



Installation of the Barber-Colman 1/2 ft-lb Linear Governor on a Perkins 4.236 engine fueled with a C.A.V. Lucas pump. The governor is controlling through the throttle lever, making it necessary to replace the internal mechanical governor with a heavier one supplied in the installation kit, DYNK-10358.

This bulletin contains the following:

- I. Installation Instructions
- II. Parts List
- III. Layout Drawing
- IV. Governor Spring Installation Procedure

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

The governor mounting bracket is attached to the engine's accessory drive cover plate located just below the fuel pump. The bracket is attached to the accessory drive cover using two of the existing attaching screws. The actuator is connected to hold the throttle lever in the "minimum" fuel or the "off" position when power is removed from the system. For maximum governor performance, the stock governor spring must be replaced with a heavier one supplied in the kit.

## I. Installation Instructions

### A. Engine Preparation

1. Disconnect the battery
2. Remove and discard linkage attached to fuel pump.
3. Refer to the Governor Spring Installation Procedure on page 3, and install a new governor spring — Item 15, supplied in the installation kit.

### B. Actuator Installation

1. Locate the cover plate on the accessory drive under the fuel pump. Attach the actuator mounting bracket — Item 3, to this cover securing the bracket, using the two cover plate screws.
2. Obtain from the parts kit, one actuator — Item 1, four 1/4 - 28 x 7/8" screws, lock washers and nuts — Items 5, 6 and 7.
3. Position the actuator — Item 1, onto the mounting bracket — Item 3, as shown in the layout drawing, Figure 3, and secure it using four 1/4-28 x 7/8" screws, lock washers and nuts — Items 5, 6 and 7.

### C. Throttle Linkage Installation

1. Obtain from the parts kit one actuator adaptor lever — Item 4, one 1/4 - 28 x 7/8" screw, lock washer and nut — Items 5, 6 and 7.
2. Remove the existing nut and lock washer that secures the factory throttle lever. Place the throttle adaptor lever — Item 4, on top of the factory throttle lever as shown in layout drawing, Figure 3. Secure it in place with the existing nut and lock washer previously removed, and a 1/4 - 28 x 7/8" screw, lock washer and nut — Items 5, 6 and 7.
3. Obtain from the parts kit, one actuator clevis — Item 8, one spacer — Item 9, one male rod end bearing — Item 10, and two 10 - 32 x 1" screws, lock washers and nuts — Items 12, 13 and 14.
4. Attach the actuator clevis — Item 8, onto the actuator shaft by turning the clevis six (6) complete turns and torque the 6M jam nut into the clevis to 65 in/lbs.
5. Assemble the throttle linkage by placing one 10-32 nut — Item 13, and one female rod end bearing — Item 11, into the male rod end bearing — Item 10.
6. Secure the male rod end bearing into the actuator clevis with one 10 - 32 x 1" screw, lock washer and nut — Items 12, 13 and 14.

7. While physically controlling the throttle, start the engine. Bring the engine speed to 1000 RPM and slowly rotate the throttle lever to minimum fuel until the engine just stops running. Note this position as the minimum active fuel and set the throttle to this position.

8. With the actuator in the minimum position, adjust the throttle linkage so the female rod end bearing aligns with the second hole on the throttle lever as shown in the layout drawing, Figure 3. Be certain the throttle lever is in the minimum active fuel position. Place a spacer — Item 9, between the rod end bearing and the throttle lever and secure this arrangement with a 10 - 32 x 1" screw, lock washer and nut — Items 12, 13 and 14.

9. Secure the throttle linkage length by tightening the 10 - 32 nut — Item 13, into the female rod end bearing.

#### D. Magnetic Pickup Installation

1. Remove the inspection cover from the bottom of the flywheel housing.

2. Measure from a reference point on the flywheel housing to the center of the ring gear.

**Note this measurement.**

3. On the flywheel housing opposite the starter, measure the noted measurement from the reference point and center punch this point. Drill and tap a 3/8 - 24 hole.

4. Align a ring gear tooth into the center of the tapped hole. Screw the magnetic pickup — Item 16, in until it bottoms onto the tooth and back it out 1/2 to 3/4 turn. Secure it by tightening the jam nut into the flywheel housing.

5. Magnetic pickup may need to be adjusted to obtain a minimum of 2.5 VAC during cranking. Refer to proper governor calibration instructions for further information (F-24419).

## II. Parts List

### A. Table 1. Governor Assembly

Specify voltage when ordering Items 1 and 2

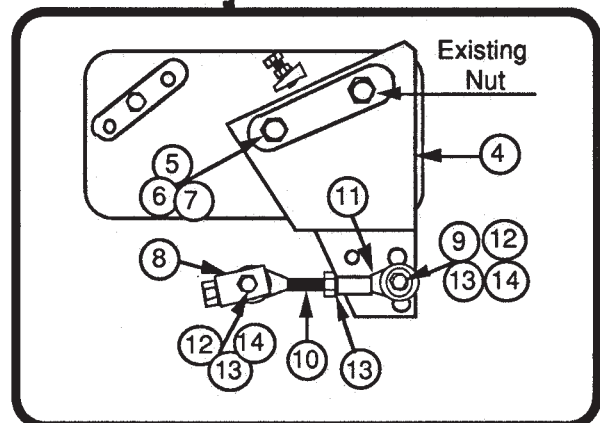
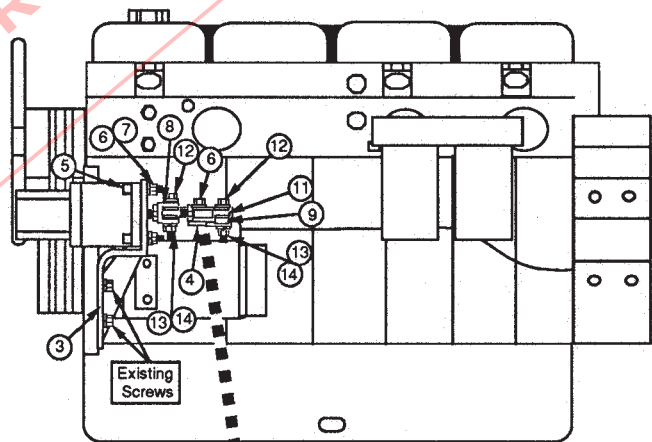
Item	Description	Barber-Colmar Part Number	Qty.
1	Governor Actuator	DYNC-10502	1
2	Controller	DYN1-10704	1

### B. Table 2. Installation Kit

B-C Part Number DYNK-10358

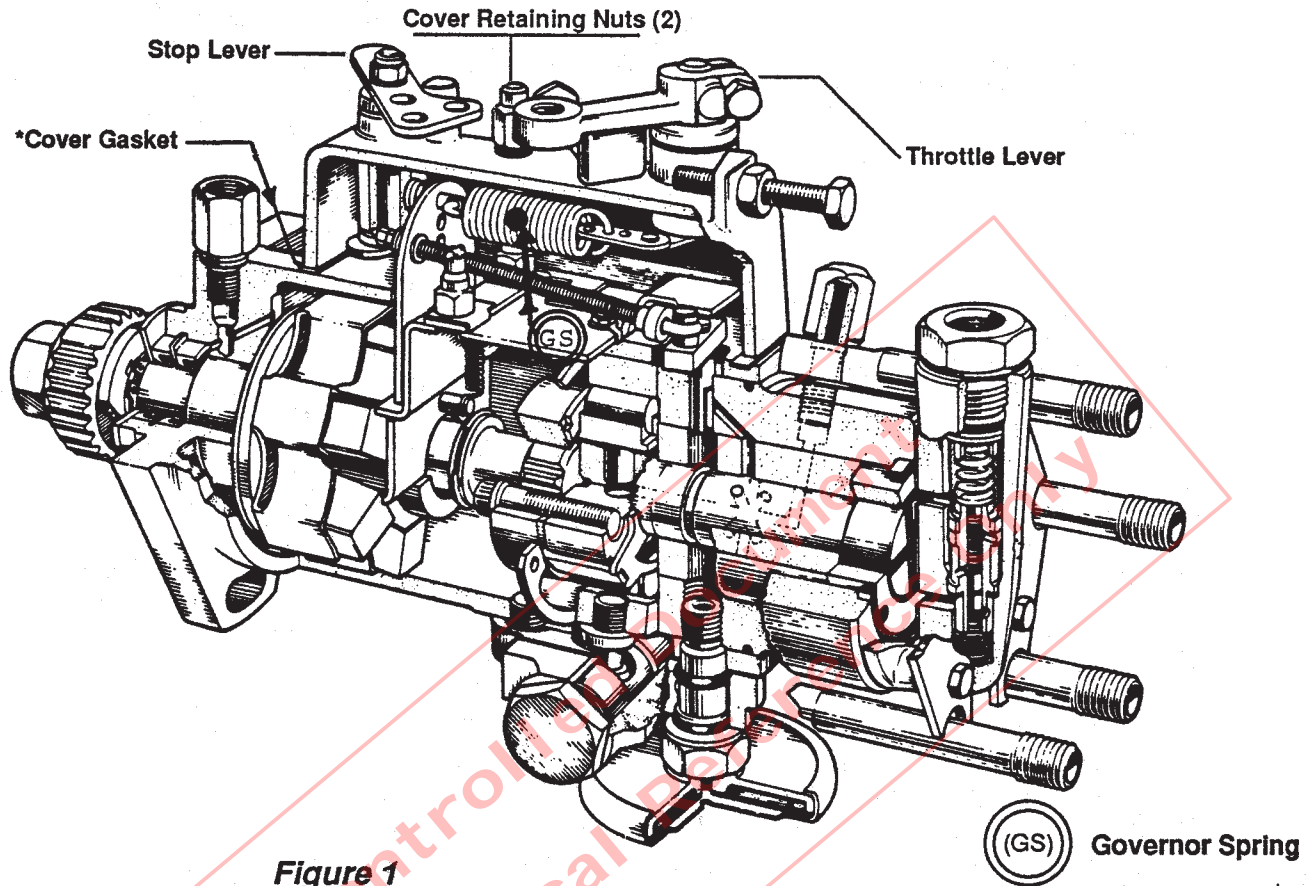
Item	Description	Barber-Colman Part Number	Qty.
3	Actuator mounting bracket	DYNK-169-13	1
4	Throttle adaptor lever	DYNK-169-14	1
5	Actuator mounting screw 1/4-28 x 7/8	BYRF-1460	5
6	Nut 1/4 - 28	DYRF-293	5
7	Lock washer 1/4	CYRD-558	5
8	Actuator clevis	DYNK-128-2	1
9	Spacer	AYRD-626	1
10	Rod end bearing - male	P1-135	1
11	Rod end bearing - female	AKKH-175	1
12	Screw 10 - 32 x 1"	BYRF-1437	2
13	Nut 10 - 32	DYRF-554	3
14	#10 lock washer	CYRD-198	2
15	Governor spring	DYNK-196	1
16	Magnetic pickup	DYNT-17200	1

## III. Layout Drawing - Figure 3



## IV. Governor Spring Installation Procedure

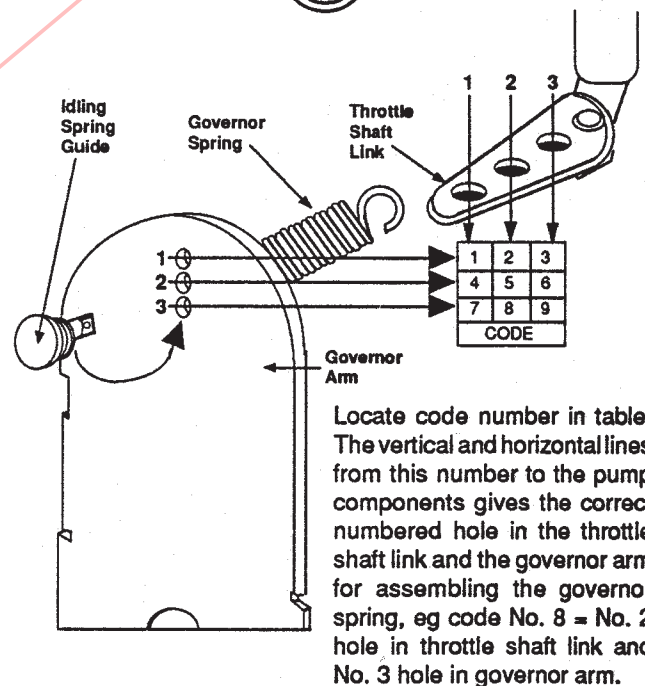
This procedure to be used when changing the internal governor spring, when an external governor is connected to pump throttle lever.



**Figure 1**  
**Lucas CAV -DPA Diesel Fuel Pump**

### Procedure

1. Note in Figure 1 how existing governor spring looks when installed.
2. Remove the two (2) cover stud nuts.
3. Lift and tilt the cover toward the engine block.
4. Note in Figure 2 how the throttle shaft link fits inside the spring. Also note how the opposite end of the spring fits in the idle spring guide on the governor arm.
5. Remove existing spring first at the idle spring guide, then at the throttle shaft link.
6. In reverse order, install new spring (Lucas part no. 7139-918B). Barber-Colman part no. DYNK-198.
7. Move idle spring guide to hole #3 in the governor arm.
8. Position the throttle shaft link inside spring, placing spring hook end in hole #3.
9. Hook opposite end of spring in the idle spring guide.
10. Replace cover and the two (2) cover retaining nuts.



Locate code number in table. The vertical and horizontal lines from this number to the pump components gives the correct numbered hole in the throttle shaft link and the governor arm for assembling the governor spring, eg code No. 8 = No. 2 hole in throttle shaft link and No. 3 hole in governor arm.

**Figure 2**

\* Care should be taken so cover gasket is not damaged.

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**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.

**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.

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