

## HP LaserJet P3005 Grinding Noise

Following in the footsteps of its predecessor, the P3005 has picked up a similar noise that is creating a lot of problems for techs in the field. One difference between the P3005 and its predecessor the LJ 2400 is the complexity of the problem.



It starts in a familiar way: the fuser and the bushings wear out, allowing the lower pressure roller to sink down into the fuser. This allows the teeth of the drive gear to pull away from the drive gear to the fuser. As you would expect, when gears don't mesh properly, it leads to damage and "ouch!" we hear that same wonderful grinding noise. In some cases, it's a simple fix. But in other cases, a more complicated repair is needed. This issue will instruct you on 2 common repairs that fix the problem: the 4 gears that are attached to the fusing drive assembly and the delivery drive guides.



To start out, I think it's important to mention the bushings of our rebuilt fusers have been upgraded to help prevent damage from occurring – assuming we have a qualified service tech doing the install and the screws are in tight (without which, the fuser would back away from the drive causing damage to the gears... you know the story). If you are seeing wear on the lower pressure roller bushings, you might want to talk to your supplier. Our rebuild department tells me the OEMs sometimes have these problems too. Now, let's take a look at the source of the grinding noise in the P3005 series and step by step how to fix it.



### Cause #1:

**The Gears Attached to the Fusing Drive Assembly:** The most common cause is the 4 gears that are attached to the fusing drive assembly. These 4 gears sit above the fuser and attach to the fusing drive assembly, but are separate from the fuser drive. Changing these parts usually ends the noise. (Figure 1) There is a 17x17 tooth double gear (RU5-0958), a 20x20 tooth double gear (RU5-0956), a 19 tooth gear (RU5-0959), and a 20 tooth gear (RU5-0957). All these gears are in a handy kit KIT-GEAR P3005-PNO. We'll show you detailed instructions on how to replace these.



1. Remove the toner cartridge and cassette tray.
2. Remove the rear cover. By pulling the rear output tray all the way down, you have to release the two door stops; this will allow you to gain access the two screws holding the rear cover. (Figure 2)
3. Remove the two screws, and then lift the cover from the bottom to disengage the alignment tabs at the top. Pull the cover away from the printer. (Figure 3)
4. Remove the I/O cover. Tilt the cover to clear the tabs on the right side of the cover. (Figure 4)
5. Remove the duplex inlet guide. There are two tabs that are that get released and it



pulls right out the back of the printer. (Figure 5)

6. Disconnect the fuser power cable on the left hand side. (Figure 6)

7. Disconnect the cables on the right hand side of the fuser. There is one purple and one yellow cable. (Figure 7)



8. Remove the four screws holding in the fuser. There are 3 self-tapping and 1 grounding screw.

9. Now tilt the fuser slightly towards the rear and pull it away from the machine.

10. First remove the RU5-0958 the 17x17 tooth double gear, there is a tab that you release and this pulls right off. (Figure 8)

11. Now you can remove the 19 tooth single gear (Figure 9) (RU5-0959)



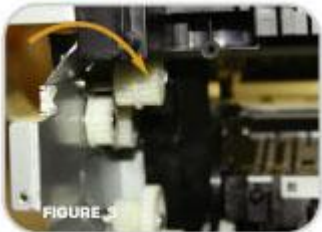
12. Remove the fuser thrust stopper (RC2-0657). This holds the 20x20 tooth gear in place. If this is missing, it will cause quite a grinding noise. Then remove the 20x20 tooth gear. (Figure 10) (RU5-0956).

13. Remove the 20-tooth gear (RU5-0957). (Figure 11 & 12)

**Cause #2:**



**Delivery Drive Gears** While not as common, there is another cause: the delivery drive gears. Three larger gears buried up on top of the delivery area, these are driven off of these four gears, by a pendulum gear that hangs down in between the two double gears. There is the pendulum gear, that sits over a big 65- tooth gear then you have a 43- tooth gear and a 31-tooth gear, that sometimes if replaced will take care of this issue. The 31- tooth gear is the gear that directly meshes with the output roller. We'll also give you instructions on how to replace these gears.



1. To remove the formatter board, open the metal formatter cover and lift up and off of the hinges. Disconnect the 3 cables. There is 1 blue and orange cable, 1 black cable and 1 ribbon cable, and there are 6 screws that need to be removed.



Now pull the formatter from the left side slightly out and lift away from the printer.

To remove the engine control board, remove the front right cover. Remove the 2 screws from the rear of the cover and rotate toward the front of the printer.



Remove the control panel. There is one screw in the front of the panel and there is a grounding wire over the fan that needs to be removed. Open the toner door and lift the control panel to the right and feed the black cable through the frame. When re-installing, use the pin on the panel to re-install correctly.

Remove the left side cover. There are 2 screws at the bottom of the cover that need



to be removed, then from the rear of the printer push on and release the tab and rotate cover out and pull away from printer.



2. Remove the top right cover. There is one screw to be removed and it lifts away from the machine.



3. Remove the top cover there are 4 screws that need to be removed: 2 on the right side and 2 on the left side.



4. Remove the fan. Remove the 2 screws and disconnect the cable from the ECU.



5. Disconnect the 10 cables from the ECU. Unroute the toner door switch, (this is hardwired to the ECU).



6. Remove the 2 black screws and remove the I/O plate.



7. Disconnect the laser scanner cable.



8. Disconnect and unroute the two cables from the rear top of printer.



9. Remove the 7 black screws for the ECU pan and the 1 grounding silver screw (there is a star stamped into the frame above this) to the right of the AC receptacle.



10. When reinstalling the ECU, remember to get the on/off switch into the rod slot.

11. From the top of the ECU, rotate the board out away from the printer, this will expose the ribbon cable from the laser scanner and disconnect this from the laser scanner assembly. Route the cable through the frame. Now slowly rotate the board out from the machine. This will expose a ribbon cable near the bottom of the ECU. Disconnect this from the ECU and remove the ECU from the printer. (Figures 13-18).

12. Removal of the Fuser drive assembly RM1-3746. (Figure 19)

13. There are 5 screws: 1 in center, 2 on top and 2 on the bottom of the assembly. Remove these screws. At first, it appears that the main drive is going to have to be removed which is a lot more work. But we figured out an easier way to get this off and reinstalled. One gear has a clip that you need to release. Once you've released the clip and the gear slides off, remove the drive: all four gears left on the drive will slide off as you remove the frame of the drive. They are all keyed so they will only go on one correct way. Pay attention to how they sit on the drive. This info is included on the fuser drive assembly (RM1-3746) which includes the frame and the 5 gears. (Figure 20).

14. You will have to set the gears in the body and slide the drive into the gears in order to get the drive back into the machine without removing the main drive assembly. (Figure 21)

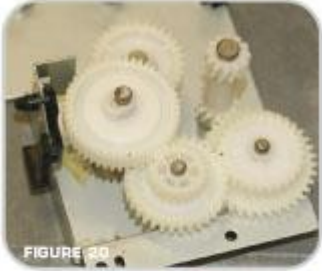




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15. Output assembly exposing the last three possible gears to cause this noise. There are 3 gears and a pendulum assembly that you will expose. There is a 43-tooth gear (RU5-0955), a 31-tooth gear (RU5-0960) and a 65-tooth gear (RU5-0962) and a pendulum (RM1-3748). (Figure 22)



16. Remove the fuser drive motor (RK2-1489). There are two screws you have to remove. Also unroute the motor cable and remove the motor. (Figures 23 & 24)



17. There are 3 self-tapping screws on the left side and the right side that have to be removed. Unclip the cable holders to move the cables out of the way. (Figures 25-27)



18. There is a metal strap that is held on by 1 screw on the rear of the machine that has to be removed. (Figure 28)



19. Unroute the wires. (Figures 29 & 30)

20. You will have to flex the frame to remove the output. There will still be 1 purple cable connected to the output just rotate and set on top of the machine. Now you will expose those three gears and pendulum. Note the plastic assembly is not available, you can replace the output roller but the black plastic housing you remove to expose the gears is not available -- it is considered part of the frame of the printer. (Figures 31 & 32)



Conclusion The noisy P3005 has plagued service technicians for months. We have presented the 2 most common solutions to creating a quieter P3005. Thus far, we've not experienced an issue with the fusing assembly or the fuser drive assembly at this point. But we will keep you posted in future issues.





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FIGURE 28



FIGURE 29



FIGURE 30



FIGURE 31



FIGURE 32

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