

HIAB



METHOD

No. 10





IT DEPENDS ON THE EQUIPMENT

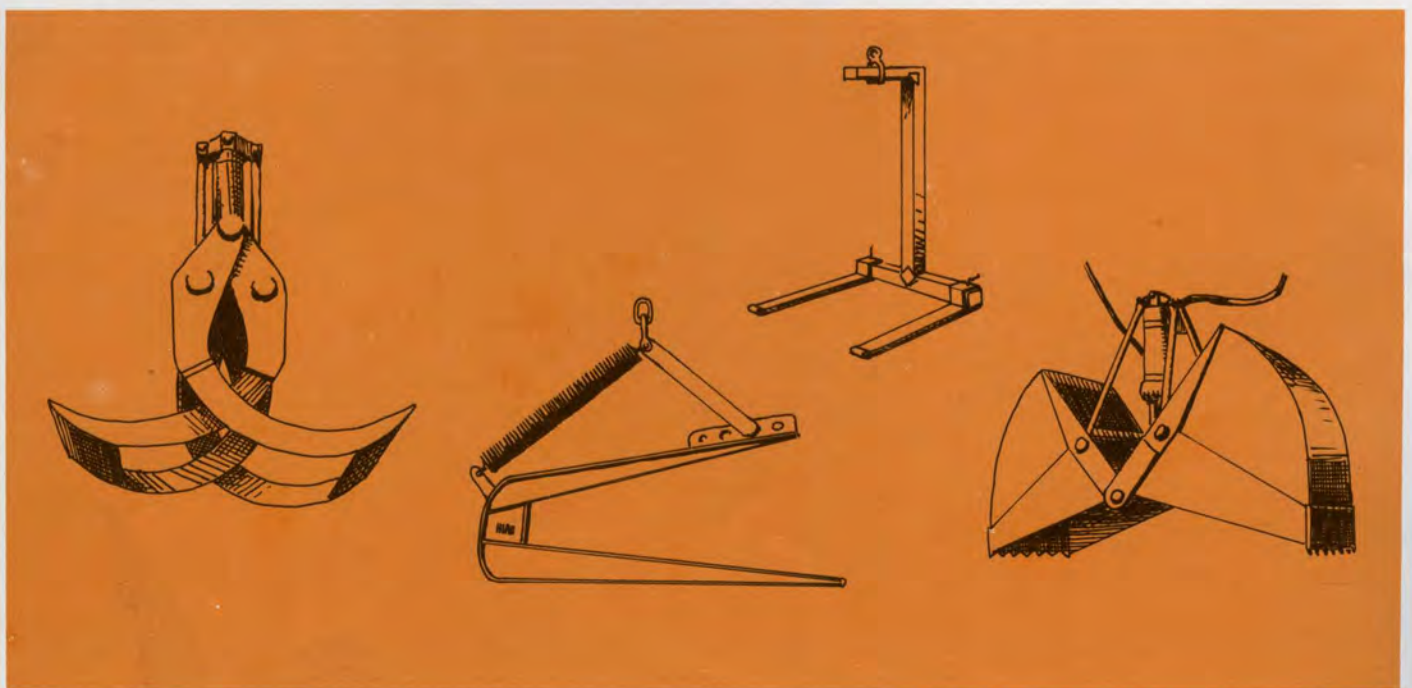
It's obvious that a truck chassis must have the dimensions, engine output and payload it will need for the transportation task or tasks on which it is to work. It's just as obvious that the chassis must be fitted with the body and ancillary equipment it will need to carry and handle its loads, such as the right kind of loader equipment to be used in an appropriate way—what we call the HIAB Method.

But the HIAB Method comprises more than just the hydraulic crane itself. Just as the chassis is no more than the foundation for an efficient transport unit, the crane is often no more than the foundation for a well-adapted handling system. And added to this there is another essential aspect of the HIAB Method, which is *where and how* the crane is to be mounted on the vehicle. HIAB's production programme comprises numerous different types of equipment and tools designed to make the work of the crane easier, faster and more efficient. This issue of METHOD devotes some of its space to these ancillaries.

Many of them are so indispensable that they have come to be regarded as self-evident standard accessories rather than as

extra equipment. The roundwood grapple used in forestry is a case in point. Others are highly specialised, like the one that uses hydraulic suction pads for handling panes of glass for display windows. But one thing that they all have in common is that they broaden the natural field of operation of a HIAB crane and enable it to realise still greater savings in point of time, labour and costs.

One of the reasons why these attachments and tools have grown so numerous, so practical and so efficient is that the great majority of them are based on ideas hatched by HIAB customers. In many cases the customer's solution to his problem was such that it could be incorporated as it was or with only minor modifications into HIAB's range of attachments. In others he put forward an idea that was then worked up into a serviceable item of equipment by the designers in HIAB's development department. Sometimes the customers have merely described their problems and left the practical solutions to HIAB. But it is a feature common to the whole range that each item was evolved in close collaboration with people possessing practical, day-by-day experience of the task for which it was designed.



This German outfit has a special bucket—not a standard accessory in Sweden—for loading such material as paving stones, bricks from demolition jobs, and so on. It achieves striking savings of time as against manual loading.



AN ATTACHMENT FOR EVERY LIFT

A HIAB crane does a better job if it is fitted with a tool or attachment of some kind. Many truckers have found that so simple a thing as an extra hoisting hook on the inner hook attachment saves a lot of valuable minutes every time an extra-large hoisting capacity is wanted, for example if they're engaged on piece-goods haulage or use their crane as a maid-of-work for assorted handling jobs.

Among the HIAB attachments there are several which almost any crane owner would find a lot of use for. Slings and nooses, for instance, are obvious and almost indispensable aids. And there are rubber-covered slings for handling fragile goods.

HIAB's box claws are simple enough, but they save a great deal of time when

you're loading cases. Whereas a rope or sling has to be passed round underneath the load, which can be a laborious and slow business, the box claws secure a direct grip on the upper edge.

Palleting has pretty well swept the field in goods handling by now, and palletted goods should of course be handled as far as possible without being removed from their pallets. In this sort of work, HIAB's pallet fork is a winner. The prongs of the fork are roller-tipped to slide effortlessly in under the pallet, and they can be adjusted laterally to fit various pallet sizes. The fork can be balanced by means of the sliding yoke which is locked in the desired position by means of a clamp link, so that whether the load is heavy or light it can be lifted without tilting.

Rotator Precision

The hydraulic rotator is an invaluable ancillary to the pallet fork and above all to HIAB's numerous hydraulically powered grapples, such as the roundwood grapple, the beet basket, the polygrip bucket, the clamshell gravel grab and so on.

The rotator makes a big contribution to the precision handling that is one of the cornerstones in the great success of the HIAB Method. The use of the Method in roundwood loading, which is an important element in forestry mechanisation throughout the world, is based in part on the accurate grasping and spotting of the timber which is made possible by the rotator.



Here's an example of simple aids solving an otherwise almost impossible installation problem. Three clamps were secured to the edge of the concrete ring, enabling it to be lifted in a horizontal position. The picture comes from Germany and clearly brings out one of the basic ideas behind the HIAB Method: the load should be discharged as close to its final destination as possible. In this case the HIAB 173 moves the concrete rings through the last few yards from the truck deck down into place in the well. The loader does an accurate job—when the clamps have been detached there is no need to move the ring any more.



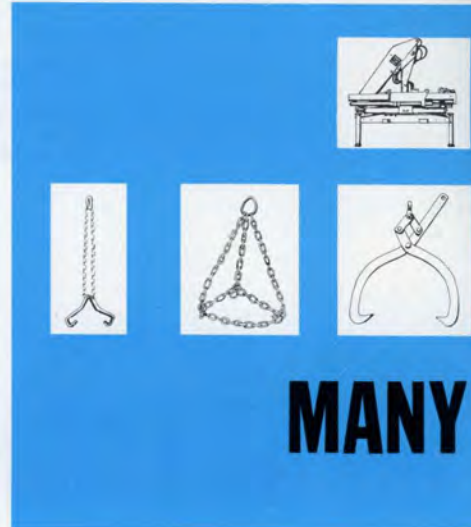
TIMBER TONGS

A pair of timber tongs is a must for people handling small batches of timber, pulpwood, posts and so on. It gets a secure hold even on very thick logs. Needless to say it isn't intended for handling roundwood in bulk—the right equipment for this job is a roundwood grapple with a rotator.



BARREL CLAWS

HIAB's barrel claws provide a simple means of handling barrels, concrete pipes, cases and similar goods. They are a good deal easier to work with than slings, and they give safer handling with greater precision.



MANY

ONE CRANE THREE ATTACHMENTS SAFE LIFTS

On this spread we show three of our attachments in use. They're all extremely simple, yet they save a great deal of time and labour. None of them costs very much, yet all three make it still simpler for a driver to unload his truck. They pay their way even if they're only occasionally used. They belong in the attachment kit of every truck used on general duties like these.

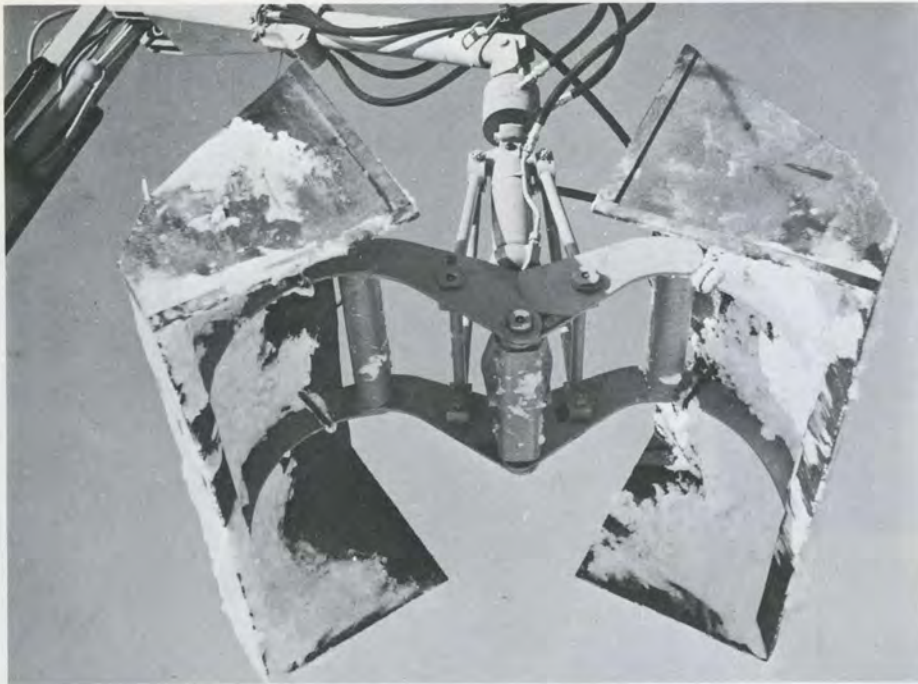


STONE HARNESS



Boulders seldom provide any purchase for a hook, but with the HIAB stone harness you can still get a firm hold on even the most awkward specimens. Its three chains are ingeniously linked together so that no rock, larger or small, can wriggle out of them.





SNOW-CLEARING SPEEDLOADERS

Two truck-owning brothers asked themselves why they should shovel snow with their own muscles when their Speedloader had a lot more strength and stamina. So they fixed themselves up with a simple attachment that made their Forest Speedloader an impressive performer on snow-clearance work. They just fastened two bucket halves to their roundwood grapple using two bolts on each side.

The resulting snow grab comes in very handy when the timber piles alongside the forest roads are heavily snowed under. But this Speedloader, which is detachable, can also be transferred to a truck with a deck

and snow flaps and used on ordinary snow clearance. Especially in narrow lanes and at other points where it's awkward to get at the snowdrifts with ordinary loading machines the snow-grabbing Speedloader provides a means of mechanising a job that would otherwise have to be done by hand. The grab takes a cubic metre at a bite and can load a truck with snow in about five minutes.

The outfit has also proved very serviceable for loading other loose material such as manure and refuse, and several neighbouring owners of Speedloaders have now followed the example of the inventive brothers.

HOW NOT TO DROP



REMOVALS BY CONTAINERS



BRICKS

A special grapple for handling bricks has been introduced by HIAB's general distributor in Australia. It is designed for use with the HIAB 173, 174 or 293 and is available with various capacities from around 250 up to 500 bricks. The commonest size takes 450. The grapple is operated with a 10-cm hydraulic cylinder actuating a system of levers which squeeze the bricks in the bottom layer. This layer therefore serves as a platform on which to carry the rest, and no pallets are needed.

The chief advantages, of course, are economies of time and labour. The truck driver can load and unload bricks all day without overstraining himself and can get through about twice as many round trips, as long as the haulage distance isn't too great. With a 500-brick grapple he can discharge a load of 3,000 bricks in about 12 minutes. That represents a time saving of about an hour per load, which adds up to three or four hours a day with short or medium transport runs. These brick grapples scored a prompt breakthrough and are now widely used in the Australian brick trade.



SPEEDLOADER AS CEMETERY FACTOTUM

The Cemetery Commissioners in Uppsala have two tractors fitted with detachable rear-mounted HIAB 173 Speedloaders. Each is fitted with a clamshell gravel bucket, but they don't spend much of their time handling gravel. They perform a variety of tasks that admirably illustrate the versatility of the clamshell bucket.

A regular HIAB duty in the Uppsala cemeteries is loading refuse. Once or twice a week the accumulated rubbish is loaded onto the tractor trailer using the bucket of the HIAB crane, which is very well suited to this material. The whole loading job seldom takes more than fifteen minutes.

At the big burial ground adjacent to the

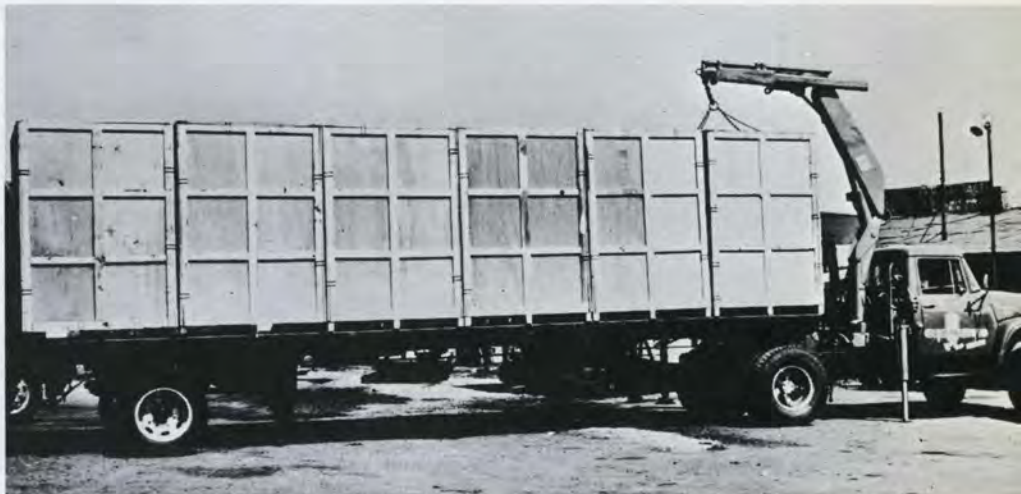
Berthåga Crematorium there are many tasks on which the bucket-equipped HIAB cranes are in their element, such as taking garden earth from the great stockpiles and loading it up for transport to the flower beds.

The stones that have to be removed from the areas being made into lawns are also loaded with the gravel bucket. The very largest stones which the bucket can't tackle are handling with chain slings or a stone harness.

Among the many other more or less regular jobs on which the clamshell bucket saves a great deal of time and drudgery are the loading of snow in winter and dead leaves in the autumn.



Better use of freight space, faster handling and less risk of damage to the goods resulted when one of the major removal contractors in Johannesburg adopted the HIAB Method. Instead of using removal vans of the traditional type they now stow the furniture in large containers. The method starts paying off even at the loading stage. No heavy items of furniture are lifted until the container is full—and then the lifting is done by a HIAB 174. During the haul the goods are firmly packed and well protected in the closed container, and at the other end the heavy work is again taken care of by the HIAB loader. At the same time the container method has yielded great advantages when the furniture has to be stored. The containers can be handled by fork lift trucks and stacked one upon the other in the warehouse, achieving striking economies in space. The furniture stays where it is in the container, which isn't opened until it is due to be unpacked at the new address.





In one of the southern suburbs of Stockholm the HIAB Method is being used for virtually all the work of erecting hundreds of terrace houses. In this scene a HIAB 177 is putting down floor slabs. Thanks to its extra jib section it can reach right across the house carcass and can lay all the units from the same side. When the concrete grapple shown in this picture has been replaced by another attachment the same crane can be used for positioning the wall units.



SEVEN GARAGES IN A MORNING'S WORK

Salemstaden is a large housing estate just south of Stockholm. About 300 terrace houses are going up in the first stage of development. The actual houses are built in the factory and then erected on site. All erection work is done using a HIAB crane.

METHOD singled out garage erection as a subject for this story. The garages are delivered seven at a time by an outfit consisting of a tractor truck and a trailer. In unloading and erection, which are carried out as an integrated operation, the builders use a crane truck equipped with a HIAB 174 Speedloader.

Why don't they have a loader on the haulage truck instead of using a separate crane truck? The reason is that the under-wheel conditions often make it difficult for the loaded transport rig to get into the right position sufficiently close to the erection site. The lightly loaded crane truck is better able to make its way around the terrain and often works from in between the load and the garage foundation.

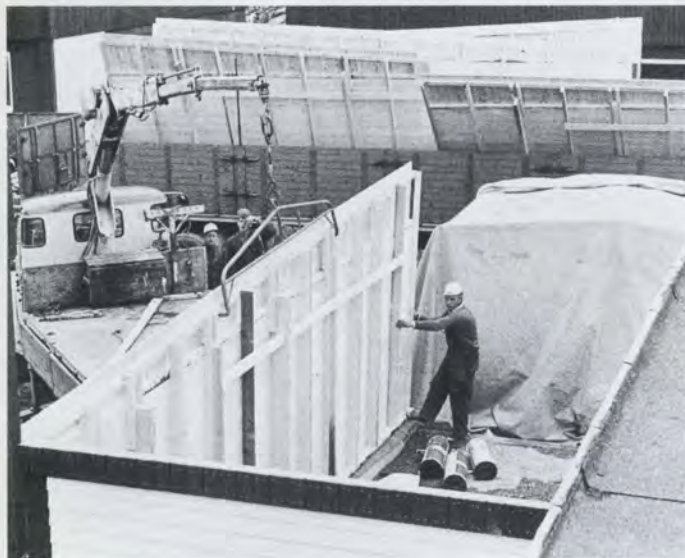
Around seven in the morning the truck comes along with the garages, and by lunchtime the erection job is all over. It's done by four men, two building operatives and the drivers of the two trucks. Each

garage takes between 25 and 45 minutes to put up, the varying times depending on road conditions, the nature of the ground, obstructions on the site and so on.

The crane uses slings for the roof units and a special tackle for the wall units. The wall-handling attachment is simple but saves a lot of time.

When they first began erecting the garages the builders used a pair of tongs to grip the wall units at the top edge. If the units were to hang level the tongs had to be applied directly over the C.G. This created difficulties which held up the erection job. So the tackle shown in these pictures was designed. It consists of a yoke-like tube fabrication with a fixed hook at each end. The yoke is hooked under a horizontal waling along the top edge of the wall unit. It doesn't have to be positioned exactly in the middle of the wall—even if it's up to eighteen inches out one way or the other the wall will still ride level enough to be swung across from the truck deck to the building foundation without any trouble. Once in position the wall remains hanging by the yoke until it has been shored up with struts or nailed to walls already in place.

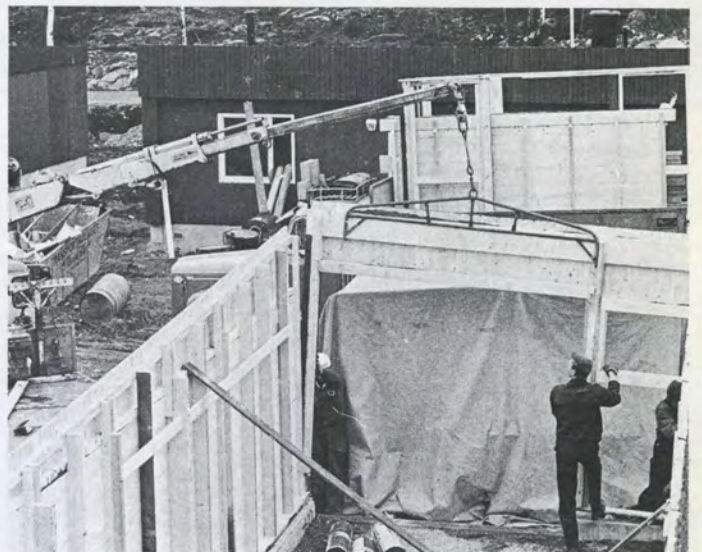
When the rear walls of the garages are being erected an extra jib section is used. Note that the tarpaulin-covered pile of stores in the foreground is no obstacle, even though it is right in front of the spot on which the garage is to stand.





The picture at the far left shows the side wall going into position. Since the distance to the truck is now less, the standard reach of the 174 is sufficient. The tarpaulin-covered pile is visible here too.

The walls are shored up until they are all in place (opposite right).



This picture clearly shows that thanks to the long yoke the wall hangs pretty well level even though the hooks are attached a good way off centre.

STRAIGHT INTO PLACE



The entire load has here been lifted by the HIAB loader down onto the foundation slab and distributed evenly over the building area to ensure that the amount of movement during the actual erection will be at a minimum.

TAKE SMALL PAINS — MAKE BIG GAINS

We've often featured HIAB at work in building and construction. The really striking gains are registered when the HIAB Method is used in erecting prefab units for example, but even in more conventional housebuilding there are simple ways of making the handling of materials much more efficient.

Large quantities of lightweight concrete "Ytong" blocks are used every year on small and medium-sized building jobs. On these sites there is as a rule no crane or other equipment for mechanised handling of the building material. Of course, a single block doesn't weigh many kilograms and doesn't seem to pose much of a handling problem. So you might think it doesn't matter whether the blocks are unloaded on the boundary line or anywhere else in the vicinity of the site.

But it takes a lot of concrete blocks to build even a small house. And if you lug them around the site by hand or barrow you're doing a lot of extra work—often quite needlessly. You can waste many hours like that even if it's only a matter of ten yards or so.

To streamline its deliveries as much as possible, Ytong uses the HIAB Method. And that doesn't just mean fast and labour-saving unloading. The truck and crane are exploited to place the blocks as close as is feasible to the spot where

they're going to be used. The pallets are even put down right on the foundation. As a rule that doesn't take any longer than dumping them anywhere else on the site—but when the bricklayers start work they'll save hours by it.

Since the Ytong pallets are small and the blocks light, most of the company's delivery trucks can manage with a HIAB 293 Bimbo and a simple pallet fork. Further rationalisation of the actual discharging, particularly on a vehicle with a big payload, could be secured by using a rotator-equipped HIAB 174, which would make it a good deal easier to grasp the pallets.

Down on the foundation slab the future householder takes delivery in person.



At the rear of the rig is a platform onto which the whole parcel of concrete units can be loaded.

LIGHTWEIGHT CRANE FOR

Millions of square metres of lightweight concrete units are moved and erected every year in West Germany by the HIAB Method, and a good many of them come from Hebel Gasbetonwerke, which went into business some years ago not far from Frankfurt. This up-to-date firm supplies units for both industrial construction and housebuilding. Much of the success achieved by this method of building must be credited to efficient transportation and erection.

In order to rationalise its handling operations the firm wanted to replace the ordinary building cranes by a highly mobile outfit that would be better suited to this construction method. What was needed was a light, fast crane that could make its way around rough and ready building sites yet still maintain a high road speed on its way from one to another. The specification also called for a lifting height of at least 10 metres above the ground and a lifting capacity sufficient for unloading 2-ton parcels of units from the transportation vehicles. The kerbside weight of the outfit was maximised to 7½ tons, so that it could be driven by holders of the German Class III driving licence. Then the customer wanted to be able to drive his equipment both with the vehicle engine and with an electric hydraulic pump. And finally, the crane vehicle had to be

BY THE HIAB METHOD

Extra jib sections enable the HIAB 177 to work at a height of over 10 metres.

LIGHTWEIGHT CONCRETE

capable of transporting complete parcels of units on sites where the underwheel conditions made it impossible for the haulage trucks to get all the way to the erection point.

It was a tough specification, but HIAB's experts were soon ready with a solution that met the requirements and more than measured up to the client's expectations.

They used a short-wheelbase four-wheel-drive truck chassis. A HIAB 177 Speedloader mounted near the rear axle has a lifting capacity that meets the demand and, with an extra jib section, a working height of 10.6 metres. The crane is also equipped with a hydraulic winch and four hydraulic support legs. Double hydraulic pumps, one of them electric, provide the alternative drives.

It's a simple operation to replace the extra jib section by a short jib with a lifting hook for unloading the heavy parcels of concrete units. When necessary, the parcels can be loaded onto a pull-out bracket at the rear of the truck and transported to the erection site.

In this context the HIAB Method has resulted in very substantial time economies, thanks above all to the great mobility of the outfit. And are the Hebel people pleased with HIAB's solution to their problem? Well, since the first outfit was commissioned three years ago they've ordered six more just like it.



Method Hoists



HIAB CRANE "MARRIES" ITS FIFTH TRUCK

HIAB loaders are known as "Elephants" in Sweden. And like elephants they seem to be capable of a long, long life. Peter Janssen, of Norden in West Germany, could bear us out on that. In 1957 he decided that he could use a HIAB crane in his trucking business, which does haulage contracting and feeder runs for the railways. He bought a HIAB 170—a predecessor of the 173 Speedloader, and so far he's had no reason to regret it. His HIAB is still functioning to his complete satisfaction, and is

often in use as much as six hours a day loading safes, machines and other heavy freight. Three years ago, in a letter to HIAB's general distributor, Peter Janssen noted that the repair bills for his old faithful were remarkably light. And they don't seem to have gone up much in the interval since then—because he's just decided to have the crane transferred onto a brand-new chassis. This will be the *fifth* truck Peter Janssen has loaded with the same crane—now eleven years old.

"VAKUMOBIL" PILES UP SAVINGS IN THE TIMBER YARD

The "Vakumobil" is a new mobile stacker which employs the HIAB Method to make handling easier and more efficient in sawmills and timber yards. Developed by Firma Ernst Lewecke, of Lemgo, West Germany, it is based on a diesel-powered truck chassis and consists of a HIAB 193 having four support legs and special lifting tackle of vacuum type. The vacuum pump is diesel-powered as well. The lifting capacity of the attachment is about 750 kg.

The Vakumobil is mostly used for handling large sizes of timber and heavy varieties of wood, but the same equipment can also be used for such materials as stone and concrete slabs. On average, it deals with 3-5 units a minute. That represents an improvement by 100% on the handling methods formerly in use.



HIAB METHOD REACHES THE FIJIS

The HIAB Method is constantly finding new markets. One of the latest is the Fiji Islands. The outfit shown in this picture is intended for hauling concrete blocks and was supplied from New Zealand. The Fijian roads aren't all they might be, so the truck was fitted with a third axle, which also raised its payload to 10½ tons. By means of a pneumatic bogie lift the weight of the load can be transferred when necessary from the extra axle to the driving axle in order to provide additional stability and traction. Discharging the whole of the ten-ton load—a job which used to take two men about an hour—can be done by a HIAB 173 Speedloader in three minutes. Another advantage is that the load can be delivered right to the builder's elbow—whether he's working down in the cellar or six or seven feet above ground level. As a further Scandinavian touch, the truck with its Swedish crane was shipped from New Zealand to the Fijis aboard the Danish 2,000-tonner "Magga Dan" of Esbjerg.



Negotiability

The engineering firm of Linke, of Detmold in West Germany, makes a speciality of moving pipes, and even though 80-metre plastic pipes like this one aren't on its programme every day the firm still has the equipment to handle them. And as the picture shows, HIAB plays an essential part. No one knew for sure whether welded joints in the plastic would be able to resist the aggressive marshy ground in which the pipe now forms part of a water main, so it had to be transported in one long length. On the ten-kilometre run from the rail-head a squad of HIAB cranes turned in a "well-rounded" performance.



HIAB RIDES RAM AND BULL

"Widder" and "Stier"—the names mean Ram and Bull—are two tugs recently commissioned on the River Rhine. Every bit as powerful as their namesakes, their main duty is to tow heavily laden barges up and down the river. Each of them has a stern-mounted HIAB 173 Speedloader—and finds plenty of use for it. The main purpose of the cranes is to lift the light-alloy ramps which are put out so that vehicles of various kinds can board the barges for loading and unloading. The cranes also come in useful for positioning navigation markers in the river and for repair work on the embankments. Jobs like this keep their hydraulic winches busy.



When HIAB loaders go on show at exhibitions and fairs of various kinds they're invariably a smash hit with the public. At the Hanover Fair of 1968 (left) a new outfit for taking care of junk cars by the HIAB Method attracted considerable interest. It consists of a HIAB 174 Speedloader and a scrap press mounted on a truck chassis and visible on the left of this picture. The photo on the right comes from an exhibition in Barcelona.





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