ELECTRO-MOTIVE

MAINTENANCE INSTRUCTION

M.I. 9544
*Rev. B

MODERNIZATION RECOMMENDATION
APPLICATION OF LOW WATER AND CRANKCASE PRESSURE DETECTOR

PURPOSE: To provide protection for the engine in the event of a change from negative to positive pressure in the crankcase and for loss of or lack of engine coolant pressure.

APPLICATION: 567 and 645 Engines

REFERENCES:

8-567BC, 8-567C, 8-567CR, 8-645E	8385288
12 & 16-567BC, 12 & 16-567C, 16-567D1	8340584
16-567D2, 16-567D3, 16-567D3A	8338016
12 & 16-645E	8368196 or 8454989†
16-645E3	8348793 or 8428104†
12 & 20-654E3, 16-645E3A	8428104†

Fig. 1 through Fig. 4 of this publication.

NEW MATERIAL REQUIRED:

ENGINE MODEL	PART NO.	DESCRIPTION
8-567BC, 8-567C, 8-567CR, 8-645E	9096690	Eng. Prot. Appl. Kit
	8464678	Eng. Protector
	8385171	Tube Assy.
	8385172	Tube Assy.
	8385173	Tube Assy.
Use Application Drawing:	8385288	
12 & 16-567BC 12 & 16-567C 16-567D1	9096690	Eng. Prot. Appl. Kit
	8464678	Eng. Protector
Use Application Drawing:	8340584	
16-567D2, 16-567D3 16-567D3A	9096690	Eng. Prot. Appl. Kit
	8428395	Eng. Protector
Use Application Drawing:	8338016	

*This bulletin is revised and supersedes previous issues of this number.

NEW MATERIAL REQUIRED (CONT'D):

ENGINE MODEL	PART NO.	DESCRIPTION
12 & 16-645E	9096690	Eng. Prot. Appl. Kit
	8464678	Eng. Protector
Use Application Drawing:	8368196 or 8454989†	
16-645E3	9096690	Eng. Prot. Appl. Kit
	8428395	Eng. Protector
Use Application Drawing:	8348793 or 8428104†	
12 & 20-645E3 16-645E3A	9096690	Eng. Prot. Appl. Kit
	8428395	Eng. Protector
Use Application Drawing:	8428104†	

†Combination engine protector and hot oil valve application.

PRICE OF MATERIAL: The approximate price of material required to equip one locomotive with a Low Water And Crankcase Pressure Detector is $300. This price is for job estimating purposes only. Material will be billed at prices in effect at time of shipment.

PROCEDURE

The application can be made on all engines, except 567A engines with fabricated accessory drive housings, by installing the detector in place of the lube oil pressure relief valve cover on the front of the engine. On a 567A engine with a fabricated accessory drive housing, the lube oil pressure relief valve cover 8069344 and the detector mounting plate 8084661 will have to be modified, Fig. 1. After cutting the openings, weld mounting plate to the cover.

To complete the modernization, some earlier crankcases have to be modified as shown in Fig. 2 for application of elbow 8039169. The later crankcases have a pipe plug which is removed to apply the elbow.

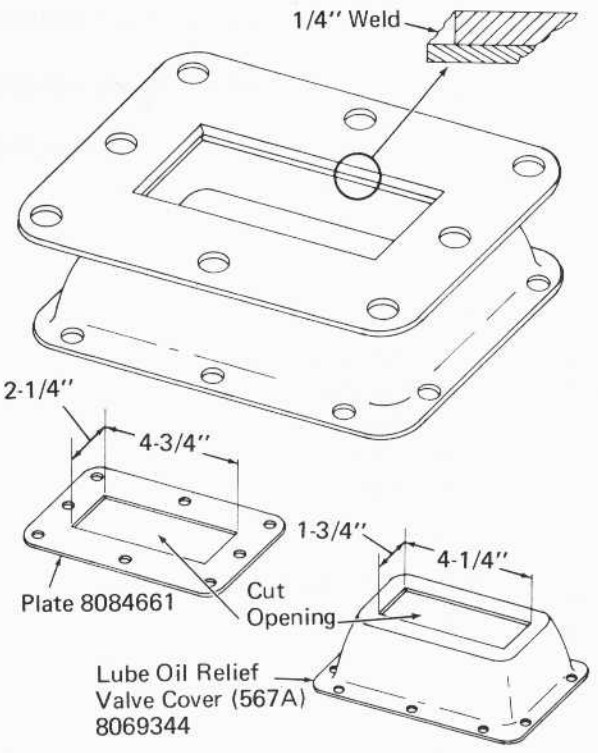

Fig.1 – Reworking Relief Valve Cover

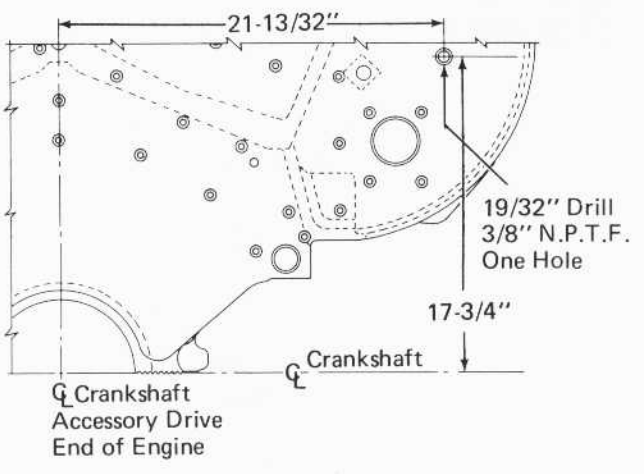

Fig.2 – Alteration To Early Model Crankcase

APPLICATION OF VENT LINE TO COOLING SYSTEM

To insure correct operation of the engine protector on units with pressurized cooling system, a vent line should be added between the water pump aspirators and the expansion tank as showin in Fig. 3.

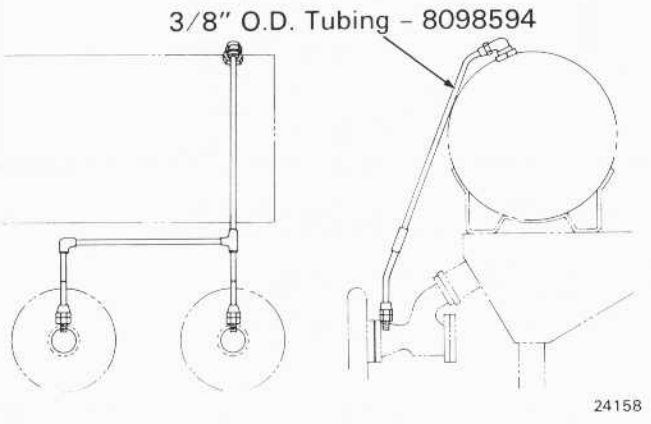

Fig.3 - Typical Application Of Vent Line To Engine With Aspirators

For units not equipped with an aspirator, the vent lines should be connected between the pump tail pieces and the expansion tank. This application should contain a section of flexible material, approximately 12" in length, in the vent line to reduce vibration on the vent line. See Fig. 4.

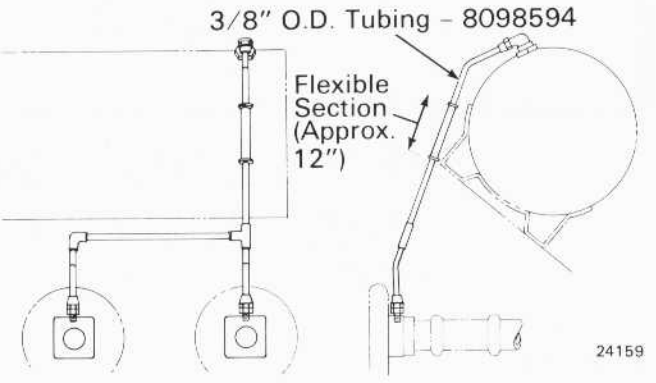

Fig.4 - Typical Application Of Vent Line To Engines Without Aspirators