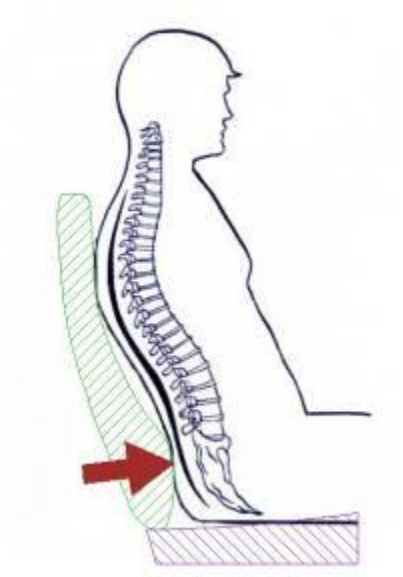
RETRO-FITTING LUMBAR SUPPORT (Revised Oct 2012)

Introduction

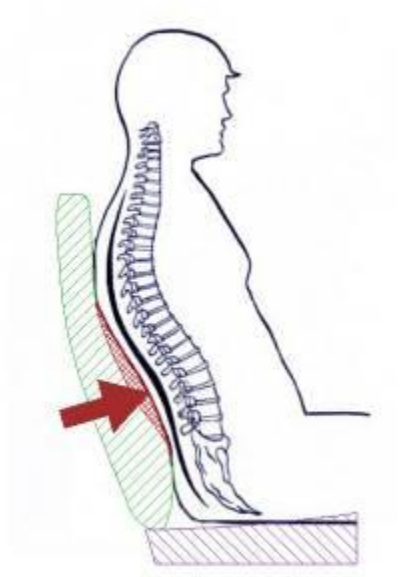
This guide describes retro-fitting an adjustable lumbar support to a second generation Mini (R55/56/57) cloth sports seat. Some alternatives are discussed at the end.



Standard backrest

The problem with these seats as standard is that not only is there inadequate support at the lumbar level (nothing is fitted instead of the absent lumbar support), but there is exaggerated support at the level of the top of the pelvis where a solid piece of foam sits against the backrest frame.

Adding the adjustable lumbar support (the red area) corrects that and makes the seat just like the cloth/leather sports seats – both types of seats use the same backrest foam.



Backrest with lumbar support

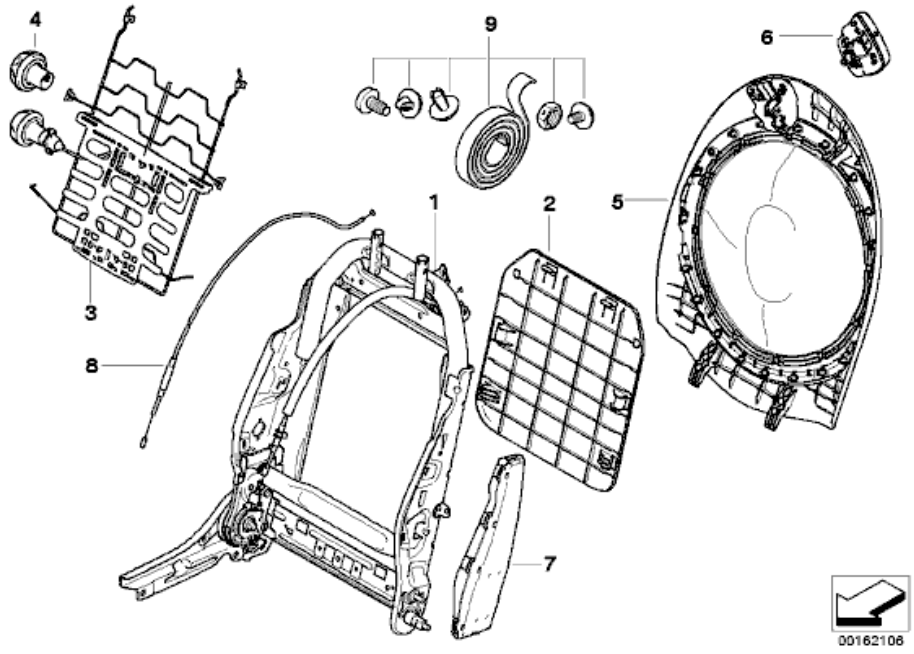
The work to fit the lumbar support is very simple and will take 30-45 minutes at most. Only basic tools (including T15 and T25 Torx drivers) are required. Neither the seat airbag, the seat heating elements nor their wiring connectors are disturbed during this job.

Spring mat and handwheel…

…plus two self-tapping screws

The two parts required for each seat are a replacement 'spring mat' (the bit that supports the backrest foam) with adjustable lumbar support and a handwheel. In addition, two self-tapping screws will be required to fix the lumbar adjuster to the seat frame.

The popularity of this modification in the US seems to have caused Mini part numbering to change and now the spring mat part comes with some of the fasteners needed to fit it!



The spring mat is item 3 in the diagram and part number 52.10.2.752.614 for the right seat (52.10.2.752.613 for the left seat).

The handwheel is item 4 in the diagram and part number 52.10.2.751.387. However this handwheel may be included with the spring mat for later cars.

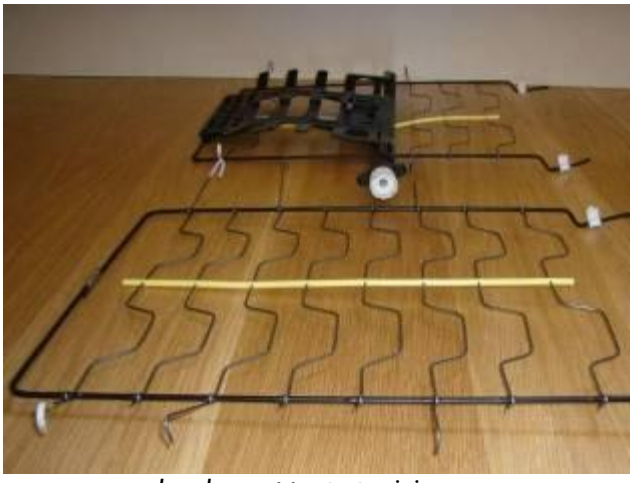
You should recheck these numbers apply to your car before ordering.

The spring mat appears to have the same part number with and without lumbar support, so be sure to order it for a car with lumbar support (option S488A=Yes). After September 2009, the part numbers do change more than once, and the with-lumbar number becomes different from the without-lumbar number, so check carefully when ordering. Part numbers with lumbar adjuster appear to be:

- Cars 9/09 to 9/11 – Left 52.10.2.752.611 and Right 52.10.2.752.612
- Cars 9/11 onwards – Left 52.10.7.299.941 and Right 52.10.7.299.942

My seats do not contain an item 2, 'protection plate' – my suspicion is that this is only fitted to Lounge leather seats to stop damage to the back of the cover. Item 9, the 'set of mounting parts', isn't required – with a little care, all fasteners are reusable. In July 2009, the two parts for one seat cost £40.10 at UK dealer price, while they are shown on realoem.com at $106.10.

A comparison of the spring mats with (background) and without (foreground) lumbar support shows that there is a substantial difference in shape between them even with the lumbar support adjusted to the minimum.



Lumbar support at minimum

Lumbar support at maximum

Experience of using the seat with lumbar support confirms this – the seat has a lot of lumbar support even with the adjuster turned to the minimum. When new, at the maximum setting, the lumbar support seems extreme but after a while that seems less true.

Disassembly

1

2

1 Remove the headrest. Remove the backrest latch paddle (Torx T15)

2 Undo the two screws under the paddle (Torx T25).

3

4

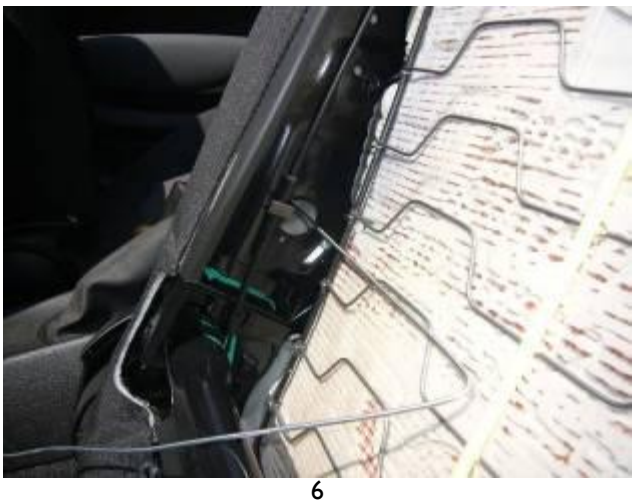
3 The outside top corner of the back panel is now released but the inside top corner is still held by a clip.

Holding the back panel as shown, pull top edge backwards while pushing in with your thumb and the back panel will unclip with no effort. Using two hands is easier – but then you don't have one spare to work the camera….

Simply tugging the top edge of the back panel alone will damage the panel.

4 The back panel will hinge backwards on two claws at the bottom and can be lifted out.
(For the eagle-eyed, photo 4 is from the 'dry run' carried out on the left seat.)

5



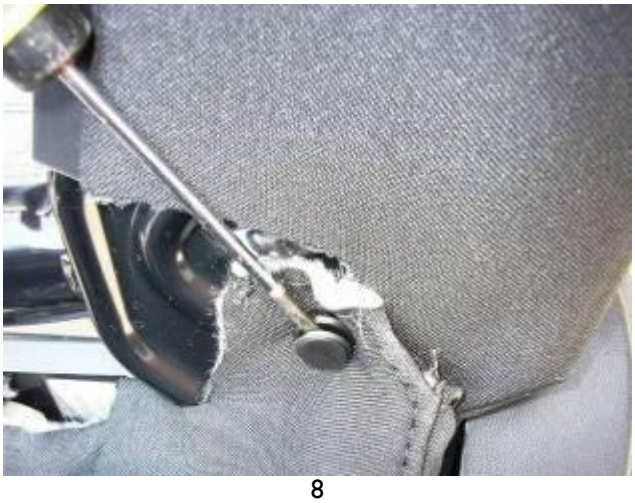
6

5 Prise out the two headrest sockets with a screwdriver between the plastic socket and the metal tube it sits in – for some reason, pushing up on the bottom doesn't work.

6 OK, this is the point of no return… Pluck up the courage to push something long, thin and straight (eg, straightened-out coathanger), through the centre of the adjuster hole in the backrest frame and out through the backrest fabric.

The fabric is tough, so you may need to drive a spike through from the outside once you've identified the right place from the inside. Don't rely on the hole that's already in the foam – it's bigger than the hole in the frame and isn't centred over it.

7



8

7-9 Release the two locking rivets holding the bottom of the backrest cover.

These rivets have two parts, though the join between them is very well disguised!

You need to get a screwdriver tip under the head of the central 'nail' which locks the rivet in place by expanding the legs inside the hole.

With the 'nail' released, the rivet pops out easily.

9

10

11

10-11 Press up on the bottom of the backrest to allow you to unclip the bottom flap of the cover from the crossbar – see 12 for more detail.

Fold down the flap and prise out the two remaining rivets holding the cover sides in place. These are simple push-in rivets and will pop out easily.

12

13

12 Press in on the side, top or bottom of the backrest to take the tension off the backrest cover and unclip the plastic clip/strips from the frame in seven places:

- one across the bottom (step 8);
- two down the inner side;
- three down the outer side;
- one across the top – this one is fiddly.

13 Feed/pull the bottom flap of the backrest cover through the gap between the backrest and the seat cushion.

14

15

14 Untuck the cover from around the backrest latch and peel the cover forwards.

The outer side is trapped by the backrest hinge to the seat base and doesn't need to be peeled forwards.

Do not attempt to release the cover any more than is shown in the photo – it isn't necessary and the cover is attached to the foam by 'hog rings'.

15 The inner side may, or may not, be trapped under the cover of the reclining mechanism – if so, work it free with a screwdriver (the cover doesn't need to be wedged back there on reassembly).

16

17

16 Lift the top edge of the foam up to clear the headrest tubes and swing the foam forwards.

The outer side of the foam remains attached at the airbag and doesn't move. The seat heating cable (if present) passes under the spring mat, so it doesn't need to be disturbed.

17 Disconnect the three hooks on each side of the spring mat.

18

19

18 The upper two hooks on each side fit into plastic 'omegas'. The ones on the inner side are loose and may drop out – so remove and keep them safe until the new spring mat is fitted. The outer omegas are trapped under the airbag and don't fall out. Only the bottom pair of omegas are required to fit the new spring mat.

19 Release the top corners of the spring mat by squeezing the back of the white plastic clips together and lift the spring mat out.

Reassembly

Reassembly really is the reverse of disassembly (hey, haven't you always wanted to write that?).

20 When fitting the new spring mat, first push the adjuster through the existing hole in the backrest frame and fix it in place with two self-tapping screws.

20

Cut the hole for the handwheel, using the centre you already marked as a guide.

The hole needs to be 25-30mm (1-1.25") diameter but this isn't very critical as long as it's much less than the 62mm (2.5") outside diameter of the handwheel.

The seat cover fabric is tough, so a sharp knife, scalpel or scissors is needed to cut it.

Refit the foam and pull the backrest cover into place, tucking it around the backrest latch.

Compress the foam and reattach the cover clips to the frame.

Refit the cover rivets. Pull apart the two-part rivets and fit the outer part first, then lock this is place with the inner part.

You can now try a 'test sit' of the new backrest!

Refit the back panel, line it up around the backrest latch and then give a sharp thump to re-engage the clip on the top inner corner.

The handwheel just clips onto the lumbar adjuster – it doesn't want to come off again, so fit it as the last step.

The headrest sockets fit in the metal tubes only one way around – line up the lugs on the socket with the notches in the tubes.

That's it – sit back and enjoy. You will find the lumbar support seems very extreme right now, but this impression will wear off after a couple of days – your back has just got used to dropping into the hole where the lumbar support was missing.

If you have any questions, suggestions or corrections, please contact me via the forums, or at:
angib (at) blueyonder (dot) co (dot) uk

Alternatives

There are a couple of possible ways to avoid buying the parts listed in this guide.

One alternative to the lack of lumbar support would be to add a fixed support. The photos on page 2 show that it would need to be about 175mm (7") high and about 50mm (2") thick in the middle. Some flexibility is needed so that it can conform to the spring mat, so a very high density foam would be the ideal material – this is likely to be a specialist purchase as it would be harder even than the current backrest foam, so it's likely that it won't cost much less than the BMW parts.

Another alternative is to remove the excessive support at pelvis level, where a solid block of the backrest foam continues under the spring mat and sits on the backrest frame. Cutting out most of the width of this foam block might soften the backrest at pelvis level and leave a fairly 'straight' backrest shape. However this would need to be experimented – and if the experiment goes wrong, an expensive new backrest foam is required and fitting it needs a pair of hog ring pliers to remove the cover from the old foam and reattach it to the new foam.

All in all, adding the adjustable lumbar support parts seems the easiest and possibly cheapest solution.

Andrew Gibbens
Newcastle, England
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