

THE SPRUE JOURNAL



2013 Vol.1



ValourCon 4

An Official IPMS USA Region 13 Contest

Model Contest

Workshops

Displays

Trade Show



Theme Contests

Modelling the "Baby Boom Years" (1945-1965)

The "Inter-War Years" (1919-1939), Sponsored by Toad Hall Toys

April 26-27, 2013
St. James Legion

1755 Portage Avenue, Winnipeg

- **Friday, April 26, 4 PM – 8 PM:** Early registration, Meet 'N Greet
- **Saturday, April 27, 9 AM – Noon:** Registration
- Noon – 6:30 PM:** Trade Show, Model Contest, Workshops, Displays

For Information:

www.ipmswinnipeg.ca

IPMS Winnipeg, The Valour Road Chapter, is the local chapter of the International Plastic Modeler's Society. Meetings are held monthly at the Royal Canadian Legion, St. James Branch #4, 1755 Portage Avenue, Winnipeg. Meetings take place the first Wednesday of the month, from 7pm to 9 pm. For further information go to www.ipmswinnipeg.ca.

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The Sprue Journal is the newsletter of the International Plastic Modeler's Society—Winnipeg Chapter (IPMS Winnipeg, The Valour Road Chapter).

The Sprue Journal is released quarterly or so. It is provided to IPMS Winnipeg members as a feature of their membership. Membership is open to anyone interested in scale plastic modeling. Membership information can be obtained by contacting any member of the Executive. All articles, photos and artwork are used here for the express purpose of IPMS Winnipeg members. Any and all submissions are welcome, although no promise is made to print submissions. Any submission may be edited. Submissions may be made by email to ipmswinnipeg@mail2world.com.



KRAUT KORNER

by Rob Schaepe

Sd.Kfz. 182 King Tiger (Porsche Turret)

Tank Overhaul #2

Kit Used: Dragon Premium Edition
Eduard Big Ed Photo Etch

As we all know the King Tiger marked the end run of German tank development during WWII. Some would call it an up-armored & up-gunned Panther. Indeed the so called Panther II was in development but never saw action. It probably would have been a more viable option than the King Tiger. The King Tiger II was just too heavy a tank for the engine and transmission design of the day, now had they had a 1500HP engine like the Abrams, Challenger or Leopard? Well?

I believe the armour modellers fascination with the Tiger II stems from its aggressive look (almost modern) its huge L71 88mm gun and size. I know for me it is the culmination of all three factors.

The kit I've chosen is the premium edition kit from Dragon. I have also added the Eduard Big Ed photo-etch kit to spruce it up abit more. I will retain some of the



photo-etch from the kit , but it will be mostly the Eduard set.

I decided to start with the turret 1st because it presented the most challenge for attaching the zimmerit. First I annealed the whole fret of zimmerit on the stove and let it cool. I assembled the base minimum on the turret, namely the gun breach and the lower part its fixed to. I then glued the two upper and lower halves together. I next prepared the turret surface for the zimmerit sanding it abit to roughen it up. By leaving all the finer assembly parts off you run less risk of breaking of anything while applying the zim. By this point I preshaped the zim on the turret , then set it aside and mixed

my 2 part epoxy to be applied directly on the turret. I do this all one side at a time and the tape it down from all angles to allow it to properly set. The cure time states 1 hour, but I prefer to leave it overnight just to make sure. When detailing a tank like this there should be no time constraints.



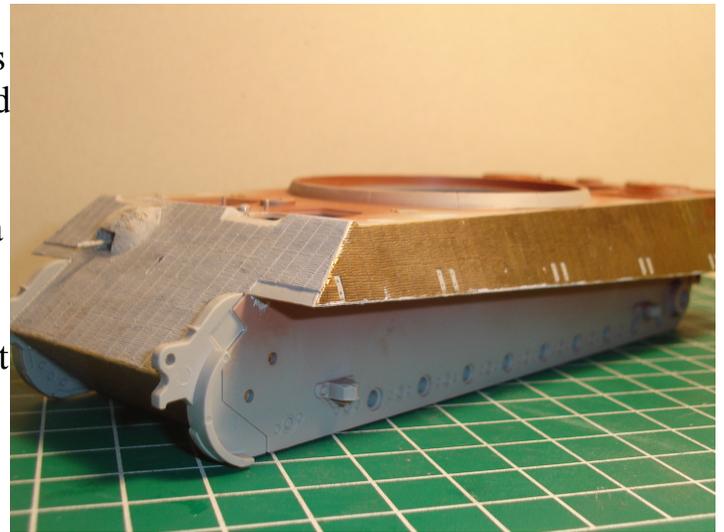
The front of the turret requires a little finesse and skill to ensure all pieces line-up properly. I did encounter some trouble around the gunners periscope. Embossing some of the zim in this area does help.

I should note that if by chance you do get some epoxy seeping out of the edges you have 2 options to get rid of it. The first option is to let it dry, then score it near the edge of the zim and flick it off. Or you can use an alcohol swab to wipe of any excess. I next epoxied the zim to the rear of the turret and it was a perfect fit.

Again I laid down the zim and outlined where I didn't need the epoxy to go. This piece was a flawless fit and it was also secured down with Tamiya tape.

With that piece set aside, I next tackled the upper hull where there are 3 large pieces of zim to attach. Each piece was first dry fitted then epoxied on one at a time and secured with tape. This was then left to sit for 24 hours before removing the tape. Most of these procedures were mentioned in my previous column Tank Overhaul #1.

The next day came the mating of the upper and lower hull pieces. But before this was done I fixed the periscopes to their positions and then painted them clear green, when dry I used mask-all to cover the front of the lenses. With the rear plate in place I lined up each corner at a time and tack welded each side with Ten-ax. I then used the Ten-ax to secure the rest of the hull together. I am a big fan of Ten-ax because it creates such a strong weld for these types of assembly. With the glue dry I used thinned Tamiya putty to cover the underside seams by the skirt area since I will have certain areas like this exposed.



I next used the last big piece of zim to cover the underside of the front glacis plate. Again it mated perfectly with very little finish sanding.

With all the zim attached I now used a medium grit sanding stick to smooth down the edges so there isn't such a hard demarcation line between the zim and the tank body.

With this complete I now ran the medium grit sanding stick over the entire tank and

wiped it clean using isopropyl. Next I used Mr. Surfacer 1000 and brushed it on the photo-etch zim with long strokes. This procedure took 2 coats. The 1000 formula is very thin and does not obscure any details as the 500 would. What you now have is a solid base with which to add the other photo-etch parts too, either with CA or epoxy.

I had discussed in my previous article regarding the mid-production Tiger I that there was a distinct possibility of soldering some of the photo-etch parts to the zim. This I found to be a problem. First off you run the risk of damaging the plastic underneath or the soldier running and compromising the finish of the zim. For this reason I went the epoxy route. It is very easy to use and cleans up very well.

At this point I jumped back into some of the other kit parts for further assembly. Since the tank will be depicted “buttoned up”, I cemented the driver and radio operators hatches shut and assembled most of the parts that belong on the rear deck, after which the whole deck got a light texturing with surfacer 500.

I now started into the photo-etch parts for the tank, namely the tow cable mounts and barrel cleaning rod mounts. I used a compass and ruler to ensure I had the same distances on both sides. I previously formed the photo-etch to have it ready for mounting on the designated spots on the tank. I mixed my 2 part epoxy and applied a small amount right on the tank and then attached the photo-etch and ensured it was lined up properly.

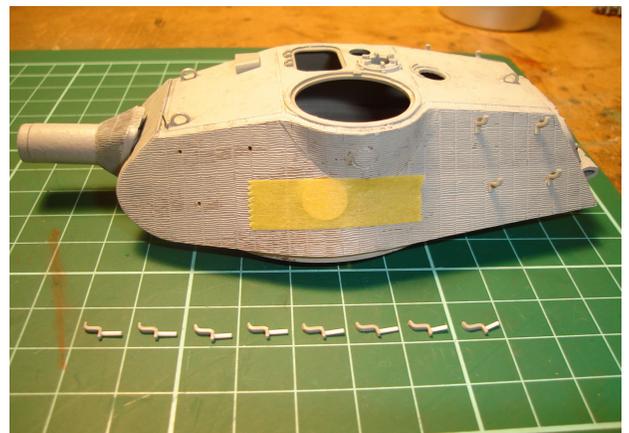


If you are using the Eduard kit make sure you leave the clamps open a fair amount so that you are able to access it with the airbrush later.

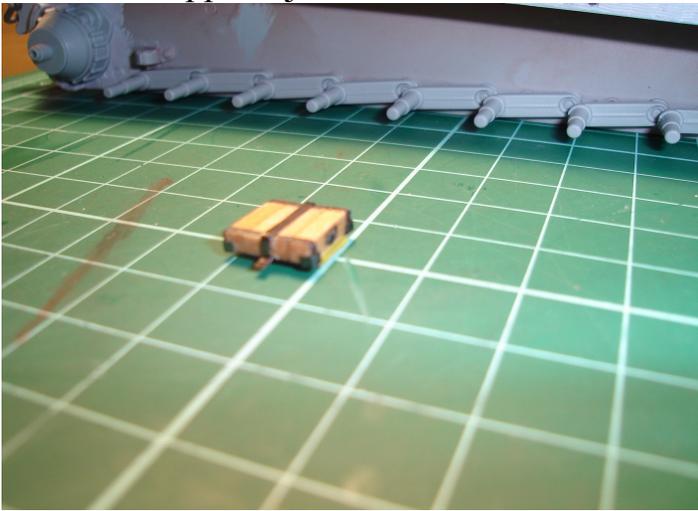
It also helps when you want to attach the tools and tow cables afterwards, this way they won't be bonded together from the paint. I had set aside the hull for awhile, satisfied with what I had done so far. I was now preparing to concentrate on the turret for the next week.

With this particular version it did have spar track hooks that were mounted on the turret.

Since this Eduard kit was not designed for the Dragon Premium kit I had to use the pre-marked notches on the kit as a template and trace out the spots where the hooks went. Now that I was ready to mount those hooks I just made a small pencil mark on the zim based on the measurements I took previously. Once I was sure of the location and satisfied with it I took a .025 drill bit and used my dremel tool at the lowest speed to bore a hole through the zim and the plastic. With all the holes drilled I now went to work cutting .025 styrene rod into short lengths and then carefully glued it to the back of the hooks and supports with Tamiya cement and set aside to harden.



Later in the day I went back to attach them to the turret. There are two main reasons to mount them this way. The first is that you get a lot more strength on the hooks, because they are glued right in to the hull when slid in and they are glued from the back also. Secondly you create a more flush fit for the part and you have the epoxy oozing out everywhere. It was quite time consuming to do it like this, but as you can see from the pictures it works. I then added the Archer resin weld beads around the hooks to add some character to the turret. Just a note about accuracy, I hollowed out the secondary mounts that support the track underneath. Referring to my Thomas Jentz book about the Tigers it clearly shows these mounts to have a clean bored hole in them.

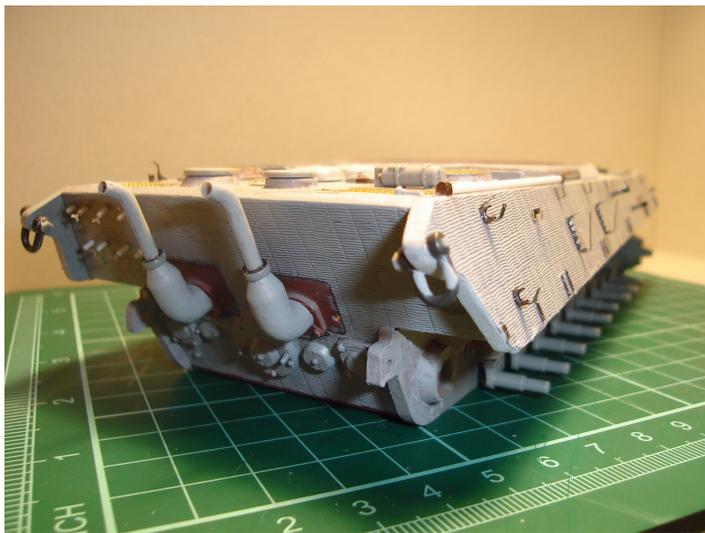


Kit supplied jack blocks? Most of them look totally unrealistic in respects to how they were originally made. Most of them were constructed by sandwiching blocks of wood together and then wrapping them together with steel strapping to reinforce them more. Remember there was an awful lot of weight being applied to such a small area. So what I tried to do is to mimick the same construction. I just measured and cut 4 strips of square balsa wood to obtain the right dimensions like the kit block. Next I prepared some 5 min epoxy and then sandwiched the pieces together and held them in place with a delicate craftsmans vice.

Once the epoxy cured I sanded both sides and edges to even out the block. I next applied the supplied photo-etch to the block with some thin CA and allowed it to set. I then gave the rest of the wood a thin coat of CA too. What was achieved is a very realistic looking jack block for the era. All it will need is a light sanding and either some wood stain or a dark yellow high-lighter to give it that worn-bleached look. The effort and time invested into this seemingly insignificant step of the tank will in the end make the vehicle stand out that much more and add to the overall realize of the tank.

I now started attaching more of the photo-etch to the tank such as the tool clasps and the mounts. For the spare antenna holder I used .021 styrene rod and added the supplied photo-etch to it. I next scratch built the starter crank arm, since the original was way out of scale. I first measured the total length of the starter arm and then cut a length of .025 styrene rod and bent it to the correct angle and immersed it in boiling water for a few seconds to retain the shape. Next I bored a small hole at the end of the crank arm. This was the part that was inserted and slotted into start the tank. The end of the crank arm also had a wider part on the end, a sort of coupling. This was replicated using .016 styrene rod drilled out, cut and slid into the end. The same size was used for the handle end too.

I next used .029 rod drilled out to replace the cupola rain guard mounts. These were then cut to size and glued into place with Tamiya cement.



The rear of the Tiger II in both variants had 2 mounts for the two large 'C' hooks . The first part was to use my Dremel and drill out the measured holes and insert the styrene rods. 2 of the 4 are slightly drilled out to accommodate after market wing nuts that were used to secure the 'C' hooks in place when not in use. I next used .0020 styrene strips and cut them to length to represent the swing arm bars that would be secured by the wing nuts. I then added some Caliber 35 bolt heads to complete the look. So with a bit of styrene and resin I managed to scratch build this whole assembly. With the left

over .0020 styrene I added rain visors to both the gunners sight and co-axial machine gun ports on the turret.

The two mufflers from the kit needed a fair amount of work to bring them to life. Each exhaust had a thin wire mounted in the stack close to the opening, this was to prevent enemy troops from dropping hand grenades down the pipe. First I sanded the exhaust smooth. And next I carved out the molded wire and started to progressively hollow out the pipes till I attained the proper depth and thickness of the pipe walls, which are now more to scale. I next used a fine drill and drilled through from the bottom to the top of the exhaust pipe near the tip and then ran a thin beading wire through and CA'd it on both sides, let it dry, snipped, sanded the excess wire and CA down. After this was done I mixed some Tamiya putty and Testors liquid cement together to create a spreadable paste to apply to the lower part of the exhaust which is just mounted close to the rear plate of the tank.

This serves two purposes, #1 it allows you to fine tune the desired texture of this part, #2 it helps hide the obvious seam lines from gluing the two parts together. Setting these parts aside I went back to installing some of the remaining photo-etch on the tank.

From the onset I intended this tank to be one that had seen battle, but not a whole lot of it. So the fenders and side skirts will see some wear and tear. I started by soldering the front fenders together, but not before annealing them first. The King Tiger will be missing some of its side skirts and the front drivers side fender will be flipped up and rest on the front glacis plate.

An damage you wish to do is as simple as taking a fine or wider tweezer, depending on the damage you want, and manipulate the metal around. Remember that it is easier to do this when the part has been annealed first.

With all the PE on I applied Mr Surfacer 1000 with a medium flat brush to each PE part. This will provide sufficient adhesion for the base and finishing coats that will be applied later.

Whenever possible I prefer to paint and detail my tools separately from the tank. I feel it provides more realism to the tank. However there are some tools which must remain on the vehicle during painting. When these are painted I first slip a small piece of paper underneath so as not to damage the finish on the tank. But I'm getting ahead of myself.

Next I smoothed out the road wheels by rigging them onto a piece of sprue and spinning

them at low speed on my dremel tool. With this you are able to attain a smoother polished finish for the steel wheels.

I now mixed 85% Tamiya hull red, 15% flat black and shot the inner parts of the road wheels to give the effect of the unpainted part of the road wheels that still retained the red oxide primer. All the parts of the wheels that face in also get the same treatment. This is very subtle but adds so much realism to the tank if your intent is to super detail it or your own satisfaction or if you are entering a local or regional contest.

Always keep one thing in mind about tanks, "THEY ARE NEVER CLEAN OR UNDEAMAGED". Remember how your car looks after driving down a gravel road or driving in spring when the snow is melting. I know living in Canada come spring I can't get one block without my car getting caked with dust or grim. And these are vehicles intended for battle!

I also used the same primer technique for the inner side of the cast exhaust guards. I painted these before I glued them in place.

The tank itself will get a medium to dark grey primer colour to ensure proper colour flow over the entire tank. Once dry the Tiger II will get several light coats of thinned Tamiya dark yellow mixed with a bit of white. Coverage will be more faded on the road wheels and areas that would see more wear.

As stated in my previous columns the painting of vehicles in the field was left to the discretion of each individual unit based on the surroundings they were fighting in. Unfortunately there are not a lot of photos or colour plates of early Tiger II's with the Porsche turret and the ones I did find were not very exciting to the eye. My view of a base yellow and 'tree branch' effect with red brown as the colour and heavily weathered would look very sharp. The idea would be to have a very noticeable contrast but still show a fair amount of weathering. To add to the contrast will be red or black tactical numbers with white outlines.

Based on my research and knowledge, the Germans did not use hard edged camouflage on these particular vehicles. So the tank will receive a well blended soft edge camouflage treatment. Again the red brown like the yellow had some white added to it to tone down the colour of the tank and help in giving it the weathered appearance. Once the brown was dry I used a super thinned dark yellow, 10% yellow & 80% isopropyl and "dusted" the tank to get that all important faded effect that was so unique to German armour.

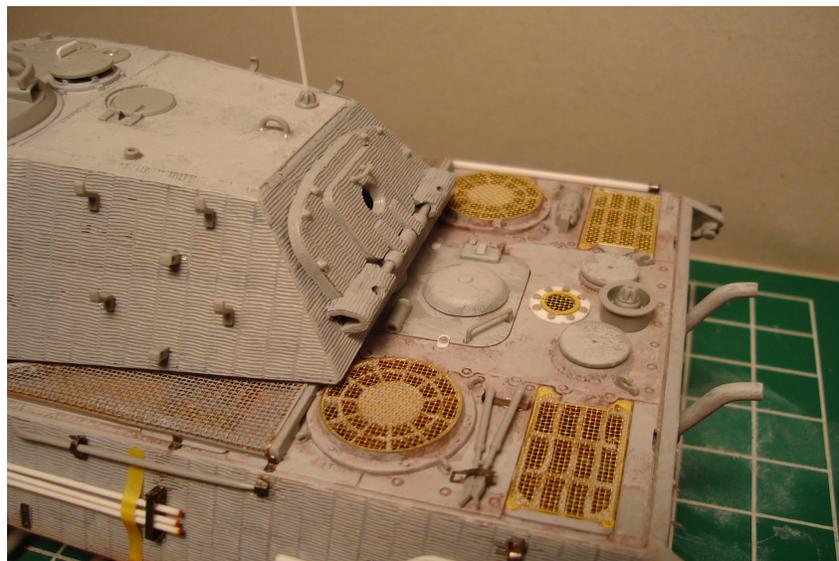
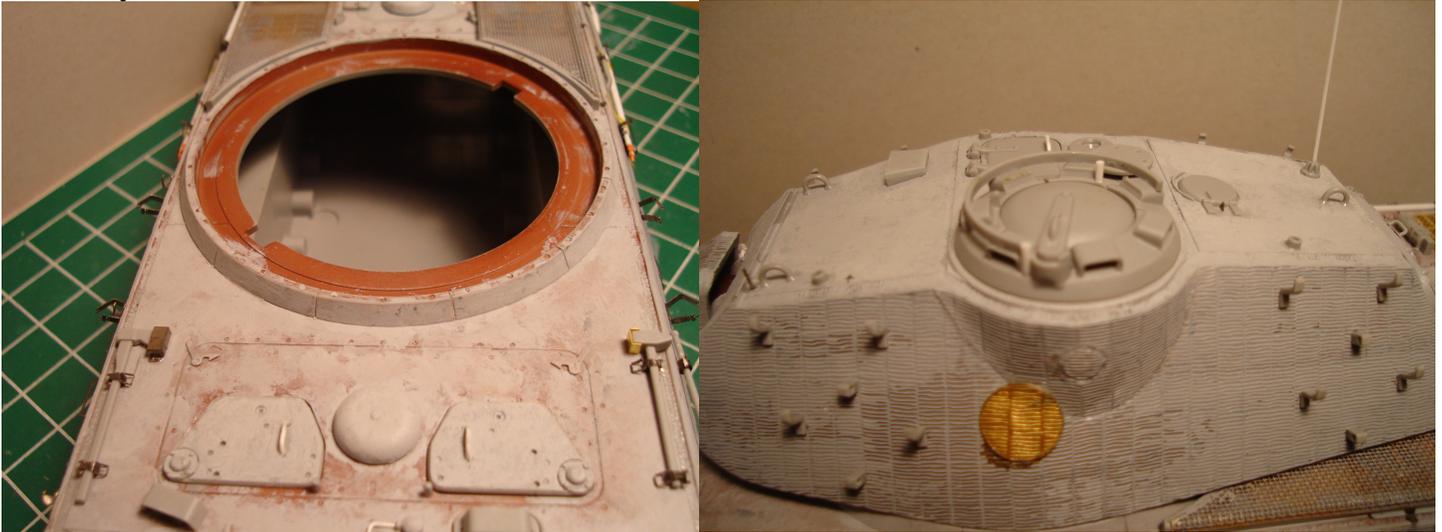
Seeing that I needed to take a different route painting the road wheels and tracks I kept them off the tank and painted and weathered both the wheels and the tracks. I then made sure that the lower hull was done to. This was done because of the PE side skirts that needed to go on after the drive train was put on. Before I secured the side skirts I covered up the tracks and wheels with paper towel and Tamiya tape to prevent any airbrushing colours from getting on the finish

The bottom of the hull and back of the road wheels received a few light coats of Tamiya hull red, black, and a bit of deck tan in a ratio of 3:1:1. I found it next to impossible finding any wartime photos of this specific tiger variant during its assembly in the factory. This would have given proof to my guess that the underside and non-exposed areas would have remained in the oxide primer colour.

The road wheels were given a slight texture with Mr Surfacer 500 and then painted the

red oxide colour on the back side and neutral grey on the exposed side. This will keep the final colour scheme uniform throughout.

The Tiger II received the standard 3 pattern camo scheme for the period of early to mid 1944. The tank was set on the eastern front around Sept-Oct. The tank had already seen a fair amount of combat to which it had received some battle damage. All-in-all the kit was a really good build combined with the Eduard Big-Ed PE kit. Molding the PE zim at the front of the turret by the mantle was the only real difficult part of the whole project. I hope this build article will be of some assistance to anyone reading this. Stay tuned for future articles, of what? I have no idea yet!





The WORKBENCH



In the following Workbench I will be dealing with 2 kits; Revell Germany 1/72 scale German Sea Rescue boats the “Hermann Marwede” and the “Arkona”. As both kits are the same color scheme it just made sense to work on them at the same time. Both kits are typical Revell just the basics, no interior to speak of. Considering the large windows of the command deck of both kits there is need for major scratch building here so scratch build it will be. Both boats also have rescue crafts as part of their setup, these also have fairly large windows so I'll have to look into possibly adding to them also. As for added extras the Arkona kit has none, the Hermann Marwede on the other hand has 2 sets of photo-etch from Eduard. The first set replaces the basics, metal frames around the windows and other small parts to dress up the kit. The second set completely replaces the helicopter landing pad and gang way. This is a major improvement over the kit part all be it a major build in it self.

Before I begin the build articles alittle history and description of what the DgzRS is all about.

German Maritime Search and Rescue Service

Bases and tasks – organization and area of operation – technology and equipment.



The Head Office of the DgzRS in Bremen

The rescue people at a glance

The German Maritime Search and Rescue Service

The German Maritime Search and Rescue Service (DGzRS) was founded on 29 May 1865. Since then it has carried out search and rescue missions along the German North Sea and Baltic Sea coasts – independently and accepting sole responsibility.

For more than a century, German life-saving missions at sea had been a private matter. The DGzRS held this statutory task practically from within its own traditions. As early as 1965, the role of DGzRS as sole maritime rescue service provider was laid down in the German “Maritime Responsibilities Act”. Further legal frame-works for the German rescue service were established in March 1982: with reference to the International Convention on Maritime Search and Rescue, adopted in Hamburg in 1979 (IMO Convention), an agreement between the German Ministry of Transport and the German Maritime Search and Rescue Service formally conferred the undertaking, administration and co-ordination of the search and rescue service to DgZRS.

Both parties agreed that the DGzRS would continue to carry out SAR services as a charity on an independent, voluntary basis and financed by its own funds. In fact, the DGzRS assumed a more or less public duty without claiming one cent of the public funding that is normally awarded to non-profit organisations.

Approximately 300,000 sustaining members keep the rescue crews afloat through regular contributions. There are various provisions making sure that the funds entrusted to DGzRS are used appropriately to fulfill the many tasks of the organisation or are put aside for mid-term projects.

186 full-time employees and more than 800 volunteers are on call on 20 rescue cruisers and 41 lifeboats. 54 stations in the North Sea and Baltic Sea, on the mainland and the islands form a dense rescue network. All missions are co-ordinated by the central MRCC – Maritime Rescue Co-ordination Centre – in Bremen.

The DGzRS board of Chairmen operates on an honorary basis: the highest legislating body is the steering committee. Its main duties include support to and nomination of the board, amendments to the statutes and regional representation.

Three full-time directors are responsible for the areas of rescue service/operations, business administration and finance, as well as press and PR activities.

The patron of the DGzRS is the President of Germany

“The DGzRS is independently and single-handedly rendering an invaluable service to this country and to all those at sea. Probably, it is only the tens of thousands of individuals who over decades have been rescued from a seemingly hopeless situation, who can truly judge the courage and bravery of the rescue crews. However, the great number of friends and sponsors of the organisation proves the immeasurable esteem in which the maritime rescue service is held by the people of Germany. I wish the German Maritime Search and Rescue Service the best of luck for the future and God’s blessing.” Those were the words of the patron of the DGzRS, President Horst Köhler, as he paid tribute to the work of the rescue service.

Civil initiative and civil courage

“It is wonderful to live in a country where people like the crews of the German Maritime Search and Rescue Service commit to helping their fellow human beings... The DGzRS is a combination of civil initiative and civil courage: civil initiative which unites individuals who, without any government funding, still secure the means to bring about great achievements for the common good, and the civil courage of those who serve day and night on their boats to help people ... In a society such as ours, there is no doubt about the meaning of life and of this task – it is indisputable. I would like to thank those who operate these boats and who risk their own lives to save others, but also all those who take an active interest in the society we live in and who support the work of the crews through continuous material and intellectual support.”

Dr. Richard von Weizsäcker, former President of Germany and DGzRS patron, at the naming of the rescue cruiser BERLIN on 29 May 1985

Partners at and above the sea

Of course, the DGzRS is not completely alone in its humanitarian work at sea. An old seafarer principle dictates that in an emergency all vessels in the area are obliged to come to assistance. Maritime authorities play a particular role, from the Water Police, the Federal Police (former Border Guard), the coast guard, the Fishery Inspection and the Waterway Administration, who all provide immediate and discretionary assistance in emergencies at sea. But the Rescue Service also cooperates with the German Lifeguard Association (DLRG), the German Automobile Club (ADAC) and on-shore rescue services.

The cooperation between DGzRS and the German Navy has been contractually settled, especially as regards collaboration with the navy airmen. The MRCC is in direct contact at all times with RCC Glücksburg, and can request helicopters at very short notice. Normally the aircraft in question is a Sea King, which recovers sick or injured people from damaged ships or rescue cruisers using hoist technology.

Moreover, the airmen help by flying in specialist personnel, such as fire-fighters or medicals, or necessary material, both quickly and smoothly. The co-operation of rescue crews and helicopters is practised regularly, almost every week, in so-called winch exercises in the North Sea and the Baltic Sea.

Since time as a factor takes a different magnitude at sea than on land – long journeys are accordingly time-consuming – rescue by air is also accorded particular significance.

Regions of deployment and rescue fleet stations

Maritime Rescue Co-ordination Centre (MRCC) BREMEN

The DGzRS is responsible for maritime search and rescue (SAR) service in Germany's maritime zones in the North Sea and the Baltic Sea (German SAR region). The Bremen Maritime Co-ordination Centre (MRCC) is where distress calls and all emergency notifications converge and missions are co-ordinated. The MRCC is in direct telephone contact with the Rescue Co-ordination Centre (RCC) in Glücksburg (the German Army's SAR service), thanks to a dedicated line.

In an emergency at sea, the MRCC in Bremen can request the assistance of SAR aircrafts from the German Army's Rescue Co-ordination Centre in Glücksburg, according to an agreement with the Ministry of Transport and the Ministry of Defence. Conversely, in accordance with the same agreement and in its role as "regional SAR centre 8", the MRCC will put its communication and mission resources

at the disposal of Glücksburg in emergencies involving aircrafts.

Maritime Rescue Co-ordination Centre BREMEN

Werderstr. 2, 28199 BREMEN, GERMANY Available 24/7:

Telephone + 49 (0) 421 – 536 87 14

Telex 2 46 466 mrcc d

AFTN EDDWYYX (via Bremen air traffic control)

Alerts may also be directed to "Bremen Rescue Radio" (call sign: Bremen Rescue) on VHF channels 16 and 70 (DSC) or the call number 124 124 from the German mobile radio system in the mission area.

Bremen Rescue Radio

In addition to the agreement on the undertaking of search and rescue services in maritime emergencies of 1982, on 7 November 1996 the German Federal Ministry of Transport conferred to DGzRS the monitoring of VHF channels 70 and 16 as well as the handling of distress, emergency and safety radio calls related to the area of search and rescue, starting 1 January 1999.

Thus, besides the MRCC in Bremen, the DGzRS, for all intents and purposes, holds the status of a coastal radio station for emergency calls. "Bremen Rescue Radio" is both physically and operationally part of MRCC Bremen.

The official designation is "Bremen Rescue Radio" and the call sign is "Bremen Rescue" DSC No. 00211 1240

Basic provisions for conducting maritime search and rescue services.

Established international treaties and national laws and regulations contain basic provisions to ensure the safety of life at sea.

- In the Federal Republic of Germany, the DGzRS SAR Action Plan (www.mrcc.dgzrs.de) applies in addition to these provisions, in order to increase safety at sea and facilitate conducting search and rescue of seagoing vessels and aircrafts in the German maritime zones set by the Federal Ministry of Transport.
- The German maritime search and rescue service conferred to DGzRS by Germany's Ministry of Transport consists of:
 - Undertaking maritime search and rescue missions (agreement with the MoT, on 11.3.82)
 - Maritime rescue coordination by the co-ordination centre (MRCC) in Bremen (agreement with the MoT, on 11.3.82)
 - Monitoring VHF channels 16 and 70 for emergency and safety purposes and handling distress, emergency and safety calls on VHF radio in the German SAR region. (Conferral by the MoT on 7.11.96)
 - Assisting the military SAR service in search and rescue missions for aircrafts and assuming the responsibilities of a regional search centre (MoT Directive, on 8.8.53, administrative agreement. MoT / Ministry of Defence Sept. 1969)
 - Evacuating critically sick or injured people on board ships at sea and instigating immediate medical care (Agreement per correspondence with MoT / GMRS, 16/21.1.96)
 - Agreement with the Central Command for Maritime Emergencies regarding co-operation with the MoT/Waterway Administration
 - Participating in fire protection with regard to vessels in the coastal zone within the scope of rescue service and technical feasibility (Agreement per correspondence with MoT, May 1987)
 - Mission according to the Geneva convention (The Federal Chancellor, on 18.3.64)

The international basic provisions are made up of

- International Convention for the Safety of Life at Sea of 1974/79 (SOLAS).
- International Convention for Search and Rescue at Sea of 1979 (SAR).
- IAMSAR Manual, volumes I-III
- Health Protection and Medical Care (Seafarers) Convention No. 164 (ILO 8.10.87)
- The Geneva Convention of 1949
- The Brussels Convention of 1910

Objectives and duties

The main objectives and duties of the German Maritime Search and Rescue Service are listed below:

- Saving human lives in danger at sea and providing first aid
- Coordinating all actions in emergencies at sea and when assisting missions within the German SAR territory.

- Monitoring VHF channels 16 and 70 for emergency and safety purposes as well as handling distress, emergency and safety radio calls on VHF in the German SAR region.
- Carrying out pre-emptive missions to secure potentially endangered vessels and crews
- Aid in evacuating crews from seagoing vessels and aircrafts out of immediate danger
- Transporting the sick and injured, including providing first aid to victims
- Taking any measures to prevent distress and accidents
- Assisting German vessels or crews in emergencies abroad
- Assisting units engaged in firefighting within the scope of feasibility
- Assisting the Central Command for Maritime Emergencies in disaster management.

How many nautical miles per year under way?

Each year all rescue cruisers of the DGzRS together cover a distance of more than 70,000 nautical miles (about 126,000 km) in the North Sea and the Baltic Sea carrying out missions are just patrolling. This is equivalent to three times surrounding the equator. The movement of rescue boats is not included into this figure.

Nothing but aluminium

For decades, all DGzRS rescue cruisers and rescue boats have been built with saltwater proof aluminium, which has the advantage of being relatively lightweight, and thus at an equivalent machine power enables high speeds. The aluminium is processed into a so-called grid frame design, which ensures that the hull is given high structural strength. That is why DGzRS units have truly proven their worth even during tough winters with sharp frost and thick ice.

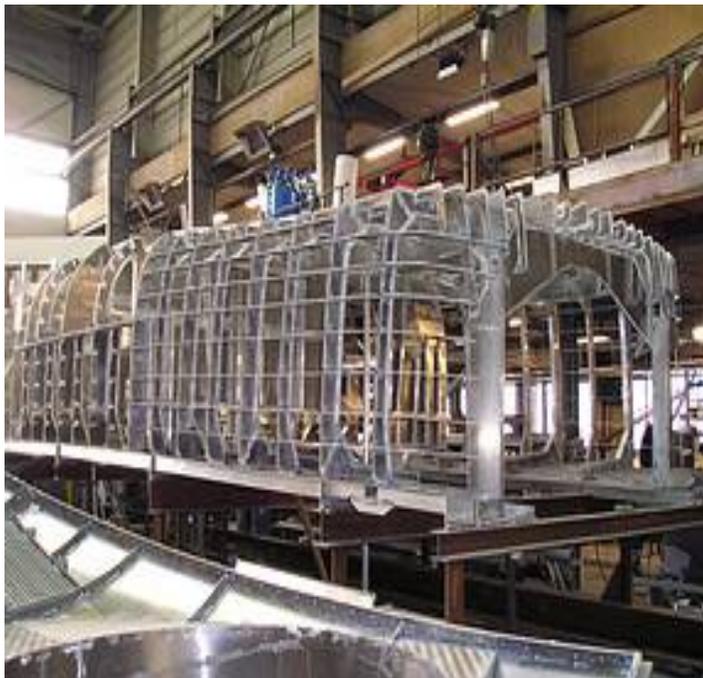
The 46 metre cruiser HERMANN MARWEDE, commissioned in 2003, was also built using this technique.

The first unit ever built entirely of aluminium was the 16.80 m long PAUL DENKER. Completed in 1967, it was in use until 2000.

The PAUL DENKER remained a one of a kind model, but it established aluminium as a construction material for the whole DGzRS fleet. This pioneer boat was named after the master on the vessel ADOLPH BERMPOHL, who lost his life in the night between 23 and 24 February 1967, during a heavy storm in the German Bight. Also lost in the mission were three previously rescued fishermen as well as crew members Otto Schülke, Hans-Jürgen Kratschke and Günter Kuchenbecker. Paul Denker served the German Maritime Search and Rescue Service for 30 years.

Today the DGzRS fleet only contains one boat which is not made of aluminium: a so-called RIB (rigid inflatable boat). Based in Ueckermünde since 2003, it assists the lifeboat GERHARD TEN DOORNKAAT, and is used mostly in the large shoal and reed zones of Szczecin Bay and adjacent waters.

Around 115 tonnes of different types of aluminium were used to build HERMANN MARWEDE. For those with a keen interest: panels mostly consist of AlMg 4.5 Mn W28, sections and stiffeners are made with AlMg Si 1 F31.



From 7 to 46 metres:

a "made-to-measure" rescue fleet

The DGzRS rescue units are considered to be highly weather resilient. Even in international comparison, they are among the most modern and efficient SAR units currently in existence.

Both the rescue cruisers and the smaller rescue boats are welded constructions of saltwater proof light alloys, built in the tried and tested grid frame system and are characterised by their excellent seaworthiness and self-righting capabilities.

In this typical DGzRS design, depending on the size of the boat, longitudinal and transverse frames are no more than 50 cm apart and thus form a fine, strong grid on which the hull plating is installed. Since 1969, the

rescue vessels are all built exclusively of aluminium, which reduces their weight and demands less engine power.

In extremely rough weather, the limits are imposed not by technology but by human beings – an experience that became painfully clear to the public with the sad fates of the ADOLPH BERMPOHL in 1967 and the ALFRIED KRUPP in 1995. All in all, six members of the rescue crews lost their lives in the heavy storms that caused the two accidents.

The primary objectives of DGzRS have always been to make rescue at sea as efficient as possible for the shipwrecked and as safe as possible for the search and rescue crews. The SAR units were developed and built with these two priorities in mind.

Currently, 20 rescue cruisers and 41 lifeboats – from 7 to 46 metres long – are in service on 54 stations in the North Sea and the Baltic Sea. Where the different units are deployed depends on several factors, which are not least determined by the vast wealth of experience that DGzRS possesses.

The stationing concept is based on the criteria of prevalent risks, traffic density and district conditions. It is logical that the largest and most powerful rescue cruiser, the HERMANN MARWEDE, is stationed on Helgoland – in an exposed location, right in the middle of the German Bight – and that additional sea cruisers are kept circulating the islands and shoreline of this heavily trafficked area.

It also makes sense to maintain a certain number of rescue boats in an area such as the Kiel Fjord, as water sports cause dense traffic in this district. During the high season, many minor accidents mean that, from a technical and economic point of view, keeping this type of SAR unit in the region is a sound choice.

Especially in the event of larger incidents, co-operation between several DGzRS units becomes a strict necessity. The dense network of stations enables several rescue cruisers and rescue boats to quickly arrive at the scene of distress.

Since 2003, a RIB (rigid hull inflatable boat) has been assisting the GERHARDTEN DOORNKAAT, stationed at Ueckermünde, during missions: it is a shallow, self-righting inflatable boat with rigid hull. This vessel – the RESCUE UECKER – has met all the requirements to complete satisfaction and proved its worth, among others, in a mission in Szczecin Bay in April 2003 to deal with a stranded passenger ship from which 71 people could be evacuated very quickly.

New rescue cruiser in development: prototype tried in test basin

To best meet the specific requirements of different rescue districts, the DGzRS is currently developing a new rescue cruiser, capable of closing the gap between the 10.1 m lifeboats and the smallest 23 m cruisers.

While maintaining the extremely seaworthy hull, which has been tried and tested over decades, this future type of boat is also characterised by the latest developments in ship and engine building, as well as in marine electrical engineering and electronics.

The first unit from the new class is scheduled to be commissioned in 2008. By then, project groups within the DGzRS and shipyard engineers will have compiled the specifications for it. The first trials using a prototype to scale were carried out during the planning stage in the Hamburg Ship Model Basin.

Also being tested is the RESCUE 1, a novel rescue vessel for the maritime SAR service, which was subject to ample testing in spring 2006 in the North Sea and the Baltic Sea. Following the test runs, the boat is intended for final deployment on board a 20 m rescue cruiser currently also under development.

The RESCUE 1 is also a RIB with a solid aluminium hull and a surrounding air hose, which has a stabilising and shock-absorbing effect.

At 4.80 metres in length, 2.0 metres in breadth and with a water displacement of just over one tonne, the RESCUE 1 can achieve a top speed of 34 knots (approx. 63 km/h), propelled by a sturdy Steyr – a four-cylinder turbo diesel engine (164 hp/120 kW), which is powered by a ZF 45 D drive on the Almarin Jet (water-jet propulsion). This gives the boat a significantly improved manoeuvrability and deployment in very shallow water.

The RESCUE 1 is steered with a (motorcycle) handle bar and equipped with a self-righting system: if rough seas should cause the boat to capsize, after the system is triggered, the boat quickly rights itself.

46 m rescue cruiser

HERMANN MARWEDE/daughter boat VERENA (built in 2003) Helgoland station.



At a length of 46 m, a width of 10.66 m, a draught of 2.80 m and a displacement of 404 tonnes, this boat can achieve a speed of 25 knots (= 46.3 km/h). The regular crew consists of 15 sailors and technicians. Teams of seven take it in turn to go on 24-hour stand-by duty on a two-week rotation.

A central engine (MTU diesel type 16 V 4000 M90 with 2720 kW/3700 hp) as well as two side engines (MTU diesel type 12 V 4000 M90 with 2040 kW/2775 hp respectively) offer an overall engine power of 6800 kW, corresponding to 9250 hp.

Thanks to two hydraulically powered bow thrusters (105 kW/142 hp each), the rescue cruiser can be maneuvered with a high degree of precision, both during missions and in the port.

The daughter boat kept in the stern cradle is based on the tried and tested 9.5 m rescue boat. 9.41 m long and 3.61 m broad with an engine power of 243 kW/330 hp, it reaches a top speed of 18 knots (= 33.3 km/h). Due to a small draught of 0.96 m, the daughter boat can also be deployed in shallow water, around sandbanks and shoals, for example. The rescue gate set in the side of the boat allows for rescuing shipwrecked people from the water-line.

Medical care of the ill and injured is administered in the rescue cruiser's onboard hospital, which as standard is equipped with an ECG telemetric device, a warm air respirator and a portable emergency system, like the ones used by ambulances on shore. Crew members have practical specialization as paramedics. Volunteer medical doctors for maritime emergencies are either brought to the location by helicopter or accompany the crew on board.

Comprehensive navigation, communication and direction-finding equipment have been assembled and installed by a DGzRS working group in close consultation with the crews of rescue cruisers. Numerous test runs, including under difficult conditions, have brought further findings.

A multi-purpose area on the SAR deck (level with the main deck) serves as a central working area during large-scale emergency missions. On the one hand, the regular crew, if necessary, can be

46 m rescue cruiser	Rescue Cruiser	Daughter Boat
Main Particulars		
length (m)	46.00	9.41
breadth (m)	10.10	3.61
draught (m)	2.80	0.96
displacement (t)	404	7.0
speed (kt)	25	18
endurance (sm)	min. 900	min. 200
survivors capacity	more than 400	26
fire fighting capacity and throwing range (m ³ /h/m)	2500/110	
foam compound (l)	3000	
bollard pull (t)	25	2
portable salvage and bilge pumps	portable salvage and bilge pump	
medical equipment	multi purpose room and ship's hospital	medical first response kit
crane (t)	4.1	
helicopter working deck		
work boat (RIB), 4.7 m, 44 kW outboard engine		
engine and propulsion plant		
center engine		
MTU 16 V 4000 M90, 2720 kW, fixed pitch propeller	Cummins 6 BTA 5.9 M, 235 kW	
side engines		
2 x MTU 12 V 4000 M90, 2040 kW, fixed pitch propeller via marine control drive and 2-speed gearbox		
bow thrusters		
2 x 105 kW		

reinforced by additional personnel (e.g. firefighters and doctors). On the other hand, a large number of rescued shipwreck victims can be treated in close proximity to the on-board hospital. Finally, the SAR deck is used as a training room or for storing special equipment parts.

44 m rescue cruiser

JOHN T. ESSBERGER/daughter boat ELSA (built in 1975)Grossenbode/Fehmarn

WILHELM KAISEN/daughter boat HELENE (built in 1978) Sassnitz



These two 44 m rescue cruisers are deployed in the Baltic Sea (around the Isle of Fehmarn and the western parts of the Baltic Sea, and between the Isle of Rügen and Bornholm). The regular crew consists of 13 members, with six on and six off duty.

In a great emergency, this cruiser can take on board 300 shipwrecked people below

deck and, thanks to its extensive medical equipment, the crew in cooperation with medical doctors is able to provide first aid care at sea in the on-board hospital. In particularly complicated medical emergencies, ECG telemetry may be conducted in cooperation with the Telemedical Maritime Assistance Service at Cuxhaven City Hospital.

A powerful fire extinguishing installation, external bailing equipment, a helicopter working deck as well as an RIB are other features that complete the overall picture of this rescue cruiser.

44 m rescue cruiser	Rescue Cruiser	Daughter Boat
Main Particulars		
length (m)	44.20	8.50
breadth (m)	8.05	2.70
draught (m)	2.80	0.90
displacement (t)	185	5.8
speed (kt)	26	13
endurance (sm)		min. 600
survivors capacity	more than 300	
fire fighting capacity and throwing range (m ³ /h / m)		
(Wilhelm Kaisen)	1580 / 110	
(John T. Essberger)	580 / 70	
foam compound (l)	2000	
bollard pull (t)	20	1.5
portable salvage and bilge pumps	portable salvage and bilge pump	
medical equipment	ship's hospital	medical firstresponse kit
crane (t)	2	
helicopter working deck		
engine and propulsion plant		
center engine		
MTU 16V4000M90, 2720 kW, fixed pitch propeller (Wilhelm Kaisen)	MAN 0826LE40, 176 kW, fixed pitch propeller	
MTU 20 V 538 TB 91, 3309 kW, fixed pitch propeller(J.T. Essberger)		
side engines		
2 x MTU 12 V 331 TC 81, 810 kW, fixed pitch propeller		
bow thrusters		
2 x 69 kW		

27 m rescue cruiser

BERLIN/daughter boat STEPPKE (built in 1985) Laboe
HERMANN HELMS/daughter boat BIENE (built in 1985) Cuxhaven
ALFRIED KRUPP/daughter boat GLÜCKAUF (built in 1988) Borkum
VORMANN STEFFENS/daughter boat ADELE (built in 1989) Hooksiel
ARKONA/daughter boat CASPAR (built in 1992) Warnemünde
BREMEN/daughter boat VEGESACK (built in 1993) Grömitz



These six rescue cruisers and their daughter lifeboats represent a continuous development of the DGzRS assets currently in use. SAR equipment and facilities have been significantly extended. The boats now belong to the most modern and efficient SAR units in use, even in an international comparison.

The rescue cruisers are welded constructions of saltwater proof light alloys in the tried and

tested grid frame design and are characterized by their excellent seaworthiness and self-righting capabilities. They are all-weather boats designed for missions in areas close to the shore as well as on the high seas. In both shallow water and breakers they perform very well, are easy to manoeuvre, survive heavy blows or contacts and can be positioned alongside a damaged boat even under extreme conditions. Thanks to a lay-out of tanks and empty cells, the heart of the boat is protected from damage by a second skin, even a third skin in the area of the intercooler pockets.

Special features: In spring 1995, following a severe accident at sea in the night of 1 January 1995, the “Alfried Krupp” underwent technical modifications with regard to safety. The boat was given an enclosed upper control position (the lower one was removed) and, as the first rescue cruiser, a broader stern shape, the so-called Delta shape, which means that the broadest place of the boat is the stern.

27 m rescue cruiser	Rescue Cruiser	Daughter Boat
Main Particulars		
length (m)	27.50	8.18/7.50
breadth (m)	6.53	2.50
draught (m)	2.10	0.80
displacement (t)	103	4.3
speed (kt)	23	17
endurance (sm)	min. 770	min. 200
survivors capacity	145	10/8
fire fighting capacity and throwing range (m ³ /h/m)	2000 / 130	
foam compound (l)	500	
bollard pull (t)	12.5	2
portable salvage and bilge pumps	portable salvage and bilge pump	
medical equipment for extended medical first aid	medical first response kit	
engine and propulsion plant		
center engine	1 x MTU 12 V 396 TB 93, 1.200 kW	
	Mercruiser D 219 AC, 132 kW BMW D 636, 132 kW	
side engines	2 x MWM TBD 234 V 12, 610 kW	
bow thrusters	75 kW	

These comprehensive modifications offer the crew better protection against wind and waves, and enhances the course stability in high waves on the stern.

23,5 m rescue cruiser (I)

EISWETTE/daughter boat JAPSAND (built in 1980) Amrum
FRITZ BEHRENS/daughter boat ANNA (built in 1981) Greifswalder Oie
VORMANN LEISS/daughter boat ERIKA (built in 1985) Nordstrand
MINDEN/daughter boat MARGARETE (built in 1985) List/Sylt



The rescue cruisers VORMANN LEISS and MINDEN are further developed models of EISWETTE and FRITZ BEHRENS. The SAR equipment and facilities have been continually improved. The boats now belong to the most modern and efficient SAR units of their era, even in an international comparison.

The rescue cruisers are welded constructions of saltwater proof light alloys in the tried and tested grid frame system and are characterized by their excellent seaworthiness and self-righting capabilities. They are all-weather boats designed for missions in areas close to the shore as well as on the high seas. In both shallow water and on breakers they perform very well, are easy to manoeuvre, survive heavy blows or contacts and can be positioned alongside a damaged boat even under extreme conditions. Thanks to a lay-out of tanks and empty cells, the heart of the boat is protected from damage by a second skin, even a third skin in the area of the intercooler pockets.

In spring 1995 FRITZ BEHRENS, anchored in its berth in BÜSUM harbour, was hit by a ferry off course in such an unfortunate way that it overturned and sank. Fortunately, the crew were

able to escape in time. During the ensuing repairs, the cruiser underwent technical modifications and improvements with regard to safety. The boat was given an enclosed upper control position (the lower one was removed) and a broader stern shape, the so-called Delta shape, which means that the broadest place of the boat is the stern. These comprehensive modifications offer the crew better protection against wind and waves, and enhances the course stability in high waves on the stern.

23,5 m rescue cruiser (II)

NIS RANDERS/daughter boat
ONKEL WILLI (built in 1990) Maasholm
VORMANN JANTZEN/daughter boat
BUTSCHER (built in 1990) Reserve
HANNES GLOGNER / daughter boat
FLINTHÖRN (built in 1991) Reserve

These three rescue cruisers and their carriage boats are further developed models of units of the

EISWETTE class currently in use. The SAR equipment and facilities have been continually improved. The rescue cruisers now belong to the most modern and efficient SAR units, even in an international comparison.

The 7 m long, 17 knots fast daughter lifeboat is a new model based on the 8 m lifeboat prototypes. Moreover, a new recovery system for the daughter boat was installed. Recovery is now fully automated. The daughter boat is fastened automatically and transported on a carriage, which is moved by hydraulically powered chains.

The rescue cruisers are welded constructions of saltwater proof light alloys in the tried and tested grid frame system and are characterized by their excellent seaworthiness and self-righting capabilities. They are all-weather boats designed for missions in areas close to the shore as well as on the high seas. In shallow water and on breakers they perform very well, are easy to manoeuvre, survive heavy blows or contacts and can be positioned alongside a damaged boat even under extreme conditions. Thanks to a lay-out of tanks and empty cells, the heart of the boat is protected from damage by a second skin, even a third skin in the area of the intercooler pockets.



23 m rescue cruiser (I+II)	Rescue Cruiser	Daughter Boat
Main Particulars		
length (m)	23.30 (I / II)	6.0
breadth (m)	5.50	2.30
draught (m)	2.00	0.60
displacement (t)	60-66	2.7-3.5
speed (kt)	20	17
endurance (sm)	min. 800	min. 200
survivors capacity	90	6
fire fighting capacity and throwing range (m ³ /h/m)	200-380 / 90	
foam compound (l)	200	
bollard pull (t)	10	2
portable salvage and bilge pumps	portable salvage and bilge pump	
medical equipment for extended		medical first
medical first aid		response kit
engine and propulsion plant		
2 x MTU 8V 331 TC92, 650 kW		Mercedes 636, 121 kW
(EISWETTE, FRITZ BEHRENS)		Mer cruiser D 219 AC, 132 kW
2 x MTU 8V 396 TC83, 715 kW		
(VORMANN LEISS, MINDEN,		
VORMANN JANTZEN, NIS RANDERS, HANNES GLOGNER)		

23 m rescue cruiser with gas protection

HERMANN RUDOLF MEYER/daughter boat CHRISTIAN (built in 1996) Bremerhaven
HANS HACKMACK/daughter boat EMMI (built in 1996) Büsum
THEO FISCHER/daughter boat STRÖPER (built in 1997) Darsser Ort
BERNHARD GRUBEN/daughter boat JOHANN FIDI (built in 1997) Norderney

These four rescue cruisers and their daughter boats have been fitted with gas protection for difficult working conditions in hazardous atmospheres – a new development on existing designs – as well as an enclosed structure. They are SAR boats designed for missions in areas close to the shore as well as on the high seas, and must perform well in shallow areas and on breakers, be easy to manoeuvre and absorb heavy blows or contacts without damage. Also, it must be possible to position them alongside a damaged boat even under extreme conditions. Furthermore, they should operate well at great speeds even in adverse weather and rough sea.

When designing and constructing the new type of rescue cruisers, consideration was given to experience gathered in the field by DGzRS units. For situations when the master and crew are dependent on acoustic observations, an external control position has been built into the stern end of the enclosed structure.

The shape of the vessel ensures good stability and seaworthiness while offering low drag. Extensive safety criteria were taken into account when designing the bow and stern for work under extreme conditions.

Particular importance was placed on good manoeuvrability and course continuity. The shape of the deck (round of beam, sheer) was simplified. The broader sternside with an approx. 45-degree dead rise (supporting surface) was developed based on findings of the DGzRS and the shipyard.



23 m rescue cruiser with gas protection		
Main Particulars	Rescue Cruiser	Daughter Boat
length (m)	23.10	7.00
breadth (m)	6.00	2.62
draught (m)	1.60	0.80
displacement (t)	80	3.5
speed (kt)	23	18
endurance (sm)	min. 440	min. 200
survivors capacity	145	6
fire fighting capacity and throwing range (m ³ /h/m)	380 / 90	
foam compound (l)	200	
bollard pull (t)	10	2
portable salvage and bilge pumps	portable salvage and bilge pump	
medical equipment for extended medical first aid	medical first response kit	
engine and propulsion plant		
2 x MTU 8V 396 TE 74L, 990 kW	MerCruiser D 3,6L, 132 kW	
bow thrusters		
Schottel pumpjet		

Project SK 30: the new 20 m rescue cruiser

The order for two new rescue cruisers placed with the Fassmer shipyard is yet another step in the modernization of rescue units for our full-time rescue crews. The commissioning of both boats is scheduled for the second half of 2008.

The specifications for the new construction focus on missions in shallow areas and close to the shore.

This poses a particular technical challenge, since at the same time this type of rescue cruiser must be able to provide the same high degree of safety as all other DGzRS units under extremely adverse weather conditions on open sea. This is why, in the development stage, particular attention is given to the structural strength of the hull, while maintaining a lightweight design.

A draught of only 1.3 m, this new class of craft can be deployed in areas where larger rescue cruisers have to rely on their daughter boats.

Other characteristics of this boat type, built in tried and tested grid frame design, are the ergonomically designed on-board workstation to provide medical first aid and the hydraulic auxiliary propulsion for rescue and towage operation.

The novelty in this project is the electric on-board power supply using the data bus system – a special supply system for the transfer of data and energy between controls and electrical units, as used in computers, aircrafts and, increasingly, in complex machines and modern motor vehicles. Along with improved operation reliability, it allows for a considerable weight reduction.

Another change is the open work boat in the stern cradle with hinges stern, so typical for rescue cruisers.

Due to the compact dimensions of the cruiser, it lacks the space and load capacity to accommodate a daughter boat which can meet GMSARS requirements. In order to achieve a lower draught on the rescue cruiser, it was deliberately decided to forego this option.

With the work boat, the craft still disposes of an appropriate, fast resource for supporting the rescue cruiser or for deployment in tidal wetlands.



A prototype of the new rescue cruiser was subjected to thorough testing in the towing tank at Hamburg Ship Model Basin. Several series of tests simulating typical as well as extreme situations, all common to the daily routine of a rescue cruiser, were conducted on the prototype, built to a 1:10 scale (model length: approx. 2 m).

The construction plans are based on the following data:

Length overall	19.90 m
Moulded breadth	4.75 m
Designed draught	1.30 m
Displacement	38 t
Moulded depth	2.70 m
Speed	22 kn
Engine power	1200 kW / 1660 hp



9.5 m rescue boat

WILMA SIKORSKI (built in 1999) Wangerooge
GILLIS GULLBRANSSON (built in 1999) Brunsbüttel
HERTHA JEEP (built in 1999) Stralsund
WERNER KUNTZE (built in 1999) Langballigau
HEINZ ORTH (built in 1999) Freest
HANS INGWERSEN (built in 1999) Travemünde
EMIL ZIMMERMANN (built in 2000) Puttgarden
NEUHARLINGERSIEL (built in 2000) Neuharlingersiel
HEILIGENHAFEN (built in 2000) Heiligenhafen
CASPER OTTEN (built in 2001) Langeoog
WOLTERA (built in 2002) Juist
PAUL NEISSE *(built in 2003) Eiderdamm
ELLI HOFFMANN-RÖSER (built in 2004) Baltrum
ECKERNFÖRDE (built in 2004) Eckernförde
KURT HOFFMANN* (built in 2005) Glowe
HORST HEINER KNETEN*(built in 2006) Hörnum/Sylt
NAUSIKAA* (built in 2006) Hiddensee
KONRAD-OTTO* (built in 2007) Kühlungsborn



Main Particulars	9.5 m rescue boat
length (m)	9.41/10.1
breadth (m)	3.61
draught (m)	0.96
displacement (t)	7.0
speed (kt)	18
endurance (sm)	min. 240
survivors capacity	26
bollard pull (t)	2.5
portable salvage and bilge pump	
medical first response kit	
engine and propulsion plant	
Cummins 6 BTA 5.9 M, 235 kW	

The 9.5 m rescue boat with Delta hull belongs to a series of 18 units. As an alternative version, five boats (*) were extended by two frames. The added space is above all noticeable when transporting sick or injured people and working with stretchers.

Like all other SAR units used by DGzRS, the 9 m rescue boat is a welded construction of saltwater proof aluminium in the proven grid frame system. It is very seaworthy. In shallow water and on breakers it performs very well, is easy to manoeuvre, survives heavy blows and, thanks to the all-round soft fendering system, can be positioned alongside a damaged boat even at high speed and under extreme conditions. By dividing the boat into several waterproof compartments, it is made much more leakproof. The shape of the boat ensures good stability and seaworthiness while offering low drag, particularly when running. The broader sternside with 45-degree supporting surfaces was developed based on the findings of the DGzRS and the shipyard. Extensive safety criteria were taken into account when designing for work under extreme conditions. This new boat is only navigated from the enclosed upper control position and is equipped with state-of-the-art navigation technology. The crew is seated on special safety chairs with seat belts.

By eliminating the lower control position from the design, more space was freed for accommodating and providing injured or rescued people with first aid.

The enlarged cockpit and the mast brought forward facilitate rescuing injured people with a helicopter. The extended rescue gate makes it easy to pick up people drifting in the sea.

8.5 m rescue boat

ASMUS BREMER* (built in 1987) Schilksee
MARIE LUISE RENDTE * (built in 1988) Schilksee
FRANZ STAPELFELDT* (built in 1990) Maasholm
GÜNTHER SCHÖPS (built in 1992) Timmendorf/Poel
GERHARD TEN DOORNKAAT (built in 1992) Ueckermünde
KARL VAN WELL (built in 1992) Damp
DORNBUSCH (built in 1993) Breege
CASSEN KNIGGE (built in 1993) Norddeich
OTTO BEHR (built in 1993) Wilhelmshaven
HELLMUT MANTHEY (built in 1993) Lippe/Weissenhaus
HERMANN ONKEN (built in 1993) Fedderwardsiel
JENS FÜERSCHIPP (built in 1993) Gelting
PUTBUS (built in 1993) Putbus
JUIST (built in 1993) Schleswig

CREMPE (built in 1994) Neustadt/Holstein
BALTRUM (built in 1994) Horumersiel
BOTTSAND (built in 1994) Laboe
STRALSUND (built in 1994) Prerow/Wieck



The 8.5 m rescue boat belongs to a series which has been developed based on previous prototypes (*). Like the rescue cruisers, this 8.5 m long boat is a welded construction of seawater proof alloys (Al Mg 4.5 Mn/W 28) in tried and tested grid frame system. It is very seaworthy. In shallow water and on breakers it performs very well, is easy to manoeuvre, survives heavy blows and contacts and, thanks to the novel all round fendering system, can go alongside even at high speed and under extreme conditions.

Thanks to a layout of tanks and empty cells, the heart of the boat is protected from damage by a second skin, even a third skin in the area of the intercooler pockets. The boat can be controlled from either the internal or external control position. The crew is seated on special safety chairs with bucket seats and seat belts.

Main Particulars	8.5 m rescue boat
length (m)	8.52/8.28
breadth (m)	3.10
draught (m)	0.95/0,85
displacement (t)	5.5/4.6
speed (kt)	18
endurance (sm)	min. 200
survivors capacity	13
bollard pull (t)	2.0
portable salvage and bilge pump	
medical first response kit	
engine and propulsion plant	
Cummins 6 BTA 5.9 M, 235 kW	

7 m rescue boat (Bodden(Lagoon) boat)

Barsch (built in 1993) Wustrow
Zander (built in 1993) Zingst
Hecht (built in 1993) Zinnowitz station
Butt (built in 1993) Zinnowitz station

The ZANDER rescue boat was the first of a series of four boats given the description “lagoon boat with trailer and tractor” (type Unimog U 2150 L) that could be deployed both from stations in Mecklenburg – Western Pomerania and in the coastal bays. This novel design is the result of the experience from the field offered by SAR crews.

Like the rescue cruisers, this 7 m long boat is a welded construction of seawater proof light alloys (Al Mg 4.5 Mn/W 28) in tried and tested grid frame system. It is very seaworthy. In shallow water and on breakers it performs very well, is easy to manoeuvre, survives heavy blows and contacts and, thanks to the novel all

round fendering system, can go alongside even at high speed and under extreme conditions.

The boat is divided into three waterproof compartments by two bulkheads. It is controlled from the internal control position. The crew is seated on special safety chairs with bucket seats and seatbelts.



Main Particulars	7 m rescue boat
length (m)	7.03
breadth (m)	2.50
draught (m)	0.51
displacement (t)	3.2
speed (kt)	18
endurance (sm)	min. 130
survivors capacity	8
bollard pull (t)	1.5
portable salvage and bilge pump	
medical first response kit	
engine and propulsion plant	
MerCruiser / BMW D254AC, 162 kW	

6.8 m rigid inflatable boat

RESCUE UECKER (built in 2004)

This RIB (rigid inflatable boat) is used as a prototype in shallow water, whether extensive areas or partly isolated bays, as a cost-efficient alternative and rapid second lifeboat in Szczecin Bay/UECKERMÜNDE station.

Except for radar, it possesses complete navigational equipment. Like all SAR units, this boat is self-righting. The mechanism works through an inflatable airbag at the mast top, similar to a life vest. The engines, which automatically switch off in a capsized, may then be started again thanks to special equipment.



Main Particulars	6,8 m rigid inflatable boat
length (m)	6.80
breadth (m)	2.70
draught (m)	0.40
displacement (t)	2.2
speed (kt)	37
endurance (sm)	min. 100
medical first response kit	
engine and propulsion plant	
2 x Mercury, 66 kW/90 hps	

A few parting shots:



Surviving German SPGs based on foreign chassis

Listed here are the German self-propelled guns based on captured and modified foreign equipment that still exist today.



**10.5cm leFH 18 auf Geschützwagen 38H (f)
Musée des Blindés, Saumur (France)**



15cm sFH 13/1(Sf) auf Gw Lorraine Schlepper(f) – El-Alamein War Museum (Egypt)



15cm sFH 13/1(Sf) auf Gw Lorraine Schlepper(f) – Unknown location (Iraq)

“This vehicle stood as a monument at the entrance to a bombed tanks or ordnance factory north of Basorah, not far from the remnants of a Saddam memorial. Some weeks later, I was up at it again, and I saw to my horror that the side armor was removed. In 2005 there were a lot of wrecks around the landscape, vehicles from 3 wars, so there was plenty to look at. At that time, people also began to cut up these wrecks. Whether it was being scrapped or local Arabs had taken sides to make a roof with it or the like, I do not know. I have asked several guys who have been there in recent teams, no one can remember it. It also became a "rogue area" (full of insurgents) so it was not a place you just drive straight up to” (Rasmus Munkholm)



**15cm sFH 13/1(Sf) auf Gw Lorraine Schlepper(f)
Aberdeen U.S. Army Ordnance Museum, MD (USA)**
According to the museum records, this vehicle was captured at El-Alamein



Marder I built on Lorraine Schlepper (f) chassis – Musée des Blindés, Saumur (France)



Marder I built on Lorraine Schlepper (f) chassis – Central Museum of the Second World War, Poklonnaya Gora, Moscow (Russia) – running condition



Marder I built on Hotchkiss H38 (f) tank chassis – Victory Museum, Auburn, IN (USA)
The armoured superstructure is a reproduction (Dmitry Bushmakow)



Panzerjäger 35R 731(f) (armed with 47mm Pak(t) L/43.4 gun) Panzermuseum, Thun (Switzerland)



Marder III with 7.62 cm PaK36(r) – Musée des Blindés, Saumur (France)



Marder III with 7.62 cm PaK36(r) – Aberdeen U.S. Army Ordnance Museum, MD (USA)

According to the museum records, this vehicle was captured at El-Alamein



Marder III Ausf. H – Auto + Technik Museum, Sinsheim (Germany)

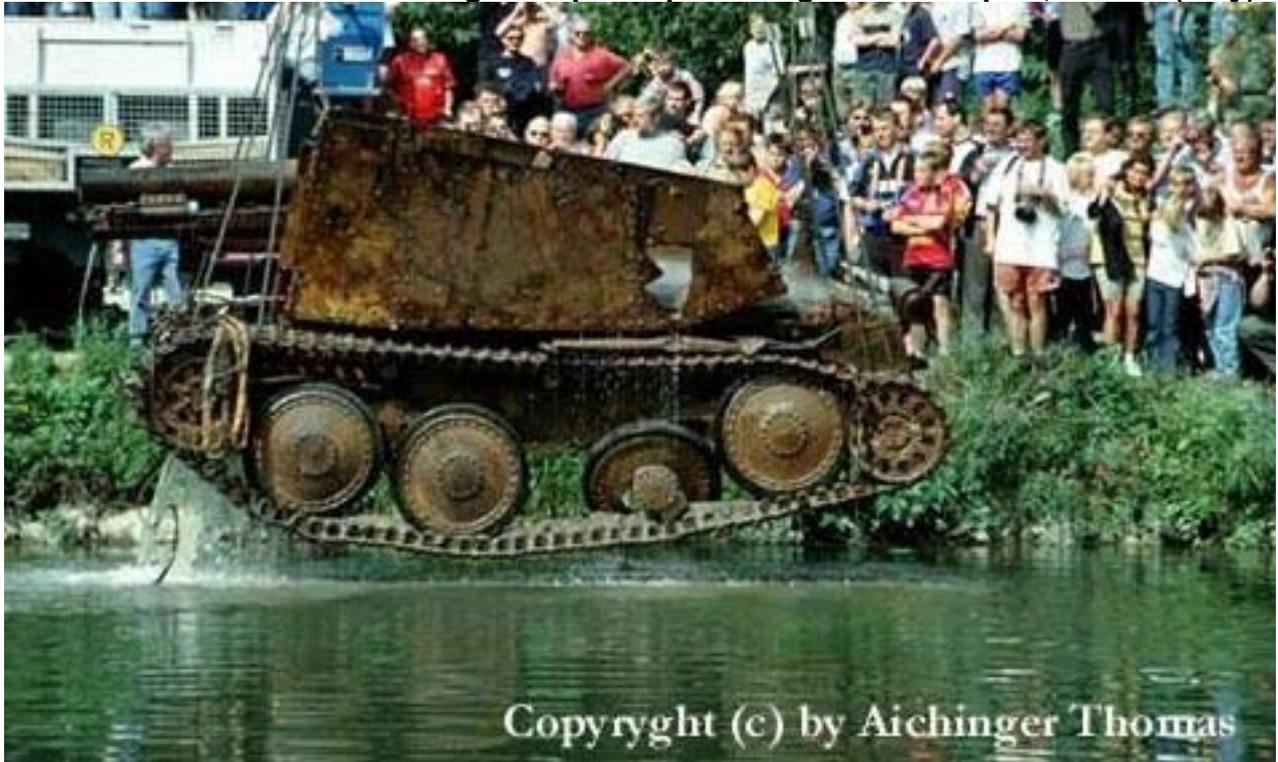


Marder III Ausf. M – Musée des Blindés, Saumur (France)



Civici Musei di Storia ed Arte di Trieste
Civico Museo di guerra per la pace "Diego de Henriquez" (inv. n. C.T. 6058)

Marder III Ausf. H – Museo di guerra per la pace Diego de Henriquez, Trieste (Italy)



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15 cm Schweres Infanteriegeschütz 33/1 Grille – Fahrzeugmuseum, Bad Ischl (Austria)
This vehicle was recovered from a lake in Austria and is reported to be currently restored



Civici Musei di Storia ed Arte di Trieste
Civico Museo di guerra per la pace "Diego de Henriquez" (inv. n. C.T. 6062)

Marder III Ausf. M – Museo di guerra per la pace Diego de Henriquez, Trieste (Italy)



Marder III Ausf. M – Aberdeen U.S. Army Ordnance Museum, MD (USA)

According to the museum records, this vehicle was recovered from Tunisia



Marder III (Vis-mod Pz. 38(t)) – Victory Park at Poklonnaya Gora, Moscow (Russia)

This is an early Pz.38 (t) hull (most likely Ausf. B) which was visually-modified to look like a Marder during its restoration. This vehicle doesn't correspond neither to an Ausf. H (there is no room for the vehicle personnel at the back of the vehicle, like on Ausf. H variants) , nor to an Ausf. M (the engine is still at the back of the vehicle, as there is still the engine back door)



Marder III Ausf. M – Steve Lamonby (private owner, UK) – running condition

According to the owner, this vehicle is an original Marder III Ausf. M, which was found in Czechoslovakia. The second Marder III seen in the Saving Private Ryan film is indeed a modified Swedish Sav m/43 tank



Marder III Ausf. M – Victory Museum, Auburn, IN (USA)

This vehicle is an original Marder III hull, but it lacked wheels and tracks when Guy Arend, the former owner, found it. The vehicle was restored with Swedish Pansarbandvagn 301 wheels and tracks, which makes it looking like a reproduction built on a Pansarbandvagn 301 chassis, but it is mostly an original vehicle (information from the magazine *Wheels and Tracks*, via Erik Johansen)



15 cm Schweres Infanteriegeschütz 33/1 Grille Aberdeen U.S. Army Ordnance Museum, MD (USA) According to the museum records, this vehicle was recovered from Italy



Flakpanzer 38 (t) Gepard – Musée des Blindés, Saumur (France)



Munitionspanzer 38 (t) – US Army Artillery Museum, Fort Sill, OK (USA)



Flakpanzer 38 (t) Gepard – Battle of Normandy Museum, Bayeux (France)

This particular vehicle, which belonged to the 12th SS Panzerdivision, was destroyed on 20 or 21 August 1944 near St-Lambert-sur-Dives. It was retrieved from the Trun scrapyard and renovated by the museum's team (information from the museum)



**10.5mm leFH 18(Sf) auf Gw Lorraine Schlepper(f) (Alkett) reproduction
Private collection (France) – running condition**

For those of you who haven't been to the latest meetings, member Robert Burtiak has developed The Handy Stand. Designed to hold everything from your kit model instruction sheets to sprue's to painted parts for drying. He is selling it for \$19.99 and you can either contact him at the our meetings or send an email to handystand@shaw.ca . Here are a few pictures:

