

KT144 Series John Deere 6076 with Robert Bosch Inj. Pump

Introduction

The KT145 Series Governor System Installation Kit provides the necessary brackets and hardware to install a GAC precise Electronic Governor on a John Deere 6076 Engine equipped with a Robert Bosch fuel injection pump.

The 225 series actuator is correctly sized for the application and comes in both 12 or 24-volt variation.

John Deere 6076 series engine bell housings are tapped with

a 5/8-18 or 3/4-16 hole to accept a GAC magnetic pick-up.

A specific speed control unit and any remaining governor components can be picked by the customer depending on the application.

Contact GAC marketing or engineering with any questions.

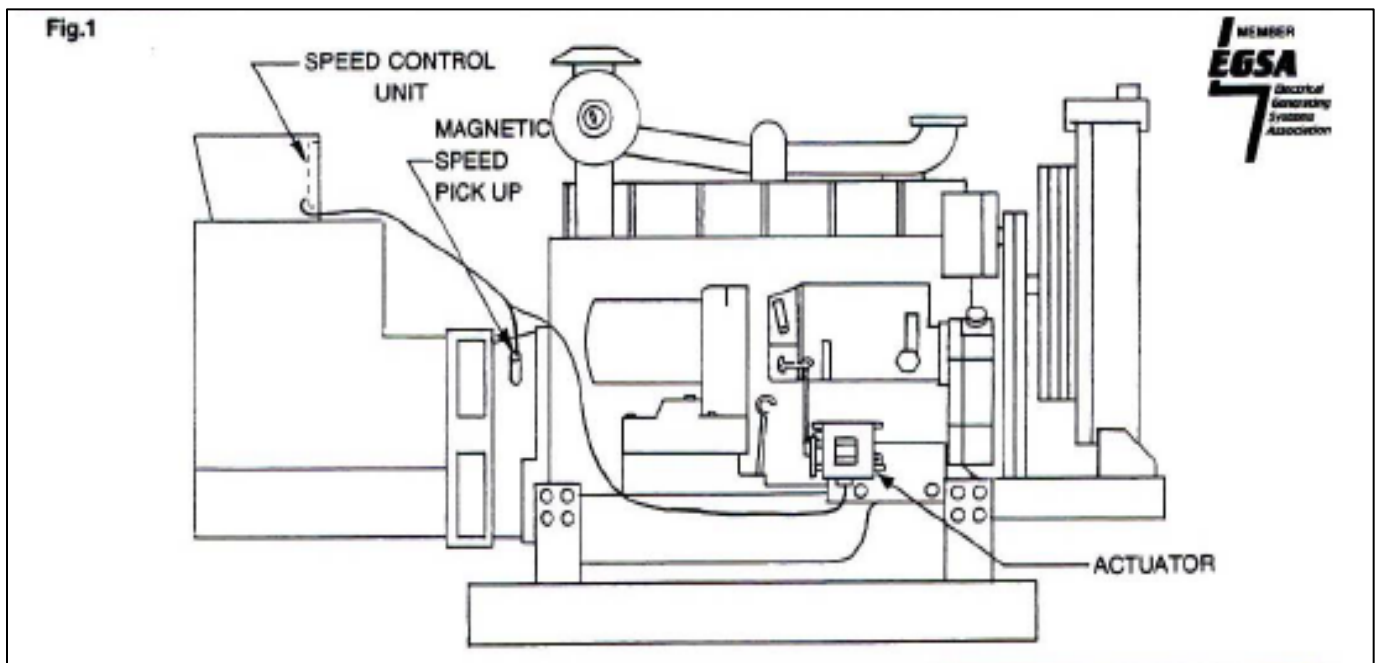
Pre-Installation

Start the engine and adjust the mechanical governor to a speed approximately 5-10% above the operating speed. Lock the mechanical governor operating lever in place. Stop the engine.

Disconnect the engine battery cables (negative connection

first) to prevent accidental engine starting

The electronic governor actuator will control the engine through the fuel pump shut off lever. This lever must be on the outboard side. See Diagram 2. If necessary, move the lever. Also, remove the shut off lever spring.



Actuator Installation

1. Mount the Actuator bracket onto the engine block below the fuel pump using two 3/4-10 x 1-1/2" bolts, lock washers and flat washers. See Fig. 1 and 2.
2. Install the actuator with its connector pointing down and

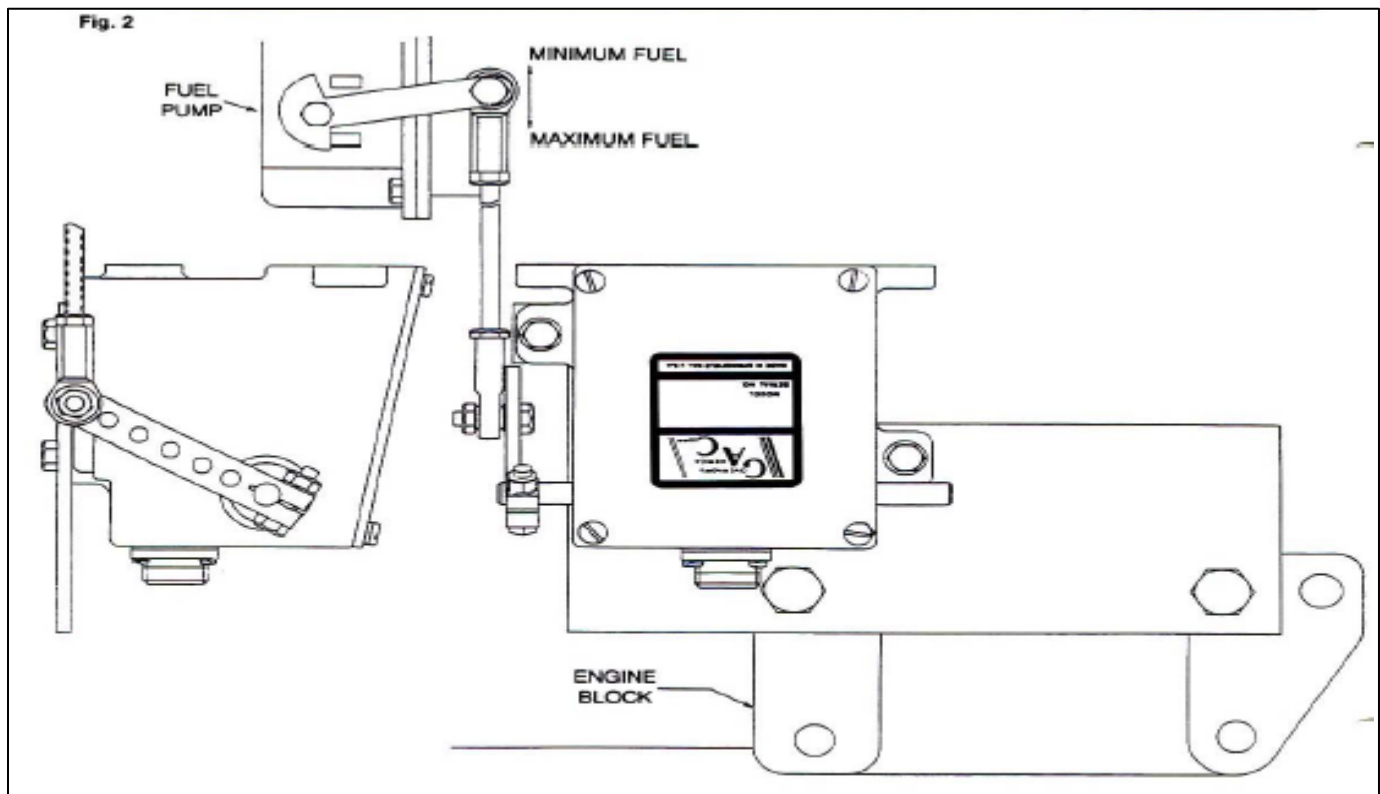
the label facing away from the engine. Attach the actuator to the bracket using two 5/16-18 x 1-1/4" bolts, flat washers, lock washers and nuts. Tighten all bolts and nuts.

Actuator Linkage Assembly

1. Thread a 1/4-28 jam nut onto each end of the linkage rod. Thread a Ball Bearing Rod end onto each end of the rod. Adjust the Rod ends so that their hole centers are perpendicular to each other and the distance between them is 7".
2. Attach one end of the linkage rod assembly to the inboard side of the shut off lever with a 1/4-20 x 1" bolt, flat washer and locking nut. See Diagram 2.
3. Hold the fuel pump shut off lever up in the no fuel position. Slide the actuator lever, flat side away from the actuator, onto the actuator shaft so that the last hole from the

shaft is aligned with the ball bearing rod end. If necessary, slightly adjust the length of the linkage. Adjust the lever on the shaft until the linkage is vertical. Attach the linkage to the actuator lever with a 1/4-20 x 1" bolt, flat washer and lock nut.

4. Move the linkage assembly thru its full travel. There should be no friction or binding in any position. Pull the actuator lever and linkage to its full fuel position (up) and release. The assembly should snap back to the no fuel position without binding. Tighten all bolts and nuts.



Speed Control Unit Installation

Mount the Speed Control Unit in the engine control cabinet or engine mounted enclosure.

If water, mist or condensation can come into contact with the controller, it should be mounted vertically.

Extreme heat should be avoided!

Site selection should allow access to the speed control unit adjustments.

The speed control unit case mounting holes can be used as a template for drilling holes.

Magnetic Speed Sensor Installation

1. Remove the plastic plug from the tapped hole in the engine bell housing.

2. If there is no hole, drill and tap the engine bell housing. The hole must be located perpendicular to the crankshaft centerline and centered over the flywheel.

3. Rotate the engine ring gear until a tooth crown is in the center of the tapped hole.

4. Thread the Magnetic Speed Sensor into the tapped hole until it bottoms on the ring gear tooth. Back the sensor out ½ turn and secure the lock nut

Governor System Wiring

See specific Speed Control Unit publication for connection information.

1. Connect the electric actuator harness to the actuator. Cut the harness to length. Attach the solderless spade connectors and attach to the ACTUATOR terminals of the Speed Control Unit.

2. Take and cut the Magnetic Speed Sensor harness to length and connect it to the Speed Control Unit with 2 solderless connectors at the Pick-up terminals.

3. Install wire leads from the battery (-) and (+) to the BATTERY input terminals of the Speed Control Unit using solderless spade connectors. Battery polarity must be observed. Fuse protection on the battery (+) of 15 amps is recommended.

Optional Speed Trim Control

Panel mount and wire the speed trim potentiometer available from GAC. Connect the terminals of the potentiometer to the Speed Control Unit.

Speed Control Unit Adjustment

1. Remove the protective covers over the adjustments on the Speed Control Unit.

2. Check to ensure that the GAIN and STABILITY adjustments are in their mid-positions.

3. If used, set the optional external speed trim control to its mid position

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

4. Start the engine and rotate the engine SPEED adjustment to the desired engine speed (this is a 25 turn potentiometer). Clockwise adjustment increases engine speed.

Governor Performance Adjustments

1. Rotate the Gain adjustment clockwise until instability develops. Gradually move the adjustment counter clockwise until stability returns. Move the adjustment 1/8 of a turn further counter clockwise to insure stable performance.

2. Rotate the STABILITY adjustment clockwise until instability develops. Gradually move the adjustment counter clockwise until stability returns. Move the adjustment 1/8 of a turn further counter clockwise to insure stable performance.

3. Gain and stability adjustments may require minor changes after engine load is applied. Normally adjustments made under no load conditions achieve satisfactory performance.

If instability cannot be eliminated, or further performance improvements are required, refer to the Trouble Shooting Sections of the Speed Control Unit or Actuator publications.

4. Apply full load to the generator set. If it will not carry full load, stop the engine and shorten the linkage rod by turning the ball bearing rod ends in. Repeat the load test. It may be necessary to back out the maximum fuel stop screw on the operating and/or the shut off levers until full load is reached.

Parts for Complete Set-up		
ITEM	DESCRIPTION	QUANTITY
KT144	Installation Kit	1
ADC225S-12 or 24	Electronic Actuator	1
ESD5500-II	Controller	1
MSP675/MSP6734	Mag-Pick-up	1
Options		
TP501	5K-1 Turn Potentiometer	1
EEG6500	Digital Controller Replacement for the ESD5500-II	1

KT145 Components

Part Number	Description	Quantity
BK144	Actuator Bracket	1
HW01-104	3/4"-10 Bolt	2
HW02-205	3/4" Flat Washer	2
HW02-204	3/4" Lock Washer	2
HW01-112	5/16-18 x 1.25" Bolt	2
HW02-211	5/16" Lock-Washer	2
HW02-210	5/16" Flat Washer	2
HW03-304	5/16-18 Nut	2
HW04-400	1/4-28 x 12" plated linkage rod	1
BB110	1/4-28 Bearing End	2
HW01-106	1/4 -28 x 1" Bolt	1
HW01-107	1/4"-20 x 1 Bolt	2



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30 Years Strong!

HW03-301	¼-20 Lock Nut	2
Hw02-207	¼" Flat Washer	2
HW02-206	¼" Lock Washer	1
HW03-300	¼-28 Nut	3
EC05-02-0007	Solderless Spade Connector	2
EC05-02-006	Solderless Splice Connector	1