November 2019

Operation Manual

Applied L-16 Mobile Series Hand Winch Lifts

- Three Section 16’ Hand Winch Lift
- Certified Load: 500 lbs. at any height
- Loading Height: 6-1/2’
- Maximum Lift Height: 16’
- Footprint: 92”
- Folded Dimensions: 16” x 18” x 81”
- Weight: 125 lbs.
- Cable: 3/16" Steel

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OPERATOR SAFETY INSTRUCTIONS

IMPORTANT Read and understand this instruction manual prior to operating or performing maintenance on this lift!

1. INSPECT THE EQUIPMENT

Prior to each use of the unit, check all moving parts and wire rope to ensure that they are in proper operating condition.

If a unit has visible damage or does not transfer up and down smoothly during pre-operation, **do not use the unit!**

If cable is kinked, worn, frayed, damaged, or has any debris on it that would obstruct its rotation around the pulley wheels, **do not use the unit!**

WARNING

KEEP HANDS AWAY FROM ALL MOVING PARTS WHILE OPERATING UNIT.

Use only Applied replacement parts. Non-OEM parts will severely compromise the quality and safety designed into this lift.

Each unit should have a complete set of caution decals and a legible Operators Manual. Contact Applied if any of these items are missing.

Do not misuse the unit. Perform only the functions for which the unit is designed. Never attempt to operate the equipment at more than the recommended capacity. **DO NOT EXCEED RATED CAPACITY!**

WARNING

THIS IS NOT A PERSONNEL LIFT AND NEVER SHOULD BE USED FOR HOISTING OR MOVING PEOPLE.

CAUTION

NEVER ATTEMPT TO WORK ON CABLE OR PULLEY SYSTEM UNLESS MAST ASSEMBLY IS IN THE LOWEST POSSIBLE POSITION.

2. WORK AREA HAZARDS

Never operate during high wind conditions. Lifting loads during high winds can result in the lift tipping over and the possibility of operator injury.

Always watch for and avoid overhead wires and obstructions when using the unit or moving unit to and from the event site.

Do not use unit to support ladders, for climbing, hoisting or people moving.

Do not use unit outside in thunder, lightning or severe weather.

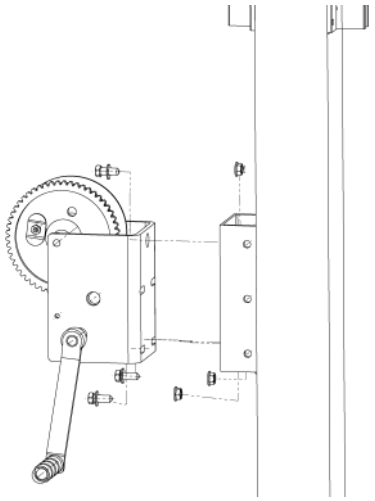
ASSEMBLING THE LIFT

1. WINCH INSTALLATION

The L-16 Mobile lift and winch assembly are packaged separately. The lift is shipped with the steel cable installed. Take care when removing the winch from the carton as other small parts are packaged with the winch.

Attach winch to the platform mounting channel using (3) 3/8" x 1-1/4" bolts provided. See ***Figure 1***

Figure 1



2. WINCH CABLE ATTACHMENT

Wrap at least two turns of cable around the drum of the winch.

Feed at least 5" of cable through the hole on the right side of winch drum, same side as the handle.

With your thumb, bend a loop in the cable, as illustrated.

Loosen the capture nut and carefully feed the loop through the catch and tighten the capture nut with a wrench.
See ***Figures 2 & 3***

Figure 2

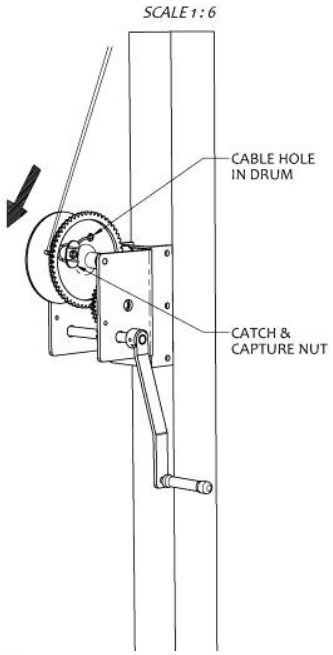


Figure 3

OPERATING PROCEDURE

Lock all four caster wheel locks. (See locking caster detail, ***Figure 14***)

The central mast is the main load supporting element.

Adjust turnbuckles for equal load on legs. (See turnbuckle detail, ***Figure 15***)

When used indoors, leveling feet should be adjusted so that the lift rests solidly and level on the floor.

When used outdoors, leg feet MUST be supported to prevent sinking that could cause lift to tip. Plywood pads or other solid material must be used to assist in the leveling of the lift. Supports must be stable.

Inspect the cable to make sure that none of the wires are frayed or that the cable itself has not been crushed.

Test the lift to see that no damage has been incurred that would bind the moving pieces of the system.

Be sure to secure the load to the lift with proper hardware.

If multiple lifts are being used simultaneously, all lifts must be raised evenly.

Three safety pins are provided for use when raising and lowering the lift. (See *Figure 16).* These must be used to insure safety in the event of cable failure. As you raise the lift, insert a safety pin into the first hole in the 2" tube. (See *Figure 17 and 18).* Then insert a 2nd pin into the next hole down as it becomes visible. When the 3rd hole becomes available, remove the first safety pin and insert it into the 3rd hole. Continue to alternate pins through the holes until the second stage begins to rise. Leave a pin in the last hold of the 2" tube. Using the two remaining pins, repeat the above procedure inserting pins in the 3" tube for lifts above 12 ft. To lower the system, follow the above procedures in reverse order.

NOTE: Make sure that the winch is ratcheting as you turn the winch handle. If this fails to happen, lower the lift slightly and then raise it again until you hear it click before releasing the handle. If this occurs, the winch may need to be adjusted internally.

WARNING: FAILURE TO HAVE A SUFFICIENT LOAD (50 LB. MIN) CAN RESULT IN DAMAGE TO LIFT MECHANISM.

WARNING: KEEP HANDS FREE OF UPPER TUBES WHILE RAISING AND LOWERING LIFT!

DO NOT EXCEED RATED CAPACITY OF 500 LBS.

LIFT MAINTENANCE

The steel cable deserves and requires the most attention as it is the means by which the load is able to move up and down. The proper cable for this application is supplied, but it is up to you to inspect and maintain it regularly.

Keep the cable lubricated periodically to avoid oxidation. Any light duty oil or silicone based lubricant will do just fine.

Lubricate the pulleys frequently to prevent premature wear. The same lubricant used on the cable will be sufficient for this application.

If the cable shows any sign of fraying, wear, or deformation – order a replacement from your authorized Applied Electronics dealer or distributor.

Inspect the ball and shank that is swaged to the top of the cable. As of 2019, all cables have a secondary safety swag at the end of the cable. Note the cable should always remain flush to the end of the safety swag. The secondary safety swag should NOT be in contact with the ball and shank swag. If there is no gap between the safety swag and the ball and shank, or if the cable is not flush with the safety swag, remove the lift from service.

Always replace any bent or broken parts immediately. These parts are available and should be purchased through the Applied Electronics dealer network.

Individually push the 2” and the 3” tubes to one side in both directions and check the gap between the tube and the bushing material that surrounds the tube at the top of each larger tube. If the gap ever becomes greater than .035”, then new material should be ordered to replace the worn material. This gap can be measured quickly and effectively with a standard feeler gauge.

To replace the cable, follow the cable routing diagram in ***Figure 5***. Be sure to keep the tubes in the same alignment orientation. Termination of the cable to the winch should be done as shown in ***Figure 6***.

Do not oil or grease winch brake mechanism.

CABLE ROUTING

Figure 5

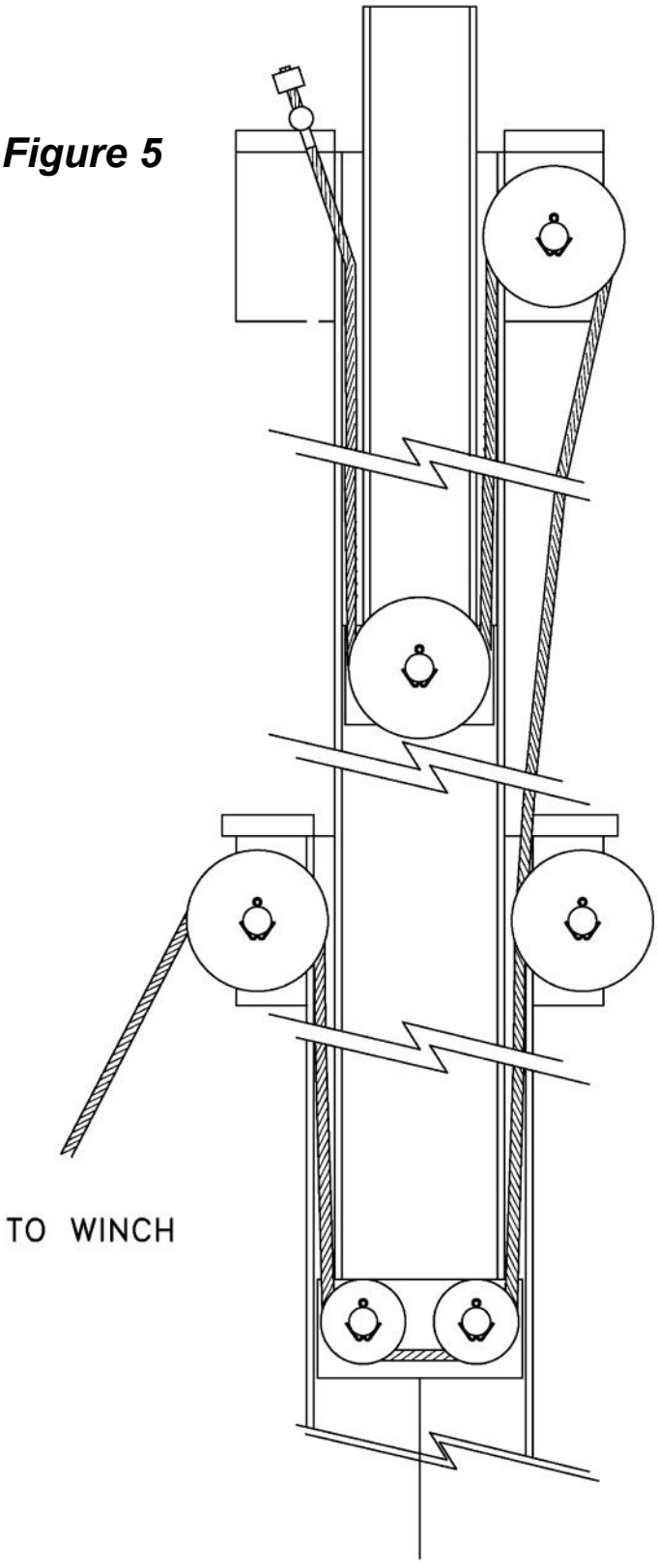
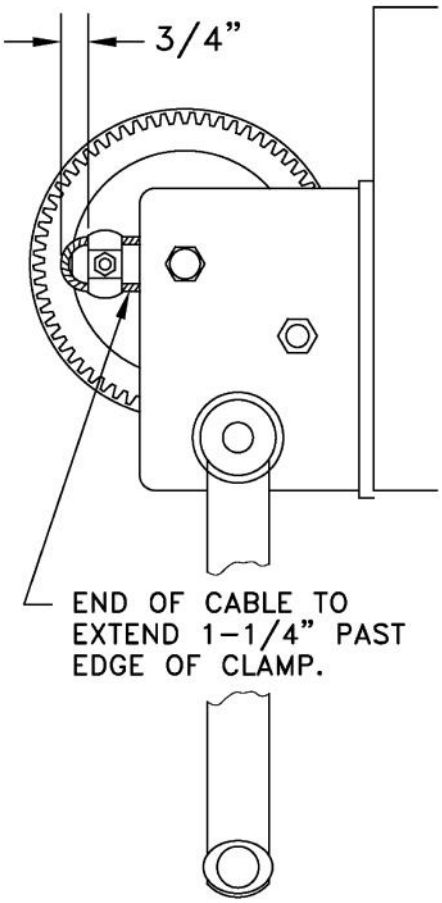
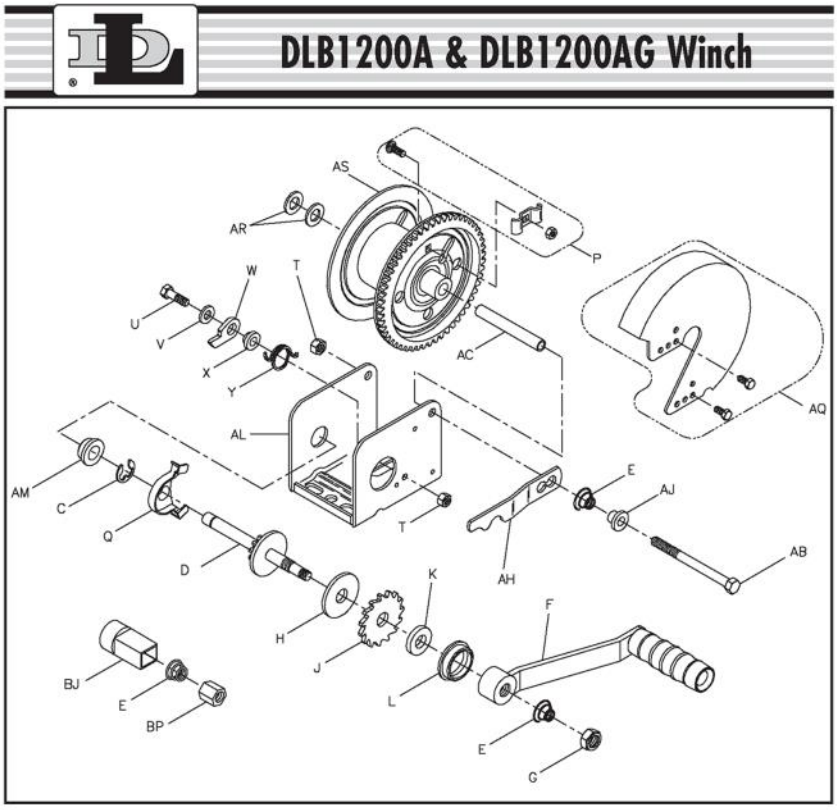


Figure 6



WINCH PARTS BREAKDOWN

ITEM NO.	DESCRIPTION	PART NO.
A	Base	404900
B	Bushing	204012
C	“E” Ring	205116
D	Drive Shaft	306061
E	Spring	204364
F	Handle 9-3/8”	5703103
G	Nut	205033
H	Pressure Plate	204362
J	Ratchet Wheel	404164
K	Pressure Washer	404163
L	Bushing	206328
M	Nut	205316
N	Bolt	205332
P	Rope Clamp Kit	5243506
Q	Gear Cover “G” Series	406114
S	Reel	306075
T	Locknut	204803
U	Bolt	205167
V	Flat Washer	205055
W	Pawl	404166
X	Spacer	404166
Y	Spring	204363
Z	Reel Spacer	207183
AB	Bolt	203161
AC	Reel Spacer	204807
AH	Lockout Lever optional	404579
AJ	Spacer optional	404166
AL	Base	404896
AM	Bushing	204009
AQ	Gear Cover optional	5240122
AR	Spacer Washer	204360
AS	Reel	304754
BJ	Drive Hub optional	304562
BP	Special Nut optional	404970



L-16 MOBILE REPLACEMENT PARTS

L-16 MOBILE TOP MAST PARTS SHEET

Figure 7

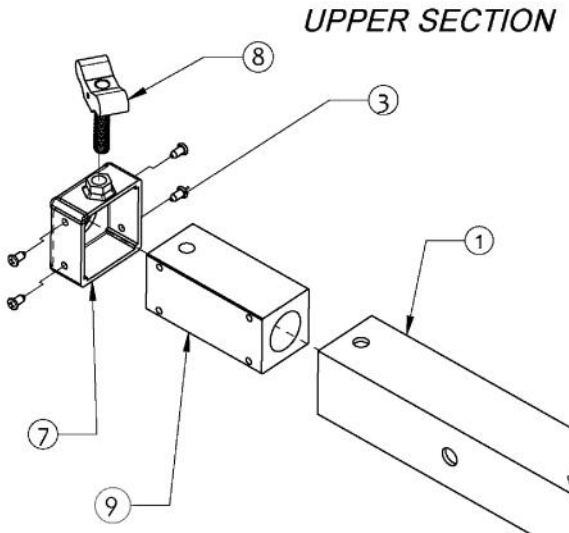
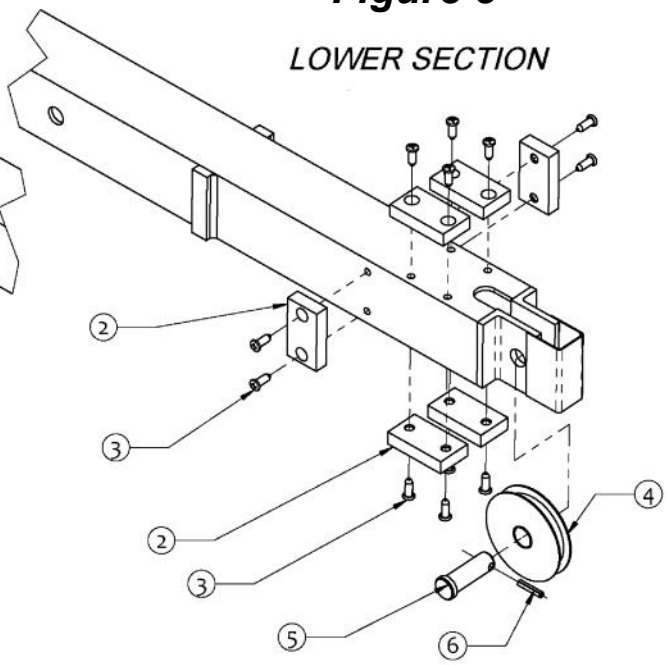


Figure 8



ITEM NO.	DESCRIPTION	SIZE	REFER. NO.	QTY
1	L-16M 2” Mast	Top Mast	90-112	1
2	Lower Bushing	3/8” x 1-7/8”	91-334	6
3	Sheet Metal Screw	#8 x 1/2” Lg.	91-066	16
4	Cable Pulleys	2-1/2” Lg	91-024	1
5	Pin - Clevis	1/2” x 1-1/2”	91-310	2
6	Pin - Slotted Roll	5/32” x 3/4”	91-304	2
7	L-16M Steel Lock Collar	Sheet Metal Part	96-000	1
8	L-16M Thumbscrew	3/8”-16 x 1-1/4”	91-328	1
9	Top Plastic Insert	Machined Square HDPE 4”	91-039	1

L-16 MOBILE REPLACEMENT PARTS

L-16 MIDDLE MAST PARTS SHEET

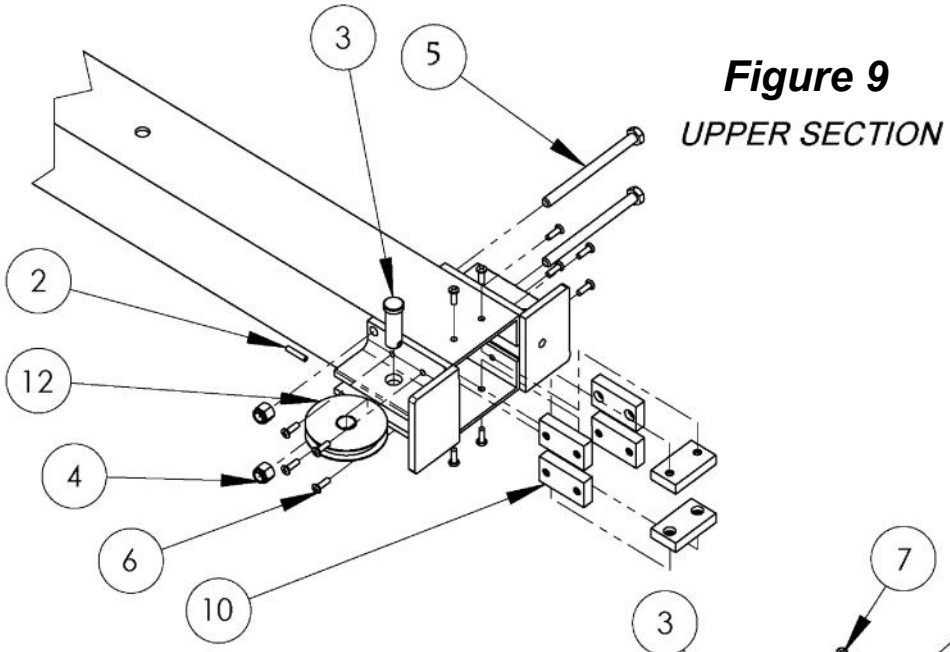


Figure 9

UPPER SECTION

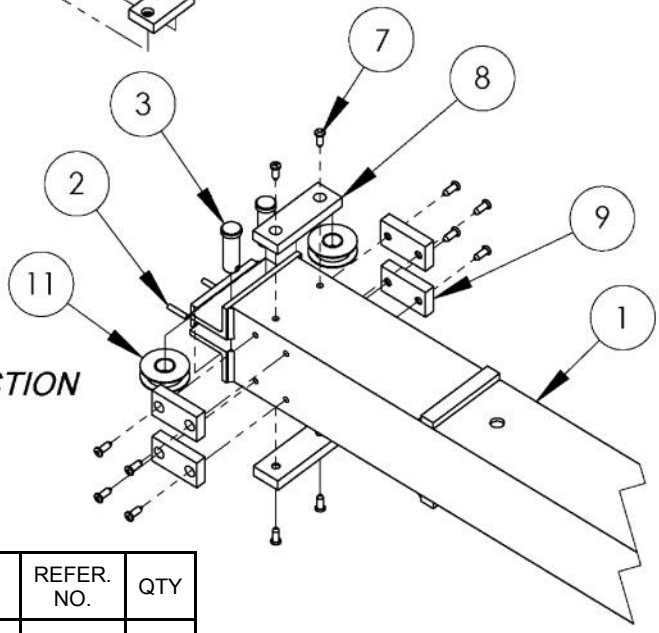


Figure 10

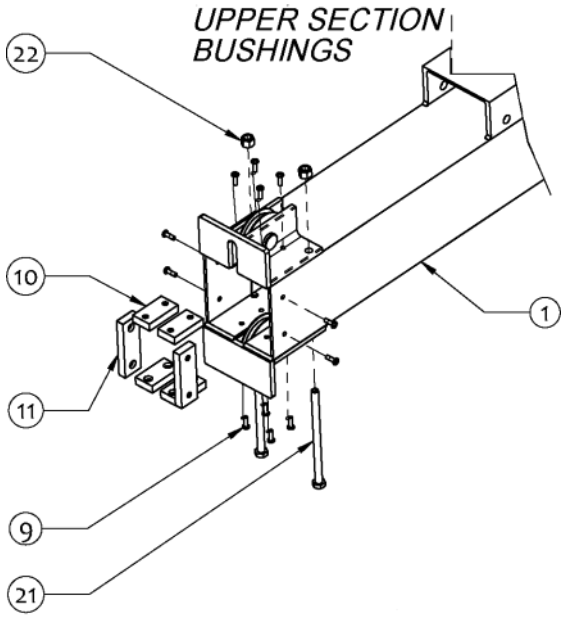
LOWER SECTION

ITEM NO.	DESCRIPTION	SIZE	REFER. NO.	QTY
1	L-16M 3” Mast	Middle Mast	90-113	1
2	Pin - Slotted Roll	5/32” x 3/4” Pin	91-304	3
3	Pin - Clevis	1/2” x 1-1/2”	91-310	3
4	SAE Hex Nut - Nylock	5/16”-18 Thread	91-063	2
5	SAE Hex Cap Bolt	5/16”-18 x 4” Grd 5	91-081	2
6	Machine Screw	#8-32 x 5/8”	91-074	12
7	Sheet Metal Screw	#8 x 1/2”	91-066	12
8	Lower Bushing	3/8” Width 2-7/8”	91-335	2
9	Lower Bushing	3/8” Width 1-7/8”	91-334	4
10	Upper Bushing with Nut	3/8” Width 1-7/8”	91-336	6
11	Cable Pulleys	1-1/2” Lg	91-023	2
12	Cable Pulleys	2-1/2” Lg	91-024	1

L-16 MOBILE REPLACEMENT PARTS

L-16 BOTTOM MAST PARTS SHEET

Figure 11



ITEM NO.	DESCRIPTION	SIZE	REFER. NO.	QTY
1	L-16M 4” Mast & Base		90-114M	1
2	L-16M Leg		92-500M	4
3	L-16M Foot	4” dia.	91-025M	4
4	SAE Hex Cap Bolt, Grd 5	3/8”-16 x 3-1/2”	91-005	4
5	SAE Hex Nut - Nylock	3/8”-16 Thread	91-060	4
6	Leg Pin - T-Handle	3/8” x 3-1/2”	91-300	4
7	Cable Pulley	2-1/2” Lg	91-024	2
8	Pin - Clevis	1/2” x 1-1/2” Lg	91-310	2
9	Machine Screw	#8-32 x 5/8” Lg	91-074	12
10	Upper Bushing with Nut	3/8” x 1-7/8”	91-336	4
11	Upper Bushing with Nut	3/8” x 2-7/8”	91-337	2
12	Pin - Slotted Roll	5/32” x 3/4”	91-304	2
13	Turnbuckle Bracket		92-506	4
14	Turnbuckle Brkt Bushing Set		92-507	4
15	SAE Hex Cap Bolt, Grd 5	3/8”-16 x 1-1/2”	91-093	8
16	SAE Hex Nut - Nylock	3/8”-16 Thread	91-060	8
17	Turnbuckle		92-506	4
18	Locking Casters - Swivel	2-1/2” w/Brake	91-600	4
19	SAE Hex Cap Bolt, Grd 5	1/4”-20 x 1-1/2”	91-070	16
20	SAE Hex Nut - Nylock	1/4”-20 Thread	91-071	16
21	SAE Hex Cap Bolt, Grd 5	5/16”-18 x 5”	91-082	2
22	SAE Hex Nut - Nylock	5/16”-18 Thread	91-061	2

Figure 12

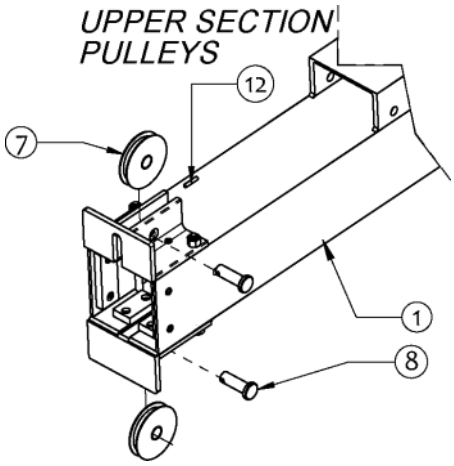
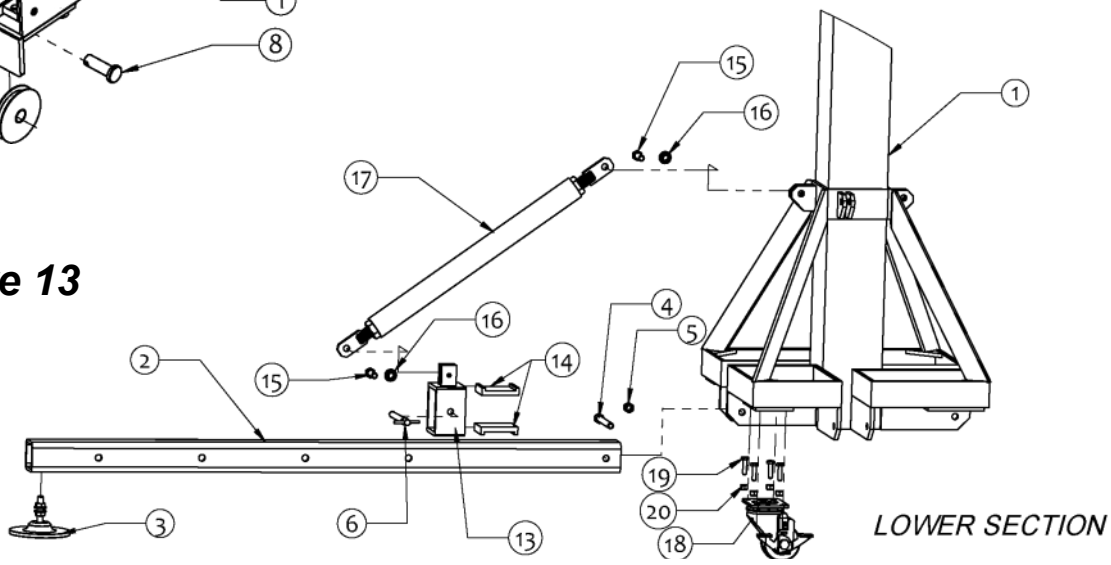


Figure 13



L-16 MOBILE DETAIL

Figure 14

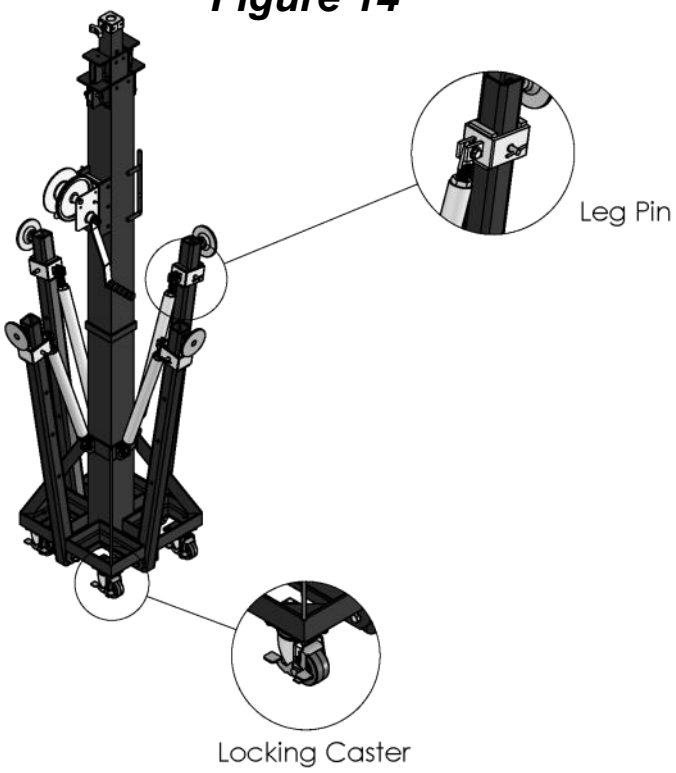
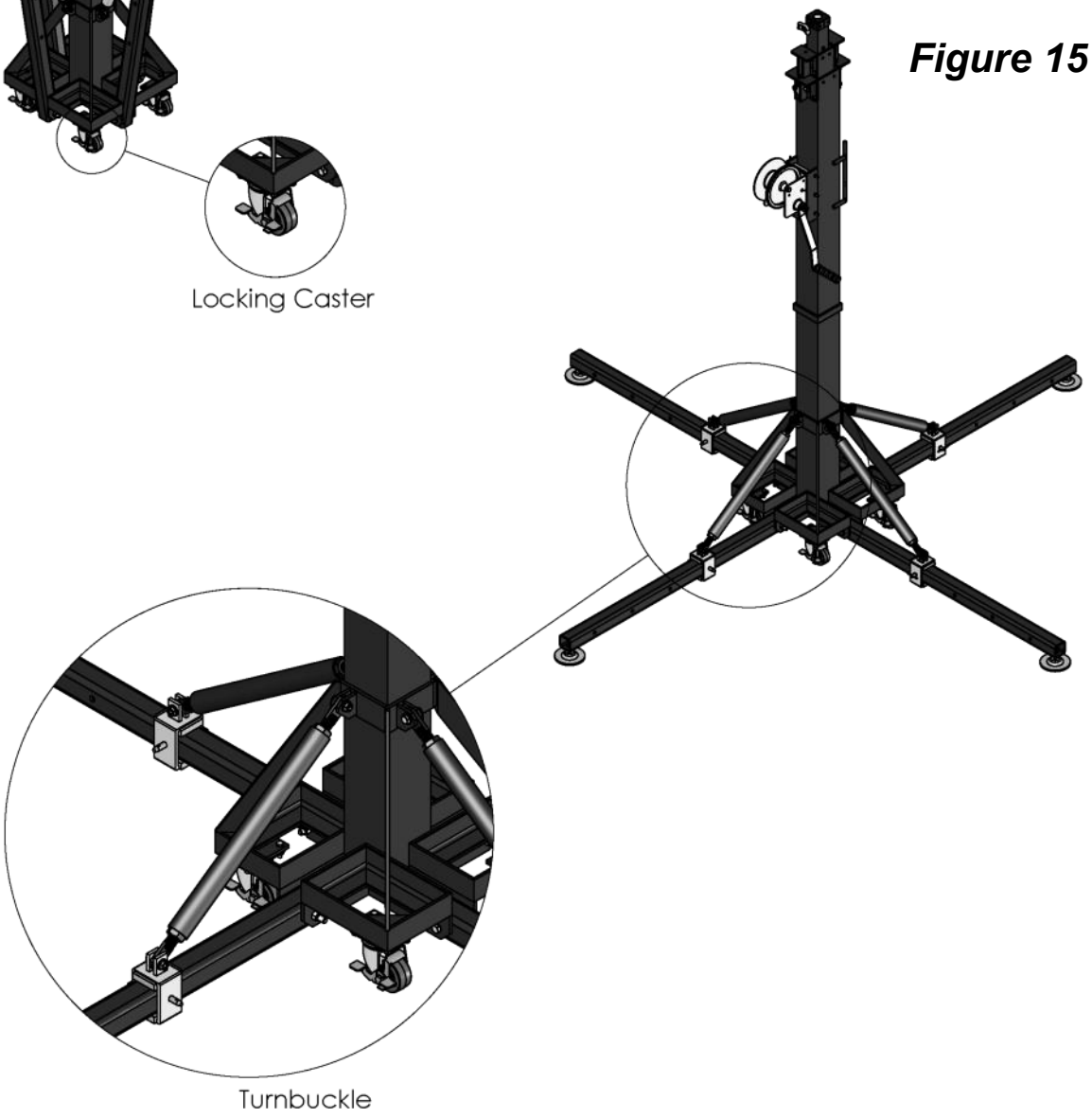


Figure 15



L-16 MOBILE DETAIL

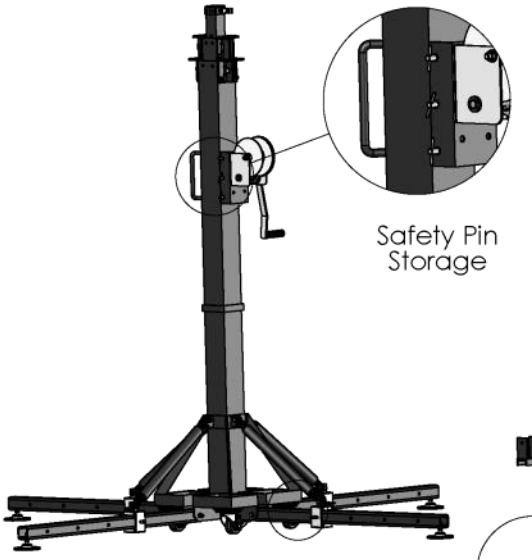


Figure 16

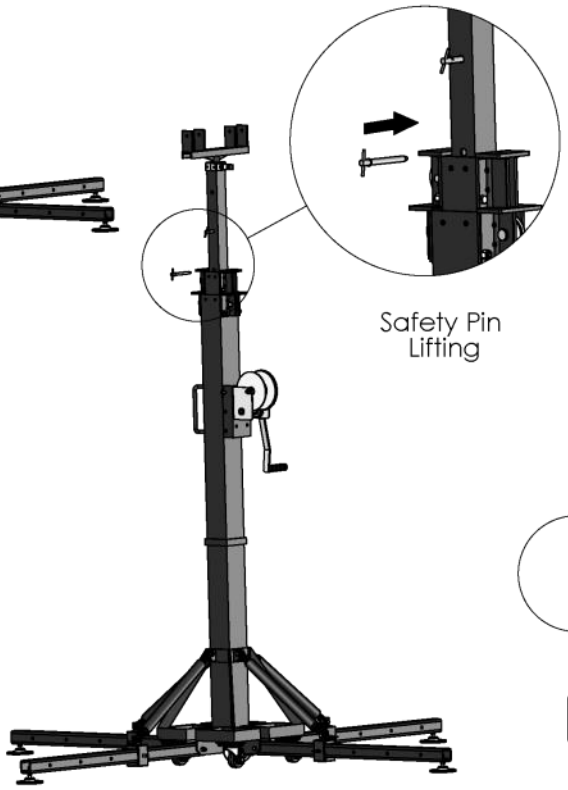


Figure 17

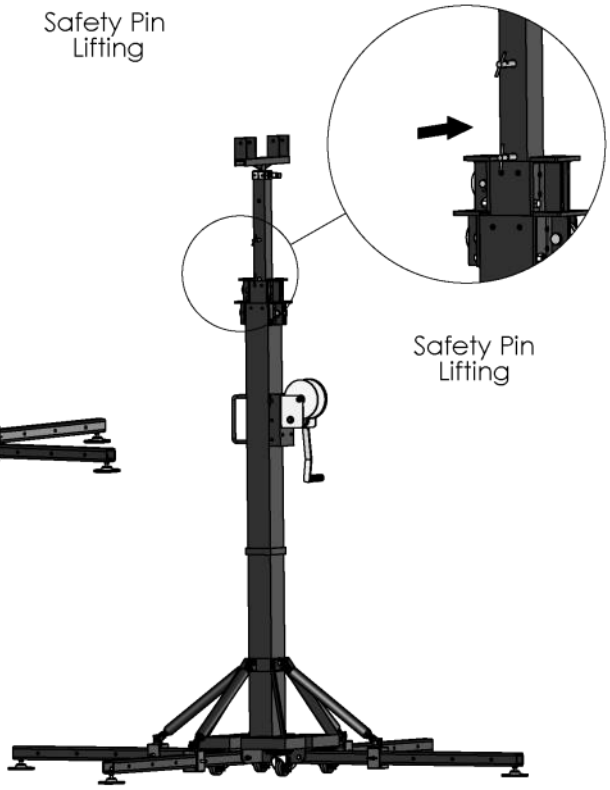


Figure 18