



BATTERY TYPE : 4DS21TF (8V 500 AH)

Preparing Cells for Service

Initial Charging :

Batteries are normally supplied dry and uncharged and need to be filled in with electrolyte and given an initial charge before being put into use.

TABLE OF SP. GRAVITIES (corrected to 27°C)

	For Tropical Climates	For Tropical/ Cold Climates
Temperatures frequently	Above 30°C	Below 20°C
Filling-in Sp. Gravity	1.230	1.270
Fully charged Sp. gravity	1.250	1.280
Max. permissible Temperature during charging	54°C	44°C

Batteries should be initially charged as follows :

The cells should be filled with battery grade sulphuric acid of appropriate specific gravity to the level of 50mm over separator guard.

To measure the correct height of electrolyte, use an ebonite or plastic rod and press down the separator guard before reading the level. A stick marked or notched at 50mm from the bottom is useful.

The battery should then be allowed to stand for eight to twelve hours. The level will fall due to absorption after filling in and should be restored by adding more acid of the filling-in-gravity.

Charging should be at the first charge rate given in the Schedule of Technical Particulars and should be continued till the following conditions have been satisfied.

- (i) A total charging time of 60 hours minimum at the rate specified or its equivalent in minimum ampere hours has been given.

Note : The charge may be interrupted provided the charge period is of at least 8 hours duration and the rest period does not exceed 16 hours.

- (ii) The specific gravity of the electrolyte and the voltage of each cell duly corrected for temperature differences remain constant over 3 successive hourly readings.

- (iii) Each cell is gassing freely.

- (iv) The top of charge voltage of the cells should be in the region of 2.6 to 2.75 volts per cell.

Should the temperature of the electrolyte reach 48° C, reduce the charge current and increase the time proportionately. If the temperature reaches 54° C, suspend the charge.

At the end of charge the specific gravity of the electrolyte should not exceed 1.255 at 27C/1.285 for temperate climates. If it does, withdraw some electrolyte from the cell and replace with battery grade water. Charge for another hour and test again. If the specific gravity of the electrolyte is below 1.245/1.275 withdraw some electrolyte from the cell and replace it with acid of a higher specific gravity, say 1.400. Charge for another hour and test again.

Before the battery is put into service the electrolyte should be adjusted to the correct level.

Important : Filling plugs must be removed and the lid holes to take microporous ceramic vent plugs prior to initial charging.

SCHEDULE OF DESIGN PARTICULARS (PROVISIONAL)

DIESEL LOCO STARTING BATTERY TYPE 4DS21TF

1.	Make	Exide
2.	Capacity at 10 hr. rate	500AH
3.	Type of unit	8 volt
4.	Manufacturer's Nomenclature	4DS21TF
5.	Overall Dimensions of Battery Unit L (mm) W (mm) H (mm)	723 ± 5 200 ± 5 494 ± 5
6.	Weight per unit with electrolyte (Approx)	148 ± 3%
7.	Cell Container Material	Polypropylene in FRP Tray assembly
8.	Type of Positive Plates	Tublar Gauntlet
9.	Type of Negative plates	Flat pasted
10.	Type of Separator	Microporous Polyethylene Envelope
11.	Electrolyte height above top of separators	50 mm Approx
12.	Clearancer between plates and bottom of Cell Container	30 mm
13.	Quantity of Electrolyte per Cell (Approx)	6.3 Litres
14.	Specific gravity of Electrolyte for Initial filling at 27°C	1.230
15.	Initial Charging Current Amps.	60*A / 30**A *till 2.35vpc ** finising rate
16.	Normal charging current Amps.	50 A
17.	Materials of terminal and inter-unit connector a) Terminal b) Inter-Unit Connector :	Antimonial Lead PCP/CSP Cable with Lead Plated Copper Ends



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