Fitting Instructions for CR62 - Y62 Coil Delete

Make sure your work area is safe and that you do not get under a car that is not properly supported by jack stands. Make sure that when undoing suspension components that the axle etc is supported and cannot fall.

This kit was developed specifically for factory height and up to 2" lift. Taller lifts need different brackets.

Read these instructions prior to commencing and learn the tricks the easy way before you need to undo your work.

You will have some left-over parts – We don't know if you have billet arms or factory arms, so our lower arm kit includes a crush tube kit for factory arms as well as 6 x M10x25 bolts to secure lower plate to billet arms.

Air Bag assembly

- **The alloy rings on the bags do rotate and you will need to rotate the top mount to align the brackets. Refer to below instructions.**
- Bags and brackets are all the same and there is no left or right.
- There are 12 bolts and washers which clamp the bag rings to the end plates. Do NOT tighten 1 bolt all the way up and then the next as the bags won't sit straight inside the rings. Start by doing every second bolt to finger tight, then the alternate bolts. Then go around in a circle 2-3 times progressively tightening. We use the highest grade 8 hi-tensile bolts and so they will not break. Tighten them to 20 Nm torque.
- Once tightened any curves or waves in the end of the bags are flattened out and do not cause leaks.
- When you fit the air fittings a liquid sealant is needed, despite there being what appears to be a white or grey thread seal on the fitting. Do not use Teflon plumbers' tape as bits of that eventually get into valves and cause leaks. Bunnings sell liquid sealant for gas and high-pressure applications in the plumbing section.
- Use the hose cutter we provide for cutting clean straight 90-degree cuts – do not use side cutters, pliers, or scissors.

Fitting brackets to vehicle – do ONE side at a time.

1. Remove the spare wheel from under the car.
2. Remove the coil spring. To do this you will need to remove the lower control arm bolt at the wheel end. Use a jack to manage the down force of the coil. Once the coil is removed replace that control arm bolt and tighten.
3. Mount the lower plate only to air bag and tighten all bolts – once mounted you won't have access to these so tighten them totally.
4. If you are keeping the factory lower control arms, we have supplied a crush tube kit for each side with 2x bolts to mount the lower plate to the factory control arm. There are tubes that go inside the control arm and the bolts pass through these. Their role is to prevent the control arm from squashing under the pressure of the bolts. Note that although they look the same at first – there is a long and short bolt and crush tube. The longer ones are at the wheel end. (You won't need the crush tube kit with billet arms)

5. If you are running the billet arms, we have also supplied 6x M10x25 bolts (not needed with factory lower control arms). Use lock tight on these bolts.
6. Remove the 2 x K-Frame bolts from chassis – This is OK provided you fit bags only to one side of the car at a time. Replace K Frame bolts with the new longer M14 bolts and washers supplied and use lock tight on these too. Leave these so there is about a 3cm gap left to tighten.
7. Fit top bracket to top of air bag and very loosely start the threads of the bag bolts so there is no clamping pressure.
8. Using both hands on top bracket rotate the top bracket so it aligns to both K-Frame bolts.
9. Tighten all the top bolts using same process of going around a few times. You are doing this with the bag in the car.
10. Tighten K-Frame bolts.

Trouble shooting

Please take note all bushes must be tightened at your ride height to save the life of your bushes. NOT AT FULL DROOP!

If you have a leak that you can't find with soapy water then remove the bag assembly and submerge the inflated assembly at 50 psi in a tub of water complete with airline and Schrader valve. Bubbles will appear and show you the leak. If it is the end plate then tighten the bolts until it no longer leaks. Make sure no air in the bag when tightening as you will not succeed with air in bags.

Leaking fittings can be taken apart and cleaned out. Often a bit of dirt can cause the leak – a drop of oil and a blow of compressed air through the fitting can be a great way to clean out a fitting or valve.

AAA Suspension use 6mm air hose and all air fitting threads are BSP type. If you require different adapters, we sell them online at www.aaasuspension.com.au.

The air bags and brackets in this kit are built to be super strong - stronger than your car. The bags are rated to 5 ¼ ton per bag and have been tested to 1000 psi so you can not hurt the bags even if you desperately overload the car. However, you can damage the car by overloading and running extreme pressures (100 psi and above).

All AAA air bag kits come with a 10-year new for old parts replacement warranty on bags, brackets and air fittings. Electronic components have a 12-month warranty. Keep a copy of your invoice or online purchase so you can show us later when you purchased your kit.

- Warranties are parts replacement only and exclude postage, labour and any other incidental cost or damage.
- Warranties also exclude corrosion or damage caused by external influences such as road hazards, heat, chemicals, salt or fuel.

It is the responsibility of the fitter and ultimately the owner to make sure there is adequate clearance with tyres and exhausts, no rubbing and that all suspension components and wheel nuts secured properly.

Fitting Instructions for Y62 Ride Height Control Kit

This kit automates the ride height in the Y62 patrol running the AAA Coil Delete Kit keeping the rear of the vehicle at a given height regardless of weight. It is totally automated so there is no need for buttons or gauges which saves considerable cost and time.

AAA Suspension have a design patent registered on this kit.

How it works:

This system becomes live when the ignition is on. It can't be turned off or overridden when the car is being driven.

The compressor has a tank and a pressure switch which turns the compressor off when the pressure in the tank reaches 100 psi. Typically, the bags run at 40-75 psi depending on load.

For each air bag there is a mechanical control valve with a swing arm that rotates a disc inside with up and down motion. The disc has slotted holes which join the air bag port to the waste port to deflate or joins the air bag port to the tank port to inflate. The valve body is mounted to the chassis frame. When the car sits low with a load, or the car hits a depression in the road the swing arm is rotated upwards which joins the bag to the tank and air is passed to the bag and it inflates. Conversely when load is removed, and the vehicle sits tall the swing arm is rotated downwards which joins the bag to the waste port and it deflates.

When the valve bodies have called enough air for the tank pressure to drop to 70 psi the compressor will automatically restart and fill the tank back to 100 psi.

The only adjustment is in the linkages which connect the swing arms to the lower control arms. When the car is rested on flat ground you can shorten the linkage to make it sit lower or extend the linkage to make it sit taller. This way you can set your normal ride height. Note that the standard plates in the coil delete kit are to suit zero lift so the measurement from middle of hub to wheel arch should be 530mm. We also supply an alternate set of lower plates to make the bags sit straight with a 2" lift and in that case the distance from middle of hub to wheel arch is 585mm. If you elect to run at a different height, you will compromise the straightness of the bags.

Note that there is a gap between the up and the down slots in the disc inside the control valve. That gap is there to tolerate leaning around corners and slight bumps and corrugations. If it were not for that gap the valves would supply or expel air upon every bump or corrugation. It does mean there is a +/- 10mm in height depending on where the car sits inside that gap so a keen eye might spot the car sitting a bit taller on one occasion and a bit lower on another. But it is withing the tolerance of that gap inside the control valve and wheel alignments can handle that slight up or down position. It cannot continue to creep up because eventually the slot connects the bag to the waste port, and it goes down. In the early days of setting your desired height take an average of several heights under different circumstances – don't always measure it having just bumped through a gutter into your driveway. Also note that when the Y62 comes off the hoist there is a tendency for the tyres to grip and not slide sideways so it will sit taller at first and the bottom edge of the tyre will be tucked in a little.

Engineering:

When you have the Coil Delete kit fitted you ought to have it certified by an engineer. It's a legal requirement that keeps things official in the event of an accident but will most likely be only truly relevant when the time comes to get a Road Worthy Certificate for selling the car. The certification process is simple and inexpensive and is no different to adding or removing seats or child restraints. The engineers will want to see that the bags cannot be inflated or deflated while driving and so this auto levelling kit solves that.

If you are seeking GVM or GCM upgrades that requires more work by engineers and each vehicle will need to be assessed on its own unique merits like wheels, tyres, and weight of accessories, control arms and front spring changes etc.

Air Compressor

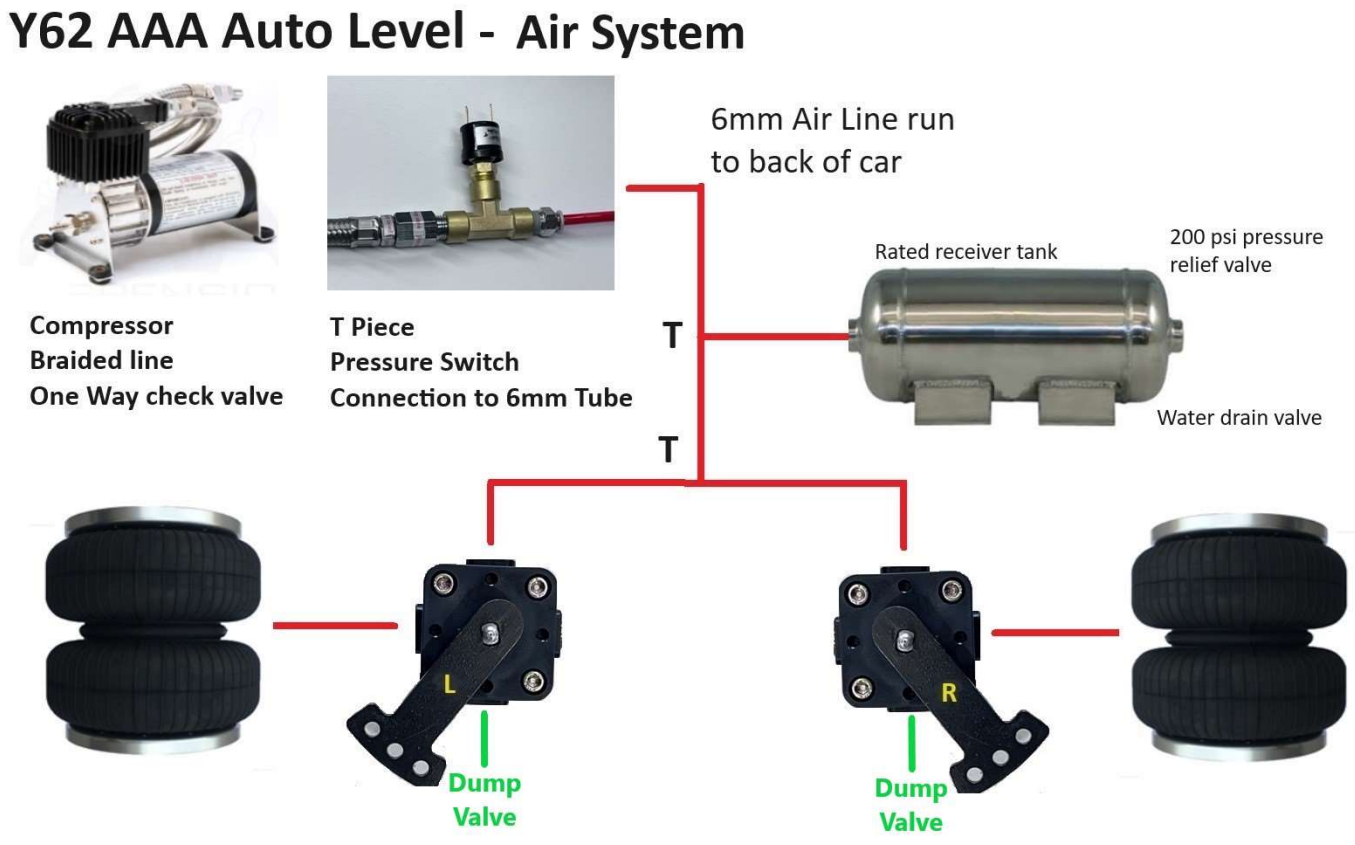
This kit comes with AAA's small compressor which is ideal for air bags. Being small it fits well in the engine bay using pre-existing bolt points. Importantly because it is light weight it won't vibrate loose, stress mounts and body parts or affect anything with heat.

This compressor is rated have a to have a 100% duty cycle at 100psi and can pump to 200psi and withstand 24V applications for prolonged periods, so it is more than up for the task of running your auto levelling kit. However it is not designed for the high volume of tyres and would take too long. Do not compromise the system and its automation by incorporating a tyre compressor or larger tank. If you want a compressor and tank for tyres then run a separate system for that.

Trial fit the compressor mount to the radiator support next to the air filter (behind left side headlight). There are 2x M6 cap screw bolts that secure the mount. You shouldn't have to relocate anything, and it will clear the components below it. The compressor bolts down on the mount with the head and airline facing the left side of the car. Fit the compressor to the mounting bracket before fitting to the car – it's a lot easier that way.

When fitting the filter, It comes with a brass extension so that the filter misses the bracket. PLEASE MAKE SURE YOU DON'T SCREW IT IN TOO FAR AND HIT THE PISTON!

At the end of the braided line is a one-way check valve pre-fitted and pre-sealed. It prevents air flowing back through the compressor when it is not running. Attach the T piece and pressure switch to the check valve at end of the braided line. Run the red 6mm OD airline to the back of the car.



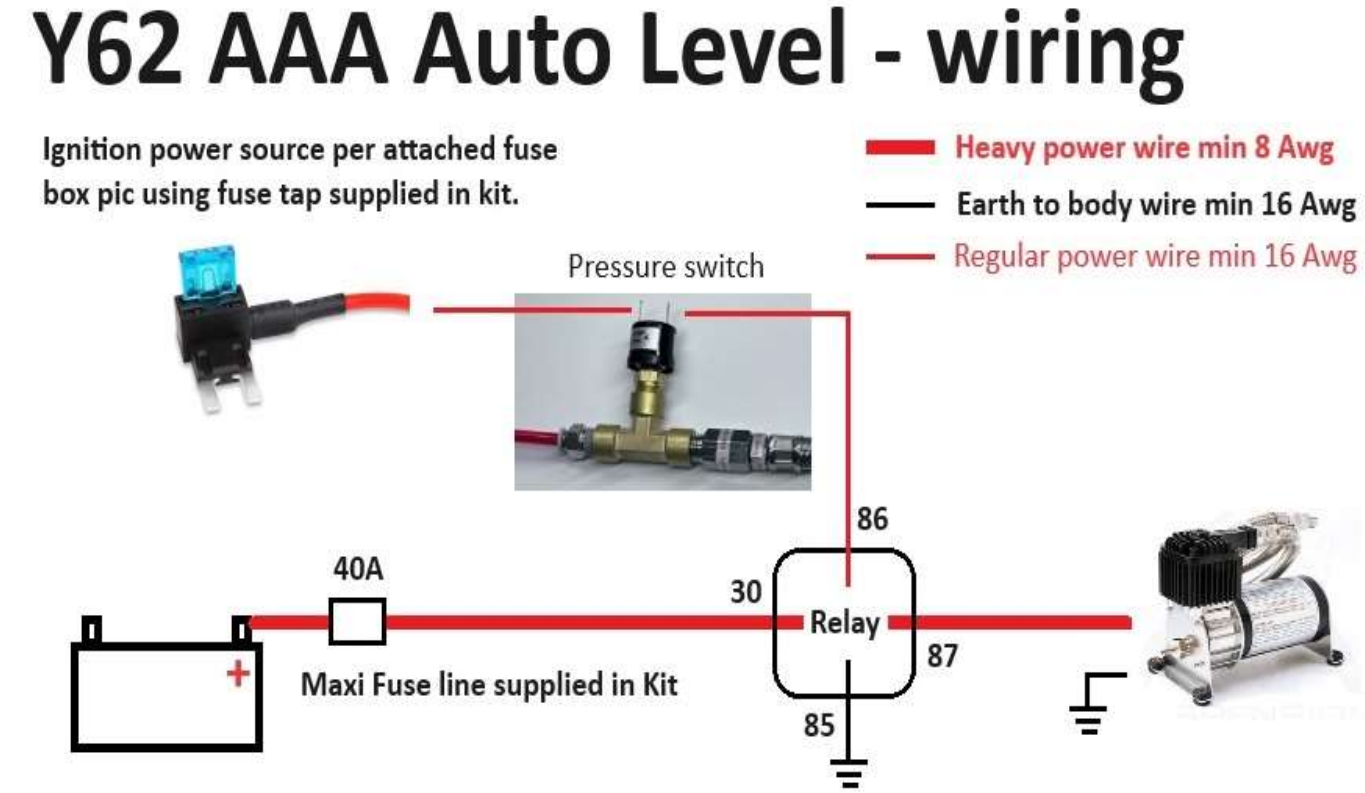
Wiring

Using the supplied relay set up wiring for the compressor just like you would for spotlights. Run the heavy fused wire from the positive battery terminal to pin 30 on the relay and then continue on from 87 on the relay with more heavy wire to the red compressor wire. The heavier the wire the better the compressor will run. Earth the black compressor wire to the vehicle's body.

Trigger the relay on/off with a power source from the car that comes on with ignition and stays on until you turn the car off. We use the stability control port on the fuse panel using the Fuse Tap supplied as per diagram using 2 x 10 Amp fuses – same as factory.

Run that lighter trigger wire through the pressure switch so that the pressure switch will turn the power on and off to pin 86 on the relay (which in turn runs the compressor) maintaining 70-100 psi in the tank at all times. And earth pin 85 on the relay.

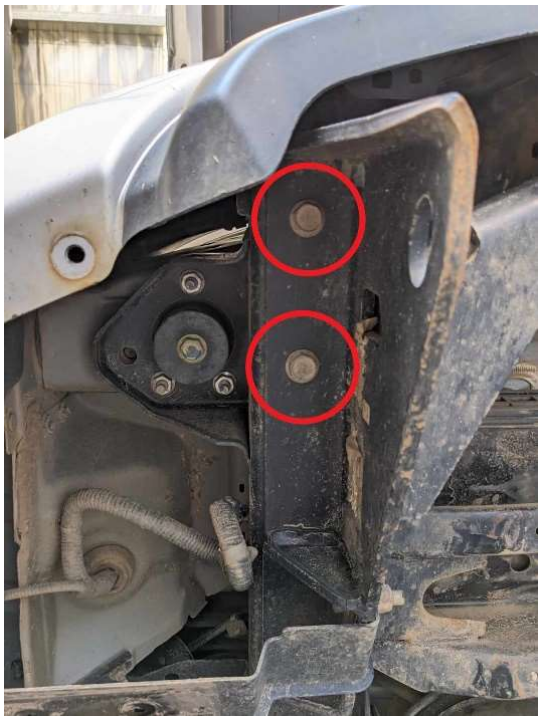
Beside the pins on the relay are numbers.



Air Tank

Assembly of air tank and mount

- To begin, screw in all the fittings into the air tank. Typically, the pressure relief valve should be placed on the bottom of the side with the vertically placed holes. Be sure to use thread sealant on all fittings to prevent air leaks.
- Once the fittings are secured, bolt the tank into the mount using the supplied nuts and bolts.



Installation of small air tank

- Using an 18mm socket, remove the 2 rear tow bar bolts on the passenger side.
- Position the air tank in the vacant space behind the wheel guard/mudflap and install onto the tow bar using the 2 bolts previously removed.
- Plumb the air tank into the compressor using the T-fitting.

Installation of large air tank

For large tanks, there will be 1x extra bolt to do up which also mounts onto your tow bar.

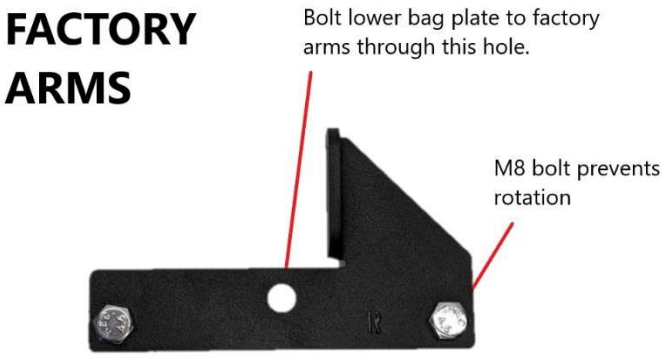
Mounting Up/Down Control Valves:

The valve body outlets as follows so you know which airline goes in which port:

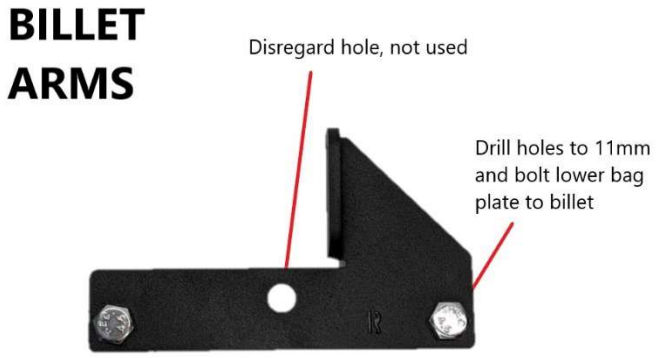
- The air in from compressor and tank goes into the top port.
- The side port closest to the air bag goes to the air bag.
- The bottom port is for the waste air out. It can be left empty, or you can fit an airline and filter but air will escape under pressure so little can be done to arm the passage of air out.
- Spare port is blanked off and this is against the retaining bolt and chassis frame.

The valve bodies have a L shaped mounting bracket. These brackets are universal and can go either side. The mounting bracket attaches to the K-Frame directly above the rear lower control arm mount using the bolt that retains the hand brake cable. Remove the hand brake bolt (don't remove or disconnect the hand brake cable – just release the retaining bolt). Position the mounting bracket and resecure the hand brake cable with the original bolt but clamping the new bracket in place. Then attach the valve body to the mounting plate so the valve body now covers the hand brake bolt.

The lower control arm mount will work on either factory arms or billet arms but in each case a different mounting method.



Factory Control Arms – The lower mount has a bolt pre-fitted at each end that sit in the holes on the Coil Delete lower plates and these simply prevent the lower valve mount from rotating. The bolt that holds the coil delete lower plate with crush tube goes through the middle hole and holds it down securely.



Billet Arms – Drill out the 2 x threaded side holes in the lower mount to 11mm and secure using the bolts from the coil delete kit which hold the lower plate to the billet arm.

Reminder – there is a left and right lower mount and each marked accordingly. The tab for the link arm faces upwards.

If you need to fit the swing arms, it's important to get the sequence of washers correct. The large washer goes on the axle first, then the swing arm per below, then the small washer and then the nyloc nut which is 7/16" by the way. If you get the sequence wrong you won't get the swing arm to seat and tighten properly. No need for the nut to be very tight - just enough to secure the swing arm and the axle can still rotate without too much resistance.

Handy tip: the nylon in the 7/16" is white whereas the nylon in the 11mm (M6) is blue.

The swing arms have L and R laser cut into them as the rotation in the slots on each are different. Fit the "R" assembly on the driver (right) side and "L" on the passenger (left).

Mount the link to the **middle** hole on the driver side (right) swing arm. Mount the link to the **top** hole on the passenger side (left) swing arm.

For standard factory height vehicles the centre of eye to ctr of eye on the links should be roughly to **72mm**.

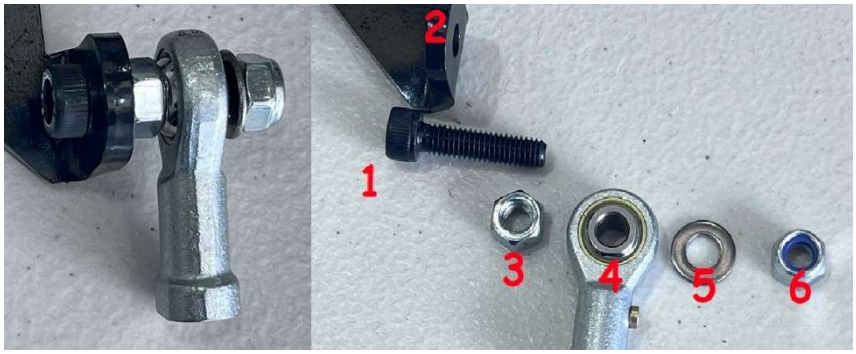
For vehicles with a 2" lift the ctr of eye to ctr of eye on the links should be near to **88mm**.

You can adjust your ride heights by making the links longer or shorter. To lift the vehicle simply make the link longer.

Here's a tip – the best way to set or measure the length of the link – mark 2 lines on paper 72mm apart and lay the link over the top...

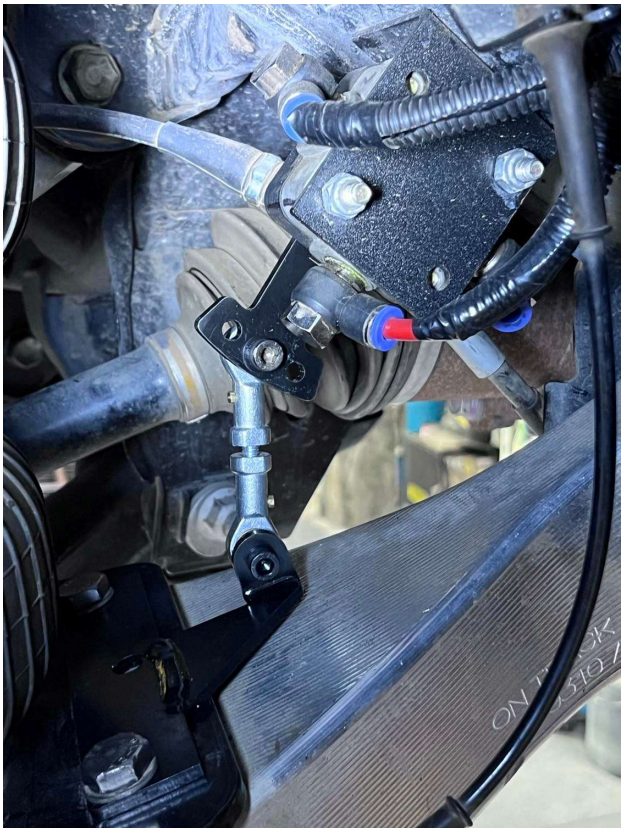
We pre fitted short threads to suit factory standard height as well as supplied longer threads to better suit 2" lift and get the 87mm with better thread contact.

Mount the links to the front of the mounting points so they have maximum clearance from the Banjo air fittings on the valve body. Space the ball joint away from the mount with the plain nut and this allows the ball joint better flex angles. The nyloc goes on last to prevent coming loose.

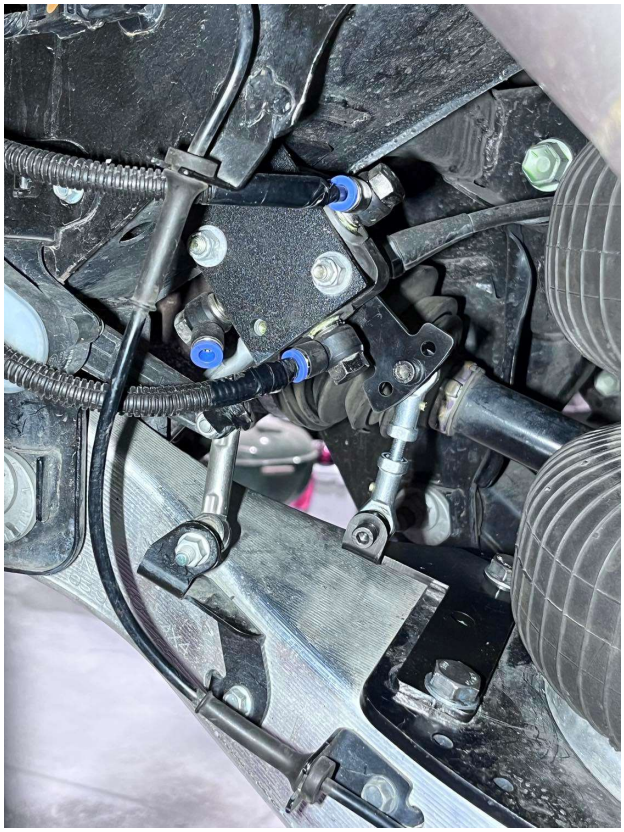


Here’s how they look fitted:

Left side looking from back of car



Right side looking from back of car



Power up the system and the compressor will start, and bags inflate until the up/down valves are happy. Now your task is to set the link positions and lengths, so the car sits at your desired height. This will take a few goes and fine tuning until you are satisfied with your height. After you have finished your height fine tuning you should then get the wheel alignment done.

If you are manually moving the swing arms up and down to make the valve work remember the car will go up and down as the valve inflates and deflates. Do not lower the car onto yourself or jam fingers etc.

It is the responsibility of the fitter and ultimately the owner to make sure there is adequate clearance with tyres and exhausts, no rubbing and that all suspension components and wheel nuts secured properly.

Parts List – Y62 Auto Levelling Kit

Compressor

- 1 x AAA CX02 Compressor with head turned around and facing outwards
- 4 x Compressor Leg bolts and nuts
- 1 x Y62 CX02 Compressor Mounting Bracket
- 2 x 25mm M6 Cap Screw – Fixing Compressor mount to car
- 2 x M6 washers - Fixing Compressor mount to car
- 1 x brass adapter ¼" male to ¼" female for filter assembly attachment to compressor (should be shortened)
- 1 x filter assembly
- 2 x spare filter foam inserts
- 1 x ¼ brass T piece
- 1 x Pressure Switch 70-100 psi
- 1 x ¼ male to 6mm OD air fitting
- 1 x 6mm OD T-piece for air line (compressor to both valve bodies)
- 10m x 6mm OD Air Line.
- 1 x 12V Relay
- 1 x Fuse tap with 2m wire
- 1 x 10 Amp mini fuse
- 1 x maxi fuse holder with ends pre crimped
- 1 x 40 Amp maxi fuse

Valve Bodies (Preassembled) – bung fitted & swivels fitted, bolts relocated & link arm fitted.

- 1 x LHS Valve Body
- 1 x RHS Valve Body
- 2 x 90 degree valve body mount brackets
- 4 x 7/16 nyloc (white) for mounting valve body
- 4 x M6 washers for mounting valve body
- 2 x ¼ bung stopper (1 pre-fitted to each valve body)
- 6 x ¼ swivel to 6mm OD (3 pre-fitted to each valve body)
- 1 x Right swing arm (pre-fitted to Right Valve Body)
- 1 x Left swing arm (pre-fitted to Left Valve Body)
- 2 x 7/16 Nyloc (white) for securing swing arm to valve body
- 2 x large washer for securing swing arm to valve body
- 2 x m6 washer for securing swing arm to valve body

Lower mounts – attach to coil delete lower plate

- 1 x Left Lower Mount with M8 pre-fitted
- 1 x Right Lower Mount with M8 pre-fitted
- 4 x M8 x 12mm Bolts (pre-fitted)

Linkages

- 4 x Ball joints
- 2 x 6mm endless thread 35mm long for factory height
- 2 x 6mm endless thread 45mm long for 2" lift
- 4 x M6 hex nut for locking endless thread in ball joints
- Linkage Bolt Assemblies
    - 4 x M6 25mm Cap Screws
    - 4 x M6 hex nut for securing cap screws and spacing ball joint out from brackets
    - 4 x M6 nyloc (white) and 4 x M6 washers for securing ball joint

Air Tank assembly

- 1 x 1.2 Ltr AT120 Air Tank – rated and approved
- 1 x Y62 Mounting bracket for AT120 tank
- 1 x 200 psi pressure relief valve
- 2 x brass bung ¼" BSP
- 1 x air line hose connection to tank ¼" BSP
- 1 x 6mm air line T piece