

## ***Balancing GL1500 Carburetors***

***Carburetors on Goldwing's aren't too difficult to balance/synch, if you have basic mechanical knowledge. The time consuming part is getting at the adjuster screw and vacuum connections behind all that Goldwing plastic. The GL1500 Goldwing's only have two carburetors so the actual balancing won't take very long once the plastic is out of your way, compared to Goldwing's with four carburetors. Before balancing the carburetors on a Goldwing, you should ensure that the spark plugs and air filter are fairly new or in good condition. It's a waste of time attempting this job if the Goldwing engine is low on compression or burning lots of oil. Make sure the engine is warmed up and the choke OFF before connecting the carburettor gauges to your Goldwing.***

*For the GL1500 carbs I used my old set of carb gauges. As you can see, there are four of them on the backing plate. As the GL1500 Goldwing only has two carbs, I only needed two gauges and I used the two on the right.*



*We need to remove the lower left and right side fairing panels to get at the GL1500 manifolds and the carb synch screw. Remove the lower cowl trim piece as in the first picture by first pressing it in at the top middle and pulling the edges out and up from the cowl. Then remove the three Phillips screws holding the cowl in place. One screw is in the middle as shown in the second picture, and one screw at each side (left side shown in fourth picture). Some early GL1500 Goldwings had Allen bolts instead of Phillips holding the cowl in place. Now pop the cowl tabs away from the lower fairing panels and remove it*



*Now for the fairing lower panels. First pry off the plastic clip covering the screw as in the first picture. Note the type of screw used, as shown in the third picture. You must put this one back in the right place, i.e. the clip on the right side fairing panel must go back on the right side and the left clip on the left side fairing panel. **Tip;** when refitting these clips later on, a bit of **Blutack** or similar will stop it falling off and getting lost. Pull the L piece trim away, taking care not to break the tab shown in the fifth picture.*





*Now pry off the small black plastic cover at the rear of the GL1500 running light. Bluetack will be a good idea here as well when refitting the cover. The owner of this GL1500 didn't use it and the cover on each side of the Goldwing got lost, which is why you can't see them in the pictures. Note the type of screw used here as well, same as the one mentioned earlier. Now pry the long black trim piece away from the front of the running light. The fourth picture shows the two normal Phillips screws under the trim piece, remove them. Remove the running light or just tie/tape it up out of the way, and pull the lower fairing panel away.*





*As you pull the lower fairing panel away from the GL1500, disconnect the fog light or running light bulbs if they are fitted.*



*Remove the rubber plug from the right side fan. The adjuster screw for balancing the carbs is about 6" behind and up, and hard to see. I removed the fan so I could get the camera in, and the second picture shows the adjuster screw.*



*The first two pictures show the screw on the Goldwings right manifold which you remove and fit the adapter from one carb gauge into, the adapter is shown in the third picture.*





*The adapter in place.*



*These three pictures show the Goldwings left side manifold. No screw here, just pull the hose off and connect the hose from your second carb gauge. The fourth picture shows the vacuum hose I removed from the manifold, which I plugged with a small bolt. **Warning;** make sure the engine is warmed up and the choke is OFF before connecting the carb gauges. Running the engine with the choke on and the gauges connected will probably destroy the gauges. Also do not run the engine with the screw and hose off the manifolds and no gauges connected. This will cause the engine to cut out and be very difficult to restart.*



*With the engine fully warmed up and running at around 850rpm (plus or minus 50rpm according to the Honda manual), choke off and the gauges connected, you will probably see at least one of the gauge needles jumping about as the first picture shows. This usually happens and is why there is dampers fitted in-line to*



*the hoses. Slowly turn the damper in until the needle stops jumping, but don't screw the damper in all the way. The second picture shows the gauge needles steady and give you an idea of how much this GL1500's carbs are out of balance.*



*The first picture shows the idle adjuster knob, turning it clockwise increases the idle speed and anti-clockwise reduces it. The second picture shows the carbs being balanced by adjusting the screw. You can do this job on your own, but it's easier if you have an assistant and one of you slowly turns this screw while the other watches the gauges and tweaks the idle speed. The third picture shows the needles coming together at the same points on the gauges, i.e. both carbs are now in synch. Note that the needles settled in the red zone in the gauges. This isn't really an issue as these types of gauges are universal. The idea is to get the needles to line up at whatever part of the scale they will, while giving a stable tick over. If you try to get both needles into another part of the scale just because it looks better, you may end up with a stuttering engine if indeed you can actually get the needles to move that far. Give the throttle one or two slight (about 1500rpm max) and short revs when you are happy with the readings to see if they will settle back at the same points on the gauges, but don't rev the engine too high. Finally check the idle speed so that it is around the 850rpm mark. Use your judgement for this. You should be able tell by listening if the idle speed is too high or too low compared to before you started the job and you can easily tweak this later on if needed. There is a video clip available (link at the bottom of the page) which shows me doing my circus act of balancing the carbs on this GL1500 while holding a camcorder, with some help from one of the mechanics in work. It's not a long clip*

*(less than two minutes) but it shows how we tweaked the idle and carbs to get them balanced. The video clip and this article make more sense of the whole thing when used together.*



*When refitting the panels, take care that you place the running light tabs between the lower and upper fairing, as shown in the picture. It's easy to get it wrong and put the running light tabs on the outside of the lower fairing tabs. If you do this, the tabs will snap off the lower fairing when you screw it back in place.*

