

## UV-7B & UV-7BC Adjustment Procedure

1. **This information is to be used only by qualified hydraulic elevator professionals.**
2. The optimum oil temperature to adjust the valve is between 80° to 100°F (27° to 38°C). If oil temperature exceeds 100°F (38°C), make down stop firmer.
3. The following instructions are for adjusting the valve starting with adjusters on preset. However, each new valve is adjusted to a set of standard conditions at the factory and **you do not have to preset adjusters**. You only need to adjust **DM** and **BP**. Other adjusters may require fine-tuning to suit your application.
4. Hand tighten the seal nuts on the adjusters - **DO NOT** over tighten.
5. Valve must be mounted with solenoids in vertical position. Five (5) inches (127mm) min. clearance is required to remove valve cover for service.
6. When disconnecting solenoids, do it electrically, not physically.
7. Both **UA** and **DC** adjusters have screened inputs and must be kept clean. **EECO** recommends use of a 5-micron filtration system.
8. If **DC** requires further fine-tuning after **DA** is adjusted, first open **DA** 3 turns, fine-tune **DC** and then readjust **DA**.
9. Down contract speed is full down speed with rated load on the car for standard UV-7B control valves, down speed with empty car is less than contract speed depending on the ratio of full-load to no-load pressures, approximately 25% less for a 2 to 1 pressure ratio (i.e., empty car down speed = full load (contract) down speed x .75). If constant down speed is required between no-load and full-load conditions, use UV-7BC valve.
10. **DO NOT** adjust the valve to suit switches. Adjust the switches (vanes / magnets) to suit the valve. Recommended slowdown distance is 2 in. for every 10 fpm of car speed. (not to exceed 2.5 in. per 10 fpm)

**U1 - Up Fast solenoid**

**Up Adjustments (From Preset)**

**U2 - Up Slow solenoid**

1. **BP Bypass** - Note: **UA** must be on preset (CW to stop) with car at lower floor with **no load**. Disconnect **U2**. Register an up call. Turn **BP** CW until car moves, then CCW until car stalls plus a minimum of 1/2 turn. Stop pump motor and reconnect **U2**.
2. **UA Up Acceleration** - Car at lower floor with **no load**. Turn **UA** CCW 2 1/2 turns from fully closed position. Register an up call and observe up acceleration. Turn **UA** CCW for faster or CW for slower up acceleration. Car should reach full speed in 2 1/2 feet (.8 m). **DO NOT** drag out acceleration.
3. **UL Up Leveling** - Car at lower floor with no load. Disconnect **U1**. Register an up call. Adjust **UL** to set up leveling speed at 10 to 13 fpm (.05 to .07 m/sec). Reconnect **U1**.
4. **UT Up Transition** - Car at lower floor with no load. Register an up call and observe up transition. Turn **UT** CW (slower) or CCW (faster) until up transition is satisfactory. Slowdown switch should be located to give 3 to 4 inches (75 to 100 mm) of stabilized leveling (**see note 10**).
5. **US Up Stop** - Car at lower floor with **no load**. Disconnect **U2**. Register an up call. Car should not move. Turn **US** CW until car moves, then CCW until car stops again. Reconnect **U2**. Register an up call and observe up stop. Turn **US** CW for softer stop, CCW for firmer stop.  
**NOTE: Pump motor must run approximately 1 second after car has stopped.**

**D1 - Down Fast solenoid**

**Down Adjustments (From Preset)**

**D2 - Down Slow solenoid**

1. **DL Down Leveling** - Car at upper floor with **no load**. Disconnect **D1**. Register a down call. If car does not move, turn **DC** CW (1/8" turn at a time) until car moves down. Adjust **DL** to set down leveling speed at 7 to 9 fpm (.04 to .05 m/s). Reconnect **D1**.
2. **DM Down Main** - For UV-7B valves, car at upper floor with **no load**. Register a down call. Turn **DM** CW (slower) or CCW (faster) to set down speed at 25% less than contract (full load) speed (**see note 9**). For UV-7BC valves DSC should be on preset and set down speed at full contract speed.
3. **DSC Down Speed Control** - Put **full load** on car and check speed in down direction, If speed is more than 5% different from contract speed turn **DSC** (CW) to decrease or (CCW) to increase speed within 5% of contract speed. Final **DSC** adjustment should be in 1/8 increments.
4. **DC Down Closing** - Cycle **empty** car and observe down stop. Turn **DC** CW (softer stop) or CCW (firmer stop) until down stop is satisfactory (**see note 8**).
5. **DT Down Transition** - Car at upper floor with **no load**. Disconnect **D1**. Register a down call. Car should come down at leveling speed. Turn **DT** CCW until car speeds up, then slowly CW until car slows down again. Reconnect **D1**. Cycle car and turn **DT** CCW (slower) or CW (faster) until down transition is satisfactory. Readjust **DL** to maintain down leveling at 7 to 9 fpm (.04 to .05 m/sec). Slowdown switch should be located to give 3 to 4 inches (75 to 100mm) of stabilized leveling (**see note 10**).
6. **DA Down Acceleration** - Car at upper floor with **no load**. Turn **DA** CW to stop. Register a down call. Car should not move. Turn **DA** slowly CCW until car breaks away from floor. Turn **DA** CW (slower) or CCW (faster) until down acceleration is satisfactory.

**ML Manual Lowering** - Turn **ML** out CCW to lower car at leveling speed. All electrical power **MUST** be off when using manual lowering!

**RV Relief Valve**

- 1) With fully loaded car and a pressure gauge installed on the **pump gauge** port, register an up call and record maximum pressure as car nears top landing.
- 2) Close main line valve and turn **RV** and **UA** out CCW to stop.
- 3) Register an up call. Turn **RV** CW to set relief pressure as required by local code (not to exceed 50% above maximum pressure recorded earlier).
- 4) Restart pump to check pressure relief setting. Seal **RV** as required. Open main line valve to the jack. Readjust **UA** for proper up acceleration.

CW = Clockwise (IN) ↻

**Adjuster Presetting**

↻ CCW = Counter Clockwise (OUT)

|          | PRESETTING                                 | FUNCTION                    |          | PRESETTING                               | FUNCTION                    |
|----------|--|-----------------------------|----------|--|-----------------------------|
| <b>U</b> | <b>BP</b> CCW to stop, then CW 2 turns.    | (CCW - Delays up start)     | <b>D</b> | <b>DL</b> CW to stop, CCW 5 1/2 turns.   | (CW - Slower speed)         |
|          | <b>UA</b> CW to stop.                      | (CCW - Faster acceleration) |          | <b>DM</b> CW to stop, CCW 5 1/2 turns.   | (CW - Slower speed)         |
|          | <b>UL</b> CCW to stop.                     | (CW - Faster speed)         |          | <b>DSC</b> CW to snap ring, CCW 6 turns. | (CW - Slower speed)         |
|          | <b>UT</b> CCW to stop, CW 2 1/2 turns.     | (CW - Slower transition)    |          | <b>DC</b> CCW to stop, CW 2 1/2 turns.   | (CCW - Firmer stop)         |
|          | <b>US</b> CCW to stop.                     | (CW - Softer stop)          |          | <b>DT</b> CW to stop.                    | (CCW - Slower transition)   |
|          | <b>RV</b> Factory set at 500 psi (34 bar). | (CW - Increase pressure)    |          | <b>DA</b> CCW to stop.                   | (CCW - Faster acceleration) |