
SERVICE BULLETIN

Original Issue Date: 4/15

Model: 8/10/12RESV(L), 12RES, 14/20RESA(L), 20RESB

Market: Residential

Subject: Using a Jacking Bolt to Remove a Rotor

Introduction

The following procedures show how to create and use special jacking bolt tools for loosening rotors that are difficult to remove.

Note: The procedure shown in the generator service manual is the preferred method for removing a rotor. The procedure shown in this service bulletin is intended as an additional option if the standard method fails.

Special Tools Needed

- PB™ Penetrating Catalyst
- Impact Wrench
- Anti-Seize Compound

8/10/12RESV(L):

- Thru-bolt: GM88401, 5/16"-24UNF-2A THD
- Jacking Bolt: 3/8-24 UNF (grade 8) Bolt

12RES:

- Thru-bolt: 358072 or GM51559, 3/8"-16 UNC-2A THD
- Jacking Bolt: 1/2-20 UNF (grade 8) Bolt

14/20RESA(L), 20RESB:

- Thru-bolt: GM76192 or GM62982, 7/16"-14 UNC-2A THD
- Jacking Bolt: 1/2-20 UNF (grade 8) Bolt

Safety Precautions

Observe the following safety precautions while installing the kit.

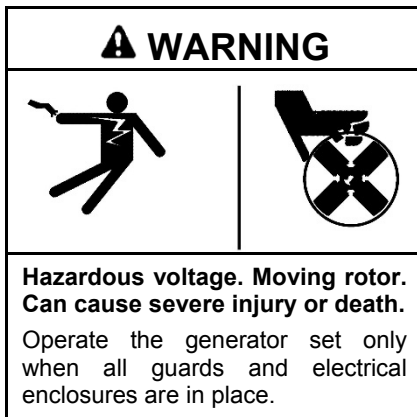
WARNING



Accidental starts can cause severe injury or death.

Disconnect the battery cables before working on the generator set. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery.

Disabling the generator set. Accidental starting can cause severe injury or death. Before working on the generator set or equipment connected to the set, disable the generator set as follows: (1) Press the generator set off/reset button to shut down the generator set. (2) Disconnect the power to the battery charger, if equipped. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent the starting of the generator set by the remote start/stop switch.



Grounding electrical equipment. Hazardous voltage can cause severe injury or death. Electrocutation is possible whenever electricity is present. Ensure you comply with all applicable codes and standards. Electrically ground the generator set and related equipment and electrical circuits. Turn off the main circuit breakers of all power sources before servicing the equipment. Never contact electrical leads or appliances when standing in water or on wet ground because these conditions increase the risk of electrocution.

Connecting the battery and the battery charger. Hazardous voltage can cause severe injury or death. Reconnect the battery correctly, positive to positive and negative to negative, to avoid electrical shock and damage to the battery charger and battery(ies). Have a qualified electrician install the battery(ies).

1. Create the Tools

- 1.1 Cut the head off a rotor throbolt to create the finished throbolt size.
- 8/10/12RESV(L): 21.6 cm (8 1/4 in.) final cut length
 - 12RES, 14/20RESA(L), 20RESB: 29.2 cm (11 1/2 in.) final cut length

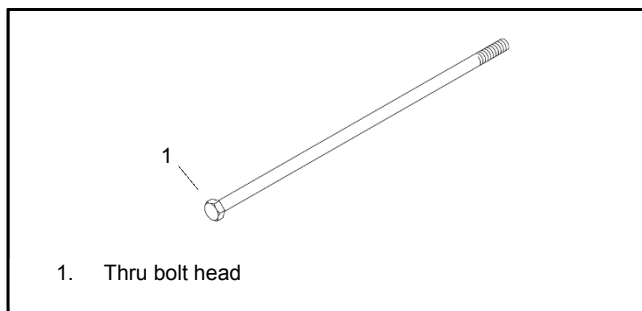


Figure 1 Throbolt

- 1.2 Create a slot for a screwdriver in the top of the bolt.



Figure 2 Throbolt Slot

- 1.3 Determine the correct size of the jacking bolt. The bolt should be approximately 7.6 cm (3 in.) long.

- 8/10/12RESV(L): 3/8-24 UNF (grade 8) bolt
- 12RES, 14/20RESA(L), 20RESB: 1/2-20 UNF (grade 8) bolt

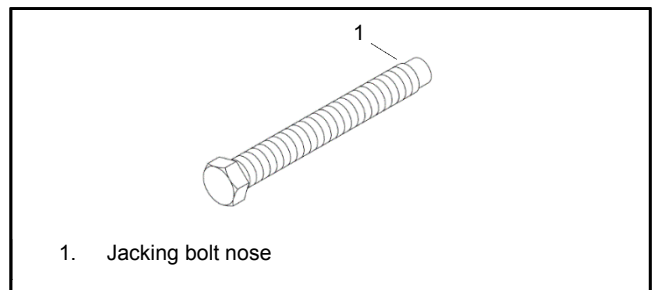


Figure 3 Jacking Bolt

- 1.4 To prevent damage to the end of the throbolt, turn down the nose of the jacking bolt.



Figure 4 Jacking Bolt Nose

2. Remove the Rotor

- 2.1 Slide the thru-bolt inside the rotor and tighten the thru-bolt into the crankshaft.
- 2.2 To avoid damaging the threads during impact, apply anti-seize compound or some form of lubricant to the jacking bolt threads. Chase the rotor threads to ensure that the jacking bolt threads properly.
- 2.3 Insert the jacking bolt into the rotor.
- 2.4 Once the jacking bolt arrangement is set up, tighten the jacking bolt with an impact wrench until the jacking bolt has a significant amount of pressure on the head of the thru-bolt.
- 2.5 Soak the crankshaft nose with PB™ penetrating catalyst, soaking every 1/2 hour for two to three hours.
- 2.6 Hit the head of the jacking bolt a few times with a steel or brass hammer.

Note: Striking the slip rings can damage the rotor. Do not use a steel or brass hammer when striking the rotor poles.

- 2.7 Turn the rotor and hit the rotor poles with a soft faced hammer.
- 2.8 Tighten the jacking bolt and repeat the procedure, striking the bolt and the rotor poles until the rotor loosens.

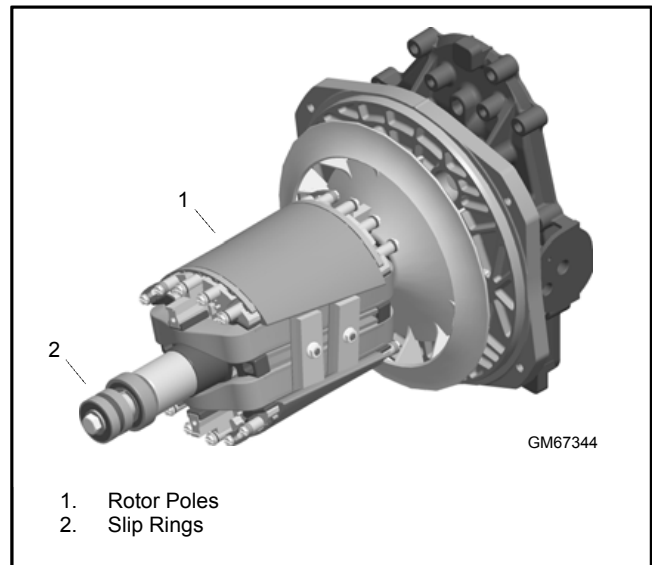


Figure 5 Rotor Assembly (14RESA Shown)

- 2.9 If the rotor will not come off, continue to soak the crankshaft nose with PB penetrating catalyst.
- 2.10 Repeat the procedure, striking the jacking bolt and the rotor poles until the rotor loosens.

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