

The BIG towing mirror test

BRITAIN'S FIRST!

Every caravanner needs towing mirrors. But how do you choose? Our expert, Mike Cazalet has conducted an exclusive series of tests, to help you choose

If you were about to buy a towing mirror how could you tell which one to buy? If you believe the information on the packaging, it sounds like they are all brilliant. They'll fit virtually every car from the Model T Ford to the Mercedes McLaren. They are stable at any speeds short of Mach 1, they'll last forever and you'll be able to see at least ten lanes of traffic behind you. But we wanted to investigate further.

We took 30 different models of towing mirror and subjected them to a series of tests which everyone can relate to. The

tests were performed by a team of aeronautical, civil, mechanical and precision engineers, all of whom are also caravanners. All the tests we describe here are reproducible so it didn't matter which one of our team was the lead, the rest of us could do the same tests and get the same results. So before you buy any towing mirrors, decide what your priorities are, follow our results chart and you'll find the mirror that exactly matches your needs and wallet. This type of test has never been done before, due to the sheer amount of work involved. We hope you'll find it useful.

Buying our test mirrors

All the mirrors you see here were bought retail at either a caravan or towing dealer's retail stores, or through the internet, over a three week period. The prices we quote were what we paid, but we didn't include the price of postage and packing for those bought off the web.

There may be new versions of some towing mirrors available now that weren't around when the mirrors were bought. However, in the interest of making it a controlled test, we had to go with the models we could find at the time of our test.





Measuring the angle of vision was easy using these perfectly placed fence posts



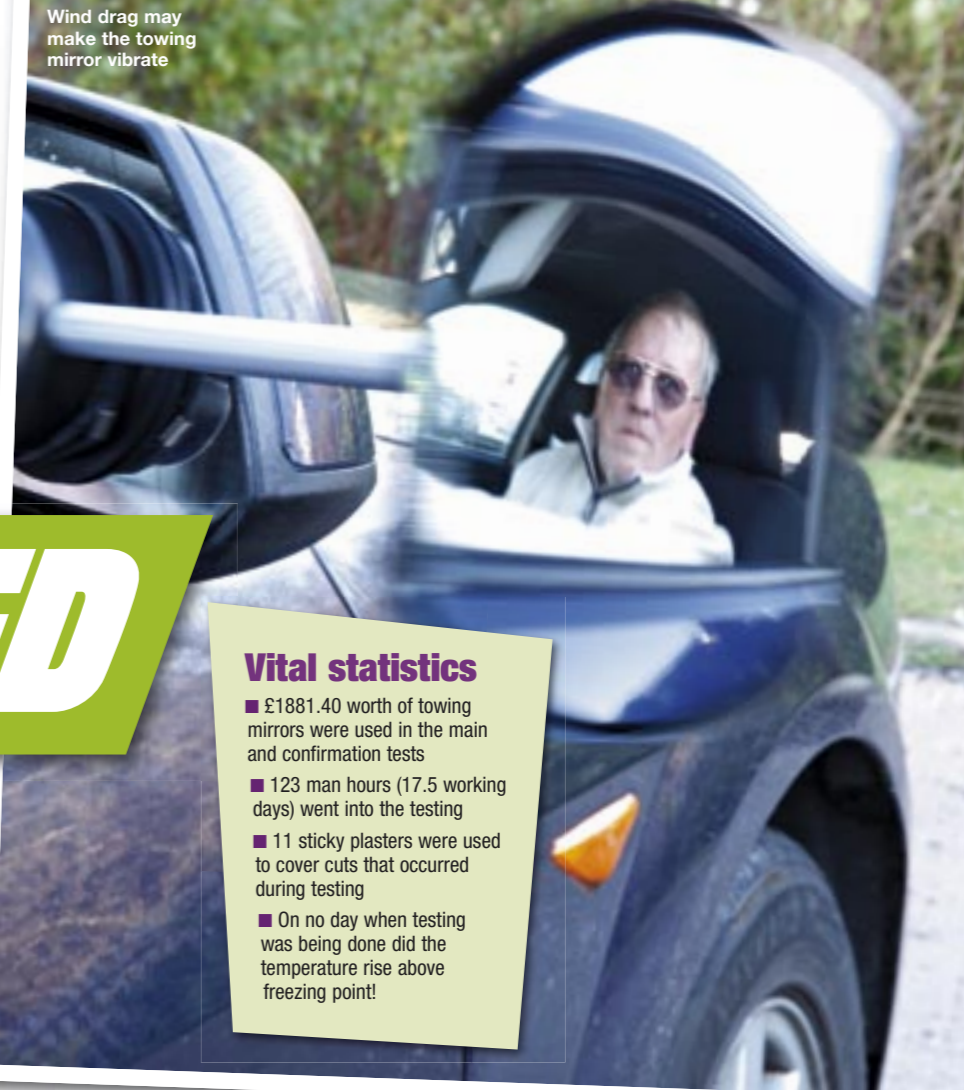
Some towing mirrors could be adjusted from the driving seat, but some needed tools and muscles!



The Fiat Multipla mirror is one of the most complex on the market



At speed, the added drag of a towing mirror can sometimes force a car's own mirror back



Wind drag may make the towing mirror vibrate

Vital statistics

- £1881.40 worth of towing mirrors were used in the main and confirmation tests
- 123 man hours (17.5 working days) went into the testing
- 11 sticky plasters were used to cover cuts that occurred during testing
- On no day when testing was being done did the temperature rise above freezing point!

Towing mirrors TESTED

Here's a run down on the towing mirror tests that Mike and his team conducted

Make and model

All the mirrors tested are identified by maker or importer's name and model designation. You'll probably notice that some brands of mirror look, and perform, very similarly to other brands. A number of importers buy from the same, mostly Chinese, manufacturers. But all mirrors in our review were tested separately.

Packaging

Towing mirrors should be securely packed so that when you carry them home, you can assume that they won't get broken in transit. We've rated packaging as (A) meaning reasonably well-packed and (B) as not very well-packed, or sold loose.

Fitting instructions

We should assume that any item which requires fitting should come with fitting instructions. Who would be to blame if you tried to fit a mirror wrongly, and broke it? So we marked mirrors that came with fitting instructions with an (A) and if there were none they were marked with a (B). We didn't penalise any product for basic instructions merely printed on the mirror packaging.

For those mirrors marked as having been tested to the EU Standard, there is a legal requirement to have fitting instructions. If they are lacking, doubt could certainly be cast about the legality of the 'E' or 'e' mark.

First and second fit

We did two timed fitting tests. The first one is the difficult one where you struggle to work out which bit fits where, and adjust clamps and straps. As our test team were all qualified engineers, the time they took for the first fit may be a bit quicker than that of most caravanners. We've shown this result in the column marked 'first fit' in minutes and seconds. For the second fit, all the

brackets and straps are already fitted and adjusted, so fitting should be quick and easy. Again our result is shown as minutes and seconds.

Ease of fitting

Some mirrors require more dexterity than others. There was one aspect of particular interest here; where a mirror requires an elastic type strap, some use a rigid PVC-type strap which simply didn't secure the mirror firmly enough. Those marked (C) in our results column proved impossible to fit securely to our test car. Those marked (B) weren't easy to fit but they did fit. And those mirrors marked (A) went on without a major struggle.

Our test car was a six-year old Ford Mondeo. A Mondeo's mirror is a complex shape but we believe that all towing mirrors should be able to fit onto it.

Difficult car fit

Some may recall that when the first Vauxhall Vectra was introduced, the car's mirror was such an awkward shape hardly any towing mirrors would fit it. Mirror design has improved since then and you should reasonably assume that all towing mirrors should fit all normal shaped car mirrors. But what if you've got something different, like Fiat Multipla? We borrowed one and tried to fit all the test mirrors to it. Some did fit, and very well. They are marked (A) whilst those which didn't fit are marked (B).

If you've got a vehicle with an awkward shaped

vehicle mirror do try and test fit any mirrors before agreeing to buy them.

Car mirror adjustment

Even though you've got a towing mirror attached, fitting a towing mirror should leave it possible to adjust the car's own mirror. If that was the case with our test mirror we awarded it an (A) and if it wasn't possible we gave it a (B).

Adjusting mirror head

We though two minutes was enough time to adjust a towing mirror head. Those mirrors that required screwdrivers took longer because we had to keep jumping in and out of the car. If the driver's side towing mirror could be adjusted in under two minutes we gave it an (A) mark. If not, a (B) was given.

Angle of view - width

The EU and UN standards for towing mirrors specify a minimum angle of view.



Is this a true reflection, or slightly distorted?

For our test we went basic. The car was positioned a fixed distance from a steel security fence. One of the steel posts on the left was marked. We also marked out a post to the right which represented slightly less than the EU Standard. If a mirror could see both posts, we considered this adequate and marked it (A). If we couldn't see the posts, the mark is a (B).

Angle of view - height

If you are reversing on to a pitch, would the towing mirror pick up a low-lying branch on a tree behind the caravan? ALL the mirrors passed the arbitrary standard we set for this, so the results aren't shown in our table.

Glass distortion

Towing mirror glass should not distort the image that you see. None of our test samples showed any obvious signs of distortion but we advise readers to check before buying.

Vibration

We assumed that vibration of the towing mirror is influenced by the rigidity of the mountings. We tested the towing mirrors by securely mounting them to the car and then revving the engine at 900 and 3000rpm. No obvious vibration gets an (A) mark, and obvious vibration gets a (B).

Fold back test

Current legislation means that the springs in fold back mirrors have to be weaker so there is less chance of the mirror hurting a pedestrian should you hit them. Unfortunately this also means that the drag of a towing mirror can be enough to fold the car mirror back and even smash the towing mirror in to the car.

We did this test at 50mph, this being about the average towing speed in the UK and, on a private road, at 80mph, this being the maximum towing speed on a French

motorway. If the mirror didn't fold back it got an (A), if it moved slightly, a (B) and if it moved significantly, a (C).

Standard approved

The requirement for shatterproof glass dates back to 1971 and common sense also says that we don't want shards of glass flying around if a mirror gets broken. We draw the link between shatterproof glass and EU and UN standards because all these standards require that any mirror be fitted with shatterproof glass. If they aren't, they can't be approved, and yet some of the mirrors we tested are clearly marked with a Standard mark whilst clearly not meeting any standard as the glass isn't shatterproof.

The possible illegal use of EU marks is now being investigated by the European Parliament and Commission. We'll keep you posted when we know more!

Corrosion test

The standard test for corrosion involves spraying the test sample with a five per cent salt solution at 35°C for a pre-determined period. Unfortunately that test would also cost more than £1000 per mirror! On the advice of our engineer team we immersed each mirror in a salt solution for five minutes, removed it from the solution and allowed it to drain for ten minutes before sealing in a plastic bag and storing in a

warm place.

We also did the same to an old style mirror, out of production for about ten years, which was notorious for corrosion. The theory was that when the reference mirror showed signs of corrosion we would examine all the test samples.

However, three weeks later and none of the mirrors had apparently corroded. Even our reference mirror looked as good as new! So no corrosion results have been published, but next time, we'll think again about how to test for corrosion.

Safety glass

Safety glass in towing mirrors has been a legal requirement since the implementation of the 1971 EU Directive. In all cases we broke the glass to make sure it was safety glass. Mirrors fitted with safety glass are marked (A) and those not are marked (B).

Conclusion

This is where normally we'd say that one mirror was better than the other. Not here. If you are caravanning on a tight budget then price is just about the most important consideration. If you spend fifty weeks a year rallying you'll have a different set of priorities. With this test, you have the right information to make the best decision for you. You'll find a mirror which suits you, and be buying from a position of knowledge.

MAKE	MODEL	PRICE	PACKAGING	FITTING INSTRUCTIONS	FIRST FIT	SECOND FIT	EASE OF FITTING		DIFFICULT CAR FIT	CAR MIRROR ADJUSTMENT	ADJUSTING TOWING MIRROR	ANGLE OF VIEW WIDTH	VIBRATION AT 900RPM	VIBRATION AT 3000RPM	FOLD BACK TEST AT 50MPH	FOLD BACK TEST AT 80MPH	STANDARD APPROVED TO	SAFETY GLASS
Pennine	Stinger	£4.95	A	A	2 mins 7 secs	1 min	A		B	A	A	A	A	A	A	B	None	B
Maypole	Extension Towing Mirror MP 8322	£4.99	A	A	2 mins 25 secs	70 secs	A		B	A	A	A	A	B	A	B	III E4 022819	B
Milenco	Safety Flat 2097	£5.99	A	A	2 mins 21 secs	1 min	A		B	A	A	A	A	A	A	A	III EII 026164	A
Maypole	Extension Towing Mirror MP 8321	£6.95	A	A	10 mins+	Test stopped due to inability to secure to car											None	B
Reich	Standard	£6.95	A	A	2 mins 14 secs	1 min	A		B	A	A	A	B	B	B	B	None	B
Unipart	Clip on caravan towing mirror	£6.95	A	A	10 mins+	Test stopped due to inability to secure to car											None	B
Milenco	Convex Safety Z103	£6.99	A	A	2 mins	1 min	A		A	A	A	A	A	A	A	A	III EII 026164	A
Unipart	Hi Vision Clip On	£7.75	A	A	10 mins+	Test stopped due to inability to secure to car											None	B
Quest	Caravan Towing Mirror	£8.95	A	A	4 mins	2 mins	A		A	A	A	A	A	B	B	B	None	B
Vision	Caravan Mirror	£8.95	A	A	4 mins	2 mins	A		B	A	A	A	A	B	A	B	None	B
Reich	XXL	£9.45	A	A	10 mins+	6 mins 25 secs	B		A	A	A	A	B	B	A	B	None	A
Carpoint	Caravan Mirror Luxe	£9.90	A	A	2 mins 17 secs	1 min	A		B	A	A	A	A	A	A	B	None	B
Reich	Excellent View	£9.95	A	A	10 mins+	Test stopped due to inability to secure to car											III E4 012206	B
Streetwise	Towing Mirror	£9.99	A	A	3 mins 15 secs	80 secs	A		B	A	A	A	A	B	A	B	None	B
Ring Automotive	Towing Mirror	£9.99	A	A	4 mins 30 secs	2 mins	A		B	A	A	A	A	B	A	B	None	B
Pennine	Eco Magnum	£11.95	A	A	7 mins	2 mins	A		B	A	A	A	A	B	A	A	III E3 01*32950	A
Pennine	Smat Argus	£13.00	A	A	3 mins	1 min	A		B	A	A	A	A	B	A	B	III E301*32950	B
Pennine	Magnum	£13.99	A	A	5 mins	53 secs	A		B	A	A	A	A	A	A	A	III E3 01*32950	A
Reich	Super 1	£14.95	A	A	3 mins 15 secs	55 secs	A		B	B	A	A	B	A	A	B	None	B
Streetwise	Twin Kit	£16.99	A	A	4 mins 30 secs	Test stopped due to inability to secure the car											None	B
Milenco	Aero Flat 1588	£17.99	A	A	1 min 30 secs	30 secs	A		A	A	A	A	A	A	A	A	III E11026154	A
Milenco	Aero Convex	£18.99	A	A	1 min 30 secs	30 secs	A		A	A	A	A	A	A	A	A	111E11026154	A
Brunner	Eclipse	£21.95	A	A	10 mins+	1 min	B		B	B	B	A	A	B	A	B	None	A
Grove	Handy Mirror XL Extended	£22.95	A	A	7 mins 9 secs	1 min	A		B	A	A	A	A	A	A	A	None	B
Pyramid	Suck It And See 1	£23.95	A	A	1 min	1 min	A		A	A	A	A	B	B	B	B	None	A
Quest	Excellent View	£24.00	A	A	10 mins+	Test stopped due to inability to secure to car											III E4 012206	B
Pyramid	Rock Steady	£24.95	A	A	3 mins 30 secs	1 min 30 secs	A		B	A	A	A	A	B	A	B	None	B
Cpa	CiPA	£39.75	A	A	9 mins 15 secs	1 min	A		B	A	A	A	B	B	A	A	None	B
Milenco	Grand Aero Flat	£43.95	A	A	1 min 57 secs	30 secs	A		A	A	A	A	A	A	A	A	II E11026161	A
Milenco	Grand Aero Convex	£45.95	A	A	2 mins	1 min	A		A	A	A	A	A	A	A	A	III E3 11026161	A