



Installation of a Barber-Colman 2500 electric linear actuator on a John Deere 6081 engine. The DYNC-10502 linear actuator controls the engine through the stop lever to give isochronous speed control. The stop solenoid needs to be removed and discarded. It is also necessary to set the mechanical governor 10 to 12% above the rated run speed. This kit will work for engines having either the Bosch in-line fuel pump or the Nippondenso in-line fuel pump.

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.

I. Installation Instructions

A. Engine Preparation

1. Disconnect the battery
2. Remove any hardware attached to the shut off lever and/or throttle lever.
3. Operate the engine and adjust the throttle lever until the engine operates at 10 to 12% above normal desired speed. Lock the lever in this position. (Refer to Part E.)

B. Actuator Installation

1. Refer to the layout drawing and mount the actuator bracket (Item 3) to the engine using two screws and two washers (Items 13 and 14). The actuator bracket will replace the bracket being used for the shut off solenoid and mount on the side of the oil filter mounting base.
2. Mount the actuator (Item 1) on to the bracket (Item 3) with the four lock washers, hex nuts, and socket head cap screws (Items 7, 8 and 9).

C. Linkage Installation

1. Install the shut off lever (Item 11) using the existing screw.
2. Run the engine by hand and rotate the shut off lever until the engine shuts down. Make reference to the location of the shut off lever for use later on.

3. Install the clevis (Item 4) on the actuator shaft and tighten the M6 nut against the back side of the clevis.

4. Assemble the linkage rod by placing one hex nut (Item 9) and one rod end bearing (Item 6) to each end of the threaded rod (Item 5).

5. Connect one rod end bearing (Item 6) to the shut off lever (Item 11) using one screw (Item 10), one lock washer (Item 7), and one hex nut (Item 9).

6. Adjust the length of the rod so the stop lever is in the shut down position (which was found in step 2) and the opposite end of the rod lines up with the hole in the clevis (Item 4) on the actuator shaft.

7. When the length of the rod is correct, turn the rod end bearing on the rod CW one full turn. Install the free rod end bearing in the clevis using one screw (Item 10), a lock washer (Item 7), and a hex nut (Item 9).

8. Tighten both rod jam nuts against the rod end bearings while holding the clevis in the correct position as shown in the layout drawing.

NOTE

Make sure that full fuel position can be achieved.

D. Magnetic Pickup Installation

1. Remove the inspection plate from the bottom of the flywheel housing.
2. Establish a reference point and measure from this point to the center of the flywheel teeth. **NOTE THIS MEASUREMENT.**
3. On the side of 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. Position a ring gear tooth in the center of the hole. Install the magnetic pickup (Item 12) until the tip makes contact with the tooth. Back the pickup out 1/2 turn. This will be approximately .02 clearance.

E. Throttle Lever Tie Down Installation

1. Mount the tie down bracket under the top fuel pump mounting screw. Refer to the layout drawing.
2. Install one jam nut and one rod end bearing on to one end of the threaded rod. Tighten the jam nut against the rod end bearing.
3. Remove the throttle lever and connect the rod end bearing to the throttle lever using one M6 x 16 screw and one M6 lock washer. The throttle lever should already be tapped for a M6 screw.

NOTE

The rod end bearing and the screw should be installed so they are between the throttle lever and the fuel pump housing. Refer to layout drawing.

4. Reinstall the throttle lever on the fuel pump.
5. Verify that the high idle screw is set for 10-12% above rated speed. Once it is set, turn the throttle lever to the high idle stop and place one jam nut on to the threaded rod. Place the threaded rod through the tie down bracket and hold it in place with one lock washer and one nut.
6. There should be a hex nut on both sides of the tie down bracket. Be sure to tighten both nuts against the tie down bracket to hold the throttle lever against the high idle stop that has been adjusted for 10 - 12% above rated speed.

NOTE

Wire the controller according to Barber-Colman wiring diagrams.

Installation of the Barber-Colman governor is now complete.

II. Parts List

A. Table 1. Governor Assembly

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

B. Table 2. Installation Kit

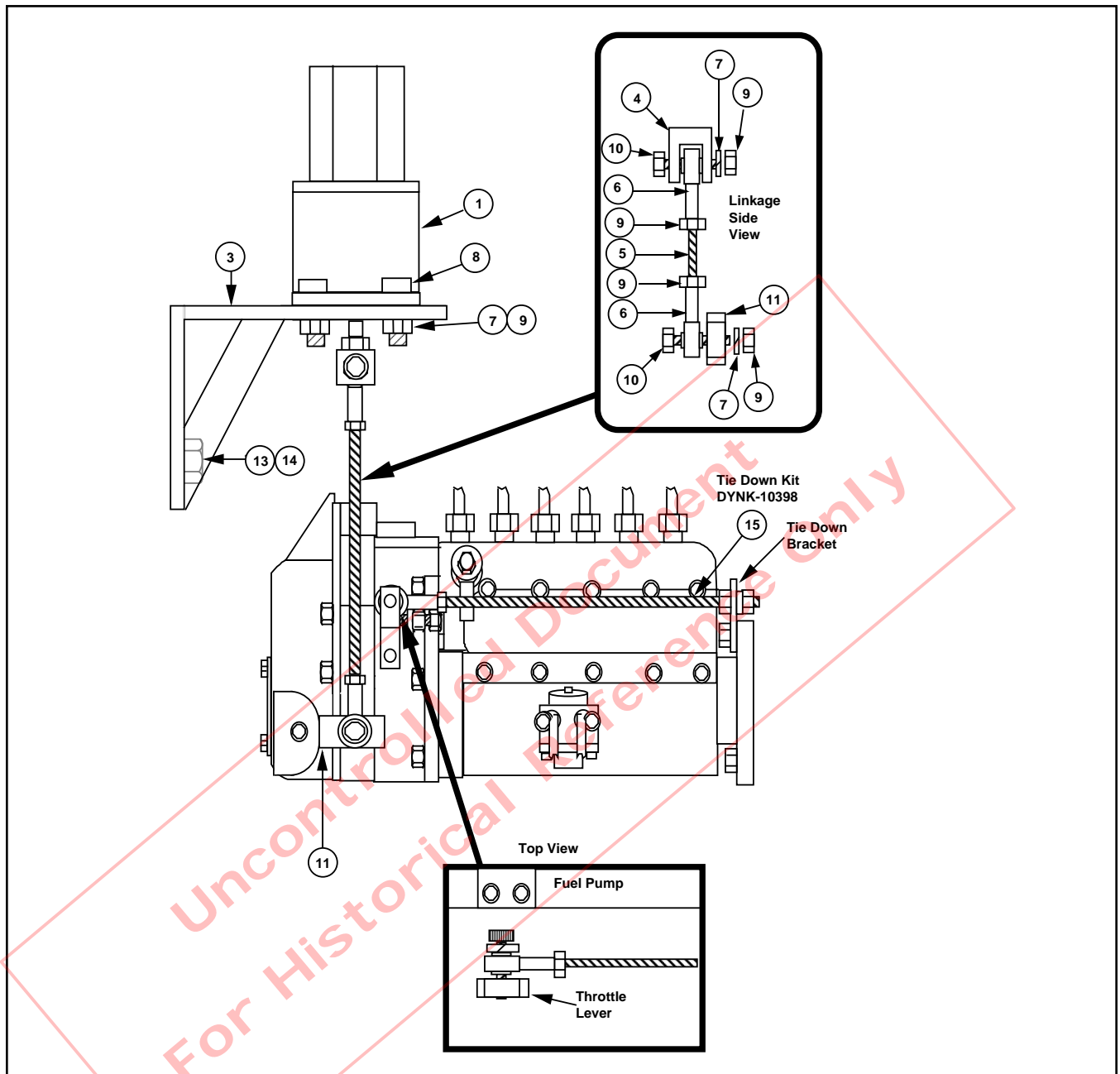
B-C Part Number DYNK-10399

Item	Description	Barber-Colman Part Number	Qty.
3	Bracket - mounts on engine	DYNK-304-3	1
4	Clevis	DYNK-218-1	1
5	Threaded rod (1/4 - 28)	GYRF-42-8	1
6	Rod end bearing (1/4)	DYNZ-47-1	2
7	Lock washer (1/4)	CYRD-558	6
8	Socket head cap screw (1/4 - 28 x .875)	BYRF-1460	4
9	Hex nut (1/4 - 28)	DYRF-293	8
10	Hex head screw (1/4 - 28 x 1)	BYRF-1346	2
11	Fuel shut off lever	DYNK-304-1	1
12	Magnetic pickup	DYNT-17200	1
13	Hex head screw (5/16 - 18 x 3/4)	BYRF-1350	2
14	Lock washer (5/16)	CYRD-559	2
15	Tie down kit	DYNK-10398	1

C. Table 3. Optional Components

Item	Description	Barber-Colman Part Number	Qty.
16	Controller	DYN1-10754	1
17	Auto synchronizer	DYN2-90200	1
18	Analog ILS	DYN2-80105	1
19	Digital ILS	DYN2-80109	1

III. Layout Drawing - Figure 1



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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.