



a Siebe company

Installation of the Barber-Colman 1/2 ft-lb Linear Governor on a dedicated Series 40 Detroit Diesel generator drive engine. The actuator is located on the left side of the engine (looking from the rear). Looking at the left side of the engine, the actuator is attached to the upper right quadrant of the block just above the fuel filter and primer pump. The actuator linkage is connected to the stop lever of the Bosch RS and RSV mechanical governor.

This bulletin gives detailed instructions on attaching parts kit, DYNK-10382, to the stop lever of an RS or RSV Bosch mechanical governor. In order to operate through the stop lever, it is necessary to adjust the no load mechanical governor 10 to 15% above the desired operating speed.

This bulletin contains the following:

- I. Installation Instructions
- II. Parts List
- III. Layout Drawing
- IV. Basic Wiring Diagram
- V. Calibration

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

I. Installation Instructions

A. Engine Preparation

1. Disconnect the battery
2. Remove and discard the stop solenoid and accompanying hardware from the mechanical governor's stop lever.

B. Actuator Installation

1. Obtain from the parts kit, one actuator — Item 1, one actuator mounting bracket, two M8x20 screws, two M8 lock washers, four 1/4" - 28 x 1" screws, lock washers and nuts — Items 3, 4, 5, 6, 7 and 8.
2. Attach the actuator — Item 1, to the actuator mounting bracket — Item 3, using four 1/4" - 28 x 1" screws, lock washers and nuts — Items 6, 7 and 8. Secure the actuator bracket to the upper right quadrant of the engine block just above the fuel filter using two M8 x 20 screws and lock nuts — Items 4 and 5.

C. Throttle Linkage Installation

1. Obtain the remaining parts from the parts kit and install them as follows.
2. Remove and discard the existing stop lever and return spring. Save the retaining screw and lock washer and attach the new stop lever — Item 9, to the stop shaft as shown in the layout drawing.

3. Obtain from the parts kit one threaded rod — Item 10. Place one 1/4" - 28 jam nut and rod end bearing — Items 8 and 11, onto each end of the threaded rod.
4. Attach one rod end bearing to the new stop lever using one 1/4" - 28 x 1" screw, lock washer, flat washer and nut — Items 6, 7, 8 and 12.

— Note —

It is very important to place the flat washer between the stop lever and the rod end bearing to prevent the stop lever from rubbing on the linkage.

5. Obtain from the parts kit one actuator clevis — Item 13. Screw the clevis five (5) complete turns onto the actuator shaft and secure it with the M6 jam nut.
6. While manually holding the stop lever, start the engine and run it by hand. Slowly rotate the stop lever until the engine just stops. This is the minimum active fuel.

Note this position

7. While holding the stop lever in the minimum active fuel position, adjust the length of the threaded rod so the rod end bearing aligns with the hole in the actuator clevis. Secure the rod end bearing to the clevis using one 1/4" - 28 x 1" screw, lock washer and nut — Items 6, 7 and 8.

8. Maintain the linkage length by tightening the jam nuts into the rod end bearings.

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. Locate the reference line on the side of the flywheel housing opposite the starter. Measure and center punch the above noted measurement.

4. 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.

5. Rotate the engine to align a gear tooth in the center of the hole.

6. Screw the magnetic pickup — Item 14, into the housing until it bottoms onto the tooth.

7. Back the pickup out 1/2 to 3/4 of a turn and tighten the jam nut.

The governor installation is now complete.

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	DYN1-1070X	1

"X" - Specify number of flywheel teeth for proper Hz range.

B. Table 2. Installation Kit

B-C Part Number DYNK-10382

Item	Description	Barber-Colman Part Number	Qty.
3	Actuator mounting bracket	DYNK-75-73	1
4	M8-1.25 x 20mm mounting bracket screw	S3-51	2
5	M8 lock washer	W1-3	2
6	Actuator mounting screw 1/4 - 28 x 1"	BYRF-1346	6
7	1/4" Lock washer	CYRD-558	6
8	1/4" - 28 Nuts	DYRF-110	8
9	Fuel pump stop lever	DYNK-75-72	1
10	Threaded rod 1/4 - 28 x 10"	GYRF-42-11	1
11	Rod end bearing 1/4 - 28	DYNZ-47-1	2
12	Flat washer 1/4"	CYRD-59	1
13	Clevis	DYNK-218-1	1
14	Magnetic pickup	DYNT-17200	1

C. Table 3. Optional Control Components

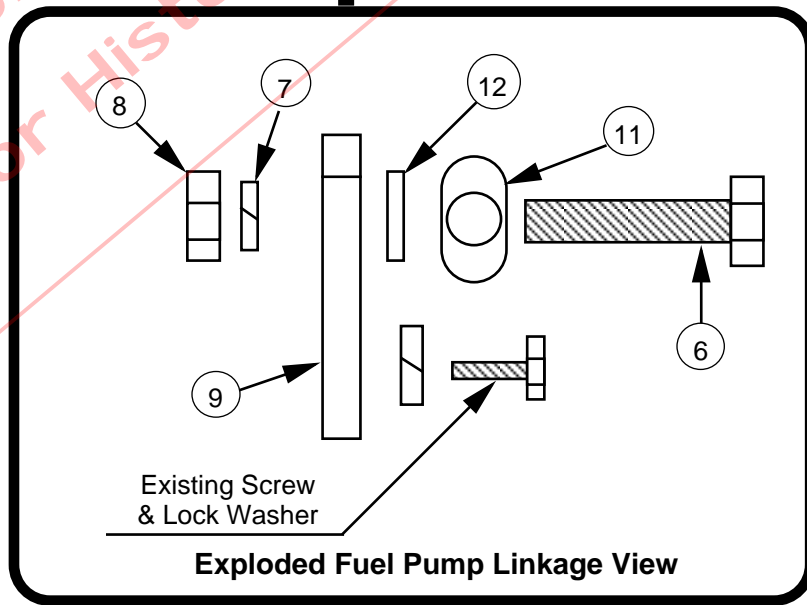
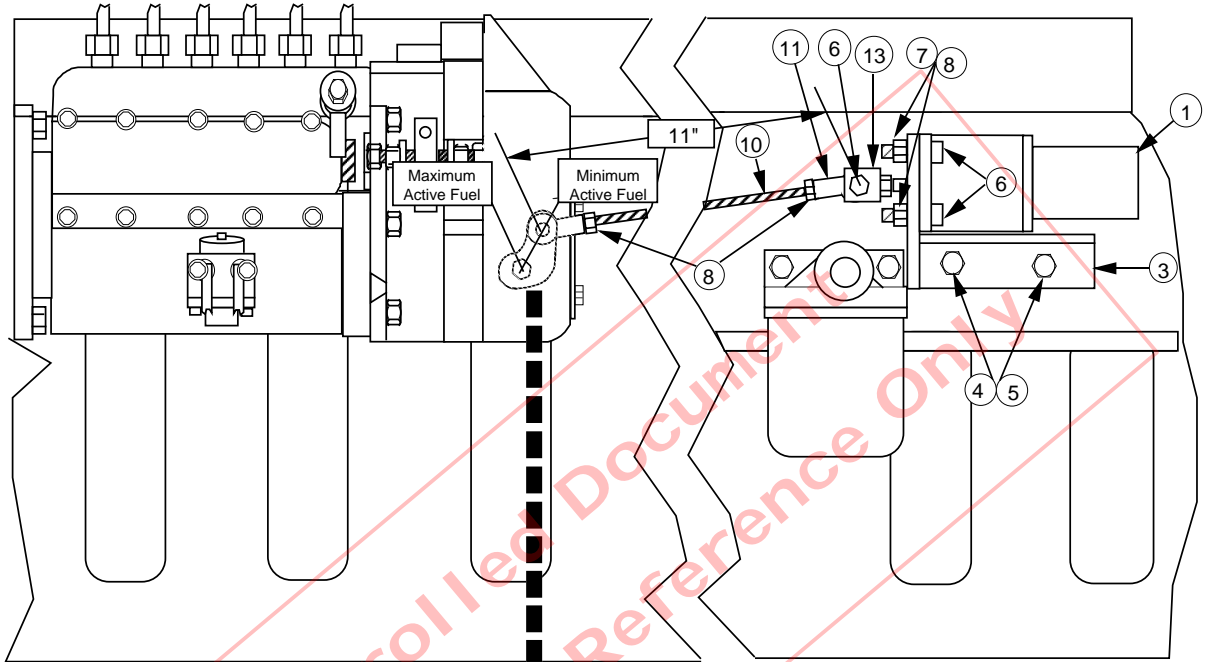
Item	Description	Barber-Colman Part Number	Qty.
15	Governor controller	DYN1-1075X	1
16	Remote speed potentiometer, 5K	DYNS-10000	1
17	3 Wire foil shielded cable	E26-22	*
18	D.C. power switch, toggle type	CYZP-11-1	1

* Specify length

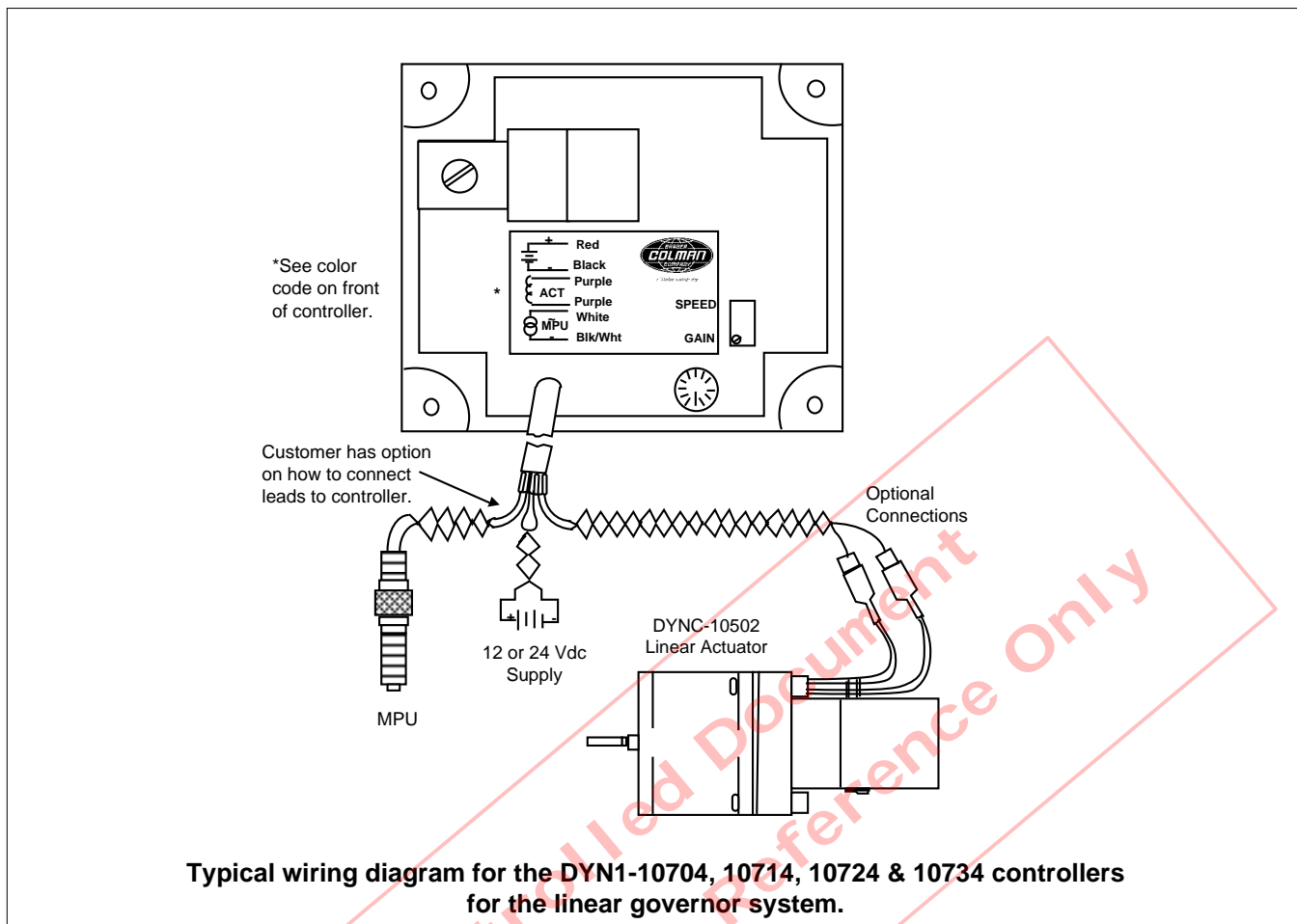
III. Layout Drawing

View from the left side of the engine looking from the flywheel.

← Front of Engine



IV. Basic Wiring Diagram



Wiring

1. Red to battery positive.
2. Black to battery negative.
3. Purple to the actuator, no polarity.
4. White to one side of the magnetic pickup.
5. Black & white to the other side of the magnetic pickup connected with the shield drain wire.

V. Calibration

1. With no power to the governor, adjust the GAIN to 9:00.
2. Start the engine and adjust the speed by turning the speed pot clockwise (CW) to desired speed.
3. At "no load", turn the GAIN potentiometer clockwise (CW) until the engine begins to hunt. If the engine does not hunt, physically upset the governor linkage.
4. Turn the GAIN potentiometer counterclockwise (CCW) until stable.

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.

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