Film-Tech

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NEUTRONIC PLATTER

The following procedure is composed of two parts.
The **first set up** is a general adjustment, and should be performed to all control boards and payout heads.
The **final adjustment** should be performed depending on the diameter of the platter deck (54' or 48 ' plate).

FIRST SET UP

1. Choose a PAYOUT head to use as a reference for adjusting all the platter control boards in the PODS.
2. Choose one of the platter PODS to be used as a reference to adjust all but the reference PAYOUT head.

ADJUSTING PAYOUT HEAD

The purpose of this adjustment is to get the maximum range of signal from the optical sensor inside the payout head.
This sensor is composed of two parts, the emitter and receiver. A reflective surface is mounted inside the payout head, under the speed control arm, reflecting infared light from the emitter to the receiver. When the angle between the the reflective surface and sensor is '0' degrees, the light reflected is largest possible. In operation, this would increase the motor speed. When this angle is '90' degrees or more, the amount of infared light reflected is almost zero. This decreases the motor. The figure 1 shows the payout head in the repose (resting) position.

1. place the payout in the test fixture. Check that the arm can move free, the figure 1 show the payout in this condition

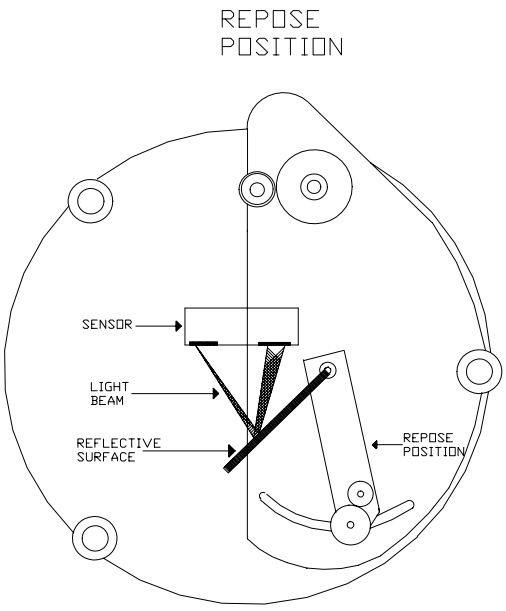

FIGURE 1

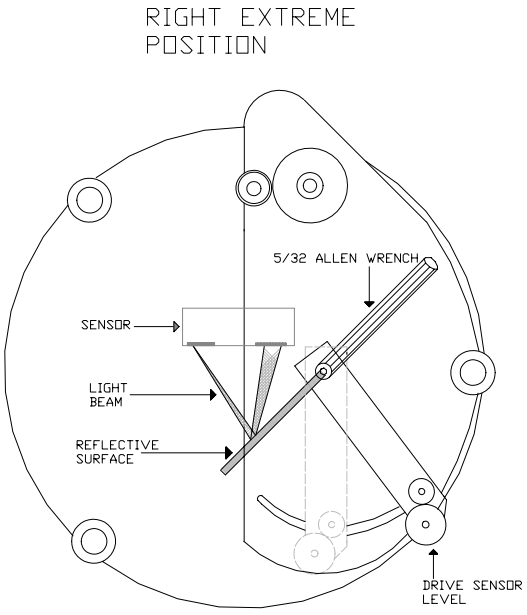

FIGURE 2

2. Move the speed control arm fully to the right position, holding the arm in this position as shown in the figure 2.
   With a 5/32 Allen turn the center pivot screw in the clockwise direction until you feel that, the reflective element inside the payout head is touching the optical sensor as shown in the figure 3.

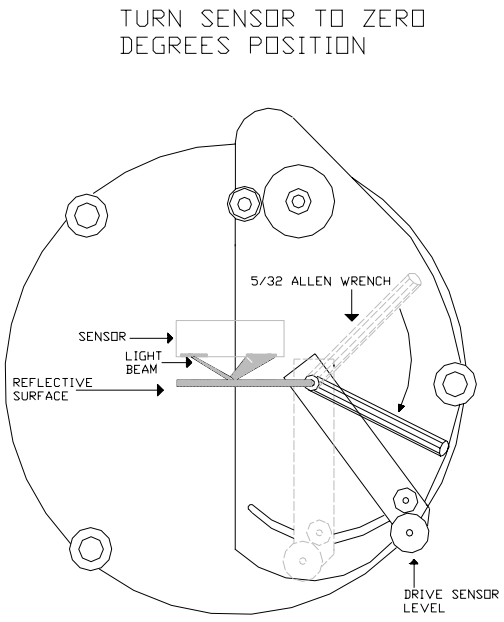

FIGURE 3

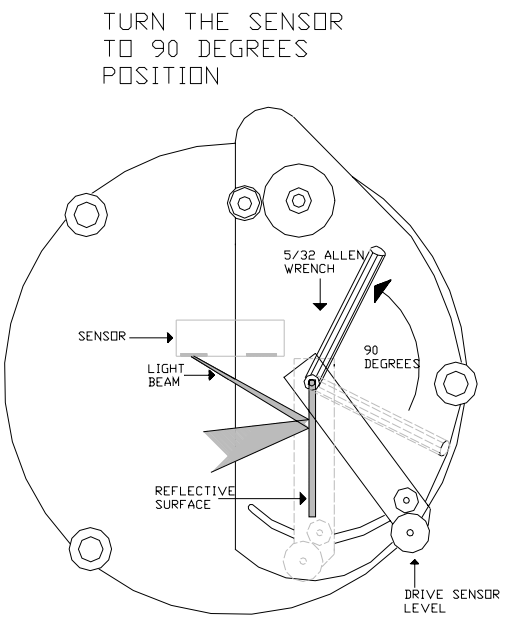

FIGURE 4

3. Turn back the pivot screw in the counter clockwise direction exactly 90 degrees with the help of a protractor or some square device as shown in the figure 4.
   Be sure that the arm can move freely between the two ends of the slot in the payout, and let the arm go to the resting position. This is the end the adjustment of the payout head.

After performing the above procedure the sensor will work with the following parameters;

- With the arm in left end position of the slot the sensor and the reflective surface will form a 30 degrees angle, with the sensor in this position the voltage of the signal to the control board is around 6 Vdc.

- In the resting position the angle between the sensor and the reflective surface will be around 75 degrees, with the sensor in this position the voltage of the signal to the control board is around 8.5 Vdc.

- With the arm in the right end position of the slot the angle will be 90 degrees, with the sensor in this position the voltage of the signal to the control board is around 11.5 Vdc.

ADJUSTING PODS

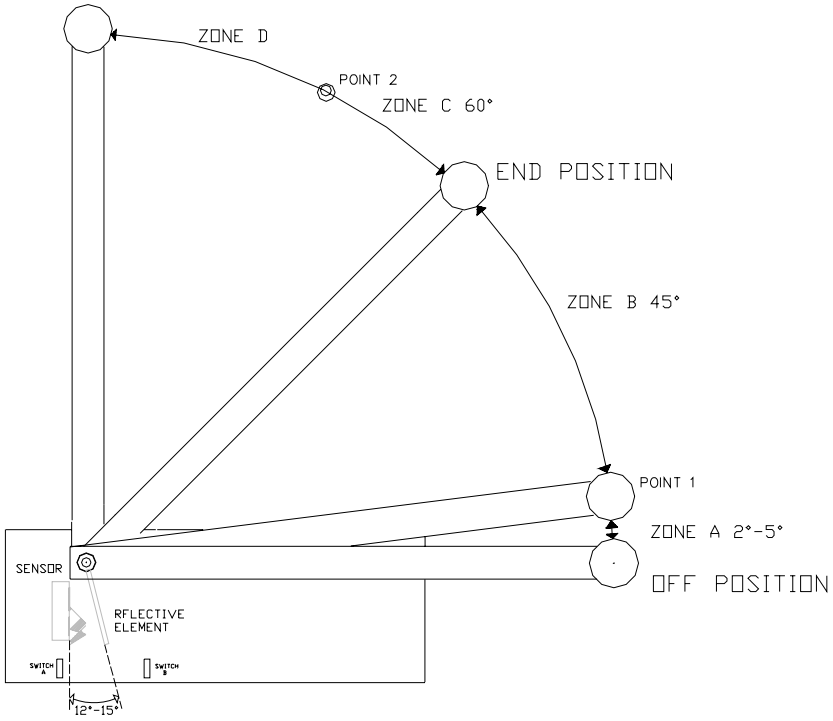

FIGURE 5

Mechanical Adjustments

The purpose of this set up is get the photocell (optical sensor), working in an angle of 60 degrees in order to get the maximum range of control, the arm of the POD works in 4 areas

- Zone A: in this zone the micro switch A is pressed and there is no signal going to the control board because this; the motor should be stopped (if the board has the correct calibration)

- Zone B: this is the area where the motor is running, the movement of the arm regulate the Properly speed of the motor. In this area the arm of the POD form an 45 degrees angle between the off position and the end position where the motor will be stopped again (by the control). When the arm move from the off position (in about 2 to 5 degrees), activate the micro switch A and the motor will start be spinning at the maximum speed, if the arm still moving increasing the angle the speed will decrease until finally stop, when the arm had move by around of the 45 Degrees

- Zone C: This is a security zone for the speed control, in case of the control is out of the correct range the motor will be stopped by end-control micro switch B

- Zone D: The motor will be stopped in this area, the purpose of this area is absorb any possible over speed cause by inertia of the plate

Procedure

1. Adjust the reflective element in the CAM in the way that this form a 15 degrees approximately with the surface of the sensor.

2. Adjust the switch A, to be free when the arm had move for around 2 to 5 degrees when the switch A is free, the motor should start spinning

4. Adjust the switch B to be activated when arm reach an angle between 60 to 70 degrees with Its off position.

ADJUSTING THE CONTROL BOARD

Place the reference payout head into the test fixture. Be sure that the arm in payout head is free in the resting position, and the arm of the POD is in the off positions shown in the figure 5 and 6.

1. Turn the pot R3 in the control board, see figure 8, in the clockwise direction until you hear (or feel) the click in the pot which indicate that already had reached the end. Then turn back in the counter clockwise direction 9 turns, this pot is which set, the reference voltage to the PWM chip (LAS 6321P) in the board.
   Performing that above step the reference voltage will be in the middle of the range.

2. Starting from the repose position move the payout head arm 20 degrees in clockwise direction As shown in the figure 7 and keep it in this position.

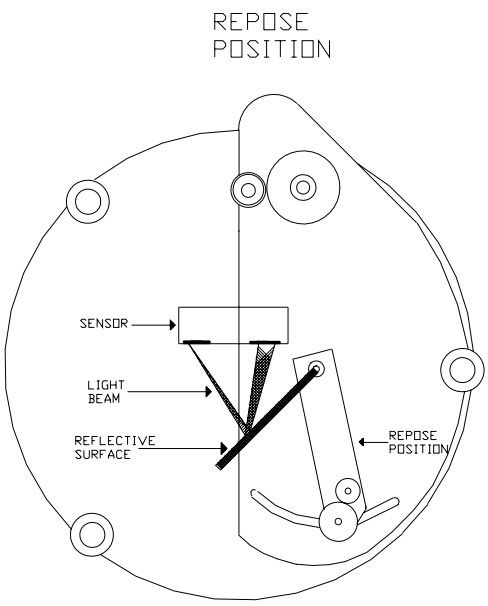

FIGURE 6

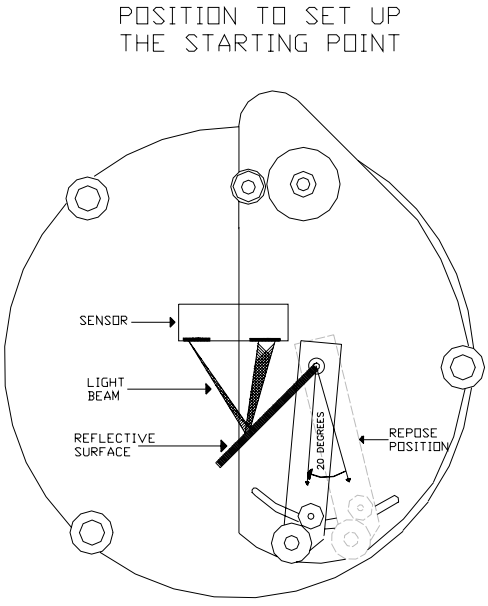

FIGURE 7

If the motor is running, turn the pot R2 in the control board, see figure 8, in counter clockwise direction util the motor stop spinning.

- If the motor is stopped turn the pot R2 in clockwise direction until the motor start running And then, turn back the pot ¼ of turn.

Check the adjustments

1. Let the arm of the PAYOUT HEAD go to the resting position and, then move to the left side of the slot, the motor should start spinning when the angle is around of 55 degrees at 200 to 300 rpm, and increasing, while the arm is moving to the left side, when the arm reach the extreme of the slot the speed of the motor should be around of 1900 rpm

2. Move the arm of the POD from its off position in counter clockwise direction, when this form an angle of 2 to 5 degrees with its off position must free the switch A, and the motor will start spinning at maximum speed, which should be around of 1900 rpm. to 1950 rpm.

3. Still moving the arm of the POD, while the angle increase the speed decrease until finally stop, when the arm is forming an angle of around 45 degrees, The speed should be at this time around of 200 to 300 rpm.

4. Still moving the arm until activate the switch B, that should happened when the arm is around of 60 t0 70 degrees.

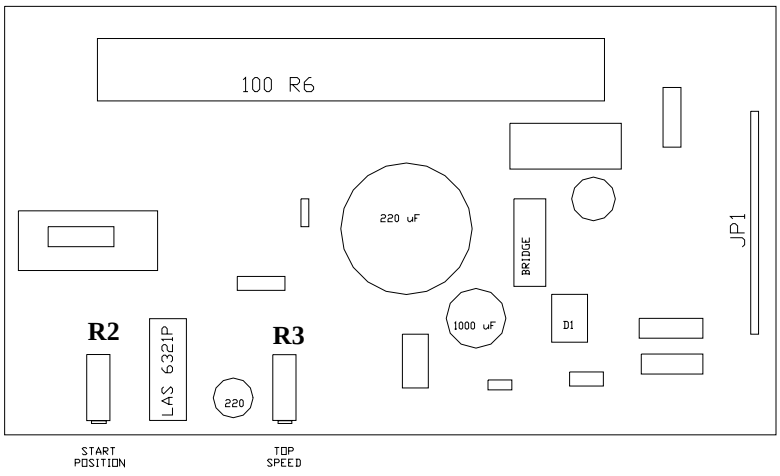

FIGURE 8

FINAL ADJUSMENT

The following procedure should be perform according with the diameter of the platter control plate.

54 INCH PLATE

1. Take the arm of the PAYOUT HEAD to the end left position of the slot, adjust the pot R3 until motor runs at 1850 rpm. After making this adjustment, it is necessary check again the point where the motor start running performing the next step.

2. Starting from the repose position move the PAYOUT HEAD arm 20 degrees in clockwise direction As shown in the figure 6 and keep it in this position.

- If the motor is running, turn the pot R2 in counter clockwise direction util the motor stop Spinning.

- If the motor is stopped turn the pot R2 in clockwise direction until the motor start running And then, turn back the pot ¼ of turn

48 INCH PLATE

3. Take the arm of the PAYOUT HEAD to the end left position of the slot, adjust the pot R3 until motor runs at 1900 rpm. After making this adjustment, it is necessary check again the point where the motor start running performing the next step.

4. Starting from the repose position move the PAYOUT HEAD arm 20 degrees in clockwise direction As shown in the figure 6 and keep it in this position.

- If the motor is running, turn the pot R2 in counter clockwise direction util the motor stop Spinning.

- If the motor is stopped turn the pot R2 in clockwise direction until the motor start running And then, turn back the pot ¼ of turn

NOTE: This is a very important recommendation. The procedure for adjusting the parameters of the speed control, should be performed at same room temperature that the platter is going to work permanently, because any strong change in the room temperature can vary the speed adjusted.
The magnitude of the change can be until in 10% with every 10 degrees of variation. Because the internal parameters (comparator) of the PWM chip, will be affected with the changes in the work temperature.