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› Knowtek Actuator 3408328 Instruction Manual for Diesel Engine PT Pump Electronic Fuel Governor

Knowtek 3408328

Knowtek Actuator 3408328 Instruction Manual

Model: **3408328** | Brand: **Knowtek**

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the Knowtek Actuator Model 3408328. This electronic actuator is specifically designed for PT pumps in diesel generators, suitable for engines with a power range up to 500 KW. Adherence to these instructions will ensure optimal performance and longevity of the unit.



Figure 1.1: Front view of the Knowtek Actuator 3408328. This image displays the primary components and overall structure of the actuator.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury and damage to the equipment:

- Ensure the engine is completely shut down and cooled before attempting any installation or maintenance.
- Disconnect all power sources to the generator and associated systems before working on the actuator.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Only qualified personnel should perform installation and service procedures.
- Verify correct voltage and current ratings before connecting the actuator to the electrical system.

3. PRODUCT OVERVIEW

The Knowtek Actuator 3408328 is an electronic governor actuator designed for precise fuel control in diesel engines

utilizing a PT pump system. It operates as a normally open type, suitable for engines below 500 KW. Its robust design ensures reliable performance in demanding industrial environments.



Figure 3.1: Side view of the actuator, clearly showing the part number label (3408328) and serial number.

4. SPECIFICATIONS

Key technical specifications for the Knowtek Actuator 3408328 are detailed below:

Specification	Value
Part Number	3408328
Engine Type	Normally Open, Small Flow
Application Range	Engines below 500 KW

Specification	Value
Rated Operational Voltage	24 V
Working Temperature	15-125°C (59-257°F)
Response Time	20 ms
No-load Current	0.9-1.1 A (Voltage: 3-9 V)
Full-load Current	1.1-1.5 A (Voltage: 10-12 V)
Compatible EFC	3037359
Item Weight	2.2 pounds (approx. 1 kg)
Package Dimensions	5.91 x 5.91 x 5.91 inches (15 x 15 x 15 cm)

5. INSTALLATION

Follow these general steps for installing the actuator. Refer to your engine's specific service manual for detailed PT pump procedures.

1. **Preparation:** Ensure the engine is off and cool. Disconnect the battery to prevent accidental startup.
2. **Access:** Locate the PT pump on your diesel engine. You may need to remove covers or other components to gain access.
3. **Remove Old Actuator (if applicable):** Carefully disconnect any wiring from the existing actuator. Unbolt and remove the old unit, noting its orientation.
4. **Install New Actuator:** Position the Knowtek Actuator 3408328 in the correct orientation on the PT pump. Secure it with the appropriate fasteners, ensuring a snug fit without overtightening.
5. **Electrical Connection:** Connect the actuator's wiring to the engine's electrical system. Pay close attention to polarity and ensure all connections are secure and insulated. The actuator requires a 24V power supply.
6. **Verification:** Double-check all connections and ensure no tools or debris are left in the engine compartment.



Figure 5.1: Angled view highlighting the electrical connection terminals of the actuator, crucial for proper wiring during installation.

6. OPERATION

Once installed, the actuator works in conjunction with the Electronic Fuel Control (EFC) system (e.g., compatible EFC 3037359) to regulate fuel delivery to the engine. The actuator receives signals from the EFC to adjust the fuel flow, thereby controlling engine speed and power output. No direct user interaction with the actuator itself is typically required during normal operation.

- Ensure the EFC system is correctly calibrated and functioning.
- Monitor engine performance for any irregularities after installation.

7. MAINTENANCE

The Knowtek Actuator 3408328 is designed for minimal maintenance. However, periodic checks are recommended to ensure continued reliable operation:

- **Visual Inspection:** Regularly inspect the actuator and its wiring for any signs of physical damage, corrosion, or loose connections.
- **Cleanliness:** Keep the actuator free from excessive dirt, oil, and debris. Use a clean, dry cloth for cleaning. Avoid using harsh chemicals.
- **Connection Integrity:** Periodically check that all electrical connections are tight and secure.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature range (15-125°C).

8. TROUBLESHOOTING

If you experience issues with the actuator, consider the following common troubleshooting steps:

Problem	Possible Cause	Solution
Engine not responding to throttle input	Loose or corroded electrical connections	Check and secure all wiring connections to the actuator and EFC.
Actuator not moving	No power supply to the actuator	Verify 24V power supply. Check fuses and circuit breakers.
Erratic engine speed	Faulty EFC unit or sensor issues	Inspect the EFC unit and associated sensors. Consult engine service manual.
Physical damage to actuator	Impact or environmental stress	Replace the actuator if physical damage is evident and affecting function.

If the problem persists after attempting these solutions, contact qualified service personnel or Knowtek customer support.

9. WARRANTY AND SUPPORT

Knowtek products are manufactured to high-quality standards. For warranty information, please refer to the terms and conditions provided at the time of purchase or contact your authorized Knowtek dealer. For technical support or inquiries, please visit the official Knowtek website or contact their customer service department.

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