



KT231M and KT232M Installation Kits

Governor System Installation Kits For Diesel Engines with RS/RSV Mechanical Governors

(KT231M For The Left Side of Engine - KT232M For The Right Side of Engine)

1 INTRODUCTION

The KT231M Governor System Installation Kit provides the necessary bracket, cables and hardware to install a GAC precise Electronic Governor on a diesel engine with an RS/RSV style mechanical governor that is on the left side, as viewed from the rear of the engine. The KT232M provides the necessary bracket, cables and hardware to install a GAC Governor on a diesel engine with an RS/RSV style mechanical governor that is on the right side, as viewed from the rear of the engine. The electronic governor system's actuator is linked to the fuel pump's Run/Stop lever. The actuator, speed control unit, speed sensor and remaining governor system components can be selected by the customer to meet the specific application requirements.

2 PRE-INSTALLATION

Disconnect the engine battery cables, negative connection first, to prevent accidental engine starting. The engine should be cool to avoid burns while installing the governor system. Locate the fuel injection pump's Run/Stop lever. It may be mechanically linked to a stop solenoid. If so, disconnect and remove the stop solenoid and its bracket. Secure the fuel pump's throttle lever at approximately 10 % above the highest desired engine governing speed.

3 ACTUATOR INSTALLATION

(Refer to enclosed installation diagram and parts list)

1. Remove the top two bolts/studs from the RSV style mechanical governor cover. Attach the actuator bracket (1) using the two supplied M6X80mm socket head bolts (2), two M6 lock washers (3), and two aluminum spacers (4). Make sure that spacers are installed between actuator Bracket and pump cover.
2. Thread a M6 hex nut (5) on to the actuator bracket support rod (6). Insert support rod through the actuator bracket outer support hole. Loosely thread a M6 hex nut (5) with M6 lock washer (3) onto the end of the support rod.
3. Remove top left screw or stud from the lower cover on the fuel pump. Install supplied support stud (7) with M6 lock washer (3) and tighten. Attach end of support rod to the stud and secure using a M6 hex nut (5) and a M6 lock washer (3).
4. Secure upper end of support rod by adjusting upper and lower hex nuts to clamp bracket in installed location.
5. Remove the mechanical governors existing Run / Stop lever. Disconnect the external Run / Stop lever return spring. Be sure to save spacer cup and/or spacer shims that are behind original lever. Install the supplied Run / Stop lever (8) being sure to place original spacer cup and/or spacer shims behind in the assembly. Secure lever with the M6 X 16 socket head bolt (9) and a M6 lock washer (3). Be sure to move the lever back and fourth to insure there is no binding or sticking present.
6. Mount the linear electric actuator (10) onto the actuator bracket (1) using four M6 hex bolts (11), M6 lock washers (3) and M6 Hex nuts (5).
7. Assembly of Clevis: Screw an M6 hex nut (5) onto the actuator shaft, until it is flush with the last thread followed by a M6 lock washer (3) and the supplied clevis (12). Adjust the clevis until it touches the M6 lock washer & nut. Secure the hex nut and lock washer.

4 ACTUATOR LINKAGE INSTALLATION

1. Assembly of linkage rod: Screw one M6 jam nut (5) onto both ends of the linkage rod (13). Slide a ¼ internal tooth lock washer (14) onto each end. Screw one ball bearing rod end (15) on each end of the linkage rod. Adjust rod ends until there is an approximate distance of 4.8 inches (122 mm), center to center between the rod end holes.

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2. Attach linkage to the actuator's clevis with a M6 hex bolt (11), M6 lock washer (3), and M6 hex nut (5). Attach the lower end of the linkage to the supplied Run/Stop lever inner hole with a M6 hex head bolt (11), M6 flat washer (16) used as a spacer, M6 lock washer (3), and M6 hex nut (5).
3. Move linkage by hand and check for smooth operation.
4. Connect actuator lead to mating harness connector.

5 GOVERNOR SYSTEM WIRING

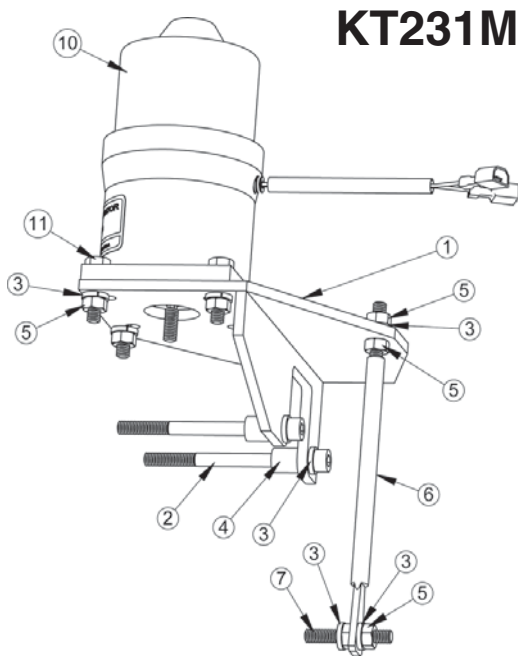
The ALN050 Series electric actuator is pre-wired for either 12 or 24 Vdc. The actuator is supplied with mating half crimp on connectors so that a cable harness of desired length can be constructed. Wire size selection should be made using good electrical judgment and is dependent on current draw of the actuator and length of the wiring harness from the speed control unit. Secure these wires to the speed control unit's actuator output terminals, refer to the appropriate speed controllers bulletin for details.

6 ACTUATOR HARNESS - WIRE SIZE

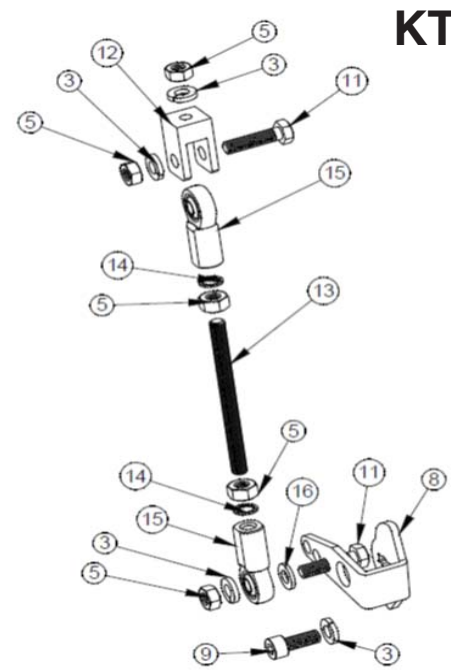
Minimum Wire Size	System Voltage
#16 AWG (1.31mm ²)	12 Volt
#18 AWG (0.82mm ²)	24 Volt

WARNING

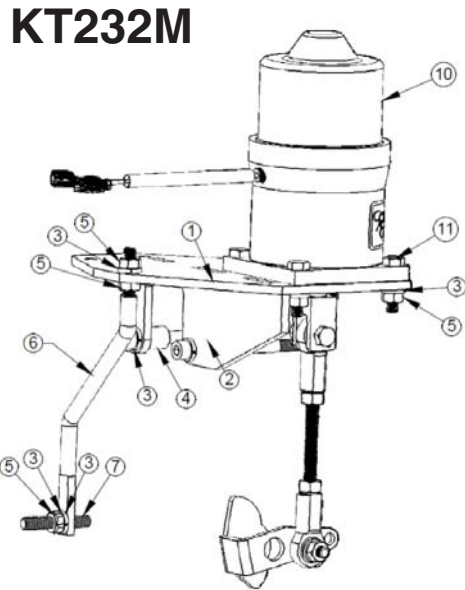
An overspeed shutdown device, independent of the governor system, should be provided. Equipment damage or personal injury may result due to loss of engine control.



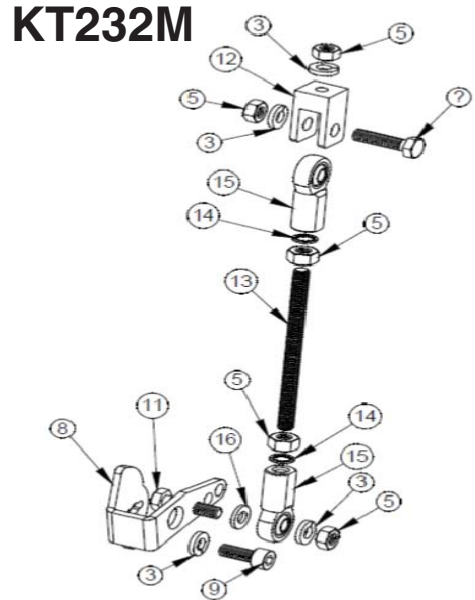
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Position	KT231M Description	Part Number	Quantity
1	Bracket	BK231	1
2	M6 80mm Screw	HW05-231	2
3	M6 Lock Washer	HW06-627	13
4	Spacer - Bracket	SR231	2
5	M6 Hex Nut	HW07-700	10
6	Rod - Support M6	RD232	1
7	Stud - Pump Support	RD231	1
8	Lever - Fuel Pump	LE231	1
9	M6 Socket Screw	HW05-566	1
10	Actuator (Ordered Separately)	Not Included	1
11	Hex Screw	HW05-523	6
12	Link - Clevis	LK130	1
13	M6 Treaded Rod 80mm	RD230	1
14	1/4 Lock Washer	HW02-226	2
15	Rod End Bearing	BB112	2
16	M6 Washer	HW06-601	2

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