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# TECHNICAL BULLETIN

***Description: Notice of PF300 Upgrade!***

***Ultrasonic Double Detect Retro-fit Kit***

***Kit Number: 389-32722-401***

***Introduction:***

***Now you can have Double Detection without having to adjust the sensor.***

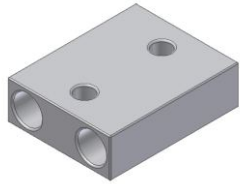
***We are now offering a solution to "false double detection" due to dust and incorrect adjustments.***

***Save time and Maintenance costs and improve document feeding accuracy.***



## List of parts for Upgrade:

Part No.	Description	Qty
007-30563-600	Bracket, Sensor Top	1
074-32724-500	Sensor, UltraSonic Ass'y	1
007-30788-600	Bracket, Sensor Mount	1
584-12025-100	Plate Nut, Sensor Mount	1
584-30786-425	Replacement Tie Plate, Middle	1
016-1080	Split Lock washer #8	4
014-08221110	Screw, SHCS, 8-32x5/8	4
014-08221116	Screw, SHCS, 8-32x1	2



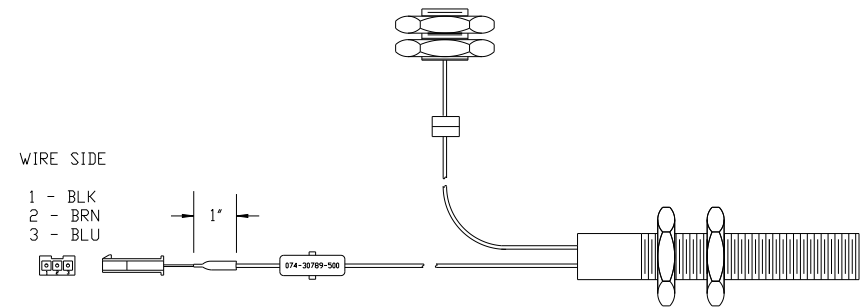
**Bracket, Sensor Top**



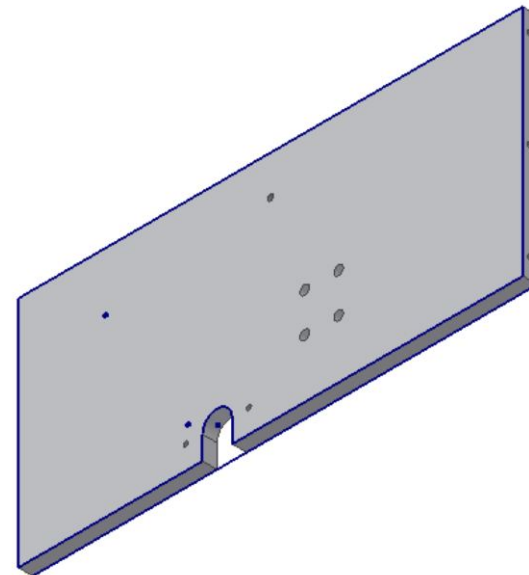
**Bracket, Sensor Mount**



**Plate, Nut, Sensor Mount**



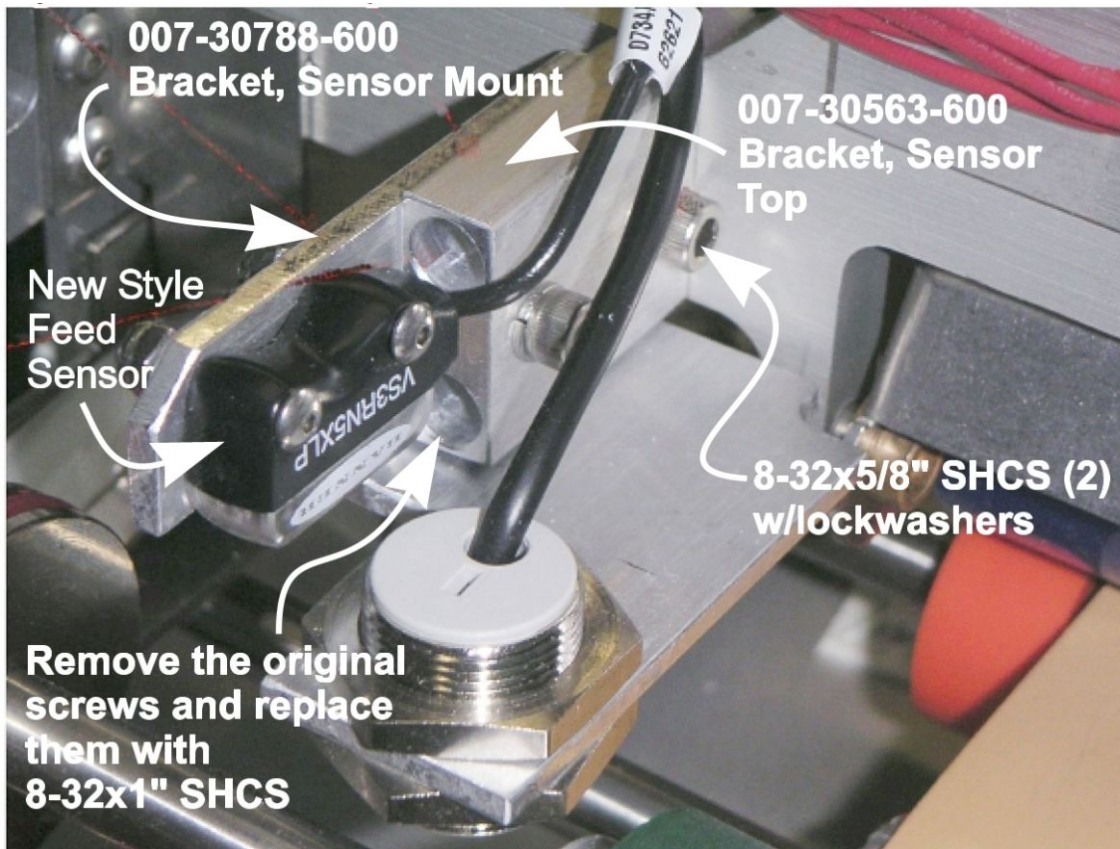
**Ultrasonic Double Detect Sensor**



**Middle Tie Plate**

## INSTRUCTIONS FOR INSTALLING YOUR ULTRASONIC DOUBLE DETECT SENSOR KIT.

1. Mount the top part of the sensor as shown in the below picture.
2. Remove the existing Middle Tie Plate and install the new one from the kit. The bottom tie plate is included in case the mounting screw hole (10-32) is not in the tie plate on the machine. To change this plate out remove the two screws securing the triple bearing plate underneath the plate and the three screws on either side of the plate. Cut the ties for the wiring. The plate should drop out but may require minimal force to spread the side chassis. It is not necessary to loosen any bearings, collars or pulleys.



3. Install the Nut Plate which will allow mounting of the bottom part of the Ultrasonic double detect sensor

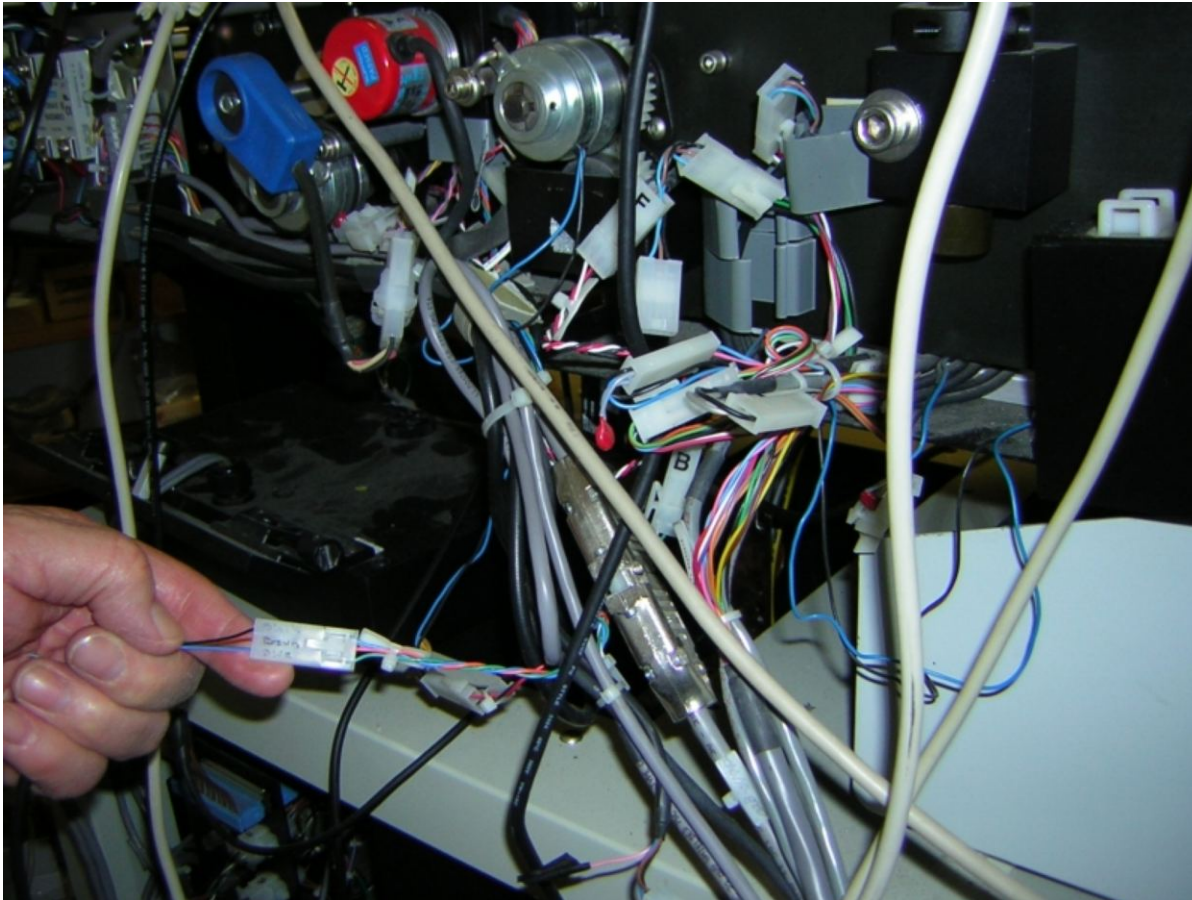
4. Pay attention to wire routing as the top section of the sensor will be plugged into the bottom when everything is installed.

5. Mount the bottom sensor so there is a 40mm distance between the top and bottom sensor.

6. Remove the existing double detect sensor. The feed sensor is usually on the left side. You can check this by passing a piece of paper under the sensor and looking at the white opto # 00 on rack 0. If the opto blinks then the original double detect is on the opposite (or right) side.

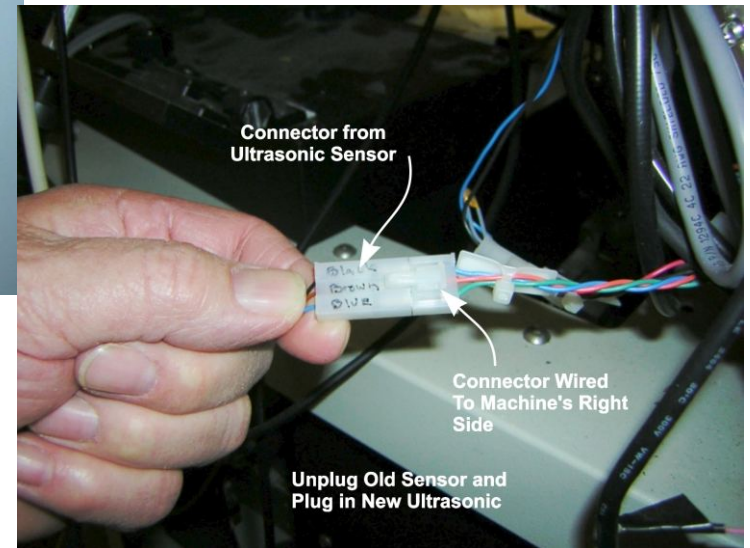
7. Plug the top sensor into the bottom sensor.

Figure 1 - Closeup of the Ultrasonic Top Assembly



**Figure 7 - Photo of Right Side of Typical PF300**

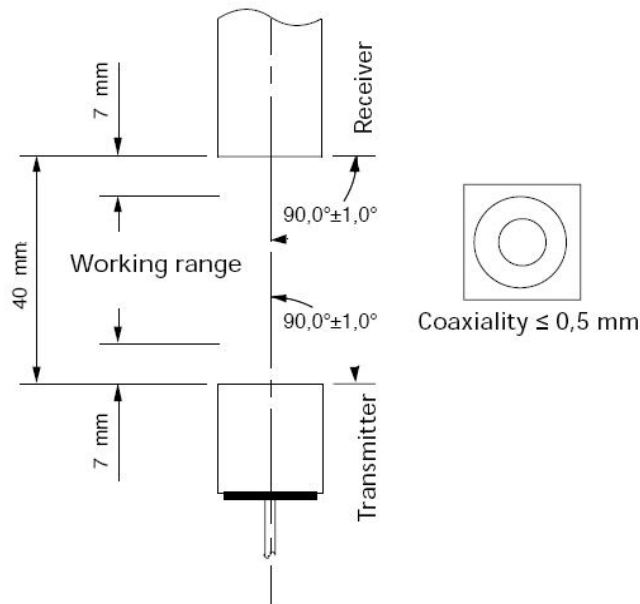
Figure 7 below is a picture of a PF300. The hand is holding the connector that goes to the original double detect sensor. Locate this after you have installed the new sensor then go to step 8.



**Figure - A Closeup View of the New Sensor Plugged into the Old Connector**

8. Plug the three pin white plastic molex connector from the bottom sensor into the plug from the original double detect sensor. Please check the wiring just before plugging the two parts together to make sure the wiring is correct.

Recheck the adjustment of the distance between the upper sensor section and the lower sensor section such that there it is 40MM +/- 3mm. Adjust the top and bottom section such that the paper travels between with a distance of 7mm from both the top and bottom sensor sections.



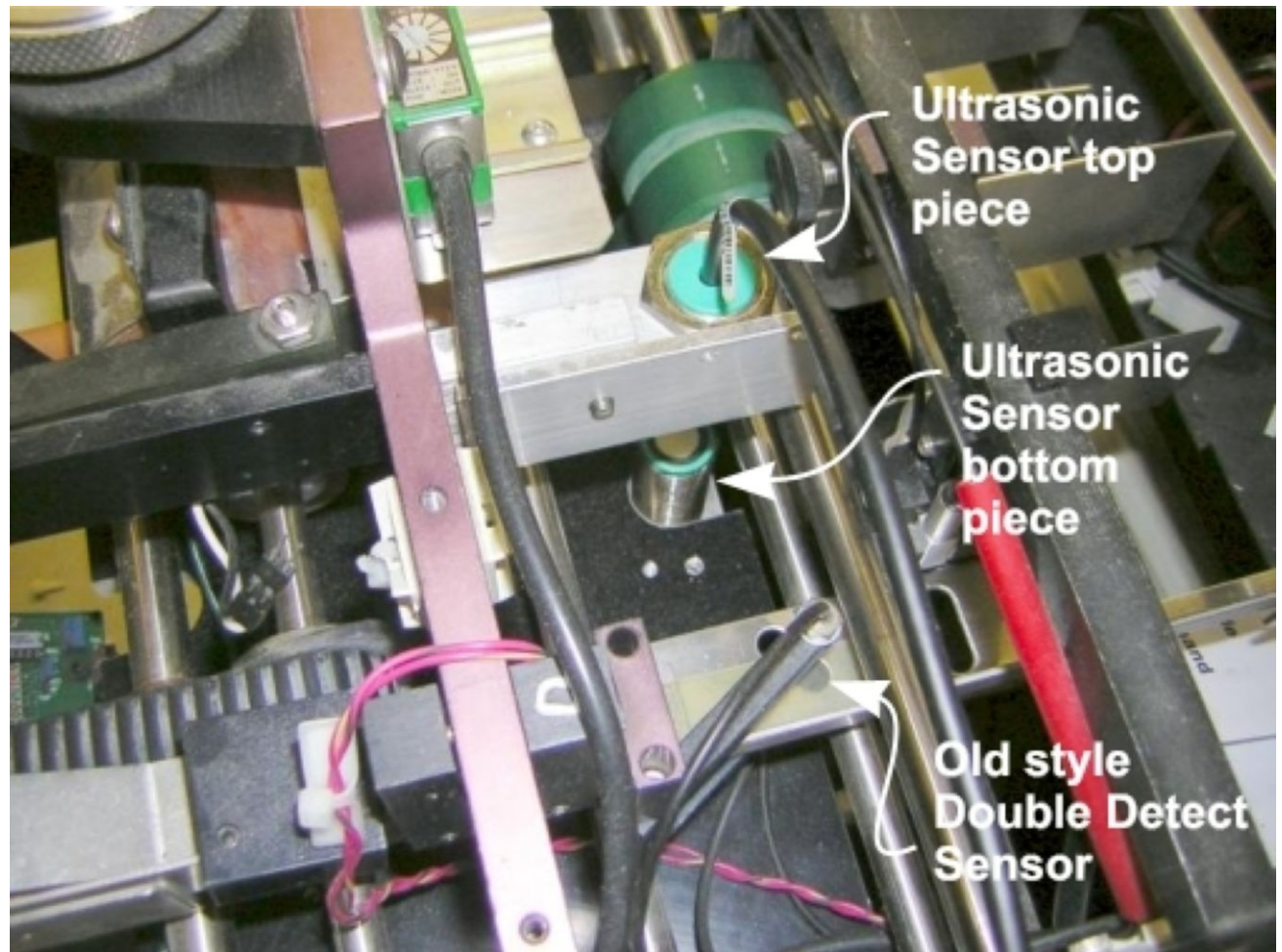
**Figure 3 - Ultrasonic sensor distance spacing**



**Figure - View of the Lower Sensor Section Mounted to the Middle Tie Plate**

This photograph is a picture of an older PF300. In the picture you can see the original Double Detect Sensor mounted to the right side rail which is near the bottom of the picture. It was a fiber optic style whose infra red beam went through the hole in the rail. There were two fiber optic leads one (transmitter) on the top and another (receiver) on the bottom. Both the feed sensor and the double detect sensor were the same style sensor and they were adjusted by an amplifier located beneath the accumulator section. You can also see the Ultrasonic Double Detect Sensor just above the center of the picture and it has been retrofitted to this machine. The Ultrasonic Sensor does not need any adjustment and works by sensing a field between two sheets of paper when they are fed simultaneously thus triggering a response from the sensor.

Although the picture shows both styles of double detect sensor on this machine the old style sensor is not being used and may be removed.



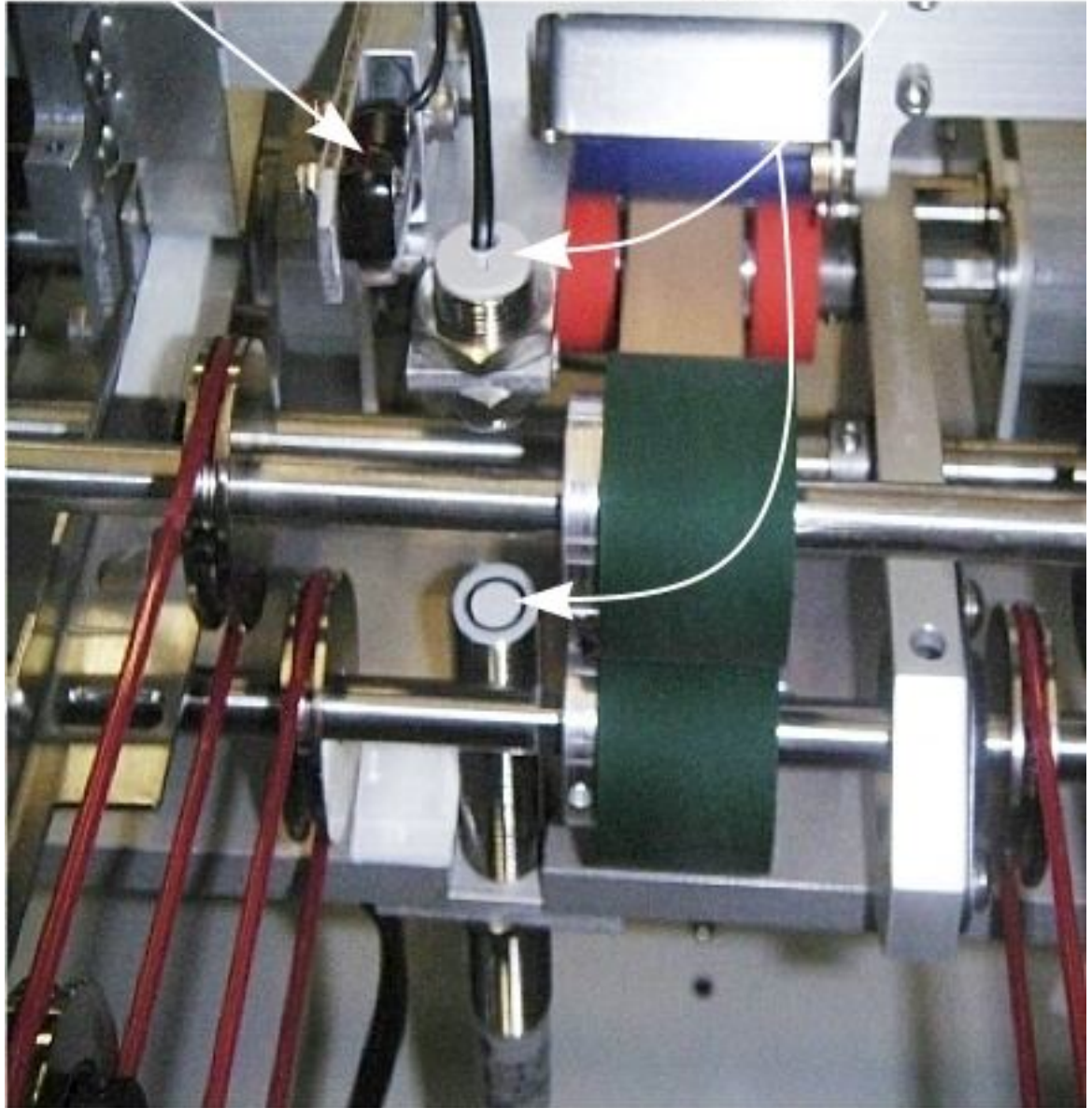
**Figure 4 - Older 420 Feeder Showing Old Style Paper Lead Edge Detect Sensor**

The Paper Lead Edge Sensor shown at right is mounted to the same bracket as the upper Ultrasonic Sensor assembly.

**NOTE:** The alignment of the upper section and the lower section of the Ultrasonic Sensor is critical. The two parts must be precisely above and below each other.

**Paper Lead  
Edge Sensor**

**Ultrasonic Double  
Detect Sensor**



**Figure 6 - Lead Edge Sensor**