Titan
Australia

OVM/SVM Heavy Duty Quick Change Rim (QCR) System

for Large Mining Trucks

TITAN AUSTRALIA IS PLEASED TO ANNOUNCE THE AVAILABILITY OF THE HEAVY DUTY QUICK CHANGE RIM SYSTEM FOR LARGE MINING TRUCKS.

The Titan Australia QCR System is designed to improve mine site productivity by minimizing downtime associated with tyre servicing, and to improve safety for tyre service personnel when changing tyres on large mining trucks. Compared to the standard fitment five-piece rims currently offered, the Titan Australia QCR System provides an increased crack test interval, longer rim life, improved safety and fewer rim based remove/install procedures during tyre changes.

Titan Australia offers the QCR System fitted to all six-wheel positions and it is available as an attachment option for most makes and models of large mining trucks.

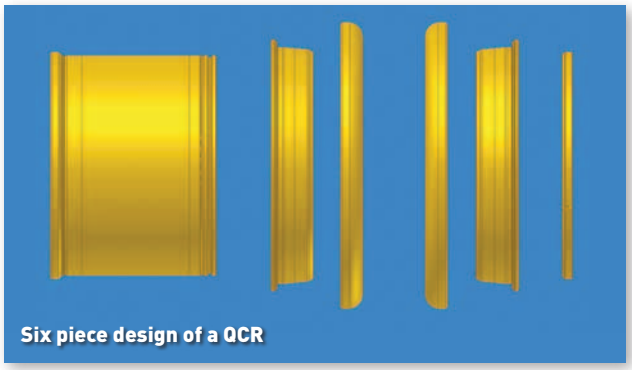
Fitting of outside tyre

Three lock ring retainers

Traditionally, the only way to change the inside tyres on the rear axle of a mining truck was to remove the outside rim and tyres assembly. This process is time-consuming, and downtime results in a loss of production. To overcome this loss, the Outside Vertical Mount (OVM) was created. The OVM rim has a smaller base diameter than the rims found on the front and rear inner while still accommodating the same size tyre. This allows the inner and outer tyres to be removed and replaced without the need for any rim base removal, thus improving safety and productivity.

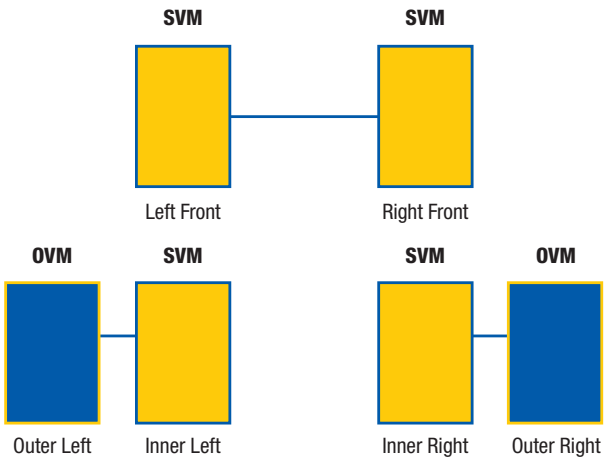
Both the OVM and SVM (Six Piece Vertical Mount) consist of the rim base, two-bead seat bands, two-side flanges and a lock ring. The back section of the rim base has been modified to include an integrated lock ring and O-ring groove to accommodate the addition of a second bead seat band which allows a tyre to be removed without the need for a hydraulic bead breaker tool to separate the inner tyre bead from the rim base.

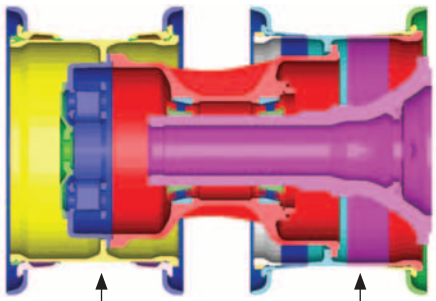
Additionally, the Mega Bore tyre inflation system has been incorporated to allow even further reduction in tyre change time by reducing both the deflation and inflation periods. The Mega Bore system increases the flow area by 2.46 times the current system.



Six piece design of a QCR

Mining Truck Rim Layout





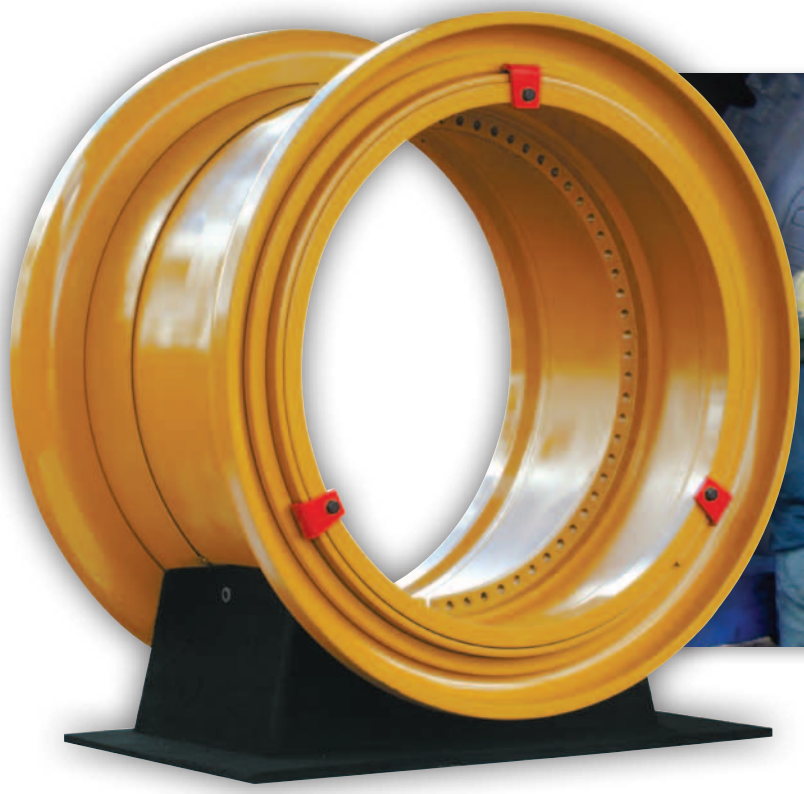
The OVM rim is smaller in diameter than the SVM, allowing the inner tyre to pass over the outer rim without having to unbolt the outer rim from the wheel station.

The SVM rim is larger in diameter than the outer rim.

Benefits

- Reduced down time - machine downtime is reduced by greater than 50 percent on tyre change-out times using the QCR System, when compared to the standard five-piece rims.
- Reduced manual handling and fatigue on tyre maintenance personnel - the need for tyre service personnel to use impact guns is dramatically reduced, thus improving ergonomics of the tyre change process.
- Reduced tyre maintenance costs.
- Quicker tyre change process will encourage more frequent and effective tyre rotations and inspections resulting in improved tyre life.
- Increased crack test intervals to 15,000 hours, compared to 5,000 hours for standard five-piece rims.
- Reduced potential damage to wheel retaining bolts, studs and hubs – minimize stud and wheel station damage due to improperly tightened wheel nuts.
- Machines can have the rear tyres (both inner and outer positions) vertically mounted in the same manner as the front tyres without the need to return to the service bay to have the wheel nuts retightened (as long as rims have not been removed).
- Minimal level of rim base inventory is required.

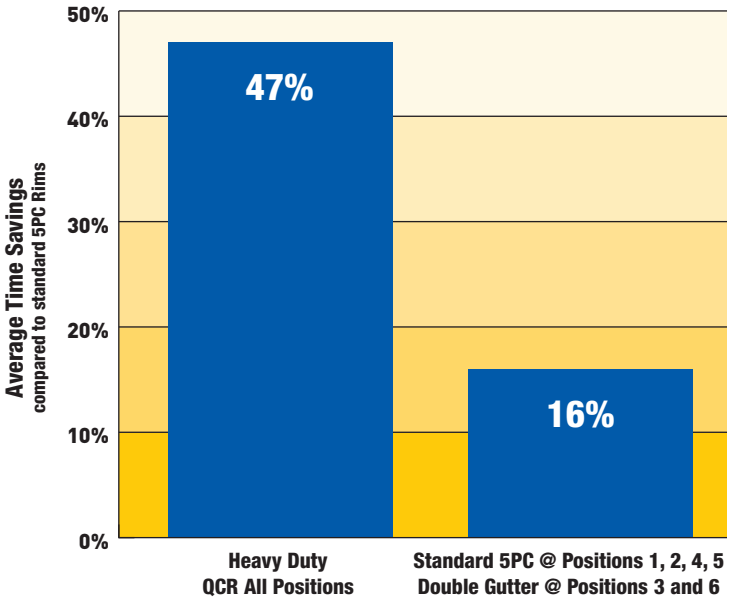
The smaller overall rim base diameter of the OVM, compared to the inside wheel, allows for the easy removal of the inside tyre and components over the OVM wheel base.



Field Report

Field reports show a positive reaction by customers using the Titan Australia QCR System on off-highway trucks. Customers using the Titan Australia QCR System have reported significant improvements in productivity by decreasing haul truck downtime for tyre servicing, while improving safety for the tyre service personnel. The difference between the standard rims and the Titan Australia QCR System is significant on a mine site operation. In as little as 12 months, a customer can measure improvements in uptime of the haul truck fleet.

Customer tests indicate that by using the Titan Australia QCR System, tyre servicing times can improve by greater than 50 percent, combined with improved service personnel safety standards and reduced occurrence of fatigue and injuries associated with tyre service job functions. The following graph summarizes the average time savings using the Titan Australia Heavy Duty QCR System compared to other double gutter solutions available in the market.



Conclusion

While the Titan Australia QCR rims are more costly than standard five-piece rims, they provide up to three times the life with increased crack testing intervals. The Titan Australia Heavy Duty QCR System will provide longer rim life, reduced downtime and lower maintenance costs, combined with improved safety for tyre personnel. This system is specifically designed to meet strict specifications and performance requirements under the demanding loads of large mining trucks.

Quick Check Guide

BRAND	MODEL	OVM	SVM
Caterpillar	797F	✓	✓
Caterpillar	795F	✓	✓
Caterpillar	793F	✓	✓
Caterpillar	789	✓	✓
Caterpillar	785	✓	✓
Caterpillar	777	✓	–
Komatsu	930-4	✓	✓
Komatsu	960	!	!
Komatsu	860	!	!

! Currently under review. Other truck makes and models also under review.

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