



Method

HIAB

Method No. 26

A magazine featuring the HIAB Method and its applications



Ten Years

As we set about putting this issue of "Method" together it's just ten years since we began work on the first. Right from the beginning we sought to make the contents of the magazine as international as possible, even if there's not much evidence of it in "Method" No. 1. One page out of the twelve is devoted to material from West Germany, Austria and the U.S. - the rest of the material comes from Sweden. In later issues we've succeeded better in this respect. In some of them we pretty well turned the proportion round, allocating one page to the HIAB Method in Sweden and the rest to its applications in other countries.

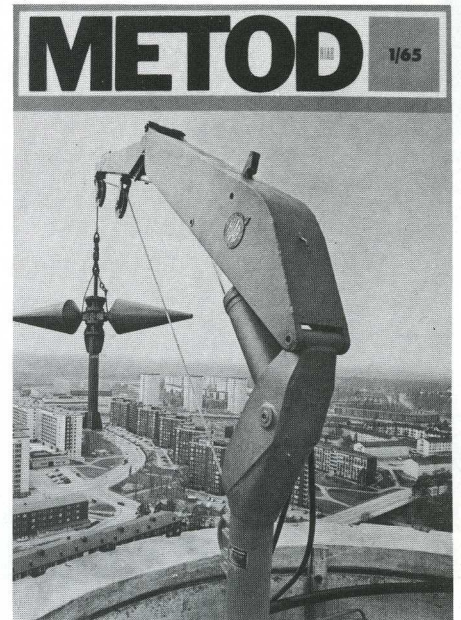
You might say that the make-up of the magazine's contents has reflected the spread of the HIAB Method. When we began publishing, HIAB's exports were already on a considerable scale and you could see HIAB loaders and the HIAB Method in many countries on all continents. But Sweden was still the predominant market. Today, it's exports that are wholly predominant. One loader out of ten is sold in its country of origin, Sweden, and several of HIAB-FOCO's export markets are now larger than its domestic market.

It's a gratifying development. Gratifying for HIAB-FOCO because it shows that the idea on which the firm staked its future was a sound one, not only in Sweden but throughout the world. In this space in "Method" No. 1 the advantages of the HIAB Method were summed up in the words "Safety, convenience, economy". And the development is also gratifying for HIAB-FOCO's customers the world over, who have increasingly been enjoying the benefits of these advantages. It's also gratifying for us on the "Method" staff, since it means that the magazine now reaches several times as many readers in many more languages and in many more countries than when we began. That strengthens our hand in spreading information on the HIAB Method and its applications - which is the whole purpose of our activities.

Two New Loaders

In one of the earliest issues of "Method" we presented a new loader model - the HIAB 174. It was a design that in many ways embodied new thinking - the first of a new loader generation as it were. Over the years since then "Method" has presented many new members of that generation, but the oldest of them is still in being. It's been developed in many respects and

has acquired a new model designation - HIAB 550 - but in its main features it's the same design. So successful was that design that it became far and away the world's most-sold loader.



In this issue we present a new version of the HIAB 550. It's still the same basic design. But it's been modernised and modified enough to qualify it for a new unveiling.

At the same time we present a new and lighter loader, the HIAB 345, which with its lifting capacity of 3 ton-metres fills in the gap between the HIAB 230 and HIAB 550 in our loader range.

HIAB-Unimog

We've devoted some of the space in this issue to HIAB loaders on Unimog chassis. This is an innovation to the extent that we've never before written up the HIAB Method in combination with a specific vehicle. But the Unimog stands apart from other vehicles in many respects. You could say it's something midway between a truck, a mechanical horse, a tractor and a cross-country vehicle, and in many contexts it's used more like a mobile power unit than as a vehicle.

These distinguishing features have made the Unimog highly serviceable in many different tasks - some of them pretty unusual. Combined with the HIAB Method, this already versatile and effective vehicle acquires even better performance and can tackle even more assignments. We shall describe some of them in this issue, and we lead off on the opposite page with a conversation between a representative of HIAB-FOCO GmbH and a man from Unimog on the future prospects of the Unimog-HIAB combination, which appear to be bright.

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HIAB METHOD No. 26

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A HIAB 950 on a Unimog 416 changing lighting columns in Dietzenbach, a Frankfurt suburb.

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Co-operation on the Increase

Some time ago, two men met in Gaggenau in West Germany at the instance of "Method" to compare notes on the Unimog-HIAB combination. One of them was a representative of HIAB-FOCO GmbH. The other was Gustav Krettenauer, head of Unimog's Sales Promotion Department at Daimler-Benz AG in Gaggenau.

This is a record of their talk:

HIAB-FOCO:

For a good many years the Unimog-HIAB combination has been giving a good account of itself all through the transportation business as a fast working outfit. As the leading manufacturer of hydraulic vehicle loaders, we of HIAB-FOCO were also the first to mount a loader of this kind on a Unimog. Today, some 14 years later, we're able to offer a large selection of loaders for mounting on various Unimog models. On the Unimog U 416 we can now mount a loader with as much as 9 ton-metres of lifting torque.

As the man in charge of Sales Promotion at Unimog, Herr Krettenauer, you're constantly on the alert for attachments and bodies that will enable you to offer your customers new capabilities, so you're in the best position to know just what your customers want. The co-operation between Daimler-Benz and HIAB-FOCO can be described as good. How would you say that this good co-operation has come about?

Herr Krettenauer:

The question sounds simple, but when I give it closer thought I find that there's no simple answer to it.

In point of fact the initiative for our co-operation came from a dealer who had discovered an acute need in his territory. He was looking for a solution to the problem and he found it in the HIAB-Unimog combination.

Since then, cordial collaboration between various elements in your company and in ours has enabled us to build up our present co-operation. The credit can't be given to any one department - it was just this combined effort made by many different individuals in your company and ours, and by no

means least the collaboration between Unimog's SP department and yourselves, that have resulted in our success to date. At the same time, this across-the-board co-operation is the foundation on which we can build for the future.

HIAB-FOCO:

How do you envisage the future development of the Unimog-HIAB combination?

Herr Krettenauer:

In essentially positive terms!

The Unimog is designed to transport goods of various kinds, especially across country but also on the highway. Examples would be forest hauls linking up with highway runs, or transport jobs in the building industry. And it's particularly at home on short or medium-distance runs. In all kinds of transport work the problem of *loading* crops up. And it will become even more important in the future as payroll costs make up a growing proportion of loading and transport expenses.

For years we have exerted ourselves to serve widely differentiated markets, and it's in that fact that we see the best guarantee for our joint future activities. We can't rule out the possibility that certain market sectors will shrink, but others will assuredly go on developing along positive lines.

The essential thing for the SP department is to spot coming developments in good time and to accommodate to them using all available means, including co-operation with HIAB-FOCO. Looking at it like that we certainly seem to be all set for close and fruitful co-operation in the years to come.



Herr Gustav Krettenauer, Unimog.

HIAB-FOCO:

Herr Krettenauer, does Daimler-Benz have any concrete plans for the further development of the Unimog program?

Herr Krettenauer:

As early as the autumn of 1974 we allowed our customers a peep into our "back rooms". We demonstrated that our development work strives to keep ahead of today's and tomorrow's demands. In this way we hope to be able to broaden our base still further while sticking in principle to our existing types.

The trend towards bigger units in manufacture and distribution entails a larger goods turnover and puts ever greater force behind the need to mechanise loading and unloading. There's no doubt that you too will be compelled to direct your development along the same lines as Unimog. On the strength of our joint work so far we've no doubt that you will succeed in this.

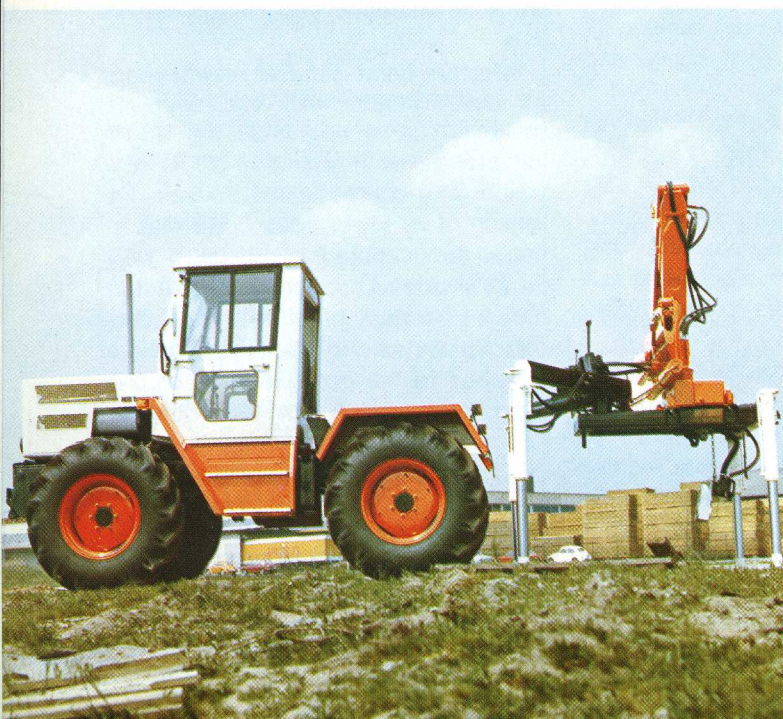
A further point is that in recent years we have divided our programme between high-speed and low-speed vehicles by the introduction of MB trac, which is of course known to you. By reason of its lower speed, MB trac is not so serviceable for haulage, but it's very suitable as a mobile loader unit in difficult country. In the future, therefore we're going to have to pay closer attention to the possible uses of MB trac in combination with HIAB loaders.

HIAB-FOCO:

Many thanks, Herr Krettenauer, for your interesting views. As a HIAB-FOCO man I can fully endorse them.



HIAB-UNIMOG: Strong, Fast, Compact Combination



In Building

Far left: A HIAB 550 on a Unimog 406 equipped with a special grapple for concrete blocks.

Centre: A HIAB 570 with an extra boom extension on a Unimog 406.

Near left: A HIAB 550 with an extra boom extension and pallet fork on a Unimog 406. ■ 1



In Forestry

A HIAB 670 with top-seat controls, rotator and roundwood grapple on a Unimog 416 is used for both loading and unloading long stems which are transported on a four-wheel trailer. ■ 2



HIAB-UNIMOG

Put two such versatile outfits as a Unimog and a HIAB loader together - and the possible applications proliferate! We show some of them on this spread and the next page.

The HIAB-Unimog co-operation has resulted in cut-and-dried mounting alternatives for combinations of a Unimog chassis with a HIAB loader - from the 2-ton-metre HIAB 230 to the 9-ton-metre HIAB 950.

With a Bucket

A HIAB 950 with a rotator and hydraulic clamshell bucket on a Unimog 416. ■ 3



On MB Trac

The HIAB 550/MB trac combination is a very efficient off-road loading outfit. This loader has a detachable mounting on a special frame with four support legs. ■ 4



Two Important Components

With a HIAB loader mounted on such a compact vehicle as the Unimog, stability is liable to be a problem. For this reason the loader is usually mounted on a special frame - seen hanging from the hook in the picture above. The frame has four extensible support legs and was developed jointly by HIAB and Unimog. With this frame on the small chassis you have sufficient stability to be able to use the full lifting torque even on a 9-ton-metre loader.

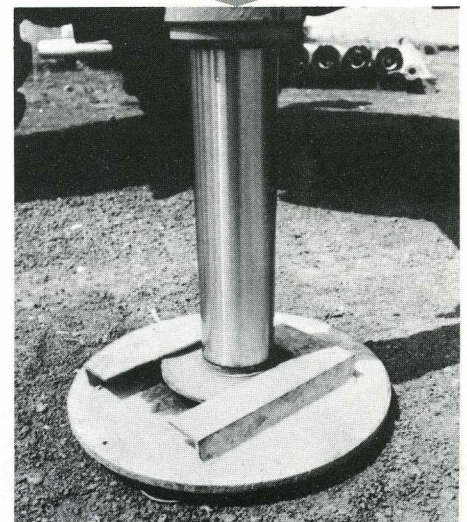
Below is a simple detail that gives greater stability on soft ground - a straightforward support-leg underpad which can of course prove very useful for other vehicles besides the Unimog. ■ 5

Holes for Poles

A HIAB 550 with a hydraulically powered earth auger on a Unimog 416 with a special ground support mounted at the rear to supplement the loader support legs. ■ 6

Light and Fast

This HIAB loader, a HIAB 245, mounted on a Unimog 416, is used by a building firm for such jobs as handling scaffolding. ■ 7



An Old Salt Comes Ashore

The shipping channel into Glasgow through the Firth of Clyde and up the lower reaches of the River Clyde has long been one of the world's busiest waterways. In 1880, the rapidly growing traffic in the channel was given a new aid to navigation - the world's first flashing-light buoy. It was positioned just where the channel makes a 90° turn in towards the port of Glasgow. It remained on duty there for many years, guiding many thousands of vessels through the darkness and seeing transatlantic giants like the Queen Mary, Queen Elizabeth and Titanic moving out on their maiden voyages from the yards at the river's mouth.

The old buoy has now been replaced by more modern equipment, but the authorities could not bring themselves to take their faithful old servant right away from the shipping it had guided for so long. And so, a little while back, the buoy was placed on a concrete plinth on the esplanade between Gour-



och and Greenock on the south bank of the channel, opposite the point where its light used to shine.

The haul was carried out by Baird Brothers Ltd. And setting the old buoy on its pedestal was an easy assignment for their new HIAB 950. In the ordinary way, Baird Brothers are builders and

civil engineers, with contracts scattered all over the west and north of Scotland. In that capacity they've been using the HIAB Method with great success for many years. Faced with increasing calls for heavier lifts, they recently added to their equipment a Leyland six-wheeler with a HIAB 950. ■ 8

HIAB 950 - Has Strength Plus Length

Arne Henriksson, of Lund, is often called in to move loads of concrete flagstones - the "SF" stones that are a common paving material in southern Sweden and elsewhere on the Continent. A pallet-load of SF stones weighs anything between 1.4 and 1.9 tons, so you need a powerful loader to handle it at long radius. Arne Henriksson used to have a HIAB 550, but now he's changed to a HIAB 950 with a rotator and a hydraulically operated pallet fork. With that equipment he can spot his pallets with great precision over a large area round his truck. Since the vehicle is a tipper the loader is mounted behind the cab, even though he often has SF stones on the trailer too. As an alternative attachment for the loader, Arne Henriksson has a hydraulically powered clamshell bucket which will do nicely for superannuated Christmas trees as well. ■ 9





HIAB 550

**An Even Better
Five-tonner**

The HIAB 550 is far and away the most-sold loader model - not only in the HIAB range but among hydraulic loaders as a whole. Since it was first introduced nearly a decade ago - when it was known as the HIAB 174 - it's got through more work than any other loader. With the passing years a long series of details have been changed and improved so as to keep the model constantly in the forefront as regards modernity and performance.



However, the new version of the HIAB 550 that is now being presented differs in so many respects from its predecessors that it really deserves to be regarded as a new model. But there have been no changes in the qualities that made the 550 the most-sold vehicle loader: its basic design and its performance. With a 5.5-ton-metre lifting capacity and a 5-metre standard reach, it's just what's needed for the great mass of vehicles and handling tasks.

Adaptability and Flexibility

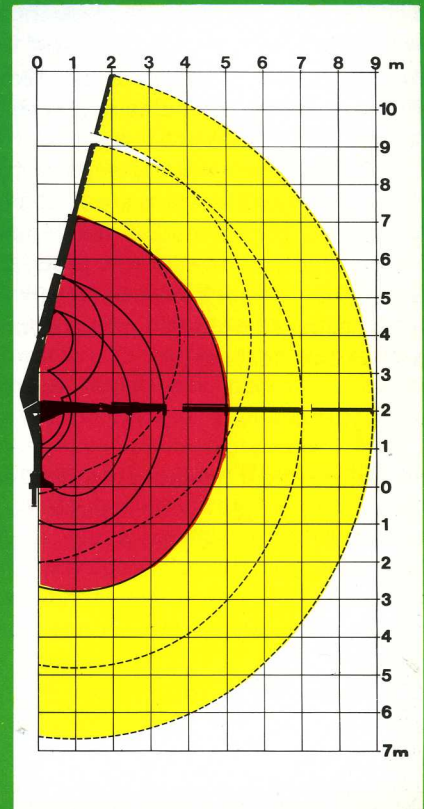
One of the main ideas behind the modifications on the HIAB 550 has been to make the loader still more serviceable, adaptable and safe. If we begin with the loader base, it has a modified three-point support so designed that the new loader can be mounted with no trouble on any chassis

width between 500 mm and 1006 mm.

Another innovation concerns the support legs. The HIAB 550 has extensible hydraulic legs which in the extended position give a total support base of 3.25 metres, for greater stability in loading and unloading. The legs can also be extended manually by 440 mm, enabling them to be adjusted to chassis frame heights between 800 mm and 1,350 mm. In addition, the support legs can be swung up 45° so as to give greater ground clearance, which is of great importance especially when the loader is mounted at the rear of the vehicle. The HIAB 550 is also available with fixed hydraulic support legs that cannot be extended.

Extra Valves

The oil flow that drives the HIAB 550 is routed through the new HIAB 20 valve system, which has six sections in a



Movement diagram for the HIAB 550. The red field shows the reach with a standard boom and the yellow the reach with an extra boom extension.

Technical Data - HIAB 550

Capacity

5.5 TM (55 kNm)

Outreach, standard

5.0 metres

Hydraulic extension, standard

1.6 metres

Manual extension booms

from 5.0 to 7.05 metres

from 7.05 to 8.95 metres

Lifting height above base

with boom length 5.0 metres: approx.

7.2 metres

with boom length 7.05 metres:

approx. 9.1 metres

with boom length 8.95 metres:

approx. 11.0 metres

Lifting performance

A at 1.7 metres radius 3250 kg

B at 2.5 metres radius 2200 kg

C at 3.4 metres radius 1620 kg

D at 5.0 metres radius 1100 kg

E at 7.05 metres radius 500 kg

F at 8.95 metres radius 250 kg

For exact information on the appearance of the lifting curves, see the load diagram.

Recommended pump capacity

30 litres/min. (0.5 dm³/s)

Working pressure

165 kg/cm² (16.5 MPa)

Capacity of oil tank

approx. 45 litres

Slewing angle

360°

Slewing torque

1100 kgm (11 kNm)

Slewing speed at rec. pump capacity

22°/s

Lifting speed at rec. pump capacity

0.35 metres/s

Total height of loader above frame in travelling position

1.93 metres

Total width of loader in travelling position

2.30 metres

Weight with fixed support legs

incl. oil, mounting parts and pump with intermediate shaft, approx. 1010 kg.

Specification is subject to change without notice.

single block. Only four of these sections are utilised in the standard version; the remaining two are available for operating tools and attachments, e.g. a rotator and a hydraulic pallet fork.

The siting of the control levers is also new. Just as before there are levers on both sides of the loader, but they're arranged in a horizontal row in logical sequence. The horizontal siting with all levers at the same height makes operation a good deal easier.

Safety

As with all HIAB loaders the designers of the HIAB 550 spared no effort to achieve the maximum safety in all functions, from the safety catch on the lift hook to the check valves that lock the support legs if the oil pressure should drop, e.g. in consequence of damage to the piping system. In the same way the inner and outer booms are locked by hose-failure valves. This reduces a case of hose failure from a possibly serious accident causing harm to the operator, vehicle and load alike to a short stoppage of work while the hose is changed. When the load is being lowered, constant-flow valves regulate the speed so that it never goes too high, whatever the size of the load. This protects the load, loader and vehicle from damage due to dynamic stretches caused by sudden stops.



For greater stability under heavy lifts at large radius the support legs can be drawn out to a distance of 3.25 metres between the support points. In this picture only the right-hand leg is extended.

Moreover, the HIAB 550 is designed according to recognised international crane standards and the type has been approved by the Swedish Steam Users' Association (the authorised inspection body for the Workers' Protection Board).

Extra Reach

For special purposes the HIAB 550 can be equipped with a series of attachments. With extra boom extensions that are worked manually the reach can be increased to 7 or 9 metres. When the extensions are not in use they are telescoped into the ordinary hydraulic extension so that the loader can be parked as usual across the vehicle.

For use with the HIAB 550 there's also a winch with a 1,000-kg pull and 20 metres of wire rope. The winching speed is 25 metres per min. at an oil throughput of 40 litres per min. There are also sets of extra hydraulic hoses and pipes, intended for use when the two extra valves are employed to operate one or more of HIAB's many hydraulic attachments, such as the rotator, clamshell bucket, hydraulic grapple, pallet fork, polygrip bucket, etc.

Separate Tank

On the HIAB 550 the hydraulic oil tank is designed as a separate unit secured to the loader base. When the loader is mounted behind the cab this tank siting is the most appropriate one, but when the loader is mounted at the rear of the frame or detachably on a bracket it's easy to mount the tank separately, near the hydraulic pump. ■ 10

With two extra boom extensions the reach can be almost doubled to 9 metres and the roofing felt can be offloaded directly onto the roof.



HIAB 345

A New Loader in the Lightweight Class

The HIAB 345 is an entirely new, lightweight hydraulic loader designed primarily for the relatively small and medium-sized vehicles that are becoming increasingly important in the transport business. Up to now, no handling equipment with good lifting performance and ample reach but with small dimensions has been available for these vehicles.

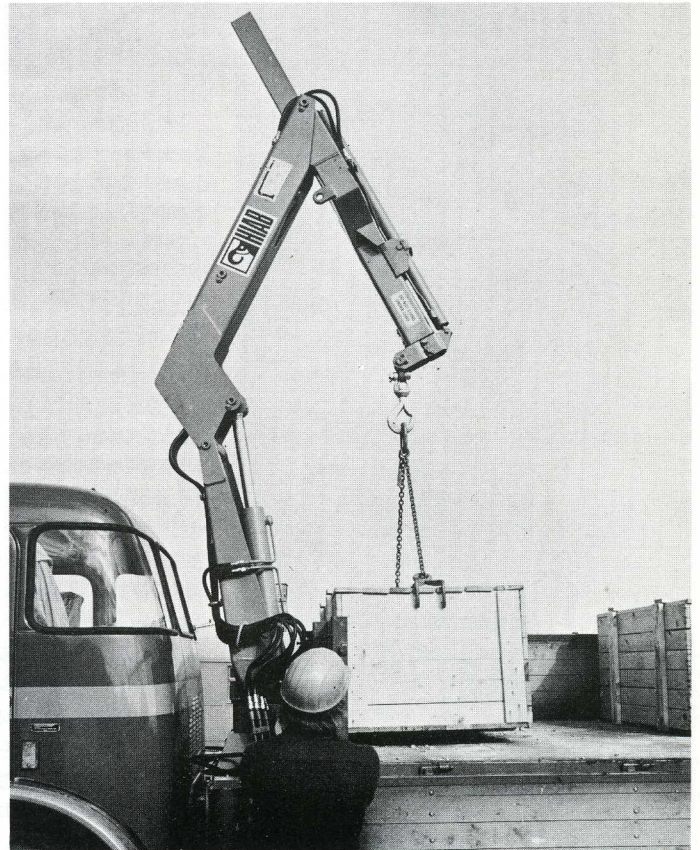
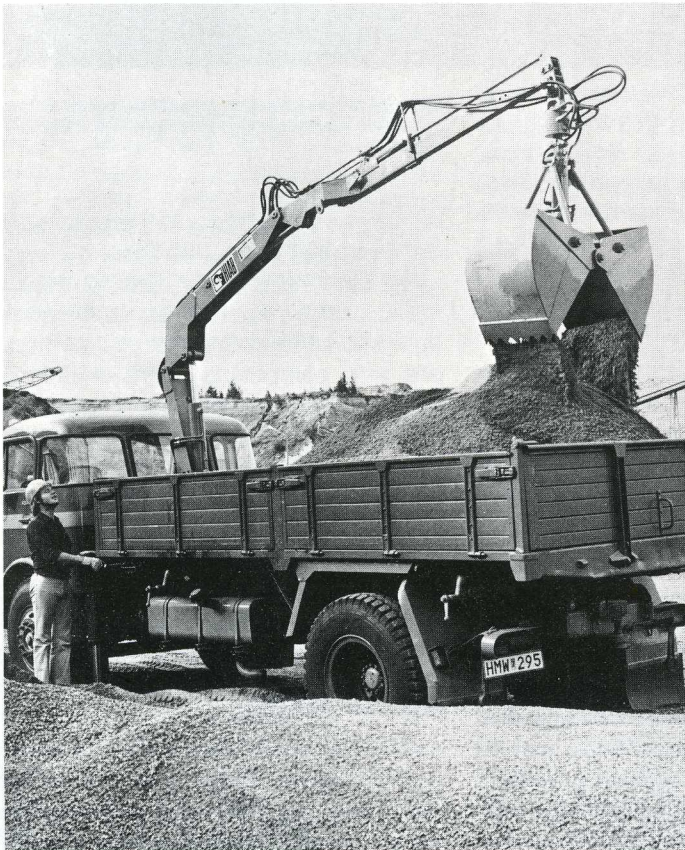
With its lifting torque of 3 ton-metres the HIAB 345 will hoist a maximum of 2.4 tons at 1.25 metres radius and no less than 640 kg at its maximum radius of 4.7 metres. Performance like that is ample for most of the handling tasks in this bracket. The outreach can be increased to 6.2 metres with an extra manually extensible boom extension. When not in use this extension telescopes into the ordinary hydraulic extension, so that the complete loader can be folded and parked as usual across the vehicle. In this position the loader takes up no more than 1.9 metres in height and 2.16 metres in width. That means it doesn't stick out beyond the truck - neither on top nor on either side.

Tried and Tested Components

The HIAB 345 embodies a whole string of well-tried and familiar HIAB principles. It achieves its unrivalled mobility and flexibility with a boom system consisting of an inner boom and an outer boom, both of which are actuated by double-acting hydraulic cylinders.

With its 3 TM lifting torque the HIAB 345 can manage most of the lifts met with in the loading and unloading of small and medium-size trucks.

The HIAB 345 is remarkably flexible, especially in the close-in area. It can reach to within 50 cm of the body.





The outer boom has a hydraulic extension with a travel of 1.3 metres. As on most other HIAB loaders the extension is laterally offset so that it can be withdrawn past the body when the loader is parked. Thanks to this design the loader is extremely compact in the parked position.

As far as possible the designers of the HIAB 345 sought to make use of components already incorporated and tried out in other HIAB loaders. Thus the loader base, with its three-point mounting support and slewing mechanism, is largely identical with the corresponding parts of the HIAB 550. The HIAB 345 also uses the same support legs and outriggers as the HIAB 550. Moreover, the cylinders of the inner and of the outer booms are exactly the same and are interchangeable between the two loaders - a great advantage when it comes to servicing and spare-part stockholding.

Moreover, the HIAB 345 is designed according to recognised international crane standards and the type has been approved by the Swedish Steam Users' Association (the authorised inspection body for the Workers' Protection Board).

Accessories

In its basic version the HIAB 345 has no support legs. It can be equipped either with fixed hydraulic legs with 1.95 metres between the support points or with extensible legs which in the extended position give a distance of 3.2 metres between the support points. The latter type of leg can be swung 45° forwards or backwards so as to increase ground clearance. Both types of support leg have check valves which prevent the vehicle from toppling over or suffering damage if a hose should fail or if the oil pressure should suddenly drop. The length of the support legs can also be adjusted manu-

With an extra manually extensible boom extension the reach can be increased to 6.2 metres.

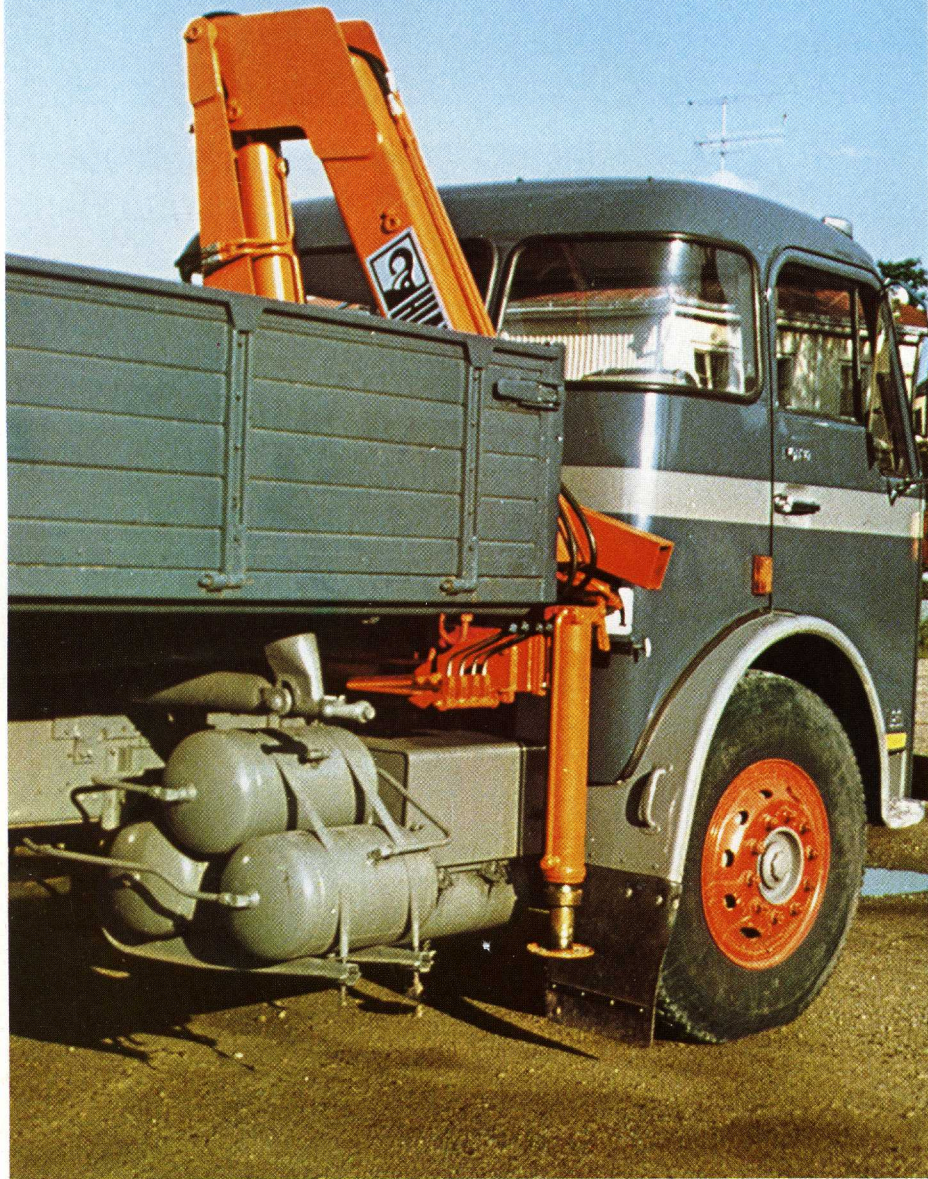
ally so as to adapt them to frame heights between 800 and 1,350 mm.

For the operation of hydraulic attachments such as rotators, clamshell buckets, pallet forks and so on there are kits comprising extra hydraulic valves and lines. The extra hydraulic lines have quick-fit couplings at the outer boom so that they can be quickly detached to permit the loader to be folded up and parked in the usual way.

Also available for the HIAB 345 is a winch with a pulling power of 700 kg and 25 metres of wire rope. It is mounted on the underside of the outer boom.

Manifold Security

Like every HIAB loader the HIAB 345 has numerous safety devices for all functions. The inner and outer booms have hose-failure valves which prevent



the load from dropping if the oil pressure should suddenly fall in consequence of damage to a hydraulic line. Both the cylinders also have constant-flow valves. These valves maintain constant lowering speed whatever the weight of the load, thus preventing jerky movements which could subject the vehicle or the load to harmful dynamic stresses.

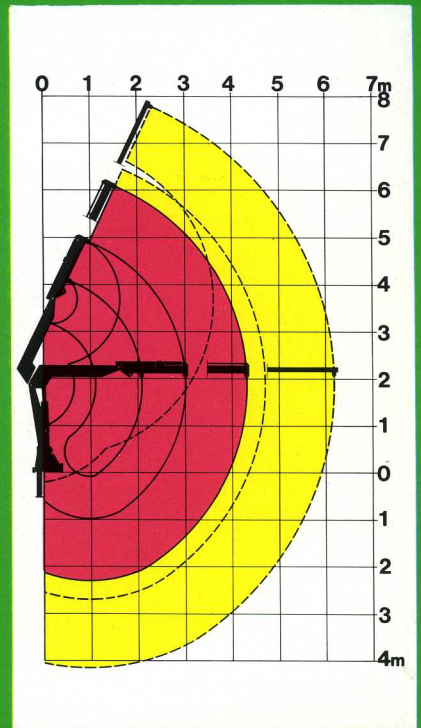
The loader and the vehicle are also protected against overloads by safety valves which prevent the oil pressure in a cylinder from exceeding a pre-set maximum. Thus this loader cannot be overloaded. To ensure that the loader can be operated precisely and smoothly it is important to see that all cylinders are always well filled with oil. This is guaranteed by valves which automatically open to admit additional oil from the return side of the hydraulic system if the pressure in a cylinder should fall.

The extension cylinder on the HIAB 345 can also be fitted with a special

The space occupied by the HIAB 345 in the parked position is only 2,160 x 1,905 mm.

check valve which prevents unintentional movement of the extension, e.g. in the event of a hose failure. Moreover, this valve guarantees that the extension cylinder is always filled, thus ensuring precise operation.

In addition, the HIAB 345 can be fitted with an extra overload protector. It consists of a pressure-sensitive contact which at a pre-set maximum pressure operates electrically to engage a mechanism that returns the control levers of the inner boom, the outer boom and the extension to the neutral position. After that the loader will only accept operations tending to reduce the load. Once this is done it can be operated as usual again. This device is an effective safeguard against anything that might overload the vehicle or loader or jeopardise the stability of the rig. ■ 11



The movement diagram of the HIAB 345. Its reach with the standard boom is shown red, while that with the extra boom extension is shown yellow.

Technical Data - HIAB 345

Capacity

3 TM (30 kNm)

Outreach, standard

4.7 metres

Hydraulic extension, standard

1.3 metres

Manual extension boom

from 4.7 to 6.2 metres

Lifting height above base

with boom length 4.7 metres: 6.5 metres

with boom length 6.2 metres: 7.75 metres

Lifting performance

A at 1.25 metres radius 2400 kg

B at 2.1 metres radius 1700 kg

C at 3.0 metres radius 1000 kg

D at 4.3 metres radius 700 kg

E at 4.7 metres radius 640 kg

F at 6.2 metres radius 390 kg

For exact information on the appearance of the lifting curves, see the load diagram.

Recommended pump capacity

20 litres/min. (0.33 dm³/s)

Working pressure

180 kg/cm² (18 MPa)

Capacity of oil tank 40 litres

Slewing angle 360°

Slewing torque 700 kgm (7 kNm)

Slewing speed at rec. pump capacity 15°/s

Lifting speed at rec. pump capacity

0.6 metres/s

Total height of loader above frame in

travelling position 1.91 metres

Total width of loader in travelling

position 2.16 metres

Weights

Loader with 4 valve functions, fixed

support legs 788 kg

Loader with 4 valve functions, exten-

sible support legs 866 kg

Specification is subject to change without notice.

Method Hoists



Strong Rolloler for Concrete Planks

To prevent the water in the Dutch canals from eroding the banks the latter are reinforced with concrete planks at surface level. These planks may weigh anything up to 2 tons. The trucking firm of Wigman & Zn, Westervoort, transports planks of this kind from the factory to the canal bank that is to be reinforced. The loading and unloading of the transport rig - a six-wheel semi-trailer taking 32 tons - is effected by a HIAB 950 on a Rolloler mount so that it can move along the length of the 12-metre deck - even with a suspended load. This picture shows the loading of 3-metre concrete planks each weighing 600 kg. They are handled with a special mechanical tackle taking three at a time, so that each lift weighs 1,800 kg. ■ 12

Faster Loading of Refuse in Peru

In a suburb of Lima, the capital of Peru, they've mechanised their refuse handling using the HIAB Method. With a HIAB 550 having a rotator and a hydraulic bucket the refuse can be loaded a good deal faster and more hygienically than

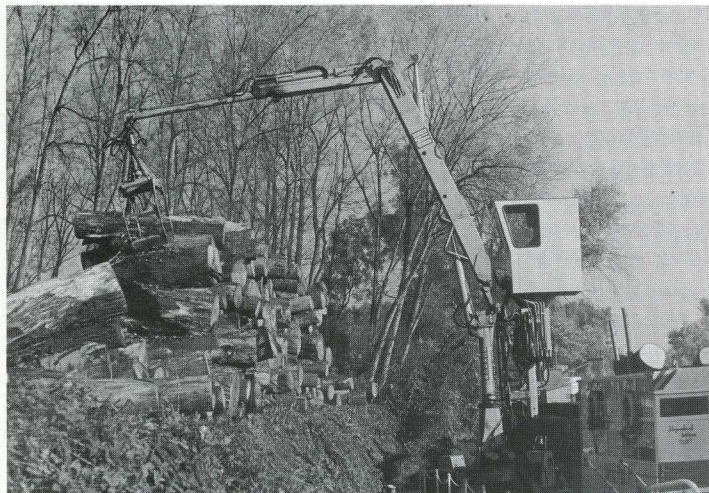
with the shovels and pitchforks that were formerly used. It's cheaper and less exhausting into the bargain. When the HIAB equipment isn't in use for loading refuse it's never any trouble to find other jobs for it, such as the loading of gravel and soil.



By the Blue Danube

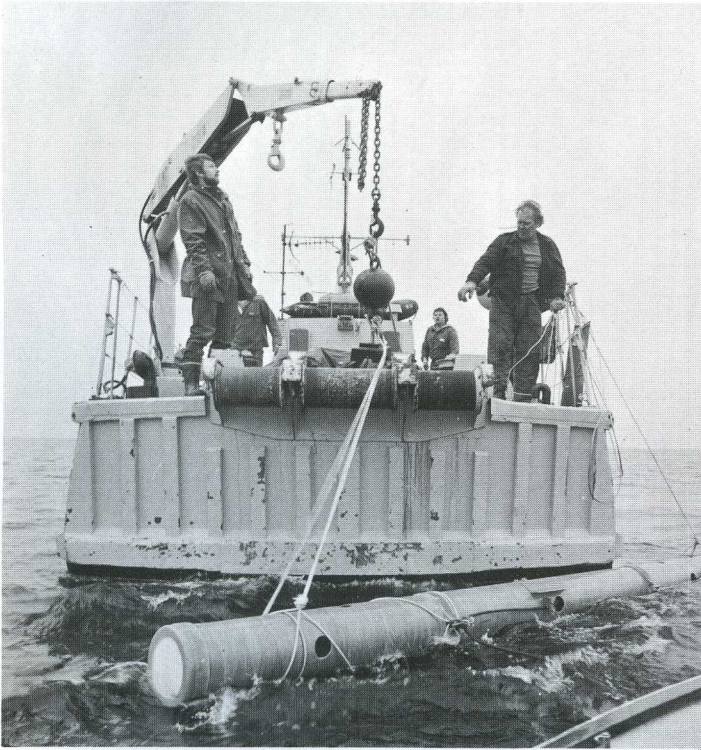
In Hungary they move large quantities of pulpwood by boat along the River Danube. The wood is shipped from a dump on the river bank, where the water is often so shallow that the boats can't get close enough. The slow, exhausting manual loading at such points has now been mechanised by the HIAB Method. A HIAB 970 with a roundwood grapple

and a rotator has been mounted on a shallow-draft raft moored between the boat and the bank. With its great reach, the loader has no trouble gathering up the wood on the bank and stowing it on the boat. The operator sits in sheltered comfort and has good visibility from his cab at the top of the loader kingpost. ■ 14



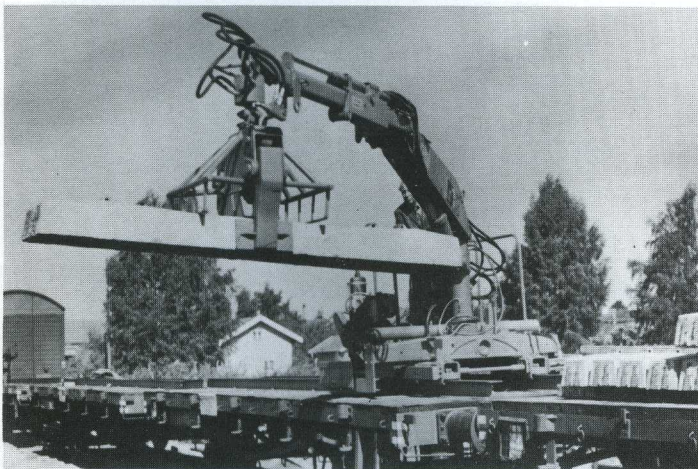
Method Hoists

Measuring Underwater Waves



How radio waves are propagated in water is a question that interests the Swedish Defence Research Establishment. As one way of finding the answer they've carried out measurements on the seabed in the Stockholm archipelago. For the placing of their instruments they

borrowed the survey ship HNS Skuld, a former minesweeper, which is well suited for the task since it has a HIAB loader at its stern. It's seen here sending down a tube containing instruments for measuring electrical field strength.



Rational Offloading of Sleepers

This picture shows a rational way of offloading sleepers - by the HIAB Method of course. A HIAB 550 with a rotator and a specially designed grapple is mounted as a Rolloader

so that it can be passed from one freight car to the next and unload a whole trainload of sleepers. The outfit is to be found in Norway. ■15

Section S



Conference in Helsinki

HIAB salesmen from a large number of countries recently gathered in Helsinki for a conference hosted by Finnish HIAB. The participants above are listening to simultaneous interpretations of discussions and

addresses. In the picture below they're getting acquainted with new items in the HIAB range. The HIAB-FOCO cap with the shady peak, as worn by the conferees, was not the most important of them.



2nd Prize in Sydney

The Commercial Vehicles Industry Association of Australia recently held its annual exhibition in Sydney. HIAB-FOCO's representative, 600 Machinery Australia, took a large

stand to exhibit HIAB loaders and a collection of attachments. They arranged it so well that they collected second prize from the exhibition organisers.



"The World Champion Loader"

The HIAB 550, the world's best-selling hydraulic vehicle loader, is now coming out in another improved version, which is presented in this issue. Among other things it has two extra valves as standard. In this case they've been utilised for a rotator and a hydraulic polygrip bucket for scrap handling. ■ 16

