

## **METHODS TO EXTEND THE SERVICE LIFE OF ROLLER BEARINGS**

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**Abstract:** This article village farm in the technique wide applicable roller bearings work activities and services the deadline extension important methods analysis does. In the article village farm of the technique to oneself typical heavy work conditions ( dust, humidity, high loads, impacts ) of bearings faster from work to the exit take arrival shown. Bearings service the deadline extension for applicable main methods, including right installation, quality lubrication from materials use, optimal lubrication interval to mark, to avoid contamination protection to do, to do too much outside of downloads prevent to receive and regularly technician service show such as issues in detail seeing is released. In the article village farm enterprises for practical recommendations given to them compliance to do through of the technique from work exit circumstances reduce and repair expenses optimization possible.

**Keywords:** roller bearing, service term, village farm technique, lubrication, installation, technical service show, work conditions, loading, pollution, work exit .

**Introduction.** Village farm Uzbekistan economy important network is, its stable development modern, reliable and efficient from the technique to use directly Tractors, combines, seeders, cultivators and other many village farm machines own in the composition moving of parts reliable performance provider many mechanisms and assemblies has. This of mechanisms important from the elements one was roller bearings rotating of parts stable performance to provide, friction reduce, loads distribution tasks will do. Village farm technique to oneself typical heavy exploitation conditions, including dust, mud, humidity, temperature sharp change and high mechanic downloads under the influence It works. Such an inconvenient factors roller bearings faster wear and tear, damage and, as a result, of the technique from work to the exit take arrival possible. The technique stop to remain agrotechnician of events own on time to be fulfilled negative impact shows, productivity reduces and the village farm of enterprises economic efficiency Therefore, the village farm in the technique applicable roller bearings service the deadline extend, their reliability promotion and dismissal exit circumstances reduce current problem is considered. Bearings far time during effective performance provide to the technique service show expenses optimization, technique from work exit time to reduce help gives. This article village farm in the technique wide applicable roller bearings service the deadline extension there is methods analysis to do The article is focused on bearings from work output main reasons seeing are issued and their prevent to take and service the deadline extension according to practical recommendations This is given. research results village farm to the technique service indicator professionals, engineers and farmers farm enterprises for useful to be is expected.

**Methodology.** This in the article village farm in the technique applicable roller bearings service the deadline extension methods detection and analysis to do for practical-analytical method This

was used. method within following stages done increased :

1. Performance conditions study : Uzbekistan different climatic operating conditions ( dry, hot, humid ) being done main village farm machinery ( tractors, combines, plows, seeders ) bearings work conditions directly observed and analyzed was done. Observation during to bearings impact provider main factors, including hang level, humidity level, job temperature, load type ( static, dynamic, percussion ), rotation speed and vibration level record arrived went.
2. From work came out bearings analysis To do : Village farm technique repair from workshops from work came out roller bearings samples to collect and visual and instrumental ( microscopic) analysis, hardness measurement ( analysis ) to do done As a result of the analysis bearings injury types ( cracking, corrosion, erosion, fatigue, contact injuries ), injury causes and places determined.
3. Lubrication materials and technical service show practice Study : Village farm in enterprises bearings lubrication for in use lubrication of materials types, quality, lubrication interval and technical service show according to current instructions studied. Also, technical service show in the process mistakes and shortcomings determined.
4. Scientific literature and experts his/her opinion Study : Bearings exploitation, lubrication, damage diagnostics and service the deadline extension according to there is scientific literature, standards and guidelines of experts thoughts studied.

### **Results :**

Taken practical-analytical research as a result village farm in the technique applicable roller bearings service for the period impact provider main factors and their extension methods determined :

- Main exit Reasons : Analysis results this showed that the village farm in the technique roller bearings main from work exit reasons of the following consists of :
  - Abrasive Feeding : Dusty and hard of particles lubrication to the material enter progress as a result bearing of elements to be eaten ( from work) came out observed in 45% of bearings ).
  - Corrosion : Moisture and aggressive environment under the influence bearing of the material rust process ( from work) came out observed in 28% of bearings ).
  - Wrong lubrication Lower good quality lubrication from materials use, lubrication interval violation or enough in quantity of lubrication absence ( from work) came out observed in 17% of bearings ).
  - Excessive Loads and blows : Technique heavy under the circumstances performance as a result appearance to be too much outside loads and impacts ( from work) came out observed in 10% of bearings ).
- Service the deadline extension Methods : observation, analysis and literature review

study as a result roller bearings service the deadline extension for following effective methods determined :

- Quality lubrication from materials Usage : Rural farm of the technique heavy work to the conditions suitable coming, high to viscosity, to water durable and good protection to the characteristics has was lubrication materials selection and application.
- Optimal lubrication interval to mark and to compliance to do : Technique work intensity and work conditions into account received without lubrication interval detection and regular accordingly to lubricate done increase
- Bearing nodes from pollution protection to do : Dust and other hard of particles to bearings entrance prevent to take for good quality sealing from the elements use and their status regular checking to stand
- That's right Installation and adjustment : Bearings technician to the requirements appropriate right installation and setup, incorrect installation as a result appearance to be too much outside of voltages prevent to take.
- Excessive of downloads prevent get : Technique exploitation to do according to the instructions strict compliance to do and to outside downloads with from work preservation.
- Regular technician service Display and diagnostics : Bearings status regular checking stand, malfunction symptoms when detected own on time measures see and necessary when repair or replacement.

**Discussion.** Taken research results village farm in the technique applicable roller bearings service for the period impact provider main factors identify and eliminate to grow according to important conclusions presented From work came out bearings analysis this showed that the abrasive erosion and corrosion the most many occurring reasons This village is farm of the technique to oneself typical dusty, muddy and wet in the environment performance with directly depends on. That's it factors bearings worker surfaces damages and their faster to wear out take is coming. Wrong lubrication is also noticeable at the level from work to go out reason will be. Poor quality lubrication from materials use, lubrication interval violation or enough in quantity of lubrication absence friction increases, heat harvest to be take comes and as a result bearing of elements damage accelerates.

Excessive loads and shocks also affect the bearings from the deadline before from work to the exit reason will be. Village farm of the technique heavy under the circumstances performance, uneven on the ground movement and work in the process sharp downloads to bearings additional pressure conducts. Research as a result determined service the deadline extension methods above main from work exit of the reasons prevent to take focused on. Quality lubrication from materials use, optimal lubrication interval compliance to make, bearing nodes from pollution protection to do and right installation abrasive erosion, corrosion and misalignment of lubrication negative the impact to reduce help It also gives outside of downloads prevent to receive and regularly technician service show bearings mechanic injury the risk reduces.

This research results village farm enterprises for practical importance has. Bearings right service show through of the technique reliability increased, from work exit cases decreases and repairs expenses will be optimized. In the future bearing of materials village farm to the environment

endurance increase according to scientific research take to go, as well as bearings monitoring the status modern diagnostics methods ( vibration diagnostics, temperature monitoring ) current to grow to the goal is appropriate.

**Conclusion.** This article village farm in the technique applicable roller bearings service the deadline extension important methods analysis Research results this showed that the village farm of the technique to oneself typical heavy work conditions ( dust, humidity, high loads ) of bearings faster from work to the exit take comes. From work came out bearings main reasons as abrasive erosion, corrosion and misalignment lubrication determined. Bearings service the deadline extension for following main methods effective that shown : quality lubrication from materials use, optimal lubrication interval to mark and to compliance to make, bearing nodes from pollution protection to do, right installation and setup, too outside of downloads prevent to receive and regularly technician service show . This research results village farm enterprises for practical importance has to the technique right service show through of the technique reliability increase, increase exit circumstances reduce and repair expenses optimization opportunity will give. In the future bearing of materials endurance upgrade and modern diagnostics methods current to grow according to research continue to be carried out to the goal is appropriate.

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