

Title (en)

ELECTRIC-HYDRAULIC CIRCUIT FOR THE ACTUATION OF A HYDRAULIC ACTUATOR FOR AN ELECTRIFIED WORK VEHICLE

Title (de)

ELEKTROHYDRAULISCHER KREISLAUF ZUR BETÄTIGUNG EINES HYDRAULISCHEN AKTUATORS FÜR EIN ELEKTRIFIZIERTES ARBEITSFAHRZEUG

Title (fr)

CIRCUIT ÉLECTRIQUE-HYDRAULIQUE POUR L'ACTIONNEMENT D'UN ACTIONNEUR HYDRAULIQUE POUR UN VÉHICULE DE TRAVAIL ÉLECTRIFIÉ

Publication

EP 4130494 A1 20230208 (EN)

Application

EP 22185770 A 20220719

Priority

IT 202100020372 A 20210729

Abstract (en)

An electro-hydraulic circuit includes a fixed displacement hydraulic pump (P) and an electric motor (M) arranged to drive the hydraulic pump in rotation, a hydraulic actuator (BOOM, BUCKET, AUX) arranged to move an member or work tool and be powered by the hydraulic circuit, a proportional directional solenoid valve (V1, V2, V3) with open center and comprising a rest condition wherein it isolates the hydraulic actuator by connecting the hydraulic pump with the recovery tank, and a processing unit (STK) configured to receive the electrical signals of an input device (joystick) and generate electrical control signals (Spool Command, Rev, Torque) for the valves (V1, V2, V3) and for the engine (M); and programmed to detect the torque of the motor (M) and, when the torque of the motor (M) exceeds a predefined limit value, it commands the execution of at least one power reduction operation by reducing the number of revolutions of the motor (M) and/or bringing the corresponding solenoid valve (V1, V2, V3) to the neutral position with open center.

IPC 8 full level

F15B 21/08 (2006.01)

CPC (source: EP)

E02F 9/207 (2013.01); **E02F 9/2228** (2013.01); **E02F 9/26** (2013.01); **F15B 21/087** (2013.01); **F15B 11/0423** (2013.01); **F15B 2211/20515** (2013.01); **F15B 2211/20538** (2013.01); **F15B 2211/3116** (2013.01); **F15B 2211/327** (2013.01); **F15B 2211/50536** (2013.01); **F15B 2211/633** (2013.01); **F15B 2211/6346** (2013.01); **F15B 2211/665** (2013.01); **F15B 2211/6651** (2013.01); **F15B 2211/88** (2013.01)

Citation (search report)

- [IA] EP 3339239 A1 20180627 - TOYOTA JIDOSHOKKI KK [JP]
- [A] EP 1291467 A1 20030312 - KOBELCO CONSTR MACHINERY LTD [JP]
- [A] US 8793023 B2 20140729 - VANDERLAAN DALE [US], et al

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

EP 4130494 A1 20230208

DOCDB simple family (application)

EP 22185770 A 20220719