



a Siebe company

Installation of the Barber-Colman 1/4 ft-lb Linear Governor on a Continental TM 20 Natural Gas Engine. The actuator is connected to the throttle lever of an Impco 50 carburetor with a 7/8" radius.

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

A. Instructions

1. Disconnect the battery.
2. Remove and discard any attached linkage to the throttle lever.

B. Actuator Installation

1. Obtain from the parts list one actuator bracket, one spacer, two 3/8-16x3/4 screws and two 3/8 lock washers - Items 3, 4, 5, and 6.
2. Refer to the layout drawing and note that the actuator attaches to the right side of the engine (looking from the rear). Attach the bracket to the flywheel housing using two 3/8-16x3/4 hex head screws, two 3/8 lock washers and one spacer. Be sure the spacer is placed between the actuator bracket and the flywheel housing on the outer mounting hole.
3. Obtain from the parts list one actuator, four 1/4-28x7/8 socket head cap screws and four 1/4-28 pinch nuts - Items 1, 7 and 8. Attach the actuator to the upper portion of the actuator bracket using the four 1/4-28x7/8 socket head cap screws and four 1/4-28 pinch nuts.

C. Throttle Linkage Installation

1. As noted earlier, the Impco throttle lever needs to be removed. A 1/4" hole is to be drilled into it at a 7/8" radius. Reinstall the throttle lever facing up in a vertical position. Be certain the throttle valve is closed and tighten the lever to the throttle shaft.
2. Find in the parts, one actuator clevis - Item 9. Install this clevis five complete turns onto the threaded actuator shaft and torque the jam nut into the clevis at 65 inch pounds.
3. Obtain from the parts list, two rod end bearings, one linkage rod, four 1/4-28 jam nuts, two 1/4-28x1" screws, two 1/4" lock washers and one 1/8" spacer - Items 10, 11, 12, 13, 14 and 16. Insert one jam nut - Item 12 - and one rod end bearing - Item 10 - onto each end of the threaded linkage rod - Item 11. Secure one rod end bearing into the actuator clevis using one 1/4-28x1" screw, one 1/4-28 nut and one 1/4" lock washer - Item 12, 13 and 14. Rotate the throttle lever to the minimum fuel position. This will put the throttle lever in a vertical position. Adjust the length of the linkage rod to align with the 1/4" hole in the throttle lever. Place a 1/8" spacer - Item 16 - between the rod end bearing and the throttle lever. Secure the rod end bearing to the throttle lever using one 1/4-28x1" screw, one 1/4-28

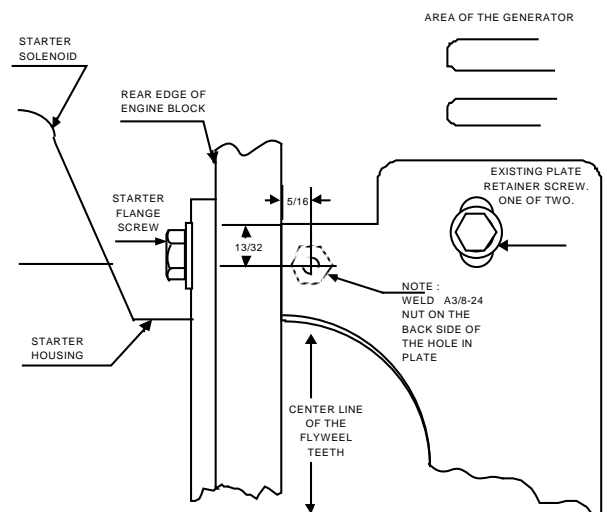
nut and one 1/4" lock washer - Items 12, 13 and 14. Assure the linkage length by tightening the jam nuts into the rod end bearings.

— Note —

The actuator linkage and the throttle lever should intersect at a 90° angle.

D. Installation of the Magnetic Pickup

1. On the left side of the engine, remove the sheet metal cover plate located over the gear end of the starter.
2. Mark and drill a 13/32 diameter hole in the cover plate at the dimensions shown below.
3. Weld a 3/8-24 hex nut over the hole on the back side of the plate.
4. Reinstall the cover plate.
5. Rotate the flywheel until a flywheel tooth aligns in the center of the hole. Screw the magnetic pickup - Item 15 - all the way in until it bottoms onto the flywheel tooth. Back the magnetic pickup out 1/2 to 3/4 of a turn (.015) and tighten the jam nut.



Parts List

A. Table 1. Governor Assembly

Specify voltage when ordering Items 1 and 2

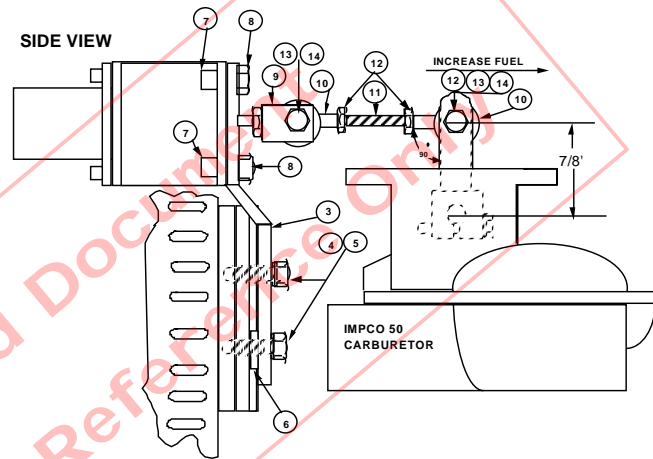
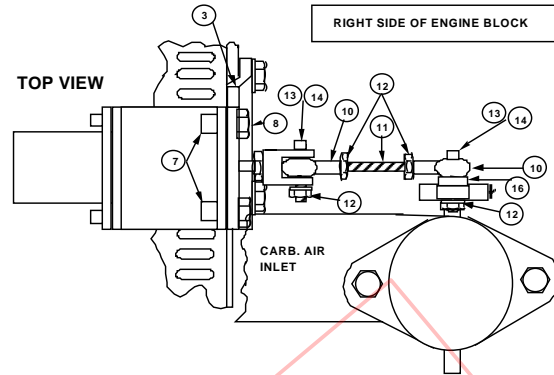
Item	Description	Barber-Colman Part Number	Qty.
1	Governor actuator	DYNC-10202	1
2	Controller	DYN1-10724	1

B. Table 2. Installation Kit

B-C Part Number DYNK-10323

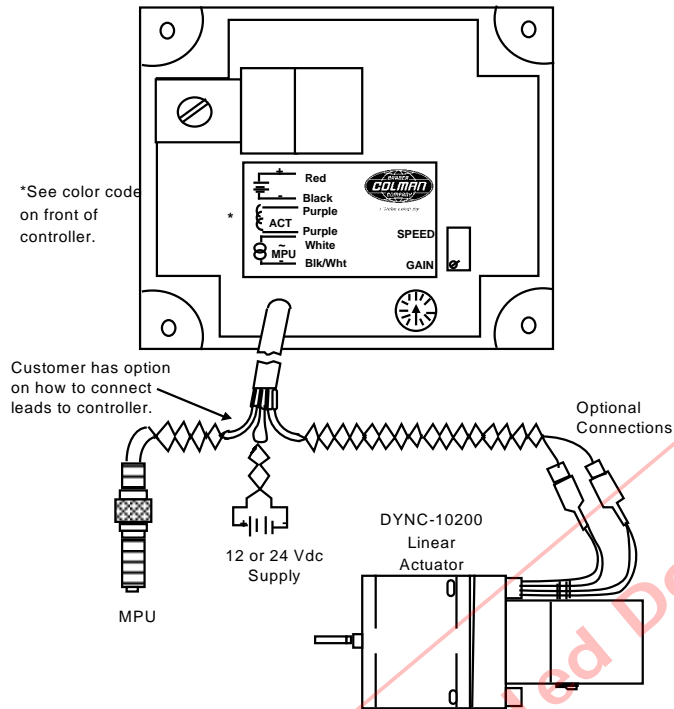
Item	Description	Barber-Colman Part Number	Qty.
3	Actuator mounting bracket	DYNK-95-3	1
4	Bracket screws 3/8-16 x 3/4 Hex	BYRF-1361	1
5	Lock washer 3/8	CYRD-560	1
6	Spacer	CYRD-384	1
7	Act. Mtg. Screws 1/4-28 x 7/8" Socket hd. cap	BYRF-1460	4
8	1/4 - 28 Pinch nuts hex	DYRF-532	4
9	Actuator shaft clevis	DYNK-218-1	1
10	Rod end bearings 1/4 - 28	DYNZ-47-1	1
11	Linkage rod 1/4 - 28 - 2"	GYRF-42-3	2
12	Linkage rod jam nuts 1/4 - 28 Hex	DYRF-293	4
13	Rod end brg. screws 1/4 - 28 x 1" Hex	BYRF-1346	2
14	Lock washers 1/4"	CYRD-558	2
15	Magnetic pickup	DYNT-17200	1
16	1/8" spacer	AYRD-747	1

Layout Drawings



Typical Wiring Diagram

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



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.

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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