

(12) **United States Patent**  
**Besemer et al.**

(10) **Patent No.:** **US 9,410,562 B2**  
(45) **Date of Patent:** **Aug. 9, 2016**

(54) **HYDRAULIC POWER SYSTEM**

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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/852,880**

(22) Filed: **Sep. 14, 2015**

(65) **Prior Publication Data**  
US 2015/0377260 A1 Dec. 31, 2015

**Related U.S. Application Data**

(63) Continuation of application No. PCT/US2014/027913, filed on Mar. 14, 2014.

(60) Provisional application No. 61/798,893, filed on Mar. 15, 2013.

(51) **Int. Cl.**  
**F16D 31/02** (2006.01)  
**F15B 13/044** (2006.01)  
(Continued)

(52) **U.S. Cl.**  
CPC ..... **F15B 13/044** (2013.01); **B62D 5/07** (2013.01); **F15B 1/26** (2013.01); **F15B 11/08** (2013.01); **F15B 11/162** (2013.01);  
(Continued)

(58) **Field of Classification Search**  
CPC ..... F15B 11/162; F15B 1/26; F15B 13/044; F15B 13/026  
See application file for complete search history.

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(57) **ABSTRACT**

A hydraulic actuation system includes a differential unit having a hydraulically-actuated differential, a power steering unit, a hydraulic pump, a reservoir, a controller, an electronically-controlled flow control manifold, and a proportional pressure control solenoid valve. A flow control manifold may control fluid flow to the power steering unit and the differential. The manifold may include a manifold inlet connected to a pump; first manifold outlet connected to a differential; second manifold outlet connected to a reservoir; third manifold outlet connected to a power steering unit; two-way solenoid valve connected to a manifold inlet and controlled by a controller; flow control valve connected to a two-way solenoid valve and a first manifold outlet; and a pressure differential sensing valve connected to a two-way solenoid valve, the manifold inlet, and the third manifold outlet. A proportional pressure control solenoid valve may connect the first manifold outlet and the differential.

**20 Claims, 5 Drawing Sheets**

