A Meccano Diesel Locomotive

A NEW model of an unusual type that will interest Meccano enthusiasts who possess the parts necessary to build it is the neat Diesel locomotive shown in Fig. 1 on this page. It is fitted with an Electric Motor, which drives it at a good speed, and it reproduces accurately the main features of an actual locomotive of this type.

The construction of the model is commenced by building up the chassis complete with the driving unit and reduction gearing. The compound girders 1, which consist of 7½″ and 3½″ Angle Girders, are bolted to the compound flat girders 3 consisting of 7½″ and 3½″ Flat Girders. A 7½″ Flat Girder 2 is joined to each of the compound girders 1 by means of six 2″ Strips, and the joints between the compound girders 1 and the Flat Girders 2 are strengthened by two 1″ Corner Brackets, bolted in the positions shown. The two Flat Girders 2 provide the bearings for the three coupled axles 8, 9 and 10, which carry the rail wheels.

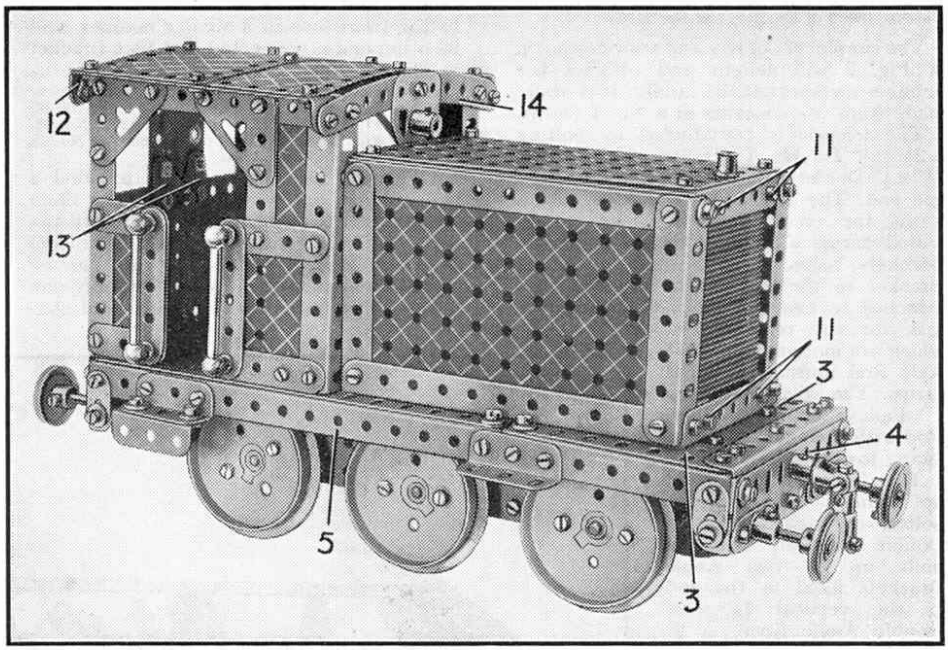
Two 2½″×½″ Double Angle Strips 6 are bolted to the girders 1, and they support an E1 or E6 type Electric Motor. Another 2½″×½″ Double Angle Strip 16 is fixed to the girders 1, and a 2½″×1½″ Flexible Plate is bolted to it. The cab footplate is a 5½″×2½″ Plate bolted to girders 1 and the assembled flat girders 3.

Two 4½″ Angle Girders, one at the back and the other at the front of the locomotive, are bolted to the chassis, and to each of them a Flat Girder 4 is attached to form the buffer beams. The flanges of two built-up girders 5, which consist of 7½″ and 3½″ Angle Girders, are attached to the compound flat girders 3 to form guards. Two ½″ ×½″ Angle Brackets join the ends of each of the girders 5 to the buffer beams, and four Flat Brackets, which are joined to four ½″×½″ Angle Brackets bolted to the buffer beams, are secured to the guards. Two Double Arm Cranks are bolted to each of the buffer beams in the positions shown, and in their bosses they carry 1½″ Axle Rods. A 1″ Pulley is attached to each Rod to form a buffer head, and its other end is fitted with a Collar. The buffer springs consist of 2″ Strips bolted at one end to the buffer beam, their other ends resting on the Collars. Two Swivel Bearings are bolted together by means of a ½″ Bolt to form a train coupling, one of which is attached to each buffer beam.

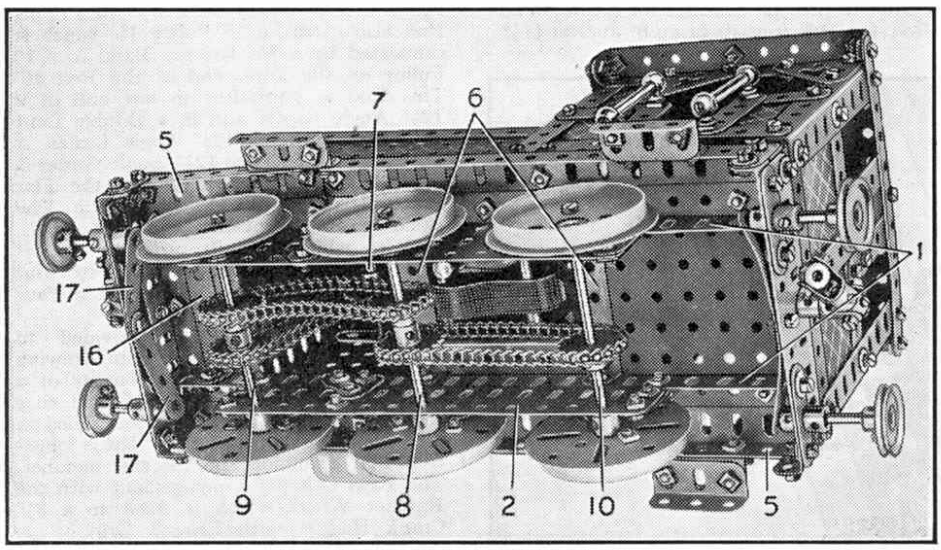
The Motor is geared to the driving wheels in the following manner. A ½″ Pinion attached to the armature shaft of the Motor meshes with a 57-teeth Gear Wheel fixed to a 3″ Rod. The Rod is mounted in the extended plates of the Motor, and the Gear is spaced by a Collar so that it meshes with the ½″ Pinion. The other end of this Rod carries a ½″ Pinion that meshes with a 57-teeth Gear attached to the 2″ Rod 7. This Rod is supported in the end holes of the extended plates of the Motor, and it carries a 1″ Sprocket Wheel that drives a second similar wheel on the 3½″ Rod 9. Then the drive is taken to the 3½″ Rods 8 and 10 by means of 1″ Sprocket Wheels and Chain. The rail wheels consist of 2½″ Face Plates attached to Wheel Flanges, and they are spaced by Washers from the Flat Girders 2 to prevent the bolts in their bosses from engaging those holding the Flat Girders in place.

The bonnet of the locomotive is built up as a separate unit and is bolted to the chassis when completed. Four 3½″ Angle Girders are joined together to form the radiator and four ½″×½″ Angle Brackets are bolted on two opposite Girders by the Bolts 11. Two 3″ Screwed Rods are inserted vertically in the pairs of Angle Brackets and the space at the front of the bonnet is filled in with 2½″ Strips spaced from each other by Washers. Three 5½″×3½″ Perforated Flat Plates and four 5½″ Angle Girders are bolted to the three 3½″ Angle Girders, and the casing of a Spring Buffer, which forms the radiator cap, is screwed in the position shown. A 3½″ Strip is attached to each side and top of the bonnet near to the cab.

The cab and roof also are built up as separate units. The cab is first built up and attached to the chassis, and then the roof is bolted in place. Each side of the cab is constructed by joining two 4½″ Girders to a 4½″ Strip, and then one end of a 2½″×1½″ Flexible Plate is attached to the 4½″ Strip, the 4½″ forward Angle Girder and a 2½″ Strip. The last mentioned 4½″ Angle Girder, another 2½″×1½″ Flexible Plate and a 2″ Strip are joined to the end of the Plate. A 2½″ Strip is bolted to the two 2″ Strips by two Handrail Supports, which are joined together by a 2″ Rod. The wide edge of another 2½″×1½″ Flexible Plate and two 1½″ Strips are bolted to the other 4½″ Angle Girder.



The constructional details of the fine model Diesel locomotive shown here are described on this page.



An underneath view of the Diesel Locomotive.

Parts required to build model Diesel Locomotive: 2 of No. 2; 3 of No. 2a; 2 of No. 3; 39 of No. 5; 8 of No. 6; 4 of No. 8b; 4 of No. 9; 7 of No. 9a; 9 of No. 9b; 10 of No. 9f; 4 of No. 10; 16 of No. 12; 3 of No. 16; 1 of No. 16b; 5 of No. 17; 4 of No. 18a; 4 of No. 22; 2 of No. 27a; 193 of No. 37af; 180 of No. 37bf; 110 of No. 38; 3 of No. 48a; 2 of No. 48c; 3 of No. 52a; 1 of No. 53a; 6 of No. 59; 4 of No. 62b; 2 of No. 80c; 2 of No. 89; 1 of No. 94; 6 of No. 96; 2 of No. 103c; 2 of No. 103d; 4 of No. 103k; 6 of No. 109; 2 of No. 111a; 1 of No. 111c; 1 of No. 120a; 1 of No. 126a; 4 of No. 133; 4 of No. 133a; 8 of No. 136; 6 of No. 137; 4 of No. 165; 1 of No. 179; 8 of No. 188; 2 of No. 190; 2 of No. 192; Electric Motor E6.