



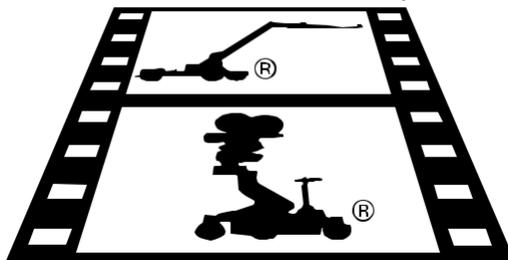
COBRA VT 22-61 CAMERA DOLLY

USER GUIDE[©]

Operational Instructions & Specifications



**CHAPMAN /
LEONARD**
STUDIO EQUIPMENT, INC.



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Safety Disclaimer

The Cobra camera dolly is the most compact of all Chapman/Leonard's dollies. The Cobra has a small footprint of only 20 inches square and weighs only 235.5 lbs. It is much lighter than the PeeWee series dollies.

Added consideration must be given to maintain safe operating conditions. For maximum SAFETY, place counter weights on extension boards to balance variable payloads.

Static balancing is easily obtained as shown. Dynamic balancing and balancing in movement must also be considered.

Test runs are advised.



Chapman/Leonard Studio Equipment Inc. emphasizes safety first in the development and use of all our equipment.



COBRA VT 22-61 CAMERA DOLLY

About this User Guide

This User Guide is designed to explain and illustrate the basic and unique features of the Cobra VT 22-61 camera dolly. Refer to the contents for questions about dolly use and care.

2	Cobra VT 22-61 Features
3	Specifications
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WHAT DOES VT 22-61 MEAN?

V–Vertical

T–Travel

22” minimum height - ground to Mitchell Mount

61” maximum height - ground to Mitchell Mount

* Add approximately 14 in. from mount to camera lens center.

LEVELING SWING HEAD WITH CLUTCH

The Cobra’s Leveling Swing Head has 48 different positions. It can be locked in place or unlocked, allowing the head to swing freely making it possible to shoot a smooth 360° pan shot!

STEERING & TRACKING ADJUSTABLE MODES

The Cobra has two steering modes

- Crab (Default)
- Conventional
- Both the Steering Column & Tracking Bar are completely removable in just 15 seconds!

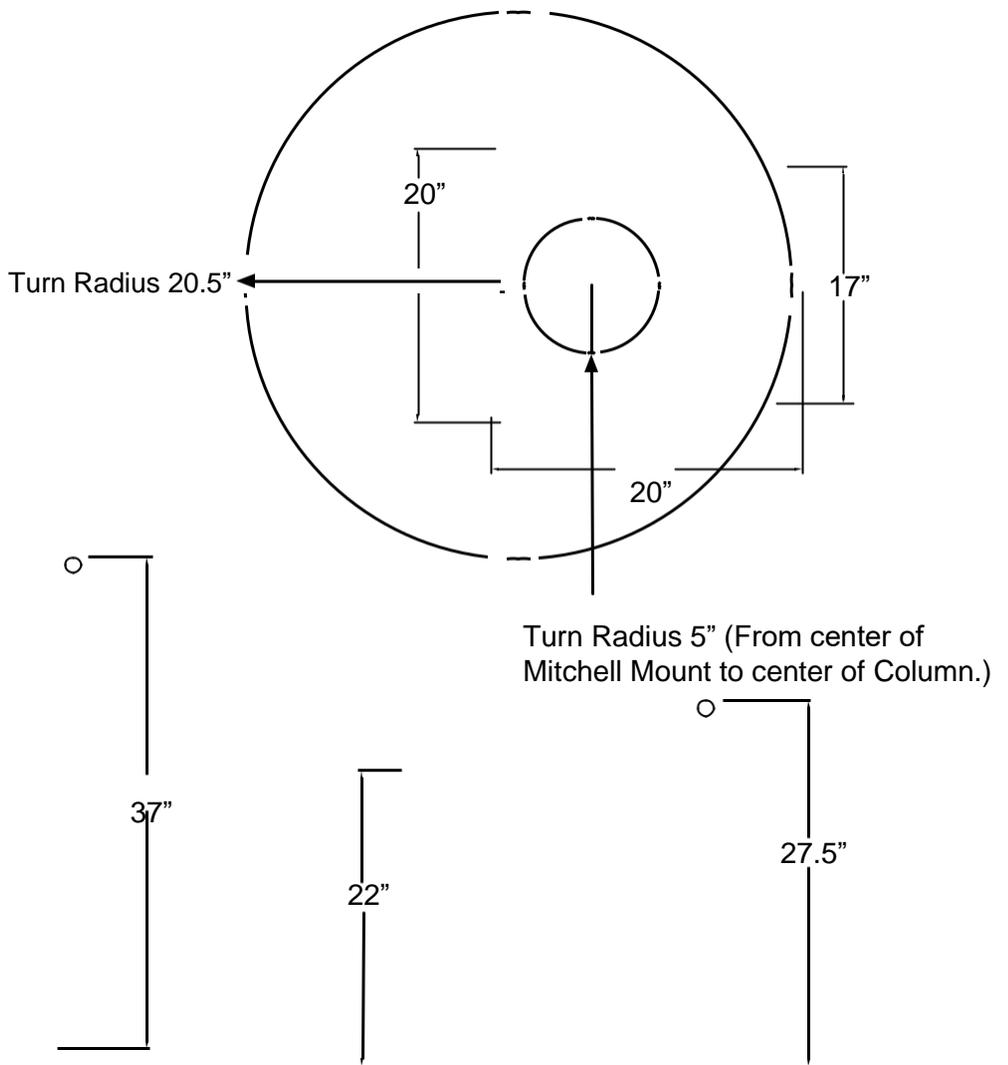
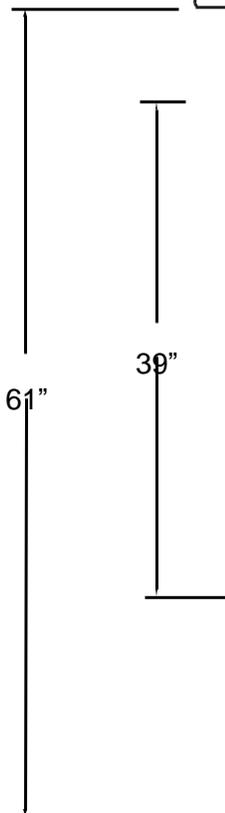
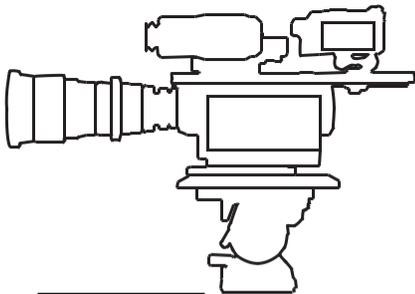
CHARGING SYSTEM

One time charging for a given camera load provides infinite lifts.
No recharging needed!

CL ADJUSTABLE TRACK

The CL Adjustable Track is designed for the Cobra Dolly. The CL Adjustable Track is 16 in. wide from the center of each rail. The CL adjustable track expands and locks to 21.8 in. as well as standard 24.5 in., accommodating other standard dollies.

Maximum Payload _____	375 lbs. / 170 kg
Minimum Camera Mount Height _____	22 in. / 55.88 cm
Maximum Camera Mount Height _____	61 in. / 154.94 cm
Vertical Travel _____	39 in. / 99.06 cm
Column Friction Brake When Engaged _____	27 lbs. / 12.25 kg
Steering Column and Tracking Bar	
Min Height _____	28 in. / 71.12 cm
Max Height _____	37.5 in. / 95.25 cm
Charging System _____	Nitrogen Balanced System (Unlimited Lifts)
Chassis Dimension _____	20 x 22.5 in. / 50.8 x 57.15 cm
Minimum Turn Radius _____	20.5 in. / 52.07 cm
Column Diameter (when removed) _____	17 in. / 43.18 cm
Carrying Weight of Chassis _____	62 lbs. / 28.12 kg
Carrying Weight of Column with Head _____	173.5 lbs. / 78.70 kg
Total Carrying Weight (Chassis and Column Complete) _____	235.5 lbs. / 106.82 kg
Track _____	CL Adjustable Straight Track (16 in. / 40.64 cm width configuration) CL Curve Track (16 in. / 40.64 cm width)



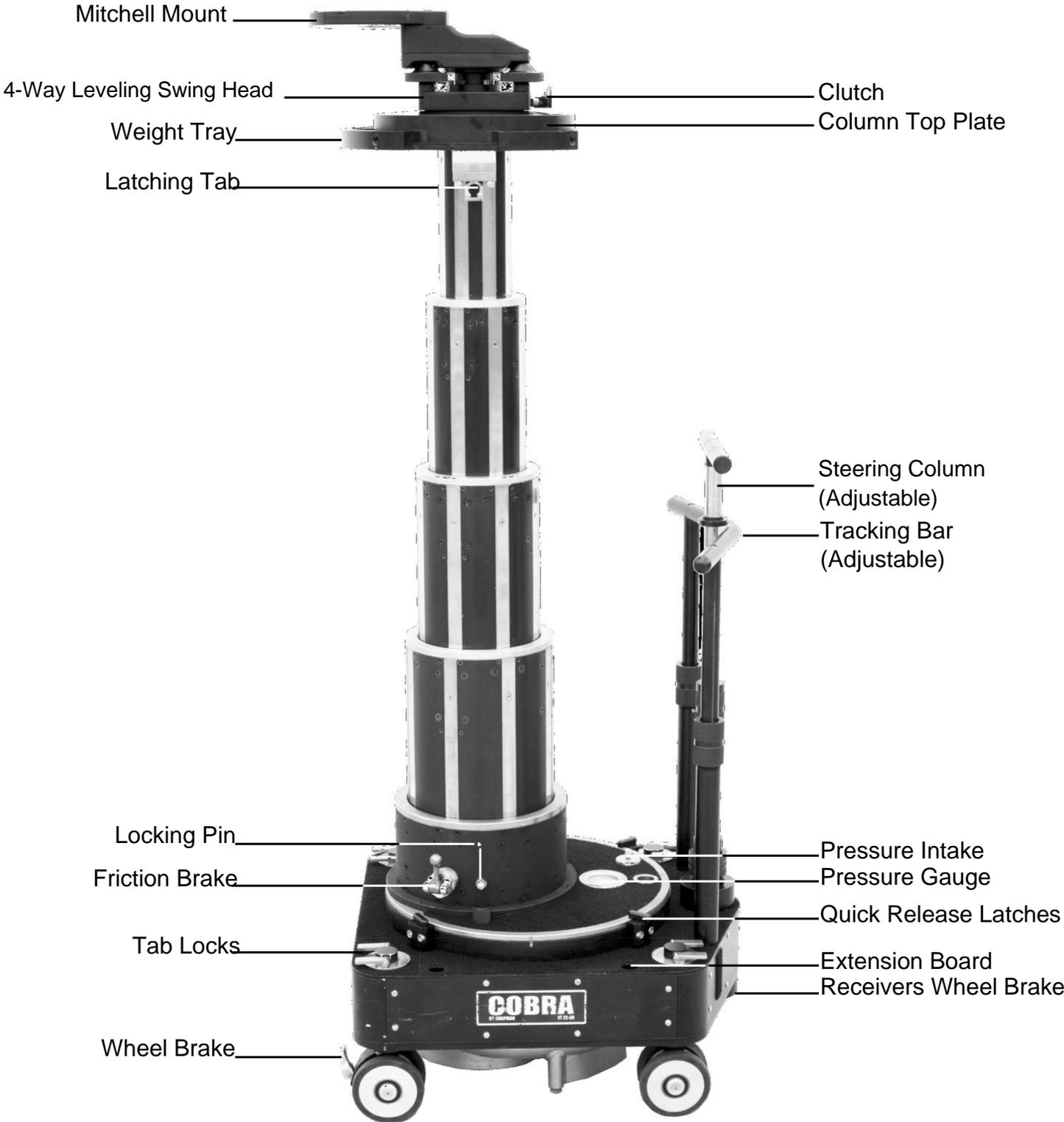
COBRA STANDARD PACKAGE

<i>Item Number</i>	<i>Item Description</i>	<i>Quantity</i>
32200	Cobra VT 22-61	1
32294	4-Way Leveling Swing Head	1
32256	Column Top Plate	1
32400	Steering Column (Adjustable)	1
32280	Steering Column-Push Button (Adjustable) <i>Optional</i>	1
32384	Steering Column Handle Extensions (Push Button)	2
32254	Tracking Bar	1
32333	Lifting Handles (60°)	2
32308	Column Top Plate Handles	2
32265	Cobra Medium Tires	8
32394	Cobra Front/Rear Extension Board	1
32391	Cobra Left/Right Extension Board	1
3002	2.2 lb Weight	6
3045	1.1 lb Weight	1
32399	Cobra Utility Pouch	1
32396	Battery Tray	1
20042	Hustler IV Tab Lock Wrench	1
2034	1 1/8" Open Wrench	1
4991	9/16" & 1/2" Combo Wrench	1
3007	Wrench (Set/13 PC) Lencin Allen	1
3006	7/32" Lencin Ball - End Hex Driver	1
2005	Silicone Spray (Zep-Par Mold Release Spray)	1
2004	Turret Screws	8
2072	Nitrogen Bottle Kit	1



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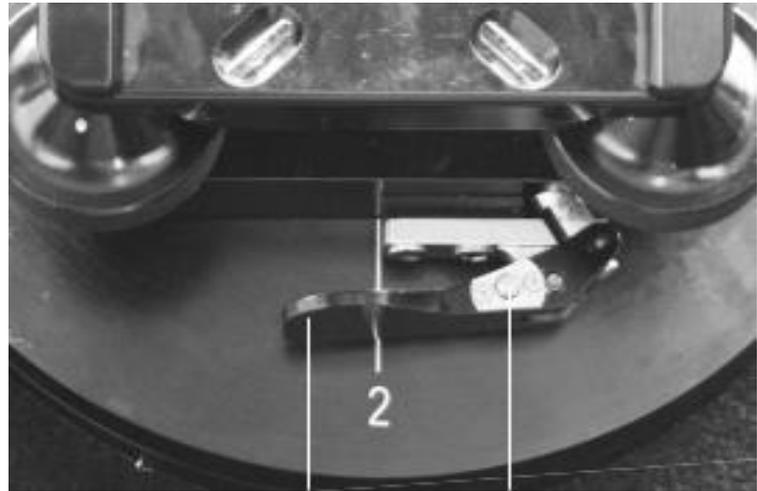
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Edition 2 - 11/2014

Indexing Clutch Detail

- ① The 4-Way Leveling Swing Head has 48 different locking positions.
- ② When disengaging the clutch, the swing head is released for free rotation.
- ③ To maintain continuous free rotation, engage the locking pin as shown.
- ④ When releasing the clutch, the indexing clutch lock will snap into place at one of the 48 positions.



Turn Radius 5" (From center of Mitchell Mount to center of Column.)



360° Leveling Swing Head Rotation



Leveling the 4-Way Leveling Swing Head

Observe the Bubble Level Indicator positions. If the bubble is not centered in each tube an adjustment should be made. Lower the leveling knob (clockwise) that is diagonally opposite a low bubble.

Raise the leveling knob (counter clockwise) that is diagonally opposite a high bubble. Adjust all four leveling knobs until both bubble level indicators are centered.

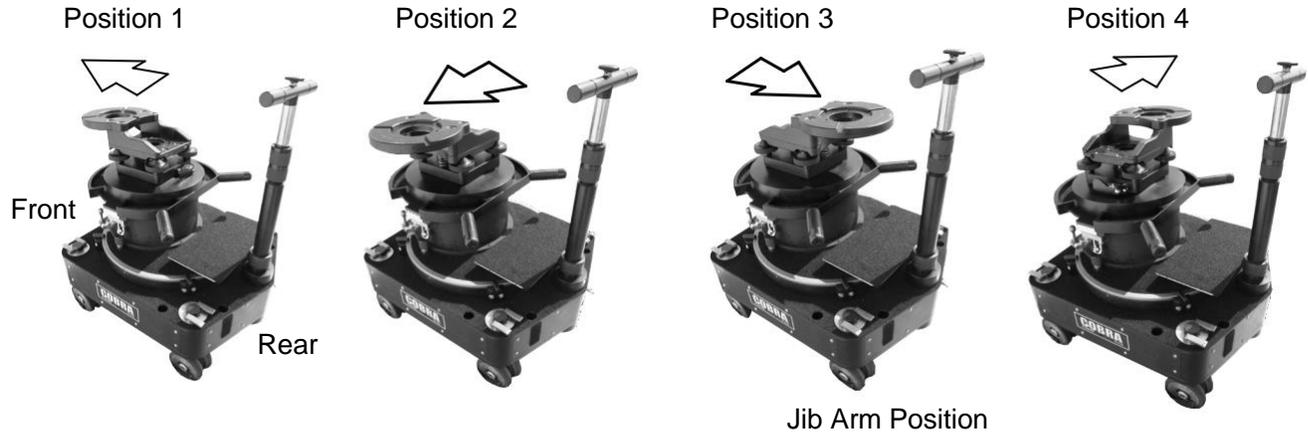
Leveling Bubble

Leveling Knob



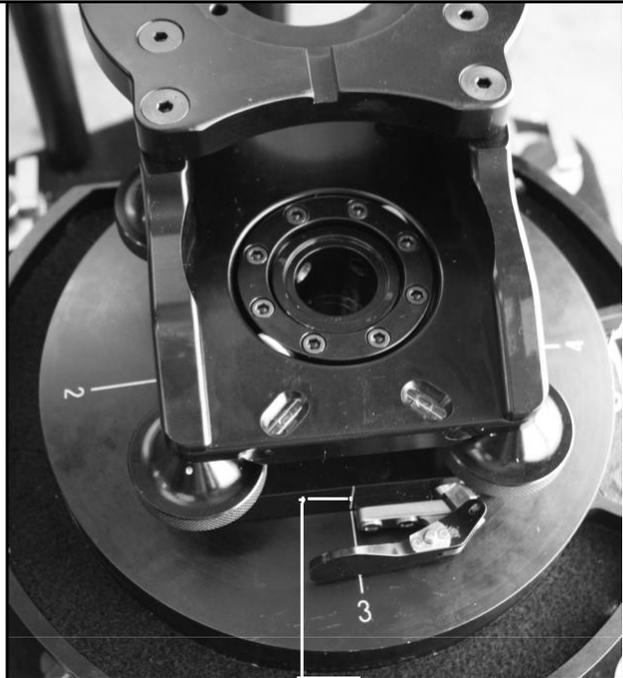
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The 4-Way Leveling Swing Head has 48 locking positions. There are four (4) specially marked positions for easy recognition.

Jib Arm Position three (3) puts the weight distribution closer to the center of the dolly. This setting must be used when attaching jib arms like the Stinger.



Note the engraved line on the 4-Way Leveling Swing Head. This should be lined up with the marker on the top plate to orient the head to the correct position.



Stinger Jib Arm on Cobra Dolly

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NITROGEN BALANCE SYSTEM



The Nitrogen Balance System is designed to balance the payload, providing a simple way of raising and lowering the telescoping column. Once the payload is balanced by the Nitrogen Balance System, the column and payload can be easily raised, lowered and stopped by hand.



NOTE ON PSI CONVERSION:

The telescoping column is balanced at **85 psi**. Anything added to the Cobra should be added to this figure.

Ex. 200 lb payload --> 285 psi.

Warning

To Prevent damage to the Cobra VT 22-61 maintain a minimum pressure of 85 PSI. The column of the Cobra must not be in use and remain locked if it contains pressure less than 85 PSI.

Charging the Tank

To refill, use the nitrogen tank provided. Secure the hose to the intake valve next to the pressure gauge at the rear of the column. Fill until payload is balanced. The backup tank is effective for four (4) charges.



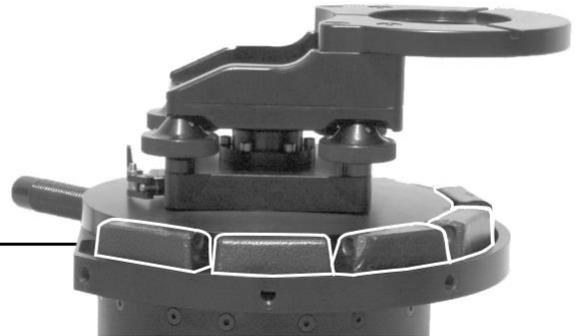
WEIGHT TRAY QUICK BALANCING

Proper planning is required for varying payloads, as well as changes in temperature.

The weight tray provides a quick and easy way to balance any variation to the camera weight.

The weights may be used to fine tune the balance of the camera without having to add or remove nitrogen.

Balancing Weights
(2.2 lbs. ea.)



There are six 2.2 lb. weights, and one 1.1 lb. weight that Velcro into the weight tray. The total excess weight is approximately 14.3 lbs.

ATTENTION: Add or remove weights according to payload adjustments and weather.



Hot weather can cause the gas to expand, requiring additional weight.



Cold weather will shrink the gas requiring removal of weight.

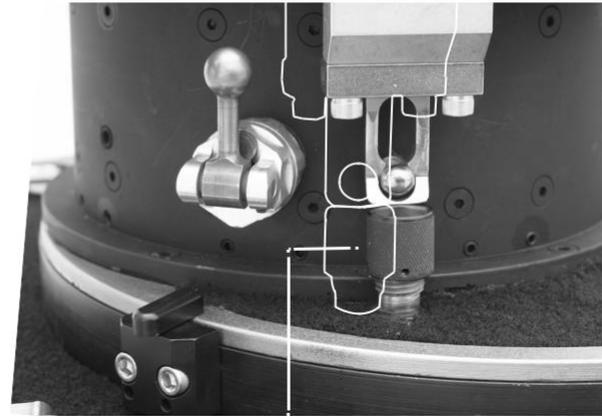
Changing lenses may require adjustments in the weight tray.

The safety pin and latch should be used for carrying, transportation and storage.



Safety Pin & Latch

The double safety lock ensures the function of safety pin and latch.



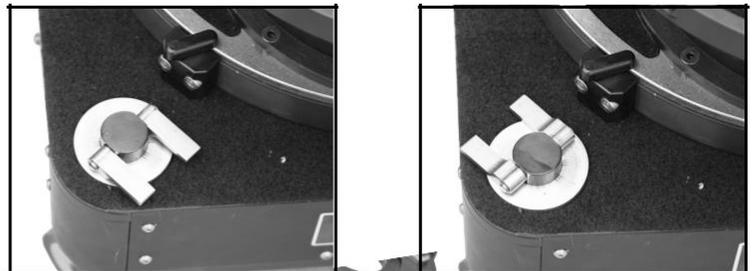
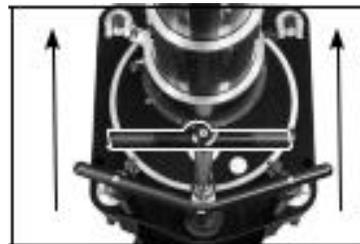
Double Safety Lock

Aligning the Dolly

If the dolly is not tracking correctly, or it has been taken off track or unloaded from transportation, the wheel alignment will have to be adjusted to achieve proper performance.

Make sure the Steering Handle is as pictured. (The operator should be able to shift the steering modes) Then, lock the position of the steering column by shifting the dolly in between steering modes. (The Steering Column will not be able to move if done correctly).

Note:
Handle must be straight as indicated.



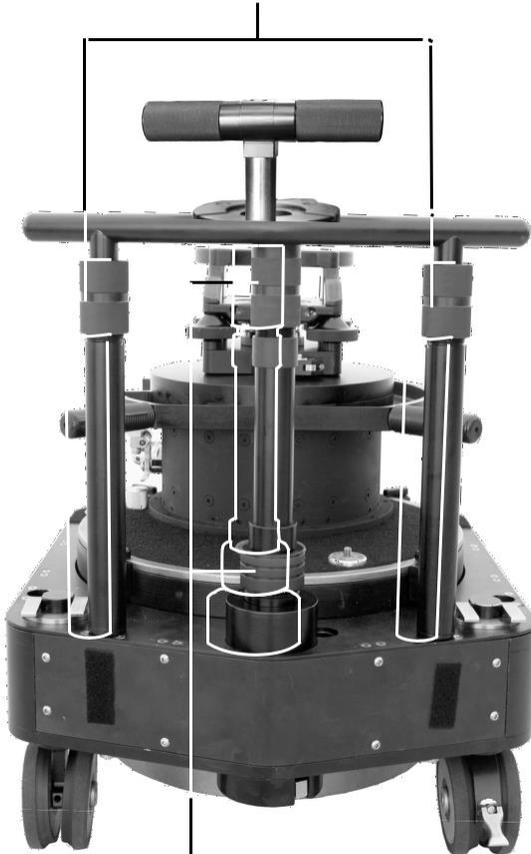
- 2 Unlock the wheel tab locks & align the wheels with a straight bar parallel to the chassis as pictured to the right.
- 3 Re-engage the wheel tab locks.
- 4 Repeat operation on other side of the dolly. Now the dolly is properly aligned.



ADJUSTABLE TRACKING BAR & STEERING COLUMN PO

The tracking bar and steering column can be independently adjusted to high and low positions by hand, using the lock-down collars.

Tracking Bar Lock-down Collars



Steering Column Lock-down Collars

Adjusting the Height

- ① Loosen the collars.
- ② Slide to high or low position.
- ③ Tighten the collars.



Steering column and tracking bar in low position.



Steering column and tracking bar in high position.



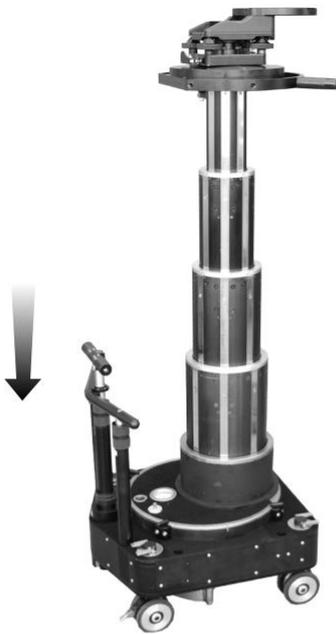
Steering column in low position without tracking bar.



Steering column in high position and tracking bar in low position.



Dolly without steering column or tracking bar.



Adjusting the Handle from High to Low Position

- ① Shift to Conventional Mode.
- ② Loosen Lock-down Collar.
- ③ Push handle down till it clicks.
- ④ Shift to Crab Mode.
- ⑤ Maintain Crab Mode and tighten Lock-down Collar.



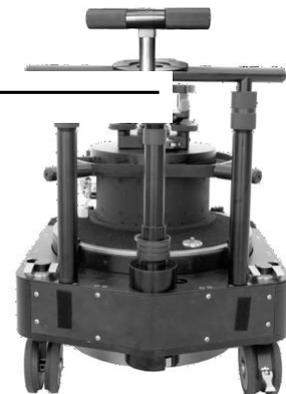
Adjusting the Handle from Low to High Position

- ① Shift to Crab Mode.
- ② Loosen Lock-down Collar.
- ③ Pull handle up till it clicks.
- ④ Shift to Conventional Mode.
- ⑤ Maintain Conventional Mode and tighten Lock-down Collar.

Column Lock-down Collar



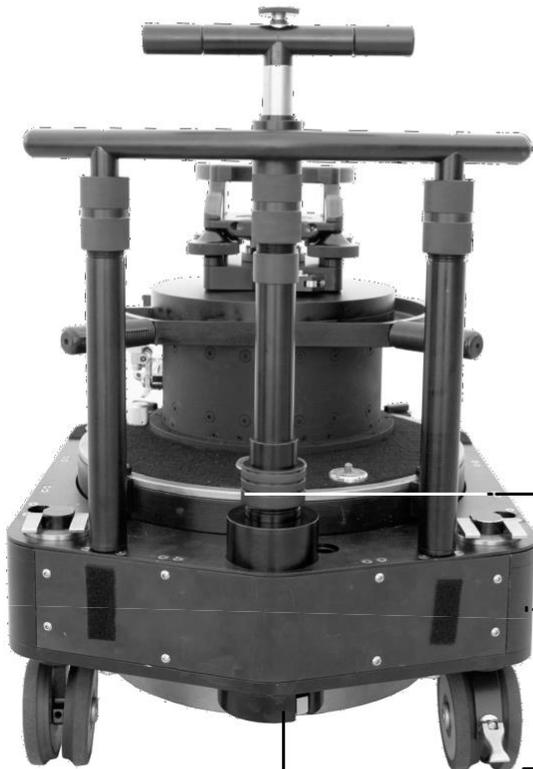
Note: After adjusting the steering handle position the Lock-down Collar must be secured tightly to enable proper shifting. Use moderate force.



REMOVING & INSTALLING THE TRACKING BAR & STEERING COLUMN

Removal

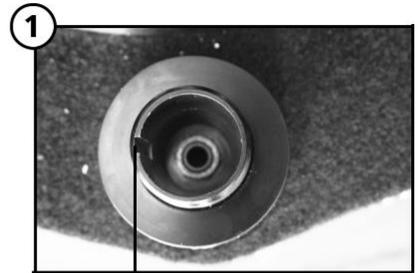
Three (3) latches underneath the rear of the chassis allow for quick securing/releasing of the tracking bar and steering column.



Installation

[Aligning the Keyway for the Steering Column.]

Note: When installing the steering column make sure the keyway is aligned with the slot in the receiver tube.



Keyway Slot



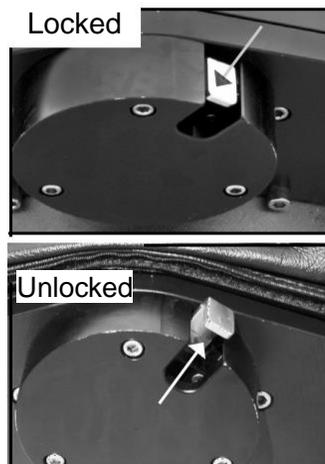
Keyway



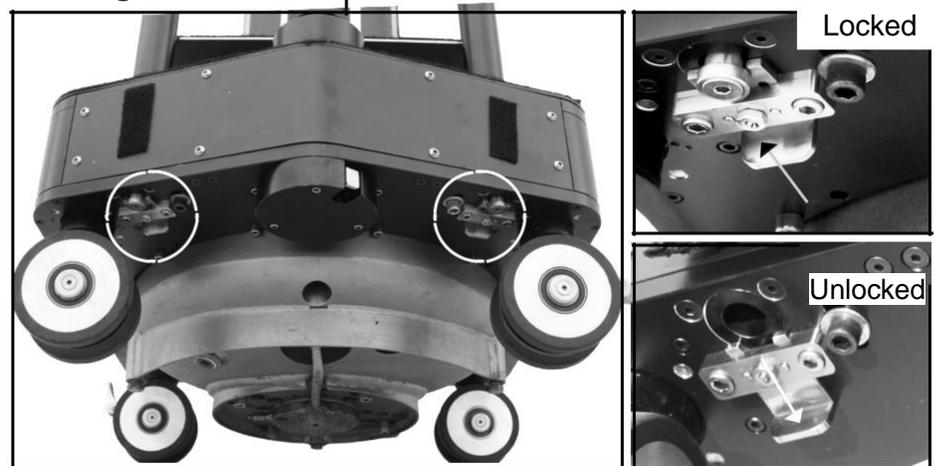
Keyway Aligned

Note: When installing the steering column, make sure the column pin (sticking out of the bottom of the column) is fully extended so that it can be easily locked in by the center latch.

Steering Column Lock



Tracking Bar Locks



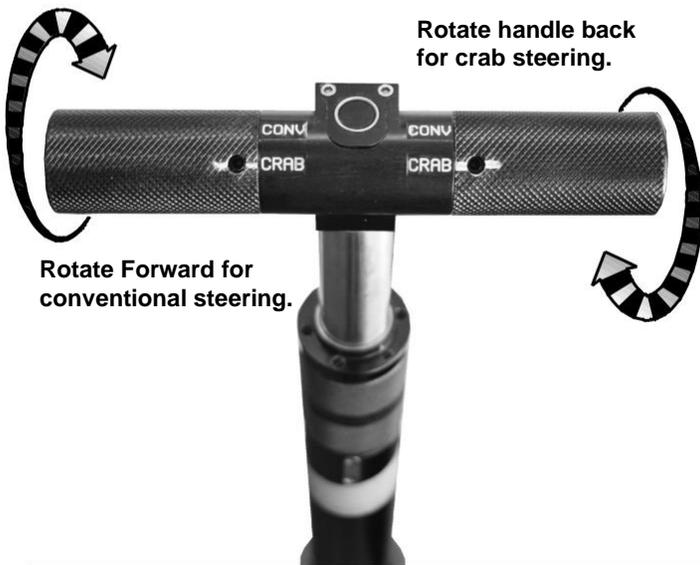
The center latch secures/releases the steering column.

The left & right latches secure/release the tracking bar.

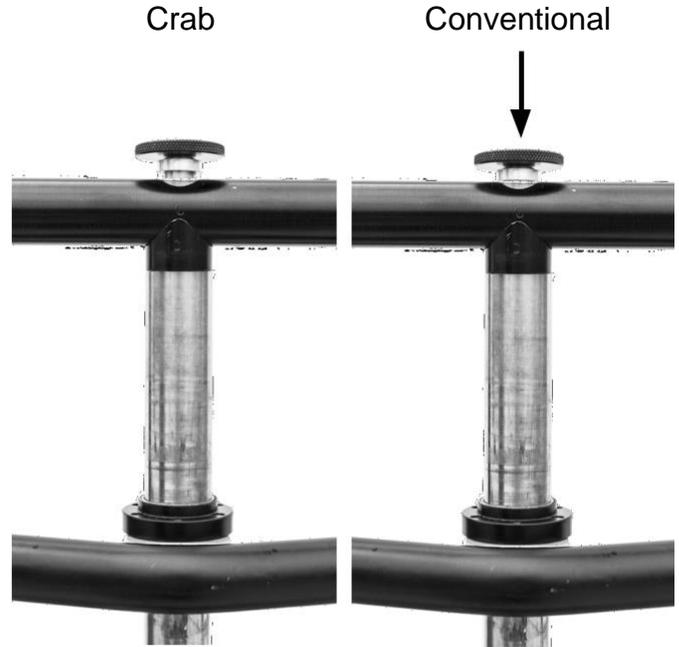
Standard Steering Mode

The standard steering column is capable of two (2) different steering modes. In **Conventional Mode** the rear wheels pivot as the operator making a tracking turn. In **Crab Mode** all wheels turn in unison enabling the dolly to be moved in any direction while maintaining the orientation of the camera plane. The operator can select any mode by rotating the steering column.

Rotate the handle gently to shift into crab or conventional modes.



Push Button Steering Mode



The default steering for the Cobra dolly is crab steering. With the wheels facing forward and the push-button engaged the Cobra will shift to conventional steering. When the push button is disengaged the Cobra will automatically maintain crab steering.

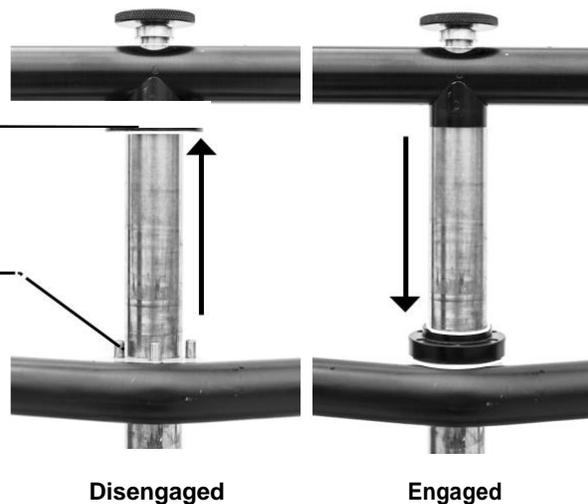
Perforated Securing Disc

The tracking bar & steering column are secured together using a perforated securing disc.

Prongs

To secure the tracking bar to the steering column, push the disc down and fit the three (3) prongs into the perforated securing disc.

To disengage, pull up. For convenience, the securing disc will magnetically attach to the top of the steering column.



COBRA WITH JIB ARMS

The Stinger Jib Arm is the ideal arm for the Cobra dolly. The Stinger Jib arm combined with the 90° Hi/Lo Plate and 4-Way Leveling Swing Head weighs approximately 135 lbs. With the camera and counter weight the payload will be well over 200 lbs. Charging the nitrogen system is required.

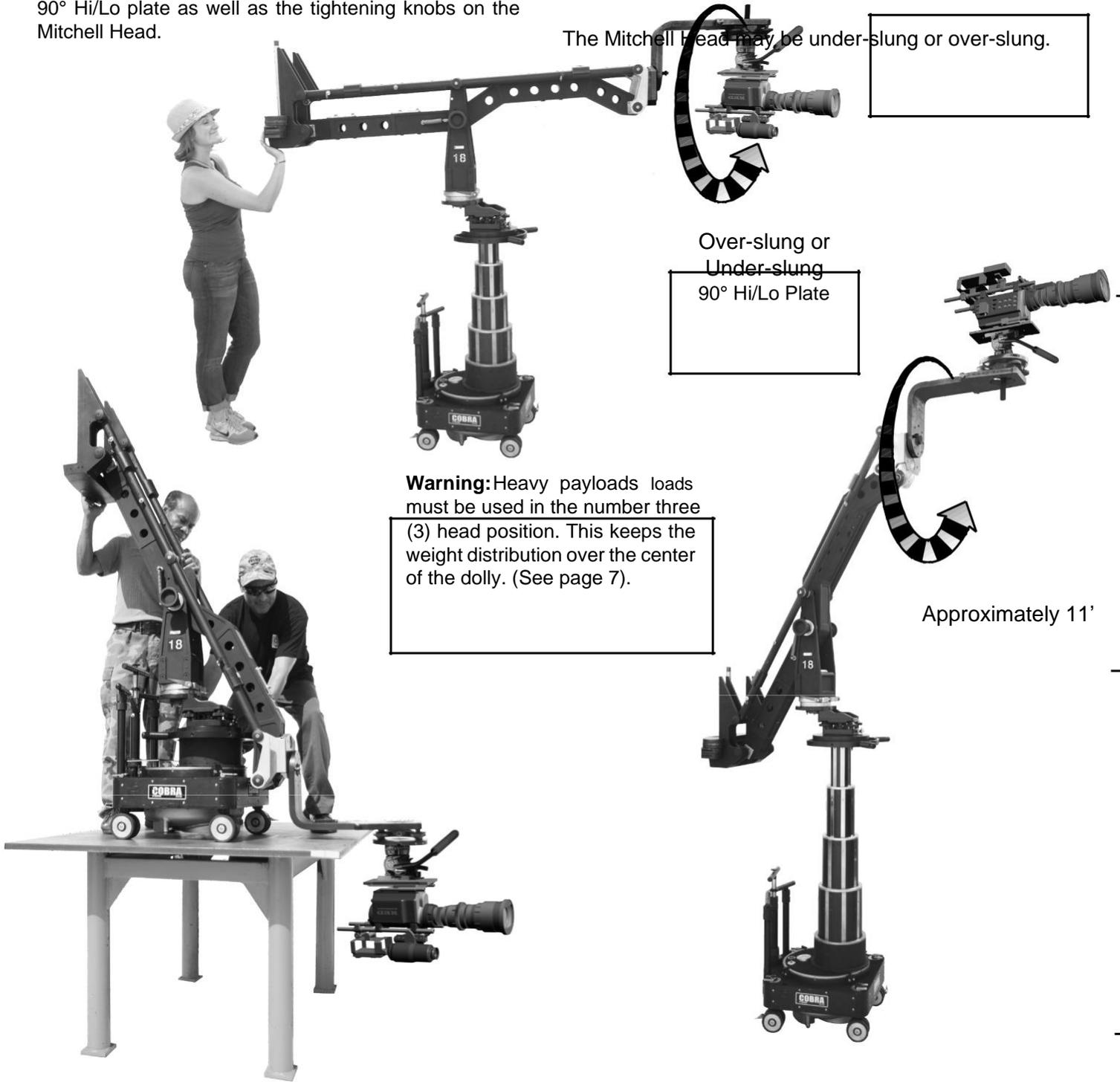
Note: The camera can be under-slung or over-slung without being removed using quick release pins on the 90° Hi/Lo plate as well as the tightening knobs on the Mitchell Head.

The Mitchell Head may be under-slung or over-slung.

Over-slung or Under-slung
90° Hi/Lo Plate

Warning: Heavy payloads loads must be used in the number three (3) head position. This keeps the weight distribution over the center of the dolly. (See page 7).

Approximately 11'



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The extension board is designed to offset eccentric camera loads such as the three (3) ft. or four (4) ft. Chapman Slider. The extension board is designed to carry counter weights.

COBRA FRONT/REAR EXTENSION BOARD



COBRA LEFT/RIGHT EXTENSION BOARD



When using the CL slider we recommend having the 4-Way Leveling Swing Head in the number three (3) position.



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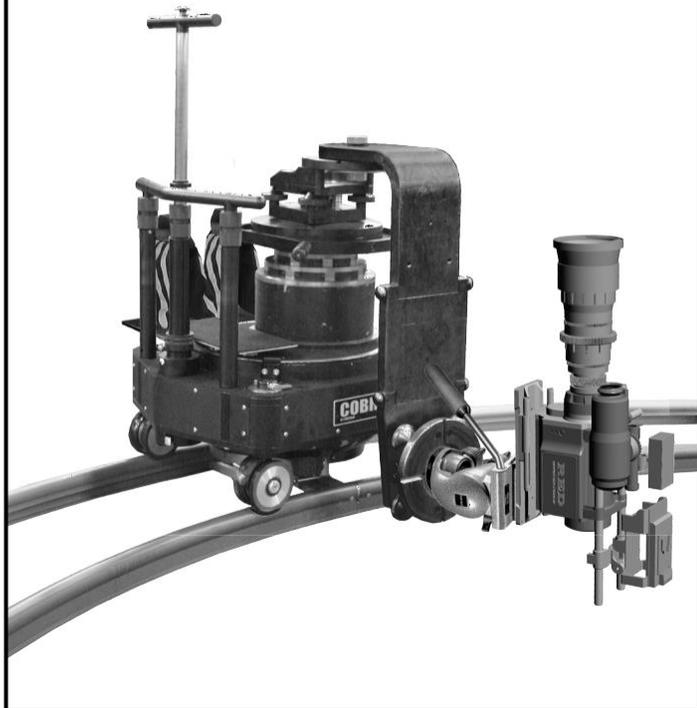
90° HI/LO PLATE CONFIGURATION WITH CAMERA AT THE GROUND

Here the camera has been mounted on the 90° Hi/Lo plate on the Cobra dolly. This will bring the camera to ground level or lower when using the 7 in. extension.

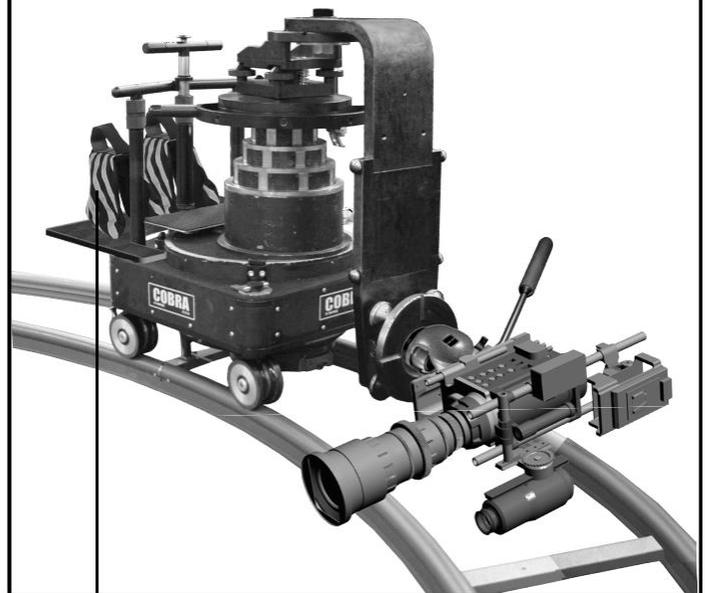
The cobra extension board with counter weights is recommended for stability when using the 90° Hi/Lo Plate as pictured. Center the balance with counter weights on the extension board opposite the 90° Hi/Lo Plate and camera.



90° Hi/Lo Plate with extension may be used on track to bring the camera to ground level or lower.



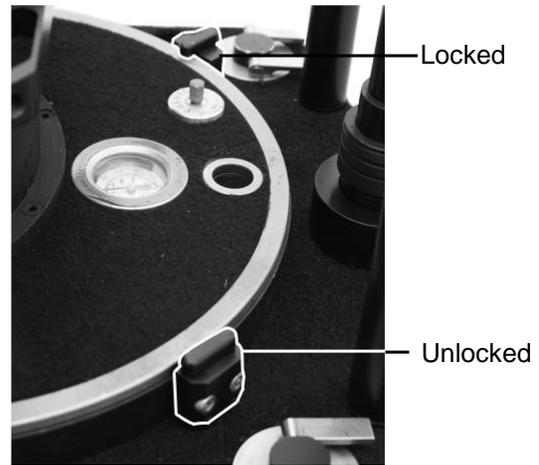
Adjust the column and engage the friction lock to set the camera at the desired height.



Counter Weights

Detach the center column from the chassis to use the Cobra 17 in. compact configuration.

Make sure quick release latches are open.



② Screw the straight lift handles into two (2) of the six (6) available receiving holes located on opposite sides of the head plate.



Safety pin and latch pictured in secure position with double safety lock engaged.

③ After the column has been locked, carefully lift the column out of the chassis and place on a flat surface.





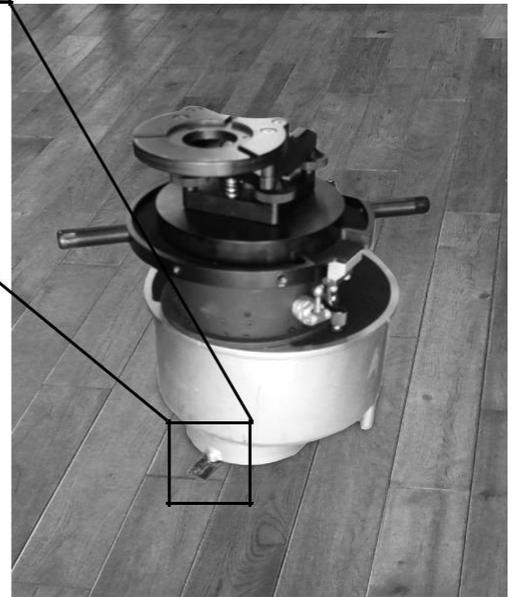
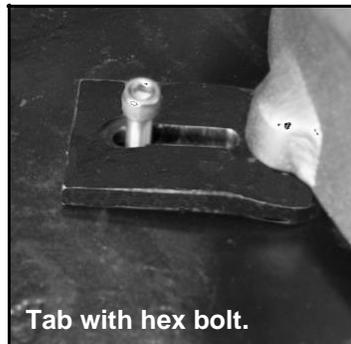
- ① Using 5/8 in. Wrench, Attach tab to hex bolt.
- ② Attach tab to floor using provided hex screw.

Securing the Stand Alone Column with Tab Locks

Stand alone column feature is used in tight, compact areas such as stairs, stadium seating, etc.

Securing tabs make it possible to attach the column to a flat surface.

Using a hex bolt, attach tabs underneath the column. Use a screw to secure the tab to a flat surface.



Stand-alone column base width: 17 in.

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16" ADJUSTABLE TRACK & CURVE TRACK

The CL Adjustable Track at the 16 in configuration, and CL 16 in. Curve track was designed for the Cobra Dolly.

The CL Curve track has been designed for the 16 in. width setting on the CL Adjustable Track. The PeeWee Series dollies and the Cobra dolly will work on the curve track.

Track Width __ 16 in. (Track width is taken from the center of each rail.)

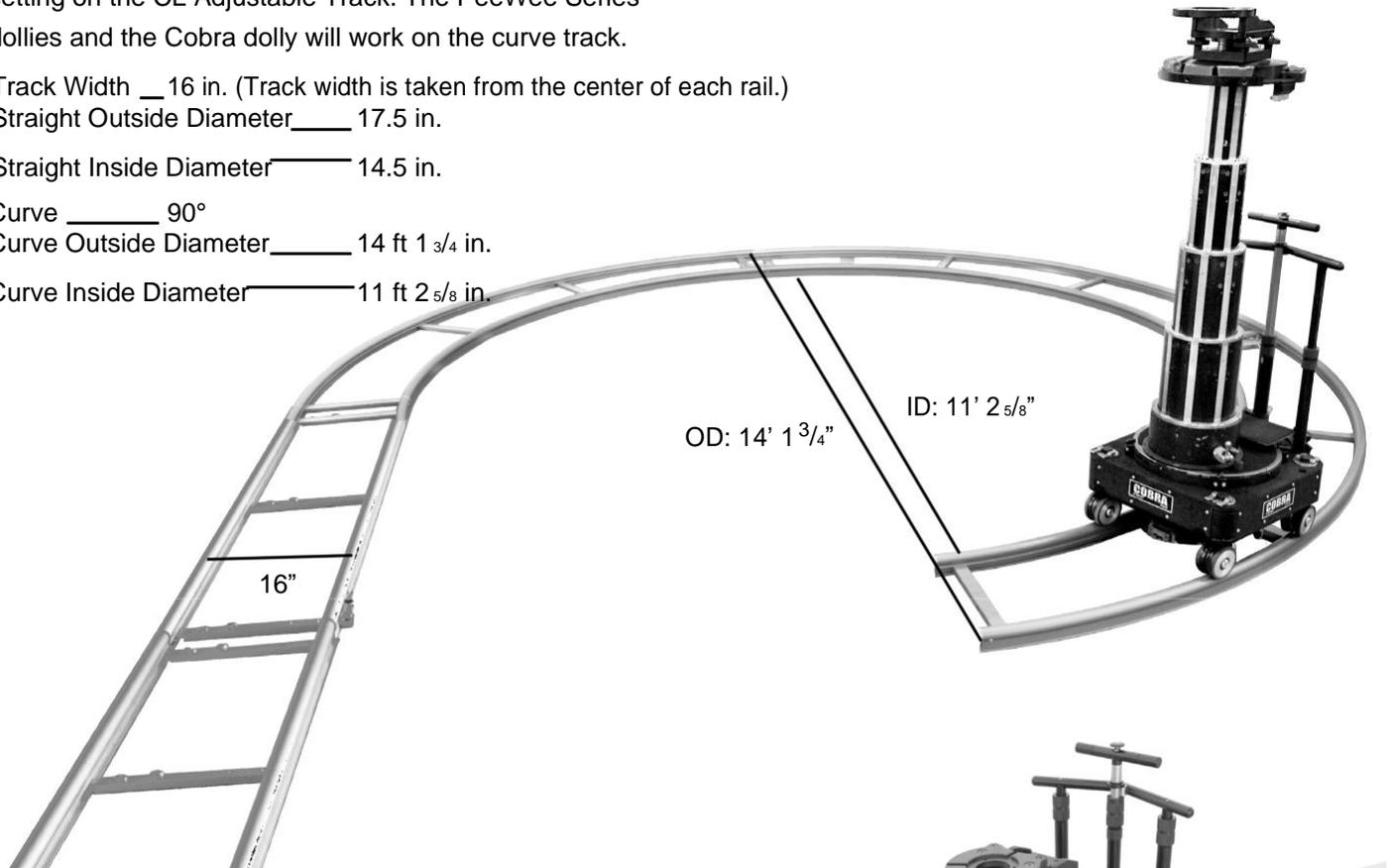
Straight Outside Diameter____ 17.5 in.

Straight Inside Diameter_____ 14.5 in.

Curve _____ 90°

Curve Outside Diameter_____ 14 ft 1 3/4 in.

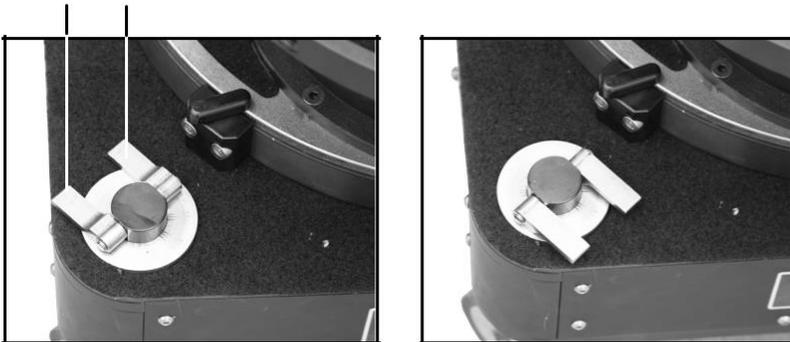
Curve Inside Diameter_____ 11 ft 2 5/8 in.



(CL Adjustable track and CL curve track.)

While using the Cobra on CL 16 in. Curve Track unlock all eight (8) wheel tab locks to reduce tracking friction.

Wheel Tab Locks



To eliminate squeak noise on wheels, we recommend applying Zep-Par silicone mold release spray.

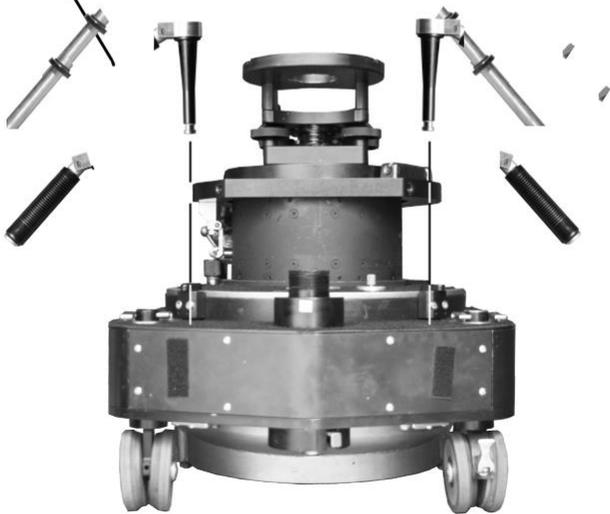
Column Lifting Handles

The column lifting handle should be screwed into the middle receiving hole located in the front of the column top plate.

60° Lifting Handles

The 60° lifting handles should be used for loading and unloading the dolly for transportation. The 60° lifting handles enable equal carrying load.

The handles are secured in the same receivers as the tracking bar. The locking system for the handles are the same as the tracking bar. (Refer to page 12).



**122 lbs. per person with two people.
61 lbs. per person with four people.**



- ① When carrying the dolly make sure the column is fully compressed.
- ② Make sure the safety pin and latch are in secure position with double safety lock engaged (see page 9).
- ③ Point the 4-way Leveling Swing Head in position three (3) (See page 7).
- ④ Position a person at the front and rear of the dolly. Properly lift and carry the dolly.

Carry weight of Cobra: 245 lbs.

(Including weight of Leveling Head, Cobra Dolly and Lifting bars)



Always begin cleaning the Dolly with a Vacuum Cleaner. Never use an air hose, because dirt and metal shavings will find their way into joints and bearings. This can seriously shorten the life of the Dolly.

Use soap and water applied to a cloth or paper towel, or preferably a brush to wipe down the rubber and metal parts of the Dolly. Never directly spray the Dolly with water.

Wax the exterior of the Dolly using Megular's Mirror Glaze Cleaner Wax. This keeps the Dolly cleaner during regular use and preserves the finish. A clean Dolly will ensure optimum performance with

For Rubber and Plastic For Metal

smooth and quiet movements, while enhancing its aesthetics.

Spray the tires with Zep-Par NC Silicone Spray (Key Words on Label are "Mold Release Agent"). This dramatically improves Tire Performance on Tile Floors, Hardwood, Track and even on Concrete, allowing them to move freely and silently. Use the same spray to clean the Tires.

WARNING
 Harmful Vapor.
 Can cause eye, skin and respiratory
 irritation

**Always Read Warning
 Labels**

Note:

There is a sponge in the cap of the Zep-Par Silicone spray. When applied to wheels and track the Zep-Par can be sprayed into the sponge and applied by hand to eliminate emissions and odors.

The Operator should be Qualified. For Assistance Please call our 24 hour Customer Service at 1-888-883-6559.

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Edition 2 - 11/2014

Shipping and Handling

The Cobra VT 22-61 must be properly crated before shipment.
Make sure to attain a signed receipt from your chosen transport company to confirm shipment.

Rental bays are located on the left, immediately after entering the Chapman / Leonard facility. Trucks should be backed into the bays for easier loading. If no bays are available, please park on Raymer Street and advise the Rental Office of your arrival.

A customer service agent will notify you once a space becomes available.

All drivers must report to the rental office to process paperwork before loading/unloading may begin. Our Rental Staff is well trained to process equipment and documents efficiently.

**ALL RENTALS must be returned by 10:00 AM, Pick-ups 2:00 PM to close.*

Rental Office Hours:

Monday - Friday: 7:00 AM – 6:00 PM

Saturday: 8:00 AM – 12:00 PM

Sundays: CLOSED

Notice

When shipping by air, all gas must be released from the Cobra's pressure tank. When emptying gas from the pressure tank the telescoping column must be locked and must remain locked. Any elevation of the column with out at least 85 PSI of gas will damage the column.

Chapman / Leonard Studio Equipment, Inc.
Main Office: 12950 Raymer Street
North Hollywood, CA 91605



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