

triscan•news

TRISCAN NEWS VOLUME 10 . 2019

ELECTRIC, HYBRID AND HYDROGEN CARS

Additional 84 parts within undercarriage and engine control

NEW: EGR COOLERS

More than 60 references in the programme

NEW: AIR BELLOWS AND COMPRESSORS

for cars with air suspension



NEW: MAP SENSORS

More than 200 references available

Much **more** than just a spare part



OE quality

Wide covering programmes



Who are we - and what can we do?

Triscan is a 100% Danish company who has gained a strong position in the Scandinavian market and achieved heavily increasing sales in the rest of Europe. This position has been reached through creation of concepts, marketing and distribution of automotive spare parts for the professional free aftermarket.

- Fast delivery of the right parts
- Online ordering via TriWeb/TecCom
- High order fill
- More than 55,000 references
- 52 product groups
- Extensive quality assurance

Every day goods are delivered from Triscan's 3 distribution centers in Brabrand, Glostrup as well as Iserlohn in Germany - to 39 markets in Europe.



Brabrand, DK



Glostrup, DK



Iserlohn, D

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MARKET DEVELOPMENT: STATUS BY CEO MICHAEL JUUL HANSEN • 6

At the end of 2019 the automotive industries media are still full of news about changed market conditions and new technology that already, but especially in the long term, announces major changes for the players in the industry. But this development also opens new opportunities for Triscan.



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Triscan's sensor family has gained yet another member. More than 200 references are stocked and ready for delivery. As always, these are OE-quality sensors, which are 100% function-tested - and the programme is wide-ranging in relation to the European car park.

NEW: AIR BELLOWS AND COMPRESSORS FOR CARS WITH AIR SUSPENSION • 25

18 references of air bellows and compressors in OE quality are ready for delivery. The programme is composed of high demand item numbers for AUDI, BMW, CITROËN, MERCEDES BENZ, PORSCHE, TESLA and VW.



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THE CAR INDUSTRY IS CHANGING RAPIDLY: THE FUTURE SCENARIO FOR CAR MANUFACTURERS AND DEALERS

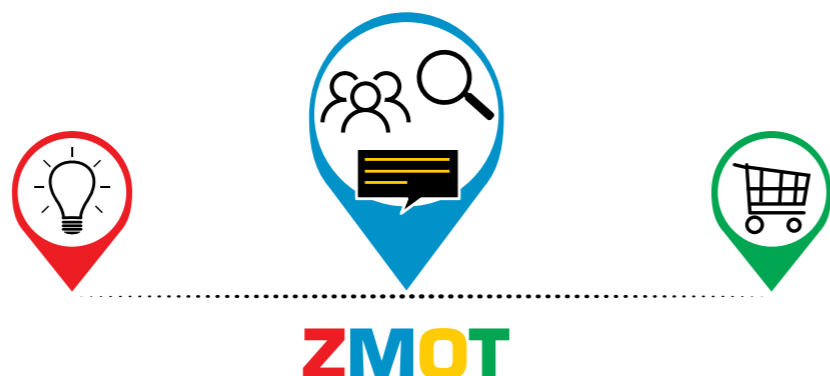
Under the headline "The car industry is changing rapidly – are you keeping up?" we brought, in the last edition of our newsletter, the first article in a series in which we focus on the challenges that the industry is facing. In this article, we take a closer look at the possible scenarios that will arise for car manufacturers and car dealers.

The three main drivers, in the changes that we will see, are as mentioned in the previous article - environment, technology and consumer behavior. On the environmental aspect, the future lack of resources on fossil fuels and the demands of the political system to reduce CO2 emissions further have led to that gasoline and diesel are no longer considered as fuel for cars in the future.

However, not all carmakers agree with the politicians in this case. While Volvo has announced that they have stopped developing combustion engines, Daimler is beating the drum for diesel technology to definitely have a future. Daimler's belief in diesel technology must be seen in the light of the latest technological breakthroughs that has been by

Daimler itself, but also Bosch. Another interesting innovation is the development of 5-stroke petrol engines – i.a. Ilmor - which also sets brand new standards.

Nevertheless, the above-mentioned development has pushed the car manufacturers into a technological race that is extremely challenging for several



Zero Moment of Truth (ZMOT) is the new, extra "step" in customers' buying decision process. ZMOT is about customers seeking information and evaluations as well as having an online dialogue as part of their purchasing decision

reasons. Firstly, the car manufacturers must develop or utilize technology that is radically different than the one they used to. Secondly, several brand new players have joined the game - the best known is probably Tesla - and many more are on the way. And thirdly, it is not only new technology for propulsion, but at the same time very complex and demanding IT knowledge, which is a necessity for electric cars, self-driving technology, car sharing solutions and connectivity. According to Thomas Furcher and Philipp Lühr from the consulting firm McKinsey, who, after a thorough analysis of the car market in Europe, earlier this year prepared the report "A long term vision for the European Automotive Industry", car manufacturers will introduce approximately 340 new electric cars over the next three years. Many see opportunities and potential in the automotive industry, which the following figures from McKinsey's consultants substantiate. The number of newly established technology companies in the field has sevenfold. 93% of the funds invested come from companies outside the industry - e.g. Google and Intel. The number of patent applications in the field has increased by 50%.

According to McKinsey's analyzes, it is not only in the technological field that carmakers are being challenged - so do they on consumer behavior - that are radically changing.

- Over 80% of consumers perform online research prior to purchase
- 47% have already chosen a car make and model based on their online research before visiting a dealer
- In China and America, connectivity (the online services provided in the car) is today attributed to almost as much or greater value as the car brand - both in the luxury and standard class cars

In recent years we have already seen how most car manufacturers have reduced the dealer network and have focused on the establishment of a few large flagship stores. Car manufacturers will try to adapt to the new consumer behavioral trends, which in the long term means that consumers will probably be able to place an order directly with the car manufacturer. Car purchases are increasingly going digital – just look at how Tesla's are sold.

With the above in mind, it is obvious to ask the question: Is there any need for car dealers in the future? According



Tesla flagship store

to McKinsey's report, the answer is yes, but car dealers will have to adapt their business model to the new market conditions and make the business far more digital. The role of car dealers is going to change from being a source of cars to becoming an advisor to the customer. According to McKinsey, consumers prioritize as follows:



- 41,10% Product expertise
- 28,90% Assortment and availability of cars
- 12,60% Expertise on add-on features and services
- 11,70% Appeal and friendliness of staff
- 5,70% Proximity and store layout

customers, you should be able to offer a buying experience that addresses the following five main categories:



- 34% Casual, knowledgeable, intuitive and fun
- 24% Easy and everywhere
- 22% No frills - fast, efficient and predictable
- 12% Bespoke and personalized with a high-touch style
- 8% Quirky, cutting-edge and innovative

The fight to "own the customer" has already started, and if you as a carmaker or car dealer want to be a part of the future, new and innovative approaches are required. Only the foresighted and adaptable will stand a chance - and the market for car sales, as we know it today, will in many ways change significantly. Stay tuned if you like to know our thoughts on what is going to happen at the wholesale and workshop level ■

So, car dealers aren't just going to sell cars - they're going to sell solutions to meet transportation needs. At the same time, it is important to understand that consumers have very different needs regarding the buying experience itself. If you want to be able to serve all types of



MARKET DEVELOPMENT: STATUS BY TRISCAN CEO MICHAEL JUUL HANSEN

At the end of 2019 the automotive industries media are full of news about changed market conditions and new technology that already, but especially in the long term, announces major changes for the players in the industry. But this development also opens new opportunities for Triscan. We are experiencing increasing interest in our strong competences in the complex/niche oriented product groups, where all wholesalers large and small, can achieve great benefits in a conceptual collaboration with us.

Today, Triscan's international activities make up about 70% of our revenue and we are therefore very preoccupied with the development throughout Europe. In general, we are experiencing a changing European market situation, which is still characterized by consolidations. Our development in 2019 is acceptable in light of this. Despite the changes in the market, we are still experiencing growth in many markets - especially in Eastern Europe we are gaining market shares. We have strengthened our efforts by hiring an additional sales representative - so that the eastern European markets today are covered by a total of five dedicated colleagues", says Triscan's CEO Michael Juul Hansen and continues: "In

our largest market - Germany - we have strengthened our efforts and setup in our subsidiary Triscan GmbH in Iserlohn. It is among other things happened through the employment of an additional experienced sales representative and a significant expansion of the stock. In this way we stand even stronger in the fight

to win new customers and can process the market even more intensively". In Denmark, the market situation is described as "soft", but we sense, that it has become more "solid" here at the beginning of the third quarter. In the Swedish market, Triscan has continued to make good progress for the 10th

“ We see continuing investment in IT and digitalization as important to support Triscan's continued growth ”
 - CEO Michael Juul Hansen

consecutive year. The market is worked on by two Swedish colleagues and most of the deliveries are handled from our warehouse in Glostrup (Copenhagen).

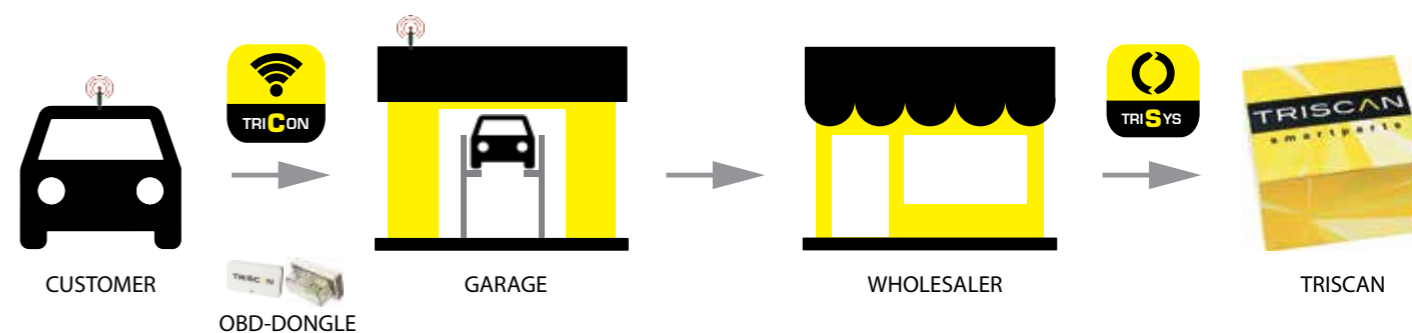
Since the launch almost 4 years ago, our fastest growing product family has been the sensor programme. We are therefore continuing the ongoing development and expansion of the programme - the latest member of the family is MAP sensors.

"We see continuing investment in IT and digitalization as important to support Triscan's continued growth. In 2019 we have invested several millions in upgrading our IT and server platform -

so we have the latest and most modern technology to support our internal and external processes. In 2018, we also launched TriSys - our version of a modern "Workshop and customer management system" for the workshops in Europe - which we have launched in collaboration with wholesalers in three countries. With this approach, we engage ourselves throughout the value chain from manufacturer level, wholesalers through workshops directly to car owners. The goal is to create business for all parties by providing valuable services that create loyalty and profitability throughout the value chain", says Michael Juul Hansen. We will also continue to invest in our

gas spring production, where we are co-owner of a gas spring factory in Latvia. Together with the other owners, we have strengthened the production technology, but also developed new gas spring types.

All in all, we are looking forward to the future. We are optimistic based on our targeted investments in new technology, expansions in our product range, so they also include the parts to be found in the cars of the future and TriSys - our workshop and customer management concept, which has got off to a great start ■



In 2018, we launched TriSys - our version of a modern "Workshop and customer management system" for the workshops in Europe - which we have launched in collaboration with wholesalers in four countries



CEO of Triscan GmbH, André Leschinski



In our largest market - Germany - we have strengthened our efforts and setup in our subsidiary Triscan GmbH in Iserlohn. It is among other things happened through the employment of an additional experienced sales representative and a significant expansion of the stock





“MAP sensors are the latest product group in Triscan's sensor programme. For testing purposes, we have our own MAP-tester in our in-house test center”



NEW: THE SENSOR PROGRAMME HAS BEEN EXPANDED WITH MAP SENSORS

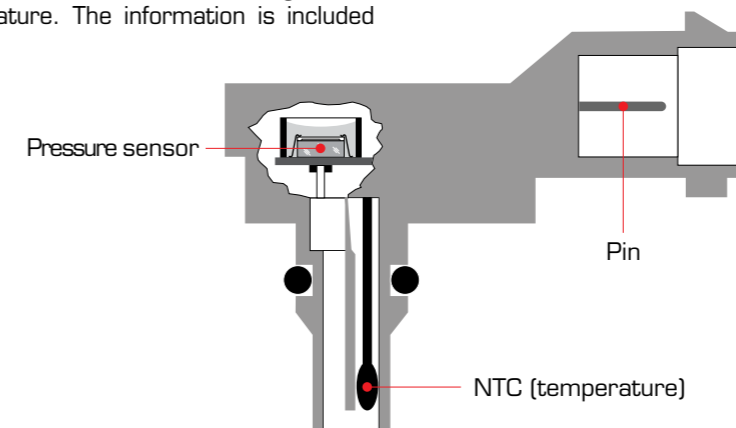
Triscan's sensor family has gained yet another member. More than 200 references are stocked and ready for delivery. As always, these are OE-quality sensors, which are 100% function-tested - and the programme is wide-ranging in relation to the European car park.

Behind the abbreviation MAP lies Manifold Air Pressure, which is measured in the intake manifold. The MAP sensor measures the pressure in the intake manifold for use in the vehicle's engine control (ECU). In some cases, the MAP sensor also includes a temperature sensor for measuring the air temperature. The information is included

in the calculation of the load ratio of the engine used to control the mixture of air and fuel, as well as the ignition timing.

The MAP sensor has a pressure sensor and an electronic circuit that generates a voltage signal that changes with respect

to pressure. The voltage signal is typically between 1 and 5 volts. The output voltage is increased when a vacuum drop is detected which occurs when gas is given. At idle, where the largest vacuum is detected - about 20 kPa, the voltage is typically between 1.0 and 2.0 volts. Conversely, it is at full throttle between 4.5 and 5.0 volts - about 80 kPa. The read voltage typically changes by about 1.0 volts when the vacuum is changed by 20 kPa. For versions with a built-in temperature meter, the measuring range is generally between -40 and 120°C. 65 kOhm at -40°C and 100 ohms at 120°C ■



Cross section of a MAP sensor

There are mainly two types of MAP sensors:

- **3-poles**
- without integrated temperature sensor
- **4-poles**
- with integrated temperature sensor



NEW: MORE THAN 60 REFERENCES IN EGR COOLERS

Several car models are equipped with an EGR cooler for cooling the exhaust gas which is supplied to the EGR valve. Although the EGR valve and EGR cooler often are combined into one unit, the EGR cooler can often be replaced separately, in cases where it has become leaky. We are now launching a comprehensive programme of more than 60 EGR coolers in OE quality.

A leaky EGR cooler can cause significant damage to the engine - including the turbocharger - and in some cases even cause fire in the intake manifold. It is therefore important that it will be replaced immediately, in cases where leaks have occurred. But it can be difficult to detect a leak in an EGR cooler, because the leak rarely appears by clear or outer signs.

- Smell of burnt plastic
- The engine misfires during acceleration
- The intake manifold melts in several places
- Engine control stores fault code 290A00 - The measured air mass is too high compared to the calculated air mass.

Alternative control - only for cars where it is possible to disconnect entry and exit:

1. Dismount the EGR cooler without disconnecting it from the cooling system
2. Put the cooling system under 1.5 bar pressure
3. Blow compressed air into one of the open ends of the EGR-valve and observe if droplets of coolant are coming out at the other end

NOTE! For cars with a separate electric water pump for the EGR cooler, the function of the water pump should always be checked afterwards.

BMW offers EGR cooler replacement, inspection and cleaning of the intake system, as well as software update and in some cases manifold replacement. BMW's offer applies to all 4 cylinder engines produced 04/2015 to 09/2016 and 6 cylinder engines produced 07/2012 to 06/2015. However, problems have also been seen on models beyond the affected production dates.

Due to the problems above and the quite severe consequences a failure can have, we have chosen not to include the EGR cooler in question in our programme. We recommend that garages refer customers to BMW ■



EGR cooler (ref. 881310104) for i.a. Citroën, Fiat Ford, Peugeot and Volvo

Top: Citroën DS5 is one of the many models for which we have an EGR cooler

The following procedure may be used:

1. If possible, try to do a visual inspection of the output of the EGR cooler with an endoscope. If the soot deposit seems damp, it indicates a leak
2. Perform a pressure test on the radiator system for both hot and cold engine with 1.5 bar
3. If the pressure drop after 10 minutes is greater than 0.2 bar, it indicates a leak
4. If there are no signs of an outer leak, it indicates that you might have a leaky EGR cooler

Pay particular attention to BMW diesel engines

Several owners of BMW models with engine code B47x, N47x and N57x (4 and 6 cylinder diesel engines produced from 2012-2017) have experienced various problems with:

The problem typically arises when the EGR cooler becomes leaky and leaks coolant into the intake manifold. The penetrating coolant causes soot in the manifold to dissolve. When the dissolved soot mass becomes hot - e.g. during highway driving - it can ignite and start a fire in the intake manifold.



“Several car models are equipped with an EGR cooler for cooling the exhaust gas. Triscan now launches a comprehensive programme of more than 60 EGR coolers in OE quality”



NEW PRODUCT PROGRAMME: 7 ELECTRIC MOTORS FOR BRAKE CALIPERS

We now offer Budweg electric motors for cars equipped with electrically operated parking brake - EPB. When the electrically operated parking brake fails, the brake caliper is usually okay. In such cases, there is a lot of money to be saved when it is only the electric motor that is replaced.

Our programme in electric motors so far includes the following 7 numbers - fits a total of 54 calipers.

You can find all the new electric motors at triweb.triscan.dk or in TecDoc.



8170208006 Brake caliper motor for Ford and Volvo



8170208008 Brake caliper motor for Audi



8170208010 Brake caliper motor for BMW



8170208018 Brake caliper motor for Citroën and Peugeot



8170208023 Brake caliper motor for Audi

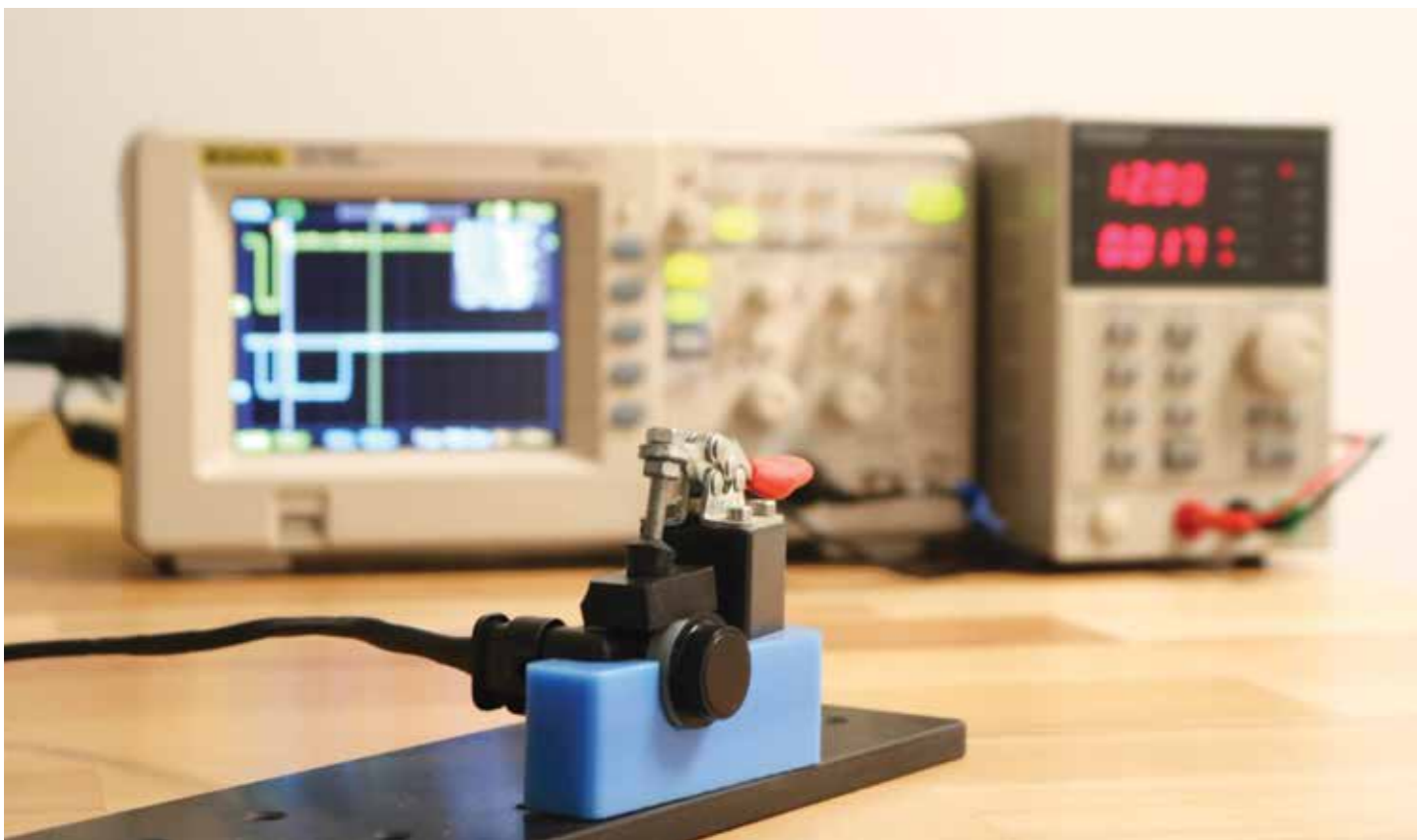


8170208024 Brake caliper motor for Audi, Seat and VW



8170208031 Brake caliper motor for Audi

“When the electrically operated parking brake fails, the brake caliper is usually okay”



THIS IS HOW OUR PARKING SENSOR TESTER WORKS

Our programme in parking sensors has got a great start since its introduction just over a year ago. We attribute this to the fact that our own in-house testing equipment has played a significant role in the selection of our manufacturers and subsequently in our complaints handling.

Parking sensors are used in systems that assist the driver during parking or maneuvering a vehicle by identifying and indicating the distance to any obstacles so that collisions can be avoided. The systems indicate either visually, using sound or a combination of both, how close the vehicle is from an obstacle.

- 3 systems, using different technology
- Ultrasonic system
 - Electromagnetic system
 - Camera based system

The most widespread system uses ultrasonic sensors and is easily recognized by the visible sensors located in the vehicle's bumpers. Triscan's programme of vehicle-specific sensors exclusively includes sensors for ultrasonic systems - and our test equipment works exclusively for this type of sensor.

An ultrasonic sensor is capable of both transmitting and capturing high-frequency sound waves. With our test equipment, we compare the performance of the car manufacturers aftermarket sensors with our own in the following areas:

1. Spread angle
2. Response time
3. Power consumption

Spread angle of the sensor

The spread angle of the individual sensors is determined so that the entire area in front of and behind the car is covered and the system is thereby able to detect obstacles. The spread angle of the individual sensor may vary depending on where it is located in the car's bumper. Thus, it is not necessarily the same type of sensor used at the different locations. Most systems use a minimum of four sensors and the spread angle is in pairs

always the same - ie. for example, the outer right and left or the inner right and left sensors are the same.

Response time of the sensor

To determine whether there is an obstacle near the vehicle, the sensor starts transmitting sound waves. In cases where there is an obstacle within the defined safety range, some of the transmitted sound waves are reflected



Left:
Our own in-house testing equipment has played a significant role in the selection of our manufacturers and subsequently in our complaints handling



Triscan's programme of vehicle-specific sensors exclusively includes sensors for ultrasonic systems

by the obstacle, which is detected by the sensor. The time that passes from the sound waves are transmitted until they are received is called the response time and this can be converted to distance.

Sensor power consumption

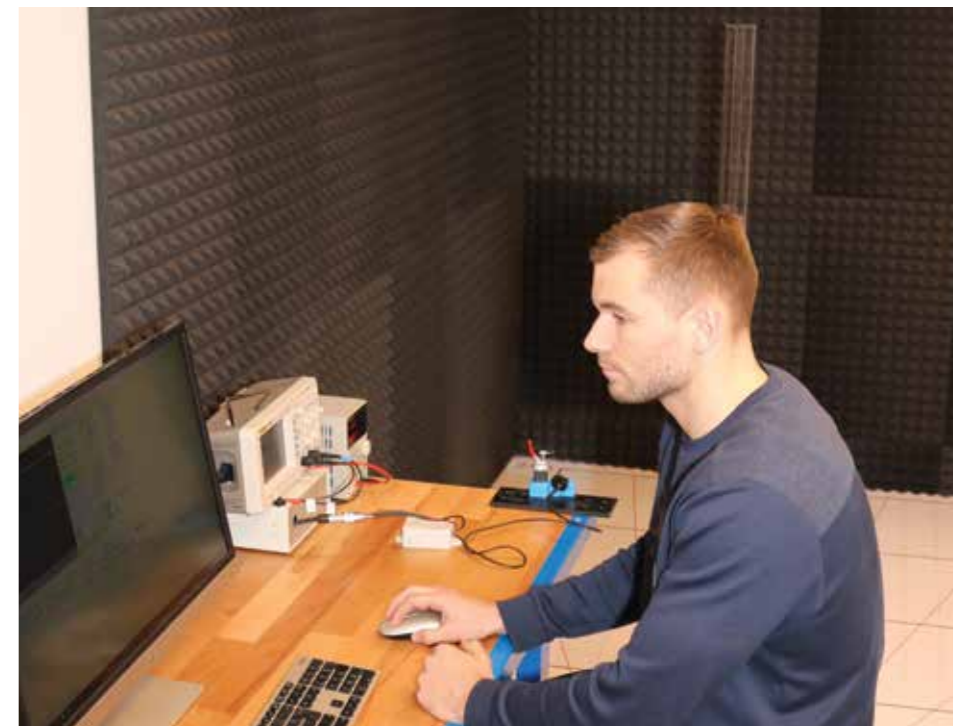
Last but not least, the power consumption of the sensor is tested to ensure that the sensor is properly dimensioned for the system it is part of.

This is how the test is carried out

The sensor is fixed at a reference point which is determined by the distance and angle markings on the floor. To prevent the sound waves from being reflected incorrectly, the walls adjacent to the measurement area are covered with a special absorbent foam material. After connecting the sensor box associated with the sensor, an oscilloscope and applying the correct voltage, testing can begin. To see if the sensor's spread angle and response time meet the specification, an obstacle is placed at the distance and angle marking points and the measurement result are analyzed. The selected obstacle is a tube because the curved/organic shape of the tube makes it hard for the sensor to capture the reflected sound waves.

Big quality differences

Two of the most important components of an ultrasonic sensor - and a major reason why the sensor works properly - is the sensor itself and the microchip. Unfortunately, there are far too many manufacturers using components of questionable quality - which leads to malfunctioning. A Triscan parking sensor is fitted with components from leading OEM suppliers - and every single sensor has been tested before leaving the factory ■



To prevent the sound waves from being reflected incorrectly, the walls adjacent to the measurement area are covered with a special absorbent foam material





CAN EARNINGS IN YOUR COMPANY BE IMPROVED - AND BY HOW MUCH?

The ability of a spare part wholesaler to create a solid bottom line not only depends on purchase prices, but is significantly influenced by many other factors - including the wholesaler's product portfolios coverage of the car park, order fill, delivery time to the market, stock value, purchase frequency and last but not least interest rate level.

Triscan has developed a calculation model that, based on a spare part wholesaler's key figures, shows where there is potential to improve earnings. We call it the SOLO model (Sales Opportunities and Logistic Optimisation) - and it has been successfully used and subsequently proven its worth by many of our customers.

One of the overlooked potentials for improving earnings often lies in the part of the product portfolio that does not get the same attention - and therefore not so carefully cared for - as the large product groups in terms of revenue. One consequence of this is that the wholesalers within these product groups in the final analysis still have a disproportionate high consumption of resources, because in their efforts to provide customers with a good service and avoid having to say no to an order goes really far.

The time spent buying the emergency sourced spare part, the often too high purchasing price of the item and the extra high shipping costs for express delivery (all of which are costs that the customer is rarely invoiced), ultimately mean that the wholesaler sells the emergency sourced product at a loss or very low profit.

An alternative to avoiding the above is of course to pass and say no thanks to the

order, which is often perceived as poor customer service.

Another alternative is to do something about these product groups through analysis and inventory optimization in order to find out if there is an overlooked potential.

A few examples of product groups where we often find unutilized earning potential are:



And that is where the SOLO calculation model comes into play. In the calculator the following is stated:

- IRR (INTERNAL RATE OF RETURN):**
- Your company's internal rate of return
- CONTRIBUTION RATIO:**
- Your company's gross margin
- PROFIT MARGIN CHANGE:**
- Is set to "0" which assumes unchanged purchase prices when switching suppliers

Subsequently, data for the product groups to be included in the calculation are given for both current suppliers and Triscan, which includes:

1. Purchase volume/year
2. Current inventory value
3. Purchase frequency in days
4. Suppliers' order fill
5. Suppliers' coverage of the fleet in the different product groups (TecDoc)

Based on the numbers entered, the SOLO model is able to calculate:

- The minimum saving on inventory value
- Extra sales profit
- The overall improvement in earnings
- The percentage increase in earnings

In this way, a good basis is created to estimate the potential for the extent to which earnings can be improved as a minimum. The savings relating to administrative resources are not included because they are based on the customer's own judgement, but most often they represent a relatively large cost amount. Based on reducing the number of suppliers, a lot of time can be saved in connection with:

PRODUCT MANAGEMENT AND PURCHASE

- Supplier meetings, -trips and contract negotiations
- Product data management
- Returns
- Complaint handling

LOGISTICS

- Goods reception
- Goods returns

ACCOUNTS DEPARTMENT

- Invoice handling

Over time we have seen many examples that the earning potential has proven to be far higher than the SOLO model's assumption. The company that benefitted the most from switching to Triscan, achieved 48% revenue growth for two consecutive years and the following quote speaks for itself: "... The biggest achievement in our business in terms of growth has been with Triscan; our sales have almost doubled" ■

?

Are you interested in optimizing your product range and inventory...

Please contact
Steen Ray Pedersen
(srp@triscan.dk)





NEW: BALL SPLINE DRIVE SHAFTS FOR VOLVO XC AND CROSS COUNTRY MODELS

We are now also capable of delivering the very special ball spline drive shafts used on Volvo's XC and Cross Country models. A total of 20 references are in stock and can be ordered online via TriWeb, TecCom etc.

The vertical movement on a Volvo XC or Cross Country model, is in particular for off-road driving much longer than for car models which are only suitable for regular road driving. Therefore, the drive shafts also differ from regular drive shafts. They are made with ball spline technology on the part of the shaft that faces the gearbox/differential.

The ball spline design enables the drive shaft to vary its length and thus enables it to handle even large vertical movements in the wheel suspension.

The programme includes the following references. Please visit triweb.triscan.dk for detailed information ■

S60 Cross Country	V60 Cross Country
8540 27516	8540 27516
8540 27518	8540 27518
8540 27520	8540 27520
8540 27525	8540 27525
8540 27532	8540 27532

XC60	XC70
8540 27519	8540 27516
8540 27521	8540 27518
8540 27522	8540 27520
8540 27523	8540 27525
8540 27528	8540 27526
8540 27529	8540 27527
8540 27533	8540 27532

XC90
8540 27515
8540 27517
8540 27531
8540 27534
8540 27535

Left: The Volvo XC60 is one of the models that uses the special ball spline drive shaft

“The special ball spline drive shafts are designed to handle even large vertical movements in the wheel suspension”



NEW: TRISCAN FIRST ON THE FREE AFTERMARKET WITH CV JOINTS AND BOOT KITS FOR TESLA

We have continuously informed which parts we stock for Tesla - and now even more have been added. As the first on the free aftermarket, we now offer cv joints and boot kits. With the latest product releases, we have more than 40 parts primarily for the S and X models.

If you once experienced the acceleration capabilities of a Tesla, it is not hard to imagine the amount of stress that the drive shafts and cv joints are exposed to. In other words, it is not a question of if, but rather a question of when these parts are due for replacement.

For a while we have been able to deliver 3 of the drive shafts, but now another 3 have been added. In addition, we have added 4 cv joints in the programme as well as 4 boot kits. Get an overview of the transmission parts in the table.

5 track control arms for model S and X have also been added to the range - see photo and description on the next page ■

TRISCAN REF.	PRODUCT	MODEL
854081101	CV JOINT	S and X
854081201	CV JOINT	S and X
854081202	CV JOINT	S and X
854081203	CV JOINT	S and X
854081501	DRIVE SHAFT	S
854081502	DRIVE SHAFT	S and X
854081504	DRIVE SHAFT	X
854081505	DRIVE SHAFT	S
854081506	DRIVE SHAFT	X
854081507	DRIVE SHAFT, GEARBOX SIDE	S and X
854081801	BOOT KIT	S and X
854081901	BOOT KIT	S and X
854081902	BOOT KIT	S and X
854081903	BOOT KIT	S and X



8540 81507 drive shaft gearbox side - for Tesla models S and X



8540 81201 cv joint - for Tesla models S and X



8540 81903 boot Kit - Tesla Model S and X



TCA 8500 81500 (OE: 1027351-00-C/1048951-00-A/1048951-00-B/6007997-00-D), right/left, lower - fits all model S and all model X



TCA 8500 81504 (OE: 1041570-00-A/1041570-00-B/6007998-00-C), left & TCA 8500 81503 (OE: 1041575-00-A/1041575-00-B/6006664-00-C), right, bottom - fits all facelifted model S as well as all model X



TCA 8500 81506 (OE: 6006532-00-A/6006532-00-B), left & TCA 8500 81505 (OE: 6008930-00-A/6008930-00-B), right, upper - fits all model S without dual motor

You can find all the new drive shafts, CV joints, boot kits and track control arms at triweb.triscan.dk or in TecDoc



ADDITIONAL 84 PARTS FOR ELECTRIC, HYBRID AND HYDROGEN CARS

Once again we have news regarding parts for cars with alternative driveline. At Triscan you can now get parts within undercarriage and engine control for models from Chevrolet, Citroën, Hyundai, Kia, Mercedes, Mitsubishi, Opel, Peugeot, Toyota and VW.

The number of electric, hybrid and hydrogen cars on the roads - but also the number of car manufacturers that produce them and the number of models - is growing rapidly. That is exactly why it is also important to know where you get the



MAP sensor 882411007 for BMW I3 hybrid



We supply parts for electric cars such as BMW I3

Left: The number of electric, hybrid and hydrogen cars on the roads is steadily increasing - where do you find your spare parts?

spare parts from when the queries are registered. We have previously talked about all the parts we stock for Tesla, Nissan, Renault and BMW, but since then we have expanded the range again.

With focus on wheel bearings, coil springs, ignition coils, MAP sensors and EGR coolers, we now also stock parts for the following models:

BMW I3
BMW I8
Chevrolet Volt
Citroën C-Zero
Hyundai Ioniq
Hyundai Kona
Kia Niro
Kia Niro (e-Niro)
Mercedes B Electric Drive
Mercedes C350e
Mitsubishi iMiEV
Nissan E-NV200
Nissan Leaf ZEO/ZEOE (-> 2018)
Opel Ampera
Peugeot Ion
Renault Twizy
Renault Zoe
Tesla S
Toyota CH-R
Toyota Auris Hybrid, ZWE150
Toyota Auris Hybrid, ZWE186
Toyota Mirai
Toyota Prius 1.5, NHW11
Toyota Prius 1.5, NHW20
Toyota Prius 1.8, ZVW30
Toyota Prius 1.8, ZVW35
Toyota Prius 1.8, ZVW40
Toyota Prius 1.8, ZVW50
Toyota Prius 1.8, ZVW51
Toyota Prius 1.8, ZVW52
Toyota RAV4 Hybrid, AVA42
Toyota RAV4 Hybrid, AVA44
Toyota Yaris Hybrid, NHP130
VW E-Golf
VW E-Up
VW Golf GTE Hybrid, 5G1
VW Passat GTE Hybrid, 3G2, 3G5



We also have parts for hybrid cars like Kia Niro



We can even support you with parts for hydrogen cars like the Toyota Mirai



Front wheel bearing 853013146 for i.a. Toyota Mirai



COIL-OVER AND TENSION SPRINGS FOR BMW TAILGATE

Once again, our extensive programme of gas springs has been expanded. For the BMW X5 (E70) we now stock the special coil-over gas spring for the tailgate. Another new product is the special tension springs for the tailgate of the BMW 5 Series (E60 and F10).

The total of 4 new references can be found in TriWeb or TecDoc under the following Triscan or OE numbers:

TRISCAN REF.	OE REF.	MAKE	MODEL
8710112014	51 24 7 141 490	BMW	5-serie (E60)
8710112013	51 24 7 204 367	BMW	5-serie (F10)
8710112015	51 24 7 204 366	BMW	5-serie (F10)
8710112016	51 24 7 294 199	BMW	X5 (E70)
	51 24 7 177 283	BMW	X5 (E70)



8710 112016 coil-over gas spring - for BMW X5 (E70)



8710 112015 tension spring - for BMW 5 Series (F10)

NEW

AIR BELLOWS AND COMPRESSORS FOR CARS WITH AIR SUSPENSION



Compressor 872511102 - for BMW 5 (E61) Touring

Air bellow 872011202 - for BMW 5 (E61) Touring



18 REFERENCES OF AIR BELLOWS AND COMPRESSORS IN OE QUALITY ARE READY FOR DELIVERY

The programme is composed of high demand item numbers for AUDI, BMW, CITROËN, MERCEDES BENZ, PORSCHE, TESLA and VW.

In TriWeb you find the new programme in the main group "Steering & suspension" where it has got its own subgroup "Air suspension". For some car models, it is necessary - and prescribed by the manufacturer - that the relay is replaced at the same time as the compressor. In

these cases, the relay is included in the delivery when you choose Triscan. The list below shows which car models are covered by the programme so far:

AUDI
A6 (4F2, C6)
A6 (4F5, C6) Avant
A6 (4FH, C6) Allroad
Q7 (4L)

BMW
5 (F07) GRAN TURISMO
5 (F11) Touring
5 (E61) Touring
7 (F01, F02, F03, F04)
X5 (E70)
X5 (F15)
X6 (E71, E72)
X6 (F16, F86)

CITROËN
C4 I Grand Picasso (UA_)

MERCEDES-BENZ
CLS (C218)
CLS (C219)
CLS (X218)
GL-CLASS (X164)
M-CLASS (W164)
E-CLASS (W211)
E-CLASS (W212)
S-CLASS (W220)

PORSCHE CAYENNE
(9PA)

TESLA
MODEL S

VW
TOUAREG (7LA, 7L6, 7L7)

The stocked references within air bellows are:

TRISCAN REF.	TYPE	OE REF.	ARNOTT REF.
872011201	Air bellow	37 10 6 784 379	A-2780
872038201	Air bellow	5102.GN A-2939	A-2939
872023201	Air bellow	212 320 39 25	A-2791
872023202	Air bellow	212 320 40 25	A-2790
872023204	Air bellow	166 320 03 25	A-2596
872011202	Air bellow	37 12 6 765 602	A-2755
872011203	Air bellow	37 12 6 790 081	A-2642
872023101	Air bellow	164 320 43 13	A-2575
872023205	Air bellow	211 320 09 25	A-2726
872023206	Air bellow	211 320 09 25	A-2726

The stocked references within compressors are:

TRISCAN REF.	TYPE	WABCO-/AMK REF.
872511101	Compressor	415 403 956 2
872511102	Compressor	A2125
872523101	Compressor	415 403 303 R
872523102	Compressor	415 403 323 R
872523103	Compressor	A1991
872529101	Compressor	415 403 958 2
872529102	Compressor	415 403 305 0
872581101	Compressor	415 406 329 0



5-YEAR WARRANTY ON ALL BUDWEG BRAKE CALIPERS FROM TRISCAN

From Triscan you only get spare parts in original quality, and calipers are no exception. If you order brake calipers from us, you will receive quality brake

calipers from Budweg, on which we now can offer a 5-year warranty. This extended warranty period applies to all Budweg calipers purchased after April 1, 2019.

Based on solid core values

Budweg has one of the newest and most modern production sites in Europe and has been supplying quality products to the aftermarket for more than 40 years. Budweg specializes in brake calipers, manufactured in a quality that often outperforms the original.

The eco-friendly alternative

Manufacturing a new caliper requires a lot of energy, but Budweg uses only a fifth of that energy to renovate a caliper.

At Budweg, the original brake calipers are cleaned, dismantled and rebuilt to a standard that at least corresponds to the quality of the original mounted calipers. Incidentally, the cleaning process takes place in a closed and eco-friendly cleaning system - so when you choose Budweg you help protect the environment



8 NEW REFERENCES IN ADDITIONAL WATER PUMPS

As previously reported, an increasing number of cars are equipped with more than one water pump. In addition to the primary pump of the cooling system, electrically powered additional water pumps can be mounted for various reasons. We have just added 8 new references to our programme, which now includes 43 references.

Additional water pumps are used, for example, for separate cooling of:

- EGR valves
- Turbochargers
- Cabin heaters
- Engines with start/stop function
- Oil coolers
- Battery and power electronics cooling in electric and hybrid cars

An example of this is the Audi Q5 2.0 TDI from 2015 onwards, where the additional water pump is used to circulate coolant between the engine and the radiator/heater for heating the cabin.

All Triscan water pumps are manufactured according to the IATF 16949 standard. For example, 100% control of pump density is performed. In addition, lifetime test etc. are performed on test equipment specified by the car manufacturers



Triscan ref. 860029080

TRISCAN REF.	#	MAKE	MODEL
8600 11047	860011047	BMW	1 (F21), 3 (F31), MINI
8600 11048	860011048	BMW	Mini Clubman (R55)
8600 23073	860023073	Mercedes Benz	C216, C218, C219, C292, R230, R231, X166, X218, W166, W203, W207, W211, W212, W220, W221, W461, W463, W639
8600 23074	860023074	Mercedes Benz	R230, W124, W202, W210, 208
8600 13046	860013046	Toyota	Prius [_W2_], (NHW11_)
8600 29085	860029085	Seat, VW	Various models
8600 29083	860029083	Audi, Seat, Skoda, VW	Various models
8600 29091	860029091	VAG	Various models

Top: Mini One is one of the cars equipped with more than one water pump



NEW INSPIRATION FOR THE JOB OF ACTIVATING THE UNEMPLOYED

Councillor for Social Affairs and Employment in Aarhus Kommune (Aarhus Municipality), Kristian Würtz and representatives of Jobcenter Aarhus, Maria Haugen-Vestena and Trine Hanøy Flensted-Jensen, visited Triscan for a talk about the long-standing collaboration and new inspiration for activation of unemployed.

The collaboration between Aarhus Kommune/Jobcenter Aarhus and Triscan dates back more than 15 years and since its establishment, Triscan has had the status of "business center". Here, unemployed people can have the opportunity to get tested for a job in a real workplace. It is important to underline that the work performed does not cost Danish jobs, as these are tasks that would otherwise be performed by the foreign suppliers. In a business center, the unemployed (prospects) are clarified in a business process, where during the process work is also being done with the person's other challenges. This practice is breaking with the previous practice, where unemployed people with special challenges must be made ready for the labour market before they start an internship at a company.

Service coordinator Jørn Kim Jensen uses approx. 70% of his working time as a mentor in Triscan's business center. Several hundred prospects have been through a process at Triscan and Jørn Kim Jensen estimates that for every three prospects one will afterwards get a job - primarily in flexijobs. Aarhus Kommunes strategy with the effort is precisely to get more people into flexijobs

rather than live a life without any contact with the labor market. Inspired by his work, Jørn Kim Jensen has got several ideas for how the process can be adapted so that even more prospects reach the goal of subsequently getting a flexijob.

In a time of low unemployment, the composition of the group of prospects has changed. "A larger part than before has never been part of the labor market and the personal challenges are strongly represented," Jørn Kim Jensen explains, and continues: "I therefore spend a great deal of time getting the specific working conditions that must be taken into account for each prospect - be it reduced working hours, pace, breaks etc. At the same time, it is important for the prospects to understand that they work on equal terms with the company's other employees. They must also be aware of the requirements and expectations we as an employer have for them and what opportunities we as a workplace can offer".

During the visit at Triscan, Thomas joins the group. Thomas, who is 34, started in a process at Triscan 4 weeks ago. Almost 5 years ago, Thomas lost his full-time job after

ending up in a drug addiction that later led him into a depression. After becoming drug-free and medicated for depression and anxiety, Thomas tried to get back into the job market in a previous process at Triscan. The ambition was to get ready for a full-time job within 13 weeks, but unfortunately it did not turn out that way. Thomas had a relapse instead but is now ready for a new process with a more realistic goal. "I'm really happy to be back and have been met super well. It's so good to have something to do instead of sitting in front of the TV. My work is organized so that I do not have to relate to too many people and the tasks are well-tuned, but also challenging. I now know that my abuse has damaged me mentally, but I get the right medical treatment and I have a much more realistic picture of my own situation. Aarhus Kommune and Triscan have really helped me a lot and I get support all the way around", says Thomas ■

Top: Jørn Kim Jensen explains Councillor Kristian Würtz from Aarhus Kommune, Maria Haugen-Vestena and Trine Hanøy Flensted-Jensen from Jobcenter Aarhus about the types of work that for instance are being performed by prospects in the clarification process



“The collaboration between Aarhus Kommune/Jobcenter Aarhus and Triscan dates back more than 15 years and since its establishment, Triscan has had the status of business center”

TRISCAN ENSURES FAST DELIVERY OF THE RIGHT PARTS

When buying spare parts from Triscan, you do not only receive a product of high and uniform quality, but also a complete item with all the necessary parts in user-friendly packaging with mounting tips, reference numbers, list of application etc.



TRISCAN'S WIDE PRODUCT PROGRAMME

All Triscan's products are manufactured in OE quality. Our product programme covers more than 97% of the European car parc. If you choose a product group from Triscan, you can do with just one supplier.

ENGINE

- Air flow meters
- Camshaft position sensors
- Crankshaft position sensors
- Diesel
- EGR valves
- Engine gaskets
 - Cylinder head gaskets
 - Gasket kits
 - Gasket kits w/o cyl. head gasket
 - Oil-pan gaskets
 - Valve cover gaskets
- Engine parts
 - Lifters
 - Top bolts
- Exhaust
 - Clamps
 - Flexible connectors
- Fuel hoses
- Ignition coils
- Ignition wire sets
- Micro-V belts, kits
 - Alternator pulleys
 - Belt tensioner units
 - Idlers
 - Micro-V belts
 - Pulleys
 - Stretch fit V-belts
 - V-belts
 - Vibration dampers
- Oil plugs & gaskets
- Oxygen sensors
- Timing belt kits
 - Belt tensioners
 - Idlers
 - Micro-V belts
 - Oil seals
 - Timing belts
 - Vibration dampers
- Timing belts, Water pump kits
- Timing chain kits
- Throttle bodies
- Vacuum hoses
- Waterpumps + Timing belt kits

TRANSMISSION

- Accelerator cables
- Anti-friction spray
- Bolt kits, flywheels
- Bonnet cables
- Boot kits
- Choke cables
- Clutches/clutch kits
 - Clutch cylinders
 - Clutch grease
 - Clutch hoses
 - Clutch release bearings
 - Guide bearings
 - Guide bushings, clutch bearings
 - Hydraulic release bearings
 - Oil seals
- Clutch cables
- Clutches, various
- C.V. joints
- Drive shafts
- Grease
- Oetiker clamps
- Propeller shaft support
- Shift cable
- Speedometer cables
- Trailer cables
- Tripod joints
- Tools
- U-joint
- Universal clamps

BODY

- Gas springs
- Refills for BOSCH flatblade
- Steering dampers
- Universal wiper refills
- Washer pumps
- Wiper refills

COOLING SYSTEM

- ALLU-flex duct hoses
- Flushing tools - cooling system
- Heater hoses
- Radiator caps
- Radiator hoses
- Thermostats
- Thermo switches
- Waterpumps
- Water temperature sensors

STEERING & SUSPENSION

- Boots
- Bushings
- Coil springs
- Leaf springs
- Power steering pumps
- Rack and pinions
- Shock absorbers
 - Mounting kits
 - Protection kits
- Spheres - suspension
- Stabilizer rods
- Standard bearings
- Steering columns
- Steering parts
- Strut bearing kits
- Strut bearings
- U-bolts
- Wheel bearing kits
- Wheel hubs

BRAKE SYSTEM

- Accessory kits
- ABS-rings
- ABS sensors
- Bleed screws
- Brake cables
- Brake calipers
 - Guide tube kits, brake calipers
 - Pistons
 - Rep. kits
- Brake discs
- Brake drums
- Brake hoses
 - Banjo bolts
 - Clips for brake hoses
- Brake pads
- Brake pipes
 - Idlers
- Brake shoes
- Pressure regulators
- Wear indicators
- Wheel cylinders

MISCELLANEOUS

- Ear clamps
- Flashers
- Hose clamps
- Standard bearings
- Trailer cables
- Universal gas springs

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