Procedure for Changing/Aligning Canon MP730 Paper Feed Unit

By Gardner Patton

Safety –
See the safety instructions in the waste ink tank full document referenced below. Ground yourself.

Disclaimer –
Again watch out for ink damaging things and I take no responsibility for anything you do.

Procedure -
First take printer apart until you have taken the printer/paper feed unit out of the case bottom. See procedure in write-up on waste ink tank full for detailed instructions (http://newsquaremusic.com/MP730aug2008.html).

Take off the piece (one screw) that covers the paper feed gears.

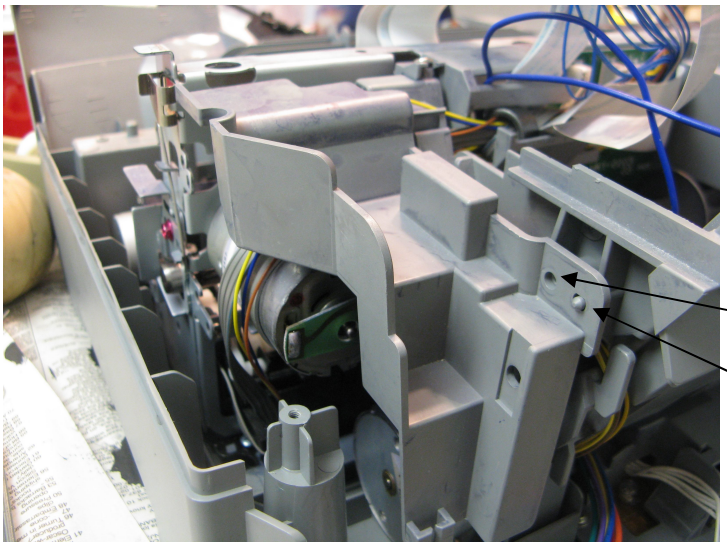


Fig. 1 - Piece covering paper feed gears

Unscrew the circuit board (2 screws) on the right side of the paper feed unit as you look from the back. Still on the right side if the yellow wire is hooked into the slot in the paper feed unit you will have to pop that connection off the circuit board that is behind the paper feed unit. Undo the ground on the right side at the paper feeder.

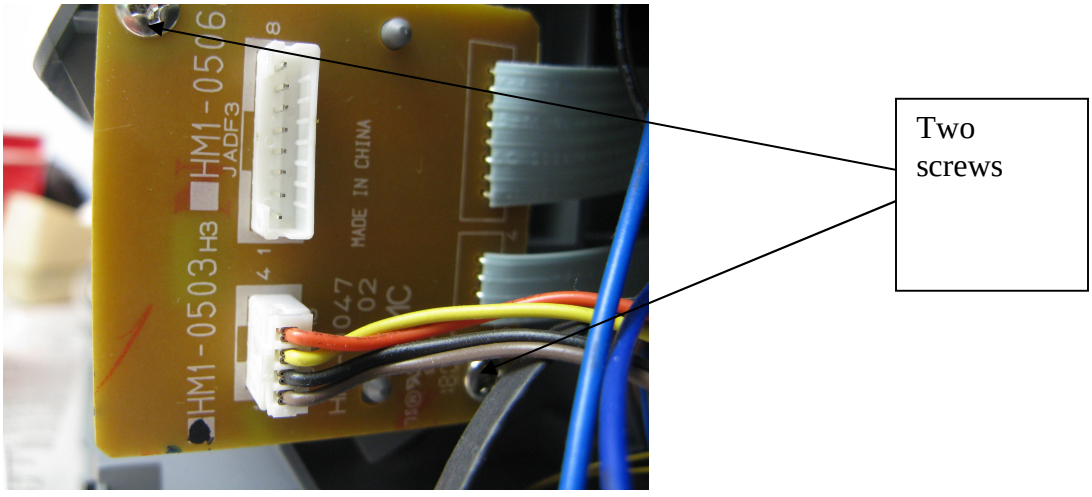


Fig. 2 - Circuit board attached to paper feeder

Take the large ribbon cable out of the cable holder so you can get at the plugs in the circuit board in the center of the back. Unplug the wire to the sheet feeder motor and the tray movement sensor. They are the middle back and the lower left as you view it from the back of the printer.

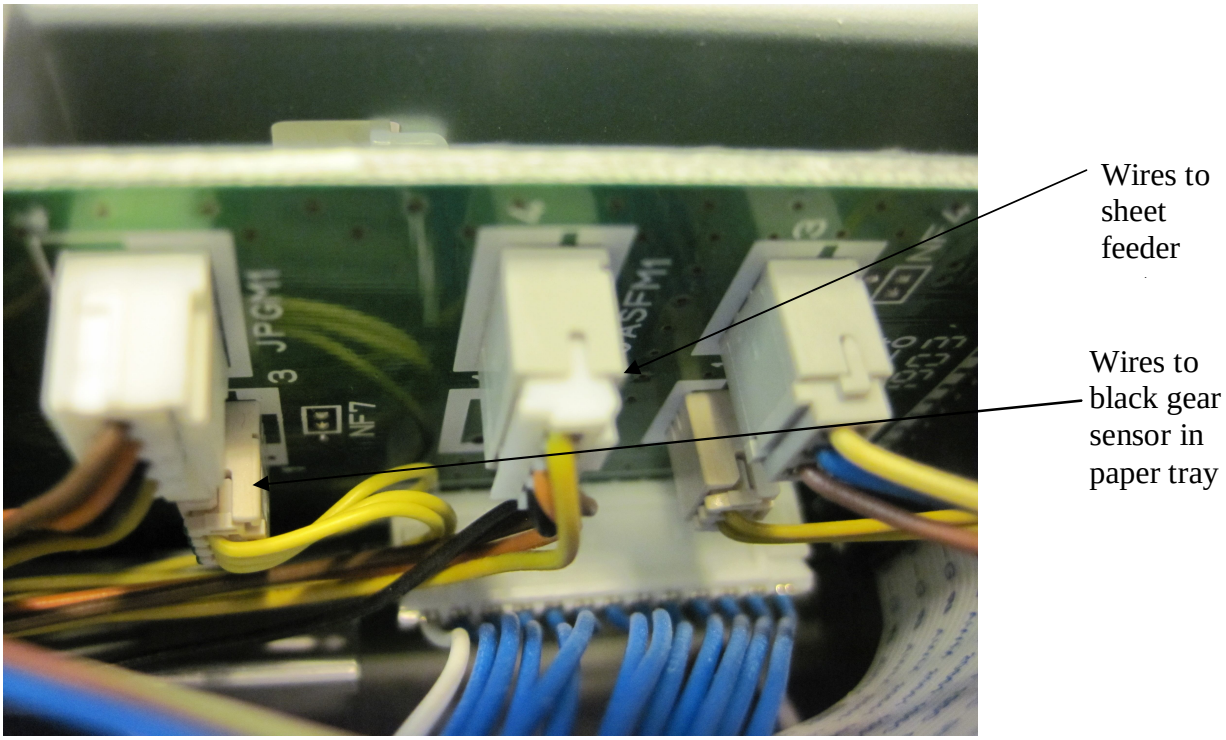


Fig. 3 - Circuit board in middle of center frame behind the large ribbon cable

Undo the two screws that hold the paper feeder to the center frame.

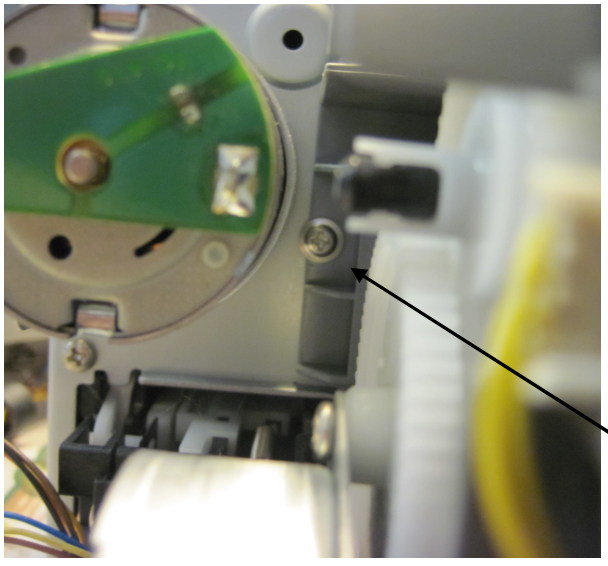


Fig. 4 - Left feeder

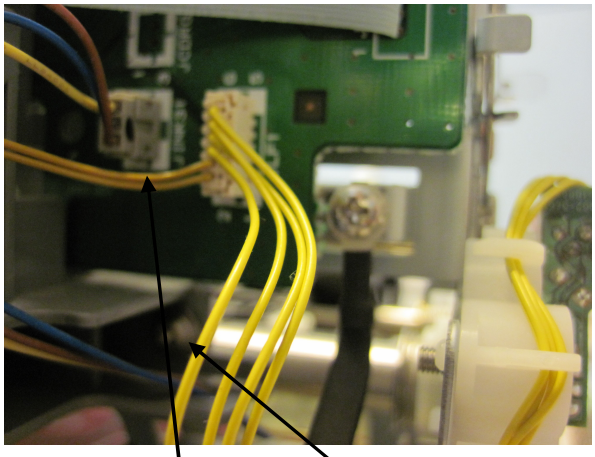


Fig. 5 - Right feeder screw

Undo the screw on the top that holds the wire holder to the paper feeder.

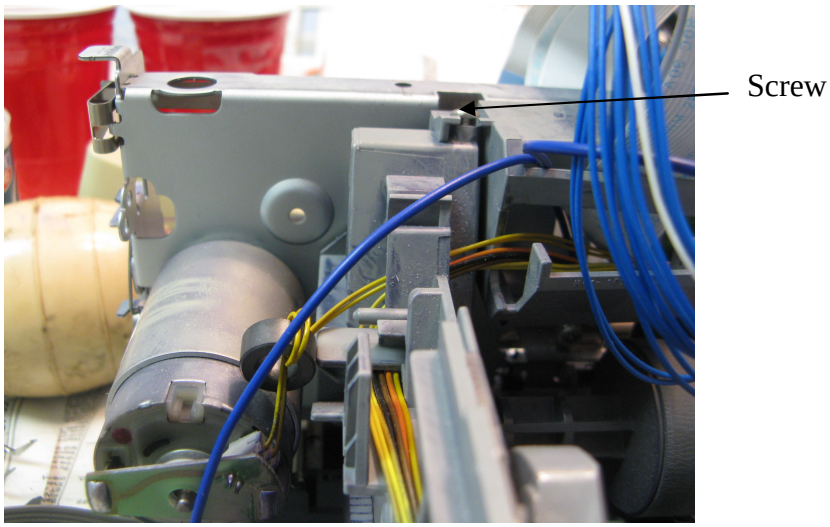


Fig. 6 – Screw holding wire holder

Slide the paper feeder up on the left side so the hook at the top of the paper feeder comes off the center frame. As you move the paper feeder back you will have to thread the wires from the paper feeder out of the wire holder. Note the paper feeder has 2 pins that go into holes in the center frame so it has to be pulled out at the bottom and then up and then back.

Before putting in a new paper feeder make sure it is set so the arrow in the top gear is pointing at the notch in the plastic frame at the top of the gear and that the arrow in the bottom gear is pointing toward the notch in the bottom of the plastic frame just below the gear. If it isn't, take off the feeder motor and pull out the center gear. Then adjust the other gears. Then reset the center gear and install the feeder motor. If it is correct the feeder catch teeth should be up and the feeder roller should be released and turn easily. Instructions below give more detail.

Reassemble. Slip the new sheet feeder under the wires from the purge unit and the ribbon wires and onto the pins on the central frame. Connect the new feeder motor wire and the sensor wire. Replace the large ribbon cable to be in front of the smaller ones (looking from the back there are the three small ones and then the big one). Fasten the wire holder to the sheet feeder. Screw the sheet feeder to the center frame with the two screws. Screw the circuit board on the right side onto the sheet feeder. Re-plug any right side wires you had unplugged. Replace any ground screws you had to take out.

On the left replace the plastic piece covering the sheet feeder gears. It goes on two pins and takes the one screw.

Put the printer/sheet feeder assembly back into the case.

By the way if the ink pads are full, while you have the printer/sheet feeder assembly out you can wash and put back the ink pads. WARNING - they may not look like they have much ink in them but it gets all over if you are not careful. Have lots of old newspapers handy and use plastic gloves if you have them.

Reassemble the printer, and you may want to leave out the screw under the electronics card so if you have to dissemble the printer again to empty ink or reset the gears it will be a little easier.

Note: When I got mine all aligned and back together and tried it I had the same problem I had before, it would pull paper incorrectly, either too many sheets, or pull one sheet too far so it had to reposition it by moving it up and down until it was lined up. I think my unit was just too old and the gears had worn down (it is now 8 years old and used heavily). However, it could just have been old ink keeping gears 4 and 5 from dropping down fast enough when gear 6 moves away from them. Thus I replaced the sheet feeder with a new sheet feeder which I ordered from the Canon parts department for $30.00.

Instructions for Aligning the Sheet feeder gears

The purpose for the sheet feeder is to grab the top single sheet of paper in the sheet feeder and position it where the print rollers can get it.

There are 6 sheet feeder gears on the outside of the sheet feeder and one inside.

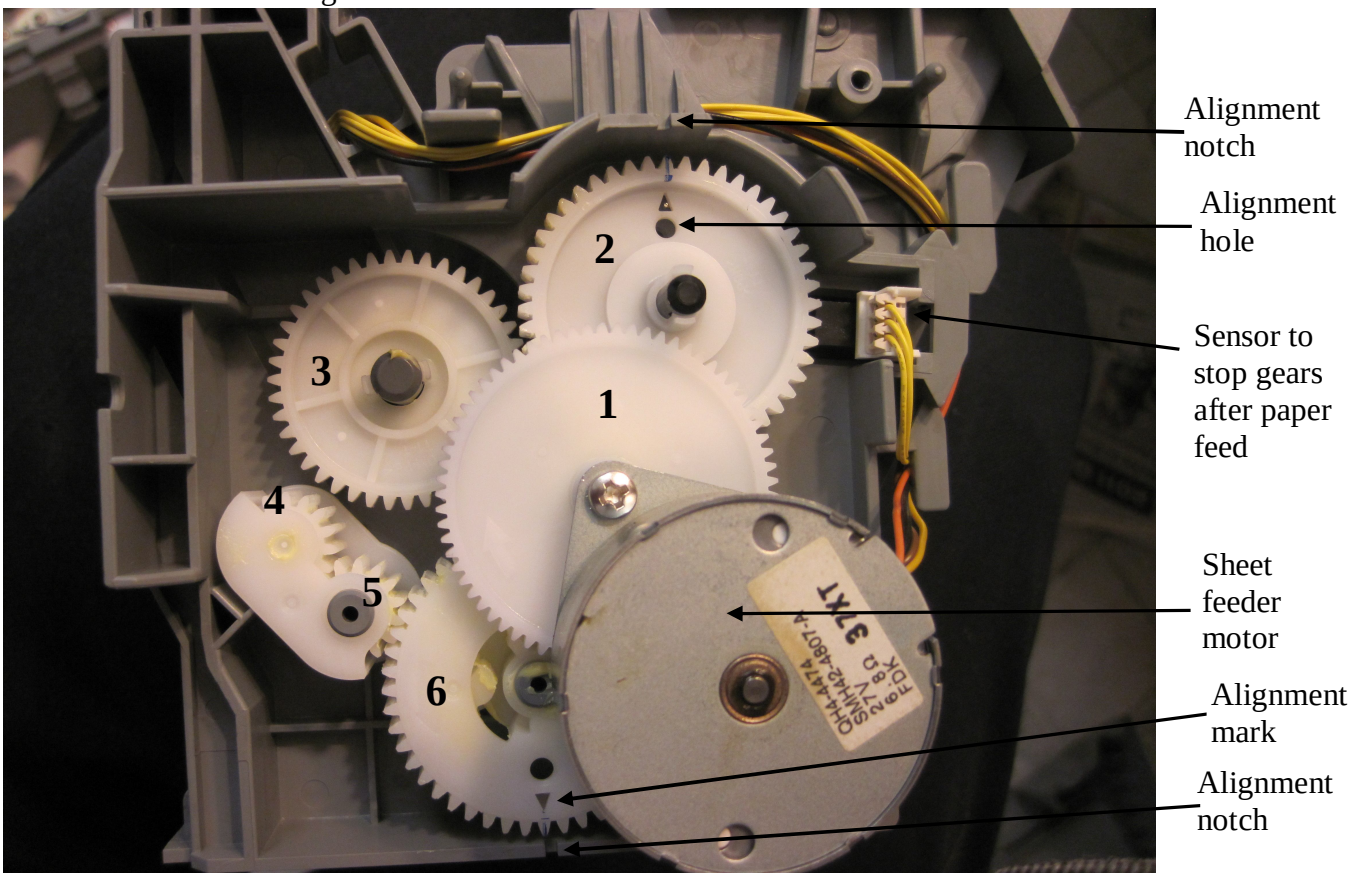


Fig. 7 – Sheet Feeder Gears

Sheet Feeder Gears

The first gear whose center is under the sheet feeder motor is a drive gear and does not have to be aligned. The 2nd gear is at the top of the sheet feeder. To align it turn it until the triangle is pointing to the notch in the sheet feeder case just above the gear.

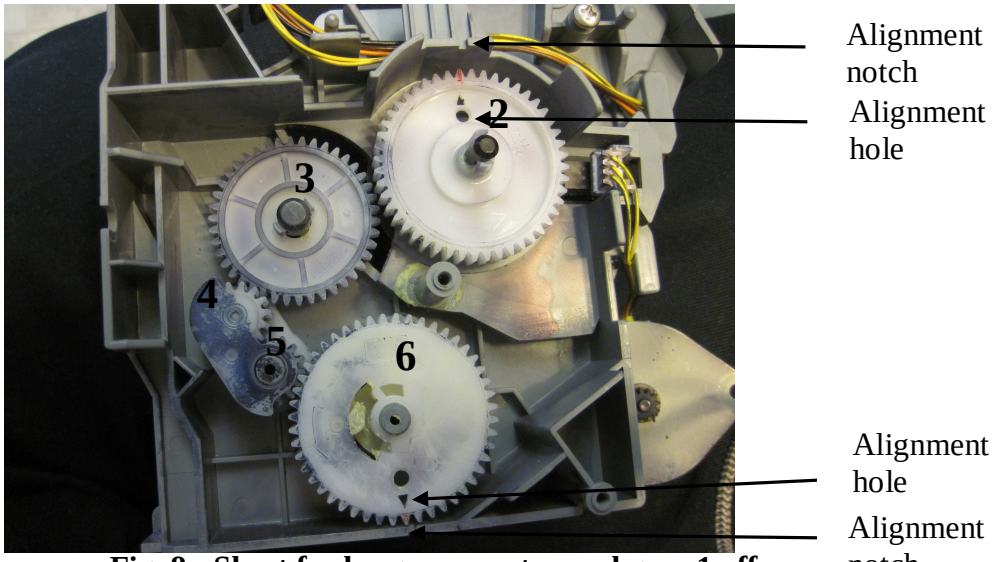


Fig. 8 - Sheet feeder gears, motor and gear 1 off

This gear is attached to, and must be aligned with, the gear inside the sheet feeder. The inside gear is black. The job of the inside gear is to move a panel at the back of the sheet feeder forward and back at appropriate times. You can partially see the black gear sticking out behind the panel on the right of the inside of the sheet feeder in Fig. 9.

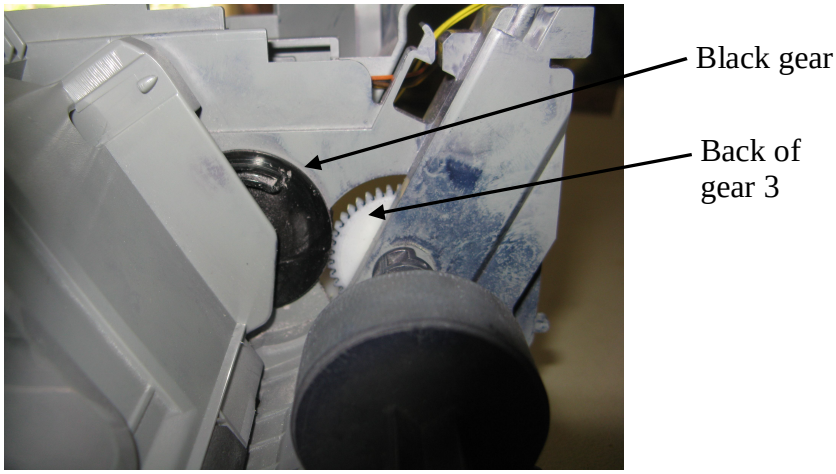


Fig. 9 – Inside feeder looking at black gear

You can get a full view by taking off the panel which is at the inside back of the sheet feeder which moves in an out driven by a spring behind the panel and between the panel and the back of the sheet feeder. To see it insert a screw driver at the top left of the panel and pop the pin out and then slide the back panel out.

When the gears are in alignment and the outside white gear is pointing at the notch the black gear will have its plastic tab in the sensing unit that is at the back right of the feeder. Note: you can check alignment without taking off the feeder back panel because there is a hole through the white gear, the sheet feeder side, and the black gear. So if you align the white gear with the notch, you

can look through the hole and through the side of the sheet feeder. If the black gear is aligned properly you can look through it also and see daylight. If you see black the two gears are not aligned properly.

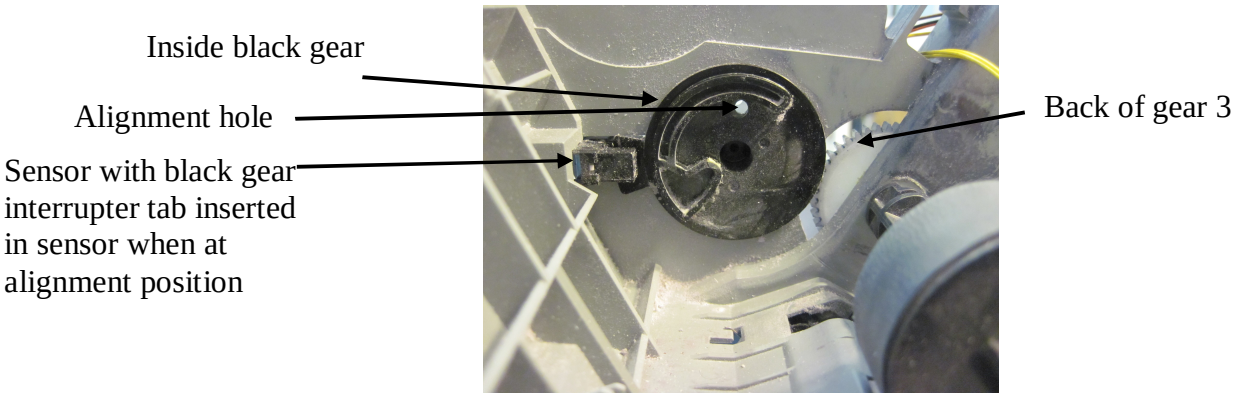
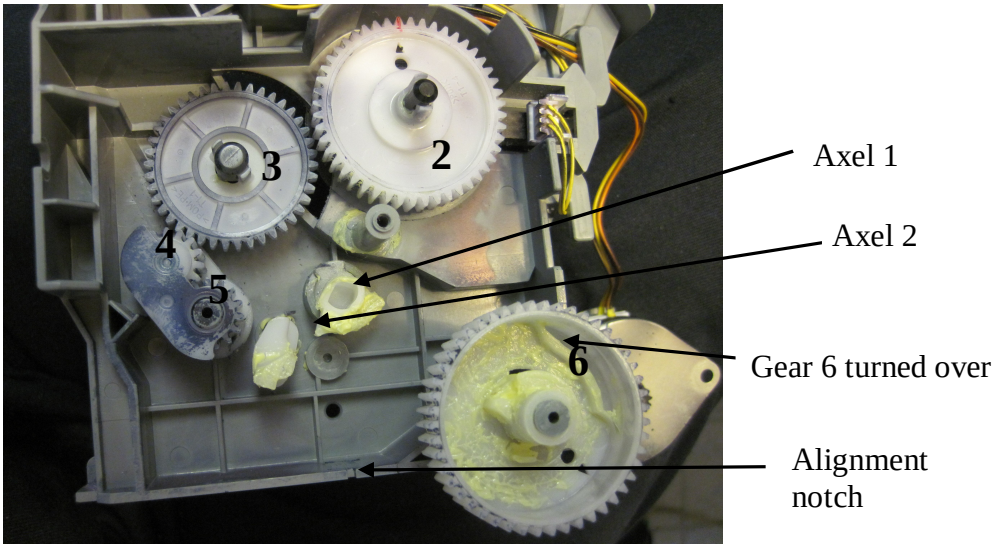


Fig. 10 - Sheet feeder tray with back panel removed to show all of black gear

The third gear to the left of gear 2 is attached to the wheel that pulls the paper down. It does not have to be aligned. Gears 4 and 5 are the little gears just below gear 3. They do not have to be aligned. They are not engaged with gears 3 and 6 when 2 and 6 are in alignment

Gear 6 is amazing!! It essentially floats and does not have a fixed axel. It has several functions. As it turns, it turns the axels which snap the rollers at the bottom of the sheet feeder up and down. Also partway through its rotation it moves left to engage gear 5 and pops the assembly so gear 4 engages gear 3 to turn the wheel pulling the paper down. This occurs only for a short time before it disengages again.

Fig. 11 – Gear 6 pulled off and turned over



This wheel must be aligned so that the triangle on the wheel lines up with the notch in the bottom of the sheet feeder.

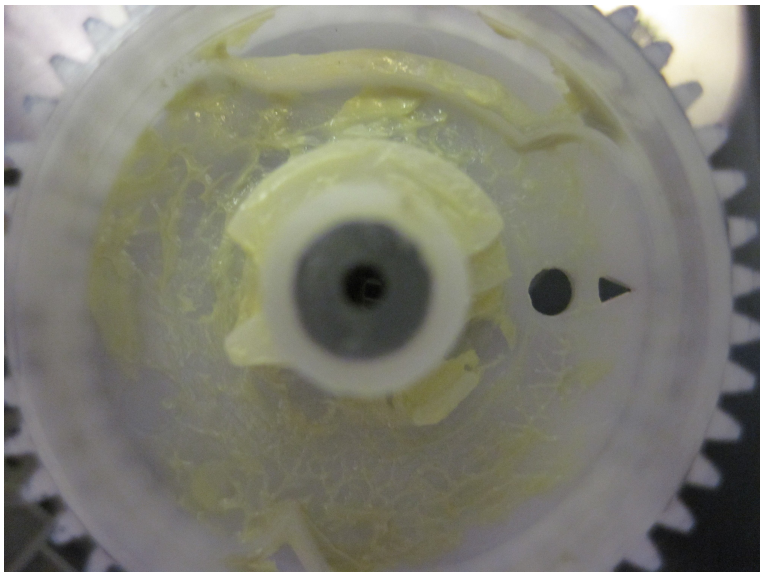


Fig. 12 - Close-up of inside of floating gear 6

Once gears 2 and 6 are aligned, gear 1 can be inserted and the motor can be put back on.

Note: This alignment can be done without taking the sheet feeder apart from the printing unit. Although gear 1 can't be removed it slides off enough so gear 6 can be rotated and aligned. Gear 2 should already be aligned since it is stopped by the tab on the black gear passing through the sensor. It is a little tricky to get gear 6 aligned properly since it floats but do the best you can. It does not seem possible to align the gears without taking the printer/sheet feeder out of the case because the case blocks access to the feeder motor.

Note: If you should take off gear 6, which you don't have to do, you can not just pop it back on in the aligned position. It must be out of alignment to put it on and then rotated manually into alignment.