

OPERATING AND MAINTENANCE INSTRUCTIONS



MODEL C-82 "Tutor"

**Baseball & Softball
Pitching Machine**

Master Pitching  Machine

4200 NE Birmingham Road • Kansas City, MO 64117 • (816) 452-0228 • FAX (816) 452-7581

Model C-82 Operating & Maintenance Instructions

Ball Positioning:

Ball Guides and Ball Stop may be adjusted over a wide range so that the ball may be held in a position for pickup by the pitching Hand. Adjustment is proper when the ball may be picked up smoothly with a minimum jostling of the remaining balls. The ball should be picked up as near to the base of the Hand as possible. Be sure the Hand clears the Guides and Ball Stop by 1/8" as the Hand passes between them.

Height Adjusting Handle:

Operating the Height Adjusting Handle (the upper handle) moves the Lower Spring Carrier so that the height of pitch is changed by varying the firing point of the Arm. This is the minor adjustment of height of pitch that can be made while the machine is in operation. (Note that when setting Hand adjustment, the Height Adjusting Handle should be approximately in the center of its range.)

Hand Adjustment:

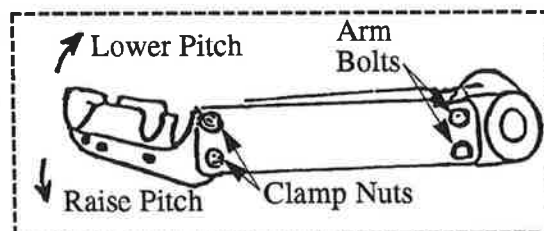
Loosen the Pitching Hand Clamp nuts to make a major change in height of pitch. To lower pitch, put the Hand more nearly at right angles with the arm. To raise the pitch, put the Hand more nearly in line with the Arm (see illustration). Be sure to tighten Hand Clamp nuts after adjustment. For safety reasons, always disconnect Spring Carrier when making adjustments to the Hand or other internal machine components.

Whenever the Hand Clamp nuts are loosened to make pitch height adjustment, the Arm is free to move laterally since the Hand clamp also locks the Arm in position. Therefore, always check both the Hand adjustment and the Arm clearance simultaneously in order to maintain proper clearances between the Hand and Ball Positioning System, and hence prevent damage to the Hand or other machine components.

Note: The "Stubby" Hand #760-068 is used to throw Baseball or "Fast Pitch Softball" whereas the "Lob" Hand #762-190 is used to throw "Slow Pitch Softball".

Arm Clearance:

The Arm needs to be moved only to correct the clearance between the Hand and the Ball Guide Plate. Loosen the Clamp Nuts, move Arm to the desired position, and then tighten the Clamp Nuts securely. Be sure that all four bolts at the base of the Arm are tight at all times.



Strength of Pitch (Speed of Pitch):

Strength of pitch is determined mostly by the tension placed on the pitching arm Hub by the Spring system. Major changes in the Spring power can be made by adding or removing Springs. (The C-82 is originally shipped with two Springs installed, and two additional Springs in the package.) Generally, either two Springs or four Springs are recommended. When changing the number of Springs used, the Hand angle will usually have to be changed to compensate for the increased (or decreased) power.

Minor adjustment in strength of pitch is performed by rotating the Speed Adjusting Handle (the lower handle) either clockwise (for a faster pitch) or counter-clockwise (for a slower pitch). This adjustment can be made while the machine is in operation.

Caution: Do not attempt to rotate the handle beyond the Stop Nuts on the Speed Adjusting Handle. (These Stop Nuts are factory set at 2 5/8" from the inside of the machine frame.). Also, never attempt to operate the machine with the Springs hanging loose; the Upper Spring Carrier could come off and get entangled with the pitching Arm, thus damaging the machine.

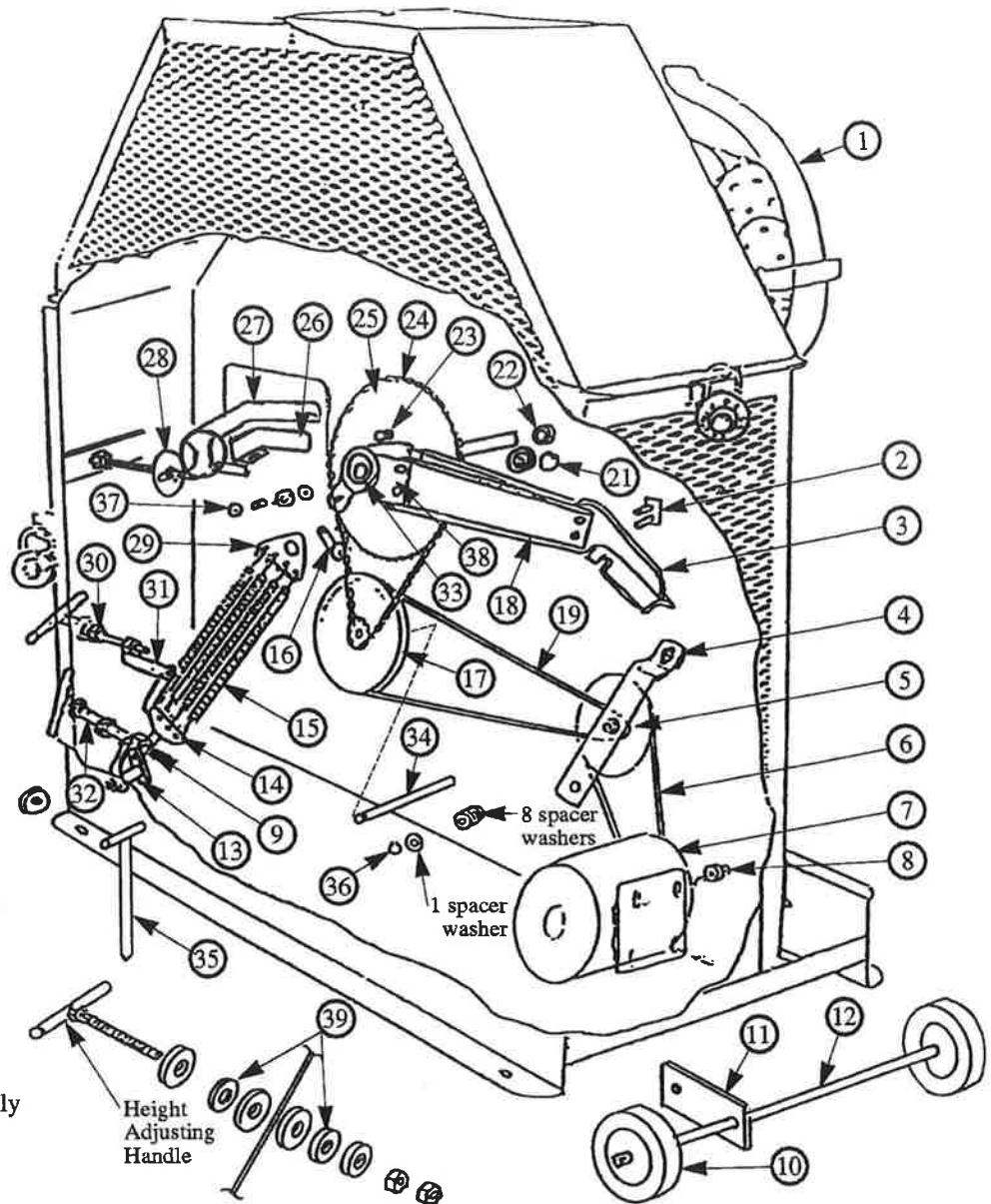
The additional length of the threaded portion of the Speed Adjusting Handle is provided to make it easy to loosen up the Spring Carrier in order to disconnect the Springs for: Spring changes; for Hand and Arm adjustment; or for additional safety when the machine is being stored.

Chain and Belt Tension Adjustment:

Maintain proper Chain tension by pushing loosened Chain Tightener against Chain (by hand), and then retightening. Tension of the two Belts is adjusted simultaneously by loosening upper bolt of Step Pulley Bracket, while keeping lower bolt slightly "snug", and then tapping Bracket upwards to produce "play" in each belt of approximately 3/4 inches; tighten both bolts securely after the proper Belt tension is obtained.

C-82 Parts List:

Item	Part #	Description
1	762-022	Ball Rack
2	762-023	Hand & Arm Clamp
3a	760-068	Hand
3d	762-190	Hand ("Lob-pitch" Only)
4	762-042	Step Pulley Bracket
5	747-666	Step Pulley
6	761-075	Motor Belt 3L420
7	760-062	1/3 H.P. Motor
8	748-044	Motor Pulley
9	762-024	Spring Tension Nut
10	747-978	Wheel
11	762-025	Wheel Mounting Bracket
12	762-026	Axle
13	762-027	Spring Bellcrank
14	762-028	Lower Spring Carrier
15	747-780	Spring
16	762-029	Chain Tightener
17	747-663	Sprocket Pulley
18	762-030	Arm
19	761-073	Drive Belt A50
21	762-031	Snap Ring
22	747-954	Set Collar
23	747-173	Sprocket Drive Bushing
24	760-014	Roller Chain (#41)
25	762-032	Main Sprocket
26	747-299	Short Ball Guide
27	762-033	Long Ball Guide
28	748-086	Ball Stop
29	762-034	Upper Spring Carrier
30	762-035	Height Adjusting Handle
31	762-036	Height Adjusting Link
32	762-037	Speed Adjusting Handle
33	760-054	25 mm Bearing
34	762-038	Lower Shaft
35	748-035	Stake
36	762-039	Snap Ring (5/8")
37	747-669	Cable Attaching Assembly
38	762-040	Hub
39	762-041	Rubber Pad Assembly



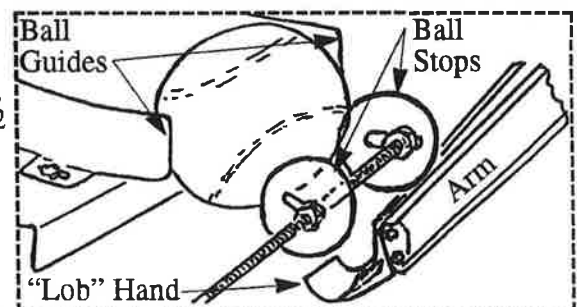
Lubrication:

Daily, oil the Pulley Bushings, Cable Attaching Bushing, and the pivot points on the Spring system. Lubricants such as "Lubriplate #3" machine oil (or other oils containing wear-resistant materials such as Molybdenum Disulfide) are absolutely necessary for maximum life of bushings. S.A.E. 90 gear oil is generally sufficient. In dusty conditions, oil liberally to flush away dirt and then wipe away excess oil. Always maintain a grease coating on the threaded adjusting rods. Also, lubricate the roller chain regularly for maximum life of chain and sprocket using a commercially available chain lube. Furthermore, annually, add up to 30 drops of an SE grade SAE10 motor oil to each motor bearing but do not over-oil.

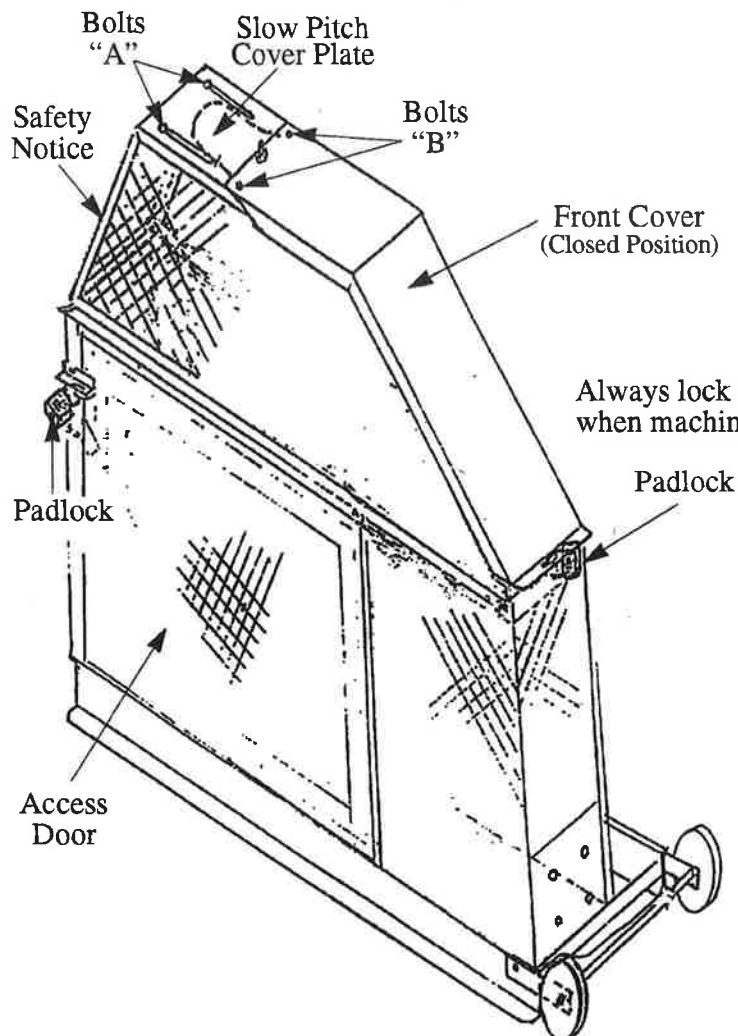
Slow-Pitch Softball Operation:

For best results using the Model C-82 for Slow-Pitch Softball operation, the "Lob" hand must be used. This hand is shorter than the regular C-82 hand and has no notches for Ball Guides or Ball Stop. Instead, the two Ball Guides straddle the curved portion of the Hand and a pair of Ball Stops are used (as illustrated) to straddle the opposite side of the Hand.

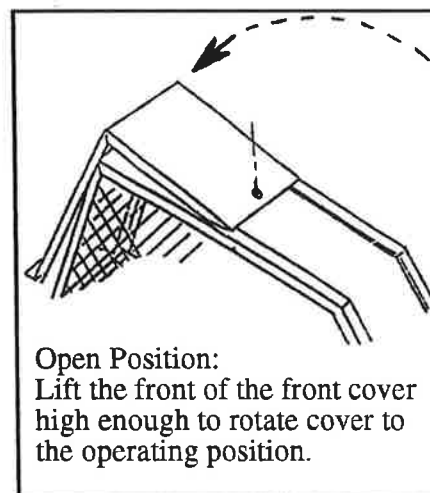
Note: For Slow-Pitch "Lob" Softball operation, loosen bolts "A" and remove bolts "B" holding the Slow Pitch Cover Plate in place to allow the Slow Pitch Cover Plate to be slid back after rotating the Front Cover around. This is done for clearance of the "Lob" pitch with the top of the machine due to the arc path of the ball when setting up for the high arcs.



Cover Locking Detail



Note: For Slow-Pitch "Lob" Softball operation, loosen bolts "A" and remove bolts "B" holding the Slow Pitch Cover Plate in place to allow the Slow Pitch Cover Plate to be slid back after rotating the Front Cover around. This is done for clearance of the "Lob" pitch with the top of the machine due to the arc path of the ball when setting up for the high arcs.

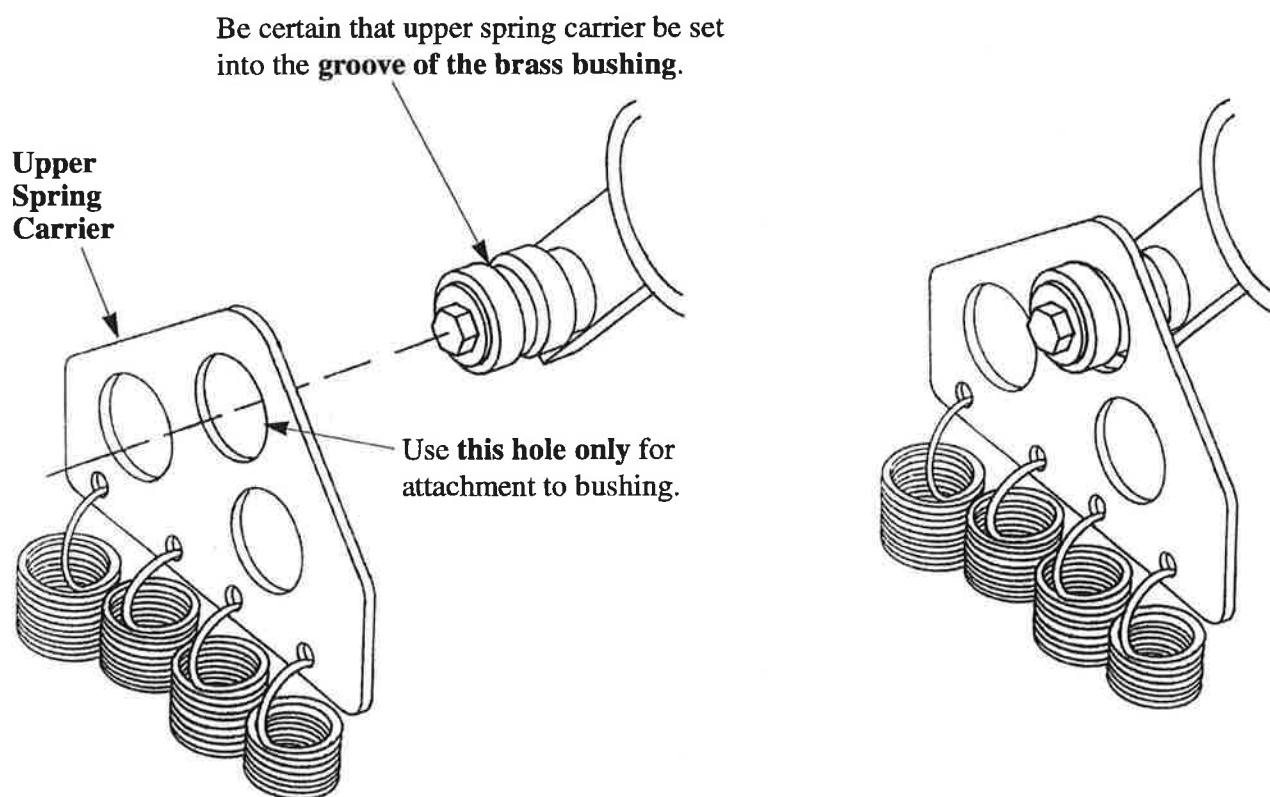


IMPORTANT NOTICE to Owners, Operators, Attendants and Service Personnel of this Baseball Pitching Machine

- * This pitching machine is made and sold to be used as a training device to be operated only under the direct supervision of a responsible person. Keep this machine away from children and other persons not thoroughly familiar with its operation and the hazards of carelessness around it.
- * The safety cover provided and the service access door must be padlocked in place when the machine is stored or left unattended.
- * Whenever pitching machine is in use, batters and onlookers must be warned to expect a pitch anytime that they are in front of the machine with its safety cover opened. Never stop or store machine with arm near the ball pickup point. **(The arm could be cocked and could fire even with the power off.)** Pitching Machine should be turned off immediately after the pitch so that the Arm is facing toward the batter (the safest position). In case of manual, accidental, or emergency stops, be extremely cautious of unexpected firing of pitching machine.
- * Operators of this machine must assume responsibility for maintenance and adjustments on it, the selection and care of balls used in its operation, and for the overall safety of its operation.
- * A service access door allows servicing and adjustment of the pitching mechanism. Always disconnect electric power and the springs when servicing machine.

Upper Spring Carrier Attachment Instructions

Note that it is important that the center hole of the upper spring carrier be set into the groove of the brass bushing for proper operation of the model C-82 machine, as illustrated below.



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