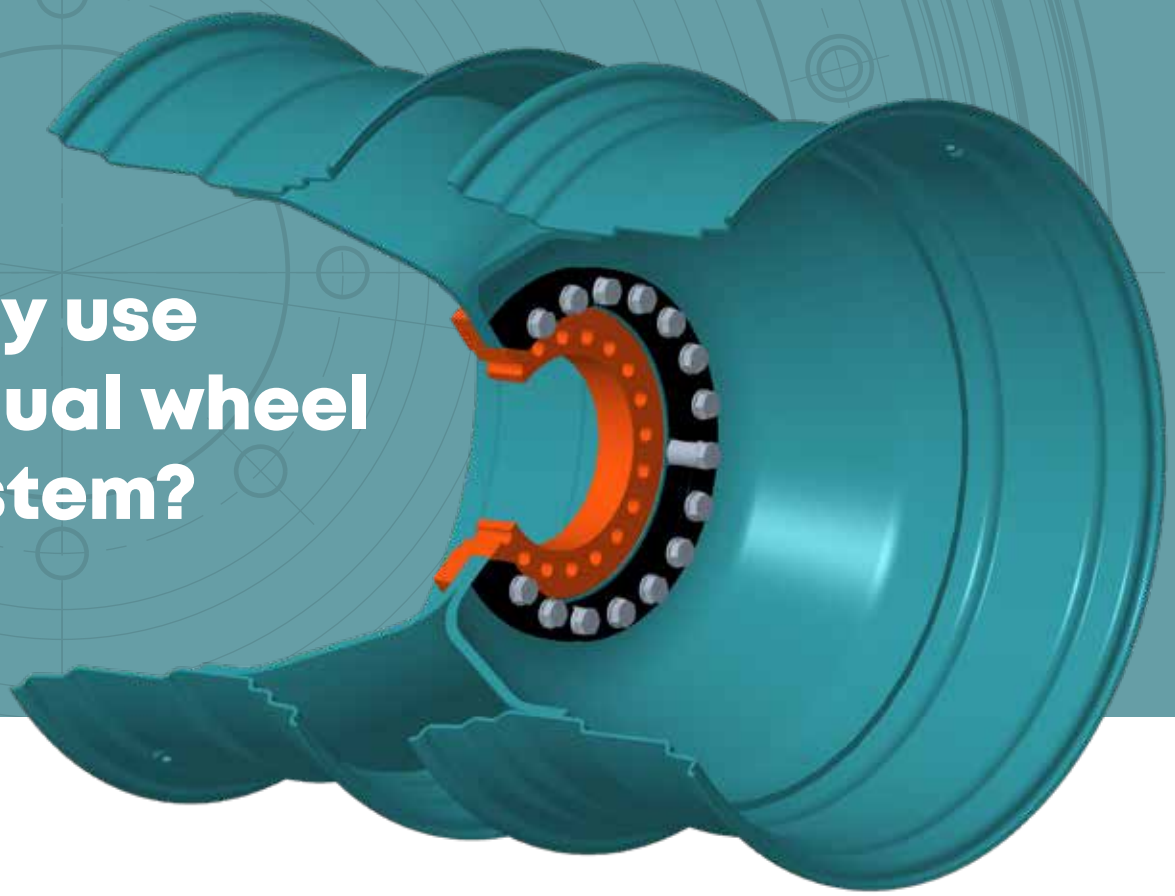
moveero

evolving every day

Increase your traction and stability

The dual wheel systems

Why use a dual wheel system?



moveero's dual wheel system delivers superior traction and stability for agricultural and off-road vehicles.

Dual wheel assemblies is a system of two wheels mounted on each side of a combine or tractor to increase stability, load-carrying capacity, along with increased flotation, which helps reduce soil compaction by helping to distribute the load over a wider area.

They work by distributing the machine's weight over a larger tire contact patch, when used with the correct air pressure and tires.

Whilst dual wheels are most commonly used on tractors, they can also provide benefits for combines, drills and cultivators.

Increased stability and traction

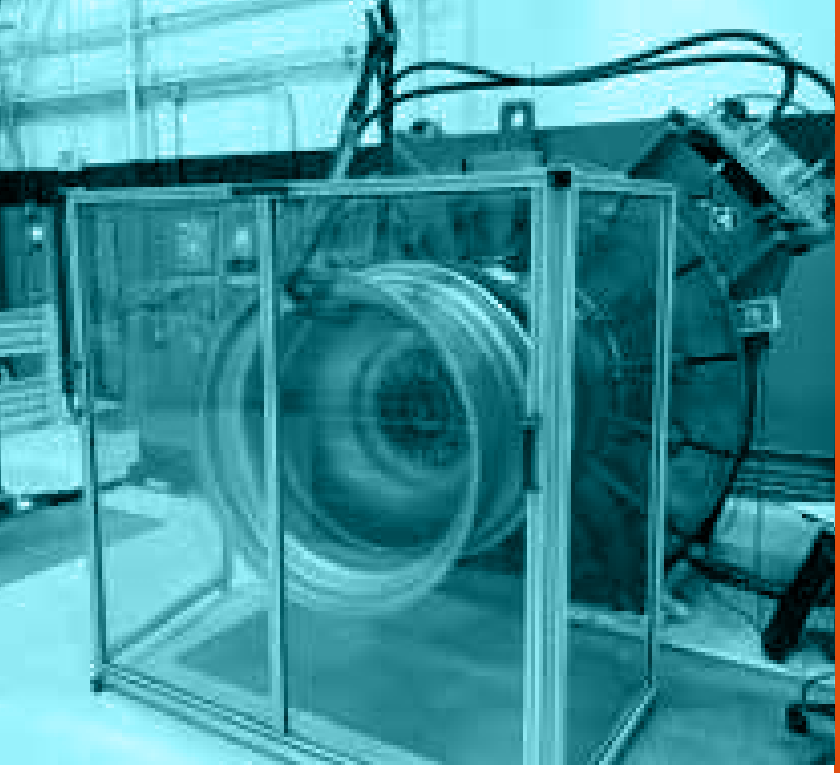
By providing a wider more stable base which helps in sloped or uneven terrain, as well as wet or loose soil conditions helping to reduce slippage.

Higher load capacity

By sharing the load between two tires, the total weight the wheels can support is increased.

Reduced soil compaction

The combined tires spread the weight over a larger area, preventing the machine from sinking and reducing pressure on the soil.



moveero's expertise lies in designing and testing wheels and hub systems

However, despite all the benefits, due to the harsh working environments, long working hours and increased payloads – it's common for some vehicles to have issues with wheel bolts breaking and wheels cracking on dual wheel assemblies.

Typically bolts do not retain their torque as intended, which can in turn lead to bolt failures. Additionally, the Inner dual wheel is prone to cracking.

moveero has developed its dual wheel offering to protect against common failures in the field. Through engineering experience, working closely with its OE customers to understand the problem and through its FEA simulation and in-house testing moveero has developed a dual wheel solution that resolves these issues.

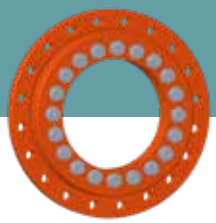
Tried, tested, proven solution

- moveero's dual wheel system has been laboratory and field proven.
- In-house lab testing shows over a 13x life improvement of the dual wheel assembly with the hub adapter system, over standard dual wheels.
- In addition to lab testing, the system has been extensively tested in-field and proven on high-capacity hillside combines.
- moveero has provided similar OEM solution for CLAAS combines for over 15 years.
- Dual wheel systems can also be used on large air seeders and grain carts.

Results

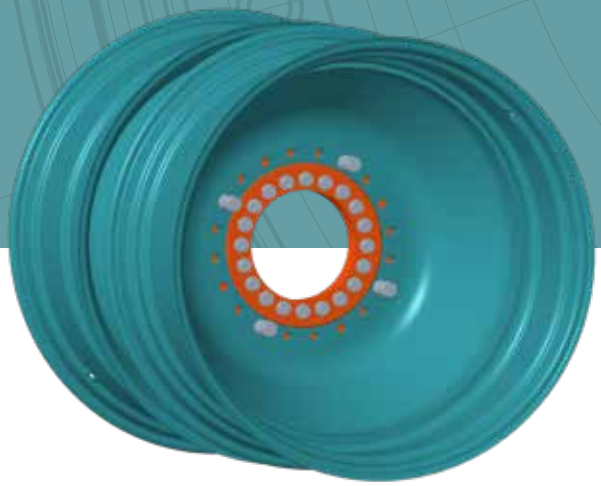
- No torque loss or broken bolts observed.
- A 13X increase in the life of the wheels compared to OEM.

An in house designed and manufactured hub adapter, is used to increase the bolt circle from 335mm to 470mm.



- Attach adapter to axle using 20 OEM M22 threaded bolts and washers. Torque to 750 lb-ft per CASE recommendations.

- Slide the inner dual wheel onto the adapter/hub.
- Bolt the wheel to the adapter using the 4 cylindrical spacers and the 4 M24 course thread bolts.



- Slide the outer dual wheel over the spacers.

The adapter bolts onto the axles with the OEM's hardware.

Torque is reduced from 750 lb-ft to 600 lb-ft to allow installation with common tools.

- Secure the 4 segments to the wheel using the remaining 16 M24 course thread bolts and washers. Torque all hardware to 600 lb-ft.

Course thread hardware is used as it is less prone to galling and cross threading.

moveero hub adapter systems include:

Wheel 42 x DW18A – 4 per machine (if using on front only).

- For (IF/VF)580/85R42 Tire.

Adapter kit – 2 per machine (or 1 set per dual wheel assembly).

- Includes hub adapter.
- Space segment.
- Tapered spacer.
- Hardware.

Please contact us for further wheel sizes.

Field-tested wheels for peak performance. moveero, your partner in Agriculture

Advantages of dual wheels over single wheel or track alternatives

- Greater carrying capacity as Duals can carry higher loads that single wheel/ tire combos.
- Reduced soil compaction as all duals can operate with reduced ground pressure.
- Duals can provide greater stability as the wider footprint gives greater stability on sloped or wet ground.
- Improved fuel efficiencies.
- Lower maintenance costs and minimized down time during the harvest season.
- Minimizing the total cost of ownership, and maximizing total efficiency.
- Lower cost than alternatives (tracks).
- Combined with VF tire technology, dual wheels can take up to a 40% increase in load carrying capacity, without changing the tire sizing, and allowing OEMs to move to a new larger capacity, heavier, and increased powered combine harvesters to deliver the harvest faster.

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