



## PRODUCT DATA SHEET

# NATIONAL™ PREMIUM TO-4 FLUIDS

FOR OFF-HIGHWAY EQUIPMENT'S TRANSMISSION AND HYDRAULIC SYSTEMS

### PRODUCT DESCRIPTION:

NATIONAL™ TO-4 transmission and drivetrain fluids are designed to meet the demanding requirements of modern transmissions, final drive, oil immersed brake and hydraulic systems on heavy duty off road equipment.

NATIONAL™ TO-4 is manufactured using highly refined base oils, premium additives and have heavy duty friction modifiers to help clutches to lock up quickly and firmly. NATIONAL™ TO-4 have shown excellent performance in all the manufacturer tests and provide complete hydraulic system protection for the power shift and power steering mechanisms. Our SAE 10W grade is designed to provide enhanced protection for light duty automatic transmissions while our SAE 30 and 50 grades meet specifications for off-road power shift transmission fluids

### INDUSTRY AND OEM APPLICATIONS:

- ◆ ALLISON C-4 (off-road)
- ◆ Caterpillar TO-4, TO-2
- ◆ Vickers M-2950-S for mobile hydraulics
- ◆ Komatsu Equipment & Micro Clutch
- ◆ API CF (obsolete)
- ◆ Suitable for use in ZF<sup>a</sup> Powershift
- ◆ Meets the requirements<sup>a</sup> for:
  - Dana Powershift
  - Eaton Fuller Transmissions
  - Tremac/ TTC
  - Euclid Equipment
  - Terex Construction Equipment

### FEATURES:

- ✓ Antiwear protection
- ✓ Outstanding oxidation stability
- ✓ Suppresses brake chatter
- ✓ Clutches lock up smoothly and strongly
- ✓ Resist foaming
- ✓ Good low temperature fluidity for trouble free cold weather performance
- ✓ Broad performance qualifications enable use in transmissions, hydraulics and gear cases, reducing inventories
- ✓ Available in three SAE viscosity grades<sup>b</sup>

D0810915

5009 WEST 81ST STREET | INDIANAPOLIS | INDIANA | 46268 | 800-829-8899 | FAX 317-875-0889

The product described above is designed for a specific use and may not be valid for other uses not specified in our specification sheet or in applications not requiring this specific product. Pinnacle Oil believes that the information presented in this specification is accurate at the time written and is based upon internally generated information and information as presented by its vendors. No representation, warranty, or guarantee is made as to its accuracy or completeness. We do not accept any liability for any loss or damage that may occur from the use of this information.



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### TECHNICAL DATA

*(typical values)*

SAE GRADE	ASTM	10W	30	50
Product Number		07-512010	07-510030	07-510050
SDS Number		S081	S081	S081
Viscosity @ 40°C, cSt	D445	45.39	91.29	17.87
Viscosity @ 100°C, cSt	D445	6.94	11.19	188
Viscosity Index	D2770	109	109	104
API Gravity	D1250	30.8	30.2	28.3
Pour Point, °C	D5950	-39	-18	-18
Color ASTM	D1500	L3.5	L3.5	4.0
Foam characteristics (Seq. I 25/0, Seq. II 50/0, Seq. III 25/0)	D892	PASS	PASS	PASS
Total Base Number, mg KOH/g	D4739	7.82	7.45	7.59
Flash Point, °C	D92	251	260	262

- (a) Where TO-4 is called for
- (b) Always follow your owner's manual recommendation. We do not recommend these fluids be used on a regular basis in any engine

*The recommended shelf life for these oils is typically 48 months from manufacturing date when stored properly in the original sealed containers.*

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