

**Operation and Maintenance manual for
ECONO TILT TABLES, HIGH POINT TILTERS
AND DRIVE ON TILTS**

<i>Introduction:</i>	2
<i>Safety</i>	2
<i>Warning</i>	2
<i>Installation:</i>	2
<i>A. Inspection</i>	2
<i>B. Installing Stationary TILT TABLEs</i>	
<i>D. Electrical</i>	3
<i>E. Hydraulics</i>	4
<i>F. Testing</i>	4
<i>Operation:</i>	4
<i>A. Method of Operation</i>	4
<i>B. Operating Procedure</i>	5
<i>Maintenance:</i>	6
<i>Routine Maintenance</i>	6
<i>Trouble Shooting Maintenance</i>	6.7

Introduction

This manual attempts to provide all of the information necessary for the safe and proper installation, operation and maintenance of ECONO LIFT TILT TABLES.

The TILT TABLE has a nameplate, which provides the load capacity ratings, serial number, drawing number and date of manufacturing. Please refer to these numbers when ordering parts, or requesting further information.

Safety

Do not install or operate this TILT TABLE without carefully reading this manual.

Warning:

- Do not perform any repair or work on TILT TABLES with the platform in the raised position.
- All personnel must stand clear of the machine when platform is in motion.
- Do not put hand or feet under platform.
- Do not stand, sit or climb on the TILT TABLE.
- Do not use on soft, uneven, or unstable surfaces.
- Do not exceed load capacity.
- On DRIVE ON TILT TABLES and DRIVE ON HIGH POINT TILTERS the Platform is lowering to the floor and creates a **pinch point**. Please consult factory for safety options.

Installation

A. Inspection

Upon receipt of the TILT TABLE inspect the equipment completely to determine if there is any shipping damage, and the TILT TABLE is complete. Do not use the TILT TABLE if there appears to be any damage. With the TILT TABLE in the down position check the following:

- 1) Signs of damage especially to the electric's and hydraulics.

- 2) Check connections for tightness. Are there hydraulic leaks?
- 3) Check the base frame for flatness.
- 4) Inspect for any bent or damaged metal parts.

B. Installing Stationary TILT TABLES:

Before starting, make sure that the electrical system is wired in full compliance with local electrical codes and ordinance.

- a) Make sure that the floor in the installation area is flat, stable, and free from dirt and surface defects.
- b) Place TILT TABLE in exact operating position.

Caution: When moving the TILT TABLE it should be picked up by the base frame only. The use of a strap or sling is suggested.

- c) The TILT TABLE is provided with anchor holes or brackets, be sure the TILT TABLE has been placed in the exact operating position before spotting or drilling holes for anchor bolts. Bolt the TILT TABLE securely before using it.

D. Electrical

CAUTION: all wiring must conform to local codes and must be performed by licensed electricians

The following chart recommends power supply for various motors supplied with the TILT TABLEs.

Motor Size	Fuse	Breaker
1 HP 120v, 1 Phase	30 Amp	25 Amp
1 HP 240V, 1 Phase	25 Amp	20 Amp
1.5 HP 208-240, 3 Phase	15 Amp	10 Amp
1.5 HP 460, 3 Phase	7.5 Amp	5 Amp

Warning: Do not tamper or remove cover of the electrical junction box. Only authorized qualified personnel should service the electrical system.

Important: Motor direction is critical. Make sure motor rotates according to the direction arrow on motor frame.

E. Hydraulics

- (1) Use CSR Dextron IIC automatic transmission fluid, or equivalent.
- (2) Before using the TILT TABLE check the hydraulic oil level and add oil if necessary.
Add oil when the TILT TABLE is in the “down position” only. Check fittings for tightness.

F. Testing

- (1) Before testing the TILT TABLE, clear the area of any loose material. Be sure the TILT TABLE has no obstructions and there is enough ceiling space. Using the controls provided, briefly press the “up” button. If the TILT TABLE begins to rise with a humming sound and functions properly, continue carefully to the fully upright position.

Caution: If the TILT TABLE does not rise immediately, or there is any operational problem, stop. Before continuing, check the rotation of the pump and the voltage at the motor terminals. Review the procedures in the section on trouble shooting.

- (2) After raising the TILT TABLE completely, lower the TILT TABLE. It should move slowly and smoothly. A manual adjustable flow control at the pressure port on the pump is provided to adjust the down speed, if necessary. If the TILT TABLE operates properly, raise and lower the TILT TABLE and stop at different levels to get a good perspective on the TILT TABLEs operation and movements.

Operation

A. Method of Operation

All Econolift TILT TABLEs are provided with a factory preset relief valve for the maximum safe capacity. (See name plate).

Activating and holding the “up” button will energize the motor. The motor is coupled to a positive displacement pump, which draws hydraulic fluid from the reservoir and transfers it under

pressure to the hydraulic cylinder. This forces the piston forward and the platform will raise. Depressing the "up" button will stop the TILT TABLE. A check valve in the pump holds the TILT TABLE in position.

Pressing, and holding the "down" button will energize a solenoid, which allows the oil from the cylinder to return to the reservoir through an adjustable flow control valve. This allows the TILT TABLE to lower smoothly and at a controlled speed.

Caution: Do not maintain the switches energized if the TILT TABLE does not move, or has reached its up or down limits. This may cause damage to the motor, pump and controls.

The TILT TABLE is also equipped with a hydraulic velocity fuse mounted on the cylinder port. The fuse will stop the flow of oil (lock up) if it reaches 5 Gal/Min. This a safety device and will prevent the load from falling in case of a hose rupture.

Warning: If the manual flow control valve is set too wide open, the velocity fuse may lock up.

B. Operating Procedure

In order to operate the TILT TABLE, follow these operating procedures.

- (1) Read and understand all the instructions before operating
- (2) Load TILT TABLE correctly.
 - a) Only load the TILT TABLE in fully lowered position.
 - b) Do not exceed the maximum rated load.
 - c) Position load, so it will be right against the back plate (minimum distance to pivot point)..
- (3) Stand clear of the TILT TABLE when operating it, in order to avoid injury.
 - a) Do not stand, sit, or climb into the TILT TABLE.
 - b) If the TILT TABLE fails to move, or exhibits strange movement or sound, stop immediately. Do not operate the TILT TABLE until it has been checked and repaired.

Maintenance

Generally the Econolift TILT TABLE will require little maintenance. However routine maintenance and inspection will minimize costly repairs or hazardous conditions.

Warning: Never go under, or service TILT TABLE in “up” position without making sure it is blocked, so it cannot collapse.

Routine Maintenance

All routine maintenance should be performed monthly. Before performing any maintenance, shut the power off.

- (1) Check oil level. Add oil to the reservoir if necessary.
- (2) Check pivot bushing and pins for wear.
- (3) Make sure all pins are secure and retained.
- (4) Pivot shaft must not rotate; make sure set screws are not loose.

Warning: Great damage and possible injury can occur if pivot pins, or cylinder pins come loose.

- (5) Check hydraulic lines for damage or leaking. Replace if damaged.
- (6) Check wiring damage. Replace immediately if any sign of wear is evident.
- (7) Bushings on pivot pins on cylinders are permanently lubricated and require no servicing.

Trouble Shooting Maintenance

TILT TABLE will not move

1. No operational noises:
 - a) Check power switch, fuse and overloads.
 - b) Check voltage on motor. Motor may have failed.
2. Operational noises:
 - a) **TILT TABLE** may be overloaded or jammed. Check load weight and obstruction.
 - b) Motor (3 Phase) single phasing. Check voltage at motor terminals.
 - c) Motor (1 Phase) low voltage. Check voltage at motor terminal.
 - d) Oil shortage ----- reservoir low, or hose failure. Repair or replace.

- e) Contactor chattering (1 Phase). Low supply voltage. A designated 25 Amp Power Supply is recommended. Avoid extension cords.
3. **TILT TABLE** will not go down:
- a) Velocity fuse may be locked up. Close flow control valve a few turns (clockwise). Press “up” button for a few seconds and then try again to go down. There is a distinct clicking sound if the velocity fuse locks up.
 - b) Down solenoid (burned out). Check continuity of coil.
4. **TILT TABLE** will descend by itself.
- a) Cylinder seal might leak. (red hydraulic fluid is leaking out of top cylinder port). Replace seal, or cylinder.
 - b) Check valve in pump may not be seating. Requires new pump.
 - c) Solenoid valve might be stuck open due to dirt. Unscrew and clean.
5. **TILT TABLE** will stall before reaching full dump position:
- a) Oil shortage. Top up hydraulic fluid in the reservoir.
 - b) Cylinder seal leaking, necessary hydraulic pressure is not reached. Replace seal or cylinder.
 - c) **TILT TABLE** is overloaded. Reduce Load.
 - d) Pump is worn, necessary hydraulic pressure is not reached. Pump needs to be replaced.