

BUG KING & LINK SPINDLE REPLACEMENT

TOOLS NEEDED:

- Floor jack
- 2 Jack stands
- Lug wrench
- Large channel locks
- Hammer
- Chisel
- Punch
- Large crescent wrench
- Diagonal cutters
- Straight edge
- Millimeter ruler
- Wrenches, 15mm, 17mm
- Sockets, 15mm, 17mm

REMOVAL:

Start by breaking loose the lug nuts on the front wheels. Jack the car up by placing the floor jack in the center of the front axle beam. Place the jack stands under the axle beam, one on each side. Remove the tires.

1. On the driver's side you will see where the speedo cable sticks through the bearing cap. If there is a clip here, remove it. Reach around the backside of the spindle and pull the cable out.
2. Take the large channel locks and grab the bearing cap and wiggle it back and forth until it comes off. You should see two nuts with a lock tab. With the hammer and chisel, bend the lock tab back so the outer nut can be removed. The driver's side nut is reverse thread. Remove the outer nut and place it in the bearing cap. Next take the lock tab off then remove the inner nut and put them in the bearing cap. Pull the thrust washer and bearing out and stick them the bearing cap as well.
3. The drum at this point should just pull off, if it doesn't, try backing off the brake shoe adjustments. Set the drum down and find your ratchet with the 15mm socket.
4. Remove the three bolts that hold the brake backing plate to the spindle. Pull the backing plate off and let it hang by the brake line. You might need to turn the spindle in order to get the backing plate off.
5. Now remove the cotter pin in the tie rod end nut with your diagonal cutters. Remove the nut using the 17mm wrench. A tie rod end puller is nice here, but if you don't have one you can put the nut on upside down and hit it. If it doesn't come off, try hitting the side of the arm where the end goes through. This usually works, but if it doesn't, you will need to get a puller.
6. Find the two pinch bolts that hold the link pins to the arms and remove them completely using a 17mm wrench and socket. Drive the link pins out of the arms evenly with the hammer and punch. Now go to the passenger's side and repeat these procedures.

INSTALLATION:

Clean all the grease off the arms where the link pins went through and grab your straight edge, millimeter ruler and a pen.

1. Place the straight edge against the lower arm, holding it flat and measure the distance from the straight edge to the upper arm with the millimeter ruler. Write this number down on the last page of these instructions. Do the same on the other side. If you find your numbers aren't on the chart, you might have a bent arm and should replace it.
2. Find the shim chart that fits your car and write down the appropriate number in the spaces provided on the last page of these instructions.
3. Following your chart, place the shims in the proper order on the link pins and install them in the new spindles.
4. Put the spindle with the link pins and shims onto the arms. You might have to tap the link pins in gently and evenly.
5. Look down the holes where the pinch bolts go. Use a 15mm wrench to turn the link pin until the bolt falls through. Do both arms and install the lock washer and nut. Tighten it so the lock washer just hits the arm. Rotate the pin so it sucks the spindle toward the arm. Once it is real tight, hold it and tighten the pinch bolt with the 17mm wrench and socket. Do both upper and lower arms this way.
6. Put the tie rod end back into the spindle arm and tighten it. If the end takes a cotter pin, install a new one.
7. Gently install the seal spacer using a hammer and punch. Pull the backing plate back over the spindle and bolt it back up using the 15mm socket.
8. Take a finger of grease and wipe it on the spindle and install the drum.
9. Put the outer drum bearing back in and then the thrust washer. Thread the nut up against the washer. Tighten the nut with a crescent wrench; rotate the drum as to line up one of the lug nut holes with the handle of the wrench, back the nut up to the next lug nut hole. Install the lock tab and outer nut. Use the channel locks to bend the lock plate first over the inner nut and then over the outer nut.
10. Drive the bearing cap back in and install the speedo cable if you are working on the driver's side.
11. Repeat the procedure on the other side. Put grease in the grease zerks and put the tires back on. You are now done.

MAINTENANCE:

You will want to grease the spindles at least once a year to prolong the life of them.



WOLFGANG INTERNATIONAL

**Manufacturers of Custom &
Reproduction VW Products**

1117 Parkview Ave.
Redding, CA 96001
(530) 246-GANG (4264)
Fax 244-7261

E-mail wolf@c-zone.net

www.wolfgangint.com

OFFSET CHART

| DRIVER'S SIDE OFFSET | UPPER INNER A | UPPER OUTER B | LOWER INNER C | LOWER OUTER D |
|-------------------------|------------------|------------------|------------------|------------------|
|-------------------------|------------------|------------------|------------------|------------------|

| PASSENGER SIDE OFFSET | UPPER INNER A | UPPER OUTER B | LOWER INNER C | LOWER OUTER D |
|--------------------------|------------------|------------------|------------------|------------------|
|--------------------------|------------------|------------------|------------------|------------------|

SHIM TABLE FOR 1960 AND EARLIER BUGS

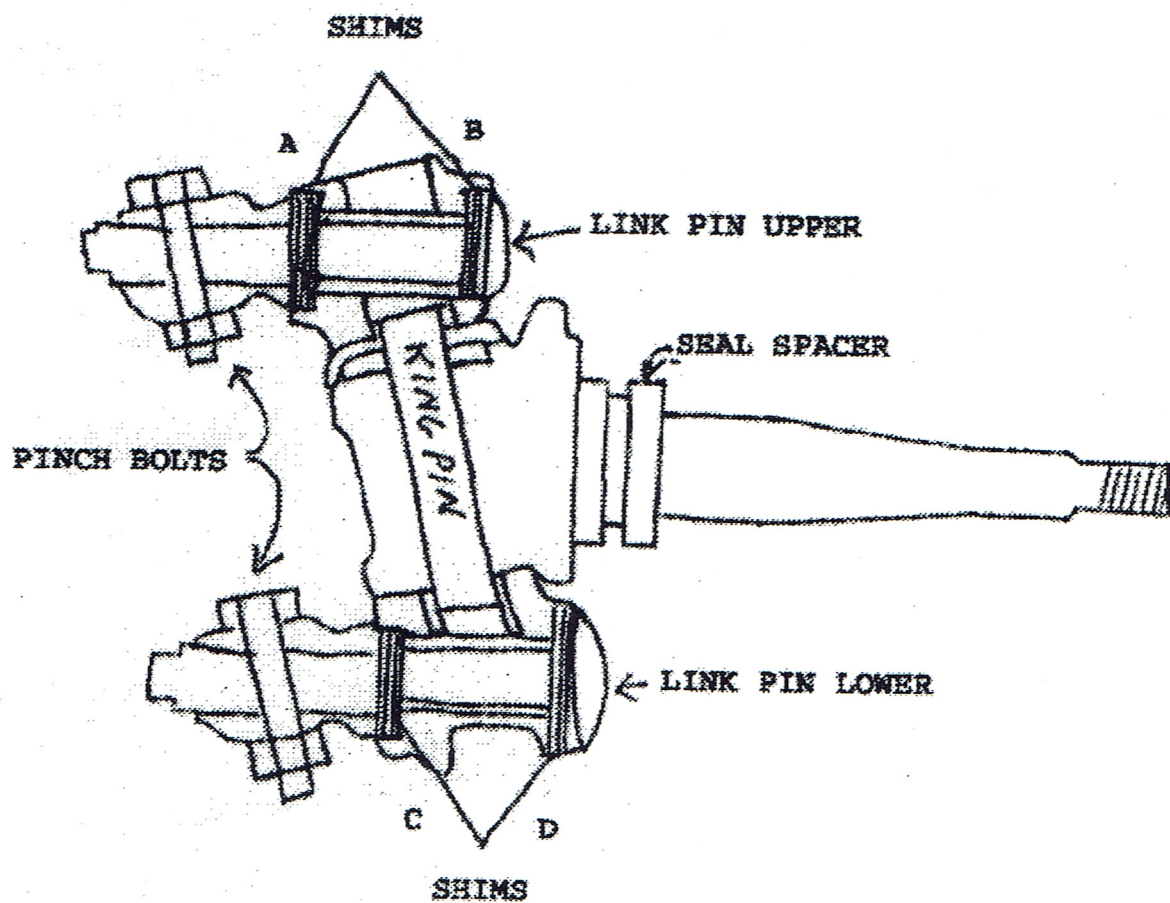
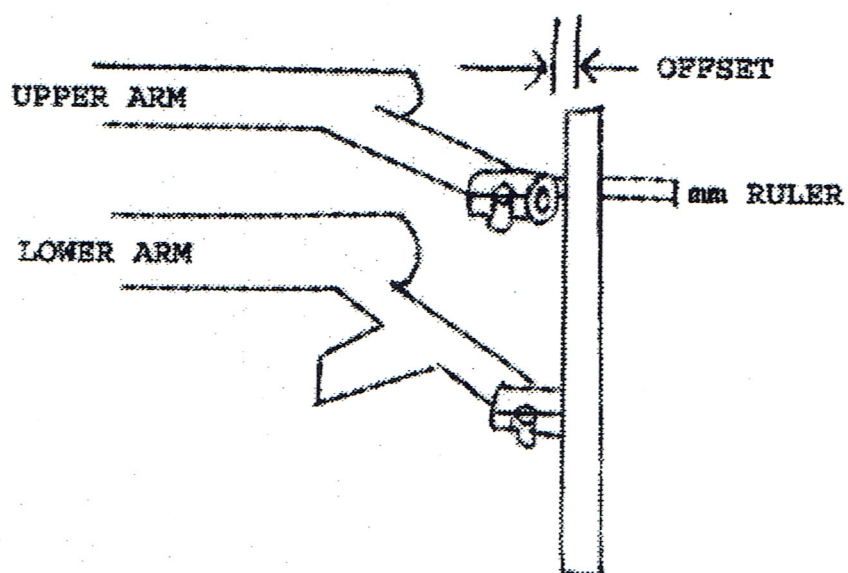
If you are not sure, look at the arms where the link pins go through. They will be flat if they are early. This chart uses 10 shims.

| OFFSET IN mm | UPPER ARM | | LOWER ARM | |
|-----------------|-----------|---|-----------|---|
| | A | B | C | D |
| 5 | 3 | 7 | 7 | 3 |
| 5.5 | 4 | 6 | 7 | 3 |
| 6 | 4 | 6 | 6 | 4 |
| 6.5 | 5 | 5 | 6 | 4 |
| 7 | 5 | 5 | 5 | 5 |
| 7.5 | 6 | 4 | 5 | 5 |
| 8 | 6 | 4 | 4 | 6 |
| 8.5 | 7 | 3 | 4 | 6 |
| 9 | 7 | 3 | 3 | 7 |

SHIM TABLE FOR 1961-1965 BUGS

If you are not sure, look at the arms where the link pins go through. They will have a recess where an o-ring and a seal spacer go. If you have these arms, use the chart and on the inner side install the o-ring against the shims and then the seal spacer. This chart uses 8 shims, the seal spacer counts as 2 shims.

| OFFSET IN mm | UPPER ARM | | LOWER ARM | |
|-----------------|-----------|---|-----------|---|
| | A | B | C | D |
| 5.5 | 2 | 6 | 5 | 3 |
| 6 | 2 | 6 | 4 | 4 |
| 6.5 | 3 | 5 | 4 | 4 |
| 7 | 3 | 5 | 3 | 5 |
| 7.5 | 4 | 4 | 3 | 5 |
| 8 | 4 | 4 | 2 | 6 |
| 8.5 | 5 | 3 | 2 | 6 |



CORE POLICY

A core by definition is a rebuildable or remanufacturable item of same sold that was rebuilt or remanufactured. Any core that is not rebuildable or remanufacturable as is will have a discount charged against it. Wolfgang International takes all cores apart once a week. Once a core has been cleared as being good, a refund by credit card (if used) or check will be written to the retailer or customer. If you bought this product from someone other than us direct, it is their responsibility to refund your money, we do not do second party refunds. If you are having a problem with the retailer, let us know and we will take action.

Bad cores result in a partial credit. We will pay you for the parts that are good rebuildable stock. All paper work of partial credit will be sent to the retailer you bought the product from and should be included with your refund.

If you would like to sell us cores, please contact us.

WOLFGANG INTERNATIONAL
1117 Parkview Avenue
Redding, CA 96001
Tel (530) 246-4264 or Fax (530) 244-7261
wolf@c-zone.net

BUG SPINDLE CORE

Customer _____

Invoice # _____

Date / /

Core Deposit Paid \$ _____

Bent Spindle/Bad Bearing Surface-Each side -\$25.00 _____

Bad Link Pin Carrier-Each side -\$25.00 _____

Total Refund _____