



No. EL/3.2.119 (Damper)

Date: 25.08.2021

Principal Chief Electrical Engineer,

प्रधान मुख्य विद्युत अभियंता,

1	Central Railway, Mumbai CST-400001	मध्य रेलवे, मुम्बई, सीएसटी-400001
2	East Central Railway, Hazipur-844101	पूर्व मध्य रेलवे, हाजीपुर-844 101
3	East Coast Railway, Chandra Shekharpur, Bhubaneswar-751016	पूर्व तटीय रेलवे, चन्द्रशेखरपुर, भुवनेश्वर-751 023
4	Eastern Railway, Fairlie Place, Kolkata -700 001	पूर्व रेलवे, फेयर्ली प्लेस, कोलकाता-700 001
5	North Central Railway, Block-A, Subedarganj, Allahabad-211 033	उत्तर मध्य रेलवे, ब्लाक ए-2, सुबेदारगंज इलाहाबाद - 211 033
6	Northern Railway, Badoda House, New Delhi-110001	उत्तर रेलवे, बडोदा हाउस, नयी दिल्ली - 110001
7	North Western Railway, Jaipur- 302 006	उत्तर पश्चिम रेलवे जयपुर- 302006
8	North Eastern Railway, Gorakhpur-273001	उत्तर पूर्व रेलवे गोरखपुर- 273001
9	North East Frontier Railway, Maligaon, Guwahati-781011	उत्तर पूर्व फ्रंटियर रेलवे मालीगॉव गुवाहाटी-781011
10	South Central Railway, Secunderabad -500371	दक्षिण मध्य रेलवे, रेल निलायम, सिकंदराबाद-500 371
11	South East Central Railway, Bilaspur - 495004	दक्षिण पूर्व मध्य रेलवे, बिलासपुर - 495 004
12	South Eastern Railway, Garden reach, Kolkata-700043	दक्षिण पूर्व रेलवे, गार्डनरीच, कोलकाता-700 043
13	Southern Railway, Park Town, Chennai - 600003	दक्षिण रेलवे, पार्क टाउन, चेन्नई-600003
14	South Western Railway, Hubli- 580020	दक्षिण पश्चिम रेलवे हुबली-580020
15	West Central Railway, Jabalpur-482001	पश्चिम मध्य रेलवे, जबलपुर - 482001
16	Western Railway, Churchgate, Mumbai-400 020	पश्चिम रेलवे, चर्चगेट, मुम्बई- 400 020
17	Chittaranjan Locomotive Works, Chittaranjan-713331(WB)	चित्तरंजन रेल इंजन कारखाना, चित्तरंजन - 713331
18	Banaras Locomotive Works, Varanasi-221004	बनारस रेल इंजन कारखाना, वाराणसी 221 004
19	D.M.W, Patiala-147003	डि एम. डब्ल्यू. पटियाला -147003

Modification Sheet No. RDSO/2021/ EL/MS/0483, Rev. '0' Date:25.08.2021

1. Title:

Modification in Vertical Damper Fixing Arrangement of WAP-7/WAG-9 Locomotives.

2. Object:

Zonal Railways have reported a lot of failures of Vertical Damper used in 3 Phase Locomotive detected in routine/trip shed/ loco shed on account of broken/missing nut/bolt, welding crack of fixing stud.

Vertical Damper is a vital under frame safety item. High rate of breakage of foundation bolt/fixing stud are unwarranted and undesirable for safe operation of locomotives. The object of this modification sheet is to arrest the failures of Vertical Damper fixing arrangement.

3. Existing Arrangement:

3.1. At present vertical damper is stud mounted which is directly welded on loco shell and on this stud damper foundation bolt is fitted as shown in photograph below (Fig.1).

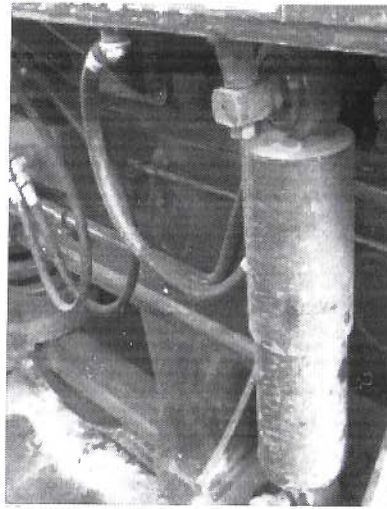


Fig. 1

4. Modified Arrangement:

- 4.1. To overcome this problem of breakage/missing fixing bolt/nut and welding crack of stud, Southern Railway has done the modification in Vertical Damper Fixing arrangement.
- 4.2. In this modification, stud is replaced by a fixing plate. ELS/RPM has modified fixing arrangement in WAP-7 locomotives. No defect noticed of bolt/ nut in this locomotive.

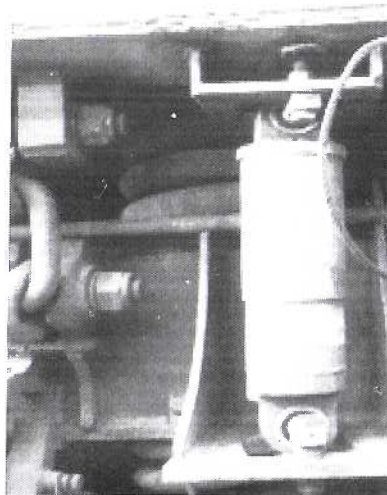


Fig. 2

5. Work to be done:

- i. Remove the vertical damper by removing damper top and bottom fixing bolt.

- ii. Remove the existing damper fixing bush from body under frame by oxyacetylene cutting.
- iii. After oxy-acetylene cutting, finish the surface by surface grinding.
- iv. Select the appropriate Modified fixing plate from LH and RH type.
- v. Clean the fixing plate in the chamfering area by grinding.
- vi. Place the secondary vertical damper between bogie and body.
- vii. Provide bolt and nut in bogie frame fixing arrangement and normal tightness to be done.
- viii. Fix the modified plate with the top side damper by providing bolt and nut.
- ix. Now place the modified fixing plate on the under frame in right position and ensure sufficient clearance between secondary spring and fixing plate.
- x. Make tack welding on the sides of the fixing plate.
- xi. Now release the top fixing bolts and welding to be done in inner side and outer side of the fixing plate.
- xii. After welding, fix the top fixing bolt of damper and ensure tightness.

6. Application of Class of Locomotives:

WAP-7 & WAG-9 class of Locomotives

7. Material Required:

As per enclosed Drawing No. SKEL-5053, Alt. '0' or latest and SKEL-5054, Alt. '0' or latest.

8. Material rendered surplus: Nil

9. Reference: South Central Railway Letter No. E.221/Mod/SMI/TC/Vol-I dated 16.02.2021

10. Additional Machine & tools required:

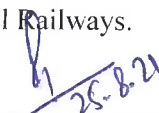
- a. Welding Machine with electrodes.
- b. Gas cutting plant for cutting existing bush
- c. Grinder for smoothening surface

11. Modified Drawing:

- 11.1. SKEL-5053, Alt. '0' for Top Fixing Plate-LH of Vertical Damper Assembly.
- 11.2. SKEL-5054, Alt. '0' for Top Fixing Plate-RH of Vertical Damper Assembly.

12. Agency of Implementation:

- 12.1. CLW/BLW/DMW and Shed/POH Shop in all Zonal Railways.

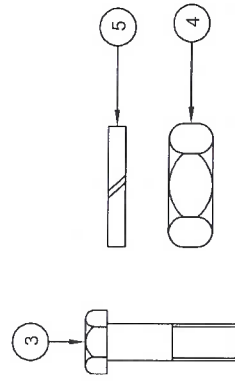
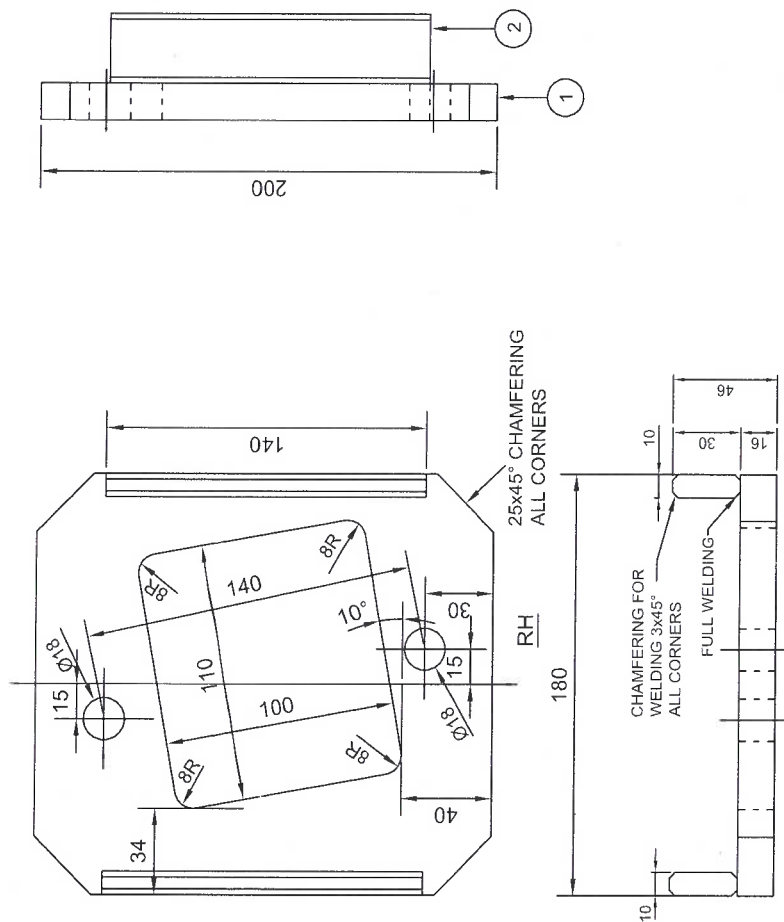

 (Pratibha Gupta)
 For Director General (Elect)

Copy to: As per standard mailing list no. EL-M-7.5.3-19 latest revision.

DT.	19.08.21
D	S.S.
C	U.B.Y.
T	

Note -

1. All dimensions are in millimeter : Unless otherwise specified.
2. Material E 250 BR , IS 2062 : 2011
3. All machined surface roughness value as per IS : 3073-1996
4. Tolerance Wherever Not Mentioned is as per IS : 2102 (M) - 1993
5. All Sharpe edges and corners to be rounded off



5	SPRING WASHER FOR M 16	4	MS	IS:3063
4	FS LOCK NUT FOR M16	4	MS	CLW/MS/3/089
3	HEX HD BOLT HT 8.8 M16 X 60 X 30	4	MS	IS:1367
2	PLATE 10 X 30 X 140	4	MS	IS:2062
1	PLATE RH 16 X 180 X 200	2	MS	IS:2062
REF. NO.	DESCRIPTION	QTY /LOCO	MATL	SPEC.
REF.	SCALE - N.T.S	APPD. BY.	APPD. BY.	APPD. BY.
VERTICAL DAMPER TOP FIXING PLATE - RH				
FIRST ISSUED				
SUPERSEDES				
R.D.S.O. ELECT. DTE.				
SKEL - 5054 (ALT. '0')				
SUPERSEDED BY				

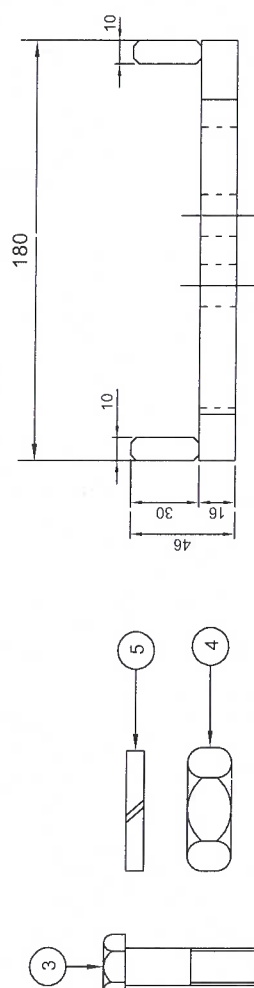
Technical drawing of a mechanical part, showing a top view and a side view.

Top View Dimensions:

- Overall width: 140
- Overall height: 200
- Central rectangular area width: 110
- Central rectangular area height: 140
- Corner radius: 8R
- Hole diameter: $\varnothing 18$
- Distance from hole center to top edge: 15
- Distance from hole center to right edge: 30
- Distance from hole center to bottom edge: 10
- Distance from hole center to left edge: 15

Side View Dimensions:

- Thickness: 34
- Chamfer: 25x45° CHAMFERING ALL CORNERS
- Label: LH



Note -

1. All dimensions are in millimeter : Unless otherwise specified.
2. Material E 250 BR , IS 2062 : 2011
3. All machined surface roughness value as per IS : 3073-1996
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5. All Sharpe edges and corners to be rounded off

5	SPRING WASHER FOR M 16	4	MS	IS:3063
4	FS LOCK NUT FOR M16	4	MS	CLW/MS/3/089
3	HEX HD BOLT HT 8 M16 X 60 X 30	4	MS	IS:1367
2	PLATE 10 X 30 X 140	4	MS	IS:2062
1	PLATE LH 16 X 180 X 200	2	MS	IS:2062
REF. NO.	DESCRIPTION	QTY./LOCO	MAT.	SPEC.
REF.		SCALE - N.T.S	APPD. BY.	(For Dg)
VERTICAL DAMPER TOP FIXING PLATE - LH		FIRST ISSUED		
		SUPERSEDES		
		SUPERSEDED BY		
R.D.S.O. ELECT. DTE.	SKEL - 5053 (ALT. '0')			

STATUS	ALT.	REF. No.	DESCRIPTION	APPD. BY	DATE

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