Method

HIAB

Method No. 34

A magazine featuring the HIAB Method and its applications

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Cover Picture

Dowell is a firm in the U.S. that has specialised on tough, resource-demanding jobs in connection with oil extraction and that moreover claims to do as much in one day as other outfits do in three. Big words! — but Dowell makes them stick by using the HIAB Method, as in the case of this valve, which is being installed so that the rock around a borehole can be cracked by means of pressurised fliud, enabling the oil to make its way to the surface.

HIAB METHOD No. 34

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New Methods in the Pipeline

As the world's consumption of oil continues to grow, and as new oilfields are discovered and brought into production, the transportation of oil and gas calls for ever greater resources and an ever more finely ramified network of transport routes between the oil wells, the refineries and the centres of consumption. In this system, pipelines are assuming an increasingly prominent role since, despite their very heavy initail costs, they offer an advantageous means of transport that becomes steadily more economical as the throughput increases. So when it comes to the great oilfields in the North Sea and the Arctic Ocean that are now being exploited the planners are thinking almost exclusively in terms of pipeline transportation, and in some areas the construction of pipelines is absorbing resources as great as those going into the actual extraction of the oil.

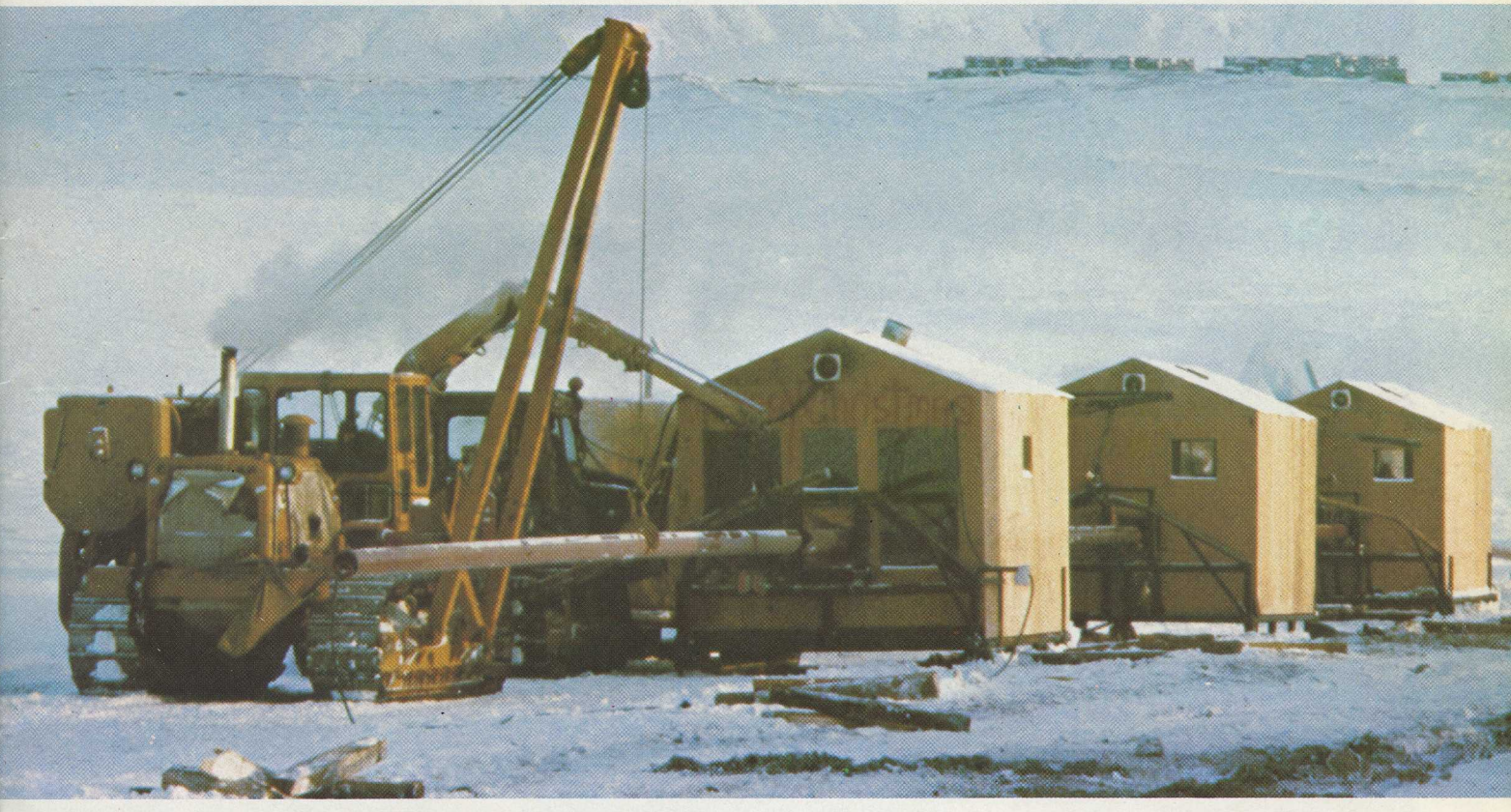
It goes without saying that the HIAB Method has an important part to play in pipeline work, just as in other kinds of civil engineering and construction, and HIAB loaders are doing a big job in a great many areas and in numerous capacities. In this issue of "Method" we're devoting some of the available space to examples showing how the HIAB Method is facilitating handling and saving time and money on pipeline construction projects in various parts of the world. Incidentally, oil and gas aren't the only things that can travel well and cheaply by pipeline. In many parts of the world they're using pipelines to carry sludge, slurry, sand and gravel, and the HIAB Method is well to the fore in work on these lines as well. It would be no trouble at all to fill a whole issue of this magazine exclusively with examples of what HIABs are doing in this context, but pipelines constitute only a narrow sector of the HIAB's wide-ranging and varied capability, so we must content ourselves with just a few pages.

200,000 HIABs

We've other things to report as well. A while ago, HIAB-FOCO consolidated its standing as the world's largest manufacturer of hydraulic vehicle loaders when the 200,000th HIAB came off the assembly line at the firm's plants in Hudiksvall. The last time we spotlighted an individual loader in "Method" was in 1966. On that occasion it was No. 60,000 that had just been completed — some two decades after the production of HIABs had begun. That was already enough to render the firm noted for its capacity and rate of production, but since then there's been a further substantial increase. In the intervening twelve years 140,000 loaders have been turned out, and their numbers are still growing at an ever increasing pace.

Pipeline Handling

There's a perishing cold wind outside, but thanks to the HIAB Method it isn't often anyone has to go out and work in it. This picture shows work in progress on a 10-inch pipe that will carry gas to the pump stations along the main line — which at 48 inches is considerably heavier but is being built using the same technique.



A Sleigh Ride without the Jingle Bells

When it's fifty below, it's pretty cold, whether you're reckoning in Fahrenheit or Celsius degrees. And when, into the bargain, you have persistent Arctic slope winds howling across completely shelterless tundra, your chill factor is liable to drop to —100°F. And during the depths of the cold season it's dark round the clock as well. It's under conditions like these that they're building the Trans-Alaska pipeline, which is to carry oil from the wells around Prudhoe Bay on the Arctic Ocean coast of northern Alaska.

To survive in such a hostile climate the pipeline workers need life-support systems akin to those of astronauts on the moon. Equipment and working methods, too, must be adapted to the merciless cold, which in many instances has led to completely novel approaches. Since it's almost impossible to work for more than a short time outdoors in the cold and the wind practically all working operations are carried on in gas-heated "shacks" or modules that are mounted on skids and pulled along the line. The job of joining lengths of pipe to make a single leakproof line that can be buried in the ground and covered over calls for a number of different operations to be carried out simultaneously at different points along the right-of-way. Accordingly, all the work of cleaning the pipe-ends, preheating the joint, welding, wrapping and lowering the line into the trench is performed in a series of modules that move along the path of the pipeline on their skids like a train. New lengths of pipe enter continuously through the front of the first module, in which the joint is prepared, exiting in due course through the rear. In the following module the joint is preheated and welded, in the third the line is wrapped in protective tape, and so on.

With this arrangement, all the routine work on the pipeline can be done in heated spaces; an irreducible minimum of work remains to be done in the cold and wind outside the modules and is for the most part performed by a team of HIABs mounted on the crawler tractors that pull the train of sleds. The HIAB Method has proved to be particularly valuable in handling the induction coils that are placed round the pipe and used to preheat the joints to about 150°C prior to the welding and also prior to the protective treatment. The saving of outdoor labour is worth a great deal, since for every man on outside duty there must be another "thawing out" in one of the shacks and ready to relieve his mate after a short spell in the cold. ■ 1

* —50° Farenheit = —46°C
—100°F = —73°C.

Britain is at present being criss-crossed by an ever thicker network of pipelines for the distribution of oil and gas from the North Sea to energy-hungry towns and factories. One of the many firms engaged on the construction work is A. Monk & Co., of Padgate, in the industrial area lying between Manchester and Liverpool on England's west coast.

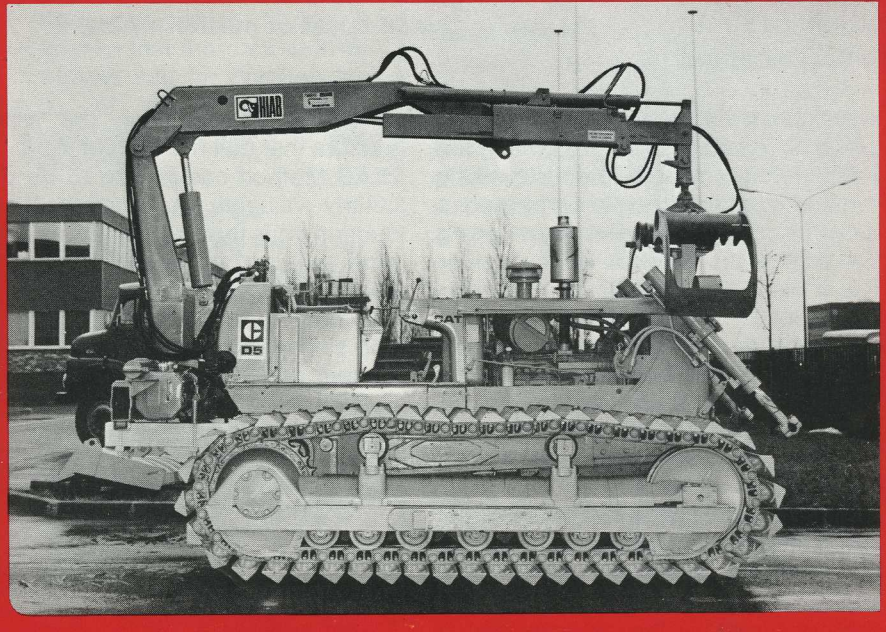
Three Solut

The trailer has a big payload and can quickly bring up large quantities of pipe.

One of its assignments is to carry pipe cross-country to the point of installation, and for this job Monk uses a big Canadian-made tracked vehicle which the firm has fitted with a 9-tonne-metre HIAB and a special pipe cradle. The very wide crawler tracks give the machine a low ground pressure (about 0.1 kg/cm^2) and good stability, enabling it to traverse all types of terrain, including very soft ground and steep gradients. It has been used with great success for cross-country pipe transportation throughout Britain. Its payload is about eight tonnes, and it is readily adjusted to various pipe sizes by altering the size of the cradles.

In Belgium, for the same purpose, they're using a modified Volvo-BM dumper that's also equipped with a 9-tonne-metre HIAB. The dumper platform has been removed and a two-wheel trailer hitched up. With its articulated-frame steering and its large-diameter wheels the outfit can readily make its way across country, and even very heavy pipe sizes can be handled with ease by the powerful loader.

In France, a Caterpillar tractor with a HIAB 950 mounted in place of the winch has been successfully used to transport line pipes off-road. For faster and simpler handling the loader has been fitted with a hydraulic grapple whose jaws are rubber-covered so as not to damage the protective covering on the pipes. ■ 2

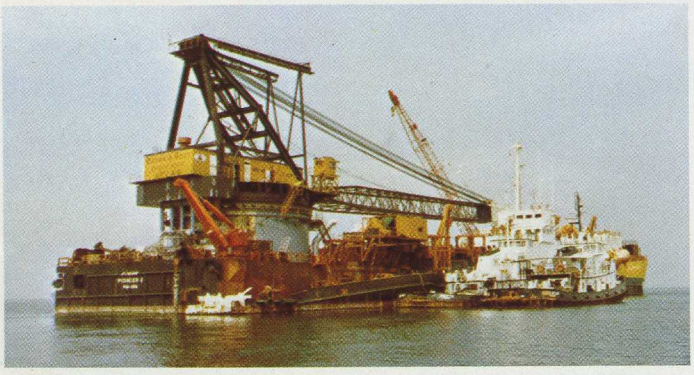


The hydraulic grapple facilitates the handling of the pipes.

ions to Offroad Transport Problems

The wide crawler tracks give low ground pressure and good stability.

In Ancient Seas and



The "Kokan Pioneer 1" is a large vessel specially built for pipeline work in the open sea. It's currently in service with Brown & Root in the waters off Bombay in India. And in this work, too, the HIAB Method has an important part to play. A 9-tonne-metre HIAB is used to handle equipment that automatically tapers the pipe ends before they are welded together. To make the precise manoeuvring of this equipment still easier the control levers and valves have been moved to the tip of the loader boom, so that the man in charge can stand right next to the tapering gear and operate the HIAB from there. ■ 3

New-Won Lands

Along the North Sea coast of Germany, work is in progress to reclaim land from the shallow sea. One of the enterprises engaged on the project is Firma Bunte of Papenburg, which among other things uses two HIABs for various tasks involved in the project.

Both loaders are used for work on pipelines. One of them deals with the regular replacement of the heavy-gauge pipes employed to drain the land areas won from the sea. This is necessary because these pipelines become choked with sand and mud after a time and must be lifted out one by one and cleaned. The loader, a HIAB 550, is mounted on a Unimog 406 which has been fitted with extra-wide tyres so as to be able to move over terrain where the ground at some points is very soft. The pipeline is 45 cm in diameter and each length of pipe weighs about 500 kg.

The other loader is used on a floating pipeline that carries away sand and mud from a suction dredger that is deepening a navigation channel in the same shallow area. The end of the pipe is on dry land where the spoils are flushed out. Again, these pipes quickly become choked and require cleaning, and this is a job for a special barge mounting a HIAB 1870. This powerful machine, with its lifting moment of 18 tonne-metres, has no trouble handling the long, heavy-gauge pipes with their attached floats.

The barge with the heavyweight crane also functions as a service vessel for the dredger, attending to the casting and weighing of the heavy anchors that hold the dredger and the pipeline in place during operations.

The Bunte people are very pleased with the performance of their HIABs, noting that thanks to the HIAB Method they get through their work faster and more efficiently while at the same time economising on labour. ■ 4

In the U.S. and West Germany

For Shelter Tents and Welding Leads

The Cochin Pipeline runs for over 1,750 km across Canadian and U.S. territory. One section of the line, in Iowa and Illinois, was built by the Ford, Bacon & Davies Construction Company, who made use of the HIAB Method. The crawler tractor carrying the welding equipment was fitted with a HIAB loader which was used to hold the welding leads out over the line and also, when necessary, to support a tarpaulin tent that sheltered the welding point and the weld from adverse weather. ■ 5

Have Gravel — Will Travel

On a motorway being built in the neighbourhood of Paderborn, in West Germany, they're using a technique that's rather unusual in such contexts. Instead of using trucks to bring up the gravel for the topping they've built a heavy-gauge pipeline from the local gravelpit. The gravel is carried through it by a current of water. But when the gravel layer on one stretch of road is finished the pipeline must be moved, and that's heavy work, since the line is composed of 12-metre lengths of large-bore steel pipe — which are often partly filled with gravel into the bargain. The job has been entrusted to a firm based in Wilhelmshafen, Jadelift Figdor, which uses a semitrailer outfit equipped with a HIAB 1870 and a hydraulic grapple. The outfit can carry eight lengths of pipe at a time, and the loader's reach and lifting capacity are more than adequate for the loading and unloading. During the road run the loader and grapple are folded up above the cab.

This job of handling is yet another example of an operation that used to be time-consuming and labour-intensive, but is now, thanks to the HIAB Method, polished off easily and speedily by one man. ■ 6

Tester's Doughty Tractor Doctor

"Our new HIAB? We find it absolutely invaluable," says Kenneth Clark of Tester Brothers, the Ford tractor dealer in Edenbridge, Kent, England. "We do most of our repair work on the farms, and now we just drive the truck out, lift off the tractor cab with the HIAB, and we're home and dry. Repair jobs, especially on the hydraulic system, used to take a lot of time because we had to remove the tractor cab by hand. The HIAB has proved to be a quick and efficient solution to the problem — and at a bargain price."

Tester Brothers have a HIAB 225 with a special extension boom that makes light work of the 600 kg or so that a tractor cab weighs. Its maximum is 1,600 kg, and it can easily be mounted on most small and medium trucks. It can be operated either manually or by electricity from the truck battery. ■7

Müller of Bremen Offloads 72 Gas Cylinders in 10 Minutes

HIAB Method Means Rationalisation for Customers Too

One of the leading producers of industrial gases in northern Germany employs trucking firms to haul the gas cylinders to and from its customers. One of these firms, the Müller outfit in Bremen, has brought off a piece of rationalisation which — if they'd done it with anything but the HIAB Method — would have been hailed as sensational.

Müller uses an outfit that can take 72 full gas cylinders each weighing 80 kg. The driver used to load them by hand, which took about an hour — after which it took just as long to unload them in the customer's yard. And as often as not he had to handle the empties too, which didn't go any faster. Using that method the rig was able to do one or at the most two delivery rounds a day, and the driver had to do many hours of gruelling work.

Now that Müller has had a 5-tonne-metre HIAB mounted on the truck the driver can handle the load on pallets each taking twelve cylinders and weighing around 1,000 kg. The entire load, made up of six pallets, can be loaded or offloaded in ten minutes — without the need for the driver to exert himself. Doing things this way, he can get through four delivery runs a day to customers within reasonable distance of the gasworks. ■ 8

Noke-Therm is a glassworks in Villach, in the southernmost part of Austria near the Yugoslavian border. The firm makes insulating glass of various types and effects deliveries by its own truck to customers up to 400 km away. It has rationalised the loading and unloading of this extremely fragile freight by (i) designing special roller racks for the glass and (ii) going in for the HIAB Method.

A big semitrailer with a payload of about 21 tonnes has been fitted with a HIAB 1165 mounted a few metres in on the forward part of the platform, which also has arrangements whereby the glass racks can be fastened in place during the transport run. The resulting transport system can for the most part be operated by one man, and the smooth, gentle movements of the HIAB loader enable him to treat the glass with all the care it deserves. He does his own loading at the glassworks. In the customer's yard he needs no help to offload the glass racks and to pick up empty racks from previous deliveries. By this means, Noke-Therm delivers some 2,500 tonnes of insulating glass a year.

A special advantage of this HIAB handling that has made it very popular among the customers is that on the bigger building jobs the glass racks can be unloaded right where they're wanted anywhere up to the third storey. This has turned out to be a very worthwhile piece of rationalisation, since it reduces to a minimum the handling of the fragile glass within the building site. ■ 9

Uncorking Moselle

The Moselle Valley in West Germany, from the Luxembourg border to the conjunction with the Rhine, doesn't confine itself to producing the famous wines. The meandering river is also exploited for electricity production from a total of fourteen power stations. In front of the turbine intakes are gratings that prevent trash from going into the machinery with the water. The assorted rubbish collected on these gratings builds up at a rate that calls for frequent and regular cleaning. This used to be done by hand with an ordinary fork, a slow and exhausting job. But for some time now the work has been done quickly and easily by the HIAB Method.

A 6-tonne-metre HIAB with a polygrip grab and a comfortable cab for the operator has been mounted on a two-wheel trailer that transports it from one power station to another. The trailer is positioned next to the intake and is held steady by the hydraulic support legs of the loader and also by five legs extended from the trailer. The floating branches, bits of plank and other trash picked off the grating are dumped into a container placed behind the loader. The hydraulic pump is driven by an electric motor. A simple, speedy and labour-saving solution to what used to be a strenuous and dirty handling problem. ■ 10

Hup Skip and Dump!

Like many other local authorities in the U.K., the Borough Council of Newtownards, on the outskirts of Belfast in Northern Ireland, uses strategically placed skips to receive household refuse in its municipal housing estates. And — again like authorities elsewhere — it has found that if the skips aren't emptied daily they're liable to be vandalised or set on fire.

But daily refuse collections by conventional methods would put an enormous burden on ratepayers. A revolutionary idea was needed — fast, simple and above all cheap. And Newtownards came up with one. It adopted the HIAB Method!

The collection outfit consists of a truck with an open deck and high flaps, mounting a HIAB fitted with a special grapple that can turn the skip through 110°. Thus equipped, the driver can easily make the rounds of the skips, quickly and effortlessly hoisting each one, emptying it into the truck and returning it to its place. A team of such trucks can handle daily collections throughout the Borough with ease. The method has turned out such a success that the Newtownards Council has placed an order for more HIABs and plans to lease skips, which it will empty daily, to factories and other businesses in its area. The initial response to the idea has been very encouraging. And Newtownards ratepayers were pleasantly surprised to hear that the scheme would actually run at a modest profit! ■ 11

Mobile HIAB – Every Inch a Yard Crane

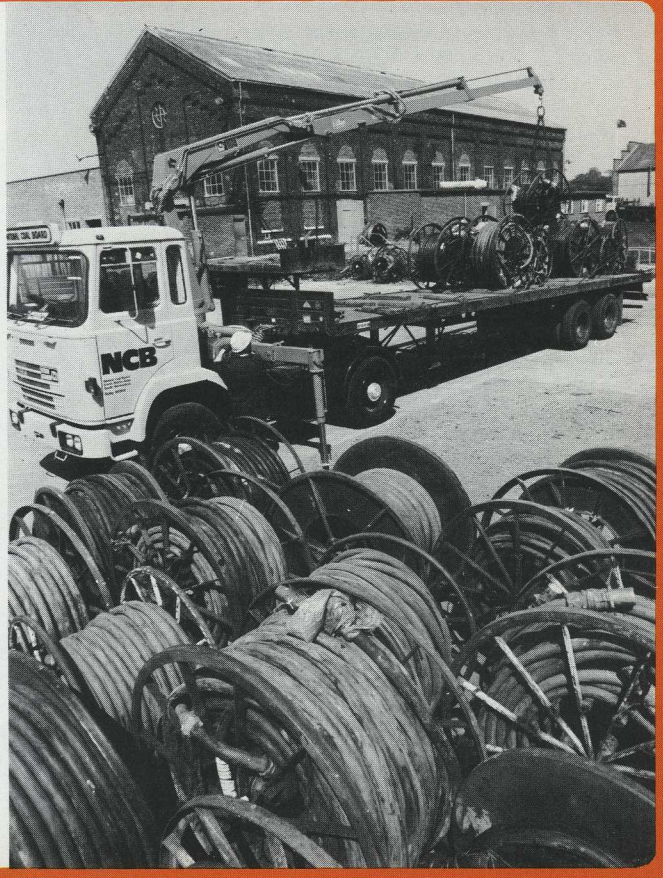
South Coast Welders Ltd., of Hythe, Kent, England, needed a yard crane to handle their output of heavy metal fabrications in all shapes and sizes. Their choice was a HIAB 1165, which they mounted on a converted tractor unit. The result was a robust hydraulic crane that can lift 6,000 kg at a 1.8-metre radius or 600 kg at a 12.5-metre radius. They're so pleased with it that they're now planning to build more of the same for sale to other firms with similar needs. Thanks to its hefty lifting moment the crane has plenty of capacity in hand for heavy attachments like hydraulic grabs and buckets. And the HIAB 1165 is available in two versions: the AW shown here, with hydraulic outreach to 8.3 metres and manual extension to 12.5 metres, and the 1165 A, with hydraulic outreach to 6.4 metres and manual extension to 13 metres. ■ 12

South Coast Welders Ltd. built themselves a mobile crane using a HIAB 1165, and the design turned out so well that they're now planning to produce it for sale.

Two Powerful Loaders for Cable Handling

At the National Coal Board's Central Cable Repair Workshops in Blackwell, Derbyshire, England, you can see two HIAB 1165 lorry loaders at work handling cable drums. The establishment serves 76 collieries in the East Midlands and Yorkshire, and its HIABs are mounted on outfits of 32 tons G.T.W., each consisting of a tractor unit pulling an 11-metre semitrailer, which are used to collect damaged cables from the mines and to return new or repaired ones in exchange. The cable drums weigh between 250 and 3,000 kg, and on most days each outfit makes two round trips to the mines carrying a total of up to 38 tonnes of cable. The HIAB 1165 works very fast, and can load or unload 19 tonnes of cable in 30 minutes. The National Coal Board's vehicles have loader controls on both sides, but the "1165" can also be fitted with top-seat controls, giving the operator an unrestricted view of the whole lorry platform and the working area on both sides of it.

When the HIAB outfits are not on their colliery rounds they serve as highly versatile yard cranes at their Blackwell base and for loading and unloading other vehicles. ■13



HIAB 670 Gets a Job on the Side

Keeping down the vegetation on road verges and ditches is a necessary but time-consuming and costly job when the use of chemical aids is ruled out on environmental grounds. A new technique employing the HIAB Method has recently been tried out by the Highways Department in the Swedish province of Hälsingland in collaboration with Trima AB, makers of a brush-clearance unit. The handling of this equipment is done by a HIAB 670 mounted on a truck. The brush-clearance unit and the loader both get their hydraulic power from a separate diesel engine mounted on the platform of the truck. The driver operates the unit and the loader from his cab, which has been modified to give him a good view of the right-hand side of the road. The trials turned out very well, thanks mainly to the HIAB, which has a better pattern of movement and greater outreach than the arrangements previously used for carrying and manoeuvring the brush-clearance unit. ■ 14

Reach and manoeuvrability make the HIAB 670 superior to the arrangements previously used to carry the brush-clearance unit.

Semimobile HIAB 970 Plies Veneer

A woodworking firm in Canberra, Australia, uses a HIAB 970 for handling veneer logs. The loader is mounted on a trolley that travels the length of a tank in which the logs are steamed. A diesel engine on the trolley drives the pump that provides pressurised oil for the loader and for the hydraulic motor that powers the running wheels. The trolley was designed and built by the firm's own engineers, while the loader with its grapple and the operator's cab were fitted by Timberlift Hydraulics Pty. Ltd. ■ 15

Over 200,000 Loaders from HIAB-FOCO

HIAB-FOCO passed a milestone recently when the 200,000th HIAB loader was completed at the Company's plants in Hudiksvall. The elated gentlemen here seen shaking hands in front of it are (left) Lars-Eric Morin and HIAB-FOCO's Managing Director Bengt Hökby; on the right is Chief Marketing Executive Bertil Bredinger.

200.000 HIAB

Method Hoists

Raising a Forest

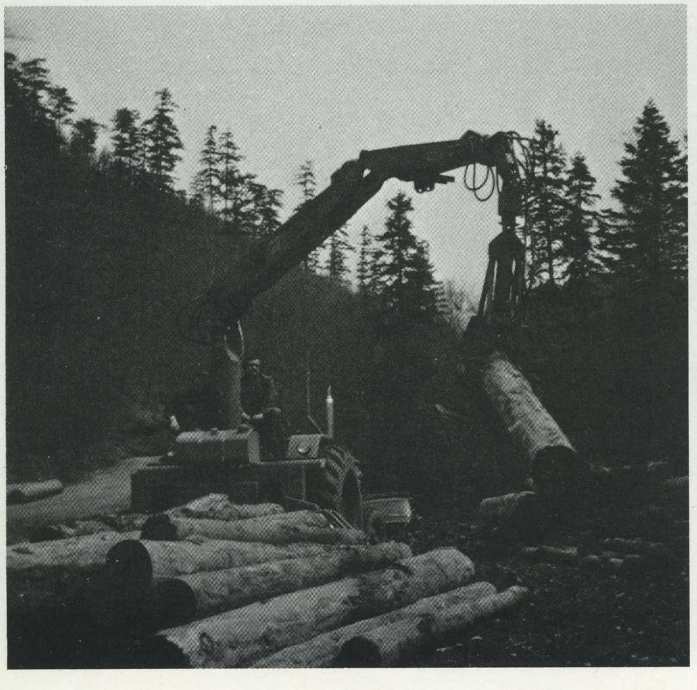
On the outskirts of Istanbul in Turkey they're building a giant craft centre with space for 2,000 workshops. The forest of concrete columns that carry the carcase of the building were raised with a HIAB 1560, two HIAB 1165s and two HIAB 550s, which were also used for placing beams and partition walls.

Net Profit

In a fishing harbour south of Copenhagen the HIAB Method is used to facilitate tackle handling. The truck that transports the tackle has a HIAB 550, and it carries a net reel that is driven hydraulically from a spare loader function. Even very bulky tackle can be shipped or docked with ease and convenience.

HIAB 125 Maximises Manpower

Volkswagen's new light truck, the LT 35, is seen here with a HIAB 125 as a loading aid. Even heavy goods, like this spare-part case, are easily loaded with the hand-powered crane.



Elms for Flooring in Turkey

A plant in Bolu, Turkey, that makes floors, mostly of elmwood, handles the heavy timber by the HIAB Method, using a tractor-mounted HIAB 560 and a truck-mounted HIAB 650, both with a roundwood grapple and a rotator.

Method Hoists

Deep-down Task for Cut-down Loader

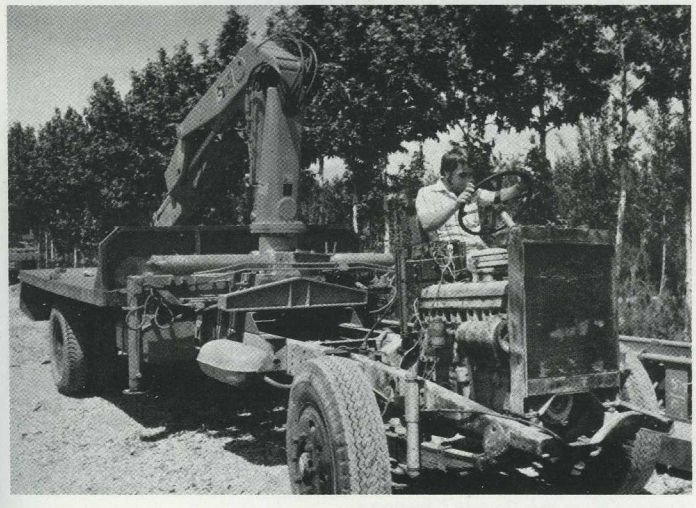
This MB Trac with a HIAB 650 has recently been delivered to the Grängesberg Mine, where it is to function as a service vehicle. Since headroom is low in the mine galleries the loader has a cut-down body.

Vacuum Lift for Polished Stones

Vacuum lifts are being widely used in Germany and France for the handling of smooth and polished objects. The equipment incorporates a bellows that automatically takes a suction hold on the sheer surface. Bellows are available in various sizes so that the force of suction can be matched to the weight being handled.

It Happens Rarely, But It Happens

that someone mounts a HIAB on a bus chassis. In Teheran, Iran, you can see this long-service specimen, which has taken on a new lease of life. Fitted with a HIAB 950 and a newly built platform it now makes an efficient job of internal movements at the Iran Mintech Co.



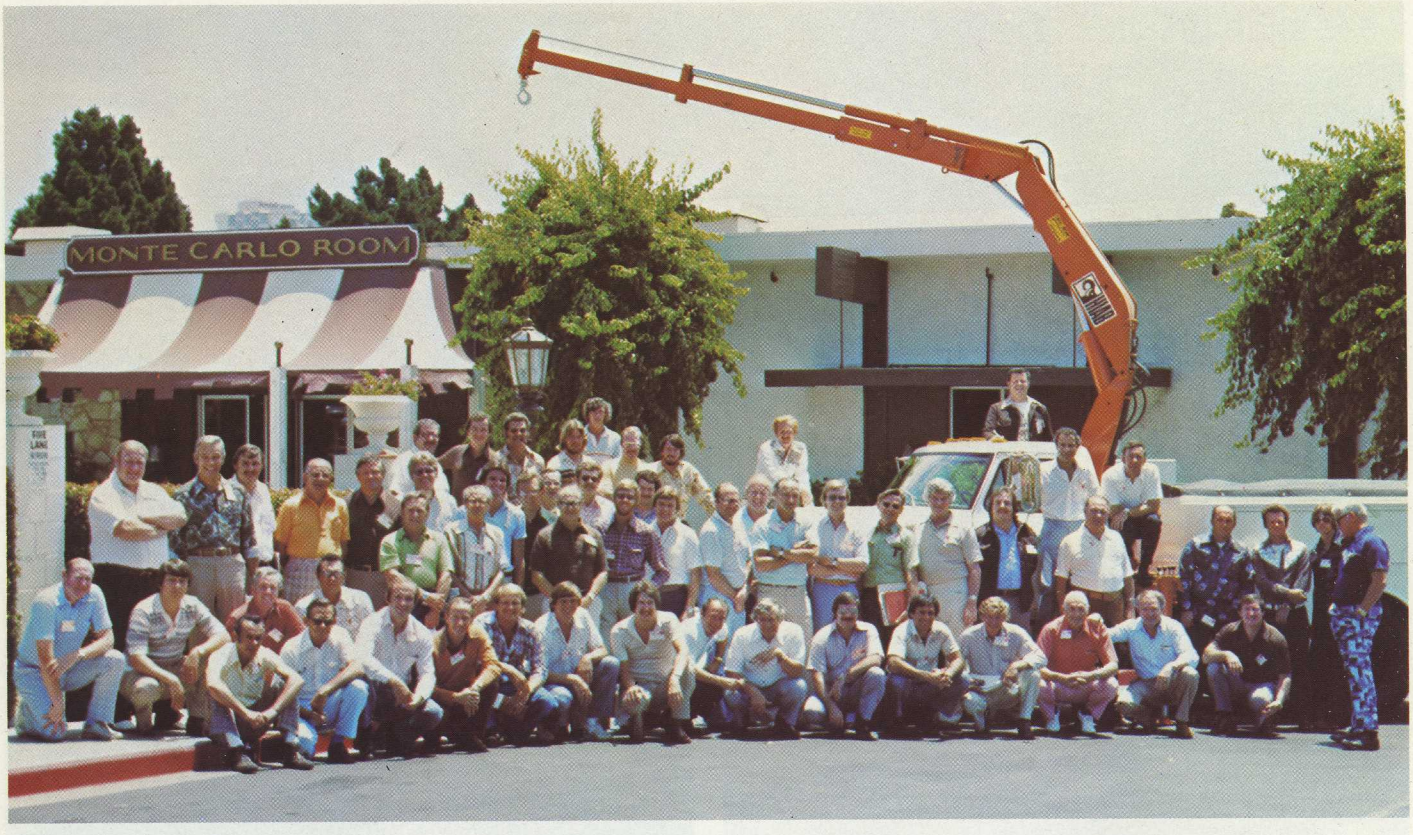
Wind-power on Jutland

The wind conditions on Jutland are right for wind-driven generators, and two of them are here being erected with the aid of a HIAB 1560. They're expected to yield 20 kW when the westerlies get to work on them.

Still Going Strong

As a change from all the new loader models we present in "Method", let's give a big hand for an old-timer, a HIAB 173 from 1959, which is still earning its keep without the slightest trouble. It belongs to the Mitchelstown Creameries, County Cork, believed to be Ireland's oldest farming co-operative.

Section S



Sales Seminaries

HIAB-FOCO people all over the world are constantly being put through instruction and training to make them better fitted to deal with customers' requirements and problems. In the big picture above are the participants in one of these courses, held at Newport Beach in California, gathered for the photographer outside the conference hotel. On the left we see a number of associates in the Far East getting acquainted with product innovations at a seminary arranged by the HIAB-FOCO dealer in Hong Kong.

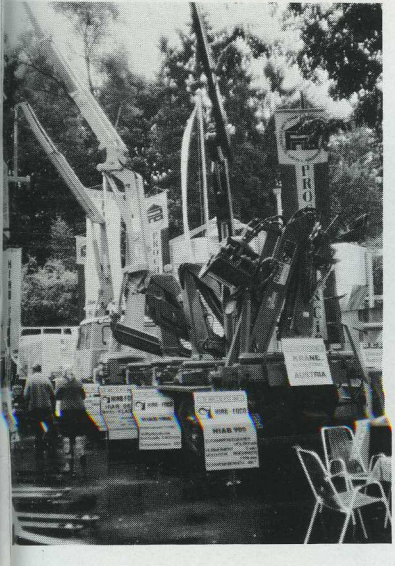
Big Deal

Some of the sixty HIAB 345s that have been mounted on Ford D 1010 chassis for delivery to government authorities in Malaysia from HIAB-FOCO's dealer in Singapore.

Jubilee Present

HIAB-FOCO's subsidiary in West Germany recently celebrated its 20th anniversary, marked by the arrival of this extra-decorated loader as a present from the Parent Company.

HIAB-FOCO Exhibits



At technical fairs and exhibitions around the world the HIAB Method and HIAB loaders are a frequent and highly visible feature. The pictures on this page show how HIAB-FOCO, its subsidiaries and its dealers in various countries come across on these occasions.

The picture at top left comes from the big EXPOMAT exhibition at Le Bourget Airport outside Paris, and to the right of it is a scene from a fair at Bogotá in Colombia. On the left is the HIAB-FOCO show at a fair in Zagreb, Yugoslavia, and on the right one at Wels, Austria. The picture below left comes from Australia; it was taken at a truck exhibition in Perth where the HIAB-FOCO show was awarded a fine prize as the best display of ancillary equipment. The prize is being admired by gratified exhibitors at bottom right.

Heavy-gauge pipes are handled easily and safely with slings and a HIAB 965.