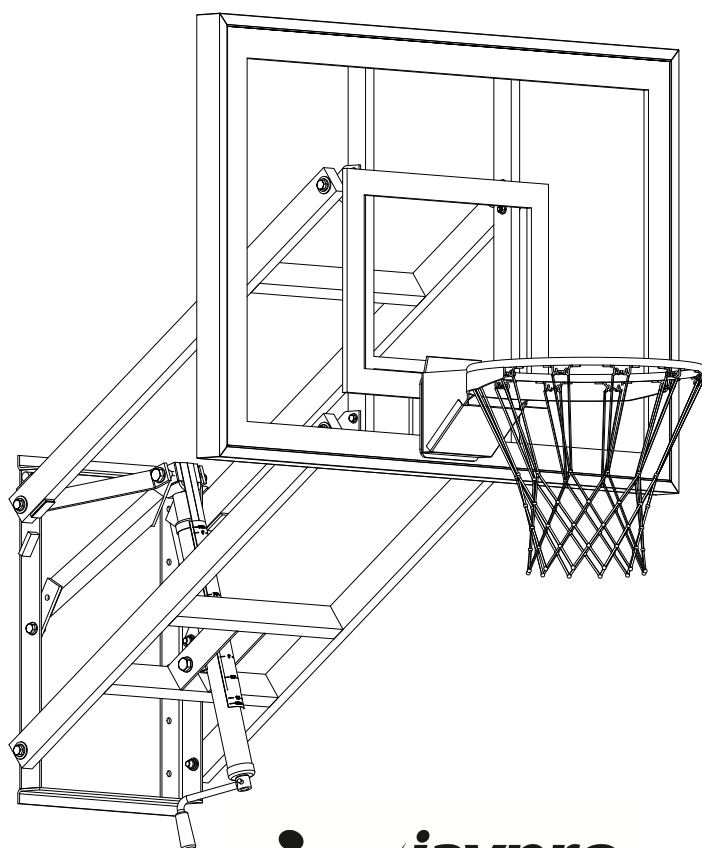


WM-65 & WM-54 ADJUSTABLE HEIGHT WALL MOUNT SYSTEM



Installation and Maintenance Manual

Call Jaypro Sports at 1-800-243-0533 during
regular business hours for technical support.
www.jayprosports.com

ADJUSTABLE HEIGHT WALL MOUNT SYSTEM

Safety Instructions

Failure to follow these warnings may result in serious injury and /or property damage.

Failure to do these safety instructions may result in serious injury, property damage and will void warranty. Owner must ensure that all players know and follow these rules for safe operation of the system.

To ensure safety, do not attempt to assemble this system without following the instructions carefully. Proper and complete assembly, use and supervision is essential for proper operation and to reduce the risk of accident or injury. A high probability of serious injury exists if this system is not installed, maintained, and operated properly.

If use a ladder during assembly, use extreme caution.

2 or 3 people are recommended for this operation.

Locate your system away from potential dangers, including trip hazards, high traffic areas or where a vehicle might contact with system.

Do not locate the system under power line that may come in contact with the system as it is raised. Power line should not be within 20ft. radius of system.

Climate, corrosion, or misuse could result in system failure.

If technical assistance is required, contact us:

Warning

Failure to do these warnings may result in serious injury and/or property damage.

Owner must ensure that all players know and follow these rules for safe operation of the system.

- Only hang from the rim briefly to regain balance or avoid injuring others. Release the rim as soon as possible.
- During play, especially when performing dunk type activities, keep player's face away from the backboard, and net. Serious injury could occur if teeth/face come in contact with backboard, rim, or net.
- Do not use the system to lift anything
- When adjusting height, keep hands and fingers away from moving parts.
- Do not allow children to adjust system.
- During play, do not wear jewelry (rings, watches, necklaces, etc..) objects may entangle in net.
- Keep water and organic material away from system. System can rust and fail.
- Check all metal parts regularly for rust. Completely remove the part which is rust or repaint with exterior enamel. If rust has penetrated any steel parts, replace that part immediately.
- Check system before each use for loose hardware, signs of rust and instability. Repair before each use.
- Never play on damaged equipment.
- Wear mouthguard when playing to avoid dental injuries.



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ADJUSTABLE HEIGHT WALL MOUNT SYSTEM

Frame Attachment

A measure, level, drills, and wrenches may be needed during assembly.

1. Determine where to place frame on mounting surface.

The frame is 28" x 21" (HXW). The frame holes are 16" on center. Use a level to make drawing the horizontal line easier.

2. Draw a horizontal line at least 21" on the mounting surface

That is 87" up from the playing surface.

3. Unpack the frame.

Lay aside extension arms, mounting brackets.

4. Position and center frame bottom on the horizontal line

With the frame's safety rod at the top.

5. Level frame horizontally and vertically using a level.

Mark the mounting holes needed for attachment of frame.

6. Drill appropriate size holes as needed in mounting surface

Based upon type of wall fastener being used by customer or installer

7. Loosely attach frame to mounting surface

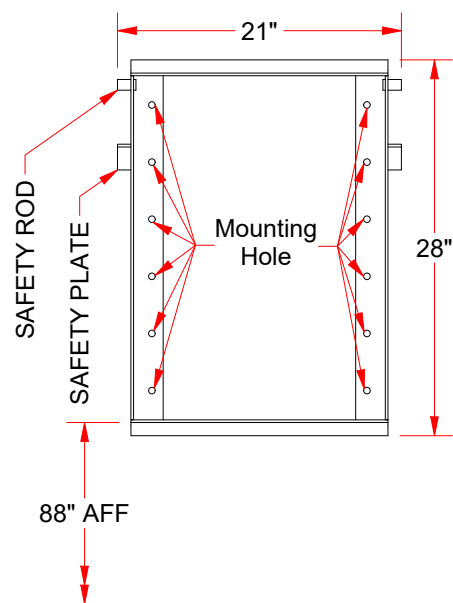
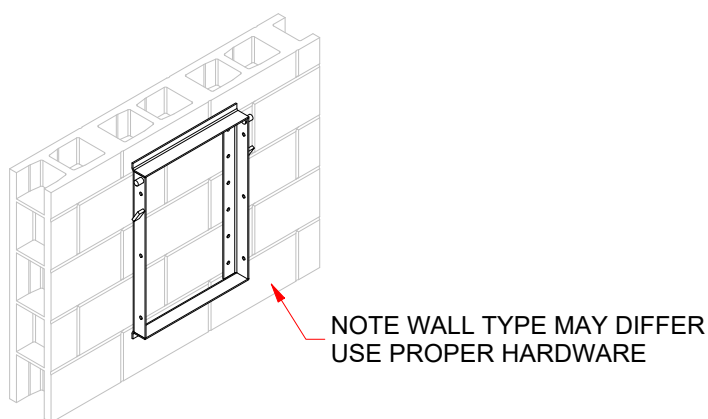
Fasteners to be determined and provided by the customer and/or installer.

8. Level frame horizontally and vertically

Using a level and appropriately tighten fasteners.

Important:

- Bottom of frame should be 88" up from playing surface. This is needed to achieve full range of system height adjustability.
- Wall hanging location is the responsibility of the customer and/or installer.
- It is the responsibility of the customer and/or installer to determine how many of the frame's 12 mounting holes must be used to safely secure the wall mount system for play.
- Fasteners to be determined and provided by the customer and/or installer.



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ADJUSTABLE HEIGHT WALL MOUNT SYSTEM

Frame Assembly

Note: Lower mounting brackets are shorter than the upper ones.

1. Unpack extension arms and mounting brackets.

2. Align lower extension arm holes to outside holes of the frame flange.

Connect using the hardware two B2, four W1, two P1 and two N1. Another two plastics washer P1 will be between the extension arm and the frame.

Note: DO NOT over tight. Snug tighten only.

3. Attach the upper extension arms and upper mounting brackets to the frame flange using The hardware two B3, four W1, two P1 and two N1. Another two-plastic washer P1 will be between the extension arm and the frame. They are factory attached.

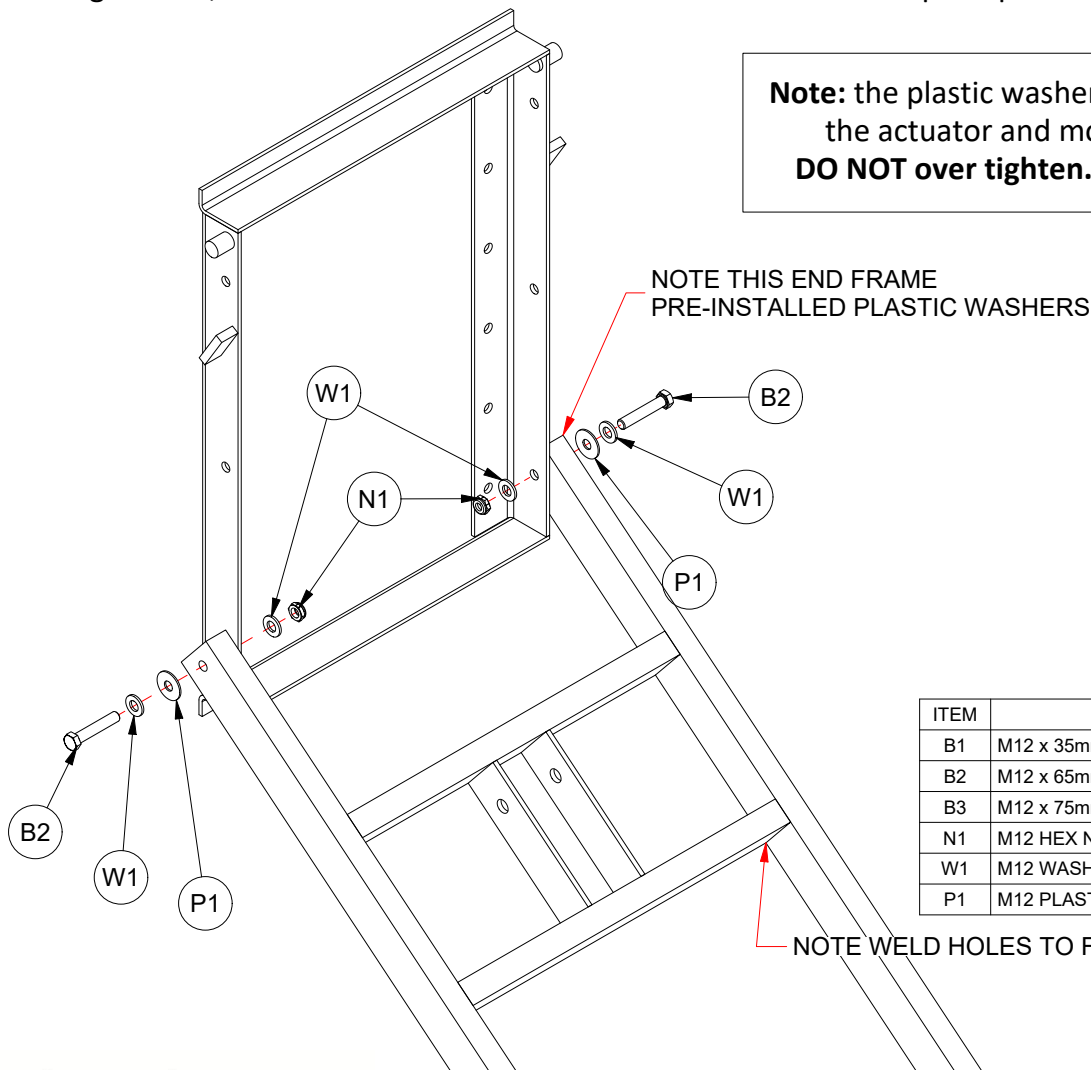
4. **Attach the lower mounting bracket to the frame using two B2, four W1, and two N1.**

5. Attach upper mount of actuator assembly to the upper and lower mounting brackets using one B5, two W2 and one N2.

6. Attach lower mount of actuator assembly to the lower extension arm using One B4, two W2, two P2 and one N2

7. **Tighten all extension arm bolts to extension arms and mounting brackets.**

Tighten B2, but make sure free movement is maintained at the pivot point.



Note: the plastic washers P2 will be between the actuator and mounting brackets.
DO NOT over tighten. Snug tighten only.

ITEM	DESCRIPTION	QTY
B1	M12 x 35mm HEX BOLT	2
B2	M12 x 65mm HEX BOLT	2
B3	M12 x 75mm HEX BOLT	2
N1	M12 HEX NUT	6
W1	M12 WASHER	12
P1	M12 PLASTIC WASHER	8



WM-65 & WM-54

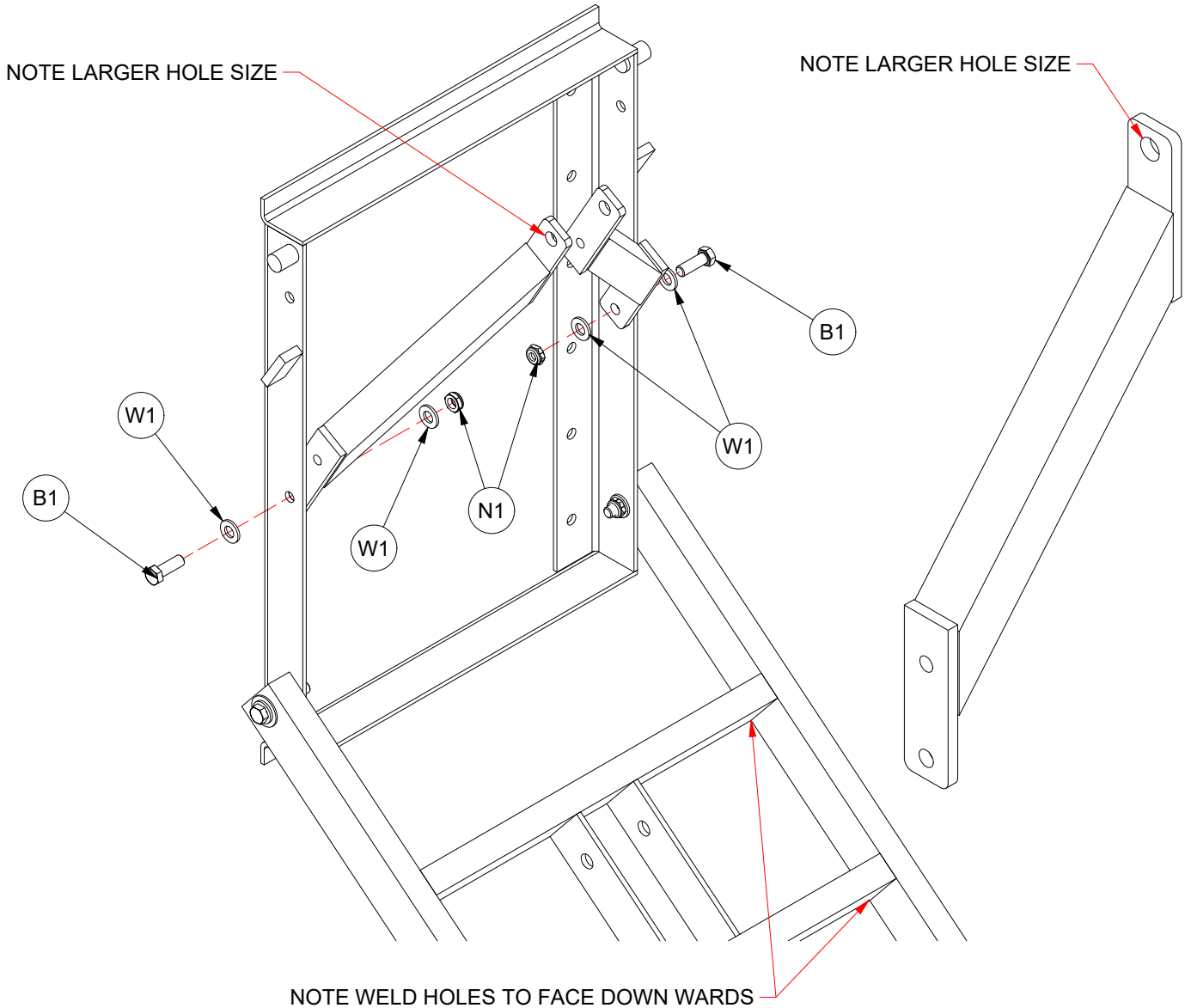
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ADJUSTABLE HEIGHT WALL MOUNT SYSTEM



ITEM	DESCRIPTION	QTY
B1	M12 x 35mm HEX BOLT	2
B2	M12 x 65mm HEX BOLT	2
B3	M12 x 75mm HEX BOLT	2
N1	M12 HEX NUT	6
W1	M12 WASHER	12
P1	M12 PLASTIC WASHER	8

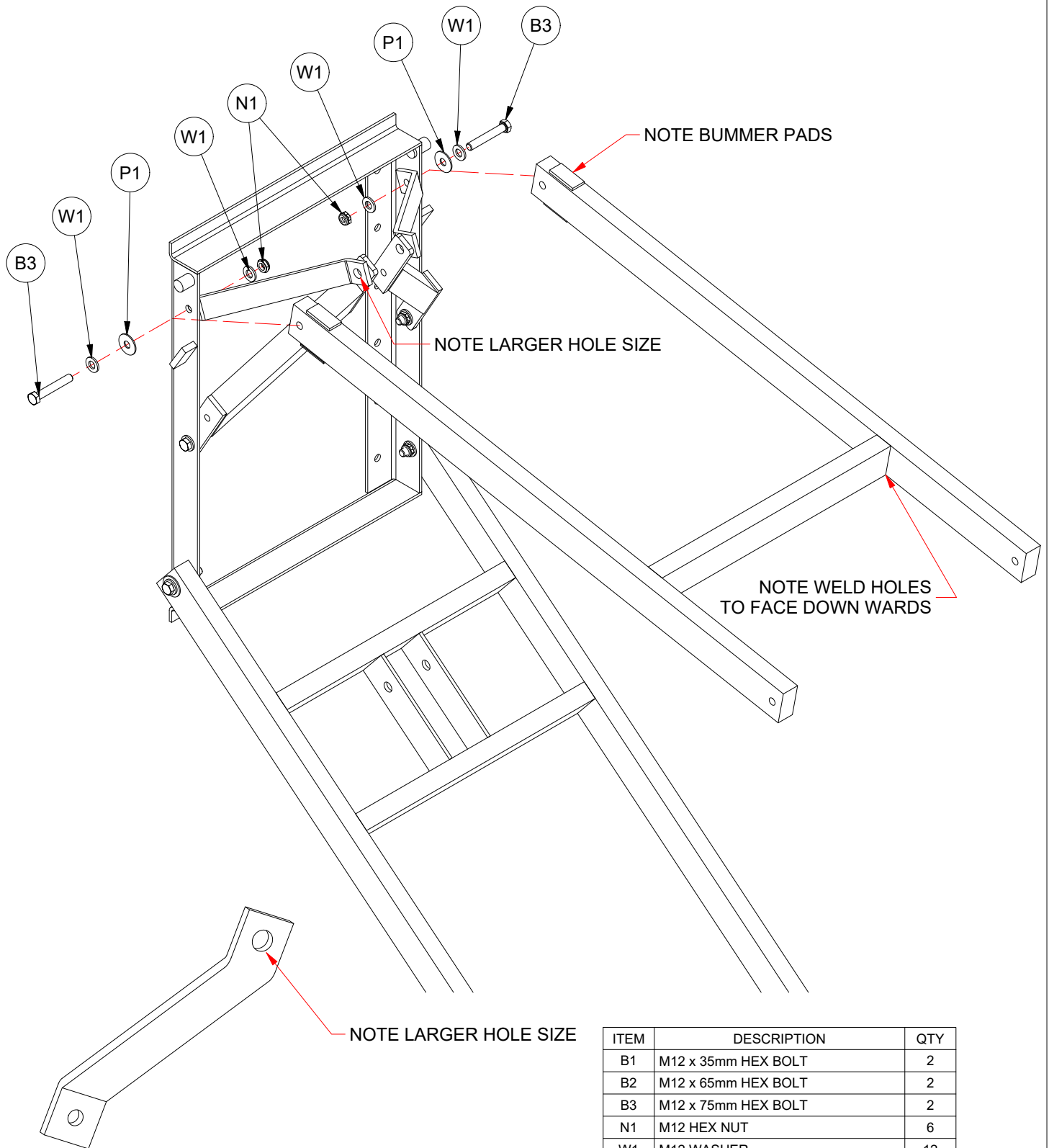


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ADJUSTABLE HEIGHT WALL MOUNT SYSTEM



ITEM	DESCRIPTION	QTY
B1	M12 x 35mm HEX BOLT	2
B2	M12 x 65mm HEX BOLT	2
B3	M12 x 75mm HEX BOLT	2
N1	M12 HEX NUT	6
W1	M12 WASHER	12
P1	M12 PLASTIC WASHER	8



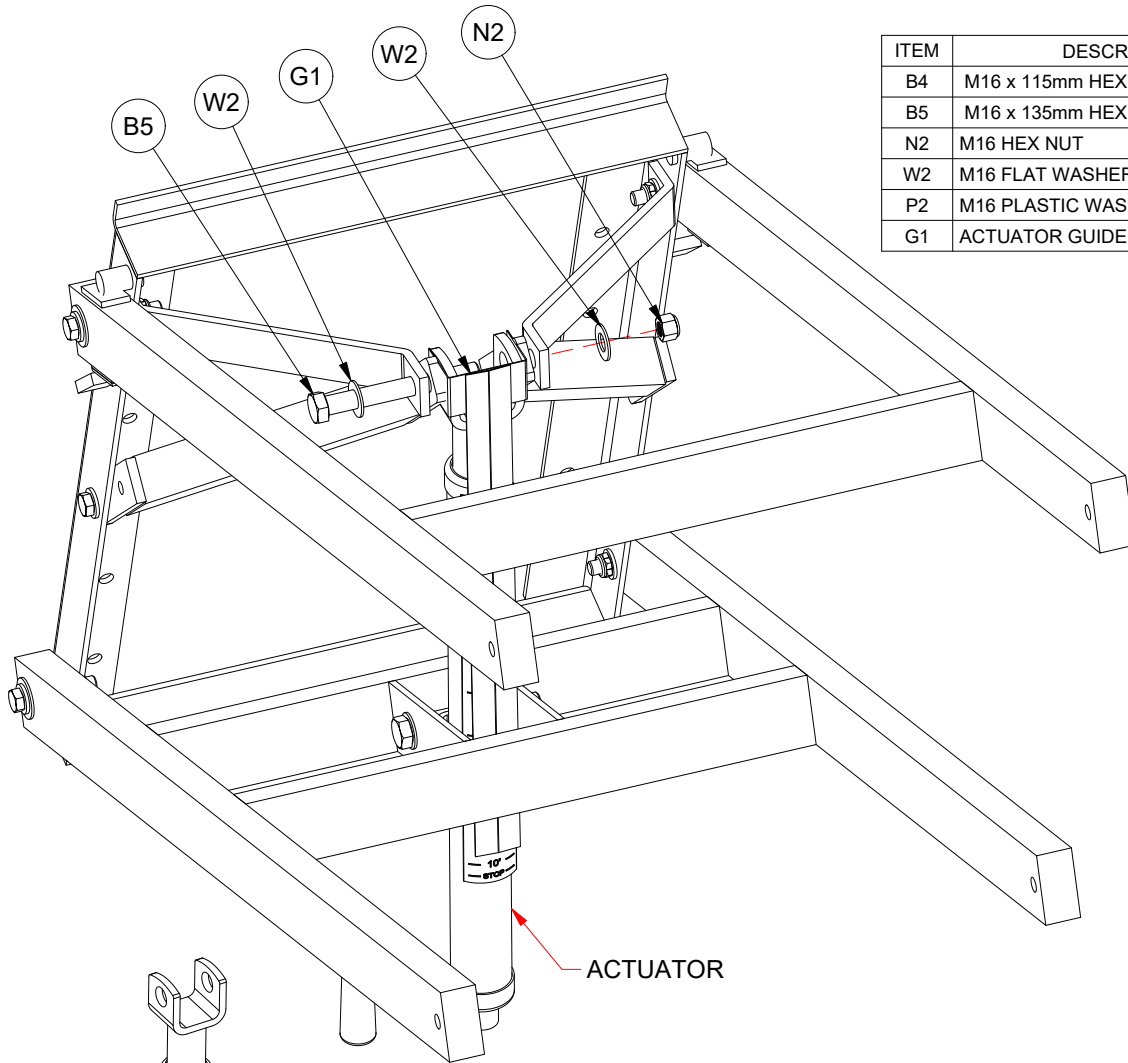
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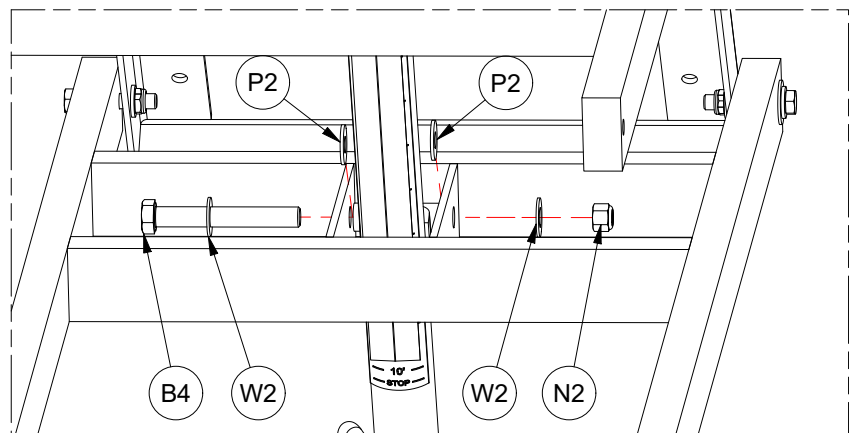
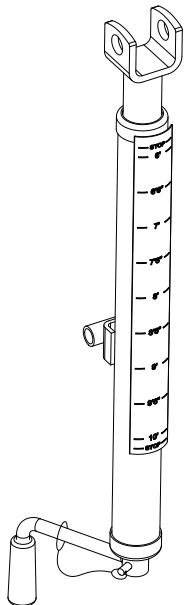
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ADJUSTABLE HEIGHT WALL MOUNT SYSTEM



ITEM	DESCRIPTION	QTY
B4	M16 x 115mm HEX BOLT	1
B5	M16 x 135mm HEX BOLT	1
N2	M16 HEX NUT	2
W2	M16 FLAT WASHER	4
P2	M16 PLASTIC WASHER	4
G1	ACTUATOR GUIDE ARM	1



BOTTOM ACTUATOR ATTACHMENT



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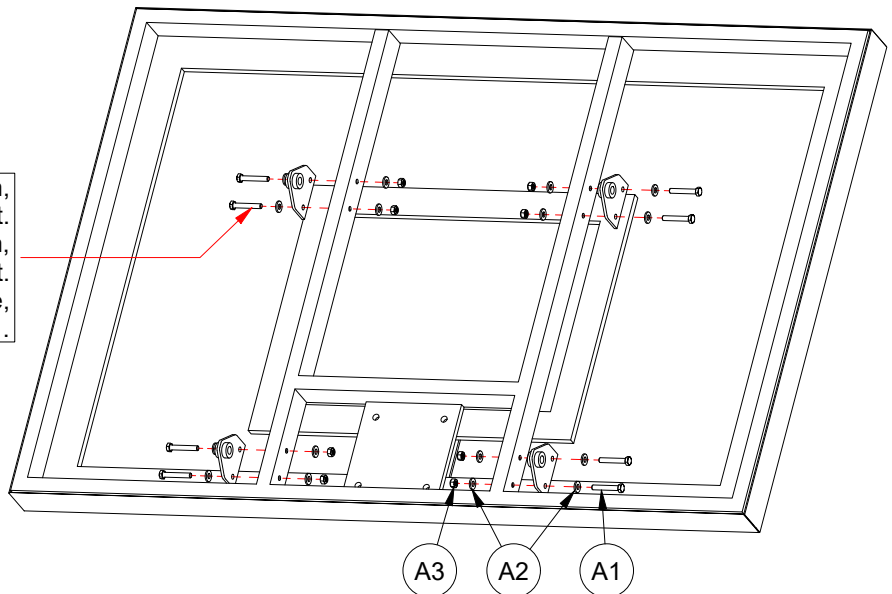
ADJUSTABLE HEIGHT WALL MOUNT SYSTEM

Backboard Assembly

Note: Extension arms must be in the lowered position.

1. **Open lid of box containing the backboard and slide the backboard**
Face down, with rim mounting plate facing towards the system mounting surface.
2. **Carefully lift the backboard from the box and align upper backboard holes with upper extension arm holes using two**
B3, four W1 and two N1.
3. **Align lower backboard holes with the lower extension arm holes**
Using the same procedure and hardware as in 2.

Before attaching the backboard to extension arm, the four ear plates need to be assembled first. Each ear need to use two Hex screw M8*45mm, four M8 Flat washer and two M8 Nut. Between the extension arm and every ear plate, there is one P1.



ITEM	DESCRIPTION	QTY
A1	M8 x 45mm BUTTON SCREW	8
A2	M8 FLAT WASHER	16
A3	M8 NYLOCK NUT	8



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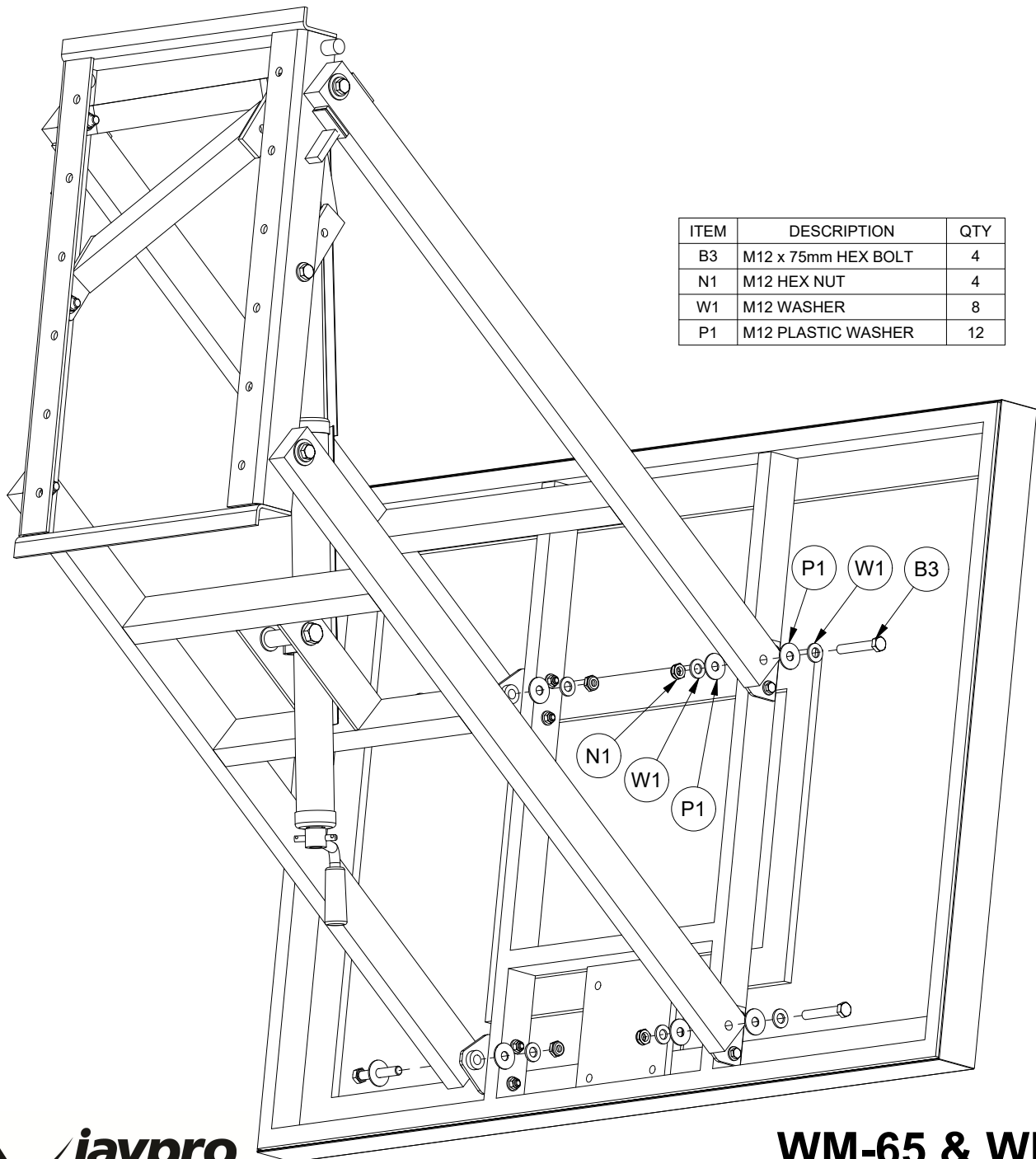
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ADJUSTABLE HEIGHT WALL MOUNT SYSTEM

Note:

- Extension arms attach to the outside of the backboard's H-frame.
- Plastic washer will be between backboard and extension arm.
- DO NOT over-tighten. Snug tighten, so that bushings in arms meet bushings in backboard.



ITEM	DESCRIPTION	QTY
B3	M12 x 75mm HEX BOLT	4
N1	M12 HEX NUT	4
W1	M12 WASHER	8
P1	M12 PLASTIC WASHER	12

ADJUSTABLE HEIGHT WALL MOUNT SYSTEM

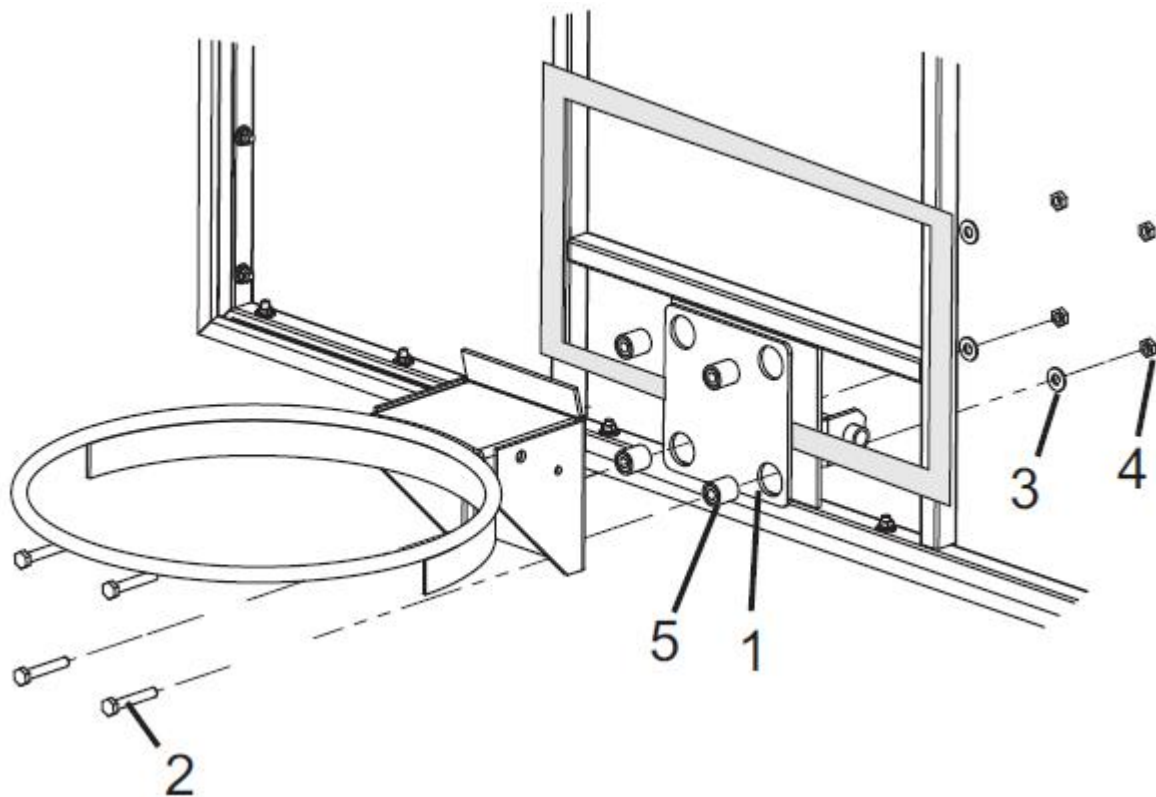
Final Attachment

1. Attach rim to back board

Attach Rim Pad (#1) to Glass as shown in right photo. Remove the Rim box cover, put Rim against Rim pad, secure it with 4 Carriage bolts M10*55 (#2), 4 Flat washers M10 (#3), 4 Flange nuts M10 (#4) and 4 mounting sleeves (#5).

Tighten all four bolts and nuts completely.

Put rim box cover back and secure it with removed screws.



Note:

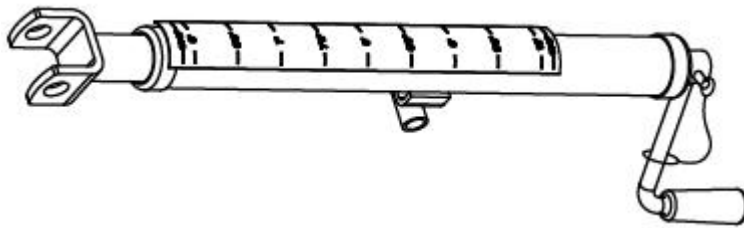
- Tighten all four bolts and nuts completely.
- Put Rim box cover back and secure it with removed screws

ADJUSTABLE HEIGHT WALL MOUNT SYSTEM

1. Apply Rim Height Sticker

Use a tape measure to crank rim up to exactly 10' from playing surface. Make a line mark on the Actuator (#6) against upper edge of Actuator Sleeve (#7). Crank the rim all the way down to the extreme end. Peel and apply rim height sticker to outside of Actuator (#6) lining up the mark with the 10' mark on the Rim height Sticker.

See Detail on Left hand



Attach crank to the bottom of the actuators secure it with attached pin.

ADJUSTABLE HEIGHT WALL MOUNT SYSTEM

LIMITED LIFETIME WARRANTY

Warranty Implementation

Basketball related equipment is warranted to the original purchaser to be free from defects in material or workmanship for the duration of ownership by the original retail purchaser. The word "defect" is defined as imperfections that impair the use of the product. Defects resulting from misuse, abuse, negligence, scratching or scuffing of the product that may result from normal usage will alter this warranty. Hoops Plus Reserves said merchandise, prior to authorization of warranty claims. This warranty is non-transferable and is solely limited to the repair or replacement of defective basketball equipment. If the equipment is defective within terms of this warranty, the manufacturer will repair or replace defective parts at no cost to the purchaser. Labor charges and related expenses for removal, installation or replacement of the basketball system or its components are not covered under this warranty. The manufacturer reserves the right to make substitutions to warranty claims if parts are unavailable or obsolete. Hoops Plus nor any representative assumes any liability for indirect, special, or consequential damages arising or of or in connection with the use or performance of the products or other damages with respect to any economical loss, loss of property, loss of enjoyment of use, cost of removal, installation, or other consequential damages for breach of any expressed or implied warranty on these products. Original proof of purchase required to proceed with warranty.

Warranty Exclusions

This warranty does not cover defects due to improper installation, alterations, or accidents. This warranty does not cover damage caused by vandalism, rusting, salt decay, act or nature (hurricanes, falling trees/limbs, etc.) or any other event beyond the control of the manufacturer. In addition, defect resulting from intentional damage, negligence, unreasonable use or hanging from the net or rim will void this warranty. There are exclusions to the warranty of the actuator and is based on info received, images or actual inspection. If it is determined that the actuator was abused by extending its capacity beyond its normal operating limits (by force) then replacement can be purchased at fair market value. While every attempt is made to ensure the highest degree of safety in all equipment, freedom from injury cannot be guaranteed. The user assumes all risks of injury resulting from the use of this product. This warranty does not cover breakage of the tempered glass playing surface.

Report Product Defects to:
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www.jaypro.com



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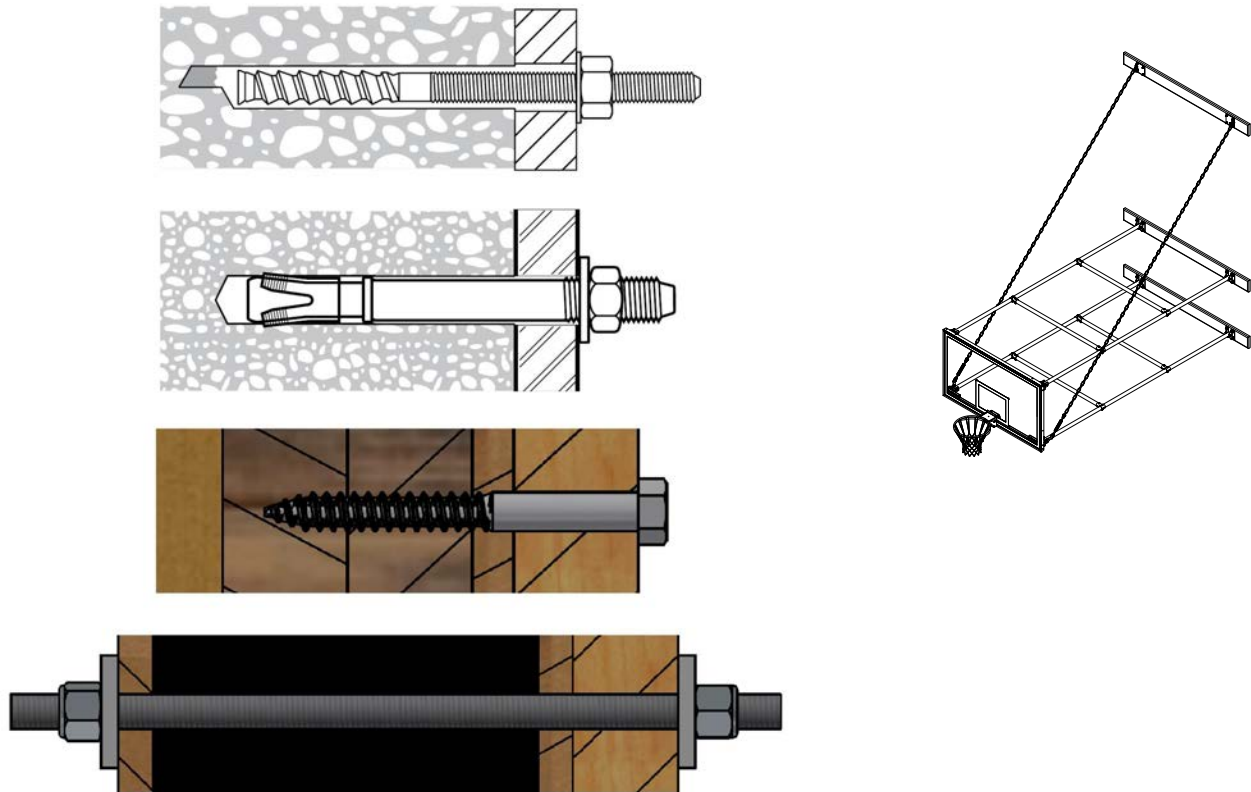
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Wall Anchor Guideline



jaypro sports
INNOVATION, PERFORMANCE AND COMMITMENT SINCE 1953

Guideline For Selecting Wall Anchors

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WALL ANCHOR GUIDELINE

OVERVIEW / GENERAL NOTES:

1. Consult an Architect or Structural Engineer to ensure wall structure is sufficient, additional blocking is added (if applicable) and to ensure the proper anchors are used to attach the permanent equipment to the wall. Failure to do so may result in damage, injury and / or death.
2. Jaypro Sports is not responsible for the wall structure or determining if the wall structure can support the backstop. Wall structure must be capable of supporting the entire load of the backstop and accessories, as well as the additional loading caused by an individual slam dunking and hanging on the rim.
3. It can be argued that the wall anchor is the most critical component of the wall mounted backstop system. All of the weight of the unit, as well as the load introduced through play and use of the equipment, ultimately must be supported by the wall anchors. Preparation of the wall, drilling of the holes in the proper location and depth, and most importantly correct selection of the type of anchor are all critical steps in the installation process.
4. All wall anchors are supplied by others. Select the proper wall anchors for the given wall conditions. All wall anchors should be a minimum of 1/2" diameter. When possible, thru-bolting is preferred. If possible, thru-bolt at least two times per stringer, in addition to additional anchors. Avoid putting anchors in line with each other, which would promote wood splitting.
5. This manual provides general guidance showing preferred anchor pattern for various sizes of wood planks. These are intended only as a general guide. Field conditions and obstructions, mortar joints and CMU web/cavity locations, sound proof blocking, all these present situations which must be handled in the best way possible to ensure a proper wall mounted installation.
6. For wall mounted backstops with chain supports, cable directional pulleys, winches, and / or safety straps, it is highly recommended that wood stringers be secured with thru-bolts. The majority of the load of the backstops is transferred directly to these points. In the case of low ceilings or roof structure, the top chain attachment points may be made directly to building steel. This is not an option for side folding units, only stationary and fold-up models. Note that with the fold-up style you may be limited in the amount the unit can fold if roof structure is used.
7. Use a minimum of 4 anchors for each manual or electric winch attachment point. Consult drawings in this manual for specific details on the two standard winch assemblies.
8. Remove any sheetrock/gypsum boards or other non-structural materials from area directly behind all wood planks. If necessary, replace sheetrock with a plywood spacer / shim to provide a flush mounting surface on a finished wall. Failure to do so may result in improper anchoring or anchors loosening over time.
9. It is not recommended that any wood stringers are mounted to the top two runs of CMU block, as these upper rows often are not structurally sound for attachment. If necessary, consult with the Structural Engineer, Architect, or General Contractor to confirm CMU is sound for anchoring.
10. Acoustical block, or "sound block", is the worst possible masonry type for wall mounted backstops. The block facing is textured, and has vertical slots every few inches. Acoustical block must be filled solid at all attachment areas or failure is likely to occur.
11. The following pages lists three of the most common wall anchors. Before drilling a single hole you must verify the type of wall you will be installing against and then procure the necessary type and quantity of anchor to guarantee a successful installation. Immediately below is a table listing acceptable anchor types for given wall compositions.
12. Over the course of time, wall anchors and bolted connections may loosen as a result of building vibrations or vibrations caused during play. Periodic inspection and rework is strongly advised to tighten hardware and return the equipment to the original level of safety.

Wall Construction	Recommended Anchor
All Wall Types	Thru-Bolting Recommended
Pre-Cast, 4" or Thicker	Hilti KWIK Bolt 3
CMU (Hollow)	1/2" Min Tumble Toggle
CMU (Filled / Solid)	Double Expansion Shield Hilti KWIK Bolt 3
Wood / Metal Studded Wall (Additional Blocking Required - By Others)	Thru-Bolts or Wood Lag Screws



WALL ANCHOR GUIDELINE

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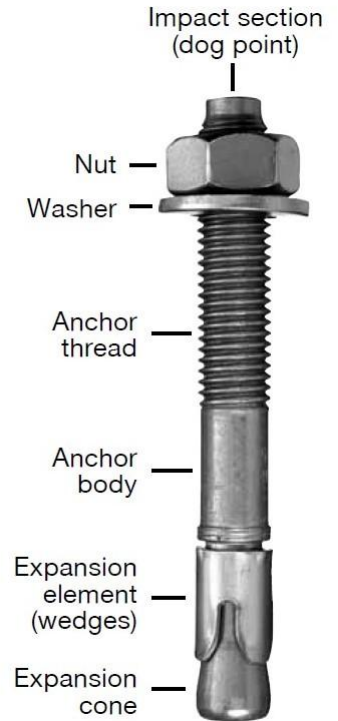
WALL ANCHOR GUIDELINE

PRE-CAST CONCRETE WALLS

The Hilti Kwik bolt 3 comes in two varieties – Expansion anchor and Adhesive anchor (sometimes referred to as a chemical anchor). The Hilti KWIK Bolt 3 is the only anchor approved in many California districts due to its endurance under seismic loading. It has extremely high load capacities, but is has particularly stringent preparation steps. Consult Hilti’s own website (www.us.hilti.com) and installation instructions supplied with anchors for complete site and equipment preparations. Shown below are general steps for installation for reference only.

Hilti KWIK Bolt 3 (Expansion Anchor)

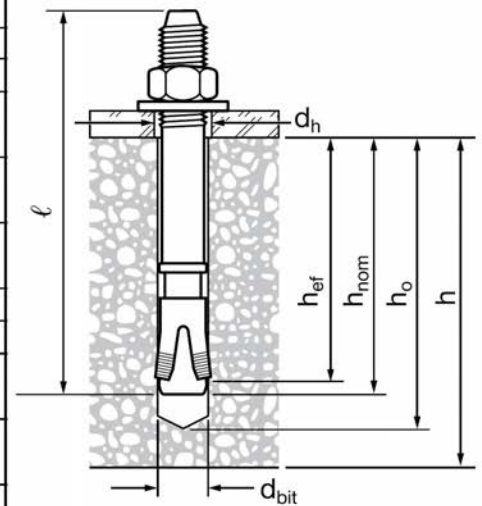
1. Hammer drill a hole to the same nominal diameter as the KWIK Bolt 3. The hole depth must exceed the anchor embedment by at least one diameter. The fixture or predrilled wood plank may be used as a template to ensure proper anchor location.
2. Clean debris out of drilled hole.
3. Drive the KWIK Bolt 3 into the hole using a hammer. The anchor must be driven until at least six threads are below the surface of the fixture (or wood).
4. Tighten the nut to the recommended installation torque, alternating anchors back and forth multiple times until the proper torque requirements are met.



Hilti KWIK Bolt 3 Specifications

Setting information	Symbol	Units	Nominal anchor diameter					
			1/2		5/8		3/4	
Drill bit dia.	d_{bit}	in.	1/2		5/8		3/4	
Minimum nominal embedment	h_{nom}	in. (mm)	2-1/4 (57)	3-5/8 (92)	3-1/2 (89)	4-3/8 (111)	4-1/4 (108)	5-5/8 (143)
Minimum effective embedment	h_{ef}	in. (mm)	2 (51)	3-1/4 (83)	3-1/8 (79)	4 (102)	3-3/4 (95)	5 (127)
Minimum hole depth	h_o	in. (mm)	2-5/8 (67)	4 (102)	3-7/8 (98)	4-3/4 (121)	4-1/2 (114)	5-3/4 (146)
Fixture hole dia.	d_h	in.	9/16		11/16		13/16	
Anchor length	l		See ordering information					
Installation torque concrete	T_{inst}	ft-lb (Nm)	40 (54)		60 (81)		110 (149)	
Installation torque masonry	T_{inst}	ft-lb (Nm)	25 (34)		65 (88)		120 (163)	
Wrench size		in.	3/4		15/16		1-1/8	

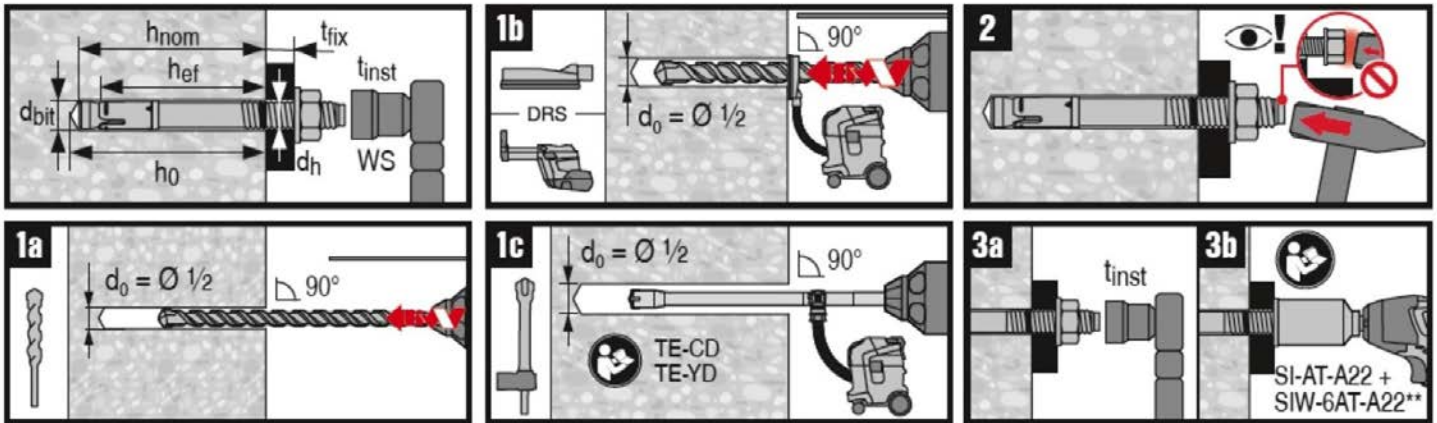
Hilti KWIK Bolt 3 Installation



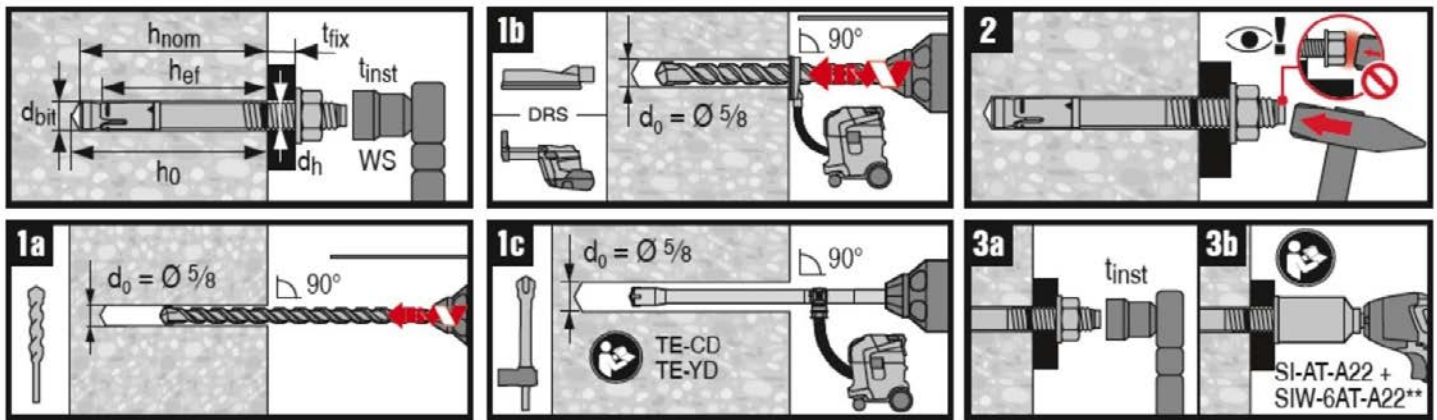


WALL ANCHOR GUIDELINE

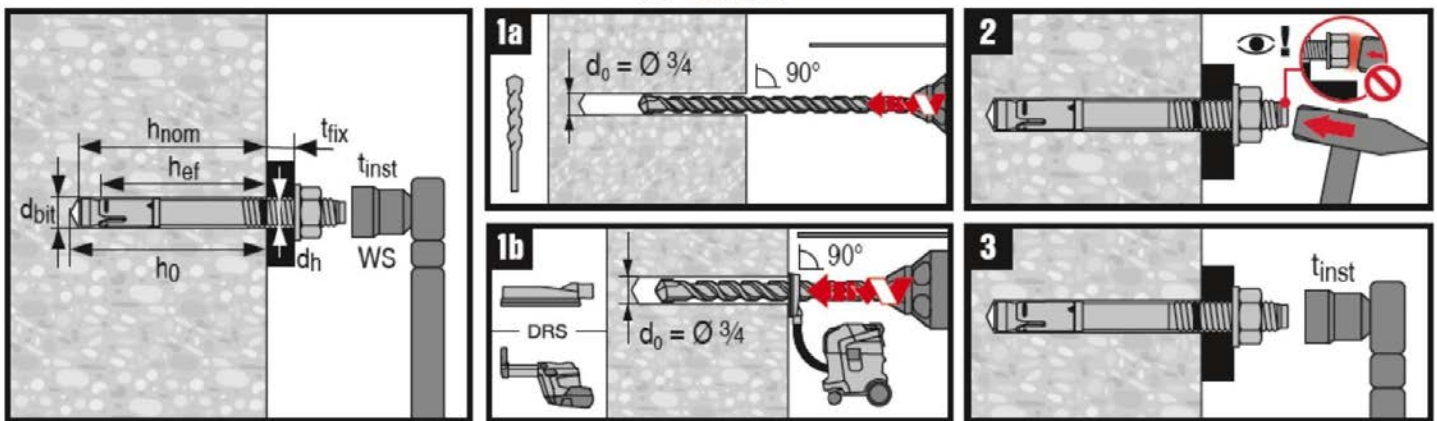
1/2" Diameter



5/8" Diameter



3/4" Diameter

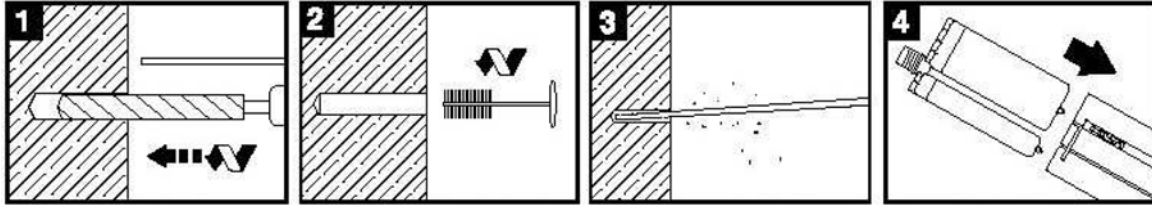




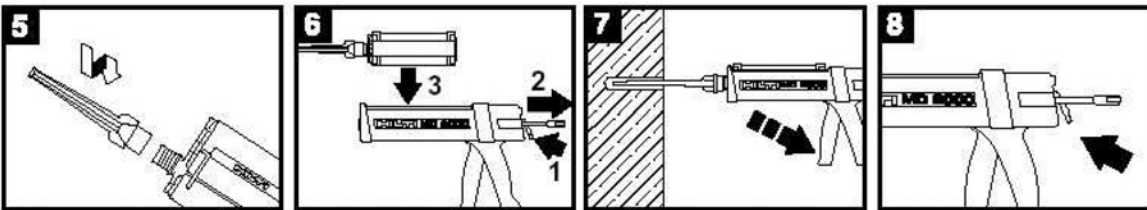
WALL ANCHOR GUIDELINE

Hilti HIT-HY 200 Adhesive Anchor Systems (HIT-Z Anchor Rod or HAS Threaded Rod)

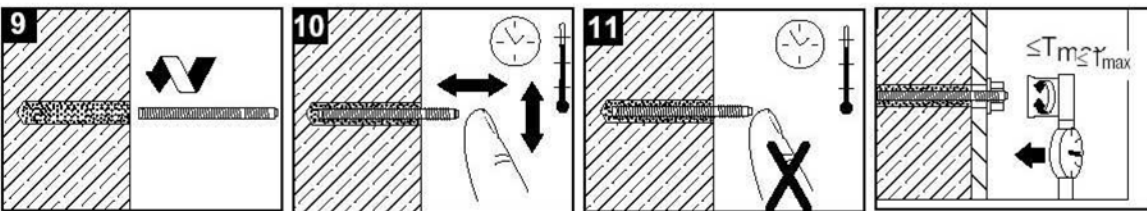
Hilti offers numerous acceptable adhesive anchors for all applications. For maximum productivity, reliability and for fast curing requirements, HIT-HY 200 with HIT-Z Anchor Rods or HAS Threaded Rods is recommended. See applicable Hilti tables below for gel and cure time information. Remember to consult Hilti directly for complete specifications and installation instructions. The information included herein is intended as a guide only for assistance in proper anchor selection. HIT rod information shown but other acceptable anchors are available from Hilti.



1. Drill anchor hole with carbide bit. Contact Hilti for use of Diamond Core bits.
2. Clean hole with wire brush. Proper hole cleaning is essential.
3. Insert air nozzle to bottom of hole and blow out hole using a pump or compressed air.
4. Put refill pack into holder. Remove cap covering threaded projection.



5. Screw on static mixer.
6. Put holder/cartridge into appropriate dispenser and discard first two trigger pulls of adhesive from each refill pack or cartridge.
7. Inject adhesive into hole starting at the bottom until 1/3 to 2/3 full. Use mixer filler tube extensions when needed to reach the hole bottom.
8. Unlock dispenser.



9. Insert rod. Twist during installation.
10. Fastener may be adjusted during specified gel time.
11. Do not disturb anchor between specified working time and cure time. See chart below.
12. Apply specified torque as required to secure items to be fastened. Do not exceed maximum torque specified.

Hilti HIT-HY 200 adhesive cure time and working time (approx.)

		HIT-HY 200-A			
		HAS HIS-N Rebar		HIT-Z ¹	
[°C]	[°F]	t _{work}	t _{cure}	t _{work}	t _{cure}
-10...-5	14...23	1.5 h	7 h	-	-
-4...0	24...32	50 min	4 h	-	-
1...5	33...41	25 min	2 h	-	-
6...10	42...50	15 min	1.25 h	15 min	1.25 h
11...20	51...68	7 min	45 min	7 min	45 min
21...30	69...86	4 min	30 min	4 min	30 min
31...40	87...104	3 min	30 min	3 min	30 min



WALL ANCHOR GUIDELINE

Hilti HIT-Z installation conditions

Permissible concrete conditions	Uncracked concrete	Dry concrete	Permissible drilling method	Hammer drilling with carbide tipped drill bit
	Cracked concrete	Water-saturated concrete		Hilti TE-CD or TE-YD Hollow Drill Bit
				Diamond core drill bit



Specifications for Hilti HIT-Z installed with Hilti HIT-HY 200 adhesive

Setting information		Symbol	Units	Nominal anchor diameter		
Nominal bit diameter		d_o	in.	1/2	5/8	3/4
Effective embedment	minimum	$h_{ef,min}$	in. (mm)	2-3/4 (70)	3-3/4 (95)	4 (102)
	maximum	$h_{ef,max}$	in. (mm)	6 (152)	7-1/2 (190)	8-1/2 (216)
Diameter of fixture hole	through-set		in.	5/8	13/16 ¹	15/16 ¹
	preset		in.	9/16	11/16	13/16
Installation torque		T_{inst}	ft-lb (Nm)	30 (40)	60 (80)	110 (150)

Figure 2 - Hilti HIT-Z specifications

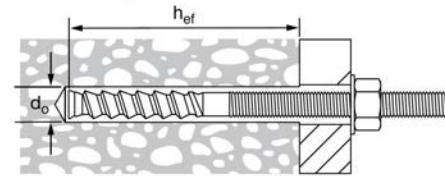


Figure 3 - Installation with (2) washers



¹ Install using (2) washers. See Figure 3.

Hilti HAS threaded rod installation conditions

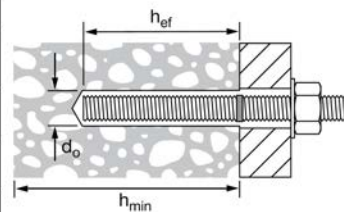
Permissible concrete conditions	Uncracked concrete	Dry concrete	Permissible drilling method	Hammer drilling with carbide tipped drill bit
	Cracked concrete	Water saturated concrete		Hilti TE-CD or TE-YD Hollow Drill Bit



Hilti HAS threaded rod specifications

Setting information		Symbol	Units	Nominal rod diameter, d						
Nominal bit diameter		d_o	in.	1/2	5/8	3/4	7/8	1	1-1/8	1-3/8
Effective embedment	minimum	$h_{ef,min}$	in. (mm)	2-3/4 (70)	3-1/8 (79)	3-1/2 (89)	3-1/2 (89)	4 (102)	5 (127)	
	maximum	$h_{ef,max}$	in. (mm)	10 (254)	12-1/2 (318)	15 (381)	17-1/2 (445)	20 (508)	25 (635)	
Diameter of fixture hole	through-set		in.	5/8	13/16 ¹	15/16 ¹	1-1/8 ¹	1-1/4 ¹	1-1/2 ¹	
Diameter of fixture hole	preset		in.	9/16	11/16	13/16	15/16	1-1/8	1-3/8	
Installation torque		T_{inst}	ft-lb (Nm)	30 (40)	60 (80)	100 (136)	125 (169)	150 (203)	200 (271)	
Minimum concrete thickness		h_{min}	in. (mm)	$h_{ef} + 1-1/4$ (4)	$h_{ef} + 2d_o$					
Minimum edge distance		c_{min}	in. (mm)	1-3/4 (45)	2 ² (50) ²	2-1/8 ² (55) ²	2-1/4 ² (60) ²	2-3/4 ² (70) ²	3-1/8 ² (80) ²	
Minimum anchor spacing		s_{min}	in. (mm)	2-1/2 (64)	3-1/8 (79)	3-3/4 (95)	4-3/4 (111)	5 (127)	6-1/4 (159)	

Hilti HAS threaded rods



Installation with (2) washers



¹ Install using (2) washers. See Figure 11.

² Edge distance of 1-3/4-inch (44mm) is permitted provided the installation torque is reduced to 0.30 T_{inst} for $5d < s < 16$ -in. and to 0.5 T_{inst} for $s > 16$ -in.

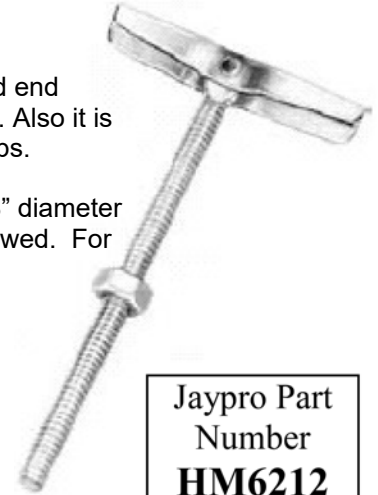
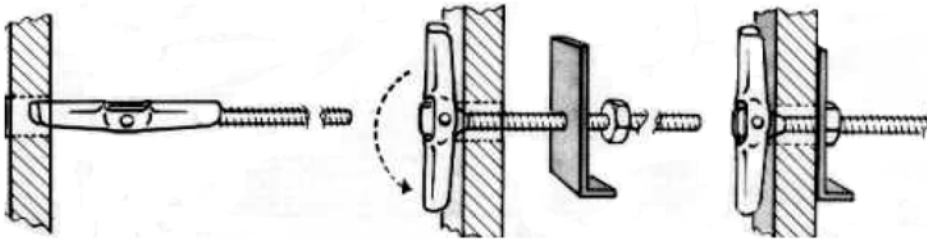


WALL ANCHOR GUIDELINE

CMU WALLS (HOLLOW BLOCK)

The No. 1 tumble toggle features a tilting type toggle head, which is riveted to a flattened end screw. This design permits either pre-installing the fastener to the fixture or into the hole. Also it is the strongest hollow wall anchor. Safe working load limit with steel plate backer is 520 lbs.

Installer Note: Only a 1/2" (1/2-13 x 6") diameter bolt type recommended, requiring a 7/8" diameter hole to be drilled in the hollow block. Tumble toggles less than 1/2" diameter are not allowed. For availability, please contact Jaypro Sports New Construction Customer Service.



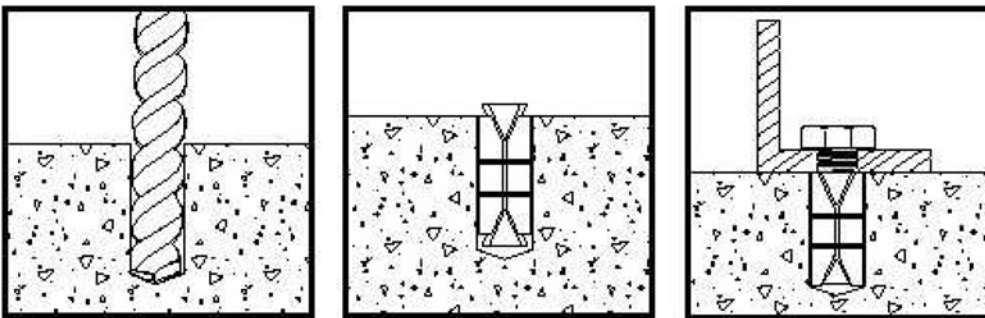
Jaypro Part Number
HM6212

1. Turn wing to position parallel to bolt and insert through hole drilled in wall.
2. Wing flips to vertical by gravity. Remove nut and place bracket over hole.
3. Replace and tighten nut. Bracket is now held in place.

CMU WALLS (FILLED / SOLID BLOCK)

In addition to Hilti KWIK Bolt 3 or Hilti HIT-HY 200 anchoring, 1/2" Dual Expansion Machine Bolt Anchors are also acceptable. The double is a dual expansion machine bolt anchor particularly suited for materials of questionable strength. It can be used in solid concrete, block, brick and stone. It consists of twin tubular sleeves, bound together with high tension spring steel bands which contains two protruding wedge shaped hollow cones. One cone is smooth, while the other is threaded. Internal lugs on the tapered ends of the hollow cones prevent them from rotating during anchor expansion. As the anchor is tightened, the opposing wedges at either end are drawn in tightly providing full length, 360° expansion over a large bearing area. For maximum expansion, the upper cone should protrude slightly before setting.

Installer Note: Only 1/2" (minimum) bolts are recommended. Expansion anchors less than 1/2" diameter are not allowed. For availability, please contact Jaypro Sports New Construction Customer Service.



Jaypro Part Number
HM2711

1. Drill hole of recommended diameter (7/8" for a 1/2" bolt) into the base material to a depth equal to, or slightly deeper than the length of the expansion anchor. Clean out the hole of all dust and cuttings.
2. Place the Double Expansion anchor, nut end first, into the hole. For maximum expansion, the top end of the anchor should be flush or slightly below the base material surface.
3. Place the object to be fastened over the anchor in the base material and bolt in to place. The bolt must engage a minimum of 2/3 of the expansion anchor threads. **20 FT-LBS MAX TIGHTENING TORQUE FOR 1/2" BOLTS**



WALL ANCHOR GUIDELINE

METAL / WOOD STUD WALLS

For studded walls, additional blocking is required to support the backstop. A Structural Engineer must review the wall structure to ensure the wall is capable of supporting the equipment, even if blocking is installed. It is not advisable to install a wall mounted backstop on a 2x4 studded wall. Blocking locations are directly related to the equipment geometry (style of unit and extension off the wall). Before any walls are closed off with sheetrock or paneling, the dealer and/or backstop installer must inspect the blocking to ensure requirements are met. Document blocking with photos for reference and request approval of blocking before installing wall finish. Depth of blocking must be documented to ensure the proper anchors are procured by the installer.

Design, materials, labor for the additional blocking and plywood spacers are the responsibility of the contractor (not Jaypro, dealer, nor equipment installer).

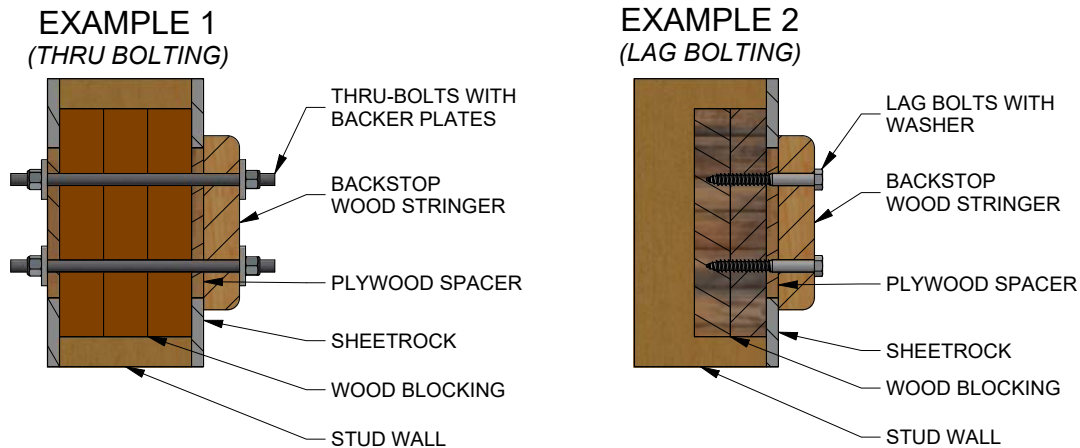
Blocking Material: Typically, blocking is constructed of 2x10 or 2x12 premium douglas fir lumber, sized larger than the southern yellow pine. Blocking is typically 2 or 3 layers, sistered into the wall studs, vertically orientated only. Another alternative that may be chosen is to use LVL beams sistered into the wall studs.

Sheetrock / Gypsum Board / AWP: Any layer of sheetrock / gypsum board must be removed and replaced with plywood. Sheetrock is not structural and if left between the stringers and blocking, wall anchors may loosen over time. Plywood spacer can be made the same size as the wood stringers or slightly smaller. Acoustic wall panels (AWP) must be modified and cut around the wood stringers. Backstop wood stringers cannot be modified to fit around AWP.

Recommended Anchors: Thru-bolting is the preferred method of attachment. Wood lag screws are also acceptable (1/2" diameter minimum). For wood lag screws, drill the proper pilot holes based on the blocking material selected. Use of impact wrench is strictly prohibited. **Hand tighten only.** Use bees wax on lag screws for smooth installation of lag screws.

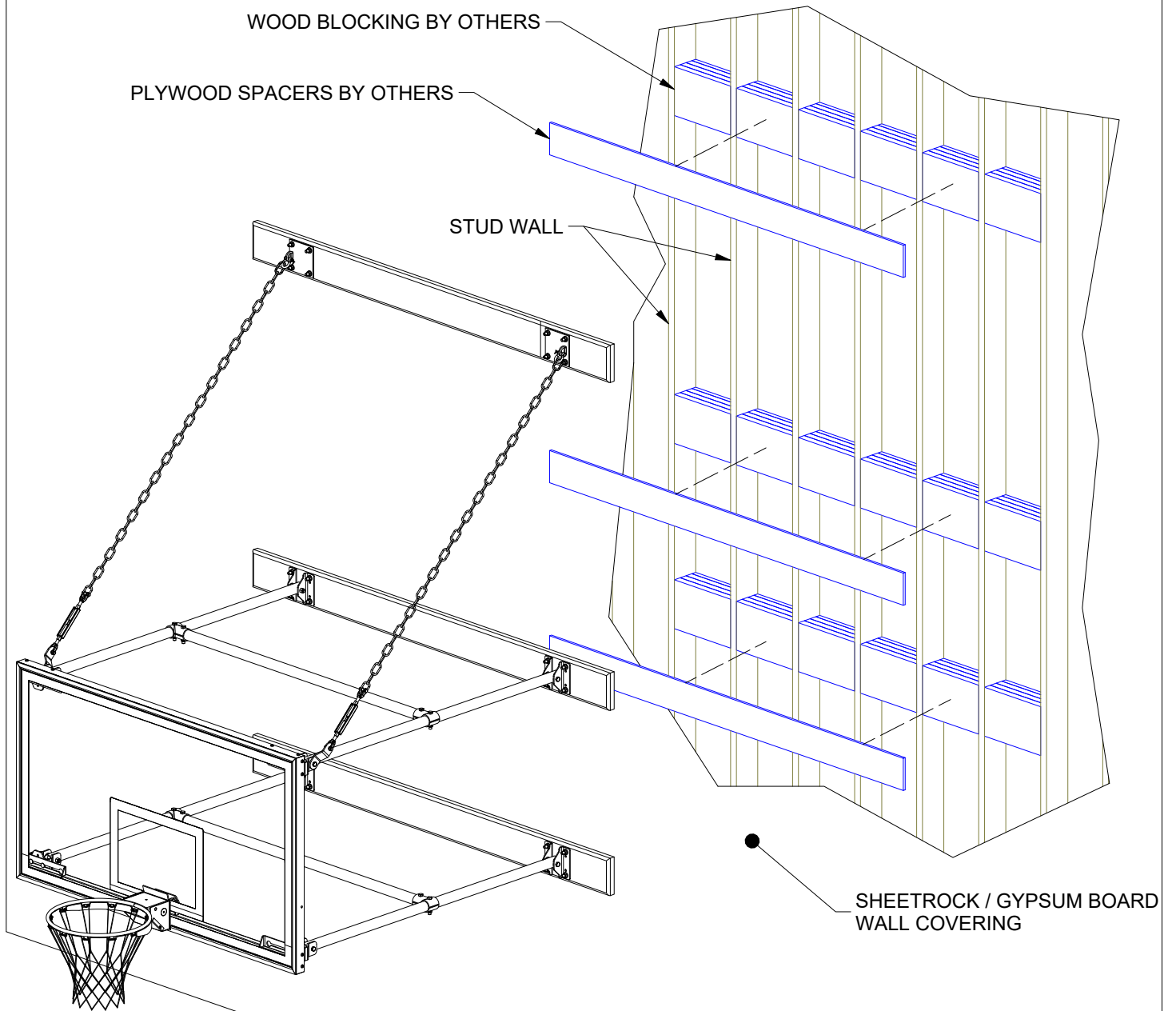
LAG SIZE	LAG BOLT PILOT HOLE SIZES		
	SOFT WOOD	HARD WOOD	MEDIUM WOOD
	Groups III & IV	Groups II	Groups I
1/2"	15/64"	5/16"	11/32"
5/8"	5/16"	13/32"	29/64"
3/4"	13/32"	1/2"	9/16"

Group I: Oak, Maple, White Ash
Group II: Douglas Fir, Southern Yellow Pine
Group III & IV: White or Eastern Pine, Poplar, Hemlock, Spruce





WALL ANCHOR GUIDELINE





WALL ANCHOR GUIDELINE

Wall Mounted Backstop, Welded Sub-Frames

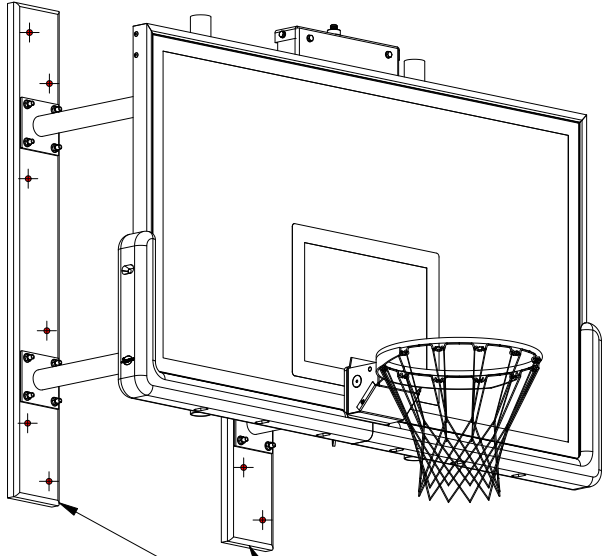
Vertically oriented wood stringers supporting each welded sub-frame. Recommended to have at least 6 anchors per stringer, especially for units equipped with rim height adjusters.

Applicable Model Numbers:

1300, Stationary Wall Mounts

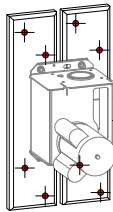
WMSS, Shooting Station

WMWH, Shooting Station with Height Adjuster



WELDED FRAME STRINGERS
(6 ANCHORS PER STRINGER)

UPPER CHAIN STRINGERS MAY BE SINGLE STRINGER OR INDEPENDENT STRINGERS
(4 ANCHORS PER CHAIN)

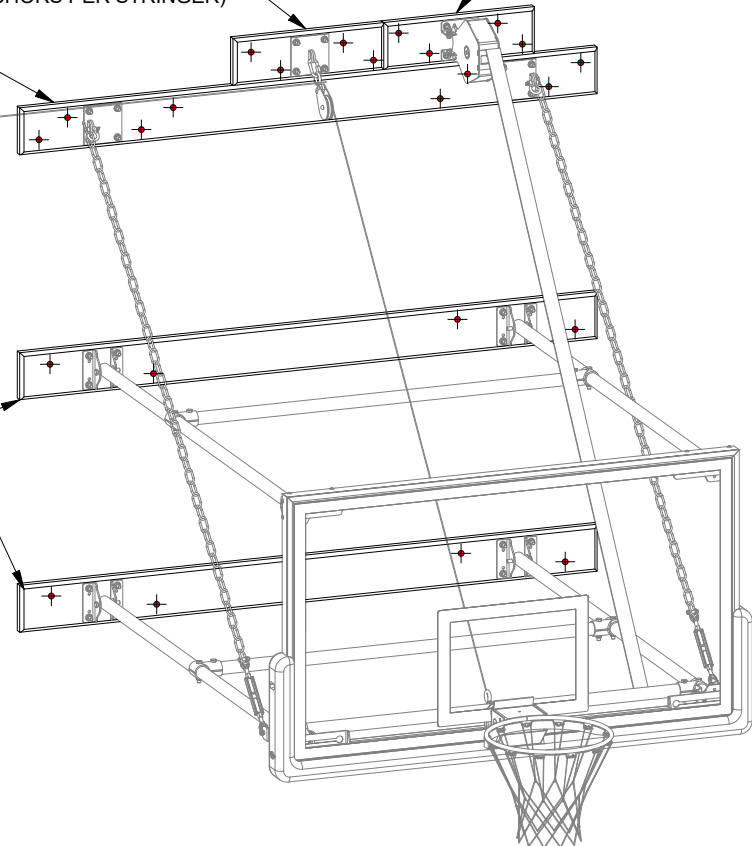


MANUAL OR ELECTRIC WALL MOUNTED WINCH
(4 ANCHORS PER STRINGER)

DIRECTIONAL PULLEY
(4 ANCHORS PER STRINGER)

SAFETY STRAP
(4 ANCHORS PER STRINGER)

FRAME OUTRIGGER STRINGERS
(4 ANCHORS PER STRINGER)



Wall Mounted Backstop, Equipped with Chain Supports

Wood stringers supplied may be oriented vertically or horizontally (as shown). The majority of the loading is supported from the upper chain supports, requiring more anchors than the frame stringers. All loading is transferred to directional pulleys, winches, and safe strap (if called into action).

Applicable Model Numbers:

1310, Stationary Wall Mounts, 4' FOB or Greater

1400, Fold-Up Wall Mounts, 4' FOB or Greater

1500, Side-Folding Wall Mounts, 4' FOB or Greater



WALL ANCHOR GUIDELINE

www.jaypro.com / (800) 243-0533 / 976 Hartford Tpke, Waterford, CT 06385 USA

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