ENGINE, ENGINE MOUNTING AND EQUIPMENT

Belts and Tensioners

Renault Trucks offer

A belt is a flexible element that transmits power from the motor shaft to the driven shaft. Composed of elastomer and a fiber structure, the belt is used with pulleys and sometimes tension rollers. They are used for the correct tension, guidance and transmission of the driving force of the timing belt under extreme stress.

TIMING BELT
Synchronous transmission of forces in the engine: drive of the camshaft, the injection pump, the differential shaft and other accessories.

DRIVE BELT
Accessory drive: alternator, fan, water pump, air conditioning compressor and power steering.

Renault Trucks tensioners are precisely designed for operation in accordance with the requirements of our product range. The power, speed, use and dynamic behavior of the various assemblies are checked in order to obtain the most precise possible friction and torque properties.

The main functions of belt tensioners are to maintain the correct tension, dampen system vibrations and guide the drive belt. Renault Trucks engines have two belt tensioners. The first is installed for driving the fan and water pump, while the second is for driving the alternator and air conditioning.

CHARACTERISTICS	BENEFITS
Rotary tensioner.	▫ Smaller than linear tensioners. ▫ Better maintenance.
Stop pin in assembly position.	▫ Easier belt installation. ▫ Easy maintenance.
Two-row/double bearing assemblies.	▫ Better belt guidance, less noise.
Improved friction element design.	▫ Extended service life. ▫ Durability.
Aluminum housing.	▫ Reduced weight. ▫ Reduced fuel consumption.
Optimized maintenance schedule.	▫ Reliability.

Key arguments

THE DIFFERENT TYPES OF BELTS

- Toothed belt
- Trapezoidal belt
- Ribbed belt
- Toothed drive belt
- Multi-groove, low-edged belt

TOOTHED BELT: flat, toothed

- Operation: meshing
- Avoid phase shift
- Supports low speeds well

- Requires lower initial tension

V-BELT: trapezoidal section

- Operation: jamming
- High tensile strength and elastic creep
- Good resistance to fatigue and wear

RIBBED BELT: ribbed lengthwise Operation: jamming

- Large transmission ratio possible
- Good lifespan, reliability
- Voltage stability

TOOTHED DRIVE BELTS: FEATURES & BENEFITS

- Fibers in the transverse direction of the belt: less heat generated and longer life.
- Raw edges: low wear for less interruptions and therefore less expense.
- Toothed interior: increased durability, resulting in fewer changes.

CORRESPONDENCE WITH RENAULT TRUCKS PULLEYS

- perfect fit and maximum tractive effort, for greater profitability and operating savings.
- wire that does not stretch: no belt adjustment and fewer interruptions and breakdowns.
- Double belts: tractive effort shared with precision and less risk of breakage.

BELTS WITH LOW EDGES AND MULTIPLE GROOVES: FEATURES & BENEFITS

- Lowered belt edge: longer life.
- Correspondence with Renault Trucks pulleys: maximum tension without slipping, to avoid breakdowns and associated costs.
- Multi-groove design: high power transmission.
- Very high flexibility: reduced internal friction to improve service life.

OTHER TRANSMISSION ELEMENTS

- Tensioner
- Roller bearing
- Automatic tensioner roller

GALET
Transmits force and is used to guide the belt with precision depending on the accessories and for specific applications.

TENSIONER
Ensures constant belt tension. It also has a stabilizing role and eliminates excessive vibrations.

ROLLER ROLLERS
Used to guide the belt and increase the winding angle at neighboring pulleys. They should have the same lifespan and be as quiet as belt tensioners. A roller can be plastic, aluminum or steel. Its surface can be smooth or ridged. It can also be single or double line of bearings.

AUTOMATIC TENSIONER
The belt tension force and damping are adapted to various applications as well as the quality of the materials used.

TENSIONER: FEATURES / ADVANTAGES

- Rotary tensioner
  - Smaller than linear tensioners
  - Better maintenance
- Stop pin in assembly position.
  - Easy belt assembly
  - Ease of maintenance
- Double Row / Double Bearing Assemblies.
  - Better belt guidance, less noise.

- Improved friction element design.
- Extended life.
- Durability.
- Aluminum housing
- Reduced weight
- Reduced fuel consumption

Optimized maintenance schedule: reliability

SET AVAILABLE AS DISTRIBUTION KIT

- One reference per vehicle to order for your maintenance operations
- A competitive kit price including all the components
- Genuine components to ensure original engine longevity and performance

For greater simplicity in the management of maintenance operations and not to forget any of the parts recommended for the maintenance of its vehicle, Renault Trucks has developed around thirty distribution maintenance kits, made up of Genuine belts, pulleys and tensioners, which cover the entire range of Renault Trucks vehicles. Think of distribution maintenance kits.

THE ADDITIONAL SERVICE

- 2-year warranty (parts, labor, repair and towing)
- Start & Drive contracts for appropriate and safe maintenance
- Packages to offer turnkey solutions to customers

Customer benefits

PRECISION AND RELIABILITY

- Optimized machining
- Proven durability
- Guaranteed torque

Renault Trucks tensioners benefit from a very precise design of the friction elements, which wear out with each cycle, in order to protect the tensioner and the belt transmission from vibrations.

These friction elements must be machined with precision in order to maintain an adequate level of friction and to correctly predict deterioration. If the friction element is not properly designed, the life of the tensioner is reduced and malfunctions can occur unexpectedly.

Renault Trucks tensioner springs are between 28 Nm and 48 Nm and guarantee sufficient tension up to 70 kW (95 hp) of power to the fan (for example, this power is the same as that of a smaller car engine can bring).

QUALITY OF ORIGINAL PARTS

- Corresponds to Renault Trucks engine specifications
- Better engine life and performance

Renault Trucks carries out in-depth tests on belt tensioners. All engine operating conditions are recorded in an engine test cell, and tested for a maximum of 4000 hours.

Then, the belt tensioners are tested, once installed, in different field tests on trucks, under different conditions, for example dusty environments of mining operations, city distribution or long distance transport.