



Ellison Bronze, Inc.

Instructions for the installation of Ellison Bronze balanced door models #137 & 138

Used from 1955 to 1967

1. A packing list will be found in crate No. 1 of each shipment. The parts in the crates should be checked with this list. If there is any discrepancy, notify Ellison Bronze at once.
2. All parts are numbered. Numbering starts from the left as you face the unit from the exterior side. Be sure that each part is erected in its proper position.
3. Place threshold in position as shown on blueprint. Shim threshold to a perfectly level position. ***This is very important.*** Do not fasten the threshold to the floor at this time.
4. Place rough bucks in a perfectly plumb position with side bucks resting on top of the threshold. Mark holes for buck fastening. Remove rough bucks, drill holes for attachments, replace bucks, bolt in place and check for proper alignment.
5. Put frame member containing check and door guide assembly (1) in position, put the proper exterior side jamb sections in position under the member already in place and fasten securely to floor box and head member.
6. Level and fasten the top of each jamb section to steel rough bucks with one screw.
7. Install pivot shaft as follows:
 - (a) Remove lower screw from spline pin at top of shaft assembly and retract splined top pivot pin noting carefully the position of the large external spline.
 - (b) Place keyway at bottom of shaft over key on large gear in gear box and move bottom arm to a position lengthwise with the threshold.
 - (c) Note position of large internal spline in door guide assembly. Engage large external spline to this internal spline by elevating the spline pin in the shaft. Secure the spline pin in position by replacing lower screw.
 - (d) Note clearance between top arm and head member. If other than 1/16", shaft assembly should be removed. If too low, add shims under shaft bottom pivot; if too high, file required amount off shaft bottom pivot.
8. Hang doors in an open position as follows:
 - (a) Remove door top pivot (7) being sure to first loosen set screw.
 - (b) Check to be sure door pivots and door roller screws are tight.
 - (c) Place door bottom pivot (10) in bearing point of bottom arm.
 - (d) Engage door roller guide (9) in door guide channel in head member.
 - (e) Drop door top pivot (7) into hole in top arm and into top pivot bearing (8) and tighten set screw securely.

Directions to take the door down: reverse above procedure.

9. Shift side jamb sections, gear boxes and threshold until perfect door alignment is achieved. This is extremely important.

10. Mark holes for fastening threshold. Remove doors and threshold, drill holes for threshold fastenings, replace and caulk threshold and fasten securely in place.

11. Install all interior side jamb sections and fasten to exterior section but not to the rough buck.

12. Replace the doors.

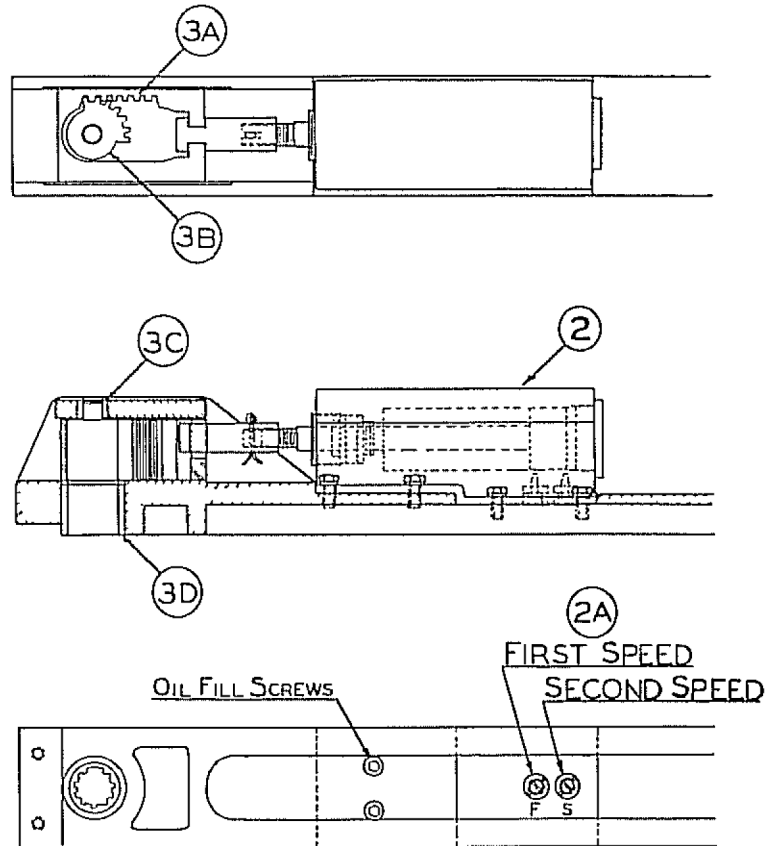
13. Fasten assembled frame members to rough buck as required, checking to be sure desired door clearances are maintained as you progress.

14. Have doors glazed, being sure that all glass stop mouldings are returned to their original position.

15. After glazing has been done, final check for desired clearances and for free swing of door should be made as follows:

- (a) Turn check valves (2a) out enough to allow door to swing freely.
- (b) Swing door back and forth to determine if there are any rub or bind conditions. These must be cleared before a proper door closing adjustment can be obtained.
- (c) Check door clearances all around. Means of adjustment have been provided as follows:
 1. Top and bottom pivots have slotted holes parallel with door to move door towards either jamb.
 2. Door roller guide has slotted holes perpendicular to door to allow in and out adjustment of top of door in relation to door stop.
 3. Shims may be added between door bottom pivot and door bottom channel, if needed, to raise door.

NOTE: Door must be taken down to make the above adjustments.





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16. After door hangs satisfactorily, closing adjustment should be made as follows:

- (a) Remove floor box cover plate, insert closer spring wrench in the small gear and wind until sufficient tension to close the door is achieved. The minimum tension which will close the door is recommended.
- (b) Adjust the closing speed of the door with the check valves (2a) on the underside of door guide channel. The second speed valves (S) or valve towards strike jamb slows the door down during final 10 degrees of closing. This valve is designed to cushion the closing of the door against its stop and should be adjusted first. The first speed valve (F) or valve towards hinge jamb is designed to allow door to travel through its initial closing arc at a reasonably fast yet smooth speed and should be adjusted accordingly.
- (c) Replace floor box cover plate after being fully satisfied that closing tension and speeds are suitable for the conditions to which the door will be subjected.

17. Caulk, install finish trim and/or any other parts needed to complete the installation.

18. After erection has been completed, unit should be cleaned and a letter of acceptance should be obtained from the owner or representative.



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1. Replacement parts may be purchased in accordance with parts list in this folder. When ordering, specify item number and name, building name and location, swing (see plan below parts list) and size (see door hardware schedule).
2. Door closing adjustment (see erection instruction #16)
3. Oil fill
 - (a) Turn out both oil fill screws.
 - (b) Screw spout of pressure oil fill gun into one hole (10-24 thread).
 - (c) Fill with Ellison Silicone Oil until oil comes out other hole.
(Use of other than Ellison Silicone Oil is not recommended)
 - (d) Replace both screws, clean off excess oil and check to be sure there are no leaks.
 - (e) Readjust checking speed of door as required. (See erection instruction 16b).
4. Repair of leaking valve
 - (a) Turn valve to align valve slot with housing slot.
 - (b) With wide screw driver, tighten valve housing securely.
 - (c) Clean off excess oil and check for leakage.
 - (d) If tightening valve housing as above does not cure the leak, the entire valve assembly should be replaced with new kit (Item #2a)
 - (e) When replacing valve assembly, lubricate all parts: screw valve into housing; place small metal washer, pack washer and O ring on valve stem in this order and insert entire assembly into valve hole of check.
 - (f) Fill with oil per instruction 3 and adjust per erection instruction #16b.
5. Procedure to follow to replace other parts
Proceed through following instructions as far as needed to replace or repair worn or broken parts.
 - (a) Remove floor box cover plate held in place with four screws.
 - (b) Closer spring tension may be released by prying pawl (11c) off pin. Note, however, that a cloth or similar object should be held over pawl to keep it from flying as tension is suddenly released.
 - (c) With door in open position, turn a 1/4-20 screw into hole on top of door top pivot (7), release set screw holding pivot and pull pivot up and out of top arm.
 - (d) Tip door forward until door roller guide (9) releases from door guide channel (3), swing door around parallel with opening and lift out of bottom arm. At this point, top pivot bearing (8), door roller guide (9) or door bottom pivot (10) may be replaced, being sure to mark position of each item before removing, as they are held in place with screws through slotted holes.
 - (e) Remove inside half of hinge jamb.



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- (f) Note two 5/16 Allen head screws at upper end of pivot shaft. Remove lower screw and pull upper screw down to bottom of slot releasing splined top pivot pin from door guide channel above. Lift shaft up and out of jamb. At this stage, spring assembly (6) may be replaced. This item is held in place with four screws on bottom of shaft assembly. If spring is broken and upper piece is hard to remove, drill or drive out 1/4" key in shaft and allow broken piece of spring to fall into space above. Rivet new key in place and insert new spring assembly.
- (g) To replace needle bearing (5a) and/or thrust bearing (5b), turn out plug in bottom arm and drive out bearings through access hole. When replacing thrust bearing, note that one race has a slightly larger O.D. than the other. This race should go at the bottom.
- (h) To remove check and door guide assembly (1) remove two 1/4-20 F.H.M.S at shaft end and six 1/4-20 Allen head screws holding other end. Pull front end of channel down and then forward until channel drops out.
- (i) Remove check (2) held in place with eight 1/4-20 H.H.M.S. If replacing, note distance clevis is turned onto piston rod. This distance must be the same on new check piston rod.
- (j) To replace drive rack (3a) and pinion (3b), cover plate must first be removed. This plate is held in place by six 8/32 Phillips F.H.M.S. on side of channel. At this time, upper and lower bearings may be driven out and replaced.
- (k) Reassemble in reverse order, being sure that all screws are tightened securely as you progress.