

SHERCO

KAYABA SUSPENSION



DEFYGRAVITY®

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KAYABA SUSPENSIONS

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Introduction

General remarks:

Pay close attention to the following advice when working on KAYABA products, in strict accordance with the present maintenance manual. Always use tools dedicated for professionals. In addition to a set of common tools, you regularly require KAYABA's special tooling.

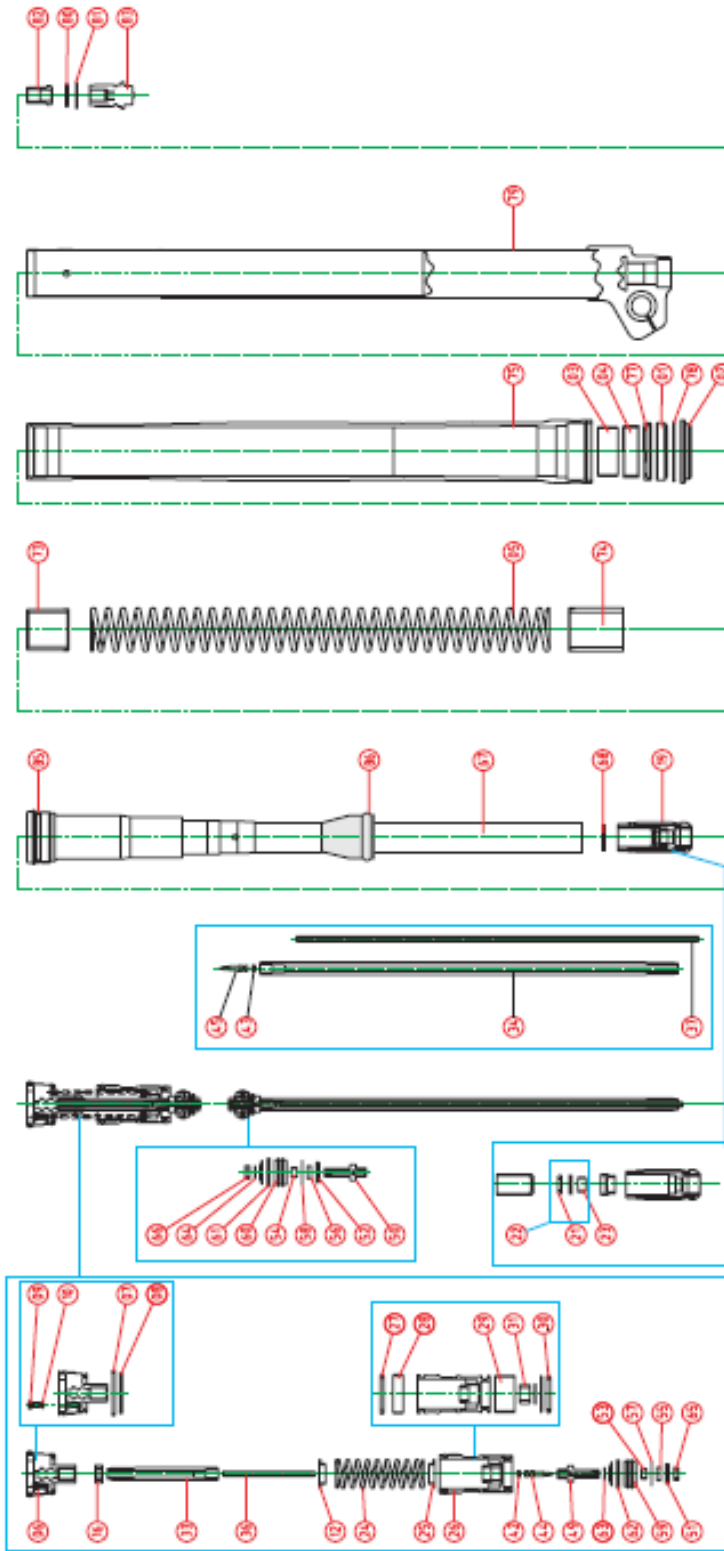
These individually numbered tools (available through SHERCO) enable you to avoid damaging the parts.

Always use protective aluminum plates when clamping our products or our parts in a vice.

Always replace damaged or worn parts.

Clean all parts prior to their assembly.

1-Yoke



1. Spy gasket
2. Dust cover
3. External Teflon Guide Ring
4. Internal Teflon Guide Ring
5. Yoke Spring
6. Upper Plug
7. Upper Plug O-Ring Gasket
8. Lower Plug O-Ring Gasket
9. Bleeder Screw
10. Bleeder Screw O-Ring Gasket
12. Counter Plug Spring Guide
16. Plug Nut
19. Cylinder Head
21. Hydraulic System Gasket
22. Hydraulic System Guidance
23. Hydraulic System Ring
24. Free Piston Spring
25. Counter Free Piston Spring Guide
26. Complete Free Piston
27. Free Piston Upper O-Ring Gasket
28. Free Piston Upper Ring
29. Free Piston Lower Ring
30. Free Piston Lower O-Ring Gasket
31. Free Piston Gasket
33. Compression Rod
34. Trigger Rod
36. Aluminum Compression Adjustment Tube
37. Aluminum Pressure Relief Adjustment Tube
42. Compression Adjustment O-Ring Gasket
43. Pressure Relief Adjustment O-Ring Gasket
44. Compression Adjustment Needle
45. Pressure Relief Adjustment Needle
49. Compression Plug
50. Pressure Relief Plug
51. Compression Lock Washer
52. Pressure Relief Lock Washer
53. Compression Distance Washer
54. Pressure Relief Distance Washer
55. Compression Valve Spring
56. Pressure Relief Valve Spring
57. Compression Valve
58. Pressure Relief Valve
59. Compression Piston
60. Pressure Relief Piston
61. Pressure Relief Piston Segment
62. Compression Piston O-Ring Gasket
63. Compression Washer
64. Pressure Relief Washer
65. Compression Nut
66. Pressure Relief Nut
67. Complete Cylinder
68. Washer placed in the Cylinder
73. Upper Spring Distance Cylinder
74. Lower Spring Distance Cylinder
75. Outer sleeve
77. Spy Gasket Washer
78. Gasket Clip
79. Lower Tube (R or L)
80. Base Valve O-Ring Gasket
81. Plug Copper Gasket
82. Counter-Adjustment Nut
83. Pressure Relief Adjustment

1.1 - Maintenance of Gaskets and Rings

1.1.1 Disassembly

Before getting started, it is always necessary to clean the yoke and remove accessories, like the “holeshot” kits and yoke protector.



Check and record both the compression and pressure relief setting positions.

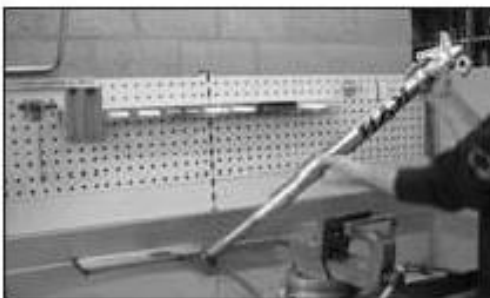
Open the compression and pressure relief settings fully.



Set the yoke into the vice.



Unscrew the upper plug with the yoke plug wrench (ref. 150044900101).



Drain the oil from the sleeve.

1.1 - Maintenance of Gaskets and Rings



Place the base of the yoke into the vice using aluminum flanges in order to avoid damage.



Unscrew the lower pressure relief plug.



Push on the upper plug in order for the rod to penetrate the yoke base.



Block the pressure relief plug with the rod holder (ref. 150130000101)

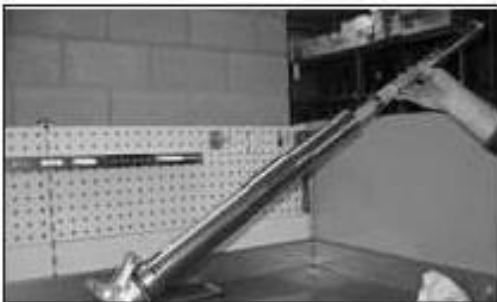


Immobilize the nut on the rod using a 15-mm wrench and unscrew the pressure relief plug.

1.1 - Maintenance of Gaskets and Rings



Remove the adjustment rod.



Remove the rod holder (ref. 150130000101) as well as both the cartridge and spring.



Lower the dust cover and remove the clip with a screwdriver.



Withdraw the outer sleeve in using a firm motion.



*Remove the rings, the washer, the spy gasket, the clip and the dust cover.
Always replace the spy gaskets.
Clean and check the other parts and replace as needed.
Clean and verify whether the internal tube has been damaged (sharp teeth); replace it if necessary.*

1.1 - Maintenance of Gaskets and Rings

1.1.2 Assembly



Place the internal tube into the vice using aluminum flanges in order to prevent damage.

Implement the gasket assembly tool (ref. 150024800101) on the internal tube.



Apply KYB lubricant inside both the dust cover and spy gasket.



Assemble:

- *the dust cover*
- *the clip*
- *the spy gasket*



Remove the gasket assembly tool (ref. 150024800101).

Slide onto the internal tube:

- *the washer*
- *the lower ring*
- *the upper ring*



Assemble the external tube.

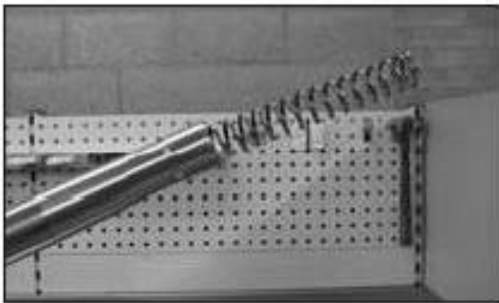
1.1 - Maintenance of Gaskets and Rings



Use the gasket hammer (ref. 150014800101) to install the guide ring, the washer and the spy gasket in the external tube.



Assemble the clip and the dust cover.



Check the spring for damage and ensure that the length is correct.

Assemble the spring in the internal tube.



Place the cartridge in the internal tube.

Push the cartridge through the yoke base.



Block the pressure relief rod with the rod holder (ref. 150130000101).

1.1 - Maintenance of Gaskets and Rings



Assemble the adjustment rod.



Verify that the locking nut on the rod is completely screwed.

Reminder: When the plug is entirely screwed down, a space of approximately 1.5 mm remains between the plug and the locking nut.



Tighten the pressure relief plug and locking nut to 29 Nm.



Remove the rod holder (ref. 150130000101) and screw the pressure relief plug into the base at 50 Nm.



Pour the exact quantity of KYB 01M oil into the yoke using a graduated specimen (ref. 150180000101).

To know these exact quantities of oil, please consult Section 7.4.

1.1 - Maintenance of Gaskets and Rings



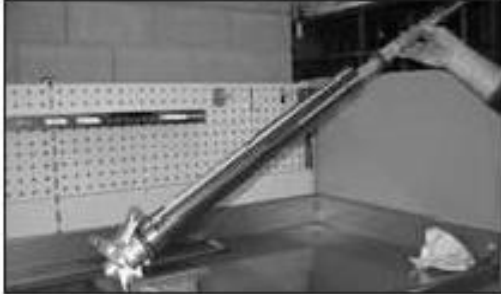
Tighten the upper plug.

Return both the compression and pressure relief settings to their original positions.

Note: Always initiate the calculation from a completely clamped position.

1.2 - Cartridge maintenance

1.2.1 Replacement of the cartridge gasket



Disassemble the cartridge as described in Section 4.1.1.



Remove the spring support.



Set the cartridge into the vice with the cylinder flange (refs. 150072800101, 150073200101).



Place the cylinder plug wrench (ref. 150140000101) in the plug.

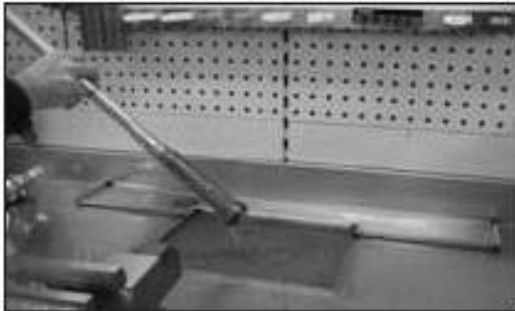


Completely loosen the upper plug.

1.2 - Cartridge maintenance



*Push the pressure relief rod into the cartridge.
=> the compression plug will then be released.*



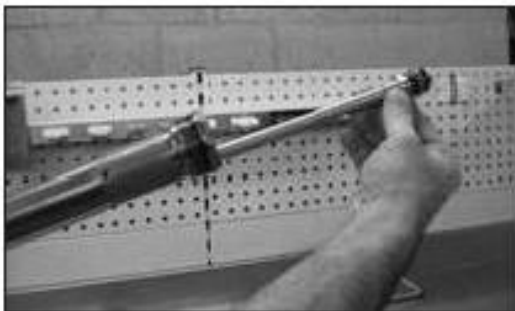
Pour the cartridge oil.



Set the pressure relief rod into the vice with the rod flange (ref. 150081000101).



Loosen the locking nut at the bottom of the pressure relief rod.



Remove the pressure relief rod by the top of the cylinder.

1.2 - Cartridge maintenance



Set the cartridge into the vice with the cylinder flange (refs. 150072800101, 150073200101).



Be sure to set it just above the cylinder head.



Heat the cylinder head in order to burn off the loctite.

Assemble the cylinder gasket wrench (ref. 150150000101) in the cylinder head.

Reminder: Kayaba Ind. Co. Japan and/or Technical Touch BVBA and their affiliated companies hereby decline all liability for damages (whether personal injury or property damage) caused due to improper assembly of the cartridge subsequent to discarding the cylinder head.



Loosen and completely remove the cylinder head.



Remove the gasket and 'backup' ring, and then vigorously clean the threading.

1.2 - Cartridge maintenance



Assemble a new gasket and 'backup' ring.

Be sure to respect the gasket direction.



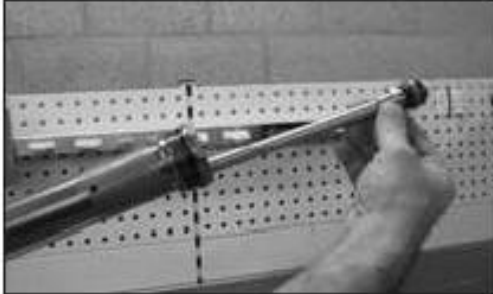
Apply the loctite (ex. nr. 243) onto the threading.



Tighten the cylinder head to 45 Nm.

1.2 - Cartridge maintenance

1.2.2 Piston segment replacement



Dismantle the pressure relief rod as explained in Section 4.2.1.



Set the rod into the vice with the rod flange (ref. 150081000101).



Cut the old segment with a cutter.

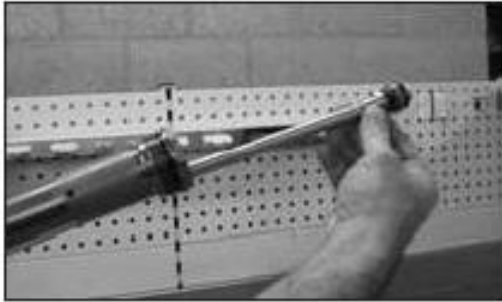


Stretch a new segment and assemble it on the piston.



Push the piston into the calibration tool (refs. 150092400101, 150092800401) in order to reduce it to the right measurement.

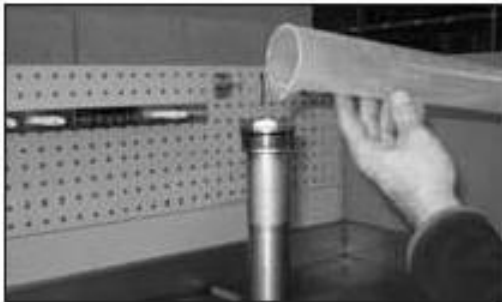
1.2 - Cartridge maintenance



Assemble the pressure relief rod inside the cylinder by the top.



Completely tighten the locking nut onto the rod.



Pour the exact quantity of KYB 01M oil into the cartridge using a graduated specimen (ref. 150180000101).

To know these exact quantities of oil, please consult Section 7.4.



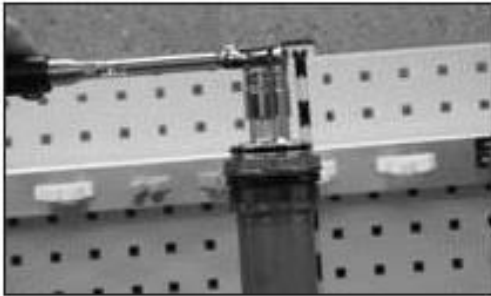
Move the rod a few times up and down in order to bleed the cartridge.



Set the cartridge into the vice with the cylinder flange (ref. 150072800101).

Carefully insert the compression plug into the cartridge.

1.2 - Cartridge maintenance



Tighten the plug using the cylinder plug wrench (ref. 150140000101) at 29 Nm.



Maintain the cartridge diagonally with the compression part slightly higher.

Push the rod completely into the cartridge for purposes of bleeding the cartridge.

Be careful as the excess oil will be released!



Assemble the spring support on the cartridge.

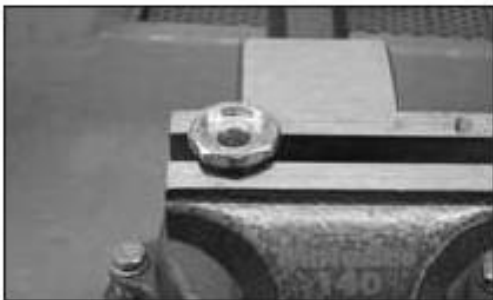
Continue to assemble the cartridge as described in Section 4.1.2.

1.2 - Cartridge maintenance

1.2.3 Replacement of the free piston



Remove the cartridge compression plug as described in Section 4.2.1.



Raise the cylinder plug wrench (tool 150140000101) into the screw.



Place the compression system on the plug wrench.



Unscrew the compression piston base with a 14-mm wrench.



Remove the free piston and replace it by a new one.

1.2 - Cartridge maintenance

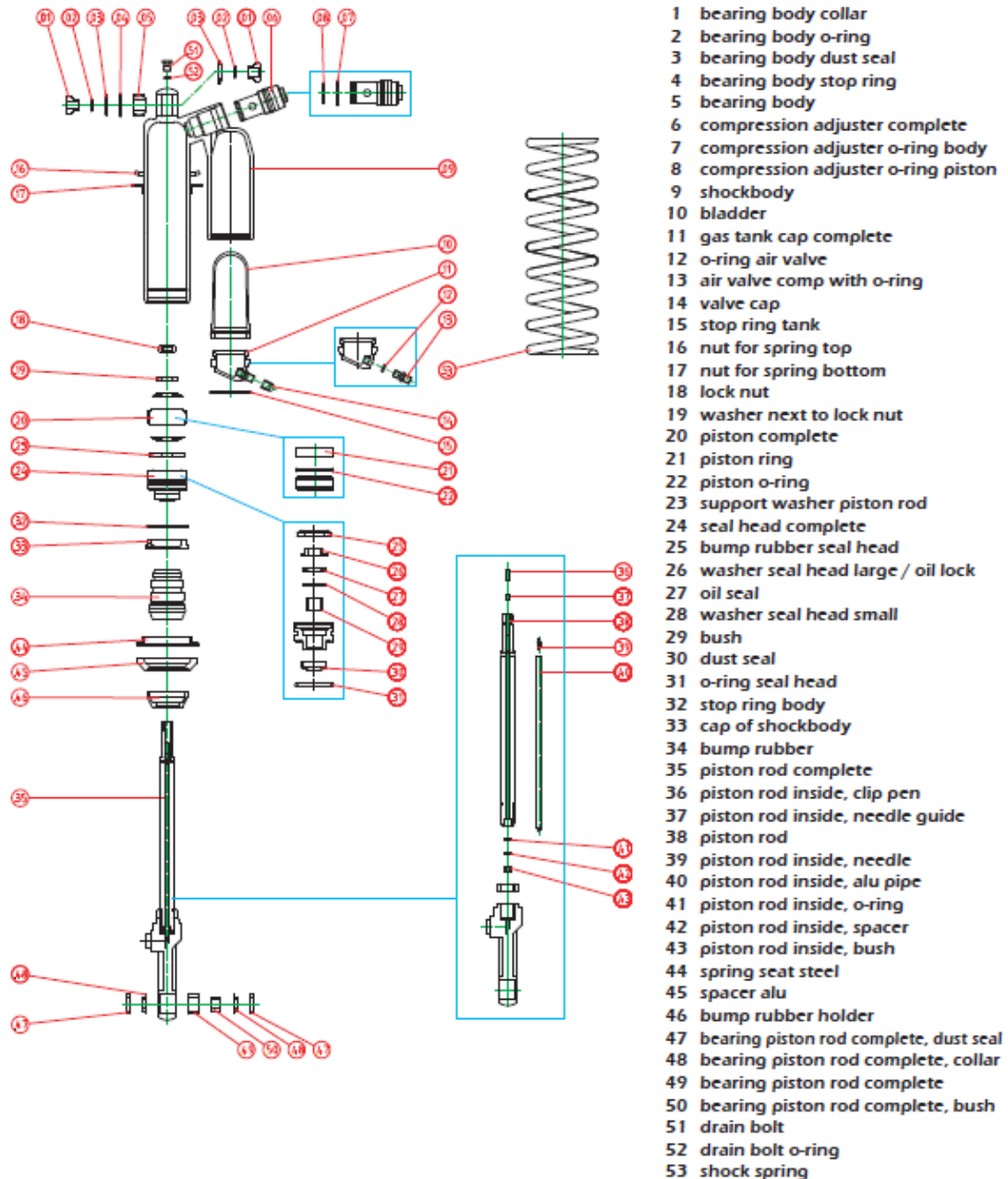


Raise the entire compression piston base to 14 Nm.

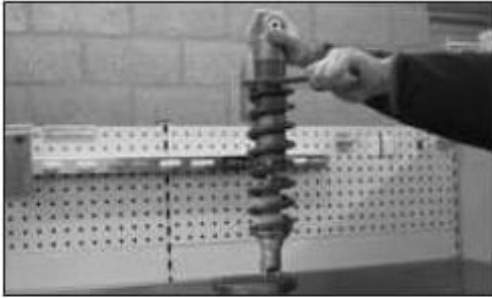


Assemble the compression system into the cartridge as described in Section 4.2.2.

2 - Shock Absorber



2.1 - Replacement of the spring



Place the shock absorber into the vice.

Loosen the nuts positioned against the spring.



Remove the aluminum washer.



Remove the spring.

As for the assembly, follow the same phases in the opposite order.