

# AIRBAG KIT FITTING INSTRUCTIONS:

# TOUGH TOURING

## SPRING REMOVAL

1. Ensure UEV 440/490 is on flat level ground with the handbrake on (or on hoist safe and secured).
2. If you're doing one side at a time - remove wheel, remove sway bar and unbolt top bolt on shock absorber. Also remove limiting strap. (top and bottom mounts as well.)  
A Better way to do it is totally jack up the trailer so that both wheels are off the ground and remove both wheels together. Then both swing arms can be lowered at the same time. (You can leave the sway bar on if you do it this way.)
3. Push swing arm suspension down and lift out coil spring.

## BAG INSTALL

1. Your kit comes with the bag pre-assembled with upper and lower plates already installed.  
Drop the lower retaining plate (circular) into the suspension arms circular retaining cavity – then put the second circular plate underneath the A-Arm and bolt together. This effectively 'clamps' the lower retaining plate in position onto the suspension arm.
2. Now the upper retaining plate – (rectangular one). The rectangular section can be positioned either East-West or NORTH-SOUTH for a fit that gets the bag closest to straight in reference to the bottom mount. Put the bag in. This is a test fitting to see that it all fits in. If it's all good – great, you're ready for step 5. If it doesn't sit well, remove any steel slag preventing the air bag retainers fitting freely, machine out or grind out any slag in the way. **DO NOT GRIND OUT** any structural welds. Position the bag as close as you can so that it doesn't 'kink' when compressing.
3. Drill an oversized 10mm hole in the upper spring retainer base (on the trailer ) to allow air-line to pass through. Protect the air-line from abrasion using the provided air line protective sheath (looks like a spring/ electrical conduit). Be careful to line up the hole as close as possible to the location of the valve built into the top retaining plate on the bags, so that the line stays straight.
4. Push the air line into the bag's valve. The valve is a push in – pull out to lock. The air-line will lock in to the valve and seal when you have pushed it all the way in. If you want to pull the air-line out again, push down on the blue edges and then pull on the pipe itself and it will release. If you haven't done this before practice a few times on an off-cut before you do it on the trailer.



5. Feed the length of air-line through the hole and attach a Schroder valve to the end – as above – they are all the same fittings. Do NOT glue the lines into the valves, it is unnecessary. Temporary inflation is required for the next step only. You will later cut the line and re-mount the Schroder valve end properly (Last step).
  6. Partially inflate the bag, and jack the suspension arm up tight so that the upper retaining plate now sits all the way inside the spring retainer. Look and make sure that the upper retaining plate is sitting flush and hard up against the base. If this is the case – Go to step 10.  
If not – Pull the bag assembly out again and re-inspect the upper spring retainer and upper airbag retainer. It is sometimes easier to grind the edges off the upper rectangular retainer in places where the welds are protruding inside the spring retainer.
- ITS IMPORTANT THAT THE UPPER RETAINING PLATE SITS FLUSH FOR STRENGTH.**
- Don't skip this step. Get it in there flat so that the Loads on the suspension transfer to the same place as where the springs would be.
7. With some load on the air bag to prevent movement, drill a 10mm hole through the top spring retaining plate and top airbag retainer bracket – right through the whole assembly. A total of 4 metal surfaces using a long drill bit. (I use a 30cm long special drill bit). There is a very long bolt in the pack that through bolts the whole assembly. Test that the bolt slides in and fits OK, then bolt together.

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Exploded view of the air bag and Retaining plates – left hand side is the upper, right hand side is the lower.

## BAG INSTALL (contined)

8. The airbag kit is now in and secured. (1 bolt at the top and 1 at the bottom). Run your airline to desired position – cut to length and mount a Schroder valve.

### 9. OPTIONAL – ONLY DO THIS STEP IF YOU'RE ADDING A NEW LIMITING STRAP:

Mount the included limiting strap – the standard length is 16 Inches. The Conqueror trailer will have a bolt through mount point on the top mount (Chassis end). Remove the 'buckle mount' from the limiting strap on one end, then pass the bolt through the limiting strap to mount. On the lower end, use the provided bolt to bolt the Buckle mount straight to the suspension arm mount where the old one was. Discard the existing triangle 'block mount' if it's fitted. This will rub on the bags when compressed and eventually destroy them.

The new limiting strap is a single strap rated to over 9000 pounds, and easily exceeds the rating of the bolts. A single will not interfere with the bag when its compressed as it doesn't require the block mount.

### 10. IF YOU'RE USING THE EXISTING LIMITING STRAP:

Bolt the lower strap retainer on the other side of the steel tab to give the airbags more room to expand without hitting the steel limiting strap bracket... (It's the Brown triangular bracket that the limiting straps attach too..) – If the existing limiting strap looks too close to the bag – you will need to do step 14 and add the OPTIONAL single strap.

11. Inflate the bag to between 80 and 90 PSI. This should achieve ideal ride height. The bags can handle up to 160PSI but will ride hard and push the limit straps too tight. Ensure that the customer/ owner of the trailer understands that the correct ride height is about where it was when it was on springs! Get them to check that the retaining strap still has around 2 inches of slack in it, and the bags are not sitting in a compressed state. We give our customers here a measurement between the tyre and the mudguard to set the height too. This ideal measurement is 120mm, giving customers an ideal pressure has proven unreliable as different loads in the trailer will require different pressures.

As vehicles drive over corrugated roads, air pressures can change dramatically. We have learn't that a tyre at 30PSI can reach 50PSI in just an hour of driving at high speed over severe corrugations.

Ensure that in extreme conditions, airbag and tyre pressures are checked regularly. On the first day of new terrain, especially in deserts etc if you're not experienced with Desert travel, check the air pressures multiple times – before leaving camp, 1 hour down the road, and again in the afternoon.

Air temperatures can fluctuate in Australian deserts from -3 degrees to 42 Degrees during the day. Tyre pressures can easily double or halve during the day's driving.

### FOR VIDEO on INSTALLATION:

Go to our website: [toughtouring.com.au](http://toughtouring.com.au)

Access our You tube channel.

There are many other tips and tricks also on videos that you may find useful.