FITTING INSTRUCTIONS

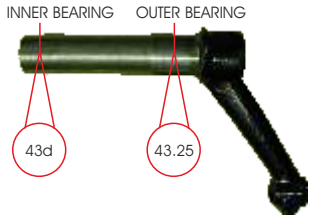
THIS PAGE IS FOR SPLITSCREEN & BAY WINDOW OWNERS USING KING AND LINK PIN SUSPENSION ONLY.

BAY WINDOW OWNERS THAT ARE USING STANDARD BALL JOINT BEAM SUSPENSION PLEASE SKIP THIS PAGE AND READ THE NEXT SECTION

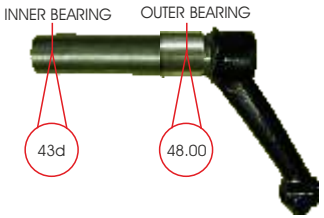
TRAILING ARMS

All VW buses built between 1949 and 1967 used King and Link pin spindles and matching trailing arms.
All trailing arms between 53-67 were manufactured from the same basic forging and all use the same inner bearing diameter of 43mm.
However there were two sizes of outer bearing diameters used, they are 43.25 and 48mm. The 48mm unit was used when VW went from Bakerlite bushes to Needle roller bearings.

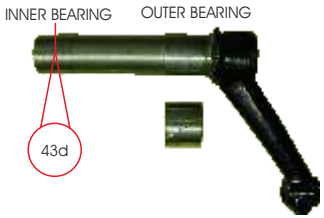
1953-64 TRAILING ARM WITH 43.25MM OUTER BEARING WITHOUT FACTORY BEARING SLEEVE



MID 1964-67 48MM OUTER BEARING ARM WITH FACTORY BEARING SLEEVE IN PLACE



MID 1964-67 48MM OUTER BOSS ARM WITH FACTORY BEARING SLEEVE REMOVED



WHATEVER YOUR TRAILING ARM OUTER BEARING DIAMETER, IT MUST BE FITTED WITH OUR NEW SUPPLIED BEARING SLEEVE. YOUR BEAM WILL NOT WORK WITHOUT OUR SLEEVE BEING FITTED.

If your trailing arms have an outer bearing diameter of 43.25mm they do not have a factory fitted bearing sleeve so you can go straight ahead and fit one of our supplied sleeves onto each of your trailing arms but read ***NOTE*** first.

If your trailing arms have an outside bearing diameter of 48mm (mid 64 -67), they already have a factory installed bearing sleeve fitted. You may find it hard to see and think that it is not there but it is ! (Fig1) This ***must*** be removed and replaced with our new supplied 50mm bearing sleeve. Remove the old sleeve by carefully sanding through it with a medium sanding disc (fig 2). Look out for a split developing as you sand a way (fig 3). Be careful only to sand away the sleeve and not the arm. We do not recommend the use of heat to remove the sleeve as this will alter the molecular structure of the trailing arm. It is vital there is no damage on your trailing arms outer bearing area that will make it difficult to fit our new sleeve. If there is it should carefully be removed with a ***very*** fine file and Emery cloth.

Fig 1

Fig 2

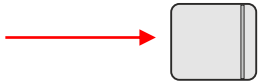
Fig 3

READ THIS SECTION COMPLETELY & UNDERSTAND BEFORE INSTALLING ANY SLEEVES.

INSTALLING OUR NEW SLEEVES ONTO YOUR SWING ARMS

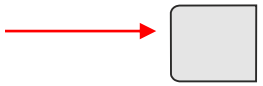
You are now ready to install our new Bearing sleeves.
The amount of wear on the outer bearing area will vary from bus to bus. To allow for this we have supplied you with **two** sets of sleeves.
The two sets are different in that although their Outside Diameter is the same on both, the internal diameters are different. You can see the difference between them by looking at their ends.

The set with a radius at both ends and a groove has a Internal diameter of 42.96 and is for buses between 1955 and 07 1963 with lightly worn swing arms.
We do not send this set with every beam as there are far fewer early buses.



The set with a radius at each end has a Internal diameter of 43.20 and is for buses between 08 1963 and 1967. This set suits lightly worn swing arms.
We send a set of 4 of these with every K&LP beam.

The set with a radius at one end and a flat at the other has an internal diameter of 43.00 and is for buses between 08 1963 and 1967 with heavier worn swing arms.
We send a set of 4 of these with every K&LP beam.



TAKE ONE OF EACH TYPE OF THE SUPPLIED SLEEVES.

You now need to carry out some simple selective assembly.
Try fitting each of them over a swing arm and up to the outer bearing area.
One will want to fit easier than the other but should still need to be pressed gently on. That would be the one to use.
If you force the tighter one on you risk its Outside Diameter expanding and it will then not fit the needle Roller. If one of them falls on and is loose, use the tighter one.

If all 8 sleeves are loose on all four of your swing arms there are only 2 reasons.
1) Your bus is a 1955 - 07 1963 or has suspension from that period. You will need the third set of bushes with a groove in.
2) You have 08 1963 to 1967 Bus and swing arms but they are badly worn and will need replacing. This is a rare event.
Call us in both cases for assistance.

If needed, use some light oil on the swing arm to help the sleeve slide into place.
Leave approx 6mm gap to allow for our Silicone Seal to sit in place. See Fig 4.
Repeat on the other three arms. Normally you would use four of the same type of sleeve but if you have a particularly worn swing arm you can mix sleeves as the OD is the same on all at 50d.

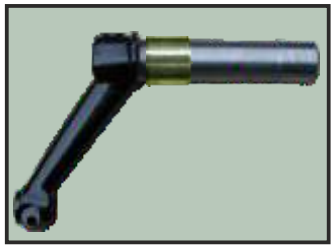


Fig 4

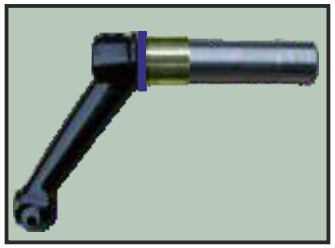


Fig 5

SWING ARM MODIFICATION - FOR SUPER NARROW (4") BEAMS ONLY.

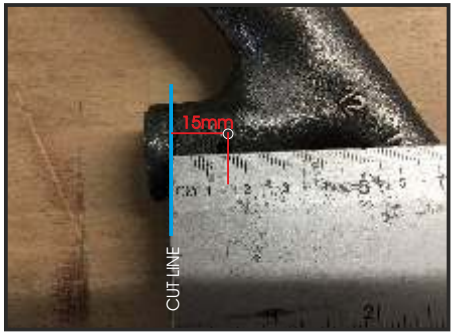
This shows how to modify your lower swing arm / shock mount to clear the upright turret on SUPER NARROW (4") beams. It is not difficult but needs to be carried out accurately. It can be completed with just a solid vise, a hacksaw, hammer and 4mm drift pin although heat maybe required on stubborn or badly corroded parts.

This is what your removed swing arm looks like in standard form.

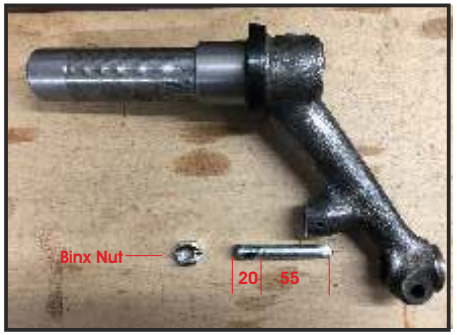
The shock stud is pressed into the swing arm and secured with a steel pin.

Use a 4mm Pin Punch to knock the pin out. Avoid using a drill as your likely to enlarge the 4mm hole.
If you have to, use a 3mm drill bit & drill from both sides.

Here is a swing arm with the pin and stud removed.



You now need to remove the slightly flared end of the shock boss. Cut 15m from the 4mm hole as seen above.



Here is the swing arm with the shortened boss. Also shown is a shock stud modified from a M12 x 100 hex bolt (10.9 tensile strength). A special Binx lock nut is shown.

Very carefully drill a location mark on the new stud being careful not to enlarge the 4mm hole. Remove stud & drill hole. Coat stud in Locktite & reinsert stud & lock pin.

With the conversion complete you can install our Silicone grease seal to help prevent dust and water ingress into the beam.

The photo on the left shows a shock installed and a clearance of approx 6mm between it and the end plate. Also shown is a support spacer on the top shock mount. This spreads loading and prevents wear on narrow mounts.

BAY WINDOW OWNERS OR IF YOU ARE USING A BALL JOINT BEAM.

Your trailing arms already have a 50mm outer bearing surface as standard and require no modification prior to installation. Grease both the trailing arm and spring to help installation.

ALL OWNERS....

You are now ready to insert the springs into your beam. If you have not already done so, it is a good idea to sand a small bevel all around the spring end to help ease insertion. 2 mm would be good. Slip the springs into the beam with the centre dimple facing towards the back of the beam so it can be locked into the adjustor. Try not to remove the grub screw in the adjuster completely or the centre boss will move out of position. Equally, the grub screw must be unscrewed enough for the springs to be able to pass through. Secure the springs with the grub screw just using just a hand held allen key and ordinary spanner. DO NOT CROSS THREAD THE BOSS. The grub screw should screw in without resistance. Do not use a socket set as this may over stress the grub screw. We suggest you set the adjustor about half way and set the bus up at the desired ride height after you have completely installed the beam. With the springs locked in the adjustors, you can now fit the trailing arms but before you do, **be sure to grease both bearing surfaces on all four arms and the Roller bearings in the beam.**
Slip on a supplied CE Silicon Grease Seal onto each of the trailing arms. This is to help keep dust out of the bearings and the grease in. Apply some grease onto the spring and trailing arm and slip the trailing arm onto the spring and tap on until the grub screw can be installed and lock it into place.

Tip We recommend fitting the beam into the bus at this point before it gets too heavy to lift . Finish the spindle assembly and brakes on the bus. **WITH THE BEAM FITTED INTO THE BUS AND THE 4 TRAILING ARMS INSTALLED, PUMP THE BEAM FULL WITH GREASE UNTIL GREASE CAN BE SEEN SEEPING FROM THE OUTER BEARINGS. THIS IS VITAL FOR SMOOTH OPERATION OF THE BEAM & LONGEVITY OF THE BEARINGS.DO THE SAME WITH THE CENTRAL STEERING PIN AS WELL.**

SHORTENING YOUR TIE RODS.

Your bus was originally fitted with two tie rods. One was crimped and non adjustable and the second was adjustable. You need to replace the fixed one with another adjustable tie rod.
We manufacture Heavy Duty specially designed shortened tie rods with 60mm of full internal thread which accepts unshortened tie rod ends. This allows full adjustment and maximum thread insertion. We recommend the bus tracking is set parallel to the rear wheels. We never have any problems if this is done on either stock or especially on narrowed beams.

SHOX

All T2 Splits or Bays have 12mm Front shock mounts. At the top the shocks are mounted to the beam with M12 x 100 or 120mm hex bolts and the lower mount utilises a M12 Stud and Locknut. Washers are fitted to both. ***Note*** If you find your lower stud measures 14mm, you have a rusted on steel tube from the old shock absorber ! VW only ever used 12mm studs on the lower swing arms.
The correct shock purchase is **vital** if your to obtain a decent ride on your bus. Most bad rides on lowered buses are down to two things. Bump stop interference on lowered buses and the shock length being wrong. It is vital you buy your shocks ***after*** your bus has been lowered and settled at the ride height you require. This includes having the engine installed and your interior fitted. The vehicle ***must be fully settled*** under full load when you measure your "Bolt to Bolt" length. We had Spax custom built a range of shocks to our design especially for buses. We specified a valve that gives a softer starting position rather than their standard Sports car valve. Its adjustable from very soft to rock solid and can be dialed in to suit your ride. We stock them in 10 lengths so we can dial in a shock for you whatever your ride height. Measure your bolt to bolt length and call us. See the attached chart.

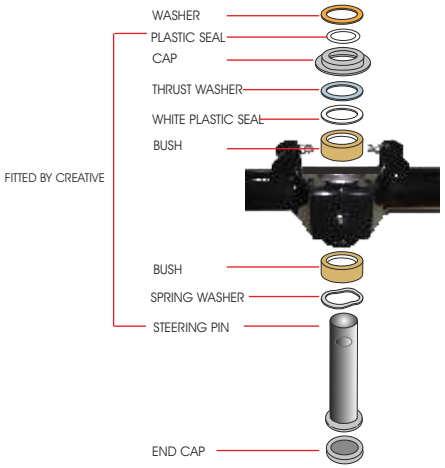
STEERING ARM INSTALLATION

Your Weedeater beam has had a new steering pin and bush kit installed. You will need to fit your steering arm onto the new pin.
Refer to a workshop manual and the chart above.

IDLER ARM

We have installed a new steering pin kit into your axle.
You need to complete the assembly by fitting your idler arm on top of the steering pin and lock it in position with the bolt and lock washer supplied.
Use a G clamp to pull the idler arm down onto the pin so you can get alignment for the bolt to fit. *Be sure the bolt screws in without stripping its thread.*

NOTE;
The pin kit we have used is a 68-80 bay window bus pin as it does not require reaming to fit and is easily available.
This is used on both our King & Link pin beams as well as the ball joint beam.



STEERING DAMPER

Occasionally and depending on the position your ratchets are set at, you may experience clearance issues with your steering damper. There are two ways round this. You can remove the outer cover of the damper exposing the chrome shaft. Do this by running a 36 grit sanding disc around the top edge of the cover leaving the rubber bush untouched and in place. This will gain significant clearance . Alternatively, we can supply a bracket as shown below. Please call us if you wish to.

SHOCK LENGTH CHART

BOLT TO BOLT	PT NO	CLOSED	OPEN	STROKE	UP STROKE	DOWN STROKE
250	CE280	205	280	75	45	30
255	CE280	205	280	75	50	25
260	CE280	205	280	75	55	20
265	CE280	205	280	75	60	15
270	CE280	205	280	75	65	10
275	CE290	215	290	75	60	15
280	CE290	215	290	75	65	10
285	CE290	215	290	75	70	5
290	CE300	220	300	80	70	10
295	CE300	220	300	80	75	5
300	CE325	230	325	95	70	25
305	CE325	230	325	95	75	20
310	CE325	230	325	95	80	15
315	CE325	230	325	95	85	10
320	CE350	240	350	110	80	30
325	CE350	240	350	110	85	25
330	CE350	240	350	110	90	20
335	CE375	260	375	115	75	40
340	CE375	260	375	115	80	35
345	CE375	260	375	115	85	30
350	CE400	270	400	130	80	50
355	CE400	270	400	130	85	45
360	CE400	270	400	130	90	40
365	CE425	280	425	145	85	60
370	CE425	280	425	145	90	55
375	CE425	280	425	145	95	50
380	CE450	295	450	155	85	70
385	CE450	295	450	155	90	65
390	CE450	295	450	155	95	60
395	CE475	305	475	170	90	80
400	CE475	305	475	170	95	75
405	CE475	305	475	170	100	70
410	CE475	305	475	170	105	65
415	CE475	305	475	170	110	60
420	CE500	320	500	180	100	80
425	CE500	320	500	180	105	75
430	CE500	320	500	180	110	70
435	CE500	320	500	180	115	65
440	CE500	320	500	180	120	60
445	CE500	320	500	180	125	55
450	CE500	320	500	180	130	50