standard
VRC16-17CM	φ 16	18-16mm	Rear-view mirror
VRC16-17CT			Reservoir

※ Rear-view mirror mount thread size : M10xP1.25/CW

※ Reservoir mount thread size : M6xP1.0

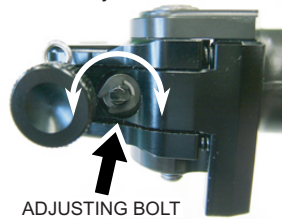
※ Brake line banjo bolt thread size : M10xP1.00

⚠ PRECAUTIONS

● Basic installation precautions

- This product is very different shape from horizontal mastercylinder. Mind the space to install and check the product does not touch anywhere of the bike.
- Brake line is fixed under the product. So the brake line using for horizontal mastercylinder may not be able to reuse for this product. In this case, prepare an appropriate brake line separately.
- After fixing the brake line, fully grip the lever to the end and check the product does not touch with banjo, bolt and etc. In case of using the product with touching those parts, not only the brake lever blade and/or brake switch may deform and/or break, but also the brake lever blade may not be pushed back and as a result, vapor lock and/or brake fade may occur then lead to a serious accident.

● Lever ratio adjustment



ADJUSTING BOLT

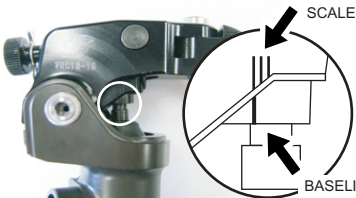
- ① Adjust the lever ratio (turn the adjusting bolt)
counterclockwise : the lever ratio gets larger
clockwise : the lever ratio gets smaller

The larger you adjust the lever ratio, the less the lever stroke and the harder the brake feeling get.

The smaller you adjust the lever ratio, the larger the lever stroke and the softer the brake feeling get.

Adjustment : Turn the adjusting bolt until you feel the click.

The left of the upper scale (3 lines) is the minimum and the right is the maximum.



SCALE

BASELINE

⚠ ATTENTION

- 4 clicks available to the right and left from the center of the scale.
- Do not adjust to outside the adjusting range. (over 5 clicks)

● Lever blade position adjustment



- ① Adjust the lever position as it works properly (Turn the adjusting dial)
clockwise : wider the lever gets wider distance
counterclockwise : narrower the lever gets narrower distance
- ② By actually gripping the lever, find the best position to operate.
Do not adjust the lever too wider or too narrower.

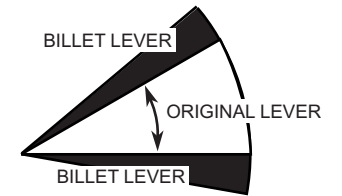
⚠ WARNING Make sure to check below each time adjusting the lever position

- ★ When adjusted the lever narrower
Check if your finger(s) is squeezed and/or the lever hits on the handlebar when gripping.
- ★ When adjusted the lever wider
Check if the lever does not hit on any part of the bike when the steering fully moving right and left.

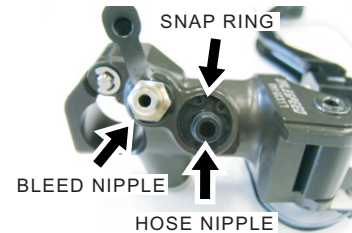
⚠ ATTENTION

Travel range of the billet lever sets up wider than the original. When using the range out of the original (black part on the left fig.), make sure to check the warning and precautions, and confirm the available operation range by the user's own.

TRAVEL RANGE DIFFERENCE



● Others

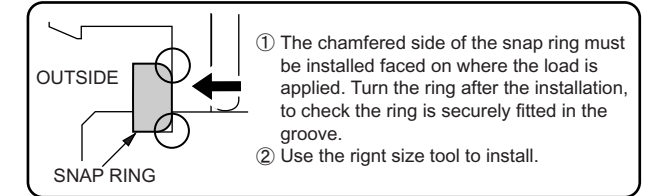


BLEED NIPPLE

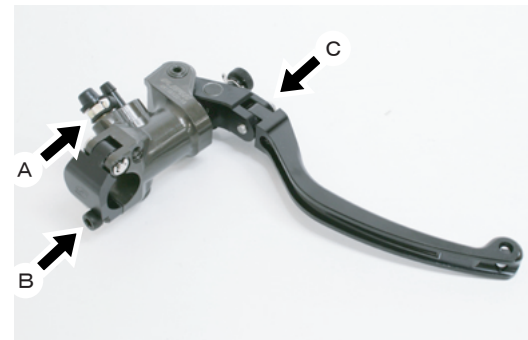
HOSE NIPPLE

- ① Choose a suitable hose nipple for each hose inner diameter.
brembo : φ 6mm (preinstalled)
NSSIN : φ 7.3mm (included)

⚠ ATTENTION



- ① The chamfered side of the snap ring must be installed faced on where the load is applied. Turn the ring after the installation, to check the ring is securely fitted in the groove.
- ② Use the right size tool to install.



- ② Tightening torque
A : Bleed nipple : 10Nm
B : Handlebar clamp : 12Nm
C : Lever blade folding part : 12Nm
- ③ For street use, prepare a pressure switch for brake and clutch mastercylinders.

⚠ WARNING

- Check your mastercylinder piston size, and make sure to choose and install the same piston size as yours. To use extremely different piston size mastercylinder may not provide the best braking performance and also lead to big accident such as braking faulty and/or toppling over.
- Do not attempt to alter and/or modify the product. (It may decrease the strength and damage the product)
- Use only glycol ether series brake fluid. Do not use silicone series, mineral series brake fluid. (It may lead to operation failure and/or fluid leaking)
- Make sure to fully bleed the air in the brake system. (If the air remains in the brake system, it may lead to big accident such as operation failure and/or toppling over)
- Depends on the mastercylinder which you chose, because of the difference of the lever ratio, braking feeling and lever gripping travel may change from the original mastercylinder. Please drive carefully until you get used to it.

⚠ CAUTION

- During the engine is running and for a while after the engine stopped, the engine and the exhaust system get extremely hot. Make sure to proceed the work after these are completely cold, and do not let other people than the worker touch it. (It may suffer a burn)
- The installation of this product is aimed at the personnel who has skill and knowledge. We advise you to leave the installation to a qualified shop or certified workshop.
- Tighten each bolt and nut in the specified tightening torque, by referring the service manual. And do the periodical check on each part.
- Make sure to be the motorcycle stable with a maintenance stand at a flat space during installation.
- Available handlebar diameter is 22,2mm. The product can not fix on other than 22,2mm handlebar.
- Available banjo bolt size is M10 x P1.00. Check the size and prepare an appropriate bolt in advance.
- Available thread for the rear-view mirror mount is M10 x P1.25, clockwise. Some models from Yamaha and other manufacturers use counter-clockwise screw. Check the size and prepare a CCW adaptor or rear-view mirror with CW thread in advance.
- The direction, angle and length of brake and clutch lines may change from the original. Check them and if needed, prepare an appropriate replacement in advance.
- Make sure to use the new washer when tightening banjo bolt. (Otherwise, fluid leakage may cause)
- In case of changing brake caliper, choose the appropriate mastercylinder piston size for it. (Otherwise the best braking performance can not supply)
- Use silicone series grease on moving part.
- To prevent from chemical reaction, do not mix different brand brake fluids. (Use manufacturer's recommended fluid)
- Do not reuse withdrew brake fluid.
- Do not adhere the brake fluid on painted, plastic and rubber surfaces, as it damages them. In case of adhering, wash away immediately.
- Prevent water and any kind of dust from being mixed into the brake fluid when changing or refilling.
- We are not responsible for any loss or damage caused by modifying the product at the end-user's side, or other than the product.
- After finishing the installation, check each function works correctly before riding every time.
- Tighten again all the bolts and nuts of the product with the specific tightening torque after running about 100kms. And check each part in every 500kms.
- In case any troubles are found during riding, park the motorcycle at a safety place immediately and check the part where the trouble is found.
- For street use, use the optional switch kit.

OPTIONAL & REPAIR PARTS



Reservoir bracket
TYPE-1
For clip-on / brake
P/N : 29000022



Reservoir bracket
TYPE-2
For clip-on / clutch
P/N : 29000023



Reservoir bracket
TYPE-3
For bar handle / brake
P/N : 29000024



Reservoir bracket
TYPE-4
For bar handlebar / clutch
P/N : 29000025



Brake switch kit
For ϕ 19 / VRC19-19B
P/N : 29000034



Clutch switch kit
For ϕ 19 / VRC19-19C
P/N : 29000036



① Reservoir hose
 ϕ 6 (Brembo) / 10cm
P/N : 29000026

② Reservoir hose
 ϕ 7.3 (Nissin) / 10cm
P/N : 29000027



③ & ④
Remote adjust cable & bracket set
P/N : 1107974

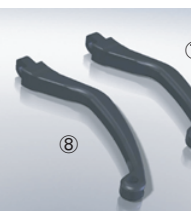
③ Remote adjust cable bracket
P/N : 1107972

④ Remote adjust cable
P/N : 1107973



⑤ VRC Power lever
Short length
P/N : 29000010

⑥ VRC Power lever
Regular length
P/N : 29000009



⑦ VRC Straight lever
Short length
P/N : 29000029

⑧ VRC Straight lever
Regular length
P/N : 29000028

* Also available for RM

* Also available for RM



Standard clamp
For VRC/RM



Reservoir mount clamp
For VRC/RM



Rear-view mirror mount clamp
For VRC/RM

Brake side
P/N : 29000020

Clutch side
P/N : 29000021

Brake side
P/N : 29000018

Clutch side
P/N : 29000019

Brake side
P/N : 29000001

Clutch side
P/N : 29000002

For other optional & repair parts,
Please ask us or
your local dealer/distributor

This contents is as of Apr., 2011.

If any questions regarding our products, please feel free to contact us or your local dealers.



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