

NOTE:  
Please read all instructions  
carefully before using this  
product

Table of Contents

Safety Notice

Hardware Identifier

Assembly Instruction

Parts List

Warranty

Ordering Parts

Model  
MD-4100

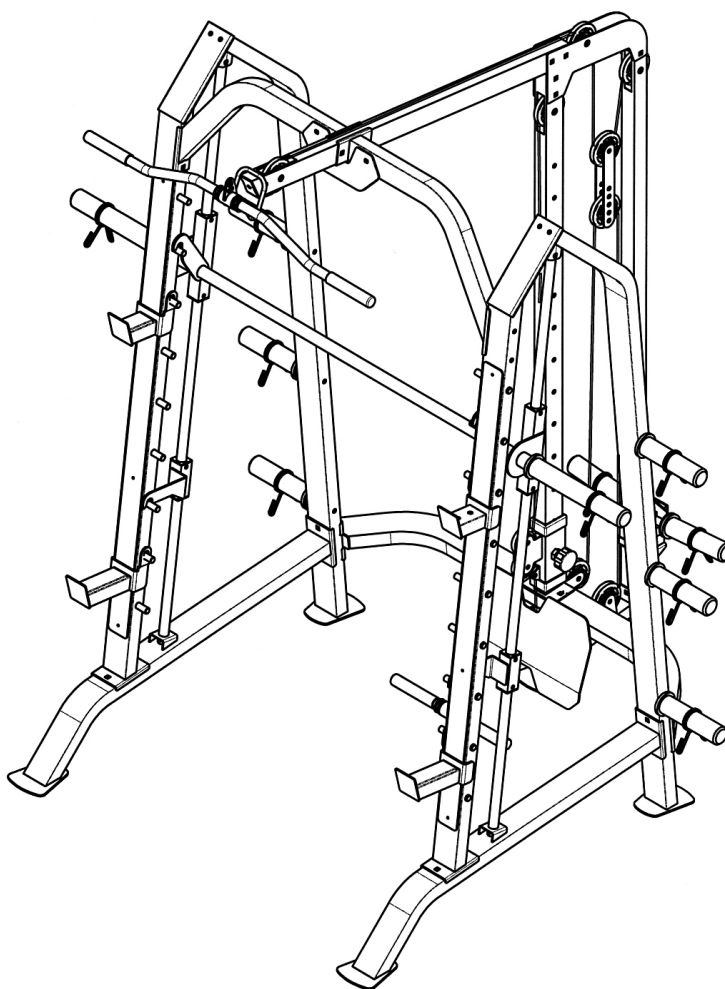
Retain This  
Manual for  
Reference

09-25-07

OWNER'S  
MANUAL

# IMPEX

## MARCY DIAMOND ELITE SMITH MACHINE MD-4100



**IMPEX<sup>®</sup> INC.**

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## TABLE OF CONTENTS

BEFORE YOU BEGIN.....	1
IMPORTANT SAFETY NOTICES.....	2
HARDWARE PACK.....	4
ASSEMBLY INSTRUCTIONS.....	7
EXPLODED DIAGRAM.....	17
PARTS LIST.....	18
WARRANTY.....	19
ORDERING PARTS.....	19

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## BEFORE YOU BEGIN

Thank you for selecting the MARCY DIAMOND ELITE MD-4100 Smith Machine by IMPEX® INC. For your safety and benefit, read this manual carefully before using the machine. As a manufacturer, we are committed to provide you complete customer satisfaction. If you have any questions, or find there are missing or damaged parts, we guarantee you complete satisfaction through direct assistance from our factory. To avoid unnecessary delays, *please call our TOLL-FREE customer service number*. Our Customer Service Agents will provide immediate assistance to you.

**Toll-Free Customer Service Number**

**1-800-999-8899**

**Mon. - Fri. 9 a.m. - 5 p.m. PST**

**[www.impex-fitness.com](http://www.impex-fitness.com)**

**[info@impex-fitness.com](mailto:info@impex-fitness.com)**

## **IMPORTANT SAFETY NOTICE**

### **PRECAUTIONS**

This exercise machine is built for optimum safety. However, certain precautions apply whenever you operate a piece of exercise equipment. Be sure to read the entire manual before you assemble or operate your machine. In particular, note the following safety precautions:

1. **Keep children and pets away from the machine at all times. DO NOT leave children unattended in the same room with the machine.**
2. Only one person at a time should use the machine.
3. If the user experiences dizziness, nausea, chest pain, or any other abnormal symptoms, STOP the workout at once. CONSULT A PHYSICIAN IMMEDIATELY.
4. Position the machine on a clear, leveled surface. DO NOT use the machine near water or outdoors.
5. Keep hands away from all moving parts.
6. Always wear appropriate workout clothing when exercising. DO NOT wear robes or other clothing that could become caught in the machine. Running or aerobic shoes are also required when using the machine.
7. Use the machine only for its intended use as described in this manual. DO NOT use attachments not recommended by the manufacturer.
8. Do not place any sharp object around the machine.
9. Disabled person should not use the machine without a qualified person or physician in attendance.
10. Before using the machine to exercise, always do stretching exercises to properly warm up.
11. Never operate the machine if the machine is not functioning properly.
12. A spotter is recommended during exercise.

### **CARE AND MAINTENANCE**

1. Lubricate moving parts with WD-40 or light oil periodically.
2. Inspect and tighten all parts before using the machine.
3. The machine can be cleaned using a damp cloth and mild non-abrasive detergent. DO NOT use solvents.
4. Maximum user's weight: 300 lbs.
5. Maximum weights on the rack: 600 lbs.

**WARNING: BEFORE BEGINNING ANY EXERCISE PROGRAM, CONSULT YOUR PHYSICIAN. THIS IS ESPECIALLY IMPORTANT FOR INDIVIDUALS OVER THE AGE OF 35 OR PERSONS WITH PRE-EXISTING HEALTH PROBLEMS. READ ALL INSTRUCTIONS BEFORE USING ANY FITNESS EQUIPMENT. IMPEX INC. ASSUMES NO RESPONSIBILITY FOR PERSONAL INJURY OR PROPERTY DAMAGE SUSTAINED BY OR THROUGH THE USE OF THIS PRODUCT.**

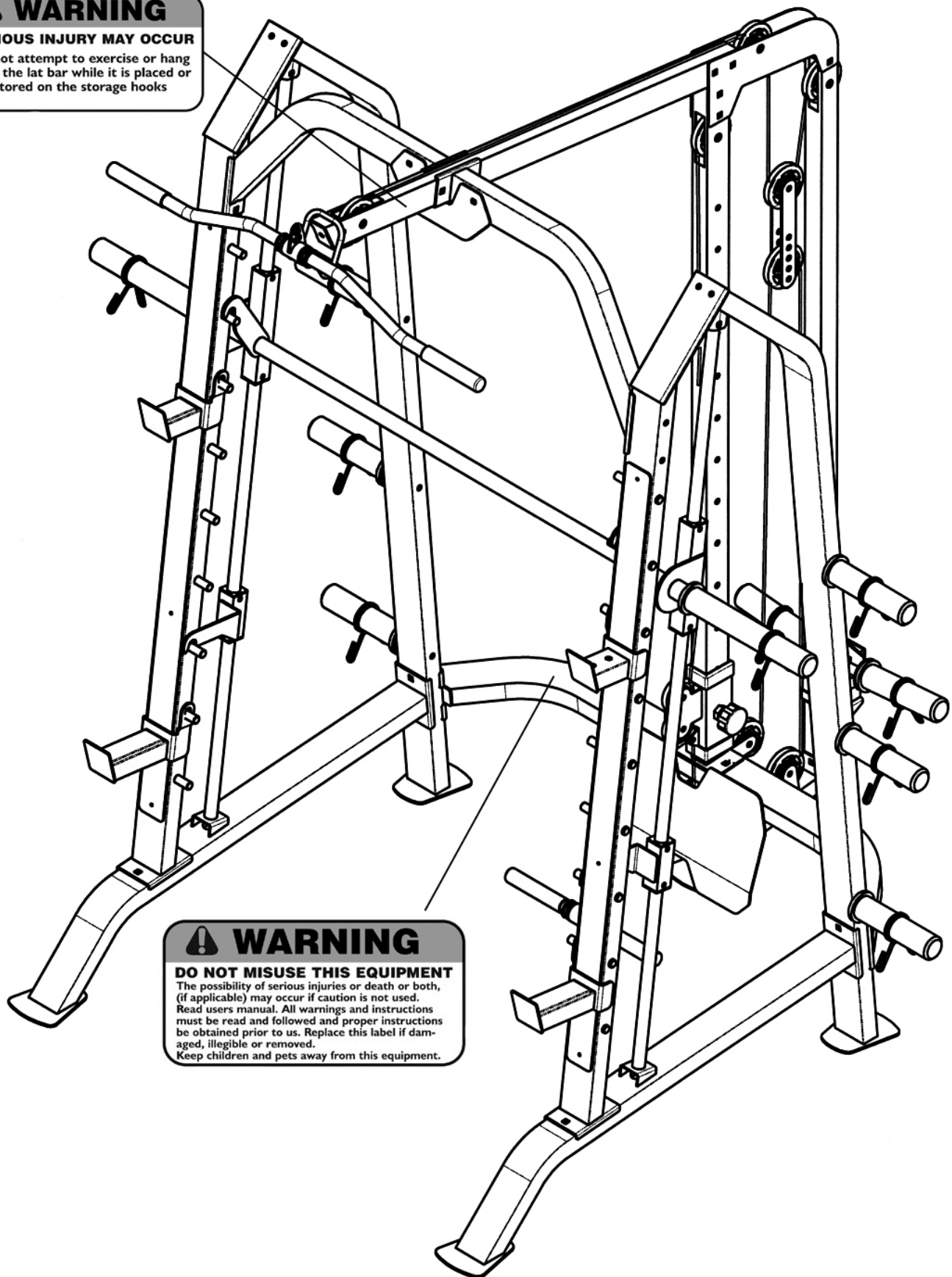
**SAVE THESE INSTRUCTIONS.**

## WARNING LABEL PLACEMENT

### **WARNING**

#### **SERIOUS INJURY MAY OCCUR**

Do not attempt to exercise or hang from the lat bar while it is placed or stored on the storage hooks



### **WARNING**

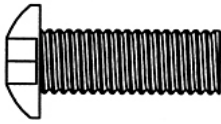
#### **DO NOT MISUSE THIS EQUIPMENT**

The possibility of serious injuries or death or both, (if applicable) may occur if caution is not used. Read users manual. All warnings and instructions must be read and followed and proper instructions be obtained prior to use. Replace this label if damaged, illegible or removed. Keep children and pets away from this equipment.

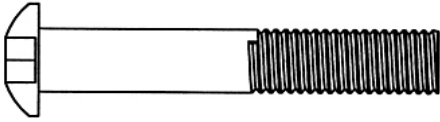
The warning labels shown here have been placed on the Cross Brace and Upper Frame. If the labels are missing or illegible, please call customer service at 1-800-888-8899 for replacements. Apply the labels in the location shown.

# HARDWARE PACK

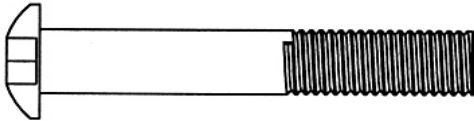
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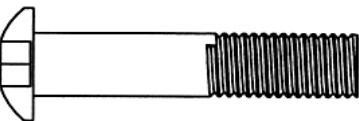
#59 M10 x 1" Allen Bolt (Qty 10)



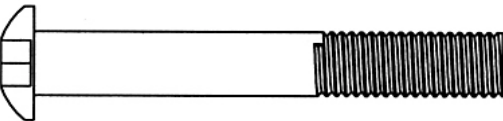
#60 M10 x 2  $\frac{1}{8}$ " Allen Bolt (Qty 2)



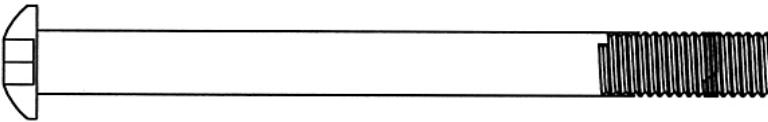
#61 M10 x 2  $\frac{3}{8}$ " Allen Bolt (Qty 3)



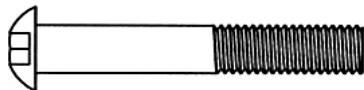
#62 M10 x 1  $\frac{3}{4}$ " Allen Bolt (Qty 6)



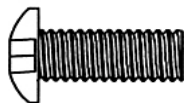
#63 M10 x 2  $\frac{1}{2}$ " Allen Bolt (Qty 1)



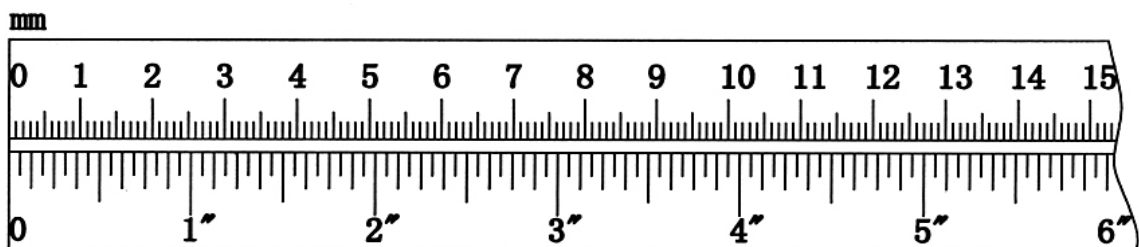
#64 M10 x 4" Allen Bolt (Qty 2)



#65 M8 x 1  $\frac{3}{4}$ " Allen Bolt (Qty 2)

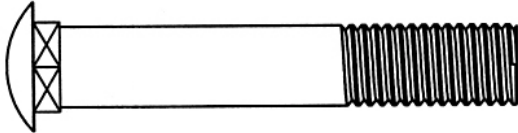


#66 M8 x  $\frac{3}{4}$ " Allen Bolt (Qty 4)

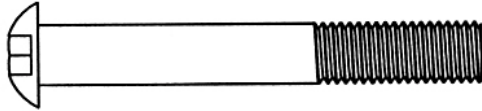


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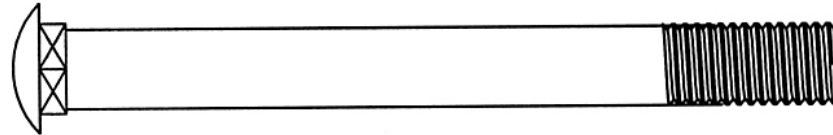
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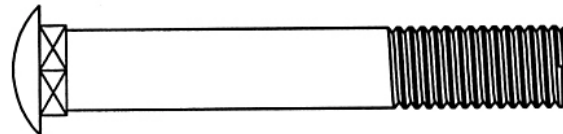
#67 M10 x 2  $\frac{3}{8}$ " Carriage Bolt (Qty 17)



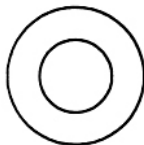
#68 M8 x 2  $\frac{1}{8}$ " Allen Bolt (Qty 2)



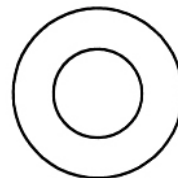
#69 M10 x 4" Carriage Bolt (Qty 2)



#70 M10 x 2  $\frac{1}{2}$ " Carriage Bolt (Qty 2)



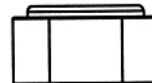
#72  $\varnothing \frac{5}{8}$ " Washer  
(Qty 12)



#73  $\varnothing \frac{3}{4}$ " Washer  
(Qty 46)

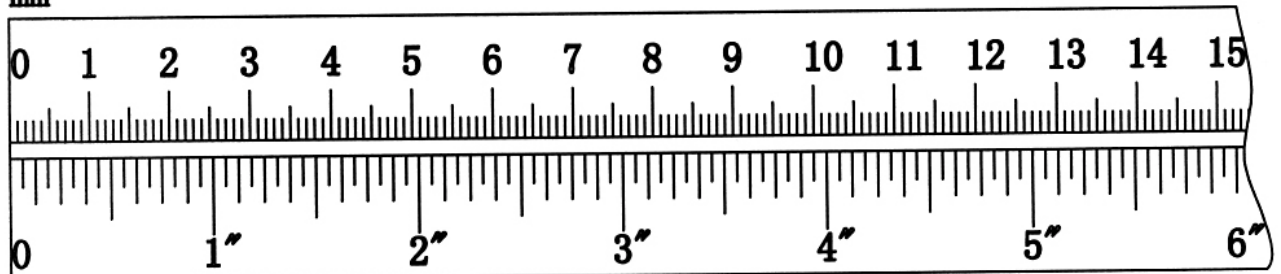


#74 M8 Aircraft Nut  
(Qty 4)



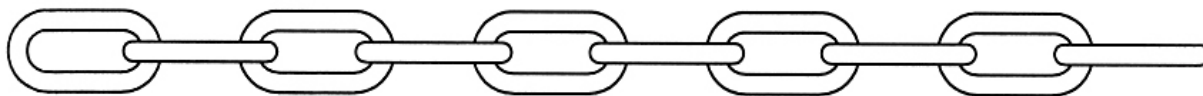
#75 M10 Aircraft Nut  
(Qty 34)

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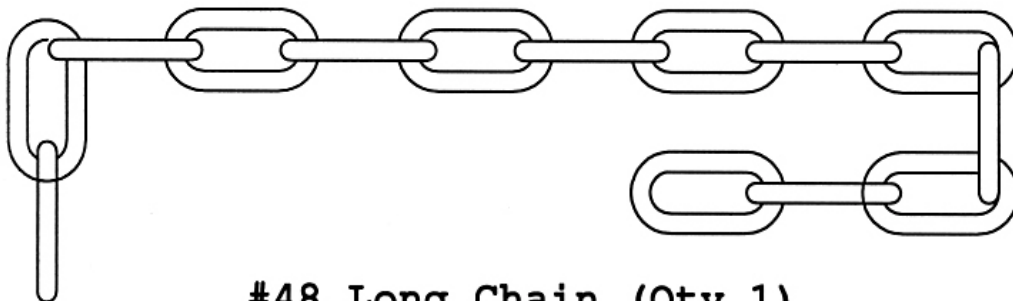


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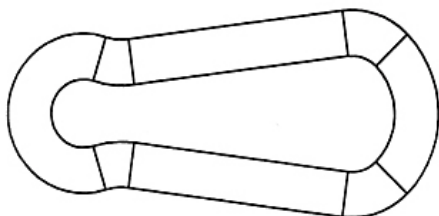
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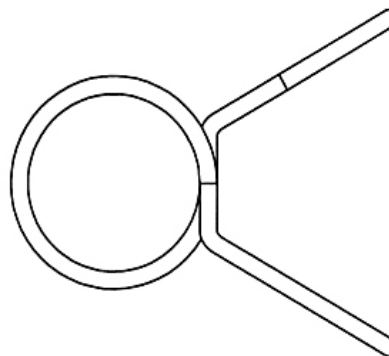
#47 Short Chain (Qty 1)



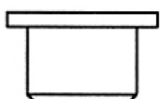
#48 Long Chain (Qty 1)



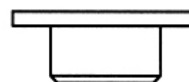
#49 Hook (Qty 4)



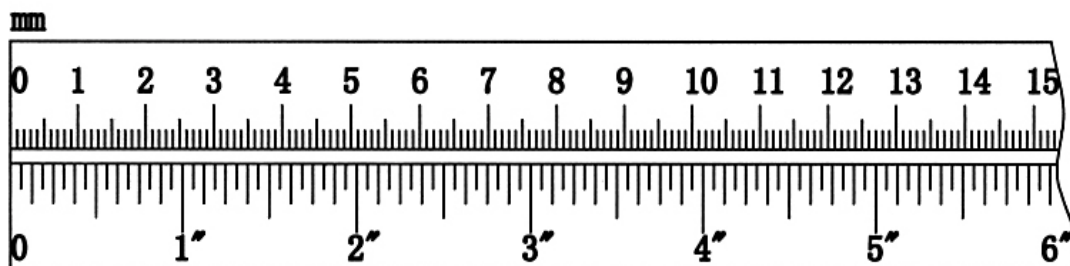
#50 Spring Clip (Qty 10)



#57 Ø 1" x 1/2" Pulley Bushing (Qty 6)



#58 1 1/8" x 3/8" Pulley Bushing (Qty 4)





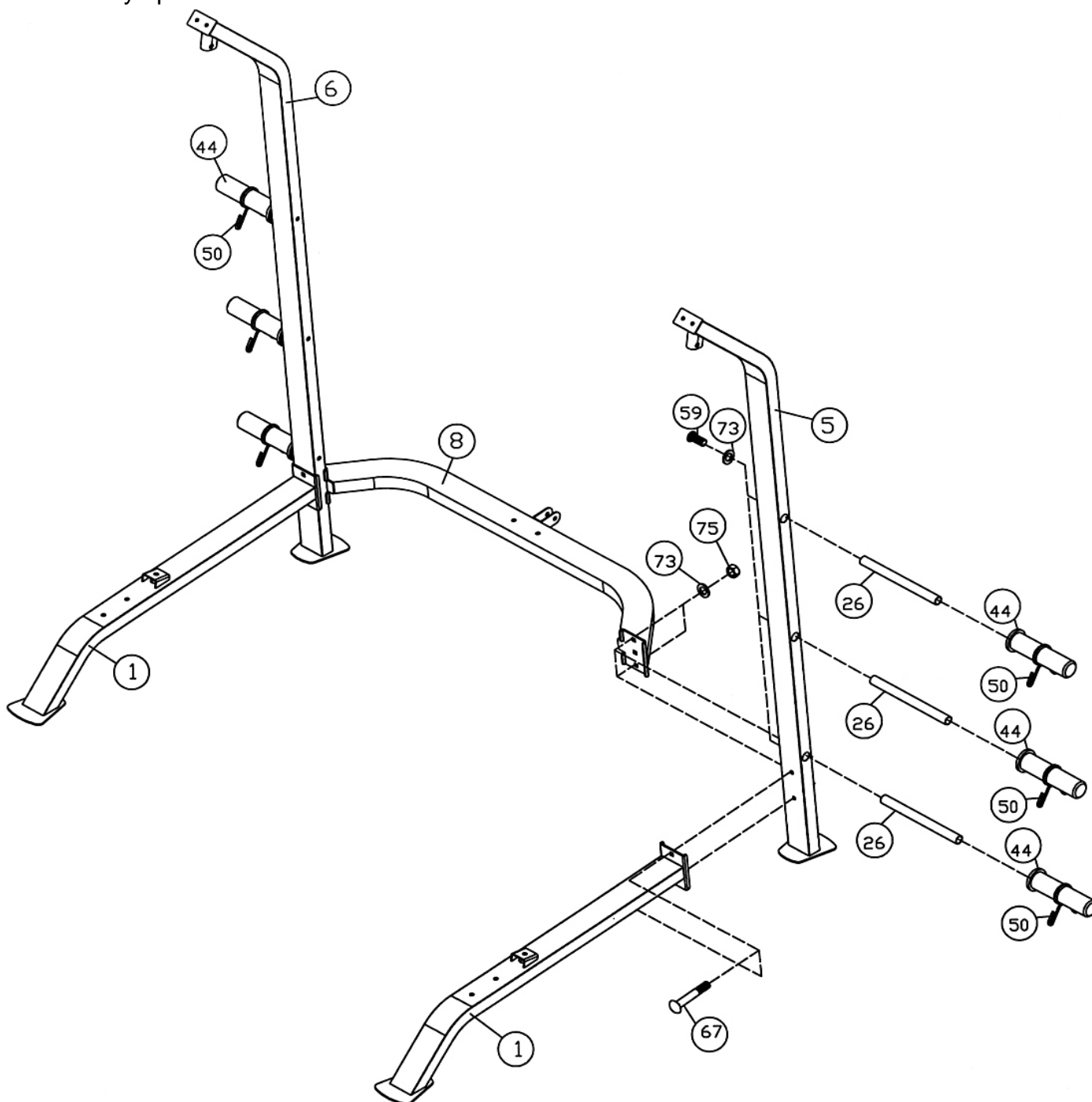
# ASSEMBLY INSTRUCTION

**Tools Required Assembling the Machine: Two Adjustable Wrenches and Allen**

**Wrenches NOTE: It is strongly recommended two or more people assembling this machine to avoid possible injury.**

## STEP 1 (See Diagram 1)

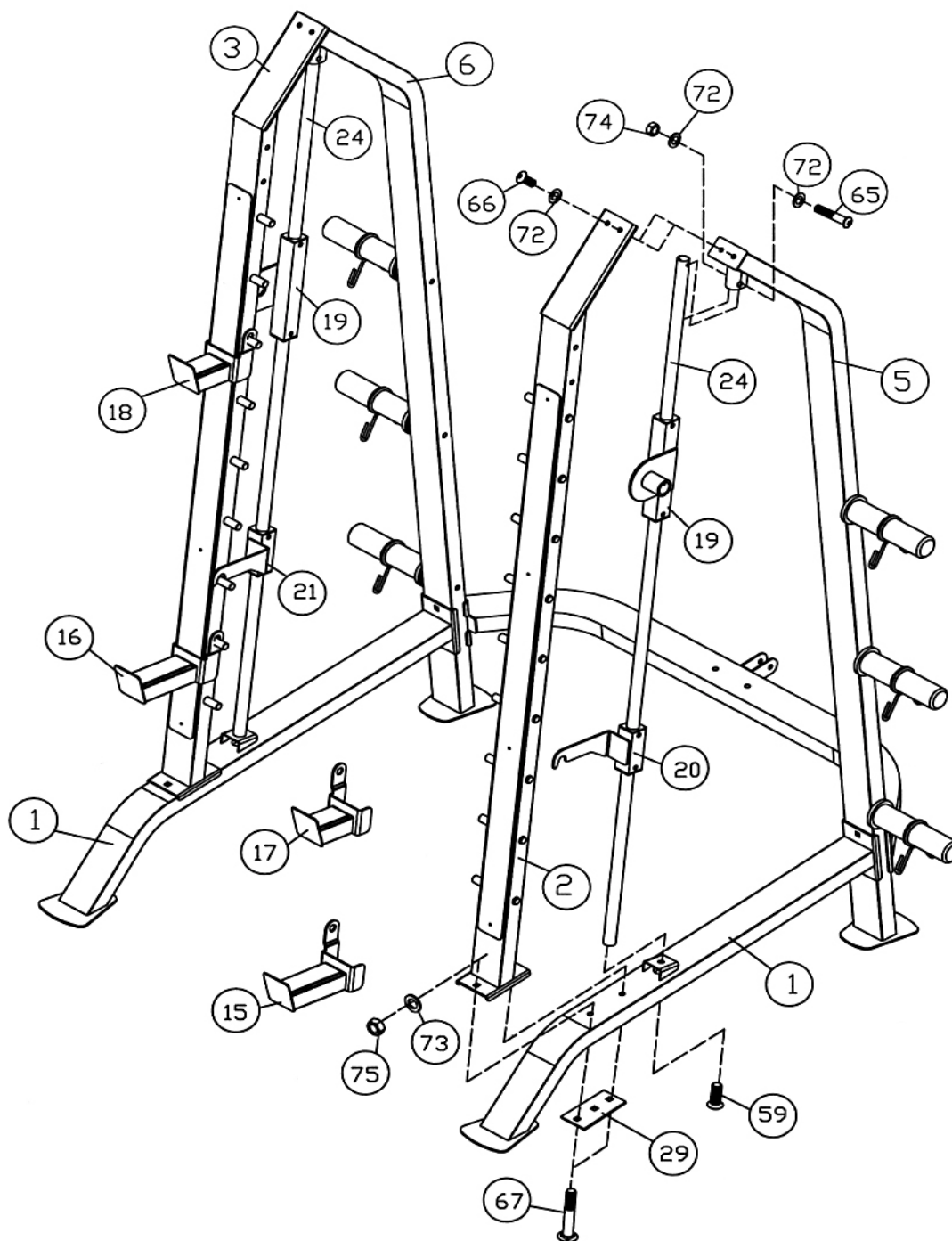
- A.) Do not tighten all nuts and bolts until instructed to do so.
- B.) Attach one Base Frame (#1) to the Left Rear Vertical Frame (#5). Attach the Cross Brace (#8) to the back of the Left Rear Vertical Frame. Align the holes and secure them together with two M10 x 2 3/8" Carriage Bolts (#67), Ø 3/4" Washers (#73), and M10 Aircraft Nuts (#75). Repeat the same procedure to install the other side.
- C.) Insert six Weight Posts (#26) into the holes on the Left & Right Rear Vertical Frames. Secure each Weight Post with one M10 x 1" Allen Bolt (#59) and Ø 3/4" Washer (#73).
- D.) Attach six Olympic Sleeves (#44) to the Weight Posts. Attach a Spring Clip (#50) to each Olympic Sleeve.





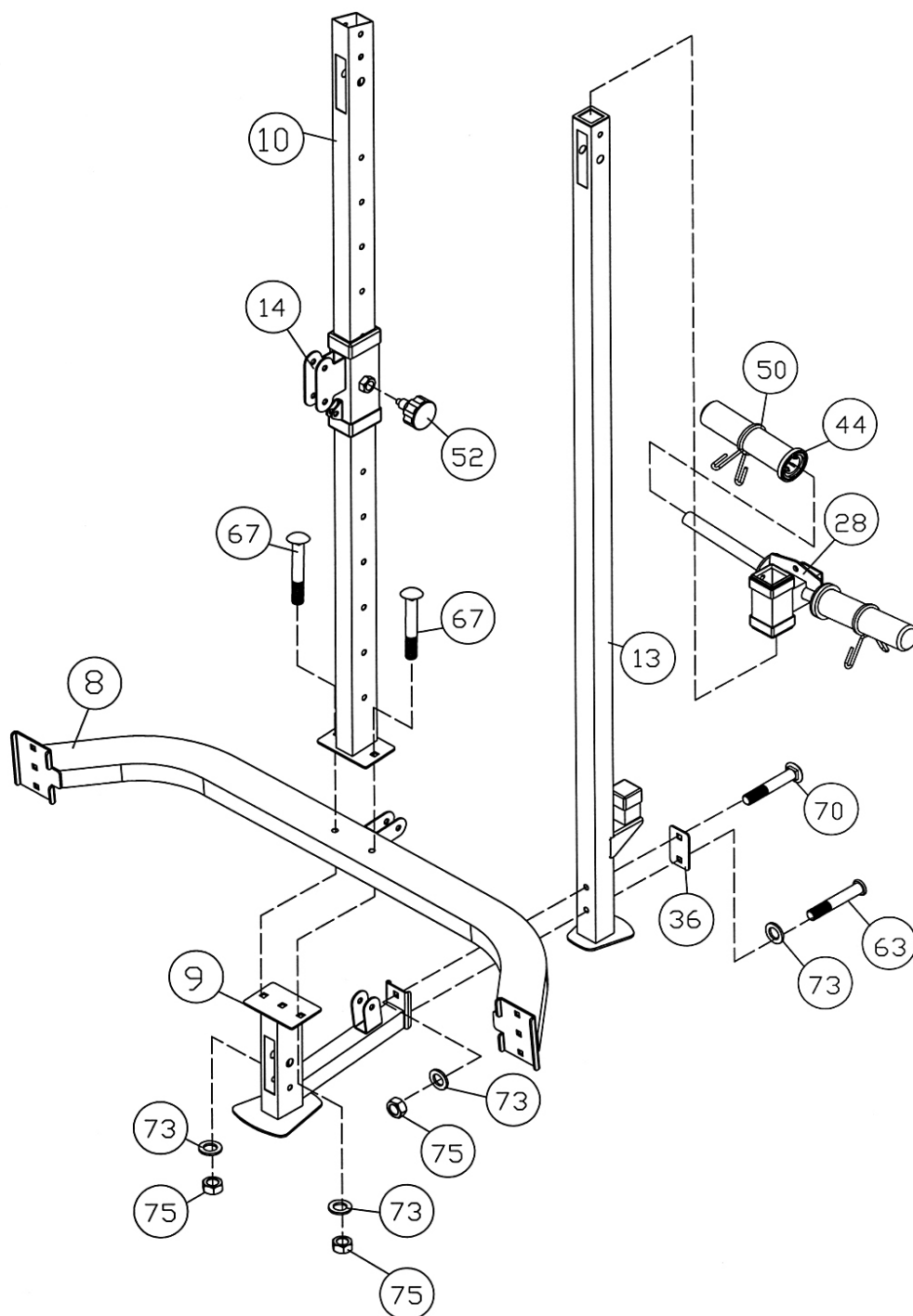
## STEP 2 (See Diagram 2)

- A.) Insert one Guide Rod (#24) into the hole on the Left Base Frame (#1). Secure the bottom with one M10 x 1" Allen Bolt (#59).
- B.) Slide the Left Lower Safety Stop Frame (#20) onto the Guide Rod from the top. Slide the Safety Stop Frame (#19) onto the Guide Rod from the top.
- C.) Attach top of the Guide Rod to the tube on the Left Rear Vertical Frame (#5). Secure it with a M8x1 $\frac{3}{4}$ " Allen Bolt (#65), two Ø 5/8" Washers (#72), and one M8 Aircraft Nut (#74).
- D.) Attach the Left Front Vertical Frame (#2) onto the Left Base Frame (#1). Secure it with two M10 x 2  $\frac{3}{8}$ " Carriage Bolts (#67), one 4  $\frac{3}{4}$ " x 3" Bracket (#29), two Ø  $\frac{3}{4}$ " Washers (#73), and two M10 Aircraft Nuts (#75).
- E.) Attach the Left Front Vertical Frame (#2) to the Left Rear Vertical Frame (#5). Secure them together with two M8 x  $\frac{3}{4}$ " Allen Bolts (#66) and Ø 5/8" Washers (#72).
- F.) Attach the Left Bar Holder (#17) and Left Safety Catch (#15) onto the Left Front Vertical Frame (#2).
- G.) Repeat Procedures A to F above to install the other side.



### STEP 3 (See Diagram 3)

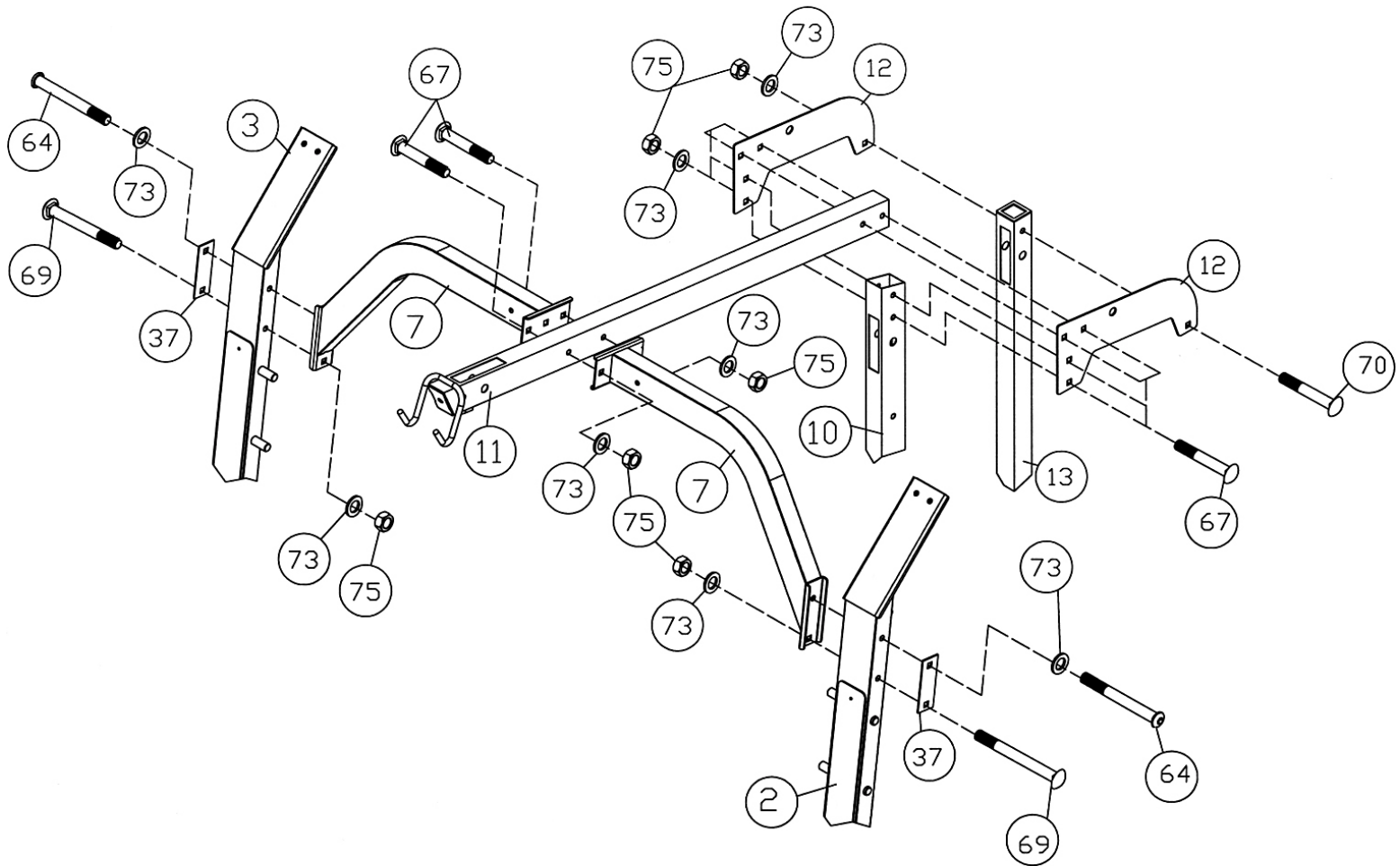
- A.) Attach the Rear Vertical Frame Base (#9) to the Cross Brace (#8). Attach the Rear Vertical Frame (#10) to the Cross Brace. Align the holes and secure them together with two M10 x 2 3/8" Carriage Bolts (#67), Ø 3/4" Washers (#73), and M10 Aircraft Nuts (#75).
- B.) Slide the Sliding Pulley Bracket (#14) onto the Rear Vertical Frame. Use a Lock Knob (#52) to secure it in position.
- C.) Attach the Weight Glide Post (#13) to the bracket on the Rear Vertical Frame Base (#9). Secure it with one M10 x 2 1/2" Carriage Bolt (#70), 3 1/8" x 1 3/4" Bracket (#36), Ø 3/4" Washer (#73) and M10 Aircraft Nut (#75) to the upper hole. Secure it with one M10 x 2 1/2" Allen Bolt (#63) and Ø 3/4" Washer (#73) to the lower hole.
- D.) Slide the Sliding Weight Post (#28) onto the Weight Glide Post from the top. Make sure the Cable connecting bracket on the Sliding Weight Post faced up.
- E.) Attach two Olympic Sleeves (#44) to the Sliding Weight Post. Attach a Spring Clip (#50) to each Olympic Sleeve.



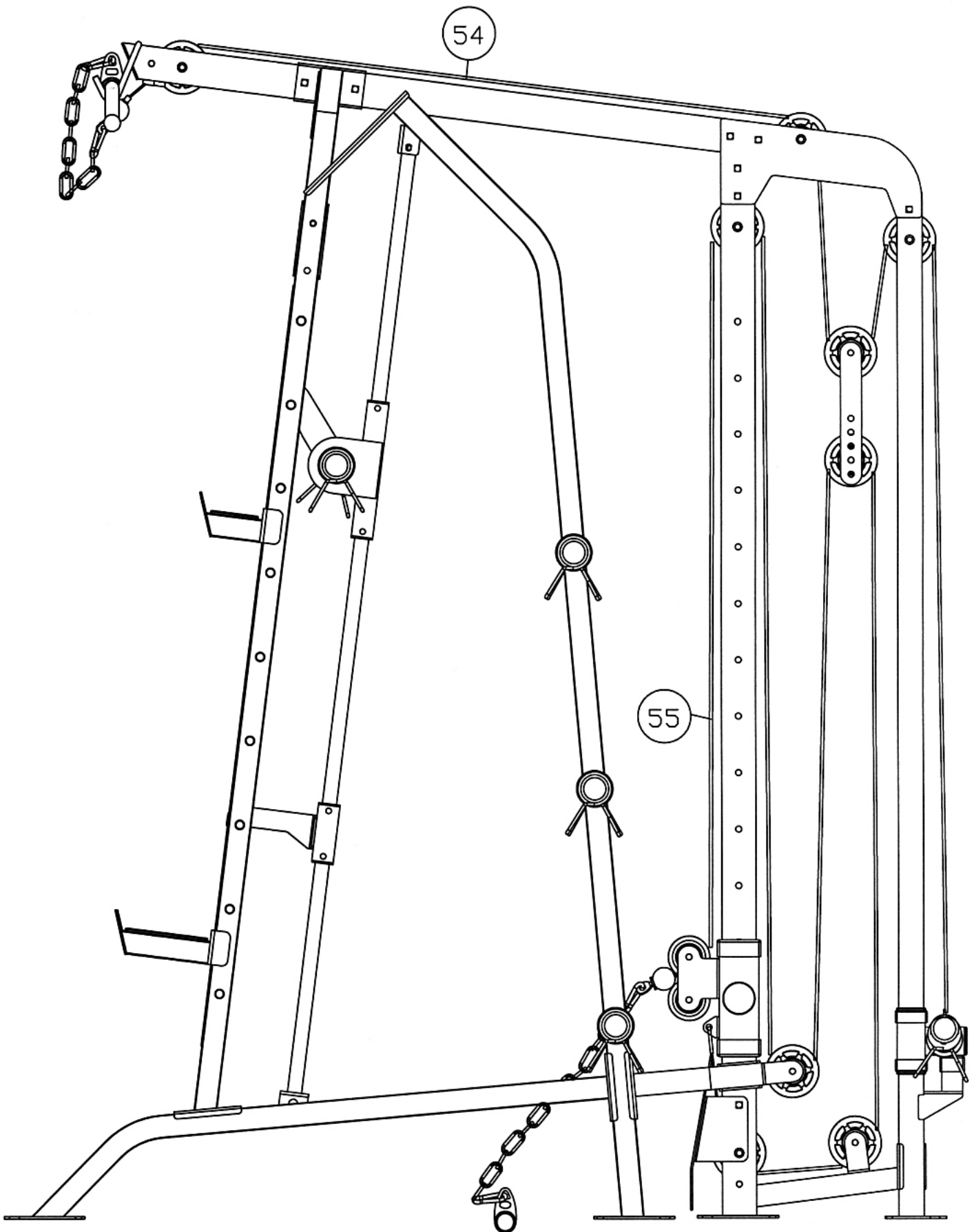
#### STEP 4 (See Diagram 4)

- A.) Attach the Upper Frame (#11) to the top of the Rear Vertical Frame (#10). Attach two Cover Brackets (#12) to the Upper Frame and the Rear Vertical Frame. Secure them together with four M10 x 2 3/8" Carriage Bolts (#67), Ø 3/4" Washers (#73), and M10 Aircraft Nuts (#75).
- B.) Attach the two Cover Brackets to the Weight Glide Post (#13). Secure them with one M10 x 2 1/2" Carriage Bolt (#70), Ø 3/4" Washer (#73) and M10 Aircraft Nut (#75).
- C.) Attach an Upper Support Frame (#7) to the Left Front Vertical Frame (#2). Secure the upper hole with one M10 x 4" Allen Bolt (#64), 4 3/8" x 1 1/2" Bracket (#37) and Ø 3/4" Washer (#73). Secure the lower hole with one M10 x 4" Carriage Bolt (#69), Ø 3/4" Washer (#73) and M10 Aircraft Nut (#75). Repeat the same step to install the other side.
- D.) Secure the Upper Frame (#11) and the Upper Frame Supports (#7) together with two M10 x 2 3/8" Carriage Bolts (#67), Ø 3/4" Washers (#73) and M10 Aircraft Nuts (#75).
- E.) Securely tighten all Nuts and Bolts previously installed.

**DIAGRAM 4**



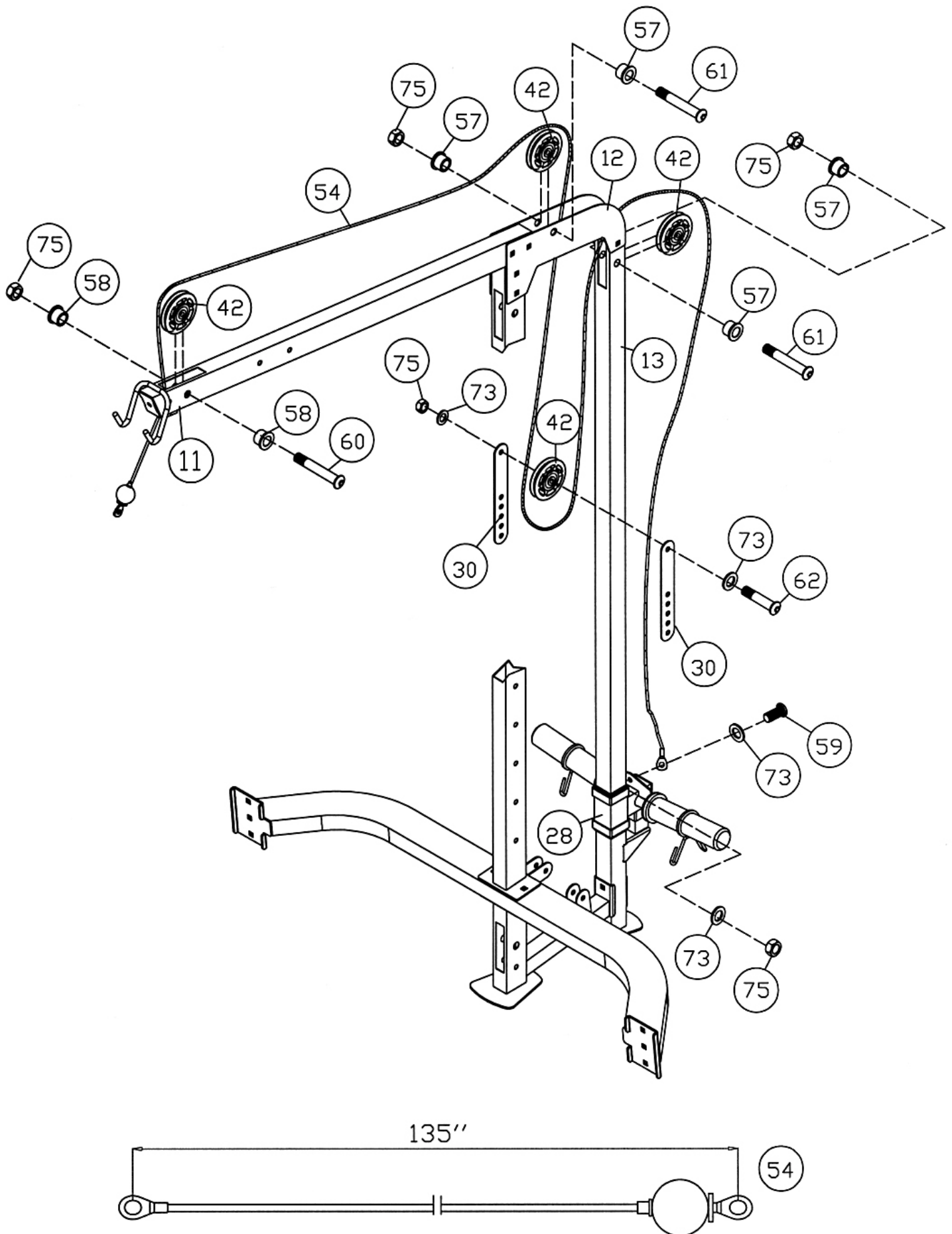
# CABLE LOOP DIAGRAM



## **STEP 5 (See Diagram 5 & Cable Loop Diagram)**

- A.) Attach the 135" Upper Cable (#54) to the front opening on the Upper Frame (#11). Attach a Pulley (#42) to the opening. Secure it with one M10 x 2 1/8" Allen Bolt (#60), two Ø 1 1/8" x 3/8" Pulley Bushings (#58), and one M10 Aircraft Nut (#75). Make sure the ball stopper on the Cable is underneath the Frame.
- B.) Draw the Cable over the Pulley along the Upper Frame to the opening between the two Cover Brackets (#12). Attach a Pulley to the opening. Secure it with one M10 x 2 3/8" Allen Bolt (#61), two Ø 1" x 1/2" Pulley Bushings (#57), and one M10 Aircraft Nut (#75).
- C.) Draw the Cable around the Pulley then downward. Attach a Pulley in between the two Double Floating Pulley Brackets (#30). Secure the Pulley with one M10 x 1 3/4" Allen Bolt (#62), two Ø 3/4" Washers (#73), and one M10 Aircraft Nut (#75). Let the Bracket hanging for now.
- D.) Draw the Cable around the Pulley then up to the opening on the Weight Glide Post (#13). Attach a Pulley to the opening. Secure it with one M10 x 2 3/8" Allen Bolt (#61), two Ø 1" x 1/2" Pulley Bushings (#57), and one M10 Aircraft Nut (#75).
- E.) Draw the Cable around the Pulley then down to the Sliding Weight Post (#28). Secure the Cable to the Sliding Weight Post with one M10 x 1" Allen Bolt (#59), two Ø 3/4" Washers (#73), and one M10 Aircraft Nut (#75).

DIAGRAM 5

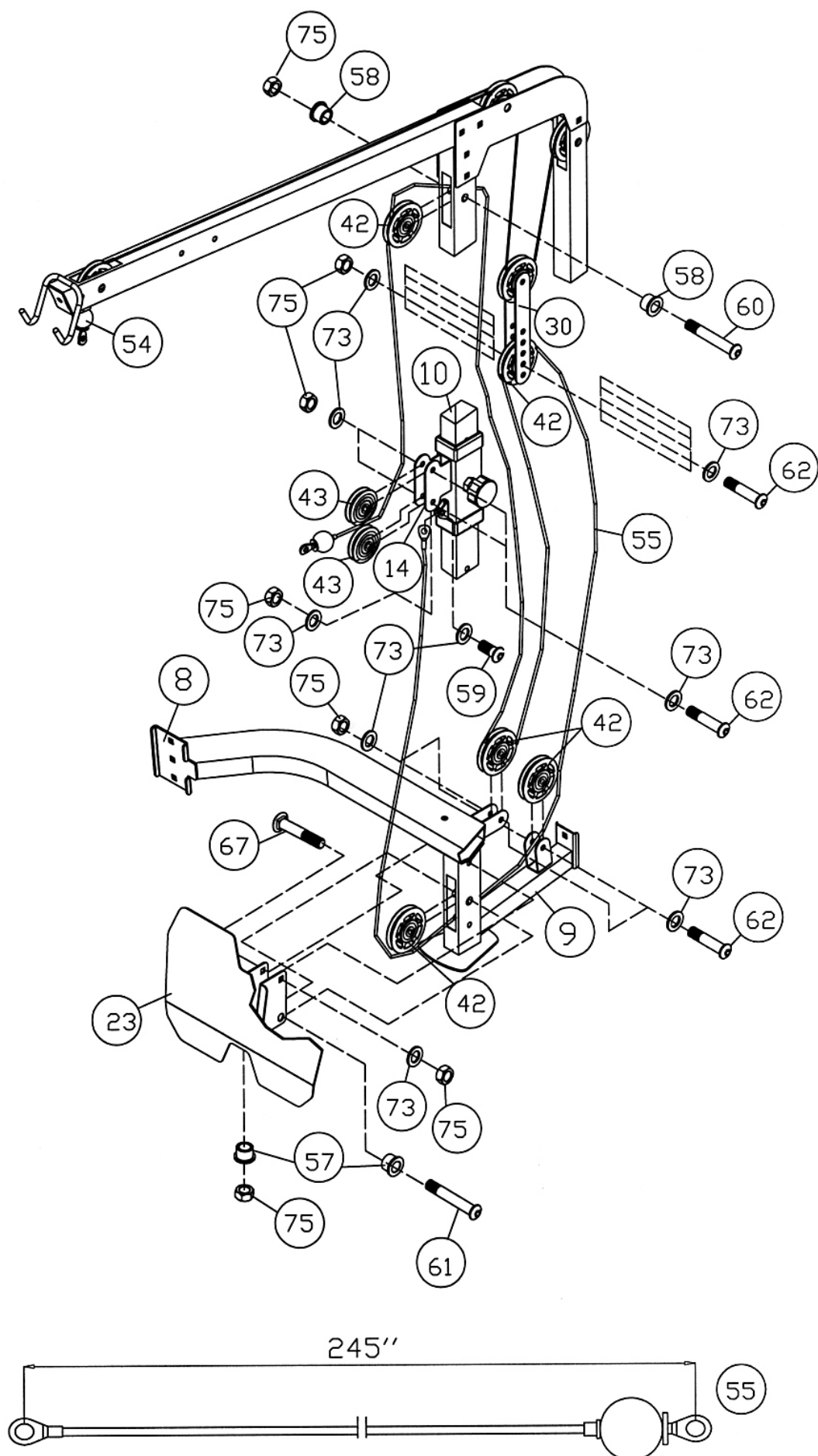




## **STEP 6 (See Diagram 6 & Cable Loop Diagram)**

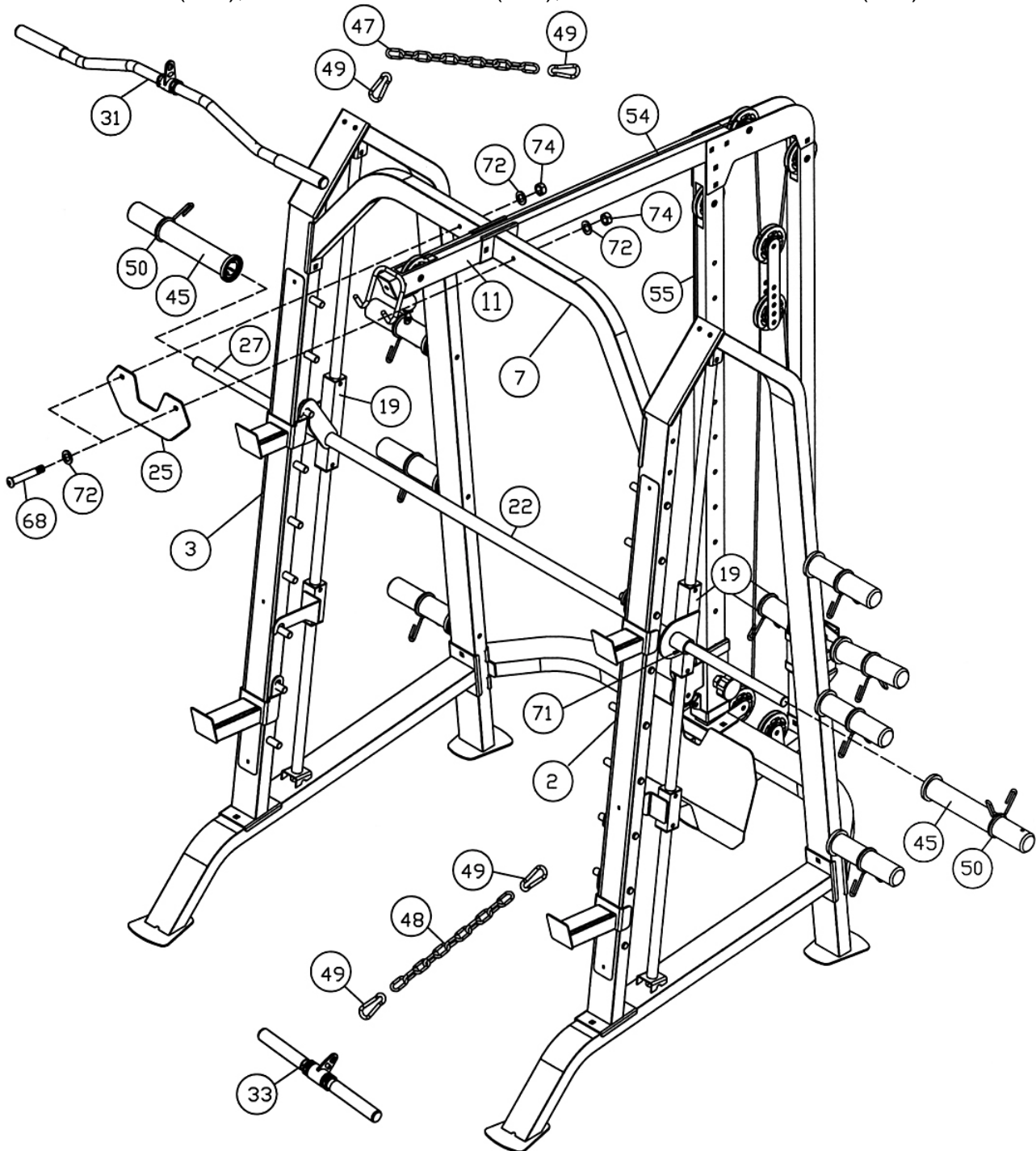
- A.) Attach the “Ball” on the 245” High-Low Cable (#55) in between two Small Pulleys (#43). Attach the two Small Pulleys to the Sliding Pulley Bracket (#14). Secure each Small Pulley to the Bracket with one M10 x 1 3/4” Allen Bolt (#62), two Ø 3/4” Washers (#73), and one M10 Aircraft Nut (#75).
- B.) Draw the Cable upward to the top opening on the Rear Vertical Frame (#10). Attach a Pulley (#42) to the opening. Secure it with one M10 x 2 1/8” Allen Bolt (#60), two Ø 1 1/8” x 3/8” Pulley Bushings (#58), and one M10 Aircraft Nut (#75).
- C.) Draw the Cable around the Pulley then downward to the open bracket on the back of Rear Vertical Frame Base (#9). Install a Pulley with one M10 x 1 3/4” Allen Bolt (#62), two Ø 3/4” Washers (#73), and one M10 Aircraft Nut (#75).
- D.) Draw the Cable around the Pulley then upward to the Double Floating Pulley Bracket (#30) previously installed in Step-5. Install another Pulley with one M10 x 1 3/4” Allen Bolt (#62), two Ø 3/4” Washers (#73), and one M10 Aircraft Nut (#75). Note: After finishing the entire cable assembly, come back to this step and adjust the tension of the cables. To increase the tension, move up the Pulley on the Double Floating Pulley Brackets. To decrease the tension, move the Pulley down.
- E.) Draw the Cable around the Pulley then downward to the open bracket on the Rear Vertical Frame Base (#9). Install another Pulley.
- F.) Draw the Cable underneath the Pulley to the opening on the Rear Vertical Frame Base (#9).
- G.) Attach a Pulley to the opening. Attach the Foot Plate (#23) to the Rear Vertical Frame Base. Secure the lower hole on Foot Plate to the Rear Vertical Frame Base, and the Pulley with one M10 x 2 3/8” Allen Bolt (#61), two Ø 1” x 1/2” Pulley Bushings (#57), and one M10 Aircraft Nut (#75). Secure the upper hole on the Foot Plate to the Rear Vertical Frame Base with one M10 x 2 3/8” Carriage Bolt (#67), Ø 3/4” Washer (#73), and M10 Aircraft Nut (#75).
- H.) Draw the Cable around the Pulley then upward to the Sliding Pulley Bracket. Secure the Cable to the Bracket with one M10 x 1” Allen Bolt (#59), two Ø 3/4” Washers (#73), and one M10 Aircraft Nut (#75).

DIAGRAM 6

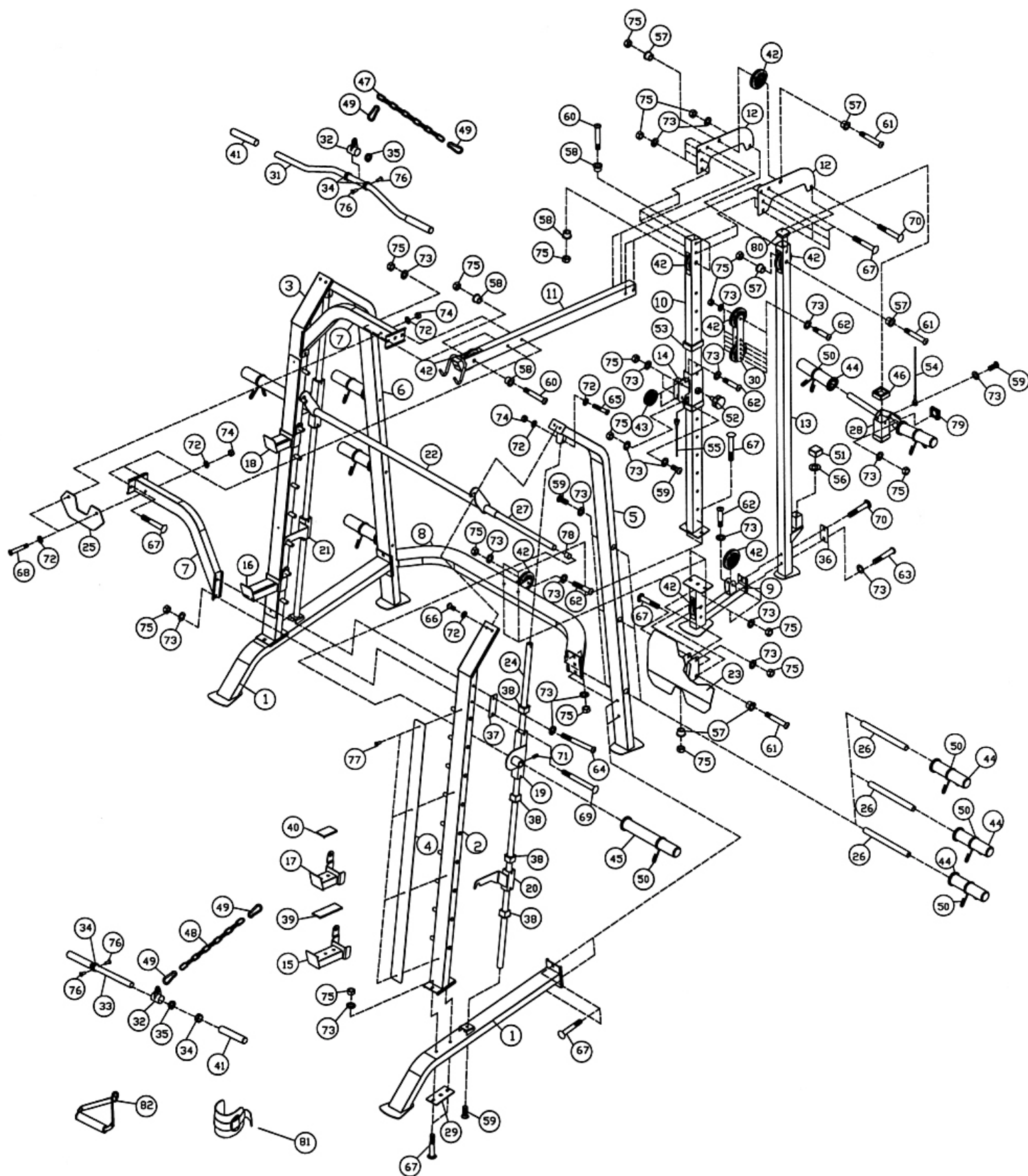


## STEP 7 (See Diagram 7)

- A.) NOTE: Help of another person is strongly recommended for this step. Place the Lifting Sleeve (#22) in between the two Safety Stop Frames (#19). Align the holes and insert the Weight Bar (#27) all the way through. Center the bar and secure it with two M8 x 3/8" Allen Bolts (#71) on each side.
- B.) Turn the safety catch hook forward on the Lifting Sleeve to secure its position on the selected "knuckle" on the Left & Right Front Vertical Frames (#2 & #3). Attach a Long Olympic Sleeve (#45) to each end of the Weight Bar. Attach a Spring Clip (#50) to the Sleeve.
- C.) Connect the Lat Bar (#31) to the 135" Upper Cable (#54) with one Short Chain (#47) and two Hooks (#49).
- D.) Connect the Shiver Bar (#33) to the 245" High-Low Cable (#55) with one Long Chain (#48) and two Hooks.
- E.) Attach the Decal Plate (#25) to the two Upper Support Frames (#7). Secure it with two M8 x 2 1/8" Allen Bolts (#68), four Ø 5/8" Washers (#72), and two M8 Aircraft Nuts (#74).



# EXPLODED DIAGRAM



## PARTS LIST

KEY NO.	DESCRIPTION	Q'ty			
1	Base Frame	2	51	1 ½" End Cap	1
2	Left Front Vertical Frame	1	52	Lock Knob	1
3	Right Front Vertical Frame	1	53	3" x 2 ½" Sleeve	2
4	Panel	2	54	135" Upper Cable	1
5	Left Rear Vertical Frame	1	55	245" High-Low Cable	1
6	Right Rear Vertical Frame	1	56	Ø 1 ½" x Ø ½" Spacer	1
7	Upper Support Frame	2	57	Ø 1" x ½" Pulley Bushing	6
8	Cross Brace	1	58	Ø 1 1/8" x 3/8" Pulley Bushing	4
9	Rear Vertical Frame Base	1	59	M10 x 1" Allen Bolt	10
10	Rear Vertical Frame	1	60	M10 x 2 1/8" Allen Bolt	2
11	Upper Frame	1	61	M10 x 2 3/8" Allen Bolt	3
12	Cover Bracket	2	62	M10 x 1 ¾" Allen Bolt	6
13	Weight Glide Post	1	63	M10 x 2 ½" Allen Bolt	1
14	Sliding Pulley Bracket	1	64	M10 x 4" Allen Bolt	2
15	Left Safety Catch	1	65	M8 x 1 ¾" Allen Bolt	2
16	Right Safety Catch	1	66	M8 x ¾" Allen Bolt	4
17	Left Bar Holder	1	67	M10 x 2 3/8" Carriage Bolt	17
18	Right Bar Holder	1	68	M8 x 2 1/8" Allen Bolt	2
19	Safety Stop Frame	2	69	M10 x 4" Carriage Bolt	2
20	Left Lower Safety Stop Frame	1	70	M10 x 2 ½" Carriage Bolt	2
21	Right Lower Safety Stop Frame	1	71	M8 x 3/8" Allen Bolt	2
22	Lifting Sleeve	1	72	Ø 5/8" Washer	12
23	Foot Plate	1	73	Ø ¾" Washer	46
24	Guide Rod	2	74	M8 Aircraft Nut	4
25	Decal Plate	1	75	M10 Aircraft Nut	34
26	Weight Post	6	76	Aluminum Rivet	8
27	Weight Bar	1	77	Rivet	8
28	Sliding Weight Post	1	78	Ø 1" End Cap	2
29	4 ¾" x 3" Bracket	2	79	2" Square End Cap	1
30	Double Floating Pulley Bracket	2	80	1 ¾" Square End Cap	1
31	Lat Bar	1	81	Ankle Strap	1
32	Rotating Ring	2	82	Single Handle	1
33	Shiver Bar	1			
34	Plastic Ring	4			
35	Rotating Ring Bushing	4			
36	3 1/8" x 1 ¾" Bracket	1			
37	4 3/8" x 1 ½" Bracket	2			
38	1 ½" x 1" Sleeve	8			
39	5 ¾" x 2" Rubber Bumper	2			
40	3 3/8" x 2" Rubber Bumper	2			
41	6" Handle Grip	4			
42	Pulley	9			
43	Small Pulley	2			
44	Olympic Sleeve	8			
45	Long Olympic Sleeve	2			
46	2" x 1 ¾" Sleeve	2			
47	Short Chain	1			
48	Long Chain	1			
49	Hook	4			
50	Spring Clip	10			

# **IMPEX<sup>®</sup> INC.**

## **LIMITED WARRANTY**

IMPEX Inc. ("IMPEX<sup>®</sup>") warrants this product to be free from defects in workmanship and material, under normal use and service conditions, for a period of two years on the Frame from the date of purchase. This warranty extends only to the original purchaser. IMPEX's obligation under this Warranty is limited to replacing or repairing, at IMPEX's option.

All returns must be pre-authorized by IMPEX. Pre-authorization may be obtained by calling IMPEX Customer Service Department at 1-800-999-8899. All freights on products returned to IMPEX must be prepaid by the customer. This warranty does not extend to any product or damage to a product caused by or attributable to freight damage, abuse, misuse, improper or abnormal usage or repairs not provided by an IMPEX authorized service center or for products used for commercial or rental purposes. No other warranty beyond that specifically set forth above is authorized by IMPEX.

IMPEX is not responsible or liable for indirect, special or consequential damages arising out of or in connection with the use or performance of the product or other damages with respect to any economic loss, loss of property, loss of revenues or profits, loss of enjoyments or use, costs of removal, installation or other consequential damages or whatsoever natures. Some states do not allow the exclusion or limitation of incidental or consequential damages. Accordingly, the above limitation may not apply to you.

The warranty extended hereunder is in lieu of any and all other warranties and any implied warranties of merchantability or fitness for a particular purpose is limited in its scope and duration to the terms set forth herein. Some states do not allow limitations on how long an implied warranty lasts. Accordingly, the above limitation may not apply to you.

This warranty gives you specific legal right. You may also have other rights which vary from state to state. Register on-line at [www.impex-fitness.com](http://www.impex-fitness.com)

**IMPEX<sup>®</sup> INC.**  
**14777 Don Julian**  
**City of Industry, CA 91746**

### **ORDERING REPLACEMENT PARTS**

Replacement parts can be ordered by calling our Customer Service Department toll-free at **1-800-999-8899** during our regular business hours: Monday through Friday, 9 am until 5 pm Pacific standard time.

**[info@impex-fitness.com](mailto:info@impex-fitness.com)**

When ordering replacement parts, always give the following information.

1. Model
2. Description of Parts
3. Part Number
4. Date of Purchase