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LAD-FM Mezzanine Ladders



Receiving Instructions

After delivery, remove the packaging from the product. Inspect the product closely to determine whether it sustained damage during transport. If damage is discovered, record a complete description of it on the bill of lading. If the product is undamaged, discard the packaging.

NOTE: The end-user is solely responsible for confirming that product design, use, and maintenance comply with laws, regulations, codes, and mandatory standards applied where the product is used.

Technical Service & Replacement Parts

For answers to questions not addressed in these instructions and to order replacement parts, labels, and accessories, call our Technical Service and Parts Department at (260) 665-7586. The department can also be contacted online at <https://www.vestil.com/page-parts-request.php>.

Electronic Copies of Instruction Manuals

Additional copies of this manual may be downloaded from <https://www.vestil.com/page-manuals.php>.

Table of Contents	Page
1. Product Information.....	2
2. Regulatory and Consensus Standards.....	2
3. Product Description.....	2
4. Signal Words.....	3
5. Safety Instructions.....	3
6. Specifications.....	4
7A. LAD-FM-60 Exploded View and Bill of Materials.....	5
7B. LAD-FM-72 Exploded View and Bill of Materials.....	6
7C. LAD-FM-84 Exploded View and Bill of Materials.....	7
7D. LAD-FM-96 Exploded View and Bill of Materials.....	8
7E. LAD-FM-108 Exploded View and Bill of Materials.....	9
7F. LAD-FM-120 Exploded View and Bill of Materials.....	10
7G. Jack Assembly.....	11
8. Assembling and Installing the Mezzanine Ladder.....	11 - 16
9. Storing the Ladder.....	17
10. Using the Mezzanine Ladder.....	17
11. Folding the Ladder without Using the Jack.....	17
12. Record of Satisfactory Condition.....	18
13. Inspecting and Maintaining the Mezzanine Ladder.....	18
14. Labeling Diagram.....	19
15. Limited Warranty.....	20

1. PRODUCT INFORMATION

Vestil suggests that you record the information about your product below for future reference. Record the model number and serial number of your unit. These numbers appear on a metal plate affixed to the product.

Model Number: _____
Serial Number: _____
Date of Manufacture: _____
Date of Installation: _____

2. REGULATORY AND CONSENSUS STANDARDS

This product is designed to meet or exceed applicable Occupational Safety and Health Administration (OSHA) requirements for ladders and access systems. Key relevant standards include:

- **OSHA 29 CFR 1910.23 (Ladders):** Specifies requirements for ladder design, including rung spacing (uniformly spaced at 12 inches maximum), side rail clearance (16 inches minimum between side rails), and perpendicular clearance (7 inches minimum behind rungs).
- **OSHA 29 CFR 1910.29 (Walking-Working Surfaces):** Covers fall protection, guardrails, and access to elevated surfaces, requiring ladders or stairways for elevation breaks of 19 inches or more. Handrails must meet height requirements (42 ± 3 inches above the walking surface).
- **OSHA 29 CFR 1926.1053 (Ladders in Construction):** Applies if used in construction settings, including minimum step widths and incline angles.

Note: Determine whether local codes and regulations apply in the jurisdiction where the ladder will be installed. Verify that the product complies with these requirements prior to installation. Vestil recommends consulting a qualified safety professional for site-specific assessments.

3. PRODUCT DESCRIPTION

The LAD-FM series folding mezzanine ladders are face-mounted, retractable access systems designed for infrequent use in condensed work areas to reach mezzanine levels. These ladders ratchet into a 58-degree climbing angle for use and fold back into a vertical, stored position against the wall. Wheels at the base of the ladder facilitate smooth movement during extension and retraction. Handrails mechanically rise into position when the ladder is extended and locked.

Ladders are constructed from steel and are finished with a blue powder coat finish (blue and yellow for powered models). Steps are provided with slip-resistant treads for sure footing. Standard step width is 24-1/4 inches (23-5/8 inches for powered models). The uniform capacity is 350 pounds. When stored, the ladder extends approximately 15-1/2 inches from the wall.




Powered models (LAD-FM-PSO series) feature an electric actuation system controlled by a handheld pendant for effortless extension and retraction.

This product ships in a knockdown configuration and requires some assembly. A mounting bracket is provided that can be utilized for either bolt-on or welded installation.

Note: Field conversion from standard LAD-FM models to powered LAD-FM-PSO models is not possible; powered components cannot be retrofitted.

4. SIGNAL WORDS

SIGNAL WORDS in this manual draw the reader's attention to important safety-related messages.

 DANGER	Identifies a hazardous situation which, if not avoided, WILL result in DEATH or SERIOUS INJURY . Use of this signal word is limited to the most extreme situations.
 WARNING	Identifies a hazardous situation which, if not avoided, COULD result in DEATH or SERIOUS INJURY .
 CAUTION	Indicates a hazardous situation which, if not avoided, COULD result in MINOR or MODERATE injury.
NOTICE	Identifies practices likely to result in product/property damage, such as operation that might damage the product.

5. SAFETY INSTRUCTIONS

This ladder is intended for infrequent access to mezzanine levels in industrial settings. It is not designed for continuous use as a stairway or for outdoor applications. *Read and understand the entire manual before installing, using or servicing the product.* Read the manual to refresh your understanding of proper use and maintenance procedures.

DANGER

- Fall hazard: Do not use if ladder is damaged or unstable. Always ensure ladder is fully extended and locked before climbing.

WARNING

- Only climb the ladder when it is in the fully extended/lowered position.
- Do not exceed the 350-pound uniform capacity. Overloading could cause structural failure. The total weight applied to the ladder (weight of the user plus tools, etc.) must not be greater than the capacity. Capacity is provided on your *SPECIFICATIONS* document as well as on label 1153. See [LABELING DIAGRAM](#) on p. 19.
- ALWAYS face the stairs and use the handrails while ascending and descending the ladder.
- DO NOT increase the height of any step by standing on other objects placed on the ladder.
- Do not use on uneven or slippery floors. Use only on stable, level surfaces
- Inspect ladder before each use for damage, loose parts, or significant wear.
- Do not modify the ladder without written approval from Vestil. Modifications void the warranty and might create hazards.
- DO NOT use the stairway if any unusual noise or movement is observed while weight is applied to it. If a malfunction occurs, remove the unit from service and notify your supervisor or maintenance personnel about the issue.
- **DO NOT use this ladder unless you are in good health. NEVER use the ladder while under the influence of alcohol or drugs, including prescription medication that affects balance, perception, or judgment.**
- Wear appropriate footwear. DO NOT wear high-heeled shoes or footwear with smooth soles.
- Keep the area around the ladder clear.
- DO NOT store items on the ladder.
- Remove foreign matter, e.g. mud, from your shoes *before* walking on the ladder. Only wear slip-resistant shoes.
- DO NOT skip steps. Climb the ladder one step at a time.
- DO NOT attempt to extend or retract the ladder while someone is using it.
- Only stand on the steps. DO NOT climb onto the railing. DO NOT slide on the railing.
- DO NOT access, or egress from, any step from an elevated location other than the mezzanine to which the ladder is attached.
- DO NOT remove or obscure any label, tag, or sign applied to the ladder. All labels, tags, and signs must be easily readable. See [LABELING DIAGRAM](#) on p. 19.
- Do not climb with tools or materials that could cause imbalance.
- Ensure handrails are fully raised and secure before use.

NOTICE

- Keep the stairs clean & dry. Periodically lubricate pivot points.
- Always store fully retracted against the wall.

6. SPECIFICATIONS

Documents that provide specifications for LAD-FM series ladders are available online to anyone who visits Vestil's website. Specifications include dimensions, net weight, angle of inclination, and capacity information. Navigate to <https://www.vestil.com/product.php?FID=445>. Scroll to the *Product Specifications Table* portion of the page. Find the entry for the hopper you purchased and click the button in the "PDF" column that looks like a pencil inside a blue-bordered box. A PDF file will open. This file is the specifications document. Print a copy of the document and keep it with your copy of this manual. The following is an exemplar specifications document for model H-33-LD. All dimensions and weights are approximate and subject to manufacturing tolerances ($\pm 1/4"$ (0.64 cm)).

FOLDING MEZZANINE LADDER, LAD-FM-60

APPROX WEIGHT: 254.24 lbs.
DOES NOT INCLUDE WEIGHT OF POWER OR PACKAGING!!!

*** ANY ADDITIONS, DELETIONS, OR OMISSIONS MUST BE CORRECTED ON THIS DRAWING AS THIS DRAWING WILL BE CONSIDERED ALL INCLUSIVE ***
ALL GRAPHICS PROVIDED ARE FOR REFERENCE ONLY. IF CERTAIN DIMENSIONS ARE CRITICAL PLEASE VERIFY THOSE DIMENSIONS WITH YOUR SALESPERSON

MEZZANINE SHOWN FOR REFERENCE ONLY - NOT INCLUDED

DO NOT COLLAPSE UNIT CLOSER TO VERTICAL WALL THAN THIS

STANDARD FEATURES

MODEL NUMBER: LAD-FM-60
 OVERALL WIDTH: 32 1/4"
 USABLE STEP WIDTH: 24 1/4"
 HANDRAIL HEIGHT: 31 5/8"
 STEP MATERIAL: SERRATED STEEL
 STEP DEPTH: 7"
 MAX CAPACITY: 350 LBS.
 MEZZANINE HEIGHT: 60"
 (MEZZANINE HEIGHT TOLERANCE: $\pm 1/2"$)
 STEP HEIGHT SPACING: 8 5/8"
 EXTENDED LENGTH: 42 1/4"
 COLLAPSED LENGTH: 14 5/8" (APPROX.)
 DURABLE BAKED IN POWDER COATED BLUE AND YELLOW FINISH

SPECIAL FEATURES

NONE

IT IS THE CUSTOMER'S RESPONSIBILITY TO MAKE SURE THAT THIS UNIT COMPLIES WITH ALL LOCAL SAFETY LAWS, CODES AND REGULATIONS

DIMENSION TOLERANCE $\pm 1/4"$

I, THE UNDERSIGNED, AGREE THAT THE PRODUCT AS REPRESENTED SATISFIES DESIGN AND DIMENSION REQUIREMENTS. I ALSO ACKNOWLEDGE MY DUTY TO CONFIRM PRODUCT AND INSTALLATION COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS AND STANDARDS.

UNITS REQUIRING APPROVAL DRAWINGS OR MODIFIED ARE NON-RETURNABLE

[] As drawn [] As marked

Signed: _____ Date: _____

Printed Name: _____

LEAD TIME WILL START UPON RECEIPT OF SIGNED APPROVAL DRAWING

DISTRIBUTOR'S NAME: _____ P.O.# X
 VESTIL MANUFACTURING W.O.# X
 DRAWN BY: X DATE: XX/XX/XX SALES: X
 REFERENCE: X SCALE: 1:20 FILE NAME:
 QUOTED LEAD TIME: X QUOTE # X 44-007-675

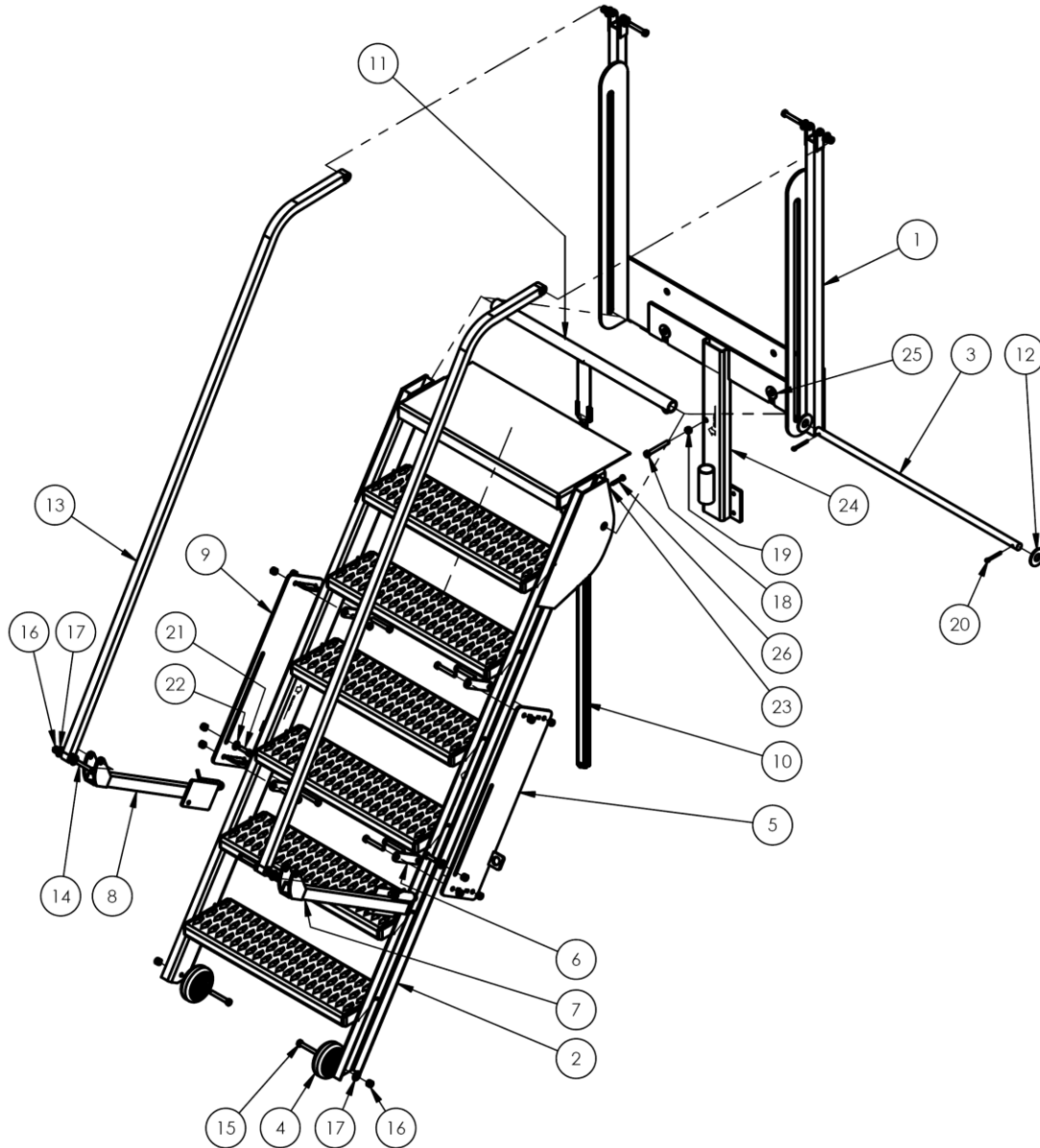
The following table of specifications is provided for convenience only. If any information presented in the table conflicts with your specifications document, rely on the document rather than the table.

Model Number	Mezzanine Height (in)	Base Length (in)	Base Width (in)	Step Width (in)	Net Weight (lbs)	Capacity (lbs)	Incline Angle (degrees)
LAD-FM-60	60	47.25	34.125	24.25	274	350	58
LAD-FM-72	72	53.25	32.25	24.25	282	350	58
LAD-FM-84	84	60.75	34.125	24.25	360	350	58
LAD-FM-96	96	66.625	34.125	24.25	365	350	58
LAD-FM-108	108	73.5625	34.125	24.25	375	350	58
LAD-FM-120	120	83.6875	34.125	24.25	410	350	58
LAD-FM-60-PSO	60	47.25	34.125	23.625	374	350	58
LAD-FM-72-PSO	72	53.25	32.25	23.625	398	350	58
LAD-FM-84-PSO	84	60.75	34.125	23.625	434	350	58
LAD-FM-96-PSO	96	66.625	34.125	23.625	465	350	58
LAD-FM-108-PSO	108	73.5625	34.125	23.625	485	350	58
LAD-FM-120-PSO	120	83.6875	34.125	23.625	514	350	58

Additional Specifications:

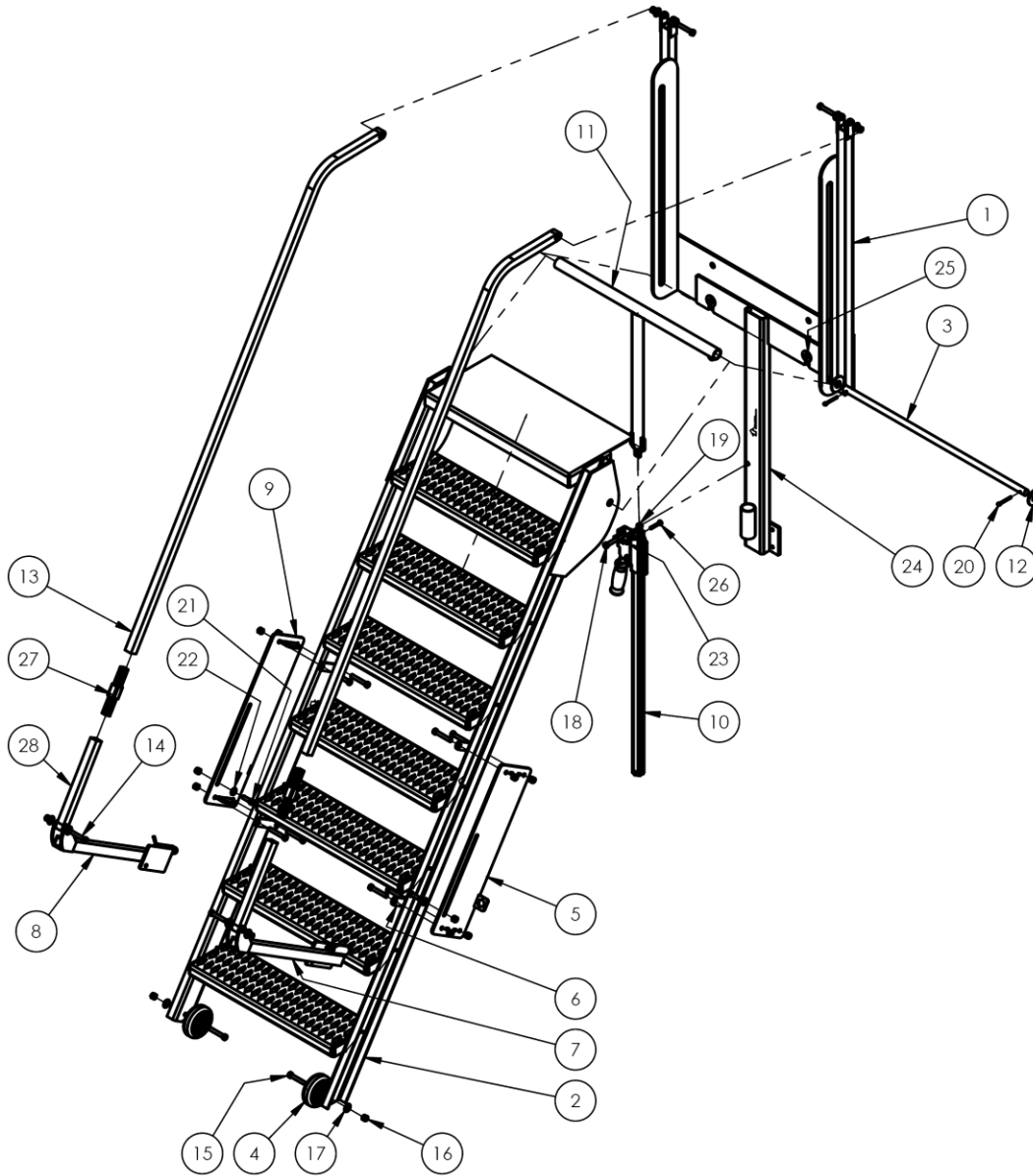
- Material: Steel
- Finish: Powder coat blue (blue and yellow for PSO models)
- Wheels: 4 x 1-1/4 inch poly-on-poly casters
- Handrails: Collapsible, mechanically actuated

7A. LAD-FM-60 EXPLODED VIEW AND BILL OF MATERIALS (44-006-675)



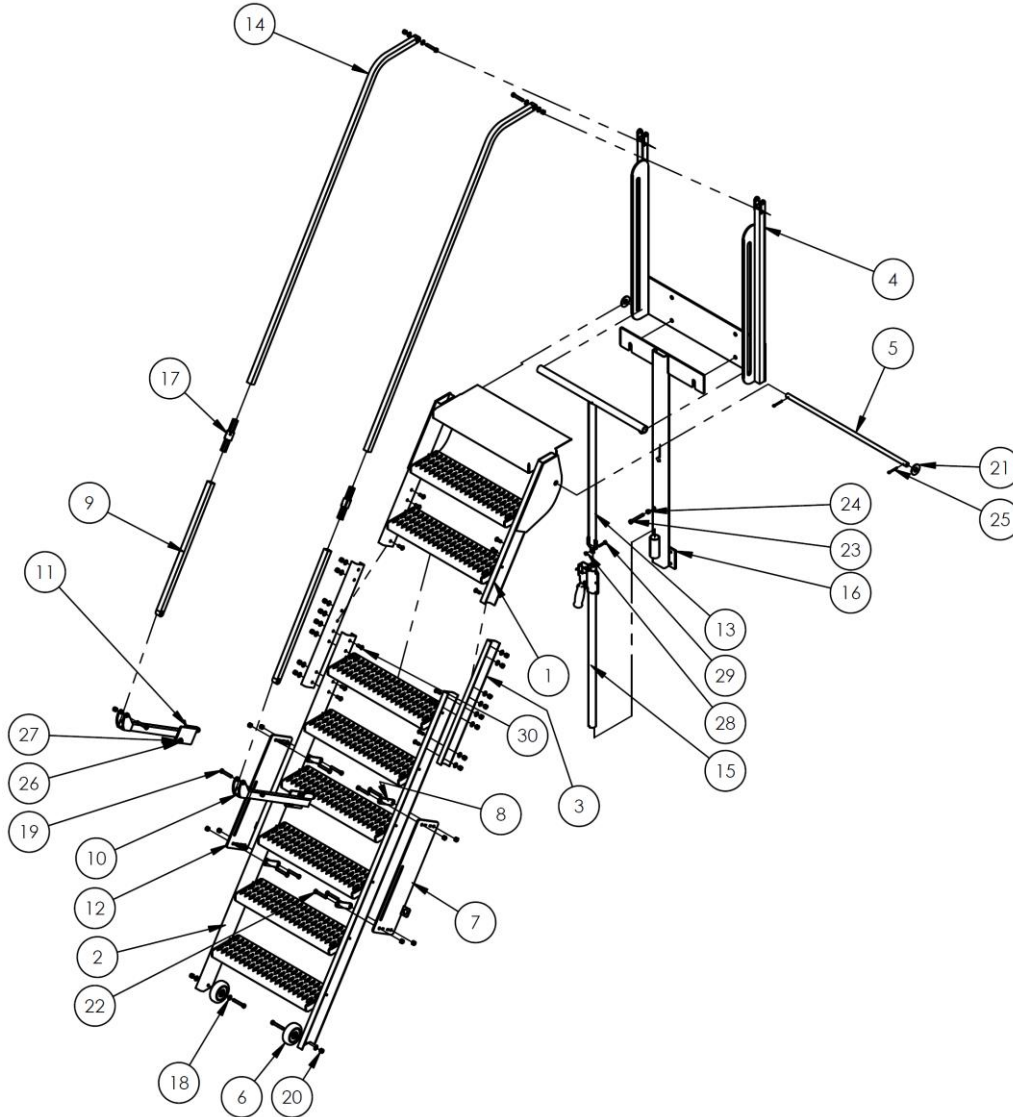
Item	Part no.	Description	Qty.	Item	Part no.	Description	Qty.
1	44-514-376	Weldment, frame, back assembly	1	14	11112	Hex bolt, 3/8"-16 x 2 1/4" HHCS	4
2	44-514-425	Weldment, frame, step, lower	1	15	11113	Hex bolt, gr. A, plain finish, 3/8"-16 x 2 1/2"	10
3	44-112-010	Pin, main hinge	1	16	37024	Nylock insert lock nut, gr. 2, zinc finish, 3/8"-16	16
4	16-132-009	4" x 1.25" poly-on-poly wheel, PP-4/1.25-W	2	17	33008	Flat washer, low carbon, USS, zinc plated, 3/8"	12
5	44-514-277	Weldment, frame, roller bracket, right	1	18	11115	Hex bolt, HHCS, #2, zinc plated, 3/8"-16 x 3"	1
6	44-016-081	Bracket, handrail mount	4	19	36106	Hex nut, gr. A, zinc plated, 3/8"-16	1
7	44-524-093	Weldment, handrail hinge, right	1	20	65127	Cotter pin, zinc plated, 3/8" x 2"	2
8	44-524-094	Weldment, handrail hinge, left	1	21	11107	Hex bolt, gr. A, zinc finish, 3/8"-16 x 1 1/4"	2
9	44-514-278	Weldment, frame, roller, bracket, left	1	22	33006	Flat washer, zinc plated, USS, 5/16"	2
10	44-001-215	Jack, manual, ratcheting, 35", long	1	23	37018	Nylon lock nut, gr.2, zinc finish, 1/4"-20	1
11	44-544-005	Weldment, push bar	1	24	44-514-427	Weldment, frame, back	1
12	33018	USS flat washer, zinc plated, 3/4"	2	25	33012	Flat washer, low carbon, zinc finish, 1/2"	2
13	44-525-006	Weldment, handle, rail	2	26	11009	Hex bolt, gr. A, zinc plated, 1/4"-20 x 1 1/2"	1

7B. LAD-FM-72 EXPLODED VIEW AND BILL OF MATERIALS (44-006-676)



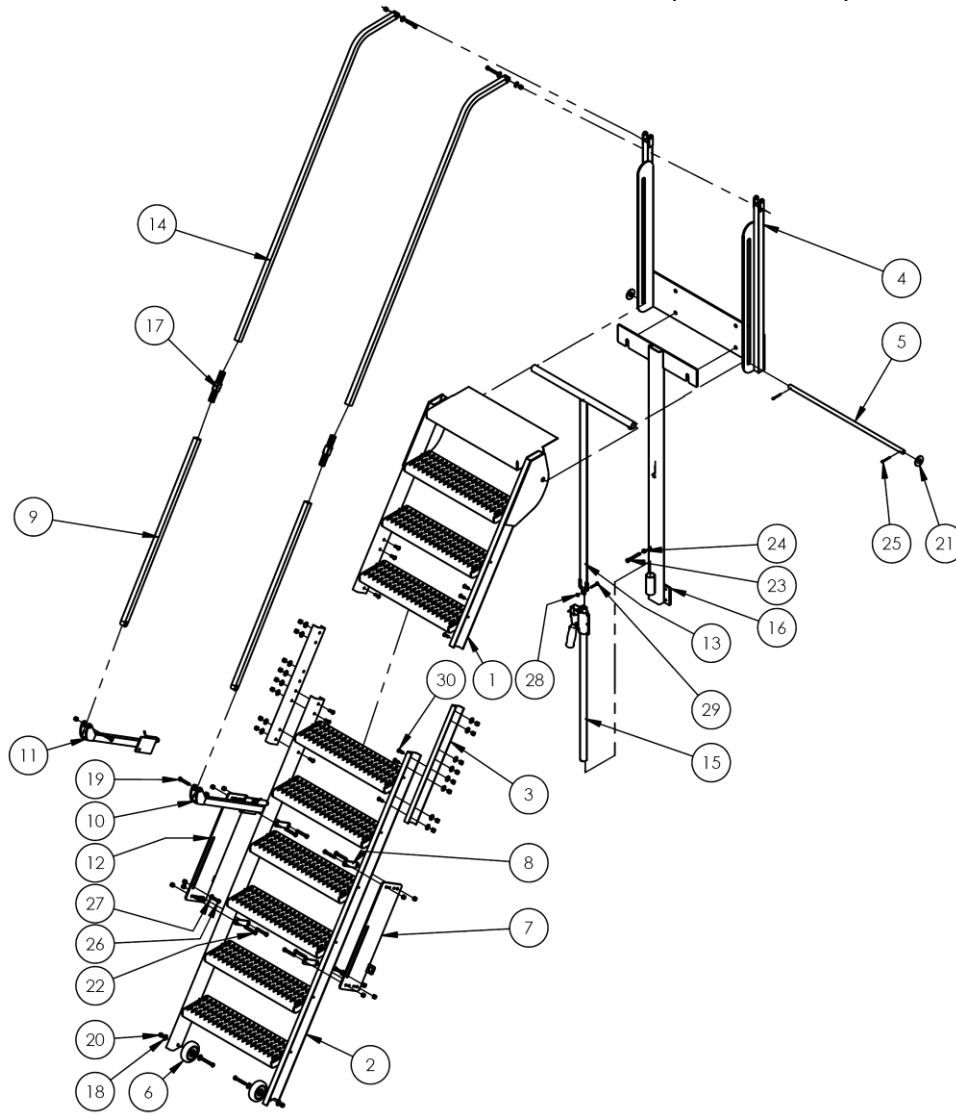
Item	Part no.	Description	Qty.	Item	Part no.	Description	Qty.
1	44-514-376	Weldment, frame, back assembly	1	15	11113	Hex bolt, gr. A, plain finish, 3/8"-16 x 2 1/2"	10
2	44-514-426	Weldment, frame, step, lower	1	16	37024	Nylock insert lock nut, gr. 2, zinc finish, 3/8"-16	16
3	44-112-010	Pin, main hinge	1	17	33008	Flat washer, low carbon, USS, zinc plated, 3/8"	12
4	16-132-009	4" x 1.25" poly-on-poly wheel, PP-4/1.25-W	2	18	11115	Hex bolt, HHCS, #2, zinc plated, 3/8"-16 x 3"	1
5	44-514-277	Weldment, frame, roller bracket, right	1	19	36106	Hex nut, gr. A, zinc plated, 3/8"-16	1
6	44-016-081	Bracket, handrail mount	4	20	65127	Cotter pin, zinc plated, 3/8" x 2"	2
7	44-524-093	Weldment, handrail hinge, right	1	21	11107	Hex bolt, gr. A, zinc finish, 3/8"-16 x 1 1/4"	2
8	44-524-094	Weldment, handrail hinge, left	1	22	33006	Flat washer, zinc plated, USS, 5/16"	2
9	44-514-278	Weldment, frame, roller, bracket, left	1	23	37018	Nylon lock nut, gr.2, zinc finish, 1/4"-20	1
10	44-001-215	Jack, manual, ratcheting, 35" long	1	24	44-514-428	Weldment, frame, back	1
11	44-544-006	Weldment, push bar	1	25	33012	Flat washer, low carbon, zinc finish, 1/2"	2
12	33018	USS flat washer, zinc plated, 3/4"	2	26	11009	Hex bolt, gr. A, zinc plated, 1/4"-20 x 1 1/2"	1
13	44-525-004	Weldment, handle, rail	2	27	44-516-024	Assembly, bracket, handrail splice	2
14	11112	Hex bolt, 3/8"-16 x 2 1/4" HHCS	4	28	44-524-187	Weldment, handrail, bottom	2

7C. LAD-FM-84 EXPLODED VIEW AND BILL OF MATERIALS (44-006-596)



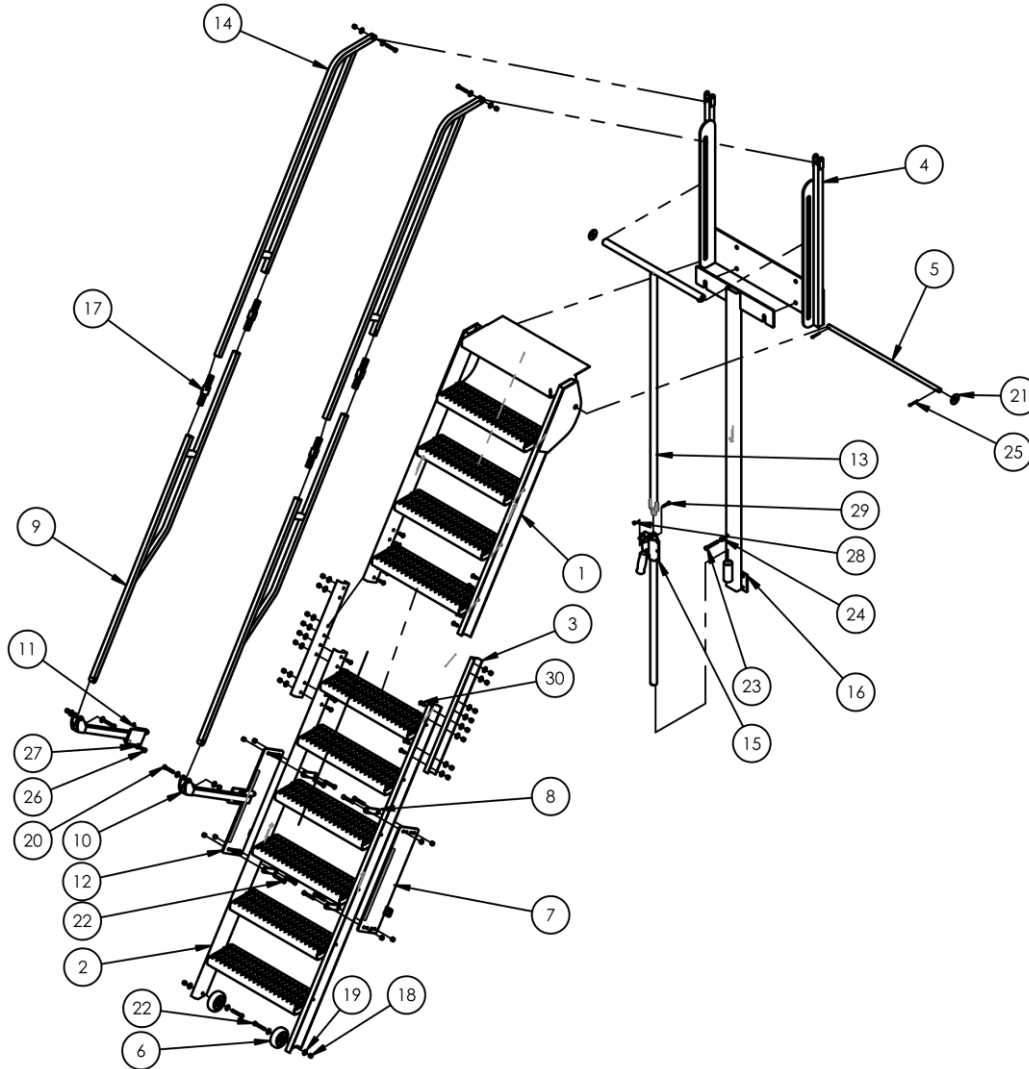
Item	Part no.	Description	Qty.	Item	Part no.	Description	Qty.
1	44-514-413	Weldment, frame, top steps	1	16	44-514-415	Weldment, frame, back assembly	1
2	44-514-414	Weldment, frame, steps, lower	1	17	44-516-024	Assembly, bracket, handrail splice	2
3	44-014-544	Frame, side stiffener, formed	2	18	33008	Flat washer, low carbon, USS, zinc plated, 3/8"	28
4	44-514-376	Weldment, frame, back assembly	1	19	11112	3/8" - 16 x 2 1/4" HHCS bolt	4
5	44-112-010	Pin, main hinge	1	20	37024	Nylon insert lock nut, grade 2, zinc finish, 3/8" - 16	32
6	16-132-009	PP-4/1.25-W	2	21	33018	USS flat washer, zinc plated, 3/4"	2
7	44-514-277	Weldment, frame, roller bracket, right	1	22	11113	Hex bolt, grade A, plain finish, 3/8" - 16 x 2 1/2"	10
8	44-016-081	Bracket, handrail mount	4	23	11115	3/8" - 16 x 3" HHCS bolt	1
9	44-524-171	Weldment, handrail, bottom	2	24	36106	Hex nut, grade A, zinc plated, 3/8" - 16	1
10	44-524-093	Weldment, handrail, hinge, right	1	25	65127	Cotter pin, zinc plated, 3/16" x 2"	2
11	44-524-094	Weldment, handrail, hinge, left	1	26	11107	Hex bolt, grade A, zinc finish, 3/8" - 16 x 1 1/4"	2
12	44-514-278	Weldment, frame, roller bracket, left	1	27	33006	Flat washer, zinc plated, USS, 5/16"	2
13	44-544-003	Weldment, push bar	1	28	37018	Nylon lock nut, grade 2, zinc finish, 1/4" - 20	1
14	44-524-004	Weldment, handle, rail assy.	2	29	11009	Hex bolt, grade A, zinc plated, 3/8"-20 x 1 1/2"	1
15	44-001-215	Jack, manual, ratcheting, 35" long	1	30	24092	BHCS, utility grade, black oxide, 3/8" - 16 x 1"	16

7D. LAD-FM-96 EXPLODED VIEW AND BILL OF MATERIALS (44-006-593)



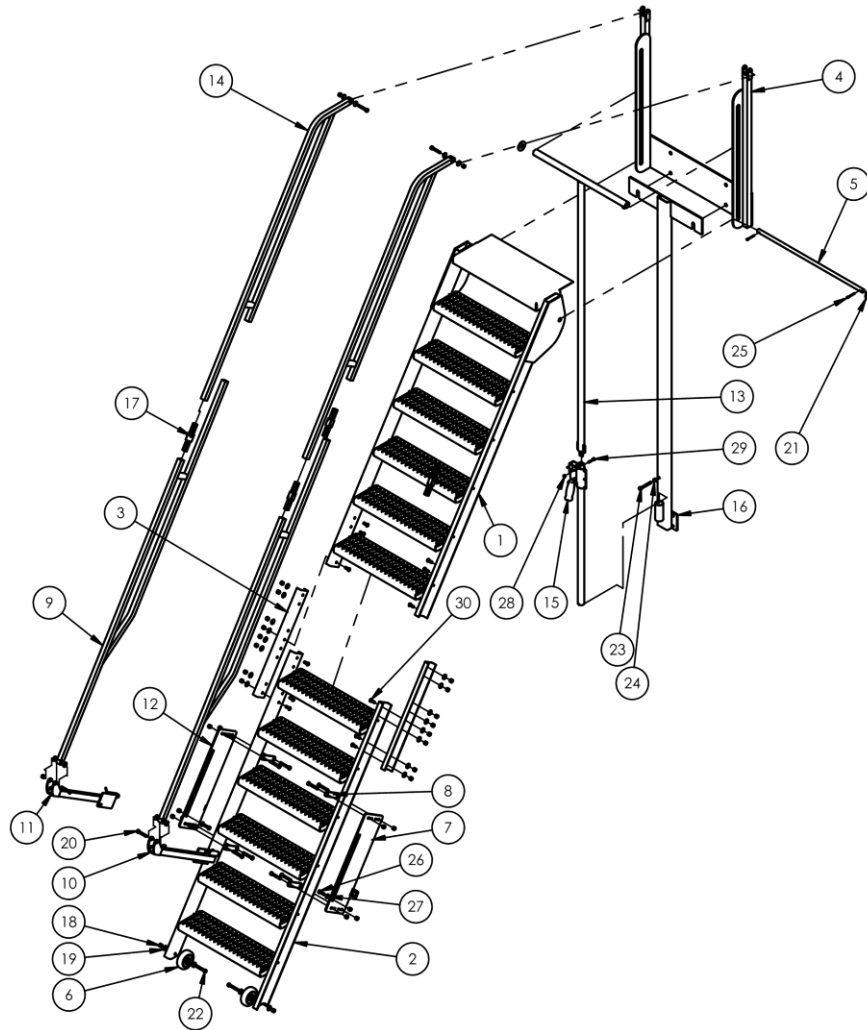
Item	Part no.	Description	Qty.	Item	Part no.	Description	Qty.
1	44-514-416	Weldment, frame, top steps	1	16	44-514-418	Weldment, frame, back assembly	1
2	44-514-417	Weldment, frame, steps, lower	1	17	44-516-024	Assembly, bracket, handrail splice	2
3	44-014-544	Frame, side stiffener, formed	2	18	33008	Flat washer, low carbon, USS, zinc plated, 3/8"	28
4	44-514-376	Weldment, frame, back assembly	1	19	11112	3/8" - 16 x 2 1/4" HHCS bolt	4
5	44-112-010	Pin, main hinge	1	20	37024	Nylon insert lock nut, grade 2, zinc finish, 3/8" - 16	32
6	16-132-009	PP-4/1.25-W	2	21	33018	USS flat washer, zinc plated, 3/4"	2
7	44-514-277	Weldment, frame, roller bracket, right	1	22	11113	Hex bolt, grade A, plain finish, 3/8" - 16 x 2 1/2"	10
8	44-016-081	Bracket, handrail mount	4	23	11115	3/8" - 16 x 3" HHCS bolt	1
9	44-524-179	Weldment, handrail, bottom	2	24	36106	Hex nut, grade A, zinc plated, 3/8" - 16	1
10	44-524-093	Weldment, handrail, hinge, right	1	25	65127	Cotter pin, zinc plated, 3/16" x 2"	2
11	44-524-094	Weldment, handrail, hinge, left	1	26	11107	Hex bolt, grade A, zinc finish, 3/8" - 16 x 1 1/4"	2
12	44-514-278	Weldment, frame, roller bracket, left	1	27	33006	Flat washer, zinc plated, USS, 5/16"	2
13	44-544-004	Weldment, push bar	1	28	37018	Nylon lock nut, grade 2, zinc finish, 1/4" - 20	1
14	44-524-004	Weldment, handle, rail assy.	2	29	11009	Hex bolt, grade A, zinc plated, 3/8" - 20 x 1 1/2"	1
15	44-001-215	Jack, manual, ratcheting, 35" long	1	30	24092	BHCS, utility grade, black oxide, 3/8" - 16 x 1"	16

7E. LAD-FM-108 EXPLODED VIEW AND BILL OF MATERIALS (44-006-594)



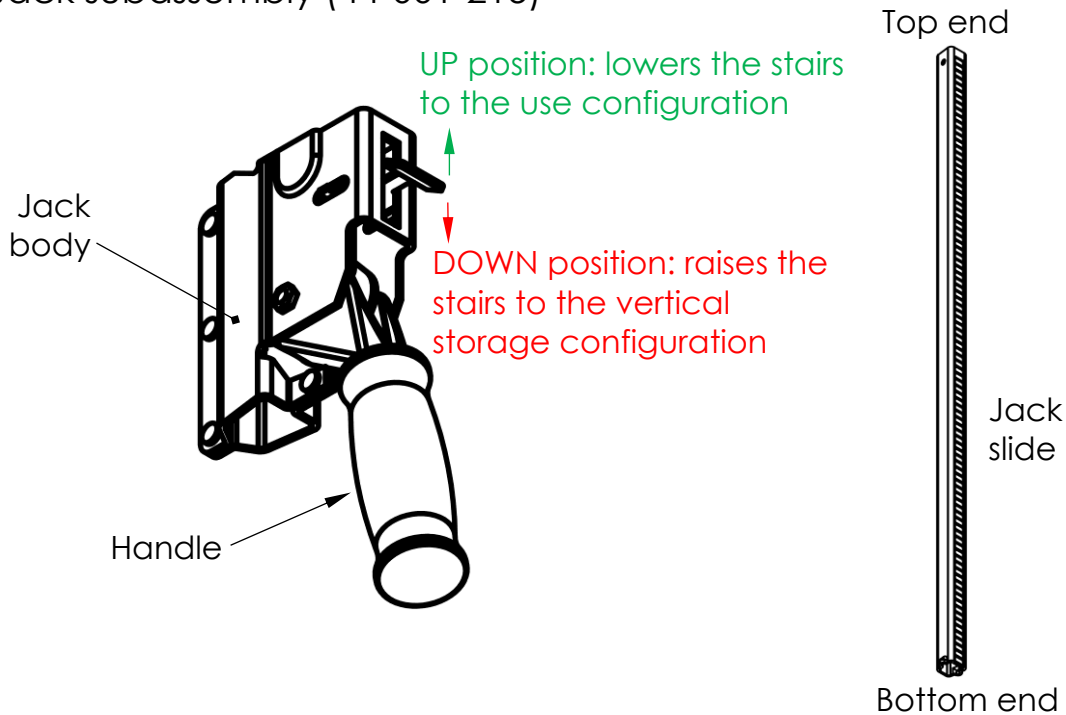
Item	Part no.	Description	Qty.	Item	Part no.	Description	Qty.
1	44-514-407	WELDMENT, FRAME, TOP STEPS	1	16	44-514-409	WELDMENT, FRAME, BACK ASSEMBLY	1
2	44-514-408	WELDMENT, FRAME, STEPS, LOWER	1	17	44-516-024	ASSEMBLY, BRACKET, HANDRAIL SPLICE	4
3	44-014-544	FRAME, SIDE STIFFENER, FORMED	2	18	37024	NYLON INSERT LOCK NUT, GRADE 2, ZINC FINISH, 3/8"-16	32
4	44-514-376	WELDMENT, FRAME ,BACK ASSEMBLY	1	19	33008	FLAT WASHER, LOW CARBON, USS, ZINC PLATED, 3/8"	28
5	44-112-010	PIN, MAIN HINGE	1	20	11112	3/8-16 x 2 1/4 LONG HHCS, GRADE A	4
6	16-132-009	PP-4/1.25-W	2	21	33018	USS FLAT WASHER, Z PLATED, Ø 3/4"	2
7	44-514-277	WELDMENT, FRAME,ROLLER BRACKET,RIGHT	1	22	11113	HEX BOLT, GRADE A, PLAIN FINISH, 3/8"-16 X 2-1/2"	10
8	44-016-081	BRACKET,HANDRAIL MOUNT	4	23	11115	HHCS, #2 Z PLATED, GRADE A, 3/8 - 16 x 3 LG.	1
9	44-524-169	WELDMENT,HANDRAIL, BOTTOM	2	24	36106	HEX NUT, GRADE A, ZINC PLATED, 3/8-16	1
10	44-524-093	WELDMENT,HANDRAIL HINGE,RIGHT	1	25	65127	COTTER PIN Z PLATED, 3/16 x 2	2
11	44-524-094	WELDMENT,HANDRAIL HINGE,LEFT	1	26	11107	HEX BOLT, GRADE A, ZINC FINISH, 3/8"-16 x 1-1/4"	2
12	44-514-278	WELDMENT,FRAME,ROLLER BRACKET,LEFT	1	27	33006	FLAT WASHER,ZINC PLATED,USS, Ø5/16"	2
13	44-544-001	WELDMENT, PUSH BAR	1	28	37018	NYLON LOCK NUT,GRADE 2, ZINC FINISH,1/4"-20	1
14	44-525-008	WELDMENT, HANDRAIL, UPPER	2	29	11009	HEX BOLT, GRADE A, ZINC PLATED, 1/4"-20 X 1-1/2"	1
15	44-001-215	JACK, MANUAL, 35" LONG	1	30	24092	BHCS,UTILITY GRADE,BLACK OXIDE,3/8"- 16 x 1" LG.	16

7F. LAD-FM-120 EXPLODED VIEW AND BILL OF MATERIALS (44-006-595)



Item	Part no.	Description	Qty.	Item	Part no.	Description	Qty.
1	44-514-410	WELDMENT, FRAME, TOP STEPS	1	16	44-514-412	WELDMENT,FRAME,BACK ASSEMBLY	1
2	44-514-411	WELDMENT, FRAME, LOWER STEPS	1	17	44-516-024	ASSEMBLY, BRACKET, HANDRAIL SPLICE	4
3	44-014-544	FRAME, SIDE STIFFENER, FORMED	2	18	37024	NYLON INSERT LOCK NUT, GRADE 2, ZINC FINISH, 3/8"-16	32
4	44-514-376	WELDMENT, FRAME ,BACK ASSEMBLY	1	19	33008	FLAT WASHER, LOW CARBON, USS, ZINC PLATED, 3/8"	28
5	44-112-010	PIN, MAIN HINGE	1	20	11112	3/8-16 x 2 1/4 LONG HHCS, GRADE A	4
6	16-132-009	PP-4/1.25-W	2	21	33018	USS FLAT WASHER, Z PLATED, Ø 3/4"	2
7	44-514-277	WELDMENT, FRAME,ROLLER BRACKET,RIGHT	1	22	11113	HEX BOLT, GRADE A, PLAIN FINISH, 3/8"-16 X 2-1/2"	10
8	44-016-081	BRACKET,HANDRAIL MOUNT	4	23	11115	HHCS, #2 Z PLATED, GRADE A, 3/8 - 16 x 3 LG.	1
9	44-524-170	WELDMENT, HANDRAIL, BOTTOM	2	24	36106	HEX NUT, GRADE A, ZINC PLATED, 3/8-16	1
10	44-524-093	WELDMENT,HANDRAIL HINGE,RIGHT	1	25	65127	COTTER PIN Z PLATED, 3/16 x 2	2
11	44-524-094	WELDMENT,HANDRAIL HINGE,LEFT	1	26	11107	HEX BOLT, GRADE A, ZINC FINISH, 3/8"-16 x 1-1/4"	2
12	44-514-278	WELDMENT,FRAME,ROLLER BRACKET,LEFT	1	27	33006	FLAT WASHER,ZINC PLATED,USS, Ø5/16"	2
13	44-544-002	WELDMENT, PUSH BAR	1	28	37018	NYLON LOCK NUT,GRADE 2, ZINC FINISH,1/4"-20	1
14	44-525-008	WELDMENT, HANDRAIL, UPPER	2	29	11009	HEX BOLT, GRADE A, ZINC PLATED, 1/4"-20 X 1-1/2"	1
15	44-001-215	JACK, MANUAL, 35" LONG	1	30	24092	BHCS,UTILITY GRADE,BLACK OXIDE,3/8" - 16 x 1" LG.	16

7G. Jack subassembly (44-001-215)

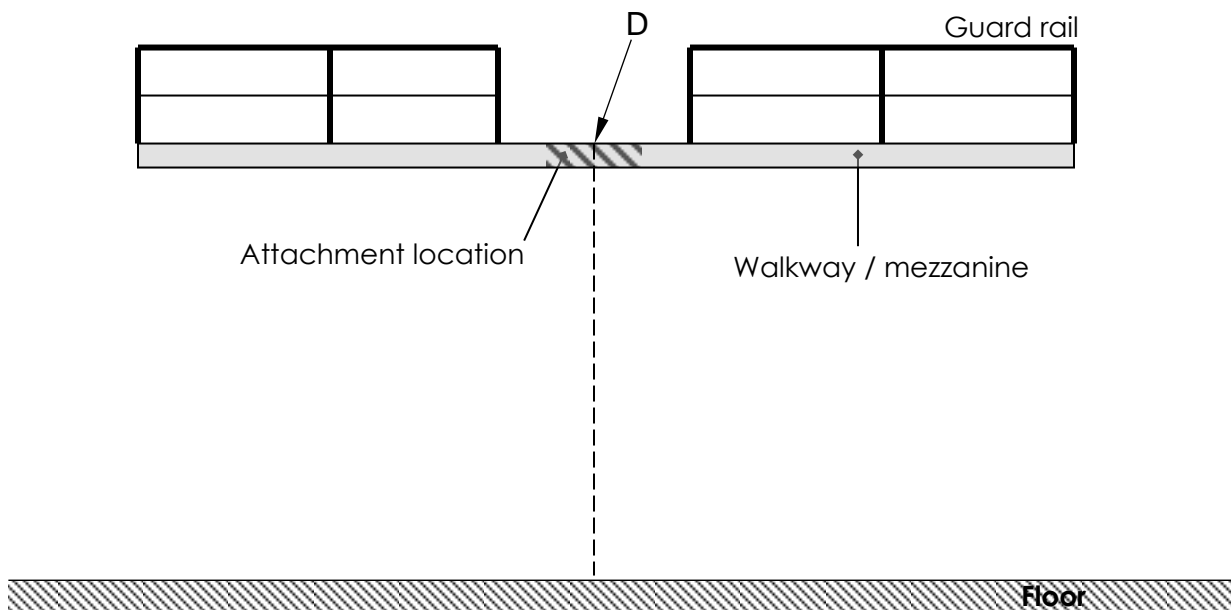


8. ASSEMBLING AND INSTALLING THE MEZZANINE LADDER

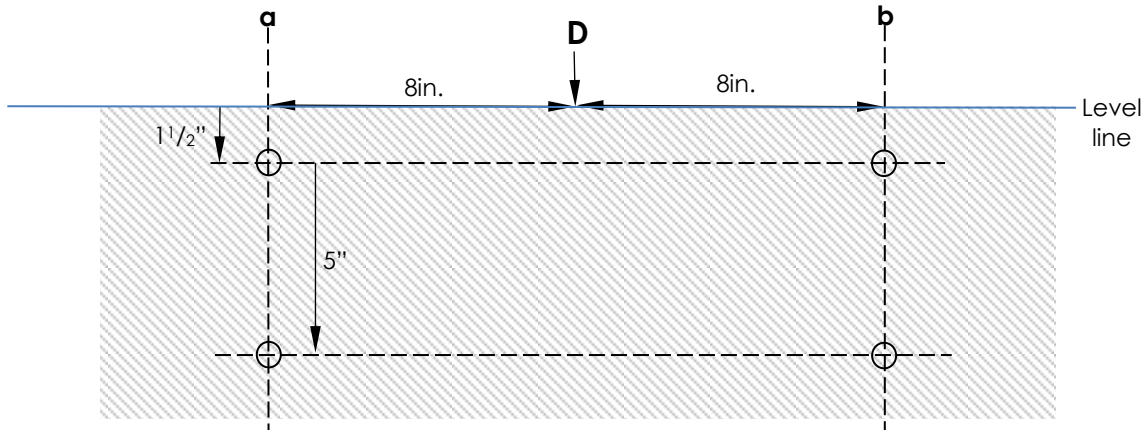
The LAD-FM series ships in a knockdown configuration. Assembly requires basic tools: wrench set, socket set, and a torque wrench. Estimated assembly time: 1-2 hours for two people.

This folding stairway system must be securely fastened to a wall or walkway capable of supporting AT LEAST the combined weight of the stairway plus the maximum rated load. Refer to the [SPECIFICATIONS](#) section on p. 3; also see [LABELING DIAGRAM](#), label 1153, on p. 19.

Step 1: Select the location where the stairs will be installed.

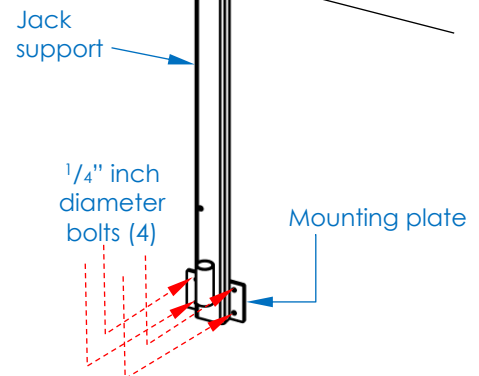
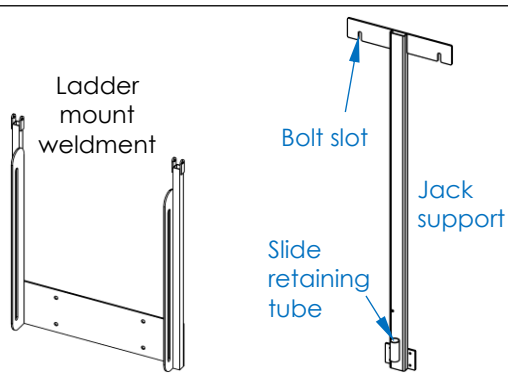
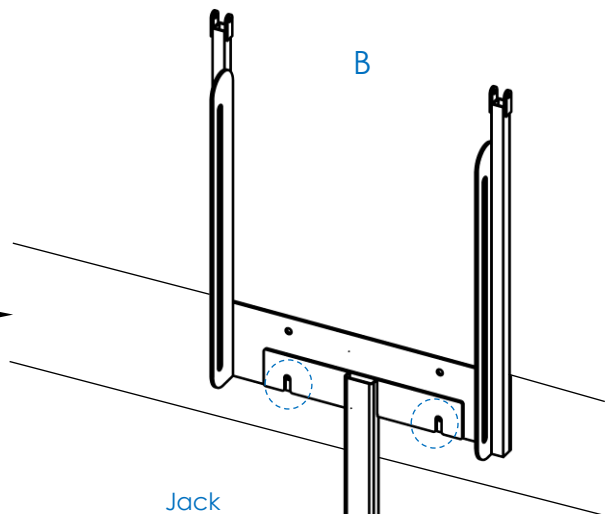
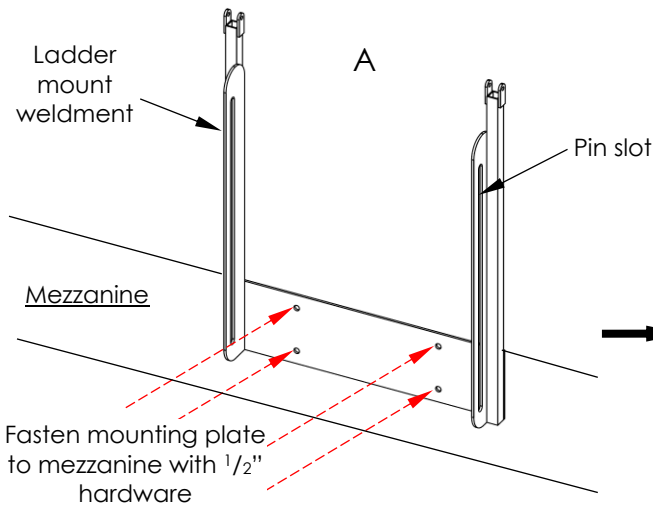


Step 2: Use point D as the reference for determining the proper locations of bolt holes. The holes drilled into the mezzanine/walkway must match the positions of bolt holes in the ladder mount weldment. Dimensions are shown below.

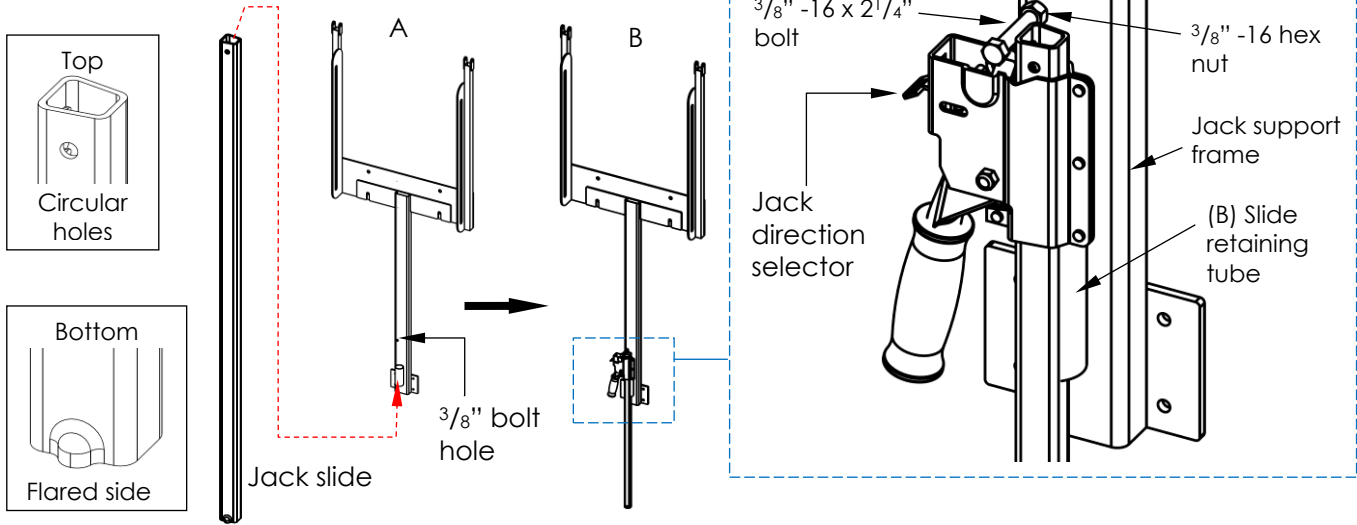


Make a line that extends 8" on both sides of point D on the wall or mezzanine. The line must be parallel to the floor. Next, draw a plumb line at both 8" marks (lines are labeled "a" and "b" in the diagram above). Mark each plumb line 1 1/2" and 6 1/2" below the level line. Bolt holes will be drilled at all four points as shown above. The pre-drilled holes in the mount weldment are 5/8" (diameter). We recommend using 1/2" (diameter) fasteners to connect the mounting plate to the wall or mezzanine material. Your building engineer should select fasteners of suitable length that are appropriate for the wall or mezzanine material.

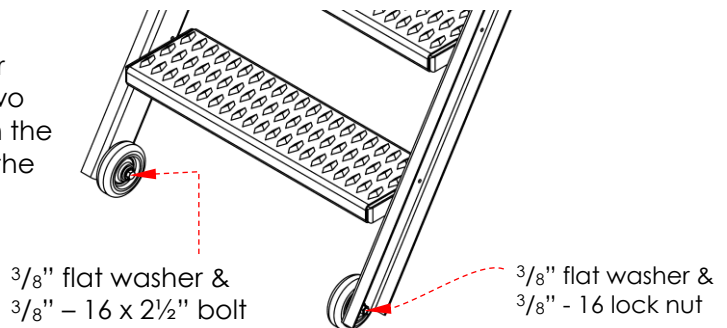
Step 3: A) Fasten the ladder mount weldment to the mezzanine using the 1/2" bolts selected by your building engineer. Install but do not tighten the two bottom bolts. B) Align the bolt slots in the jack support with the lower bolts (circled); then tighten the bolts. Fasten the mounting plate to the wall with 1/4" bolts of appropriate length.



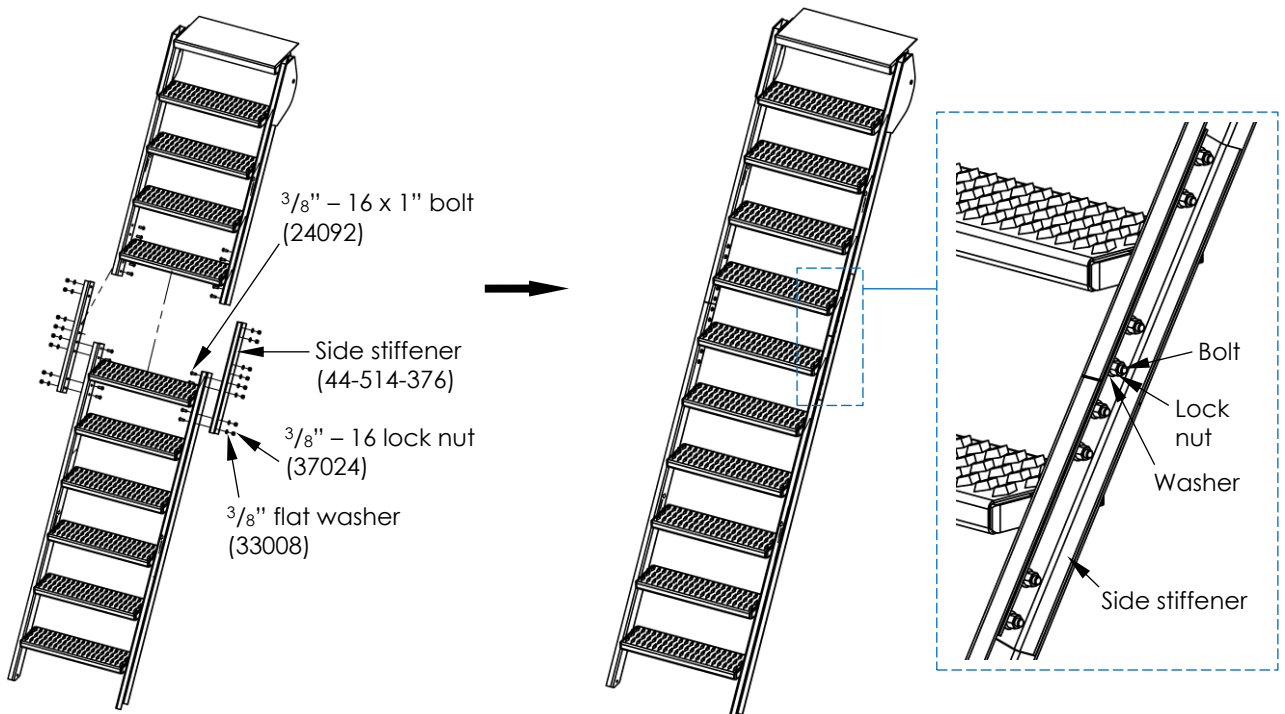
Step 4: A) Insert the top end of the jack slide up through the slide retaining tube as shown below. B) Install the jack body on the top end of the slide. Wind a $\frac{3}{8}$ " - 16 hex nut onto a $\frac{3}{8}$ " - 16 x $2\frac{1}{4}$ " bolt. Install the bolt through the $\frac{3}{8}$ " bolt hole in the support frame and wind a $\frac{3}{8}$ " - 16 square nut onto the end of it. Tighten the hex nut against the jack support frame.



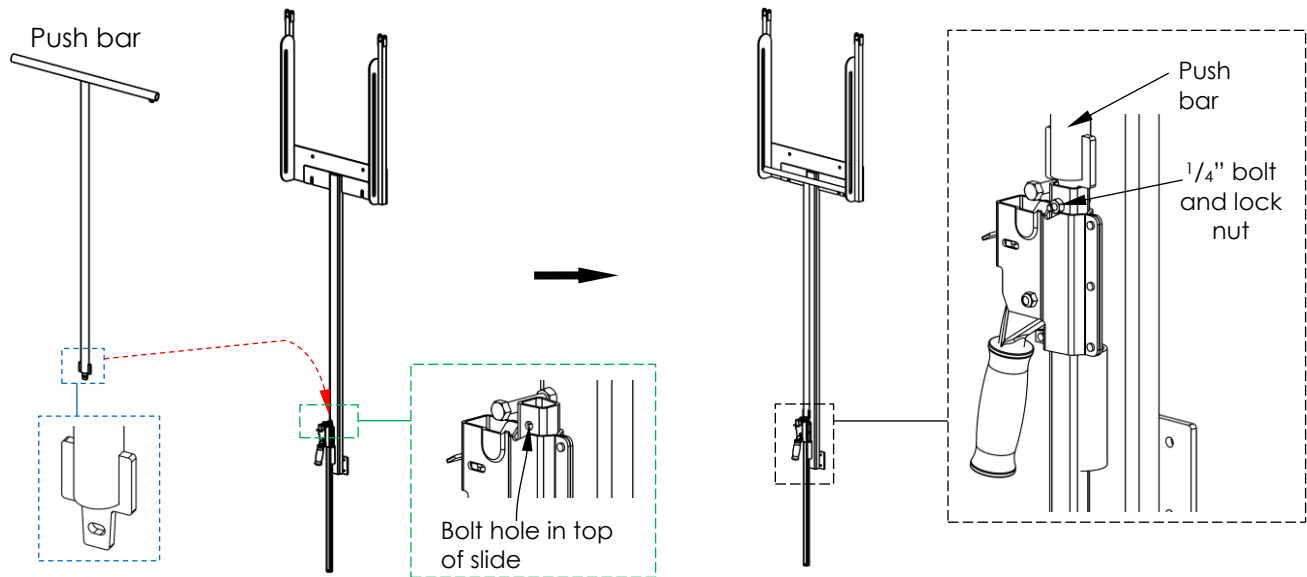
Step 5: Attach the wheels to the side rails of the lower step weldment. [NOTE: Models LAD-FM-60 and LAD-FM-72 only have an upper and a lower step weldment.] Slide a $\frac{3}{8}$ " flat washer onto two $\frac{3}{8}$ " - 16 x $2\frac{1}{2}$ " bolts; then insert the bolts through the center of each wheel and through the holes in the bottom of each side rail. Secure each bolt with another flat washer and a $\frac{3}{8}$ " - 16 lock nut.



Step 6: [Does not apply to LAD-FM-60 and LAD-FM-72.] Assemble the stairs. Fasten the top step weldment to the lower step weldment using 2 side stiffeners and $\frac{3}{8}$ " hardware as shown in the diagrams.

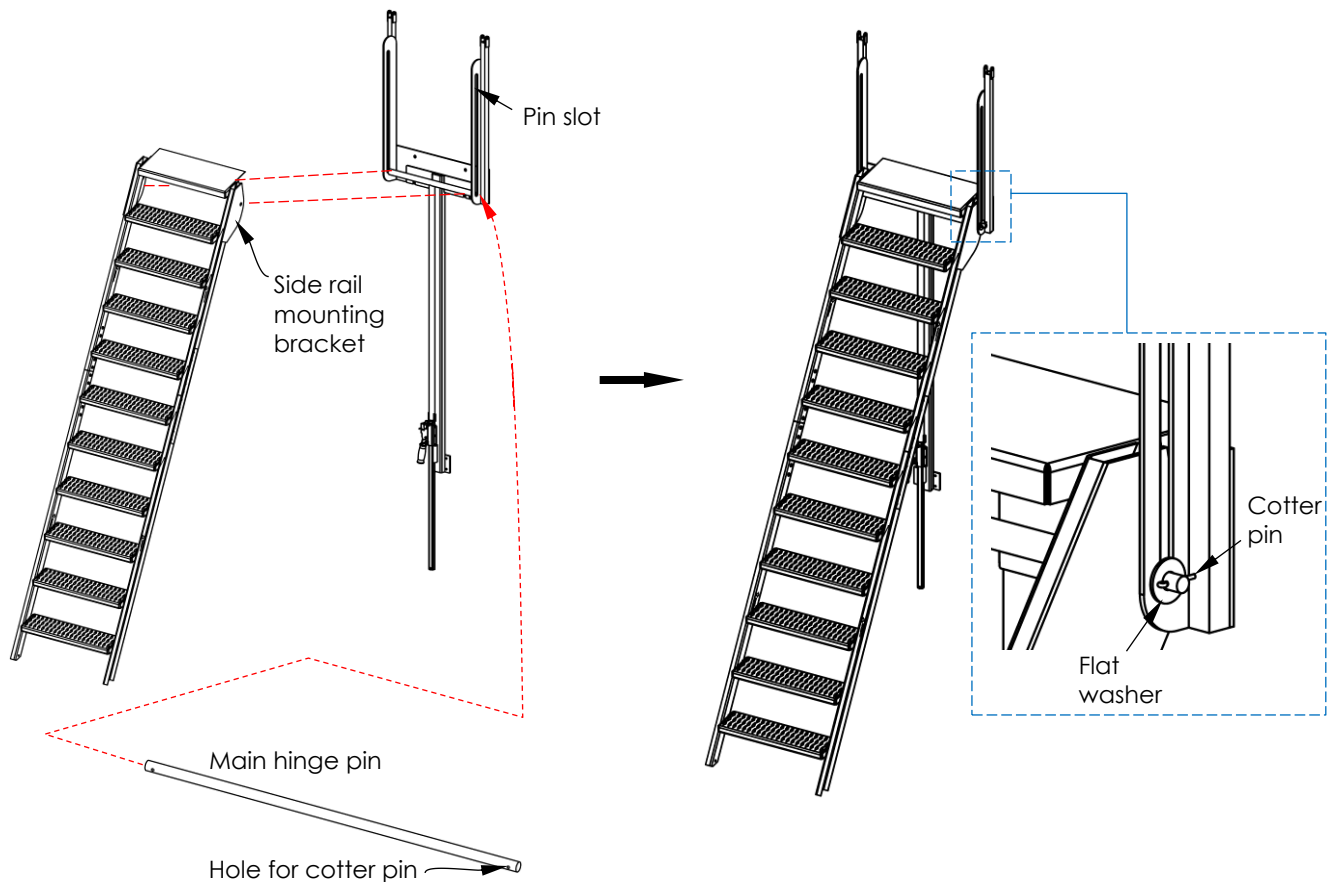


Step 7: Attach the push bar to the top of the jack slide. Insert the bottom end of the push bar into the top of the slide and fasten them with a 1/4" -20 x 1 1/2" bolt and 1/4" -20 lock nut as shown.



Step 8: Fasten the stairway to the stairway mounting frame.

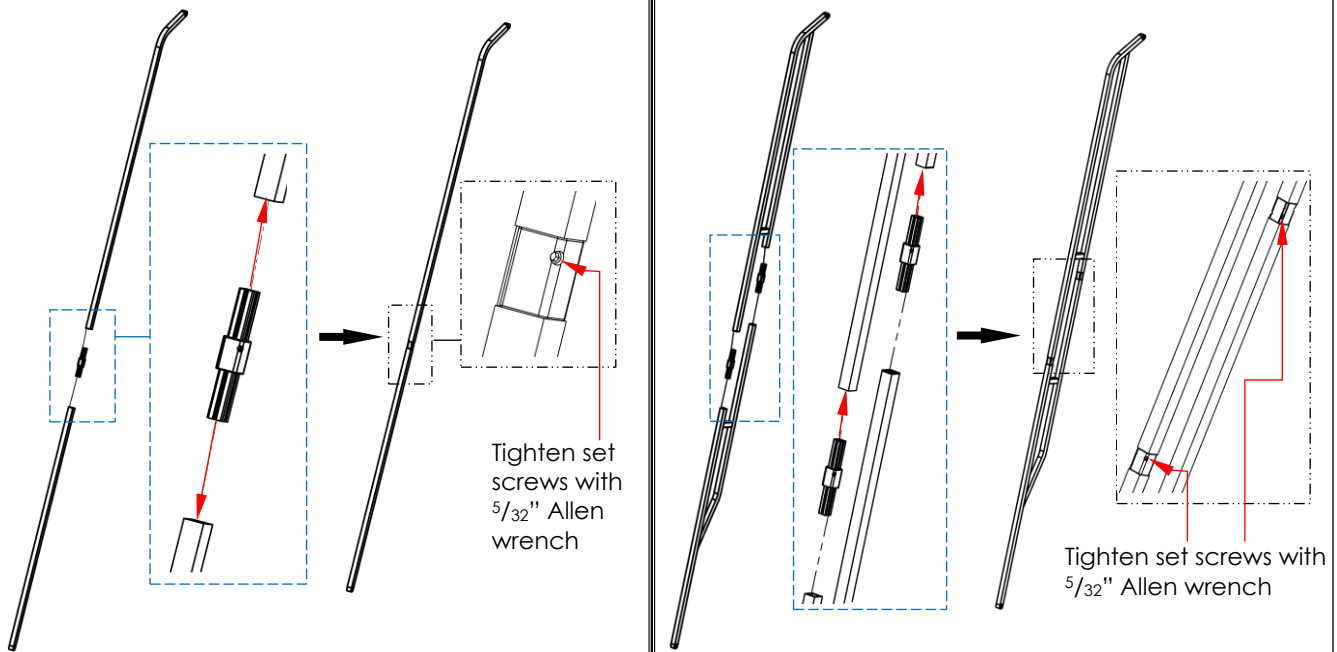
1. Lift the top end of the stairway with a hoist or a fork truck.
2. Align the pin holes in the side rail mounting brackets with the pin slots in the stair mounting frame and the top of the push bar.
3. Insert the main hinge pin through the pin slots, the side rail mounting brackets, and the push bar.
4. Slide a 3/4" flat washer over each end of the hinge pin.
5. Install a cotter pin through each end of the hinge pin.



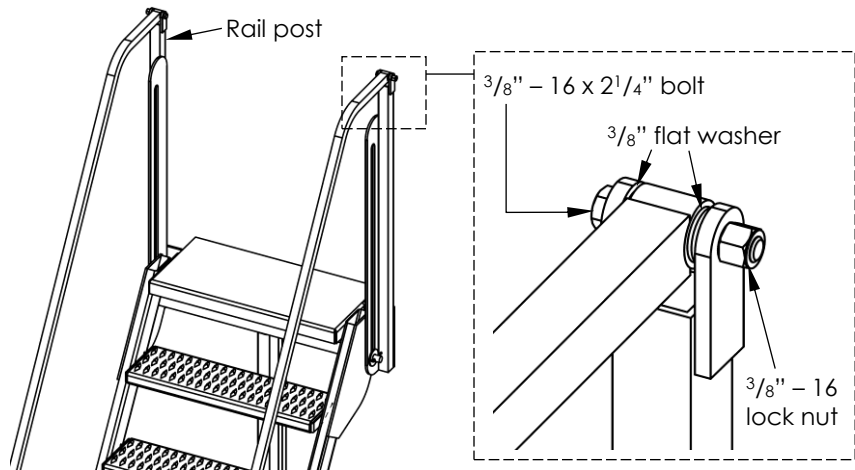
Step 9A: [Not applicable to model LAD-FM-60.] Connect the upper and lower handrails using the handrail splices (44-516-024). Insert the splices into the ends of the upper and lower handrails. Tighten the set screws (2 per splice; only 1 shown in diagrams) as illustrated below to secure the connections.

LAD-FM-72; LAD-FM-84; LAD-FM-96

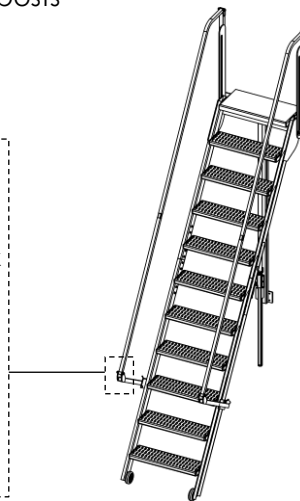
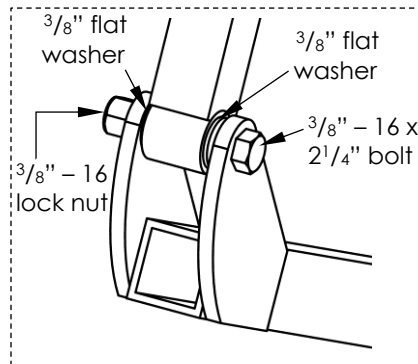
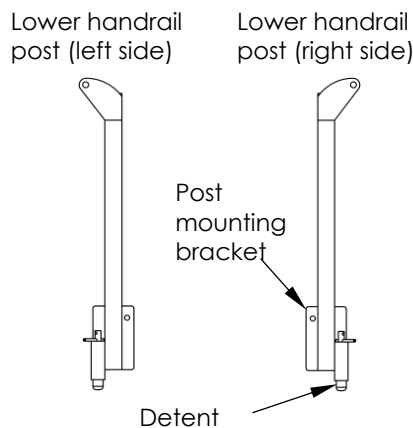
LAD-FM-108; LAD-FM-120



Step 9B: Attach the handrails to the stairway mounting frame. Move the jack direction selector to the down position. See [JACK SUBASSEMBLY diagram 7G](#) on p. 10). Move the jack handle back-and-forth and completely lower the stairway. Fasten the curved end of each upper stair rail to the rail posts of the stairway mounting frame with $\frac{3}{8}$ " hardware as shown in the following diagrams.

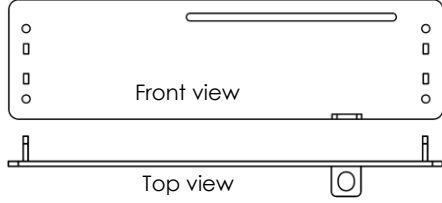


Step 10: Attach the ends of the lower handrails to the lower handrail posts using $\frac{3}{8}$ " - 16 x 2 $\frac{1}{4}$ " bolts and $\frac{3}{8}$ " - 16 lock nuts.

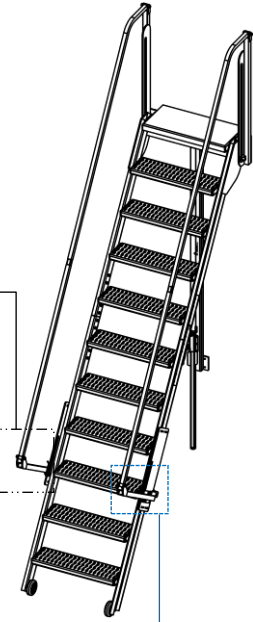
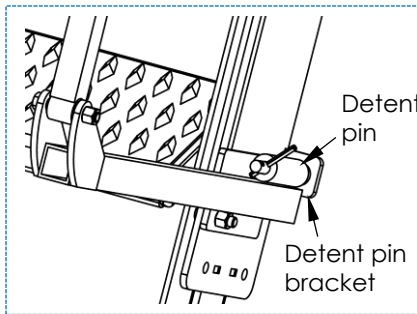
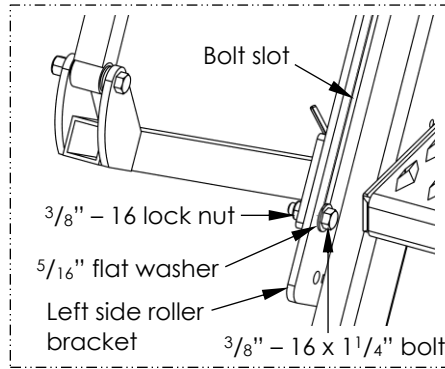
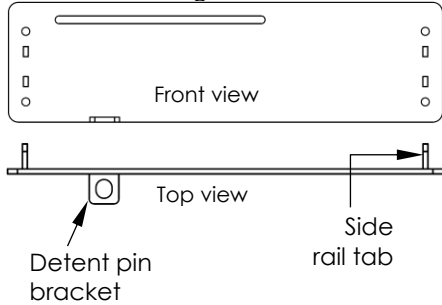


Step 11: Attach the lower handrail posts to the roller brackets. Begin by inserting the bottoms of the detent pins into the detent pin brackets. Put a 5/16" flat washer onto a 3/8" – 16 x 1 1/4" bolt and insert the bolt through the roller bracket bolt slot and bolt hole in the post mounting bracket. Secure each bolt with a 3/8" – 16 lock nut. Fasten the 3/8"-16 bolt and nut as tightly as possible while still allowing the bolt to slide smoothly in the slot.

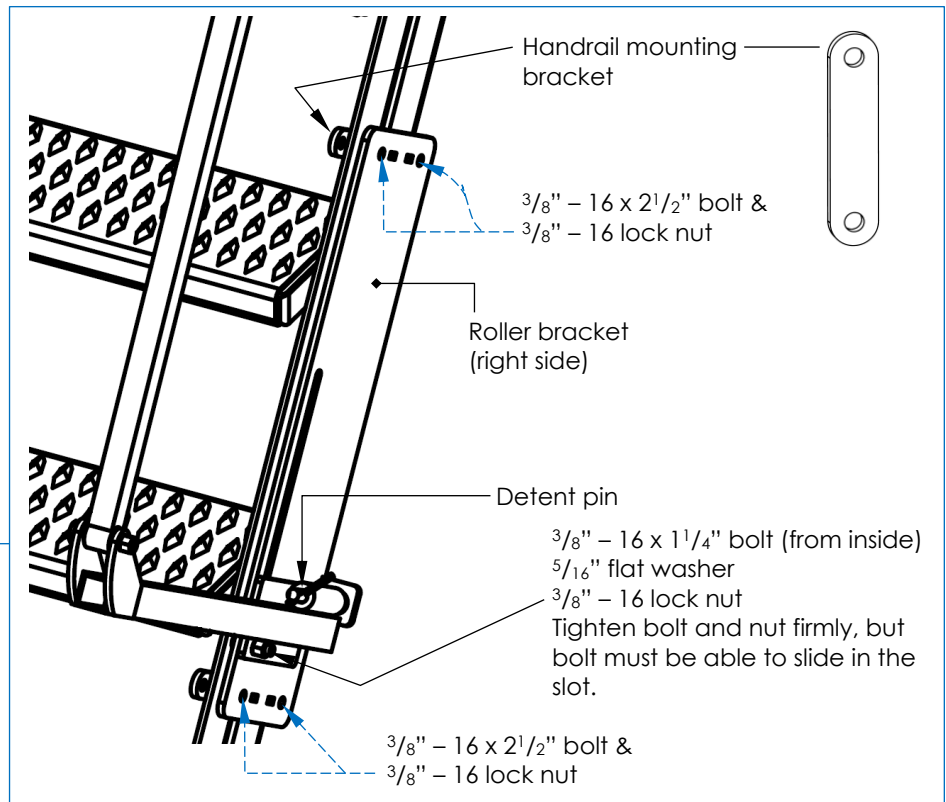
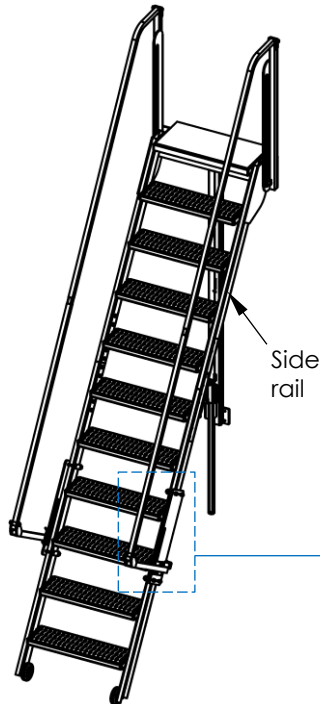
Roller bracket, left side



Roller bracket, right side



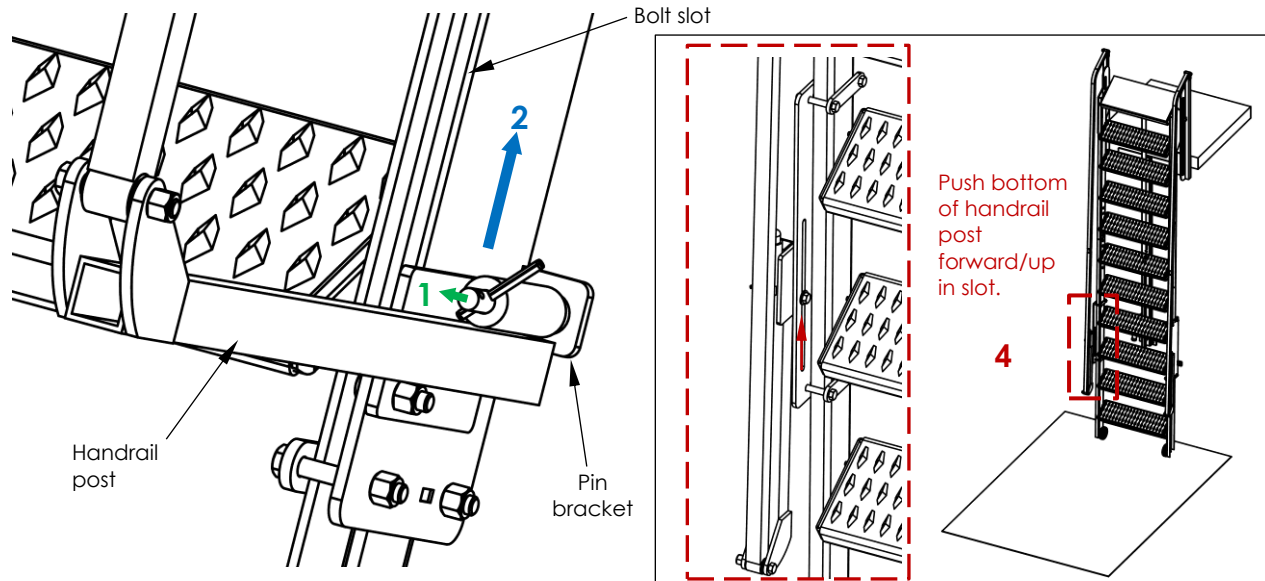
Step 12: Attach the roller brackets to the stairway side rails with 3/8" hardware. Install 3/8" – 16 x 2 1/2" bolts through the bolts holes (2) in the handrail mounting bracket and the bottom holes of the brackets. Secure the bolts with 3/8" – 16 lock nuts. When properly positioned, the lower handrail posts are perpendicular to the side rails.



9. STORING THE LADDER

To store the stair system:

- 1) Pull the detent pins up and out of the pin brackets [NOTICE: Failure to disengage the detent pins will result in ladder damage].
- 2) Slide the bottom of each post forward in the bolt slot (make sure that the jack direction selector is in the "DOWN" position. See [JACK SUBASSEMBLY DIAGRAM 7G](#) on p. 10.
- 3) Use the jack to raise the stairs. [NOTE: Stop raising the stairs before they become vertical, i.e. the stairs should be slightly angled away from the wall/mezzanine.]
- 4) Lower the handrails by pushing the handrail posts forward in their slots.



10. USING THE MEZZANINE LADDER

Review the [SAFETY INSTRUCTIONS](#) on p. 3 before using the ladder. Always grasp the handrails and face the ladder when climbing or descending the steps. Inspect the ladder before each use for damage, such as unusual wear, deterioration, or corrosion. Tighten loose nuts. If a lock nut has been partially or completely unfastened, it must be replaced with a new lock nut.

- 1) Jack direction selector must be in the UP position. See [JACK SUBASSEMBLY DIAGRAM 7G](#) on p. 10.
- 2) Stand to the side of the ladder in position to be able to operate the jack.
- 3) Gently but firmly press the bottom of the ladder away from the wall/mezzanine with your foot.
- 4) Move the jack handle back-and-forth to lower the ladder. Continue lowering the ladder until the top step rests on the mezzanine surface.
- 5) Slide the handrail posts down the slots.
- 6) Pull the detent pins up, slide the posts to the lower ends of the bolt slots, and release the detent pins. Pins should project through the holes in the pin brackets.

11. FOLDING THE LADDER WITHOUT USING THE JACK

- 1) Jack direction selector must be in the UP position. See [JACK SUBASSEMBLY DIAGRAM 7G](#) on p. 10.
- 2) Pull the detent pins out of the pin brackets. See Step 12 on p. 16.
- 3) Slide the bottom of each post forward in the bolt slot.
- 4) Push the ladder towards the wall/mezzanine. Stop just before the ladder becomes vertical, i.e. the bottom of the ladder should be slightly angled away from the wall.
- 5) Lower the handrails by pushing the bottom ends of the handrail posts forward.

12. RECORD OF SATISFACTORY CONDITION

After assembling and installing the mezzanine ladder system and before putting it into service, make a detailed record of its appearance and operation. Include descriptions of the steps, wheels, hardware, handrails, and jack mechanism. Describe the connection of the ladder mount weldment to the mezzanine. See [Step 3](#) on p. 12. Operate the jack to extend and retract the ladder. Include observations about the process: how the jack sounds as it operates; how the main hinge pin slides in the pin slots of the ladder mount weldment; and how the handrails fold, especially the movement of the rollers into and out of the roller receivers. See [Step 11](#) on p. 16. Thoroughly photograph the ladder from multiple angles. Include photographs of all labels. Collect all writings and photographs in a file. This file is a record of the ladder system in satisfactory condition. Compare the results of all inspections to this *RECORD* to determine if the ladder remains in satisfactory condition. Do not use the ladder unless it is in satisfactory condition.

13. INSPECTING & MAINTAINING THE MEZZANINE LADDER

Tag the ladder "Out of service" before inspecting and/or performing maintenance on it. Inspections and maintenance should only be performed by qualified persons. Compare the results of each inspection to the [RECORD OF SATISFACTORY CONDITION](#). Do not use the ladder unless all parts are in satisfactory condition. Replace parts that are not in satisfactory condition before returning the unit to service. Only use manufacturer-approved replacement parts to restore the unit to satisfactory condition. *Never make temporary repairs of damaged or missing parts. DON'T GUESS! If you have any questions about the condition of your ladder, contact the [TECHNICAL SERVICE](#) department.* The phone number is provided on the cover page of this manual. Put the ladder in the extended position before inspecting or maintaining it.

INSPECTIONS

A. Before each use.

Inspect the ladder for any sustained damage, such as unusual wear, deterioration, or corrosion. Look for loose connections. Tighten all loose connections.

B. At least once per month.

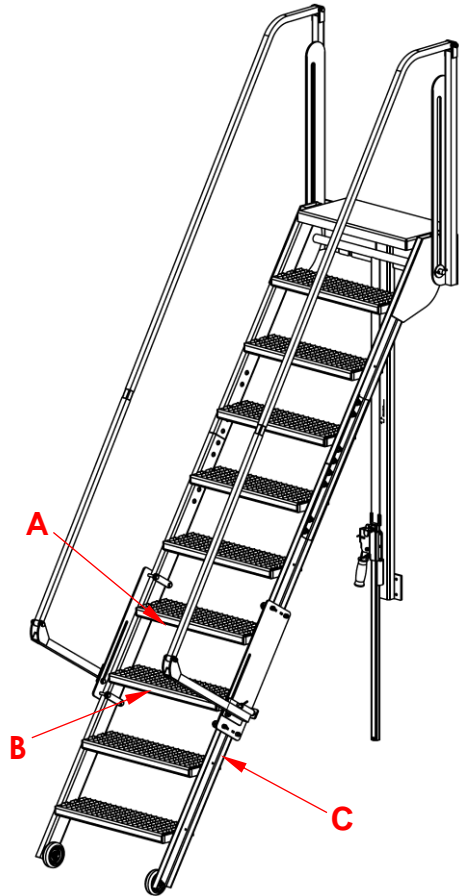
- Steps and siderails:** Examine each step and both siderails for cracks, cracked welds, breaks, significant wear, and rusting/corrosion. Remove rust/corrosion with steel wool or a steel bristle brush. Clean and apply touchup paint to the affected areas.
- Ladder mount weldment (see [Step 3](#) on p. 12):** Inspect the connections to the mezzanine. Make sure that all hardware (fastening the ladder mount weldment to the mezzanine) is securely fastened to the mezzanine. Check the bolt holes for elongations, cracks, and corrosion/rusting. Examine the pin slots for bends and damage affecting the travel of the main hinge pin. Remove corrosion. If cracks are found, contact the manufacturer. The pin should slide smoothly and easily within the pin slots as the ladder is extended or retracted.
- Jack support and jack slide (see [Diagram 7G](#) on p. 11):** Inspect bolts slots and bolt holes of the mounting plate, the slide retaining tube, and the mounting bracket. Check for elongations, cracks, and other forms of damage. Operate the jack to extend and retract the ladder.
- Handrails:** Closely examine all hardware/fasteners. Tighten loose connections. Check the handrails for bends and cracks, particularly connections between handrail segments and connections to handrail posts. Both handrails should be rigid and undamaged. Replace all damaged sections of the handrails before returning the stair system to service.
- Labels:** The ladder should always be labeled as shown in the [LABELING DIAGRAM](#) on p. 19. Replace a label if it is missing, damaged, or not easily readable, e.g. faded.

In addition to correcting issues discovered during inspections:

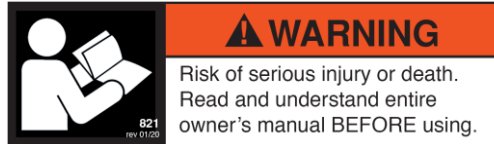
- Clean the ladder with a damp cloth to remove dirt and grime, especially from step surfaces. Let the ladder dry completely before returning it to service.
- Lubricate bolts as necessary for the rollers and spacers to rotate freely.
- Apply touchup paint wherever the finish is damaged. Apply touchup paint as soon as damage occurs.

14. LABELING DIAGRAM

Each unit should be labeled as shown in the diagram. However, label content and locations are subject to change so your product might not be labeled exactly as shown. Compare the diagram below to your RECORD OF SATISFACTORY CONDITION. If there are any differences between actual labeling and this diagram, adapt the diagram to reflect actual labeling. Replace all labels that are damaged, missing, or not easily readable (e.g. faded). To order replacement labels or to inquire whether your unit is properly labeled, contact the technical service and parts department online at <https://www.vestil.com/page-parts-request.php> or by calling (260) 665-7586 and asking for the Parts Department.



A: Label 821



B: Label 740

⚠️ WARNING	⚠️ ADVERTENCIA	⚠️ AVERTISSEMENT
<ul style="list-style-type: none"> • Do not use near live electric lines • Do not climb rails or lean over rails • Do not use if damaged or worn • Use ladder on level, smooth surfaces only 	<ul style="list-style-type: none"> • No use cerca de líneas eléctricas • No se suba o se acome en la barandilla • No use si está dañado o gastado • Use la escalera en superficies a nivel y lisas 	<ul style="list-style-type: none"> • Ne pas utiliser près des lignes électriques sous tension • Ne pas grimper sur ou vous pencher des rails • Ne pas utiliser si endommagé ou usagé • Utiliser l'échelle seulement sur des surfaces plates et lisses

C: Label 1153

MODEL / MODÉLO / MODÈLE _____
WEIGHT / PESO / MASS _____
CAPACITY / CAPACIDAD / CAPACITÉ _____
SERIAL / SERIE / SÉRIE _____
UNITS: 2.2 lb. = 1kg 1" (or 1in.) = 2.54cm
1153

15. LIMITED WARRANTY

Vestil Manufacturing Company ("Vestil") warrants this product to be free of defects in material and workmanship during the warranty period. Our warranty obligation is to provide a replacement for a defective, original part covered by the warranty after we receive a proper request from the Warrantee (you) for warranty service.

Who may request service?

Only a warrantee may request service. You are a warrantee if you purchased the product from Vestil or from an authorized distributor AND Vestil has been fully paid.

Definition of "original part"?

An original part is a part used to make the product as shipped to the Warrantee.

What is a "proper request"?

A request for warranty service is proper if Vestil receives: 1) a photocopy of the Customer Invoice that displays the shipping date; AND 2) a written request for warranty service including your name and phone number. Send requests by one of the following methods:

<u>US Mail</u>	<u>Fax</u>	<u>Email</u>
Vestil Manufacturing Co. 2999 North Wayne Street, PO Box 507 Angola, IN 46703	(260) 665-1339 <u>Phone</u> (260) 665-7586	info@vestil.com Enter "Warranty service request" in subject field.

In the written request, list the parts believed to be defective and include the address where replacements should be delivered. After Vestil receives your request for warranty service, an authorized representative will contact you to determine whether your claim is covered by the warranty. Before providing warranty service, Vestil will require you to send the entire product, or just the defective part (or parts), to its facility in Angola, IN.

What is covered under the warranty?

The warranty covers defects in the following original, dynamic parts: motors, hydraulic pumps, motor controllers, and cylinders. It also covers defects in original parts that wear under normal usage conditions ("wearing parts"), such as bearings, hoses, wheels, seals, brushes, and batteries.

How long is the warranty period?

The warranty period for original dynamic components is 90 days. For wearing parts, the warranty period is 90 days. Both warranty periods begin on the date Vestil ships the product to the Warrantee. If the product was purchased from an authorized distributor, the periods begin when the distributor ships the product. Vestil may, at its sole discretion, extend a warranty period for products shipped from authorized distributors by up to 30 days to account for shipping time.

If a defective part is covered by the warranty, what will Vestil do to correct the problem?

Vestil will provide an appropriate replacement for any covered part. An authorized representative of Vestil will contact you to discuss your claim.

What is not covered by the warranty?

The Warrantee (you) is responsible for paying labor costs and freight costs to return the product to Vestil for warranty service.

Events that automatically void this Limited Warranty.

- Misuse;
- Negligent assembly, installation, operation or repair;
- Installation/use in corrosive environments;
- Inadequate or improper maintenance;
- Damage sustained during shipping;
- Collisions or other accidents that damage the product;
- Unauthorized modifications: Do not modify the product IN ANY WAY without first receiving written authorization from Vestil.

Do any other warranties apply to the product?

Vestil Manufacturing Co. makes no other express warranties. All implied warranties are disclaimed to the extent allowed by law. Any implied warranty not disclaimed is limited in scope to the terms of this Limited Warranty. Vestil makes no warranty or representation that this product complies with any state or local design, performance, or safety code or standard. Noncompliance with any such code or standard is not a defect in material or workmanship.

