

ORIGINAL

JUN 2012

23

Abstract

521112

The present invention relates to a method for control of a vehicle's gearbox which is connected to a combustion engine and can be set to a number of different transmission ratios, which method, when the vehicle is running in a low transmission ratio and at an engine speed below that at which the torque plateau for said low ratio is reached, in a situation where there is a reduced need for power output to propel said vehicle, comprises:

- determining a speed parameter for said vehicle,
- switching the gearbox to a higher transmission ratio than said low ratio when said speed parameter fulfils a first criterion.

(Fig. 2)

Claims

1. A method for control of a vehicle's gearbox which is connected to a combustion engine and can be set to a number of different transmission ratios, which method, when the vehicle is running in a low transmission ratio and at an engine speed below that at which the torque plateau for said low ratio is reached, in a situation where there is a reduced need for power output to propel said vehicle, comprises:

- determining a speed parameter for said vehicle,
- switching the gearbox to a higher transmission ratio than said low ratio when said speed parameter fulfils a first criterion.

2. A method according to claim 1, whereby said speed parameter is determined by comparing the speed of said vehicle with a reference speed.

3. A method according to claim 2, whereby the gearbox is set to a higher transmission ratio when said speed determined deviates from said reference speed by a first threshold value.

4. A method according to claim 2 or 3, whereby said gearbox is set to a higher transmission ratio when said speed determined is below a first speed.

5. A method according to claim 1, whereby said speed parameter is determined by determining a change in the speed of said vehicle.

6. A method according to claim 5, whereby said change is determined by determining a derivative for said speed of said vehicle.

7. A method according to claim 5 or 6, whereby said gearbox is switched to a higher transmission ratio when said change in speed deviates from a first threshold value.

5

8. A method according to any one of claims 1-7, whereby said gearbox is set to said low transmission ratio on the basis of determination of a state in which there is or will within a specific time be reduced power output for propulsion of the vehicle.

10

9. A method according to any one of claims 1-8, which method further comprises:

- switching the gearbox to said low transmission ratio upon determination of a state in which there is or will within a specific time be engine power output below a second threshold value for propulsion of the vehicle.

15

10. A method according to claim 1, whereby the determination that there is or will, within a specific time, be reduced power output for propulsion of the vehicle is done by use of data concerning the gradient of the road ahead of the vehicle and/or data concerning the topography of the road ahead of the vehicle.

20

25

11. A method according to claim 1, whereby the determination that there is or will, within a specific time, be reduced power output for propulsion of the vehicle is done by use of control signals to and/or from the engine.

30

12. A method according to any one of claims 1-11, further comprising continuous monitoring of whether there is and/or will be need for driving power from the engine and, if there

is and/or will be such need, switching said gearbox to a higher transmission ratio.

5 13. A method according to any one of claims 1-12, whereby said gearbox takes the form of a gearbox comprising a number of distinct gears, and switching to said lower/higher transmission ratio takes the form of changing to a higher/lower gear.

10 14. A method according to any one of claims 1-13, whereby said low transmission ratio takes the form of a gear or transmission ratio setting for a gearbox whereby the vehicle at its cruising speed or maximum permissible speed runs at a engine speed which is below that at which the torque plateau
15 for the gear is reached.

15. A computer programme which comprises programme code and which, when executed in a computer, causes said computer to apply the method according to any one of claims 1-14.

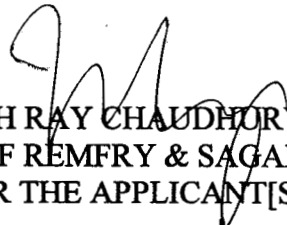
20 16. A computer programme product comprising a computer-readable medium and a computer programme according to claim 15, which programme is contained in said computer-readable medium.

25 17. A system for control of a gearbox of a vehicle's gearbox which is connected to a combustion engine and can be set to a number of different transmission ratios, which system, when the vehicle is running in a low transmission ratio and at an
30 engine speed below the torque plateau for said low transmission ratio, in a situation where there is a reduced need for power output to propel said vehicle, comprises:
- means for determining a speed parameter for said vehicle,

- means for switching said gearbox to a transmission ratio which is higher than said low ratio when said speed parameter fulfils a first criterion.

5 18. A vehicle comprising a system according to claim 17.

Dated this 13/06/2012


HRISHIKESH RAY CHAUDHURY
OF REMFRY & SAGAR
ATTORNEY FOR THE APPLICANT[S]

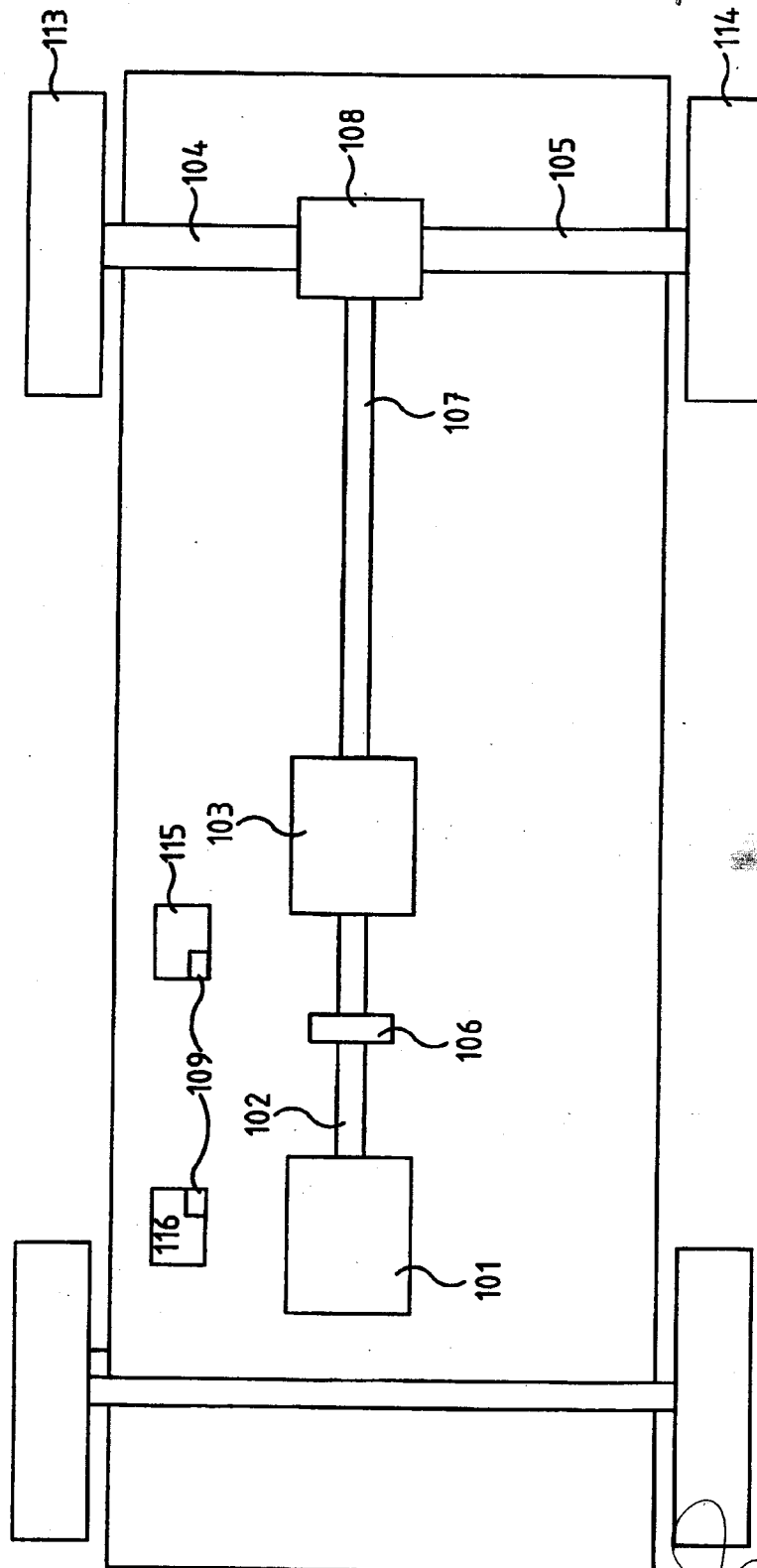
1/4

5211

13 JUN 2012

FIG. 1a

100



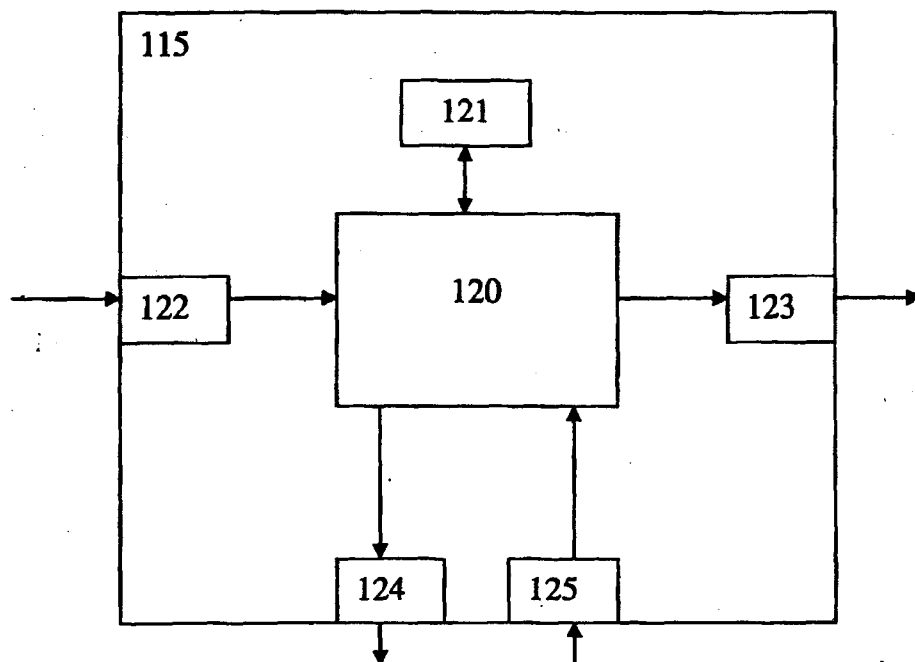
[HRISHIKESH RAY CHAUDHURY]
OF REMFRY & SAGAR
ATTORNEY FOR THE APPLICANTS

2/4

52111112

13 JUN 2012

Fig. 1b



[HRISHIKESH RAY CHAUDHURY]
OF REMFRY & SAGAR
ATTORNEY FOR THE APPLICANTS

5211 DEWP 12

13 JUN 2012

3/4

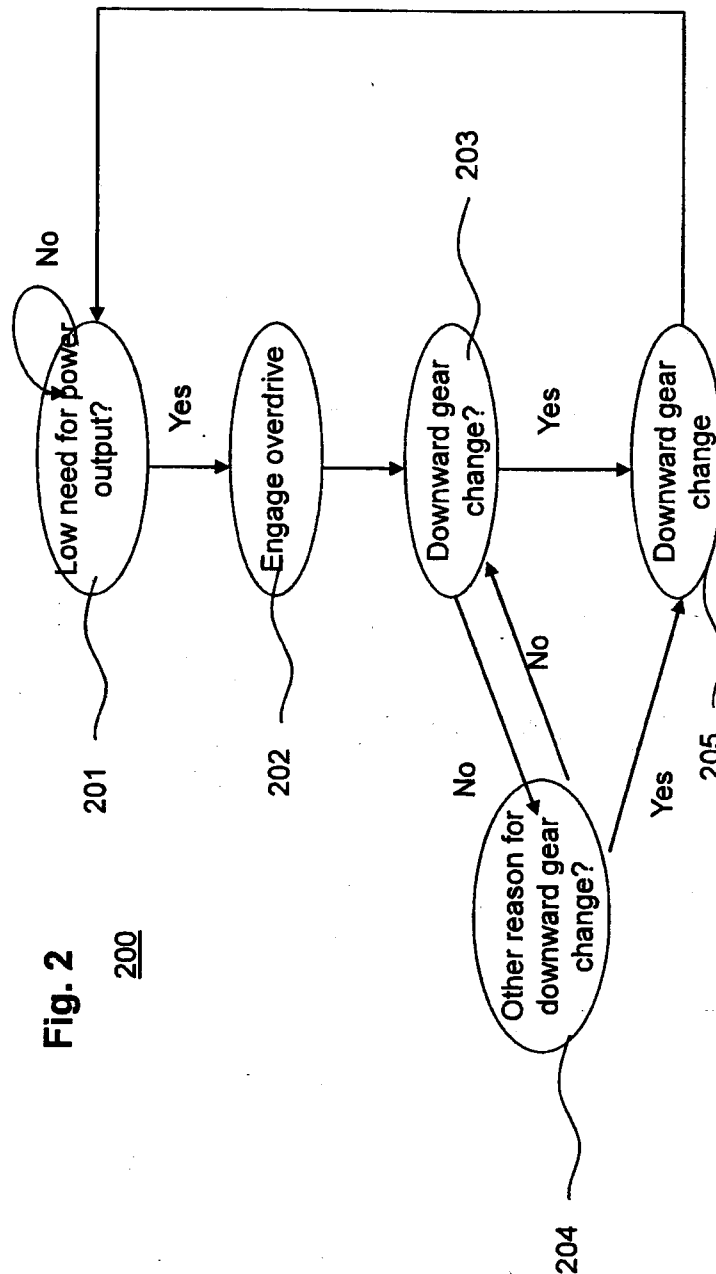


Fig. 2
200

[HRISHIKESH RAY CHAUDHURY]
OF REMFRY & SAGAR
ATTORNEY FOR THE APPLICANTS

4/4

5211

13 JUN 2012

Fig. 3

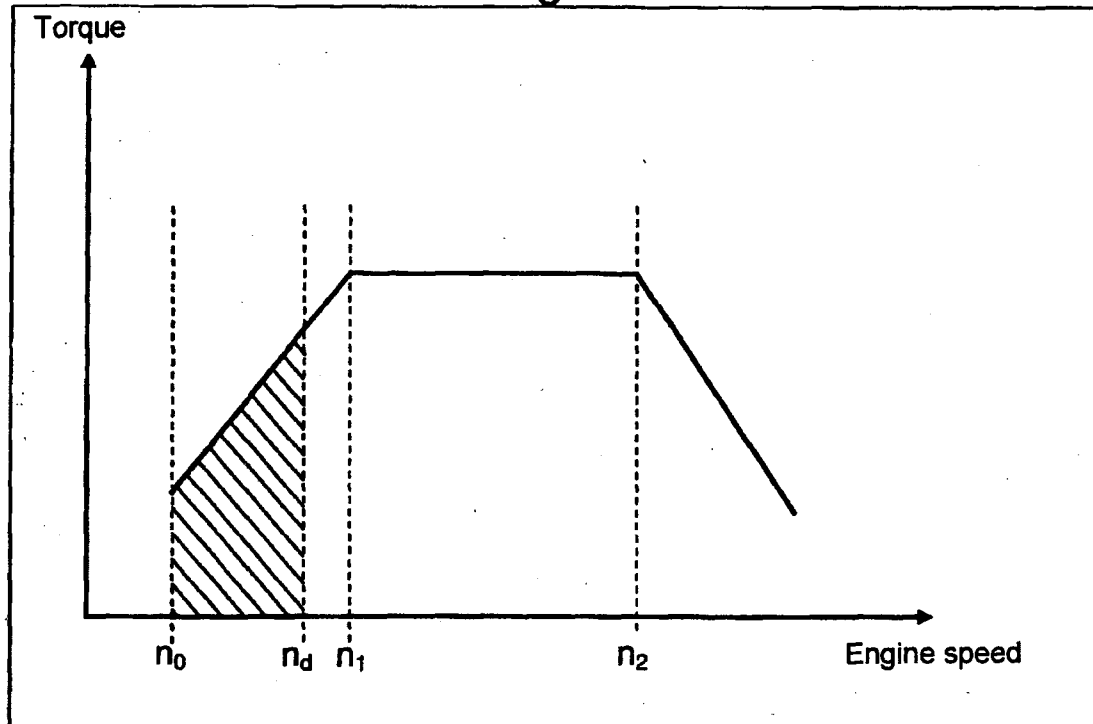
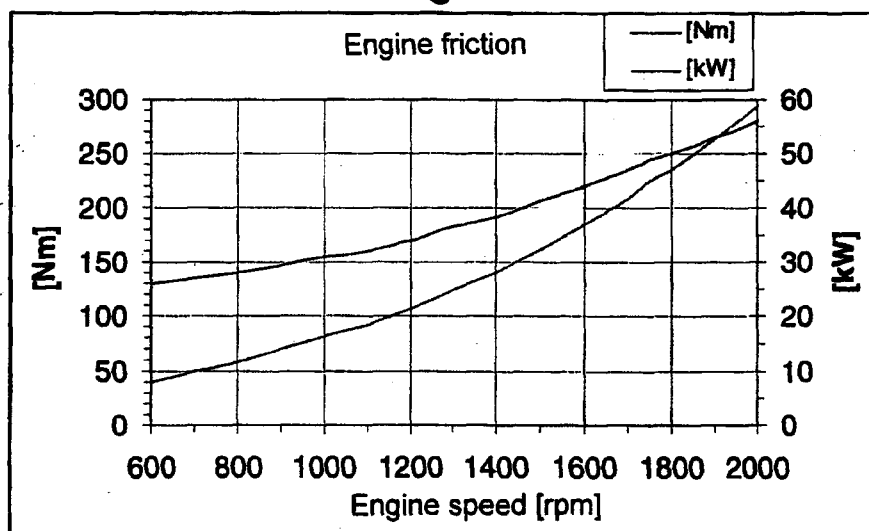


Fig. 4



[HRISHIKESH RAY CHAUDHURY]
OF REMFRY & SAGAR
ATTORNEY FOR THE APPLICANTS