Subject to modifications.

TP 338.11.01

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LR 1600/1

LR 1600/1 positions 300-ton pylons for motorway bridge.

The major construction site "Rhine crossing A44" north of Düsseldorf was the first destination of the LR 1600/1, the crawler crane newly developed by Liebherr as "Pedestal Crane". The advantages of the new technology became evident during the positioning of colossal pylons on the foreland bridges: "The crane would'nt have been in a position to work on crawlers as the machine had to be supported on precisely specified foundation pressure points", explained Uwe Langer, head of the Mainz crane enterprise Riga. And he insisted on controlling the heavy-duty crane himself, the new acquisition of the "Crane- & Engineering-Group Riga-Eisele", on its first job.

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The better crane.

Assembly at short rigging times.

The Mainz team was thrilled by the easy handling of the LR 1600/1 during the erection. "Without a hammer blow", the 600-tonner had been assembled within a day although it was its first erection. The crawler centre section including superstructure had been driven onto the bridge, were it was unloaded and aligned with the aid of the incorporated central supporting device. While formerly the use of a second crane was required, the LR 1600/1 equipped itself with the 30 t supports at either side. At this job, the crane operated in the "Pedestal Crane" version with a supporting base of 12.6 m x 12.6 m and, consequently, provided a distinctly increased supporting base compared to the 8.8 m x 10.6 m as crawler crane.

"The pinning procedure by radio control is first class" crane operator Enrico Wunderlich praised the mounting aid device which Liebherr had developed for the erection of the crane. On uneven supporting surface, the crane can be relevelled from the operator's cab. As a particular great advantage of the crawler crane, Uwe Langer mentions the possibility to extend the superstructure by almost 2 m to the rear. This results in a capacity increase of 30 % with the same counterweight. "With that variant, the use of the derricking system can become superfluous". And Langer added: "At a radius of 30 m and with superstructure extension this means a capacity increase of 100 % compared to other crawler cranes".

Precise load handling.

Positioned precisely over the bridge pier, the LR 1600/1 made not only a good visual impression:

Equipped with the 56-meter main boom and a total counterweight of 245 ton, the 600-tonner provided the load capacity required for the work. During positioning the 35 m long pylon posts, which had been welded in situ, the crawler crane had a gross load of 300 t on the hook. The positioning of the posts at a crane radius of 13.5 m required precision work. While the steel girder was placed and fastened into the joining elements, a LTM 1160/2 mounted both auxiliary stays to the inclined pylon section. Tricky – due to the closenes – was the lift of the almost 20 m long and 156 t heavy connecting girder. The cross-beam, equipped with work scaffolding, had to be lifted initially to a height of 30 m, manoeuvred through the pylon post, and finally placed into the V-type construction.

After three days, the bridge girder construction at the right side of the river Rhine, which later on is intended to carry the enormous load of 24.000 t, was completed. At the opposite bank, the same work again was waiting for the team and the equipment.

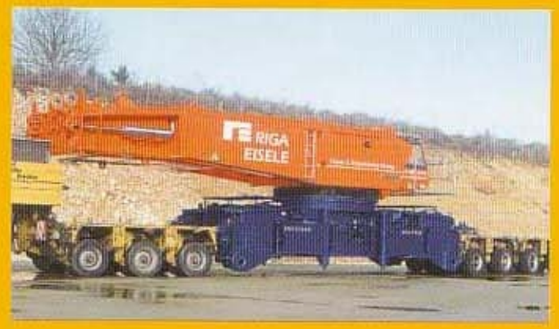
The costly bridge construction became necessary as the future motorway bridge is located within the entry lane of the Rhein-Ruhr airport and a maximum height of only 35 m above the roadway had been authorized. The river width of 290 m across the busy waterway is bridged without further piers. For the present, the steel cables have to be stretched, subsequently the roadway sections be delivered by pontoon and lifted into position by a flaoting crane.

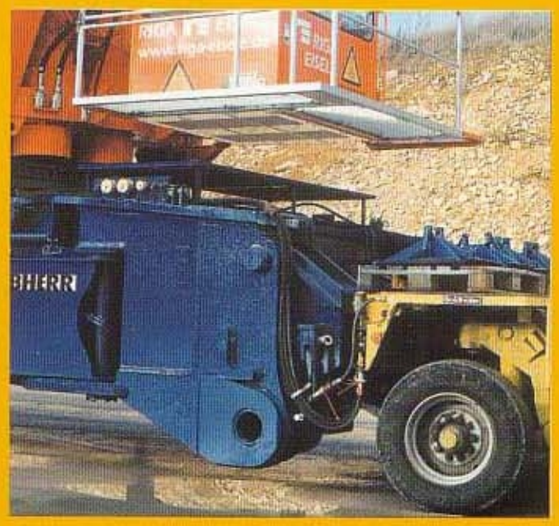
The 160-million Mark project is scheduled to be completed by May 2002.

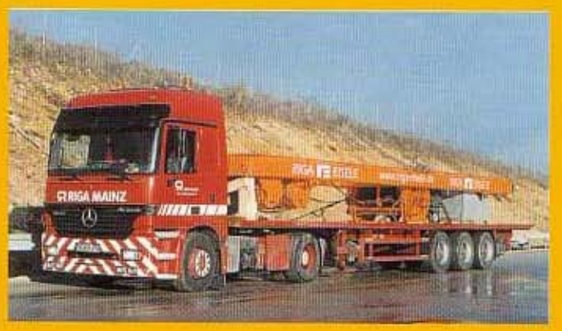
Riga employs special equipment for the transportation of the LR 1600/1: The basic structural components of the crawler crane are on the way as a 27 meter long vehicle. The 4-axle traction engine with gooseneck is followed by a 3-axle dolly; the 7.2 m long and just 3 m wide crawler centre section, including crane superstructure, is pinned between dolly and a 5-axle trailer. The complete heavy transport has a weight of 128 t.

Job data.

Crane:	Liebherr crawler crane LR 1600/1
Equipment:	56 m main boom 245 t superstructure ballast
Supporting basis:	12.6 m x 12.6 m "Pedestal Crane"
Crane radius:	up to 13.5 m
Load:	2 pylon posts of 35 m length each and a weight of 300 t each connecting girders 20 m long and a weight of 156 t







Crawler crane LR 1600/1 convinces as "Pedestal Crane" through good handling.