



## KNOWLEDGE BASE

Article Type: Instructions

### **Pallet Table Set-up and Adjustments for Models, 22HF, 16HF, 1600, 30/50**

#### Description:

Instructions on “How to” properly adjust the Pallet Table. “Tight Table” settings, “Loose Table” settings, inspect for worn bushings and bolts.

When the mold is installed, the distance between the Pallet Table and the Mold must be adjusted to insure proper pallet clearance is achieved.

#### **WARNING**

Never work on, clean or service this unit, control panel or any machine or open or remove any protective cover, guard, grate, door, or maintenance panel until the power or energy sources has been turned off, locked out / tagged out, and all moving parts have come to a complete stop and or blocked to prevent movement. Machinery is dangerous - avoid personal injury and or death by following manufacture, Local, and OSHA safety procedures. Contact Columbia Machine for safety decals, guards, horns and beacons.

# Columbia Concrete Products

## BLOCK MACHINE

### Pallet Table Adjustment

When a new mold is installed, the distance between the pallet table and the mold must be adjusted to ensure proper pallet clearance is achieved. Two basic pallet table settings (Tight & Loose) are suggested. (Figure 50).

#### 1. Tight Table Settings (normally used for most products)



#### NOTE

Check that pallet table surface is clean, flat and free of all objects.

- Check that AUTO switch is in OFF position.
- Pallet table AIR switch in AUTO.
- Pallet table air Front Low – 40 psi
- Pallet table air Rear Low – 40 psi
- Switch the manual selector switches in the sequence noted:
  - COMPRESSION BEAM UP
  - STRIPPER UP
  - PALLET FEEDER BACK



Figure 49



#### WARNING

Exercise extreme caution while performing this adjustment with the pump on.

- Vibrator and mold at top dead center (TDC) counter weights down.
- Place clean flat production pallet on table.
- Check for proper spacers under the pallet saddle as determined by mold height.
- Manually select STRIPPER UP keep energized holding pallet against mold slightly depressing air bags.
- With pallet table air switch in AUTO
- Set Low table air at 40 psi Front and Rear.
- With clamp bolts loose, turn adjustable bushings until a gap is obtained between the head of the pallet table bolt and adjustable bushing.

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## BLOCK MACHINES, 22HF, 16HF, 1600, 30/50

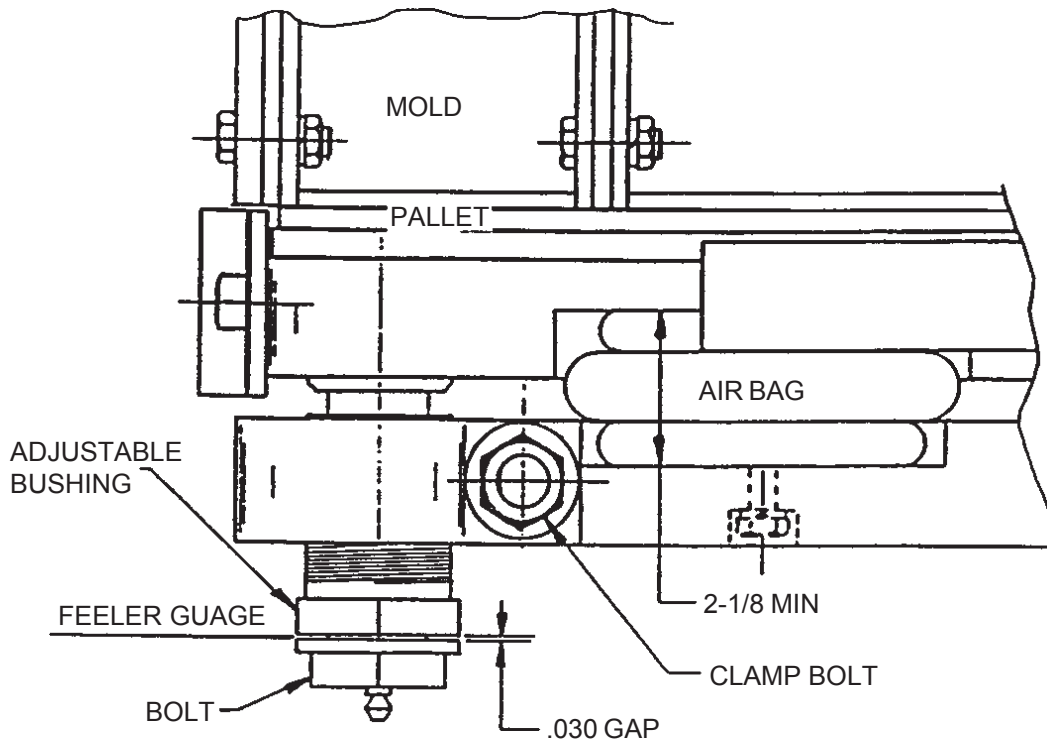


Figure 50, Pallet Table Height Adjustment

- Check bolt to bushing using a feeler gauge. Gap between bolt and bushing set at .030 thousands on all four corners.
- Once gap has been set tighten clamp bolts and torque to 100 ft. lbs. Maximum Torque should never exceed 150 ft. lbs.

**NOTE**

If stripper beam is lowered before tightening clamp bolts the air pressure must be released air bags collapsed before tightening clamp bolts. Severe damage can occur to bushing threads and table threads if clamp bolts are tightened with air on table.

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## BLOCK MACHINES, 22HF, 16HF, 1600, 30/50

### 2. Loose Table Settings



#### NOTE

Loose table setting can be used to control crushing and add vibration to filling mold.

- Check that pallet table surface is clean, flat and free of all objects.
- Check that AUTO switch is in OFF position.
- Pallet table AIR switch in AUTO.
- Pallet table air Front Low – 40 psi
- Pallet table air Rear Low – 40 psi
- Switch the manual selector switches in the sequence noted:
  - COMPRESSION BEAM UP
  - STRIPPER UP
  - PALLET FEEDER BACK

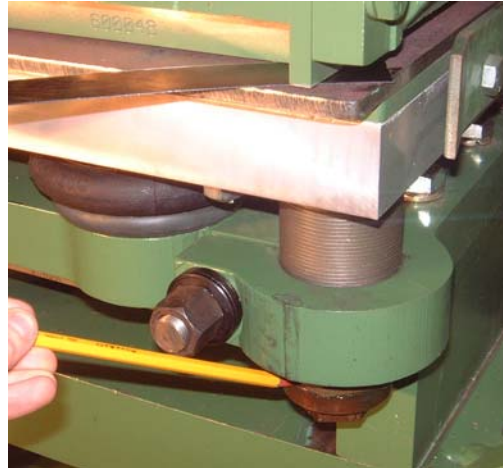


Figure 51



#### WARNING

Exercise extreme caution while performing this adjustment with the pump on.

- Vibrator and mold at bottom dead center (BDC) counter weights up.
- Place clean flat production pallet on table.}
- Check for proper spacers under the pallet saddle as determined by mold height.
- Manually select STRIPPER UP keep energized holding pallet against mold slightly depressing air bags.
- With pallet Table air switch in AUTO
- Set Low table air at 40 psi Front and Rear.
- With clamp bolts loose, turn adjustable bushings until a gap is obtained between the head of the pallet table bolt and adjustable bushing.
- Check bolt to bushing using a feeler gauge. Gap between bolt and bushing set at .030 thousands on all four corners.

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Once gap has been set tighten clamp bolts and torque to 100 ft. lbs. Maximum Torque should never exceed 150 ft. lbs.



#### NOTE

If stripper beam is lowered before tightening clamp bolts the air pressure must be released air bags collapsed before tightening clamp bolts. Severe damage can occur to bushing threads and table threads if clamp bolts are tightened with air on table.

#### Tight Table Settings vs. Loose Table Settings:

Table settings may vary depending on the type of material you use and how well it feeds into the mold.

**Tight Table Setting:** A tight table setting does not allow the pallet to float between the pallet table and the mold bottom during fill and compression cycle. A gap between the pallet table bolt and bushing is set to keep the pallet tight against the mold bottom. Because the table is set when the mold is in its upper most travel the counterweights position will be in the down position, the pallet and table will stay in contact with the mold at all times. When the mold travels to its full down position the gap between the bolts and bushings increases by the throw of the vibrator. If the vibrator has .080 thousands throw the gap between the bolt and bushing will increase by .040 thousands. If it's .100 thousands throw the gap will increase by .050 thousands.

**Example:** Using a .080 thousands throw vibrator assembly the mold is in the up position counterweights in the down position the gap between the bolts and bushings is set at .030 thousands. As the vibrator rotates the mold is moved to its lowest position and the gap now has increased by .080 thousands with a total gap of .110 thousands.

**Advantages over loose table settings:** By using a tight table setting the bolt and bushing do not come in contact with each other during fill and compression cycle which extends the life of the bolt and bushing first by not hammering against each other and causing scallops to the bolt and bushings and damaging bushing and saddle threads..

Once the table has been set for a tight table setting we can get the same effect of a loose table by dropping the low table air from 40 to 35 or 30 to allow the pallet to rattle between the mold and table giving us the same effect as a loose table but without damaging the bolts and bushings. Again this will allow better fill in some cases and helps to evacuate entrapped air from the mold cavity.

**Loose Table setting:** A loose table setting allows the pallet to float between the pallet and the mold. A loose table also aids with air evacuation and may help to fill the mold. A loose table setting is set with the mold in the down position,

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counterweights in the up position; set the gap between the bolt and bushing at .030 thousands. Now when the mold travels up the table will stop moving up once the bolts and bushings make contact but the mold will continue moving up until it reaches the vibrators maximum throw. The gap which was set between the bolts and bushings is now between the pallet and mold. The .030 thousands gap between the pallet and mold allows the pallet to rattle during full and compression cycle. The pallet is only in contact with the bottom of the mold when the mold is in its full down position or vibrator throw is at the bottom (BDC).

Example: Using a .80 thousands throw vibrator assembly the mold is in the down position and counterweights in the up position the gap between the bolts and bushings are set at .030 thousands. As the vibrator rotates .030 the bolts and bushings make contact and therefore the table will not continue to move up with the mold. The vibrator continues to rotate an additional .050 thousand and the mold is now at its highest position. We now have .030 between the pallet and the bottom of the mold.



#### WARNING

Wear problem: Excessive wear to the bolt and bushing will occur due to the bolt and bushing coming into contact during fill and compression cycle using loose setting.

#### Example of Worn Bushing from Loose Setting

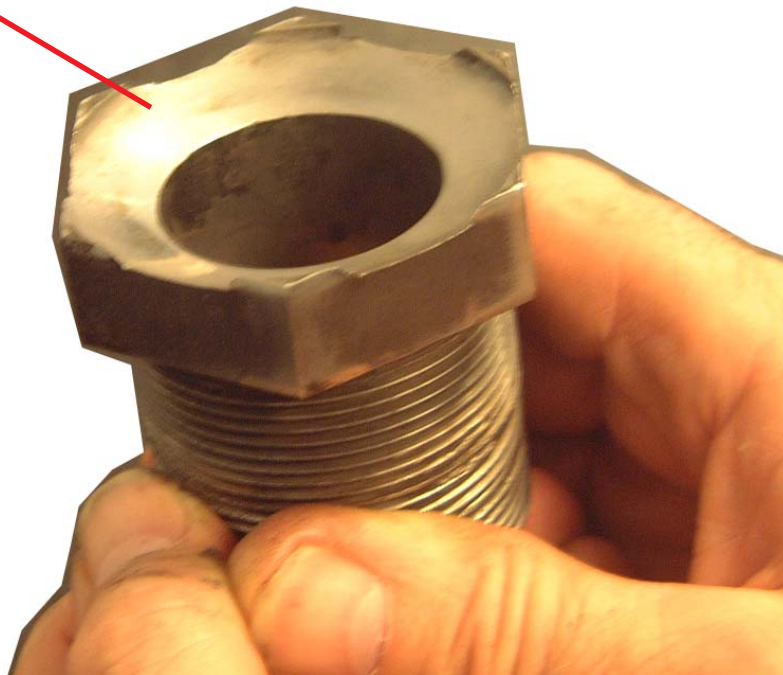


Figure 52

For your specific pallet table settings you may find for some products you like a tight table setting and others you may require a loose table setting.