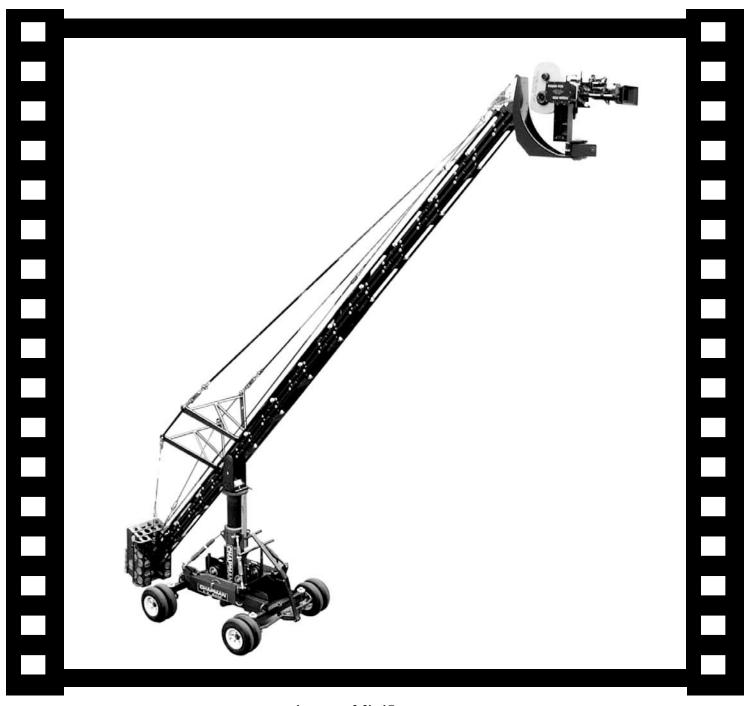
## Lenny Mini® Crane Arm user guide

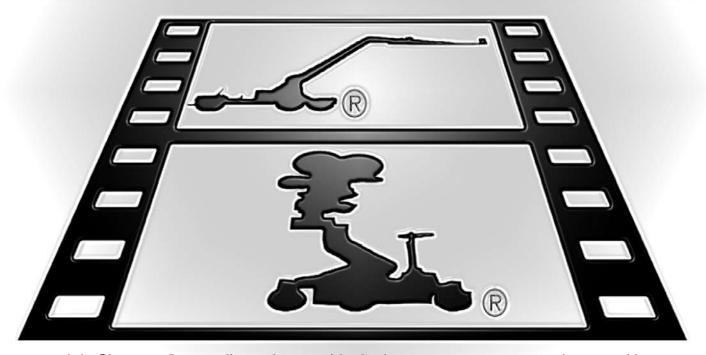
Operational Instructions & Specifications



Lenny Mini®



## CHAPMANI LEONARD STUDIO EQUIPMENT, INC.



It is Chapman/Leonard's goal to provide the best camera support equipment with exceptional Customer Service. Therefore, we are compiling this User Guide to aid in the reordering of Replacement Parts for your Leased Equipment.

For any questions regarding this User Guide, please contact

Customer Service at 888-883-6559 or 818-764-6726.

#### **Chapman/Leonard Certified Locations:**

#### **MAIN OFFICE**

12950 Raymer Street, North Hollywood, CA 91605

> 888-883-6559 or 818-764-6726 Fax: 818-764-6730 or 818-764-4347

#### **Texas**

1901 E. 51st Street, Suite 38 Austin, Texas 78723

> 512-473-0084 or 888-758-4826 Fax: 512-473-0042

#### Canada

8301 Eastlake Drive Burnaby, British Columbia V5A 4W2 Canada

> 866-848-2602 or 604-299-0913 Fax: 604-299-0926

#### Louisiana

660 Distributors Row Suite C & D Elmwood Business Park New Orleans, LA 70123

888-758-4826

#### **UK and Europe**

Chapman Leonard Studio Equipment, Ltd. Unit 5 Kingley Park Station Road Kings Langley, Herts England WD4 8GW

01923 265 953

#### **Florida**

9460 Delegates Drive Orlando, Florida 32837

888-337-8243 or 407-851-3456 Fax: 407-855-1653

Use a Qualified Operator. For Assistance Please call our 24 hour Customer Service at 1-888-883-6559 or 818-764-6726.

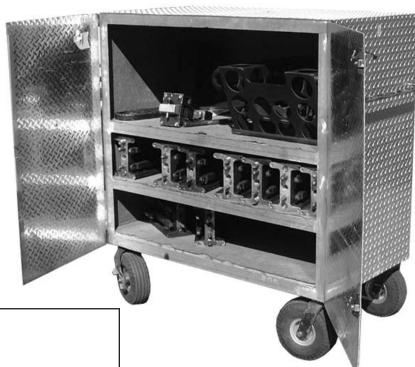
#### **Table of Contents**

- 4 Assembly Procedure
- 8 Reversible Section
- 11 Weight Bucket
- 15 Cable System Setup
- 16 Configurations
- 31 Warnings
- 32 Parts and Accessories Terms and Definitions
- 33 Photos of Components
- 37 Mounting Options
- 38 Triple Cable System Checklist

The Lenny Mini<sup>®</sup> is among the smallest of Chapman's array of crane arms. The Lenny Mini<sup>®</sup> is the arm of choice for scenes requiring: easy assembly, lightweight setups, ample reach and height and rigidity.

The complete Lenny Mini<sup>®</sup> can be stored within its Accessory Cart.

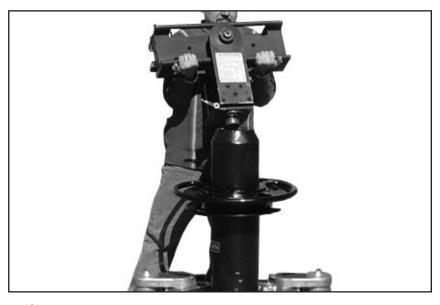
Always lock the wheels when the cart is parked.





The Lenny Mini<sup>®</sup> is small enough to be mounted on a variety of dollies and pedestals. The Pedolly pedestal is ideal for use with the Lenny Mini<sup>®</sup>.

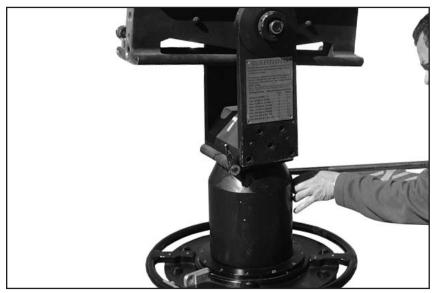
Assembly of the Lenny Mini® begins with insuring that the wheels of the dolly or base are either locked or chocked.



Lenny Mini<sup>®</sup> can be easily assembled by one person. Begin by placing the Center Post on top of the pedestal or dolly Post Kit.



The Castle Ring secures the Center Post to the base of your choice.



Tighten the Castle Ring with a bar. Moderate torque is sufficient to achieve the correct tightness.

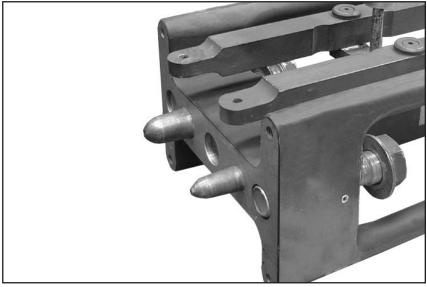


Warning!
Always use the The Safety Cap.

The Safety Cap and Bolt is installed over the Castle Ring. This will prevent the Castle Ring from coming loose in any situation.



Tighten the Safety Cap and Bolt with a wrench (provided with accessories).



The Lenny Mini® arm sections fit together with two tapered pins. Position the tapered pins of one arm section into the holes of another arm section.



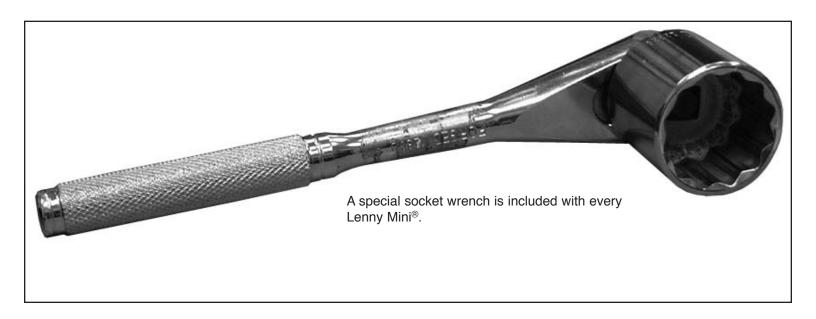
**NOTE:** Each section of the Lenny Arm is numbered. Every Lenny Arm is assembled at the factory in numerical order.

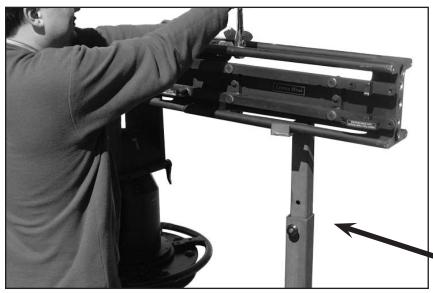
Assembling a Lenny Arm is quick and easy if it is built in the correct numerical sequence.

Hand tighten the bolts prior to wrench tightening. A support may be used to aid in the assembly procedure.



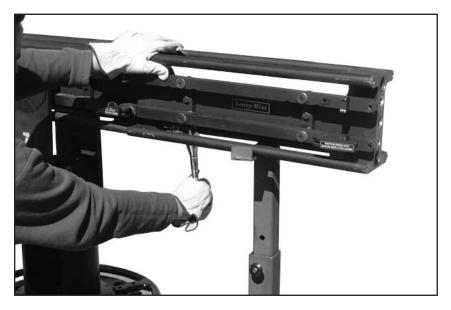
Use a Qualified Operator. For Assistance Please call our 24 hour Customer Service at 1-888-883-6559 or 818-764-6726.





Tighten the upper Bolt with the wrench.

### **Note!**Correct positioning of the support is an important part of building the arm.



Tighten the lower Bolt with the wrench.

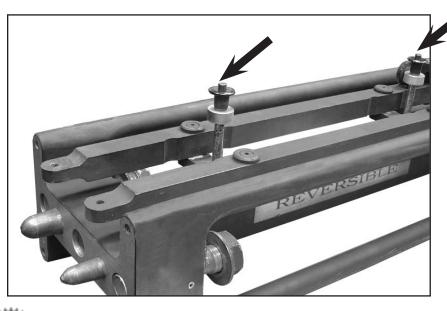
#### Lenny Mini® Assembly Procedure - Reversible Section



There is a special arm section that is reversible. It enables its use as either a front or rear section. Each side of the special section is labeled.



To change the Reversible section from a front section to a rear section, the linkage must be moved from one side of the arm section to the other.



Lay the Reversible section on a flat surface. Extract the two Quick Release Pins that secure the linkage to the arm section. Begin by pressing on the two Quick Release Pins at the same time and pull away from the arm section.

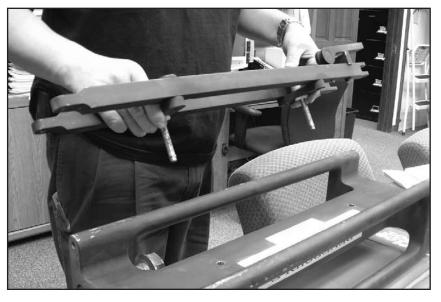
#### Lenny Mini® Assembly Procedure - Reversible Section



It is not necessary to completely remove the Quick Release Pins from the linkage. There is a washer and spacer on each Quick Release Pin.

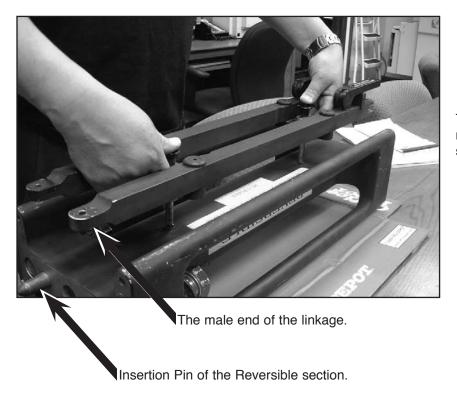


Flip the Reversible section over.

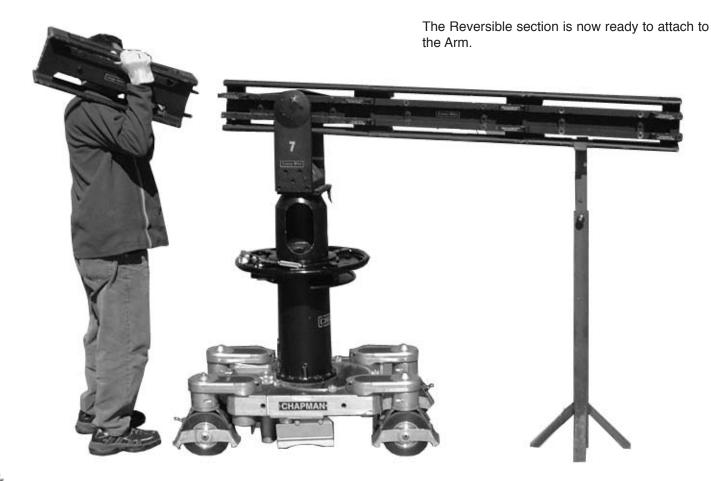


Reattach the linkage to the Reversible section.

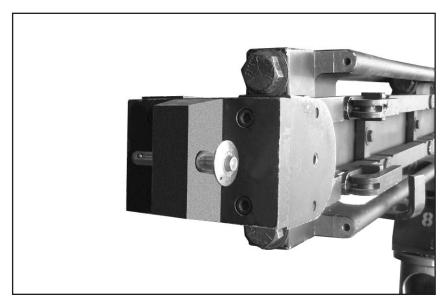
#### Lenny Mini® Assembly Procedure - Reversible Section



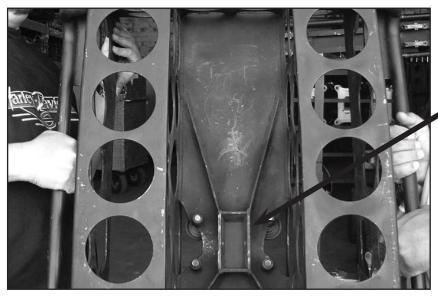
The male end of the linkage should be oriented to match up with Insertion Pins of the Reversible section.



#### Lenny Mini® Assembly Procedure - Weight Bucket



The Rear Segment has a large Quick Release Pin for attaching the Weight Bucket. However, this is only part of the attachment procedure.

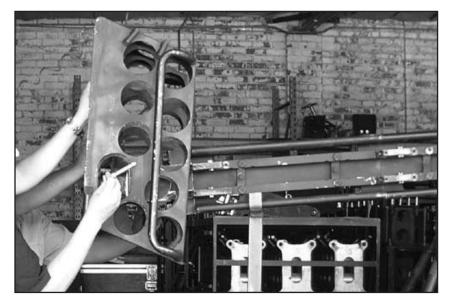


There is a slot inside the Weight Bucket for accepting the Rear Segment of the Arm.

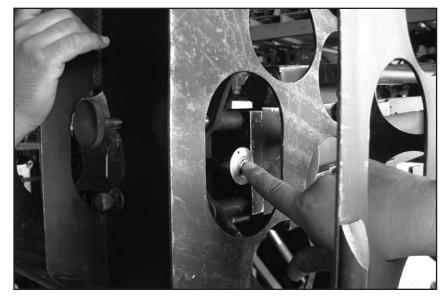


Remove the large Quick Release Pin from the Rear Segment of the arm. Lift the Weight Bucket and line up the slot with the Rear Segment of the arm.

#### Lenny Mini® Assembly Procedure - Weight Bucket



Insert the large Quick Release Pin joining the Weight Bucket to the Rear Segment of the arm.

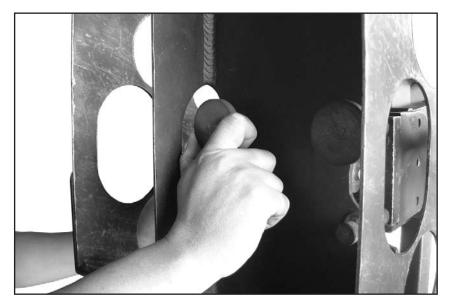


Be sure that the large Quick Release Pin is fully seated in the hole.



Hand tighten the two lower bolts in the rear center of the Weight Bucket.

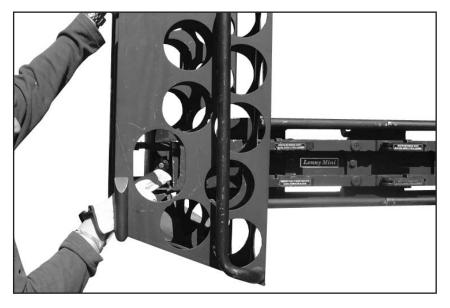
#### Lenny Mini® Assembly Procedure - Weight Bucket



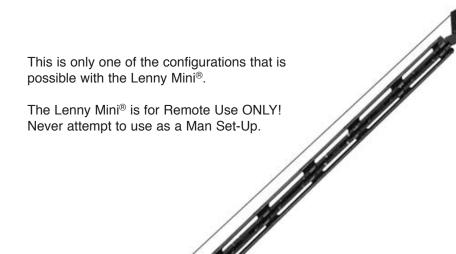
Hand tighten the large knobs in the Weight Bucket to eliminate any looseness in the connection between the Weight Bucket and the arm. Try to equally tighten the two large knobs. Tighten the left Knob one turn.

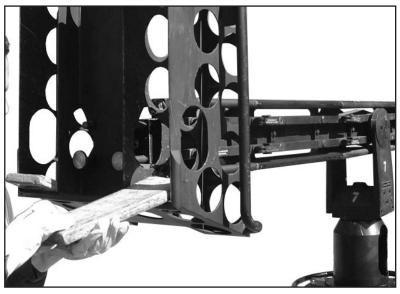


Now tighten the right knob one turn. Go back to the left knob and tighten one turn.



Repeat until there is no play in the Weight Bucket.

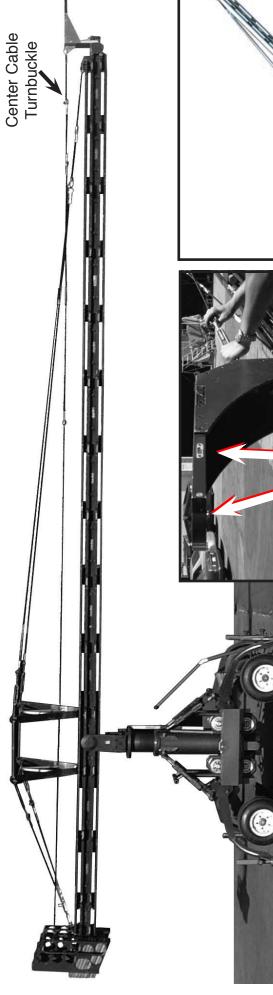




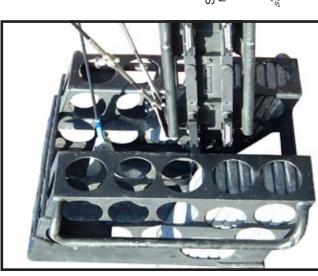
At this point you can begin to load the Bucket with Weights as each additional forward section is added to the Arm. Load the Weight Bucket evenly. Load only enough weight to counter balance the desired payload.

Always maintain a balanced Arm. A balanced Arm will safely remain in any position, or maintain a smooth constant motion. A balanced Arm makes for greater Arm control and safety. When changing the Payload, be sure to counter balance with the correct amount of weight.





# The LENNY MINI Cable System



The Center Cable attaches to the upper part of the Weight Bucket.

Studio Equipment, Inc. North Hollywood, CA facility May 15, 2002 Chapman/Leonard

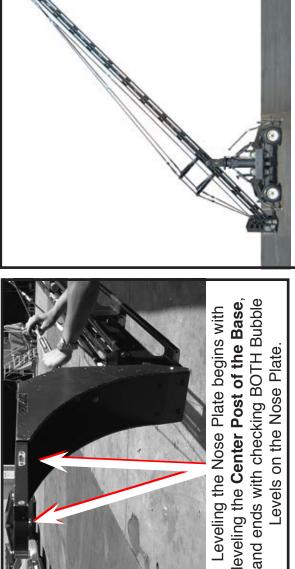


adjusting the Center Cable Turnbuckle,

A level Nose Plate is achieved by

AFTER the Center Post of the Base

has been leveled.



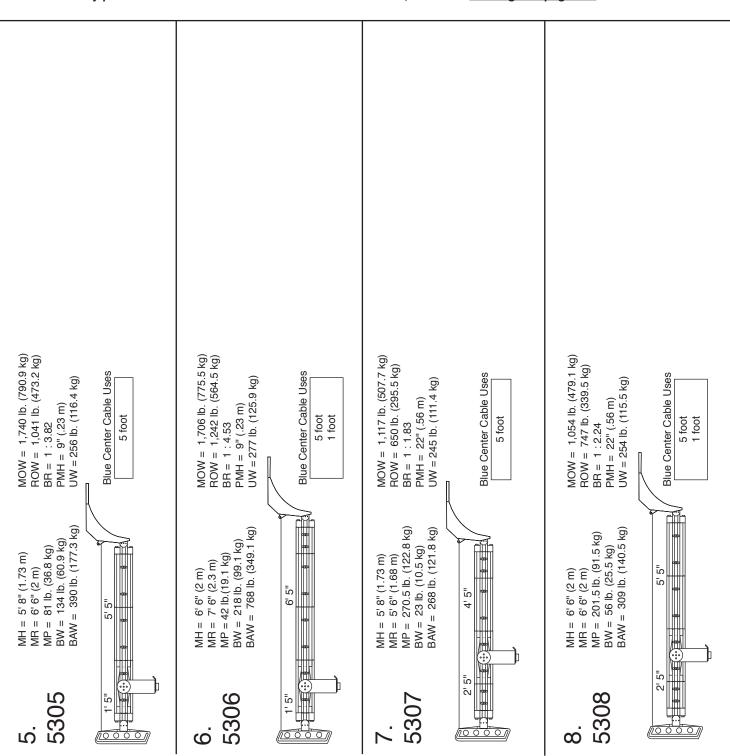
Weight Bucket be able to touch the ground when the arm is raised to the Lenny Mini requires that the An essential safety feature of its maximum height.

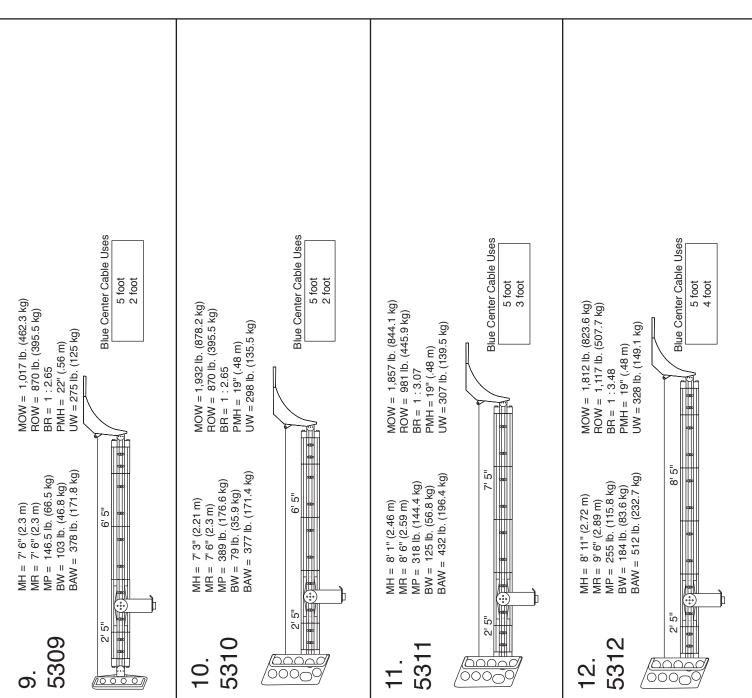
Levels on the Nose Plate.

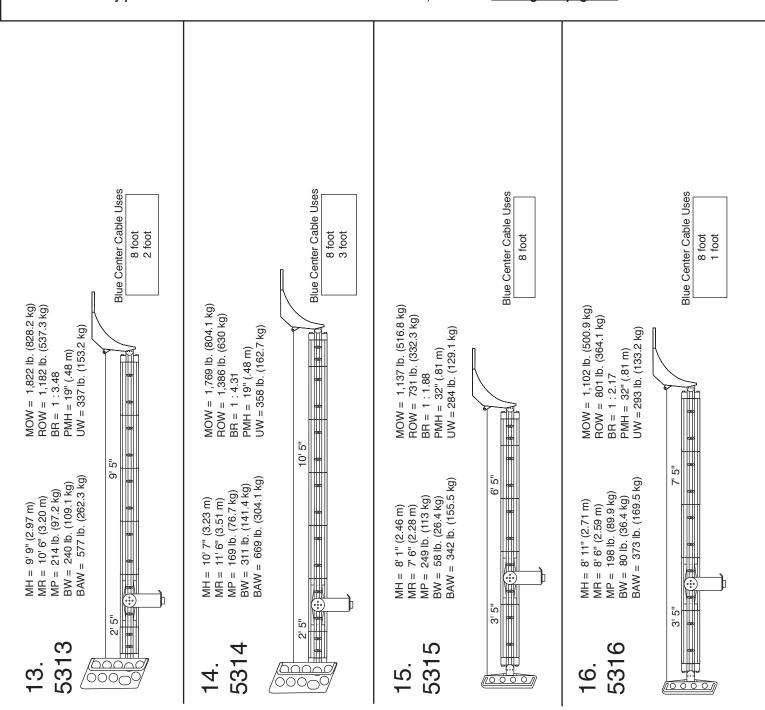
Center Cable must ALWAYS be used. acts as a safety feature of the Weight Regardless of the Configuration that Bucket, and adds greater rigidity to you choose for the Lenny Mini, the eveling integrity of the Nose Plate; The Center Cable enhances the the arm

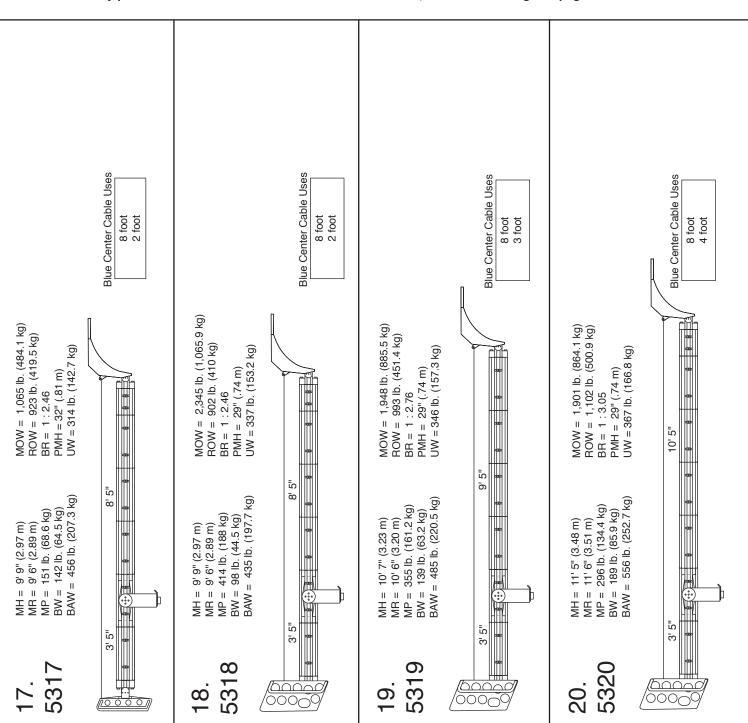
NOTE: If any part of this manual is faxed or transmitted to a client, the list of warnings on page 31 MUST be attached. MOW = 1,360 lb. (618.2 kg)MOW = 1,105 lb. (502.3 kg)ROW = 410 lb. (186.4 kg) ROW = 567 lb. (257.7 kg) MOW = 995 lb. (452.3 kg)ROW = 706 lb. (320.9 kg)MOW = 947 lb. (430.5 kg)ROW = 881 lb. (400.5 kg)BR = 1:3.12 PMH = 12" (31 m) UW = 224 lb. (101.8 kg) BR = 1:1.00 PMH = 12" (.31 m) UW = 173 lb. (78.6 kg) BR = 1:2.41 PMH = 12" (.31 m) UW = 203 lb. (92.3 kg) UW = 194 lb. (88.2 kg)PMH = 12" (.31 m)Blue Center Cable Uses Blue Center Cable Uses Blue Center Cable Uses Blue Center Cable Uses BR = 1:1.71 **Turnbuckle Only** 2 foot 2 foot 1 foot 4 foot MH = 3' 2" (.97 m) MR = 3' 6" (1.1 m) MP = 304 lb. (138 kg) BW = 7 lb. (3.2 kg) BAW = 200 lb. (90.9 kg) BW = 101 lb. (45.9 kg) BAW = 325 lb. (147.7 kg) BW = -33 lb. (-15 kg) BAW = 206 lb. (93.6 kg)BAW = 245 lb. (111.4 kg)MP = 592 lb. (268.8 kg)MR = 4'6" (1.4 m) MP = 194.5 lb. (88.3 kg) BW = 42 lb. (19.1 kg)MP = 119 lb. (54 kg) MH = 4' 10" (1.5 m) MR = 5' 6" (1.7 m) MR = 2'6'' (.76 m)MH = 2' 4" (.71 m)MH = 4' (1.22 m)4' 5" 5 က 2' 5" 2 1'5" 5302 1'5" 1.5"



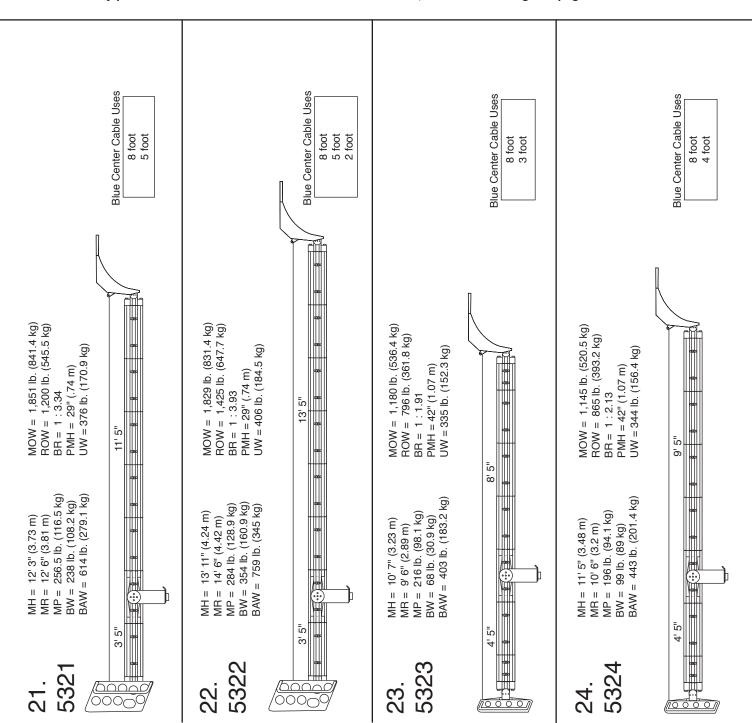


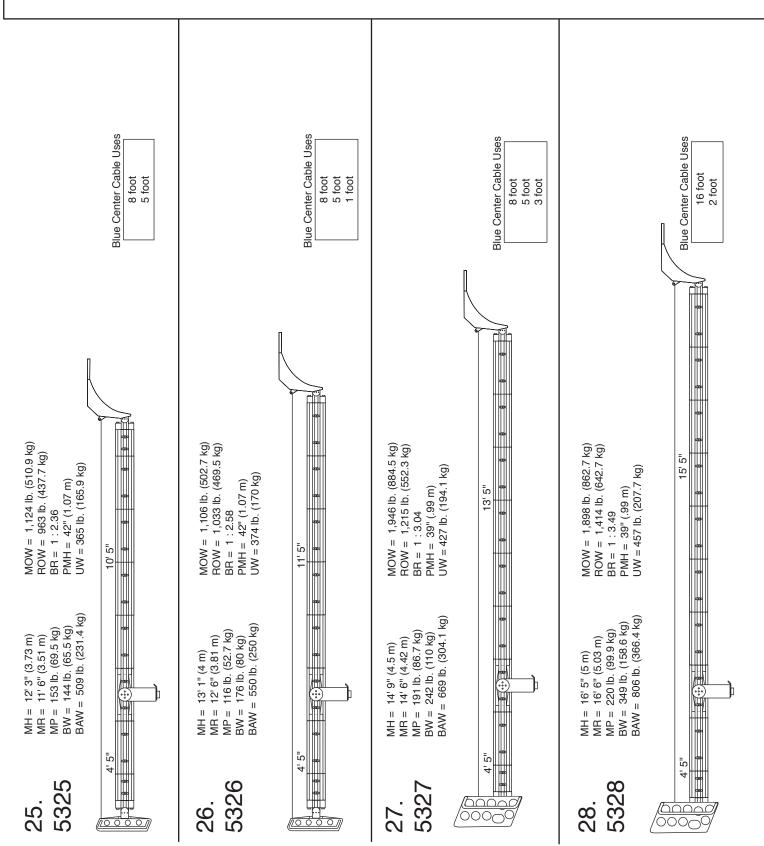




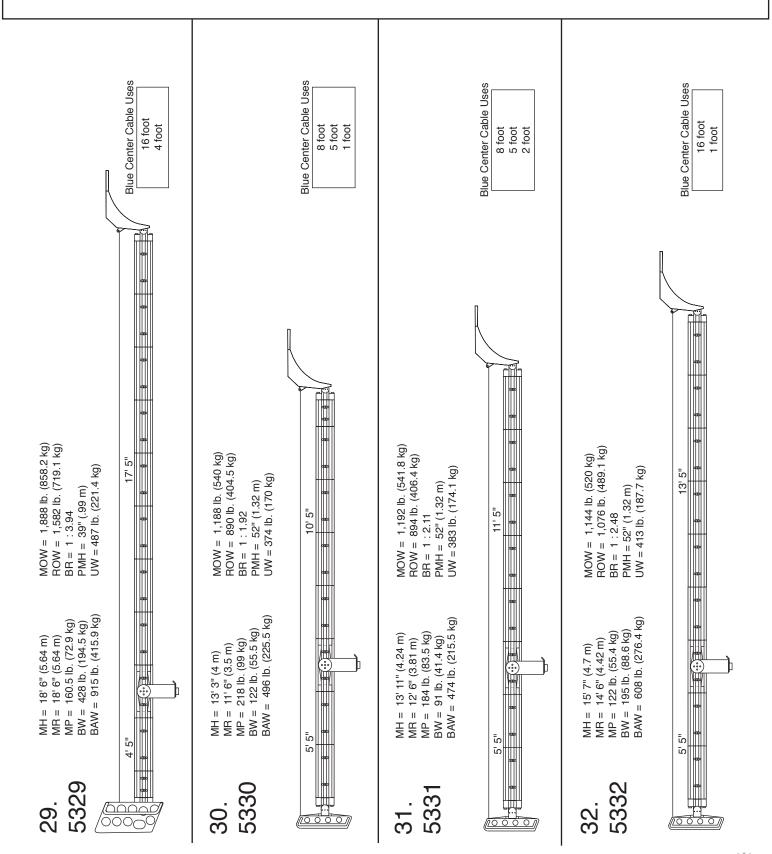


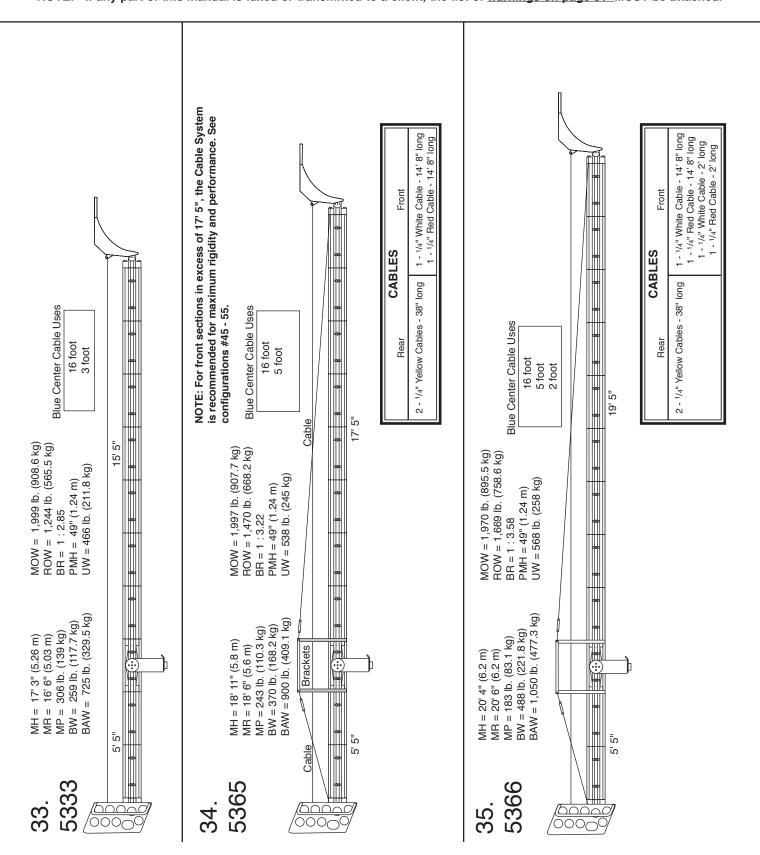


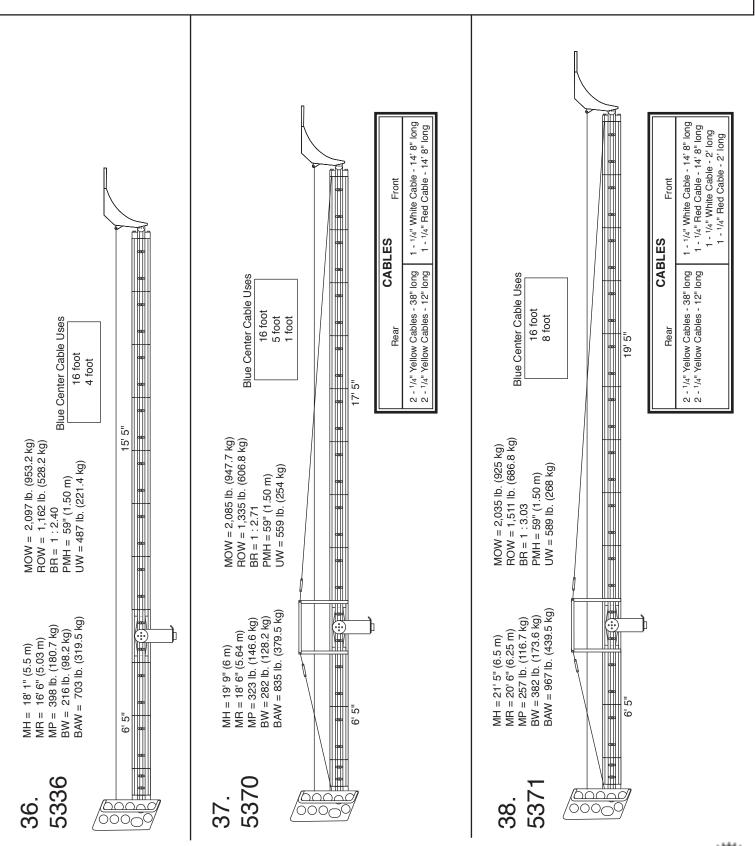


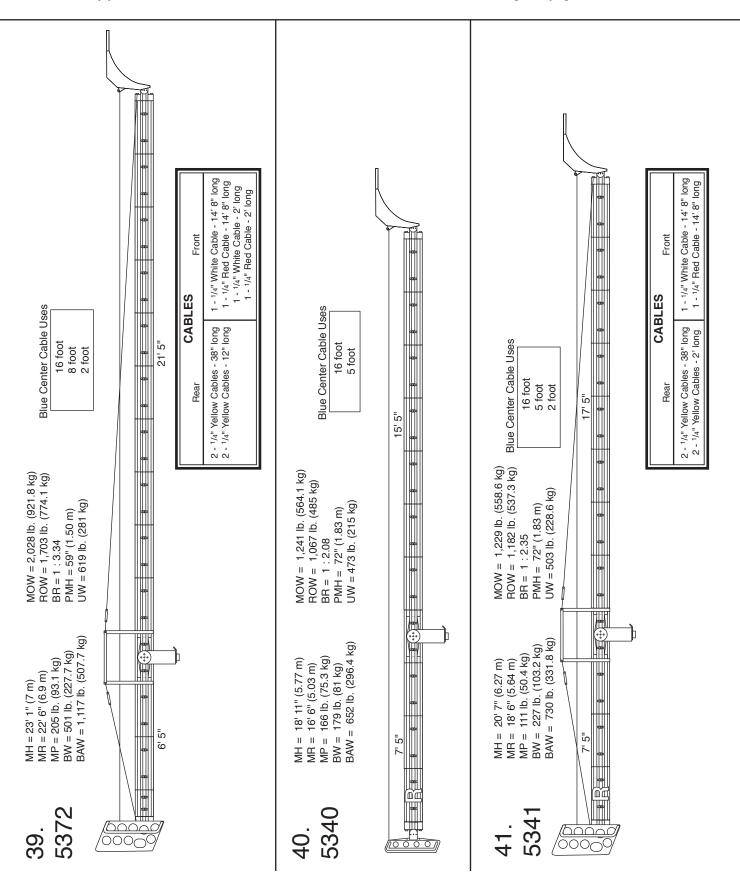


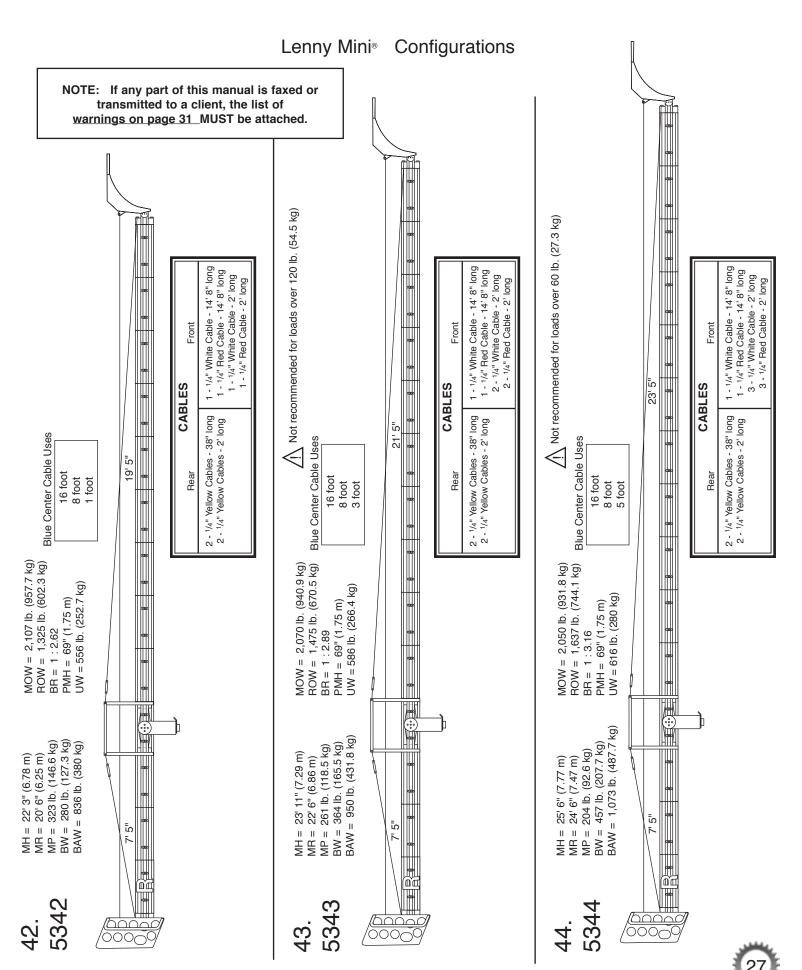


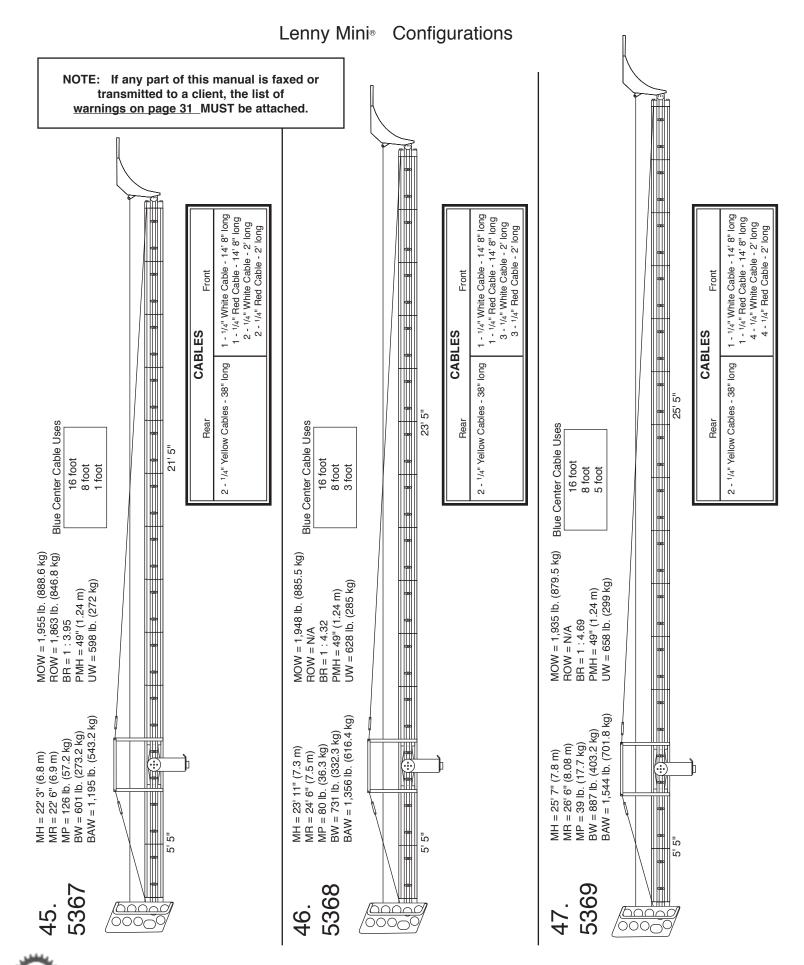


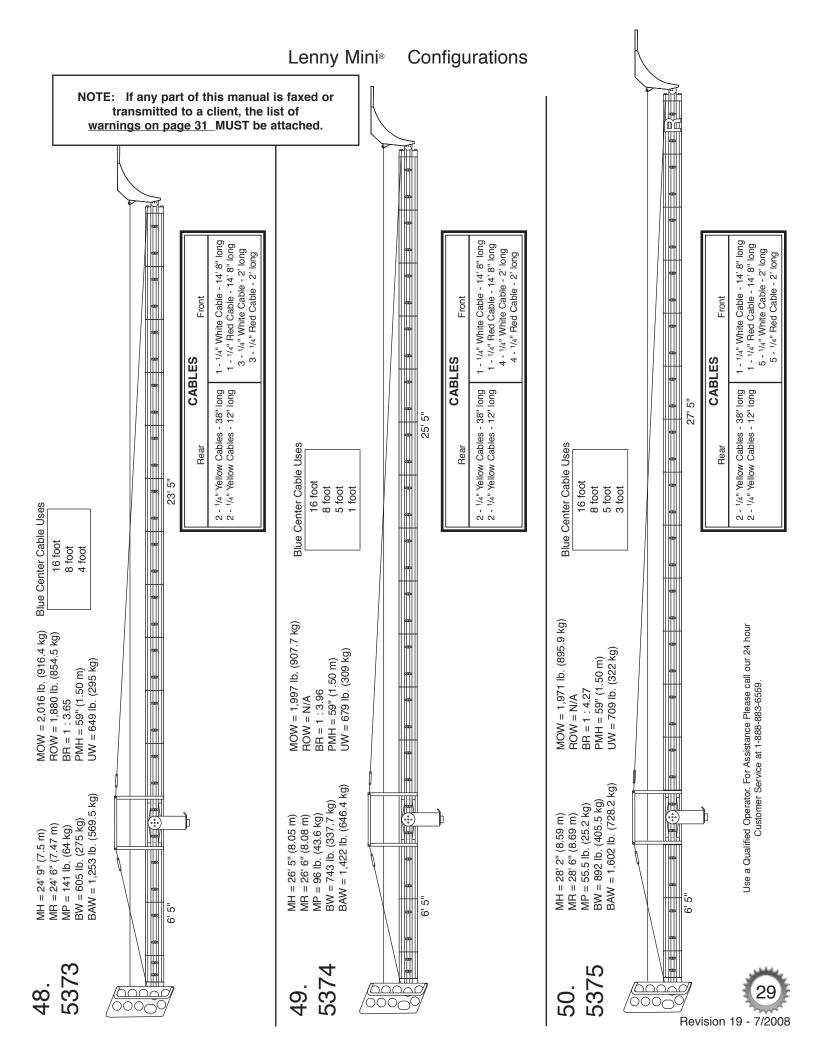


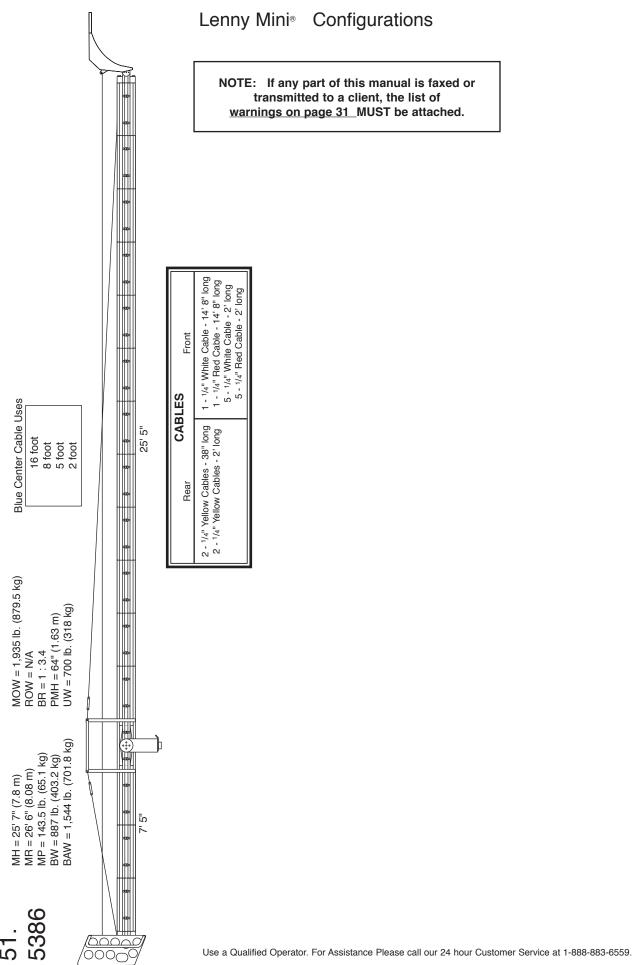












#### Lenny Mini® Warnings

NOTE: If any part of this manual is faxed or transmitted to a client, this page of warnings MUST be attached.

**WARNING:** It is not permitted and is unlawful to operate this equipment within 10 feet of <u>High-Voltage Lines</u> of 50,000 volts or less. For minimum clearances of High-Voltage Lines in excess of 50,000 volts, see California Code of Regulations, Title 8, Article 37, High-Voltage Electrical Safety Orders.

WARNING: Keep the crane arm balanced at all times. Avoid sudden disembarking of personnel or removing equipment.

**WARNING:** When attaching the Bucket Section to the Lenny Mini, be sure that the Quick Release Pin is fully seated. Then hand tighten the large knobs in the Weight Bucket to eliminate any looseness in the connection between the Weight Bucket and the arm. Tighten all the knobs equally.

**NOTE:** The stated <u>maximum height will vary</u> according to the Base chosen. All weights and heights are based on scale accuracy of 2%. For configurations not shown in this brochure, or <u>questions regarding a special setup</u>, please contact a Chapman/Leonard Service Representative.

**WARNING:** The Lenny Arm Bucket Positioning Bolts are for aligning and mounting an **EMPTY** Bucket to the rear of a Lenny Arm. As soon as a Bucket is connected to a Lenny Arm with the Positioning Bolts, the two Retaining Rods **MUST** be inserted and Knurled Nuts tightened on the Retaining Bolts.

**WARNING:** Never exceed the <u>maximum payload values</u> for any configuration. Chapman/Leonard Studio Equipment, Inc. will NOT guarantee the safety or performance of any alterations to the depicted arm configurations.

WARNING: Do not exceed the listed Post Mount Height (PMH) values to avoid invalidating our safety recommendations.

**WARNING:** The Lenny Arm rear section combination should be configured so that the <u>bucket touches the ground</u> before the Lenny Arm vertical travel limits are obtained.

WARNING: The Lenny Mini is for Remote Use ONLY! Never attempt to use as a Man Set-Up.

#### **SAFETY FIRST!**

#### WARNING

- It is NOT Permitted and is Unlawful to Operate This Equipment Within 10 Feet of High-Voltage Line of 50,000 Volts or Less.
- For Minimum Clearances of High-Voltage Line in Excess of 50,000 Volts. See California Code of Regulations, Title 8, Article 37, High-Voltage Electrical Safety Orders.

Source Title 8, California Code of Regulations, Subchapter 5, Group 2, Article 37,  $\S2946$ , 29 Code of Federal Regulations 1926.451 (F)(6)

Nominal Voltage	Minimum Required Clearance
	(Feet) (Meters)
600 up to 50,000 ——	10 3
Over 50,000 to 75,000	11 3.4
Over 75,000 to 125,000	0 13 4
Over 125,000 to 175,00	00 —— 15 ———— 4.6
Over 175,000 to 250,00	00 17 4.6
Over 250,000 to 370,00	00 21 6.4
Over 370,000 to 550,00	00 27 8.2
Over 550,000 to 1,000,	,000 42 12.8

#### **Warnings Regarding the CS Base**

**DO NOT** exceed the total weight capacity of the CS Base.

**DO NOT** use the tires on the CS Base as a step. The tires will turn easily if the base is raised up on the Jackscrews.

**DO NOT** use the Riser in any Manned Configurations. The Riser is for Unmanned or Remote Configurations only.

**DO NOT** mix tire types. All tires on the CS Base must be of the same type.

**DO** place the CS Base on firm ground or provide further support by adding plywood sheeting or other means.

**DO** keep any unused Weights in the Storage Areas of the CS Base. This adds to the balance and stability of the CS Base.

DO wear gloves when handling Weights.

**DO** use the Pneumatic Tires as a Safety Feature when the CS Base is used on track.

**DO** ensure the Weight Bucket is able to touch the ground when an Arm is attached to the CS Base.

The Cable System **MUST** be used on any Arm attached to the CS Base if the Auxiliary Weight Bucket is used on the Arm.



#### **Parts and Accessories**

All weights are based on scale accuracy of 2%

Center Post: 90.5 lb. (41.1 kg)

A: 15.5" (.39 m) B: 19.3" (.49 m) C: 24" (.61 m)

Note: Length is 25" (.64 m) including leveling rod ends

Nose Segment +

Camera Plate: 43.5 lb. (19.7 kg)

A: 9.8" (.25 m) B: 19.5" (.5 m) C: 24.5" (.62 m)

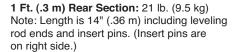
D: 5" (.13 m) end to bearing

Bucket Segment: 17.5 lb. (7.9 kg)

A: 8" (.2 m)

B: 5" (.13 m) end to bearing

**1 Ft. (.3 m) Front Section:** 21 lb. (9.5 kg) Note: Length is 14" (.36 m) including leveling rod ends and insert pins. (Insert pins are on left side.)



2 Ft. (.61 m) Front Section: 30 lb. (13.6 kg) Note: Length is 26" (.66 m) including leveling rod ends and insert pins. (Insert pins are on left side.)

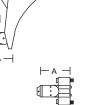
Nose Segment + Camera Plate: 48.5 lb. (22 kg)

A: 9.8" (.25 m) B: 29" (.74 m) C: 28.5" (.72 m)

D: 5" (.13 m) end to bearing

Cable System: 34.5 lb. (15 kg) - 43 lb. (19 kg)

Weight: 27.5 lb. (12.5 kg)

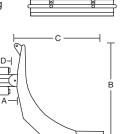






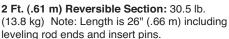








2 Ft. (.61 m) Rear Section: 30 lb. (13.6 kg) Note: Length is 26" (.66 m) including leveling rod ends and insert pins. (Insert pins are on right side.)







Small Bucket: 39.5 lb. (17.9 kg)

Total Capacity: 21 Weights - 577 lb. (262.3 kg)

A: 25" (.64 m) B: 7.5" (.19 m)

Short Split Bucket: 67.5 lb. (30.6 kg) Total Capacity: 30 Weights - 825 lb. (374.6 kg)

A: 17.5" (.44 m) B: 14" (.36 m)

**Split Bucket:** 67 lb. (30.5 kg)

Total Capacity: 44 Weights - 1,210 lb. (550 kg) A: 29.5" (.75 m)

B: 14" (.36 m)

Heavy Split Bucket: 169 lb. (76.7 kg) Total Capacity: 44 Weights - 1,210 lb. (550 kg)

A: 29.5" (.75 m) B: 14" (.36 m)

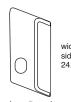
width from side to side: 21.8" (.55 m)



width from side to side: 24.5" (.62 m)



side to side: 24.5" (.62 m)



width from side to side: 24.5" (.62 m)

#### **Terms and Definitions**

MH = Maximum Height. (From lens to ground in underslung mode. An additional 2 to 4 feet may be achieved by inverting remote head.)

MR = Maximum Reach. (As measured from center post to ideal camera position.)

MP = Maximum Payload.

**BW** = Bucket Weight for balanced arm. (No payload.)

**BAW** = Balanced Arm Weight. (No payload.)

**MOW** = Maximum Operating Weight of unit. (With maximum payload and a full bucket.)

ROW = Remote Operational Weight of unit. (With 135 lb. payload.)

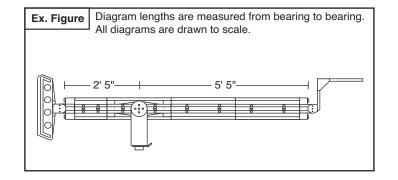
BR = Balance Ratio. (Determines the weight required in bucket to balance a payload after arm has been balanced.)

PMH = Post Mount Height needed to obtain maximum height on level ground. (Do not exceed.)

UW = Unit Weight.

BAW + (BR + 1) X Nose Load = Operating Weight for any given nose load.

- \*\* = PeeWee, Hybrid & Hustler hydraulic arm use is possible with a 50 lb. maximum load.
- \*\*\* = Hybrid and Hustler hydraulic arm use is possible with a 50 lb. maximum load.





Center Post 5345



Front Nose Section 5346



Rear Bucket Section 5347

1 Foot Section 5355













Small Bucket 5351



Split Bucket 5352



Center Post Cable Bracket 5121



Cable Carrying Case 5129

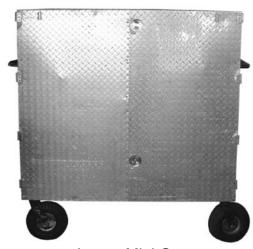


Quick Release Pin 9078

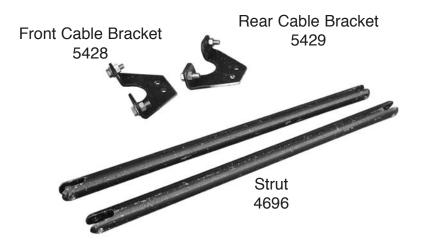




Safety Cap & 2" Bolt 4415



Lenny Mini Cart 0430





User Guide 264



1/4 Weight 6 7/8 lb. 3148

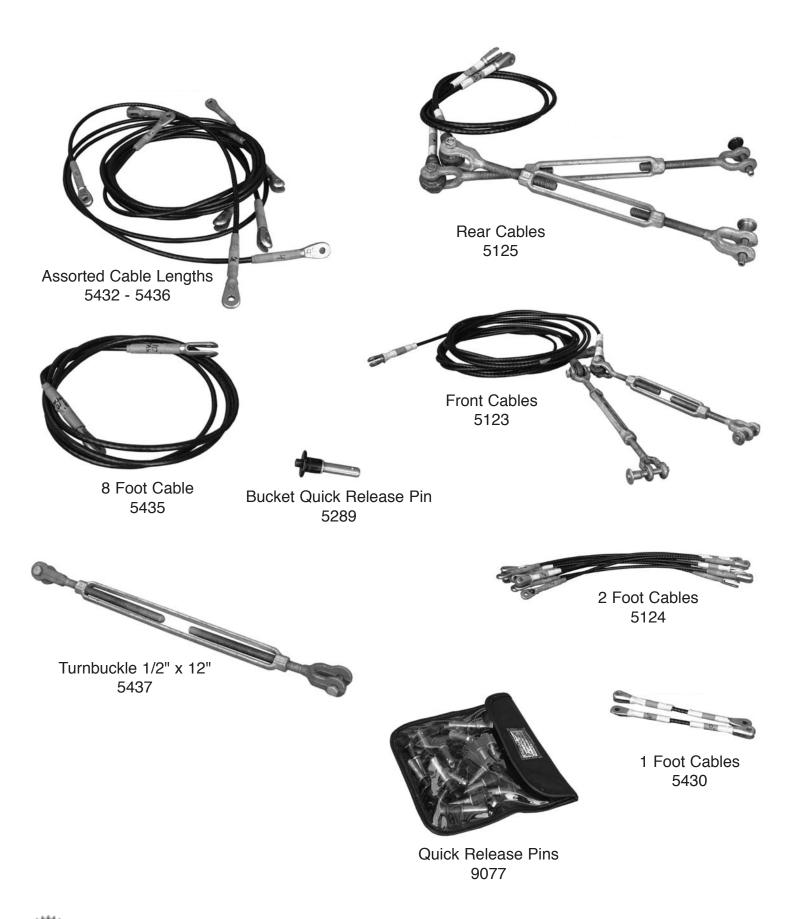


400



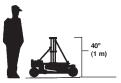
1/2 Weight 13 3/4 lb. 3150





#### **LENNY MINI IS FOR REMOTE USE ONLY**

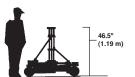
The Lenny Mini can be mounted on these Chapman/Leonard products:



#### Super Peewee®

(With High Post Kit) MAXIMUM PAYLOAD = 1,100 lb. (500 kg) Operating Weight of unit = 386 lb. (175 kg) Min. Carrying Wt. of unit =

280 lb. (127 kg)



#### Hybrid

(With High Post Kit)

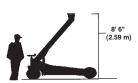
MAXIMUM PAYLOAD = 1,900 lb. (863 kg) Operating Weight of unit = 501 lb. (227 kg) Min. Carrying Wt. of unit = 395 lb. (180 kg)



#### Hv Hv®

(With 7.5" riser)

MAXIMUM PAYLOAD = 2,900 lb. (1,318 kg) Operating Weight of unit = 325 lb. (148 kg) Minimum Carrying Weight of unit = 260 lb. (118 kg)



#### Olympian

MAXIMUM PAYLOAD = 1,700 lb. (795 kg)

Weight of unit = 1,790 lb. (813 kg)



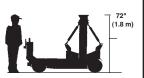
#### Chassis

(with Center Post Insert)

MAXIMUM PAYLOAD =

1,100 lb. (500 kg) Weight of unit = 248 lb. (112 kg) Minimum carrying weight =

224 lb. (102 kg)



#### ATB Base

(7.5" riser optional)

MAXIMUM PAYLOAD = 5,500 lb. (2,500 kg) Weight of unit = 2,339 lb. (1,063 kg)



#### CS Base®

(With 7.5" riser)

MAXIMUM PAYLOAD = 5,500 lb. (2,500 kg) Operating Weight of unit = 771 lb. (350 kg) Min. Carrying Wt. of unit = 302 lb. (137 kg)

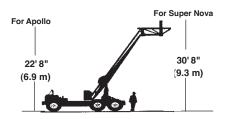


#### Camera Car Mount

(7.5" riser optional)

MAXIMUM PAYLOAD = 3,300 lb. (1,519 kg)

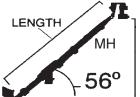
Weight of unit = 515 lb. (237 kg)



#### Mobile Crane

For SUPER NOVA/APOLLO With Platform and 2 Ft. riser: MAXIMUM PAYLOAD = 2,700 lb. [1,227 kg).Platform at 1/2 circle weighs 285 lb. (131 kg). Platform at full circle weighs 412 lb. (189 kg). These weights, depending on application, are deducted from Maximum Payload. Subtract 8 Ft. (2.4 m) for Apollo height.

The maximum height for the LENNY MINI is calculated by using the bearings at both ends of the arm as points of reference. Assuming that the arm is at its maximum angle of elevation (56°) and that the arm touches the ground, the maximum height is calculated by multiplying the arm length by sin56 (.829). The forward bearing height is approximately the same as the camera lens height when the camera is underslung. Additional height can be achieved by the use of risers or by overslinging.



The maximum payloads and operational weights for the LENNY MINI have been calculated using a CAMERA PLATE (7 lb.) and NOSE SEGMENT (18 lb.). Please consider these facts while deciding which configuration is to be chosen for a given task.

#### To calculate specific operational weight for any given configuration, please use the following formula:

Specific Operational = (Balanced arm Weight

weight, no payload.)

payload (camera weight, risers, etc.)

payload x balance ratio (Weight in bucket required to balance the given payload.)

#### SPECIFIC OPERATIONAL HEIGHT ON **ELEVATED PLATFORMS =**

**PLATFORM** 

MOUNT **HEIGHT** (Ground to mount) FORWARD LENGTH OF ARM x .829 (Center post to

1.1 Ft. (.35 m)

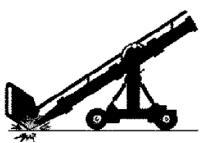
(Center post bearing fwd. bearing) to mount)

Actual Height (H) = MH - (PMH x BR - Actual Mount Height x BR)

Warning: Never exceed the maximum payload values for any configuration. Chapman/Leonard Studio Equipment, Inc. will **NOT** guarantee the safety or performance of any alterations to the depicted arm configurations.

#### Lenny Mini® Triple Cable System Checklist

Quantity	Item Description
2	15 foot Front Cable
10	2 foot Extension
7	Center Cable (Blue) 1', 2', 3', 4', 5'., 8' and 16'
2	38 inch Rear Cable
2	10 inch Rear Cable
23	Quick Release Pins, <sup>3</sup> /8' x 1"
4	Quick Release Pins, <sup>3</sup> /8" x 1 <sup>1</sup> /2"
4	Cable System Turnbuckle <sup>1</sup> /2" x 6"
1	Cable System Turnbuckle 12" x $^{1}$ /2" with 2 Bolts and Nuts 1 $^{1}$ /2" x $^{3}$ /8"
2	F/R Brackets
4	Nuts <sup>3</sup> /8"
4	Washers <sup>3</sup> /8"
2	Lenny Mini Center Post Brackets
4	<sup>1</sup> /2" x <sup>3</sup> /8" Bolt (Bracket)
2	Center Post Spreaders
1	Carrying Case
1	Lenny Mini User Guide



Bucket reaches ground (RECOMMENDED)

The Lenny Arm rear section combination should be configurated so that the bucket touches the ground before the Lenny Arm vertical travel limits are obtained.



Bucket does not reach ground (NOT RECOMMENDED)