

FillHelp by Dave Smith

What the program does: FILLHELP takes your inventory of: O2 and He cylinders; banks (which also means booster pumps) that can be O2, He, or mixes; and any dive tanks you might want to draw down for fills. The maximum is 6 sources plus any banks. Using what you give it the program writes step by step fill instructions for filling 1-3 dive tanks, starting from any base psi's and mixes and filling to any end psi's and mixes. It figures whatever drains you need for the fills, and (as a program option) checks if you can transfill any of the drain from your highest tank to the other tank(s) you are filling. It pulls your lowest sources first when it can, to save you gas in your high sources. If it can't meet your fill target for any tank, it gives you the closest fill it can. Along with the fills it finds it displays the MOD (at 1.4 ATA O2) for the dive mix, the END, and your depth limit -- either the MOD or the depth at which your EAD is 100'. At each step in the fills, it gives the psi change in the tank being filled and in the source cylinders. If you enter banks, it shows the cu. ft. of gas taken from each bank.

The program is useful mostly when you are doing what I do: fills at home from O2 and He cylinders, and when I'm in FL, fills from cylinders on my truck, with air tops from someone local who knows what I'm filling. What I need and the program does is figure my drains and top ups right, to save me wasting gas. After doing a few of these with paper and pencil they get fairly intuitive, but I'm not as accurate as the program. With a more complex inventory, fill sources that include mixes, or possible transfills, it always beats me. It can sift through anything from a dozen or so to thousands of fills to find what works, or if nothing does, what gets me as close as I'm going to get. "Close" includes the program figuring the highest psi fill I can do with the exact mix I want, or the closest mix I can get if I want a higher psi fill.

The program won't do much for you if you fill from banks: for those you can use GUE's Gas Blender to figure drains and psi's of gas to add. Gas Blender also gives you more detail and an easier and friendlier user screen. You may want FILLHELP for figuring if you can get any useful transfills out of any drains you need, but that's about it, and only comes up when you are changing the dive mix. I programmed FILLHELP to handle banks, but the times it helps are when you have limited gas supplies to work from and not every fill you are doing is simple and obvious.

Terms: FILLHELP is free, you can pass on copies but not sell them. If you find errors, I would appreciate you letting me know.

The program comes in U.S. and metric versions. It runs in a DOS window: eventually there will be a good Windows interface for it and I will put a price on it (the guy who will build the interface wants to sell it), but the current one will stay free.

I have attached a copy of the U.S. version, you double click on it to install it. After you see what it does, let me know if you would like to put a description on your web page (for readers to email me for copies) or if you would like copies of the two versions and let readers download them from there. So far I've been having users email me for it so I could do updates if any serious errors popped up, but it seems to be clean so I don't need to keep a user list at this point.

Regards,

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