

VEHICLE LEAD-ACID BATTERY MAINTENANCEINITIAL FILLING AND CHARGING IN TROPICAL AND SUB-TROPICAL ZONESGeneral

1. This regulation deals with the initial filling and charging of new vehicle lead-acid batteries, when used in the tropics, and should be read in conjunction with Power J 305 and J 318.

Change in specific gravity of electrolyte

2. In order to increase the effective life of a vehicle battery, when used in the tropics, the specific gravity of the battery electrolyte of a fully-charged vehicle battery will be 1.250 at 60° F. The specific gravity of the battery electrolyte of a fully-charged vehicle battery when used in temperate climates will remain as specific in Power J 318, para. 18(b).

Definition of tropical and sub-tropical climates

3. For the purpose of this regulation, tropical and sub-tropical climates are defined as those where the shade temperature frequently exceeds 90° F.

Vehicle batteries already in service

4. All vehicle lead-acid batteries already in service at the date of publication of this regulation will continue to be worked with the original specific gravity as specified in Power J 318, para. 18(b), i.e., not more than 1.300 and not less than 1.280 at 60° F. No retrospective action will be taken to reduce the specific gravity of the electrolyte of these batteries.

New vehicle batteries

5. All new vehicle lead-acid batteries drawn from store in the tropics for initial filling and charging will be provided with electrolyte of the lower specific gravity, described in para. 2 of this regulation, using the method and figures given in succeeding paragraphs.

Marking of new batteries provided with electrolyte of lower specific gravity

6. All vehicle lead-acid batteries using battery electrolyte of the lower specific gravity will be marked by painting one of the cell interconnectors with yellow paint.

NOTE: All future supplies of new batteries from the U.K. will have a new type label attached, indicating the specific gravities to be used in temperate and tropic zones.

Filling new batteries (tropics and sub-tropics)

7. The method detailed in Power J 318, para. 22, will be adopted, with the following modifications:-

- (a) The specific gravity of acid for filling new vehicle type batteries should be 1.300 at 60° F.
- (b) The specific gravity of the electrolyte at the end of the initial charge should be approximately 1.250. If this figure is not obtained, even after prolonged charging, the electrolyte should be adjusted accordingly.

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Breaking down of concentrated acid

8. Para. 23 of Power J 318 applies, with the exception that the acid will be diluted down to a specific gravity of 1.300.

NOTE: To reduce 1.350 specific gravity sulphuric acid to 1.300 specific gravity at 60° F, the mixture should be five parts of 1.350 specific gravity acid, by volume, with one part of distilled water.

Battery charging rates

9. Para. 76 and Table 4 of Power J 318 applies, with the exception of the initial charging rate, Col. 6. In tropical and sub-tropical climates the initial charging rates given in Table 1, which follows, will be used.

Battery type	Initial charging rate for new batteries. Amperes
W.D.1 - 21F.	3
W.D.2 - 21F.	4
W.D.3 - 21F.	6
W.D.4 - 21F.	3
W.D.5 - 21F.	4
W.D.6 - 21F.	5
W.D.7 - 21F.	8
W.D.8 - 21F.	8
W.D.9 - 21F.	8
W.D.10 - 21F.	9
W.D.11 - 21F.	9
Motor cycle	0.6

Table 1 - Initial charging rates for
new vehicle lead-acid batteries
in tropical and sub-tropical
climates

57/Mtcc./1490
M.E. 6(a)

END