

Method No. 35



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#### **Cover Picture**

A HIAB 650 Rolloader for handling bricks — one of the commonest applications of the Rolloader.

#### **HIAB METHOD No. 35**

A magazine featuring the HIAB Method and its applications, published by the HIAB Division of HIAB-FOCO AB, Hudiksvall, Sweden.

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#### **HIAB-FOCO Takes Over JONSERED's**

When the firm of JONSERED AB became part of Electrolux at the end of 1978, JONSERED's crane division was taken over by the HIAB-FOCO Group. This division comprised not only JONSERED but also the two subsidiary companies CRANAB and Forshaga Mekaniska Verkstad (FMV), and it brought substantial new strength to HIAB-FOCO in the field of forestry cranes.

JONSERED was originally a textile undertaking, but when crisis loomed in the Swedish textile industry it made a timely switch into other lines of production. In 1961 the firm began manufacturing vehicle-borne hydraulic cranes for timber handling. The acquisition of CRANAB and of FMV enabled it to market a complete and hard-hitting range of forestry cranes, which in recent years has made JONSERED the dominant brand in this field, both in Sweden and in Europe at large.

A merger stands or falls, of course, by the scope it offers for co-ordination economies. By joining forces with JONSERED, HIAB-FOCO counts on being able to rationalise its production still further and to utilise its own manufacture of hydraulic components to better effect, thereby cutting its production costs.

However, the rationalisation savings made possible by the merger are by no means confined to the production side. About 90% of the cranes that the Group makes in Sweden are exported. HIAB-FOCO holds a very large share of the world market when it comes to piece-goods loaders. By the acquisition of JONSERED the firm is now able not only to offer its customers a complete and attractive range of forestry cranes but also to establish itself in short order on markets where JONSERED is already present. With 90% of its output being exported it's important for HIAB-FOCO to go in for increased volume.

Whenever a merger has been put through, certain organisational changes have to be made so as to get the new unit operating in a more efficient manner. In line with this, the HIAB-FOCO Group has now been split into three divisions:

- the HIAB Division for piece-goods loaders
- the JONSERED Division for forestry cranes
- the Hydraulics Division for hydraulic components

In human terms, the HIAB-FOCO Group is gaining some 500 new employees, bringing its aggregate personnel strength to 2,850, of whom 1,850 work in Sweden.

As for the HIAB-FOCO Group's turnover, calculations indicate that the acquisition will raise it to 865 million crowns for the year 1980.

#### **Breakthrough for the HIAB Rolloader**

Right back in "Method" No. 5, which came out thirteen years ago, there was an article on the HIAB Rolloader. Since then, Rolloader-mounted HIABs have appeared now and again in the magazine, and in recent years the HIAB-FOCO subsidiary company in Holland has specialised in this form of mounting and has developed it in many respects. The Rolloader made there has now been coming in for such keen interest that we feel it deserves some more detailed coverage in "Method", which you'll find opposite and on some of the following pages.

Also in this issue, we can at last make it official that the HIAB Method is employed on all continents. The clincher takes the form of an article on some HIABs that are at work setting up a base camp amidst the ice and snow of Antarctica, and are reported to be doing an excellent job there despite the tough conditions. Other loaders that have to work in difficult circumstances come under notice too; they include some that are in service on a pipeline construction job in Canada, and one whose duties often take it 3,000 metres up in the Alps.



#### Rolloader

#### **HIAB Rolls On - Fast!**

The latest type of Rolloader from HIAB-FOCO's subsidiary in Holland is the one that employs a HIAB 965 with a 5-metre boom. It is supplied as a complete unit that can quickly be mounted on any rig that has suitable beams along the sides. In addition to the loader the unit consists of a diesel engine with a hydraulic pump, a hydraulic-oil tank built into the bedplate, drive wheels with a hydraulic motor and support rollers, and two extra hydraulic functions for a rotator and other accessories. In this picture the Rolloader is fitted with top-seat controls, but other arrangements are also employed. A stout ladder leads up to the driver's position and at the same time protects the engine.



# **An Advanced Development**

The original idea behind the HIAB Method was to make use of the truck engine not only for moving the load but also for lifting it on and off at the beginning and end of the run. But as time passed and the HIAB loaders developed apace and found service in a variety of fields there were occasions when it began to look unpractical to have a large and costly truck standing idle for long periods just so that its engine could provide oil pressure for a loader. The HIAB Method also came into use on very long outfits, where very powerful loaders were needed to be able to lift a heavy enough load at a big enough radius to reach over the whole of the load platform.

The solution to this problem came in the form of the HIAB Rolloader, which has an engine of its own to supply it with pressurised oil and which is free to travel along the load platform. The earliest arrangements of this kind came into use close on fifteen years ago in the United States, where truckers made wide use of semitrailers which they wanted to be able to load and un-

load by the HIAB Method independently of the tractor truck and its engine. Since those days a great deal has happened with the Rolloader, and the principle of the mobile loader with its own prime mover is about the only thing which the pioneering designs have in common with the modern Rolloader system, which was developed and is now in production at HIAB-FOCO's subsidiary company in Holland and which can be seen in ever-growing numbers on the highways and byways of the world.

Outside the U.S., the Rolloader made its breakthrough in the handling of bricks, concrete blocks and similar materials, but by today it is in use for practically all types of heavy goods — cable drums, concrete pipes, piece goods, window-glass, etc. And from road haulage it's spread onto ships and wharves and into a string of special applications.

Here are some of the modern Rolloader's most telling advantages:

 The working area of the loader is not limited by its boom length

- The loader can roll along the platform with a full load
- The Rolloader can work over a large area
- A smaller, cheaper and lighter loader can be used even for heavy lifts, which also means a bigger payload
- Trailers and semitrailers can be loaded independently of the tractor truck
- The loader operator has a better view of the working area
- The goods can be evenly spread over the load area
- The horizontal movement of the loader facilitates handling by pallet fork, hydraulic grapple and many other attachments
- The Rolloader can easily be rolled off the rig, leaving it with more space and a bigger payload
- The same loading equipment can be used for several outfits
- A smaller engine gives less air pollution during loading and unloading 1



# for Glass and Cable Drums,



The transport firm of Schoonen, which operates in both Holland and Belgium, has gone in for the Rolloader version of the HIAB Method in a big way, with twenty of the units in service solely for handling Thermopane insulating glass. The equipment in this picture handles glass in transport racks which weigh anything up to 2,500 kg (above).

Here's a HIAB 1165 working as a Rolloader to handle heavy cable drums which are transported on a six-wheel semitrailer. The loader can travel along the platform carrying a full load. This mobility has enabled the boom to be shortened to 5 metres. The trailer has four-retractable support legs (below). ■ 3



#### for Building Blocks, Floor Slabs and Beams

Concordio

The Rolloader is an ideal solution for the transport user who, like the Dutch building-material firm of Concordia, doesn't always need to have a loader on all his rigs. A HIAB 650 Rolloader weighs only 1,800 kg and can be easily rolled off the vehicle when it's no longer needed — or just as easily transferred onto another outfit. ■ 4



This HIAB 965 Rolloader is in service handling and installing prefabricated concrete floor slabs in northern France. Thanks to the smooth action of the loader and its great mobility the floor units can be lifted from the semitrailer platform and put straight into place in the building. 

5



Fitted with a special clamp, a HIAB 650 Rolloader is here being used for handling a kind of beam-shaped concrete grating used in cowsheds. The clamp can take up to nine grating units, each weighing 200 kg. The picture shows the Rolloader riding on a collapsible platform extension so that the whole of the platform is left free for payload.

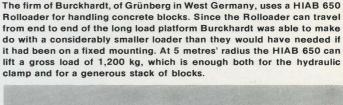


# HIAB in France, Britain, Germany



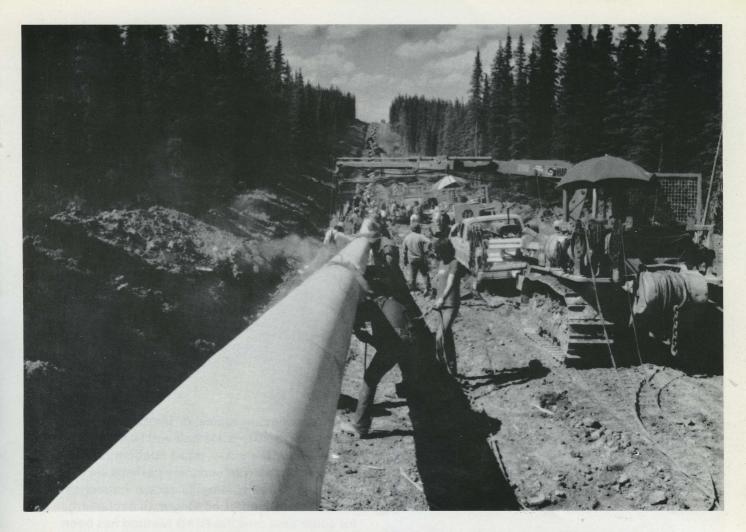
The handling of bricks and building blocks of various kinds is a field in which the Rolloader scored an early breakthrough. This outfit, mounting a HIAB 965, is to be found in France and is used for calcareous brick, which is handled in stacks weighing 2.4 tonnes and is lifted with a special clamp. The loader can be run along the platform at full speed.

This HIAB 650 Rolloader with top-seat controls is handling bricks in Britain. In front of the loader body is a guard-plate; by running the Rolloader forward up against the packs of bricks the plate can also be made to hold the load in place during the transport trip.









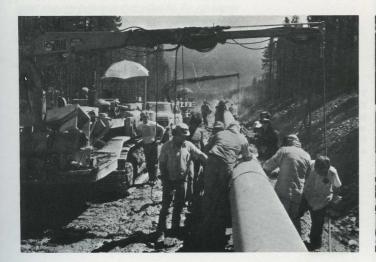
# **Gruelling Work in Grizzly Valley**

In the north-eastern part of British Columbia they're building the Grizzly Valley Pipeline. The working conditions could scarcely be more adverse. Although the area is a good way south of the real Arctic cold, the climate is still one of the difficulties. The northernmost spurs of the Rocky Mountains trigger paroxysmal cloudbursts that send great torrents of water cascading down the steep slopes along which long stretches of the line are being built. Even when the ground is dry the

terrain poses formidable obstacles to transport equipment and subjects it to savage wear and tear. The contractor for the section, Majestic Wiley, uses large numbers of crawler tractors, which at many points are the only vehicles that can travel under their own power. Everything else has to be towed or winched up the slopes. And on the downhill runs the brakes take a hammering. On occasion, Majestic Wiley has completely cleaned out nearby stocks of Caterpillar brake drums

and has had to send as far as Alaska or Minnesota for them.

As in most cases where there's tough handling to be done, the Grizzly Valley contractor has called in the HIAB Method. Among other things the firm has two Caterpillar-mounted HIABs to carry the cables of the welding equipment used for joining the heavy line pipes. ■ 7





The buildings and communicating corridors of the camp are constructed from steel plates put into position by the HIAB 850s.



In the succeeding issues of "Method" we've often noted that the HIAB Method and HIAB loaders are used all over the world, on all continents. In the interests of absolute accuracy perhaps we should have said "on all continents except Antarctica". But the sixth continent is no longer an exception: for some time now the HIAB Method has been employed in the Antarctic too, as these pictures show.

# **Sledded HIAB Build**



tors, ready to be loaded aboard ship.

The HIAB mounted on

one of the crawler trac-

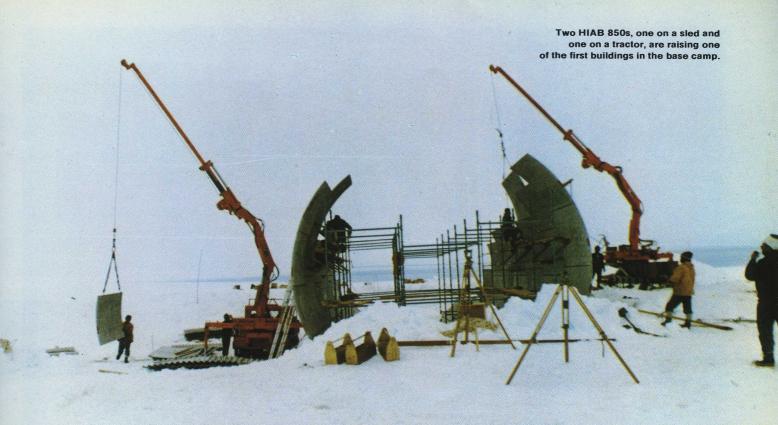


The problem of releasing the crawler while the loader was on stationary work was solved by the Method experts with a sled.

The equipment of an expedition which is building a base camp on the icy storm-swept wastes around the South Pole includes five HIAB 850s. Two of them are rear-mounted on crawler-driven bulldozers and are provided with separate engines of their own to power the hydraulic pump and the winch. The mounting is also arranged so that the loaders can be readily transferred to any of four bull-dozers, all of which have the necessary fitments.

But even that set-up wasn't sufficiently flexible for this customer. One of the main jobs of the loaders was to be that of lifting the heavy-gauge corrugated steel plates from which the buildings and the connecting corridors between them are being constructed, and on that work they'd be operating almost without moving for long periods at a time. But this couldn't be allowed to tie down two highly serviceable bulldozers, which could be employed more effectively on plenty of other jobs in the camp.

Problems like that are nothing new to HIAB's Method experts, who soon



# Base Camp in the Antarctic

came up with a solution. Loader mountings, of exactly the same pattern as those on the bulldozers, were installed on two sleds, which could be placed at the point where the loaders were to work and ballasted to give them sufficient stability. The bulldozers were thereby released to tackle other tasks. When the HIABs have to be repositioned as their construction work progresses this can be done either with the aid of the loader boom or by a bulldozer which is briefly seconded to give them a tow.

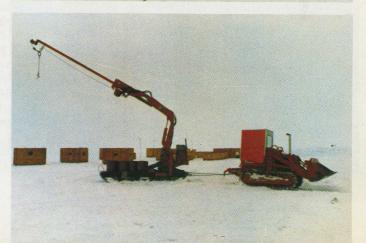
Another two HIAB 850s are mounted on crawler tractors which are used for snow-ploughing and — with the aid of the loader — for a variety of lifting and handling jobs. One of them is also furnished with a winch — like the fifth HIAB in the expedition's equipment which is mounted on a lighter crawler.

Reports now that the loaders have been at work for six months in the Antarctic say that all of them — despite the severe conditions — have been working perfectly, without breakdowns or snags. ■ 8

The loader works from its stationary mounting on the sled. Short-distance repositioning is no problem.



For longer moves, the sled is towed by one of the crawler tractors.





#### In the Scandinavian Arctic Swedish Loader, Norwegian Truck, Finnish Road

HIAB-FOCO's representatives in Northern Norway are Transportindustri A/S, of Fauske on Salt Fjord. Some time ago they mounted six different HIABs on a demonstration truck. The head of the firm, Terje Hansen, had planned a three-week demonstration tour of the north-eastern part of his district, and to reach this territory he chose a route that took him through Sweden to Ha-

paranda, where he crossed into Finland and then turned north to follow the river that forms the border in this area, intending to re-enter Norway by the Kautokeino road. On a straight but lonely stretch of highway in the vicinity of Muonio he was forced to stop by a car which had overturned and lay across the road. The Finnish and Norwegian languages don't have many

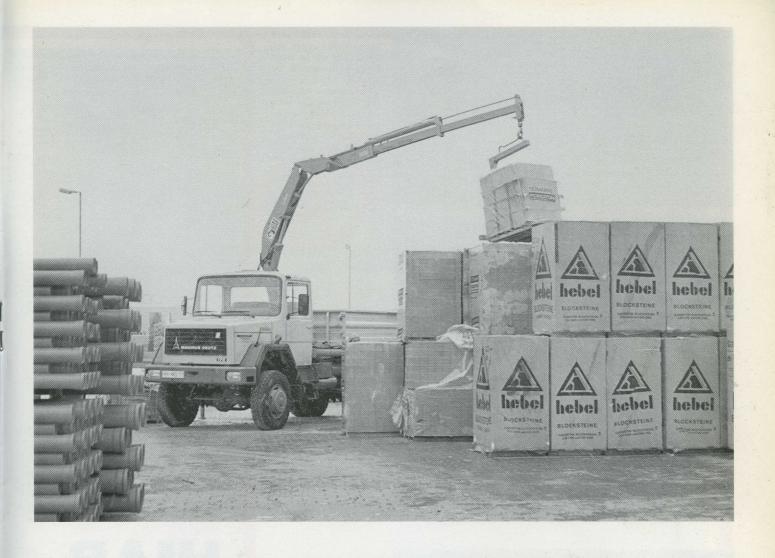
words in common, but one of them is "HIAB", and travellers in other vehicles who were also being held up realised at once that help was at hand. A HIAB 965 performed its maiden lift, and in less than ten minutes the overturned car was back on its wheels beside the road, and the wayfarers were able to resume their interrupted journeys.



Help has arrived. A truck mounting half-a-dozen HIAB loaders makes short work of most obstructions. Lifting a car clear is a cinch for the HIAB 965.



The road is clear again. The overturned car is put down gently beside the road, right way up. The police are at the scene, and the traffic is soon moving again.



#### A New Model of the "World Champion Loader"

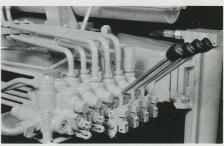
The world's most-sold vehicle loader, the HIAB 650, has now been on the go for about fifteen years. When it was introduced, under the model designation HIAB 174, it was the first vehicle-borne crane that could be "folded away" behind the cab when not in use. Since then, the "world champion loader" has undergone much development and improvement, and it's now coming out in a still more modernised version designated HIAB 650/1

Even though the new loader retains most of the basic features of the HIAB 174 it differs in so many ways from its predecessors that it would be fair to call it a completely new loader model. Some of the more important improvements are as follows:

- New control valve, the HIAB 31, specially designed for this type of loader. Gives smoother, more responsive loader movements with perfect precision.
- Every valve function has pressurerelief valves which effectively prevent overloading.
- Pilot-controlled check valves which hold the load exactly in position.

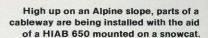
- (The new type of valve has been introduced on all HIAB piece-goods loaders.)
- Double-acting inner-boom cylinder, which broadens the utility of the loader. More effective for attachments such as the earth auger, scrap grapple, sand bucket and so on.
- A manual extension of rectangular section minimises wear on the bearings.
- Increased outreach 10 metres with manual boom extensions.
- Greater lifting capacity 525 kg at an 8.5-metre radius, against the former 400 kg.
- Telescopic outriggers give the hydraulically operated support legs a maximum spread of 4.4 metres, which improves stability and makes the driver's job safer.

But in two important characteristics of the original HIAB 174 the new version is unchanged: it's still just as compact, and it still weighs no more than 1,000 kg. • 9



A new control valve, the HIAB 31 (above), gives smoother loader movements, and a double-acting inner-boom cylinder makes the machine more effective for attachments like the sand bucket (below).







These large and heavy transmission poles are being put up in Italy. Many of them will be located out in the rough, where it's difficult to get through with ordinary lifting equipment, but with the HIAB Method it's no problem. A HIAB 650 mounted on a small crawler tractor moves into position. ■ 11



And here the post is already on its way up. Stout outrigger legs with widely spaced support points enable the loader to stand firm even on such a steep slope. ■ 11

# The Right Method for a Big Pole



All that remains is to guide the end of the post into the hole and straighten it up with the loader — after which it's "next, please". With this method it doesn't take many minutes to raise a post. ■ 11

# HIAB On Sno

Way up in the Dolomites, in eastern Italy, is the Marmolada Glacier, the highest point of which is more than 3.000 metres above sea level. Even up there, amid snow and ice and cloud, the HIAB Method comes in very useful. Busily at work on the Marmolada massif is a HIAB 650 mounted on a crawlertracked "snowcat" and used for such jobs as repairing and maintaining cableways and ski-lifts and the loading and unloading of provisions and supplies for the mountain refuges in the area. The equipment of the loader includes a personnel basket which is used for maintenance work on lighting installations along ski-tracks and on slalom slopes. To keep the weight down, the four outrigger legs are carried on slender oval tubes of special steel, and the subframe, which is detachable, is also of a very light construction. ■ 10



# wcat At 3,000 Metres



And here they've just set up a hut for the cableway crew. Again: the  $\mbox{HIAB}$  loader did the lifting.



The lightweight frame can easily be laid off on the support legs so as to release the crawler tractor.



# HIAB Sheds Light on Disasters

Like many other fire brigades the Tokyo Fire Defence Board includes illumination vehicles in its fleet. They are used during the hours of darkness to light up the scenes of fires and other disasters so as to facilitate the work of the firefighting or rescue crews. But the streets in the central districts of Tokyo are often very narrow and crooked, and the outsize illumination vehicles have had a lot of trouble making their way around.

A while ago, the local fire brigades decided to try out the HIAB Method to see whether it could offer a better solution. And it did. A battery of 16 halogen lamps mounted on a lightweight frame is lifted by a HIAB 670 which is installed behind the cab of the illumination vehicle. Thanks to the low weight of the HIAB in relation to its outreach it can be carried on a considerably smaller and lighter truck - a 6-tonner instead of the 8-tonne truck required for the equipment that was formerly used to carry the lamps. It is of course a lot easier for the new, smaller vehicle to thread its way along narrow lanes, besides, which, thanks to the manoeuvrability of the HIAB, the firefighters now find it far easier to get the lamp battery up where they want it and directed so that it will do the most

So far, the HIAB Method has given such a good account of itself in service with the fire brigades of Central Tokyo that others in the Tokyo area are expected to follow the example and fit themselves out with HIAB-equipped illumination vehicles during 1980. ■ 12



ly and put the light where it's wanted.

# HIAB

Setting up a modern base camp in the Antarctic calls for an enormous quantity of materials and equipment, and discharging it all at the edge of the ice poses a considerable handling problem. Dockside cranes are pretty scarce in the Polar regions and you simply have to rely on the unloading aids you've got on board your ship.

Before setting out, the expedition mentioned on page 8 in this issue of "Method" fixed itself up with extra discharging capacity in the form of a HIAB 650. The loader was mounted on a specially built truck and the loader body was shortened so as to bring the overall height of the outfit down to only two metres. This enables the loader to operate both on deck and in the ship's hold. An electrically powered hydraulic pump supplies pressurised oil to the loader and for propulsion, which is effected by a hydraulic motor through an ordinary automotive differential. The steering, too, is hydraulic. With four extensible outrigger legs the rig weighs a total of 4.5 tonnes and can carry a 5-tonne load at a speed of 9 k.p.h. = 13

#### Better Than Mast, Derrick and Winch

The M/S "Pendlar" is a small vessel that plies local routes between the seaward coast of Kvaløy and the smaller islands of Sommarøy and Tussøy west of Tromsøin Northern Norway. Besides passengers it carries a lot of goods of various kinds such as fish-crates and fertilisers, and this freight is handled by the HIAB Method. A HIAB 345 mounted on the foredeck has proved to be considerably cheaper and faster in action than the traditional mast, derrick and winch. ■ 14

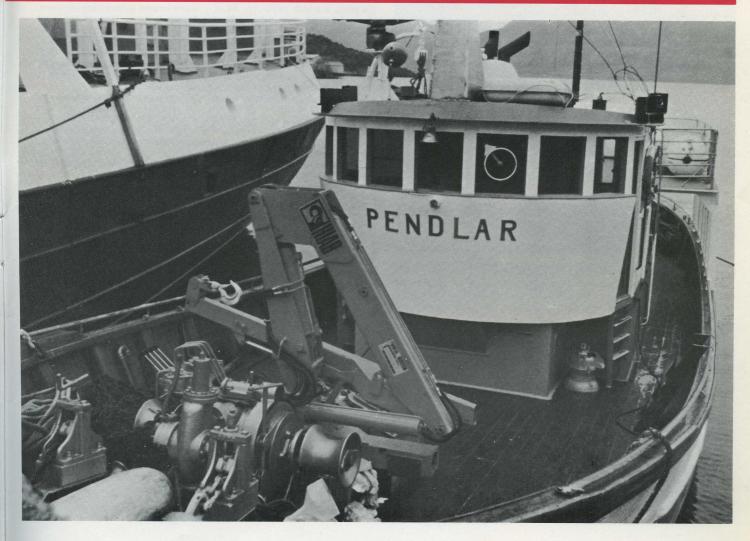
# **Puts It On Ice**



The small electric discharging crane ready for delivery. The loader body has been cut down to keep the overall height within two metres.



Standing on the deck, the HIAB can reach both down into the hold and out over the rail.



#### **Method Hoists**





# Tryggve Waage Gets His Sixth HIAB



#### HIAB's Growing Ties with the Thais

In Thailand they're using the HIAB Method on an ever greater scale. The above picture shows a HIAB 670 on dredging service, and just recently the country's highway authorities have ordered 250 HIAB loaders.

#### HIAB on Fire and Rescue Service

A string of fire brigades in Holland have equipped their rescue and disaster vehicles with a HIAB 850 or HIAB 965. Fourteen loaders have been delivered for this purpose so far, and within a year the number is expected to reach about forty.



Tryggve Waage is a Norwegian truck-owner who knows more than most about HIAB loaders. Tryggve got his first HIAB back in 1960, and now he's just taken delivery of his sixth, a HIAB 1870. For all of those 19 years he's also been a test-operator for HIAB-FOCO. The first loader he tested out was the HIAB 173. Then came some trial runs with the HIAB 55, a model that never went into production. That was followed in due order by the HIAB 174, the HIAB

950, the HIAB 1165, and now: the HIAB 1870.

The trials are incorporated into Waage's regular haulage runs, the bulk of which is on behalf of Norway's largest contracting concern, Astrup & Sønn. One of his most frequent assignments is to transport site accommodation huts, which weigh up to 3.5 tonnes. With his big new loader he can stack the huts two-high, which is a great advantage.

#### A Well-Rounded Service

It seldom rains in the iron-mining area of Pilbara in Western Australia, which is therefore dependent on underground water reached by boreholes. Pump maintenance is carried out using a truck mounting a HIAB 965 with two manual extensions giving a reach of 10.3 metres.



## **Method Hoists**

#### Local Hero

A HIAB 250 on a Unimog U 600 makes a light and manoeuvrable combination that is highly esteemed by many local authorities. It can go almost anywhere, and with a manual boom extension it can reach out 4 metres and lift 600 kg at that radius. Its field of utility becomes still broader when it is equipped with a lightweight hydraulic clamshell bucket.



# Oil Off Troubled Waters

The big catamaran below was built in Hongkong. Its equipment includes a HIAB 950. It is due for delivery to China, where it will be used in combating oil spills.

#### A Fork-Loft Truck

The fork-lift truck on the right is far more versatile now that it's been equipped with a HIAB 650 including a winch and an extra boom extension. It's seen here assisting work on the roof of an industrial building.





#### A Mighty Manoeuvrable Mobile Crane

On an industrial site in Denmark you can see this outfit at work — an MB-track 1300 with a HIAB 1165. Besides towing trailers it serves as a mobile crane, lifting 5 tonnes and reaching out to a maximum 12.5 metres. And there are more of its kind on the way.



### **Section S**





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## **HIAB-FOCO Schools**

In accordance with custom, this issue of "Method" again presents a suite of pictures showing the training activities that HIAB-FOCO conducts the world over for sales and service people and for loader operators. The picture above left comes from one such training session for service fitters in Algeria. The adjacent picture was taken at a course for sales and service people in Hongkong. The first sales of HIAB loaders in Ecuador recently took place and were followed up by a training course for operators, shown in the shot on the left. The picture at bottom right comes from Japan, to be precise from Yokohama, where HIAB's service facility arranged a service and sales conference with participants from Thailand, the Philippines, Hongkong, Taiwan, Malaysia and Australia as well as Japan. Thé scene just below is from another sales conference in Japan, while the one at the bottom comes from a weeklong course for service and sales people at Dubrovnik in Yugoslavia. The course attracted 40 participants and was arranged by HIAB-FOCO's subsidiary company in Trieste in collaboration with the firm of Rudar in Zagreb.





## **Section S**



## and Shows

HIAB-FOCO has been very active in the exhibition sector, too. The pictures above are from a fair in Brussels; the one on the right shows the visit of the Swedish Ambassador to Belgium.

The picture on the right comes from an exhibition in Oslo, at which a loader specially adapted for shipboard mounting was unveiled for the first time. It is a HIAB 1165, driven by a 30-h.p. electric power pack and equipped among other things with a device for pumping up fish. The two shots below come from a big transport and handling fair in Paris. The scene on the left shows how the 200,000th HIAB was celebrated at the fair.











This awesome view is from Grizzly Valley in north-eastern Canada, where the HIAB Method is being used on a big pipeline contract in very difficult terrain far out in the wilds.

More about it on page 7.