

KT153 – KT 289

Motorpal PPxM Pump with 175 Series Actuator

1 INTRODUCTION

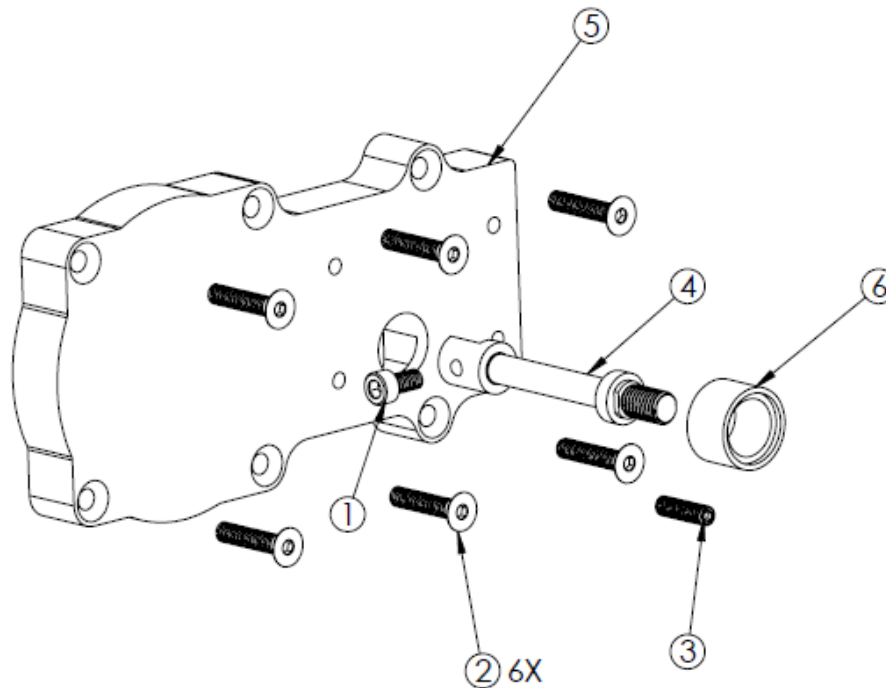
GAC's 175 Series Integrated Pump Mounted Actuators are field proven proportional actuators designed to mount directly to fuel injection pumps to achieve an integrated proportional servo fuel package. The following instructions detail using the KT153 to mount a 175 Series actuator on a Motorpal PPxM pump. **The 175 Series actuator with actuator installation kit are sold separately.**

2 KIT CONTENTS

The KT153 installation kit includes the following items.

FIGURE 1 KT153 PARTS LIST AND NUMBERED FIGURE

| ITEM | PART NUMBER | DESCRIPTION | QTY |
|------|-------------|--------------------|-----|
| 1 | HW05-628 | Cap screw, M6X12 | 1 |
| 2 | HW05-629 | Flathead hex screw | 6 |
| 3 | HW05-712 | Hex screw M6X35 | 1 |
| 4 | LK104 | Rack link | 1 |
| 5 | PL215 | Mounting plate | 1 |
| 6 | RT175-L | Spring retainer | 1 |



You will also need:

- Silicone gasket maker
- Motorpal flyweight puller

3 BEFORE YOU BEGIN

Before you start installation with this kit if the Motorpal fuel injection pump with right hand rack (as viewed from the mechanical governor in Figure 2) is equipped with a mechanical governor, it must be removed. GAC recommends that this modification be performed by a qualified fuel injection service facility.

FIGURE 2 DISASSEMBLED MECHANICAL GOVERNOR ON MOTORPAL PPXM PUMP



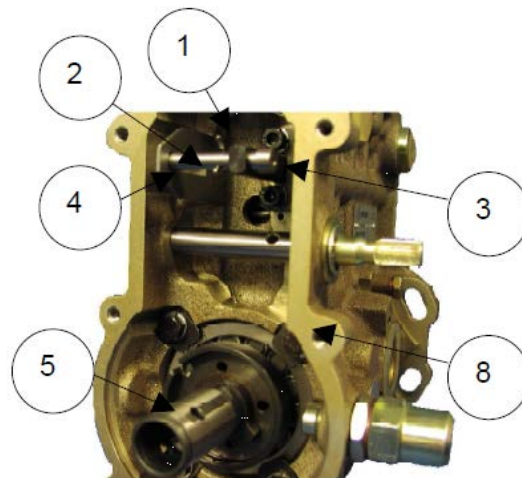
4 INSTALLATION PROCEDURE



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

1. Remove the rear housing from the mechanical governor by unscrewing six screws.
2. The governor linkage must be disconnected from the fuel rack.

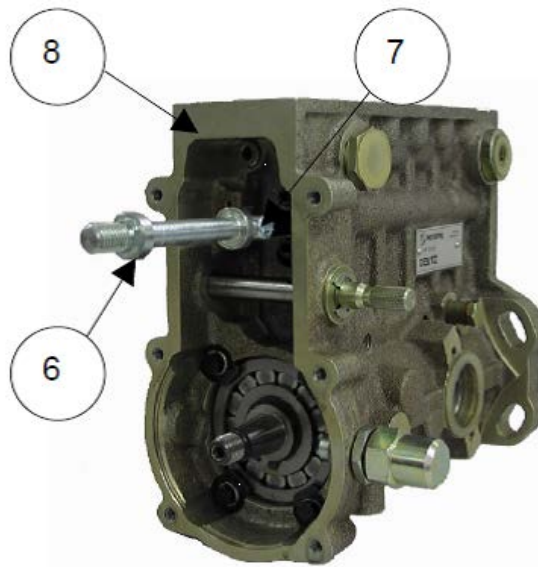
FIGURE 3 MOTORPAL PUMP W/OUT HOUSING OR MECHANICAL GOVERNOR



3. Remove split pin (Figure 3 (1)) from the rack pin (2). Slide out the rack pin from the fuel rack (3).

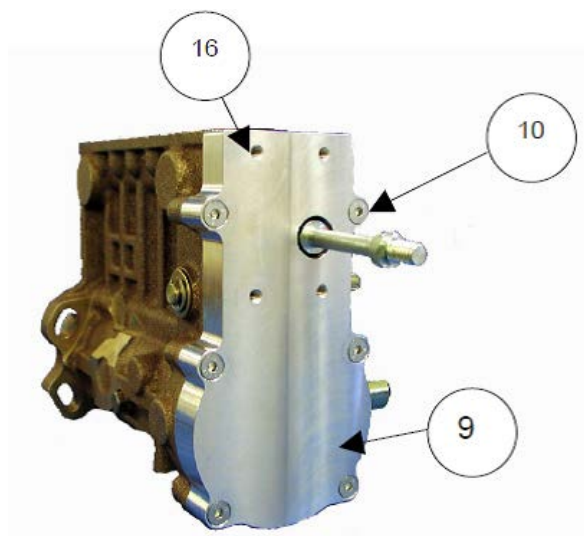
4. Remove the flyweight assembly using socket and a flyweight puller available from a Motorpal authorized service center.
5. Unscrew two screws from the rack pin guide (4) and remove the guide from the pump.
6. Remove inner weight hub (5) by unscrewing the M12 nut inside the hub.
7. If the fuel injection pump received lubrication from the engine's crankcase through the mechanical governor housing, reroute this lubrication supply line directly to the fuel injection pump.

FIGURE 4 MOTORPAL PUMP WITH RACK EXTENSION LINK



8. Clean the mounting surface of the pump and fuel rack.
9. Attach the rack link (Figure 4 (6)) to the left side of the fuel rack with M6 x 12 mm screw (7). Tighten the screw to 5.2 - 5.6 N-m so that the link is aligned axially on the rack.

FIGURE 5 LINK SUB ASSEMBLY



10. Apply a small amount of silicone gasket maker around the mounting surface of the pump (Figure 4 (8)) to seal the mounting surface of the adapter plate. Make sure silicone goes not get inside the pump housing.
11. Install the adapter plate (Figure 5 (9)) with six flat head M6 x 30 mm screws (10). Tighten the screws to 3 – 4 N-m.
12. Continue mounting the actuator following the installation manual for your 175 series actuator using the four mounting holes (16) and the fasteners supplied with the actuator installation kit KT289, included with the actuator.
13. Once the actuator is installed review Figure 6 for location of the fuel set screw.

FIGURE 6 MAXIMUM FUEL SETTING SCREW – INSTALLED

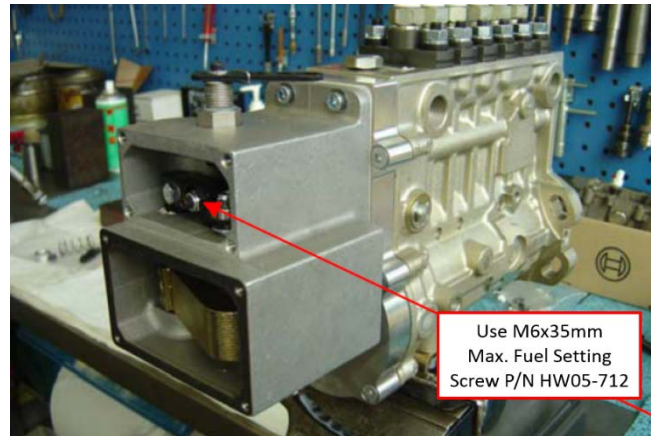
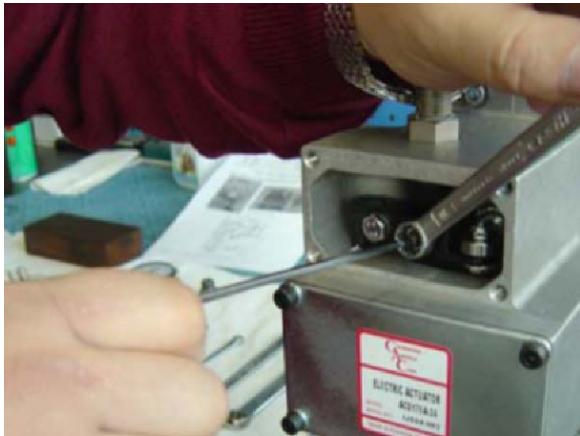


FIGURE 7 MOTORPAL PUMP With KT153 AND ACTUATOR INSTALLED

