BIZOL GREEN OIL

is an ultimate result of the decade long outstanding work of German scientists.
Bizol is one of the latest formations of a company in the mineral oil scene. Changes in the world-wide political scenery, first of all in Europe, have produced several innovative, creative and successful enterprises. While other firms are celebrating their 100th anniversary, it is safe to say that they have a lot of business experience but also a lot of dust on their files.

As a result of considerable changes in the structure of shareholders in the year 2007, trademark BIZOL has got access to the most recent developments of tribology; that became an important opportunity and significant financial asset.

Due to that, the big changes have also occurred in the assortment of the trademark BIZOL. First of all, that is the application of the cutting-edge technology in the field of production of lubricants. As a result, a new product line of motor oils BIZOL Green Oil was created.

The production process was based on the most advanced methods of lubricants creation and new technological approach. In addition, new alloying components were applied. They have provided this new oil with intensive green colour. The following products were included in the new product line:

- BIZOL Green Oil Synthesis 5W-40
- BIZOL Green Oil 10W-40
- BIZOL Green Oil Diesel 10W-40

These products are suitable not only for the most expensive and new automobiles, but also for all types of vehicles working in the tough working conditions and by inconsistent quality of fuel. First of all, the following was taken into consideration: high loads on the motor when staying for a long time in the traffic jam, by cold start and by strong fluctuations of temperature (summer- hot, winter- cold).

Moreover, new alloying components allow the vehicle’s owner using BIZOL Green Oil to feel himself safer, because these oils ensure high and stable level of all necessary physical-chemical qualities during the whole operating period of oil. This is not true, it talking about other not expensive lubricant producers, which save exactly on these properties.

The owner of the vehicle who applies BIZOL Green Oil products is considered as a competent, technically educated person that takes care not only about duration of the operating life of his automobile, but also about safety of his own life. Social standing of the vehicle’s owner underlines not only the value of his car, but first of all, the quality of the products that he buys for the operation of his lifelong partner- his automobile.

BIZOL GREEN OIL SYNTHESIS 5W-40

Motor oil based on synthesis technology. Through application of state-of-the-art and unique technologies, German engineers have developed a cutting-edge product, which corresponds to the major requirements of the newest types of petrol, diesel and turbo diesel motors. It perfectly protects from wear, especially under city traffic conditions. Due to its unique technology, BIZOL Green Oil Synthesis guarantees the highest oil stability for the whole life cycle of the motor. Its good wear protection and lubricating properties remain unchanged even under extreme operating conditions. The green colour of this product underlines its incomparable technology and unique components.

Classifications and Specifications:
- ACEA A3/B3/B4
- API SM/CF
- MB 229.3
- Porsche VW 502 00/505 00

BIZOL GREEN OIL 10W-40

This innovative motor oil has a very high anti-wear protection quality. It is developed by German engineers especially as universal motor oil for both old and new diesel motors. Due to its unique technology, BIZOL Green Oil guarantees the highest oil stability for the whole life cycle of the motor. Especially suitable for motors, working under city traffic operating conditions. Its good corrosion protection and lubricating properties remain unchanged even under extreme operating conditions. The green colour of this product underlines its incomparable technology and unique components.

Classifications and Specifications:
- ACEA A3/B3
- API SL/CF
- MB 229.1
- VW 501 00/505 00

BIZOL GREEN OIL DIESEL 10W-40

This oil is specially developed by German engineers for all types of diesel motors: turbo diesel, suction and direct injection, as well as TDI and Common Rail. Due to its innovative technology, BIZOL Green Oil Diesel guarantees the highest oil stability for the whole life cycle of the motor. Its good anti-corrosion, wear protection, as well as lubricating properties remain unchanged even under extreme operating conditions. The green colour of this product underlines its incomparable technology and unique components.

Classifications and Specifications:
- ACEA B3
- API CF
- VW 501 00/505 00
ROR Air Suspension

Superb Super Single Wheel Rim

Haldex Air Braking System

32Ton Bogie Axle Set

Firestone Air Helper Spring

Firestone Air Spring

Qnine LED Lighting

Stemco Data Trac Hubodometer
At the IAA Commercial Vehicles show, Haldex unveiled the next generation of Alfdex oil mist separator systems for crankcase ventilation. The key features for meeting tougher environmental legislation from Euro 6 and beyond EPA 10 are: significantly improved cleaning, handling of larger gas flows and the addition of electric drive.

**IMPROVED CLEANING**
The next generation Alfdex separator is up to four times more efficient than the existing model, and can handle up to three times as much blow-by gas.

“This is a major step towards achieving the dream efficiency rate of 100%. A few new inventions and optimization of almost every component in the separator have enabled us to achieve such a significant improvement. I am sure that this is what the engine manufacturers need in order to comply with Euro 6 and the regulations beyond EPA 10,” says Dr. Stefan Szepessy, R&D Manager at Alfdex.

The system still uses centrifugal technology to eliminate particles down to or below 0.1 gram/hour in normal driving conditions, precisely what is needed for well-functioning closed crankcase ventilation systems. At a separator speed of 7,000-8,000 rpm, oil and soot particles are removed from the gas by forces of around 2,500 Gs and are returned to the oil sump.

**LOWER ENERGY CONSUMPTION**
Normally, the separator is hydraulically driven by the engine lube oil system. A new option is an electric brushless motor that offers significantly lower energy consumption combined with cleaning efficiency adapted to actual needs, while providing on-board diagnostics through a controller-area-network (CAN-bus). Serial deliveries are expected to start in 2011.

**TOUGHER LEGISLATION**
Interest in the Alfdex crankcase gas cleaning system is being driven by tougher engine legislation that takes into account not only exhaust pipe discharges but also other discharges, such as crankcase gases. Korea and Japan have such legislation while the North American market experienced similar demands when “EPA 07” took effect in January 2007. In Europe, the new Euro 6 regulation is planned to become effective in 2013.
Established in 1988 at Taipei, Taiwan, VALENS professionally developed and designed LED light, including LED third brake light, LED car lamp and LED truck light. VALENS moves ahead to LED HOME LIGHTING in 2003 with LED CEILING LIGHT (Model VLA001), LED down light, LED light Bar, LED desk lamp, LED track light.

VALENS provides high quality LED lights by compliance with ISO9001 regulations. Material incoming inspection and QC for finished products adhering to MIL-STD-105D standards.

SWITCHING to energy-efficient lighting is one way to respond to the recent hike in electricity tariffs. Philips’ support manager, lighting applications Asean Matthew Cobham says new lighting technology, in particular light-emitting diode (LED), offers a triple-win proposition: cost savings, energy conservation and environment preservation.

The solid-state light source also enables savings in maintenance costs and has a long lifecycle, he points out.

“LED lasts about 50,000 hours or about eight years of continuous use, after which it still has about 70 per cent of brightness. It is more robust than incandescents and also highly resistant to shock and vibration,” Cobham adds.

Other advantages of LED sources are better optical control, wide range of colours and design flexibility.

Cobham highlights that LEDs offer an ideal option for city beautification purposes, acting as a tool to extend the city and its people’s unique identity and lifestyle.
INFOline: Product Focus

**VLA 102W-5**

**PRODUCT**
- Input voltage: AC100V ~ 240V
- Watts: 12W
- Color temp.: 5500 ~ 6500K (day light)
- 2700 ~ 3200K (warm light)
- Material: Aluminum base, Acrylic lens
- Weight: 0.43KGS
- Dimensions: 40mm(W) x 590mm (L) x 20mm (H)

**VLA205(W/B)/10**

**PRODUCT**
- Input voltage: AC100V ~ 240V
- Watts: 12W
- Color temp.: 5500 ~ 6500K (day light)
- 2700 ~ 3200K (warm light)
- Material: Aluminum base, Glass lens
- Weight: 0.27KGS
- Dimensions: ø105mm x ø90mm x 60mm (H)

**VLA206(W/B)/V3**

**PRODUCT**
- Input voltage: AC100V ~ 240V
- Watts: 6W
- Color temp.: 5500 ~ 6500K (day light)
- 2700 ~ 3200K (warm light)
- Material: Metal with painted finish, Acrylic lens
- Weight: 0.2KGS
- Dimensions: ø125mm x ø100mm x 78mm (H)

**VLA208(W/B)/A3**

**PRODUCT**
- Input voltage: AC100V ~ 240V
- Watts: 12W
- Color temp.: 5500 ~ 6500K (day light)
- 2700 ~ 3200K (warm light)
- Material: Metal with painted finish, Acrylic lens
- Weight: 0.46KGS
- Dimensions: ø173mm x ø150mm x 108mm (H)

**VLA302(W/B)/3**

**PRODUCT**
- Input voltage: AC100V ~ 240V
- Watts: 6W
- Color temp.: 5500 ~ 6500K (day light)
- 2700 ~ 3200K (warm light)
- Material: Metal with painted finish, Glass lens
- Weight: 0.24KGS
- Dimensions: ø58mm x 120mm (L) x 58mm (H)
Although this has been a very challenging year, 14th September 2009, however marks another year of achievement for Asia Pacific region.

The two (2) days Asia Pacific Distributor Conference is conducted together with the Training School at Ambassador Hotel in Bangkok. The agenda for this year Training school is to enhance the understanding on Air spring applications, failure and warranty issues and the forecasting methodology for accurate stocking parts at Firestone’s newly operating Singapore warehouse.

"Air Spring Refresher" presented by Ms. Bhawana along with "Failure Analysis Training" by Mr. Don Foulke while Mr. Yogesh Kumar bring in "Application Do’s / Don’ts" conversely.

The Conference and Training School are well manage and we do have a very pleasant trip.
Applications:

- Oil Exploration
- Foundries
- Bottling Equipment
- Valve Mfg
- Logging Industry
- Rubber Industry
- Amusement Rides
- Food Packaging
- Scissors Lift Manufacturing
- Glass Manufacturing (Plate Glass)
- Sewage Processing Equipment

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Choo Tian Vehicle Industries Sdn Bhd
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LED LIGHTING

**LED Side Marker Lamp**
- Available in Red, Amber and Red/White
- Voltage: 12V or 24V

**LED Tail Lamp**
- Available in Green and Red/Amber
- Voltage: 24V

**LED Hazard Lamp**
- Available in Red and Amber
- Voltage: 12V or 24V

**LED Cab Marker Lamp**
- Available in Green and Red/Amber
- Voltage: 24V

**LED License Lamp**
- Available in White
- Voltage: 12V or 24V

**LED Beacon Lamp/Rotating Lamp**
- Available in Red or Amber
- Voltage: 10V - 30V

**LED Interior Lamp**
- Available in White
- Voltage: 12V or 24V

**LED Hazard Lamp**
- Available in Red and Amber
- Voltage: 12V or 24V
- • 1W SUPER BRIGHT LED
- • Silver aluminum housing
- • Stainless steel bracket
- • DIY easy installation

**LED Cab Marker Lamp**
- Available in Green and Red/Amber
- Voltage: 24V
- • Single light, Multi-function with switch
  1. Slow single flash alternatively then quad flash
  2. Steady on
  3. Quad flash alternatively
  4. Slow single flash alternatively
  5. Fast sixfold flash
  6. Fast single flash
  7. Slow double flash
  8. Quad flash alternatively then quad flash together
  9. Circular flash
  10. Slow sixfold flash
  11. Slow single flash
  12. Fast double flash

**LED License Lamp**
- Available in White
- Voltage: 24V
- • Single light, Multi-function with switch

**Triangle Reflector**
- Available in Red
- 2pcs/set

**New Product Release**
- **Auxiliary & Utility Lights**
- Available in White
- 2pcs/set
- Voltage: 12V
- • Lens: Acrylic
- • Base: Aluminum
- • 1W SUPER BRIGHT LED
- • Silver aluminum housing
- • Stainless steel bracket
- • DIY easy installation

---

*Emergency Warning Strobe Lights*
- Available in Red and Blue
- Voltage: 10V - 30V
- • Lens: Polycarbonate
- • Single light, Multi-function with switch
- • Base: Aluminum
LED Tail Lamp
Available for Stop/tail, Direction Indicator, Reverse, Interior, Combination tail lamp with reflector & license plate.
Voltage: 12V or 24V

LED Beacon Lamp/Rotating Lamp
LED Signal Lamp
LED Interior Lamp
LED Light Bulb

NEW

Triangle Reflector

Available for Stop/tail, Direction Indicator, Reverse, Interior, Combination tail lamp with reflector & license plate.
Voltage: 12V or 24V

LED Signal Lamp
Available in Red, Yellow | Voltage: 24V

LED Light Bulb
Available in Red, Amber and White | Voltage: 12V

New Product Release • Electrical Components - Relay

Flash Pattern: Quad Flash | Voltage: 24V

Flash Pattern for Multi-Function:
1. Slow single flash alternatively then quad flash
2. Steady on
3. Quad flash alternatively
4. Slow single flash alternatively
5. Fast sixfold flash
6. Fast single flash
7. Slow double flash
8. Quad flash alternatively then quad flash together
9. Circular flash
10. Slow sixfold flash
11. Slow single flash
12. Fast double flash

For more information please contact:
Tel: 03-6188 8388 or E-mail: ysl@yslsb.com.my
Drums v Discs

The right choice depends on the operation, but EBS is worth investigating, says Tom Hughes, ArvinMeritor’s European sales director.

After reaching the dizzy heights of a 70% share of all new UK trailer sales in 2000, disc brakes now claim a 50 to 60% share of the new trailer market. However, the trend looks to be reversing in the medium to long term as the new generation of disc brakes come onto the market and people understand more about how to maximise the benefits of EBS. Disc brakes win hands down when it comes to shorter stopping distances and safety, especially combined with EBS, so why have some fleets switched back to drum brakes for trailers?

One answer is that manufacturers, operators and workshops are now all more aware of how closely trailer brake specifications are linked with operations and the direct impact specifying drums or discs can have on servicing costs.

Discs brakes are ideal for dedicated tractor-trailer fleet motorway runs. Electronic braking systems can give balanced braking and the brakes if set correctly, will give long service life provided they are serviced regularly. Off-road operations are prime candidates for retaining or specifying drum brakes. Discs are not as tolerant towards tractor-trailer braking imbalance as drums, as heat is the big issue for disc brake life: while drum brake temperatures are typically between 100 and 200°C; disc brakes operate at 200 to 350°C. Unlike drum brakes, disc brakes do not fade when they get hot so there is no loss of performance, but that advantage also increases thermal stress. If the disc brakes on a trailer are working harder than they should because the tractor predominance valve is set up that way, the extra heat can result in shortened pad and calliper life, due to seals becoming hard and cracking allowing water into the brake.

Off-road duties invariably mean more dirt and dust. If brake seals are damaged, that dust can work its way into the brake assembly where it becomes a grinding paste, accelerating wear rates. Wheel baths, to reduce transfer of dirt to highways can also cause disc-cracking problems, especially with first-generation disc brakes.
Drum brakes are more tolerant to less than ideal maintenance. Seal damage can lead to expensive calliper damage a seal costs pennies compared with upwards of £300 for a calliper.

At ArvinMeritor, we think that while the latest generation of disc brakes are more robust and reliable, there will be a demand for drum brakes for the foreseeable future, until disc brakes are proven in more arduous applications.

**EBS**

Mercedes-Benz was the first to embrace disc brakes and EBS on tractors, and in the past few years disc brakes and EBS have increasingly been fitted as OE equipment on trailers. EBS overrides the pneumatic brake activation signal with an electronic one. That cuts up to 0.5 seconds off the reaction time between hitting the foot brake and the trailer brakes coming on. This time delay decrease reduces the stopping distance from 56mph by 40ft (12.3 metre).

For the workshop, EBS enables brake wear to be evened off across all axles and allows wear to be monitored and recorded. On trucks with CAN bus wiring, EBS plays a role in bringing trailer servicing into the cost control loop, by collecting data on usage and performance.

EBS can help cure drum-brake imbalance problems if set correctly and can be retrofitted.

Under braking, the combination brakes its own load using the available adhesion between road and tyre. Whilst the tractor can potentially adjust each wheel station the trailer at the moment only has one feed.

It is possible to adjust the braking predominance if wear is an issue, but only by changing the EBS parameters via a laptop. However, the tractor EBS system can self adjust if the operation changes. EBS systems are relatively simple to retrofit to drum-braked trailers because the main components are the emergency relay valve and the trailer EBS modulator.

**Brake sizes**

With more tractor units and trailers on disc brakes, the question is whether their brakes need to be different. The answer, of course, is that there is no need for different brakes on the tractor and trailer at all - indeed, there are good reasons to make them the same.

So the current trend is to have truck and trailer brakes of the same 22.5in size. ArvinMeritor has always maintained that 19.5in rotors are perfectly adequate, provided the design ensures enough cooling air gets into the wheel envelope and smaller rotors. The ELSA 195 has proven this over the last three years in many different applications. However, as more trailer builders are fitting disc braked axles as standard, it has become sensible to shift to 22.5in brakes. Commonality of brake systems makes it easier for workshops both in parts stocking, service checks and in training mechanics.
When and How to Inspect Brake Drums

In order to maximize the service life of your brake drums, proper installation, periodic inspection and maintenance procedures must be followed. The information contained herewith will help in establishing a brake drum maintenance program that assist you identifying problems and obtain the necessary corrective measures to restore balanced braking and ensure safe, reliable brake system performance.

Consistent, reliable brake system performance is dependent on a sound brake system maintenance program. It is important that regular scheduled inspections of the brake system are incorporated into your preventative maintenance program. By incorporating a regular brake inspection program your cost-per-mile will be significantly reduced. Costly downtime can be reduced by spotting problems before they take a vehicle out of service for extended periods of time.

While there is no specific recommended timetable for brake system inspection, we suggest that you establish a regular and thorough inspection procedure.

Following are some of the common problems encountered during regular brake drum inspection and the recommended procedures.

**CRACKED DRUMS**

Upon inspecting the drum, a crack extending through the entire wall is found. This condition is caused by excessive heating and cooling of the brake drum during operation.

If this condition is found, the drum MUST be replaced immediately. Repeated cracking of brake drums indicate that the brake system and/or the brake drums are inadequate for application. This condition may also caused by driver abuse, particularly if the drums, lining, and brake system are correctly rated for the vehicle and the application.

If this problem persevere, the brake system should be inspected for correct brake system balance and proper brake lining friction ratings as recommended by the OEM. If this problem occurs on a new drum, it may be cause by mishandling.

**HEAT - CHECKING**

Heat-checking is the appearance of numerous short, fine, hairline cracks on the braking surface of the drum. Heat-checking is a normal condition found on brake drums and is caused by the constant heating and cooling of the braking surface, which occurs as the brakes are applied during normal operation of the vehicle.

Heat-checks will frequently wear away and form as a result of the normal braking process however, heat-checks can progress over time into cracks in the braking surface depending on such factors as lining wear rate, brake system balance, and how hard the brakes are used.

Normal heat-checking does not impair braking performance, however, it is advisable to make sure that deep cracks have not developed. Replace the brake drum if any of the following conditions are found: heat checks, one or more that extend completely across the brake surface. Heat check cracks that are 0.06 inches wide and/or 0.12 inches deep or greater.
The brake drum will show discolored spots on the braking surface, with oil and/or grease spattered on the brake assembly. This condition is most likely caused by a faulty lubrication system or improper greasing of the brake cams.

To correct the problem, the source of the grease and/or oil must be located and make necessary repairs to eliminate the leak. Remove the entire brake assembly and clean each component thoroughly. If the linings are soaked with oil or grease they must be replaced.

**GREASE - STAINED DRUMS**

Braking surface with uneven wear indicated by hard, slightly raised dark colored spots. This problem may also be shown by a pulsating ride upon brake application or excessive noise upon braking.

This condition indicates that the drum has been subjected to extremely high temperatures caused by an improperly balanced braking system, a dragging brake, or continued severe brake applications. These extremely high temperatures have caused structural changes to occur in the drum material which makes the drum more susceptible to crack.

If this condition exists, the drum must be replaced. The brake linings should be inspected for uneven wear and replaced if necessary.

After replacing the brake drum, the entire braking system should be inspected for correct balance between the tractor and the trailer as well as wheel to wheel (i.e., air distribution, brake adjustment, and power A/Factors).

**MARTENSITE SPOTTED DRUMS**

A defined, grooved appearance on the braking surface of the drum and excessive lining wear.

If the scoring is severe and the drum is within the recommended inside diameter limitation (see note below), then the drum could be machined to remove the scoring.

After reinstalling the brake components it is advisable to check the brake system to determine if there is excessive amounts of abrasive material entering and building up on the braking surface of the drum.

**NOTE:** WHEN CHECKING BRAKE DRUM DIAMETER FOR WEAR, THE DIAMETER SHOULD NOT EXCEED .120" OVER THE ORIGINAL DIAMETER. WHEN RE BORING BRAKE DRUMS, THE FINISHED DIAMETER SHOULD NOT EXCEED .080" OVER THE ORIGINAL DIAMETER.

**SCORED DRUMS**

A drum which shows the signs of bluing has been subjected to extremely high temperatures. This condition may be caused by continued hard stops or brake system imbalance, or improperly functioning return springs. It is not necessary to resurface or replace the drum as long as it remains within the allowable tolerance for operation.

To correct this problem the brake system should be inspected for correct balance. The return springs should be checked to determine if they are weak or broken. The brake should be checked for correct adjustment and clearance.

If this condition is left unresolved, it can result in the development of a martensite condition or cause the drum to crack.

**BLUE DRUMS**

A drum which shows the signs of bluing has been subjected to extremely high temperatures. This condition may be caused by continued hard stops or brake system imbalance, or improperly functioning return springs. It is not necessary to resurface or replace the drum as long as it remains within the allowable tolerance for operation.

To correct this problem the brake system should be inspected for correct balance. The return springs should be checked to determine if they are weak or broken. The brake should be checked for correct adjustment and clearance.

If this condition is left unresolved, it can result in the development of a martensite condition or cause the drum to crack.
The electric retarder is a reliable system and only simple maintenance required. The electric retarder is based on Eddy currents. It is made up of two parts:
- Stator: static part equipped with a set of electric coils.
- Rotors: turning parts that absorb and dissipate the kinetic energy of the brake system.

**The Working Principle of Electric Retarder**
- a) When electric current passes through the coils of stator, a magnetic field is created.
- b) When rotors turns inside the magnetic field, Eddy currents appear.
- c) Hence, opposing force against movement of rotors created and achieved braking effect.
- d) Heat generated from the braking effect will dissipated through vanes on rotor.

FF16 series are installed in vehicles where the distance between transmission and differential is short, e.g. rear engine bus. Stator is fixed to transmission or differential housing. Rotors are connected to the driveshaft and outlet flange of transmission or input flange of differential.

This series covers torque range between 900 and 3300 Nm.

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<tr>
<th>MODEL</th>
<th>TORQUE (Nm)</th>
<th>GCW (ton)</th>
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