

CASTROL LABCHECK OIL ANALYSIS

Maximises your business efficiency

Successful businesses operating both on and off-road equipment are using high performance lubricants together with oil analysis to deliver greater business efficiencies and cost savings.

Equipment manufacturers specify oil change intervals based on one or a combination of the following factors: distance travelled, fuel used and/or time in use. These intervals are generally very conservative and not based on your specific operating requirements.

It is possible to tailor your lubricant change intervals to your specific business needs - either by extending oil drain intervals or lowering the wear rate - thereby extending component life, or a combination of both. However, this can only be done in conjunction with a carefully planned and managed lubricant regime.

Oil samples taken from engines, transmissions and axles reveal vital information to confirm if all is functioning normally or identify an emerging problem.

This is of paramount importance for operators seeking to maximise equipment productivity under severe on-highway or off-road conditions, especially those running a mixed fleet of varying model types, ages and for a range of applications.

Castrol Labcheck allows maintenance managers to tailor lubricant change intervals, monitor equipment wear rates and schedule servicing or actual replacement when it's convenient. Functioning as a condition monitoring process, it's designed to help you become aware of any abnormal wear in equipment compartments and when to plan preventative action before it develops into costly downtime and equipment failure.



The results of used oil analysis tests are available within 48 hours either in hard copy or electronically on-line. They are assessed against past samples of the same compartment to provide an historical trend analysis report for effective maintenance decisions.

Your Castrol representative can guide you in selecting the most appropriate high performance lubricant suitable for your application and how Castrol Labcheck can extend the reliability, performance, and operating life of all your equipment - whilst improving your operating profitability at the same time.



CASTROL WARRANTY... complete peace of mind

Castrol warrants the performance of its lubricants under the conditions of operation as detailed in the appropriate Castrol literature.

Should a failure occur which is caused solely by a Castrol lubricant, we will cover the cost of repair and replace the lubricant with an alternative product to provide the required level of performance.

Conditions do apply. For more information and registration, contact Castrol or your local Castrol representative.

Although all reasonable care has been taken to ensure that the information contained in this publication is accurate as at the time of printing, such information is nevertheless liable to variation in the event of changes occurring subsequent to the date of printing in: the blend formulation, methods of storage, or due to the improper handling or application of any of the products referred to, or in the requirements of any specification or approval relating to any of the products.

To find out more about any of our high-performance products and services... to discuss your needs and issues in more detail... to arrange a meeting with your local Castrol representative, contact us today.

Technical Service: 1300 557 998
Customer Orders: 1300 554 890

Visit us on the web at www.castrol.com

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OUR TRANSPORT LUBRICANTS RANGE

IT'S MORE THAN JUST OIL. IT'S LIQUID ENGINEERING.



UNDERSTAND THAT YOUR VEHICLE IS YOUR LIVELIHOOD

At Castrol, we offer you the benefit of more than 100 years of dedicated global experience, achievement and lubricant technology leadership.

With over 10,000 employees in more than 150 countries around the world, we are committed to providing premium quality products and services that deliver the highest performance.

Our expertise in lubricant technology has been developed through years of experience supplying the transport industry. We understand your business and operations, so we can provide the most appropriate products to meet your needs. Our goal is to help you achieve the best possible performance from your vehicles, and improved profitability for your business.

Whether you are seeking greater fuel efficiency, extended service intervals, prolonged component life or better overall cost effectiveness, you can be sure we have the right lubricant product for you.



Castrol is well known for a passionate commitment to sporting and record breaking initiatives. What is perhaps less well known is our commitment to helping our customers achieve the best from their transport businesses.

Today, running a single vehicle or a fleet is a tough business. There is no margin for error and every lost minute means lost money. Vehicles must be on the road and running at peak efficiency to enable you to get on with keeping your customers satisfied.

Our goal is to make your job easier, by using our one hundred years of lubrication expertise to protect your vehicle and help reduce your operating costs. Our teams of scientists and engineers, strive to add value by designing the best lubricants in the world. Lubricants with uncompromising performance, for all types of vehicles, engines, transmissions, axles and hydraulics, for every climate and for every type of operation.

You have plenty to worry about besides oil. Just leave it to us to make sure you have the lubricants you need for your business.

MORE THAN JUST OIL. IT'S LIQUID ENGINEERING.



GEAR AND TRANSMISSION FLUIDS – EXTREME PRESSURE (CONT'D)

PRODUCT	APPLICATION	FEATURES & BENEFITS	VISCOSITY & SPECIFICATIONS RATINGS
SYNTHETIC FLUIDS			
SAF XO	MAN Rear Axles – ZF Hypoid Axles MAN approved for truck and bus rear axles. ZF approved for commercial vehicle hypoid axles.	Less wear due to very stable multigrade viscosity. Synthetic formulation gives excellent high temperature stability and minimal deposits. Long oil drain interval and reduced operating temperature potential. Very low friction leads to less wear and better fuel economy. Compatible with mineral oils.	SAE 75W-90 GL5 • ZF TE-ML 05 • MIL-L-2105D • MAN 342
SAF XA	Differential Oil – Limited Slip Ideal for both high performance limited and non-limited slip hypoid axles with long drain application.	Superior oxidation stability and high temperature control while retaining excellent wear protection performance. Shear stable formulation provides long term bearing protection, component life and long drain intervals.	SAE 80W-140 GL5/GL6 • MIL-PRF-2105E • MIL-L-2105D • Spicer rear axle viscosity range from SAE 80W to SAE 140
SYNTRAX E	Rear Axles – Long Drain For Eaton and Meritor (Rockwell) rear axle drives where long drain periods and extended warranty conditions apply. B-Doubles and roadtrains. Maximum service interval 400,000kms or 2 years.	Greater film strength for high loads, leading to less wear. Potential for reduced running temperatures and costs. Synthetic formulation leads to better high temperature stability and reduced deposits. Longer oil drain intervals and better equipment durability/life. Compatible with mineral oils.	SAE 80W-140 GL5 • Fully approved for Eaton & Meritor (Rockwell) extended drain and warranty programme.

GEAR AND TRANSMISSION FLUIDS – NON-EXTREME PRESSURE

PRODUCT	APPLICATION	FEATURES & BENEFITS	VISCOSITY & SPECIFICATIONS RATINGS
MINERAL FLUIDS			
PSG-E	Pre-Selective Gearboxes Designed for use in pre-selective gearboxes (pneumocyclic and hydrocyclic) fitted to some A.E.C., Daimler and Leyland commercials.	Prevents oxidation and the effects of aeration and foaming with excellent lubricity via specially formulated additives.	SAE 15W-30 GL3 • Leyland E-85
TRANSMAX M	Automatic Transmissions – General Purpose Suitable for a wide range of automatic transmission applications including Allison 500 Series.	Previously Castrol TQ DEXRON® II D21885, and is approved by Mercedes-Benz and ZF.	• M2C138-GJ • GM 6297 M • ZF TE-ML 09, 11, 14 • MB Approval 236.1
TQ D III formerly TQ DEXRON® III	Automatic Transmissions – Light Duty For light and on-highway commercial vehicles and bus power steering systems, some tractors and many hydraulic systems. All Allison WT and 500 series models.	Enhances automatic transmission durability, excellent resistance to high temperatures, fluid oxidation and degradation, protects copper and bronze components. Low temperature fluidity. Previous License No. H36163.	• GM 6297M • Toyota T • M2C138-CJ
TQ DEXRON® VI	Automatic Transmissions – Heavy Duty Suitable for a wide range of automatic transmissions specifying DEXRON® VI, III or II including powersteering.	Enhances performance of new and older transmissions with consistent shift performance for vehicle life. Excellent oxidation stability under severe conditions giving long life lubricity.	DEXRON® VI
TFC 400 SERIES 410 430 440 450	On Highway – Allison Transmissions Truck, earthmoving and excavation machinery with automatic powershift or manual transmissions where Allison C2, C3 or C4, Caterpillar TO-2 or TO-4, Komatsu Micro-clutch, API GL1, 2 & 3 or CD engine oils are specified. (NB: Not recommended for Allison WT Series)	Oxidation stability to maintain high temperature performance and transmission cleanliness during service life, excellent friction performance which ensures smooth, positive changes with enhanced friction material durability, power steering pump wear protection for longer life, rust and corrosion protection to guard highly polished and finished surfaces and helps extend thrust and plain bearing life, and seal compatibility on nitrile, polycrylate, silicone, and fluoroelastomer (viton) elastomers to help minimize oil leaks but helping oil seals remain serviceable. Available in four viscosity variants to match appropriate application.	SAE 10W SAE 30 SAE 40 SAE 50 • Allison C4 • Cat TO-4 • API GL1, 2 & 3 • CD • Komatsu Micro-clutch • Eaton (TFC 450) • ZF TE-ML 03, 04, 06, 14 in the appropriate viscosity grade.



DAF	PERKINS	RENAULT	IVECO	HINO	ISUZU	MITSUBISHI FUSO	UD NISSAN
★	✓ Short haul only – around town, reduced oil drain service	✓ Short haul only – around town, reduced oil drain service	✓ Short haul only – around town, reduced oil drain service	★	★	✓	✓
★ Specially recommended where extended oil service intervals are desired†	✓ Turbocharged and 4-cylinder phaser engines	★ Specially recommended where extended oil service intervals are desired†	★ Specially recommended where extended oil service intervals are desired†	✓ Excludes Hybrid	✓	✓	✓
★ For Euro 4 engines	✓ Turbocharged and 4-cylinder phaser engines	✓	✓	★	★	★	★
				★	★	★	★
						Pre 2008 Non SITEC engines only	
★	★ Peregrine/1300 series & 6-cylinder phaser engines	★	★	★	★	★	★
✓	★ Turbocharged and 4-cylinder phaser engines	✓	✓	★	★	★	★

† Extended oil service intervals should always be supported by used oil analysis, eg. Castrol Labcheck.

RECOMMENDED OIL for your diesel engine

For any engine makes not listed on this chart, or for technical assistance on mixed fleet applications, contact your Castrol representative or the Technical Advice Line.

For Diesel Engines with or without DPF / DPD
(Diesel Particulate Filter or Diffuser)

Only Recommended for Diesel
Engines Without DPF / DPD

<p>15W-40 HYPURON Maximum oil drain and protection for the latest U.S. diesel engines.</p> <ul style="list-style-type: none"> • API CJ-4/SL • Mack EO-O Premium Plus • Caterpillar ECF-1, ECF-3 • Cummins CES 20081, 78, 76 • Detroit DDC Power Guard 93K218 Approved <ul style="list-style-type: none"> • Volvo VDS-4 Approved • Hino approved • JASO DH-2 • Extended oil service intervals • Severe service conditions 	<p>10W-40 ENDURON LOW SAPS Low SAPS oil for the latest European diesel engines.</p> <ul style="list-style-type: none"> • ACEA E6, E7, E4 • MB Approval 228.51 • MAN M 3277 for CRT™ and M 3477 Approved • RVI RXD, RLD-2 Approved <ul style="list-style-type: none"> • Volvo VDS-3 Approved • DAF – Meets extended drain requirements†
<p>15W-40 TECTON GLOBAL ES Superior protection in the latest diesel engines.</p> <ul style="list-style-type: none"> • API CJ-4 • Mack EO-O Premium Plus • Cummins CES 20081 • Caterpillar ECF-3 • Detroit DDC Power Guard 93K218 Approved <ul style="list-style-type: none"> • ACEA E5, E7, E9 • Volvo VDS-4 Approved • MB Approval 228.31 • JASO DH-2 	<p>15W-40 TECTON J-MAX 2 High performance diesel oil for Japanese engines. Replaces Tecton J-Max</p> <ul style="list-style-type: none"> • Japanese Diesel Engines • JASO DH-2 • Low Ash <ul style="list-style-type: none"> • Also recommended where JASO DH-1, API CC, CD, CF, CF-4 are called for in Japanese engines
<p>15W-40 TECTON HD Advanced formula to help extend engine life in mixed fleets.</p> <ul style="list-style-type: none"> • API CI-4 Plus • ACEA E5, E7 • Volvo VDS-3 Approved • Mack EO-N Premium Plus 2003 • Cummins CES 20078, 77, 76, 72, 71 <ul style="list-style-type: none"> • Caterpillar ECF-2 • Detroit DDC Power Guard 93K214 Approved • Global DHD-1 • JASO DH-1 • RVI RLD • MAN 3275 Approved 	<p>15W-40 RX SUPER Extra reserves of protection for longer diesel engine life.</p> <ul style="list-style-type: none"> • API CI-4 Plus/SL • Cummins CES 20078 • Caterpillar ECF-2 • Volvo VDS-3 Approved • ACEA E5, E7 <ul style="list-style-type: none"> • Global DHD-1 • JASO DH-1
<p>40/50 TECTON MONOGRADE DD Superior protection for Detroit Diesel two-cycle diesel engines.</p> <ul style="list-style-type: none"> • SAE 40 & 50 • For Detroit Diesel 2-Stroke models • Monograde • Low Ash 	

	CUMMINS	DETROIT	MACK	CAT	SCANIA	VOLVO	MERCEDES-BENZ	MAN
15W-40 HYPURON	★	★	★	★	✓	★	✓	✓
10W-40 ENDURON LOW SAPS					★	✓	★	★
15W-40 TECTON GLOBAL ES	★	★	★	★	★	★	✓	✓
15W-40 TECTON J-MAX 2								
15W-40 TECTON HD	★	★	★	★	★	★	✓	✓
15W-40 RX SUPER	★	★	★	★	✓	✓	✓	✓
40/50 TECTON MONOGRADE DD		★						

★ Prime recommendation for all models unless otherwise stated. ✓ Suitable alternative for all models unless otherwise stated.

GEAR AND TRANSMISSION FLUIDS – NON-EXTREME PRESSURE (CONT'D)

PRODUCT	APPLICATION	FEATURES & BENEFITS	VISCOSITY & SPECIFICATIONS RATINGS
SYNTHETIC FLUIDS			
TRANSMAX Z	Automatic Transmissions For heavy-duty automatic transmissions with integral retarders such as garbage truck and bus transmissions. Recommended where either DEXRON® III, IIE or IID fluids are specified. Drain dependent on application and duty.	Field proven in a range of Australia's arduous conditions to dramatically reduce operating costs and wear. Improved driveability – shift feel characteristics and transmission life. Advanced synthetic formulation leads to minimal deposits, extended oil drain intervals and transmission life.	SAE 0W-20 • ZF TE-ML 09, 14 • Extended drain • Voith G607 • MB Approval 236.81 • Voith E607
SYNTRANS M	Manual Transmissions Prime recommendation for long drain applications in Eaton Road Ranger, Spicer, Meritor (Rockwell) and Volvo truck transmissions under long haul operations. Suitable for synchronised and non-synchronised manual transmissions. Recommended service intervals of 300,000 – 400,000kms depending on application.	Reduced wear and operating costs. Improved transmission life. Advanced synchroniser protection. Stronger full synthetic oil film for heavier loads. Superior cold flow fluidity for quick protection at start up. Advanced gear oil technology outperforms engine oil style products. High temperature stability.	SAE 75W-90 GL4 • Eaton • Spicer Volvo & ZF • Excellent synchro performance.
SYNTRANS 75W-85		This is a lower viscosity variant of Syntrans M with all the same benefits.	SAE 75W-85 GL4 As above, plus • MB Approval 235.4 • MAN 341 • Volvo 1237, 07 • ZF TE-ML 02
SYNDRIVE 50E	Eaton and Meritor (Rockwell) Transmissions Fully approved by Eaton for extended drain in Road Ranger gear boxes and Meritor (Rockwell) transmissions. Recommended service interval 400,000kms or 2 years.	Reduced wear. Longer gear, bearing and transmission life compared to mineral SAE 50 engine oils. Stronger full synthetic oil film for heavier loads. High temperature stability.	SAE 50 CD GL3 • Fully approved for Eaton & Meritor (Rockwell) extended drain and warranty programme.

COOLANTS

<p>CASTROL PREMIUM COOL PLUS</p> <p>Premium recommendation for most HD diesel engines</p> <ul style="list-style-type: none"> • Concentrated heavy-duty diesel engine coolant • Exceeds major industry coolant specifications and standards • Specifically formulated to protect 'wet sleeved' engines • Higher boiling point and lower freezing point • Service life 1,000,000km / 8,000hrs / 4years
<p>CASTROL PREMIUM COOL PLUS 50</p> <p>Maximum protection for HD diesel engine cooling systems</p> <ul style="list-style-type: none"> • Pre-mixed, ready-to-use version of Castrol Premium Cool Plus • Mixed with 50 per cent demineralised water for optimum protection and coolant life • Service life 1,000,000km / 8,000hrs / 4years
<p>CASTROL ANTI-FREEZE NF</p> <p>Premium recommendation for European engines</p> <ul style="list-style-type: none"> • Concentrated formula • Recommended for certain heavy-duty European engines • Higher boiling point and lower freezing point • Service life 600,000km / 9,000hrs / 5years
<p>CASTROL ANTI-FREEZE NF 50</p> <p>Maximum protection for European engines</p> <ul style="list-style-type: none"> • Pre-mixed, ready-to-use version of Castrol Anti-Freeze NF • Nitrite, phosphate and amine free • Service life 600,000km / 9,000hrs / 5years
<p>CASTROL HD COOLANT TEST KIT</p> <p>Premium recommendation for correct maintenance of coolant in American HD diesel engines</p> <ul style="list-style-type: none"> • Measures correct glycol content, nitrite and molybdate levels • Helps to prevent cooling system failure

GREASE*

<p>CASTROL APX-T</p> <p>Highly recommended for general purpose greasing</p> <ul style="list-style-type: none"> • Designed for heavy-duty, high temperature applications • Resists water wash-out • Dyed blue for easy identification
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HYDRAULIC FLUIDS

<p>HYSPIN AWH SERIES</p> <p>High quality mineral oils with Viscosity Index Improver</p> <ul style="list-style-type: none"> • Ideal for severe applications over a wide temperature range with minimum viscosity variation • Contains anti-wear, anti-oxidant, anti-foam, anti-corrosion additives • Long service life • For use in gear, vane and piston type hydraulic pumps, plant and machine systems • Full range of viscosities
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CLEANING PRODUCTS

<p>EQUIPMENT WASHING</p> <p>CASTROL BIOTRANS QB</p> <p>Premium recommendation when requiring a 'quick break' biodegradable vehicle and machinery wash and degreaser</p> <ul style="list-style-type: none"> • Effectively removes dirt, road grime, oil, exhaust soot and insects • Also suitable for workshop floor cleaning and as a water based degreaser

<p>HAND CLEANING</p> <p>CASTROL CARECLEAN LIME Pleasant lime fragrance & contains aloe vera for soothing skin</p> <p>CASTROL CARECLEAN PLUS Pleasant citrus fragrance & contains lanolin for excellent skin conditioning</p> <p>Premium recommendation for clean hands, with no skin irritation</p> <ul style="list-style-type: none"> • Designed to remove heavy ingrained soils, oil and grease • Minimises skin irritation – solvent free hand cleaner for minimal skin irritation • Dispenser option offers no waste – no mess
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* We have many more greases for specific applications, for more details contact Technical Helpline: 1300 557 998