RIEJU

SERVICE MANUAL FOR

KYB

OFF-ROAD COMPETITION MODEL MOTORCYCLE SUSPENSION

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1. GENERAL ADJUSTMENT

Renew engine oil with the engine at normal operating temperature and the vehicle resting on
The adjustment of your suspension depends on the following items:

- Spring rate and spring preload
- Oil-level
- Compression damping
- Rebound damping

The combination of these items will influence the performance of the suspension and the balance of the bike.

The standard adjustments are based on several years of experience and decided in close cooperation with the motorcycle manufacturers, suiting the majority of riders.

1.1 SPRING RATE AND SPRING PRELOAD

GENERAL

The front fork and the rear cushion spring rates are important starting points for an optimal bike behaviour.

The standard fitted springs will suit most riders. Exceptions can be explained by weight, riding skills or personal preferences of the rider.

Examples:

- a 50kg rider most probably requires a different spring than a 100kg rider.
- a motorcycle for enduro usage uses softer springs compared to a SX bike.

KYB offers optional front fork and rear cushion springs with softer or harder rates, but the spring preload is as well important for the bike balance.

PRACTICAL

The stock spring rate will suit most riders. If necessary, harder or softer springs can be fitted, related to the riders' requirements, using the static sag and race sag of the rear cushion as a guideline. To keep the balance of the bike, it is advised to change front fork and rear cushion springs accordingly.

Practically it is mostly the rear cushion spring pre-load that will be used to make a good bike balance.

Rear cushion spring rate and pre-load can be checked as following :

1.1.1 Race Sag

Put the bike on a stand and make sure the rear wheel is off the ground.

Measure the distance (A) from the middle of the axle until a certain point of reference on the frame (e.g. one of the bolts of the rear frame).

Take the bike of the stand and push a couple of times on the shock.

Ask the rider to sit on the bike (with his riding gear) and put both feet on the footpegs.

Measure again the distance (B) in between the middle of the axle and the point of reference.

The difference between these two measurements (A – B) is called the race sag. The value of the total sag has to be approximately 1/3 of the rear suspension stroke (= around 100mm).

To obtain this sag, adjust the preload adjuster nut and follow the above procedure once again, until the proper sag is obtained.

1.1.2. Static Sag

Put the bike on a stand and make sure the rear wheel is off the ground.

Measure the distance (A) from the middle of the axle until a certain point of reference on the frame (e.g. one of the bolts of the rear frame).

Take the bike of the stand and move the rear cushion a couple of times by pushing the rear end of the motorcycle.

Measure again the distance (C) between the middle of the axle and the point of reference (no rider on the bike !).

The difference between these two measurements A – C is called the static sag. The static sag of a cold shock has to be in between 30 to 45mm.

In most cases, if the race sag is 95mm or less with a static sag more than +/- 45mm, the spring is probably too hard.

If the race sag is 105mm or more with a static sag less than +/- 30mm, the spring is probably too soft. Please note these values can only be used as guidelines, but aren't valid in all cases.

In between these two extremes, you have to determine the spring rate.

When the shock damper becomes hot, the static sag will reduce. Make sure the static sag never becomes 0mm.

GUIDE LINES

The spring is too hard :

- The bike feels high and even on big jump landings a part of the stroke is not used.
- The bike is bouncing over the bumps, rather than absorbing them.

The spring is too soft :

- The bike feels low and is bottoming easy on big jumps.

1.2 OIL-LEVEL

Since all the adjustments and developments are made with the original KYB fork (01M) and KYB rear cushion oil (K2C), we can only guarantee the settings using these oils.

KYB oil is a high quality suspension oil, with a specific viscosity for front fork and shock absorber and with properties, such as anti-foaming, and lubrication, specially developed for use in motorcycle suspension.

Not using the proper KYB oil, can have a big influence on the overall suspension performance and might as well reduce the lifetime of the suspension parts.

The oil level is important for the lubrication and the general function of the front fork. Oil level adjustment has the biggest influence on the second half of the fork stroke.

Rear cushion oil volume is determined by the measurements of the shock and can not be changed.

1.3 COMPRESSION DAMPING

GENERAL

The compression damping refers to the hydraulic damping when the suspension moves in. It is the amount of force needed to push the oil through the compression valve.

By changing the compression damping the speed of the compression movement is influenced.

PRACTICAL

Before changing the compression clicker adjustment, it is essential to know the standard set up. This is done by counting the amount of clicks when turning the adjuster to the completely closed position.

By adjusting the damping to the track conditions (hard tracks or sandy tracks) and to your personal preferences, a better set-up can be obtained.

Front fork:

The front fork compression damping can be changed by turning the compression adjuster which is located in the top cap of a closed cartridge fork, or in the bottom of an open cartridge fork and can be adjusted using a minus screwdriver.

- The compression damping of the front fork has about 20 positions.
- The minimum compression damping is position 20 (screw completely turned out).
- The maximum compression damping is position 0 (screw completely turned in).

Rear cushion:

The rear cushion compression adjuster is divided in low and high speed and is situated at the top of the rear shock.

Low speed adjuster can be changed with a minus screwdriver, and controls slow and/or small wheel movements, for example on small braking bumps.

- The low speed compression damping has about 20 positions.
- The minimum compression damping is position 20 (screw completely turned out).
- The maximum compression damping is position 0 (screw completely turned in).
- High speed adjuster can be changed with a 17mm socket, and controls quick and/or large wheel movements, for example when landing of high jumps.
- The minimum high speed compression is with high speed adjuster nut 2 ¼ turned out.
- The maximum high speed compression is high speed adjuster nut completely turned in.

Never force to turn the screw completely in, to avoid damage to the adjustment needle inside.

GUIDE LINES

Not enough compression :

- The fork or shock is bottoming easy.
- The bike sits low.
- The bike turns difficult.

Too much compression :

- The bike is feeling hard and stiff.
- The bike feels high.
- The fork or rear cushion is not using complete stroke.
- The fork or rear cushion just hits the bumps rather than absorbing them.

Please note that the way the bike feels, can be interpreted differently. Proper understanding of the riders' comments is essential for a good result.

1.4 REBOUND DAMPING

GENERAL

The rebound damping refers to the hydraulic damping when the suspension moves out. It is the amount of force needed to push the oil through the rebound valve.

By changing the rebound damping the speed of the extension movement is influenced.

PRACTICAL

Before changing the rebound clicker adjustment, it is essential to know the standard set up. This is done by counting the amount of clicks when turning the adjuster to the completely closed position.

By adjusting the damping to the track conditions (hard tracks or sandy tracks) and to your personal preferences, a better set-up can be obtained.

Front fork:

The front fork rebound damping can be changed by turning the rebound adjuster which is located in the bottom of a closed cartridge fork, or in the top cap of an open cartridge fork and can be adjusted using a minus screwdriver.

- The rebound damping of the front fork has about 20 positions.
- The minimum rebound damping is position 20 (screw completely turned out).
- The maximum rebound damping is position 0 (screw completely turned in).

Rear cushion:

The rebound can be changed by the rebound adjuster which is located on the bottom of the rear cushion, by using a minus screwdriver.

- The rebound damping has about 20 positions.
- The minimum rebound damping is position 20 (screw completely turned out).
- The maximum rebound damping is position 0 (screw completely turned in).

Never force to turn the screw completely in, to avoid damage to the adjustment needle inside.

GUIDE LINES

Not enough rebound:

- The front or rear wheel feels springy. Feels like not enough hydraulic damping.
- The fork or rear cushion is coming out quickly.
- The bike is riding high.
- Bike is difficult to turn.

Too much rebound:

- The fork or rear cushion feels harsh over small bumps and does not absorb them.
- The front or rear wheel is kicking up in a series of bumps.
- The rear wheel is losing traction on acceleration bumps.

2. REGULAR MAINTENANCE (EVERY RACE)

Front fork :

- Check the movement of the front fork.
- Check the front fork inner tube for scratches or other damages.

Bleed the front fork by opening the bleeding bolts in the top cap. Make sure the front wheel is of the ground (front fork completely extended) !!!!

Slide down the fork dust seals, clean the space in between dust seal and oil seal, and apply a little KYB seal grease.

Rear cushion:

- Check the piston rod for scratches or other damages.
- Check the movement of the rear cushion.
- Check upper and lower bearing clearance.
- Grease upper and lower mounting bolts.

3. REGULAR SERVICE

To keep an optimal suspension performance, it is recommendable to service front fork and rear cushion every 12 to 14 hours of use.

During a service, the oil of the front fork and rear cushion has to be changed.

Following parts have to be inspected properly and if necessary be replaced:

Front fork:

- dust seals
- oil seals
- slide metals
- piston metals
- rebound piston rings

- cartridge seal
- free piston
- o-rings
- cupper washer on the rebound adjuster

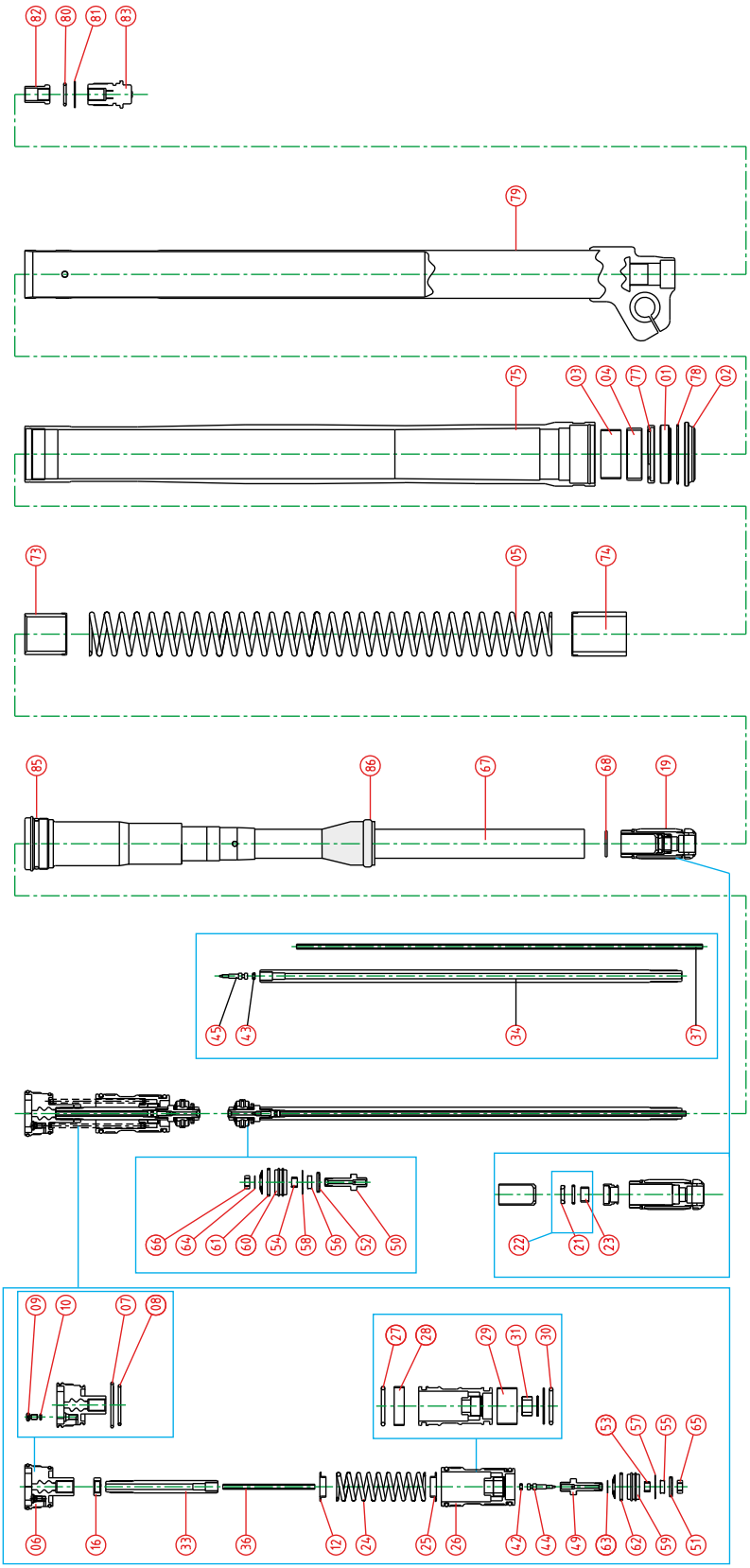
Rear cushion:

- oil seal
- dust seal
- guide bush
- piston ring
- o-rings
- bladder
- nitrogen pressure
- bump rubber
- play on the top bearing
- damaged valves

4. FRONT FORK SERVICE FOR KYB AOSS (CLOSED CARTRIDGE)

FRONT FORK IN PARTS

FRONT FORK IN PARTS



1 oil seal
2 dust seal
3 piston bushing
4 slide bushing
5 front fork spring
6 top cap
7 o-ring top cap top
8 o-ring top cap bottom
9 bleed bolt
10 bleed bolt o-ring
12 spring seat against top cap
16 lock nut against top cap
19 cylinder head
21 cartridge seal
22 cylinder bushing complete
23 bush cylinder head
24 free piston spring
25 spring seat against free piston
26 free piston complete
27 free piston o-ring top
28 free piston metal top
29 free piston metal bottom
30 free piston o-ring bottom
31 seal for free piston shaft
33 piston rod compression
34 piston rod rebound
36 push rod compression
37 push rod rebound
42 inside o-ring compression
43 inside o-ring rebound
44 inside needle compression
45 inside needle rebound
49 base valve compression
50 base valve rebound
51 valve stopper compression base valve
52 valve stopper rebound
53 slide collar compression
54 slide collar rebound
55 non return spring compression
56 non return spring rebound
57 non return valve compression
58 non return valve rebound
59 piston compression
60 piston rebound
61 piston ring
62 piston o-ring
63 washer compression
64 washer rebound
65 lock nut compression
66 lock nut rebound
67 cylinder complete
68 washer inside cylinder
73 spacer top
74 spacer bottom
75 outertube
77 washer
78 snap ring
79 innertube complete (Left+Right)
80 o-ring base valve
81 packing base valve
82 lock nut against adjuster
83 rebound adjuster

4.1 SERVICE SEAL & BUSHINGS

4.1.1 DISASSEMBLING

Before starting always clean the front fork and remove items such as the launch control device and fork protectors.

Check compression and rebound adjuster positions and write them down.
Open compression and rebound adjuster completely.

Clamp the front fork in a vice.

Unscrew the top cap from the outer tube with the top cap wrench.

Drain the oil.

Clamp the axle bracket in a vice.
Use soft aluminium clamps to protect the axle bracket.

Unscrew the centre bold (rebound adjuster).

Push on the fork cap to slide the piston rod through the axle bracket.

Lock the piston rod with the piston rod holder.

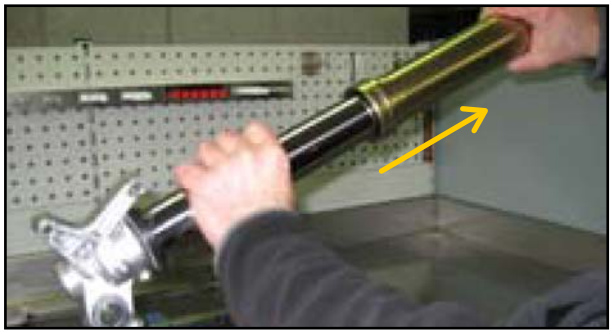
Hold the lock nut with a 15mm spanner and unscrew the centre bold.

Pull out the push rod.

Remove the piston rod holder together with the cartridge and the spring.

Slide down the dust seal and remove the clip with a screwdriver.

Pull off the outer tube with a firm move.



Remove both metals, support washer, oil seal, clip and dust seal.

Always replace the oil seal.

Clean and inspect all other parts and replace if necessary.

Clean and inspect inner tube for damage (sharp dents) and replace where necessary.

4.1.2 ASSEMBLING

Clamp the inner tube in a vice with aluminium clamps to prevent the axle bracket from getting damaged.

Slide the oil seal insert on the inner tube.

Apply a little KYB grease on the inside of the oil and dust seal.

Install:

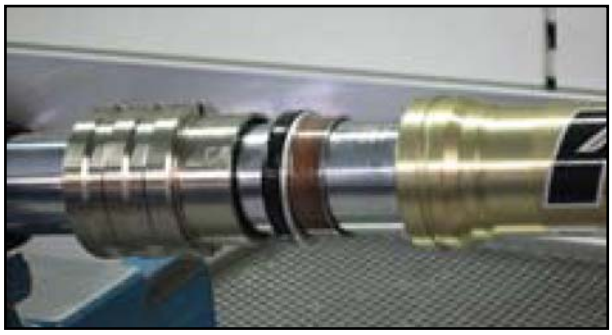
- dust seal
- clip
- oil seal

Remove seal insert and install :

- support washer
- slide metal
- piston metal

Slide on the outer tube.

Use a seal hammer to install bushing, washer and oil seal in the outer tube.



Mount the clip and slide on the dust seal.

Check the spring for damage and correct length.

Slide it in the inner tube.

Slide the cartridge in the inner tube.

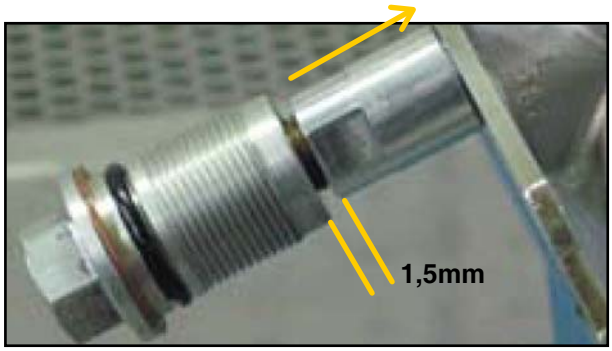
Push the cartridge through the axle bracket.

Lock the rebound piston rod with the piston rod holder.

Mount the push rod.

Make sure that the lock nut is fully turned on to the piston rod.

With centre bold fully turned on to the piston rod, there will be a gap from approx. 1,5mm between centre bold and lock nut.



Tighten centre bold and lock nut.
Tightening torque 29Nm.

Remove special tool and tighten centre bold in the axle bracket.

Tightening torque 50Nm.

Fill the correct amount KYB 01M oil into the fork with a measuring can.

Tighten the top cap.

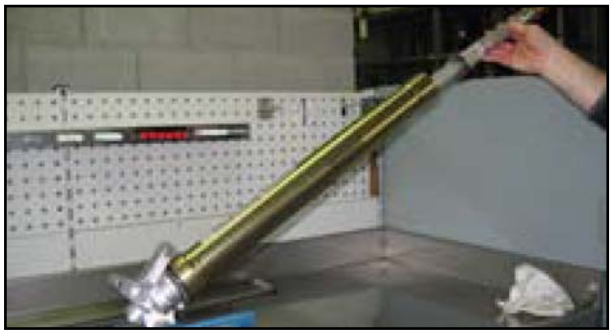
Adjust compression and rebound adjuster to its original position.

Note: always start counting from fully closed adjuster position.

4.2 CARTRIDGE SERVICE

4.2.1 REPLACING CARTRIDGE SEAL

Disassemble the cartridge from the inner/ outer tube as described in chapter 4.1.1.



Remove spring purge.

Clamp the cartridge in a vice with cylinder clamps.

Place the cartridge head wrench in the top cap.

Unscrew the top cap.

Move the rebound piston rod in ==> the compression base valve will be pushed out.

Drain the oil.

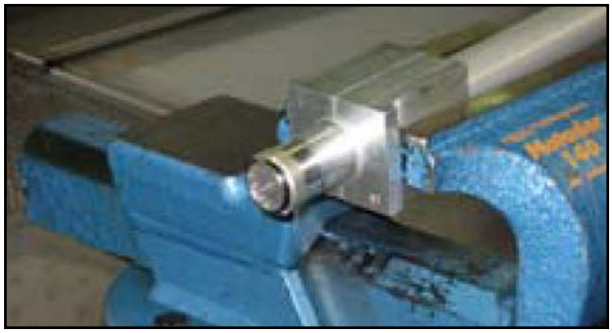
Clamp the rebound rod in a vice with the piston rod clamps.

Unscrew the lock nut.

Take out the rebound piston rod from the top of the cartridge.

Clamp the cartridge in a vice with the cylinder clamps.

Make sure to clamp the cartridge at the end of the cylinder, just on top of the cylinder head.



Use a heat gun to break the Loctite.

Mount the cartridge seal wrench in the cylinder head.

Attention: Kayaba Ind. Co Japan and/or Technical Touch BVBA and their affiliated companies reject all liability for product and/or personal damage, caused by incorrect assembly of the cartridge after removing the cylinder head.

Unscrew the cylinder head completely.

Remove the back-up ring and the oil seal.

Clean the thread from the cylinder and the cylinder head.

Mount a new seal and back up ring.

Make sure that the seal is installed in the right direction.

Add a little Loctite (ex. nr. 243) on the thread from the cylinder head.

Tighten the cylinder head.

Tightening torque 45Nm.

4.2.2 REPLACING REBOUND PISTON RING

Remove the rebound piston as described in chapter 4.2.1.

Clamp the rebound piston rod in a vice with piston rod clamps.

Use a cutter to remove the piston ring.

Stretch out a new rebound piston ring and mount it on the piston.

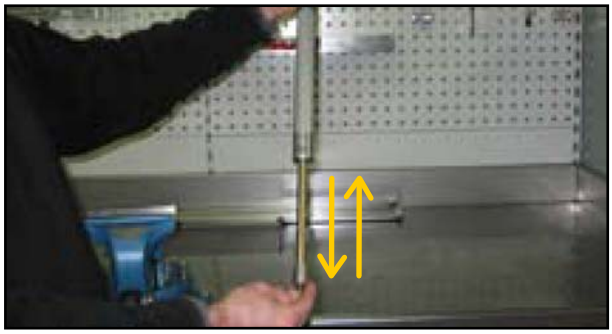
Push the new rebound piston ring in the piston ring installation tool to calibrate the size.

Install the piston rod in the cartridge from the top.

Screw the lock nut as far as possible on the piston rod.

Fill up the cartridge with the correct amount KYB 01M front fork oil using a measuring can.

Move the rebound piston rod up and down to bleed the air in the cartridge.

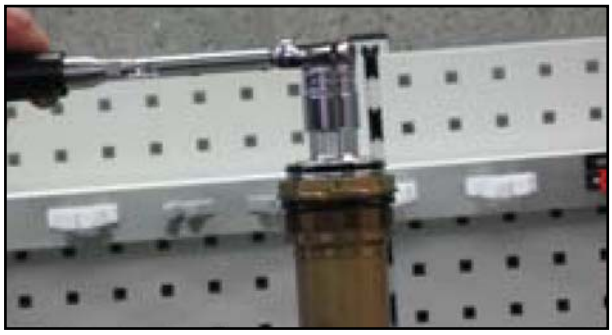


Clamp the cartridge with cylinder clamps in a vice.

Mount the compression unit carefully in the cylinder.

Tighten the compression unit.

Tightening torque 29Nm.



Hold the cartridge diagonal with the compression unit facing up.

Push the rebound piston rod completely in to bleed the cartridge.

Be careful : the surplus of oil will come out !

Install the spring purge on the cylinder and assemble the cartridge in the inner/outer tube as described in chapter 4.1.2.

4.2.3 REPLACING FREE PISTON

Take out the compression unit as described in chapter 4.2.1.

Put the cartridge head wrench in a vice.

Place the compression unit on the cartridge head wrench.

Unscrew the base valve with a 14mm spanner.

Take off the old free piston and replace it by a new one.

Install the base valve.

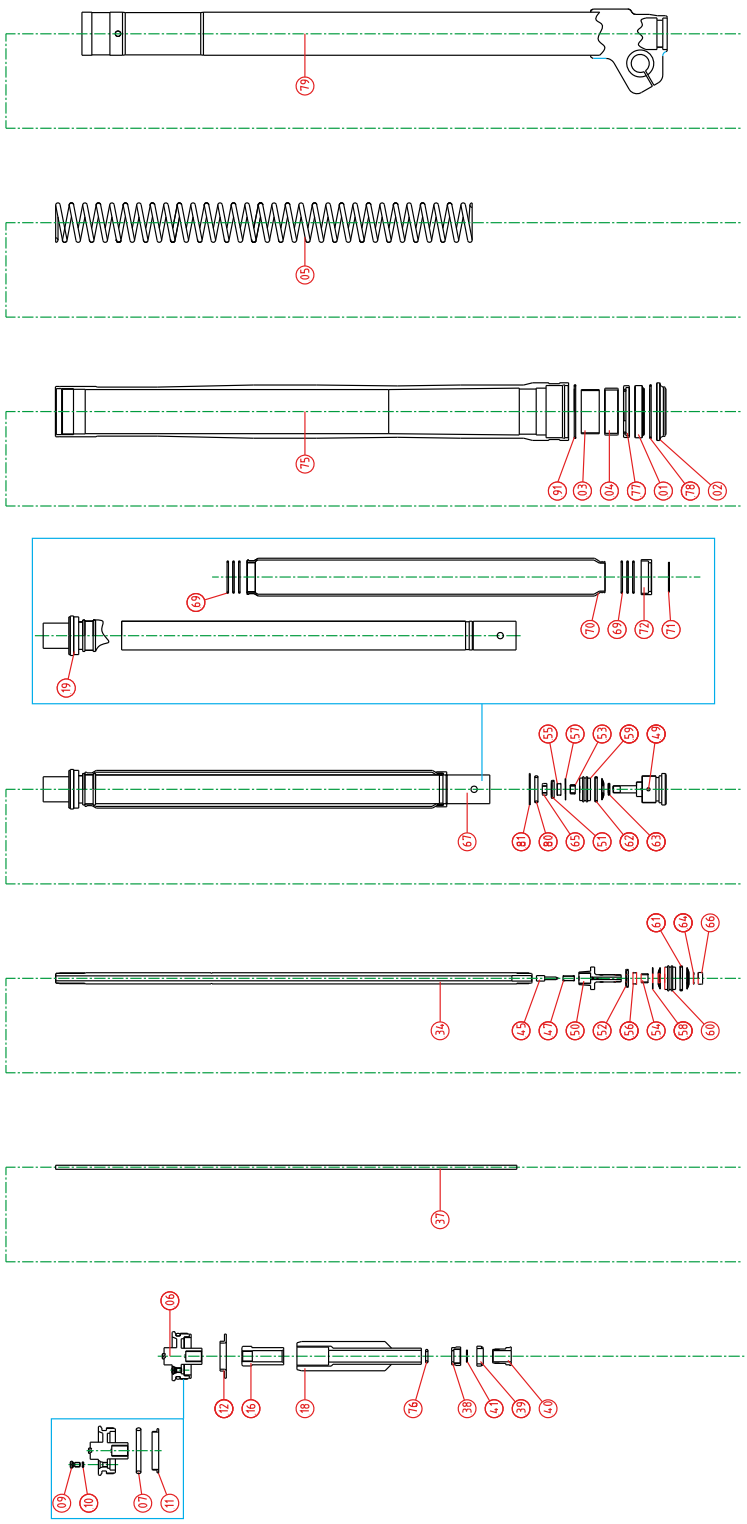
Tightening torque 14Nm.

Mount the compression unit in the cartridge.

See chapter 4.2.2.

5. FRONT FORK SERVICE FOR KYB (OPEN CARTRIDGE) - FRONT FORK IN PARTS

FRONT FORK IN PARTS



1 oil seal
2 dust seal
3 piston bushing
4 slide bushing
5 front fork spring
6 top cap
7 o-ring top cap top
8 o-ring top cap bottom
9 bleed bolt
10 bleed bolt o-ring
12 spring seat against top cap
16 lock nut against top cap
19 cylinder head
21 cartridge seal
22 cylinder bushing complete
23 bush cylinder head
24 free piston spring
25 spring seat against free piston
26 free piston complete
27 free piston o-ring top
28 free piston metal top
29 free piston metal bottom
30 free piston o-ring bottom
31 seal for free piston shaft
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78 snap ring
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80 o-ring base valve
81 packing base valve
82 lock nut against adjuster
83 rebound adjuster

5.1 SERVICE SEAL & BUSHINGS

5.1.1 DISASSEMBLING

Before starting always clean the front fork and remove items such as the launch control device and fork protectors.

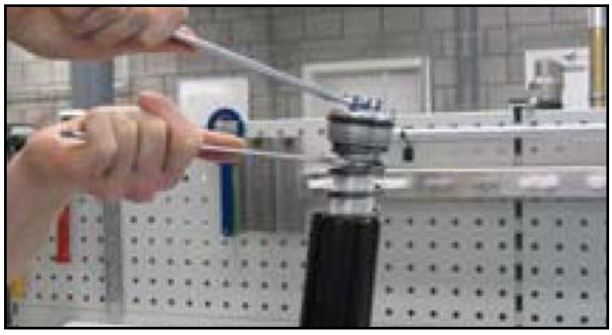
Check compression and rebound adjuster positions and write them down.

Open compression and rebound adjuster completely.

Clamp the front fork in a vice.

Unscrew the top cap from the outer tube with a 19mm wrench.

Unscrew the top cap from the jam nut with 2 19 mm wrenches.



Remove the top cap.

Remove the aluminum push rod.

Remove the fork spring.

Drain the oil.

5.1.2 SEALS AND BUSHES

Slide down the dust seal and remove the clip with a screwdriver.

Pull off the outer tube with a firm move.

Remove: both bushes, support washer, oil seal, clip and dust seal.

Always replace the oil seal.

Clean and inspect all other parts and replace if necessary.

Clean and inspect inner tube for damage (sharp dents) and replace where necessary.

Clamp the fork in a vice with aluminium clamps to prevent the axle bracket from getting damaged.

Slide the oil seal insert on the outer tube.

Apply a little KYB grease on the inside of the oil and dust seal.

Install:

- dust seal
- clip
- oil seal

Remove seal insert and install :

- support washer
- slide metal
- piston metal

Slide on the outer tube.

Use a seal hammer to assemble bushing and oil seal.

Mount the clip and slide on the dust seal.

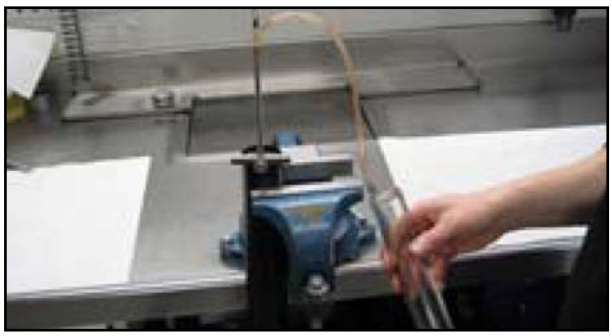
5.1.3 ASSEMBLING

Re-install the aluminum push rod.

Fill the front fork with KYB ff oil 01M.

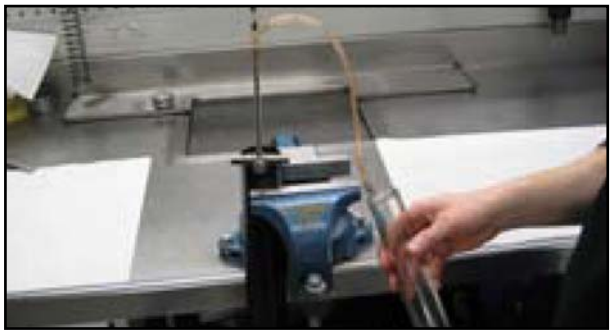
Move the piston rod up and down a few times to fill the inner cartridge with oil with the pull rod.

Set the correct air volume by using oil level gau-ge and syringe.



Fully extend the piston rod, then slide the outertube to the same level.

Check the correct air volume again with the oil level gauge and syringe part number.



Remount the front fork spring.

Re-install the top cap on the piston rod.

To check the correct position of the top cap, make sure the cap does not touch the jam nut when the cap comes to a stop.

Tighten the jam nut against the top cap.

Screw the top cap back into the outer tube.

Reset the compression and rebound clicker positions.

5.2 SERVICE CARTRIDGE

5.2.1 DISSASSEMBLE THE INNER CARTRIDGE

Dis-assemble fork as described in 5.1.1.

Remove the jam nut.

Remove the spring guide, o-ring and spacer.

Install the front fork in a vice.

Hold the inner cartridge with T-bar.

Hold the lower base valve with a 14mm allen head wrench.

Unscrew the inner cartridge.

Remove the compression base valve bolt.

Remove the inner cartridge.

Drain the inside of the cartridge by moing the piston rod in and out several times.

5.2.2 REPLACING PISTON RING

Fix the cylinder in the vice using cylinder clamp size 32mm.

Heat up the cylinder head thread.

Use the T-bar to uns-crew the cylinder head.

Dis-assemble the piston rod assembly from the cylinder.

Clamp the rebound piston rod in a vise with piston rod clamps.

Use a cutter to remove the piston ring.

Stretch out a new rebound piston ring and mount it on the piston with the piston ring installation tool.

Push the new rebound piston ring in the piston ring installation tool to calibrate the size.

Install the piston rod assembly into the cylinder.

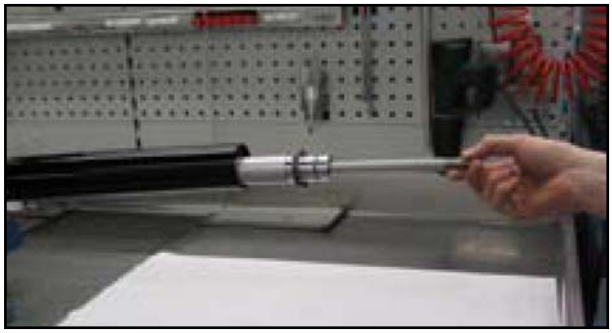
Apply Loctite (ex. Nr. 243) on the cylinder head thread.

Screw the cylinder head back on the cylinder.

5.2.3 ASSEMBLING CYLINDER

Install the inner tube and outer tube assembly into the vice.

Slide the inner cartridge back into the tube.



Install the compression base valve into the bottom of the front fork.

Tighten the compression base valve with 55 Nm torque setting.

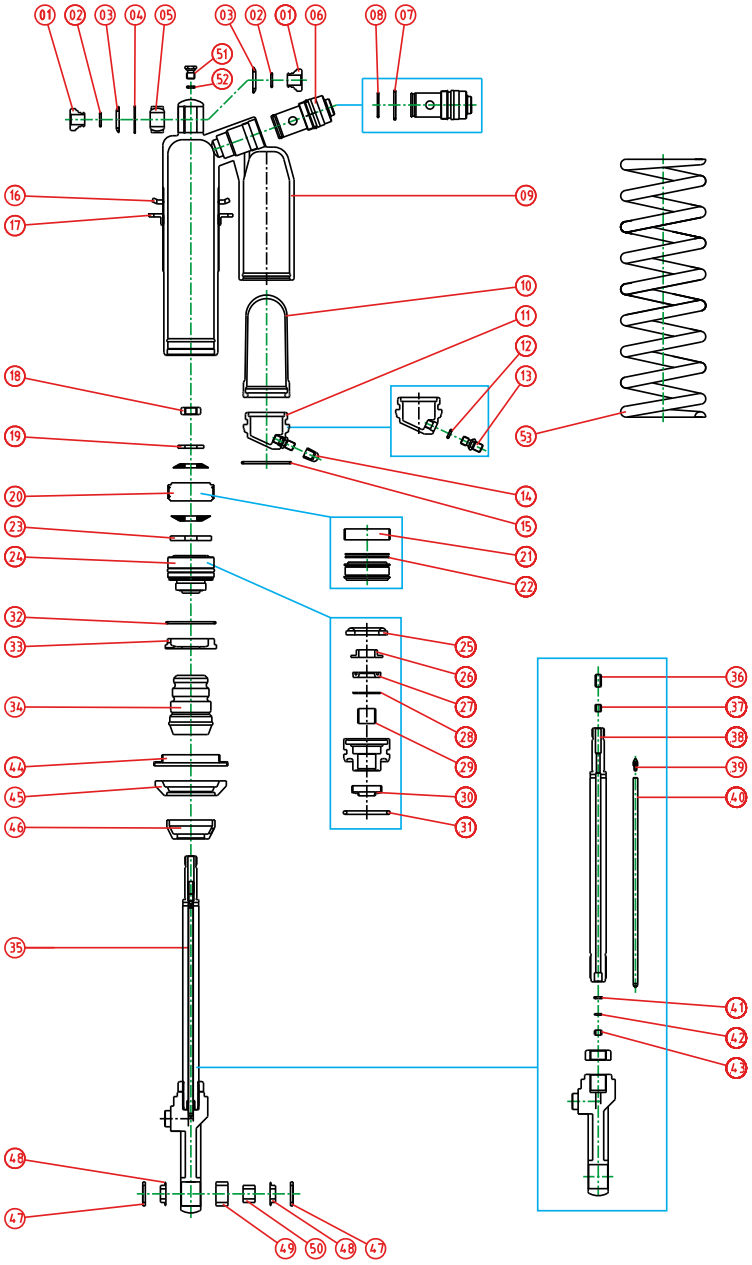
Re-install spacer, o-ring and spring guide.
Re-install the jam nut.

Continue assembling front fork as explained in 5.1.3.

6. REAR CUSHION SERVICE

RCU IN PARTS

FRONT FORK IN PARTS



1 bearing body collar
2 bearing body o-ring
3 bearing body dust seal
4 bearing body stop ring
5 bearing body
6 compression adjuster complete
7 compression adjuster o-ring body
8 compression adjuster o-ring piston
9 shockbody
10 bladder
11 gas tank cap complete
12 o-ring air valve
13 air valve comp with o-ring
14 valve cap
15 stop ring tank
16 nut for spring top
17 nut for spring bottom
18 lock nut
19 washer next to lock nut
20 piston complete
21 piston ring
22 piston o-ring
23 support washer piston rod
24 seal head complete
25 bump rubber seal head
26 washer seal head large / oil lock
27 oil seal
28 washer seal head small
29 bush
30 dust seal
31 o-ring seal head
32 stop ring body
33 cap of shockbody
34 bump rubber
35 piston rod complete
36 piston rod inside, clip pen
37 piston rod inside, needle guide
38 piston rod
39 piston rod inside, needle
40 piston rod inside, alu pipe
41 piston rod inside, o-ring
42 piston rod inside, spacer
43 piston rod inside, bush
44 spring seat steel
45 spacer alu
46 bump rubber holder
47 bearing piston rod complete, dust seal
48 bearing piston rod complete, collar
49 bearing piston rod complete
50 bearing piston rod complete, bush
51 drain bolt
52 drain bolt o-ring
53 shock spring

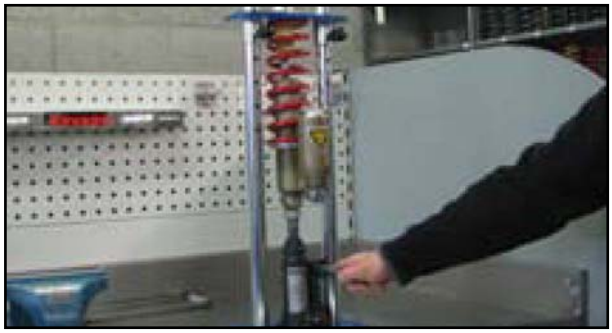
6.1 SPRING REMOVAL AND INSTALLATION

Always clean the rear cushion before disassembling !

METHOD 1

Place the rear cushion in a spring jack.

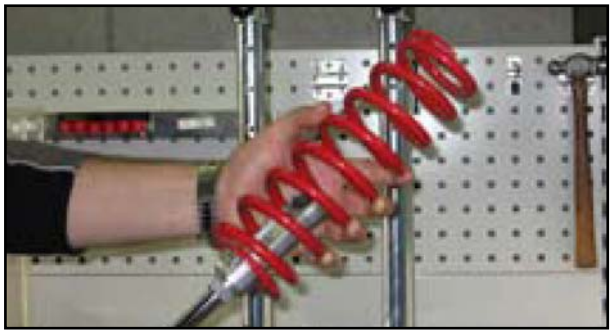
Compress the spring to release the spring support.



Remove the aluminium spacer.

Remove the rear cushion from the spring jack.

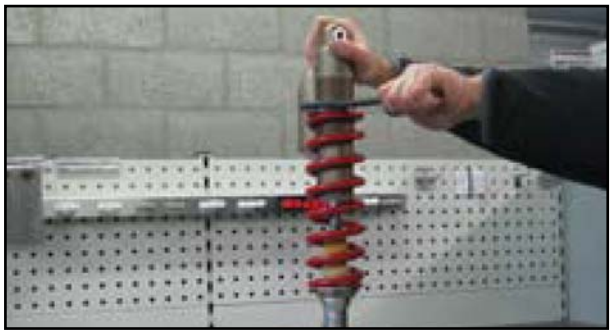
Remove the spring.



To install the spring, just follow the steps in the reverse way.

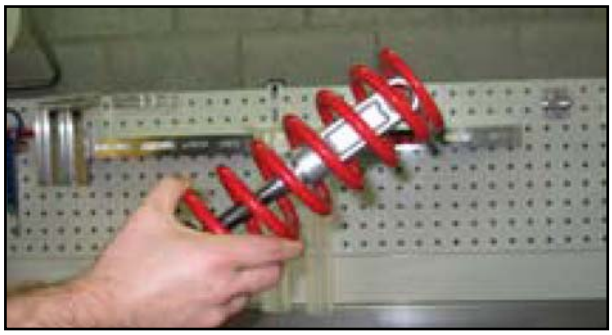
METHOD 2

Place the rear cushion in a vice.
Unscrew the lock nut and adjuster nut to release the spring.



Remove the aluminium spacer.

Remove the spring.



To install the spring just follow the steps in thereverse way.

6.2 DISASSEMBLING

Clamp the damper in a vice with soft aluminium clamps.

Remove the spacers from the bearing.

Clamp the damper up side down in a vice with soft aluminium clamps.

Check rebound and compression adjuster positions and write them down.

Open the rebound and compression adjuster completely.

Unscrew the valve cap from the air valve. Release the pressure with a small screwdriver.

Remove the cap with a punch and a hammer.

Push down the seal head with a seal head push down.

Remove the clip with a small screwdriver.

Important: don't scratch the shock body inside surface !

Extract the piston rod from the shock body.

Drain the oil from the shock body.

Clamp the damper again and press down the gas tank cap.

Remove the clip with a small screwdriver.

Screw the bladder extractor onto the gas tank cap and extract the bladder.

Drain the oil once more.

6.3 BLEED BOLT INSTALLATION

Clamp the damper body in a vice and mark it with a centre punch on the area that is foreseen for the bleed bolt.

Drill a 5mm hole in the damper body.

Make a flat surface with a special milling drill.

Tap thread M6x1 in the damper body.

Enlarge the hole diameter with a 7.4mm drill over a depth of 2.9mm.

Remove sharp edges with sand paper.

Install the bleed bolt with the o-ring into the hole.

6.4 PISTON ROD SERVICE

6.4.1. REPLACE PISTON RING

Grind off the piston rod screw-thread first coil with a grinder before removing the lock nut.

OR

Clamp the piston rod in a vice and remove the piston rod screw-thread first coil with a file.

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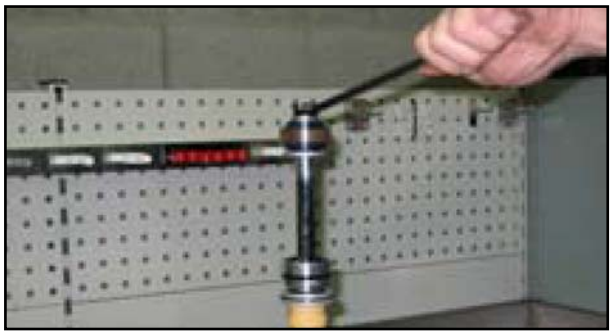
Remove the lock nut from the piston rod.



Take off the damping unit.

Slide all parts onto a screwdriver, to make sure that all valves stay on there original location.

Repair the piston rod thread with a die (M12x1,50).

Clean all parts with degreaser and compressed air.

Measure the piston ring diameter and replace it if necessary.

Cut off the old piston ring with a cutter.
Take off the o rings.

Install new o rings.

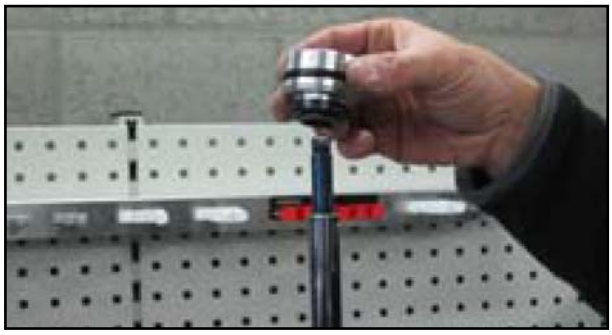
Install a new piston ring with the piston ring installation tool.

1. Place the conical part on the piston.
2. Slide the piston ring with the other part over the piston.

Push the new piston ring in to the piston ring size adjuster to calibrate the size of the piston ring.

6.4.2. SEAL HEAD SERVICE

Remove the seal head from the piston rod.



Take out the stop rubber with a small screwdriver.

Be careful not to damage the rubber.

Remove the large washer, the seal and small washer.

Take off the dust seal with a screwdriver.

Remove the bush with the bush removal tool.

1. Slide the disassembling tool into the bottom of the seal head.
2. Clamp it in a vice to press the bush out.

Remove the o ring from the seal head.

Clean all parts and check for wear and damage.

Mount a new bush with the bush installation tool.

1. Slide a new bush onto the installation tool.
2. Slide the tool and the bush into the seal head.

3. Set the seal head on the holder.

4. Clamp the seal head in a vice to press the bush in.

Install the o ring on the outside of the seal head.

Add a little KYB grease on the o ring.

Install a new dust seal.

Press the new dust seal on the seal head with a socket (22mm).

Ad a little KYB grease into the dust seal.

Install :

1. Small washer
2. Oil seal
3. Large washer

Make sure the oil seal is installed in the right direction.

Install the stop rubber.

Make sure that the rubber is installed properly.

6.5. ASSEMBLING

Clamp the piston rod in a vice .
Check all parts and replace if necessary.
Install:

1. Bump rubber.
2. Cover.

Install seal head by using the seal head insert.

Install:

1. Steel washer.
2. Complete damping unit.

Make sure all parts kept the original position.

Install a new lock nut.
Tightening torque 30Nm.
Attention: Kayaba Ind. Co Japan and/or Technical Touch BVBA and their affiliated companies reject all liability for product and/or personal damage, caused by incorrect assembly of the damper.

Clamp the damper body in a vice.
Fill half of the damper body sub tank with KYB K2C Shock Oil.

Check the bladder for damage or cracks.

Attention: make sure the bladder is not deformed before installation.

Install the bladder extractor on the bladder cap.

Push the bladder into the damper sub tank.

Install the clip in the groove and pull the cap against the clip.

Fill ¾ of the damper body with KYB K2C Shock Oil.

Install the piston rod in the damper body.

Press the seal head in the body with the seal head compressing tool.

Install the clip in the second groove of the body.

Make sure the clip is installed properly.

Pull out the piston rod completely.
Use a plastic hammer to install the cover.

Clamp the damper in a vice with the bleed bolt facing up.

Take off the bleed bolt and install the bleed cup.

Fill ¼ of the bleed cup with KYB K2C Shock Oil.

Push the piston rod slowly in, and pull out quickly with short strokes, to bleed the air out.

Repeat this untill no more air is coming out.

Make sure that the bleed cup stays filled with oil during this procedure.

Remove the bleed cup and install the bleed bolt.

Pressurize the bladder with nitrogen.

P= 0.98 MPa (10 Kg/cm^3) with pressure gauge.

Adjust the rebound adjuster to the original position.

Always starting from fully closed.

Adjust the compression adjuster to the original position.

Always starting from fully closed.

Remind to set both high speed and low speed.

Install the spring.

NOTES

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