RENTAFILL

FILLING EQUIPMENT HIRE

OPERATING INSTRUCTIONS

MODEL ICP Bench model Semi- automatics capping machine

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ICP SEMI-AUTOMATIC CAP TIGHTENING MACHINE

1. SET-UP PROCEDURE

1.1 ENSURE THAT the main air supply line to the machine is either DISCONNECTED, or EXHAUSTED if fitted with an exhausting valve.

1.2 Loosen the centre locking levers securing the shafts of the V-shaped Container Guide. Temporarily push the Container Guide back toward the rear of the machine.

1.3 Ensure that the bar holding the Tightening Chuck Air Motor is in its FULLY DOWN position, i.e. that the air cylinder piston rod connected to the bar is fully extended.

1.4 Hand tighten a closure onto a container and place the container on the Friction Mat on the machine base plate, directly under the Tightening Chuck.

1.5 Adjust the vertical height of the Tightening Chuck to accommodate the container by loosening the black knurled Lock Ring on the main height adjustment threaded rod and turn the Height Adjustment Handwheel on the top of the machine.

Lock Ring: To LOOSEN, turn
CLOCKWISE, viewed from above

Height Adjustment Handwheel:

To RAISE, turn
CLOCKWISE, viewed from above

If Lock Ring is tight, turning Height Adjustment Handwheel anti-clockwise slightly will loosen it.

1.6 With the container in position, turn the Height Adjustment Handwheel ANTI-CLOCKWISE to lower the Tightening Chuck onto the container closure. When the friction liner of the Tightening Chuck just makes contact with the closure, turn the Handwheel two (2) more full turns anti-clockwise. Tighten the Lock Ring.

When the machine is subsequently operating, the tension spring connected to the Tightening Chuck air cylinder piston rod will be compressed by the amount representing the 2 additional handwheel turns above (approximately 5mm). As the piston rod always fully extends to move the Tightening Chuck down in normal operation, the 5mm spring compression represents the down-force of the Tightening Chuck on the closure (and container). This down-force may need to be adjusted further when test running the machine to ensure adequate friction between Chuck Friction Liner and the closure. Excessive down-force may tend to deform some thin-walled plastic containers. For special applications, different spring ratings are available from

1.7 With the container still in position under the Tightening Chuck, slide the V-shaped Container Guide forward until it contacts the container. Ensure that the black plastic Switch Plate is depressed and that the aluminium Container Guide actually contacts the side wall of the container. Tighten the centre locking lever to secure the Container Guide shaft in this position - do not overtighten, finger pressure is sufficient.

When the machine is subsequently connected to an air supply and ready for operation, each machine cycle is activated by the container depressing the black plastic Switch Plate in the Container Guide.

1.8 Loosen the two (2) outer locking levers securing the Container Guide Mounting Bar to the vertical columns. Slide the Container Guide assembly up or down to position the Container Guide at a suitable/convenient point on the side of the container. Tighten both locking levers - do not overtighten, finger pressure is sufficient. Remove the container.

1.9 Connect main air supply to the machine. If machine is fitted with an Exhausting Valve, turn valve to "Supply".

1.10 Place a container with closure on the Friction Mat and against the Container Guide. Hold the container by the body of the container AND KEEP FINGERS CLEAR OF THE CLOSURE. The Tightening Chuck will descend, tighten the closure, and then ascend and stop.

2. OPERATING ADJUSTMENTS

2.1 DWELL TIMER

The machine is fitted with a pneumatic timer located on the left rear of the base plate. This timer controls the overall cycle time of the machine, i.e. from when the Switch Plate in the Container Guide is depressed and the Tightening Chuck descends, to when the Tightening Chuck ascends.

The dwell time is adjusted by turning the knurled knob on the top of the timer body:

Clockwise - increases dwell time

Anti-clockwise - decreases dwell time

Adjust the timer to allow sufficient time for the Tightening Chuck to descend and tighten the cap to the required torque (chuck should be stalled with the cap fully tightened) before the chuck ascends. The dwell time should be adjusted so that it times out just after the cap and chuck have stopped turning. It is unnecessary (and reduces container throughput) for the chuck to remain stalled on the cap for long periods and in some cases may result in chuck slippage against the cap.

2.2 TIGHTENING TORQUE ADJUSTMENT

The tightening torque applied to the closure is adjusted by the AIR PRESSURE REGULATOR on the left hand side of the machine connected to the lubricator.

This Air Pressure Regulator controls the air pressure to the Tightening Chuck Air Motor. When the closure has stopped turning (fully tightened) BOTH THE CLOSURE AND THE TIGHTENING CHUCK SHOULD BE STATIONARY. At this moment, the Tightening Chuck Air Motor is exerting the torque value represented by the air pressure reading now showing on the gauge next to the regulator.

2.3 CHUCK SLIPPING ON CLOSURE

If the Tightening Chuck tends to slip against the closure when the closure tightens:

2.3.1 The torque (pressure) setting for the Tightening Chuck may be too high. Check a tightened closure for correct tightness. If closure is too tight, reduce air pressure on the regulator by turning adjusting knob anti-clockwise. If too loose:

2.3.2 Increase down-force of Tightening Chuck on closure by unlocking and turning Height Adjustment Handwheel ANTI-CLOCKWISE (viewed from above) 2 turns at a time and re-test.

2.3.3 A different type of Chuck Friction Liner may be required. Various types of liner compound are available from ICP to suit particular closure designs. These include soft rubber, hard rubber, and polyurethane. In addition, different chuck sizes and configurations are available .

2.3.4 It should be noted that the Chuck slipping against the closure may give inadequate or inconsistent tightening, and may cause excessive wear of the Chuck Friction Liner and possible scuffing of the closure.

2.4 TIGHTENING CHUCK - ASCENT/DESCENT SPEED

2.4.1 The ascent and descent speed of the Tightening Chuck are independently adjustable via the flow control valves fitted to the Tightening chuck air cylinder as follows:

DESCENT SPEED
To increase - open flow control valve (turn anti-clockwise) connected to the Tightening Chuck Air Cylinder **LOWER** port.

To decrease - close flow control valve above (turn clockwise).

ASCENT SPEED
To increase - open flow control valve (turn anti-clockwise) connected to Tightening Chuck Air Cylinder **UPPER** port.

2.4.2 If the descent speed is too slow, time will be lost waiting for the Tightening Chuck to descend to contact the closure. Once the chuck contacts the closure and starts turning it, the chuck must be descending fast enough to maintain down-force on the closure as the closure moves downward on the container neck thread.

2.4.3 If the descent speed is too high, the Tightening Chuck may exert excessive down-force on the closure and cause it to "jump" the container neck threads instead of being smoothly tightened. In some cases, excessively high descent speed may cause inaccurate or inconsistent tightening due to high end load on the thread.

2.4.4 Ascent speed should be adjusted to provide a smooth movement without excessive jerking.

2.5 AIR LUBRICATOR

The air lubricator is situated next to the Tightening Chuck Air Pressure Regulator. This unit is designed to lubricate the AIR MOTOR ONLY, and should be adjusted via the small metal screw in the top of the housing to give one (1) drop of oil (viewed through clear plastic dome on top of lubricator) approximately every fifty (50) machine cycles.

Insufficient lubrication will cause premature wear of the air motor. Excessive lubrication will cause oil to be discharged through the air motor's exhaust silencer.

Lubricator oil bowl should be refilled as necessary with PNEUMATIC TOOL LUBRICATING OIL by removing the black plastic screw in the top of the housing.

2.6 AIR LINE FILTER

An Air Line Filter is attached to the left hand rear of the machine to remove dirt and moisture from the main air supply. The filter bowl is fitted with a drain valve at the bottom. Depressing this valve when there is air connected to the machine will readily drain accumulated water from the bowl. This should be done DAILY.

TRIGGER PACK HEAD SET-UP PROCEDURE – ICP SEMI-AUTO

1.0 Disconnect the air line from the Tightening Chuck Air Motor and remove the two (2) button head screws securing the motor to the bar.

2.0 Position the Pumptite Unit beneath the bar and secure the unit with two (2) M6 SHCS supplied.

* Note: Air motor to be facing the operator.

3.0 Re-connect air line to Trigger pack head.

4.0 Screw flow controls for Tightening Chuck Air Cylinder fully in. Back off top flow control two (2) turns and lock controls.

5.0 Connect the black and blue hoses from the Trigger pack head to their corresponding fittings.

6.0 Turn knob on Air Pressure Regulator anti-clockwise until it stops.

7.0 Connect mains air and open hand valve.

8.0 Using the capper handwheel, raise Trigger pack head high enough to allow capped container* to be positioned centrally beneath tightening wheels.

* Note: Ensure cap is fully tightened.

9.0 Lower Trigger pack head until the centre line of the tightening wheels is level with the centre line of the cap (vertically).

10.0 Raise the capper lock on the linear shaft until it comes in contact with the lower face of the linear bearing housing. Tighten the hand lever.

11.0 Turn off the air at the hand valve.

12.0 With the container centred between all four tightening wheels, press the yellow button (situated on the left rear of the capper). Keep the button depressed ensuring cap is gripped by all four wheels and the container is centralised with its base square on the green matting. Release the button.

13.0 Slide the V-shaped Container Guide forward until it contacts the container and depresses the black plastic Switch Plate. Tighten the centre locking lever.

14.0 Turn on the air at the hand valve and remove the container.

15.0 Unscrew cap until it is held by approximately half a turn. Position container beneath Trigger pack head.

16.0 Raise Trigger pack head until the centre line of the tightening wheels is level with the centre line of the loosened cap (vertically). Tighten the knurled Lock Ring.

17.0 Adjust the Air Pressure Regulator and Dwell Time until the desired torque is achieved (refer Operating Instructions, ICP-C1 Semi-Auto).