



Nimda Co. Ltd.

Powerpack for T-72M4 CZ tank



Fire power and protection in combination with high mobility are the three key requirements for most modern tanks. Powerful and reliable Powerpack providing not only driving capabilities needed to fulfill its missions but also increasing the tank survivability in the modern battlefield. Based on extraordinary demanding Czech Army requirements, Nimda Co. Ltd. leading an international team of well known companies has built up a new Powerpack for the modernized tank T-72M4 CZ, which in it's category does not have a competition in the world at the moment. The designer and integrator of the power unit marked as Powerpack NPP 2000-1 is Nimda Co. Ltd., the automatic transmission itself is of Allison Transmission company origin and engine is of Perkins Engines Company Limited.

Engine CV-12

The engine is CV-12-1000 TCA CONDOR of British company Perkins, which is now part of the American corporation Caterpillar. It is transversally-mounted within the Power Pack in the original slightly modified engine

compartment of the T-72 tank. The CV-12 engine is a water cooled electronically controlled four stroke 12 cylinder engine rated at 736 kW. It has a direct fuel injection, two turbochargers, air-to-air charge cooled, with electronic monitoring and control, protection and diagnostic system. Its unique design and specification features provide reliable and durable operation, as well as exceptional power to weight ratio, easier maintainability and excellent overall performance. Another advantage is compatibility with units implemented with other NATO countries, where CV engines are powering British tanks Challenger or APC Warrior.

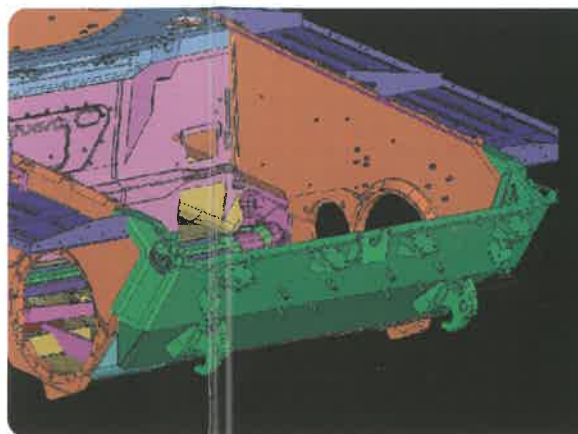
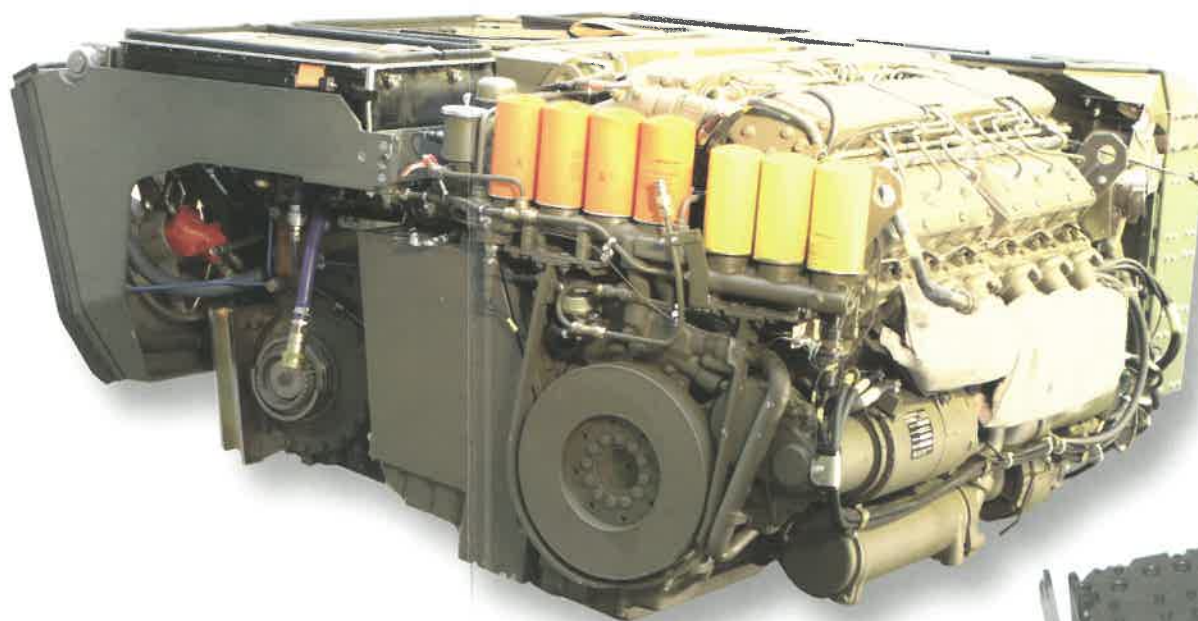
General data:

Displacement	26 110 cm ³
Power output	736 kW at 2300 rpm
Max. torque	3410 Nm at 1700 rpm
Number of cylinders	12
Cylinder arrangement	60° "V" configuration
Bore and Stroke	135 mm x 152 mm
Compression ratio	14,5 : 1
Engine length	1375 mm
Engine height	975 mm
Engine width	935 mm
Engine weight (dry)	2000 kg



Engine CV-12

PowerPack NPP 2000-1



Modified Engine Compartment

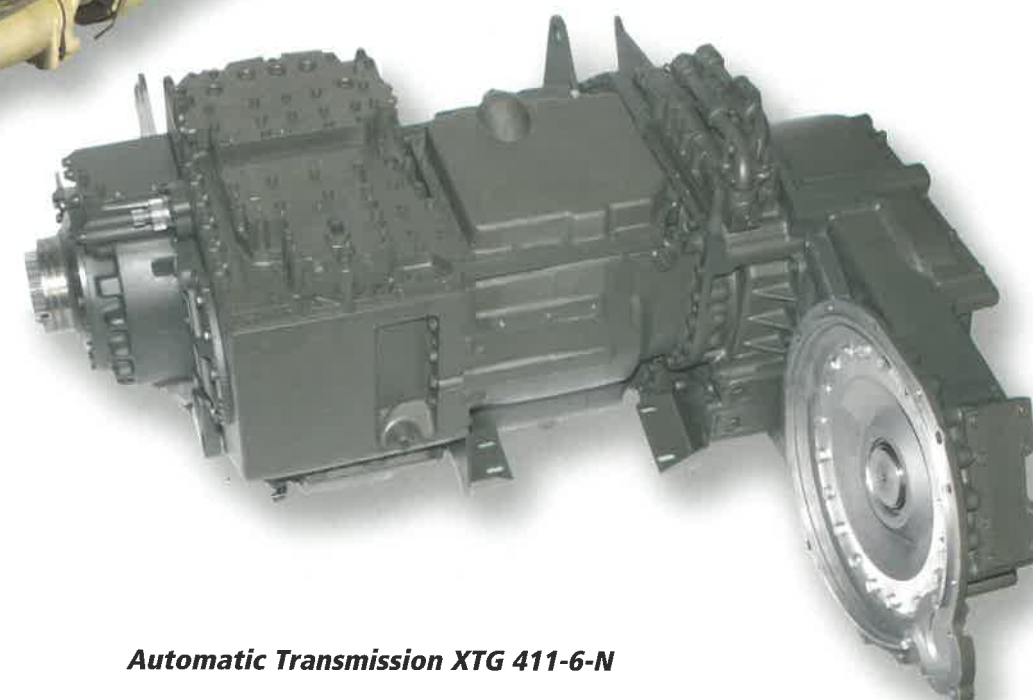
Automatic Transmission XTG 411-6-N

Second Powerpack main component is the electronically controlled automatic transmission XTG 411-6-N originally developed and produced by American company Allison Transmission. Now the production rights for this model are with Nimda Company only. The transmission is designed for use with transversally mounted engines, has a compact design and high power to size and weight ratio. It has a spur gear input transfer and integrated torque converter with automatic lock up clutch, has integral steering and is equipped with service/parking brakes. The transmission has four forward speeds and two reverse speeds with fully automatic range selection with electronically adaptable programmed shift logic. The control has also one forward and one reverse manual override shifts. The transmission has an electronic diagnostic unit which monitors operation against pre-set operation parameters

and provides electronic protection, and is connected to the main vehicle diagnostic system.

General data:

Length	1337 mm
Width	1761 mm
Height	662 mm
Weight	1100 kg
Electronic Controlled Gear ratios:	
- Forward	4,30 Max. 0,73 Min.
- Reverse	-5,12 R1 -3,47 R2



Automatic Transmission XTG 411-6-N



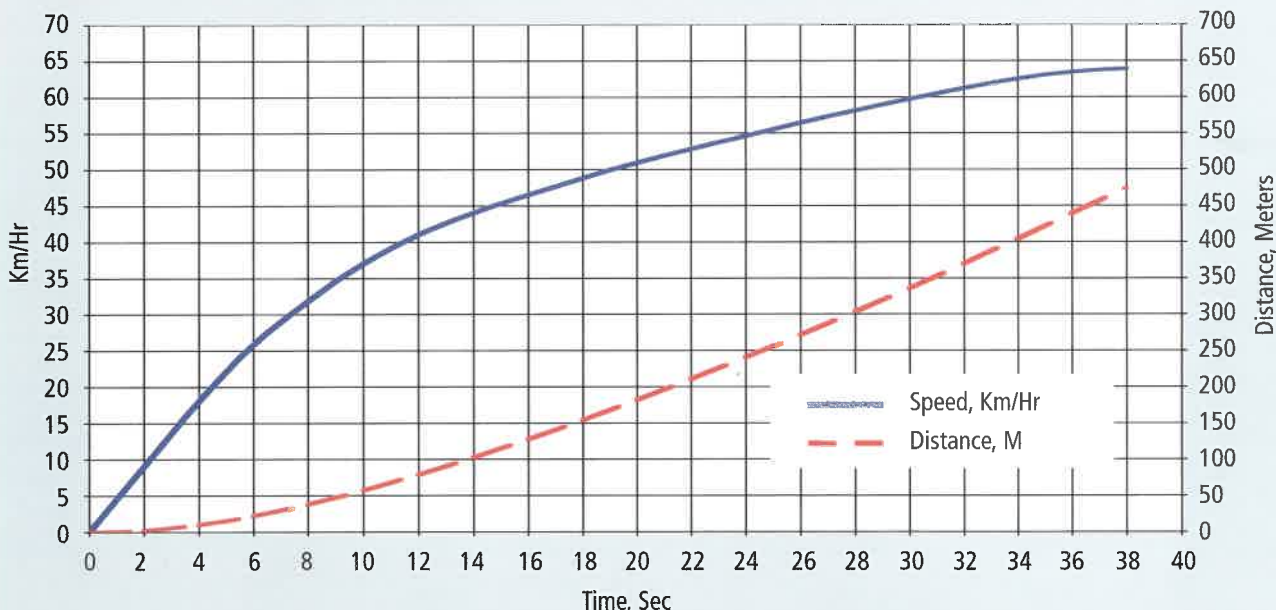
T-72M4 CZ tank could be considered as one of most successful complete modernization of original T-72 worldwide. It has been implemented to Czech Army in the year 2001 and the production is continuing. Due to the new compact Power-pack of total weight 4200 kg, the T-72M4 CZ has a substantially better performance in comparison to the standard T-72, and is now comparable with most modern 3rd generation tanks.

The NPP 2000-1 PowerPack main advantages are:

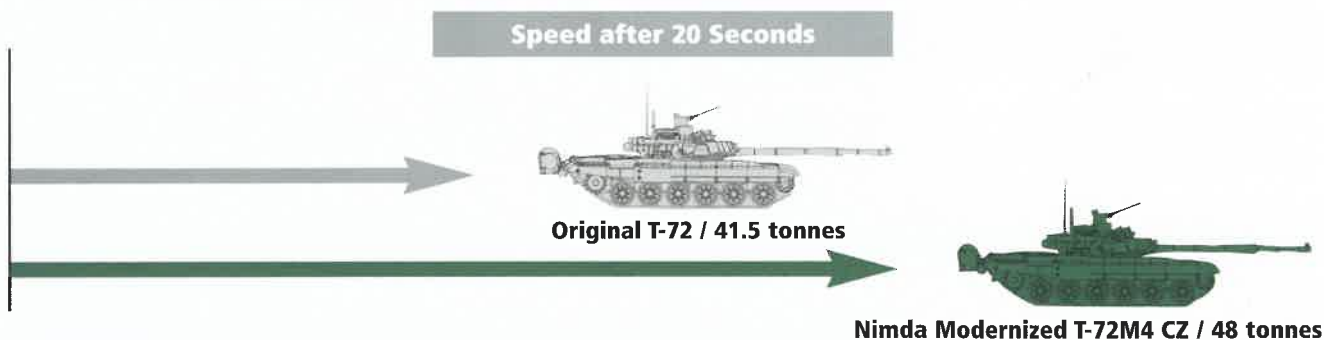
- Almost twice shorter time needed for acceleration from stop to 32 km/h
- Substantially increased mobility and maneuvering capability on terrain
- Substantial reduction of routine drivers work load and fatigue
- Eliminating of human factor mistakes (incorrectly selected gear ratio or not applied relevant cooling)
- Substantially higher reliability and durability as well as increased mission duration
- Lower vehicle downtime (Powerpack is replaceable within 2 Hrs)
- Easier maintenance
- Improved performance in extreme ambient temperatures

T-72M4 CZ with NPP-2000-1 PowerPack

Max. Acceleration on Road



Acceleration Performances Comparison



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