



## PRODUCT INFORMATION SHEET

### WYNN'S AUTOMATIC TRANSMISSION TREATMENT

Product Number: 64506 24 x 325 ml

Wynn's Automatic Transmission Treatment is a fully synthetic formula to meet today's advanced transmissions requirements. When adding this product to a common multi-vehicle ATF fluid, it can increase the fluid performance to match most of the OEM's highly friction modified specialty fluids.

Wynn's Automatic Transmission Treatment also contains Wynn's proprietary Shudder Guard® additive which stops gear shudder almost instantly.

Wynn's Automatic Transmission Treatment is compatible with both mineral and synthetic ATF's.

Wynn's Automatic Transmission Treatment is not designed for constant velocity transmission (CVT) which requires different frictional characteristics.

Wynn's Automatic Transmission Treatment has also been designed to stop and prevent seal leaks in automatic transmissions, and to condition automatic transmission fluids to prevent and correct deposit-caused automatic transmission problems.

#### Advantages

Wynn's Automatic Transmission Treatment has been formulated to:-

- Stop and prevent leaks due to drying or shrinking seals.
- Maintain automatic transmission performance in service.
- Fight automatic transmission fluid breakdown due to heat and oxidation.
- Revitalise seals and O-rings to maintain internal pressure.
- Prevent oxidation and extend fluid life.
- Smooth transmission operation.
- Keep transmission clean.
- Stop and prevent rough shifting.

## Background

Modern advance passenger car transmissions are controlled by sophisticated electronics, requiring special automatic transmission fluids (ATF). One of the critical specifications for modern ATF is friction performance. Energy saving Lock-Up torques Converters require friction modifier (FM) additives to ensure proper engagement of the active clutch pack. Not enough FM will lead to the infamous “shudder”. Various OEMs have developed their own fluid specifications to suit their transmission design and to overcome shudder problem. Many of them market their own brands of fluids so that they can be sure of right lubricant characteristics. As a result, there are continuing new specifications and products released to the market place which make independent workshops or dealers hard to keep up to date. Many of them, though, are overlapped.

Hence, multi-vehicle ATF's are developed and offered to the market by oil companies and special lubricant companies. They are formulated with the common transmissions in mind and meet most of the specifications. But for many transmissions, the FM in these fluids may not be sufficient to meet the friction requirements. By adding Wynn's Automatic Transmission Treatment into these ATF's, the fluids can be improved to perform much closer to most of the OEM's highly friction modified specialty fluids.

On the other hand, FM additives can be depleted over time due to the mechanical action and heat. There is a need to replenish FM of the transmission fluid at the time of service. Wynn's Automatic Transmission Treatment is the ideal product for this purpose, especially when the customer notices a shudder problem.

Wynn's Automatic Transmission Treatment has been fully tested in various fluids as in the following list. Other fluids not in the list but similar are expected to have the same result.

<b>ATF</b>	<b>FM<sup>1</sup></b>	<b>HFM<sup>2</sup></b>	<b>Mineral Oil</b>	<b>Synthetic/ Semi-Synthetic</b>
Dexron® III/Mercon®	X		X	
Mercon®V		X		X
Mercon®SP		X		X
Mopar® ATF Plus 3 (Type 7176)		X	X	
Mopar® ATP Plus 4 (Type 9602)		X		X
Mitsubishi Diamond SP ATF		X	X	
Hyundai Genuine ATF		X	X	
Toyota Type T-II		X		X
Toyota Type T-IV		X		X
Nissan Matic D		X	X	
Nissan Matic J		X		X
Honda Premium Formula ATF		X	X	

<sup>1</sup> Friction Modified

<sup>2</sup> Highly Friction Modified

## Benefits

Wynn's Automatic Transmission Treatment is formulated to provide the following benefits listed under each basic chemical ingredient.

### SEAL CONDITIONER

- Corrects seal leaks caused by shrunken seals.
- Does not adversely affect the elasticity properties of new transmission seals.
- Supplements the seal swell properties of drainable used fluid during a fluid change.
- Maintains new seal pliability over a longer interval.
- Compatible with factory approved automatic transmission fluids.

### DETERGENTS/DISPERSANTS

- Maintains automatic transmission cleanliness, thereby helping to assure transmission life and performance.
- Removes existing deposits, thus helping to restore proper automatic transmission operation.
- Supplements the detergent/dispersant properties of undrainable used fluid during the fluid change.
- Helps assure proper transmission lubrication by removing and preventing the accumulation of deposits.

### OXIDATION INHIBITORS

- Retards automatic transmission fluid oxidation and the resultant formation of deposits which can impede proper transmission operation.
- Provides additional protection to automatic transmissions operating under high temperature conditions, such as trailer towing.
- Increases the life of automatic transmission fluids.
- Supplements the oxidation inhibitor properties of undrainable used fluid during a fluid change.

### CORROSION INHIBITORS

- Protects internal automatic transmission surfaces against rust and corrosion problems, caused by condensation and oxidation by-products.
- Supplements the corrosion inhibitor properties of undrainable fluid during a fluid change.

## ANTIWEAR ADDITIVES

- Prevents automatic transmission wear between opposing metal surfaces without adversely affecting transmission shift points.
- Supplements the antiwear properties of undrainable used fluid during a fluid change.

### Application

Wynn's Automatic Transmission Treatment is compatible with all automatic transmission fluids. For automatic transmissions, add contents of 325 ml bottle to automatic transmission. Do not overfill. Recommended for use at 5% by volume.

Wynn's Automatic Transmission Treatment is best used in conjunction with Wynn's Automatic Transmission Flush (Product No. 64401) as part of Wynn's Automatic Transmission Kit (Product No. 10210).

### Typical Characteristics

Appearance	Clear Thin Liquid
Colour (Visual)	Light Amber
Colour (ASTM D 1500)	1.5
Viscosity @ 40°C (cSt)	34.8 (ASTM D 445)
Viscosity @ 100°C (cSt)	7.28 (ASTM D 445)
Viscosity Index	181 (ASTM D 2270)
Density @ 15°C	0.876 (ASTM D 4052)
Flash Point (°C) PMCC	124 (ASTM D 93)

Seal-Swell Improvement Tests

The addition of the properly formulated package of Wynn's Automatic Transmission Treatment will enhance the seal-swell properties of both new and used transmission fluids.

For an automatic transmission fluid to become qualified originally, it must provide some minimal level of seal-swell. This is achieved typically by adding sufficient seal-swell additive to ensure a controlled amount of seal-swell. With too little swell, the seals might permit leakage and loss of the fluid.

As the automatic transmission fluid becomes oxidised in use, it tends to increase in its seal swelling characteristics, but not fast enough to keep pace with changes in the seals themselves. The seal materials, of course, also oxidise and age with heat. They tend to become hard and brittle. It has been found, over the several decades of automatic transmission cars, that supplemental seal-swell additions can keep the seals soft and pliable.

In cases where seals just begin to leak through aging, the added seal-swell can effectively soften them to stop the fluid loss. However, if the seals are allowed to wear excessively or crack, the only effective correction is replacement of the seals.

To demonstrate the relative effects on seal-swell when adding a concentrate package to new and used automatic transmission fluids, the conventional seal-swell tests for both Ford and GM specifications were used.

In principle the seal test consists of immersing approximately a three square inch specimen of the prescribed Buna N seal material in about 100 millilitres of the fluid. For GM DEXRON II, the bath is heated to 150°C and held 70 hours. For Ford MSC33F, the bath is heated to 150°C and held for 168 hours. At the end of each soak, the seal specimens are measured for percent increase in volume and changes in hardness are measured by the durometer instrument.

The following results show the effects of adding the recommended amount of Wynn's Automatic Transmission Treatment to both new and used DEXRON II type fluids. Limits for the specification apply to new oil only and are shown at the bottom of the table. Note that adding the treatment to the new oil increases the seal-swell and softens the seals, (higher negative numbers are related to increasing softness). The values for both properties still remain within the new oil limits. The effect of the treatment on used DEXRON II ATF is also shown.

Note that the used oil alone gives greater seal-swell as it becomes oxidized. As would be expected, adding a supplemental amount of seal-swell further increases the swell and softens the seal material. Both effects are beneficial as the seals wear and age with time.

EFFECT OF SUPPLEMENTAL TREATMENT ON GENERAL MOTORS AUTOMATIC TRANSMISSION SEALS

(DEXRON II, Seal Test with Buna N Rubber)

	<u>% Volume Increase</u>	<u>Hardness Change Durometer, points</u>
New DEXRON II*	+2.55	0
New DEXRON II plus Wynn's Automatic Transmission Treatment	+4.38	-7
Used DEXRON II	+2.78	0
Used DEXRON II plus Wynn's Automatic Transmission Treatment	+4.02	-3

\*DEXRON II specification limits for new oil only using standard test specimens are:

% Volume Increase	+1 to +5
Durometer Change, points	0 to -5

The following results help complete the picture wherein the supplemental treatment is added to both new and used Ford ATF. In both cases the treatment increases the seal-swell. All values remain within the new oil specification, although there is no limit specified for used oil.

**EFFECT OF SUPPLEMENTAL TREATMENT ON  
 FORD AUTOMATIC TRANSMISSION SEALS**

(Ford M2C33F and G, Seal Test with Buna N Rubber)

	<b><u>% Volume Increase</u></b>	<b><u>Hardness Change Durometer, points</u></b>
New Ford ATF*	+3.10	-4
New Ford ATF plus Wynn's Automatic Transmission Treatment	+4.01	-5
Used Ford ATF	+3.95	-2
Used Ford ATF plus Wynn's Automatic Transmission Treatment	+4.32	-5

\*Ford 33F and 33G specification limits for new oil only using standard test specimens are:

% Volume Increase	+3 to +8
Durometer Change, points	± 10

In both cases, DEXRON II and Ford ATF, the used fluids were obtained from transmission tests where the oils were moderately oxidized. This was done to represent a realistic situation in the field where the supplemental treatment might be considered a preventive maintenance procedure. Waiting until the fluid is excessively oxidized will be too late. Wear and deposits already developed cannot readily be reversed by an additive treatment.

With the latest automatic transmission fluid specifications produced by GM and Ford, the previous seal-swell tests were upgraded by the Wynn's Seal Swell Technology Test for GM DEXRON®III and Ford MERCON.

**WYNN'S SEAL SWELL TECHNOLOGY TEST RESULTS  
 GM DEXRON®III SEAL TESTS**

<b><u>Seal Compound</u></b>	<b><u>Requirements</u></b>	<b><u>Results</u></b>
A. <u>Polyacrylate Rubber:</u>		
	Volume Change	+5 To +12%
	Hardness Change	-8 To +1
		+5.44 -1
B. <u>Nitrile Rubber:</u>		
	Volume Change	+1 To +6%
	Hardness Change	-3 To +6
		+1.60 +1
C. <u>Polyacrylate Rubber:</u>		
	Volume Change	+2 To +7%
	Hardness Change	-4 To +4
		+3.35 +2
D. <u>Fluorelastomer:</u>		
	Volume Change	+0.5 To +5%
	Hardness Change	-5 To +6
		+2.56 -1
E. <u>Silicone:</u>		
	Volume Change	+23 To +45%
	Hardness Change	-30 To -13
		+29.43 -18
F. <u>Vamac:</u>		
	Volume Change	+13 To +27%
	Hardness Change	-17 To -7
		+17.82 -12

**WYNN'S SEAL SWELL TECHNOLOGY TEST RESULTS**  
**FORD MERCON SEAL TESTS**

<b><u>Seal Compound</u></b>	<b><u>Requirements</u></b>	<b><u>Results</u></b>
A. <u>ATRR-100:</u>		
	Volume Change	+1 to +6%
	Hardness Change	-5 to +5
B. <u>ATRR-200:</u>		
	Volume Change	+3 to +8%
	Hardness Change	-5 to +5
C. <u>ATRR-300:</u>		
	Volume Change	Committee
	Hardness Change	Decision
D. <u>ATRR-400:</u>		
	Volume Change	+1 to +5%
	Hardness Change	-2 to +5
E. <u>ATRR-500:</u>		
	Volume Change	+9 to +20%
	Hardness Change	-10 to +1

**Elastomer Test**

In order to establish the compatibility of Wynn's Automatic Transmission Treatment with seals and O-rings, an ATF test fluid containing 5% of Wynn's Automatic Transmission Treatment was subjected to the GM DEXRON®III elastomer test. The test data indicate that not only does Wynn's Automatic Transmission Treatment not damage seals, but it possesses seal swelling properties which help protect the seals and O-rings in the transmission. The results for DEXRON®III ATF and the treated materials are reported in the following table.

	<b><u>DEXRON® III</u></b>	<b><u>DEXRON® III + 64506</u></b>	<b><u>Limits</u></b>
<b><u>COMPOUND-A</u></b>			
Polyacrylate			
Volume %	+7.53	+7.49	+5 TO +12
Hardness	-2	-4	-8 TO +1
<b><u>COMPOUND-B</u></b>			
Nitrile			
Volume %	+4.53	-2.03	-1 TO +6
Hardness	-1	2	-3 TO +6
<b><u>COMPOUND-C</u></b>			
Polyacrylate			
Volume %	+4.45	+4.81	+2 TO +7
Hardness	-1	-1	-4 TO +4
<b><u>COMPOUND-D</u></b>			
Flourocarbon (Viton)			
Volume %	+3.98	+3.38	-0.5 TO +5
Hardness	-1	-2	-5 TO +6
<b><u>COMPOUND-J</u></b>			
Silicone			
Volume %	+33.04	+28.79	+23 TO +45
Hardness	-17	-18	-30 TO -13
<b><u>COMPOUND-R</u></b>			
Ethylene/Acrylic			
Volume %	+20.16	+19.73	+13 TO +27
Hardness	-12	-12	-17 TO -7