SINCE 1839 Schaeffer MANUFACTURING COMPANY

ISO 9001 CERTIFIED

TECHNICAL DATA

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#204SAT ALL-TRANS® SUPREME

All-Trans® Supreme is a premium quality fully synthetic multi-vehicle automatic transmission fluid that offers true multi-vehicle performance, wear protection and exceptional fluid life. All-Trans® Supreme is recommended for use in practically all types of automatic transmissions that specify the use of Dexron®-III, Mercon®, and Mercon® V, and Chrysler ATF +3 and +4 type fluids. All-Trans® Supreme is also formulated to provide the frictional properties, wear protection and viscosmetrics needed by most Asian and European automatic transmissions.

All-Trans® Supreme contains a special blend of synthetic base fluids, a highly shear stable viscosity improver ,and a carefully balanced multifunctional additive system that protects against shudder and eliminates the need to stock different types of automatic transmission fluids and ATF supplements. This formulation allows the All-Trans® Supreme to provide the proper friction retention and stability needed for long life performance, smooth lock-ups, wear protection and anti-shudder durability required by a wide variety of vehicles. This combination provides the All-Trans® Supreme with the following performance benefits:

1. Excellent low temperature fluidity for smoother and quicker shifting at low temperatures.
2. Superior oxidation and thermal stability
3. Superior resistance to thermal degradation
4. Very low volatility characteristics
5. Excellent film strength
6. Superior operating temperature reduction.
7. Exceptional anti-wear and anti-shudder performance characteristics throughout All-Trans® Supreme's service life in transmissions equipped with modulated or continuously slipping clutch torque converters
8. Carefully balanced frictional modification that allows for the proper friction retention for long life performance and smooth lock-ups required by a variety of vehicles.
9. Excellent anti-wear protection for clutches, gears and hydraulic pumps.
10. Excellent and balanced frictional stability and durability characteristics for smooth positive shifting and anti-shudder performance.
11. Smoother and quieter shifting.
12. Exceptional rust and corrosion protection.
13. Exceptional and enhanced thermal and oxidative stability and durability.
14. Excellent seal and materials compatibility.
15. Excellent resistance to foaming.

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16. Exceptional shear stability.
17. Helps to maintain seal integrity and prevent leaks.
18. Reduced concern in top-off emergencies and excellent leakage control.
19. Extended service life.
20. Extended drain capabilities.

TYPICAL APPLICATIONS AND RECOMMENDATIONS

All-Trans® Supreme is recommended for service fill and for use in the following applications.

- All automatic transmissions that specify the use of Dexron®-III (G), Dexron® III (H) Ford Mercon® (License Identification Number M040610) and Mercon®V. (License Identification Number M000807).
- All passenger cars and light trucks requiring the use of Type A, Type A suffix, Dexron®, Dexron®-II, Dexron®-IIE.
- Ford automatic transmissions that specify the use of a fluid that meets M2C138CJ or M2C166-H specifications.
- Recommended for use in vehicles calling for Chrysler ATF+3 or ATF+4.
- Audi/VW G-052-025-A, G-52-162-A1
- BMW LA2634, LT71141, 7045E
- Caterpillar Automatic Transmission-1 (AT-1) and AT-1 HD Specifications.
- Honda ATF Z-1 (not for CVT use)
- Mercedes Benz 236.1, 236.2, 236.5, 236.6, 236.7, 236.9, 236.10
- Mitsubishi Diamond/Kia/Hyundai SP, SP-II and SP-III
- Mazda ATF M-5
- Eaton CEEMAT Transmissions
- Automatic transmissions in many import cars such as Toyota, BMW, Fiat, ISUZU, Audi, Renault, Porsche, Mercedes-Benz, Nissan, Volvo, Volkswagen and Infiniti **(Check owners manual before using)**
- JASO 1A requirements
- Nissan Matic-D, Nissan Matic-J, Nissan Matic-K
- Sundstrand hydrostatic transmissions.
- Toyota Type T, T-III, T-IV, WS
- Volvo 97340
- ZF TE-ML14C
- ZF Ecomat Torque Converter Transmissions
- Voith DIWA Transmissions
- Power steering systems where Mercon® or Dexron® type fluids are specified.
- Allison transmissions that specify the use of a TES 295 type fluid.
- Allison transmissions that specify use of a TES-389 type fluid.
- Vickers I286 and 2905S
- Volkswagen TL52162
- Volvo (except 5 speed)

All-Trans® Supreme is not recommended for use in those passenger cars and light duty trucks that specify the use of Ford Type F, Ford M2C33F, Ford Mercon® C, Ford Mercon® LV, Automatic Transmission Fluid Type G, GM Dexron® VI, Honda CVT, Honda Genuine, Nissan CVT type fluids or in dual clutch transmissions (DCT) or continuously variable transmissions (CVT).

For Ford Mercon® SP applications: While not a direct substitute for the Ford Mercon® SP fluid, All-Trans® Supreme has been successfully used in heavily or severely loaded applications where a higher film strength product is need to protect the transmission from wear.

TYPICAL PROPERTIES

Specific Gravity ASTM D-1298	0.86
Viscosity, cSt @ 40ºC (ASTM D-445)	29.00-41.00
Viscosity, cSt @ 100ºC (ASTM D-445)	7.0-7.9
Viscosity, cP @ -40ºC ASTM D-2983	8,600-12,000
Viscosity Index ASTM D-2270	196
KRL Tapered Bearing Shear Stability Test	
End of Test Viscosity, cSt @ 100°C	6.68
Fuel Injector Shear Stability Test (ASTM D-5275)	
Viscosity, cSt @100°C after 40 cycles	6.8
High Temperature High Shear	
Viscosity, cP @150°C ASTM D-4683	2.6
Flash Point ºF/ºC ASTM D-92	425º/218.33º
Fire Point ºF/ºC ASTM D-92	445º/229.44º
Pour Point ºF/ºC ASTM D-97	-60º/-51º
Noack Volatility ASTM D-5800	
% Evaporative Loss	2.75%
Copper Strip Corrosion Test (ASTM D-130)	1A
Four Ball Wear Test (ASTM D-4172)	
(40kg/1200rpm/75°C/1hour)	
Scar diameter, mm	0.35
Rust Inhibition Test (ASTM D-665)	
Procedure A (Distilled Water)	Pass
Procedure B (Salt Water)	Pass
Humidity Cabinet Test (ASTM D-1748)	
50 hours @ 40ºC	No rust or corrosion on test panels
Vickers Pump Wear Test (ASTM D-2882)	
Total mgs. of weight loss	2.8
GM THOT Test (4L60 Cycling Test)	
Sludge and Varnish	No sludge and varnish
Condition of Parts	Clean, no corrosion
Condition of Used Fluid	
Total Acid Number Increase	0.47
Carbonyl Group Absorbance Increase	0.16

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GM 4L60E Oxidation Test	
Sludge	Pass
Cooler Corrosion	Pass
Total Acid Number Increase	2.42
Carbonyl Group Absorbance Increase	0.32
End of Test Brookfield Viscosity @-20°C	1,150
Ford Aluminum Beaker Oxidation Test (ABOT)	
Pentane Insolubles	0.13
% Viscosity Increase	2.7
Total Acid Number Increase	0.92
Lead Coupon, % wt loss	0.016%
Foam Test GM Method	
Mm of foam @ 95ºC	0
Mm of foam @ 135ºC	0
Break Time @ 135ºC, seconds	0
GM Sprag Clutch Wear Test	
Average weight loss, mg	10.2
Plate Clutch Friction Test GM Method	Pass
Plate Clutch Friction Test Ford Method	Pass
Band Clutch Test GM Method	Pass
Ford Friction Durability Test	Pass
Ford Cycling Test	Pass
GM Cycling Test	Pass
Ford Elastomer Compatibility Test	Pass
GM Elastomer Compatibility Test	Pass
Ford Rust Test	No visible rust
Falex EP Test ASTM D-3233 (modified)	
Failure Load, lbs-f @100°C	1750
Failure Load, lbs-f @150°C	1250
FZG Gear Wear Test (ASTM D-5182)	
Load Stage	12th