

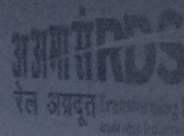


सत्यमेव जयते

भारत सरकार - रेल मंत्रालय
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Government of India - Ministry of Railways
Research, Designs & Standards Organization,
LUCKNOW - 226011



No. EL/3.1.35/20

Date: 26.04.2017

1. Chief Electrical Engineer,

- Central Railway, Mumbai CST-400 001.
- Northern Railway, Baroda House, New Delhi-110 001.
- North Central Railway, Block A2, Allahabad- 211 033
- Eastern Railway, Fairlie Place, Kolkata -700 001.
- East Central Railway, Hazipur-844101.
- East Coast Railway, Chandrashekharapur, Bhubaneshwar-751016.
- Southern Railway, Park Town, Chennai-600 003.
- South Central Railway, Secunderabad-500 371.
- South Eastern Railway, Garden Reach, Kolkata -700 043.
- South Western Railway, 4th Floor, Laxmi Balakrishna Square Complex, Railway Station Road, Hubli- 580 020 (Karnataka).
- South East Central Railway, Bilaspur-495004
- Western Railway, Churchgate, Mumbai-400 020.
- West Central Railway, Jabalpur-482001.
- Chittaranjan Locomotive Works, Chittaranjan-713 331 (WB)

2. Chief Works Manager,

- Electric Loco Workshop, Eastern Railway, Kancharapara, 24 Pargana (N) -743145 (W.B.)
- Electric Loco Workshop, Central Railway, Bhusaval- 425 201

Sub: Minutes of the meeting regarding failure of 21 teeth pinion of WAP9 locomotives.

The Minutes of the meeting regarding failure of 21 teeth pinion of WAP9 locomotives held RDSO on 26.04.2017 is enclosed herewith for kind information please.

(Mohit Sonakiya)

for Director General/ Electrical

Encl:

Minutes of meeting

Copy to:

1. Secretary (Electrical), Railway Board, Rail Bhawan, New Delhi-110001
(Kind Attn: Sri A. K. Goswami, DEE (RS) /Railway Board): for kind information please.
2. M/s Kirloskar Pneumatic Co. Ltd., 1, Hadapsar Estate, Pune-411013,
(for information and necessary action please.)
3. M/s G. G. Automotive Gears Ltd., Plat No. 2-A, I.S.
GAJARA Industrial Area No.1, Road, Dewas - 455001 (M.P.)
4. M/s SAN Engineering & Locomotive CO. Ltd., Plot No.1 - 10, Hebbal Industrial Area, Belavadi
Post mysore-570018.
5. Executive Director/Motive Power/RDSO (for information please)

(Mohit Sonakiya)

for Director General/ Electrical

1156

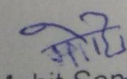
Minutes of the meeting held at RDSO on 26.04.2017 regarding failure of TM Pinion in WAG9 electric locomotives

Member Present:

RDSO(S/Shri)	Railway(S/Shri)	Firm(S/Shri)-
O. P. Kesari, EDSE-(Co-ord)	Ashutosh Jha- DEE/ Kyn	Yashwant Nimkar- KPCL
Mohit Sonakiya, DSE/C&S	B. N. Singh SSE/ GMO	Ravikant J. Jadhav-KPCL
Girraj Kishore, ADE/C&S	Sanjay Deshmukh- SSE/ AQ	S. D. Dandage-KPCL
Santosh Kumar, SSE/D/Elect	N. K. Saxena SSE/Kyn	Anand Mohan Singh-SAN Engg.
A. K. Brahmane SSE/MP	Angad -JE/ CLW	Navneet Mandloi-GGAG
	Abhay K Tiwari Tech/GMO	

A review meeting was conducted at RDSO on 26.04.2017 to discuss the implementation of earlier MOM dated 22/3/2017 for the failures of TM Pinion in WAG9 electric locomotive. During the meeting following points were discussed:

1. New pinions of M/s KPCL and M/s GGAG were inspected during the meeting. It was observed that fillet at neck of M/s KPCL was not as per drawing. There was a sharp edge and notch formed at the start of fillet portion on the pinion shaft. There was a smooth transition from fillet to shaft in M/s GGAG make pinion. M/s SAN Engg had not brought pinion. However, photographs show smooth transition from fillet radius curve to shaft in SAN engg make pinions too.
2. Surface finish of fillet radius as well as oil groove in case of M/s KPCL pinion was not as per drawing whereas in case of M/s GGAG pinion it was as per drawing. M/s KPC explained that they did not perform grinding after shot peening which resulted in poorer surface finish.
3. The sharp edge and notch at fillet in M/s KPC make pinions would lead to increase in stress concentration at the neck portion which would result in high rate of fatigue failure and pinion shaft breakage. Hence, it was decided that all pinions which are not as per drawing should be identified and rejected by Zonal Railways and Production units. Zonal Railways were also advised to use standard template for checking fillet radius.
4. CLW and Zonal Railways were advised to improve the inspection procedure to eliminate the possibility of defective pinions being supplied. Also, Railways were advised to report all pinion failure cases to CLW so that suitable action may be taken by CLW against vendors with poor performance.
5. M/s KPCL was advised to make necessary arrangement for removal of sharp edge and notch for smooth transition from fillet radius curve to shaft in all the 21 teeth pinions already supplied to different Loco sheds and production units maintaining dimensions and surface finish within tolerances. This work shall be carried out at ELS/GMO on 16/5/2017 initially in presence of RDSO and CLW and subsequently at other sheds to validate the process. Other sheds may send their supervisors to witness this process at ELS/GMO so that they are able to monitor the work performed at their respective sheds.
6. It was advised that periodicity for replacement of pinions should be revised in accordance with RDSO specification.
7. Next review meeting shall be held at CLW to discuss the outcome and further action required.


 (Mohit Sonakiya)
 For Director General/Electrical