

# Aftermarket Product in Focus



**MERITOR**

November 2014

## MERITOR CALIPER REPAIR KITS



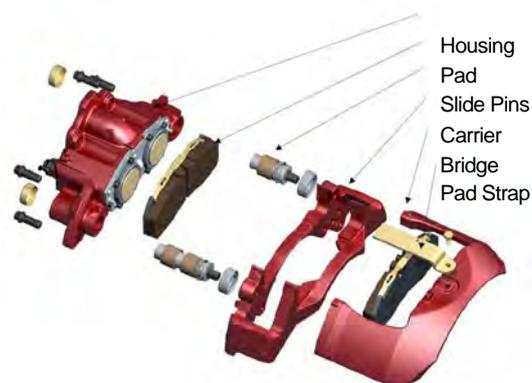
### OE PERFORMANCE

Genuine Caliper Repair Kits have the same dimensions and tolerances as the Original because they are the same parts.

Using Meritor Repair Kits guarantees the same level of original equipment performance and durability.

### QUALITY MATTERS

All elements of Meritor Caliper Repair Kits are designed, specified and tested to ensure maximum safety and durability for the specified application.



Meritor's range of Caliper Repair Kits contains a comprehensive selection of products including seals and bearings to adjusting mechanisms for different specification calipers. Click and explore our Disc Brake Caliper Repair Kit catalogue here:  
[http://meritorpartsonline.com.au/Documents/Catalogues/disc\\_brake\\_caliper\\_repair\\_kit.pdf](http://meritorpartsonline.com.au/Documents/Catalogues/disc_brake_caliper_repair_kit.pdf)

**Caliper Repair Kits generally fall into the following groups:**

Piston Seal Kit



Bearing Kit



Guide Pin Kit



Overhaul Kit



Visual Pad Wear Assy



Joints & Seals Kit



Auto Adjust Kit



Piston Head Kit



**Use only Meritor genuine caliper repair kits for continued original equipment performance.**

# Aftermarket Product Bulletin



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## NEW PRODUCTS

Part Number	Description	List Price **
3206Q1499	Axle Shaft FE 1034Mm 2.35"/60mm 46T Spline	\$880.71
3206Y1923	Axle Shaft FE 899Mm D55.5mm59.69-46T SPL 75mm	\$710.09
3206A1925	Axle Shaft FE 991Mm D55.5mm 59.69-46T SPL 235	\$739.66
3266S1033	Diff Lock End Cover	\$10.00
4X1740	Stud M16x68x2	\$11.11
A1228X596.M	Bearing Assembly Diff	\$348.28
A23200N2120	Carrier & Cap Assy 177E	\$2852.76
A3235Q2565.M	Diff Case Assy 167E	\$3372.18
MER0164	Wheel Seal Ste	\$60.32
E713.M	Gearset MS17x 5.29 Ratio	\$5,672.97
E397.M	Gear Set Kit 130E-R.614	\$4,639.50

All parts displayed above will be available for immediate ordering. **Lead times may apply for some of the listed items.**  
Please contact Meritor Customer Service on (03) 8353 6050 for further information.  
Not all parts are available to Independent Customers. Please contact Meritor Customer Service for availability.

## SUPERSESSIONS

Old Part Number	Description	New Part Number	List Price **
21204279	Spring Assy Leaf	21221244	\$1171.83
21222239FS	Air Spring	21222239	\$571.02
A3297B1120	Shaft Input RT153E	A3297B1120S	\$3,588.92
E448	Kit Gearset 4.10 Ratio FWD RT153E, replaces E448	E448.M	\$3,102.79
A1205L2794	Seal Assy replaces 3192615 & 3192069	A11205L2794	\$98.82
21212440	Anchor Pin replaces 21212440	21223366	\$87.18

Please visit [http://meritorpartsonline.com.au/Documents/PartsBulletins/Supersessions/supersessions\\_comprehensivelist2014.pdf](http://meritorpartsonline.com.au/Documents/PartsBulletins/Supersessions/supersessions_comprehensivelist2014.pdf)

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\*\*All list prices are correct at time of printing and subject to change.

# Aftermarket Getting Technical

November 2014



## Universal Joints - Part 3

### Effects of Working Conditions

Extremes in working conditions under which a driveline operates directly affects the life of each part. The information below explains each specific condition and the resulting problems arising from unusual driving conditions.

#### Condition

##### **On-highway trucks operating off-highway for long periods of time.**

May lead to premature failure because:

- On highway parts and assemblies are specified to withstand high torque, high speeds
- On highway conditions are just generally the opposite

##### **Off highway trucks operating on highway for long periods of time.**

May lead to the premature failure because:

- Off highway parts and assemblies are specified to withstand high torque, low speeds
- On highway conditions are just generally the opposite

##### **Trucks operating continuously over steep grades.**

May lead to parts fatigue or surface wear failure unless the driveline is specified for use under such operating conditions because:

- An entire torque load is placed on parts and assemblies

##### **Transmissions with overdrive equipment.**

Driveline parts and assemblies may fail prematurely unless they are specified to withstand high rpm because:

- Transmissions with overdrive develop high rpm with greater frequency of load application on the bearings.

##### **Corrosive Conditions**

Surface wear failure may result when lubricant leaks out and contaminants enter the part because:

- Acid, solvents, chemicals and other corrosive elements damage seals

##### **Extremes in operating conditions.**

Surface wear damage may result because:

- Lubricants thicken in extreme cold climates or break down under extremely high temperatures.

# Aftermarket Getting Technical



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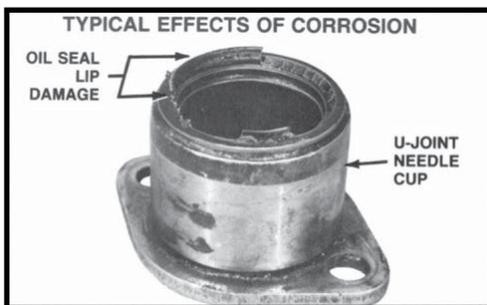
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## Things to Consider

On-highway and off-highway parts and assemblies are specifically designed for an expected application. It's a fact of life that long term operation of an on-highway truck in an off-highway working condition causes unusual strain on all driveline operating parts and assemblies. Early driveline failure often results.

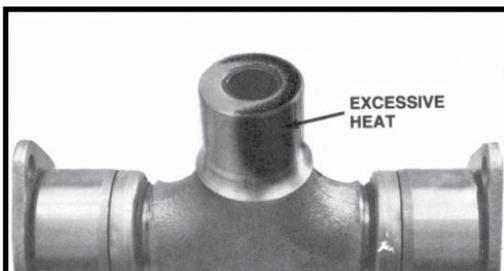
Off highway drivelines are designed for high torque, low speed conditions while on highway drivelines are designed for trucks that operate under low torque and higher speeds. Trucks that are being loaded to their full capacity a greater percent of the time than originally called for may require a driveline assembly of a larger size and rating.

Corrosive elements such as acids, solvents and chemicals that may be present in road splash, truck wash systems or within the truck's operating range can seriously attack oil and grease seals. When the seal fails, lubricant escapes and contaminants enter. This can only lead to early failure of the part or assembly that the seal is protecting.



Other points of consideration:

- Large diesels develop more torque than comparable gasoline engines. Because of that, diesel driveline applications are purposely beefed up to handle those higher torque loads.
- Transmission output must be seriously considered when selecting a driveline since certain types of gear boxes may develop higher torque loads than what the driveline is capable of handling.
- A truck that operates under extreme operating temperatures, either higher or lower than called for, can directly affect the lubricant's ability to do its important job. When a truck operates under such extremes, other driveline failures may also result. A good clue to this condition are signs of a blue colouring on metal surfaces. This indicates the part reached an excessively high temperature.
- Continuous operation over steep grades may lead to driveline failure through fatigue and accelerated surface wear. Trucks running under these conditions place extra torque loads on all operating parts.
- Any driveline installation that requires a large operating angle reducing the normal life of a universal joint, the larger the angle the shorter its normal life becomes.



# Aftermarket Getting Technical



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## Driveline Vibrations

### What to Look For

Driveline vibrations can develop from several different sources. They are not only annoying to the driver, they lead to serious damage to the internal parts of the transmission and axle bearings as well as the driveline itself.

At the first indication of vibration, make a complete inspection of the driveline.

### Driveline Inspection

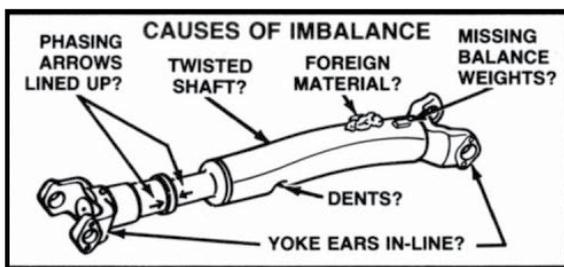
#### Look for these major causes:

- Universal joints and slip joints that have excessive wear
- Drive shafts that are out of balance
- Universal joint yokes that are not in the correct phase. (Not aligned properly in relationship to each other.)
- Possible angle misalignment of the driving shafts
- Universal joint yoke ears that are not spaced equally
- Excessive runout of the drive shafts
- Universal joints that operate too high an angle

### Causes of Vibrations

After thousands and thousands of kilometres, drivelines can gradually become out of balance even though the parts and assemblies are not excessively loose or worn out. Some of the more common causes of driveline vibrations can develop from foreign material that becomes lodged on rotating parts of the driveline. Asphalt or concrete could be glued to the shafts. Bent or twisted shafts or having large dents on the driving components.

Check carefully for balance weights (installed at the factory during final balancing before assembly) that may have been knocked off.



The yokes must be properly aligned to each other. If not, the speed of the shaft will change even though the speed of the driving shaft is constant. The latter condition is not a true balance problem. It appears to be a problem because the out of phase yokes create vibrations in the same manner that an out of balance assembly does.

# Aftermarket Getting Technical

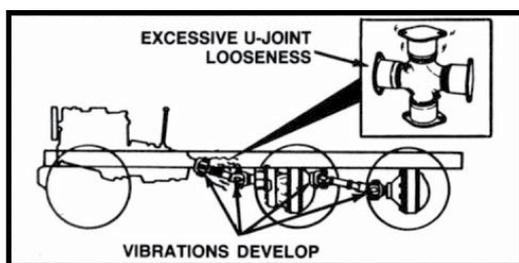


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## Effects of Worn U Joints

When excessive wear develops between the ujoint trunnions and needle cups, this looseness is transmitted into the yoke connections. As a result, vibration of the driveline occurs at varying shaft speeds. Replacement with a new universal joint kit is the only option.

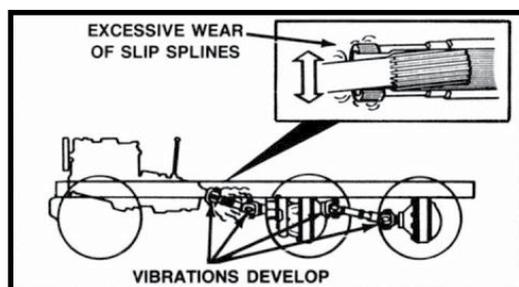


### Important!

Improper lubricants or improper lubrication methods including stretching maintenance intervals beyond factory recommendations is one of the major causes of premature wear. Of course some wear is normal and is to be expected on high kilometre trucks.

## Effects of Worn Slip Splines

Slip joint splines both external and internal are designed to critical, close clearances. As wear increases, which is a normal condition, play between the spline and the slip yoke also increases. At a certain stage in their life the looseness reaches a point that causes driveline vibrations to develop. Improper lubrication including wrong lubricant or failure to lubricate is a leading cause of premature wear. The only solution for correcting the vibration is to replace both parts of the driveshaft that have worn splines.



Some driveline malfunctions frequently lead to failures of other parts in the entire drivetrain assembly. For example, slip joints that bind or have excessive resistance to their usual smooth in and out sliding movement is often one of the causes of damage to seals, bearings, yokes or gears. Damaged input and output shafts of axles and transmissions is another end result of such poor slip joint operation. Whenever you find driveline parts that are fractured, be sure to check for damage to the centre bearings and of course, as good shop practice, inspect all undercarriage operating parts of the truck.



If you cannot determine what caused an unusual failure of the driveline part, or have experienced a repeat failure that does not fit into any of the conditions we've described and illustrated in this series, contact Meritor Technical Support on 03 8353 6050 with the following information:

- In service date
- Driveline description
- Vehicle description and powertrain components
- Working conditions
- Kilometres

We hope you have found this information useful. Keep a lookout for future editions in the Getting Technical series.

# Aftermarket Special Notices



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## TESTING AND VALIDATION ARE A COMPETITIVE EDGE

BTC – The global hub of engineering excellence of Meritor has increased its testing and validation activities to meet increased need for product validation support. So far this year, the testing team has conducted 25,000 hours of testing. Eight engineers and technicians in Bangalore and Mysore, with the help of multiple testing rigs, ensure axle housings, carrier and brake products meet or exceed stringent customer expectations for performance, cost, quality and delivery. BTC has developed road load data collection and analysis capability in the last three years that has become a competitive advantage in local and regional markets. This has helped engineers design products that fit target applications.

The BTC team also continues to support global programs. Trailer hub seals were tested for product upgrades in Nth America from Aftermarket to OEM level and validated Volvo EMT brake product for China and Singapore. BTC is also working with Cwrnbran's test lab to upgrade disc brake testing capability and with Troy's lab to add another test rig. ➤ See photos.



### BTC Global Engineering Hub

Thorough and comprehensive testing:

- Calipers
- Axle Housing
- Carrier and Brake Products



## ANNUAL BCNA PINK RIBBON BIKE RIDE - VICTORIA

Meritor CVA staff member, Paul has participated in the annual Breast Cancer National Australia Pink Ribbon Ride held in Melbourne, Sunday October 26th. The ride raised more than 13K which will go towards raising awareness and continuing research into the disease which affected more than 15,000 women and 120 men this year. Paul led the departure point from Bacchus Marsh to the Werribee Civic Centre where approximately 300 riders met and were entertained by a band and stunt riders as well as guest speaker from BCNA. This is Paul's 5th ride in the annual event. [www.bcna.org.au](http://www.bcna.org.au) ➤



# Aftermarket Advertising



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November 2014

## BIG RIGS X 2

Don't forget to pick up the next edition of Big Rigs for our 2 latest ads.

**IDEAS DRIVING RESULTS**

**MORE DISTANCE.  
LESS MAINTENANCE.**

**Don't just replace your driveline and components, install an improvement.**

Meritor ideas, drive results in greater distances, lower maintenance and greater ROI. From Permalube™ RPL drivelines which are greaseless for life, to Meritor XTended Lube (MXL™) which halve lubrication costs, to uni joints, gold self-aligning centre bearings and yokes, Meritor components give you the payback you expect, plus the total Aftermarket support you deserve.

For more information on Meritor drivelines and driveline components, visit [www.meritorpartsonline.com](http://www.meritorpartsonline.com), speak with your local OE dealer or contact Meritor Customer Service on 03 8353 6050.

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Remember that our Euclid promotion is still running until the end of December. Help us celebrate a piece of Meritor history - order a box of Euclid brake shoes today!

**A RELIABLE PARTNER  
YOU CAN COUNT ON**

**Proudly celebrating 75 years of the Euclid® brand.**

You need a reliable partner you can count on to help keep your business running, and for 75 years, Euclid® has provided truck parts that have earned your trust. And we'll be right here with you for the next 75 years, too.

Simply purchase **ANY** Euclid® Brake Shoe Kit between 1<sup>st</sup> October and 31<sup>st</sup> December 2014 and receive a **FREE COMMEMORATIVE 75TH ANNIVERSARY EUCLID® CAP**. Needing replacement parts? Ask your local parts distributor for Euclid parts by name.

**EUCLID**  
75  
a MERITOR brand

# Aftermarket Behind the Scenes



November 2014

## STAFF THAT MAKE MERITOR A SUCCESS

### **Employee Profile: Chris Heaviside**

Meritor CVA - Derrimut, Victoria

Role at Meritor: Warehouse Supervisor

Year Joined: 2007



#### **What is your background in Warehousing?**

Meritor is the first warehouse I have been employed in. Over the years I have gained invaluable experience with Meritor as I originally started as a storeman within the packaging area and gradually moved up to supervisor.

#### **What are your main responsibilities?**

I supervise approximately 13 staff as well as oversee shipments leaving and arriving through the warehouse on a daily basis. I also supervise the brake production and packaging lines to ensure that KPI'S are met and adhered to.

#### **What are the biggest challenges you face managing a warehouse on a daily basis?**

Meeting customer demand and supply are the biggest issues I face. We overcome these challenges with a very hard working, committed and reliable team.

#### **What do you like most about your role as Warehouse Supervisor?**

To be able to make a solid contribution to the overall success of product storage and distribution and the opportunity to exceed customer's expectations.

#### **How does your role impact on the customer service experience?**

Being able to provide a service standard that goes above and beyond meeting customer demand. Customers can rely on us for support on all levels.

#### **What are your interests and hobbies outside work?**

I enjoy fishing, playing golf and watching football as well as time spent with family.