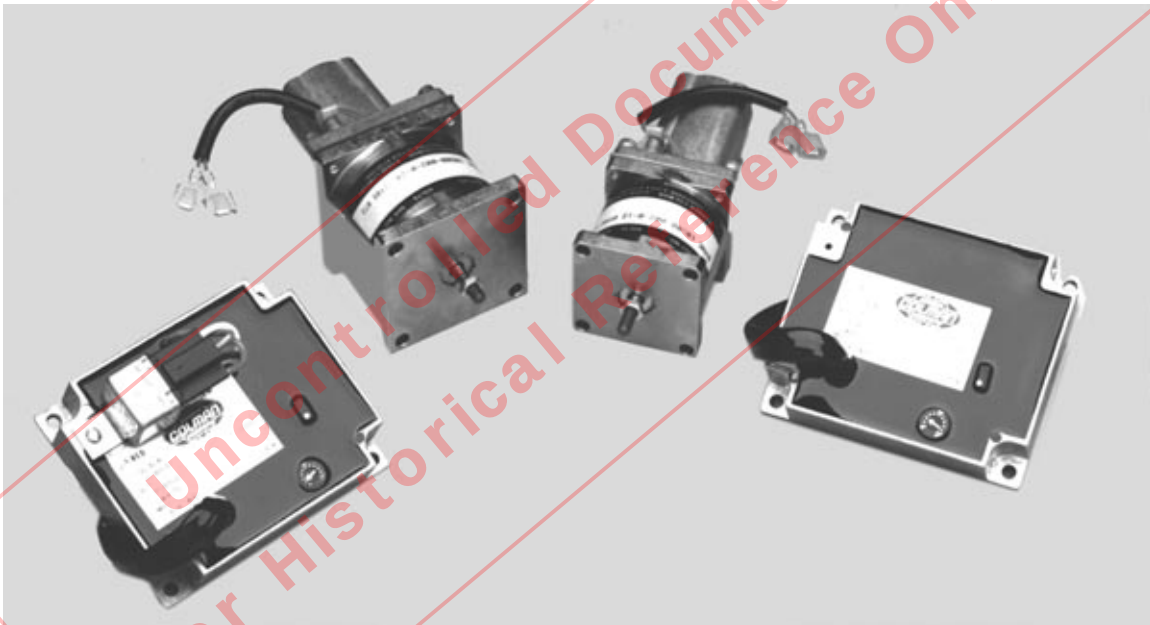


CALIBRATION AND TROUBLESHOOTING FOR BASIC LINEAR CONTROLLERS

MODELS
DYN1-10704*
DYN1-10714
DYN1-10724*
DYN1-10734

*C€



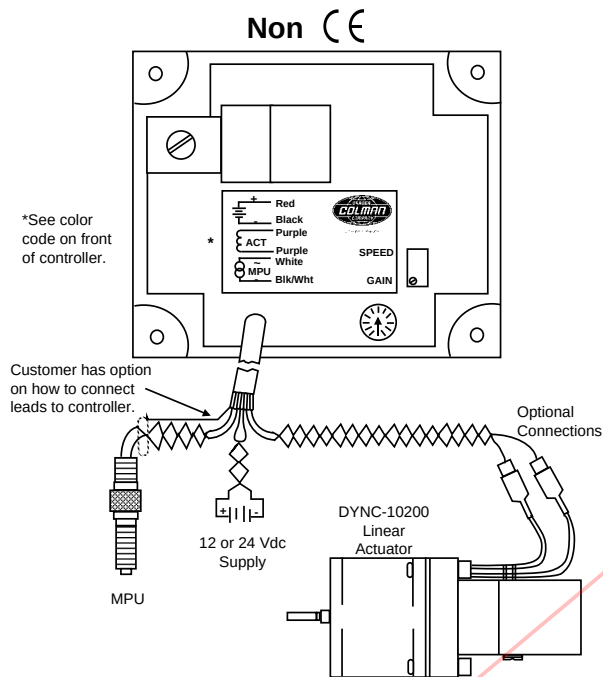
GENERAL INFORMATION

The DYN1-10704 and 10724 controllers are basic controllers without an overspeed. The 10704 controller is normally used on diesel engines and the 10724 is normally used on ignition engines.

The DYN1-10714 and 10734 controllers are also basic controllers with overspeed protection 12.5% above set speed. The 10714 controller is normally used on diesel engines and the 10734 controller is normally used on ignition engines.

TYPICAL WIRING DIAGRAM

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



Note: The shield on the MPU is to be connected to the black wire along with one of the MPU conductors.

Figure 1

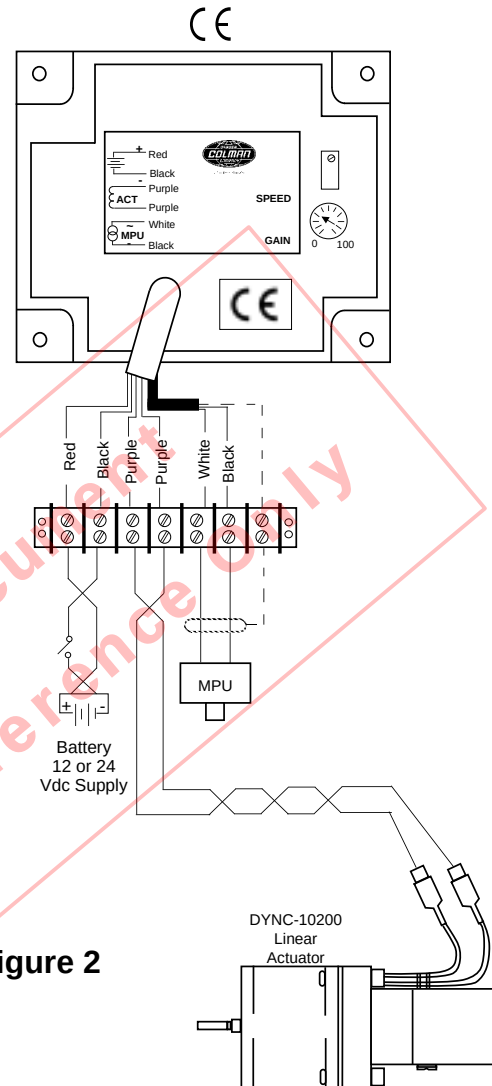


Figure 2

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.

WIRING

All four non CE controllers are wired as shown in Figure 1 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 and white to the other side of the magnetic pickup connected with the shield drain wire.

Controllers with CE conformity are wired as shown in Figure 2 Wiring Diagram.

LINEAR TROUBLESHOOTING CHART

Problem	Detection	Corrective Action
I. System appears dead. (Actuator fails to move to full fuel)	1. CHECK BATTERY VOLTAGE AT CONTROLLER with power switch "ON". Measure DC battery voltage between the Red (+) and Black (-) leads. Battery voltage should be present.	Check connections to battery.
	2. CHECK LINKAGE. Manually operate linkage to see that it is not sticking or binding.	Free linkage.
	3. NO SIGNAL OR WEAK SIGNAL FROM MAGNETIC PICKUP. Measure AC voltage between the White and Black/White leads on controller while cranking engine. Voltage should be 2.5 volts RMS or greater. (AC input impedance of meter must be 5000 ohms/volt or greater.)	Check for damage to or improper adjustment of magnetic pickup. Replace or re-adjust.
	4. CHECK ACTUATOR with power "ON" to controller. Measure following terminals on control box with respect to the Black lead. All points should read BATTERY VOLTAGE. (+0.00/-0.75 VDC) a. Purple lead to Black lead on controller. b. Second Purple lead to Black lead on controller. (Continue this test only if battery voltage is not present.) c. Following checks are terminals on the actuator and the Black lead on controller. 1) Low voltage (1.0-2.0 VDC) at either actuator connector. 2) Battery voltage at both actuator connectors. 3) Battery voltage at one actuator lead but not at the other.	Replace controller if battery voltage is not present at both Purple leads. Broken actuator lead. Broken actuator lead. Replace actuator.
II. Actuator lever goes to full fuel whenever the power is turned "ON" and engine is not running.	1. CHECK CONTROLLER by removing actuator lead to Purple lead and turning power "ON" to controller. a. Actuator goes to full fuel. b. Actuator does not go to full fuel. Note: Turn off power and reconnect Purple lead.	Check for shorted actuator lead. Replace Controller because it should not cause actuator lever to go to full fuel with engine not running.
III. Actuator hunts during operation.	1. Linkage or rod end bearings sticking or binding.	Lubricate or replace.
	2. Improper linkage arrangement. (Stroke too short or improper non-linear linkage used)	See installation information.
	3. Improper governor adjustment.	Readjust calibration.
	4. Inadequate power supply voltage. a. Turn power switch "OFF". b. Connect a DC voltmeter to Red and Black leads at control box. c. Disconnect both leads to actuator at Purple leads of control box. d. Connect one actuator lead to the Red lead and one actuator lead to the Black lead of the control box. e. Momentarily turn "ON" the DC power. The actuator should go to full fuel and the DC voltage must be greater than 80% of supply. 24 VDC @ 80% = 19.2 VDC 12 VDC @ 80% = 9.6 VDC Note: Reconnect actuator leads properly after completing this test.	If actuator doesn't get to full fuel, then check actuator leads. If voltage is less than specified, check for loose or poor connections to battery, or get larger supply leads or larger power supply.

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.

Uncontrolled Document
For Historical Reference Only

**Barber-Colman Company
Aerospace & Power Controls Division
DYNA Product Group**

1354 Clifford Avenue
P.O. Box 2940
Loves Park, IL 61132-2940
United States of America

Telephone (815) 637-3000
Facsimile (815) 877-0150

In Europe contact: Barber-Colman GmbH
Am Neuen Rheinhafen 4, D-67346 Speyer, Germany
Telephone 06232 29903, Facsimile 06232 299155

In Japan contact: Ranco Japan Ltd.
Shiozaki Bldg. 7-1, 2-chome, Hirakawa-Cho, Chiyoda-Ku
Tokyo 102, Japan
Telephone 3261 4293, Facsimile 3264 4691