



Y-Frame Ceiling Mounted Basketball Backstops

Note: These specifications were current at the time of publication but are subject to change without notice. Please confirm the accuracy of these specifications with the manufacturer and / or distributor prior to use.

SECTION 11 65 00 GYMNASIUM AND PLAYFIELD EQUIPMENT

SPECIFIER NOTE: *This product guide specification is written according to the Construction Specifications Institute (CSI) Format, including MasterFormat, SectionFormat, and PageFormat, as contained in the CSI Manual of Practice.*

The section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building codes. Coordinate this section with other specification sections and the drawings.

Notes for review by specifier begin with "SPECIFIER NOTE." Optional text requiring a selection is enclosed within square brackets, e.g., "Color shall be [white] [tan]." Items requiring specifier input are indicated by a blank line enclosed within square brackets, e.g., "Color: [_____]." Delete all italicized "Specifier Notes" and non-applicable optional text in final specification.

This section is based on systems manufactured by IPI by Bison, 603 "L" Street, Lincoln, NE, 68508. Toll Free 1-800-637-7968 Fax 1-800-638-0698 Web: <http://ipibybison.com> Email: sales@IPIbyBison.com. Contact the manufacturer for additional information and for assistance in editing this section for your specific application.

PART 1: GENERAL

1.1 Section Includes

SPECIFIER NOTE: *Coordinate this list with the equipment specified in Part 2 Products.*

- A. Fully welded Y-Frame Ceiling Mounted [manually] [electrically] operated basketball backstop with [safety lock] [height adjuster] [backboard] [goal] [backboard safety padding] [_____].

1.2 Related Sections

SPECIFIER NOTE: *List sections dealing with work directly related to this section such as the following. Delete those note required.*

- A. Section 05 21 00 Steel Joist Framing: Roof framing to receive ceiling suspended backstops.
- B. Section 09 64 00 - Wood Flooring: Layout and painting of court lines to be coordinated with installation of basketball backstops.
- C. Section 09 65 00 - Resilient Flooring: Layout of court lines to be coordinated with installation of basketball backstops.
- D. Section: 09 90 00 - Painting: Field painting of factory-primed surfaces.

- E. Section 11 66 23 – Gymnasium Protection Accessories: Wall mounted protection pads at backstop locations.
- F. Section 26 [____]: Electrical supply, conduit, and wiring for electrically operated [hoist] [goal adjuster].

1.3 Submittals

- A. Comply with Section 01 33 00 - Submittal Procedures.
- B. Product Data: Submit manufacturer's published product data, including installation instructions.
- C. Shop Drawings: Submit manufacturer's shop drawings, indicating materials, dimensions, electrical wiring diagrams, mounting and accessories.

Specifier Note: *Custom computer load analysis will be provided upon request. Contact IPI by Bison for assistance.*

- D. Calculations: Submit calculations for actual vertical and horizontal loads to be transmitted to structural roof framing supporting backstop assemblies. Loads shall be calculated for specific support configuration shown on Drawings.
- E. Warranty: Submit manufacturer's standard warranty.

1.4 Quality Assurance

- A. Single Source Responsibility: All specified components including Y-Frame Ceiling Mounted basketball backstop, [backboard], [goals], [electric winches] [manual winches], [controls], [safety lock,] [height adjuster], [goal], [backboard safety padding], [_____] shall be products of a single manufacturer.
- B. Regulatory Requirements: Y-Frame Ceiling Mounted basketball backstops shall be designed, fabricated, and installed to comply with National Collegiate Athletic Association (NCAA) and National Federation of State High School Associations (NFHS) regulations.

1.5 Delivery, Storage and Handling

- A. Comply with manufacturer's recommendations for delivery, storage and handling.
- B. Deliver materials to site in manufacturer's original, unopened packaging, with labels clearly identifying product name, manufacturer, and location of installation. Upon delivery, materials shall be inspected for damage. Deficient materials shall not be used.
- C. Storage: Store materials in a clean, dry area indoors in accordance with manufacturer's instructions. Keep temporary protective coverings in place to protect product from damage due to moisture and construction activities.
- D. Handling: Protect materials and finish from damage to surface and edges during handling and installation.

PART 2: PRODUCTS

2.1 Manufacturer

- A. IPI by Bison, 603 "L" Street, Lincoln, NE, 68508. Toll Free 1-800-637-7968 Fax 1-800-638-0698
Web: <http://ipibybison.com> Email: sales@IPIbyBison.com.

SPECIFIER NOTE: *Delete one of the following two paragraphs; coordinate with requirements of Division 1 on product options and substitutions.*

- A. Substitutions: Not permitted.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

2.2 Materials

SPECIFIER NOTE: All Y-Frame Ceiling Mounted basketball backstops with an attachment height of less than 28'-0", will be shipped as a completely welded assembly. For backstops with an attachment height of 28'-0" or greater, backstop frame will be shipped with fittings to be bolted together at the job-site.

- A. Main Frame Assembly: Main central mast of 6" O.D. 11 ga steel tubing, diagonal sway braces of 2-3/8" O.D. schedule 40 pipe and a horizontal spreader of 2" x 3", 11 ga. steel tubing. Assembled, the components form a rigid, triangle unit.
- B. Bearings: All bearing points shall operate on precision fit bronze oil less type bearings. Main frame assembly shall be supplied with 1" dia. 10" long threaded eyebolts to provide adjustability to level frame during installation.
- C. Support Pipe: Backstop shall be suspended from a superstructure (of configuration required for attachment to building support members) of 3-1/2" O.D. schedule 40 pipe. When building members are spaced more than 16'-0" apart, horizontal 3-1/2" O.D. schedule 40 support pipe shall be reinforced with 1-7/8" O.D. scheduled 40 steel pipe and spacers welded to form bridging. For buildings with a sloped structure, or excessive height, drop cradles will be required.
- D. Folding Brace: 2-3/8" O.D. schedule 40 pipe. Brace fittings are adjustable to precisely plumb the face of the backboard.

SPECIFIER NOTE: Backstops are provided with black or white powder coat finish. If desired, other powder coat colors are also available. Contact manufacturer for availability. Delete subparagraph below if backstop will be field painted.

- E. Finish: All metal parts, with the exception of galvanized or plated parts, shall have a factory applied [black] [other color: _____ (subject to additional cost)] polyester powder coated finish.

SPECIFIER NOTE: Delete Subparagraph below if powder coat colors are selected.

- E. Finish: All metal parts, with the exception of galvanized or plated parts, shall be primed for field painting.
 - a. Color: gray

2.3 Backstop

SPECIFIER NOTE: IPI by Bison provides eight (8) types of Y-Frame Ceiling Mounted basketball backstops. Refer to IPI by Bison product literature for the advantages of each type and assistance in selecting the backstop most appropriate for specific project conditions. For each of backstop there are options for method of operation, backboard, goal, and padding. Refer to product literature for availability of options and guidelines for design, selection, and installation of basketball backstops. Select appropriate models and options from the list below. Delete those not specified.

- A. Y-Frame Ceiling Mounted Backstops

SPECIFIER NOTE: Include the following article for Model IP1345CW Y-Frame Ceiling Suspended, Wall Braced Basketball Backstop. Delete section if not specified.

1. Type: Model IP1345CW Y-Frame Ceiling Suspended, Wall Braced Basketball Backstop: The main mast shall be mitered to suspend from structure above at an angle. Rear brace shall extend to wall and attach to a horizontal wood stringer.

SPECIFIER NOTE: Include the following article for Model IP1345CS Y-Frame Ceiling Suspended, Ceiling Braced Basketball Backstop. Delete section if not specified.

1. Type: Model IP1345CS Y-Frame Ceiling Suspended, Ceiling Braced Basketball Backstop. The main mast shall be custom designed to suspend from structure above at an angle. Rear brace pipe shall incline to structure above.

SPECIFIER NOTE: Include the following article for Model IP1345BF Y-Frame Ceiling Suspended Backward Fold, Rear Braced Basketball Backstop. Delete section if not specified.

1. Type: Model IP1345BF Y-Frame Ceiling Suspended Backward Fold, Rear Braced Basketball Backstop. Back brace shall include a hinged joint. The hinged joint locks the backboard into the playing position and is easily disengaged when the hoist cable pulls the hinge joint open.

SPECIFIER NOTE: Include the following article for Model IP1345FRBF Y-Frame Ceiling Suspended Forward Roll, Backward Fold Basketball Backstop. Delete section if not specified.

1. Type: Model IP1345FRBF Y-Frame Ceiling Suspended Forward Roll, Backward Fold Basketball Backstop. Special hangers shall be furnished to enable the main frame assembly to roll forward on a track of 2" x 3" 11 ga. steel tubing, thus allowing the backstop to fold in a compacted space. Back brace shall include a hinged joint. The hinged joint locks the backboard into the playing position and is easily disengaged when the hoist cable pulls the hinge joint open.

SPECIFIER NOTE: Include the following article for Model IP1345SF Y-Frame Ceiling Suspended, Side Fold, Side Braced Basketball Backstop. Delete section if not specified.

1. Type: Model IP1345SF Y-Frame Ceiling Suspended Side Fold, Side Braced Basketball Backstop. The hinged joint locks the backboard into the playing position and is easily disengaged when the hoist cable pulls the hinge joint open.

SPECIFIER NOTE: Include the following article for Model IP1350FF Y-Frame Ceiling Suspended Forward Fold, Rear Braced Basketball Backstop. Delete section if not specified.

1. Type: Model IP1350FF Y-Frame Ceiling Suspended Forward Fold (Rear Braced) Basketball Backstop. Rear brace shall include a wedge lock assembly which rolls up and down the roller guide of 1-7/8" O.D. schedule 40 pipe. Wedge lock assembly is adjustable to precisely plumb the face of the backboard.

SPECIFIER NOTE: Include the following article for Model IP1360FF Y-Frame Ceiling Suspended Forward Fold, Front Braced Basketball Backstop. Delete section if not specified.

1. Type: Model IP1360FF Y-Frame Ceiling Suspended Forward Fold (Front Braced) Basketball Backstop. Front brace shall include a hinged joint. The hinged joint locks the backboard into the playing position and is easily disengaged when the hoist cable pulls the hinge joint open.

SPECIFIER NOTE: Include the following article for Model IP1370FF Y-Frame Ceiling Suspended Forward Fold, Front Braced Basketball Backstop. Delete section if not specified.

1. Type: Model IP1370FF Y-Frame Ceiling Suspended Forward Fold, Front Braced Basketball Backstop. The main mast shall be mitered to suspend from structure above at a 30 degree

angle. Front brace shall include a hinged joint. The hinged joint locks the backboard into the playing position and is easily disengaged when the hoist cable pulls the hinge joint open.

2.4 Electric Hoist

SPECIFIER NOTE: *Include the following article for electric operation of Y-Frame Ceiling Mounted basketball backstops. Delete section if electric hoist not specified.*

- A. Shall provide one electric hoist for each Y-Frame Ceiling Mounted basketball backstop.
- B. Hoist Type: Gear driven electric hoist designed to hold backstop at any position during raising or lowering model [BA973LR (3/4 HP)] [BA974LR (1 HP)] manufactured for IPI by LynRus.
 - 1. Motor: [115-volt, single phase] [other, specify] UL Listed instantly reversible with 20-minute duty cycle.
 - 2. Limit Switch: Rotary type switch controls repeatable stop at raised and lowered positions.
 - 3. Gears: Hardened steel, positive locking, double reduction worm and worm wheel.
 - 4. Cable Take Up Drum: 4 ½" outside diameter with cable take-up grooves. 60' cable capacity.
 - 5. Lifting Capacity: 1250 pounds at 9 feet per minute.
 - 6. Cable: ¼" diameter, galvanized, 6x19 strand core aircraft cable.
 - 7. Gear Box: Fully enclosed. Self-lubricating, ball bearing supported.
 - 8. Mounting: Clamps to 3 ½" OD ceiling suspended structural pipe.

SPECIFIER NOTE: *Standard control for electric hoist is 3 position key switch. Optional control options include remote wireless system or keyless programmable operating system. Use the following paragraph to specify 3 position key switch. Delete if not specified.*

- C. Controls: Shall provide key lock, 3 position, momentary contact wall control switch to lower, raise, and stop backstop.
 - 1. Provide two keys.
 - 2. Provide stainless steel cover plate with up/down markings.
 - 3. Key switches operating basketball backstops, rim height adjusters and gymnasium dividers shall be furnished from a single source.

SPECIFIER NOTE: *Use the following paragraph to specify IPI Gym Command Plus Programmable Touch Screen Operating System for Gymnasiums Model IPGCPLUS. Delete if not specified.*

- C. Controls: Shall provide Gym Command Plus Programmable Touch Screen Operating System for Gymnasiums as manufactured for IPI by Bison.
 - 1. Flush wall mounted 7" diagonal touch screen.
 - 2. UL listed 12" x 16" x 4" steel relay box(es) each capable of controlling up to 8 devices. Requires 120-volt, 30-amp single phase power source.
 - 3. Use multiple relay boxes for operating additional devices.
 - 4. Control system allows for operation of single or multiple groups of devices at the same time.
 - 5. Easily programmable in the field.
 - 6. Touch screens are password protected.
 - 7. Allows installation of multiple touch screens.

SPECIFIER NOTE: *Use the following paragraph to specify IPI Gym Command 7 Control System Model IPGCS7. Delete if not specified.*

C. Controls: Shall provide IPI Model IPGCS7 Gym Command 7 Control System.

1. Wall mounted, 115 volt, UL Listed, 7" high resolution color touch screen.
2. 115 volt hardwire foam control panel to each device.
3. Factory programmed but field reprogrammable.
4. [8], [16], [24], [32] device capacity.

SPECIFIER NOTE: *Use the following to specify IPI Goal Tender II Wireless Remote Control System for Gymnasium Device Operation. One Model IPGTS99LR controls up to 99 devices. One Model IPGTS1LR Wireless Receiver required for each device. Delete if not specified.*

C. Controls: Shall provide Goal Tender II Wireless Remote Transmitter and Receiver Systems manufactured for IPI by Bison by LynRus.

1. Transmitter: Handheld 9-volt battery operated IPI Model IPGTS99LR operates up to 99 separate devices.
2. Receiver: Specify one IPGTS1LR for each electric device.

2.5 Manual Winch

SPECIFIER NOTE: *Include the following article for manual operation of Y-Frame Ceiling Mounted backstops. Delete section if manual winch not specified.*

- A. Shall provide for one manual winch, Model BA925LR, for each Y-Frame Ceiling Mounted basketball backstop.
- B. Type: Gear driven manual hoist manufactured for IPI by LynRus designed to raise and lower backstops by means of a removable manually operated hand crank or optional electric manual driver Model BA930.
1. Gears: Hardened steel, positive locking, double reduction worm and worm wheel. 40:1 gear ratio.
 2. Cable Take-Up Drum: 4" diameter aluminum drum with cable take up grooves and wide cable control flanges on each end.
 3. Lifting Capacity: 1,000 pounds.
 4. Cable: ¼" diameter, galvanized, 6x19 strand core aircraft cable.
 5. Gear Case: Enclosed self-maintaining thrust bearing supported.
 6. Mounting: Wall attachment behind backstop.

SPECIFIER NOTE: *Manual winches can also be operated with -portable electric winch winders. Use the following paragraph to specify this option. Delete section if portable electric winch winder not specified.*

C. Portable electric winch winder: Reversible electric operator for manual winch Model BA930 Winch Winder as manufactured for IPI by Bison.

1. Motor: 120 v, ¾" HP, high torque motor.
2. Speed Control: 335 RPM low side or 750 RPM high side.
3. Lockable cord attachment to eliminate unauthorized use.

2.6 Safety Lock

SPECIFIER NOTE: *Specify the following if a safety lock is required on overhead suspended basketball units. IPI by Bison **strongly** recommends this optional safety lock. Delete section if not specified.*

- A. Shall provide one BA950LR for each overhead suspended basketball unit manufactured for IPI by LynRus.
 - 1. Lock: Inertia sensitive to automatically lock backstop in position at any time during storage, raising or lowering, due to a sudden surge of speed created by cable breakage or other mechanical or fastener failure.
 - 2. Use: Single failure use. Requires replacement after equipment failure and device activation.
 - 3. Housing: Full enclosed cast aluminum.
 - 4. Safety Strip: 6,000 pound capacity, 2" wide polyester strap, 35 foot strap capacity.
 - 5. Mounting: Mounts to 3 1/2" OD ceiling suspended structural pipe with clamps provided.

2.7 Goal Height Adjuster

SPECIFIER NOTE: *All backstops can be equipped with height adjusters allowing backboard to be positioned such that rim height is anywhere between 8 and 10 feet (2438 to 3048 mm) above court floor. Manual and motorized height adjusters may be specified. Consult manufacturer for assistance in selecting appropriate model. Delete section if not specified.*

- A. Type: Mechanism for [manually] [electrically] adjusting height of [fan shaped], [short rectangular], [tall rectangular] backboard and rim; Model [BA980F, Manual, Fan Board], [BA980RS Manual, 42" x 72" Rectangular Board], [BA980RT, Manual 48" x 72" Rectangular Board], [BA980RSE, Electric 42" x 72" Rectangular Board], [BA980RTE, Electric, 48" x 72" Rectangular Board]. Height adjuster as manufactured by IPI by Bison.
- B. Adjustment range: Goal position from [8 to 10 feet] [2438 to 3048 mm] above court floor.
- C. Construction: Silver powder coated steel.
- D. Operation: [7/8" dia Acme Lead screw with thrust bearing and hand crank for manual operation] [1/10 HP reversible linear actuator with built-in limit switches for electric operation].

SPECIFIER NOTE: *Standard control for electric hoist is 3 position key switch. Optional control options include remote wireless system or keyless programmable operating system. Use the following paragraph to specify 3 position key switch. Delete if not specified.*

- E. Controls: Shall provide key lock, 3 position, momentary contact wall control switch to lower, raise, and stop backstop.
 - 1. Provide two keys.
 - 2. Provide stainless steel cover plate with up/down markings.
 - 3. Key switches operating basketball backstops, rim height adjusters and gymnasium dividers shall be furnished from a single source.

SPECIFIER NOTE: *Use the following paragraph to specify IPI Gym Command Plus Programmable Touch Screen Operating System for Gymnasiums Model IPGCPLUS. Delete if not specified.*

- E. Controls: Shall provide Gym Command Plus Programmable Touch Screen Operating System for Gymnasiums as manufactured for IPI by Bison.
 - 1. Flush wall mounted 7" diagonal touch screen.
 - 2. UL listed 12" x 16" x 4" steel relay box(es) each capable of controlling up to 8 devices. Requires 120-volt, 30-amp single phase power source.
 - 3. Use multiple relay boxes for operating additional devices.
 - 4. Control system allows for operation of single or multiple groups of devices at the same time.
 - 5. Easily programmable in the field.
 - 6. Touch screens are password protected.
 - 7. Allows installation of multiple touch screens.

SPECIFIER NOTE: *Use the following paragraph to specify IPI Gym Command 7 Control System Model IPGCS7. Delete if not specified.*

- E. Controls: Shall provide IPI Model IPGCS7 Gym Command 7 Control System.
 - 1. Wall mounted, 115 volt, UL Listed, 7" high resolution color touch screen.
 - 2. 115 volt hardwire foam control panel to each device.
 - 3. Factory programmed but field reprogrammable.
 - 4. [8], [16], [24], [32] device capacity.

SPECIFIER NOTE: *Use the following to specify IPI Goal Tender II Wireless Remote Control System for Gymnasium Device Operation. One Model IPGTS99LR controls up to 99 devices. One Model IPGTS1LR Wireless Receiver required for each device. Delete if not specified.*

- E. Controls: Shall provide Goal Tender II Wireless Remote Transmitter and Receiver Systems manufactured for IPI by Bison by LynRus.
 - 1. Transmitter: Handheld 9-volt battery operated IPI Model IPGTS99LR operates up to 99 separate devices.
 - 2. Receiver: Specify one IPGTS1LR for each electric device.

2.8 Backboard

SPECIFIER NOTE: *IPI by Bison provides four (4) types of backboards. Not all types are appropriate for all backstops. All rectangular glass backboards meet NCAA and NFHS regulations. Refer to manufacturer's product literature and the following listing for available options.*

SPECIFIER NOTE: *Include the following article for Model BA42XL Unbreakable 42" x 72" Rectangular Glass Backboard. Delete section if not specified.*

- A. Type: Model BA42XL Unbreakable 42" x 72" Rectangular Glass Backboard as fabricated in USA by IPI by Bison.
 - 1. Backboard: 42" x 72" rectangular ½" thick tempered glass

2. Official white shooter's square and border with 5" x 4" goal mounting pattern.
3. Construction : Frame shall be aluminum extrusion held together in the top corners by means of corner brackets that provide for the industry standard 36" x 62" short board corner mounting pattern. A fabricated rectangular tubular steel rim support structure shall extend the full 72" width of the bottom of the backboard and be mounted to the aluminum framework in no less than ten (10) places. Steel spacers shall protrude through large holes in the glass to allow the rim to be isolated from the glass.
4. Regulatory Requirements: Meets NCAA and NFHS standards.
5. Padding: Backboard predrilled to allow mounting of Model BA68U DuraSkin backboard padding.
6. Warranty: Unconditional lifetime warranty against breakage during normal play.

SPECIFIER NOTE: *Include the following article for Model BA455 42" x 72" Rectangular Fiberglass Backboard. Delete section if not specified.*

A. Type: Model BA455 42" x 72" Rectangular Fiberglass Backboard as fabricated by IPI by Bison.

1. Backboard: 42" x 72" rectangular fiberglass.
2. Official orange shooter's square and border shall be permanently molded into the playing surface. Silk screened or vinyl adhesive applied border and shooter's square shall not be acceptable substitutions.
3. Construction: The front shell shall be gel coated fiberglass that is a minimum of 1/8" thick. The front and rear shall be permanently bonded together around a solid fiber core to create a solid backboard with an overall thickness of 1-1/2". Sixteen (16) threaded steel inserts are molded into the rear shell to facilitate mounting. These inserts shall permit mounting to all 36" x 62" and 20" x 35" support structures. The back of the backboard shall be fiberglass. Backboard shall accept rims with a 5" x 4" hole pattern.
4. Warranty: 10-year limited warranty.

SPECIFIER NOTE: *Include the following article for Model BA465 Fan-Shaped Fiberglass Front Mount Backboard. Delete section if not specified.*

A. Type: Model BA465 Fan-Shaped Fiberglass Front Mount Backboard as fabricated by IPI by Bison.

1. Backboard: 54" x 39" fan-shaped fiberglass designed for front mount rim applications.
2. Official orange shooter's square and border permanently molded into the surface.
3. Construction: The front shell shall be gel coated fiberglass that is a minimum of 1/8" thick and permanently bonded together around a solid fiber core to create a solid backboard with an overall thickness of 1 1/2". Eight (8) threaded steel inserts shall be molded into the rear shell to facilitate mounting to common 20" x 35" support structure. The back shall be fiberglass. Backboard shall accept rims with a 5" x 5" hole pattern.
4. Warranty: 10-year limited warranty.

SPECIFIER NOTE: *Include the following article for Model BA495 Fan-Shaped Steel Front Mount Backboard. Delete section if not specified. Use of BA495 steel fan backboard is the recommended backboard when fan backboard is preferred.*

A. Type: Model BA495 Fan-Shaped Steel Front Mount Backboard as fabricated in USA by IPI by Bison.

1. Backboard: 54" x 39" fan-shaped formed and welded steel designed for front mount rim applications.
2. Finish: White polyester powder coat.
3. Official orange shooter's square and border.
4. Accepts goals with 5" x 5" mounting pattern.
5. Construction: Skin shall be 12 ga. mild steel and support structure shall be 7 ga. and 10 ga. All skin edges shall be formed to create a 1-1/2" lip to add strength.
6. Warranty: 10-year limited warranty.

2.9 Goal

SPECIFIER NOTE: IPI by Bison provides five (5) types of gymnasium goals. Not all types are appropriate for all backstops or backboards. Refer to manufacturer's product literature and the following listing for available options.

SPECIFIER NOTE: Include the following article for Model BA3180S 180° Breakaway Goal. Specify this goal for front mount backboards with 5" x 4" goal mounting hole pattern. Delete section if not specified.

A. Type: BA3180S 180° Breakaway Goal as fabricated in the USA by IPI by Bison.

1. Construction: Goal shall be designed and constructed so that when downward pressure exceeding the release pressure setting is applied at any location within 90° either to the left or to the right of the point on the ring farthest from the backboard, the entire ring assembly will pivot downward. The release pressure setting shall be field adjustable and be designed with a detent style positive lock mechanism so that the ring cannot be released until the setting pressure is exceeded. Ring shall be constructed of 5/8" diameter carbon steel. Tubular segments shall be spaced and welded a full 360° around the lower surface of the 5/8" ring to allow the goal net to be securely attached without fasteners by means of a single nylon cord. All steel components that come in contact with other steel components during release of the ring assembly shall be heat treated to a minimum depth of 0.020" and hardness of 50 on the Rockwell "C" scale. Release mechanism shall be isolated from player contact and pinch point risk by means of a steel cover plate. BA3180S shall have a 5" x 4" hole pattern.
2. Regulatory Requirements: Meets NCAA, FIBA and NFHS standards.
3. Net: Anti-whip white nylon.
4. Hardware: Zinc plated grade 5 mounting hardware, two (2) net attachment cords.
5. Weight (approximate): 39 lbs.
6. Finish: Goal shall have an orange powder coated finish.
7. Warranty: 4-year limited warranty.

SPECIFIER NOTE: Include the following article for Model BA35S Competition Breakaway Goal. Specify this goal only with front mount backboards with 5" x 4" goal mounting hole pattern. Delete section if not specified.

A. Type: BA35S Competition Breakaway Goal as fabricated in USA by IPI by Bison.

1. Construction: Goal shall be constructed using 5/8" diameter steel ring with continuous wire netlocks. All backplate components shall be constructed of 3/16" thick steel. The mounting plate shall be punched with hole patterns for mounting to any competition front mount fan or rectangular backboard. The rim support brace shall be 1/4" x 1-1/2" steel and provide continuous support for 180 degrees of the circumference of the 5/8" ring.

The breakaway mechanism shall be of the positive lock design, factory preset. An automatic return shall be provided by means of two return springs which shall also cushion the breakaway action when the pressure release setting has been exceeded. Two hardened steel balls shall be contained in a tubular assembly with each being forced outward with equal pressure by a single spring. The balls shall nest on each side of the rim/backplate assembly in a hardened detent. Said ball/detent mechanism shall provide proper breakaway pressure. All pinch points shall be eliminated for player safety.

2. Regulatory Requirements: Meets NCAA and NFHS standards.
3. Net: Anti-whip white nylon.
4. Hardware: Zinc plated grade 5 mounting hardware, two (2) net attachment cords.
5. Weight (approximate): 23 lbs.
6. Finish: Rim shall have an orange powder coated finish.
7. Warranty: Unconditional 3-year warranty.

SPECIFIER NOTE: Include the following article for Model BA35 Competition Breakaway Goal. Specify this goal only with front mount backboards with 5" x 5" goal mounting hole pattern. Delete section if not specified.

A. Type: BA35 Competition Breakaway Goal as fabricated in USA by IPI by Bison.

1. Construction: Goal shall be constructed using 5/8" diameter steel ring with continuous wire netlocks. All backplate components shall be constructed of 3/16" thick steel. The mounting plate shall be punched with hole patterns for mounting to any competition front mount fan or rectangular backboard. The rim support brace shall be 1/4" x 1-1/2" steel and provide continuous support for 180 degrees of the circumference of the 5/8" ring. The breakaway mechanism shall be of the positive lock design, factory preset. An automatic return shall be provided by means of two return springs which shall also cushion the breakaway action when the pressure release setting has been exceeded. Two hardened steel balls shall be contained in a tubular assembly with each being forced outward with equal pressure by a single spring. The balls shall nest on each side of the rim/backplate assembly in a hardened detent. Said ball/detent mechanism shall provide proper breakaway pressure. All pinch points shall be eliminated for player safety.
2. Regulatory Requirements: Meets NCAA and NFHS standards.
3. Net: Anti-whip white nylon.
4. Hardware: Zinc plated grade 5 mounting hardware, two (2) net attachment cords.
5. Weight (approximate): 23 lbs.
6. Finish: Rim shall have an orange powder coated finish.
7. Warranty: Unconditional 3-year warranty.

SPECIFIER NOTE: Include the following article for Model BA27 Standard Front Mount Goal. Specify for use on front mount backboards with 5" x 5" or 5" x 4" goal mounting holes. Delete section if not specified.

A. Type: Model BA27 Standard Front Mount Goal as fabricated in USA by IPI by Bison.

1. Construction: Goal shall be constructed of an official size high carbon 5/8" diameter ring with continuous wire formed netlocks. Backplate shall be a minimum 3/16" thick. Ring shall be supported by a 1/2" diameter steel brace.
2. Net: White nylon.
3. Weight (approximate): 12 lbs.
4. Finish: Rim shall have an orange powder coated finish.
5. Warranty: 1-year limited warranty.

SPECIFIER NOTE: *Include the following article for Model BA27A Front Mount Super Goal. Specify for use on front mount backboard with 5" x 5" or 5" x 4" goal mounting holes. Delete section if not specified.*

- A. Type: Model BA27A Front Mount Super Goal as fabricated in USA by IPI by Bison.
 - 1. Construction: Rim shall consist of an official size 5/8" diameter carbon steel ring welded to a 1/4" thick backplate punched to fit all front mount backboards. A 5/8" diameter ring support shall support the ring. To be considered as an equal to this rim specification, an additional 6" long 5/8" diameter formed bar must be positioned at the bottom side of the joint between the backplate and the ring and welded full length on both sides. Mounting hardware shall be included. Goal shall have continuous wire formed netlocks to accept nylon net.
 - 2. Net: White nylon.
 - 3. Weight (approximate): 17 lbs.
 - 4. Finish: Goal shall have an orange powder coated finish.
 - 5. Warranty: 2-year limited warranty.

2.10 Backboard Padding

SPECIFIER NOTE: *Specify BA68U for all models of 72" wide rectangular backboards. Backboard padding required by NCAA and NFHS for competition play and is strongly recommended by IPI by Bison for all rectangular backboards for all levels of play. Delete section if backboard padding not specified.*

- A. Type: Duraskin bolt-on backboard padding for bottom edge and corners of backboard to provide safety protection to meet NCAA and NFHS requirements. Model BA68U padding as manufactured by IPI by Bison.
- B. Construction: Padding shall be cellular construction with a skin of an average minimum thickness of .060". The skin shall be produced integral to the cushion using a self-skinning molding process. A steel track molded into the padding shall provide rigidity and strength to the mounting system.
- C. Tear Strength: Minimum 125 psi.
- D. Hardware: Provided.
- E. Warranty: 10 years.

SPECIFIER NOTE: *Specify one of the following colors for Model BA68U. Delete section if not specified.*

- F. Colors: [official gray] [royal] [navy] [Columbia blue] [scarlet] [orange] [gold] [Kelly green] [forest green] [black] [maroon] [purple] [Vegas gold] [cardinal] [brown] [burnt orange]

PART 3: EXECUTION

3.1 Co-ordination

- A. Coordinate provision of Y-Frame Ceiling Mounted basketball backstops with construction of and ceiling framing supporting basketball backstop to ensure proper support and method of attachment.
- B. Coordinate support of backstops to ensure proper distribution of loads and adequacy of attachment points. Provide additional structural framing members as required.

SPECIFIER NOTE: *Include the following paragraph if either electrically operated winch or electrically operated height adjuster is being specified.*

- C. Coordinate electrical requirements for electrically operated [winch] [height adjuster] to ensure proper power source, conduit, wiring, and boxes for keyed switches.
- D. Prior to installation, verify exact locations of backstops.

3.2 Examination

- A. Examine areas and supporting structure to receive Y-Frame Ceiling Mounted basketball backstops. Notify Architect in writing of conditions that would adversely affect installation or subsequent use. Do not proceed with installation until unsatisfactory conditions are corrected.

3.3 Installation

- A. Install Y-Frame Ceiling Mounted Basketball backstops in accordance with approved shop drawings and manufacturer's instructions at locations indicated on drawings.
- B. Install backstops, backboards, and goals plumb, level, and rigid.
- C. Attach to roof framing using manufacturer's supplied hardware and fasteners.

SPECIFIER NOTE: Regulation goal height is 10 feet (3048 mm). Other heights may be required depending on intended usage and age and skill levels. Height adjusters can also be provided to allow the flexibility of varying goal height.

- D. Install backboards such that goal is [10 feet] [3048 mm] [_____] above court floor. After installing, verify that mounting height is correct.
- E. Install [manual] [electrically operated] winches, hoisting cables, [safety lock] securely to operate properly and smoothly to safely lower and raise folding backstops.

3.4 Field Quality Control

- A. Operate each Y-Frame Ceiling Mounted backstop a minimum of three times to ensure proper lifting and lowering. Adjust as required to ensure smooth operation and accurate positioning.

SPECIFIER NOTE: *Include the following paragraph if height adjusters are being specified. Delete if not required.*

- B. Operate each backboard and goal height adjuster to ensure proper movement. Adjust [limit switches] and [manual mechanisms] as required to ensure smooth operation and accurate positioning.

3.5 Cleaning

- A. Remove construction debris from project site in accordance with provisions outline in Division 1.
- B. Remove protective wrappings and labels, wash surfaces, and attach nets.
- C. Do not use harsh cleaning materials or methods that would damage finish.
- D. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.
- E. Remove and replace damaged components that cannot be successfully repaired, as determined by Architect.

3.6 Demonstration

- A. Demonstrate to Owner's designated representative complete operation and required maintenance for Y-Frame Ceiling Mounted Backstop.
- B. Submit operation and maintenance manuals in accordance with Section 01770 - Closeout Procedures.

END OF SECTION