



Bearings for Alternator

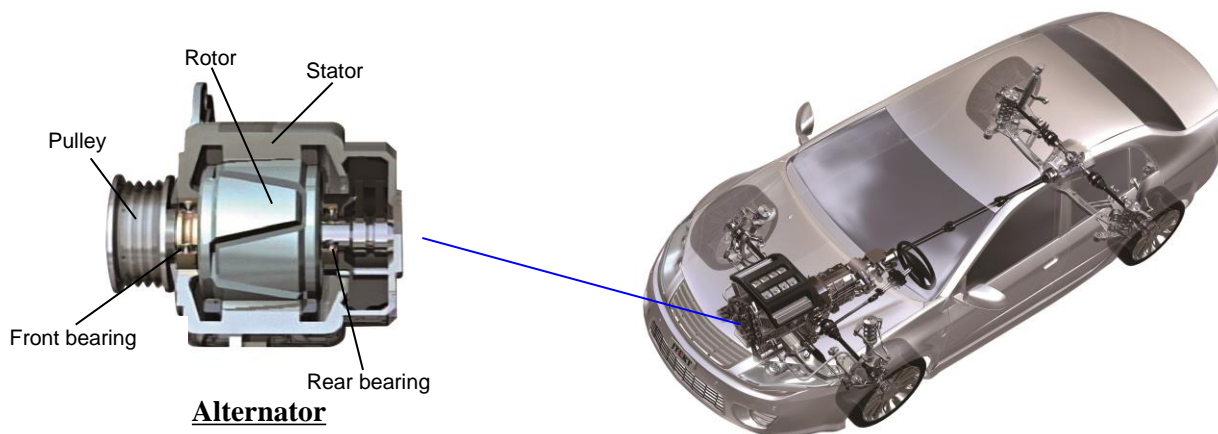


JTEKT | JTEKT CORPORATION

CAT.NO.B1101E

Bearings for Alternator

Applicable locations



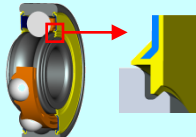




In general, bearings are used on the front and rear sides of the alternator (one bearing for each side) in order to support the rotor.

Ball bearings are used, except in some types of alternators. High-performance bearings are required to satisfy the high temperature and speed requirements as well as to resist water, vibration, etc.

JTEKT has developed high-performance bearings for alternator based on the results of many years of research and offers an outstanding lineup.

History of Development of Bearings for Alternator

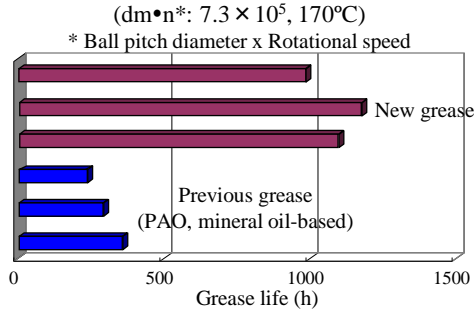
1970's	1980's	1990's	2000's	2010's
<Technological trends and needs for bearings>				
Compact / lightweight / long life	High-temperature/speed performance and white structure flaking resistance			Enhanced reliability
<Technological changes in bearings for alternator>				
Technology supporting high speeds and temperatures		High-temperature model (supports 180°C)		
 Standard specifications (supports 150°C) PA66 retainer Acrylic rubber seal		PA46 retainer Heat-resistant acrylic rubber seal		
Anti-white structure flaking technology 		Proprietary white structure reproduction technology Supports white structure flaking resistance Ether grease		Improvement of white structure flaking resistance New grease
Seal waterproofing technology				
Non-contact seal (RU) 		Waterproofing Ultra light contact seal (RD)  Realizing both high-speed support and high sealing performance		Improved water resistance Ultra light contact dual lip seal (RM) 

Features of Bearings for Alternator

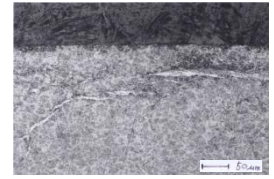
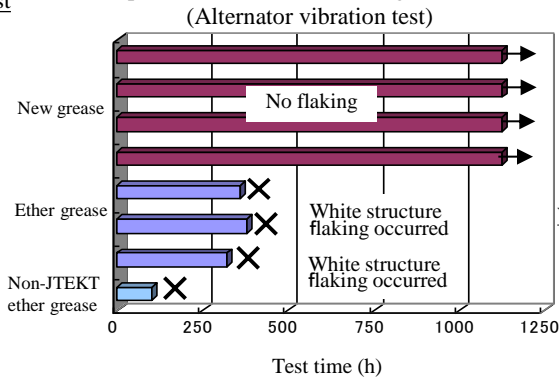
(1) Bearing specifications support high temperatures and speeds as well as providing white structure flaking resistance

A new grease has been adopted to ensure high-temperature/speed performance and anti-white structure flaking properties required for alternator bearings.

Example of high-temperature/speed performance test



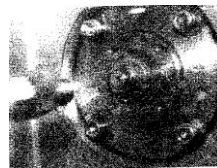
Example of white structure flaking resistance test



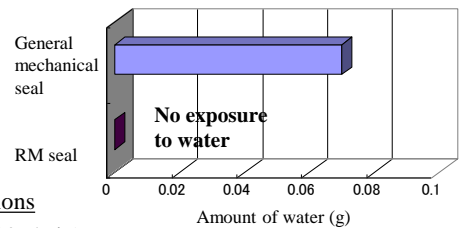
White structure formed under the track
* White structure is a type of structural change that occurs under the track due to repeated stress loads and significantly reduces product life.

(2) Supporting use in harsh external environments

The adoption of the RM seal, featuring advanced water resistance, enables problem-free use of alternators in harsh external environments (water, dust, etc.)



Water resistance test conditions
(Water amount: 400 ml/min., 1800 r/min)

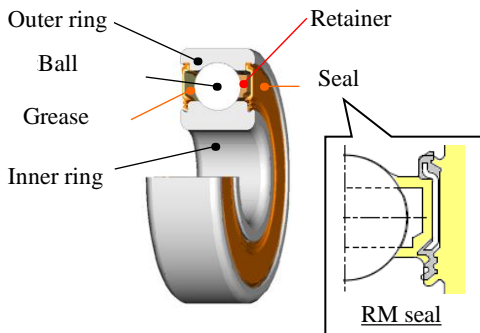


Example of water resistance test

Standard Specifications of Bearings for Alternator

The specifications of a standard bearing are as described in the table below.

High-temperature models (150°C and higher) are also available; please inquire with JTEKT.

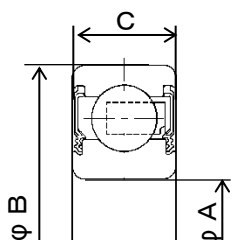


		Bearing specifications
Bearing rings (Material; Heat treatment)	Inner ring	SUJ2
	Outer ring	Quenched/tempered
Ball (Material; Heat treatment)		SUJ2 Quenched/tempered
Retainer		Reinforced PA66
Seal	Shape	RM seal
	Material	Heat-resistant nitrile rubber
Grease		New grease for alternators

Size Lineup for Bearings for Alternator

The following bearing sizes are available.

Please inquire with JTEKT for the selection of bearing clearance.



Diameter			Basic rated load (kN)		Fatigue load limit(kN)	Basic model no.	Weight (kg) (Reference)
φ A	φ B	C	C _r	C _{0r}	C _u		
φ 15	φ 35	11	9.55	3.75	0.29	6202	0.043
φ 15	φ 35	13	9.55	3.75	0.29	6202/1B	0.050
φ 15	φ 46	14	16.9	6.55	0.56	DG154614	0.104
φ 17	φ 40	12	12.0	4.80	0.37	6203	0.062
φ 17	φ 47	14	17.0	6.65	0.56	6303	0.107
φ 17	φ 52	16	19.9	7.85	0.66	DG175216	0.160
φ 17	φ 62	21	29.5	12.1	1.05	DG176221	0.311
φ 25	φ 62	17	25.7	11.3	0.86	6305	0.225
φ 25	φ 72	19	33.3	15.0	1.15	6306/2YD	0.369
φ 30	φ 72	19	33.3	15.0	1.15	6306	0.334

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Value & Technology

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