

John Pletcher: And we had with our engines, they were equipped with what we called dilution systems. What that amounted to was a system which was operated by the pilot in which he could run gasoline, aviation gasoline, into the engine into the oil to thin out the oil – that's why they called it the dilution system – to dilute the oil. Now, on the airplanes, like the B-18s and the B-26s the main oil tank had a smaller oil tank inside it. The main oil tank held the main supply of oil. The oil from the engine circulated because it was, what you call, a dry sump engine. There was a pump in the engine to pump the used oil from the engine through to this smaller tank, through the cooler to cool the oil and into this smaller tank. As the oil was consumed and the oil level went down in this small internal tank, oil from the big tank would feed into the little one. So, when you were warming up the engine you would actually warming up the oil in this little tank. So when you diluted the oil you were diluting the oil that was in the engine and in this little tank. And that was so that the engine could be turned over in the winter temperatures, because it gets cold that the starters couldn't even turn the engine over.

So to be able to start your engine you needed to dilute the oil so that it would be thin enough. And the idea was that when the engine started and began to warm up the heat of the engine would evaporate the gasoline out of the oil and the oil would then return to its original viscosity, which was about like 50 weight motor oil for your automobile. At zero temperatures and below that stuff – aviation oil – would get real thick and produce a lot of drag in an engine.

And for engine heaters they had...they would take, what they call salamanders, which was an oil burning heater used by builders to heat buildings under construction. They take a 55 gallon fuel barrel or oil barrel and cut the top out of it and then cut a hole in the side at the bottom - about maybe a foot square and they would insert this salamander in that barrel and light the salamander. It would sit there and burn kerosene and it would, it had an engine cover that went over the engine, and it had a shroud canvas that came down over the barrel. This heat would come up through this round canvas, under the engine and bring hot air from the barrel, from that salamander, up and around the engine and that's how they heated the engine. To start with we didn't have regular engine heaters like they later got in – engine heaters that were designed for that purpose but, at first they were using a makeshift type of heater to warm the engine.

Janis Kozlowski: And was that your responsibility as the pilot to do that or did the mechanic....

John Pletcher: No, the ground crew did all of that. But it was the responsibility of the pilot and the crew chief of the airplane to see to it that if you came in in the wintertime and the airplane was to be parked so that the engine would cool down, you were to see to it that the engine oil got diluted while the engine was still warm. And if the engine was real hot you dilute it and wait for the engine to cool some more and then dilute it some more because maybe the heat of the engine would cause some of that gasoline to evaporate and cancel out some of your dilution. The crew chief of the flight crew, as well as the ground crew chief – it was their responsibility to see to it that that engine oil had been diluted so the engine could be started when they wanted to next morning or whenever.

So, yeah, the pilot had responsibility for the way the engines were treated. Of course, he had the flight engineer with him who was a certified mechanic – an experienced man, hopefully - who was experienced on the systems of the airplane so that anything that happened during the flight

that the engineer could do anything about, he'd have somebody that knew something about the mechanics of the airplane. And especially if you were transferring fuel –like if you had bomb bay tanks to carry fuel – and you had fuel in the bomb bay tanks your flight engineer would do the transfer of the fuel so that you were able to pump fuel from the bomb bay tanks either into your main tanks or, if the plumbing was such that you could see that you had the valves set, so you could burn fuel directly out of the bomb bay tanks. Because a lot of the time in the B-18, we carried bomb bay tanks - well even in the B-26s - if we needed the range like for patrols you needed range and you might not be carrying much of anything of a bomb load but you may need to stay out a lot of hours and you might have to go a longer distance, more than the normal fuel supply of the airplane would permit. So, to counteract that they would put bomb bay tanks in and they were plumbed into the system and you had to know how the plumbing went so you knew how to get the fuel.

Even in civilian life, in some of the civilian airplanes there have been cases where people have had airplane accidents and had to crash land the airplane because the engine ran out of fuel. They had fuel aboard but didn't know how to get to it...didn't know how to manage the fuel system to get the fuel [from the] tank. They had a fuel tank with fuel in it but they didn't know how to get the fuel to the engine and that was happening in civilian airplanes. And I think it may have happened to a few military airplanes where the crews, for some reason, weren't able to get that fuel where it was needed.

They needed somebody that, the flight engineer was supposed to be, competent on how that system was put together and how to work it or if you had trouble getting, say, the landing gear down they would know whether you had a bad fuse or whether you needed to crank the gear down. Almost every airplane had an emergency extension system and you had to know what kind of system it had and how to operate it. You knew where to get the landing gear down in case something happened where the gear wouldn't go down and you might have to use the emergency system to get the landing gear down so you wouldn't have to land wheels up. The engineer was supposed to know the systems well enough to know how to do that.

And, of course, the remainder of the crew were observers or, in the case of a combat mission, they would act as gunners - waist gunners or tail gunner. The B-18 didn't have much in the way of guns. It didn't have a turret – a power turret – it never did have. It had a tail gun position that didn't amount to much, it had side positions and