Claims

1. Method of operating a floor-bound heavy-duty transport vehicle (1) which can travel on rubber tyres and whose loading capacity per centre line is greater than or equal to 10 t, in particular a heavy-duty automated guided vehicle (1), having an exclusively electric travel drive which comprises at least two electric motors (6a, 6b), said electric motors (6a, 6b) being controlled by means of a drive control (11), characterised in that by means of ~~a~~the drive control (11) the at least two electric motors (6a, 6b) of the travel drive are operated with characteristic map optimisation according to the operating conditions of the heavy-duty transport vehicle (1) and its performance requirement, wherein by means of the drive control (11) at least one of the at least two electric motors (6a, 6b) is switched on and off during continuous operation in dependence upon the given operating conditions of the heavy-duty transport vehicle (1), in particular empty travel, travel with a low loading or travel with maximum loading, uphill travel, downhill travel or cornering, and its performance requirement, by means of the drive control (11) and the inverters (10a, 10b) the acceleration, rotational speed and the active and idle current of the electric motors (6a, 6b) are measured, and the loading of the electric motors (6a, 6b) is determined thereby, and when the electric motors (6a, 6b) are operated in parallel and a loading of the electric motors (6a, 6b) is determined to be below a specified minimum loading, at least one of the electric motors (6a, 6b) is switched off~~.~~ and when the electric motors (6a, 6b) are operated at minimum level and a loading of the electric motors (6a, 6b) is determined to be above a specified maximum loading of the electric motors (6a, 6b) being operated, a further electric motor (6a, 6b) which is in drag operation is switched on.

2. Method as claimed in claim 1, characterised in that the electric motors (6b, 6c) which are designed as three-phase motors, in particular as asynchronous motors, are controlled with vector control or DTC (direct torque control) via inverters (10a, 10b).

~~3. Method as claimed in claim 1 or 2, characterised in that when the electric motors (6a, 6b) are operated at minimum level and a loading of the electric motors (6a, 6b) is determined to be above a specified maximum loading of the electric motors (6a, 6b) being operated, a further electric motor (6a, 6b) which is in drag operation is switched on.~~

3~~4~~. Method as claimed in ~~any one of~~ claims 1 or 2~~to 3~~, characterised in that switching-on and/or switching-off of the electric motors (6a, 6b) is controlled by the drive control (11) with a controlled torque transfer between the electric motors (6a, 6b).

~~4~~5. Method as claimed in any one of claims 1 to 3 ~~or 4~~, characterised in that prior to switching on at least one of the electric motors (6a, 6b) the rotational speed and/or phase position of the electric motors (6b, 6c) being operated at minimum level is detected and the rotational speed and/or phase position of the at least one electric motor (6a, 6b) to be switched on is adapted thereto.

~~5~~6. Method as claimed in any one of claims 1 to ~~4~~5, characterised in that the electric travel drive is designed as a diesel-electric travel drive which comprises an internal combustion engine and a three-phase generator.

~~6~~7. Method as claimed in any one of claims 1 to ~~5~~6, characterised in that the electric travel drive is designed as a battery-electric travel drive which comprises a traction battery.