



CHAPMAN/LEONARD
— STUDIO EQUIPMENT INC. —

Hustler IV Camera Dolly

User Manual

Operational Instructions & Specifications

Hustler IV Camera Dolly

User Manual

Operational Instructions & Specifications

Edition 20

CHAPMAN

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Hustler IV User Manual

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The Operator should be qualified to operate
equipment as expressed in this manual.

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Hustler IV

Specifications

The Hustler IV is capable of three different steering modes. In Conventional Mode, the rear wheels pivot as the operator makes 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. In Round Mode, the Dolly can turn while remaining in the same spot. The operator can select any mode by twisting the steering handles. Control Pins can be set to limit which modes can be selected during critical moments, ensuring the operator can make transitions with confidence.

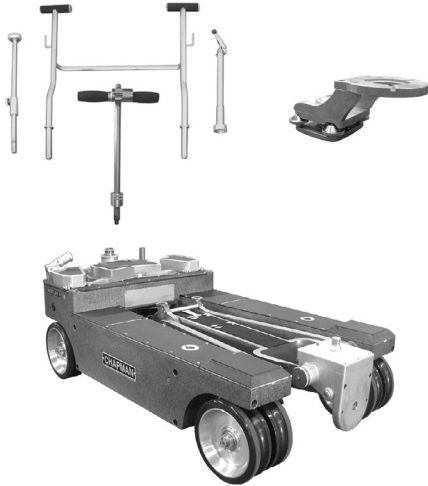
The Universal Stop Valve controls arm movement with smooth feathered stops. Adjustments to the Universal Stop Valve can be made without tools or the need to remove any covers or access plates. Feathering Levers are located below the Steering Controls, within the operators reach for ease of use.

The arm is a new design with greater rigidity, smoothness, speed and quietness of operation. Six full strokes of the arm is possible with a single charge.

A new tire design has dramatically reduced friction for smoother rolling shots. Tires can be matched to various track configurations.

The Side Board System provides complete walk-around-capability on the Dolly in both high and low level setups.

The Hustler IV has a built-in heat control system in the hydraulic system to maintain a minimum hydraulic oil temperature of 70°F. This maintains optimum performance in even the coldest environment.



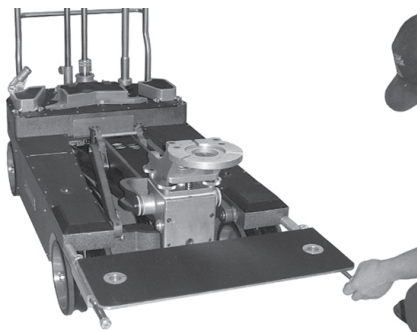
The Hustler™ IV in Low Profile Mode with attachments removed for shipping or storage.

With the deck controls removed there is no interference for 360 degree pan shots.

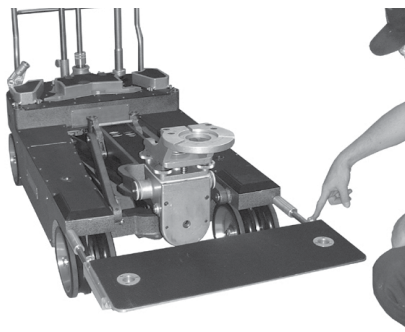
Minimum Camera Mount Height	18 in.	48 cm
Maximum Camera Mount Height	60 in.	1.5 m
Vertical Boom	42 in.	1.06 m
Minimum Camera Mount Height (Low Plate Setup)	1 13/16 in.	
Maximum Camera Mount Height (Low Plate Setup)	60 1/2 in.	
Maximum Load Capacity with Accumulator Charge @ 3300psi	750 lb	341 kg
Maximum Number of Lifts on a Single Charge	6 Lifts	
Carrying Weight	465 lb	211 kg

Attaching Boards in Upper Walk-Around Mode

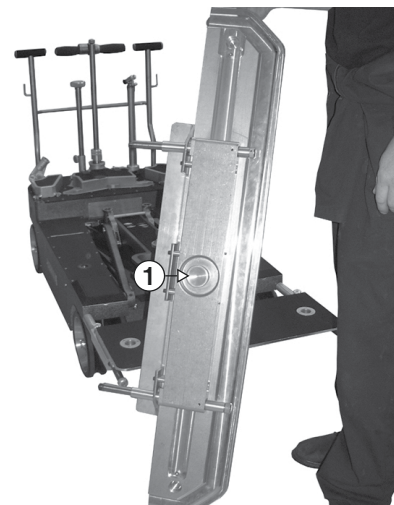
Assembly



The Front Board attaches with two thumb screws.



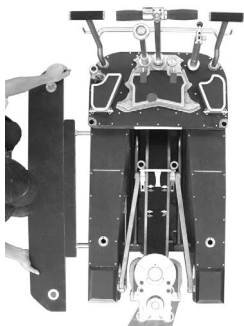
The Front Board may be retracted or extended.



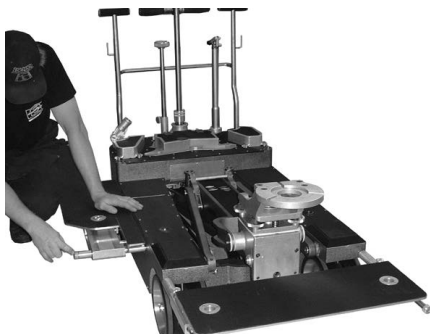
The Side Boards are designed to be interchangeable. There is no left or right version. This simplifies the installation of the boards.

The Side Boards are also adjustable for and aft on the Hustler IV chassis. A large knob secures the board to the desired location.

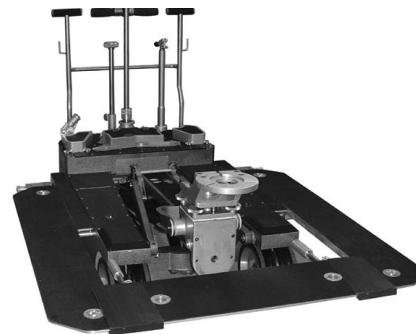
1 Position lock down knob.



The Side Boards attach to either side of the Hustler IV. They slide into place and are secured to the chassis with two thumb screws.

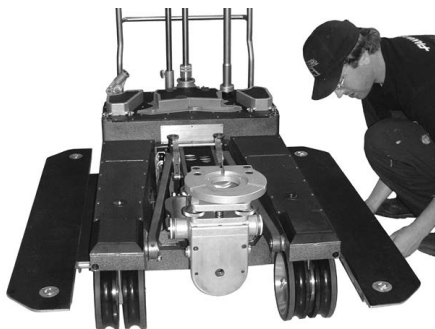


The Side Boards may be moved to the rear of the Dolly for easy access to the front thumb screw. Then move the board forward to access the rear thumb screw.

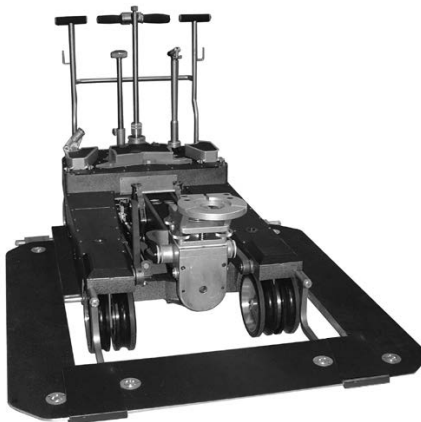


With the Side Boards securely attached to the Hustler IV, a stable platform allows the Grip to move the Dolly with a cameraman on board.

Attaching Boards in Lower Walk-Around Mode Assembly

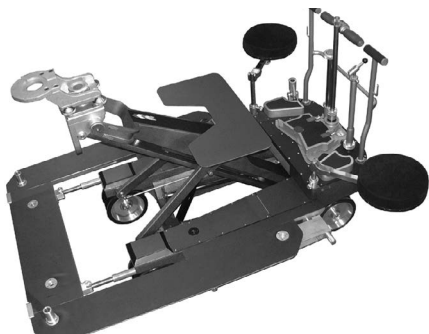


The procedure for setting up the Side Boards in Lower Setup Mode is the same. The Side Boards attach to either side of the Hustler™ IV. They slide into place and are secured to the chassis with two thumb screws.

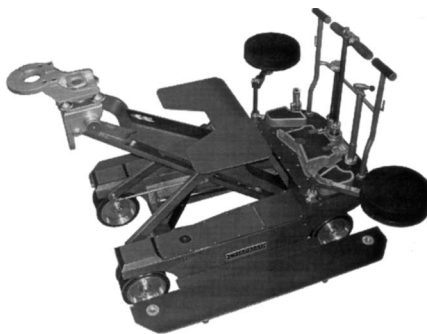


The Side Boards securely attached to the Hustler IV in Lower Setup Mode offers an alternative stable platform for the cameraman.

Upper and Lower Board Setup Modes
Configuration



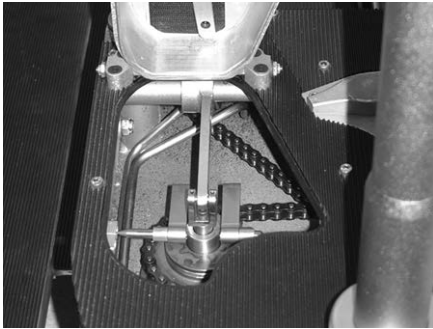
Full Upper Walk-Around Setup with Boards extended forward.



Lower Side Board Setup with Boards in standard position.

Tracks & Setup

Strategy



When operating on curved track, release **ALL** four Tab Locks on the Dolly. On the outside curve of the track, remove **BOTH** wheel spacers on one side of the Dolly. This will allow the wheels to articulate with the requirements of the track.

Excess speed on the track could result in a derailment. Weighting the Dolly on the inside of a turn helps offset the centrifugal force effect. Remember to ascertain safety of movement under controlled conditions.



To prepare the Hustler IV for use on track, loosen the Tab Locks with the Special Wrench on **BOTH** sides of the Dolly. Tab Locks are located on top of each Wheel Assembly. These are used to lock the Wheel Kingpin to the Steering System. During normal operation these Tab Locks should not be touched. However, when using curved track, freeing the wheels to follow the track is achieved by unlocking the Tab Locks on **ALL** four wheels of the Dolly.

Note: On both straight and curved I-Beam track, release **ALL** four Tab locks on the Dolly. This disengages the steering column and prevents the Dolly from being accidentally “steered” off track.



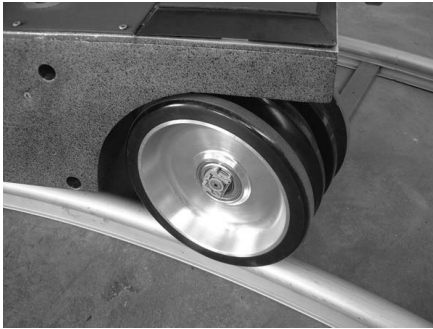
On the outside curve side of the Dolly, remove the Quick Release Wheel Lock from the front and rear wheels. Remove and store the both spacers.



Replace the Quick Release Wheel Locks to the front and rear wheels (on one side of the Dolly).



This will allow the wheels to move laterally on the axis.



As the Dolly moves onto a curved section of track, the extra space on the axle is used.



Spray the tires with Zep Par NC Silicone Spray (Key Words on Label "Mold Release Agent"). This will improve performance on floors, hardwood, track and even on concrete. That's because friction is the culprit behind tire squeaks and the tendency of tires to stick to track or polished floors. Treated tires begin rolling and run through turns with only moderate force. Use the same spray to clean the tires.



Before removing the Dolly from the track, replace the Spacers and Quick Release Wheel Locks. Use the Special Wrench to tighten the Tab Lock with the indicator pointing at the Alignment Mark.

Quick Release Wheel Locks Configuration



Changing a wheel is a fast and easy procedure. Each wheel is held in place with a Quick Release Wheel Lock.



Slide the Quick Release Wheel Lock into place on the axle. The spring will snap into place.

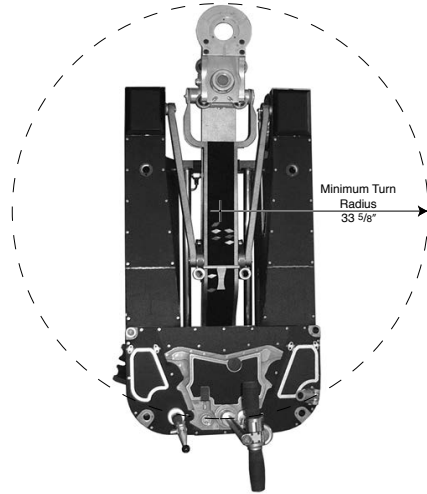


The wheel is now secure.

Note: Tires from earlier versions of the Hustler series are not compatible with the Hustler IV.

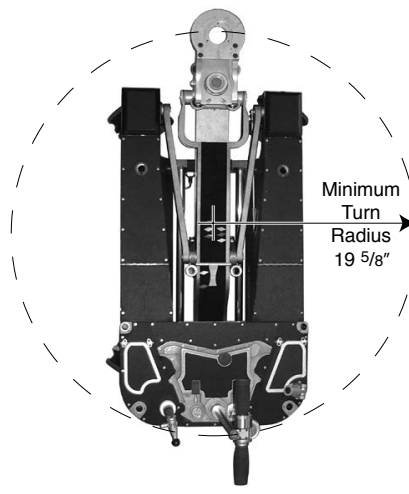
Steering Choices

Hustler IV



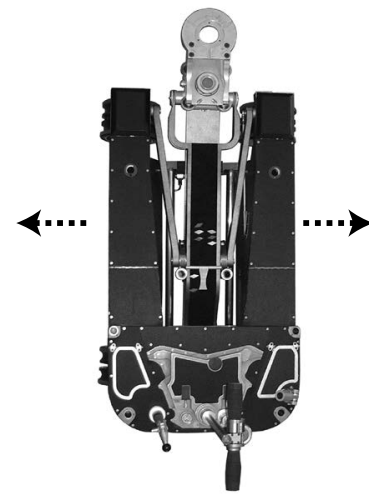
Conventional Steering Mode

The Conventional Steering Mode is rear controlled steering. The Hustler IV can be shifted smoothly into either Round or Crab Steering Modes during the course of a shot, even while moving. Steering Control Pins (see page 20) aid the Grip in making the desired transitions with confidence.



Round Steering Mode

The Round Steering Mode is a new feature of the Hustler IV. The Dolly can now be turned completely within its own space, making it an ideal choice for tight locations.



Crab Steering Mode

The Crab Steering Mode is the selection used most often by experienced Grips. It gives them more control moving the Dolly instantly in any direction. The camera lens maintains its orientation to the picture plane, ensuring a steady shot without unwanted panning.

Shifting/Steering Modes

Hustler IV



Shifting Modes

The Hustler IV is capable of three different steering modes. In **Conventional Mode**, the rear wheels pivot as the operator makes 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. In **Round Mode**, the Dolly can turn while remaining in the same spot. The operator can select any mode by twisting the Steering Handles. Control Pins can be set to limit which modes can be selected during critical moments, ensuring the operator can make transitions with confidence.

1. Wiggle the Steering Column to ensure that all four wheels are straight.
2. Twist the Handle gently to shift into Round, Crab or Conventional Modes. If the transmission still won't shift, repeat step 1.

When attaching the Steering Column to the Dolly, the Lockdown Collar should be tightened by hand only. Never use pliers or channel locks on any part of the Dolly.

**Both Pins Out**

Free Shifting Between All Selections

**Top Pin Out Bottom Pin In**Shifting Between Crab &
Conventional Only**Top Pin In Bottom Pin Out**Shifting Between Crab &
Round Only**Both Pins In**

Locked in Crab Only

Cleaning the Arm Rollers

Maintenance

Always read Warning Labels.

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.

Never directly spray the Dolly with water. 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.

Wax the exterior of the Dolly using **Megular's Mirror Glaze Cleaner Wax**. This keeps the Dolly cleaner during regular use and preserved the finish. A clean Dolly will ensure optimum performance with smooth and quiet movements while enhancing its aesthetics.

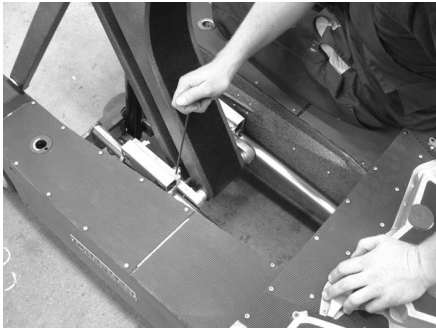
Spray the tires with **Zep Par NC Silicone Spray** (Key Words on Label are "Mold Release Agent"). This dramatically improves tire performance on tile floors, hardwood, track and even on concrete. Use the same spray to clean the tires.



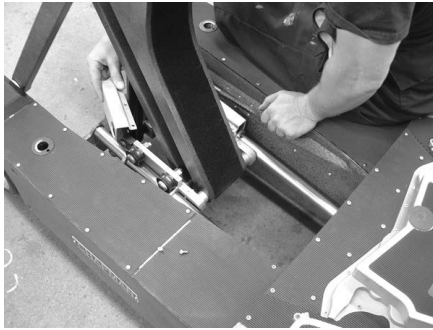
For Metal



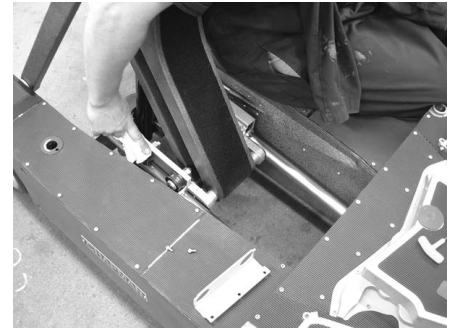
For Rubber and Plastic



Begin by removing the screws on the Roller Housing.



Remove the Roller Housing to expose the Rollers.



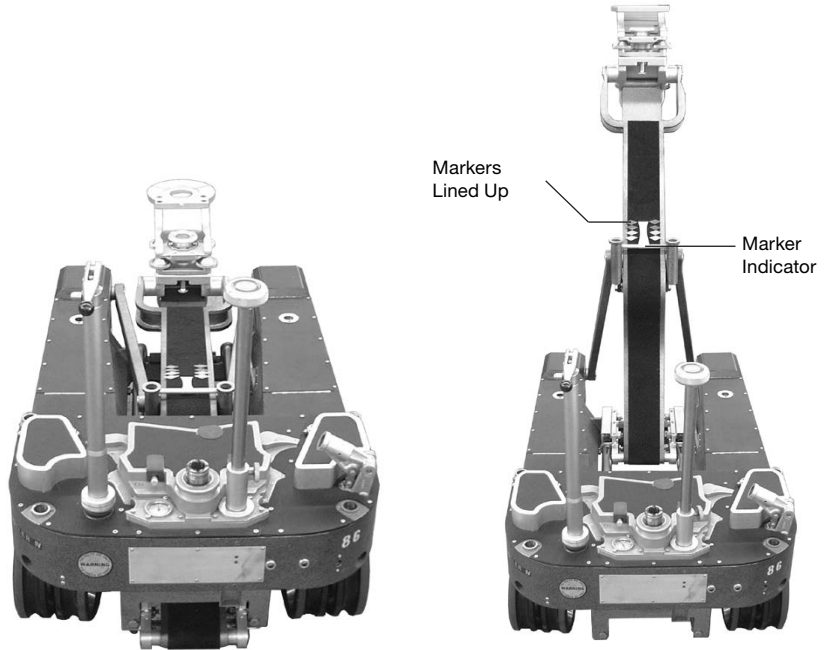
Wipe the Bar and Rollers with a clean, dry cloth.

Arm Markers

Colored Velcro Markers attach to the Arm (Upper and Lower). They can be repositioned to different locations of the Arm as a visual aid in repeating an Arm movement.

The Arm travels on a vertical line, eliminating focus problems on extreme closeups. Precise repetitive stops are possible at all speeds. An improved Stop Valve System allows even faster, smoother stops.

A variety of options are available to the Grip when using the Control Valve. A Single or Double Detent can be set on the Hustler IV. This is usually set at the Chapman facility. However, it is a simple adjustment that can be performed in the field by a qualified technician.



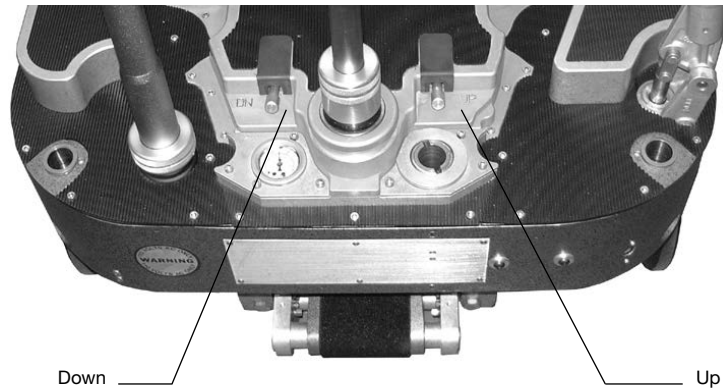
The Steering Column is removed for clarity in this photo. It does not need to be removed.

Feathering Levers Configuration

The **Universal Stop Valve** regulates the speed and smoothness of the Arm deceleration to a selected stop. The Feathering Levers are located to either side of the Steering Handle. They are used for fine tuning the operation of the Universal Stop Valve. The Arm will move to the upper and lower Stops that the operator has designated instead of the factory settings. This also ensures that the Arm does not “Bottom-Out” when lowered to the Chassis.

The **UP Feathering Lever** is located to the right (standing at the rear of the Dolly). Pushing the Lever in to engage, then moving the Lever **Back** (ratcheting) allows the Arm to travel further up (Maximum Arm Height). Moving the Lever **Forward** (ratcheting) limits the Arm travel height.

The **DOWN Feathering Lever** is located to the left. Pushing the Lever in to engage, then moving the Lever **Back** (ratcheting) limits the Arm movements lowest position. Moving the Lever **Forward** (ratcheting) allows the Arm to travel to a lower position (Minimum Camera Height).



When making Stop Adjustments:

1. Be certain the Arm is well beyond the desired stop point. Then turn the Lever in beyond the desired stop point.
2. Open the Main Control Valve to approach the desired stop.
3. Open Lever to achieve movement until the desired stop point is reached.
4. Close the Main Control Valve.

For rapid deceleration beyond the normal for this system, the Dolly Grip can use the Stop Valve to initiate the stop then finalize the stop with the Main Control Valve.

Charging the Dolly

Electronics

Do not attempt maintenance of the Dolly when it is plugged into an electrical outlet.

A Female Plug can be inserted into the AC Receptacle (110v or 220v) located at the rear of the Dolly. Push the Start Button to begin automatic charging. The unit will stop charging when the Dolly Hydraulic System is fully charged.

Start Button

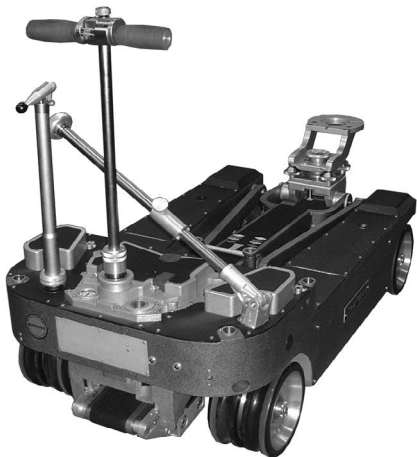
Plug Receptacle



Charging the Dolly

Manual

Do not attempt maintenance of the Dolly when it is plugged into an electrical outlet.



Insert the Valve Control Handle into the Hand Pump Receptacle. Approximately 60 full strokes are needed to fully charge the Dolly system to 3300 psi. This pressurizes the Nitrogen in the accumulators, which in turn moves the oil through the Hydraulic System.



The Valve Control Handle doubles as a Charging Handle when it is inserted into the Hand Pump.

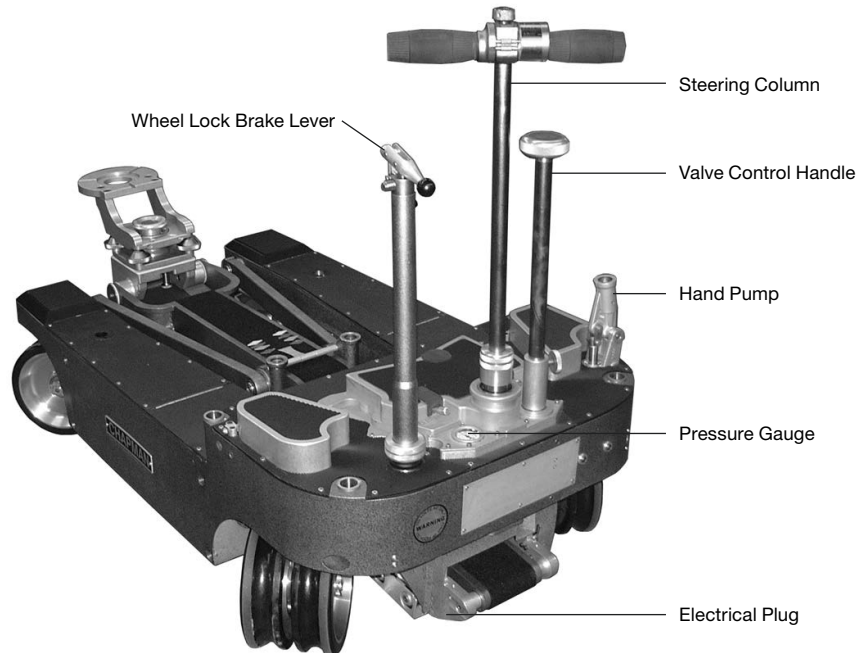
Control Valve & Gauge Configuration

The Control Valve regulates the movement of the Arm. A fully charged system will read 3300 psi on the Pressure Gauge. This is enough pressure to enable 5 to 7 full strokes/lifts of the payload (camera). Total Payload = 750 lbs. @ 3300 psi.

As a safety feature the Relief Valve will open automatically at 3500 psi.

The Control Valve Handle has an adjustable detent system. In the 2 Detent Control System, this can be felt as the handle is rotated and gives the Grip more control over the Arm as it transitions between up and down movements. The Off position is between the Detents.

A special Single or Triple Detent Control System is available, but must be installed at the Chapman facility or by a qualified technician.



Hybrid Brakes

Brakes on each of the rear wheels hold the Dolly stationary between planned moves. The Wheel Locks are not intended for stopping the Dolly while in motion.

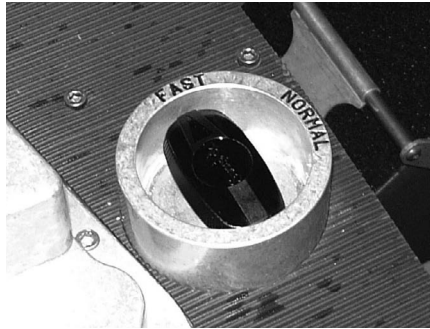
The Hustler IV should always be held in place with Blocks or Wheel Chocks when on any kind of incline.

Fast Mode Configuration

A new feature of the Hustler™ IV enables lowering the hydraulic arm when there is a small payload, or no payload to push the arm down when the control valve is opened. The Fast Mode Valve is located on the rear deck of the Hustler IV. It is a by-pass of the Universal Stop Valve. During normal operation, the Fast Mode Valve is not used. The dial should be placed on the Normal Mode setting.

Warning!

Before activating the Fast Mode feature, place the Control Valve in the Neutral position. Failure to place the Control Valve in the Neutral position may cause the arm to crash into the chassis.

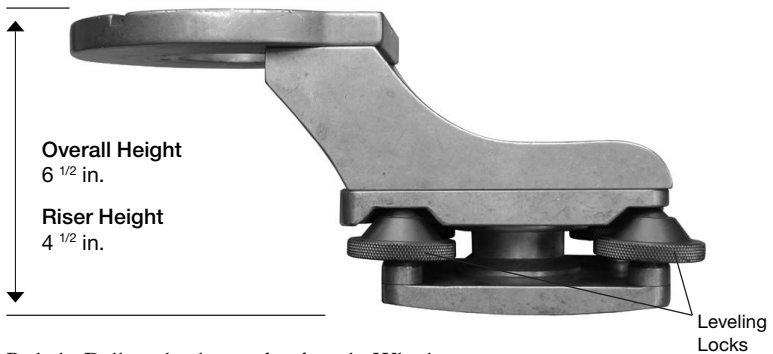


After the Fast Mode is activated, the Control Valve may again be used to raise and lower the arm quickly.

Note: When the Fast Mode is activated, the Feathered Stops of the Universal Stop Valve are deactivated. Therefore, if a situation calls for moving past a Feathered Stop, close the Control Valve (neutral position) and activate the Fast Mode Valve. The arm may now move past the upper and lower Feathered Stops without having to readjust their positions.

Leveling Head Choices Assembly

To Pan the 4-Way Leveling/Swing Head, pull the Quick Release Pin on the Universal Head, loosen the Knob only slightly and move the 4-Way Leveling/Swing Head to the desired pan direction. Tighten the Knob to prevent movement.



Park the Dolly on level ground and set the Wheel Locks. 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.

Low 4-Way Leveling/Swing Head Features



This version can be positioned backwards on the arm. When using Geared Head Turrets, a smaller Pan Wheel must be used.

Flat 4-Way Leveling/Swing Head Features



This version is restricted to forward use only. When using Geared Head Turrets, a smaller Pan Wheel must be used.

Accessory Cart Features



The Hustler IV can be stored under the Accessory Cart when the rear legs are positioned outward.



Side Board Lock Down Feature



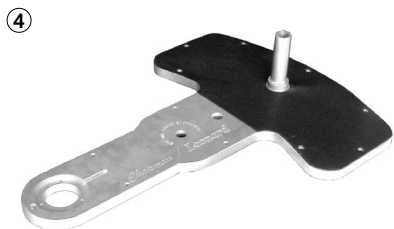
Upper Front Board



Lower Front Board



Universal Side Boards



CB Nose Plate with Seat Pocket #20773



Extended Low Plate "Enterprise" #10725

Storing the Accessories

Features

The Hustler IV Accessory Cart has latch doors to secure the equipment during transport.

The legs are removable when the Quick Release Pins are removed.

Rubber Bumpers allow the Accessory Cart to be turned on end for storage or moving in elevators.



Seat Adapters



Hustler IV Seats



Seat Offset and Seat Risers



Hustler IV 90 degree Plate



Hustler IV Tires



Camera Risers



Extensions

Compact Accessory Cart

Features

The Compact Accessory Cart offers an alternative to the standard profile Hustler IV Accessory Cart. Instead of storing the Hustler IV under the Accessory Cart, the Hustler IV is stored separately from the Compact Accessory Cart.

The lower center of gravity and compact profile on the Compact Accessory Cart make it the ideal choice when working in tight quarters.

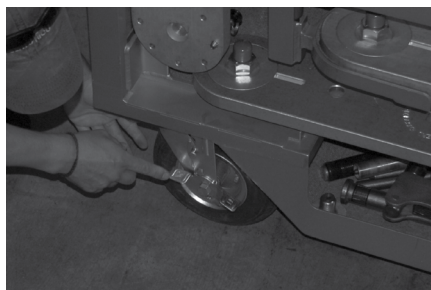
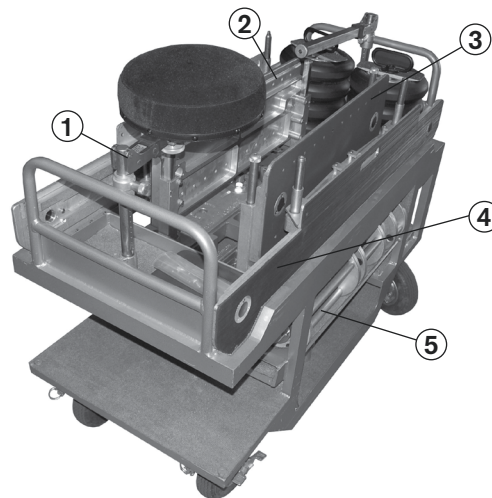


Placing the Standing Board on the Compact Accessory Cart



Placing the 90 degree Plate on the Compact Accessory Cart

- 1 Mount for Seat Post
- 2 Lower Front Board
- 3 Upper Front Board
- 4 Side Board
- 5 Risers



Wheel Locks



Leg Position Locks

Technical Help

Chapman/Leonard Studio Equipment, Inc. Customer Service

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(888) 883-6559
(818) 764-6726

FAX

(818) 764-2728

Orlando

(888) 337-8243
(407) 851-3456

Shipping & Rental Return

The customer should be sure that the equipment is properly crated for shipment. Get a signed receipt from the shipping company that will be transporting the equipment. Keep the receipt from the transport company indicating that the equipment has been shipped to **Chapman/Leonard Studio Equipment, Inc.**

When picking up or returning rental gear to Chapman/Leonard Studio Equipment, Inc., please remember that **rentals are due back by 10 a.m. at our North Hollywood facility.**

The rental bays are located on your left, immediately after entering the facility from Raymer Street. Trucks should be backed up to the bays for easier loading. If no bays are available, you can temporarily park on Raymer Street and advise the Rental Office of your arrival. A Customer Service Agent will advise you when a spot opens at the bay.

All drivers should first report to the Rental Staff for paperwork. Unloading will not begin until the paperwork has been picked up and stamped. Our Rental Staff is well trained to process equipment and documents quickly and courteously. It is our intent to get you back on the road in a timely manner.

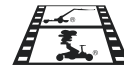
Address

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

Rental Office Hours

Monday - Friday	7am - 6pm
Saturdays	8am - 12 pm





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