



## **Rattle Noise from Engine Bay**

**Product: Workman® MD & MDX**

**Aug 23, 2012**

**Affected Units:**

**Models:**

**Serial Numbers:**

07273

311000001 – 312000531

07279

311000001 – 312000689

07266TC

311000001 – 312000252

07273TC

311000001 – 312000460

### **Situation:**

A rattling noise coming from the engine bay area may be caused by the Starter / Generator (S/G) Pulley – Drive (119-9482) not being secured by the torqued nut. It has been determined that the hub of the Pulley can be too thin (see image below) which causes the S/G Nut (119-9651) to bottom out on the taper of the Armature shaft of the S/G before it can secure the Pulley. This loose Pulley can then wobble, and make a rattling noise.



### **Instructions:**

Park the vehicle on a level surface, stop the engine, set the parking brake and remove the ignition key. Raise the Cargo box and secure it in place with the prop rod to gain access to the S/G. Loosen the Pivot Bolt / Flange Nut and Carriage Bolt / Lock Nut that secure the S/G, but do not remove them. Remove the S/G Belt from the S/G Pulley. Remove the S/G Nut (119-9651) (RH thread), S/G Washer-Lock (119-9652), and S/G Pulley – Drive (119-9482). Inspect the Armature (119-9658) shaft and Key-Woodruff (119-9657) for damage and replace as needed (follow the steps to replace the Armature as detailed on section 6, page 18 of the



## **Rattle Noise from Engine Bay**

Workman MD/MDX Service Manual). Inspect the Pulley for any damage. If damage is present, replace the Pulley with Pulley – Drive (121-6277) which has a thicker hub.

If in doubt about the fit of the original Pulley (119-9482), add an 11/16" I.D. Washer / Spacer (107-4293) onto the starter shaft before the S/G Pulley, and reinstall the S/G Washer-Lock (119-9652) & Nut (119-9651). Torque the nut to **15 to 25 ft. – lbs. (21 to 33 N-m)**.

**NOTE:** We recommend using a strap wrench to hold the pulley in place when removing or torquing the nut.

Install the S/G Belt and tighten the Pivot Bolt / Flange Nut and Carriage Bolt / Lock Nut that secure the S/G once the Belt is properly tensioned. Release the prop rod and lower the Cargo Box. Release the parking brake and test-drive the vehicle to see if the noise is still present.

If the noise is alleviated, no further action is required. If the noise continues, suspect another part (e.g., Primary Clutch) or call your local TORO Distributor.

**NOTE:** The Online Parts Catalogs will be changed to add the Washer / Spacer listed in the bulletin.

Direct any questions regarding this repair to your local TORO Distributor.