Assembly Instructions for DH and IL-11 Balances

This is a precision instrument which has been carefully adjusted for a maximum degree of sensitivity. Please handle all parts carefully in unpacking. The notched beam and slide weight or smooth tare beam and tare weights as required, are packed in the balance carton. The commodity holders to be used with the balance may be packed in a separate carton.

There are three shipping arrests on this balance. Two lock the mechanism and the third locks the dash pot. The balance and the dash pot are always locked before shipping to avoid breakage and to seal the fluid in the cylinder. The dash pot is properly adjusted and filled with a special fluid at the factory prior to shipment. To prepare the balance for use proceed as follows:

[1] ATTACH THE NOTCHED BEAM (OR SMOOTH TARE BEAM). To avoid damage, the beam is not attached to the balance when shipped. Figure 1 illustrates the assembly of the beam (B) to the two brackets (A) which extend through the front of the balance case. Use the screws (C). The notched beam when used should be assembled with the notches facing up and with the widest ungraduated interval at your left. Do not remove slide weight (D) from the beam. Should the slide weight (D) become separated from the beam (B) reassemble with the colored or indicator edge of the slide weight facing the right side of the balance. The small dot on the indicator portion of the slide weight (D) must always be under the beam (B). When the smooth tare beam is used, no positioning of the beam is required, but if the weights do become disengaged from the beam, reassemble with the smaller of the two sliding weights at the left.

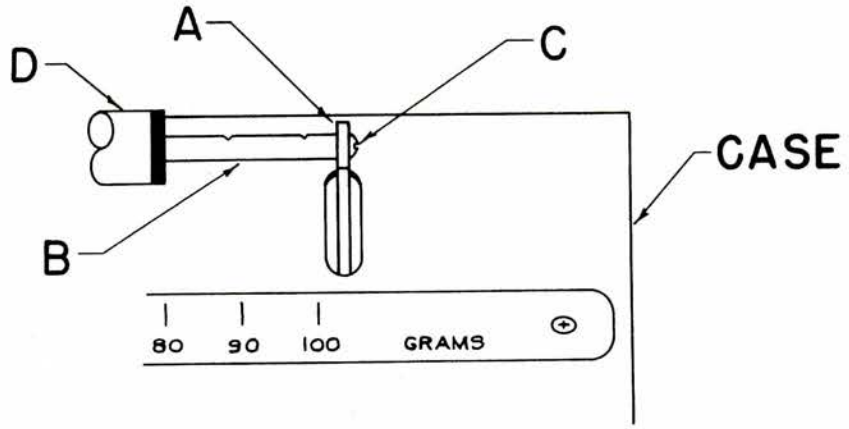


Figure 1

[2] UNLOCK THE BALANCE. Turn the balance on its back so the graduated dial is up and the bottom of the balance faces the operator. Figure 2 shows the position of the three locking devices. Slightly loosen ONLY the two knurled shipping arrest knobs. DO NOT TOUCH THE ROUND HEAD SCREWS IN THE CENTER OF THE ARREST KNOBS. Figure 3 shows the internal arrangement of the shipping arrests in the locked and unlocked positions. Move the two knobs out as far as possible toward the ends of the balance to disengage shipping arrest from beams. Tighten the knobs. NOW OBSERVE LOCATION OF, BUT DO NOT LOOSEN DASH POT LOCKING KNOB AT THIS TIME. Return the balance to normal upright position.

Figure 2 ➡

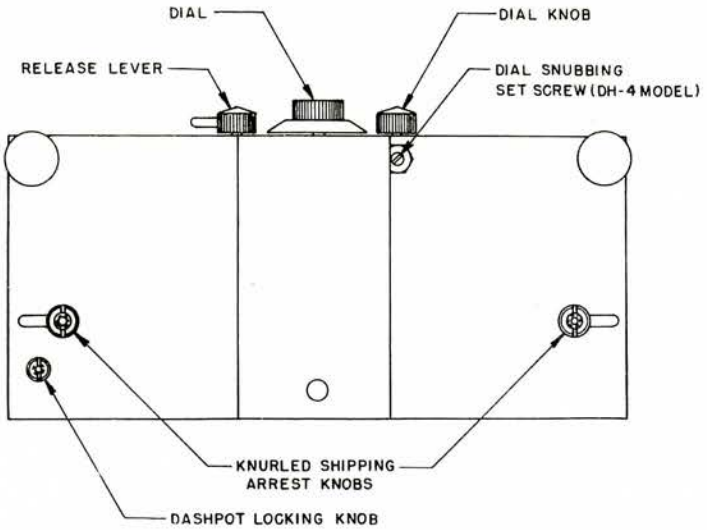
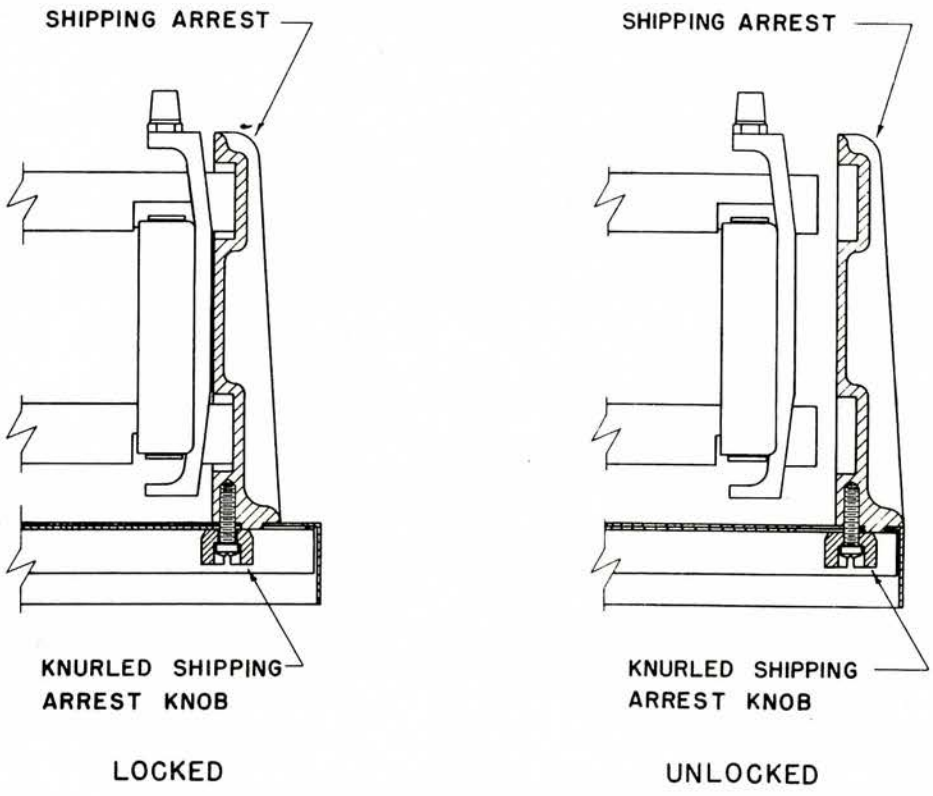
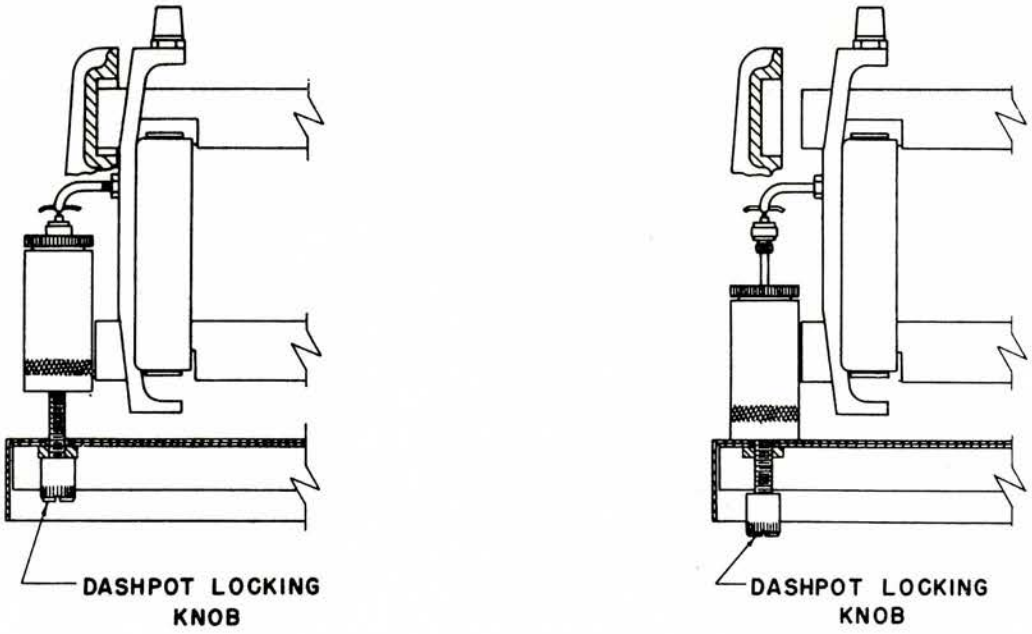


Figure 3 ➡



[3] UNLOCK THE DASH POT. To avoid spilling fluid from the dash pot, the balance should not be upset or placed on its back when the dash pot is unlocked or in the process of being unlocked.

The dash pot is located inside the balance case near the left rear corner as noted in Figure 2 and is unlocked by rotating the dash pot locking knob which extends through the base (Figure 4). This is best accomplished by extending the left rear corner of the balance beyond the edge of the table or bench and rotating the dash pot locking knob as if to remove it from the base. Continue to back off the dash pot locking knob until you are unable to rotate it any further. This seats the dash pot cylinder firmly against the balance base as shown in unlocked view Figure 4.



LOCKED UNLOCKED

Figure 4

If there is any question regarding the direction of rotation, the dash pot locking knob should be rotated in the same direction as you would turn one of the leveling screws to remove it from the balance.

[4] Place the balance on a firm, level table or shelf, where it is free from vibration.

[5] Set the balance so that you are directly facing the index.

[6] Place the commodity holders on top of tapered rods visible through the openings in the top of the case.

If the balance is to be used with a scoop, the scoop should be on the left side as you face the balance.

[7] After dash pot and shipping arrests have been unlocked and commodity holders installed, move the slide weight to the zero notch (or to the left stop if balance has an ungraduated tare beam) and turn the dial knob to set dial at zero. Release the balance by moving the release lever to the left. Place balance in equilibrium by turning adjustable leveling screws (front feet) until the indicator is aligned with the center line of the index. The balance should be approximately level from front to rear.

[8] The dash pot (oscillation damper) is filled with a silicone fluid. This fluid is not miscible with other fluids. If replacement fluid is needed, contact The Torsion Balance Company.

9 When the balance is to be transported, the shipping arrests and dash pot must be locked and the notched beam (or tare beam) should be removed. Refer to paragraphs 1, 2, and 3, reversing the procedure described.

MAINTENANCE INSTRUCTIONS

DIAL TORQUE ADJUSTMENT

After a period of use it may be desirable to increase the turning resistance of the dial. This may be accomplished by following the procedure for the particular model as described below.

DH-2 MODELS

Set the calibrated dial to the stop at "O". Loosen the socket head set screw in the dial several turns and remove the dial. This will expose the adjusting set screw which is located to the right of the dial shaft. Turn the set screw clockwise with a small screwdriver (1/8" blade) to increase the snubbing effect. Make sure the shaft is turned counterclockwise against the stop and replace the dial. Set the "O" mark on the dial in line with the index mark and tighten the socket head set screw.

DH-4 MODELS

Do not turn the balance over at any time (see paragraph 3 of assembly instructions). The adjusting set screw is accessible from underneath the balance and is located directly under the dial knob shaft and just to the right of the channel which spans the bottom of the base from front to back. The adjustment may be made easily without locking the dashpot by sliding the balance toward the front edge of the bench on which it rests until the leveling screws overhang. This will allow access to the adjusting set screw which is located in the center of a hex shaped nut just behind the front lip of the base (Figure 2). Insert a small screwdriver (1/8" blade) into the hole in the center of the hex nut and engage the slotted screw. Turn counterclockwise to increase the snubbing effect. Caution: do not upset the balance or dashpot fluid will be spilled.

IMPORTANT! Address all inquiries with regard to repairs, replacement parts or shipping instructions directly to our main office and factory at Clifton, N. J. Always refer to the serial number on the name plate located on the back of the balance case. It will expedite handling of your request.

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