

## UNIT TREATMENT PASSPORTS UNDER XADO TECHNOLOGY · 2002-2003

# ChME3 ball supports: clearance to gauge smaller, on the control one — larger

Main Locomotive Department of Ukrzaliznytsia, Dnipropetrovsk locomotive depot of the Prydniprovsk Railway · measurements certified by the depot commission: chief engineer V. N. Vsevolodsky, chief technologist G. P. Zaivyi, deputy head of the depot for repairs S. V. Shestirublev

Dnipropetrovsk, Ukraine · treatment 22.04.2002 — 15.01.2003 · measurements 18.09.2003 — 02.12.2003

**PRODUCT**

XADO greases  
“restorative” and “protective” ·  
three injections of 0.33 kg per  
unit, by grease gun over the  
standard ZhRO grease

**TEST OBJECT**

Body ball supports  
of ChME3 shunting  
locomotives  
spherical support washer ·  
locomotive works No. 1736, No.  
3825, No. 7218 of the same  
depot

**DOCUMENT TYPE**

Unit treatment passports  
under XADO technology  
signed by a XADO  
representative and three depot  
officials, two stamps

| LOCOMOTIVE              | BODY SUPPORTS, LEFT SIDE                                      | MILEAGE AFTER TREATMENT | MEASUREMENTS |
|-------------------------|---------------------------------------------------------------|-------------------------|--------------|
| ChME3 works<br>No. 1736 | Front and rear — treated                                      | 55 542 km               | 18.09.2003   |
| ChME3 works<br>No. 3825 | Front and rear — treated                                      | 55 380 km               | 24.10.2003   |
| ChME3 works<br>No. 7218 | Front — treated; rear left as control, without<br>XADO grease | 54 457 km               | 02.12.2003   |

The grease was injected with a grease gun, without disassembling the unit and without withdrawing the locomotive for repair: three injections of 0.33 kg per support from April 2002 to January 2003.

# What recurred on every locomotive

↓ **0.04-0.07** mm

clearance to gauge on the treated supports, single maximum 0.65 mm

↑ **0.08-0.1** mm

clearance on the control support without XADO, 0.3-0.32 → 0.38-0.42 mm

## Clearance to the R110 gauge — before treatment and after mileage

| LOCOMOTIVE     | BODY SUPPORT                             | BEFORE TREATMENT, mm | AFTER MILEAGE, mm |
|----------------|------------------------------------------|----------------------|-------------------|
| ChME3 No. 1736 | Front left (post No. 1)                  | 0.9-0.1              | 0.83-0.06         |
| ChME3 No. 1736 | Rear left (post No. 4)                   | 0.22-0.25            | 0.16-0.20         |
| ChME3 No. 3825 | Front left                               | 0.2-0.22             | 0.14-0.18         |
| ChME3 No. 3825 | Rear left                                | 0.1-0.12             | 0.06-0.07         |
| ChME3 No. 7218 | Front left                               | 1.45-1.5             | 0.8-0.85          |
| ChME3 No. 7218 | Rear left — control, without XADO grease | 0.3-0.32             | 0.38-0.42         |

Clearance between the R110 ± 0.1 mm gauge and the working surface of the spherical washer; the range is the spread across measuring points. The control support ran the same mileage on the same machine.

# Conclusion of the depot commission

The commission of the Dnipropetrovsk depot recorded the same thing in three passports: after the XADO greases were introduced and a mileage of over 54 000 km was run, the clearances between the gauge and the working surface of the spherical support washer decreased, while "the working surfaces of the ball supports acquired the look of a smooth polished surface, the traces of micro-damage present on the working surfaces disappeared". The supports went into service already worn: on locomotive No. 7218 the clearance reached **1.5 mm**, and after the mileage it was **0.8-0.85 mm**. On the same machine the rear left support was left as a control, without XADO grease: over the same mileage its clearance, on the contrary, grew by **0.08-0.1 mm** — the metal kept wearing away exactly where XADO was not introduced. According to the conclusions of the certificates, this "confirms the effectiveness of using XADO greases for the purpose of eliminating wear of the body ball supports and makes it possible to increase the service life of these units by 1.5 - 2×".



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The results relate to the body ball supports of ChME3 shunting locomotives operated by the Dnipropetrovsk locomotive depot; on other units and under other operating conditions the figures may differ. The original treatment passports with signatures and stamps are published in full and available for download.