

INSTRUCTIONS FOR REPLACING GLASS OR SLATE PLATES ON
BECKER ANALYTICAL AND JEWELER'S BALANCES

1. Remove bows, pans, stirrups, beam and drawer.
2. Remove front sash, and back sash if any.
3. Remove four screws fastening top of case to the four wooden columns and take off top.
4. If balance had rider, remove small plate holding rider rod in its place, and remove slat with rider rod. For No.110 and No.113 remove both slats with rider rod.
5. Remove glass from ends of case.
6. Raise sash weights and make loops in sash cords to prevent weights dropping out of wooden columns when removed.
7. If balance has Auto-dex, remove pin which fastens connecting strip to bracket at lower end of index support, and remove screw at upper end of index support, which can then be removed by tilting to the left.
8. Remove parts of balance above the glass plate by taking out the two small screws near the level vials. This exposes two studs which should next be removed. For No.9 series there are three screws to be removed and the two studs should not be disturbed.
9. If a Chainomatic balance: lay case on back and remove friction gear, nut and washer from lower end of spiral.
10. Remove nuts and springs that secure the four bolts holding the glass plate and wooden columns to bottom of the case. Remove the columns.
11. Dismantle pan arrest from glass plate by removing screws on under side of plate that secure the pan arrest supports.
12. To put on new glass plate reverse these operations.

PRECAUTIONS

1. Balances with rider rods. When replacing the two studs (paragraph 8 above) make certain that they are the same distance from front of plate to insure beam and rider rod being in alignment.
2. Beam release. If the beam releasing device does not work freely, remove key pushing in front of case and with a pair of pliers twist block that acts as bearing for rod, until proper alignment is secured.
3. Pan arrest. Care must be taken in reassembling pan arrest (paragraph 11 above) to insure push rod bearing against the pin on the pan arrest rod. If push rod does not lock, bend pin on pan arrest rod backward. If pan arrest has not sufficient drop, bend this pin forward.
4. Clearance of Center Knife Edge. When beam is arrested, center knife edge should be clear of its bearing and no higher.
 - (a) To insure this in No.8A, No.8A Chainomatic, No. 8A Chainomatic notched beam and No.33 balances, adjust screws that are seated in cross arm without changing horizontal alignment of beam in relation to glass plate.
 - (b) To insure proper clearance in No.15, No.15 Chainomatic, No.15 Chainomatic notched beam, No.16, No.16 Chainomatic, No.16 Chainomatic notched beam, No.34, No.35, No.35 Chainomatic, No.35 Chainomatic notched beam, No.110, No.113, No.150, adjust by means of peening or elongating tongue in lift rod until proper adjustment is secured.
 - (c) To insure proper clearance in No.9, No.9 Chainomatic, No.9 Chainomatic notched beam, adjust with nuts on the diagonal arm rods.
5. Proper contact on glass plate. In all balances except No.9 series, the rim of the round base holding the two level vials and not the two studs (par.8 above) should bear on the glass plate. To insure this, after operation (par.8) is reversed in putting on new plate, ease off the two studs by turning from underneath the balance and tighten up on the two small screws. In No.9 series, the round base should not press upon the glass and if necessary to insure this, place thin washers on top of the two studs and collar on which the round base rests.

DIRECTIONS FOR CHANGING GEARS

To change from friction drive to regular gears remove the screws that hold the assembled friction gear to the bottom of the case. Remove the set screw from the knurled wheel on the spiral shaft and remove the wheel. Replace knurled wheel with the gear wheel and line up assembled drive shaft so that the gears mesh correctly, making sure the end that goes through the case to receive the key is in the center of hole so raising and lowering key does not bind. Screw down in place in same manner as was the friction gear.

Record of Time of Swing on Balances using Standard Index
25 mm to the inch

Style	Length of beam	Length of Needle	Sensitivity	Distance between index division	Time of oscillation from 10 to 10 or 0 to 10 and return full load	No load	Date
9 Reg	7 in	9 1/2 "	1/20mg	1 mm	18 sec-200g load	9 sec	5/9/23
15C	6"	8 5/8"	1/20mg	1 mm	14 sec 100g "	8 sec	5/9/23
33C	7 "	8 3/4"	.006 4 div for 1/100 carat 2 1/2 div	1 mm	11 sec 100 g "	6 sec	5/18/23
8AC	7"	8 5/8"	1/20mg	1 mm	4 sec 100 g "	3 sec	5/31/23
11	12"	11 11/16 in	1/10 mg	1 mm	16 sec 200 g "	10 "	5/25/23
16C	6 in	8 1/2"	1/20 mg	1 mm	20 sec 500 g "	11 sec	6/19/23
					13 sec 100 g "	8 sec	

Chain Balances and regular balances of the same type and style (such as 8A reg and 8A ch etc. have approximately the same speed or time of swing