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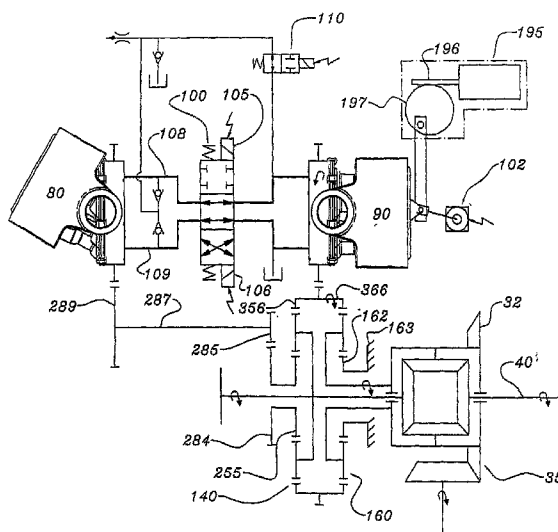
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(54) Title: HYDRAULIC VECTORING AXLE



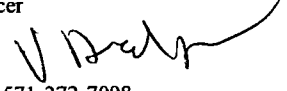
(57) Abstract: A hydraulic vectoring axle includes a differential (35) driven by a drive shaft from a prime mover, and two axles (40) driven by the differential. A differential earner (32) of the differential is geared to an element of an epicyclic gear set (160, 140), another element of which is coupled to one of the axles and a hydrostatic motor (80). The differential earner is geared to a variable displacement hydrostatic pump (90), which is hydraulically coupled with the hydrostatic motor. A control system controls the displacement of the variable displacement hydrostatic pump. Power from the prime mover flows primarily through the differential to the output shafts. Torque can be vectored from one axle to the other by selectively setting the displacement of the pump so that it drives the motor to transmit a torque to one axle that is greater than the torque of the other axle, and the difference is determined by the displacement setting of the pump. The desired torque distribution between the two wheels is determined by computer controls based on inputs from sensors in the vehicle.

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INTERNATIONAL SEARCH REPORT

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B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 475/23, 21, 27 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 20050070391 A1 (Folsom, et al) 31 March 2005 (31.03.2005) see the entire document	1-15
A	US 4,505,168 A (Booth et al) 19 March 1985 (19.03.1985) see the entire document	1-15
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Authorized officer Dirk Wright  Telephone No. 571-272-7098