

Diver Tools

Support and User Guide

Main Menu

- Diver Tools has 5 unique tools to help you dive
- Fill Calculator allows partial pressure blending including banked trimix
- Banked Fill Modeler lets you see the impact of using 2 different banks of nitrox or trimix to refill your tank
- Rebreather Dive Checklist allows you to create your custom checklist of items; track cell linearity history; and provides countdown timers for breathing checks
- Basic Bailout Planning provides a sanity check on your turn point based on gas supplies
- Trip Packing Checklist allows you to create your own custom checklist of items to prepare for a trip

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Menu

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- Banked Fill Modeler >
- Rebreather Dive Checklist >
- Basic Bailout Planning >
- Trip Packing Checklist >
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Fill Calculator

- Enter starting and target PSI, Oxygen and Helium percentages. Enter as whole numbers, ie 21% Oxygen should be entered as “20”, not 0.20!
- The MOD of your target gas is shown at 1.4 PO2 in FSW along with the END at that depth
- Additions are shown for either banked trimix or pure helium based on the chosen setting
 - PSI to be added
 - PSI of the mix after this stage
 - Oxygen and Helium mix for analyzing between stages
 - Cubic feet of fill gas used based on your chosen tank settings
 - Fill of that stage based on your price settings

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Start Point

1,000 PSI / 21 / 35

Target

3,600 PSI / 19 / 40

MOD @1.4: 210 FSW with END 113

Additions
total \$56.31

Banked 10/60	Oxygen	Topoff 20.9%
+1,817psi	+163psi	+621psi
->2,817psi	->2,979psi	->3,600psi
14/51	19 / 48	19 / 40
58cuft	5cuft	20cuft
\$43.87	\$1.31	\$2.20

[Send Email to Developer for Feedback or Support](#)

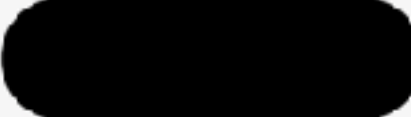


View Settings

	Start	He	O2	Top	Fin	Req
o2 psi	210	182	163	130	684	684
he psi	350	1,090	0	0	1,440	1,440

[Done](#)

Fill Calculator

- Model does not apply any “fudge factor” or Z Factor for helium, always validate your gases to confirm exact analysis
- Impossible fills will note what you need to correct. Update values and try again to see if your new selection is achievable
- Send email for any observed issues with the calculations please!
- Change all settings to meet your unique needs. These are preserved as user defaults so you don't need to enter again
- The PSI of each stage is displayed as a sanity check

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	Additions		
	total \$56.31		
Banked 10/60	Oxygen	Topoff 20.9%	
+1,817psi	+163psi	+621psi	
->2,817psi	->2,979psi	->3,600psi	
14/51	19 / 48	19 / 40	
58cuft	5cuft	20cuft	
\$43.87	\$1.31	\$2.20	

[Send Email to Developer for Feedback or Support](#)

View Settings

Bank Mix / On?

He Bank \$/cuft Min Fill \$

He \$/cuft O2 \$/cuft

Topoff o2% Topoff \$/cuft

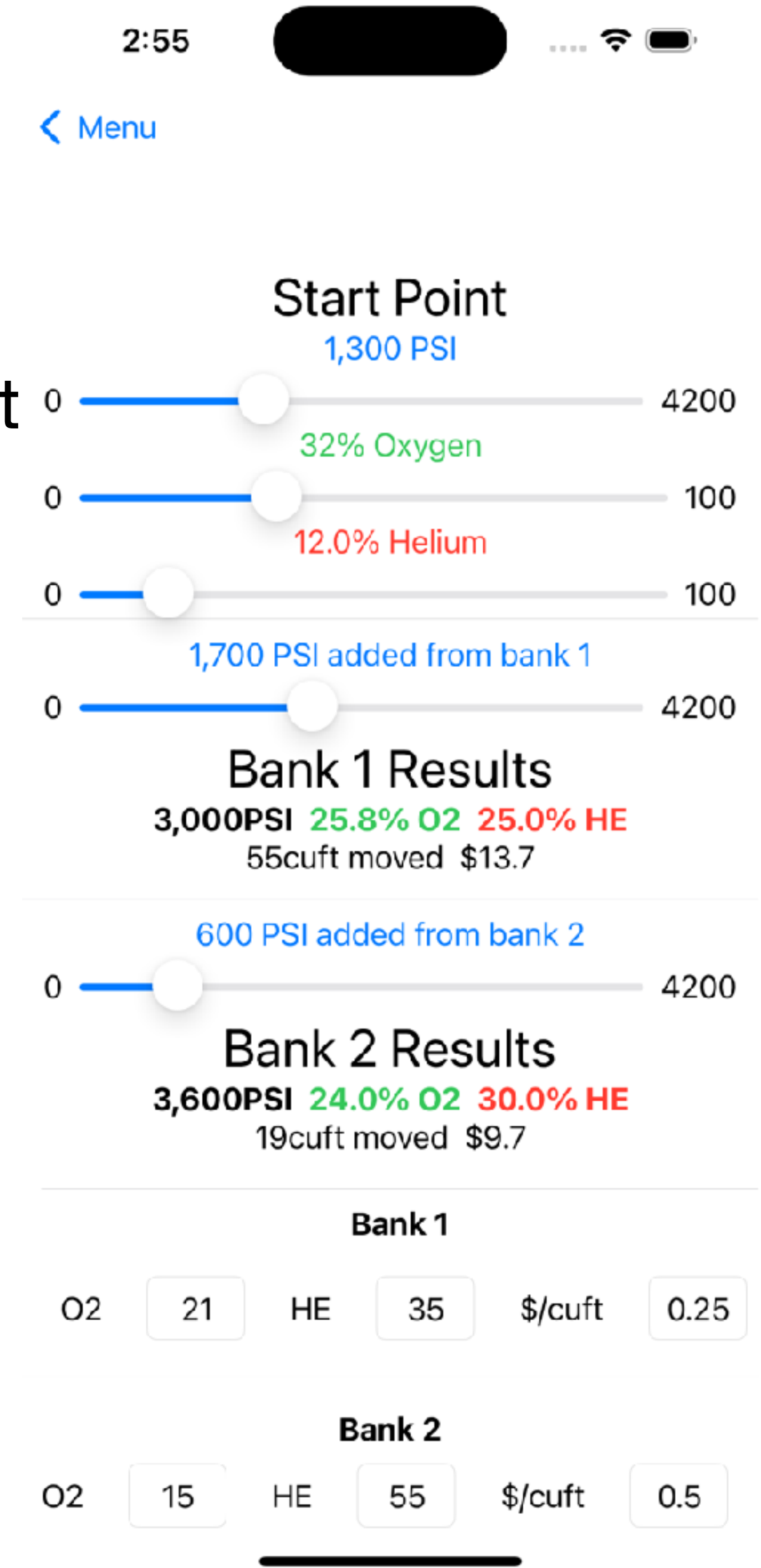
Tank cuft Nominal PSI

Tax Rate

	Start	He	O2	Top	Fin	Req
o2 psi	210	182	163	130	684	684
he psi	350	1,090	0	0	1,440	1,440

Banked Fill Modeler

- Sometimes you have some gas and some banks and don't know what order you want to equalize things.
- This lets you slide to see how different PSI added from a bank will impact tank mixtures



Rebreather Checklist

- Confirm your oxygen tanks are full and you checked that they are really oxygen
- Enter Diluent and confirm the Po2, END, and density of a gas at your planned dive depth
- Easily turn Dil2 off if you only have 1 diluent mix, and hide Po2, END and density warnings if your Dil1 is just inflation gas
- Bailout checks the same but also checks the ICD assuming Bailout 1 is switched to at dive depth and Bailout 2 is switched at a shallower depth of your choosing
- Track your cells in air and o2 calibration, their linearity during this check and what they should read at 20' at a target po2 of your choosing, so you can confirm they continue to behave linearly after a dive

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Oxygen

Onboard o2 is full	✓	Onboard o2 analyzed as o2	✓
Offboard o2 is full	✓	Offboard o2 analyzed as o2	✓

Diluent

1	2,400	PSI	21	/	0	PO2	END	g/L
						1.5	197	8.98
2	3,600	PSI	14	/	52	PO2	END	g/L
						1.0	77	4.88

Bailout

3,000	PSI	22	/	38	PO2	END	g/L	ICD
					1.5	110	6.00	0.41
3,000	PSI	50	/	0	PO2	END	g/L	ICD
					1.6	72	4.18	0.31

Planned Depths in Feet: 197 Dive: 72 Bailout 2

Cell Linearity

mV air	mV o2	Linearity	Target @ 20' 1.4po2
9.3	43.2	97.1% linear	60.5mv
10	42.1	88.0% linear	58.9mv
Check Cell Age			
11.5	54.2	98.5% linear	75.9mv

Battery Voltage

Rebreather Checklist

- Tap the blue chevron icon to view cell history
- Set cell install date and MV values from install, to get warnings of cell age based on your parameter for acceptable age
- Right most value is install details, 4 additional points may be stored showing mv in air, o2 and linearity on a date
- If you want to add current displayed linearity values as the next data point, click Update Cell History. This applies to all cells, and overwrites the oldest value with the next newest value. It is not possible to retrieve data if deleted in error, so be careful.

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Cell Linearity ⌵

mV @ Install

From Apr 19, 2023 Air o2

Date	4/26				4/19
Air	9.3	0.0	0.0	0.0	9.6
O2	43.2	0.0	0.0	0.0	45.4
Lin	97.1%	0.0%	0.0%	0.0%	98.8%

[Check Cell Age](#)

mV @ Install

From Apr 14, 2022 Air o2

Date	4/26				4/14
Air	10.0	0.0	0.0	0.0	11.2
O2	42.1	0.0	0.0	0.0	51.9
Lin	88.0%	0.0%	0.0%	0.0%	96.8%

[Update Cell History](#)

Battery Voltage

External Internal

[Change External Battery!](#)

HUD ppO2 = [HUD Calibration](#)

Rebreather Checklist

- Confirm battery voltage against your chosen limit parameters
- Confirm HUD and handset match
- Checklist items are all customizable for your unit and your settings persist as user defaults
- Negative, positive and prebreathe timers all run against your set time in seconds

The screenshot shows a mobile application interface for a rebreather checklist. At the top, the time is 2:53. Below the time, there is a 'Menu' button and a 'Check Cell Age' notification. The main display area shows several numerical values: 11.5, 54.2, 98.5% linear, and 75.9mv. Below these values, there is a 'Battery Voltage' section with 'External' (7.5) and 'Internal' (1.3) values, and a 'Change External Battery!' notification. The checklist items are arranged in two columns, each with a radio button or toggle switch and a checkmark. The items are: HUD ppO2 = Handset ppO2 (radio button), HUD Calibration Required! (radio button), Using Sorb (toggle switch), Not Extend Air Cartridge (radio button), Loop Cleaned (checkmark), Premix Oring Set (radio button), Solenoid Hose Installed (radio button), Mushroom Valves Sealing (checkmark), DSV Direction Correct (checkmark), ADV Working (radio button), Dil Mav Working (radio button), O2 Mav Working (checkmark), BC Inflator Working (radio button), Handset Gasses Set (checkmark). At the bottom, there is a 'Clear Checklist Responses' button with a star icon. Below the checklist, there are three large buttons: 'Negative Pressure' (red), 'Positive Pressure' (blue), and 'Prebreathe Timer' (green). At the very bottom, there is a large black button with white text that says 'Prebreathe Timer: 297'. A 'View Settings' button is visible at the bottom left.

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Check Cell Age

11.5 54.2 98.5% linear 75.9mv

Battery Voltage

External 7.5 Internal 1.3

Change External Battery!

HUD ppO2 = Handset ppO2 HUD Calibration Required!

Using Sorb Not Extend Air Cartridge

Loop Cleaned Premix Oring Set

Solenoid Hose Installed Mushroom Valves Sealing

DSV Direction Correct ADV Working

Dil Mav Working O2 Mav Working

BC Inflator Working Handset Gasses Set

Clear Checklist Responses ✨

Negative Pressure Positive Pressure

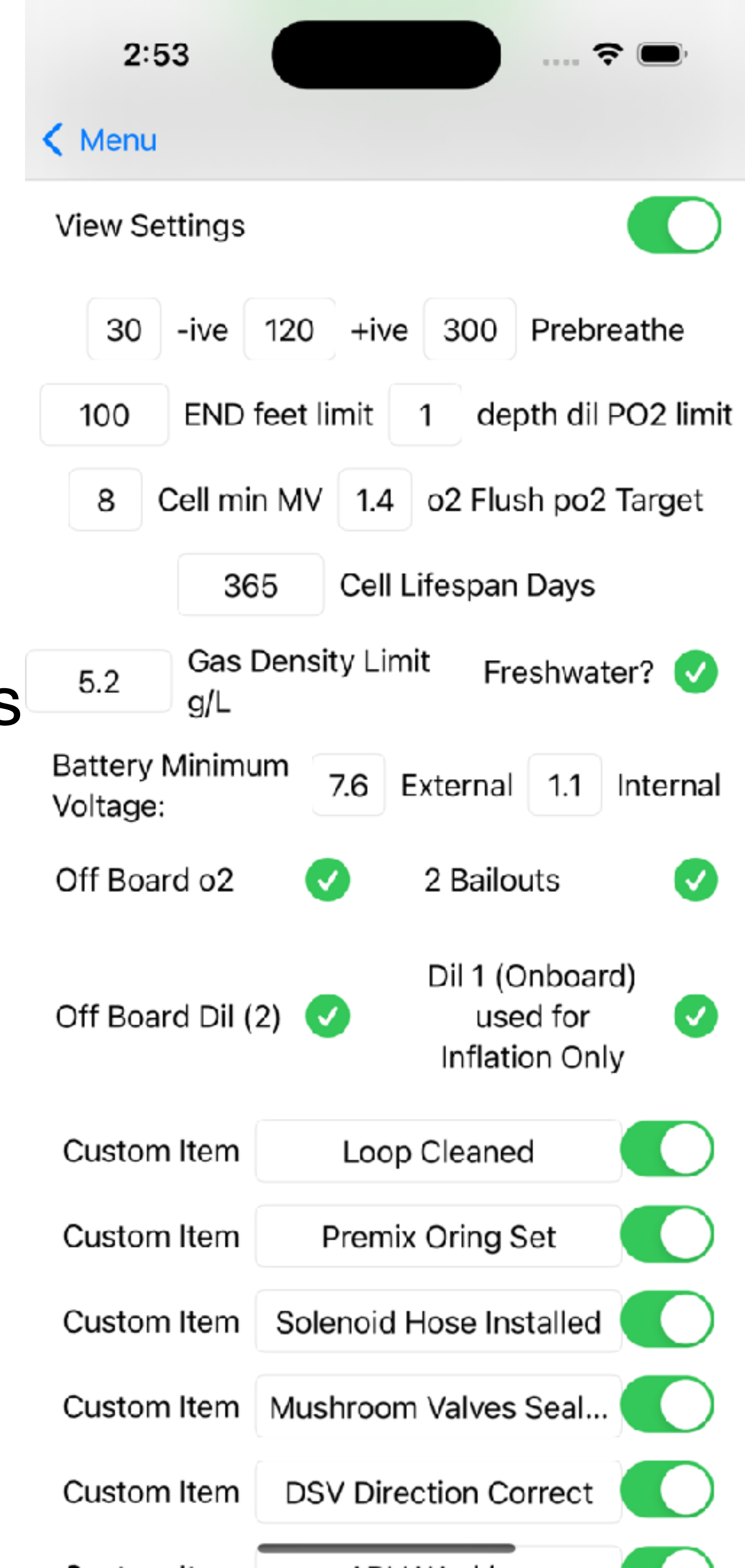
Prebreathe Timer

Prebreathe Timer: 297

View Settings





Rebreather Checklist

- Intuitive settings are all customizable based on your preferences!
- Enter the text you wish to display, and flag whether you want it to be displayed or not. This allows you to add items that you don't display on each dive



Bailout Planning

- Very basic sanity check for your dive depth and gas supplies
- We have plans to connect your tank and fill details on rebreather checklists along with more detailed dive profile information to provide more detailed bailout planning

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AvgDepth Gas Cuft

Normal Sac Emergency Sac

Swim Speed Feet per Minute

Turn the dive within **34 minutes** or **1,692 feet of penetration**

Slow is Smooth, Smooth is Fast

Trip Packing Checklist

- Most items are customizable for your dive equipment
- Simple way to see if you have all the stuff you need

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Trip Checklist

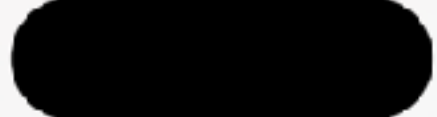



Mask	<input type="checkbox"/>	Fins	<input type="checkbox"/>
Drysuits	<input type="checkbox"/>	Undergarments	<input type="checkbox"/>
Catheters	<input type="checkbox"/>	PValve Sanitizer	<input type="checkbox"/>
Primary Light	<input type="checkbox"/>	Backup Lights	<input type="checkbox"/>
Reels and Spools	<input type="checkbox"/>	Computer	<input type="checkbox"/>
Assembled Rebreather	<input checked="" type="checkbox"/>	Dil/Bail Out Tanks	<input type="checkbox"/>
Regulators	<input checked="" type="checkbox"/>	DPV	<input checked="" type="checkbox"/>
Certification Cards	<input type="checkbox"/>	DAN Insurance	<input type="checkbox"/>
Snacks/Drinks	<input type="checkbox"/>	Basic Medicine	<input type="checkbox"/>
Fan/Bug Spray	<input type="checkbox"/>	Entry \$	<input type="checkbox"/>

[Clear List Responses](#) ✨

Edit List Items

Trip Packing Checklist

- Type the text of custom items, and flag whether you want it to be displayed or not

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Exposure Suit

Undergarments

Catheters

PValve Sanitizer

Exposure Custom 1

Exposure Custom 2

Custom 1

Custom 2

Custom 3

Custom 4

Type of Tanks

Other Tanks

Diving with a DPV?

Custom 1

Custom 2

Custom Item