

---

## SPECIFICS OF USING SPINDLE MOTORS IN MACHINING EQUIPMENT

N.Yu. Kropotin

elessar.vtx@gmail.com

V.A. Pletnev

Bauman Moscow State Technical University, Moscow, Russian Federation

---

### Abstract

*We assess using spindle motors in machining equipment. We discuss principles of operation, primary characteristics and specifics of installing spindle motors in machine tool drives*

### Keywords

*Machine tools, spindle motor, spindle motor water cooling system*

© Bauman Moscow State Technical University, 2017

---

### References

- [1] Chernyanskiy P.M., ed. *Proektirovanie avtomatizirovannykh stankov i kompleksov*. T. 1 [Designing intelligent machines and automated complexes. Vol. 1]. Moscow, Bauman MSTU Publ., 2014. 336 p. (in Russ.)
- [2] Chernyanskiy P.M., ed. *Proektirovanie avtomatizirovannykh stankov i kompleksov*. T. 1 [Designing intelligent machines and automated complexes. Vol. 2]. Moscow, Bauman MSTU Publ., 2014. 303 p. (in Russ.)
- [3] Yagopol'skiy A.G. Provision of technological reliability of turning lathes by monitoring of parameters of trajectories of support-group movements. *Vestn. Mosk. Gos. Tekh. Univ. im. N.E. Baumana, Mashinost.* [Herald of the Bauman Moscow State Tech. Univ., Mechan. Eng.], 2010, no. 2(79), pp. 91–105 (in Russ.).
- [4] Yagopol'skiy A.G., Komkova T.Yu. Features of application of modern electrical drives in rolling mills equipment. *Sovremennyye problemy nauki i obrazovaniya* [Modern problems of science and education], 2015, no. 2, pp. 1–6.  
URL: <https://science-education.ru/article/view?id=20309> (in Russ.).
- [5] Yagopol'skiy A.G., Kropotin N.Yu. Mechatronic complex of diagnostic tests and reliability forecasting of lathes. *Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroenie* [Proceedings of Higher Educational Institutions. Machine Building], 2016, no. 3(672), pp. 49–55 (in Russ.). DOI: 10.18698/0536-1044-2016-3-49-55
- [6] Korolev E.G., Yudenkov N.P., Arapov A.N. ChPU motor-driven spindles for CNC machines. *Stanki i instrument*, 1986, no. 2, pp. 8–9. (in Russ.).
- [7] Komshin A.S., Syritskiy A.B. measuring and computing exploitation technologies for metal-cutting equipment and tools. *Mir izmereniy*, 2014, no. 12, pp. 3–9. (in Russ.).

**Kropotin N.Yu.** — student, Department of Machine Tools, Bauman Moscow State Technical University, Moscow, Russian Federation.

**Pletnev V.A.** — student, Department of Machine Tools, Bauman Moscow State Technical University, Moscow, Russian Federation.

---