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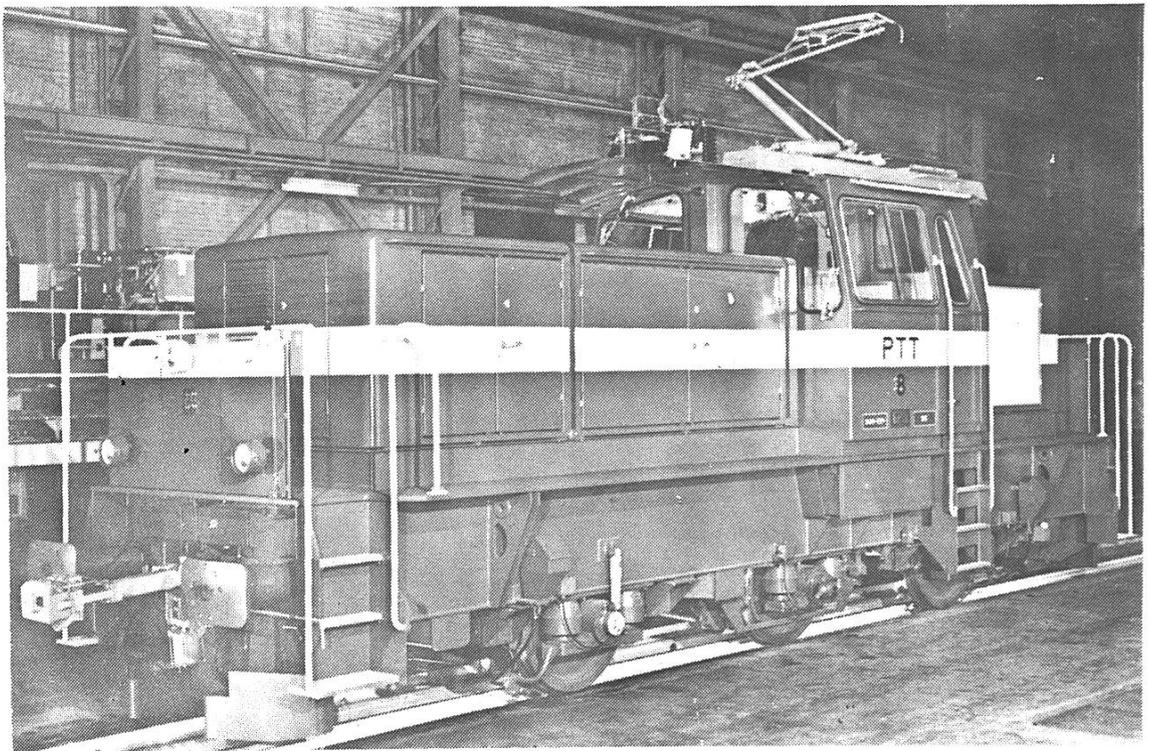
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## SLM SUPPLIES FOUR NEW SHUNTING LOCOMOTIVES FOR THE SWISS POSTAL SERVICES (SLM Technical Press Service)

Four 600 KW shunting locomotives Type Ee 3/3 with thyristor control have been delivered to the Swiss postal services by the Swiss Locomotive and Machine Works (SLM) Winterthur in early February 1985. In its capacity as main contractor, SLM ordered the electrical equipment from the BBC Aktiengesellschaft Brown Boveri & Cie., Baden.

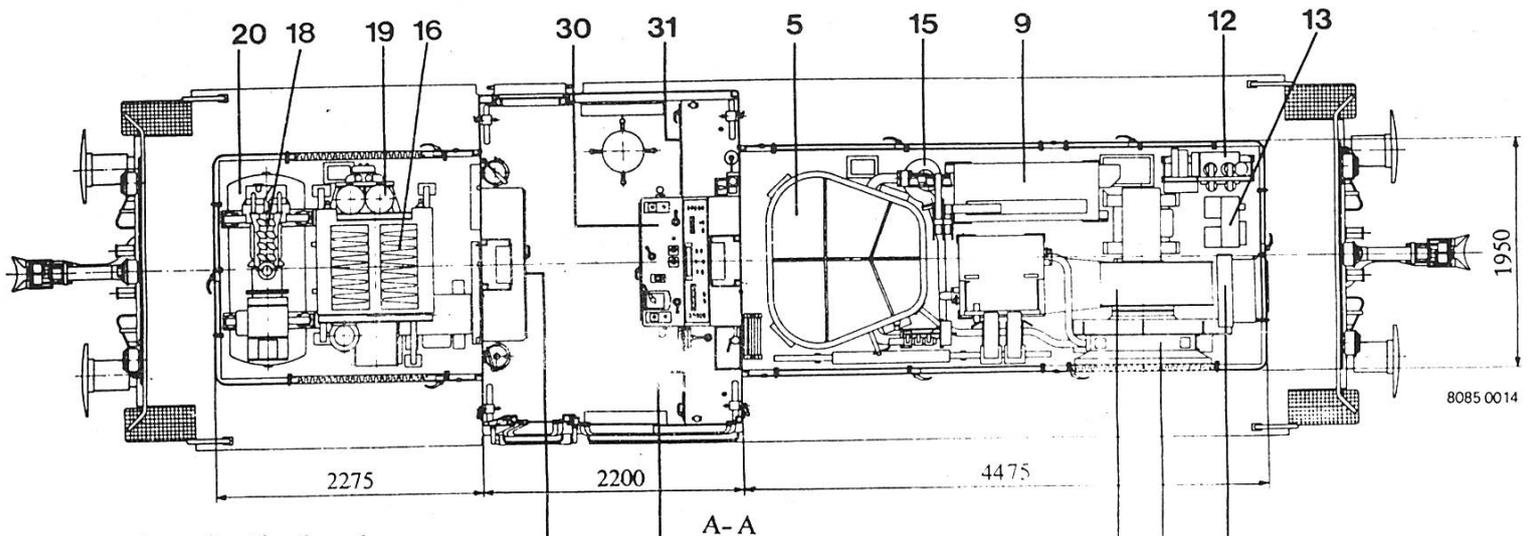
This trendsetting new design features simple layout, use of proven though up-to date elements such as ease of operation, accessibility to all parts requiring maintenance, undemanding operation, servicing and overhauls. The locomotive structure may be divided into the floor frame, cab, removable bonnets and removable roof frame. The floor frame rests through rubber roll springs on the three wheelsets. The drive of the three-axled locomotive consists of three identical assemblies (traction motor, cardan shaft, axle drive/wheelset). The 200 kW motors are suspended rigidly from the floor frame. The axle drive is in two stages (angular and spur gears) with a total reduction



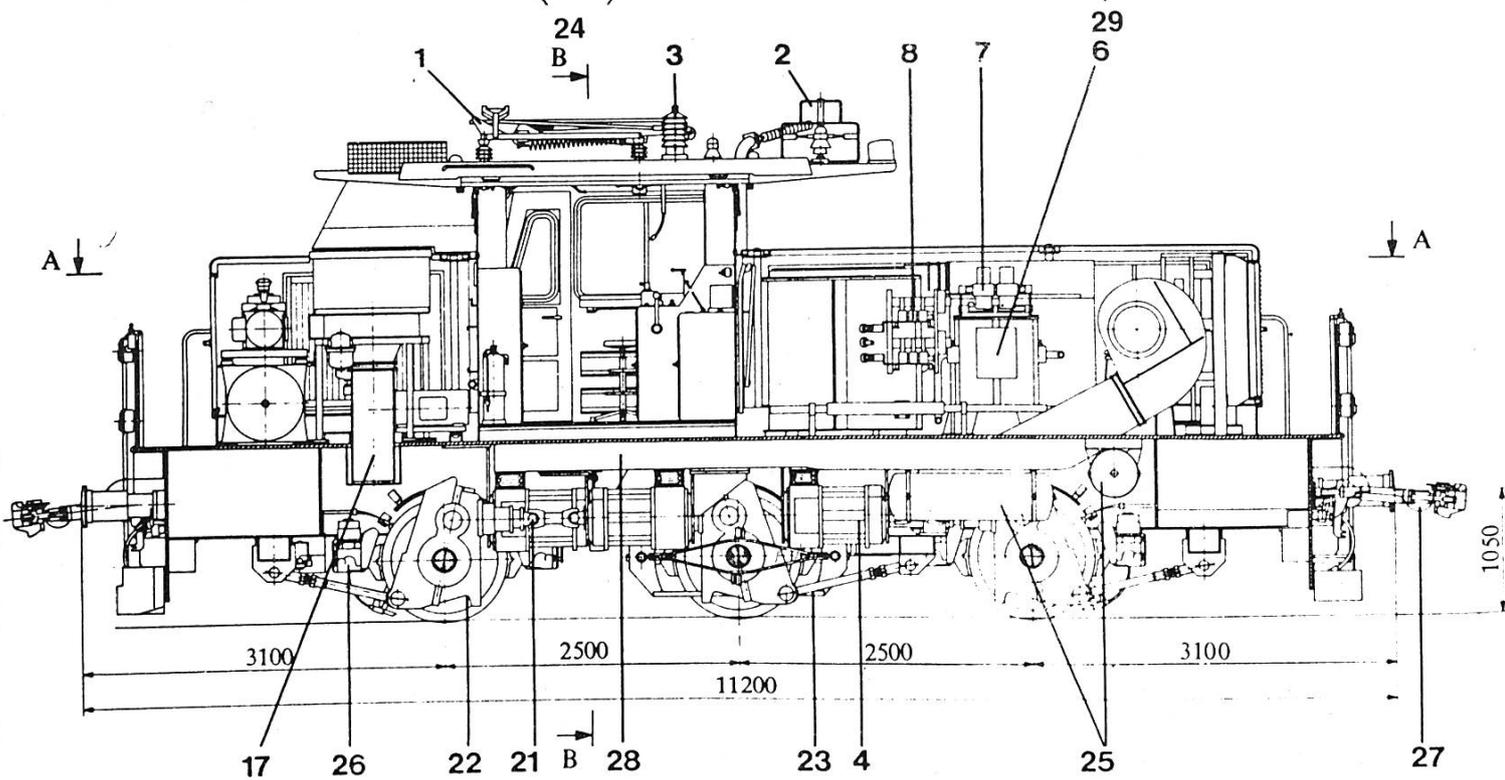
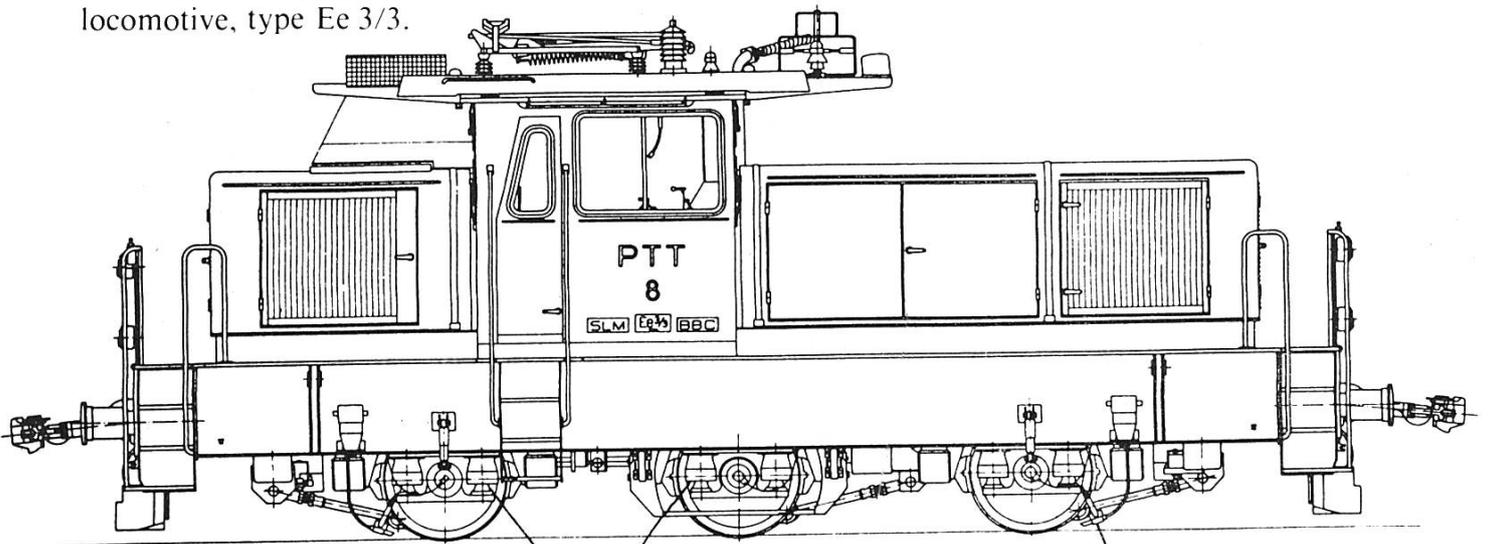
*One of the new shunting locomotives built by SLM for the Swiss postal services. Photo SLM.*

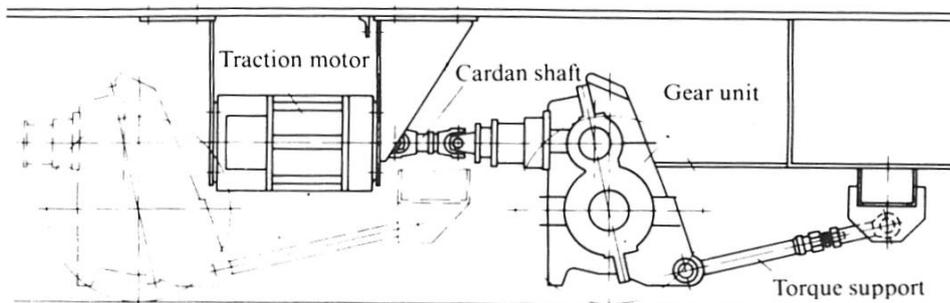
ratio of 1:12. While the outer wheelsets each carry 17 tonnes of the locomotive's weight, the middle one takes 14 t. This, together with the hydraulic damping, minimizes the pitching tendency of the locomotive. To assist with negotiating curves the middle wheelset has  $\pm$  25 mm side play. Each axle is equipped with four spring accumulator brake units with composite material brake shoes. They are controlled to act as pneumatic automatic brakes when coupled to a train for use as shunting, stopping, holding brakes, or as anti-slip brakes. The coupling arrangements (sprung Swiss Federal Railways drawbar or Scharfenberg shunting coupling) allow manual or automatic coupling. Uncoupling is accomplished from the driver's cab.

One each of these new locomotives is employed at the postal railway stations of Daniken and Berne, and two at Zurich-Mulligen. Other locomotives built in previous years are still giving satisfactory service at the postal railway stations of Daniken (1928), Zurich-Sihlpost (1930), Berne (1965) and Lausanne (1965).

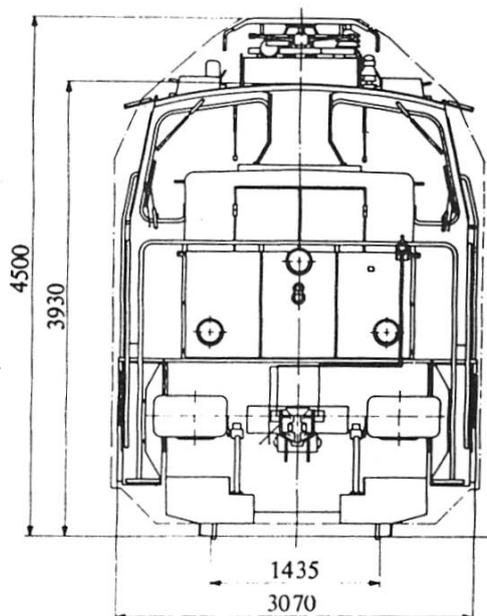


Longitudinal and cross-sectional views of the PTT locomotive, type Ee 3/3.



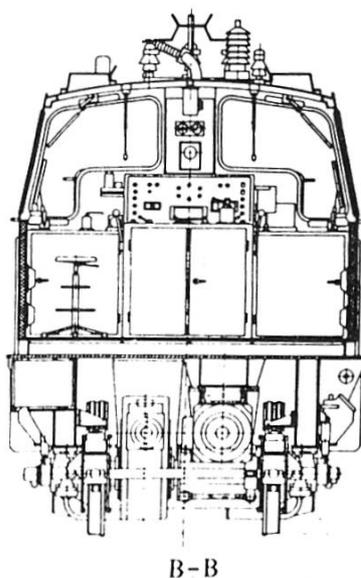


Drive including torque support.



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|--|--|
| 1 Current collector                        | 18 Compressor group                    |
| 2 Earthing isolator with high-voltage fuse | 19 Air dryer                           |
| 3 Overvoltage suppressor                   | 20 Air receiver                        |
| 4 Traction motor                           | 21 Cardan shaft                        |
| 5 Oil-cooled transformer                   | 22 Gear unit                           |
| 6 Static converter                         | 23 Torque support                      |
| 7 Main isolating contactors                | 24 Rubber roll springs                 |
| 8 Motoring and braking contactors          | 25 Braking air receiver                |
| 9 Main equipment block                     | 26 Brake unit                          |
| 10 Oil cooler                              | 27 Scharfenberg shunting coupling      |
| 11 Fan for traction motor cooling air      | 28 Air duct for traction motor cooling |
| 12 Auxiliaries block                       | 29 Sander                              |
| 13 Battery charger                         | 30 Driver's desk                       |
| 14 Field shunt                             | 31 Electronics block                   |
| 15 Oil pump                                | 32 Control equipment block             |
| 16 Braking rheostat                        | 33 Pneumatic panel                     |
| 17 Fan for braking rheostat cooling air    | 34 Automatic switchgear panel          |

Principal data of the PTT locomotive, Type Ee 3 3



Gauge	1 435 mm
Wheel arrangement	Co
Length over buffers	11 200 mm
Width	3 070 mm
Height to lowered pantograph	4 500 mm
Wheel base	2 500 mm
Wheel diameter (new)	1 040 mm
Gear ratio	1 : 12.012
Weight of mechanical part	35.5 t
Weight of electrical equipment	12.5 t
Adhesion / weight in running order	48 t
Maximum speed	60 km/h
Continuous power rating	624 kW
Continuous tractive effort	80 kN
Starting tractive effort	130 kN
Maximum electrical braking force at 8 km/h	60 kN
Overhead line voltage/frequency	15 kV/16 <sup>2</sup> / <sub>3</sub> Hz