

## **SUSP-10, 944 Control Arms - General Information, Rebuilding, and Aftermarket Replacements**

### **Introduction**

This page deals primarily with the alloy control arms used on late model 944s. They have been a source of heartache for many 944 owners. The basic problem with the alloy control arms is that the ball joint rides inside a nylon cup or sleeve which is inserted into the aluminum housing of the control arm. That in itself is not a huge problem. However, due to the geometry of the control arm, spindle, and ball joint housing orientation a pre-load is created (for lack of a better term) which forces the ball joint against the side of the nylon cup under normal loading. This results in premature wear of the nylon cup which eventually allows the ball joint pin to contact the aluminum housing. This results in wear to the housing and ball joint pin. Over time, the pin develops cracks and finally shears completely. This problem is more prevalent in cars which are driven extremely hard (i.e. hard cornering, auto-cross, or tracked cars). It becomes an even bigger problem when the control arm geometry is changed on cars with lowered front suspensions.

The logical solution would be to change ball joints more frequently. However, ball joints on alloy control arms were not, until recently, easily replaceable. In fact, early on, there were no replacement parts available to rebuild the alloy control arms. The only solution was to replace the control arms with new ones from Porsche. The new control arms from Porsche do come with a two year warranty. However, they're also brutally expensive. Fortunately, there are a number of companies who now offer a rebuilding service for the alloy control arms. Most of these companies offer a two or three year warranty. And, for those who are adept at doing their own repairs, parts are available for you to rebuild the control arm yourself.

In addition to rebuild options, there are also aftermarket control arms available which have easily replaceable ball joints. However, these tend to run anywhere from \$900 - 1600 USD. We will discuss their availability later.

While this page deals primarily with the later alloy control arms, we will also look at upgrade control arm options for the early 944 control arms.

## Rebuilding Services

Below is a list of companies who rebuild 944 alloy control arms. Each has different policies regarding warranty and core charges. Before deciding on a rebuilder, contact each to determine their policy and current pricing.

<b>Control Arm Rebuilders</b>		
<b>Vendor</b>	<b>Contact Info</b>	<b>Price for Rebuild (As of 03-19-03)</b>
<b>Blaszak Precision Motorsports</b>	4835 Holmes Rd. Inverary, Ontario Canada K0H 1X0 (613) 353-7012  <a href="http://www.BlaszakPrecision.com">http://www.BlaszakPrecision.com</a>	\$145.00 USD
<b>Dynamic European Technologies</b>	5103 Gulfton Houston, TX  (713) 661-2780	\$149.99 USD
<b>Vertex</b>	<a href="http://www.vertexauto.com">http://www.vertexauto.com</a>	\$179.99 USD
<b>Zims Autotechnik</b>	<a href="http://www.allzim.com">http://www.allzim.com</a>	\$199.95 USD

## Control Arm Ball Joint Boots

Quite often, the grease boot on the alloy control arm ball joints gets torn during the removal or installation of the control arm. The grease boots are not available for sale separately. However, you can purchase an early control arm ball joint and use the boot from the early ball joint to replace the torn boot. The Porsche part number for the early ball joint is 171 407 365 G.

## Aftermarket Control Arms

There are a number of aftermarket control arms available. The options are somewhat limited for early 944s (pre-1985.5). However, more control arms should be available for the early cars in the near future. Below is a table showing control arms currently available. There may be others available that I've yet to hear about.

Aftermarket Control Arms			
Manufacturer	Contact Info	Price	Comments
<b>Fabcar</b>	OG Racing 7204 South Hill Dr. Manassas, VA 20109  Orders 800-934-9112 Info 703-257-0009  Website: <a href="http://www.ogracing.com">http://www.ogracing.com</a>	\$860.00  Plus \$60.00 for Derlin bushings (required for installation)	Available exclusively from OG Racing. One of the first aftermarket arms available.  Uses a spherical bearing "monoball" system instead of the traditional ball joint.
<b>Charlie Arms</b>	Available from:  Paragon Products 5602 Old Brownsville Rd. Corpus Christi, TX 78417  Order 800-200-9366 Info 361-289-8834  Website: <a href="http://www.paragon-products.com">http://www.paragon-products.com</a>	\$1595.00	Top quality billet aluminum control arms. Uses a replaceable ball joint and spherical cross-member bushing. Direct bolt-in arms available for 1985.5-86 and 1987-1995 944s and 968s. Can also be adapted to 1983-1985 cars.  Also available is an optional spherical caster eccentric and billet aluminum mount (\$425).
<b>Blaszak Reinforced Steel Control</b>	Blaszak Precision Motorsports 4835 Holmes Rd. Inverary, Ontario	1983-86 \$485.00 USD/pr	Reinforced steel control arm. Available for both

Aftermarket Control Arms			
Manufacturer	Contact Info	Price	Comments
<b>Arms</b>	Canada, K0H 1X0  Phone 613-353-7012  Website: <a href="http://www.BlaszakPrecision.com">http://www.BlaszakPrecision.com</a>	1987-91 \$600.00 USD/pr	early and late offset 944s. Must specify type of sway bar when ordering (i.e. early or late mounting and OE or Weltmeister mounting).
<b>Blaszak Racing Control Arms</b>	Blaszak Precision Motorsports 4835 Holmes Rd. Inverary, Ontario Canada, K0H 1X0  Phone 613-353-7012  Website: <a href="http://www.BlaszakPrecision.com">http://www.BlaszakPrecision.com</a>	\$900.00 USD/pr	Tubular steel control arms with replaceable ball joints and front and rear spherical Teflon lined bearings. Available for both early and late offset 944s.

### Control Arm Rebuilding

#### Rebuild Kits

There are several vendors who now offer rebuilding kits for the alloy control arms. The first company we'll talk about is KLA Industries, Inc. They offer bushing kits to replace the original factory bushings. The bushings are made of nylon similar to the original equipment bushings. The KLA kit does not include new ball joints. According to KLA, it's not typical for the control arm ball joints to be damaged even in cases where the bushings are extremely worn. The KLA kit currently runs \$74.95. Contact information for KLA Industries can be obtained from their web site:

KLA Industries, Inc.  
(<http://www.klaindustries.net>)

Another kit is available from SSI Auto, Inc. SSI Auto's kit includes bronze bushings instead of nylon bushings. It also comes with chrome-moly ball joints. The SSI kit runs \$175 and is a good replacement choice for cars that are frequently driven hard. Contact information for SSI is listed below:

SSI Auto  
1735 E. Joppa Rd  
Baltimore, MD 21234  
(410) 668-1100

Web Site - <http://www.ssiauto.com>

## **Procedure**

This procedure is based on a procedure originally written by 951 RacerX. It has been modified to use the same format used on this web site. The original procedure, with pictures, can be found on the [951 RacerX](#) website. Also, the author is working on a new procedure for replacing the ball joints without removing the control arm from the vehicle.

1. Using [SUSP-07](#), remove the control arms from the vehicle.
2. You may have to remove epoxy material from the control arm to expose the bottom of the control arm ball joint. Specifically, you'll need to be able to get to the circlip that holds the ball joint in the arm.
3. Remove the rubber grease boot from the control arm. Keep the boot retaining spring.
4. Place a large socket over the pin side of the ball joint and a nut or small socket against the bottom cover of the ball joint.
5. Squeeze the assembly in a vise enough to allow the circlip in the bottom of the ball joint to be removed.
6. Use a small screwdriver to pry the circlip out of the groove in the control arm.
7. Remove the assembly from the vise and disassemble ball joint assembly.
8. If you're using a kit that only replaces the ball joint bushings (i.e. ball joint is reused), inspect the ball joint carefully for cracks in the pin or unusual wear. If the ball joint is cracked, it should be replaced.
9. Place the top ball joint bushing into the opening in the control arm. Make sure it is aligned evenly in the opening.
10. Press the ball joint bushing into the control arm using a vise and a socket or seal driver that is slightly smaller than the opening in the bottom of the control arm (the opening is slightly larger than 30mm). Place a piece of wood between the back side of the control arm and the vise to prevent damage to the arm.
11. Apply a good CV joint grease to the cup and to the control arm ball.
12. Insert the ball into the cup followed by the lower cup, spacer ring, spring, another spacer, and cover plate.
13. Squeeze the assembly in the vise and install the circlip.
14. Apply epoxy to the bottom of the ball joint opening to keep the circlip in place.
15. Using [SUSP-07](#), reinstall the control arm.

## **NOTE**

Again, this procedure is an overview of the procedure written by 951 RacerX. For the complete procedure with additional information, tips, and pictures go to the [951 RacerX](#) website.

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