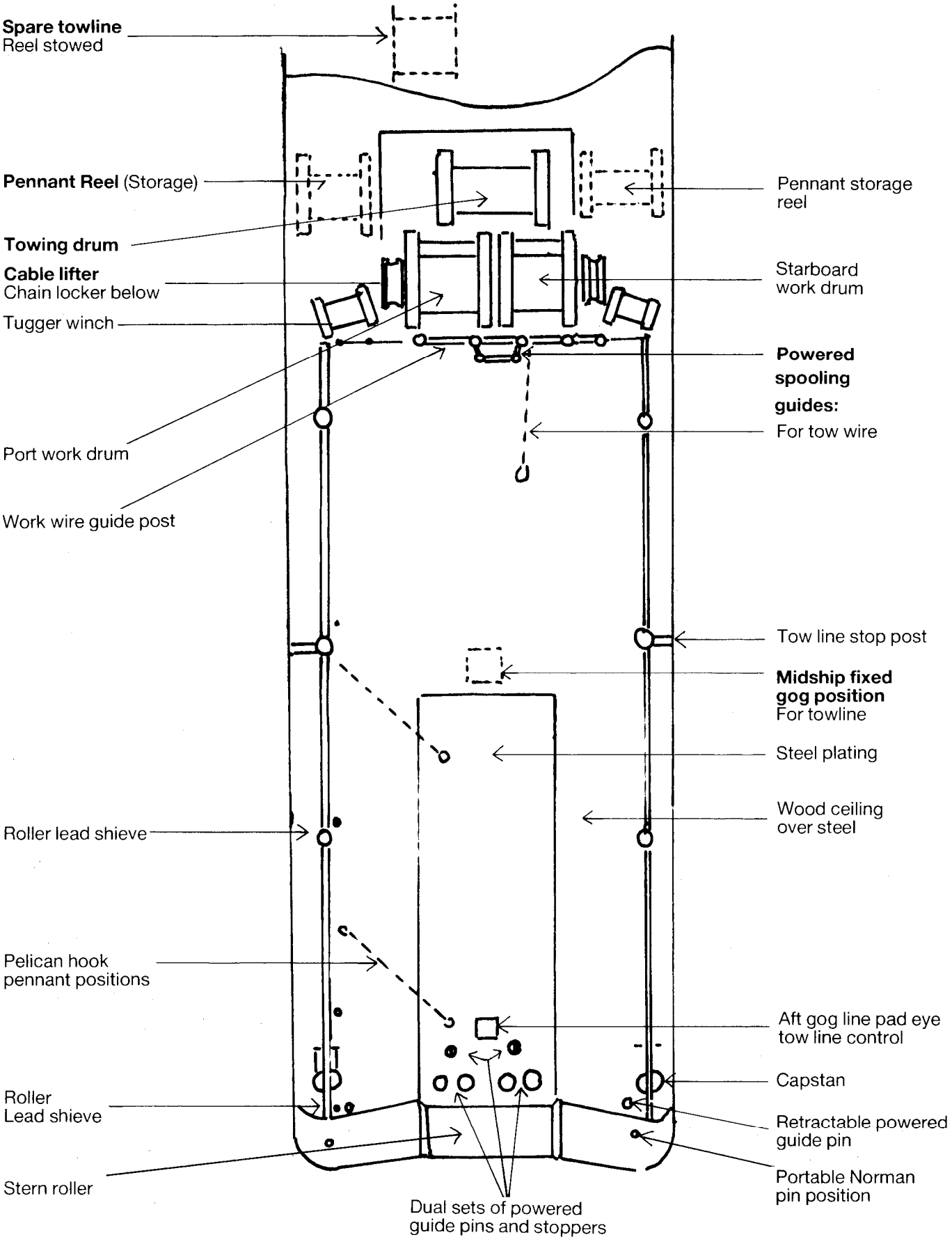
EQUIPMENT LAYOUT AND FUNCTION (cont'd)

DECK LAYOUT — LARGE ANCHOR HANDLING TUG SUPPLY VESSEL



EQUIPMENT LAYOUT AND FUNCTION (cont'd)

b. Guide pins, stoppers and similar equipment

Prior to the introduction of power operated equipment, pennant wire, chain and other equipment which had to be held in position whilst under tension during anchor handling, was controlled using traditional tools such as carpenter stoppers for wire rope, devil's claws for chain and modified senhouse slips, pelican hooks, where a quick release device was required.

The wire or chain under tension was guided into the reach of the stopping device by grooved stern rollers, portable pins and in some vessels by a variety of lead block systems.

The introduction of the KARM Fork, the Ulstein Shark Jaw and Triplex System has made the handling of wire and chain much faster and more positive as well as providing a greater degree of safety than previous equipment.

Most modern systems have a wide variety of "insert" plates or dies so that the stopper system can handle a variety of wire rope diameters and chain diameters, including wedges for midline stopping applications.

In general modern systems comprise two parts, the holding device (stopper) and a set of guide pins positioned aft of the stopper(s).

The pins are positioned so that the wire or chain if located between the posts (or pins) will lead over the stopper although some adjustment of position may be needed by using tugger or capstan wires. Alternatively swinging the stern of the boat may move the wire/chain sufficiently to bring it into alignment over the stopper.

The majority of systems are hydraulically operated with control stations inside the crash rails at the aft end of the boat and on the bridge at the aft control station.

Although the stopper is not designed for taking extreme loads the modern units are very robust with high safe working loads. Most types have an emergency release mechanism at the control stations and both KARM Forks and Ulstein jaws incorporate manually fitted safety pins which prevent the wire or chain jumping out of the stopper especially if an upward pull is experienced.

The guide pins, also hydraulically operated, incorporate an outer sleeve which is free to rotate so when wire or chain is being hauled or veered around the pin it experiences little or no resistance.

Some pin designs have swivelling top plates or in the case of Triplex gear the pins meet at the top when fully raised. This feature is a safety device to prevent a wire or chain jumping over the pins.

Both Ulstein Jaws and KARM Forks, when in operation hold the wire or chain up off the deck allowing the manipulation of shackles, connecting links or pelican hooks/pulling hooks to be readily attached or disconnected. As these types of unit can be held at any required height between fully extended and fully retracted this makes work much easier for the deck crew.

Triplex stoppers usually have a small retractable post just forward of the stopper plates. This post, when extended lifts the wire or chain clear of the deck whilst still securely held in the stopper.

It is well worth studying the system fitted to any particular boat in order to note the following points.

EQUIPMENT LAYOUT AND FUNCTION (cont'd)

b. Guide pins, stoppers and similar equipment

1. If the hydraulic pressure is lost do the pins and stoppers collapse or retract.

2. Can the pins or stoppers be operated from their hydraulic power pack usually hidden away in the stern using manual overides on solenoids or shuttle valves.

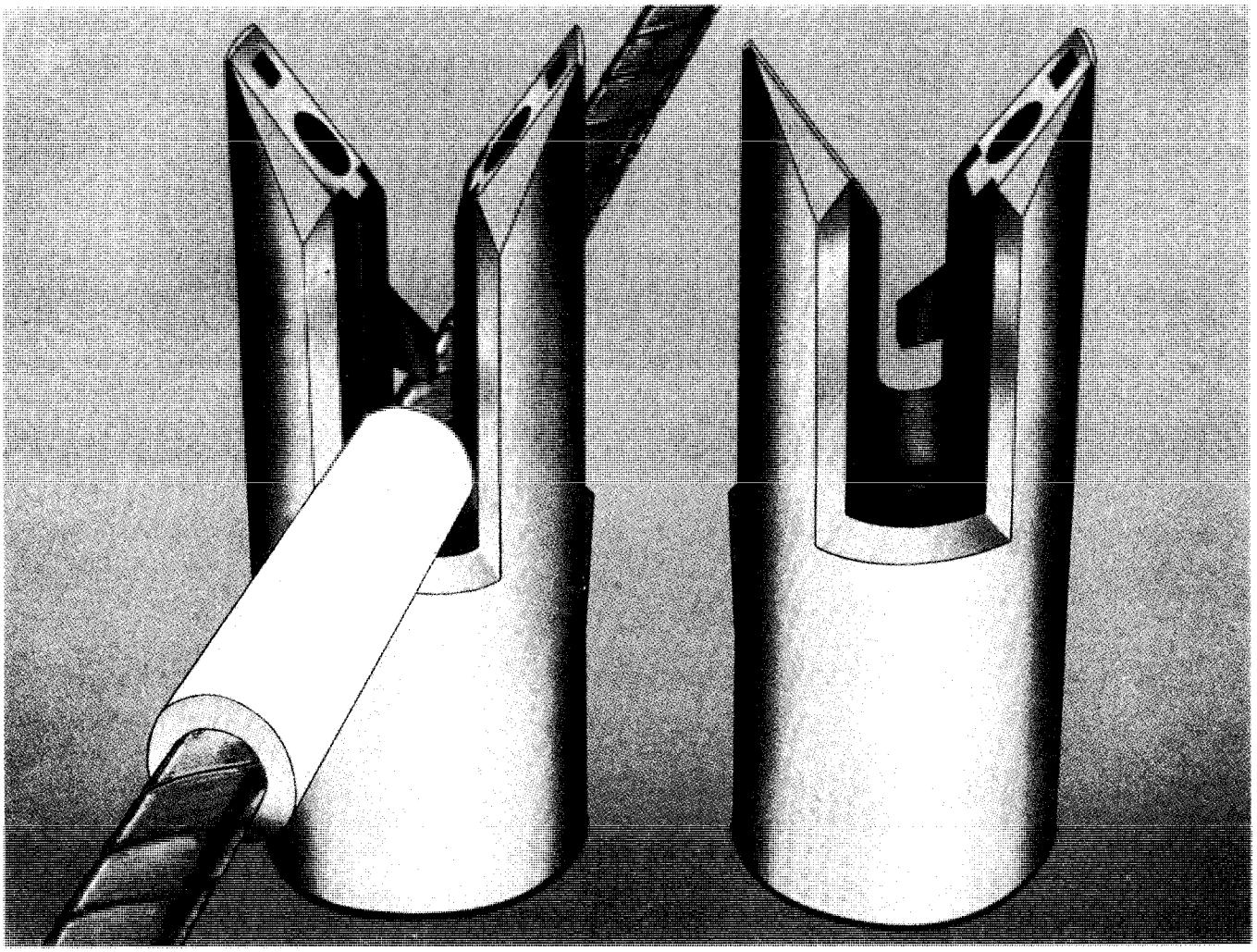
3. Can the pins or stoppers be operated manually or by accumulator.

4. Will the emergency release function operate under full rated load.

5. Is the compartment containing the hydraulic power pack and electric motor alarmed for water ingress (flooding). If it floods will the whole system be out of action.

6. Note if the pin/stopper seals in way of the deck are in good order so that water flooding onto the main deck doesn't fill up the compartment.

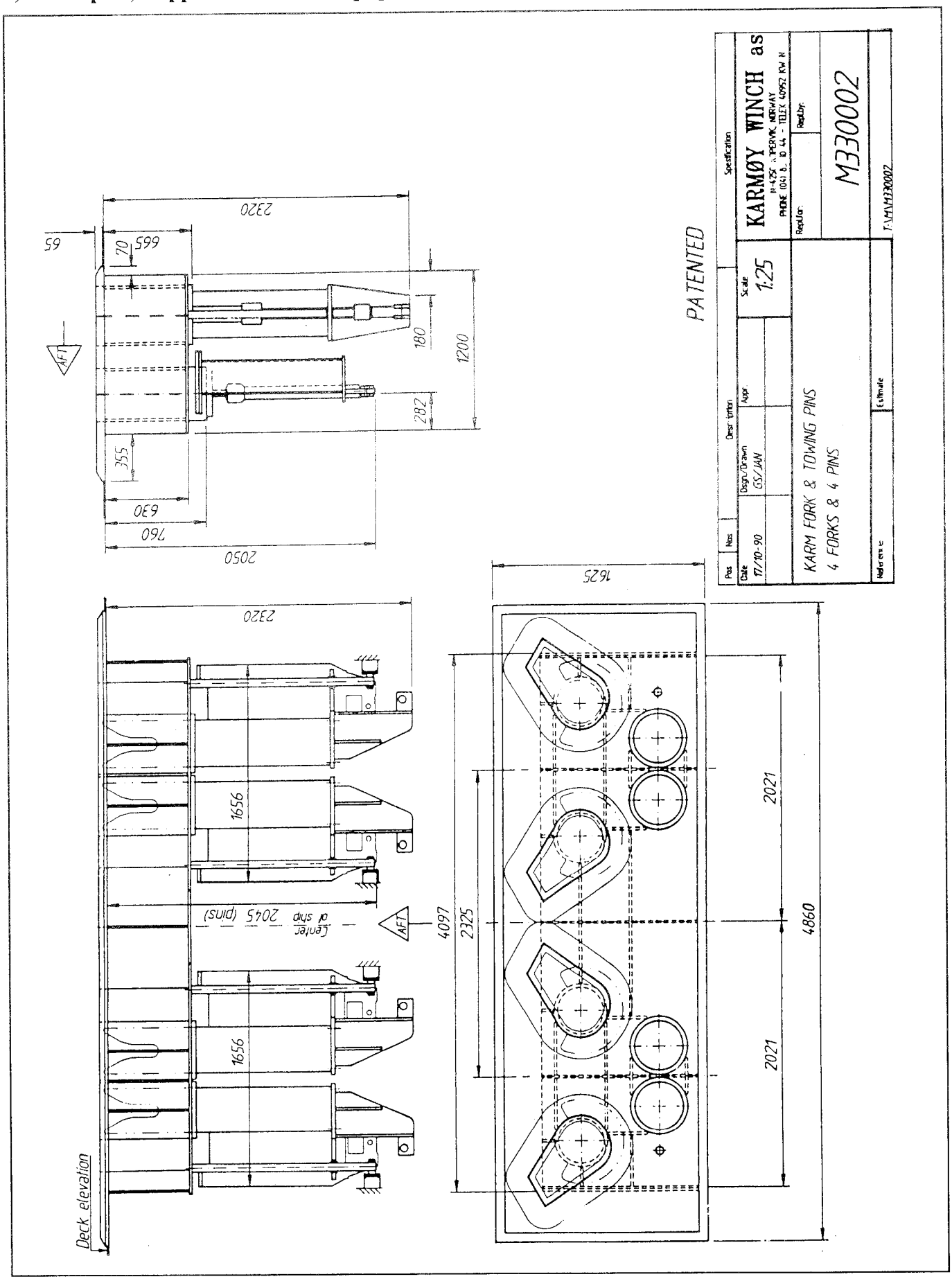
In every case read the instruction manual, trace out the system and practice with it. If it incorporates safety pins, interchangeable dies or plates ensure that all these items are available in good condition and the change out procedure is well understood with all the tools butts etc. kept properly stowed and marked in the deck store.



The KARM Fork pennant wire/chain stoppers are available as a standard model rated for 500 ton SWL, 4 inch chain and 102mm wire and giant model rated for 800 ton SWL, 5½ inch chain and 120mm wire.

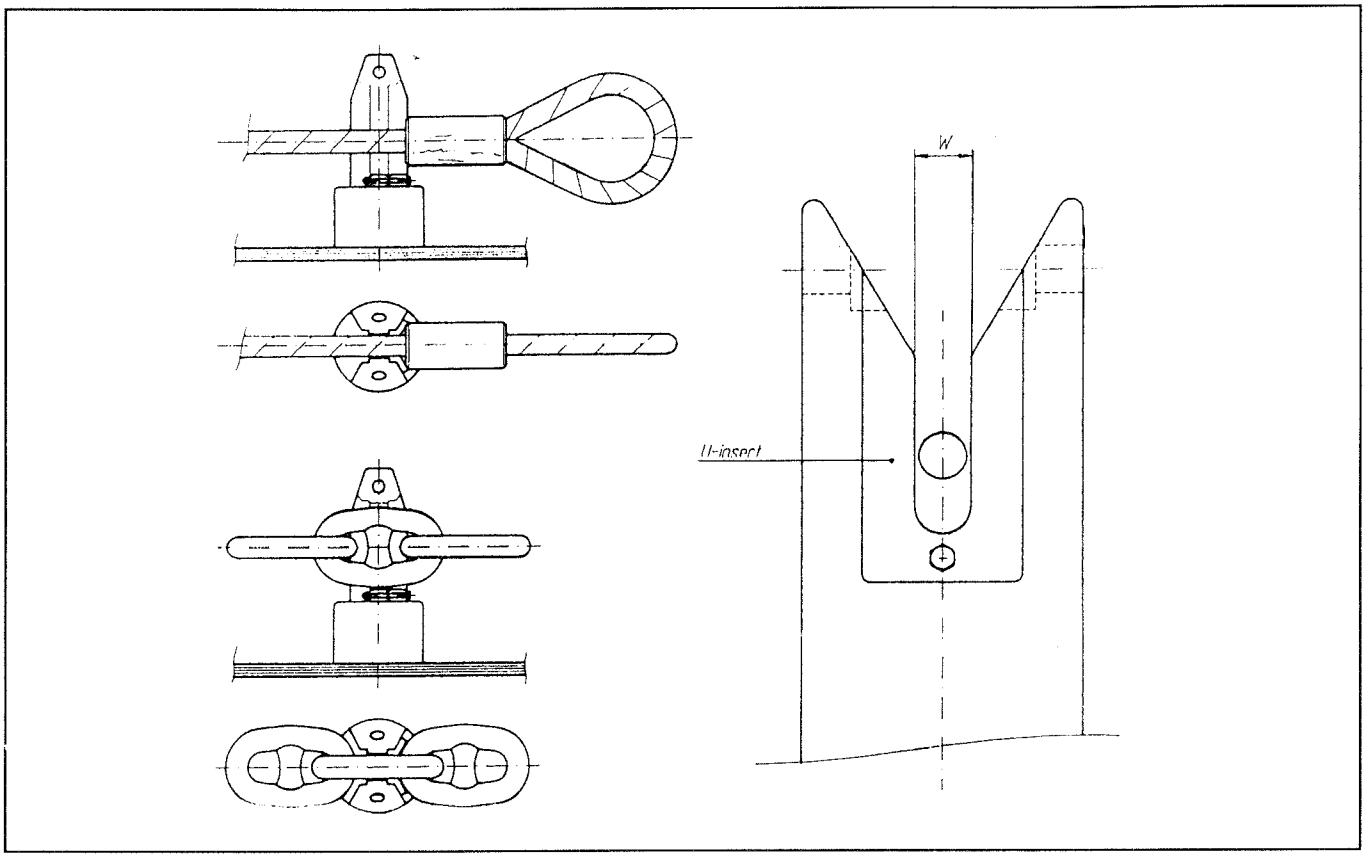
EQUIPMENT LAYOUT AND FUNCTION (cont'd)

b) Guide pins, stoppers and similar equipment

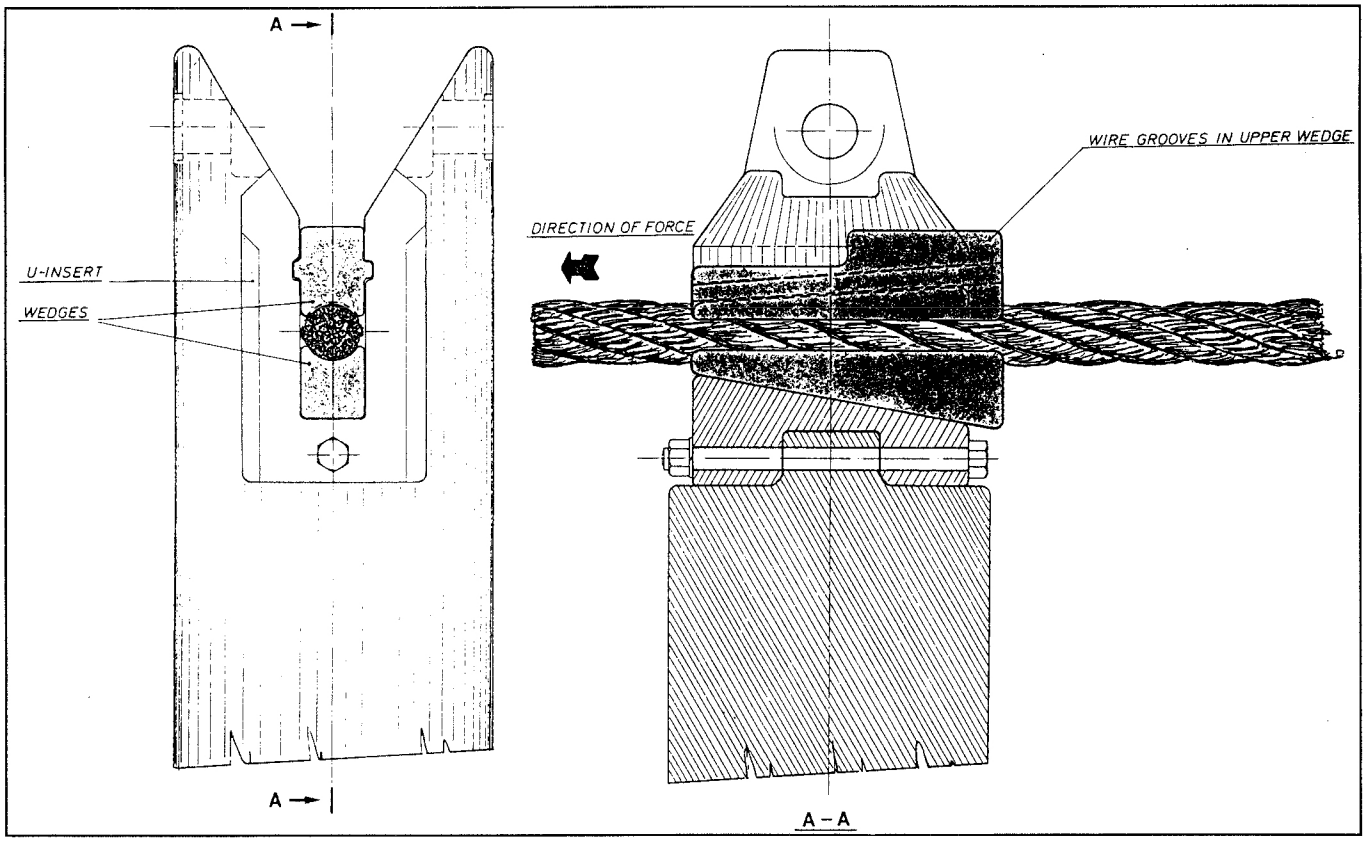


EQUIPMENT LAYOUT AND FUNCTION (cont'd)

b) Guide pins, stoppers and similar equipment



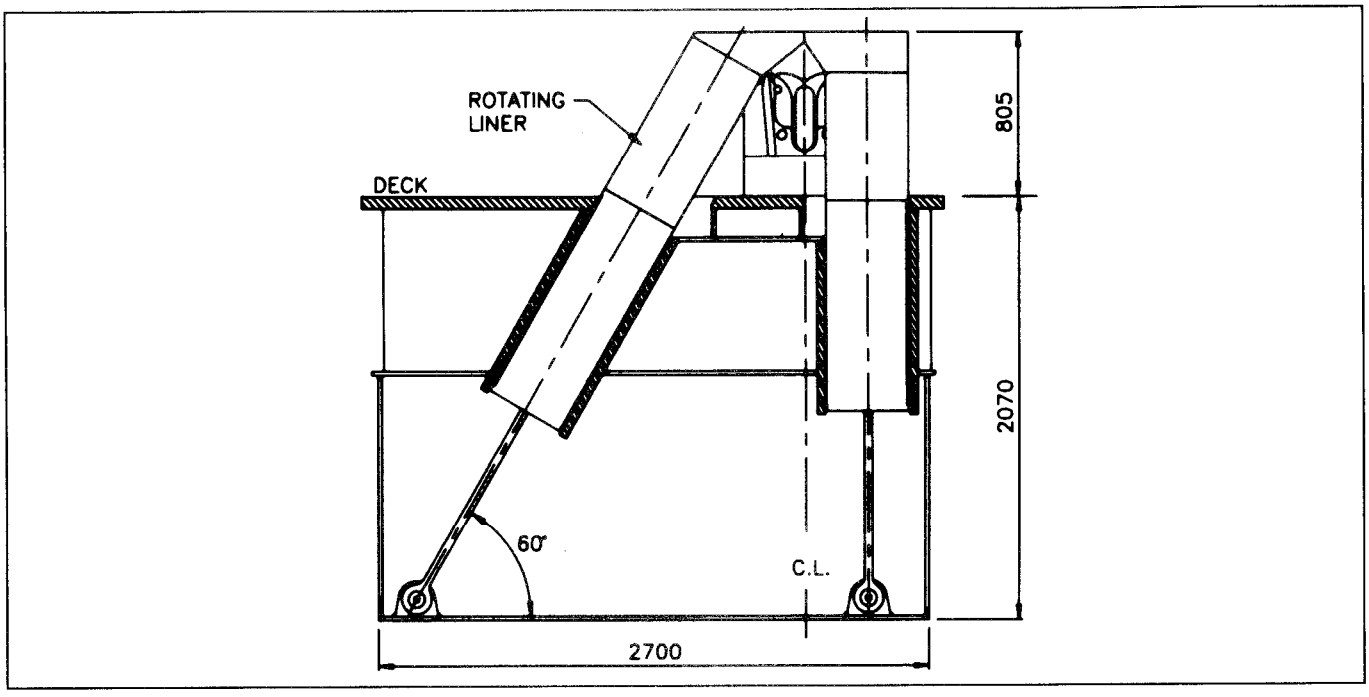
U inserts for KARM forks



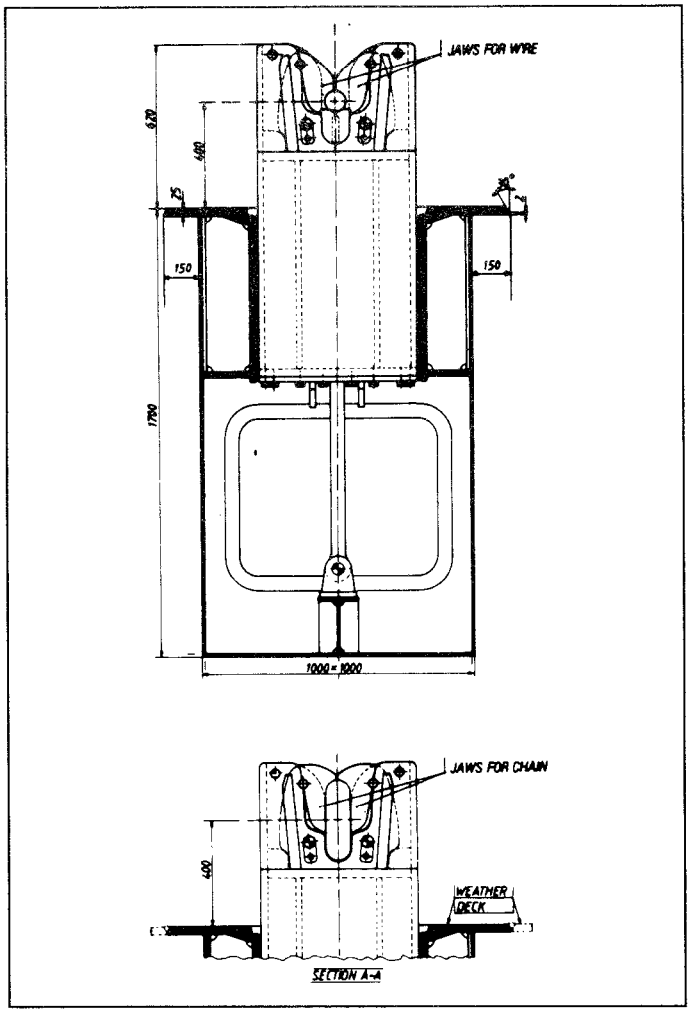
U insert and wedges make KARM fork midwire stopper

EQUIPMENT LAYOUT AND FUNCTION (cont'd)

b) Guide pins, stoppers and similar equipment



Ulstein towing pins can be supplied in two configurations either with two vertical pins or with one pin operating at an angle (as shown) to provide a locking facility



The Ulstein shark jaw rated at 440 tons SWL shown above in wire and chain configurations