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## SETTING UP DUAL QUADS

9th March 2010

### DUAL CARBURETOR SETUP

Alright, I don't mean to be confusing or vague but the little picture machine in my head seems to outrun my mouth and fingers, plus I'm lazy so I suppose Dave gets his wish.....This is meant for those without access to a synch tool; HOW TO SET UP DUAL QUADS- read this through once before starting.

1. If they are close enough to run to some degree skip this step, but if not set all your idle mixture screws to approximately 1 1/2 turns out from all the way in on Holleys, 2 turns on Edelbrock /Carter/ Quadrajet. These are the screws on the sides of the blocks on Holleys and the two screws on the front of the rest.
2. At this point it is best to disconnect the linkage between the two carbs. Once that is done, back the idle speed screws all the way out and then very carefully screw them back in to get 1 1/2 turns from dead closed on both throttles. These are the screws on the side by the throttle arm. DO NOT HURRY THIS STEP- it is critical to get the carbs as close to equal as possible.
3. This is where we adjust the mixture. There are three common methods of doing this- with vacuum gauge(s) , with a tach, or by ear. Of the three, the most accurate is the vacuum gauge method, best to have one for each carb, but it's not absolutely necessary. Pick one of the 3 below:
  1. Vac gauge method- find your full time vacuum fitting on one or both carbs- this is the one lowest on the carb ( below the throttle plate). You can confirm your selection by starting the car- if you have vacuum at idle you found it- if not keep hunting. Once you find it, hook your vacuum gauge to it- if you have two, put one on each carb- if you only have one it makes little difference which one you put it on. Two is slightly more accurate, but if you take your time one will do as good a job. (AA) Start the car and adjust the MIXTURE screws one at a time to get the highest smooth vacuum reading- if you haven't done this a lot, go 1/4 turn or so and move to the next one -start by going in and out to find which direction you need to go-go multiple laps per carb in order to be most accurate. If you just turn the first one to highest smooth idle, you probably will go too far and end up imbalanced- the point is to have all the screws within 1/8th turn of the same setting- you DON'T want one 1/4th turn out and another 1 turn out. DO both carbs and then repeat the situation one more time, but only turn each screw 1/8th turn back and forth in order to get it dead on. Remember you are looking for the highest SMOOTH speed here- if you get the screws a little too far out you will get a "hunting" needle ( waves back and forth slowly instead of being steady- this is all relative -if you have a long duration cam , the needle will be unsteady anyway, but more so if you go too far), too far in will produce a rough idle and a rapidly flickering reading. Once they are all the best you can get them, turn each one back in 1/8th turn- this will give the best lean setting. One small point here- if your screws end up being less than 3/4 turn out, you are jetted too rich and need to go down on the primary jet size and repeat the procedure- more than 2 1/2 turns, you need to richen or go up on jet size and repeat tuning. During this whole procedure, you may find your idle increases significantly- if it gets higher than 1000-1200, back both IDLE SPEED screws out EQUALLY- this is important, back each one out about 1/8th turn at a time EQUALLY in order to retain balance. you can do this as many times as necessary to maintain a reasonable idle speed and you must keep it low or your mixture settings will be inaccurate.
  2. Hook up your tach and follow step (3AA) – you are looking for the highest smooth steady idle speed on the tach this time. The needle will behave in the same fashion as the vacuum needle if you go too far in one direction or another.
  3. BY Ear – same as tach but you have to listen to the speed- this is very inaccurate if you are not very used to doing it.
4. Now adjust both carbs IDLE SPEED screws EQUALLY again to get an acceptable idle speed- it is best to check this in and out of gear. If you get a large drop in speed (This is relative , but for example, more than 250 rpm on fairly stock engines and more than 400rpm on big cams, you either have too small a converter, improper base timing or you have

adjusted the carbs improperly.

5. Time to reconnect the linkage. One note here- if the carbs are inline, I like to hook the throttle cable/rod to the back one- I will explain why in the next step. For now, adjust the linkage between the carbs so that it fits without disturbing the idle speed settings on either carb- in other words, don't set it so tight that it hold one open when at rest. Insure that at full throttle (get a helper to use the pedal or block it wide open with a stick) both carbs are wide open. (WITH THE ENGINE OFF) If you think this will take more than two or three tries , drain the gas out of the carbs or disconnect the accelerator pump linkage to avoid flooding the engine. The next step is optional and if you are tired of reading or just don't want to mess with it, you are now done.
6. OPTIONAL "Progressive Linkage"-if you have the linkage from the pedal to the carbs tied to the back carb or some way of making it the tightest connection to the pedal, many times you can adjust the center linkage to allow full throttle on both carbs when the pedal is maxed, but have the front of the linkage slightly loose so that when you apply light throttle only the rear carb moves for a bit and then the front one follows. The advantage here is slightly better economy and a little snappier response in some cases. If you have a large cam or the carbs are too small for the engine, this may produce a slight bog- if so you can't play. THIS WILL ONLY WORK WITH A COMMON PLENUM INTAKE. DO NOT attempt this if each carb is tied directly to 4 cylinders (or 3 on a six, etc). If you ignore this warning you chance leaning out the cylinders on the front and damaging your engine. A common plenum is one where both carbs are tied together in the intake IE many old tunnel rams with the big box on top.

As always , I take no responsibility for whatever you dream up to hurt yourself or your car and or mental anguish caused by my silly rambling.....

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