



Front Control Arm Monoball kit - Installation Instructions

Part # 2260000

Cars applicable:

90-93 964, 94-98 993

Parts list:

Qty	Description
2	Front monoball cartridges
2	Rear monoball cartridges
2	Beveled retaining ring
1	Large press tool
1	Small press tool



Front Control Arm Monoball Kit with weather seals

Introduction –

Monoball cartridges replace the rubber bushings of the front control arms.

The monoball cartridges have maintenance free PTFE linings and require no supplemental lubrication.

Do not install monoball cartridge backwards – be sure to follow the instructions and properly orient the monoball cartridges.

Do not install retaining ring backward – be sure to follow the instructions and properly orient the retaining ring with the red mark visible.

Failure to properly install cartridge or retaining rings will result in an unsafe condition.



Step-by-Step Installation -

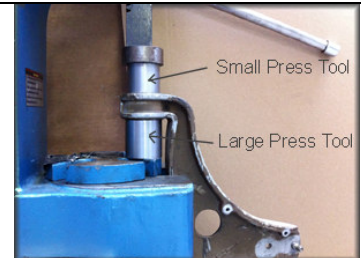
1 – Remove control arms from the car.

Refer to an appropriate shop manual.

2 – Remove the front rubber bushings.

Use a shop press to remove the bushings. Use provided Large Press Tool to support the back of the control arm, properly center it on the bushing outer metal cups. Use provided Small Press Tool on top of the bushing.

Press the bushing out.



3 – Remove the rear rubber bushings.

The rear bushing is actually two halves, pressed in from each side and meeting in the center. Each half has a metal outer shell and a rubber center. Both the rubber and metal outer shell must be removed. They cannot be driven out with a press. They must be driven out from the parting line between them. You must first gain access to the parting line by removing the rubber portion of the bushing.

Secure the control arm in a bench vise.

Heat the metal around the bushing with a propane torch until a small wisp of smoke is visible. Use an old flat blade screwdriver to scrape and pry out the rubber bushing.



4 – Remove the rear bushing metal outer shells.

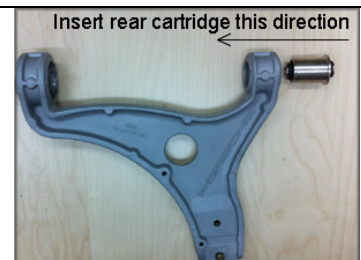
Secure the control arm in a bench vise. The shell halves meet in the center of the bore. Using caution not to damage the soft aluminum of the control arm, position a cold chisel in the union between shell halves and drive them out from the bore. Heating the aluminum around the shells with a propane torch will expand it and make it easier to drive them out.



5 – Install rear monoball cartridges into control arms.

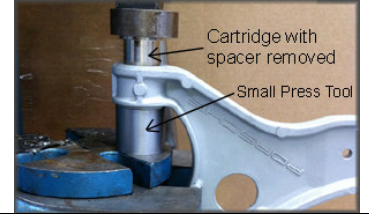
Orient cartridge so the retaining ring side is facing rearward when installed in the car. This orientation is very important, be sure to get it right!

Use the Small Press Tool to support the back of the control arm. Temporarily remove the spacer from the cartridge such that the force of the press is directly on the cartridge case, not borne by the bearing.





Apply a bit of grease to the control arm bore and the cartridge housing. Press the cartridge into the control arm in the direction shown. If the fit is very tight, the control arm end should be heated with boiling water (210°F). The heat will expand the arm and make it easier to press the cartridge into place. Torch-heating is not recommended, it may overheat and cause damage to the bearing once pressed in.



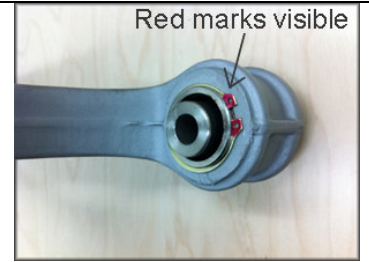
6 – Install the retaining ring.

Note the retaining rings have a slight bevel on one side only. This side is marked with red marks. The red side with bevel MUST face out such that the red marks are visible after installation.

The bevel tightens the retaining ring against the control arm face. If it is installed upside down, the ring will not tighten properly. Be sure to install the retaining ring properly.

Use proper snap ring pliers and avoid over-expansion of the retaining ring during installation.

After installation there should be no noticeable play between retaining ring and control arm face. In the event that any play is present a shim should be fashioned from shim stock and used to eliminate the play.



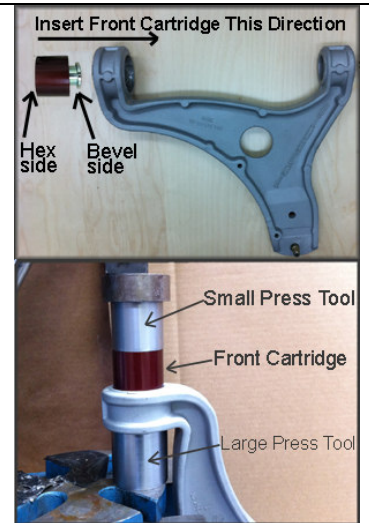
7 – Install front monoball cartridges into control arms.

Orient cartridge so the hex head side is facing forward when installed in the car.

Apply a bit of grease to the control arm bore and the cartridge housing. Use the Small Press Tool and Large Press Tools as shown. Press the bearing in until it is flush with the face of the control arm.

Due to variation in the control arms, the tightness of fit varies. A light press fit is normal.

Note the front cartridge will self-align axially in the control arm when install in the car due to torquing the bolt that secures it – the bolt pulls it into proper position. This is normal.



8 – Install control arms into car.