

**SECTION B — PERFORMING OPERATIONS; TRANSPORTING**

**B60 VEHICLES IN GENERAL**

**B60W CONJOINT CONTROL OF VEHICLE SUB-UNITS OF DIFFERENT TYPE OR DIFFERENT FUNCTION; CONTROL SYSTEMS SPECIALLY ADAPTED FOR HYBRID VEHICLES; ROAD VEHICLE DRIVE CONTROL SYSTEMS FOR PURPOSES NOT RELATED TO THE CONTROL OF A PARTICULAR SUB-UNIT [2006.01]**

**Note(s) [2006.01]**

1. This subclass does not cover the control of a single sub-unit; such control is classified in the relevant place for the sub-unit, e.g. F02D, F16H. Where a single sub-unit is controlled by means of signals or commands from other sub-units, the control of this single sub-unit is classified in the relevant place for this sub-unit. For example, the control of variable-ratio gearing by means of signals from the engine or the accelerator is classified in the subclass for gearing, F16H.
2. Conjoint control of driveline units, e.g. engines, and variable-ratio gearing occurring only transiently during ratio shift and being also characterised by the control of the gearing is also classified in the subclass for gearing, F16H.
3. In groups B60W 20/00-B60W 50/00, the first place priority rule is applied, i.e. at each hierarchical level, classification is made in the first appropriate place.
4. When classifying in group B60W 10/00, classification must also be made in groups B60W 20/00-B60W 50/00 in order to identify the purpose or use of the control.
5. In this subclass, the following terms are used with the meanings indicated:
  - "conjoint control" means that a programmed or condition-responsive automatic controller on board the vehicle, embodying control logic for vehicle sub-units of different type or different function, sends control signals to actuators of two or more vehicle sub-units, so that the sub-units act together to solve a particular problem or in response to a particular driving condition;
  - "drive control system" means an electronic system in a road vehicle for automatically controlling the movement of that vehicle in order to take certain actions;
  - "road vehicle" means a vehicle normally under the control of a human driver for transportation on roads, e.g. an automobile, truck or bus;
  - "sub-unit" means one of the following vehicle systems: propulsion system, clutch system, change-speed gearing system, system for distributing drive torque between front and rear axles, axle differential system, brake system, steering system, suspension system, energy storage means, fuel cells or auxiliary equipment.

**10/00 Conjoint control of vehicle sub-units of different type or different function** (for propulsion of purely electrically-propelled vehicles with power supplied within the vehicle B60L 11/00) [2006.01]

**Note(s) [2006.01]**

When classifying in this group, each controlled sub-unit must be separately identified by a classification in a relevant place in this group.

- 10/02 • including control of driveline clutches [2006.01]
- 10/04 • including control of propulsion units [2006.01]
- 10/06 • • including control of combustion engines [2006.01]
- 10/08 • • including control of electric propulsion units, e.g. motors or generators [2006.01]
- 10/10 • including control of change-speed gearings [2006.01]
- 10/12 • including control of differentials [2006.01]
- 10/18 • including control of braking systems [2006.01]
- 10/20 • including control of steering systems [2006.01]
- 10/22 • including control of suspension systems [2006.01]
- 10/24 • including control of energy storage means [2006.01]
- 10/26 • • for electrical energy, e.g. batteries or capacitors [2006.01]
- 10/28 • including control of fuel cells [2006.01]
- 10/30 • including control of auxiliary equipment, e.g. air-conditioning compressors or oil pumps [2006.01]

**20/00 Control systems specially adapted for hybrid vehicles, i.e. vehicles having two or more prime movers of more than one type, e.g. electrical and internal combustion motors, all used for propulsion of the vehicle** [2006.01]

**30/00 Purposes of road vehicle drive control systems not related to the control of a particular sub-unit, e.g. of systems using conjoint control of vehicle sub-units** [2006.01]

- 30/02 • Control of vehicle driving stability [2006.01]
- 30/04 • • related to roll-over prevention [2006.01]
- 30/06 • Automatic manoeuvring for parking [2006.01]
- 30/08 • Predicting or avoiding probable or impending collision [2006.01]
- 30/10 • Path keeping [2006.01]
- 30/12 • • Lane keeping [2006.01]
- 30/14 • Cruise control [2006.01]
- 30/16 • • Control of distance between vehicles, e.g. keeping a distance to preceding vehicle [2006.01]
- 30/18 • Propelling the vehicle [2006.01]
- 30/20 • • Reducing vibrations in the driveline [2006.01]

**40/00 Estimation or calculation of driving parameters for road vehicle drive control systems not related to the control of a particular sub-unit** [2006.01]

- 40/02 • related to ambient conditions [2006.01]
- 40/04 • • Traffic conditions [2006.01]

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- 40/06 • • Road conditions [2006.01]
- 40/08 • related to drivers or passengers [2006.01]
- 40/10 • related to vehicle motion [2006.01]
- 40/12 • related to parameters of the vehicle itself [2006.01]
  
- 50/00 **Details of control systems for road vehicle drive control not related to the control of a particular sub-unit [2006.01]**
  
- 50/02 • Ensuring safety in case of control system failures, e.g. by diagnosing, circumventing or fixing failures [2006.01]
- 50/04 • Monitoring the functioning of the control system [2006.01]
- 50/06 • Improving the dynamic response of the control system, e.g. improving the speed of regulation or avoiding hunting or overshoot [2006.01]
- 50/08 • Interaction between the driver and the control system [2006.01]