

METRO MODELS

EFE 'OO' scale London Underground tube stock models
Please read and retain this information for future reference
(Text in italics refers to motorised & upgraded bogie/wheel versions)

Your EFE tube train model is manufactured as a static 'OO' scale adult collectable model. With considerable modification, the cars can be motorised & the bogies/wheels replaced so that they can be used as working models on 'OO' scale model railways.

We supply motorising kits (EFE100/EFE101) & bogie upgrade packs (EFE106/EFE107). These are available on a DIY or supply & fit basis. See our website for further details.

A minimum track radius of 17" is recommended. The EFE cars will not operate over a smaller track radius without the risk of derailment. The wheels sit underneath the interior seating units which, like the prototype, limit the distance by which the bogie/wheels can move horizontally when on curved track.

All motorised model railway trains, such as those produced by major manufacturers like Hornby & Bachmann, have pin-point axles fitted to all wheels as standard thus ensuring smooth free running. Being manufactured as static models, the EFE cars have poor quality steel wheels which are not manufactured with pin-point axles. These impair the running qualities when motorised leading to poor movement, 'wobbling' wheels & the risk of derailment. For the best results with much improved running, we recommend that when motorised the remaining trailing bogies/wheels are upgraded.

The real trains operated as 2 car units on the Isle Of Wight & as up to 8 car formations in London Underground service.

4 different car types are produced in model form:-

Driving Motor car 'A', Driving Motor car 'D', Trailer car, Motor Trailer car.

Suggested train formations for model rail purposes are:

- **4 car** - Driving Motor car (DM) 'A' end, Trailer car (TR), Non Driving Motor Car (NDM), DM car ('D' end) *(motorised sets should be fitted with 2 motors within a single centre car, wired together to provide maximum traction)*
 - **3 car** - Driving Motor car (DM) 'A' end, Trailer car (TR), DM car ('D' end)
(motorised sets should be fitted with 2 motors within a single centre car, wired together to provide maximum traction)
 - **2 car** - Driving Motor car (DM) 'A' end, DM car ('D' end)
(motorised sets should have a single motor fitted into one of the DM cars)

Motorised cars should only be operated on a suitable 12v DC controlled power supply, rated at 1 amp or less. Cars motorised by us are dismantled & modified to allow us to make the alterations necessary to fit the motor(s). Cars are track tested to ensure that they operate correctly. As a result you may notice slight signs of usage.

You will find a small sealed clear plastic packet taped to the underside of the plastic track base plinth. This packet contains two plastic coupling bars, a plastic 'H' shaped moulding and a black metal 'thumb screw'.

Couplings; Two black plastic coupling bars are provided. A short coupling that enables you to 'butt' the cars up to each other in prototypical fashion & a longer coupling for use where you have tighter curved track and/or point-work that will not allow you to operate the train with the short coupling. Fit the required coupling bar with the inter car cable moulding detail facing upwards. Be very careful when fitting the coupling bars to the bogie coupling hooks. Both are very easily broken. It is advisable to slightly open up/drill out the holes at each end of the coupling bar to enable it to fit more easily onto the bogie coupling hook.

Note:- Upgraded replacement hand-made etched brass couplings are provided for each pair of motorised/replacement bogies supplied/fitted)

Thumb screw; use these to 'lock' your train car into place on the plastic plinth & to make it easier to remove the train car from the plinth if required.

'H' piece; use this to join the plastic track plinths together alongside each other if you wish to display your train mounted on multiple plinths.

Removing the motor

The plastic train car body moulding can be removed from the die-cast chassis by carefully unscrewing the black, cross-headed screws that are visible on the underside of the chassis at each end of the car. (DM cars have 3 screws, Trailer/NDM cars have 4 screws)

The motor unit(s) fitted to your EFE model(s) is a Japanese made Tenshodo WB26B, 5 pole SPUD, motor bogie unit. This unit is reliable in use and is virtually maintenance free requiring only the occasional cleaning of the wheels/pickups with a suitable model railway cleaning fluid/brush.

The nylon plastic gear wheels located on each of the twin axles should be very sparingly lubricated with a tiny drop of fine model rail loco oil as required depending on usage. Access to the gearwheels and the interior of the motor unit is made by unscrewing the miniature cross-headed screw located at one end of the underside plastic base of the motor bogie. The base unit then should be removed by sliding it in the direction of the arrow before unclipping it from the motor housing.

We recommend that you upgrade all the non powered trailing bogies as described above.

If you are retaining the existing trailing bogies, we recommend that you remove the steel axle retaining clip from each trailing bogie.

To remove each trailing bogie insert a small slot head screwdriver between the top of the bogie & the underside of the chassis & gently prise each bogie away from the chassis. Once the bogie is separated from the chassis, unclip the pair of retaining clips that are located on the topside of each bogie unit. These hold the bogie unit together. When the clips are squeezed together and the plastic base plate is removed both the wheels and the steel retaining clip will come away from the bogie unit. The steel axle retaining clip can then be removed.

Following this, the wheels should be re-inserted into the bogie and the plastic base plate re-fitted into position.

IMPORTANT - When re-assembling the wheels/bogie:

1 - Make sure that both of the wheels are re-inserted correctly with the black insulation between the axle & wheels facing towards the same side, otherwise you will get a short circuit across the track when power is applied.

2- Make sure that you refit the plastic base plate with the 'F' (for front - that is moulded onto the inside of the base plate) closest to the coupling end of the bogie – it will only fit this way round!

Fitting additional weight onto the floor of the double door compartment on each car will greatly improve the running qualities of your train. Use roof lead strips (available from Travis Perkins/DIY stores). If you chose to fit additional weight to improve running, remove the three black cross head screws that hold the DM car body in place, locate additional weight over the motor unit within the passenger compartment and then replace the three black cross headed screws making sure that both the motor unit and the plastic body are not obstructed by the weight.

Another tip is to use an aerosol silicone based grease such as 'Ambersill' to improve running. Spray a small amount into a small dish then use a cocktail stick as a dropper to apply a tiny amount to the centre of each axle where it makes contact with the plastic bogie frame. This allows the wheels to run more freely.

Do not operate the model for excessive periods, especially without suitable lubrication (as detailed above), as this will wear/split the gear wheels fitted to the motor resulting in poor running. Replacement gear wheels for the Tenshodo motor unit are available from us.

Our apologies for the length of these instructions but, having converted and motorised hundreds of the EFE tube cars, we offer the above advice and information to allow you to get the best from your new tube train model.

We manufacture & sell a range of other London Underground tube train models + accessory items + building kits + replacement EFE tube train destination blinds.

Visit www.metromodels.net for further information.

Lastly, enjoy running your new tube train!