

Wheel alignment – By Guy Allen

All you'll ever need to know about keeping those wheels traveling in the same direction, from the pages of Australian Motorcycle Trader.

Now the drum here is that in an ideal world, both your bike wheels will, when travelling in a straight line, be heading in the same direction. If they're not, the machine is likely to be pulling to one side — or steering in one direction easier than the other. This makes the handling a bit ordinary and will reduce tyre life.

According to the folk at Sharptune, and some others we spoke to, it's relatively rare for people to do a wheel alignment on newer bikes these days mostly because the production tolerances have improved over time and the bike is likely to be pretty straight.

This wasn't always the case. Machines built up to even the mid-eighties were often not straight out of the crate.

WHICH BIKES?

We'll talk mostly about chain/belt drive bikes with twin-sided swingarms for this exercise, as you can alter their alignment with the simple device of altering the position of the chain adjusters.

The position of shaft drive bikes tends to be fixed, although some models (for example early K-series Bimmers) will allow adjustment via hub shims.

As for single-sided swingarm bikes, they too generally have a fixed alignment, which should be okay so long as it hasn't been crashed heavily, and the swingarm and wheel bearings are in good nick.

If you have a squiz at your conventional chain-drive bike, you'll see the back wheel's position can be altered with the adjusters. Whenever you tension the chain or move the wheel for any reason, you generally just line it up against the alignment marks stamped on the swingarm. If the axle is back three-and-half notches on one side, you make sure it's back three-and-a-half on the other. Simple.

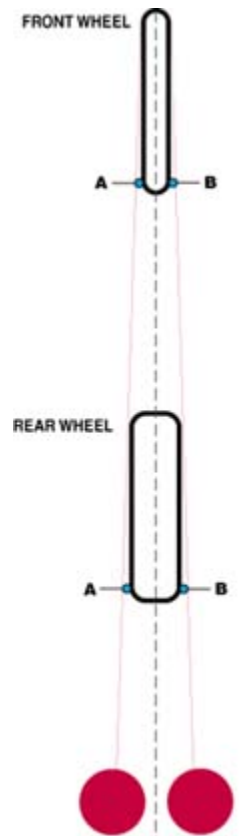
As we mentioned, this is probably fine for a late-model machine that hasn't been decked. But if you're fussy, you can double check it.

TRICKS

The trick is to get a ball of twine, or you can do this exercise if you can somehow find two straight edges that are longer than the bike. The latter is a big call, so we'll stick with the string method — yep, this is ye olde "stringlining", of which you may have heard your mates speak.

Usually this is easiest with the bike on the sidestand (the centrestand usually gets in the way) and propped up as close as possible to vertical. A race stand is often a good option.

Wrap the string around the front of the front wheel, as high as possible without snagging fairings and associated under-bike hardware when you run each end of the twine under the machine. The pics will give you the idea.



From there the plan is to get the front wheel straight, and then the rear wheel adjusted so it is too. What you want to end up with is what we've shown in the main diagram — where the distances "A" (the gap between the string and the edge of the tyre) and "B" (ditto) on the trailing edge of the front wheel are equal to each other; And the distances "A" and "B" on the trailing edge of the back wheel are equal to each other. (Note: the A/B up front does not have to match A/B on the back.)

This is often best done with two people, one working on each end of the bike. It is a great help to have oil cans/bricks/jackstands to hold the loose ends of the string for you while you fiddle.

Getting it all lined up will be a bit of a fiddle, but simple enough assuming the bike is straight. The exact method isn't critical, so long as you end up with a result that looks like our diagram.

If you cannot get them to align, it is likely the frame isn't straight, or the bike might even have been designed with the rear wheel offset from the front. (Chassis experts at Bob Martin Engineering tell us that some BMW GS models have an offset.)

STRAIGHT?

This is one of those rare occasions where being straight is universally regarded as a fine thing. Having both ends of the motorcycle talking to each other makes cornering more predictable and makes for less wear and tear.

If the bike is so far out of whack that you can't adjust it back, you need to decide whether it's worth getting fixed. We suggest an assessment from a frame expert, who should also be able to quote on what needs to be done to put things right.

Something worth knowing, though, is that a machine with shot wheel, steering head and swingarm bearings will be impossible to get right as each of them will alter alignment. So make sure those basics are okay before you attack the frame itself. Happy aligning...