ADC100
Electric Actuators

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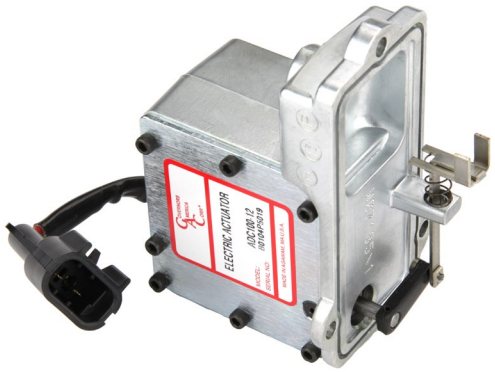
1 OVERVIEW

The 100 Series is designed to mount directly to all Stanadyne D Series mechanical fuel injection pumps. When the ADC100 electric actuator is installed on the fuel pump, an integral high-performance fuel control system results. No external linkages or brackets are required and no extra Stanadyne parts are needed. In addition, when the governor system is de-energized, the ADC100 series provides the function of a fuel shutoff solenoid.

- Mounts directly to all Stanadyne D Series mechanical pumps
- No external linkages or brackets required
- Functions as a fuel shutoff solenoid when governor system is de-energized
- Faster response than competitive design



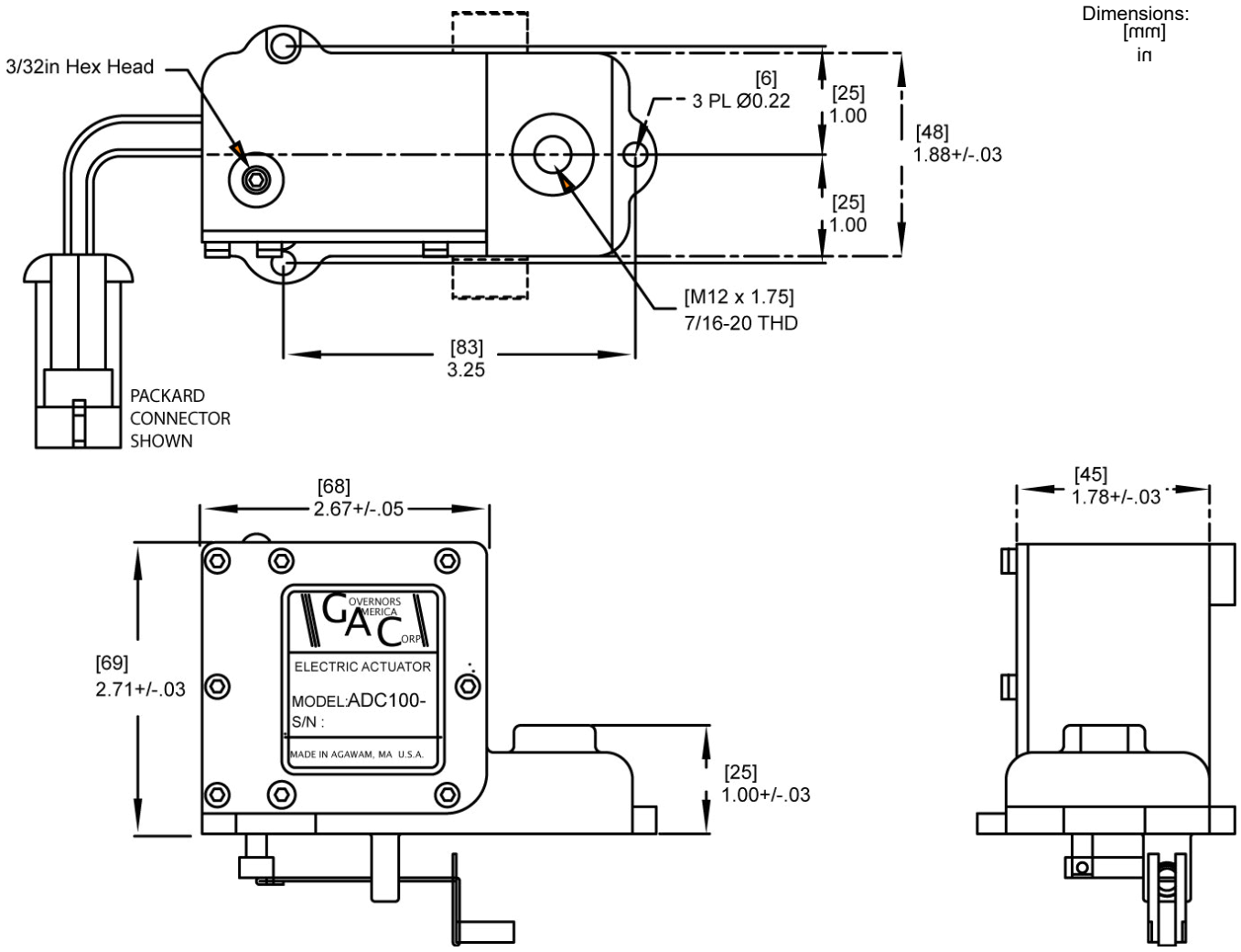
PART NUMBER	DESCRIPTION
ADC100-12	12VDC / Packard Connector without Mating Connector / Includes GA102
ADC100-24	24VDC / Packard Connector without Mating Connector / Includes GA102
FI280	100 Series - 90 degree fuel fitting for John Deere (and other) applications
GA102	100 Series - Actuator Mounting Gasket Spare (Included with Actuator)
HW13-001	5-Star Torx Bit - Pump Cover Screws (Service Tool)
CH1215	Wiring Harness - 6 ft [1.8 m] with EC1300 2-Terminal Packard Connector
EC1300	Mating Connector - 2-Terminal Packard Connector

2 SPECIFICATIONS

POWER INPUT	
Operating Voltage (Dedicated Coil)	12 or 24 V DC
Normal Operating Current	1.9 A at 12 V DC 1.5 A at 24 V DC
Maximum Current (Continuous)	2.7 A at 12 V DC 1.9 A at 24 V DC
Coil Resistance	3.3 Ω at 12 V DC 7.8 Ω at 24 V DC
Direction of Travel	Increasing current increases fuel, pushing coupler forward

ENVIRONMENT	
Operating Temperature Range	-40 to +180 °F [-40 to +83 °C]
Relative Humidity	up to 100 %
All Surface Finishes	Fungus Proof and Corrosion Resistant
Agency	RoHS Compliant / CE
PHYSICAL	
Dimensions	Section 3, Outline Diagram
Weight	2.2 lbf [1.0 kgf]
Mounting	Directly on STANADYNE DB, JDB, DC, DB2, DB4, DM2, and DM4 Series Pumps

3 OUTLINE DIAGRAM

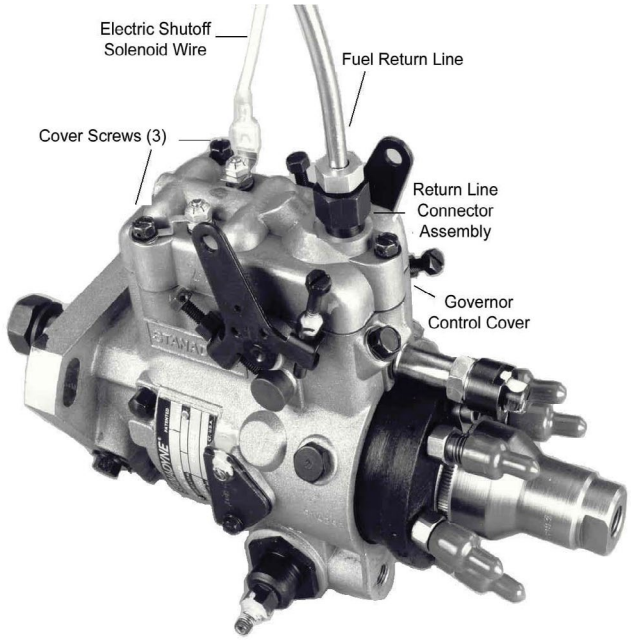


4 PREPARING THE FUEL PUMP

Prepare the fuel pump by first cleaning the pump and then removing the fuel and electric connections.

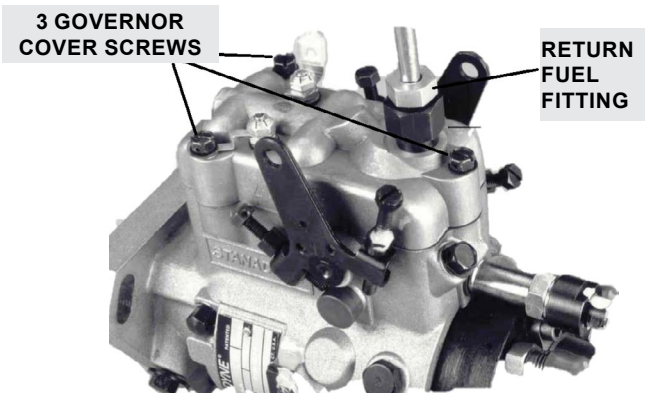
Before the fuel injection pump's Governor Cover can be removed and replaced by the ADC100 Series electric actuator, it is important for the outside of the pump to be clean.

1. If necessary, remove any dirt with a solvent. This will prevent contaminates from entering the pump. The cleaning solvent as well as fuel oil can be collected by placing a suitable container underneath the pump.
2. Disconnect the pump's electric shutoff solenoid wire from its connection point on the pump governor cover. This wire is no longer necessary and can be eliminated at its source.
3. Remove the fuel return line from the fuel return line connector. Save the connector.



DISCONNECT SOLENOID AND FUEL LINE

4. Remove the three governor cover screws. The cover screws are replaced by mounting screws provided with the ADC100 Series actuator.
5. Remove the governor cover assembly with care to ensure that no dirt or debris is allowed to enter the fuel injection pump.
6. Remove the return fuel fitting (housing pressure regulator assembly) from the governor cover. Save for later use.



REMOVE THE GOVERNOR COVER ASSEMBLY

The following installation steps are specific to a Stanadyne pump. For other manufactures see your GAC representative for additional installation information.

1. Reinstall the return fuel fitting into the ADC100 actuator.
2. Install actuator gasket, GAC part number GA102, into the O-ring groove. Discard the metal formed gasket used in the original governor cover assembly. It must not to be used with an ADC100 Series actuator.

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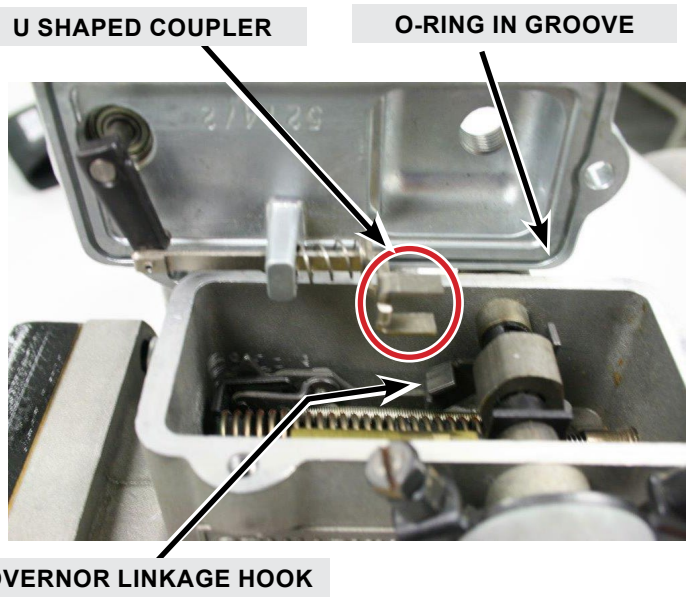
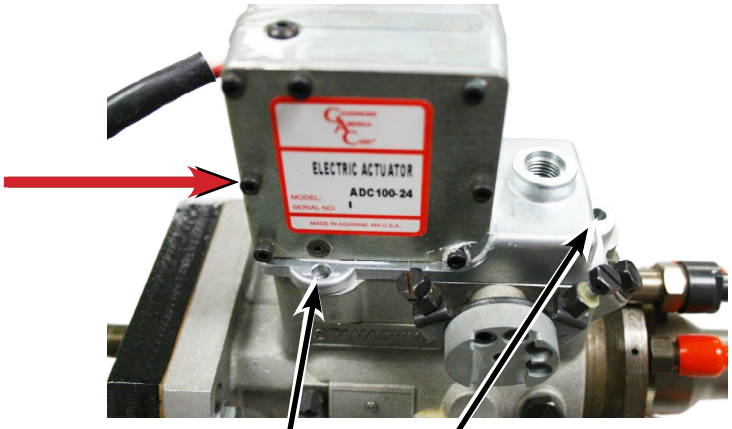


3. Position the ADC100 actuator on the fuel injection pump with the tall end of the actuator slightly upward and positioned as closely to front or the governor compartment as possible.

Improper engagement of the actuator to the governor linkage hook could cause an engine over-speed condition.

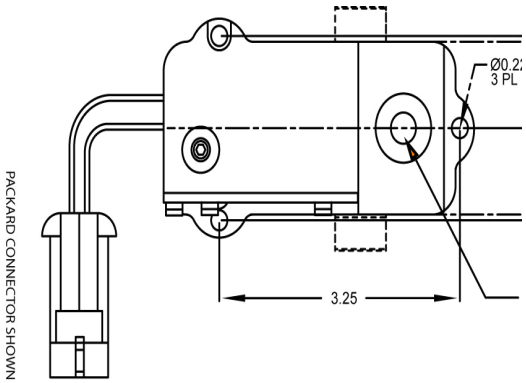
4. Slide the ADC100 electric actuator toward the end of the fuel injection pump until the actuator's U shaped coupler engages the pump's Governor Linkage Hook.
5. After engagement has been made, align the mounting holes between the electric actuator and the fuel injection pump.
6. Securely fasten the ADC100 electric actuator to the fuel injection pump, using the 3 screws provided with the actuator. Torque the screws to 21 in-lbs.
7. Replace the return fuel fitting, using the GAC FI280 90° fitting as required.



6 FUEL INJECTION PUMP SET-UP

NOTE Prior to starting the engine, the pump's shut off lever, throttle lever and mechanical governor must be set, to ensure compatibility with the electronic governor.

1. Secure the shut-off lever in the Run position, if the Stanadyne pump is equipped with one.
2. Lock the throttle lever in the Full Fuel position. This setting should be 10 – 12% above the desired governed speed.
3. Adjust the pumps mechanical governor Droop by turning the droop adjusting screw CW (from transfer pump end) until it stops. Then turn it CCW two turns. This adjustment provides compatibility between the mechanical governor and the electronic actuator.
4. Purge any air from the injection pump by removing the 3/32 hex head plug located on top of the actuator. See Section 3, Outline Diagrams for hex head location.



7 WIRING

The ADC100 Series is designed to have a dedicated coil for use in the 12 V DC operation and another dedicated coil for 24 V DC operation. These actuators are respectively identified as ADC100-12 and ADC100-24.

The output from the selected GAC speed control unit is connected to the ADC100 Series actuator using the GAC cable harness CH1215 or mating connector kit EC1300. See your specific speed control unit installation manual for wiring information.

CH1215 includes the pre-wired actuator mating half connector for the ADC100 Series actuator. The actuator connector offers a vibration resistant and environmentally sealed electrical connection.

8 TROUBLESHOOTING

If the governor system fails to operate and the actuator is suspected to be the problem, test the following resistance measurements:

Measure Coil Resistance Across Connector	Measure Coil Isolation Terminal to Actuator Housing
3.3 Ω 12 V DC 7.8 Ω 24 V DC	No Continuity

If resistance is note the issue, complete the following checks:

1. Remove the ADC100 from the pump.
2. Move the U-shaped coupler arm back and forth to see if it moves and returns freely without binding. Make sure it is not bent or deformed.
3. Energize the actuator referencing the speed control manual or momentarily connect the actuator to the battery to see if it moves and returns.
4. Following the steps in Section 4, Preparing the Fuel Pump, and Section 5, Installing the Actuator, reconnect the ADC100 to the pump.

If the actuator passes these tests, the problem is elsewhere in the governing system. Refer to your speed control unit installation manual's troubleshooting section.