

Title (en)
Hydraulic motor control system.

Title (de)
Steuervorrichtung für einen hydraulischen Arbeitszylinder.

Title (fr)
Dispositif de commande pour un vérin hydraulique.

Publication
EP 0051728 A1 19820519 (DE)

Application
EP 81107401 A 19810918

Priority
DE 3042277 A 19801108

Abstract (en)
1. Control device for a hydraulic working cylinder (13), having a directional control valve (12), arranged downstream from a pressure medium source (10), and a counter torque shut-off valve (14) arranged between the directional control valve (12) and the working cylinder, which counter torque shut-off valve (14) has an unlocking piston (27) which is mounted in a sliding manner in a housing (22) and interacts with a relief control valve (46 and 60) arranged in a shut-off valve body (30 and 70), which relief control valve (46 and 60), at a tapered shoulder (49) of its closure part (48) and by the force of a spring (44), sits against a valve seat (50) formed in the shut-off valve body (30 and 70), and the shut-off valve body likewise sits against a valve seat (32) formed in the housing (22), with the relief control valve (46 and 60) having a control pin (53 and 53') which is separated from the closure part (48) by an annular groove (52), slides in a discharge bore (36) surrounded by the valve seat (50) of the shut-off valve body (30 and 70) and has a cylindrical guide section (53') guided in the relief bore (36) and a fine control pin (53), and with a pistonlike part (47) being formed on the relief control valve (46 and 60), which piston-like part (47), when the relief control valve is lifted from its seat (50), displaces pressure medium out of a damping space (42) via a throttle (58), and pressure medium is discharged out of the working cylinder (13) via the relief control valve (46 and 60) only when the cylindrical guide section (53') of the control pin emerges out of the discharge bore (36), characterised in that the fine control pin (53) has a tapered design, that the piston-like (47) of the relief control valve (46 and 60) is guided in a sliding manner in a bore (34) of the shut-off valve body (30 and 70) and that the throttle portion (58) is formed on the piston-like part (47) and interacts with the bore (34) of the shut-off valve body (30 and 70) in such a way that pressure medium is discharged out of the damping space (42) first of all essentially without being throttled and, after a slight displacement of the relief control valve (46 and 60), is discharged while being throttled.

Abstract (de)
Die hydraulische Steuervorrichtung weist ein Steuerventil (12), ein Sperrventil (14) und einen als Arbeitszylinder ausgebildeten Verbraucher (13) auf. Im Sperrventil ist ein Ventilschieber (30) dicht gleitend angeordnet, der in seinem Inneren ein Steuerventil (46) aufnimmt, das mit dem Entsperrkolben (27) des Sperrventils zusammenwirkt. Das Steuerventil hat einen Steuerzapfen (53) und eine Drosselkerbe (58), über welche Druckmittel aus einem Dämpfungsraum (42) am Steuerventil beim Anheben desselben gedrosselt über die Drosselkerbe abströmt. Wenn der Steuerzapfen (46) aus seiner Bohrung austaucht, kann Druckmittel vom Arbeitszylinder zum Behälter abfließen. Damit wird erreicht, daß das Steuerventil (46) schnarfrei öffnet, was zu einem sicheren, geräuscharmen Absenken der Last führt.

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F15B 13/01

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CPC (source: EP)
F15B 13/015 (2013.01)

Citation (search report)
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