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## Installation of the Barber-Colman 1/2 ft-lb Linear Governor on a Caterpillar 3208 engine, for Generator Application only.

The governor mounting bracket is attached to the top of the front accessory mounting pad and is connected through linkage to the throttle lever of the mechanical governor. To obtain the best engine control, it is necessary to control through a 10% mechanical governor. It is possible to convert a 3% mechanical governor to a 10% governor by changing the internal mechanical governor spring.

This bulletin contains the following:

- I. Installation Instructions
- II. Parts List
- III. Layout Drawing

*Read all instructions and review the layout drawing before attempting this installation.*

*Contact your local Caterpillar dealer for the correct parts and procedure.*

### I. Installation Instructions

#### A. Engine Preparation

1. Disconnect the battery.
2. Remove and discard any linkage attached to the mechanical governor's throttle lever.

shaft so the engine runs at 1400 RPM. Reinstall the throttle lever to the throttle shaft at the 12:00 position.

#### B. Actuator Installation

1. Obtain from the parts kit one governor actuator — Item 1, one actuator mounting bracket — Item 3, four 1/4 - 28 x 1/2" screws and lock washers — Items 8 and 9.
2. Place the governor actuator — Item 1 — on the actuator mounting bracket — Item 3 — as depicted in the installation layout drawing. Secure them together with four 1/4 - 28 x 1/2" screws and lock washers — Items 8 and 9.
3. Obtain from the parts kit one 3/8 - 16 x 1" screw and lock washer — Items 4 and 5, and one 7/16 x 1" screw and lock washer — Items 6 and 7.
4. Locate on the top of the front accessory drive housing one 3/8 - 16 and one 7/16 - 14 threaded hole that align with the mating holes in the actuator bracket. Refer to the layout drawing for a visual reference. Secure the actuator bracket to the accessory drive using one 3/8 - 16 x 1" screw and lock washer, and one 7/16 - 14 x 1" screw and lock washer — Items 4, 5, 6 and 7.

#### — Note —

There are three attaching holes in the throttle shaft. Pick the one that allows the correct alignment. Refer to the layout drawing for a visual reference.

#### C. Throttle Linkage Installation

1. Locate and remove the throttle lever attaching screw on the end of the mechanical governor. Start the engine and run the throttle shaft by hand, positioning the throttle

2. Obtain from the parts kit one actuator clevis — Item 10, two rod end bearings — Item 11, one threaded rod — Item 12, one spacer — Item 15, four 1/4-28 nuts — Item 14, and two 1/4-28x7/8" screws and lock washers — Items 9 and 13.

3. Attach the actuator clevis — Item 10, onto the end of the actuator shaft by turning clevis six (6) complete turns, and torque the M6 jam nut into the clevis to 65 in/lbs.

4. Attach one 1/4-28 nut — Item 14, and one rod end bearing — Item 11, onto each end of the threaded rod — Item 12.

5. Attach one of the rod end bearings to the throttle lever as shown in the installation layout drawing. Note the rod end bearing is attached to the upper hole and there is a spacer — Item 15, sandwiched between the rod end bearing and throttle lever. Secure this arrangement using one 1/4-28 x 7/8" screw, lock washer and nut — Items 9, 13 and 14.

6. While holding the throttle lever in the 12:00 position, adjust the length of the threaded rod so the remaining rod end bearing aligns with the attaching hole in the actuator

clevis. Secure the rod end bearing to the actuator clevis using one 1/4-28 x 7/8" screw, lock washer and nut — Items 9, 13 and 14.

### D. Magnetic Pickup Installation

1. Remove the starter from the flywheel housing. Measure from a reference line to the center of the ring gear teeth. **Note this measurement.**
2. Locate the reference line on the side of the flywheel housing opposite the starter. Measure and center punch the above noted measurement.
3. Drill a 1/8" pilot hole into the flywheel housing, aligning the drill bit to the center of the flywheel. Drill and tap the pilot hole to a 3/8" - 24 thread.

— Note —

Use a bottoming tap to ensure the hole is completely threaded.

4. Rotate the engine to align a ring gear tooth to the center of the tapped hole.
5. Screw the magnetic pickup — Item 16, into the housing until it bottoms onto the tooth.
6. Back the magnetic pickup out 1/4 to 1/2 turn and tighten the jam nut.

## II. Parts List

### A. Table 1. Governor Assembly

Specify voltage when ordering Items 1 and 2

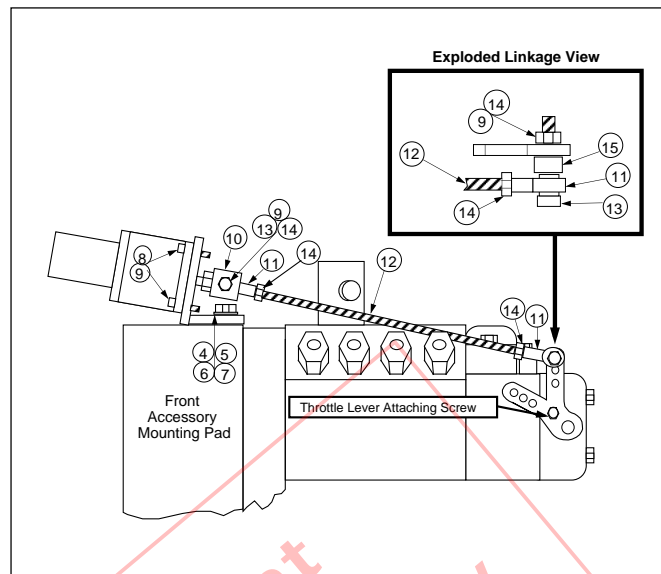
Item	Description	Barber-Colman Part Number	Qty.
1	Governor Actuator	DYNC-10502	1
2	Controller	DYN1-10704	1

### B. Table 2. Installation Kit

**B-C Part Number DYNK-10364**

Item	Description	Barber-Colman Part Number	Qty.
3	Actuator mounting bracket	DYNK-68-71	1
4	3/8-16x1" Bracket mounting screw	BYRF-1363	1
5	3/8 Lock washer	DYNZ-152	1
6	7/16-14x1" Bracket mounting screw	BYRF-1375	1
7	7/16 Lock washer	W1-71	1
8	1/4-28x.5" Actuator mounting screw	BYRF-1457	4
9	1/4" Lock washer	W1-30	6
10	Actuator clevis	DYNK-218-1	1
11	Rod end bearing	DYNZ-47-1	2
12	Threaded rod 1/4-28x12"	GYRF-42-12	1
13	1/4-28 x 7/8" Screw	BYRF-1460	2
14	1/4-28 Nut	DYRF-110	4
15	Spacer	YBA-547	1
16	Magnetic pickup	DYNT-17200	1

## III. Layout Drawing



— Note —

Remove the throttle lever attaching screw and position the throttle lever onto the throttle shaft in the vertical plane. With the linkage connected as shown, the engine should run approximately 1400 RPM with power removed from the linear governor.

**CAUTION**

As a safety measure, the engine should be equipped with an independent overspeed shutdown device in the event of failure which may render the governor inoperative.

**NOTE**

Barber-Colman believes that all information provided herein is correct and reliable and reserves the right to update at any time. Barber-Colman does not assume any responsibility for its use unless otherwise expressly undertaken.

## **Barber-Colman Company**

### **AEROSPACE & POWER CONTROLS DIVISION**

### **DYNA Product Group**

1354 Clifford Avenue | Phone: (815) 637-3000  
P.O. Box 2940 | Telex: 4330365  
Loves Park, IL U.S.A. 61132-2940 | Fax: (815) 877-0150

In Europe contact: Barber-Colman GmbH  
Am neuen Rheinhafen 4, D-6720 Speyer, West Germany  
Tel: 06232-1203, Fax: 06232-12155, Telex: 467 627

In Japan contact: Ranco Japan Ltd.  
Shiozaki Bldg. 7-1, 2-chome, Hirakawa-Cho, Chiyoda-Ku  
Tokyo 102, Japan  
Tel: 3261-4293, Fax: 3264-4691, Telex: 0232-2087