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Installation of the Barber-Colman 1/2 ft-lb Linear Governor on a Deutz FL 913 Diesel Engine. This bulletin gives detailed instructions on attaching parts kit, DYNK-10330, to stop lever of an RS or RSV Bosch mechanical governor. In order to operate through to stop lever, it is necessary to adjust the no load mechanical governor 10% above the desired operating speed.

This bulletin contains the following:

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

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

I. Installation Instructions

1. Disconnect the battery.
2. Remove and discard any attached linkage to the stop lever, leaving the stop lever crossover link attached.

A. Actuator Installation

1. Obtain from the parts list , an actuator bracket, two M8x20 screws and two M8 lock washers - Items 3, 4 and 5.
2. Mount the actuator bracket to the drilled and tapped screw bosses on the lower right side of the engine block, just under the oil cooler. Secure the bracket - Item 3, with the M8x20 screws and lock washers - Items 4 and 5.

Note: On some engines there will be a bypass oil filter attached to the same mounting holes the actuator bracket attaches to. The actuator bracket is to be located closest to the block, and two 3/16" spacers will have to be placed behind two of the four bypass oil filter mounting holes to ensure proper alignment.

3. Attach the governor actuator - Item 1 - to the top portion of the actuator bracket using four 1/4-28x7/8 screws, nuts and lock washers - Items 6, 7 and 8.

B. Throttle Linkage Installation

1. Remove and discard the stop lever return coil spring, which is located on the inboard side of the fuel pump. **Note:** The stop lever will have to be separated from the stop shaft in order to remove this spring.
2. Obtain from the parts kit, one add-on stop lever - Item 12. Refer to the layout drawing and attach this lever to the crossover link as shown, using two 1/4-20x3/4" screws, lock washers and nuts - Items 8, 13 and 14.
3. Obtain from the parts kit, one actuator clevis, two rod end bearings, one threaded rod, four 1/4-28 nuts, two 1/4" lock washers, and two 1/4-28x7/8" screws - Items 6, 7, 8, 9, 10

and 11.

4. Install the actuator clevis - Item 9 - five complete turns onto the actuator shaft. Torque the jam nut into the clevis at 65 inch pounds. Place one 1/4-28 jam nut - Item 7 - and one rod end bearing - Item 10 - onto each end of the threaded rod - Item 11.
5. Insert one rod end bearing - Item 10 - into the actuator clevis and secure it with one 1/4-28x7/8 screw, lock washer and nut - Items 6, 7 and 8.
6. Operate the stop lever by hand and start the engine. Set the mechanical governed speed 10 to 15% above the desired operating speed. Rotate the stop lever to the minimum position until the engine **stops**. This will be the minimum active fuel. Adjust the length of the threaded rod to align with the outer hole in the add-on stop lever. Tighten the jam nuts into the rod end bearings. Secure the threaded rod to the add-on stop lever using one 1/4-28x7/8" screw, lock washer and nut - Items 6, 7 and 8.
Note: Be certain that Item 6 screw does not interfere with the fuel pump.

C. Installation of the Magnetic Pickup

1. Remove the inspection plate on the lower front of the flywheel housing. Measure from a reference line to the center of the ring gear tooth. **Note this measurement.**
2. Locate on the side of the flywheel housing opposite the starter, the engine mounting pad. Measure into this pad from the reference line the above noted measurement. Mark and center punch this point.
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 in the center of the hole.
5. Screw the magnetic pickup - Item 15 - into the housing until it bottoms onto the tooth.
6. Back the pickup out 1/2 to 3/4 of a 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	DYN1-1070X*	1

*Specify number of teeth and RPM

B. Table 2. Installation Kit

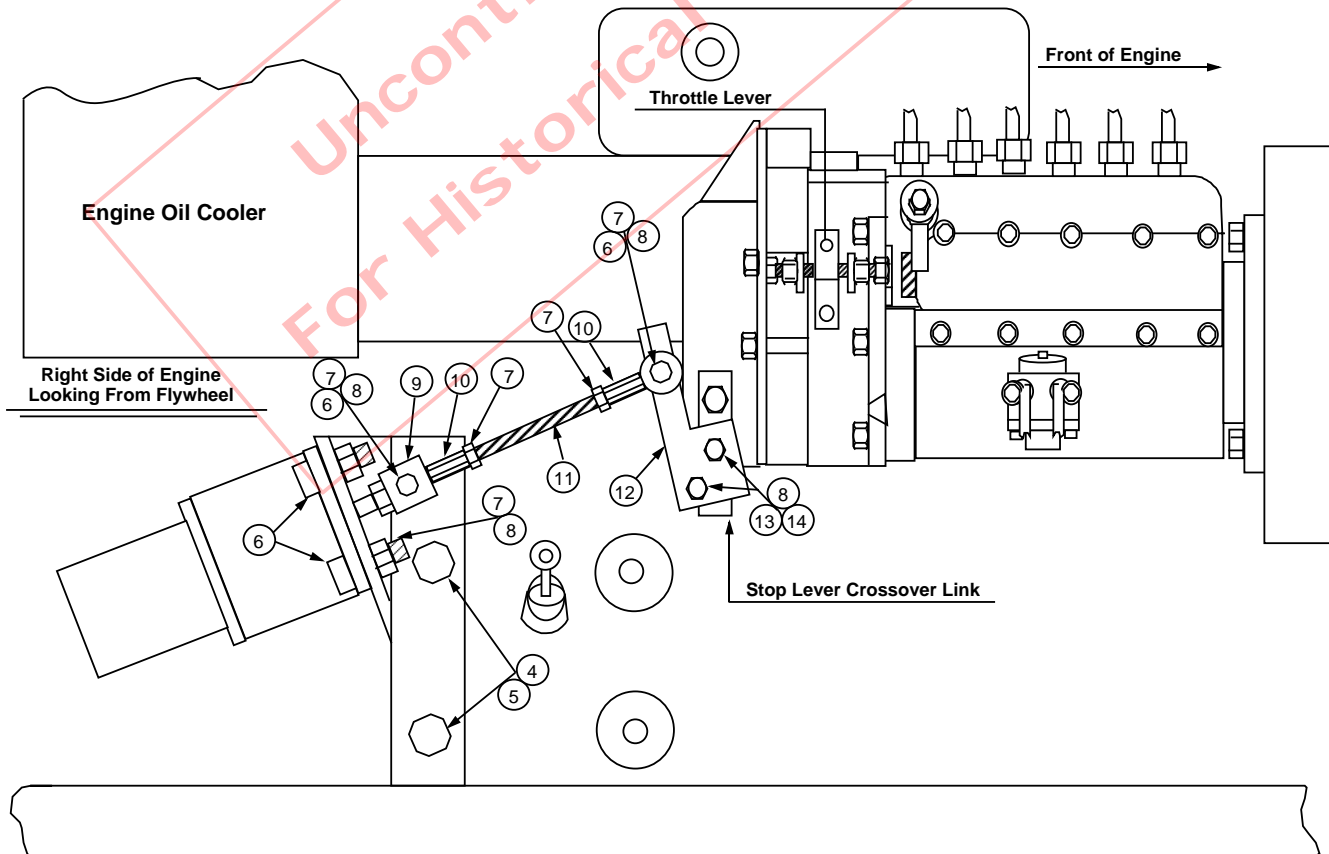
B-C Part Number DYNK-10330

Item	Description	Barber-Colman Part Number	Qty.
3	Actuator mounting bracket	DYNK-89-12	1
4	M8 x 20 - 1/25 pitch Hex hd. screw	S3-51	2
5	M8 lock washer	W1-3	2
6	1/4 - 28 x 7/8 cap screw	BYRF-1460	6
7	1/4 - 28 Hex nut	DYRF-110	8
8	1/4 Lock washer	CYRD-558	8
9	Actuator clevis	DYNK-218-1	1
10	Rod end bearings	DYNZ-47-1	2
11	Threaded linkage rod 1/4 - 28 - 4.625"	GYRF-42-1	1
12	Add-on stop lever	DYNK-89-13	1
13	1/4 - 20 x .75 Hex hd. screw	BYRF-2830	2
14	1/4 - 20 nuts	DYRF-24	2
15	Magnetic pickup	DYNT-17200	1

C. Table 3. Optional Parts

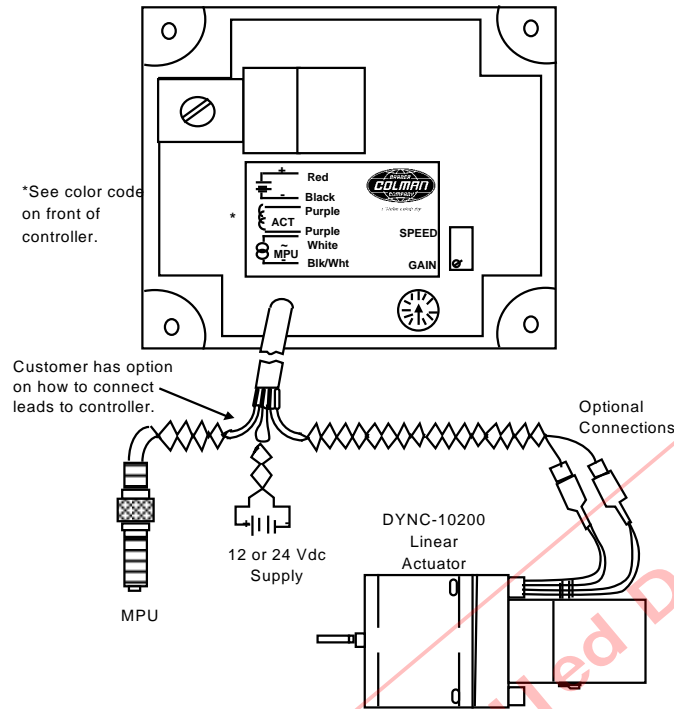
Item	Description	Barber-Colman Part Number	Qty.
16	Controller — Remote speed	DYN1-1075X	1
17	Controller — Digital	DYN1-1081X	1

III. Layout Drawing - Figure 3



V. Wiring Diagram & Calibration

General information, wiring and calibration procedure for the DYN1-10704, 10714, 10724 & 10734 controllers for the linear governor system.



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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.

Wiring

All four controllers are wired as shown in above wiring diagram.

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.

Calibration

1. With no power to the governor, adjust the GAIN to 9:00 o'clock.
2. Start the engine and adjust the speed by turning the speed pot clockwise to desired speed.

Note: Controllers are factory adjusted to minimum RPM. However, for safety, one should be capable of disabling the engine if an overspeed should exist.

3. At no load, turn the GAIN potentiometer clockwise until the engine begins to hunt. If the engine does not hunt, physically upset the governor linkage.
4. Turn the GAIN potentiometer counterclockwise until stable.

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