



Barber-Colman Integrated Actuator For Stanadyne "D" Series Injection Pump Model DYNA 70025

— Factory Approved by Stanadyne —

WHISPERWATT™ GENERATORS
JOHN DEERE ENGINE-POWERED

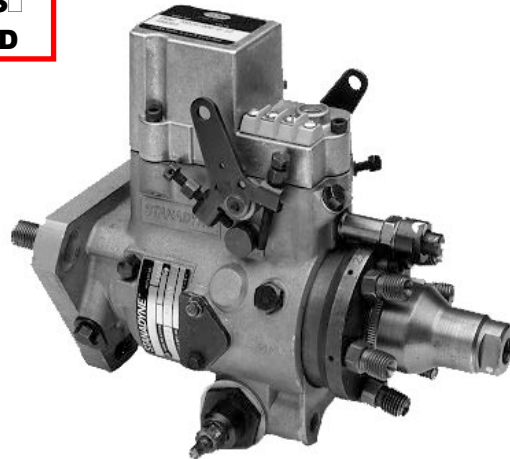
General

The Barber-Colman Integral Governor System for Stanadyne "D" Series* injection pumps has been designed in close cooperation with Stanadyne. Through this cooperation a uniquely simple integrated governor is now available.

Barber-Colman has taken a proven rotary actuator and built it into a new cover design for Stanadyne "D" Series injection pumps. This new integrated approach eliminates all brackets and external linkage. No internal parts to the injection pump need to be added or replaced.

The actuator design utilizes the principle of variable reluctance. This simple design of a proportional electric solenoid has a rotating armature whose magnetic force is proportional to input coil current.

The integrated actuator and injection pump housing is very easy to install. Simply remove the existing cover and install the new cover. Along with the standard model (DYNC-70025-000-0-12/24), a completely sealed model (DYNC-70025-001-0-12/24) is also available. Pollutants from contaminated fuel can cause the actuator to bind and hinder the engine governing. For those contaminated fuel applications, the completely sealed model prevents pollutants from entering the actuator and causing erratic governing.



Standard Models

DYNC-70025-000-0-12/24

DYNC-70025-200-0-12/24

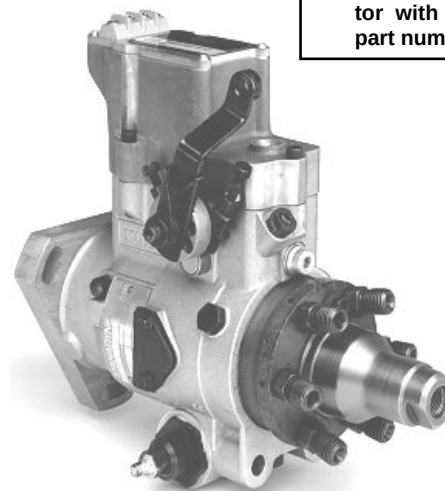


Actuator is available with flying lead connector, which mates with Packard weatherpak 2 way connector with female sleeves, part number 1201 5792.

Standard Features

- 1 All Electric
- 1 Fast Response
- 1 Compact
- 1 Precise Repeatability
- 1 No External Linkage
- 1 No Mounting Bracket
- 1 Spring Return to Shut Off

*Manufactured by Stanadyne Automotive Corp.

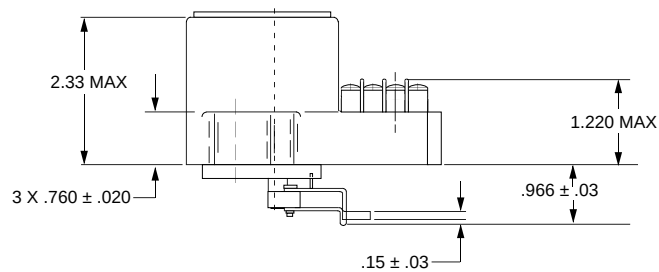
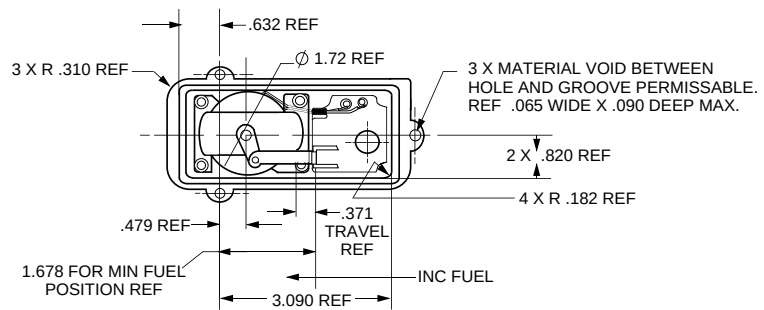
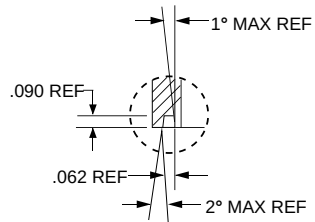
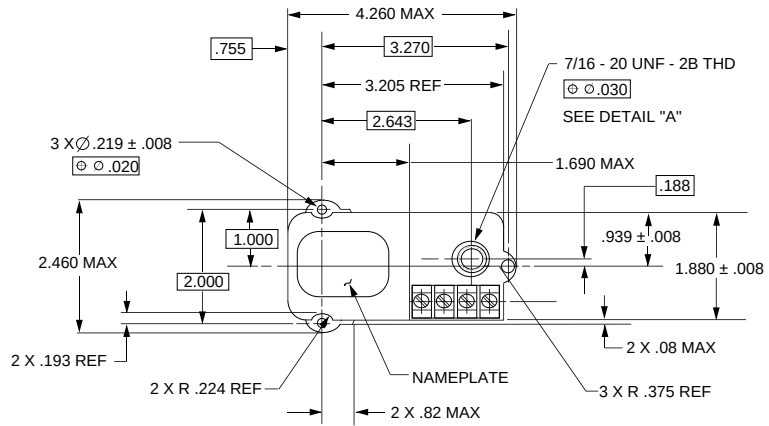
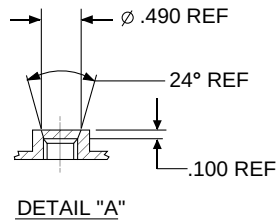


Sealed Model

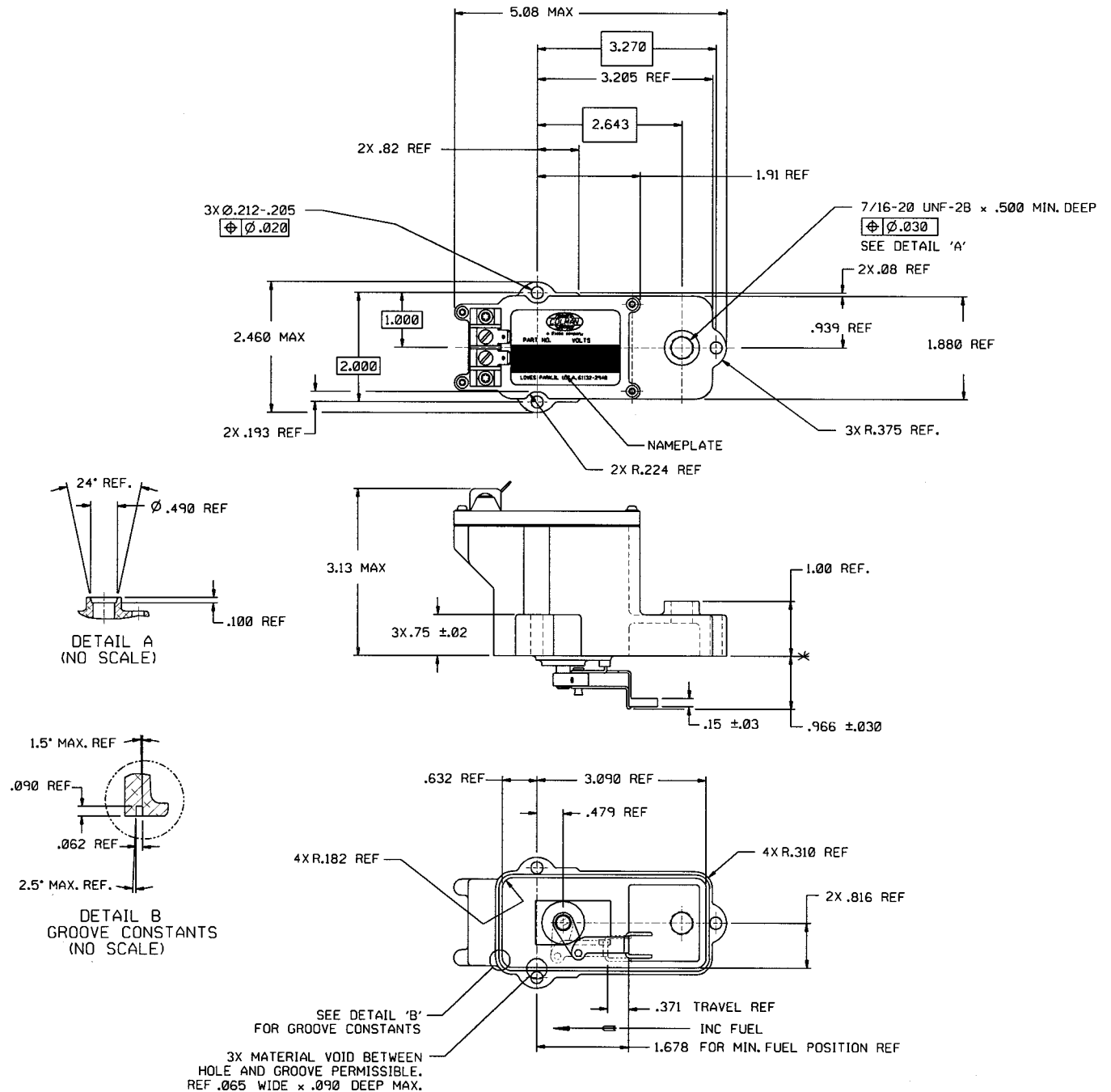
DYNC-70025-001-0-12/24



Installation Dimensions — DYNC-70025-000-0-12/24 & DYNC-70025-200-0-12/24



Installation Dimensions — DYNC-70025-001-0-12/24



Specifications

Operating Characteristics		
Nominal Voltage	12 Volts DC	24 Volts DC
Current Amps Nominal	2.5 Amps	1.94 Amps
Current Max Stall	6 Amps	2.2 Amps
Stroke	As Shown	
Duty Cycle	Continuous	
Temperature Range	-55°C to 124°C -65°F to 250°F	
Direction Of Travel	Increasing current causes travel in the direction shown (INC FUEL)	
Finished Weight	1 lb. 12 oz. max	
Finished Mass	.79 kg max	

Typical Applications

- 1 Generator Sets
- 1 Forklift Trucks
- 1 Ground Power Carts
- 1 Agriculture Vehicles
- 1 Off-Road Vehicles
- 1 Pump Sets
- 1 Pleasure Boats
- 1 Wood Chippers

Available Controllers

DYN1-10784-000-0-12/24

DYN1-10786-000-0-12/24

DYN1-10794-000-0-12/24

DYN1-10784-001-0-12/24

DYN1-10786-001-0-12/24

DYN1-10794-002-0-12/24



Input Signal Frequency

2500 - 5000 Hz

5000 - 9500 Hz

2500 - 5000 Hz

2500 - 5000 Hz

5000 - 9500 Hz

2500 - 5000 Hz

Stanadyne Pump Models

- 1 DB
- 1 JDB
- 1 DC
- 1 DB2
- 1 DB4
- 1 DM2
- 1 DM4

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

1354 Clifford Avenue Telephone (815) 637-3000
P.O. Box 2940 Facsimile (815) 877-0150
Loves Park, IL 61132-2940
United States of America

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

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.



DYNA Controller For Stanadyne "D" Series Injection Pumps Using DYNC 70025 Integrated Actuator

General

The Barber-Colman controller for the DYNC 70025 actuator is an isochronous, solid state design, resulting in fast, stable engine response to speed or load changes. The controller circuits measure proportional (amount of offspeed), integral (time of offspeed) and derivative (rate of change of offspeed) to ensure optimum performance.

The controller electronics are environmentally potted providing protection against the various liquids and vibrations associated with engines. This makes the unit suitable for panel or engine mounting. It is easy to adjust, having only SPEED and GAIN adjustments. The power for the governor is obtained from the engine's DC starting system, eliminating the need for mechanical drives and hydraulic lines.

Standard Features

- All electric
- Precise
- High reliability
- Temperature stable
- Isochronous

Available Models:

DYN1-10784-000-0-12

DYN1-10784-000-0-24

DYN1-10784-001-0-12*

DYN1-10784-001-0-24*

DYN1-10786-000-0-12

DYN1-10786-000-0-24

DYN1-10786-001-0-12*

DYN1-10786-001-0-24*

Input Signal Frequency

2500 - 5000 Hz

5000 - 9500 Hz

* CEE

Speed Sensing

The DYNA all-electric governor requires a frequency signal to read engine speed. Typically, a hole is drilled and tapped in the flywheel housing perpendicular to the crankshaft, and a magnetic pickup is inserted into it to sense the teeth on the ring gear.



Failsafe

The DYNA Governor has an internal FAILSAFE circuit that instantly reacts to:

- Interruption of the DC power returns actuator to minimum fuel position.
- Loss of speed reference signal removes power from actuator causing it to spring return to minimum fuel position.

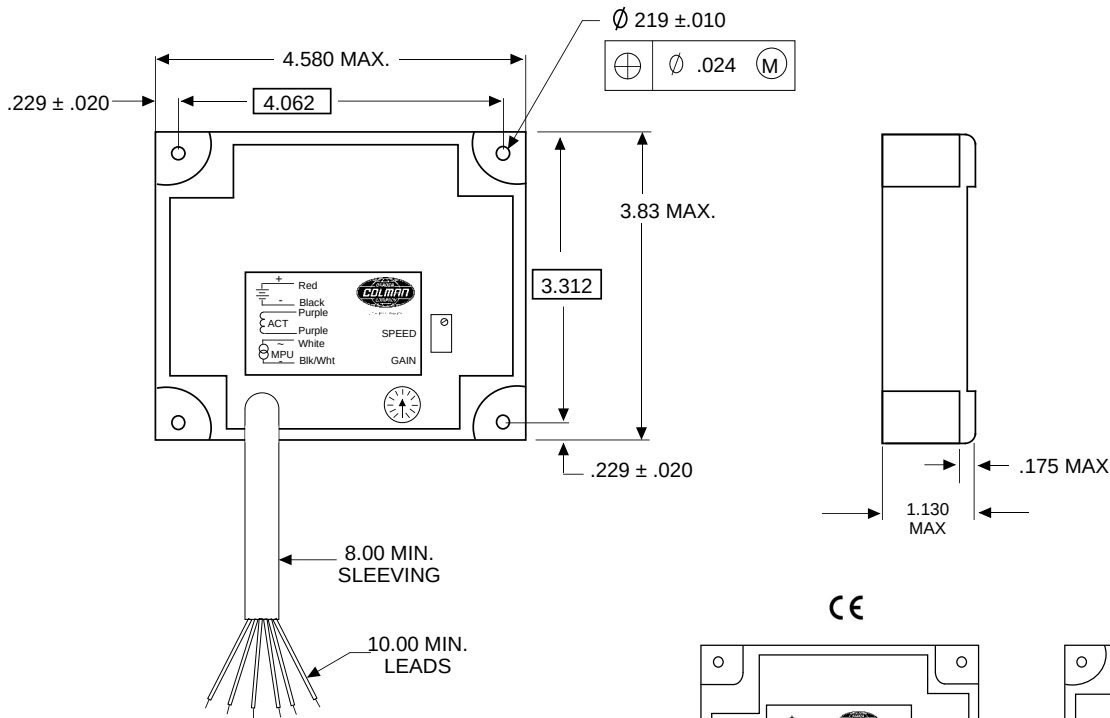
Controller Specifications

CONTROLLER		DYN1-10784 & DYN1-10786
Max. Output Current in Amperes @ 12 Vdc		6.0
Max. Output Current in Amperes @ 24 Vdc		4.0
Weight	Pounds	1.25
	Kilograms	0.568
Operating Voltage		12 or 24 Vdc $\pm 20\%$
Ambient Operating Temp.		-40° to +180°F (-40° to +85°C)
Mechanical Vibration		5 to 500 Hz, Curve L, per MIL STD 810C
Sealing		Oil, water and dust tight
Connections		#18 gauge leads with minimum length of 10 inches (25.4 cm) with no connector of any kind
Input Signal Frequency From Mag Pickup		Input Signal Frequency in Hertz = $\frac{\text{Engine RPM} \times \text{number of gear teeth on flywheel}}{60}$
Input Signal Voltage From Mag Pickup		2.5 Vac RMS minimum during cranking
Steady State Speed Band		$\pm 0.25\%$
Controller Adjustments		GAIN and SPEED

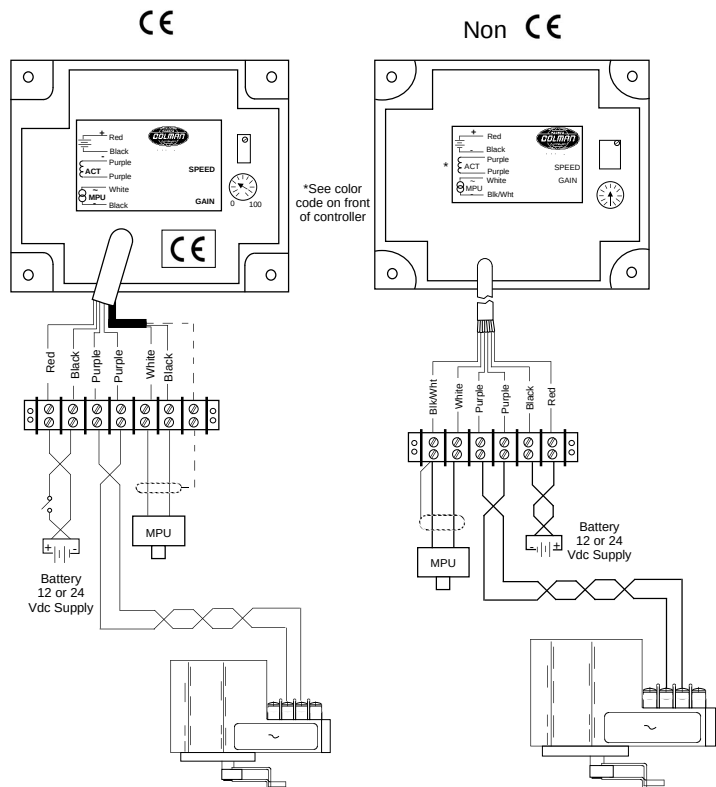


Controller Installation Dimensions

(For CE and non CE .)



Typical Wiring Diagrams



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