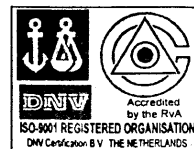


RDSO, therefore, after detailed study evolved a scheme which envisages removal of centre channel (cross member), provision of one piece filter elements and create openings in the bottom frame of the filter assembly beside making the bottom frame of the louver slanting enabling the dust to fall down out of loco. Electric loco Shed. N. Rly. Kanpur got the filter assembly modified through M/s Mehrotra & company, 87/8 Bhannana Purwa, Kanpur Tannery compound, Kanpur 200003 and fitted during April 97 in a WAG5 locomotive. On encouraging results the extended field trials have been conducted by providing in WAG7 locomotives during Oct.99. The modification is found to satisfactory. Therefore this modification on needs to be in incorporated in filter assembly which will not only maintain cleaner air but also reduce the cleaning interval and can also be cleaned in-situ.

फैक्स/Fax : 91-0522-458500  
 तार : 'रेलमानक' लखनऊ  
 Telegram : 'RAILMANAK', Lucknow  
 टेलीफोन/Tele : 451200 (PBX)  
 450567 (DID)



भारत सरकार - रेल मंत्रालय  
 अनुसंधान अधिकल्प और मानक संगठन  
 लखनऊ - 226011  
 Government of India-Ministry of Railways  
 Research Design & Standards Organisation  
 Lucknow - 226011



No. EL/3.2.17-1

Date: 26-6-2000.

**MODIFICATION SHEET NO. ELRS/MS/0289(Rev '0')-2000.**

Chief Electrical Engineer,  
 Central Railway, Mumbai CST-400001.  
 Eastern Railway, Fairlie Place, Calcutta-700001.  
 East Central Railway, Chandrashekharpur, Bhubaneswar-751001.  
 Northern Railway, Baroda House, New Delhi-110001.  
 North Central Railway, Hasting Road, Allahabad-211001.  
 Southern Railway, Park Town, Chennai-600003.  
 South Central Railway, Rail Nilayam, Secunderabad-500371.  
 South Eastern Railway, Garden Reach, Calcutta-700043.  
 South Western Railway, Bangalore-560046.  
 Western Railway, Churchgate, Mumbai-400020.  
 West Central Railway, Jabalpur.  
 New Zone Railway, Bilaspur.  
 Chittaranjan Locomotive Works, Chittaranjan-713331.  
 Chief Electrical Traction Engineer, Central Railway, Mumbai CST-400001.

**1.0 TITLE:**

Modification in MIO filter panel assembly for better air supply, reduction in dust and increase in cleaning intervals.

**2.0 OBJECT:**

The present MIO filter assembly used in electric locomotives has no passage for the dust to be thrown out at regular intervals. This gets collected in the filter assembly itself and sometimes forms mud cake in the filter assembly nearer to the exhaustor and compressors due to oil fumes. It is removed by blowing at regular intervals by jet of air after removing the filter assembly. This accumulation of dust reduces filtration efficiency considerably affecting cooling to various electrical equipment in the loco.

RDSO, therefore, after detailed study evolved a scheme which envisages removal of centre channel (cross member), provision of one piece filter elements and create openings in the bottom frame of the filter assembly beside making the bottom frame of the louver slanting enabling the dust to fall down out of loco. Electric loco Shed. N. Rly. Kanpur got the filter assembly modified through M/s Mehrotra & company, 87/8 Bhannana Purwa, Kanpur Tannery compound, Kanpur 200003 and fitted during April 97 in a WAG5 locomotive. On encouraging results the extended field trials have been conducted by providing in WAG7 locomotives during Oct.99. The modification is found to satisfactory. Therefore this modification on needs to be incorporated in filter assembly which will not only maintain cleaner air but also reduce the cleaning interval and can also be cleaned in-situ.

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भारत सरकार - रेल मंत्रालय  
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लखनऊ - 226011  
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### **3.0 WORK TO BE CARRIED OUT:**

- i) Remove cross member item no. 4 of CLW Drg No. 03 2/45 18 Alt 5 and provide 7 nos support rod of 5 mm dia from item no. 3 to item no. 4 as per CLW's Drg No. 03/2/45/31.
- ii) Remove wire mesh item no. 8 of CLW Drg No. 03 2/45 18 Alt 5.
- iii) Drill 10 mm dia hole in two rows in bottom frame item no. 2 of CLW Drg No. 03 2/45 18 Alt 5, one edge should be made taper as per CLW's Drg No. 03 2/45/31.
- iv) Replace the filter media item no. 9 of CLW Drg No. 03/2/45/18 Alt 5 with one piece filter having thickness 0.3 mm in following combination.

Total no of filter media per assembly : 9 nos  
(a) Outer filter media shall have crimping in "V" shape : 2 nos  
with total depth of 3.25 mm having hole of 2.25 mm dia in  
staggered row.

(b) Inner filter media shall have crimping in "V" shape : 7 nos  
with total depth of 2.5 mm having hole of 2.25 mm dia in  
staggered row.

- v) Modify the through assembly as per CLW's Drg No. 06/3/45/2 alt 2.
- vi) Paste the rubber gasket of size 20x5 mm on back of the filter frame in full length and width to arrest the dust ingress.

### **4.0 APPLICATION TO CLASS OF LOCOMOTIVES:**

All WAM4, WAG5, WAG7, WAP1 & WAP4 class of electric loco.

### **5.0 MATERIAL REQUIRED:**

- i) Filter media as per para 3.0 iv.
- ii) Rubber gasket 20x5 mm of required length.

### **6.0 MATERIAL RENDERED SURPLUS:**

- i) Cross member channel.
- ii) Old used filter media.


### **7.0 REFERENCE:** ELS CNB's Drg No. A2/99 CNB/1468 5007 Filter & A2 2000 CNB 1864/5008 Filter.

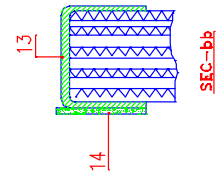
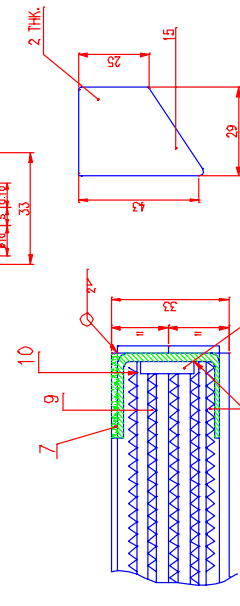
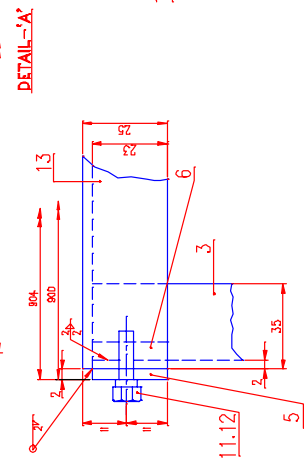
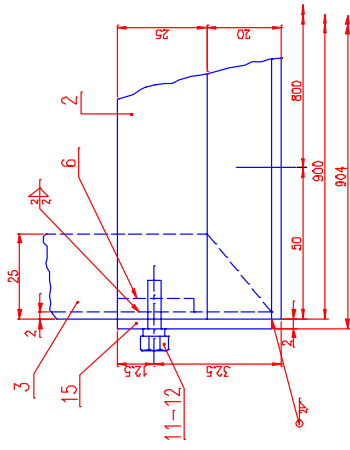
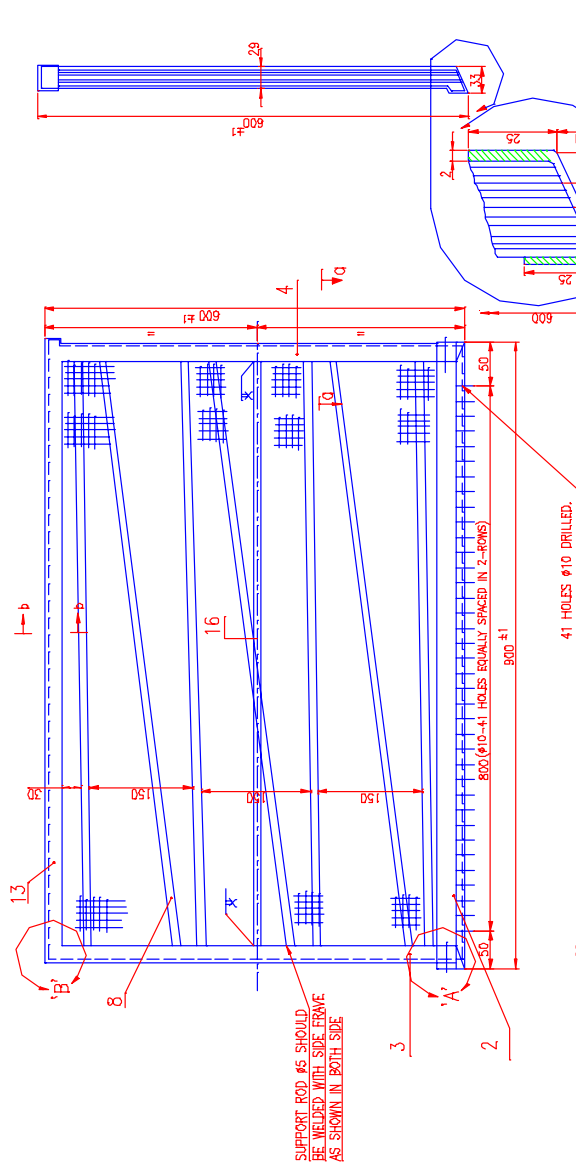
### **8.0 MODIFICATION DRAWING:** CLW's Drg No. 03 2 45 31.

### **9.0 AGENCY FOR IMPLEMENTATION:** All Elect loco sheds, CLW, POH shops.

### **10.0 DISTRIBUTION:** As per Standard Mailing List No. ELM 0028 Ver'0'.

Encls: One (CLW Drg No. 03 2 45 31)

  
(A.K. Gupta)  
for Director General Electrical



1. THE FILTER MEDIA SHALL BE AS PER CAUSE OF CLW SPECIFICATION NCM/El/20/TS-6
2. REF. E14 SHOULD BE FIXED ON THE FILTER FRAME WITH SUITABLE ADHESIVE BY THE SUPPLIER
3. MANUFACTURERS NAME PLATE IS TO BE FIXED ON THE FRAME.
4. THIS DRC. IS TO BE FOLLOWED FROM LOCO PRODUCTION YEAR-200-2001 & ONWARDS.

## DETAIL-'B'

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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Irg. merk dk ed H&L ek 373 ds vuk	ind GRADE NUMBER	s1 s2 s3 s4 s5 s6 s7 s8 s9 s10 s11	Re / Im	overlapping
	N1 N2 N3 N4 N5 N6 N7 N8 N9 ND10 N11 N12			

## DETAILS OF CRIMPING OF FILTER MEDIA

[illegible]

REF.No.14 OR DRG.No.  
Q3/1/45/14  
I 474  
REF ASSLY DRG NO.

forjau  
jjs bau djk lkk  
CHITTARANJAN  
LOCOMOTIVE WORKS

FILTER PANEL ASSLY. FOR MIO TYPE FILTER	1218 00WAG-7, USE FOR LDCOS- WAP-4 VKSKK1gk
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Irg. merk dk edu H&L ek 373 ds vuk	ind GRADE NUMBER	s1 s2 s3 s4 s5 s6 s7 s8 s9 s10 s11	Re / Im	overturn
	N1 N2 N3 N4 N5 N6 N7 N8 N9 N10 N11 N12			

[illegible]

## DETAIL-'B'

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