

TYPHOON JOAN

A narrative of the USS AGERHOLM's encounter with Typhoon JOAN in the Philippine Sea 15-16 October 1970, written by CDR F.C. Taylor, USN, Commanding Officer

Details of Surviving a Typhoon

On 15-16 October 1970, USS AGERHOLM rode out Typhoon JOAN in the Philippine Sea. JOAN was a typhoon of medium intensity, with winds of 100 knots near center, 75 knots to 50 knots to 200 miles. Due to a series of circumstances which I shall relate, AGERHOLM passed within about 60 miles of the typhoon center, in the area behind the storm, or navigable semi-circle. Never-the-less the experience was a frightening one, and as I look back, the issue was in doubt on several occasions. AGERHOLM apparently had nine lives and I am certain that she used a number of these during the 30-odd hours of the storm.

This narrative is written only 15 hours after clearing the danger area. The ship is in a shambles and as I toured the ship this morning I could only feel fortunate that we had come through. During the storm when the worst possible things which could happen, did happen, we were able to survive, in many instances through prompt actions of individuals concerned, and on some simply "dumb" luck. There were mistakes made, which I make no effort to hide. Of most importance are the lessons learned, in many instances learned again, and I set these forth in hopes that others may benefit from AGGIE's experience.

AGERHOLM was operating on 14 October as a screening destroyer for Task Group 77.6 in the Tonkin Gulf. Typhoon JOAN had been reported for almost a week and had crossed the Philippines south of Manila, heading west across the Philippine Sea.

AGERHOLM completed refueling from the USS WICHITA at midnight on 14 October and was detached for an independent transit to Hong Kong. At about 0500 in the morning of the 15th some effects of weather were felt as the ship rounded the Southern portion of Hainan Island. As we continued on a NE track during the forenoon the weather became increasingly rough, with wind and moderate seas from 020 t, with an occasional large swell from about 060. A high seas warning had been received for the area immediately north and east of our position, valid for 12 hours. We continued along our track hoping for an early abatement of sea conditions.

By early afternoon AGERHOLM had to slow from 16 knots to 14 to avoid pounding. By about 1400 we were experiencing wind of 50 knots from 020, with rough seas, and heavy continuous ground swells from 060. This combination of sea and swell made it impossible to select a "good" course. Several swells crested on a height even with the bridge. One took the UHF can-type antenna off the top of Mount 51 and threatened to break out the pilot house windows.

Consequently we reversed course along our original track. A review of weather warnings indicated this area to be a warning area of high seas for the next 12 hours. Our intent was to run back along Hainan Island until the unfavorable weather improved and then proceed again to Hong Kong. We did not, at this time, associate the heavy swells with Typhoon JOAN, reported to be 350 miles to the southeast.

During this period I observed from the bridge a 4" nylon line and a shine hose adrift on the foc'sle. These were secured and other deck gear, including several large fenders from the UNREP, were secured for sea. At some time during this period AGERHOLM lost the first of three inflatable life boats. (Lesson 1)

Later in the afternoon the padeye securing the outboard gripes on the motor whale boat pulled out of the deck. A jury-rig jigger was attached and this held the boat secure throughout the storm.

At about 0130 on the morning of 16 October the ship was running southwest at 12 knots, wind and seas continuing unabated. More Typhoon JOAN warnings were coming in which indicated that JOAN would go over land about 90 miles south of Danang. Rather than proceed south closer to the possible path of the storm the decision was made to turn about and lie to. I had some qualms about making the turn with the heavy sea state, but word was passed to "standby for heavy rolls" and the turn was made without difficulty. Turns for 7 knots were indicated and the ship rode fairly well, with a great deal of pitching. Radar contact was held on several peaks on Hainan Island and the bearing on these showed the ship to be making no speed over the ground. At about this time we first associated the heavy ground swell with Typhoon JOAN.

Throughout the rest of the night, and for the next 20 hours I did not leave the pilot house. At about 5 A.M. we received a report from the steering engine room that there was "a lot of water" in the space. I had previously directed the Boatswain's Mate of The Watch to ensure that maximum watertight integrity be maintained in the steering engine room. There was some initial difficulty in finding out what had happened, and more difficulty in getting response to remove the water. After a very trying period the Engineering Officer reported to the bridge that two large stanchions had torn off the fantail leaving two gaping holes into the steering engine room. I subsequently learned that the missing stanchions belonged to the large towing wire reel, which mysteriously departed the fantail, leaving all of the lifelines and snaking intact.

From this time on we kept three men in the steering engine room to provide response to any casualty. The helm was in constant motion as the helmsman tried to maintain the ship's heading into the seas.

At sunrise we were greeted by an endless procession of huge seas sweeping by, most of them with foaming tops from the high wind. Shortly after sunrise the steering alarm sounded and the bridge lost steering control. While we desperately attempted to maintain our heading by engines, the after steering room reported that there was a fire in the electrical junction box and that there was a complete loss of power to after steering.

Very fortunately the rudder was nearly amidships and the bridge was able to maintain heading by using the engines until manual steering could be set up. Once this was accomplished steering was easier but still sluggish because of the time and effort involved in manual steering. The loss of power was determined to have been caused by water dripping through the scuttle to the main deck. The electrical junction box was jury-rigged and approximately one hour later the bridge was back in control. All power panels and the steering motors themselves were covered by canvas or plastic as protection against the water. (Lesson II)

By 0700 on the 16th we were pitching heavily and winds were gusting to 55 knots. Shortly thereafter the latest report on JOAN indicated that the storm had turned and was proceeding Northwest directly toward AGERHOLM, at a distance of about 180 miles. There was no longer any doubt as to the source of our troubles.

The question was immediately raised as to which direction to go to evade. The answer was readily arrived at, since we could make no headway in any direction except downwind. Even this might put us across the path of the storm, in which case we might have to run ahead of the storm, up into the Gulf of Tonkin, distinctly unfriendly territory.

The decision to turn the ship downwind was a distressing one to make because I felt that she might roll over in the 40 foot seas, even though fully loaded with fuel. Visibility was extremely restricted because of flying spray and mist and it was impossible to pick an optimum time for the turn.

At this time all hands were advised to the situation and directed to keep lifejackets ready for immediate use. A flash message was transmitted to operational commanders of our intended action.

Shortly after 0800 on the 16th I directed the OOD to bring the ship about. I stood on the wing of the bridge trying to pick an optimum time, while wind and flying spray made it difficult to see and hear. The Officer of the Deck immediately put his rudder over and ordered full speed on the outboard screw and a "standard" bell on the inboard to provide good rudder control. AGERHOLM was caught by one 30-foot swell on the beam as she came smartly around. This large swell simply lifted the ship and dropped her again, with little rolling motion. I was fully convinced at this time that she would roll over. Succeeding experience gives rise to some doubt regarding this lack of confidence in my FRAM I. (Lesson III)

As we steadied on a downwind course of about 220 degrees true there was a very noticeable air of relief on the bridge. The relative wind intensity dropped to about 35 knots with a corresponding drop in noise, and the ship appeared to be proceeding easily down the face of the large swells. Steering control was somewhat difficult and speed was increased to 15 knots to provide control. Immediately thereafter AGERHOLM had her stern picked up by a very large swell and she careened wildly off to the right to broach-to in the trough of the swell, heeling over to port at an extreme angle which I estimate to be in excess of 50 degrees. One could have stepped out the port pilot house door directly into the sea. I had a premonition of the end for AGERHOLM, but surprisingly enough she readily righted herself to an angle of about 30 degrees, where she was held by an estimated 60-knot wind. Somehow we were able to regain control; as I remember it was through an initial burst of speed on both engines followed by a backing bell on the inboard (port) engine to preclude the same incident from occurring again.

At this point I was thoroughly surprised at still having a ship, and my confidence in AGERHOLM and FRAM destroyers in general was vastly increased. This confidence made the next 12 hours a little easier.

We quickly learned that with winds of 50 knots or more aft of the beam the ship was extremely difficult to hold downwind. Each time the ship broached on a sea, or tried to, the wind would push the stern downwind, down the slope of the swell, and force the bow around to windward. The only effective means of preventing this was to use speed to provide rudder control, but here again excessive speed could easily lead to "surfboarding" down a swell with a high probability of broaching. Through a nerve-wracking trial and error period we discovered that with the starboard engine ahead standard and the port engine ahead one-third we could easily maintain good helm control. We actually maintained this engine combination for most of the next 12 hours, until out of the danger area of the storm.

Throughout the entire period we were attempting to keep the seas on the starboard quarter in order to open from the storm center. Had we had the seas on the opposite quarter the opposite engine combination would have been equally effective. (Lesson IV)

Having found a workable means of maintaining our downwind heading, we settled into a routine to ride out the storm. As each large wave passed the ship she would settle into the following trough, with only the jackstaff pedestal remaining visible forward of Mount 51.

As the ship moved higher on the face of the approaching sea she would slowly pick up forward motion, her progress being marked by the jackstaff proceeding through the white water like a submarine periscope, until finally the bow would "surface" and the ship would drop over the crest into another trough. During each of these cycles AGERHOLM's speed would appear to increase from zero to an estimated fifteen knots.

It became increasingly apparent that we were now slaves of the storm, being committed to run downwind, with only a small angle by the wind and seas on the quarter, in an attempt to open the storm center. I spent much of the early downwind period watching huge swells come up astern and coaching the OOD right or left a little to minimize the tendency for these swells to broach the ship. The seas were very large, steep and confused, indicating that we were quite close to the storm center. Large swells routinely came cresting by at a level above that of the pilot house. Occasionally seas on opposing courses would come together, ejecting geysers 60 feet or more in the air. A look in any direction gave the appearance of a maelstrom, in which no ship could survive, however we were in the middle and doing as well as could be expected.

Since reversing course at 0800 we had had no means of navigation and an accurate DR track was almost impossible to pilot. By rule of thumb (face the wind and the storm center lies 115 degrees to the right) the storm center was farther north than reported and probably quite close. This estimate was later found to be highly accurate. Of immediate concern was the fact that the wind was slowly backing with the result that AGERHOLM's course was continually shifting to the south and east. We knew that the Paracel Islands were some 60 miles to the southeast and avoiding these became one of my concerns. With the standard one-third engine combination I assumed our speed to be about 8 knots. As a precaution I calculated our approach to the Paracels at 12 knots and based upon this speed, maintained a close watch on the depth-sounder. Radar was useless and visibility at all times was less than one mile. At about 1430 and somewhat sooner than I had anticipated the fathometer gave an indication of shoaling water which I correctly assumed to be the Paracel Group. I further assumed, incorrectly, that this would be the North Reef, but I had no idea of where the island lay. Visibility was extremely restricted and every large swell periodically broke into a giant "surf line". I conned the ship by this first reef by fathometer information with a distinctly sick feeling in the pit of my stomach, straining to see any thing that might be surf, with the intention of immediately bringing the ship about in the event I could identify anything, or if the fathometer indicated rapidly shoaling water. The fact that I could probably make no headway, even if I should successfully make the turn, remained in my mind. (Lesson V)

Soon the water deepened again and I felt more secure in that I thought I knew where we were, and when to expect the last remaining island, and tried to adjust the ship's head to the left to pass clear. Several hours later the fathometer again indicated shoaling water. We had been proceeding downwind on a course of 100, plus or minus 10 degrees. I assumed that this would be the Amphitrite Group and that AGERHOLM would pass just to the north. Consequently heading was changed to 070 which placed the wind and seas about 30 degrees on the port quarter, at a point where almost full right rudder was required to prevent broaching. On this heading the wind heeled the ship over to a constant 20-30 degrees, which increased each time a following sea passed. Fathometer indications were consistent with where I thought the ship to be, and it was a distinct feeling of relief that passed this island and again entered deep water.

Shortly after dark AGERHOLM was riding well, having crossed behind the storm stack at a range estimated to have been about 60 miles. We were able to open the storm on a course of 090, although seas were still mountainous and relative wind remained between 50 and 65 knots (true wind 65-80 knots). At about 1930 on the 16th we had a radar contact at 077 degrees true, 16 miles. After an evaluation that the contact had no course or speed, someone wiser than I compared our fathometer reading with the reciprocal bearing and range from Woody Island in

the Amphitrite Island Group. The depth compared perfectly and as we approached Woody Island the comparison verified that this was Woody Island, and another course change to 110 degrees true was made to pass safely. Lincoln Island was detected and passed shortly thereafter removing any doubt.

Reconstruction based upon these final sightings indicated that AGERHOLM had been making a fairly steady 17 knots, running with the seas on the standard one-third combination. This was double what we believed our speed to be, and of course put the ship well south of our DR position and into the Paracel Group. (NOTE: transcriber believes something is missing before the next sentence.) North Reef or the Amphitrite Islands close aboard, but that we were obtaining soundings in the relatively shallow waters to the south.

Maneuvering was still restricted in that we could not turn more than 80 degrees off the downwind course, however the wind dropped occasionally to 40 knots relative (55 knots true) and for the first time the barometer increased, having dropped some .80 of an inch over the last day and a half to a low of 28.80. By 2100 on the 16th the ship was riding easily, relative wind was between 35 and 45 knots, backing, the seas became more stable and we were able to maintain our desired 090 degrees true heading. I was able to leave the bridge for the first time in almost 24 hours.

As I look back, the wind was the predominant factor with which we had to contend. Seas were generally mountainous but when the true wind speed remained between 50-60 knots we did not have too difficult a time running downwind. Periodically, however, the wind would increase to 70-80 knots. During these periods the seas would quickly increase in height and appear to run in several directions, cresting white foam continuously. Visibility decreased radically and noise intensity increased. Maintaining a downwind heading became increasingly difficult, and the ship would be boarded by successive seas. One could hear and feel each sea as it rumbled from aft to forward along the ship. The ship was surrounded by white water and flying spray. The total effect was frightening and the question foremost in everyone's mind was "when will this end", or "how much longer can we take it". By comparison, when the wind dropped to 40-50 knots it was almost like a Sunday afternoon at the park.

Ship's routine while in the storm was, of course, greatly disrupted. Help was needed everywhere. Spaces and passageways to be dewatered, loose equipment had to be secured and extra watches stood. It was interesting to observe that as a ship motion became increasingly violent, sea-sickness all but disappeared. All hands were up fighting to save the ship.

Repair personnel in all departments had little sleep in two days. Electrical fires were epidemic. Water was coming into the ship at some new place every hour, and vital electrical and electronic equipment had to be watched around the clock. Under these conditions, three and even two section watches become impractical.

No attempt need even be made to serve complete meals. Sandwiches and simple but not hot entrees that could be eaten on the run or carried off to the working spaces in paper plates and cups proved most popular.

Early in the storm even minor rolls were accompanied by loud crashing, banging and frequent cursing. This diminished with successively more severe rolls until the 50 degree-plus roll. After that, each roll was accompanied by an unusual silence, since everything had found a place, although not necessarily the right place. AGERHOLM today is undoubtedly the best-secured ship in the fleet, and also the messiest. No one in this crew will ever need to have explained the need for "securing for sea".