SINCE 1839
Schaeffer's
SPECIALIZED LUBRICANTS

TECHNICAL DATA

102 Barton Street, St. Louis MO 63104
Ph: 800-325-9962 / Fax: 314-865-4107
www.schaefferoil.com
ISO 9001 CERTIFIED

#204SAT ALL TRANS SUPREME®

All Trans Supreme® is a premium quality, full 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 viscometrics 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 multi-functional 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:

- Excellent low temperature fluidity for smoother and quicker shifting at low temperatures.
- Superior oxidation and thermal stability and superior resistance to thermal degradation
- Very low volatility characteristics
- Excellent film strength
- Superior operating temperature reduction.
- 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
- 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.
- Excellent anti-wear protection for clutches, gears and hydraulic pumps.
- Excellent and balanced frictional stability and durability characteristics for smooth positive shifting and anti-shudder performance.
- Smoother and quieter shifting.
- Exceptional rust and corrosion protection.
- Excellent seal and materials compatibility to maintain seal integrity and prevent leaks.
- Excellent resistance to foaming.
- Exceptional shear stability.
- Reduced concern in top-off emergencies and excellent leakage control.
- Extended service life with 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)
- All automatic transmissions specifying Ford Mercon® and Mercon®V.
- Recommended for use in vehicles calling for Chrysler ATF+3 or ATF+4.
- Recommended for use in vehicles calling for JASO 1A type Fluid (JWS-3309)

Continued on next page

All Trans Supreme® is also suitable for use in the following automatic transmission applications:

Aisin Warner JWS 3309, TIV	Esso LT 71141	Porsche LT 71141, TIV (JWS3309)
Allison C3, C4	Ford Mercon®, Mercon®V	Saab 93 165 147
American Motors ATF +3 (SM-1716E); ATF +4 (MS9602)	Ford FNR5	Saturn ATF
Acura ATD+F DW-1; ATF Z-1 P/N08200-9001A	Ford P/N XL-12	Shell 3404 M115
Audi VW G-055 052-162	Ford M2C138CJ; M2C166H	Shell LA 2634
Audi/VW G 052-990-A2	GM Type A, Type TIV and Suffix A	Subaru ATF, ATF-HP
Audi/VW G 055-025-A2 (JWS 3309)	GM Dexron II, II-D, IIE, III,, III-E, III-G, III-H	Sundstrand hydrostatic transmission
Audi/VW G 055 162 A1/A2/A6	Honda ATF DW-1; ATF Z-1 P/N 0822-9001	Suzuki 3314, 3317, ATF 3309, Matic D ATF
Audi/VW G 060 162	Hyundai/Kia/Mitsubishi SP II, SP III, SP IV, J2, SPH-IV, SP-IV-RR, NWS-968, Kia Red-1	Texaco ETL-7045E
Audi/VW 052 98	Isuzu Genuine ATF	Texaco ETL 8072B
Audi/VW TL52162	Isuzu Besco ATF-II; ATF-III	Texaco N402
BMW 7405E (83 22 0 0 026922)	Jaguar LT 71141	Toyota Type-II, Type III
BMW LA 2634	Jeep ATF +3, +4	Toyota TIV (JWS 3309)
BMW LT 71141	JASO A-1; JWS 3309	Vickers I286 and 2905S
BMW Mini 83 22 0142 516	Mazda M-III; M-V, ATF M-5	Volvo TIV (JWS 3309)
BMW Mini 832 22 402 413 9 (JWS 3309)	Mercedes Benz 236.1, 236.2, 236.3, 236.5, 236.6, 236.7, 236.9	Volvo pass car 4-6 speed 97340, 9734
BMW P/N 83 222 152 426	Mercedes Benz 236.10, 236.11	ZF TE-ML-02F
CAT AT-1 and AT-1 HD	Mini Cooper 83 22 0 42 4139 (JWS 3309)	ZF TE-ML-03D
Chrysler ATF +3 (SM 1716E)	Mopar P/N 05127382AA	ZF ML-11A/11B
Chrysler ATF +4 (MS9602)	Mitsubishi SP II, SP III, SP IV	ZF ML 14A/14/14C
Chrysler/Mopar AS 68 RC (TIV)	Nissan Fluid A	ZF ML 14A/14/14C
Daewoo LT 771141	Nissan Matic- D, -J, -K, -S	

All Trans Supreme® can be used in those power steering systems that specify the use of Ford Mercon®, Mercon® V or Dexron® type fluids.

All Trans Supreme® is not recommended for use in those passenger cars and light duty trucks that specify the use of Chrysler Mopar NVG 246,Ford Type F, Ford M2C33F, Ford Mercon® C, Ford Mercon® LV, Automatic Transmission Fluid Type G, GM Dexron® VI, Honda CVT, Honda Genuine, JWS 3324 (WS), 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 @ 60°F (15.6°C) ASTM D-2983	0.850 – 0.853
Viscosity, cSt @ 40°C ASTM D-445	36.0
Viscosity, cSt @ 100°C ASTM D-445	7.1 – 7.7
Viscosity, cP @ -40°C ASTM D-2983	11,538
Viscosity Index ASTM D-2270	180 minimum
Brookfield Viscosity @ -40°C ASTM D-2893	11,538
KRL Tapered Bearing Shear Stability Test, after 20 hours CEC L-45-T-53 Viscosity cSt @ 100°C	6.7
High Temperature High Shear Viscosity, cP ASTM D-4683	2.7
Flash Point °F/°C ASTM D-92	>403°/>206°
Pour Point °F/°C ASTM D-97	-65°/-54°
Noack Volatility ASTM D-5800	
% Evaporative Loss	3%
Copper Strip Corrosion Test ASTM D-130	1A
Four Ball Wear Test 40kg/1200 rpm/75°C/1 hour ASTM D-4172 Scar diameter, mm	0.35
Rust Inhibition Test ASTM D-665	
Procedure A (Distilled Water)	Pass
Procedure B (Synthetic Seawater)	Pass
Humidity Cabinet Test 50 hours @ 40°C (ASTM D-1748)	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
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	0.016%
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 @ 95°C	0
mm of Foam @ 135°C	0
Foam Break Time @ 135°C, seconds	0
Ford Elastomer Compatibility Test	Pass
GM Elastomer Compatibility Test	Pass
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