

PURPOSE

This document defines terminology used across all of Harrington's Product Lines.

SCOPE

These definitions will include the following Product Lines:

- Manual
- Electric
- Air
- Wire Rope
- Cranes

BACKGROUND

Inconsistencies between departments and definitions used for various terms within our products made it necessary for this document to exist. These definitions shall be used across all medias and outlets to convey the meaning of a technical term (i.e. Owners Manuals, Catalogs, Website, E-Commerce, Training). This document shall be the control for any additions or revisions to any product/term definition.

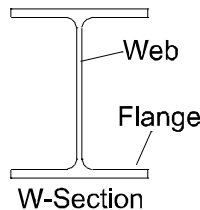
ATTACHMENTS

Appendix I – Manual Product
Appendix II – Electric Powered Product
Appendix III – Air Powered Product
Appendix IV – Electric Wire Rope Product
Appendix V – Crane Product

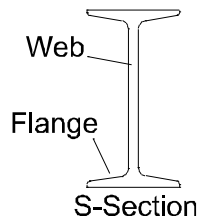
END

Appendix I

- **Atmosphere Explosibles (ATEX):** A European Directive concerning equipment and protective systems intended for use in potentially explosive atmospheres. Hoists and Trolleys with ATEX ratings have spark-resistant features.
- **Bumpers:** A device for reducing horizontal impact when a moving crane or trolley reaches the end of its permitted travel, or when two moving cranes or trolleys come into contact. This device may be attached to the bridge, trolley, or runway stop. Also referred to as buffers.
- **Capacity:** The maximum rated load a hoist is designed to lift or pull (lever hoists). Also referred to as Working Load Limit (WLL) or Safe Working Load (SWL).
- **Chain Container:** Container that holds the 'no-load' side of the load chain. Can be made of canvas, plastic, or steel.
- **Chain Fall Lines:** The number of lines of chain between the hoist body and bottom hook. Also referred to as "reeves", "falls", or "parts".
- **Drop Stops:** A means to prevent an end truck or trolley from disengaging the beam or rail in the event of an axle or wheel failure.
- **Flange, Flat:** A beam that has flat top and bottom flanges. Also referred to as "W" beams or "H" beams.

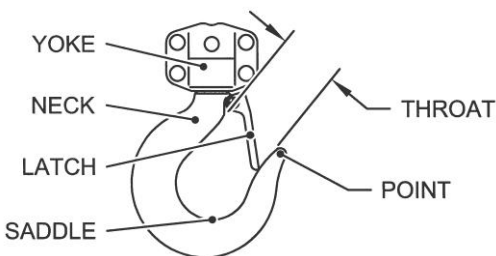


- **Flange, Tapered:** A beam that has tapered top and bottom flanges. Also referred to as "S" beams.

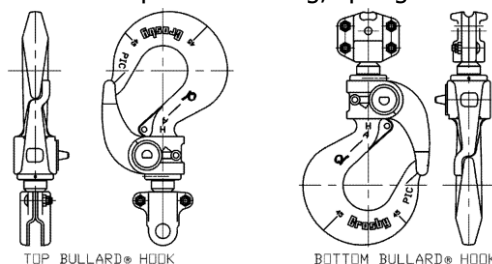


- **Freewheel Mechanism:** Patented spring-loaded mechanism that allows for one-handed operation, easy adjustment of the load chain, and safeguards against accidental freewheeling under load.
- **Hand Chain:** The chain that the operator pulls to lift or lower the load, or to move geared trolleys or end trucks.

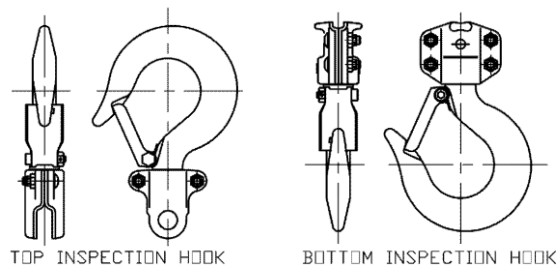
- **Hand Chain Drop:** On drawings in this catalog, hand chain drop is dimension 'd' for hoists and 'f' for trolleys. Hand chain drop is a measure of how low the hand chain hangs. For a hoist, it is how low the hand chain hangs measured from the hoist's top hook. For a hoist suspended from a trolley, it is how low the hand chain hangs measured from the bottom of the beam that the trolley rides on.
- **Headroom:** On drawings in this catalog, headroom is indicated by dimension 'C'. It is measured when the hoist's bottom hook is in its uppermost position. For a hook-mounted hoist, headroom is the distance between the saddle of the top and bottom hooks. For a hoist suspended from a trolley, headroom is the distance from the bottom of the beam to the saddle of the bottom hook.
- **Hook Parts:**



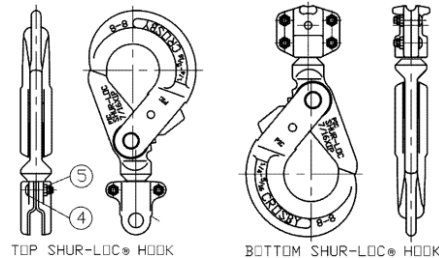
- **Hooks, Bullard®:** A hook with a positive locking, spring loaded gate.



- **Hooks, Inspection:** Inspection hooks are suitable for applications where inspection of the internal parts of the hook set is required. The inspection hook uses the standard Harrington hook set and is assembled with high-strength locking fasteners instead of rivets.



- **Hooks, SHUR-LOC®:** A hook with a positive locking latch that is self-locking when hook is loaded.

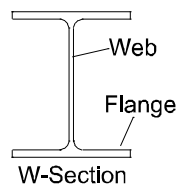


- **Lift:** The maximum vertical distance the bottom hook can travel.
- **Load Chain:** The hoist's load bearing chain.
- **Load Chain, Black Carborized:** Load chain with a black carborized surface treatment.
- **Load Chain, Grade 100:** Load chain used only on manual chain hoists, where the grade number indicates the relative strength of the chain for its size (i.e. larger grade numbers indicate stronger chain).
- **Load Chain, Nickel Plated:** Load chain with an electroless nickel plating finish to enhance corrosion resistance.
- **Load Limit Warning Handle:** A lever handle that alerts the operator when the hoist is being used to lift damaging loads beyond rated capacity. The load limit warning handle signals the operator in three ways:
 - Sight: The green signal changes to red.
 - Feel: The load handle deflects 15 degrees.
 - Sound: The handle emits a click when deflected.
- **Minimum Radius for Curve:** Defines the sharpest curve of a beam on which the trolley can traverse
- **Overhaul Ratio:** The distance in feet that the hand chain must travel to lift or lower the load a distance of 1 foot.
- **Pawl:** A component of the Weston brake that prevents rotation, thereby holding the load.
- **Point Loading:** A condition where part of the load applied to the hook is supported by the hook's point, or tip. Such applications require a hook designed for point loading.
- **Pull to Lift Load:** The force in pounds required by the operator to lift a rated capacity load.
- **Slip Clutch:** A load-limiting device which prevents the hoist from being used to lift damaging loads beyond rated capacity. Hoists with the slip clutch are clearly marked.
- **Split Load Double Reduction Gears:** A gear train in which the load is supported by two sets of gears, with each gear set incorporating two gear reductions.
- **Standard, ASME B30.16:** "Safety Standard – Overhead Hoists (Underhung)."
- **Standard, ASME B30.17:** "Safety Standard – Cranes and Monorails (With Underhung Trolley or Bridge)."
- **Standard, ASME B30.21:** "Safety Standard – Manually Lever Operated Hoists."
- **Suspender:** A load bearing component designed to connect a hoist to a trolley. Also referred to as "lug".

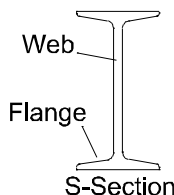
- **Test Load:** The load applied to the hoist to confirm proper operation in accordance with ASME B30.16 and ASME B30.21 test requirements.
- **Top Hook Extenders:** Extenders that locate the hoist body away from its attachment point. The top hook extender is 18 inches long and is available for $\frac{3}{4}$ through 3 Ton LB lever hoists.
- **Weston Brake:** A mechanical brake that allows operation of the hoist to lift, lower, or move the load, and securely holds the load in between hoist operations.

Appendix II

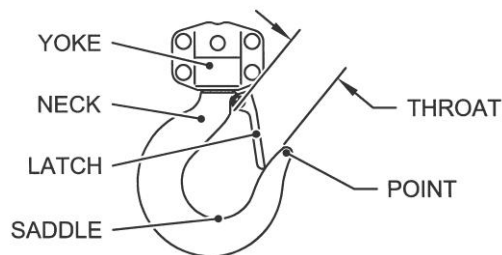
- **Brake, Motor (Holding Brake):** A friction brake for a hoist or trolley which is automatically applied and prevents motion when power is off.
- **Brake, Weston:** A mechanical brake that allows operation of the hoist to lift, lower, or move the load, and securely holds the load in between hoist operations.
- **Bumpers:** A device for reducing horizontal impact when a moving crane or trolley reaches the end of its permitted travel, or when two moving cranes or trolleys come into contact. This device may be attached to the bridge, trolley, or runway stop. Also referred to as buffers.
- **Capacity:** The maximum rated load a hoist is designed to lift. Also referred to as Working Load Limit (WLL) or Safe Working Load (SWL).
- **Chain Container:** Container that holds the 'no-load' side of the load chain. Can be made of canvas, plastic, or steel.
- **Chain Fall Lines:** The number of lines of chain between the hoist body and bottom hook. Also referred to as "reeves", "falls", or "parts".
- **Count Hour Meter:** A device that records motor starts, running time and usage history by instant digital display. Integral to VFD on dual speed models.
- **Drop Stops:** A means to prevent an end truck or trolley from disengaging the beam or rail in the event of an axle or wheel failure.
- **Emergency Stop (E-Stop):** A red push button that stops all hoist and trolley function when pushed.
- **Festooning:** A method for supplying power and control. This method utilizes loops of cable suspended by a guide wire or enclosed track that traverses along with the hoist and trolley.
- **Flange, Flat:** A beam that has flat top and bottom flanges. Also referred to as "W" beams or "H" beams.



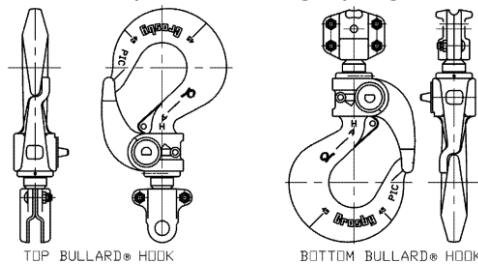
- **Flange, Tapered:** A beam that has tapered top and bottom flanges. Also referred to as "S" beams.



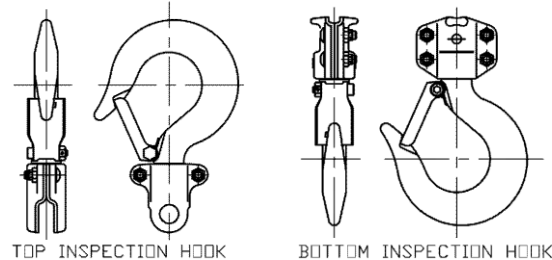
- **Food Grade:** A list of product options suitable for food processing/packaging applications. These may include items that are NSF compliant, as well as items that reduce corrosion.
- **Friction Clutch:** A device which prevents the hoist from damage due to over winding. Over winding is the event of the hook reaching and exceeding its upper or lower limit.
- **Hand Chain (Geared Trolley):** The chain that the operator pulls to traverse the load horizontally.
- **Hand Chain Drop (Geared Trolley):** On drawings in this catalog, hand chain drop is dimension 'F' for trolleys. Hand chain drop is a measure of how low the hand chain hangs. For a hoist suspended from a trolley, it is how low the hand chain hangs measured from the bottom of the beam that the trolley rides on.
- **Headroom:** On drawings in this catalog, headroom is indicated by dimension 'C'. It is measured when the hoist's bottom hook is in its uppermost position. For a hook-mounted hoist, headroom is the distance between the saddle of the top and bottom hooks. For a hoist suspended from a trolley, headroom is the distance from the bottom of the beam to the saddle of the bottom hook.
- **Hoist Duty Service Classification Rating:** A classification of hoist usage and service based on hours of operation and load. See specific product catalog for details on duty service classification.
- **Hook Parts:**



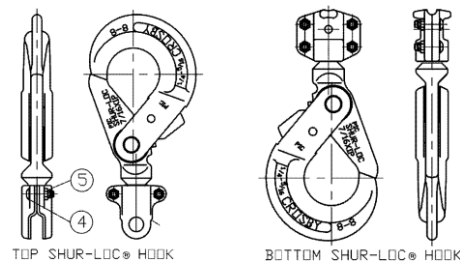
- **Hooks, Bullard®:** A hook with a positive locking, spring loaded gate.



- **Hooks, Inspection:** Inspection hooks are suitable for applications where inspection of the internal parts of the hook set is required. The inspection hook uses the standard Harrington hook set and is assembled with high-strength locking fasteners instead of rivets.

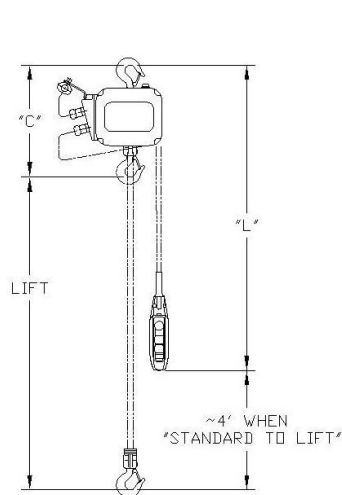


- **Hooks, SHUR-LOC®:** A hook with a positive locking latch that is self-locking and cannot be opened when hook is under load.

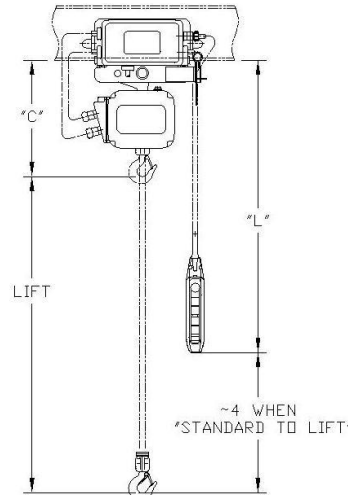


- **Idle Sheave:** Similar to a load sheave except for its location. Idle sheaves can be located in the upper or lower block and guides the chain as it reaves its way through the hook yoke(s).
- **Infinitely Variable, 2-Step:** An option available on some VFD controlled hoists and trolleys. 2 step infinitely variable allows the user to accelerate, then hold any speed between low and high.
- **Infinitely Variable, 3-Step:** Similar to 2-Step Infinitely Variable but also includes deceleration between high and low speed.
- **Lift:** The maximum vertical distance the bottom hook can travel.
- **Load Chain:** The hoist's load bearing chain.
- **Load Chain, Grade 80:** Load chain used only on powered chain hoists, where the grade number indicates the relative strength of the chain for its size (i.e. larger grade numbers indicate stronger chain).
- **Load Chain, Nickel Plated:** Nickel Plated Load Chain: Load chain with an electroless nickel plating finish to enhance corrosion resistance.
- **Load Sheave:** The load chain fits into this specially designed sheave which drives the lifting and lowering of the hoist hook. Also referred to as load wheel or pocket wheel.
- **Mechanical Load Brake:** A mechanical brake that allows operation of the hoist to lift, lower, or move the load, and securely holds the load in between hoist operations. Also known as Weston Brake.
- **Minimum Radius for Curve:** Defines the sharpest curve of a beam on which the trolley can traverse.

- **National Electrical Manufacturers Association (NEMA) Rating:** A rating to show the application or environmental conditions enclosures are designed to protect against.
- **Overload Limiter:** A means to prevent the hoist from lifting damaging loads.
- **Pawl:** A component of the Weston brake that prevents rotation, thereby holding the load.
- **Pendant:** This is the hand held push button control device that is attached to the hoist or trolley. The number of buttons can vary dependently upon its uses.
- **Pendant Drop:** On drawings in this catalog, pendant drop is dimension 'L' for hoists and trolleys. Pendant drop is a measure of the distance the pendant hangs. For a hoist, it is the distance the pendant hangs from the hoist's top hook. For a hoist suspended from a trolley, it is the distance the pendant hangs from the bottom of the beam that the trolley rides on. When pendant is specified as "standard to lift", the bottom of the pendant will hang approximately 4' above the bottom hook in its lowest position.



Hook Suspended Hoist



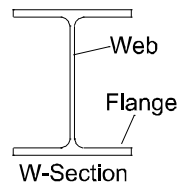
Trolley Suspended Hoist

- **Plug and Play:** A crane integration wiring method that terminates all crane wires and trolley hoist festooning via externally mounted plugs on the bridge control panel.
- **Power, 3-Phase:** A power supply consisting of 3 separate phases of AC Power and a ground, commonly used in industrial applications to power large motors and heavy loads. Common voltages include 208, 230, and 460
- **Power, Single-Phase:** A power supply consisting of 1 phase of AC Power and a ground, commonly used in residential and light industrial applications. Common voltages include 115, 208, and 230.
- **Smart Limits:** An optional programmable upper and lower limit position feature available on dual-speed NER.
- **Standard, ASME B30.16:** "Safety Standard – Overhead Hoists (Underhung)."
- **Standard, ASME B30.17:** "Safety Standard – Cranes and Monorails (With Underhung Trolley or Bridge)."
- **Standard, UL1340:** "Standard for Safety, Hoists".

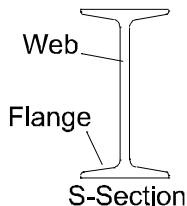
- **Suspender:** A load bearing component designed to connect a hoist to a trolley. Also referred to as "lug".
- **Test Load:** The load applied to the hoist to confirm proper operation in accordance with ASME B30.16 test requirements.
- **Thermal Protection:** A method to protect electric motors from damage due to over-current or overheating.
- **Upper/Lower Limit Switches:** An electro-mechanical device that prevents the lower hook from exceeding its' limits of travel.
- **Variable Frequency Drive (VFD):** Also known as an inverter. An electronic device that controls the voltage and frequency to an electric motor to control speed and/or torque.

Appendix III

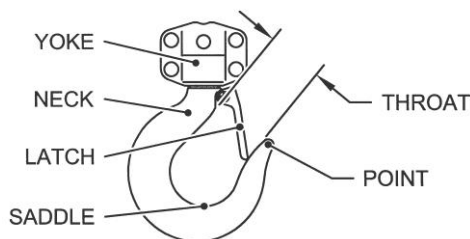
- **Atmosphere Explosibles (ATEX):** A European Directive concerning equipment and protective systems intended for use in potentially explosive atmospheres. Hoists and Trolleys with ATEX ratings have spark-resistant features.
- **Bumpers:** A device for reducing horizontal impact when a moving crane or trolley reaches the end of its permitted travel, or when two moving cranes or trolleys come into contact. This device may be attached to the bridge, trolley, or runway stop. Also referred to as buffers.
- **Capacity:** The maximum rated load a hoist is designed to lift. Also referred to as Working Load Limit (WLL) or Safe Working Load (SWL).
- **Chain Container:** Container that holds the 'no-load' side of the load chain. Can be made of canvas, plastic, or steel.
- **Chain Fall Lines:** The number of lines of chain between the hoist body and bottom hook. Also referred to as "reeves", "falls", or "parts".
- **Cubic Feet per Minute (CFM):** The volume of air that flows through the hoist or trolley at full speed. For hoists and trolleys, it is imperative that the air compressor and compressed air system can flow at least this amount of air.
- **Direct Air:** A method of directing supply air directly through the pendant, not a pilot air circuit. Hoists or trolleys that use direct air have larger hoses between the hoist/trolley and the pendant than pilot air controls, and typically provide less ability to feather the hoist.
- **Drop Stops:** A means to prevent an end truck or trolley from disengaging the beam or rail in the event of an axle or wheel failure.
- **Emergency Stop (E-Stop):** A red push button that stops all hoist and trolley function when pushed.
- **Feathering:** The ability to precisely control the speed of the hoist or trolley by varying how far the control pendant lever is depressed or cord control is pulled.
- **Festooning:** A method for supplying compressed air. This method utilizes loops of hose suspended by a guide wire or enclosed track, which traverses along with the hoist and trolley.
- **Filter/Regulator/Lubricator (FRL):** An assembly of individual components that is attached on or near the hoist/trolley to filter, regulates the pressure, and lubricates the air supplied to air operated hoists and trolleys.
- **Flange, Flat:** A beam that has flat top and bottom flanges. Also referred to as "W" beams or "H" beams.



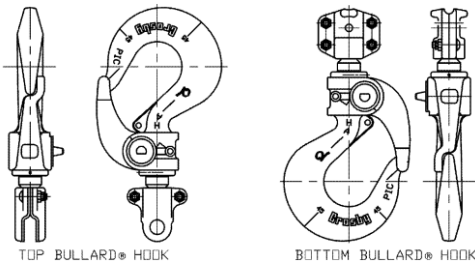
- **Flange, Tapered:** A beam that has tapered top and bottom flanges. Also referred to as "S" beams.



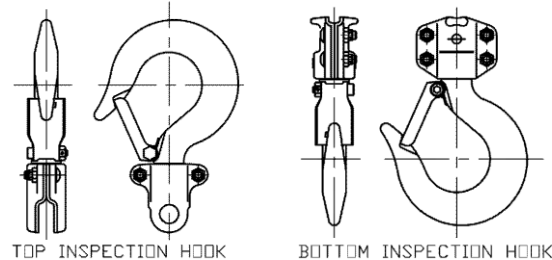
- **Hand Chain (Geared Trolley):** The chain that the operator pulls to traverse the load horizontally.
- **Hand Chain Drop (Geared Trolley):** On drawings in this catalog, hand chain drop is dimension 'F' for trolleys. Hand chain drop is a measure of how low the hand chain hangs. For a hoist suspended from a trolley, it is how low the hand chain hangs measured from the bottom of the beam that the trolley rides on.
- **Headroom:** On drawings in this catalog, headroom is indicated by dimension 'C'. It is measured when the hoist's bottom hook is in its uppermost position. For a hook-mounted hoist, headroom is the distance between the saddle of the top and bottom hooks. For a hoist suspended from a trolley, headroom is the distance from the bottom of the beam to the saddle of the bottom hook.
- **Hook Parts:**



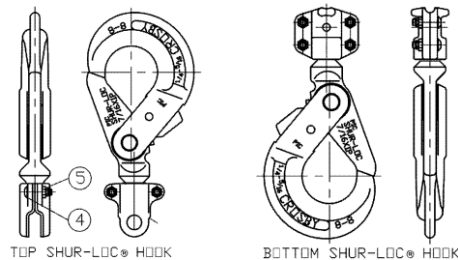
- **Hooks, Bullard®:** A hook with a positive locking, spring loaded gate.



- **Hooks, Inspection:** Inspection hooks are suitable for applications where inspection of the internal parts of the hook set is required. The inspection hook uses the standard Harrington hook set and is assembled with high-strength locking fasteners instead of rivets.

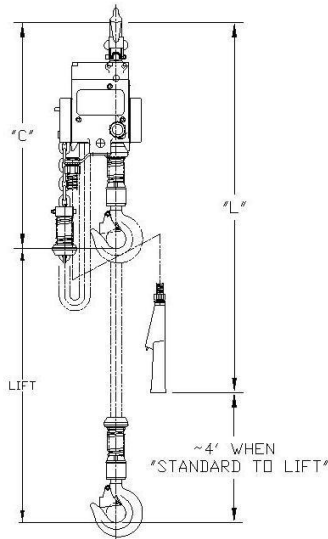


- **Hooks, SHUR-LOC®:** A hook with a positive locking latch that is self-locking and cannot be opened when hook is under load.

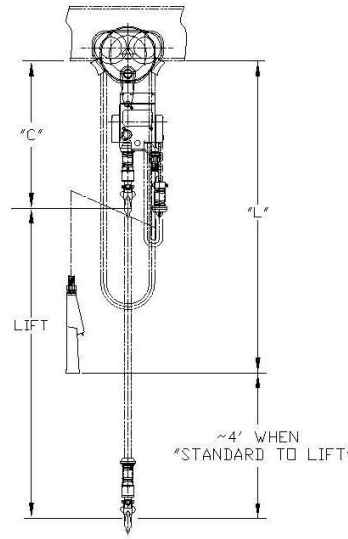


- **Idle Sheave:** Similar to a load sheave except for its location. Idle sheaves can be located in the upper or lower block and guides the chain as it reaves its way through the hook yoke(s).
- **Lift:** The maximum vertical distance the bottom hook can travel.
- **Load Chain:** The hoist's load bearing chain.
- **Load Chain, Grade 80:** Load chain used only on powered chain hoists, where the grade number indicates the relative strength of the chain for its size (i.e. larger grade numbers indicate stronger chain).
- **Load Chain, Nickel Plated:** Nickel Plated Load Chain: Load chain with an electroless nickel plating finish to enhance corrosion resistance.
- **Load Sheave:** The load chain fits into this specially designed sheave which drives the lifting and lowering of the hoist hook. Also referred to as load wheel or pocket wheel.
- **Lube-Free:** Lube free hoists and trolleys have special features that provide higher durability without supply air lubrication than non-lube free models.
- **Manipulator:** A unique one-handed control device that is adjacent to the bottom hook and travels up and down with the load hook.
- **Minimum Radius for Curve:** Defines the sharpest curve of a beam on which the trolley can traverse.
- **National Pipe Thread (NPT):** A U.S. standard for tapered threads used on threaded pipes and fittings.
- **Overload Limiter:** A means to prevent the hoist from lifting damaging loads.

- **Pendant:** This is the hand held push button control device that is attached to the hoist or trolley. The number of buttons can vary dependently upon its uses.
- **Pendant or Pull-Cord Drop:** On drawings in this catalog, pendant drop is dimension 'L' for hoists and trolleys. Pendant drop is a measure of the distance the pendant hangs. For a hoist, it is the distance the pendant hangs from the hoist's top hook. For a hoist suspended from a trolley, it is the distance the pendant hangs from the bottom of the beam that the trolley rides on. When pendant is specified as "standard to lift", the bottom of the pendant will hang approximately 4' above the bottom hook in its lowest position.



Hook Suspended Hoist



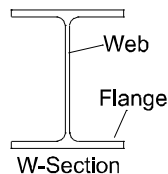
Trolley Suspended Hoist

- **Pilot Air:** A small amount of air bled off from the incoming air supply that is used for the control and actuation of the main hoist valves. Pilot air typically provides finer control (feathering) than direct air control.
- **Pounds per Square Inch (PSI):** In pneumatic terms, PSI refers to the pressure/force that a compressed air system produces. For hoists and trolleys, it is imperative that the air compressor and compressed air system can produce the required PSI.
- **Pull Cord Control:** A method of air hoist control that uses cords attached to a lever on the hoist to control direction and speed of the hoist.
- **Stainless Steel Load Chain:** A stainless steel load chain option for spark resistant applications. Also known as SUS Load Chain.
- **Standard, ASME B30.16:** "Safety Standard – Overhead Hoists (Underhung)."
- **Standard, ASME B30.17:** "Safety Standard – Cranes and Monorails (With Underhung Trolley or Bridge)."
- **Supply Air:** Also known as main air, supply air is the air provided to the hoist/trolley by the compressed air system. Supply air must meet or exceed the PSI and CFM requirements of the hoist/trolley.
- **Suspender:** A load bearing component designed to connect a hoist to a trolley. Also referred to as "lug".

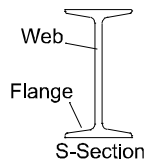
- **Test Load:** The load applied to the hoist to confirm proper operation in accordance with ASME B30.16 test requirements.
- **Upper/Lower Limit Lever:** A mechanical device that prevents the lower hook from exceeding its' limits of travel.

Appendix IV

- **Block Operated Limit Switch:** A limit switch that prevents operation in the up direction when contacted by the hook block. Operates independently of drum rotation.
- **Bumpers:** A device for reducing horizontal impact when a moving crane or trolley reaches the end of its permitted travel, or when two moving cranes or trolleys come into contact. This device may be attached to the bridge, trolley, or runway stop. Also referred to as buffers.
- **Capacity:** The maximum rated load a hoist is designed to lift. Also referred to as Working Load Limit (WLL) or Safe Working Load (SWL).
- **Count Hour Meter:** A device that records motor starts, running time and usage history by instant digital display. Integral to VFD on dual speed models.
- **Deck/Base Mount:** A stationary type of mounting where the hoist is mounted to the top side of a horizontal supporting surface.
- **Drop Stops:** A means to prevent an end truck or trolley from disengaging the beam or rail in the event of an axle or wheel failure.
- **Emergency Stop (E-Stop):** A red push button that stops all hoist and trolley function when pushed.
- **Festooning:** A method for supplying power and control. This method utilizes loops of cable suspended by a guide wire or enclosed track that traverses along with the hoist and trolley.
- **Flange, Flat:** A beam that has flat top and bottom flanges. Also referred to as "W" beams or "H" beams.

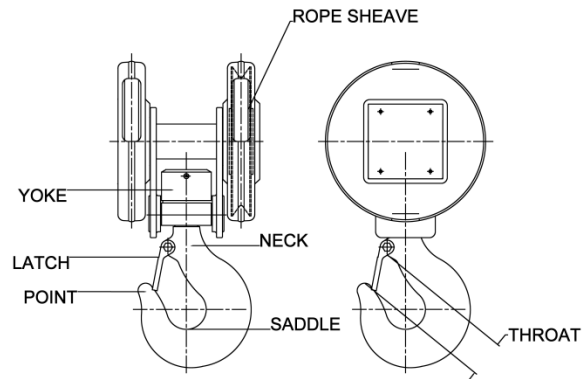


- **Flange, Tapered:** A beam that has tapered top and bottom flanges. Also referred to as "S" beams.



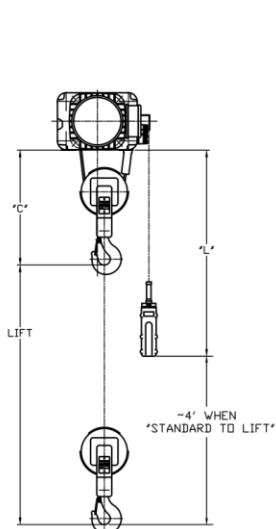
- **Headroom:** On drawings in this catalog, headroom is indicated by dimension 'C' or 'E'. It is measured when the hoist's bottom hook is in its uppermost position. For a hoist suspended from a trolley, headroom is the distance from the bottom of the beam to the saddle of the bottom hook. Headroom is the distance from supporting surface on base and deck-mounted hoists to the saddle of the bottom hook.

- **Hoist Duty Service Classification Rating:** A classification of hoist usage and service based on hours of operation and load. See specific product catalog for details on duty service classification.
- **Hook Parts:**

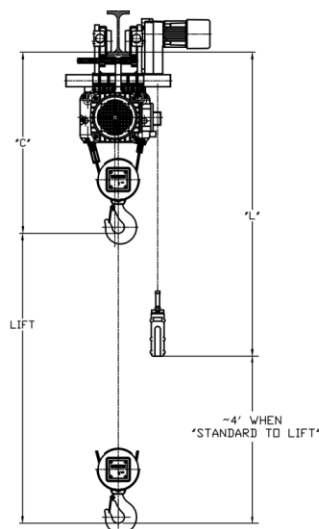


- **Infinitely Variable, 2-Step:** An option available on some VFD controlled hoists and trolleys. 2 step infinitely variable allows the user to accelerate, then hold any speed between low and high.
- **Infinitely Variable, 3-Step:** Similar to 2-Step Infinitely Variable but also includes deceleration between high and low speed.
- **Lift:** The maximum vertical distance the bottom hook can travel.
- **Minimum Radius for Curve:** Defines the sharpest curve of a beam on which the trolley can traverse.
- **Motor Brake (Holding Brake):** A friction brake for a hoist or trolley which is automatically applied and prevents motion when power is off.
- **National Electrical Manufacturers Association (NEMA) Rating:** A rating to show the application or environmental conditions enclosures are designed to protect against.
- **Overload Limiter:** A means to prevent the hoist from lifting damaging loads.
- **Pendant:** This is the hand held push button control device that is attached to the hoist or trolley. The number of buttons can vary dependently upon its uses.

- Pendant Drop:** On drawings in this catalog, pendant drop is dimension 'L' for hoists and trolleys. Pendant drop is a measure of the distance the pendant hangs. For a hoist, it is the distance the pendant hangs from the hoist's top hook. For a hoist suspended from a trolley, it is the distance the pendant hangs from the bottom of the beam that the trolley rides on. When pendant is specified as "standard to lift", the bottom of the pendant will hang approximately 4' above the bottom hook in its lowest position.



Deck Mount Hoist



Trolley Suspended Hoist

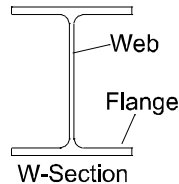
- Plug and Play:** A crane integration wiring method that terminates all crane wires and trolley hoist festooning via externally mounted plugs on the bridge control panel.
- Power, 3-Phase:** A power supply consisting of 3 separate phases of AC Power and a ground, commonly used in industrial applications to power large motors and heavy loads. Common voltages include 208, 230, and 460.
- Reaction Forces:** The maximum vertical force (without impact) produced on any trolley wheel through the sum of the rated load and the trolley/hoist weight.
- Reeving:** The number of lines of wire rope between the hoist body and bottom hook. Also referred to as "falls" or "parts".
- Rope Drum:** A grooved cylindrical member around which the rope is wound for lifting and lowering the load.
- Rope Guide:** A spring tension device that guides the wire rope on and off the drum.
- Rope Sheave (Pulley):** Rope sheaves can be located in the hoist body or the lower hook block and guides the wire rope as it reeves its way through the hook yoke(s).
- Standard, ASME B30.16:** "Safety Standard – Overhead Hoists (Underhung)."/>
- Standard, ASME B30.17:** "Safety Standard – Cranes and Monorails (With Underhung Trolley or Bridge)."/>
- Standard, UL1340:** "Standard for Safety, Hoists".

- **Test Load:** The load applied to the hoist to confirm proper operation in accordance with ASME B30.16 test requirements.
- **Thermal Protection:** A method to protect electric motors from damage due to over-current or overheating.
- **Upper/Lower Limit Switches:** An electro-mechanical device that prevents the lower hook from exceeding its' limits of travel.
- **Variable Frequency Drive (VFD):** Also known as an inverter. An electronic device that controls the voltage and frequency to an electric motor to control speed and/or torque.
- **Wire Rope:** A stranded steel cable used for lifting and lowering the load.

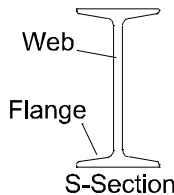
Appendix V

- **Adjustable Motor Brakes:** Electro-mechanical device to control crane deceleration.
- **Beam Accessory Kit ("BAK"):** All the necessary steel and hardware to fabricate and assemble the bridge beam; this usually consists of braces, mounting plates, end stops, etc.
- **Bumpers:** A device for reducing horizontal impact when a moving crane or trolley reaches the end of its permitted travel, or when two moving cranes or trolleys come into contact. This device may be attached to the bridge, trolley, or runway stop. Also referred to as buffers.
- **Bridge Beam:** Traveling beam connected to end trucks; supports the trolley and hoist.
- **Capacity:** The maximum rated load a hoist is designed to lift. Also referred to as Working Load Limit (WLL) or Safe Working Load (SWL).
- **Collectors:** Contacting devices for collecting current from the runway or bridge enclosed electrification. Also referred to as "collector shoes".
- **Crane Control Panel:** An electrical control box that encloses fusing, transformers, relays, contactors, etc. for the crane system. It controls bridge movement, supplies power to the trolley/hoist, and electrically protects the crane.
- **Crane Service Classification Rating:** A classification of crane usage and service based on hours of operation and load. See specific product catalog for details on duty service classification.
- **Drop Stops:** A means to prevent an end truck or trolley from disengaging the beam or rail in the event of an axle or wheel failure.
- **Electronic Acceleration Control (EAC):** Electronic control for adjusting rate of crane acceleration; also known as electronic soft start.
- **Emergency Stop (E-Stop):** A red push button that stops all crane functions when pushed.
- **Enclosed Conductor Electrification (ECE):** Rigid conductor bars that are enclosed to prevent accidental contact. ECE is mounted along the runway structure and/or bridge beam to provide mainline power through collectors to the bridge and/or hoist and trolley.
- **End Approach:** The maximum horizontal distance the hook can travel.
- **End Truck:** Load-bearing crane component that supports the bridge beam and consists of a frame, wheels, axles, etc; these can be push, geared or motorized.
- **Runway Electrification:** Various means to deliver power to the crane system as it travels along the runway. Methods include enclosed conductor electrification or cable festooning.
- **Festooning:** A method for supplying power and control. This method utilizes loops of cable suspended by a guide wire or enclosed track that traverses along with the crane and/or trolley/hoist.

- **Flange, Flat:** A beam that has flat top and bottom flanges. Also referred to as "W" beams or "H" beams.



- **Flange, Tapered:** A beam that has tapered top and bottom flanges. Also referred to as "S" beams.



- **Hand Chain (Geared Crane):** The chain that the operator pulls to traverse the bridge beam horizontally.
- **Hand Chain Drop (Geared Crane):** Hand chain drop is a measure of how low the hand chain hangs. For a bottom running crane, it is measured from the bottom of the runway beam. For top running cranes, it is measured from the top of the rail.
- **Infinitely Variable, 2-Step:** An option available on some VFD controlled cranes. 2 step infinitely variable allows the user to accelerate, then hold any speed between low and high.
- **Infinitely Variable, 3-Step:** Similar to 2-Step Infinitely Variable but also includes deceleration between high and low speed.
- **Mainline Contactor:** A method to turn main power to the crane system on and off via crane controls (radio and/or pendant).
- **Manual Disconnect Switch:** A method to turn main power to the crane system on and off via a manually operated switch. Typically mounted in a bridge control panel.
- **National Electrical Manufacturers Association (NEMA) Rating:** A rating to show the application or environmental conditions enclosures are designed to protect against.
- **Pendant:** This is the hand held push button control device that is attached to the hoist, trolley, or crane. The number of buttons can vary dependently upon its uses.
- **Plug and Play:** A crane integration wiring method that terminates all crane wires and trolley hoist festooning via externally mounted plugs on the bridge control panel.
- **Power, 3-Phase:** A power supply consisting of 3 separate phases of AC Power and a ground, commonly used in industrial applications to power large motors and heavy loads. Common voltages include 208, 230, and 460
- **Rail Sweeps:** Devices designed to clear obstructions from wheel running surface.
- **Runway Beam:** Stationary beams that support crane and load; commonly fabricated from S or W beams or patented track.

- **Span:** Dimension from the center line of one runway beam to the center line of the other runway beam.
- **Standard, ASME B30.2:** "Safety Standard – Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoists)."
- **Standard, ASME B30.16:** "Safety Standard – Overhead Hoists (Underhung)."
- **Standard, ASME B30.17:** "Safety Standard – Cranes and Monorails (With Underhung Trolley or Bridge)."
- **Standard, OSHA Section 1910.179 of Title 29:** "Occupational Safety and Health Regulations – Overhead and Gantry Cranes".
- **System Max Wheel Load:** Maximum load exerted on runway beams for a crane loaded to its rated capacity. It occurs when trolley/hoist is located at its maximum end approach and includes an allowance for vertical inertial forces associated with electric hoists. This value is expressed as pounds per wheel for top running or pounds per pair of wheels for under hung.
- **Thermal Protection:** A method to protect electric motors from damage due to over-current or overheating.
- **Top Running:** Crane type that travels on top of rail or bar attached to runway beams.
- **Travel Limit Switches:** An electro-mechanical device that prevents the crane from exceeding its' horizontal limits of travel.
- **Underhung:** Crane type that travels on the lower flange of the runway beams.
- **Variable Frequency Drive (VFD):** Also known as an inverter. An electronic device that controls the voltage and frequency to an electric motor to control speed and/or torque.