# INSTRUCTIONS

## Meccano Transformer Type T6A

### Output: 40VA at 9/3.5 Volts

This Transformer is intended for those who have a mains alternating current supply in their homes and who wish to use this current to run a Meccano 6-volt Motor or a Hornby 6-volt Electric Train. In addition to running a train, it will supply current for Hornby Accessories fitted for electric lighting. What the Transformer does is to transform the high-voltage mains current down to a suitable low-voltage current. It does this quite simply and with perfect safety, and the running cost averages only about one penny for three hours. Follow the instructions, and you will have no trouble.

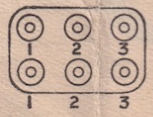

*Fig. A*

If any difficulty should occur, read the instructions again to make sure you have not missed anything. Then, if the trouble still remains send us a post card telling us about it, and we will put you right immediately. Address your postcard to Meccano Limited, Binns Road, Liverpool 13.

It must be specially noted that all Transformers work only on alternating current. This Transformer, therefore, must not on any account be connected to direct (sometimes called continuous) current.

Fig. A, is a diagram of three pairs of plug sockets on one side of the Transformer. The first pair (1) gives current at 9 volts under the control of the 5-stud speed regulator fitted to the Transformer as shown in Fig. B. The current from this pair is intended for driving a 6-volt Hornby Train. The second pair of sockets (2) also gives a current at 9 volts, but this current is not controlled by the speed regulator. It is intended for driving a Meccano 6-volt Motor, as shown in Fig. B. These two pairs of sockets must not be used at the same time. That is to say, either a train or a motor can be run, but not both together.

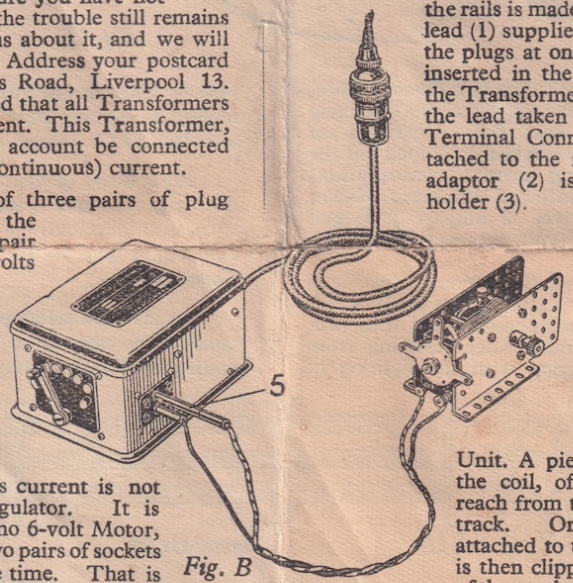

*Fig. B*

It may be wondered why 9-volt current should be used to run 6-volt trains or motors. The reason is that motors designed to run on direct current at 6-volts from an accumulator require an alternating current at 9 volts from a Transformer.

The third pair of sockets (3) gives current at 3½ volts, and this current is intended for lighting Hornby Accessories. Any number of 3½-volt flash-lamp bulbs up to 18 can be lighted at the same time. Care must be taken that such 3½-volt lamps are not connected to either the first or the second pairs of sockets, as this would cause the lamps to burn out quickly.

We have referred to the 5-stud speed regulator that controls the train-driving circuit from the first pair of sockets. When the handle of this regulator is at the extreme left, as shown in Fig. B, the current to the motor or train is "off." To start a train, move the regulator handle over to the stud at the extreme right, without pausing on the intermediate studs. Then, by moving the handle toward the left, the speed is gradually increased until the maximum is reached, when the handle is in contact with the stud next to the "off" stud.

Fig. C shows the Transformer connected to the track for driving a 6-volt Hornby Train. The connection between the Transformer and the rails is made by means of the flexible lead (1) supplied with the Transformer, the plugs at one end of the lead being inserted in the first pair of sockets of the Transformer, and the other ends of the lead taken to the terminals of the Terminal Connecting Plate that is attached to the rails (see Fig. C). The adaptor (2) is fitted into the lamp-holder (3).

We come now to the use of the third pair of sockets for lighting Hornby Accessories. The method of connection is shown in Fig. D. With this Transformer are packed two Plugs, an Earthing Clip, a coil of Wire and a Fuse Unit. A piece of Wire is cut from the coil, of a sufficient length to reach from the Transformer to the track. One end of this Wire is attached to the Earthing Clip, which is then clipped to one of the sleepers of the track, as shown in Fig. D. The other end of the Wire is inserted in one of the Plugs and secured by the set screw. The Fuse Unit is now plugged into the lower socket of the third pair, and the plug end of the Wire is inserted in the Fuse Unit (See Fig. D).

A second piece of Wire is now cut, of a sufficient length to reach from the Transformer to the first Accessory that is to be lighted. One end of this Wire is inserted in the remaining Plug, and this is plugged into the upper socket of the third pair of the Transformer. The other end of this Wire is taken to the terminal of the Accessory that has a red washer, and is screwed up tightly. With each Accessory is packed an Earthing Clip, and the final step is to cut a third piece of Wire to connect the other terminal of the Accessory to a sleeper of the track by means of this Clip. If the connections have been made correctly the lamp of the Accessory will now light up.

A second Accessory is connected up by leading a wire from the red washer terminal of the first to that of the second, and connecting the other terminal of the second Accessory to a sleeper of the track by means of the Earthing Clip. Other accessories can be connected up in a similar manner.

The 9-volt circuit (first and second pairs of sockets) and the 3½-volt circuit (third pair of sockets) are electrically isolated.

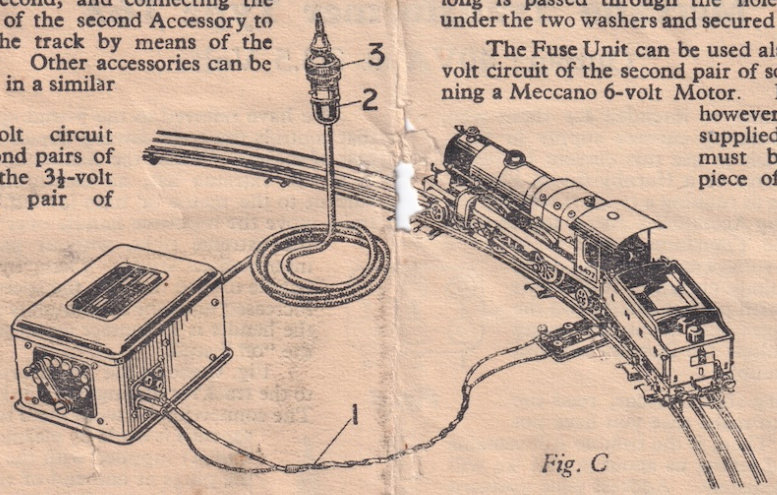

*Fig. C*

Their normal full loads are 2.5 amperes and 5.5 amperes respectively, and these should not be exceeded, as continuous overloading causes damage to the windings. Overload is indicated by heating or by a loud buzzing noise, but it may occur although these symptoms are absent. As a guide to determining the load on the Transformer the following current consumptions are given:—6-volt Locomotive, 2 amperes: 10-volt Headlamp on Locomotive, .2 amperes; 3½-volt Flash' ..p, .3 amperes: 6-volt Meccano Motor, 2.5 amperes.

The Fuse Unit to which reference has been made consists of a holder fitted with a piece of soft wire that melts at a low temperature and thus prevents damage to the Transformer resulting from short circuit. In connection with the lighting of Accessories, as already described, the unit is plugged into one of the sockets of the 3½-volt lighting circuit. It is supplied fitted with a piece of No. 24 S.W.G. Lead Fuse Wire, which is the correct wire for protecting the 3½-volt circuit. If a short circuit should occur the wire in the Fuse Unit will melt and must be replaced. To do this a piece of Fuse Wire 1¾ in. long is passed through the holes in the holder, under the two washers and secured by the two screws.

The Fuse Unit can be used also to protect the 9-volt circuit of the second pair of sockets, when running a Meccano 6-volt Motor. For this purpose, however, the Fuse Wire supplied with the Unit must be replaced by a piece of No. 41 S.W.G. Tinned Copper.

The Unit is then plugged into one of the second pair of sockets (see 5, Fig. B).

The 9-volt train circuit is protected by the fuse in the Terminal Connecting Plate attached to the rails. The correct Fuse Wire to use with the Terminal Connecting Plate to suit this Transformer is No. 41 S.W.G. Tinned Copper.

Fuse Wires of the correct size can be purchased from any Meccano dealer. It is important that Fuse Wires of higher current carrying capacity should not be used, as they would afford no protection to the Transformer.

As an extra safety precaution, it is advisable to connect the case of the Transformer to earth. This course is strongly recommended where the Transformer is to be used on a stone or concrete floor, or near earthed metal objects. To make this connection easy, an Earthing Screw is provided at the point where the flex from the mains enters the Transformer.

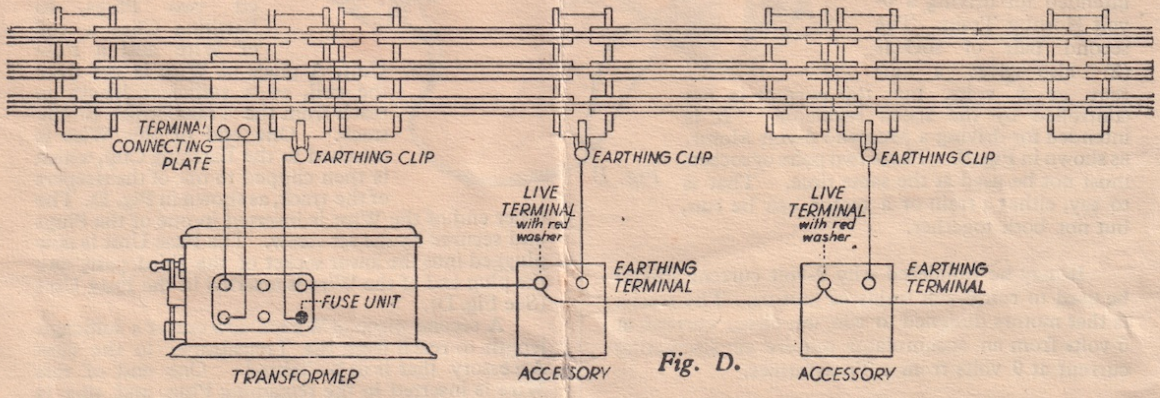

*Fig. D.*

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