INSTRUCTIONS

Meccano Transformer Type T20A

Output: 35VA at 20/3.5 Volts

This Transformer provides an economical and perfectly safe means of running Meccano 20-volt Motors or Hornby 20-volt Electric Trains, and will also supply current for Hornby Accessories that are suitably wired and fitted for electric lighting. It transforms the high voltage of the electric light supply to the requisite low voltage.

The Transformer can be used with any apparatus requiring an alternating current supply within its capacity.

The running cost at full load averages one penny for three hours.

Transformers work only on alternating current (A.C.) It is important to remember that a transformer must not be connected to direct or continuous current (D.C.). To ascertain the nature of the supply, refer to the label on the electric light meter. The transformer must be suitable for the voltage and frequency (∿) of the supply. These particulars are given on the meter, and they should be checked before the transformer is connected to the supply. If there is any doubt on any point, reference should be made to the supply authority.

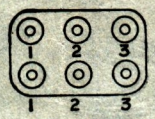

Fig. A

Fig. A shows the plug sockets on the side of the Transformer. The first pair (1) are for use with a 20-volt Hornby Train. The current from this pair of sockets is subject to variation by means of the speed regulator. The second pair of sockets (2) gives an output at 20 volts, and is not subject to control by the speed regulator. This pair of sockets may be used for connecting a Meccano 20-volt Motor as shown in Fig. B. The third pair of sockets (3) gives an output at 3½ volts for lighting Hornby Accessories. Any number of flash-lamp bulbs up to 14 can be lighted.

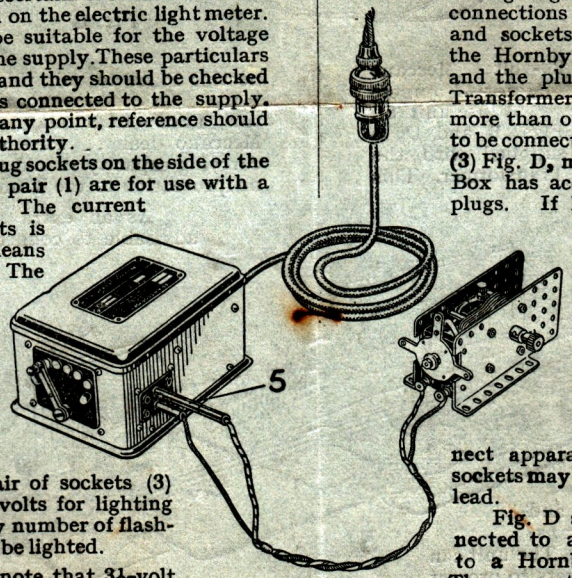

Fig. B

It is important to note that 3½-volt lamps must not be connected to the first or second pairs of sockets, as this will cause the lamps to burn out.

A speed regulator is incorporated with the Transformer. When the handle is at the left, as shown in Fig. C, the current to the motor or train is "off." To start a train, move the regulator handle to the stud at the extreme right, without pausing on the intermediate studs Then, by moving the handle towards the left, the speed is gradually increased until maximum speed is reached when the handle is in contact with the stud next to the "off" stud. Fig. C shows the Transformer connected to rails for driving a 20-volt Hornby Train. The connection between the rails and the Transformer is effected by means of the flexible connection (1) supplied with the Transformer. The adaptor (2) is fitted into the lamp-holder (3).

Extra flexible connections may be obtained in the following lengths:— 9in., 18in. and 36in. These connections are fitted with plugs at one end and sockets at the other. The sockets fit the Hornby Accessories for electric lighting, and the plugs fit into the sockets on the Transformer or Distribution Box. When more than one lighted accessory is required to be connected, a Hornby Distribution Box (3) Fig. D, must be used. The Distribution Box has accommodation for five pairs of plugs. If longer connections are needed the standard lengths may be joined by inserting the plugs of one into the sockets of the other.

All connections should be clean and tight. If a plug becomes loose in the socket it should be opened out slightly.

If it is desired to connect apparatus fitted with terminals, the sockets may be removed from the distribution lead.

Fig. D shows the Transformer (1) connected to a Hornby railway track (2) and to a Hornby Accessories lighting system. The current for the lights is distributed by means of the Distribution Box (3), which is connected by means of a flexible connection (4) to the third pair of sockets on the Transformer. The 20-volt circuit (first and second pairs of

sockets), and the 3·5-volt circuit (third pair of sockets) are electrically isolated. Their normal full loads are 1 ampere and 4.3 amperes respectively. These current loads 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:—

20-volt Locomotive —·75 amperes
20-volt Headlamp on Locomotive— ·15 amperes
3½-volt Flashlamp —·3 amperes
20-volt Meccano Motor—1 ampere

A fuse unit (5), Figs. B and D, is supplied with the Transformer. This device 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. The unit can be plugged into any one of the sockets to protect that particular circuit. As supplied, it is fitted with a piece of No. 24 S.W.G. Lead Fuse Wire, which is the correct wire to use in the 3½-volt lighting circuit. Wire of higher current-carrying capacity should not be used. If a short circuit occurs the wire in the fuse unit will melt, and must be replaced. To do this, a piece of fuse wire 1¾" in length is passed through the holes in the holder and under the two brass washers, and secured by the two screws.

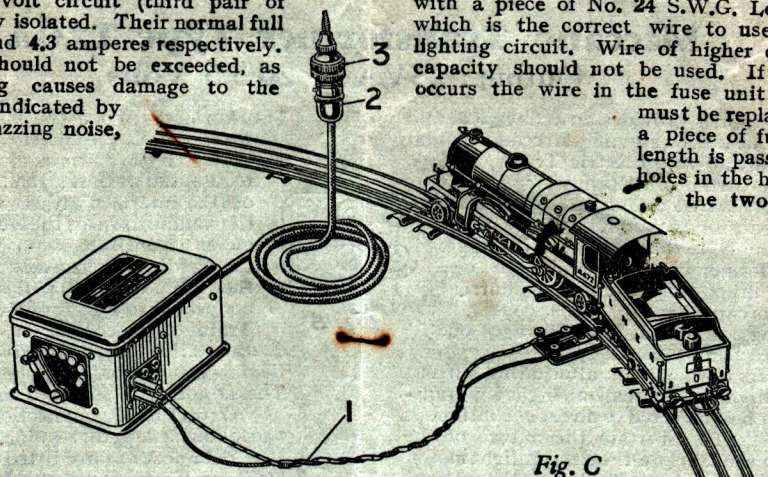

Fig. C

The 20-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. 32 S.W.G. Lead. Correct size fuse wires for use with this Transformer may be purchased from your Meccano dealer. Fuse wires of higher current-carrying capacity should not be used as these offer 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 concrete floor or near earthed metal objects. To facilitate this connection, an earthing screw is provided at the point where the flex enters the Transformer.

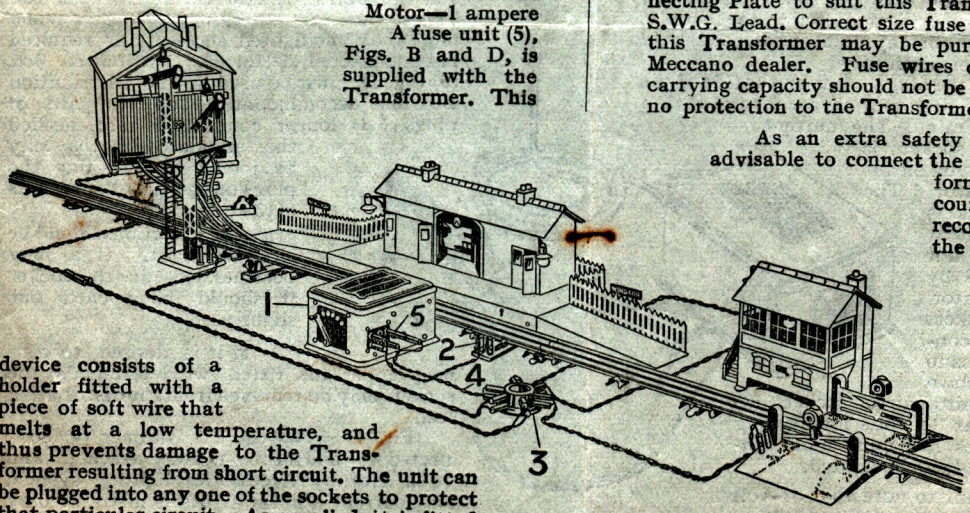

Fig. D

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