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)

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**U1 - Up Fast solenoid**

**Up Adjustments (From Preset)**

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.

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**U2 - Up Slow solenoid**

**Up Adjustments (From Preset)**

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.

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**D1 - Down Fast solenoid**

**Down Adjustments (From Preset)**

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 100 mm) 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.

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**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.

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

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**ECHO Owner’s / Installation Manual**