

Engine Alteration Instruction No.1134/69  
dated 24th November 1969  
Fitting multiple jet blast pipe & chimney  
Applicable to 15<sup>th</sup> Class Garratt locomotives  
operating on Rhodesia Railways

Notes to readers

The source document for this file was the Office Copy of the E.A.I. held in the National Railways of Zimbabwe Drawing Office in Bulawayo. It was discovered, in March 1998, while I was helping with searching for a complete set of drawings of the 15<sup>th</sup> Class locomotives after No. 398 had been purchased by a private group in New Zealand for eventual export to that country.

The original document was a duplicated copy hence the slightly indistinct type in some places. This was photocopied (with permission) on to A4 size paper while in the Drawing Office and the photocopies scanned when we were back in New Zealand.

The scanned file has been lightly "Photoshopped" to remove most of the artefacts resulting from the photocopying and scanning processes and to increase the contrast to make it more readable.

Any alterations, amendments or corrections done by hand have all been left in place and this file is an accurate reproduction of the original.

Alan Bailey  
December 2010

OFFICE OF THE CHIEF ENGINEER,  
(MECHANICAL, ELECTRICAL AND SIGNAL).  
BULAWAYO.

REFERENCE: M3 dated 24/9/69.  
DATE: 24/11/69  
ISSUE: 4 (for amendments P.T.O.)  
SECTION: M3

ENGINE ALTERATION INSTRUCTION NO: 1134/69.

FITTING OF THE MULTIPLE JET BLAST PIPE CAP  
15 AND 15A CLASS LOCOMOTIVES.

- 1.0. REASON:
- 1.1. In an endeavour to increase the working days between tube blows of the above classes of locomotives, it has been decided to fit the multiple jet blast pipe cap, which has proved under test, to produce better results than the standard cap.
- 1.2. The fitting of this modified blast pipe cap will increase the steaming efficiency and reduce, to a certain extent, the birdnesting which is experienced in steam locomotives.
- 1.3. Ref. M.3 dated 24/9/69.
- 2.0. ALTERATION:
- 2.1. The smokebox arrangement is to be modified in accordance with Drawing L-8674, which necessitates the fitting of a modified chimney, modified petticoat and ejector exhaust ring.
- 3.0. APPLICABLE TO:
- 3.1. All 15 and 15A class locomotives - Bulawayo based.
- 4.0. TO BE CARRIED OUT:
- 4.1. At Bulawayo Workshops.
- 5.0. TO BE COMPLETED:
- 5.1. At General repairs.
- 6.0. CHARGE:
- 6.1. Standard allocation number concerned.
- 7.0. STORES:
- 7.1. The Supplies and Stores Manager to ensure that adequate stocks of the following items are on hand to complete this alteration, and to advise the Mechanical Engineer Bulawayo, when sufficient stocks are available to commence alterations.
- | <u>CODE NUMBER:</u> | <u>DESCRIPTION:</u>    | <u>(TOTAL)<br/>NO. RGD.:</u> | <u>INITIAL<br/>QUANTITY:</u> |
|---------------------|------------------------|------------------------------|------------------------------|
| 10-22-1155          | Modified Chimney       | 65                           | 20                           |
| 10-22-2500          | Ejector Exhaust Ring   | 65                           | 20                           |
| 10-22-1363          | Modified petticoat     | 65                           | 20                           |
| 10-22-2369          | Multiple Jet Blast Cap | 65                           | 20                           |
| 10-24-3365          | Ejector exhaust pipe   | 65                           | 20                           |
| 10-91-1705          | Bolt (Special purpose) | 390                          | 120                          |

- 7.2. The following items will become obsolescent and the demand will gradually decrease until all locomotives have been modified in approximately 5 years.

<u>Code Number:</u>	<u>Description:</u>
10-22-2365	Nozzles (Blast pipe)
10-22-3350	Ejector exhaust pipe

8.0. GENERAL:

- 8.1. Mechanical Engineer, Bulawayo not to issue alteration instructions until he has been informed by the Supplies and Stores Manager that stocks are available for withdrawal. This modification is to be treated as urgent and must be implemented with the least delay.

9.0. DRAWINGS:

- 9.1. One copy of the following drawings sent to Mechanical Engineer, Bulawayo. L-8671; L-8672; L-8673, L-8674 and L-6713/323.



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DISTRIBUTION:

M.E. BLR. (10); M.E.(S) BLR.(6); M.E.(E) SA (6); S.T.S. (2);  
C.S.K.B. (2); FILES: 6/19; M.3.

AMENDMENT NO. 1 TO E.A.I. 1134/69 DATED 24/11/69.

1. REASON:

1.1. Typing error.

2. ALTERATION:

2.1. Referring to paragraph 7.1 the Code No. corresponding to the Ejector Exhaust pipe should read 10-24-3355.

2.2. Referring to paragraph 7.2 the Code No. corresponding to the Ejector Exhaust pipe should read 10-24-3350.

  
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Amendment No. 1 dated 1/12/69 to E.A.I. 1134/69

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AMENDMENT NO. 2 TO E.A.I. 1134/69 DATED 24.11.69:

1. REASON:

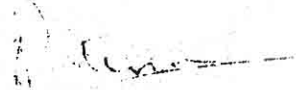
1.1. The six 11/16" diameter holes used for securing the ejector exhaust ring to the modified chimney have been incorrectly positioned, and consequently the new ejector exhaust pipe will not fit as required.

2. ALTERATION:

2.1. The six 11/16" diameter holes are to be redrilled in accordance with Drawing No. L-8672, Alt. 1.

3. STORES:

3.1. Supplies Manager to arrange for the withdrawal of all stocks, Code No. 10-22-1155 on works order and have the holes repositioned in accordance with Drawing No. L-8672, Alt. 1.

  
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Amendment No. 2 dated 6.11.70 to E.A.I. 1135/69.

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AMENDMENT NO. 3 TO E.A.I. NO. 1134/69 DATED 24/11/69.

Please include the following paragraphs under the appropriate headings of this E.A.I.

REASON:

- 1.4. By increasing the length of the petticoat by 3" and using 3/8" 10 SWG steel wire mesh for the centre spark arrester screen, steaming was improved.
- 1.5. Reference: M.E.'s MS/M.3A/301 dated 30/8/71.

ALTERATION:

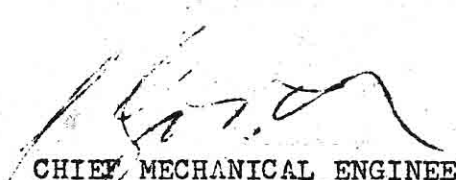
- 2.3. All petticoats Code No. 10-22-1363, Drawing No. L-8673, to be lengthened by 3" in accordance with Drawing No. L-8673 alt. 1.
- 2.4. Existing centre spark arrester screens, Code No. 10-23-4271 to be replaced by modified screen, Code No. 10-23-4275, Drawing No. L-6756/88.

STORES:

- 7.3. Supplies Manager to arrange urgently for the manufacture of an initial quantity of 60 centre spark arrester screens Code No. 10-23-4275 in accordance with Drawing No. L-6756/88.
- 7.4. All petticoats, Code No. 10-22-1363, held in Stores to be modified in accordance with Drawing No. L-8673 alt. 1. and returned to stock.

DRAWINGS:

- 9.2. Copies of Drawings L-6756/73, L-6756/88, and L-8673 alt. 1. sent to Mechanical Engineer, Bulawayo, Mechanical Engineer (Southern) and Stores Technical Services.

  
CHIEF MECHANICAL ENGINEER.

Amendment No. 2 dated 20th September, 1971 to E.A.I. No. 1134/69.