

# Diving the Dawson Flomatic

by Clarrie Lawler



The year is 1959, TV is black and white, music comes on a vinyl disc, but you won't get any Beatles, Bob Menzies was PM, phones were connected to the wall by a wire, computers were huge and only the Pentagon and Universities had them. The Holden new model, superseding the FJ, was just due out with a waiting list of about a year and you paid for it in pounds, shillings and pence. The basic wage for men was about 18 quid (\$36) for men but only 12(\$24) for those inferior workers - women.

Picture a dive scene with no dive shops, or dive schools; in Australia it was difficult to get even a wet-suit. You could import one from the US or Europe at astronomical cost. BCs - never heard of them. The masks and fins, all imported, mostly

from Italy or France were made of hard rubber. Imported regs and tanks cost the earth. They were mostly from America - US Divers Aqualungs or from England - Siebe-Gorman.

The big names in diving were Cousteau and Hans and Lotte Hass in movie documentaries, and Mike Nelson on TV. Their stories usually featured these exotic divers battling hordes of sharks or barracuda or nasty giant clams that held your foot - forever! Mike Nelson usually battled baddies, after he had disposed of that damn shark.

Australia was well placed to have more sharks per diver than anywhere else in the world. So anyone who went below the surface was surely a shark dinner. But perversely spearfishermen seemed to survive and were plentiful around the

rocks, hauling immense blue gropers on to the shore. As blue groper would be as hard to spear as a Jersey cow, quite a few were slaughtered in those early years.

Well in 1959, being a lousy swimmer, I noticed how much easier it seemed to be with a mask to keep the water out of my nose and a snorkel to get air rather than water into my lungs. Plus the added benefit of fins to make up for my puny calf muscles. I became a spearfisherman. My father was appalled! A married man with two kids and I would soon be shark entrée. I didn't see any sharks, nor did I see many fish. What fish I did see I mostly missed. But it was good clean exercise in a wonderful environment.

Then it happened. Snorkelling at Fairlight, near Manly, with a Museum Education Group led by a wonderful curator of things aquatic, Elizabeth Pope, I began to see the non-fishy things in the sea. A whole new world of the strangest creatures I ever imagined. Now the second big thing happened on the same day. A real live SCUBA DIVER was there with Elizabeth. And he asked me if I would "Like a go?" I was into the gear in a flash and with the sole instruction "Don't hold your breath coming up, just keep breathing naturally all the time", off I went. I was hooked. I guess I was down about 15 minutes to a depth of about 6 metres. It was heaven, I was at the bottom of the sea... with Cousteau and Hans and Lotte, even Mike Nelson. This was it. Now to find out



where I could buy the equipment and still have enough money to feed my family.

There were no dive shops to sell you gear, no real way to find out what was available. One sports

**Clarrie Lawler** commenced scuba diving in 1960. He joined the Underwater Research Group of NSW the following year. He became the Secretary of the Group in 1963 and remained in that post for 10 years before becoming President for 5 years.

He has written two books on diving, *Beneath Australian Seas*, 1970, in conjunction with the late Walt Deas and *The Great Barrier Reef*, 1971 with Deas and Ben Cropp. In addition he has written a scientific paper entitled "The Subtidal Flora and Fauna at Shiprock, Port Hacking, NSW during 1965-1970" published by the *Wetlands Journal* Feb. 1998. He has also written numerous articles on marine fauna for the *Australian Marine Sciences Newsletter*, *Australian Natural History Magazine* and the *Australian Skindiver Magazine*. In the early 70s he was made an Honorary Associate of The Australian Museum. He has dived extensively along the NSW coast and The Great Barrier Reef. He has also dived off Melbourne, the freshwater lakes in SA and around Flinders Island in Bass Strait. In the South Pacific Region he has dived in the Solomon Islands and Vanuatu while in the North Pacific he has dived in Palau, Truk Lagoon and Sipadan off Sabah, Northern Borneo



regulator. Most of these too, were imported and again very expensive. There was one Australian manufacturer - Porpoise. They made equipment for the RAN and while it was cheaper than the US and European imports, it was not cheap. Their cylinder was smaller than the US one, having a capacity of 40 cubic feet of air at 1800psi. (At this stage I apologise for using imperial measures, it is what I grew up with then and am now unfamiliar with the metric equivalents in this field) The US Divers cylinder was bigger, of 72 cu ft capacity at 2250psi. There was a third alternative that a lot of “poor” Aussies used and that was disposal store’s ex-Air Force CO2 Cylinders. They were quite small, at 26 cu ft capacity at 1800psi. but sufficient for a 30 minute dive to moderate depths, say 10 metres or so, which was about all we were intending to do in those very early years.

So my first purchase was a Dawson FLOMATIC single-hose regulator. It was made, so I was told, by a Mr Dawson in a small workshop in his garden on the North Shore. It cost me 8 pounds (\$16) nearly half a week’s wages. In today’s money around \$400! I am flabbergasted as I write this knowing that a reg today could cost \$1500.

The FLOMATIC was a big heavy brass thing, the second stage weighing nearly half a kilo and about 10cm in diameter. What a drag it was on your mouth and teeth. The huge diaphragm was very sensitive to pressure/depth changes and had a tendency to free-flow on ascent. As well, the exhaust valve was of the soft rubber “duckbill” variety and stuck down below the body of the reg. If you looked downward, the “duckbill” folded on to your chest and suddenly you couldn’t exhale. This was almost as bad underwater as not being able to inhale.

Another version was made, again in a backyard workshop somewhere, in which the second stage was worn high on the chest with two corrugated hoses (as in a two-hose reg or vacuum cleaner) coming up to a mouthpiece. This addressed the problem of the weight hanging off your mouth but the chest was not the optimum area to locate the diaphragm. Head up vertical in the water it was fine but in other attitudes it was a real suck to get air or it was blowing at you in excess. I saw very few of these. The whole device was so

store, Mick Simmonds had a little. Very expensive stuff but it was very secondary to golf clubs and tennis rackets. I am not sure now how I gathered information, but somehow I did. Or should I say we did. A small group of guys I worked with at CSR, all engineers (I was an engineering draughtsman) became interested in the mechanics of diving as well as a general interest in diving. We found that there were “back garage-made” single hose regulators available at a fraction of the cost of the fancy, mostly two-hose, imported regs.

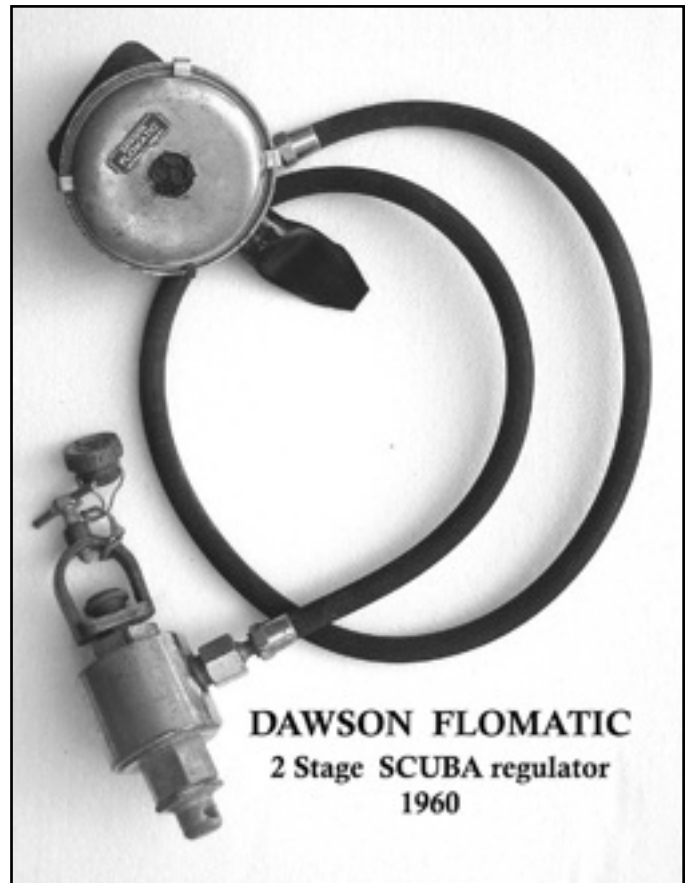
The other important bit of equipment was the high pressure cylinder used to supply air to the

simple that some divers were making their own. In the very early days of the Underwater Research Group of NSW (which I later joined) quite a few members built their own regs.

The first stage was a massive thing, machined out of solid brass which in the Dawson FLOMATIC weighed a kilo making the all up weight of this diving regulator one and a half kilos. You saved on lead weights I guess. I often pulled everything to pieces for cleaning and maintenance, which was relatively easy if you had the tools. Everybody had tools in those days, you often had to do the same with your car. Cars, motor mowers, washing machines AND scuba regs, all had to be pulled apart sometime for cleaning, adjusting or fixing. The saying that they don't make them like they used to is very true. Thank god they don't.

The local Porpoise and the ex RAAF CO2 Cylinders had a threaded tap similar to the LPG cylinders used on barbies. The first stage had to be screwed on to this. And because of the high pressures involved and lack of O-ring seals a hefty shifting spanner was needed to attach the reg without leaks. The standard yoke fitting, used universally nowadays, was only available on American and some European cylinders. Getting geared up was just about a mechanic's job. No wonder women were a bit scarce in the dive scene in those early years

After a few dives I decided I wanted a pressure/contents gauge that would tell me how much air I had. I was not comfortable doodling around the seabed not really knowing when the air would run out. I ignored the advice from the then President of the URG that I just forget this: "You can just do an emergency free ascent", he suggested. I was only 31 and didn't feel like dying of an embolism just yet, so I bought a pressure gauge from a Ship Chandler - where else? Then came the question, where do I attach it? My CSR engineer friends came to the rescue on this. Incidentally, they had bought pressure/contents gauges also. Into the workshop we went and Harry Tracey, my buddy diver then, made, again from a solid lump of brass, a fitting to go on to the cylinder between the cylinder tap and the first stage. Harry put into this a take-off port for the



gauge and of course another threaded spigot to which the first stage was screwed. The business end of the cylinder was beginning to look like a brass and chrome Christmas tree. And of course another 250g in weight added not including the hefty gauge itself. To say our first scuba gear was unwieldy was an understatement.

I stayed with my Dawson FLOMATIC, eventually going in 1963 to twin Porpoise 40 cu ft cylinders. Oh boy, the weight! Next step was to ditch this set-up before I did myself a mischief and I splashed out £29 (\$60) on a US 72 cu ft cylinder with the wonder yoke fitting that you could assemble without a mighty shifting spanner. BUT! That meant back to Harry's workshop to manufacture, from brass again, a yoke conversion for my trusty Dawson FLOMATIC.

Soon after this I had a dive with a friend's new US made SCUBAIR reg. AH! So that's what it was like to breath easily underwater. Bye bye FLOMATIC. I splashed another \$60 on a SCUBAIR regulator. I still have the FLOMATIC, I don't think it works anymore. A bit like me in a way