



# TP STAR MAX HT 15W-40



**TOTAL**

Very high performance lubricant specially developed for the lubrication of materials used in Public Works, Mines or Quarries, in hot climates areas.

TP STAR MAX HT 15W-40 together with TP STAR TRANS 85W-110 form the TP STAR Concept "Hot Countries".

## USES

### 1 Engines

### 2 Hydraulics systems

### 3 Manuel or powershift gearboxes

All Seasons  
From 0°C to +50°C

- TP STAR MAX HT lubricates the Diesel engines of the last generation, notably the depolluted engines according to the TIER 1, 2 or 3 (Euro Stage IIIa) standards. It can lubricate the small gasoline engines and the piston-compressors.
- TP STAR MAX HT applies in all hydraulic systems, high or low pressure, equipped with very high performance filters, in the inlet or outlet of oil.
- TP STAR MAX HT lubricates the oldest or current gearboxes, manual or powershift and transfert gearboxes which require an SAE 30 or 40 viscosity grade.
- TP STAR MAX HT can be used throughout the season (from 0°C to +50°C):
  - at the contrary of a classical 15W-40, the viscosity of TP STAR MAX HT has been reinforced in order to resist to the very high working temperatures.
  - at the opposite, under cold temperature (0°C), its patented formulation permits a quick and easy cold starting of sensible organs like hydraulic systems.

## PERFORMANCE LEVELS

API CI-4 / CH-4  
ACEA E7 / E5  
GLOBAL DHD-1  
JASO DH-1 (approved)



PRODUCT MEETING JASO M 355  
COMPANY GUARANTEEING THIS PERFORMANCE:  
TOTAL LUBRIFIANTS

Meets the biggest OEM's requirements

Confirmed by official lab tests or service tests

### ● Engine application :

Conforms to the OEM's specifications for depolluted engines up to EURO Stage IIIa, US EPA TIER 3 or EURO IV standards, like :

CATERPILLAR	: ECF-2	CUMMINS	: 20078 / 77 / 76
KOMATSU	: EO-DH	VOLVO	: VDS-3
MTU	: Type 2	RENAULT	: RLD-2, RLD
MAN	: 3275	MB	etc...

### ● Gearbox application : API GL-4

Conforms to the specifications :

ZF TE ML 07D	
CATERPILLAR TO-4M/TO-4	
KOMATSU Clutch (TO-40)	
ALLISON C4	etc

### ● Hydraulic System application :

ISO VG 68 HM (after 100 working hours)  
Suitable in place of following products :

JCMA HK 68
KOMATSU HO-68
CASE MS 1230 "Hot Countries"

## CUSTOMER BENEFITS

Rationalization

Technical properties

Self-adaptive patented

All fuel types

- Allows to strongly decrease the lubricant number needed for the whole vehicle park maintenance and avoids all application mistakes in term of lubricant quality
- Reaches the highest quality levels required by the manufacturers for their engines (E7/CI-4/DH-1), gearboxes (GL-4/TO-4) and hydraulics systems (HK/HM)
- Enable longer drain intervals up to the maximum allowed by the OEMs
- Self-adaptive, its patented formulation fits to the lubricated organ requirement
- High value of TBN allowing the use of high Sulfur fuel (up to 0.5 %)

## CHARACTERISTICS

	Units	15W-40
Viscosity at 40°C	mm <sup>2</sup> /s	114
Viscosity at 100°C	mm <sup>2</sup> /s	15.6
Viscosity Index		147
TBN	mg KOH/g	13.2
Zinc value	ppm	> 1100
Pour point	°C	- 30

All values are typical values.

TOTAL LUBRIFIANTS  
562 Rue du Parc de l'Île  
92029 NANTERRE

TP STAR MAX HT 15W-40  
Sheet updated 11/2009



This lubricant, when used according to our recommendations and for the purpose for which it is intended, presents no particular hazards. A safety data sheet complying with current EC legislation can be obtained from your local commercial adviser.