

METHOD

HIAB

A magazine featuring the Hiab Method and its applications
Method No. 19



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HIAB METHOD No. 19

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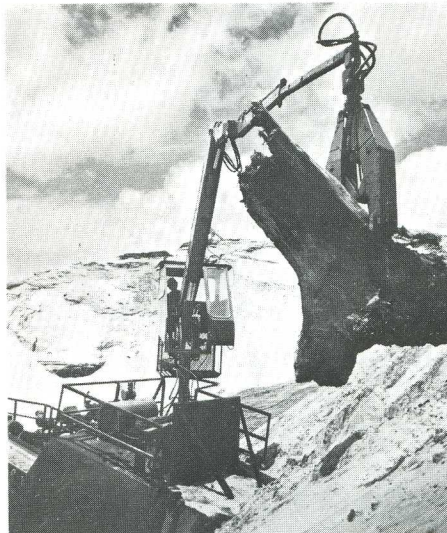
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A Hiab 570 helping Consolidated Rutile to exploit mineral-bearing sands on Stradbroke Island, Australia.

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Australian Guest-writer on the Hiab Method

The Hiab-Method and its often well-nigh fantastic ability to save human labour, time, and money are described with plenty of examples in every issue of Method. But in other newspapers and magazines as well it is not uncommon to find reports on the Hiab Method and the results achieved with it. Such notices are often written with a great deal of enthusiasm and sometimes with a touch of downright surprise over the strength, flexibility and precision of the "artificial arm" or over the "giant steel hand" which unfalteringly performs jobs which would be too heavy or hazardous for human hands.

As an example of this, the cover picture on this issue of Method is

"When the first Hiab loader was produced in Sweden almost 25 years ago, it had been designed for use in the forests and lumber mills of Europe. Now, they are employed in countless applications in more than 50 countries throughout the world. Truck-mounted units are common on most construction sites, delivering bricks, concrete or steel, lowering tanks into the ground, acting as light cranes, a role in which the P.M.G. has found them particularly efficient, or performing a wide range of associated tasks.

"They are underground at Mt. Isa and on prawn trawlers in the Gulf of Carpentaria, and the Queensland distributors, EDI-STEEL Q.M.C., are preparing one at present for an unusual application at Comalco's Weipa bauxite operations. It will be mounted on a truck which will act as a service unit for the company's larger mining equipment, more

taken from an Australian magazine which carried a story on how a mining company uses the Hiab Method in a rather unusual form of mineworking. The following article is based on this story, in which the Australian journalist J. Strachan also gives some examples of the many fields in which the Hiab Method is used.

Since it is one of the chief purposes of the Method magazine to bring out the versatility of the Hiab Method, and since it makes a pleasant change to have an outside source providing the examples, we're reproducing below part of the story in the Evans Deakin Industries Magazine:

efficiently repaired in the field than at a central depot. The Hiab loader will be employed to lift tyres, often weighing hundreds of pounds, from equipment like the huge dump trucks.

"A Hiab loader also has been developed to fit a special tractor-like vehicle towing a timber trailer. It will lift timber onto the trailer in the forest and then unload it again at the mill. This now has special importance in Queensland, with vast pine forests in many parts of the State, and particularly just to the north of Brisbane, nearing maturity.

"It is perhaps ironic that, at a time when these loaders are being adapted for scores of applications their designers could not possibly have foreseen a quarter of a century ago, one of the best potential markets here is that for which they were originally produced." ■ 1.

570 Saves Thousands on Stradbroke Island

"Like something from a robot age, the hydraulic arm reaches out. Its giant steel claw clamps onto a log, plucks it from the sand and casually throws it aside. Hiab, the manufacturers, call it a loader. Consolidated Rutile, the 24-hours-a-day, seven-days-a-week operators, call it a trash crane. Con. Rutile's

label is adequate for the function it performs in their Stradbroke Island mining operations, but by simply removing trash from mineral-rich sand before processing it could save the company thousands of dollars a year."

That's how the impressed and enthusiastic writer in the Australian "Evans Deakin Industries Magazine" leads off his story on a Hiab 570 which is used by a mining company on Stradbroke Island, a long, narrow sand island that forms a barrier against the sea outside Brisbane on the east coast of Australia. The loader's only job — but a very important one — is to remove logs, tree roots, branches and other "trash" from the mineral-rich sand that is abundant on the island and from which the company extracts valuable raw materials. The "rutile" from which the company takes its name is a reddish mineral consisting mainly of titanium dioxide but containing some iron.

60 Minutes per Hour

Thanks to the Hiab loader the company has been able to make its already highly efficient mining still more mechanized and efficient. Equipment once operated on a stop-start basis can now be run, literally, for 60 minutes of every hour.

"To understand the value of the Hiab 570 to Con. Rutile, the magazine's writer goes on, "it is necessary to study briefly the mining technique the company employs on its Stradbroke leases. It is using 'buried loaders', functionally named units which basically consist of a funnel, conveyor belts, a liquefier and a storage bin, all of which are spanned by walkways, and piping through which is pumped 'overburden' for stockpiling or mineral-rich sand for processing.

"The funnel is buried in the side of a hill and D-9 tractors working on the crest push down tons of sand, which passes through a steel grate and onto a conveyor belt. This protective grate often traps roots, tree branches or even logs missed when

the scrub was levelled and the topsoil stockpiled for later re-vegetation work."

Every Minute Costly

The magazine's reporter interviewed an engineer at the mining company, *John McKenzie*, who explained why the Hiab loader had proved so valuable.

"In the past," he said, "when we wanted to clear the grate, "it meant switching on the flashing red warning light at the top of the equipment. This signalled 'stop work' everywhere while someone went out and dragged off whatever was on the grate.

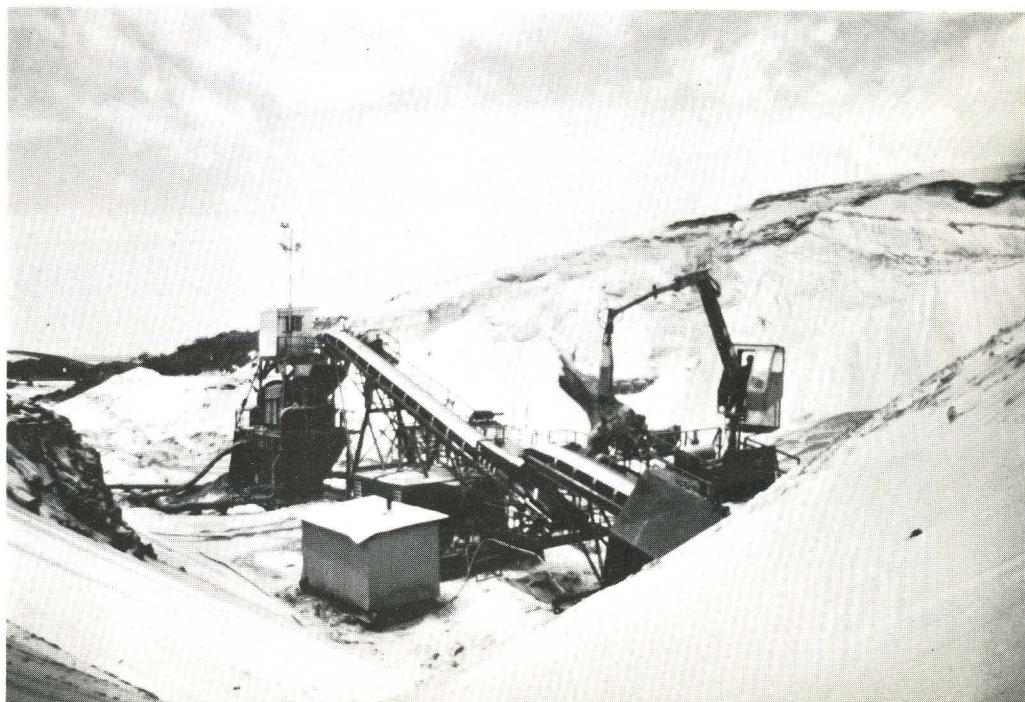
Now we have an operator in the trash crane who can lift off obstructions with no interruption whatsoever to the mining process. The crane can also remove logs that men would find too heavy to shift. Before, we had to wrap a chain round big logs and winch them off."

Since buried loaders of this type can comfortably handle up to 1000 tons of sand an hour, even a few minutes' delay is costly. Con. Rutile

is currently operating three such loaders on Stradbroke Island. Two are mining mineral sands and the third is clearing overburden from another rich deposit. The Hiab 570 has been operating for some months past on this third unit, as a trial before any more are bought for the other two buried loaders, where as yet the intake grate is still cleared by hand.

"It's a beauty, there's no doubt about that," says Mr. McKenzie. "Everyone's been impressed by its performance."

The whirring of winches and grunting of men heaving heavy logs has been replaced by the silent hydraulic power of the Hiab's 7.85-metre boom, capable of lifting 500 kg fully extended. The jaws of the grapple fitted to Con. Rutile's Hiab can open to grab logs almost three feet thick with a bite force of more than 500 kg. So in point of fact, as the Australian journalist points out, the Hiab "trash crane" in this mine is being used on the verve work for which Hiab loaders were first designed some 25 years ago in Sweden. ■ 2





A Modern Method Of Refuse Collection

Household refuse is a fast-growing problem for every town in the world. Refuse quantities are increasing not merely in step with population growth but a good deal faster still. Each year, every person

is "producing" on the average a greater weight of refuse. And owing to the rising percentage of non-return packs this refuse is steadily getting lighter and thus more voluminous.

The collection and transportation of the growing volumes of refuse is the largest cost item in the handling bill, particularly in areas of single-family houses, which means a separate refuse collection point for every single household. In Winston-Salem, North Carolina, U.S.A., a town where single-family houses are the rule, the authorities have been experimenting for some years with an outfit that compresses the refuse into compact bales right at the point of collection. Based in part on the Hiab Method, the equipment offers numerous tangible advantages at all stages of refuse handling. The method is described in the American magazine "Public Works" by the head of Winston Salem's sanitation department, *Glen W. Kilday*.

Easier Collection

The new method enables ordinary open trucks to be used for the work of collection instead of special covered vehicles. The truck tows a trailer carrying the actual baling unit. This unit consists of a press whose packer head can exert the

refuse of 35 tons press, reducing it to neat, compact bales measuring 60×60×90 cm. While still in the press the bales are strapped with steel band and then discharged onto a platform over the tow-bar between the baler and the truck. From this point they are loaded onto the deck of the truck by a Hiab 245 fitted with a special grapple and mounted on the baler. A 30-h.p. engine drives the hydraulic pump which supplies pressurised oil to the packer head, the Hiab loader and the hydraulic lifting arm which empties the refuse bins into the intake hopper of the baler.

The bales weigh anything between just under 300 and about 400 kg, which means that the compressed refuse has a specific gravity of 0.9—1.25. In an ordinary compressor-type refuse truck, by contrast, the S.G. of the compressed refuse is normally only 0.25—0.45.

One Round Per Day

This high degree of compression enables better use to be made of the truck payload. In a conventional

packer truck the volume of the refuse compartment sets a limit to the amount of waste that can be collected. But the bales produced by the new method are so compact that the truck used to tow the baler can carry all the waste collected in the course of a day's work. The collection routes are arranged so that about 500 houses are serviced every working day, which is a relatively high figure. An ordinary covered refuse truck crewed by two men will normally get through less than half that number. The daily amount of refuse varies depending on the interval between collections, but it amounts to 18—20 bales if collection is every four days and 10—12 bales where there is a collection every other day. In both cases the payload of the tow truck is more than enough to cope, which means that it visits the landfill site only once each day.

Cheaper Dumping

Despite the great advantages in the form of cheaper equipment and higher capacity in the work of col-

lection, the authorities consider that they score their greatest gains when it comes to dumping. Normally, the heaviest expenses in dumping are the costs of the land and of compression. Since Winston-Salem now bales its refuse right at the point of collection, no further compression is needed at the landfill. The refuse in the bales is much more tightly packed than could ever be achieved with compactors — heavy vehicles with specially designed wheels which roll over the dumped refuse and pack it down. And the compact bales also save a great deal of space on the tip, thus reducing the other big cost item as well.

There are often hold-ups at covered landfills which prevent the refuse from being disposed of at once in the desired way. It may prove impossible to get hold of suitable fill for covering the refuse, weather conditions may interfere with dumping operations, outbreaks of fire in the landfill may prevent dumping in certain areas, and so on.

Such problems have been entirely eliminated since Winston-Salem began baling its refuse right at the collection point. Without any drawbacks of any kind the bales can be stored on the ground for subsequent dumping and coverage. The landfill has had bales standing uncovered for up to six months, and there have been no nuisances or difficulties with odours, fire, rats, birds or insects.

Cheaper Equipment

The town has not yet been able to draw up any complete cost comparisons between the new method and conventional refuse collection.

“But our findings do indicate that the actual equipment is cheaper with this system,” writes Mr. Kilday. “Its capacity is nicely matched to the requirements. The Hiab 245 loader can handle about 450 kg at a radius of 4.8 metres, and the heaviest bales weigh just over 400 kg.

“In addition, we believe that the method will have great merits if and when, in due course, more determined efforts are made to recycle some proportion of the refuse. If paper is collected separately the bales can go straight to a pulp mill designed to operate on waste paper. Metal cans are likewise reduced to perfect scrap packages with this equipment, and it also does a good job of breaking down waste glass, which can then be collected in a bin to be sent as “cullet” to a glassworks for remelting.” ■ 3

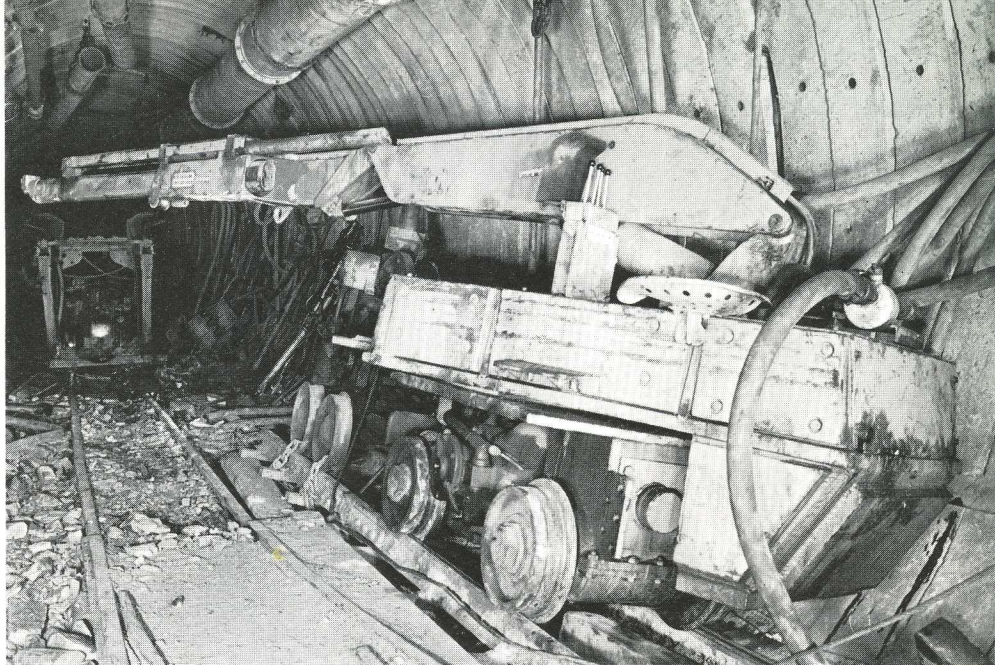


Collection is usually the most costly stage in dealing with refuse. Winston Salem has tackled the rising costs by mechanisation. The refuse bins are collected by a rubber-tired cart, and both the cart and the bin are lifted hydraulically for emptying.

The press gives a very high degree of compression. The bales normally weigh between 300 and 400 kg — just right for the lifting torque of the loader. The refuse collected in one day makes 18–20 bales — an easy load for the tow truck.



This may look narrow and cramped, but there's still more elbow-room than in many older galleries. The headroom is less than 4 metres and the body of the HIAB-loader has been specially shortened so that it can work there.



Better conditions in coalmines

The work of coalmining is hard, dirty and often haggardous. The ever-present threat of roof falls and of miners becoming entombed is something the people of the coalfields have learnt to live with, just as they live with the coaldust and the backache. All the same, the conditions under which the coalminers have to work are steadily being improved. Modern technology has eliminated many of the most exhausting jobs and the gravest risks. And coalmining is another industry in which the Hiab Method has proved highly serviceable — in more ways than one.

In the coalmines of the Limbourg province of Belgium they have for many years reduced the risks of collapses in the galleries by lining them with a kind of interior wall. These walls were at one time built of concrete blocks, set in a circle round the floor, walls, and roof of the tunnel. One round consisted of 52 blocks. The space between the interior wall and the wall of the tunnel was filled with extracted rock and concrete. But it was in slow method, and the work was very heavy. Even so, the walls were not as strong as the engineers wanted.

Five Stages

So they've switched to another technique which enables them to make effective use of the Hiab Method. Developed by INIEX (L'Institut National Des Industries Extractives), it involves lining the walls with prefabricated units of vibrated concrete. The units each form one-fifth of a circle and are put together inside the tunnel.

First the tunnel is driven and the resulting broken rock is hauled up. Two complete rings of concrete units are then fitted up, and the space between the rings and the rock is filled. Finally, any remaining cavities between the interior wall and the rock are filled with injected slag cement, following which it only remains to haul out the debris produced in the process.

Cut-down Loader Body

The Hiab Method is used in almost every stage. The loader, a Hiab 550, is mounted on a railborne mine car which weighs about seven tons and thus gives good stability. The loader body and the extension have been shortened so that the loader can work unobstructedly inside the tunnel, the diameter of which is 4.2 metres after the interior wall has been put up. In addition, the extension cylinder is sited beneath the outer boom. The oil pump of the loader is powered by an Atlas Copco compressed-air motor.

For drilling, a jig carrying two pneumatic drills is hung on the loader boom and the car is run up to the drilling face. The hydraulic controls enable the drills to be manoeuvred with ease and precision. After drilling, the broken rock is removed using an Atlas Copco LM 56 loader. As soon as the walls have been "scaled" it's time for the Hiab loader to go into action again and fit the concrete units into place. Each unit has a hole in the centre in which a bolt is secured. The bolt in its turn is fixed to a swivel at the tip of the loader boom. Since the swivel is at the C.G. of the unit

the latter can easily be turned to various positions and can be fitted with great accuracy into its place.

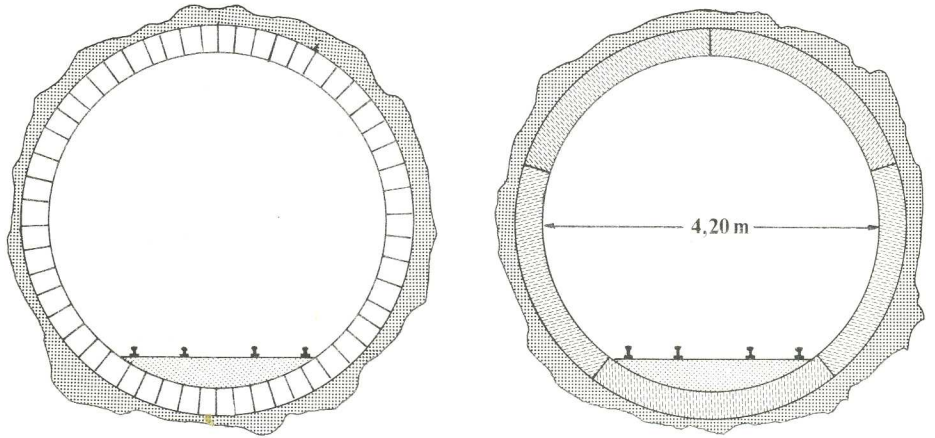
Fill-up and Clean-up

When two complete concrete rings have been fitted the equipment on the loader is changed again, this time in favour of a fill injector. On its way to the workplace the car carrying the loader pushes ahead of it another car containing fill. When the filling job is finished the injector is replaced by a 300-litre clamshell bucket, and the loader gets to work again clearing up the debris left in the tunnel.

Even after the filling job there are some cavities in the space between the concrete units and the tunnel wall. These are filled at the same time as the fill material is stabilised by cement injection. This task is performed by a cement-injection pump — and again it's handled by the Hiab loader. The slag cement is forced into the hole in the centre of the units, which was previously used for the lifting bolt.

50 % Faster

This technique, in which the Hiab Method is used at five different stages, replaces a strenuous and time-consuming job with a fast, simple and efficient operation. At the same time the capacity has been raised by 50 %, calculated per worker per shift. Also, the new method gives stronger interior walls, making things a good deal safer than they used to be. So the situation is no longer quite so black in the coalmines. ■ 4



Diagrammatic cross-section of a mine tunnel lined with 52 cement blocks (near right) and with five prefabricated concrete units (far right).

The Hiab Method fiwe ways

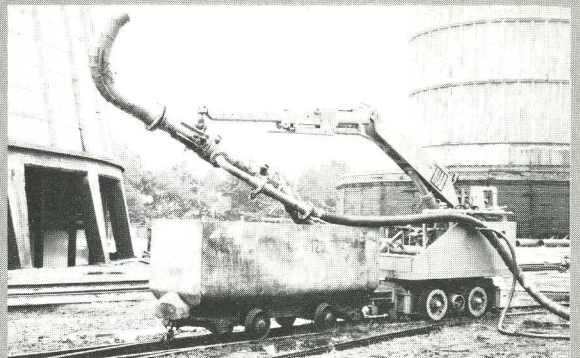
Down in the mine it's impossible to get decent pictures of the Hiab loader in action, so it was photographed outside the mine with the fiwer different attachments that are used. Note that the hydraulic cylinder which operates the extension is sited below the outer boom on this particular Hiab.



3 The swivel bolt by which the concrete unit is hoisted is located at the C.G. so that the unit balances in all planes.



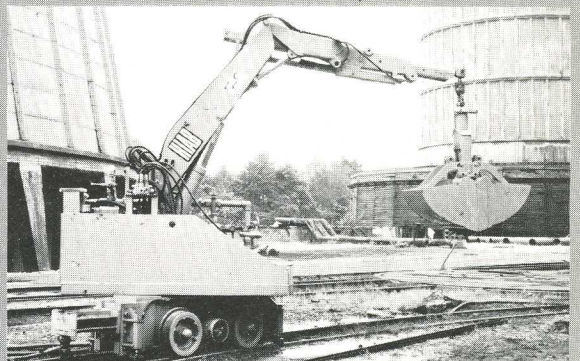
1 A jig with two hydraulic drills has been mounted on the outer boom, enabling the drill steels to be lined up with hydraulic ease.



4 The fill injector is mounted on the loader boom and a car carrying the fill material is coupled ahead of the loader car.



2 The concrete units are delivered to the point of installation in a transport car coupled to the loader car. Needless to say, they are loaded by the Hiab.



5 When filling is over, the debris is cleared away by the loader with a 300-litre clamshell bucket. Finally, the loader is used for the injection of cement into the cavities between the concrete and the rock.



Hiab at sea

It's a safe bet that the "Solthörn" is a welcome sight to the lookouts in the manned lighthouses at the approaches to Bremerhaven on the North Sea coast of Germany. She happens to be the port authorities' transport boat, bringing victuals, spare parts and other supplies — and perhaps a relief crew as well.

Unshipping the cargo and getting it across to the lighthouse is often a pretty tricky business by reason of the swell. Frequently, too, it includes delicate parts for the radio and radar installations. That's why the "Solthörn" is equipped with a Hiab 560. The loader is also used for launching and retrieving the ship's boat when crewmen or mechanics have to be transferred to the lighthouse. ■ 5

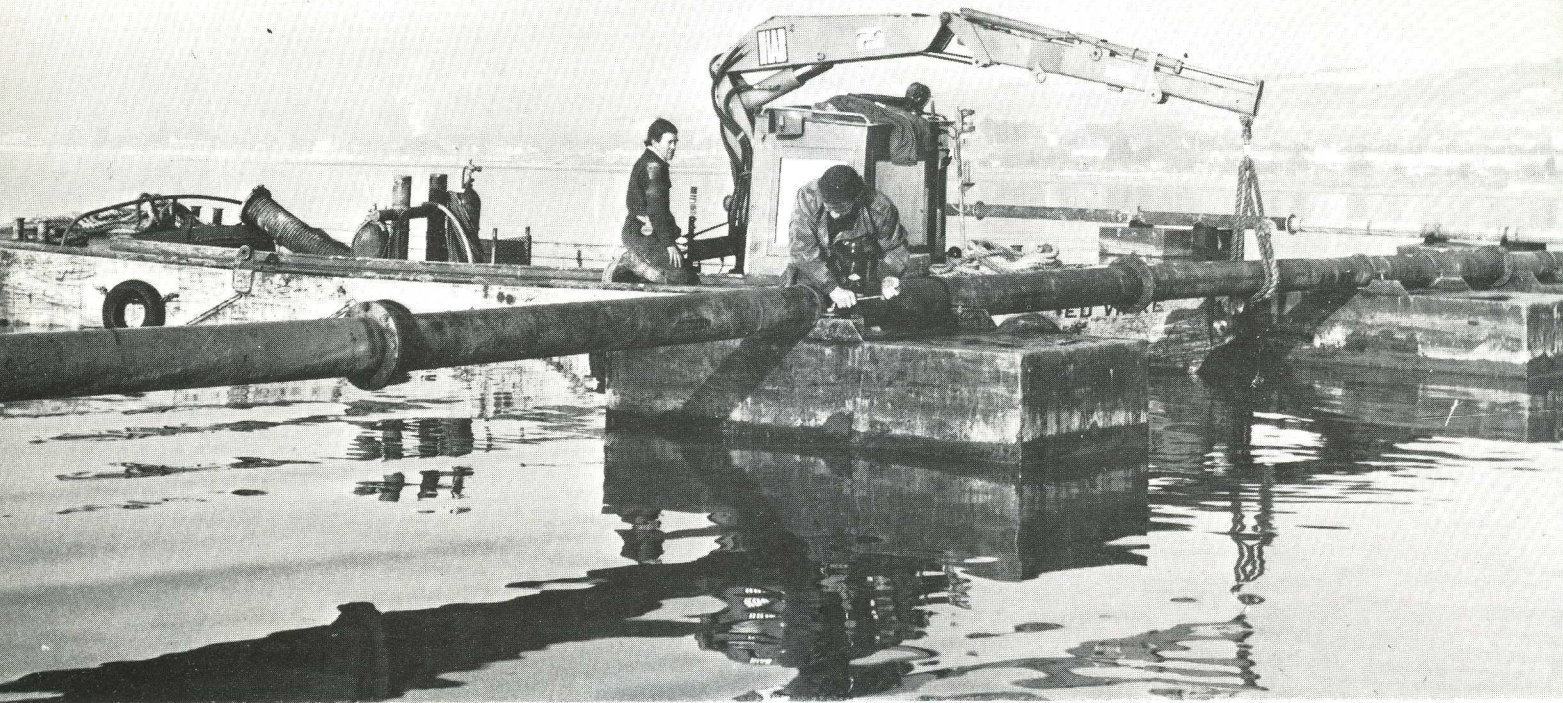
The "Guipuzcoa" is a 1500-ton tuna catcher, with Bayonne in France as its home port and the waters of the African west coast, the Caribbean Sea and the Pacific Ocean as its fishing grounds. It carries two Hiab loaders, a large model, not visible in this picture, which is used for such jobs as discharging the catch onto the dock, and a Hiab 570 — pictured here — equipped with a winch, which is chiefly used for lowering the catch into the refrigerated holds and fetching it up onto the deck again for discharging. ■ 6



and alongside

Venice by moonlight. A vessel glides over the rippling waters of the canal. By rights, of course, it ought to be a gondola — but then we shouldn't have been able to get any Hiab loaders into the picture. Gondolas are just about the only craft that don't carry them.





The pipes taking the sludge from the dredger are carried across the water by pontoons to the point at which the sludge is to be dumped.

Easier for "Ed Vinke"

The "Ed Vinke, mingling with the proud liners, flag-dressed cruise ships, high-speed container ships and ultra-efficient tankers in the ports round the coasts of England, looks very much the sparrow among the eagles. She's only some ten metres overall, and she's anything but a beauty, but when she and her three-man crew put into a harbour she still, in a manner of speaking, makes a deep impression. Because the "Ed

Vinke" is the service tender to a dredger, and her main job is handling the pipes that carry away the dredged-up silt.

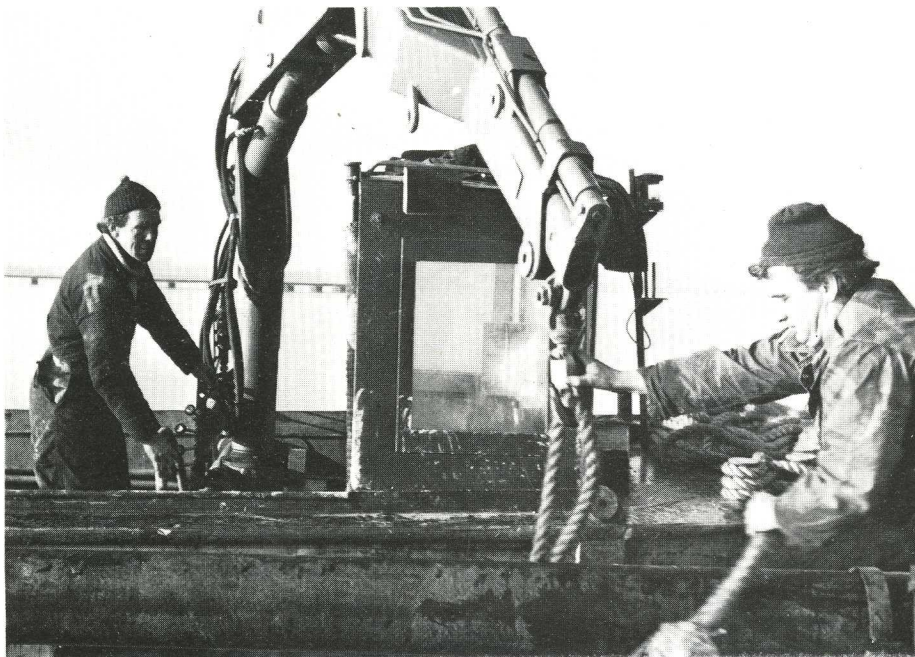
A year or so ago the crew was rounded out with a Hiab 550, and since the loader mustered aboard their work has been a good deal lighter and safer. These pictures, taken during dredging operations near Portsmouth, clearly reveal how

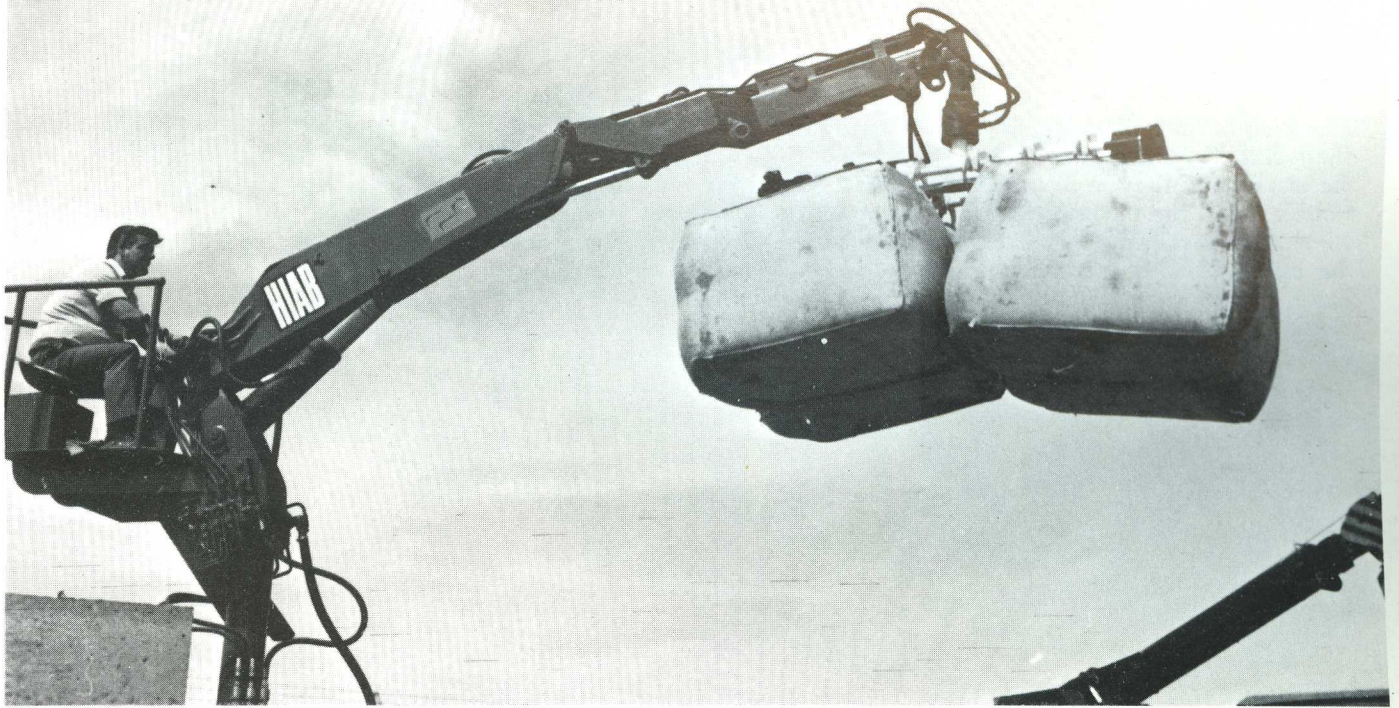
unwieldy the pipes are, and before, when the job was all done by muscle-power, it was very strenuous and also very risky.

The oil pump of the loader is driven from a power take-off on the propulsion engine of the tender. This workhorse of world shipping is owned by Cunis Delta Bow Ltd., and was named after a Dutch director of the company. ■ 7

The sludge line consists of heavy-gauge pipes, which were pretty difficult to handle before the Hiab's aid was enlisted. Now, a single rope sling is the only tackle needed.

The end section is a heavy hose, and handling is a real heaveho job — as the man on the right could tell yo.





Four bales at a time are handled by this special grab. The operator at his top-seat controls has an excellent view.

Up and over — Down Under

Yennora, New South Wales, is the place where you can see more wool than anywhere else. It's the site of the world's largest wool storage complex, having no less than 140,000 sq. metres of covered storage. A fully automatic handling plant offloads the bales of wool from railway wagons and conveys them into the store buildings. But if anything should happen to the automatics the store falls back on — the Hiab Method.

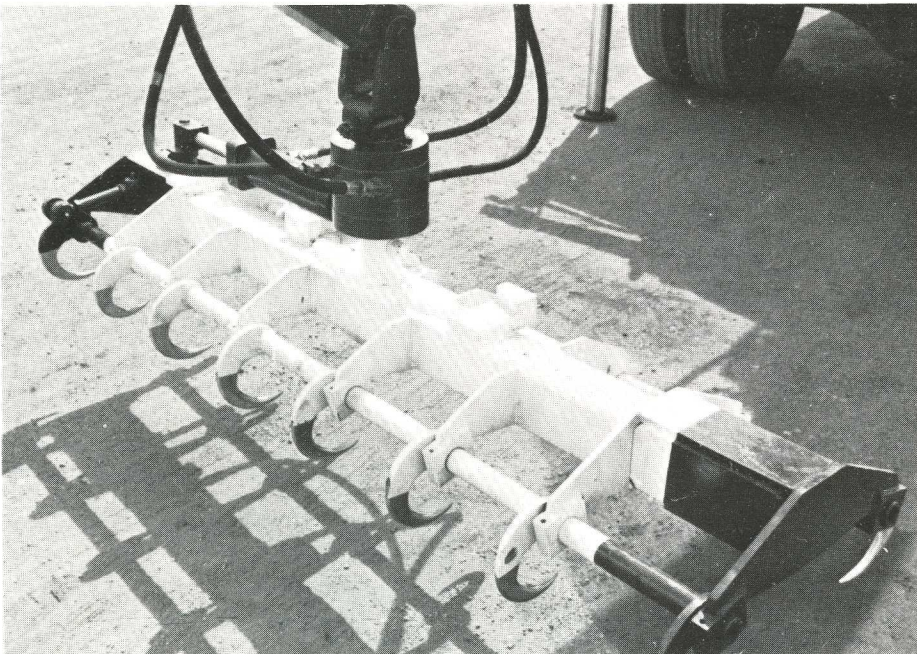
The back-up equipment consists of a Hiab 550 rear-mounted on a five-

ton Austin chassis. It has top-seat controls and is fitted with a rotator and a special wool-bale grab. The grab is in the form of a beam with sharp, hydraulically operated claws which pierce the cover of the bale and secure a firm grip. They were actually designed for use on a fork-lift truck, but proved to be readily adaptable to the rotator of the Hiab loader.

The claw grab takes four bales at a time, each weighing just under 200 kg. This lift is therefore well

within the capacity of the loader with the boom fully extended, but to increase the stability the vehicle is ballasted with concrete blocks.

The Hiab equipment was delivered before the automatic offloading plant was operative, and its first job was to deal with over 100 wagon-loads of wool bales. That's a lot of sweaters — but for Hiab it was no sweat. Since the automatic plant started up the loader has mostly been used for re-stacking within the store. ■ 8



The claw grab is fully hydraulic in operation and gives very fast handling of the light but bulky wool bales.

Most of the material in "Method" deals with Hiab loaders and with the many ways, some exotic, some humdrum, in which the Hiab Method is helping to save time, labour and money, reduce risks, rationalise handling, simplify processes and so on. Examples are to be found all round the world, and they're so numerous and so interesting that it's been no trouble to fill the magazine. In fact to some extent they've crowded out other aspects of Hiab's operations. One subject that has not received the attention it deserves is service — one of Hiab's most important functions, without which neither the Hiab Method nor Hiab loaders would be in such wide use over so much of the world. In this article, Service Manager Hans Brauer sets out the Hiab view on service and what it means to Hiab's customers, Hiab loaders and the Hiab Method.



Hans Brauer

The entire head-office organization of Finska HIAB is now comfortably installed in this new Helsinki building.



Service for 100.000 Hiabs

No product can be better than the service that goes with it. And service in this connection isn't limited to doing repairs and supplying spares. It goes beyond that to include such things as instruction manuals, operator training, and of course delivery and installation by tried and tested techniques. This goes — or should go — for all technical products, but for Hiab the aim must be set higher and the idea of service made wider.

Method Service

What Hiab offers its customers is not simply, and not even primarily, a technical product. It is instead a method — a way of solving a problem. So our service ambitions must extend not only to a well-stocked inventory of spare parts and well-trained fitters but also to a big repertoire of proven solutions and an open mind for the customers' problems. Accordingly, one of the most important functions of Hiab's service and spare-part department is to transmit information between Hiab users in the field and the method developers and designers in the service shops and at the Head Office's development department. The busy two-way traffic

along this communication channel has been one of the chief factors in spreading the Hiab Method far and wide throughout the world.

However, space does not permit us to elaborate on this extended concept of service, which is bound up with the Hiab Method rather than with the Hiab loaders. The subject of product service proper is quite enough to be going on with.

1000 Service Shops

As of today, Hiab has distributors in sixty different countries. And between them these distributors have more than a thousand service shops the world over, all with modern, well-equipped spare-part stores. Moreover, each of them has a number of service vans for calling on customers and for tackling urgent repairs; the vans are also used for some of the training of fitters at the smaller shops.

Service and spare-part personnel get regular and continuous training, some of it in the service school at the Head Office in Hudiksvall, some on courses at the distributors in the various countries. After completing their training the participants are certificated as Hiab service fitters. To date, 4000 fitters, from Hiab ser-

vice shops all over the world, have gone through this training.

Every year, too, a service and spare-part conference is arranged for various language regions, at which new products and product modifications are presented, service questions and findings coming in from the field organization are discussed, and so on.

100,000 Loaders

Hiab has been making loaders for more than a quarter of a century, and over 100,000 of them are now at work all over the globe. And every year they're joined by another 10,000 or so — which is about 50 % of all the hydraulic vehicle loaders sold in the world. This huge volume is in some measure a result of Hiab's well-developed service organisation — and at the same time a prerequisite for its further expansion and streamlining.

One of the latest examples of this development is the new facility that was recently opened in Finland and is briefly described in the article opposite. In coming issues we hope to be able to report on the service organizations in some of the other countries where the Hiab Method is represented. ■ 9



... 10.000 of them in Finland

Finska Hiab's head office in Helsinki has up to now been scattered among three different establishments, but in order to gather its resources under one roof and pave the way for future expansion the firm has now erected a new building on the site of the former stores premises. This has given Finska Hiab's head office custom-designed premises for the offices, stores and service shop alike.

Just about the time it moved into its new home, Finska Hiab sold its 10,000th vehicle loader in Finland, while Hiab as a whole turned out its 100,000th loader. To mark the occasion, Hiab loader No. 100,001 was handed over to Finska Hiab at the opening ceremony.

Finska Hiab is the largest seller of vehicle-borne hydraulic loaders in Finland, and with a hundred or so affiliated service points it also has the largest and most efficient service network.

Data on the New Head Office

Here are some overall facts and figures on the new premises:

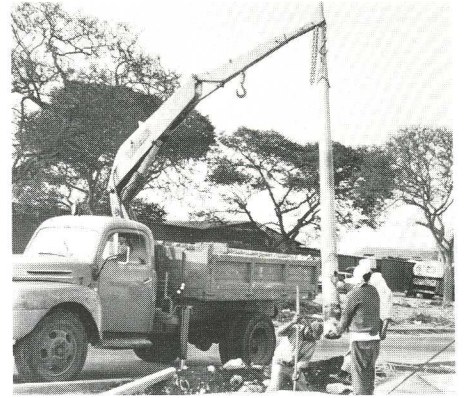
- Service shop of 2,750 sq. metres (headroom 8.25 metres)

- Spare-part store of 1,460 sq. metres (4,6 km of storage shelving)
- Training and office accommodation 900 sq. metres
- Showroom 500 sq. metres
- Technical space 185 sq. metres
- Amenity space 802 sq. metres
- Incoming trucks go straight into a screened-off washing bay — the fitters can do a better job of service on clean equipment.
- Each fitter has his own cart containing all the tools he needs.
- Electricity and compressed-air outlets hang down from the roof.
- Almost all the walls are moveable, enabling the premises to be rearranged with ease and speed.
- The clerical section is laid out in essentials as an office landscape.
- Remaining office areas contain large and efficiently designed rooms to accommodate the large-scale personnel training run by Finska Hiab. So far over 900 fitters and supervisors have been trained there, besides which about ten operator courses have been put on. ■ 10

On the occasion of the opening of the new premises, HIAB-FOCO's Managing Director Bengt Hökby presented Hiab loader No. 100,001 to Finska HIAB, whose Managing Director Johan Nyholm "took delivery".



Method Hoists



Posts in Peru

For the work of raising posts the Hiab Method has scored a decisive breakthrough in Peru. Canepa Tabini SA is a firm in Lima which has three Hiab M550 loaders and uses them almost exclusively for raising street-lighting columns. And Sicac SA competes for the post-raising jobs with four loaders.

For Desert Airfields

Here is one of three outfits built in England for use on an airfield construction job in Saudi Arabia. The Hiab M550 will handle building materials, piping and other equipment, and the Muir-Hill tractor was chosen because of its good performance in desert terrain. Since the loader is not fitted with outrigger legs its lifting torque has been limited to 3.5 ton-metres. ■ 11



Keen interest in Roundwood Transport

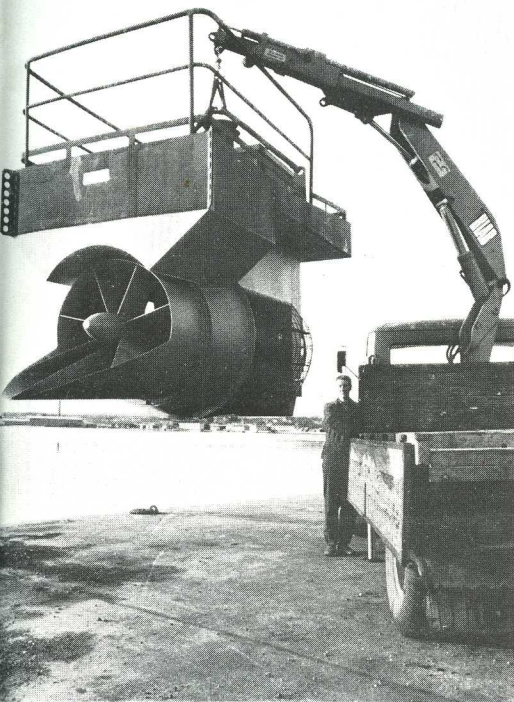


Professor Gabor Pankotai, of the University of Sopron, conversing with Ferenc Kasza, a direktor of the undertaking Mecsek, "and (right) Jenö Gyapay, a Mecsek engineer".

Hungary is not one of the big timber-producing countries, but all the same it harvests about 7 million cu. metres a year. And in proportion to that quantity its forestry transportation employs a very large number of vehicles. It follows that the Hungarians are keenly interested in new solutions to their transport problems, and when Hiab arranged a symposium on the subject of roundwood haulage in Budapest it was attended by some eighty experts from the Ministry of Forests, the forestry industry, the haulage business and other groups.



(Left) Miklos Ratkoczy, Somogy forestry and timber undertaking.



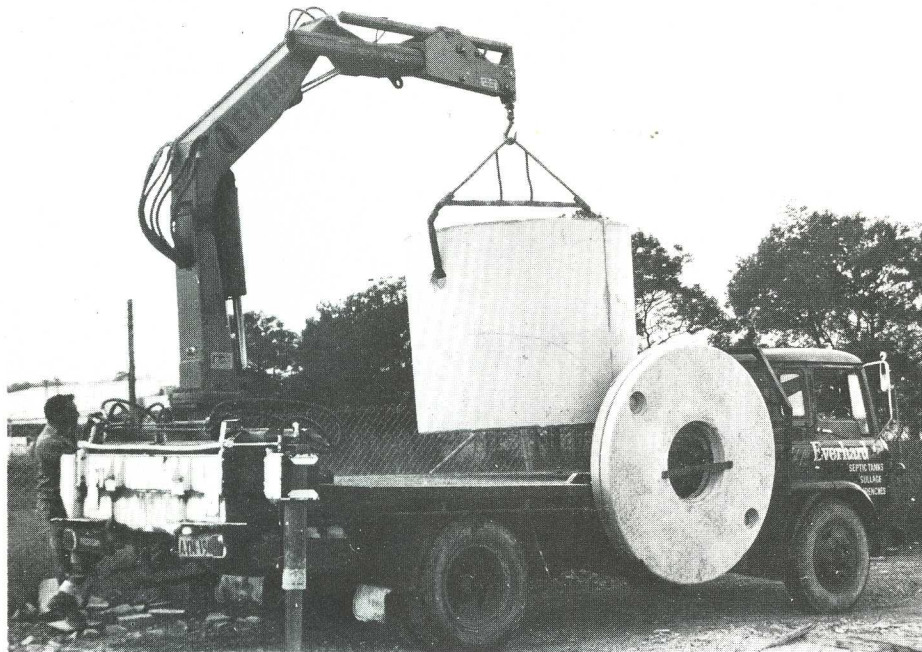
Unfreezable Timber Ponds

Sawmills frequently use "current formers" to prevent the water freezing in their timber-storage ponds. They cause the water to circulate and bring the bottom water, which is at a temperature of 4°C, up to the surface. This permits timber to be sorted and stored in water even at sawmills in regions with very severe winters. But in spring the current formers must be brought up for an overhaul. And that, of course, like their return to the water in the autumn, is a job for a Hiab 550 loader.



Underground in Japan

This outfit is intended to serve underground in Japanese tunnels. It consists of a railborne trolley and a Hiab 550 with an extra boom extension and outrigger legs at the four corners. The initial production order was for ten units, but the number is expected to rise to about eighty during the course of next year. ■ 13

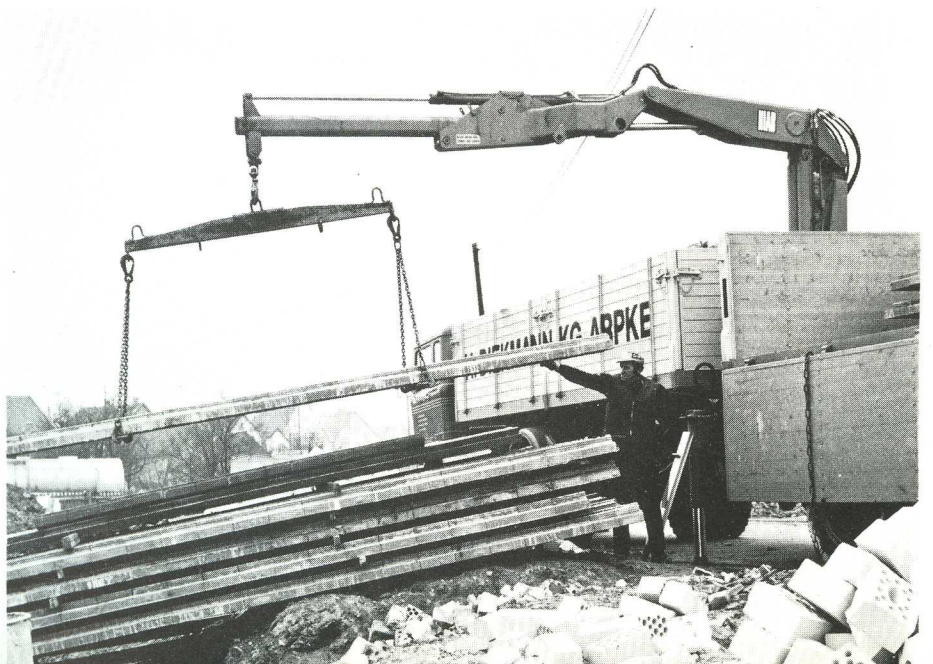


The 950 puts a tank to bed

Everhard is a firm in Australia that makes concrete tanks for such things as sewage installations. They're weighy items, running up to 2,500 kg a piece. But with a Hiab 950 handling is no problem, either during loading in the factory's stockyard or when the tank is going into its final position. The tanks are lifted by means of a specially designed yoke. The loader is rear-mounted on a four-wheel Bedford which carries the tanks on its deck. The tank covers are placed in special racks on the sides of the deck. Outrigger legs brace the outfit for the heavy lifts. ■ 14

Yoke for roof beams

The Diekmann company of West Germany handles roof beams with the Hiab 950. The loader is rear-mounted on the two truck and can easily load and unload both the truck and the trailer. A specially designed lifting yoke is quickly adjusted to suit various beam lengths. ■ 12





The Nacka Fire Brigade near Stockholm has plenty of work for its rescue truck, whose equipment includes a Hiab 550 with a winch. It is seen here recovering a car which left the road on a bridge and plunged into the water.