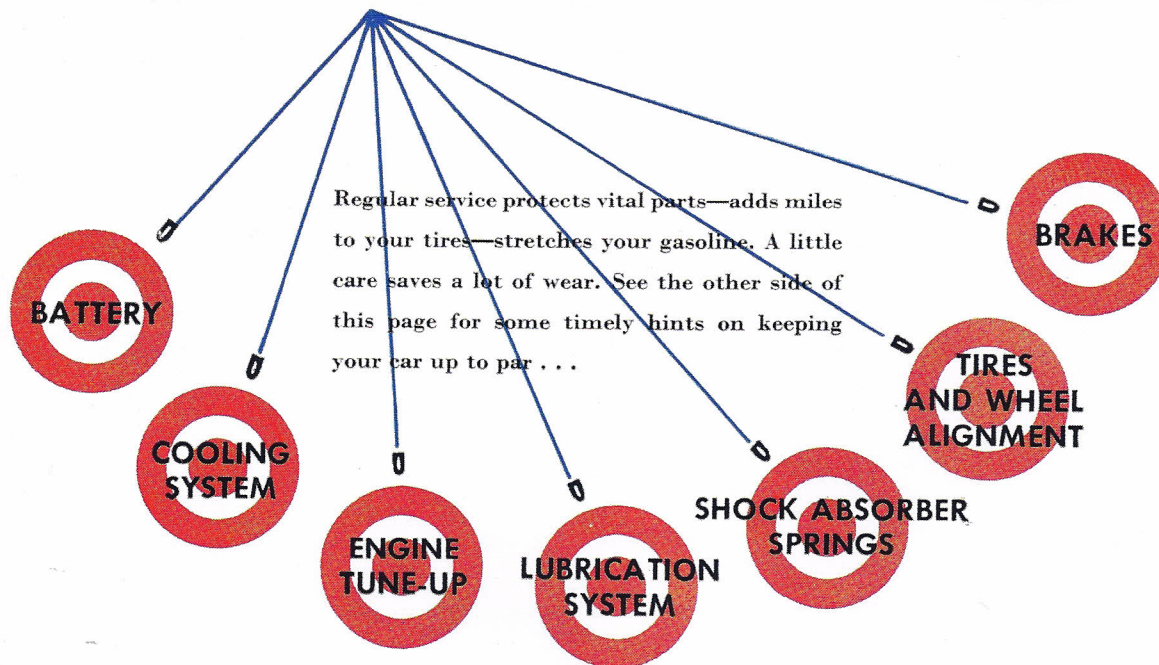


## TRAIN YOUR SIGHTS ON THESE IMPORTANT TARGETS



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## The Last Of Its Kind: Patrol Torpedo Boat 658

By Robert Douglas

Over the past few weeks I have had a unique opportunity, a chance to visit the past.

A friend of mine, Gale Plummer, is an expert with super chargers and he has been helping with the restoration and fine-tuning of the super chargers on PT 658, the last fully operational and combat fitted PT Boat in existence. We went down to the small Naval Reserve Station on Swan Island here in Portland where PT 658 is docked. He has been going there to help by checking and adjusting the air fuel ratios, spark plug gap and heat range all critical to fine tune and maintain the super chargers on it's three 5M 2500 Packard Marine V 12 engines. These three engines develop 1,500 horsepower each giving the skipper the ability to bring 4,500 horsepower to bear when it was needed.

I was looking forward to this visit, as I had never been on a PT Boat before. We went down to the boathouse and walked in. What a sight; beautiful yet at the same time very sinister. She is long, low and sleek, 78 feet long, 20 feet wide, with just over five feet of draft and forty-eight tons. They were pound for pound the most heavily armored boat ever made for or by the United States Navy. Here is her armament list:

I- 40mm Bofors M3 cannon: 4 round clips, 130 rpm, 2890 muzzle velocity, range 5420 yards 2lb projectile weight.

I- 37mm Oldsmobile M9 auto cannon: 30 rd magazine, 125rpm, muzzle velocity 2000 fps, range 8875 yards.

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2 - Twin 0.50 cal Browning M2 Machine Guns: belt fed, 550 rpm, muzzle velocity of 2930 fps, max effective range 2500 yards, max range 4.2 miles, air cooled, recoil operated, gun length 61.5 inches, 24 inch barrel, gun weight 84 pounds, 710 gr. FMJ bullet, powder charge 235 grains. Weight of 100 rounds of linked M2 ball in ammunition can is approximately 35lbs.

2 - M4 20mm Oerlikon cannons: 60 round capacity magazine, 480rpm, muzzle velocity 2740 fps, range 5500 yards, 8.5 oz round weight.

4 - Mk13 Aircraft Torpedoes: (600lbs. warhead) 22.5 inch diameter, 13' 6" long, 33.5 knot speed, weight 2216lbs., range 6300yds (~3.5 miles) filled with 2800 psi air, grain alcohol and water to run a steam turbine turning gear operated counter rotating propellers. Used Mk8 Contact Exploder.

2 - Type C 300lbs. TNT depth charges: Manual depth setting and manual release.

2 - Small arms Thompson .45cal SMG, M1A 0.30cal Carbine.

1 - Smoke generator: 35-gallon refillable, releasing Titanium Tetrachloride gas as a dense white smoke.

2 - 5" diameter Rocket launching batteries of 8 rockets each.

1 - US Navy "SO" Type Radar: This radar was fitted on PT Boats beginning in 1943 and was later replaced towards the end of the war with SJ. Both were 3000 MHz with 50kw pulse, surface search radars made by Raytheon. Approximate range was 25 nautical miles. The Navy's use of radar gave us a distinct advantage over the enemy throughout the war.

Though recently added for the safety of the public, in combat trim there were no lifelines, railings or other obstructions on the smooth deck; after all they would be in the way when it was time to "go to work". These boats were a single purpose machine, not a pleasure craft.

After getting a chance to look at the outside of the vessel we went aboard where we went around on the deck, down into the crew and officer quarters then back up topside and down into the engine compartment. In this small space there



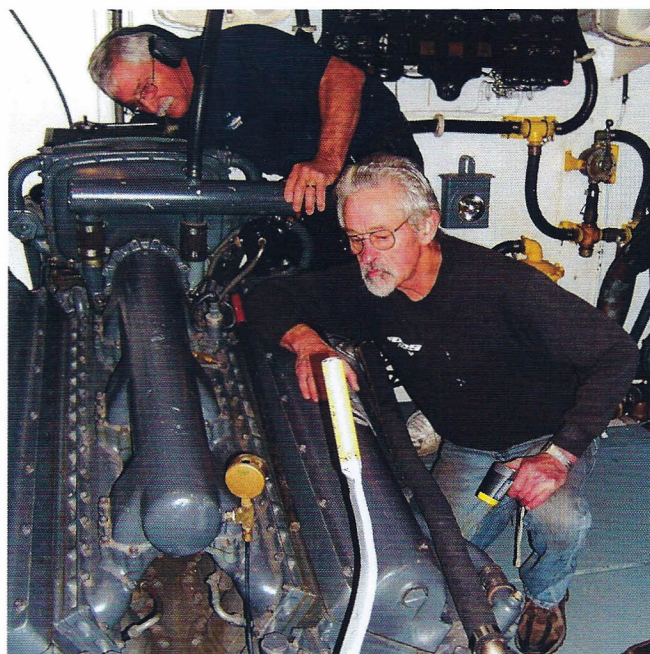
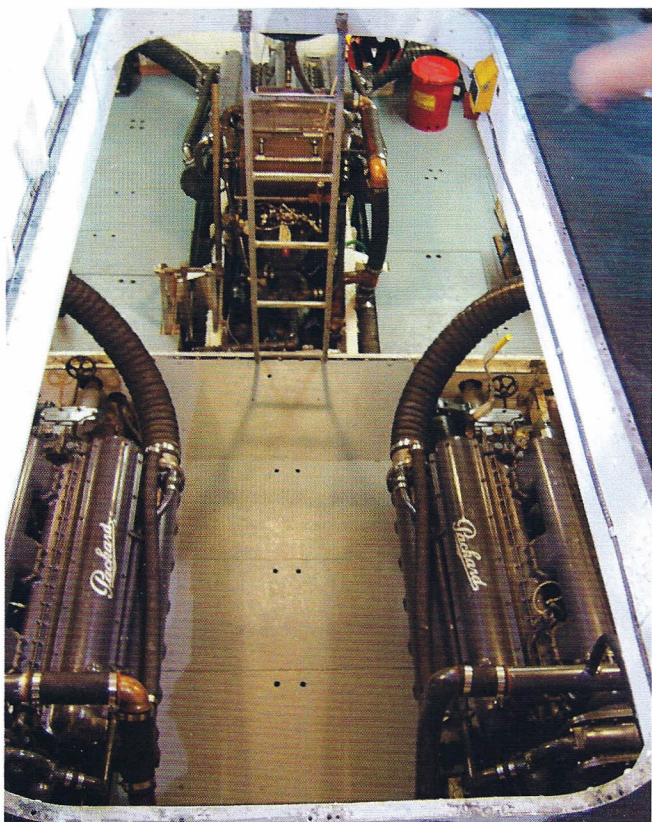
PT 658 is berthed at the Swan Island Naval Reserve Station.

are the three gigantic Packard V-12 marine engines and one small four-cylinder generator engine over to one side.

The V 12's sit two amid ships, one on each side and one in the center to the stern, each powering one 28" propeller. The engines each weigh in at 3,100 lbs. and have 2,490 cubic inches of displacement. They are 60-degree V12's with dual overhead cams, four valves and two spark plugs per cylinder, supercharged and intercooled producing (as stated earlier) 1,500 horsepower each and run on 104-octane leaded aviation fuel. They have a 6.4:1 compression ratio, a 6 3/8" bore and a 6" stroke. At idle each engine consumes about 20 gallons per hour and at full throttle just over 166 gallons per hour, each. Now lets do the math: at idle all three engines will be consuming 60 gallons per hour and at full throttle all three engines will be guzzling right at 500 gallons per hour! Keep in mind that these boats were specified to be able to maintain 42+ knots (50mph) fully combat

loaded in open ocean. The fuel tank capacity is 3,000 gallons, which then gives the boat a full-throttle range of about six hours or about 300 miles. Most of the time they ran a bit slower, which gave them an average range of 520 miles on a full tank. And you thought that the fuel economy on your 472 cubic-inch V-12 Packard automobile was bad!

When we were in the engine room they fired up one of the engines to bring her up to temperature. Decibel reading: 105 decibels! Loud, yes but what a sweet sound. When it was up to temperature they checked the pressure from the super charger, took plug readings and checked other vital functions and found the engine to be in good running order. The next step was to pull the plugs and closely examine them for heat range and mixture reading to see if they needed to change heat range on the plugs. The next step will be to do an O2 sensor check to make sure everything is dialed in correctly. While the engine was running I went up on deck for a minute just to see and hear the exhaust as it was being blown out below water line, what a great sound and the sweet smell was amazing, far different than that of our cars! The lead must add to the aroma!



As fascinating as the mechanicals of the boat are the most important part of the visit was to be able to visit with and listen to the veterans that were there. These men had a lot to share and brought the reality of life on these boats into very sharp focus. As they would speak there was a look in their eyes that I have seen before in the eyes of those that have been in combat. As I stated before these were not pleasure craft, there was no romance, camaraderie yes but there was also a lot of back-breaking work, sweat and fear. The hull of the boat is two layers of mahogany with a layer of waterproofed canvas between and no armor plating. They said that the safest place to be when you were being shot at was between the two forward engines on the floor. One gentleman was a mechanic working on the engine and watching bullets come in one side of the hull and blow out the other while still turning a wrench. These stories of both the good and bad times makes you truly appreciate the sacrifice of this generation that unfortunately is fading all too quickly. For it is their sacrifice which has made so much of what we now have possible.

I would like to thank Gale Plummer for making these visits possible but all of us owe a large debt of thanks, not only to the men that served on these boats but also to all the people who work tirelessly to restore and maintain this piece of our nations history. Thank you from all of us!