



# AIRKEWLD INSTALL GUIDE

## SWING AXLE AIR RIDE INSTALL

Application: Classic VW Type 1 Swing Axle Rear Suspension (Beetle / Ghia)

Quick Reference · Page 3: spring plate notching template (PRINT AT ACTUAL SIZE – DO NOT SCALE)

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### SPECS AT A GLANCE

#### AXLE FLANGES

Perpendicular style only  
(early parallel = swap)

#### BAG MOUNT

~1/4" from torsion top  
level + parallel to tube

#### HEIM JOINTS

1 LH + 1 RH per arm  
3/4" jam nut each side

#### WELDING

Tack only · cycle FIRST  
then finish-weld

### TOP 5 INSTALL MISTAKES

01. Releasing torsion bar tension unsafely. Spring plates spring DOWN hard. Stand to the front, wear safety goggles, expect violent release. People get hurt every year on this step.
02. Notching the spring plate by eye. Use the supplied template (page 3) – print at actual size – and only cut what's marked. Over-notching weakens the plate.
03. Welding bag mounts before cycling. Tack-weld only, install bag, cycle full travel, verify clearance. THEN remove bag and finish-weld. Fully welding first locks in any binding.
04. Air bag misaligned. At lowest point the bag must look like two donuts stacked. Off-axis = rubbing under load = puncture and air loss.
05. Air lines routed where the axle moves. Swing axles travel a LOT. Keep tubing well clear of the axle tube and trailing arm path; chafe-through is silent.

### TOOLS REQUIRED

Lift, pit, or jack & jack stands  
Metric socket set · pry bar  
Angle grinder / cutting tool  
Welder (MIG recommended)  
Teflon tape · soapy solution  
Safety goggles – non-negotiable

### 1 SPRING PLATE REMOVAL

01. Disconnect battery + e-brake cables. Lift from torsion tube + Napoleon hat front edges. Remove rear wheels.
02. Pull (3) axle-tube-to-spring-plate bolts. Remove rear shocks (save the hardware).
03. Remove (4) spring plate cap bolts.
04. SAFETY: Stand to the FRONT, goggles on. Pry the spring plate off its perch – it will spring DOWN HARD.
05. Pull torsion bars and rubber doughnuts. Do NOT damage the doughnuts – they get reused.

#### PRO TIP

*Compatibility check before you start: the kit needs the later perpendicular axle-tube shock flange. Early Beetle / Ghia tubes have flanges parallel to the chassis – those must be swapped for the perpendicular style or the air bag mounts won't sit correctly.*

## INSTALLATION FLOW

PHASES 2 – 6 · NOTCH PLATES TRAILING ARMS SHOCKS BAG MOUNTS AIR LINES & FINAL

### 2 NOTCH & REINSTALL PLATES

01. Lay the supplied template (page 3, AT ACTUAL SIZE) on the spring plate; mark the notch.
02. Cut to the marked line for max drop, OR less for moderate drop. Smooth the cut.
03. Paint the spring plates so they don't rust.
04. Lube the rubber doughnuts; reinstall onto plates with original hardware.
05. Reinstall axle bolts with removable Loctite.

### 3 TRAILING ARMS

01. Each side: (1) LH heim, (1) 3/4" LH jam nut, (1) RH heim, (1) 3/4" RH jam nut, (2) 3/4" washers.
02. Spin jam nut + washer onto each heim. Thread heims into each end of the control arm; bottom them out.
03. Bolt trailing arm hangers on with supplied 12mm bolts, washers, nylocs.
04. Other end: 1/2" bolt + washers + nyloc through hanger; hanger between jam-nut/washer stack on the heim.
05. Don't tighten jam nuts until arms are aligned at ride height.

**PRO TIP** *Bag alignment is the whole game. When fully collapsed at lowest point, the air bag should look like two donuts stacked on each other. If it leans, twists, or pinches – your upper bag mount is off. Adjust before you commit to a full weld. Every torsion housing has casting marks and gaps that are different – expect to slot or grind the upper mount to fit.*

### 4 SHOCKS

01. Press supplied steel spacers into both shock ends – prevents bushing crush at torque.
02. Install upper shock with original hardware; tighten.
03. Lower shock: 130mm bolt + 12mm washer + stepped bushing into rear control-arm hole.
04. Add second stepped bushing; pass through lower shock mount; cap with washer + nyloc; tighten.

### 5 AIR BAG MOUNTS

01. Grind paint / undercoat off the torsion housing where the upper hanger and bag mount will weld.
02. Tack-weld upper trailing-arm hanger ~1/4" from top of torsion tube; level + parallel.
03. Bolt bag to control arm (2.250" bolts, loose). Bolt upper bag-mount to bag (loose).
04. Lift suspension to its travel stop. Deflate bag – it must read as 2 stacked donuts at lowest point.
05. Tack upper mount in place. Cycle full travel; verify NO contact. Remove bag, finish-weld, paint, reinstall.

**PRO TIP** *Cycle BEFORE final weld – every time. Tack only → install bag → cycle full travel → verify no contact at any point → THEN remove the bag and finish-weld. Fully welding first will lock in any clearance issue, and the bag will pay for it.*

### 6 AIR LINES & FINAL SETUP

01. 1/2" reducers into bags with Teflon tape. 90° push-to-connect fittings into reducers.
02. Cut tubing SQUARE; push fully into fittings; pull-test EVERY joint. Soap-test all connections under pressure.
03. Route lines AWAY from axle tube and trailing arm travel paths. Secure with clamps.
04. Reinstall wheels + e-brake cables. Inflate before lowering the vehicle.
05. Lower; verify full travel · check ride height · confirm bag clearance through up-and-down cycles.

## FULL INSTALL GUIDE

VIDEOS · PHOTOS · TEMPLATE · TROUBLESHOOTING

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**BACK**

**TOP**

**TRIM THIS AREA**

**FRONT**

