

Premiere of lifting and rotating tractor cab created by Paul Nutzfahrzeuge

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Comfortable working and full panoramic view at the Agritechnica 2017 in Hanover

- For the first time a large agricultural tractor from Deutz-Fahr has been equipped with a lifting and rotating system for the complete driver's cab
- Infinitely adjustable in a turning range of up to 200 degrees
- Outstanding all-round view in driving and pushing operation
- Safe and comfortable working for many hours
- Convincing value for money in comparison with special machines
- Successful Agro Mover concept convinces as "agricultural all-rounder"
- Presentation at exhibition stand A05 in hall 5

From 12 to 18 November 2017 at the Agritechnica 2017 in Hanover, Paul Nutzfahrzeuge GmbH will present a pioneering premiere in its programme of individually custom-made and practice-oriented agricultural vehicle solutions. The complete driver's cab of the Deutz TTV 9340 Agrottron large agricultural tractor on display in Hanover can be hydraulically lifted, lowered and turned clockwise up to 200 degrees. This means an enormous relief when working with large implements attached at the front and rear of the vehicle.

Furthermore, the new lifting and rotating system provides a major safety advantage, relieves the operator and increases the efficiency during implement operation.

In cooperation with Rottenkolber Umwelttechnik GmbH the Lower Bavarian special-purpose vehicle experts offer this spectacular highlight for the first time. The chassis of the tractor was deliberately left unchanged.

At the world's largest trade fair for agricultural machinery and equipment Paul Nutzfahrzeuge will additionally show the proven Agro Mover, an agricultural dual-use chassis from in-house development. The exhibition vehicle is based on a Mercedes-Benz Arocs 2051 AS 4x4 and combines time-saving applications in the field and on the meadow as well as on the freeway with an additional allseason benefit in municipal applications and in the construction industry. Without the requirement of reloading at the field edge, the Agro Mover

concept is designed for highest operational effectiveness in modern agricultural or forestry enterprises and machinery cooperatives whereby it is always customized to the individual demands of the operator.

The two vehicle configurations are on exhibition in hall 5 of the fairgrounds in Hanover at the exhibition stand A05 of Paul Nutzfahrzeuge GmbH.

Lifting, lowering, rotating, driving – Lifting kinematics at the highest level

The hydraulic lifting and rotating system for the Deutz TTV 9340 Agrotion is a completely new development from the engineers of Paul Nutzfahrzeug GmbH. Top maxim for the conversion was a favourable value for money in combination with a level of performance which easily compares with much more expensive special machines. At the same time working for several hours with implements in the field or in the forest should be made easier in particular for taller drivers. Therefore, the comfortable seating position is ergonomically optimized and all the various adjustment options of the driver's seat are fully maintained. This ensures a consistently high level of fatigue-free working comfort even during longer implement applications in the field and in the forest.

The convenient operation via the new separate control panel within the driver's cab – also developed by Paul Nutzfahrzeuge – is another path-breaking feature. When activating the toggle switch control element and if no obstacles are identified by the control sensors, the cabin control is enabled via the joystick of the Deutz tractor. This is indicated to the operator through the LEDs of the traffic light symbol which is placed to the left of the toggle switch. The complete driver's cab including the fenders is lifted via joystick by a horizontally mounted hydraulic cylinder by approximately 350 mm and is moved by 750 mm to the rear. In the raised working position the driver's cab can be turned clockwise from 0 to a maximum of 200 degrees via joystick control. Within this wide turning range, the cab's position is infinitely adjustable. Thus it can be continuously positioned without the operator having to change his seating position. This provides the operator with an outstanding overview when working with large-sized front and rear attachments. At the same time overall safety is significantly increased during driving and pushing operations, as well as during reversing.

With a height of exactly 3,700 mm in the lowered travel position of the vehicle, the height of the large agricultural tractor from Deutz-Fahr's series 9 remains constantly below four meters when driving on the road. In the raised working position the height amounts to approximately four meters. While the 247 kW / 336 hp strong Deutz TTV 9340 Agrotion drives with a permissible maximum speed of up to 60 km/h on the road to its intended site of operation, it can also be moved comfortably in the working position with lifted and turned cabin at low speeds up to 15 km/h. This is extremely favourable for example during mowing

applications in summer or for snow removal in winter service applications which are carried out in combination with a high- performance rotary snowplough or snow-cutter. When the maximum speed of 15 km/h is exceeded, an acoustic warning signal automatically alerts the driver.

Outstanding visibility, back-friendly working position and enhanced fields of application with heavy implements

When operating and controlling large-sized heavy attachments and attached special working machines which are operated in reverse mode, the driver has an unrestricted view of the working area in front of and behind the agricultural tractor. Turning around and looking back to monitor the function of the implement is no longer necessary: above all in difficult terrain, on contorted landfills or in the forest this is a vitally important advantage as it provides an outstanding protection of the spine and considerably reduces stress on the back and neck muscles. Furthermore, the installation of the lifting and rotating mechanism by Paul Nutzfahrzeuge results in enhanced fields of application, particularly when operating rear-mounted or towed woodchoppers, corn choppers, compost turning machines, large-area mowers and mulching attachments. The operation of boom mower implements, forest mulchers, rotary snowploughs, stone crushers, rotary hoes and limestone milling machines, as well as mounted cranes or trailer cranes is also made a lot easier and safer, and working with these heavy-duty implements is possible for hours without causing any strain or pain.

The conversion is possible for agricultural tractors without any restrictions up to the biggest 42 inch agricultural tire size options (710/70 R 42). The mechanism of the new lifting and rotating system is mounted at the ex-factory installed and tested attachment points of the driver's cab. The original cab suspension is also maintained. It was only necessary to reposition and customize a number of mounting brackets and several electrical and hydraulic lines at the chassis. The chassis itself was left unchanged. Therefore, the driver's cab remains easily accessible for service and maintenance work. The lifting and rotating system can also be easily dismantled and reused on another Deutz tractor, e.g. if the vehicle is to be sold at a later point of time, or if the agreed repurchase value has to be ensured.

Agro Mover brings power and efficiency in agriculture and forestry companies

Loading of agricultural products from grass to crop in the field, followed immediately afterwards by transporting them at freeway speed to a storage depot for agricultural products or to a place for further processing: its broadly based range of applications is the strong point of the Agro Mover. Efficient and without reloading at the field edge it saves a lot of time, manpower and costs. The concept of the Agro Mover,

a self-development realized by Paul Nutzfahrzeuge, is individually customized to the demands of the respective agricultural enterprise. It is based upon the variety of chassis of the Mercedes-Benz Arocs range in the Grounder version. At the Agritechnica 2017 a two- axle Mercedes-Benz Arocs 2051 AS 4x4 will be on display. The vehicle features a rated engine power of 375 kW/510 hp, a displacement of 12.8 litres, a Mercedes PowerShift 3 transmission with 16 forward gears and four reverse gears, as well as an air-suspended rear axle.

The equipment for agriculture and forestry of the Agro Mover on display at the Agritechnica 2017 includes a load-sensing hydraulic system with joystick control and four dual-action proportional hydraulic cells. At the rear, the Agro Mover has been equipped with a connection for the load- sensing hydraulics which operates independently of a control block. It is supplemented by another six hydraulic connections for the operation of rear-mounted implements as well as for the use of trailed or towed attachments. In total there are nine hydraulic connections available at this vehicle. Additionally there are two hydraulic swivel arms which are mounted directly in front of the fifth wheel plate. A rear-view backup camera system by Mekra with a 7 inch colour screen monitor and connections for up to four cameras ensures maximum safety for manoeuvring. The stainless steel roof bar is fitted with two LED omnidirectional beacons and four high beam headlamps. The additional equipment with seven LED working lights ensures excellent illumination of the working environment and safe working even during darkness and adverse weather conditions.

The Agro Mover on display in Hanover can be used as a tractor vehicle for all kinds of standard semitrailers and trailers. For this purpose it provides a Jost fifth wheel coupling in addition to a Scharmüller K80 hitch ball coupling with height-adjustable tow coupling. The vehicle is equipped with large tire dimensions of 445/65 R 22.5 at the front axle and 600/50 R 22.5 at the rear axle. The benefit of these large-volume tires is an important contribution to maximum soil conservation. In addition the equipment with a tire pressure control system can be implemented on request by Paul Nutzfahrzeuge. It increases soil conservation even further when driving on sensitive ground surfaces such as sensitive farmland or forest roads.

A multitude of additional agricultural equipment increases the versatility

The number of equipment options for the Agro Mover is almost unlimited: they comprise an – optionally detachable – rear power lift with a lifting power of up to 7 t as well as the new EHR traction position control which takes care of a soil tillage of even depth. Its advantage is easily recognizable during ploughing. As an alternative for the hydraulic rear power take-off which has been available so far there is now a mechanical rear power take-off available, too. With an output of up to 360 kW it can be completely integrated into the

frame of the semitrailer tractor without resulting in a change of the hitching height. Thus, the support frame required up to now is no longer necessary. Also available is a GPS-based track guidance system which can optionally be supplemented with a fully automatic steering system. This opens the way for “autonomous driving” with exact track guidance on large field areas. The success will be recognized in the exactly controlled output quantity of fertilizers, for example when handling manure spreaders or slurry tanks.

In addition to its proven competence in agriculture and forestry the strong points of the Agro Mover are also clearly shown in its versatility. The additional option for use in the efficient implementation of all-season dual-use applications in agricultural logistics, construction industry or municipality is a particular highlight. In winter, for example a front attachment plate with snowplough illumination and hydraulic system can be installed at the front of the Agro Mover – and the vehicle is ready for all-round application in municipal winter services. For the operation of a snowplough the integration of a snowplough relief is possible, too. The equipment with a largevolume grid spreader or pre-wetted salt spreader on the frame is equally feasible without problems.

Source: Paul Nutzfahrzeuge GmbH