WOODWARD

Application Note 51090
(Revision C, 8/1999)

Original Instructions

Adapting 2301A Speed Controls

for Torque Converter Use

- Easily Adapts to Existing Equipment
- Inexpensive Conversion
- Complete Line of Auxiliary Equipment Available

Adapting 2301A Speed Controls for Torque Converter Use

Industrial Applications

May be used whenever the driven load's speed must be constant, and the load is coupled to the prime mover through a torque converter.

Typical applications of this technology may be found in dragline operations as well as car body or rock crushers.

Features

Woodward has designed a version of our proven 2301A Speed Control for use with diesel engines coupled to loads through torque converters. To handle the torque converter operation, you'll need two 2301A Speed Controls, two magnetic pickups, and an EG-type hydroelectric actuator.

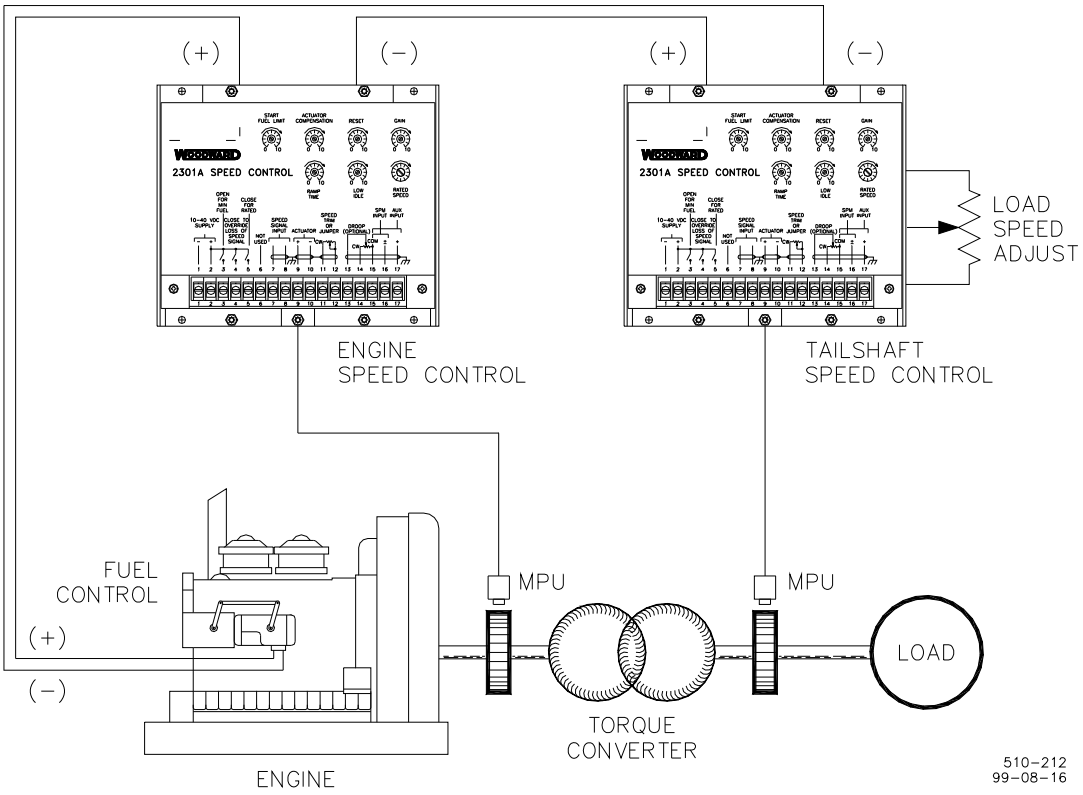
The two 2301A Speed Controls use separate magnetic pickups, one measuring the engine speed at the flywheel and the other measuring the tailshaft output speed. Together they can hold a load driven through the torque converter at constant speed.

Although the two units are separate, they are electrically connected in series, and the unit requesting the lowest level of fuel will control the speed of the engine. As a result, you can maintain constant tailshaft speed under load while the engine is protected from excess speeds that could be encountered under extreme load conditions.

Typically, the engine governor is set to limit the maximum allowable engine speed while the tailshaft governor is set at and regulates the desired output speed. An optional circuit provides a minimum actuator current adjustment that allows the engine to continue running when the tailshaft speed exceeds the speed setpoint for too long. This condition can exist when the tailshaft is connected to a load with high momentum. The circuit is adjustable through the 1 kA potentiometer for a minimum actuator signal to allow the engine to idle.

Advantages

- Existing equipment easily adaptable
- Less expensive than most mechanical tailshaft governors
- One part number covers most application
- High-grade components
- Short lead time on deliveries
- Factory guaranteed by the leader in prime mover controls
- Worldwide sales and service support



Block Diagram of Speed Control Application

We appreciate your comments about the content of our publications.

Send comments to: icinfo@woodward.com

Please reference publication 51090C.

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