

UNDERSTANDING AUTOMATIC TRANSMISSION FLUIDS

SPECIAL PROPERTIES FOR AUTOMATIC TRANSMISSION FLUIDS

- They're a power transition fluid for the torque converter.
- Act as a hydraulic fluid for hydraulic (and electronic) control systems.
- They must transmit sliding friction energy in bands and clutches. This property varies between transmission makes and is why there are so many different ATFs on the market. Friction is the key.
- They transmit this energy in such a way that the shift is always smooth.

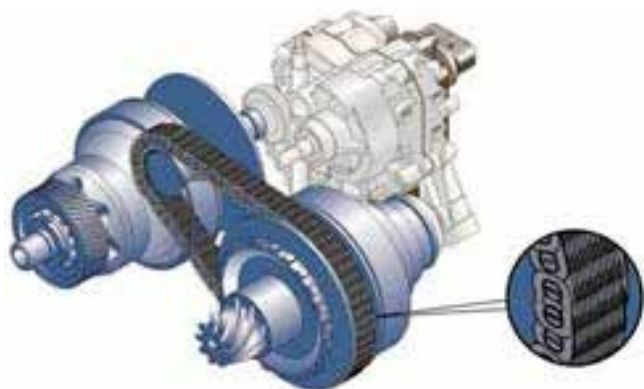
HOW DOES AN AUTOMATIC TRANSMISSION WORK?

Automatic transmissions do not have a solid style conventional clutch like manual transmissions. Instead, they use a fluid coupling called a torque converter to transmit power from the engine to the transmission.

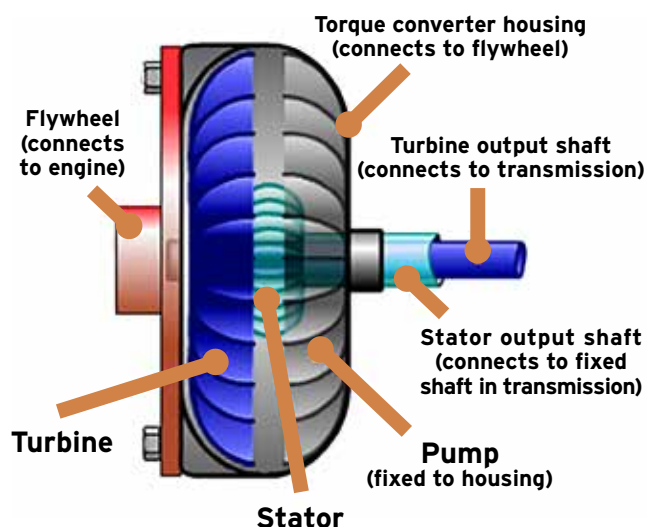
The changes in the ratios by the planetary gear sets (as distinct from hypoid or bevel type used in differentials or manual gearboxes), are done through the combined use of multiple disc clutches, one-way clutches and bands. These are the friction elements. The shift points are now electronically controlled (instead of simple hydraulic pressure) and these electronics in the valve bodies are also reliant on the correct oil.

HOW DOES A CVT WORK?

A CVT (continuously variable transmission) is different again. There are two types of CVT. They both work on the basis of keeping the engine at the most efficient rev range for power and economy.



Traditional automatic transmissions use gears. CVT's don't have a gearbox but they operate on a pulley system that allows an infinite variability between highest and lowest gears with no discrete feeling of gear change.



Most CVTs only have three basic components:

- A high-power metal or rubber belt.
- A variable-input "driving" pulley.
- An output "driven" pulley.

The variable-diameter pulleys are the heart of a CVT. Each pulley is made of two 20-degree cones facing each other. A belt rides in the groove between the two cones. V-belts are preferred if the belt is made of rubber.

When the two cones of the pulley are far apart (when the diameter increases), the belt rides lower in the groove, and the radius of the belt loop going around the pulley gets smaller. When the cones are close together (when the diameter decreases), the belt rides higher in the groove, and the radius of the belt loop going around the pulley gets larger. This is how it "changes gear". CVTs may use hydraulic pressure, centrifugal force or spring tension to create the force necessary to adjust the pulley halves.

Variable-diameter pulleys must always come in pairs. One of the pulleys, known as the drive pulley (or driving pulley), is connected to the crankshaft of the engine. The driving pulley is also called the input pulley because it's where the energy from the engine enters the transmission. The second pulley is called the driven pulley because the first pulley is turning it. As an output pulley, the driven pulley transfers energy to the driveshaft. Both types put specific strains on the oil and it must be very shear stable.



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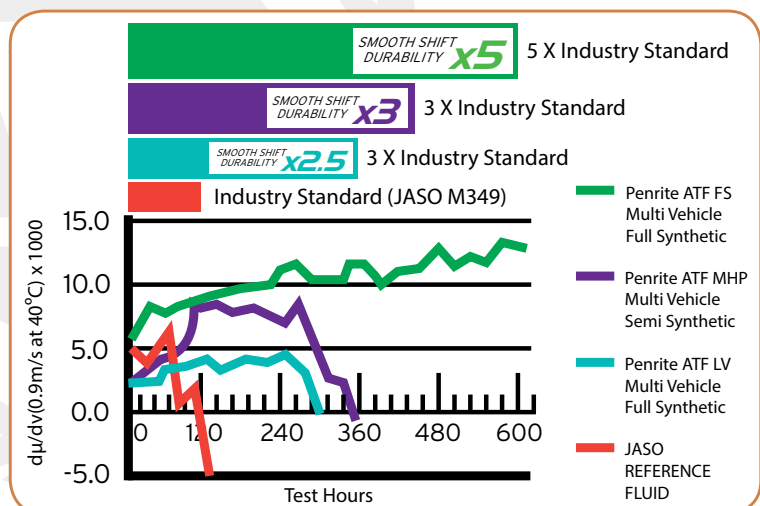


AUTOMATIC TRANSMISSION FLUIDS

Penrite manufacture a range of automatic transmission fluids (ATFs) that can be used in passenger, light and heavy duty vehicles. They may also be used as compressor fluids or as power steering fluids where ATFs are specified.

Smooth Shift Chart

Smooth shift durability is a measure of performance in automatic transmissions. Penrite's ATF FS is a Full Synthetic fluid which provides smooth shift durability 5 times longer than the industry standard. Our ATF MHP is a Semi Synthetic fluid offering smooth shift performance that is 3 times longer than the industry standard. The industry standard test method is the JASO M349 - Anti-Shudder test. This means you will experience a smooth shift with ultimate high torque power in your transmissions for longer.



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ATF LV (Multi Vehicle) **NEW**

Product Code	Pack Size	Carton Qty
ATFLV001	1 Litre	6
ATFLV004	4 Litres	4
ATFLV020	20 Litres	1
ATFLV060	60 Litres	1
ATFLV205	205 Litres	1

**ATF LV REPLACES
ATF DX-VI**

Base Oil: Full Synthetic

Colour: Red

Key Specifications: Ford MERCON®-LV, GM DEXRON®-VI, Toyota WS, JASO 1A/2A-02, Kia/Hyundai/Mitsubishi SP-IV, Ford M2C922-A1/M2C924-A, Nissan/Infiniti Matic S, Mitsubishi Dia Queen J2/J3, Honda DW-1

Penrite ATF LV is the latest generation technology, full synthetic, multi vehicle, low viscosity automatic transmission fluid meeting the requirements of Ford MERCON®-LV & GM DEXRON®-VI, as well as many other low viscosity manufacturer specifications. It is an advanced formulation automatic transmission fluid designed for optimum performance and outstanding high temperature resistance.



ATF FS (Multi Vehicle)

Product Code	Pack Size	Carton Qty
ATFFS001	1 Litre	6
ATFFS004	4 Litres	4
ATFFS020	20 Litres	1
ATFFS060	60 Litres	1
ATFFS205	205 Litres	1

Base Oil: Full Synthetic

Colour: Red

Key Specifications: GM DEXRON®-II/III/VI, BTR 91LE/95LE, Ford MERCON®-V, Mitsubishi MM SP2/SP3/PA, Mazda MV/M-III, Chrysler MS 9602 (ATF+4), Toyota WS*/T-II/III/IV, LT 71141, JASO 1A, MB 236.1/236.10/236.11/236.5, Nissan/Infiniti Matic C/D/J/K/S*, Subaru
*Meets the frictional characteristics of these specifications.

Penrite ATF FS is a full synthetic, highly shear stable, multi vehicle, automatic transmission fluid that exceeds the requirements of Ford MERCON®-V & GM DEXRON®-IIIH as well as many other manufacturer requirements. It is an advanced formula designed for optimum performance and outstanding high temperature performance.



ATF MHP (Multi Vehicle)

Product Code	Pack Size	Carton Qty
ATFMHP001	1 Litre	6
ATFMHP004	4 Litres	4
ATFMHP020	20 Litres	1
ATFMHP060	60 Litres	1
ATFMHP205	205 Litres	1

Base Oil: Semi Synthetic

Colour: Red

Key Specifications: Mitsubishi MM SP2/SP3/PA, Toyota T-II/III/IV, Chrysler ATF+3/ATF+4, Nissan/Infiniti Matic C/D/J/K, LT 71141, BTR 91LE/95LE, MB 236.1/236.10/236.11/236.5, Holden HN 2287, JASO 1A, VW 052990, Ford MERCON®-LV, GM DEXRON®-IIIH/G/F, Honda ATF 89/96/Z1

Penrite ATF MHP is a semi synthetic, multi vehicle, automatic transmission fluid that exceeds the requirements of Mitsubishi SP2/SP3/PA, DEXRON®-IIIH & Ford MERCON®-LV as well as many other manufacturer specifications. It is an advanced formula designed for optimum performance and outstanding high temperature resistance.



ATF DX-III (Multi Vehicle)

Product Code	Pack Size	Carton Qty
ATFDX3001	1 Litre	6
ATFDX3004	4 Litres	4
ATFDX3020	20 Litres	1
ATFDX3060	60 Litres	1
ATFDX3205	205 Litres	1

Base Oil: Premium Mineral

Colour: Red

Key Specifications: GM DEXRON®-IIIH/G/F, GM DEXRON®-IIE/IID/II, Volvo 97341, Ford MERCON®/MERCON®-IV, LT 71141, BTR 91LE/95LE, Ford M2C166-H, MB 236.1/236.10/236.11/236.5, Toyota T-II/D2

Penrite ATF DX-III is an advanced technology, premium mineral, multi vehicle, automatic transmission fluid that exceeds the requirements of GM DEXRON®-IIIH. It is manufactured from the latest additive technology and advanced hydrocracked base oils along with a viscosity modifier to minimize shear loss and provide outstanding performance throughout the life of the fluid.



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DCT Fluid (Multi Vehicle) **NEW**

Product Code	Pack Size	Carton Qty	Base Oil: Full Synthetic	Colour: Amber
DCTF004	4 Litres	1	Key Specifications: Ford M2C936-A, Porsche Oil No. 999917.080.00, BMW 83 22 2 148 578/579, BMW 83 22 0 440 214, BMW 83 22 2 147 477, Mitsubishi SSTF-1, MB 236.21, Peugeot/Citroen 9734.S2, VW TL 052 182/052 529, Volvo 1161838/39	
DCTF020	20 Litres	1		

Penrite DCT Fluid is a highly advanced, full synthetic, multi vehicle, dual clutch transmission (DCT) fluid suitable for DCTs that use a wet clutch system. It is manufactured with advanced synthetic base oils and utilising the latest additive technology for applications in many modern types of wet DCT transmissions.



CVT Fluid V (Multi Vehicle)

Product Code	Pack Size	Carton Qty	Base Oil: Full Synthetic	Colour: Red
CVTV004	4 Litres	4	Key Specifications: Nissan NS-1/NS-2, Mini Cooper EZL 799, Volvo 4959, Mopar CVT Fluid +4, Honda HCF2/HMMF, MB 236.20, Toyota CVTF FE/TC, Mitsubishi CVTF-J1	
CVTV020	20 Litres	1		

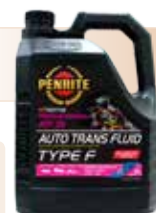
Penrite CVT Fluid V is a highly advanced, full synthetic, long drain, automatic transmission fluid manufactured with advanced synthetic and ultra-pure hydrocracked base oils and utilising state of the art additive technology for applications in many modern types of Continuously Variable Transmissions (CVT). Its new and improved formulation means more applications are now possible. Not suitable for use in Luk type CVT systems and where low viscosity CVT fluids are required.



ATF 33 (Type F)

Product Code	Pack Size	Carton Qty	Base Oil: Premium Mineral	Colour: Red
ATF33004	4 Litres	4	Key Specifications: Ford M2C33-F/G, Ford SQM-2C9007-AA	
ATF33020	20 Litres	1		
ATF33205	205 Litres	1		

Penrite ATF 33 is special purpose, premium mineral, non-friction modified, automatic transmission fluid designed for Type F transmissions that specify M2C33-F/G or Ford SQM-2C9007-AA specifications. ATF 33 is designed for use in older Ford transmissions and power steering systems wherever a Ford Type F or G fluid is recommended. It can also be used in manual transmissions that specify this type of fluid.



Classic ATF **NEW**

Product Code	Pack Size	Carton Qty	Base Oil: Premium Mineral	Colour: Red
CLASATF005	5 Litre	4	Key Specifications: DEXRON®-IID, MERCON®-IV, Allison C-4, Voith Diwa, MB 236.6/7, ZF TE-ML11/TE-ML 14, Ford ESR-M2C163-A, Vickers 35VQ25, Ford M2C166-H, Ford M2C138-CJ, Denison T5D/P-46/HF-2, Toyota T-II/D2, Sundstrand 22-213L, Mitsubishi SP/SP2, BTR 5M-52, BTR 81/91	

Penrite Classic ATF is premium mineral, multi vehicle, DEXRON®-IID automatic transmission fluid for classic and older transmissions that required Type A/Suffix A or GM DEXRON®/DEXRON®-II fluids. It is manufactured with modern additive technology and premium base oils to provide better shift performance and protection than original type automatic transmission fluids.



ATF Top Up

Product Code	Pack Size	Carton Qty	Base Oil: Premium Mineral	Colour: Dark Red
ATFTU001	1 Litre	6	<p>Key Specifications: DEXRON®-IID/III, MERCON®-IV, Allison C-4, MB 236.1, Ford ESR-M2C163-A/M2C166-H/M2C138C-J, Nissanmatic C/D, Toyota T-II, Mitsubishi SP2, Chrysler ATF+3, BTR 91LE/95LE, Mazda M-II, ZF TE-ML11</p> <p>Penrite ATF Top Up is a multi vehicle, special purpose, heavier viscosity, transmission fluid designed for topping up many Automatic Transmissions and Power Steering systems. ATF Top Up meets the basic frictional and anti-wear requirements of DEXRON®-III and many other manufacturer specifications. ATF Top Up should be at a concentration of no more than 20% of total ATF capacity.</p>	




Auto Trans Stop Leak

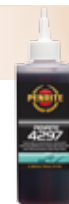
Product Code	Pack Size	Carton Qty	Colour: Red	Treat Rate: 375ml treats up to 10 litres
ADTSL375	375 Millilitres	6	<p>Penrite Auto Trans Stop Leak has been specifically formulated to control leaks in automatic transmission systems due to deteriorating or worn seals and gaskets. It has been designed for use in conventional automatic transmission units. Not suitable for use in DCT or CVT systems.</p>	



Penrite 4297 (Transmission Additive)

Product Code	Pack Size	Carton Qty	Colour: Dark Brown	
PEN4297000150	150 Millilitres	12		
Penrite 4297 REPLACES LZ 7906			<p>Penrite 4297 is a treatment additive formulated to alleviate shift problems in automatic transmission systems that require DEXRON®II automatic transmission fluids (ATFs). It is also suitable for manual transmissions that utilise an ATF as their lubricant. It can also be used to reduce noise and wear in power steering systems of passenger vehicles. It contains a balanced mix of additives including oxidation inhibitors and friction modifiers to alter the shift feel of many transmissions while providing for an improved margin of protection in others. Not suitable for use in DCT or CVT systems.</p>	

**Penrite 4297 REPLACES
LZ 7906**



PENRITE PRODUCT	Millilitres		Litres					
	150	375	1	4	5	20	60	205
ATF LV (Multi Vehicle)	-	-	⊙	⊙	-	⊙	⊙	⊙
ATF FS (Multi Vehicle)	-	-	⊙	⊙	-	⊙	⊙	⊙
ATF MHP (Multi Vehicle)	-	-	⊙	⊙	-	⊙	⊙	⊙
ATF DX-III (Multi Vehicle)	-	-	⊙	⊙	-	⊙	⊙	⊙
DCT Fluid (Multi Vehicle)	-	-	-	⊙	-	⊙	-	-
CVT Fluid V (Multi Vehicle)	-	-	-	⊙	-	⊙	-	-
ATF 33 (Type F)	-	-	-	⊙	-	⊙	-	⊙
Classic ATF	-	-	-	-	⊙	-	-	-
ATF Top Up	-	-	⊙	-	-	-	-	-
Auto Trans Stop Leak	-	⊙	-	-	-	-	-	-
Penrite 4297 (Transmission Additive)	⊙	-	-	-	-	-	-	-

(All products are available in 1000L Pods, on request)

Key Features & Benefits of the Automatic Transmission Fluids range:

- Multi Vehicle application means the same fluid can be used across multiple vehicles. Full synthetic (ATF LV and ATF FS) as well as Semi synthetic (ATF MHP) covers over 99% of the Australian vehicle market. Penrite also makes a Multi Vehicle mineral product (ATF DX-III).
- A complete range of fluids covering most vehicles.
- Specialist fluids (ATF 33, CVT Fluid V and DCT Fluid).
- Extended Long drain periods.
- Passenger Car, 4WD and Heavy vehicle applications.
- Smooth shift durability (ATF FS and ATF MHP).



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