

# ASSEMBLY INSTRUCTIONS

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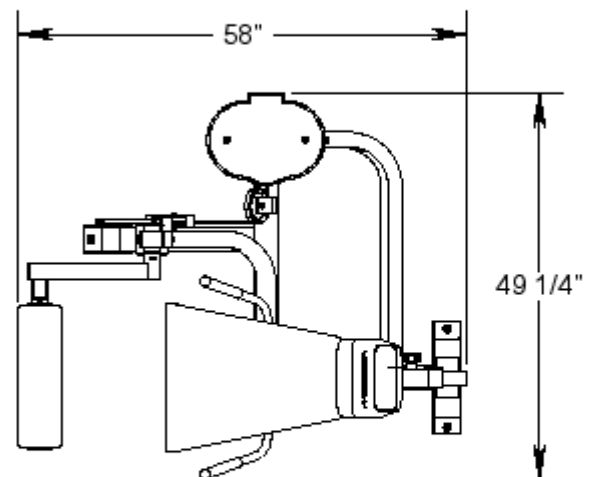
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Revision Date 04/07/04

## SP-412

### Leg Extension



L 58" W 49 1/4" H 54 3/4"

# TUFFSTUFF

America's Premier Exercise Equipment



## About the Leg Extension SP-412

Congratulations on your new purchase of the Leg Extension. We hope you are completely satisfied with this product and wish you many years of enjoyment.

## Tuff Stuff Equipment

This Tuffstuff product has been built to precise quality standards and has been carefully packaged to ensure that damage will not occur during shipment. The Limited Warranty and signature indicating final inspection has been conducted by our line foreman, is an expression of our confidence in the completeness, the materials, and workmanship of this product.

## Warranty

SEE A COPY OF WARRANTY ON BACK PAGE.

## Registration Card

To avoid unnecessary delays in warranty service and to insure that a permanent record of your purchase is on file with our factory, be sure to complete the warranty registration card and send it to TuffStuff Fitness Equipment, Inc, today.

## Specifications

1. Maximum Wt. Capacity - 200 lbs.
2. Total Machine Weight - 560 lbs.
3. Footprint (LWH) - See Front Cover.

Note: Due to continuing product improvements, specifications and designs are subject to change without notice.

## Safety First

Regardless of how enthusiastic you may be about getting on your equipment and exercising, take the time to ensure that your safety is not jeopardized. A moment's lack of attention can result in an accident, as can failure to observe certain simple safety precautions.

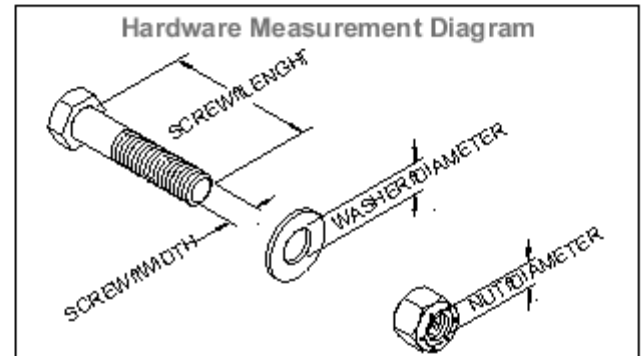
1. Read, study and understand the Assembly Instructions and all the warning labels on this product. Furthermore, it is recommended to familiarize yourself and others with the proper operation and workout recommendations for this Tuff Stuff product prior to use. Some of this information can be obtained in this Assembly Instructions, as-well-as from your local Tuff Stuff retailer.
2. It is imperative that you retain this Assembly Instructions and be sure all warning labels are legible and intact. Replacement Assembly Instructions and labels are available from your local Tuff Stuff retailer.

## Prior to the Assembly of the Leg Extension

1. We advise you to consult your local Tuff Stuff retailer if you should have a question or problem regarding the proper assembly of this unit.
2. Neatly organize and identify all parts according to the Parts List and the Exploded View Diagram.

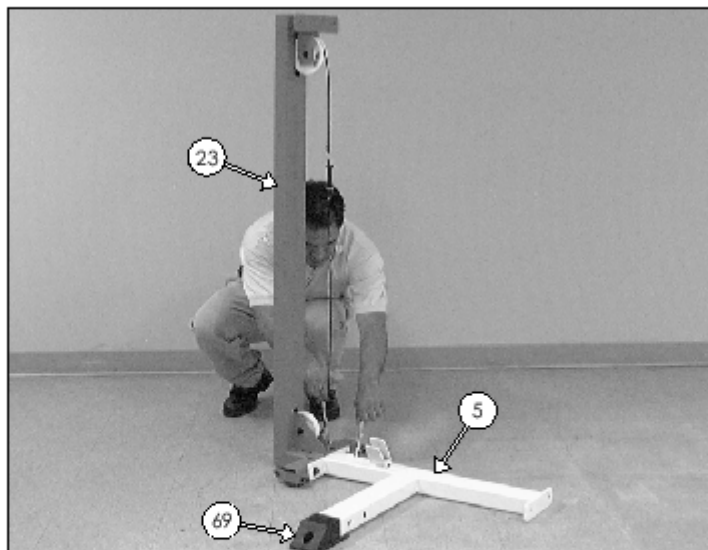
## Tool Requirements

1. One 3/4" combination wrench
2. One 9/16" combination wrench
3. One ratchet
4. One 3/4" socket
5. One 9/16" socket
6. One 7/16" socket
7. One rubber mallet
8. One flat head steel hammer
9. Windex or household glass cleaner
10. Measuring tape
11. Utility knife



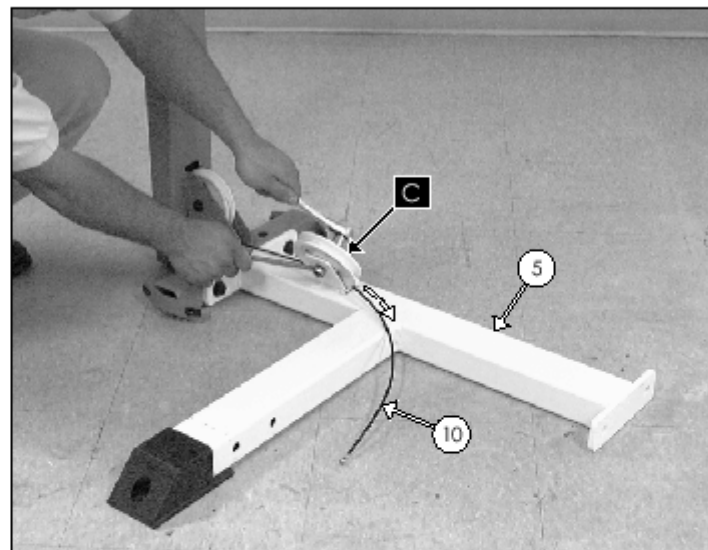
## Safety Precautions

3. Consult with your physician before beginning any exercise program.
4. Use proper discretion when children are present.
5. Frayed or worn cables can be dangerous and may cause injury. Periodically check the cable for any indication of wear.
6. Keep hands, limbs, loose clothing and long hair well out of the way of moving parts.
7. Do not attempt to lift more weight than you can control safely.
8. Inspect the Unit for any sign of wear on parts, hardware becoming loose or cracks on welds. If a problem is found **do not use or allow the machine to be used** until the defective part is repaired or replaced.



**FIG. 1** Using a rubber mallet, insert one Plastic End Cap 2 X 3 (#69) onto the tube-end of the Cross Brace Stabilizer (#5). Next, on a flat surface, attach the Cross Brace Stabilizer (#5) to the Weight Stack Frame (#23) using two Hex Head Cap Screws 1/2-13 X 3 1/2 (#53), four Flat Washers SAE 1/2" (#47), and two Nylon Insert Lock Nuts 1/2-13 (#66).

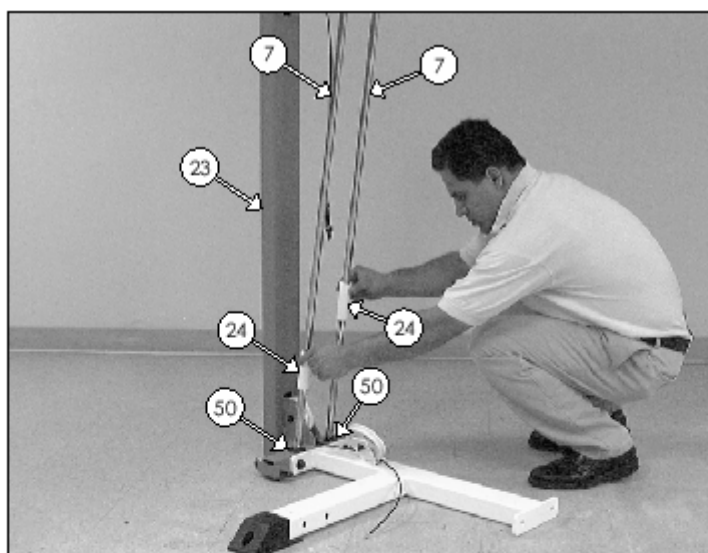
**Note:** Use the overhead view on the cover page for designing your layout before assembling.



**FIG. 2** Route the Cable (#10) under a Nylon Pulley 4 1/2" Rd. (#68-Labeled C) and attach the pulley to the Cross Brace Stabilizer (#5) pulley bracket using one Hex Head Cap Screw 3/8-16 X 2 (#59), two Flat Washers SAE 3/8" (#48), and one Nylon Insert Jam Lock Nut 3/8-16 (#65).



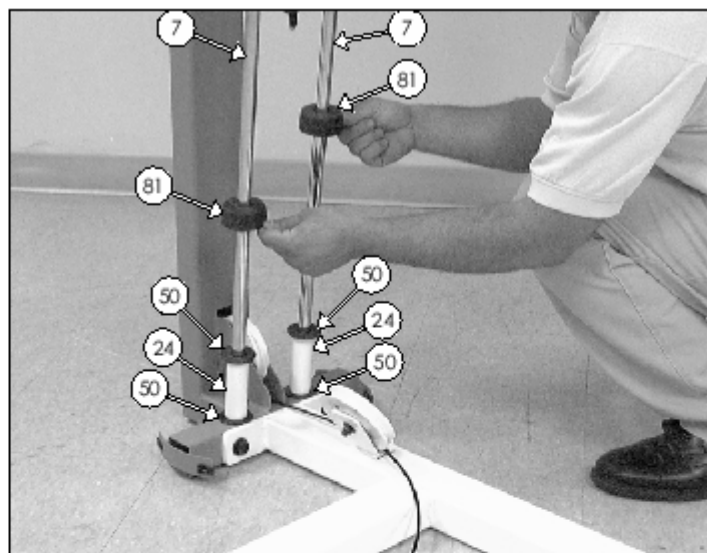
**Note:** The black boxed letter pointing to the pulleys are used throughout this manual as reference to the Cable Mapping Diagram on fold-out page 13. These black boxed letters will be primarily used for locating certain pulleys during the cable routing process.



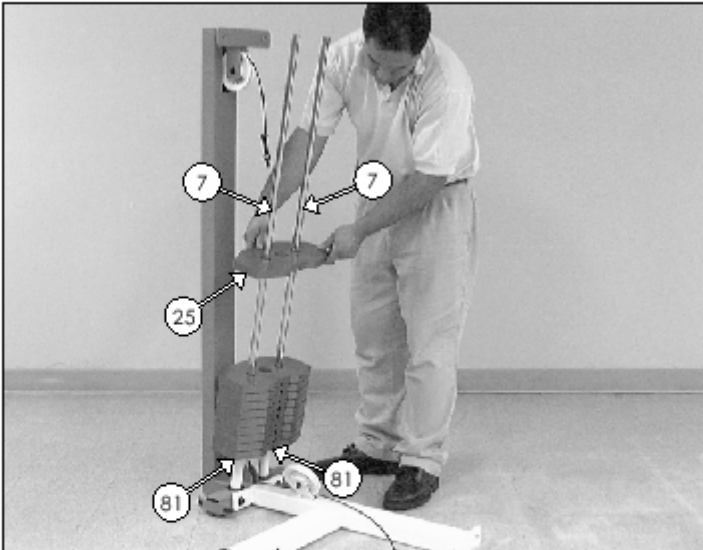
**FIG. 3** Insert the two Guide Rods (#7) into the receptacles of the Weight Stack Frame (#23). Next, slide two Flat Washers 3/4 X 2 (#50) and then the two Weight Stack Spacers (#24) onto the Guide Rods (#7).



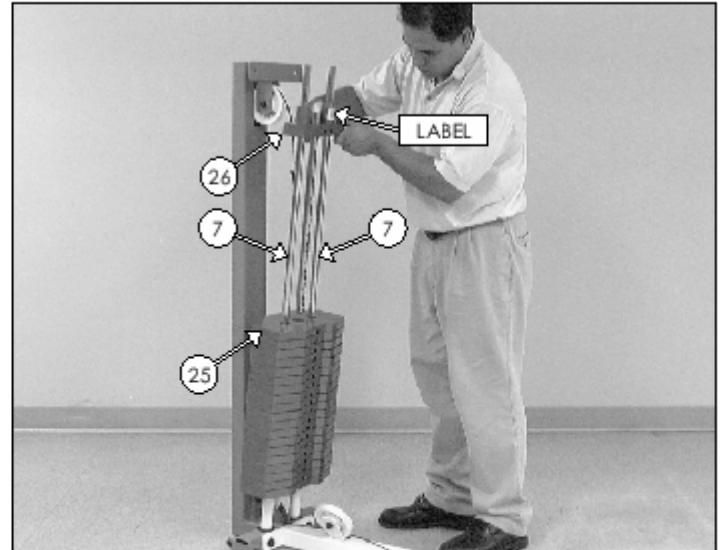
**Note:** Lubricate the Guide Rods (#7) with teflon spray lubricant at this time.



**FIG. 4** Next, insert two Flat Washers 3/4 X 2 (#50), and two Rubber Donuts 3/4 X 2 1/2 (#81) onto the Guide Rods (#7).



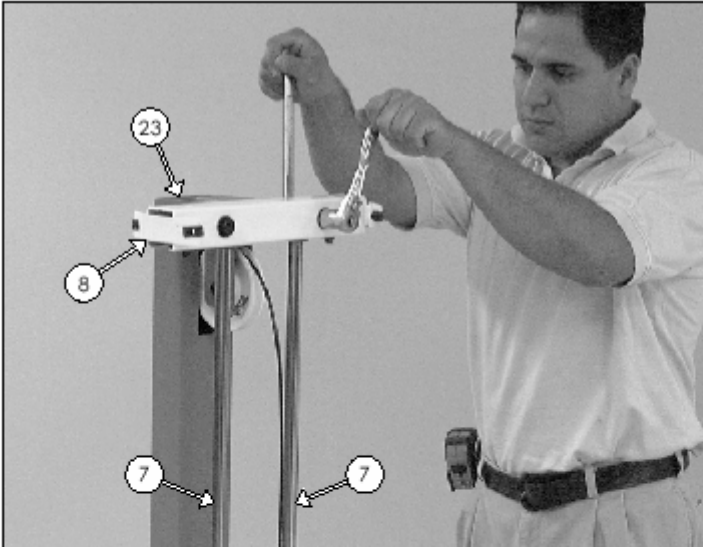
**FIG. 5** Carefully begin sliding the Weight Plates (#25) over the Guide Rods (#7), in the position as shown above.



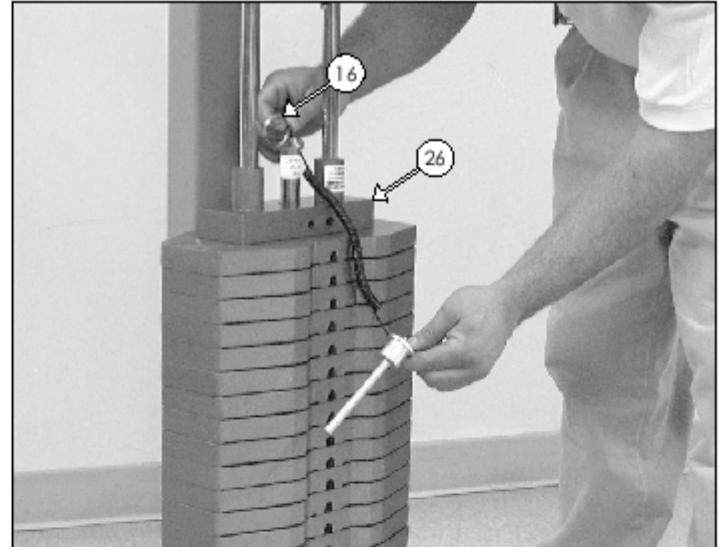
**FIG. 6** Next, slide the Top Plate Selector Bar (#26) onto the Guide Rods (#7) allowing it to rest on top of the completed Weight Stack.



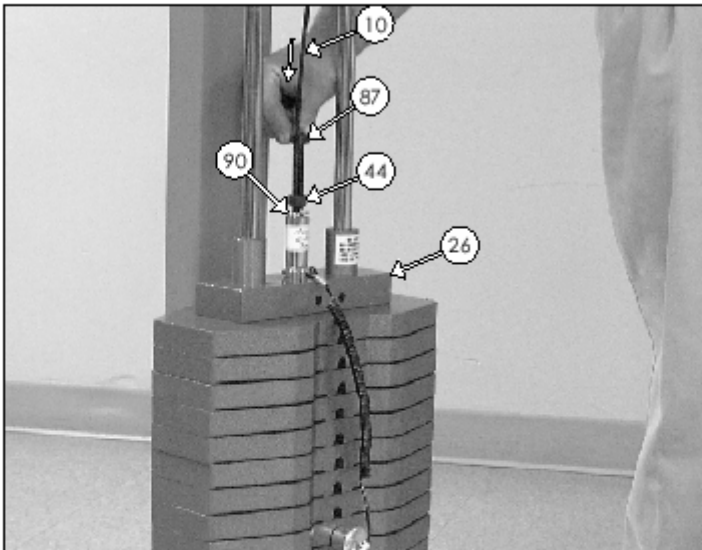
**Note:** Be sure the label on the Top Plate Selector Bar (#26) is facing out, as shown above, before sliding the Top Plate Selector Bar (#26) onto the Guide Rods (#7).




**FIG. 7** Maneuver the two Guide Rods (#7) into the holes on the bottom side of the Guide Rod Retainer (#8). Next, attach the Guide Rod Retainer (#8) to the Weight Stack Frame (#23) using two Hex Head Cap Screws 1/2-13 X 3 1/4 (#52), four Flat Washers SAE 1/2" (#47), and two Nylon Insert Lock Nuts 1/2-13 (#66).




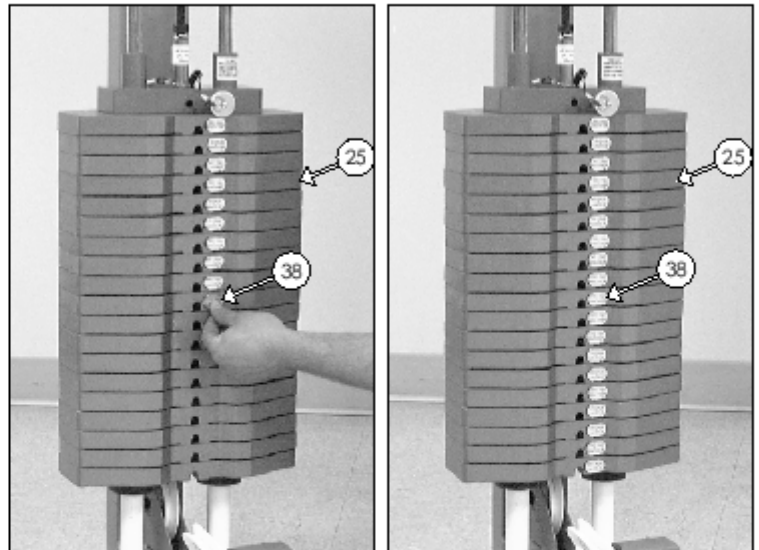
**FIG. 8** Next, locate the Selector Pin w/Coil (#16) and slide the ring over the Selector Bar (#26) as shown above.



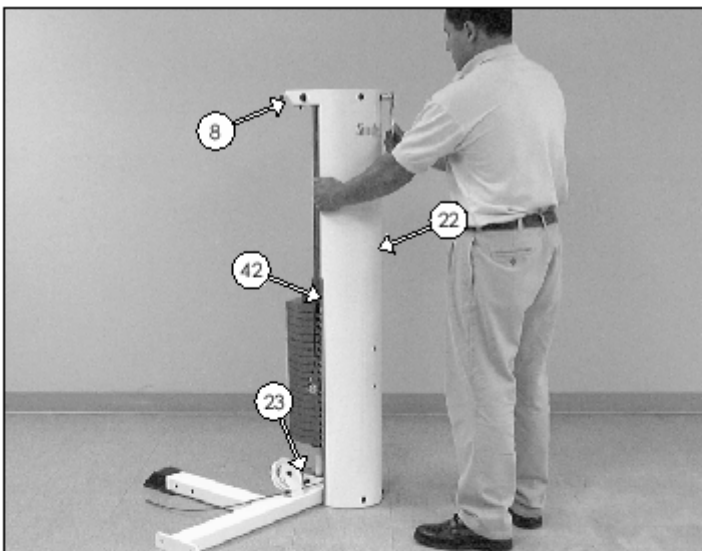
**FIG. 9** Connect the Cable (#10) to the Top Plate Selector Bar (#26) by threading the Finished Hex Nut 1/2-13 (#44) and inserting a Split Lock Washer 1/2" (#90) to the Cable Hex Tap Bolt 1/2-13 X 3 1/2 (#87). Then, thread the Cable Hex Tap Bolt 1/2-13 X 3 1/2 (#87) to the threaded socket of the Top Plate Selector Bar (#26).

 **Loosely Fasten:** Do not completely fasten this hardware assembly at this time, as it will be completely fastened later in the assembly process.

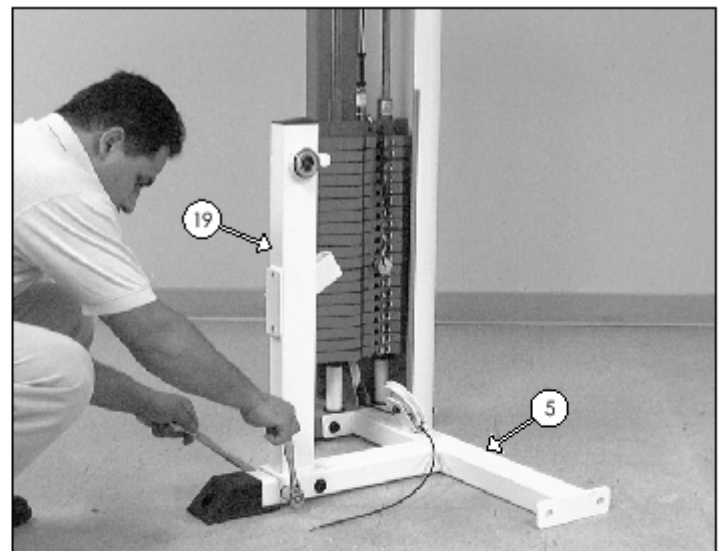
 **Note:** Refer to Fig A on fold-out page 13 for further detailed illustration of this assembly.



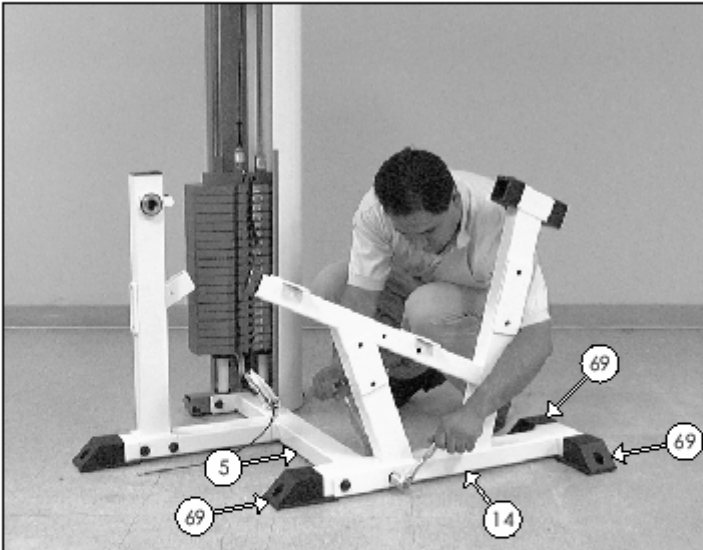
**FIG. 10** Adhere the Decal Weight Numbers (#38) to the Weight Plates (#25) in the corresponding order. Begin with the 20 at the top, 30 next, and so on.



**FIG. 11** Affix the Weight Shroud w/Plate (#22) to the bottom of the Weight Stack Frame (#23) and at the top of the Guide Rod Retainer (#8) using four Hex Head Cap Screws 1/4-20 X 3/4 (#56), and four Flat Washers 1/4" (#49).



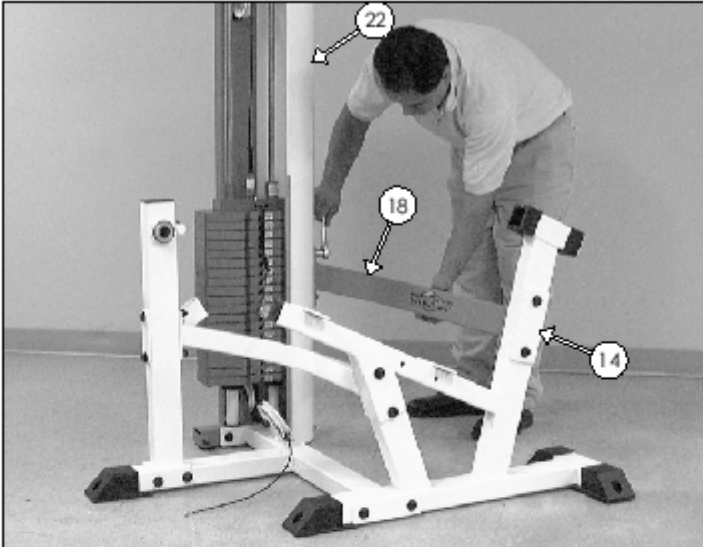
**FIG. 12** Attach the Upright Support (#19) to the Cross Brace Stabilizer (#5), in the position as shown above, using two Hex Head Cap Screws 1/2-13 X 4 1/2 (#54), four Flat Washers SAE 1/2" (#47), and two Nylon Insert Lock Nuts 1/2-13 (#66).



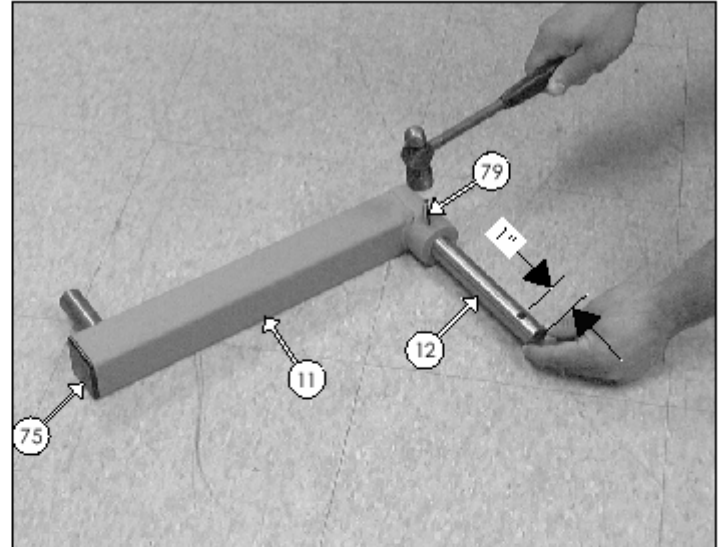
**FIG. 13** Using a rubber mallet, insert three Plastic End Caps 2 X 3 (#69) onto the tube-ends of the Seat Frame (#14). Next, attach the Seat Frame (#14) to the Cross Brace Stabilizer (#5) using two Hex Head Cap Screws 1/2-13 X 4 3/4 (#55), four Flat Washers SAE 1/2" (#47), and two Nylon Insert Lock Nuts 1/2-13 (#66).



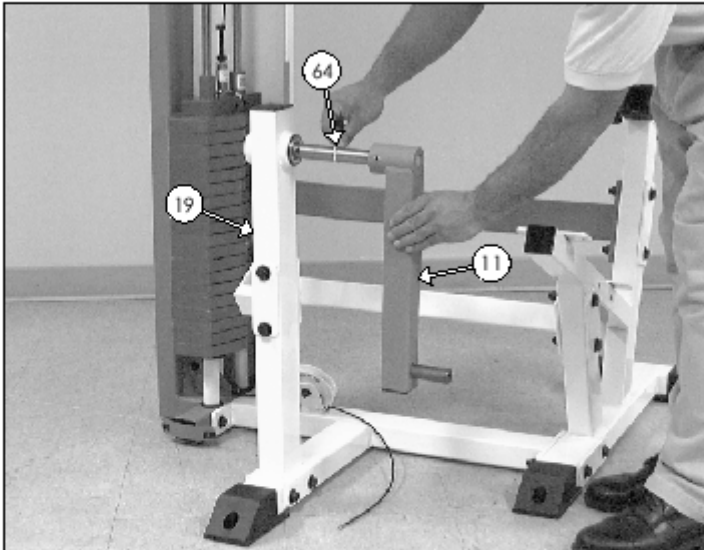
**FIG. 14** Attach the Arm Support (#3) to the Upright Support (#19) using two Hex Head Cap Screws 1/2-13 X 4 1/2 (#54), four Flat Washers SAE 1/2" (#47), and two Nylon Insert Lock Nuts 1/2-13 (#66). Next, attach the Arm Support (#3) to the Seat Frame (#14) using two Hex Head Cap Screws 1/2-13 X 3 1/2 (#53), four Flat Washers SAE 1/2" (#47), and two Nylon Insert Lock Nuts 1/2-13 (#66).



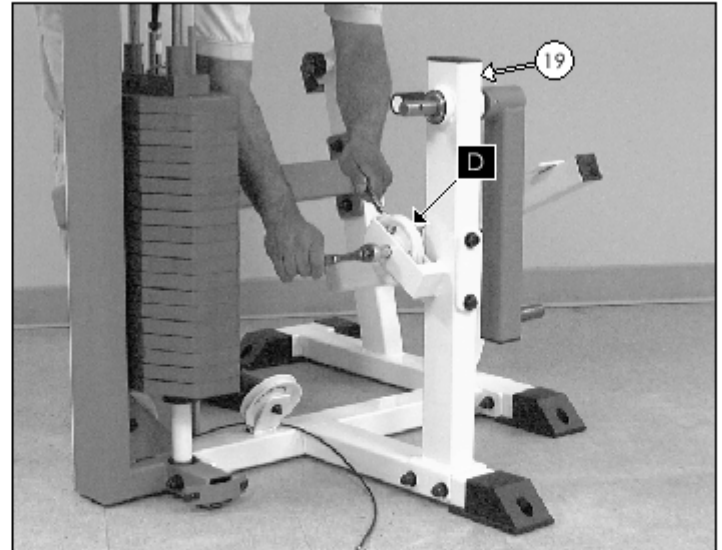
**FIG. 15** Affix the Top Cross Brace (#18) to the Seat Frame (#14) using two Hex Head Cap Screws 1/2-13 X 3 1/2 (#53), four Flat Washers SAE 1/2" (#47), and two Nylon Insert Lock Nuts 1/2-13 (#66). Next, affix the Top Cross Brace (#18) to the Weight Shroud w/Plate (#22) using two Hex Head Cap Screws 1/2-13 X 1 (#51), and two Split Lock Washers B/O 1/2" (#88).



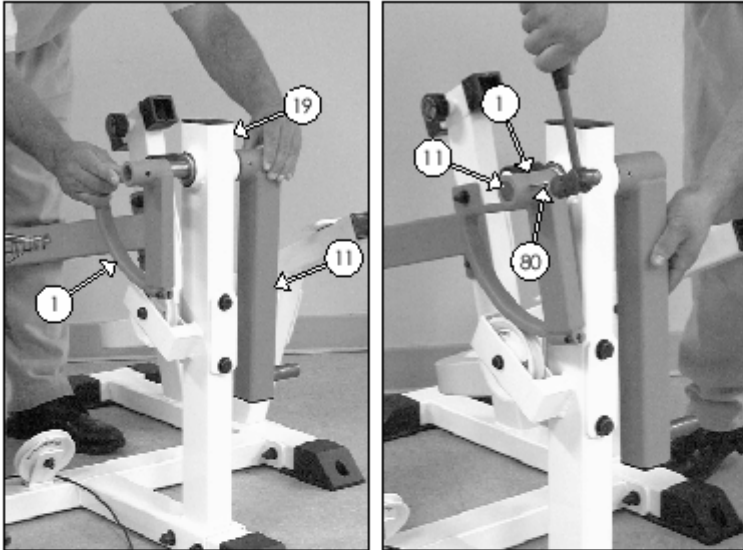
**FIG. 16** Using a rubber mallet, insert one Plastic Insert Cap 2" Sq. (#75) into the tube-end of the Pivot Arm (#11). Next, attach the Pivot Axle (#12) to the Pivot Arm (#11) and align the hole of the Pivot Axle (#12) to the hole of the Pivot Arm (#11) and using a hammer insert the Roll Pin 3/8 X 2 (#79).



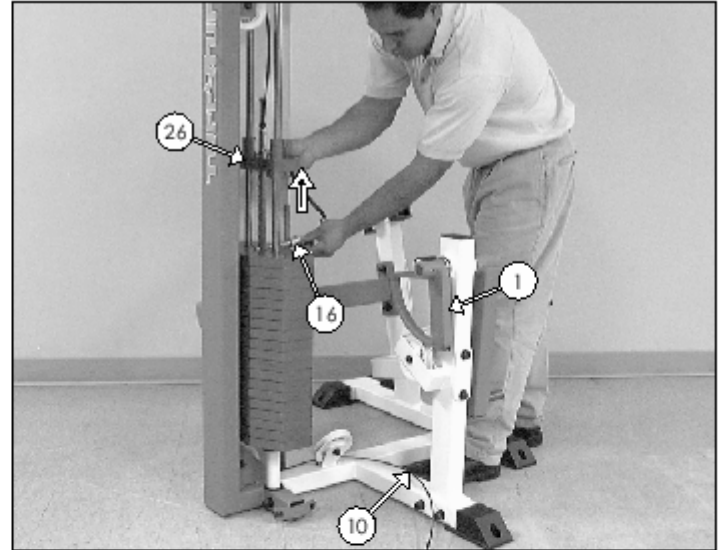
**FIG. 17** Insert a Nylon Flat Washer 1 X 1/4 (#64) onto the Axle of the Pivot Arm (#11). Next, insert the axle of the Pivot Arm (#11) into the ball bearing housing of the Upright Support (#19).



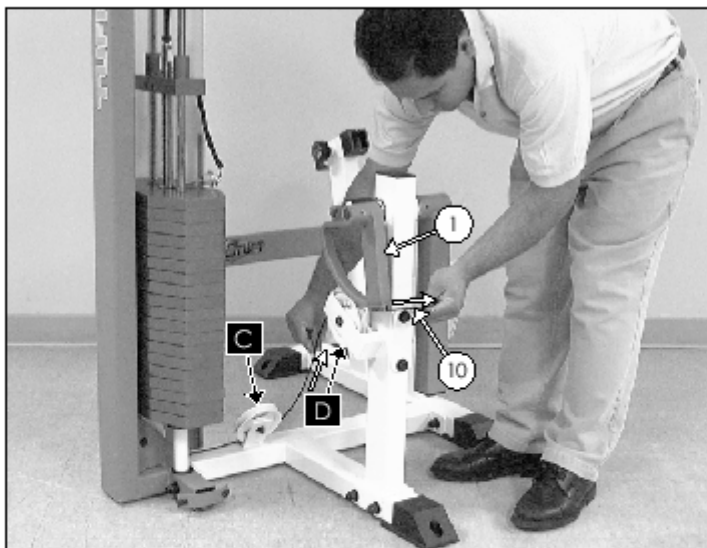
**FIG. 18** Next, secure a Nylon Pulley 4 1/2" Rd. (#68-Labeled D) to the Upright Support (#19) pulley bracket using one Hex Head Cap Screw 3/8-16 X 2 (#59), two Flat Washers SAE 3/8" (#48), and one Nylon Insert Jam Lock Nut 3/8-16 (#65).




**FIG. 19** Attach the Actuator Arm (#1) to the axle of the Pivot Arm (#11). Next, align the hole of the Actuator Arm (#1) to the hole of the Pivot Arm (#11) and, using a hammer, insert the Roll Pin 3/8 X 1 1/2 (#80).

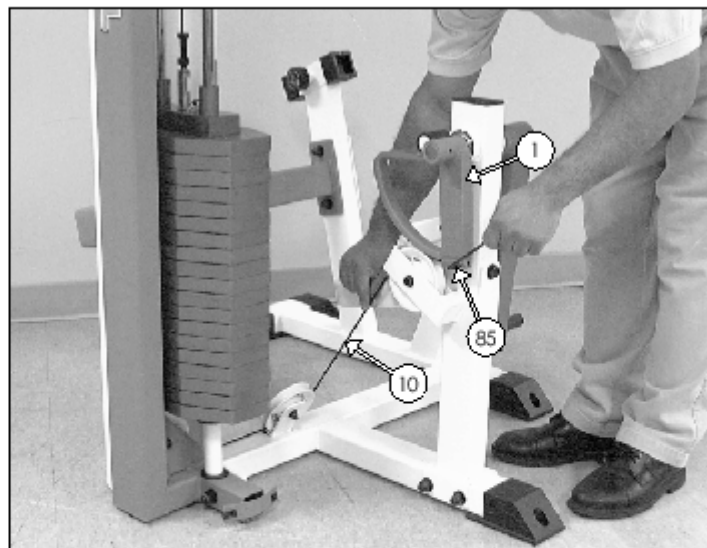


**FIG. 20** Lift the Top Plate Selector Bar (#26) about 9° over the weight stack and use the Selector Pin (#16) to lock it into that position. This will facilitate the assembly of the Cable (#10) to the Actuator Arm (#1).




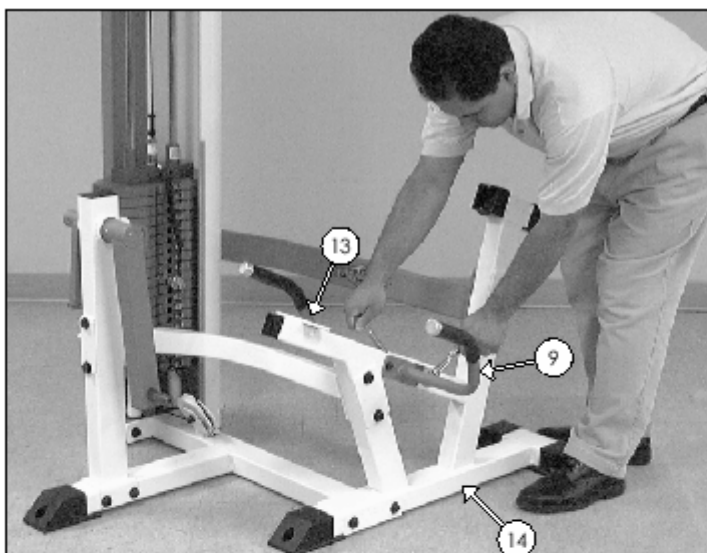
**FIG. 21** Route the Cable (#10) up and over the Nylon Pulley 4 1/2" Rd. (#68-Labeled C). Next, attach the Cable (#10) to the Actuator Arm (#1).

 **Note:** Refer to **Fig B** on fold-out page 13 for further detailed illustration of this assembly.

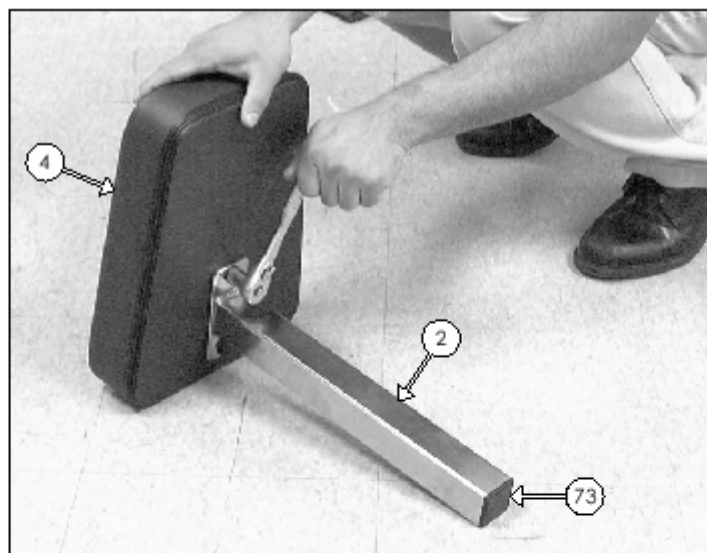


**FIG. 22** Secure the Cable (#10) to the Actuator Arm (#1) using the Socket Head Cap Screw 1/4-20 X 3/4 (#85).

 **Note:** Refer to **Fig B** on fold-out page 13 for further detailed illustration of this assembly.

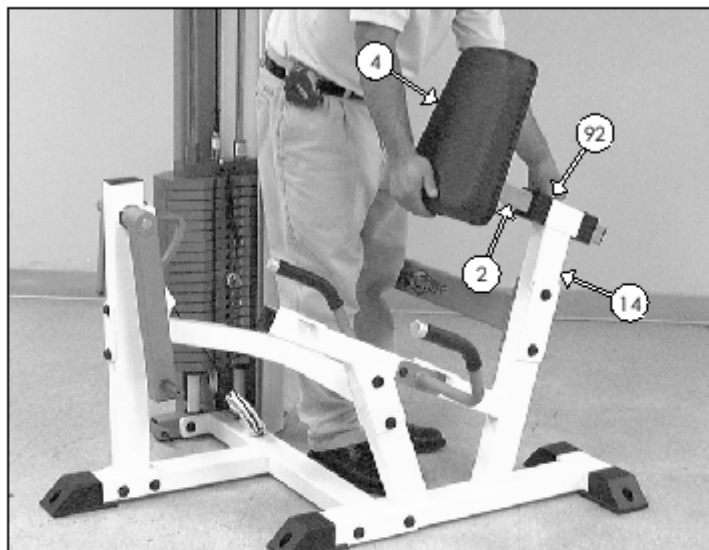


**FIG. 23** Attach the Right Handle (#13) and the Left Handle (#9) to the Seat Frame (#14) using two Hex Head Cap Screws 3/8-16 X 3 1/4 (#60), four Flat Washers SAE 3/8" (#48), and two Nylon Insert Lock Nuts 3/8-16 (#67).

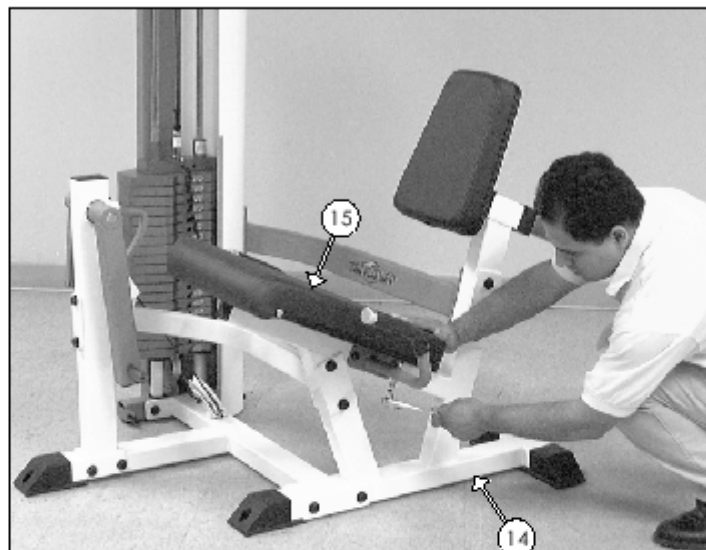


**FIG. 24** Affix the Back Pad (#4) to the Adjustable Back Pad Tube (#2) using two Hex Head Cap Screws 3/8-16 X 1 1/2 (#57), and two Flat Washers SAE 3/8" (#48).

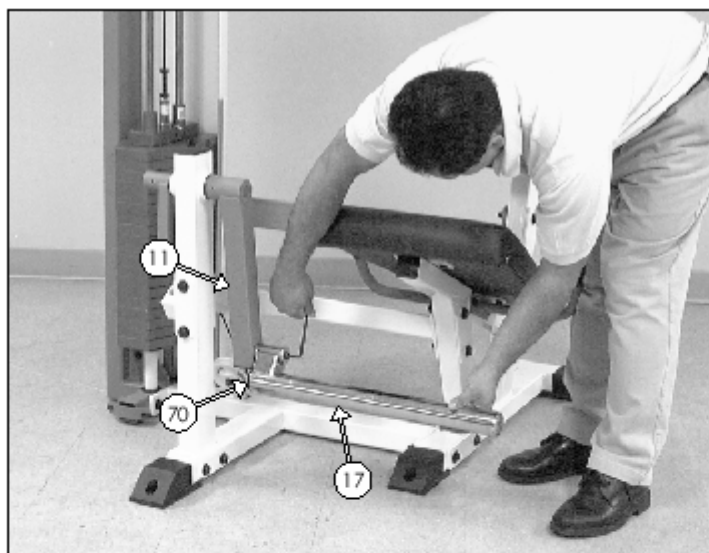




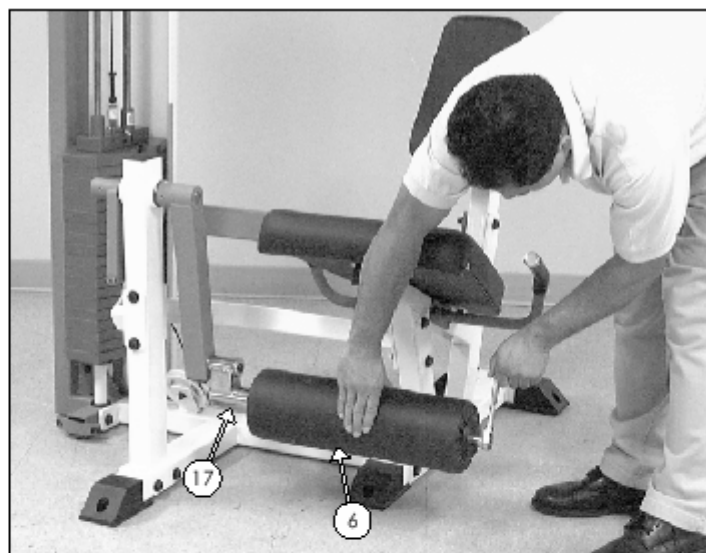
**FIG. 25** Next, insert the Adjustable Back Pad Tube (#2) to the receptacle of the Seat Frame (#14).



**FIG. 26** Affix the Seat Pad (#15) to the Seat Frame (#14) using four Hex Head Cap Screws 3/8-16 X 1 1/2 (#57), and four Flat Washers SAE 3/8" (#48).



**FIG. 27** Next, attach the Swivel Foam Roll Tube (#17) to the Pivot Arm (#11) and secure it into place using one Button Head Socket Cap Screw 3/8-16 X 1 (#31), one Split Lock Washer 3/8" (#89), and one Chrome Washer 3/8 X 1 1/2 (#32).



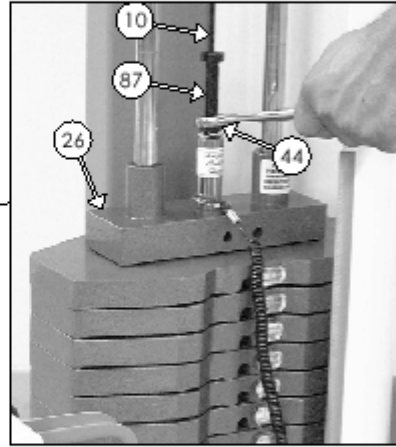
**FIG. 28** Next, attach the Foam Roll 2 X 5 1/2 X 18 (#6) to the Swivel Foam Roll Tube (#17) using one Hex Head Cap Screw 3/8-16 X 1 1/2 (#57).

## CABLE ADJUSTMENT

It is imperative that you maintain proper cable adjustment to ensure a safe and smooth operation.



**Caution:** The cable should be inspected and adjusted periodically to avoid any slack in the cable, which would, consequently, prevent any damage to the equipment or personal injury.

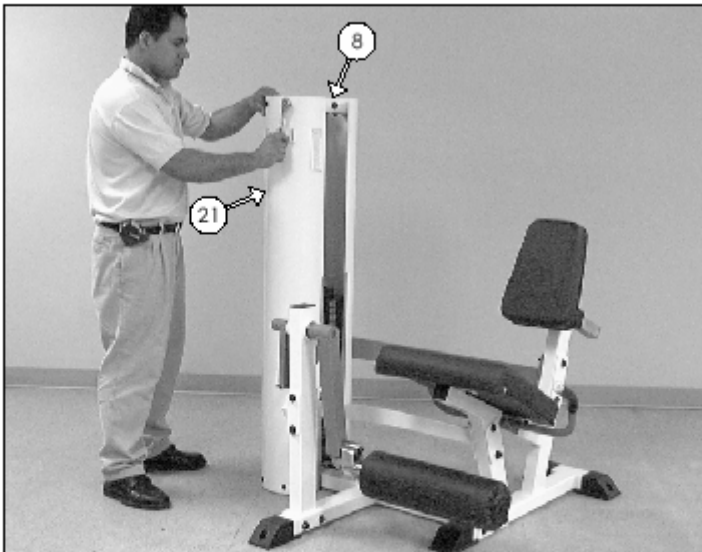


### Cable Adjustment:

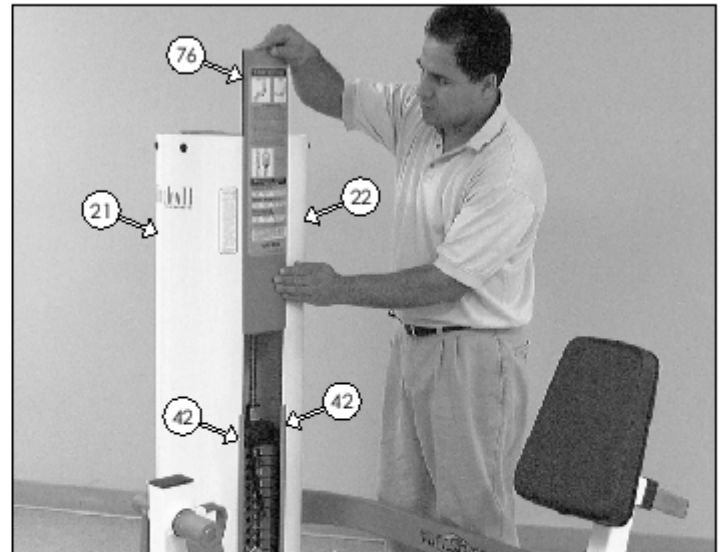
1. Loosen the Finished Hex Nut (#44).
2. Thread the Hex Tap Bolt (#87) in or out of the threaded socket of the Top Plate Selector Bar (#26) to give the cable proper tension.
3. Re-tighten Finished Hex Nut (#44) to complete the cable adjustment.



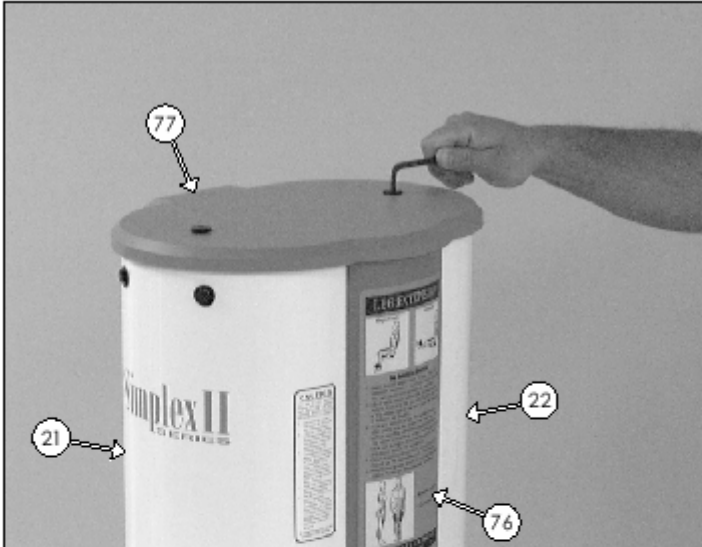
**Caution:** Make sure the Hex Tap Bolt 1/2-13 X 3 1/2 (#87) is threaded at least 1/2" into the threaded socket of the Top Plate Selector Bar (#26) once the cable adjustment has been completed.



**FIG. 29** Affix the Weight Shroud (#21) to the bottom of the Weight Stack Frame (#23) and at the top of the Guide Rod Retainer (#8) using four Hex Head Cap Screws 1/4-20 X 3/4 (#56), and four Flat Washers 1/4" (#49).



**FIG. 30** Align the edges of both Shrouds (#21, #22) with the grooves of the Plastic Shroud Gap Cover (#76) and slide it down, as shown above.



**FIG. 31** Attach the Plastic Shroud Lid (#77) to the Guide Rod Retainer (#8) using two Flat Head Socket Cap Screws 3/8-16 X 3 (#45).



This concludes the assembly of the SP-412.



**Fully Fasten:** It is highly recommended that you double-check all the hardware assemblies to be fully fastened and the cable to be properly routed.

COLOR CHART  
 GRAY= SUB-ASSEMBLY PARTS  
 BLACK= HARDWARE

## SP-412 Parts List

Item No.	Description	Part No.	Qty	Item No.	Description	Part No.	Qty
1	ACTUATOR ARM	UP2923	1	49	FLAT WASHER USS B/O 1/4"	BNH0233	8
2	ADJUSTABLE BACK PAD TUBE	UP2561	1	50	FLAT WASHER USS B/O 3/4 X 2"	BNH0878	4
3	ARM SUPPORT	UP0799	1	51	HEX HEAD CAP SCREW GR-5 B/O 1/2-13 X 1	BNH0259	2
4	BACK PAD	UP0811	1	52	HEX HEAD CAP SCREW GR-5 B/O 1/2-13 X 3 1/4	BNH0576	2
5	CROSS BRACE STABILIZER	UP0796	1	53	HEX HEAD CAP SCREW GR-5 B/O 1/2-13 X 3 1/2	BNH0263	6
6	FOAM ROLL 2 X 5 1/2 X 18	UP2031	1	54	HEX HEAD CAP SCREW GR-5 B/O 1/2-13 X 4 1/2	BNH0265	4
7	GUIDE ROD 3/4 X 53 3/4	UP0783	2	55	HEX HEAD CAP SCREW GR-5 B/O 1/2-13 X 4 3/4	BNH0895	2
8	GUIDE ROD RETAINER	UP0784	1	56	HEX HEAD CAP SCREW GR-5 B/O 1/4-20 X 3/4	BNH0890	8
9	LEFT HANDLE	UP2178	1	57	HEX HEAD CAP SCREW GR-5 B/O 3/8-16 X 1 1/2	BNH0303	7
10	LEG EXTENSION CABLE	UP0890	1	58	HEX HEAD CAP SCREW GR-5 B/O 3/8-16 X 1 3/4	BNH0274	1
11	PIVOT ARM	UP2559	1	59	HEX HEAD CAP SCREW GR-5 B/O 3/8-16 X 2	BNH0279	3
12	PIVOT AXLE 1 X 9 5/8	UP2558	1	60	HEX HEAD CAP SCREW GR-5 B/O 3/8-16 X 3 1/4	BNH0312	2
13	RIGHT HANDLE	UP2179	1	61	HEX KEY 3/16"	BNH0371	1
14	SEAT FRAME	UP2560	1	62	HEX KEY 3/32"	BNH0372	1
15	SEAT PAD	UP0810	1	63	HEX KEY 7/32"	BNH0575	1
16	SELECTOR PIN W/COIL 3/8 X 4 GOLD KNOB	UP3035	1	64	NYLON FLAT WASHER 1 X 1 1/4 X 1/16	BNH0393	1
17	SWIVEL FOAM ROLL TUBE	UP2026	1	65	NYLON INSERT JAM LOCK NUT B/O 3/8-16	BNH0365	4
18	TOP CROSS BRACE	UP0798	1	66	NYLON INSERT LOCK NUT B/O 1/2-13	BNH0212	14
19	UPRIGHT SUPPORT	UP2925	1	67	NYLON INSERT LOCK NUT B/O 3/8-16	BNH0214	2
20	WEAR COVER (OPTIONAL)	UP0828	1	68	NYLON PULLEY 4 1/2 RD WHITE	BNH0556	4
21	WEIGHT SHROUD 54"	UP0781	1	69	PLASTIC END CAP 2 X 3	BNH0606	4
22	WEIGHT SHROUD W/PLATE 54"	UP0782	1	70	PLASTIC INSERT CAP 2" RD. 10-14 GA.	BNH0004	1
23	WEIGHT STACK FRAME 54"	UP0780	1	71	PLASTIC INSERT CAP "C" 2 RD.	BNH0814	1
24	WEIGHT STACK SPACER 4"	UP0786	2	72	PLASTIC INSERT CAP "D" 2 RD.	BNH0815	1
25	15 LB.CAST WEIGHT PLATE GREY	BNH0926	19	73	PLASTIC INSERT CAP 1 3/4" SQ.	BNH0053	1
26	10 LB TOP PLATE W/ADJ. SLTR BAR 19 WTS	BNH1100	1	74	PLASTIC INSERT CAP 2 X 3 _ 11-14 GA	BNH0052	1
27	ABS PIPE 2 X 18 1/4	BNH1245	1	75	PLASTIC INSERT CAP 2" SQ. 10-14 GA.	BNH0012	2
28	ALUMINUM CAP 1" RD. (CAP-100)	BNH0637	2	76	PLASTIC SHROUD GAP COVER 24"	BNH1437	1
29	BALL BEARING #W 516	BNH0628	2	77	PLASTIC SHROUD LID 5/8 X 14 1/8 X 10	BNH0185	1
30	BRONZE BUSHING 1.003 ID X 1.245 OD X 3/4 X 1 1/2 X 1/8	BNH1144	2	78	PLASTIC TUBE GUIDE W/LIP-TEETH 2 1/4" SQ	BNH0059	2
31	BUTTON HEAD SOCKET CAP SCREW B/O 3/8-16 X 1	BNH0115	1	79	ROLL PIN B/O 3/8 X 2	BNH0661	2
32	CHROME WASHER 3/8 X 1 1/2	BNH1015	1	80	ROLL PIN Z/P 3/8 X 1 1/2	BNH0483	1
33	DECAL-ADJUST CABLE HERE	BNH0789	1	81	RUBBER DONUT 3/4 X 2 1/2	BNH0068	2
34	DECAL-CAUTION 1 1/2 X 5 1/2 WHITE W/RED TRIM	BNH0131	1	82	RUBBER GRIP 1 ID X .125 X 8	BNH0966	2
35	DECAL-EXERCISE SP-412 LEG EXTENSION	BNH1193	1	83	RUBBER GROMMET 3/4" ID (2967-012)	BNH0401	2
36	DECAL-FOR BEST PERFORMANCE 1 1/4 X 1 1/2	BNH0143	1	84	RUBBER STOPPER 1 ID X .187 X 1 3/4	BNH1123	1
37	LARGE TUFFSTUFF LOGO DIAMOND SHAPE ALUMINUM	BNH1324	1	85	SOCKET HEAD CAP SCREW B/O 1/4-20 X 3/4	BNH0452	1
38	DECAL-NUMBERS 20-200 LBS. SET	BNH1202	1	86	SOCKET SET SCREW ALLOY 10-32 X 1/8	BNH0473	4
39	DECAL-SIMPLEX II (1 7/8 X 5 3/16)	BNH1199	2	87	SPLIT HEX TAP BOLT GR-5 B/O 1/2-13 X 3 1/2	BNH1131	1
40	DECAL-TUFFSTUFF (2 3/4 X 19 1/16)	BNH1200	1	88	SPLIT LOCK WASHER B/O 1/2"	BNH0653	2
41	DECAL-WARNING KEEP HANDS AND FINGERS...	BNH0620	1	89	SPLIT LOCK WASHER B/O 3/8"	BNH0658	1
42	EDGE PROTECTOR GRAY 30"	BNH0601	2	90	SPLIT LOCK WASHER Z/P 1/2"	BNH0572	1
43	EDGE PROTECTOR GRAY 54"	BNH0601	2	91	SUPER LUBE TEFLON LUBRICANT 82340	BNH0704	2
44	FINISHED HEX NUT B/O 1/2-13	BNH0201	1	92	TURN/PULL PIN W/KNOB AND LOCK	BNH0989	1
45	FLAT HEAD SOCKET CAP SCREW B/O 3/8-16 X 3	BNH0787	2	93	URETHANE BUMPER 1 3/4	BNH0229	3
46	FLAT PHILLIPS MACHINE SCREW 8-32 X 1/4	BNH0408	1	94	U-STYLE TAPPED HOLE NUT 1/4-20	BNH0708	8
47	FLAT WASHER SAE B/O 1/2"	BNH0238	28	95	U-STYLE TAPPED HOLE NUT 3/8-16	BNH1211	2
48	FLAT WASHER SAE B/O 3/8"	BNH0239	18	96	FLAT PHILLIPS SCREW ZINC # 5 X 1/2	BNH1481	2





## **TuffStuff Basic Strength Equipment Safety and General Maintenance**

All TUFFSTUFF strength equipment is designed and manufactured to offer maximum, long-life service with minimal maintenance. However, safety inspection and routine maintenance in your facility should be the utmost importance in your daily operation. Information presented in these pages will serve as a basic guideline to design your own inspection procedures.

### **Part One: General Inspection and Cleaning**

Equipment should be wiped down with a damp cloth and dried on a daily basis. The powder coat finish should be polished with a good car wax on a weekly basis. A daily wipe down of the upholstery with a lanolin based hand cleaner or Naugahyde Cleaner. Do not use cleaners such as Lysol or Windex as they will dry out and crack the vinyl. Lanolin hand cleaner dissolves the sweat and lubricates the vinyl, maintaining its natural flexibility. Sweat is corrosive and when left on the frame and components will eventually cause corrosion or rust. When performing these cleaning sessions, it is the perfect time to inspect the equipment and note any problems for the maintenance personnel to correct.

1. Check equipment if it is operating properly.
2. Check the cable for loose fittings or frayed cable and is seating properly on the pulleys and cams.
3. Make sure that the proper weight stack selector pin is with each machine and that the pin functions properly.
4. If something appears loose be sure to have it tightened immediately.
5. If a piece of equipment appears damaged or not operation properly, place the piece out-of-service immediately.

### **Part Two: Maintenance**

In this paragraph, we will discuss the inspection of the cables, pulleys and their associated components. If there exists the potential for injury to occur on a machine, it will most likely lie in the cable system. It is important to inspect the cables frequently and let it be known to all users that it is their responsibility to report any worn-out cable to prevent a sudden failure that can result in an injury. Cables are moving parts, meaning cable-wear will occur regardless of the type or size used. In the advent of the 3/16" mill-spec cable this wear takes longer to become apparent and this is why frequent inspections are so important.

1. Check the cable termination at the weight stack. To perform any cable tension adjustment, loosen the hex jam nut and thread the hex tap bolt in or out to give cable the proper tension. Re-tightened the hex jam nut when adjustment is complete and make sure the hex tap bolt is threaded 1/2" into the socket of the selector bar top plate.
2. Check the cable as it terminates at the cam. Check the end fitting for any signs of fraying in this area. Inspect the bolt and nut and/or screw holding the fitting and be sure that it is tight.
3. Check the cables as it passes over all pulley wheels. Visually inspect the cables and pulleys. A cable that is wearing will exhibit a ballooned surface that passes over the pulley. This is and early warning sign to replace the cable.



### **Part Three: Lubrication**

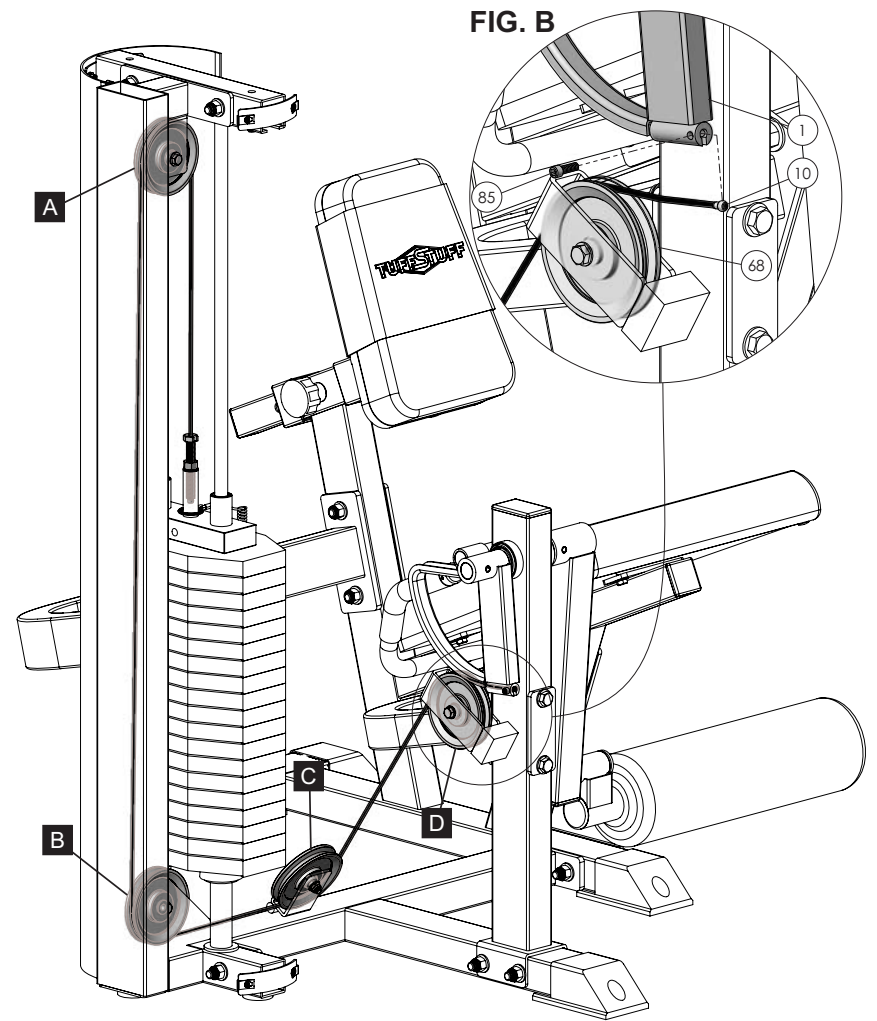
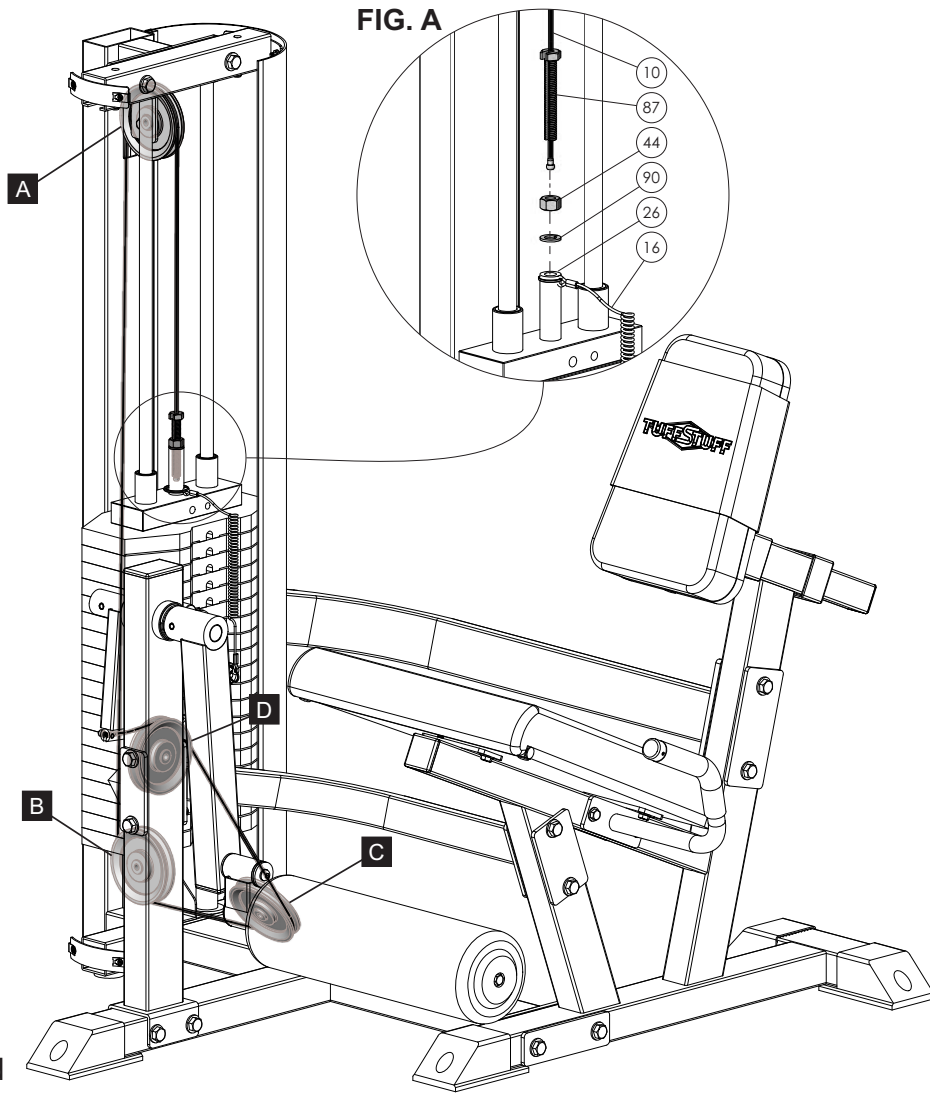
Bearing and linear bearings systems have advanced over the years but they must be maintained on a regular basis if you expect them to last and perform efficiently. TuffStuff uses only the highest quality bearings and linear motion components that are virtually trouble-free but requires the regular preventive maintenance to insure long-lasting performance.


1. Bronze and nylon bushings, we recommend on a weekly basis to spray a teflon-base lubricant (silicone-free) directly onto the shaft as it passes through these bushings. Spray a small amount onto the shaft and rotate it through its complete movement and wipe off any excess.
2. Weight stack guide rods and bushings, again use teflon spray lubricant and this time spray onto a rag and wipe the guide rods down with this rag on a weekly basis. Do not use WD-40 or other lubricants as they attract dirt and will create a mess between the weight plates and bushings.
3. Sealed bearings pivot points, as the name implies are protected from the outside environment and require no lubrication. During the machine wipe down, wipe the external bearing surfaces with the damp rag and dried to prevent the build up of dust and sweat.
4. Linear bearing systems are precision, high load components that require regular maintenance. Dirt and corrosion are the major culprits in linear bearing failure. The hardened shafts must be wiped down weekly and lubricated with a light layer of teflon grease. We recommend a teflon-base (silicone-free) gel/grease for this purpose. Lack of care and maintenance will result in corrosion of the linear shaft causing the bearings to clogged and jammed.

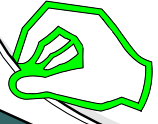
If you religiously perform the daily and weekly maintenance procedures, you will increase the life of the machine and ultimately lower your maintenance costs with fewer replaced components and downtime.

Any doubts, equipment with mechanical problems should be placed "Out-of-Service" until all problems are corrected. If replacement parts are required or maintenance questions, please contact:

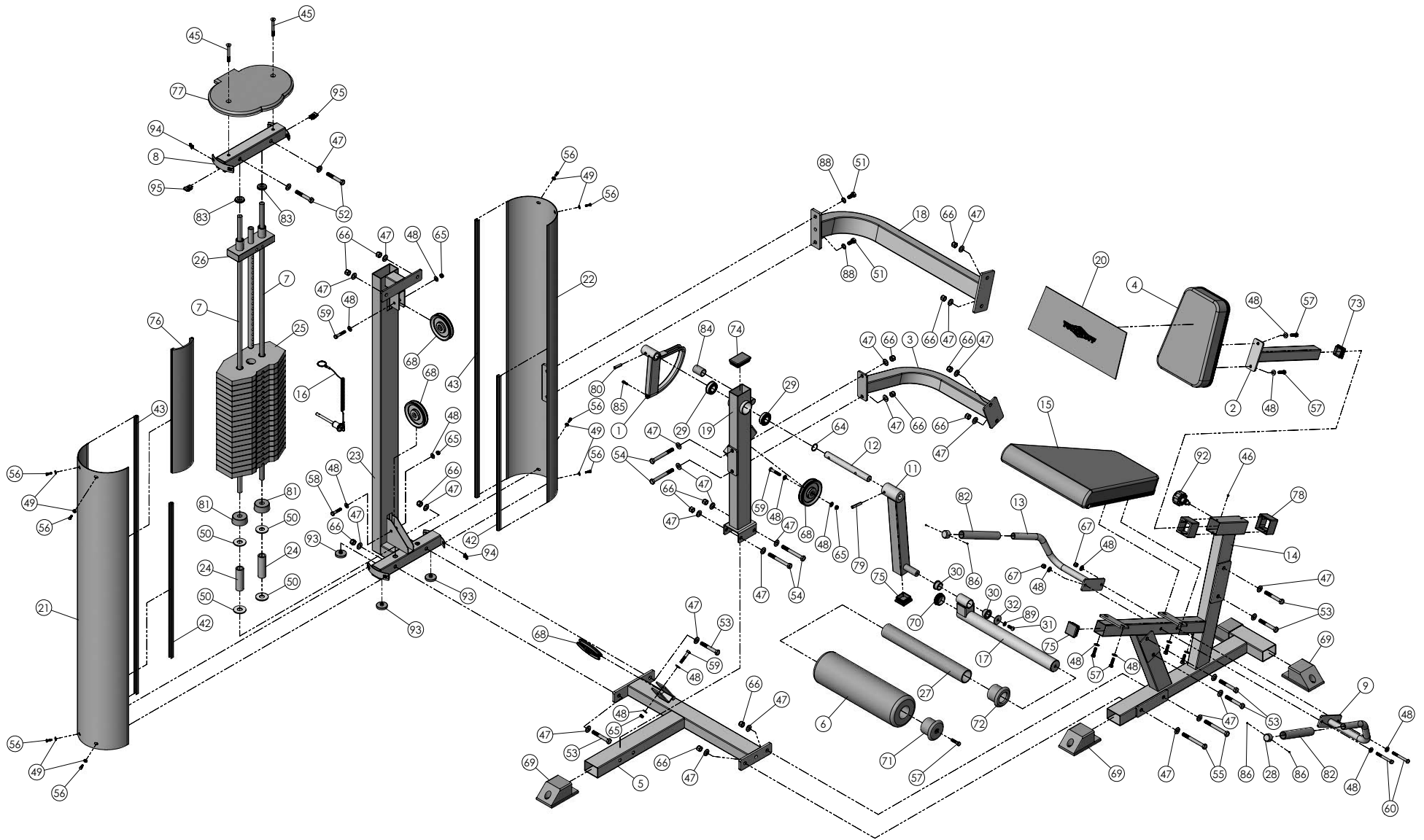
**TuffStuff Fitness Equipment, Inc.**  
**Service Department**  
**1325 E. Franklin Avenue**  
**Pomona, CA 91766**  
**1-800-961-9377**  
**e-mail: [service@tuffstuff.net](mailto:service@tuffstuff.net)**



 **Note:** Some parts have been cut away for clarity.

Unfold Page  






**DO NOT DISCARD THIS MANUAL**



**LIMITED WARRANTY**

TuffStuff warrants to the original purchaser only that TuffStuff equipment will be free from defects in material and workmanship. The warranty and remedies set forth herein are conditioned upon proper storage, installation, use, maintenance and conformance with any recommendations of TuffStuff. This warranty does not cover products not manufactured by TuffStuff or products which are altered without the express written consent of TuffStuff. This warranty as specified: a) Frame structure and welds — Lifetime, b) Moving parts (e.g. pulleys, bearings, bushings) — 5 years; c) Cables upholstery, hand-grips, finish and any miscellaneous parts not listed — 1 year; from the day of delivery to the original purchaser. The obligation of TuffStuff under this warranty is limited to repairing or replacing warranted defective parts, as TuffStuff may elect, at TuffStuff's facility in Pomona, California, without charge to purchaser for either parts or labor. Purchaser is responsible for installation of repaired or replaced parts, and all transportation and insurance costs on returned or replaced equipment to and from TuffStuff's facility in Pomona.

**THE FORGOING SHALL CONSTITUTE THE SOLE REMEDY OF THE PURCHASER AND THE SOLE LIABILITY OF TUFFSTUFF WITH REGARD TO WARRANTY. NO IMPLIED STATUTORY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY. IN NO EVENT, WHETHER AS A RESULT OF BREACH OF CONTRACT, WARRANTY, NEGLIGENCE OR OTHERWISE, SHALL TUFFSTUFF BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUE, LOSS OF USE OF EQUIPMENT, COST OF CAPITAL, COST OF SUBSTITUTION EQUIPMENT, DOWNTIME COST, OR CLAIMS OF CUSTOMERS OR PURCHASER FROM SUCH DAMAGE.**

This warranty is the final, complete and exclusive agreement of the parties with respect to the quality or performance of the equipment and no action for breach of this written warranty or any implied warranty shall be commenced more than one (1) year after the accrual of the cause of action. No modification of this warranty or waiver of its terms shall be binding on either party unless approved in writing by an authorized representative of the party. Contact TuffStuff at 1325 E. Franklin Avenue, Pomona, California 91766, before returning any defective equipment.

**Note:** Retain your sales receipt and be sure to mail in the warranty registration card to insure that a permanent record of your purchase is on file with the factory and to avoid unnecessary delays in warranty service.

**TuffStuff Fitness Equipment, Inc.**

1325 E. Franklin Avenue  
Pomona, CA 91766, USA

Ph: 909-629-1600 Fax: 909-629-4967

E-mail: [service@tuffstuff.net](mailto:service@tuffstuff.net) Net: [www.tuffstuff.net](http://www.tuffstuff.net)