

Mission to recover the Kursk victims

LONDON, June 22, Graphic News: A group of divers will shortly leave the Scottish port of Aberdeen on the vessel Mayo to begin the first phase of the salvage operation to recover the victims of the Kursk submarine disaster.

The team of 11 divers -- five of them Russian and six Norwegians -- have been training in Murmansk with special templates to cut holes in the inner and pressure hulls of the submarine to attach raising lines.

More than twice the length of a jumbo jet, the 18,000-tonne (17,716-ton) submarine sank during wargames in the Barents Sea last August after a powerful explosion ripped open its nose. The cause of the tragedy, which killed all 118 crewmembers, is still not known.

The Dutch salvage groups Mammoet and Smit International have established a joint venture (Mammoet-Smit) to salvage the Kursk, which is lying in 108 metres (350 feet) of water with its nose buried in the largely clay seabed.

The Kursk project will be completed in two stages. During the first phase, scheduled to start on July 10, a 32-man team of divers will start to remove the seriously damaged bow of the Kursk and to drill holes in its hull. Last year, divers spent 730 hours under water trying to recover the victims -- this year they will spend about 1,500 hours on the seabed working in temperatures of 0-6 degrees Celsius.

The Russian Navy, together with the submarine's designer, Rubin, will determine the exact location of the holes based on the design of the submarine's interior. The holes will be cut using high-pressure water jets which blast abrasives at the steel hull.

The Kursk's bow -- which contains the torpedo room -- will be cut free using a giant, hydraulically-operated cutting chain and dumped on the seabed so that the rest of the vessel can later be lifted as a compact load.

Stage two will use a special pontoon -- Smit International's Giant 4 -- which has been fitted in Rotterdam with 26 "strand jacks," each of which can lift up to 900 tonnes (886 tons). A section has been cut out of the 140-metre-long (460 feet) Giant to make room for the Kursk's conning tower.

The lift is expected to start on September 15. Lifting cables, each made up of a bundle of 54 thinner steel "strands," will be lowered from the Giant 4's strand jacks and anchored in the holes in the Kursk using large steel plugs. The plugs have arms that unfold under the beams and the inner skin to provide a firm anchorage. Each of these attachment points will be tested at about twice the necessary force before the submarine is raised.

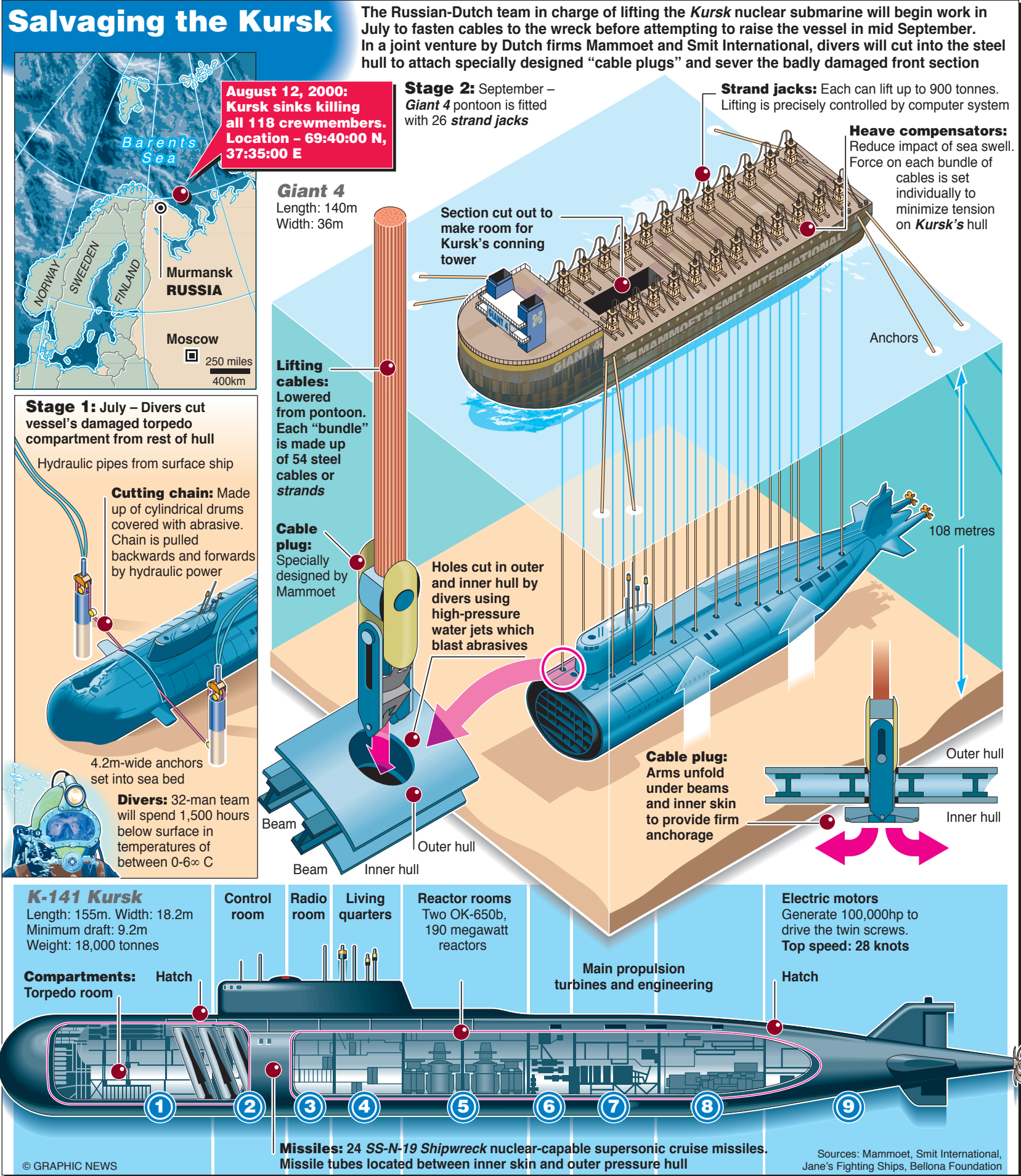
When the weather permits, the submarine will be raised centimeter by centimeter to just below the pontoon. The force on each bundle of cables can be set individually to minimize the tension on the Kursk's hull and the impact of the swell of the sea can be reduced by "heave compensators" so that the force exerted on the attachment points on the Kursk is constant. Computers will control the entire lifting process.

Once it has been raised, the Kursk will be towed to Murmansk where four Russian-built pontoons will lift the Giant 4-Kursk combination and sail it into a dry dock.

During the estimated US\$70 million salvage operation Russia is preparing to deploy an entire flotilla of its Northern Fleet to the area to discourage prying Western eyes. Ships include the nuclear powered cruiser Peter the Great and cruiser Marshal Ustinov, as well as antisubmarine vessels Admiral Kharlamov and Severomorsk. In addition, the Northern Fleet will also send its whole rescue fleet, comprising Rudnitsky, Altay, Pamir, four mini-rescue submarines and the floating hospital, Svir. Five helicopters and two transport aircraft will also be assigned to the operation.

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Associated Press, Reuters Mammoet, Smit International, Bellona Foundation



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1 col	12p5	52.3
2 col	25p7	107.7
3 col	38p9	163.2
4 col	52p	219.0
5 col	65p1	274.4
6 col	78.p3	329.7

Cut-and-paste conversions:  
108 metres = 350 ft  
Length: 140m = 460 ft  
Width: 36m = 118 ft  
4.2m-wide = 13.7 ft  
0-6°C = 32-42°F  
Length: 155m = 508 ft. Width: 18.2m = 59.7 ft  
Minimum draft: 9.2m = 30.2 ft  
Weight: 18,000 tonnes = 17,716 tons