Field Check Manual / Guide

This Field Check Manual/Guide was created to assist our Dealers and customers with procedures and techniques used to field check project sites and provide us with the necessary information to design and manufacture your rigging equipment. While it covers many possible scenarios, it is not meant to cover every situation. When in doubt, please contact us.

J.R. CLANCY
QUALITY SINCE 1885

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1. What is the purpose of field checks and why are they so important?

When you have placed an order with us, timely and accurate field dimensions are critical to proper design and timely fabrication. We need specific dimensional data to assure that the equipment you have ordered will fit the space, be properly secured to the building structure, and operate in the most efficient and safe manner.

Timely and accurate field checks will also save you time, money, and grief in the long run as the equipment will be designed correctly to fit your specific site conditions. This virtually eliminates the need for costly field modifications (which may also void the manufacturer's warranty), overtime for your crew, and the frustration and expense of re-ordering equipment on an expedited basis.

Checking the conditions and dimensions of certain elements in the field usually has to be done more than once. You need to keep abreast of the progress of work by all trades on the site, so certain critical dimensions can be checked as they become accessible.

The bottom line: Timely and accurate field checks keep the profitability in, and can add value to, your projects.

2. When should I schedule field checks?

The first "field check" doesn't even require a trip to the field! You need to request and review a full set of construction documents and the shop drawings of other trades to make sure that they are being coordinated with your stage equipment. You need to check HVAC systems, sprinklers, steel placements, etc. to make sure they are not conflicting with the stage equipment. Catching these situations before they become problems in the field can go a long way in keeping the project running smoothly. If you are unsure if a conflict exists, ask the General Contractor or Owner directly, or consult the J.R. Clancy Project Management Team for assistance.

It is usually your responsibility to coordinate with all other trades. Sending them a copy of all your approved drawings is a good idea for coordination.

Your first on-site field check usually comes after the building's steel structure has been erected, and as the concrete work nears completion. Items such as head and loft block beams, galleries, spiral stairs, and gridiron need to be checked and compared against the construction documents and/or shop drawings. If you find any discrepancies, you need to bring them to the attention of your customer immediately, either directly, or through an RFI (Request For Information) process.

As the mechanical rough-ins near completion (i.e. HVAC ductwork, plumbing, and electrical), you will again need to verify that the work matches what is expected per the contract documents and shop drawings. Again, bring any discrepancies to the attention of your customer immediately. This is also the best time to coordinate or verify any blocking that needs to be installed to attach smoke pockets, smoke seals, arbor guide system wall knees, locking rail, etc.

As the finished walls near completion, another check is required to ensure that walls, doorways, soffits, etc. are all properly dimensioned and not in conflict with your equipment.

Your final field check needs to take place immediately prior to your releasing the equipment for fabrication. Manufacturing some equipment can take up to eight weeks or longer, depending on the order size and the complexity of the equipment. So this final check is absolutely critical in its timing. Once the equipment is released for fabrication, changes could cause manufacturing delays and additional costs.

A few minutes of planning and verifying critical dimensions can save many hours of labor in the field and keep you from spending more money than you planned.

3. What tools do I need to do a field check?

Everyone has different preferences, but some basic items are needed, such as tape measures and the like. We've found over the years that a simple tool kit made up just for field checks makes the job easier and more accurate. While it is not necessary to use all the tools described below, they may come in handy at one time or another.

1. **100' Tape Measure** – Fiberglass is preferred as it is easier to rewind and is less prone to "kinking". It is also non-conducting, which is useful when used around unfinished electrical systems.
2. **25' Tape Measure** – With a good quality wide steel blade with large numbers that allows it to extend as far as possible.
3. **Laser Measurement Tools** – These are invaluable in determining steel elevations when access is difficult (i.e. roof beams with no gridiron). A good laser costs several hundred dollars, but can pay for themselves after just a few field checks.
4. **Plumb Bob** – When attached to the end of a 100' tape measure, a bob can be used to determine gallery and steel elevations, as well as pit depths. It also helps to determine if walls are plumb and true. Remember to add the length of the plumb bob to the tape's dimension!
5. **Pocket Notepad and Pen/pencil** – To record dimensions, sketches and notes.
6. **Checklists/Cheat Sheets** – 8 1/2 x 11 sheets to identify what needs to be checked, as well as reduced copies of shop drawings with critical areas highlighted. Our head and loft block worksheet is at the back of this guide.
7. **Camera/video** – These can be digital or traditional. Not only do they provide documentation of site conditions, but also they can help "jog the memory" when the inevitable confusing dimension comes up. Digital cameras are especially useful as you can show conflicts directly to the customer and/or printed or e-mailed as part of an RFI.

8. **Binoculars** – To observe conditions in inaccessible areas.
9. **Hard Hat/Work Boots** – These are mandatory on almost all job sites.
10. **Duct tape** – To secure the end of a tape measure when working alone on a site.
11. **Leatherman** – Very handy to have when you need to make quick on-site repairs of tools, cut the duct tape, etc.
12. **Flashlight** – High powered is preferred (even if somewhat bulky) to illuminate areas above and below the stage.
13. **Portable Worklight** – Inexpensive types can easily be found at Home Depot or contractor supply stores.
14. **Assistant** – Having a second pair of eyes and another set of hands to hold the end of the tape is often helpful when taking dimensions and recording them. This way you're not juggling a tape, pencil and note pad.
15. **Knapsack** – The best thing in which to carry all your tools. This makes it easier to climb.
16. **C-clamps or Spring Clips**

Some thoughts on using a laser measuring tool:

First of all, read and follow all of the manufacturer's instructions for calibrating and using the tool. Be sure you have a well padded case to store and transport it as it will break if dropped!

Laser measuring tools are best used for getting dimensions in areas you can't get to, or are not critical (that is, dimensions that need be accurate to only 1/2" or so). Dimensions such as the depth of the stage, height of the opening, or elevations of grids and rigging beams are good candidates for measurements with a laser tool.

While the procedures for using a laser measuring tool will vary by experience and preference, there is one easy way to locate rigging beams that you can't get to. Lay masking tape across the stage floor parallel to the plaster line, and then move the laser along the tape, marking the

location of head & loft beams, etc. Make sure the laser is perpendicular to the floor. You can even write the elevations measured with the laser on the tape so that you really have an easy record on the floor, allowing you to take all your notes and make sketches of this info very easily.

Also, you can locate diaphragms, hangers, and other obstructions by laying the masking tape perpendicular to the proscenium wall (parallel to the arbor guide wall) and marking the tape as described above.

Please remember that dimensions taken with a laser may be less accurate than measurements taken up at the actual structures, so if exacting dimensions are critical to your system (that is to an accuracy of 1/4" or less), you will have to make arrangements to get up in the air and measure the structures "by hand".

Remember that all your tools need to be secured to your person or placed in your tool bag when you're not using them. Dropping a tool from a grid or gallery is extremely dangerous and should be avoided at all costs!

4. What do I need to know before visiting the job site?

Most importantly, you need to know the requirements of the rigging system. Is it upright or underhung? Where are all the blocks located? Has the J.R. Clancy Project Management Team requested specific dimensional information on their drawings? What building structures are most likely to interface or conflict with your equipment? If you're not sure how a system works or how it is laid out, consult with us.

It's a good practice to measure to or from a common datum point. The most common are:

1. **The "Plaster Line"**- Upstage side of the proscenium wall (to which smoke pockets attach).
2. **The Rigging Guide Wall** – The vertical line of the most offstage portion of the wall to which the arbor guides are attached. This can be the face of any pilasters, columns, or build-outs. Once you have decided on one, always make sure your dimensions reference that surface.
3. **Proscenium Opening Centerline** – The center of the proscenium opening perpendicular to the proscenium wall.

It is much better to have as few datum points a possible. Dimensions need to be the "actual" dimensions. Extrapolating unverified dimensions by adding or subtracting dimensions from a given point can be confusing and result in wrong data.

Dimensions under 10'-0" should be recorded in inches. Dimensions over 10'-0" should be recorded as feet and inches. This minimizes confusion later when referring to handwritten notes and you can't tell the difference between 4'-8" and 48"!

In general, dimensions under 5'-0" should be accurate to 1/8". Over 5'-0", +/- 1/4" is usually acceptable. Always feel free to consult with us if you're not sure. Some items may be quite long (i.e. head block beams and their relationship to the t-bar wall). When this occurs, it is useful to verify its location with the datum point every 5'-0". If the dimensions are not reasonably consistent, record as many as possible and consult with us.

5. What about getting access to the site and safety?

It is best to schedule your field checks at least two weeks in advance. Begin by clearly notifying your customer IN WRITING as to what you need to check and when you need to do it. If possible, you should visit the site briefly (if in the local area) to check on the readiness of the job. Since it is not uncommon for customers to underestimate the readiness of a job site, you can also check with the other trades as to their opinion as to the readiness of the site.

Some of the places you'll need to get to can be difficult to reach. You should arrange for any special equipment (i.e. lifts) well in advance with the Owner or the General Contractor, or arrange to borrow one from another trade.

Unless you have made other arrangements with them, your customer should provide safe access to all the areas to be checked. Ladders, lifts, stairs, etc. should be in place and properly secured. If the high areas at the site are unfinished, and lack proper guardrails, etc., you must use proper fall protection. As always, make these arrangements in advance. If your customer cannot accommodate basic safety requirements, it is your responsibility to make sure the appropriate safety equipment is properly used.

NEVER compromise on safety!
If the site is unsafe, it is not ready to check!

You'll be most comfortable in work clothes and proper footwear. You will need to secure any loose clothing so it won't catch on unfinished work or other items. This can cause loss of balance. Wear a hardhat, and expect to get dirty!

6. What do I need to check with new construction?

Lots of things! No one said this was going to be quick and easy.

Below is a list of items and descriptions that are usually found on most projects. What you actually need to check will vary by project, so be sure to become familiar with the contract documents and shop drawings before you get to the site.

Head Block Beam(s):

Elevation – If the rigging blocks are to be mounted upright, measure to the top of the beam flange from the floor. If the blocks are to be underhung, you must measure from the underside of the beam(s) to the floor. If the entire system is underhung, you need to verify that the bottoms of the head block and loft block beams are all at the same elevation.

Location(s) – Once you've established a datum point (i.e. the offstage wall), measure from the wall to the offstage side of the beam's flange. Measure the beam flange, then the distance between the beams (if a double beam arrangement). With double beams you need to check to see if they are parallel with each other and level.

Sizes – Measure the height of each beam, their flange widths and thicknesses, accurate to within 1/16".

Diaphragms or Bracing – If there are braces or plates (diaphragms) between the head block beams, these need to located as they may interfere with the head block installation. After you have established a common datum point for the downstage/upstage layout of the bracing (i.e. the plaster line), record their locations. Note the thickness of any members and if they extend to the top or bottom of the beams (or both). Is there clearance for mounting clips (and for fingers)?

Loft Block Beams:

Elevation – You need to verify the distance from the finished floor to the underside of the beam flange. *Do this with every beam as they may vary in size and height.* If the venue has a gridiron, you can measure from the top of a grid member to the underside of the beam(s), but be sure to verify where the referenced grid member elevation is in relation to the finished floor.

Location(s) – Locate each beam across the stage by measuring from the common datum to the center of each beam flange.

Sizes – Measure the height of each beam, the flange width and thickness, accurate to within 1/16".

Diaphragms or Bracing – Using your common datum point (i.e. the plaster line), measure the downstage to upstage layout of the bracing. Locate any bracing or stiffening plates between the beams. *NOTE: In most cases bracing must be clear of the bottom flange by a minimum of two inches (2") for the loft block attachment hardware to fit properly.*

NOTE: These procedures also apply for any muling or spot block beams.

Galleries:

Elevations – Measure from the finished floor to the top of the deck of each gallery. Measure between them if necessary, but be sure to use a common datum point (i.e. the floor).

Locations – You need to determine the distance between the offstage wall and the most offstage member of the gallery. If there are columns or build-outs on the wall, you need to use the same datum point you used for the head block beams to establish the relationships between all the structures.

Hangers – Using a common datum point (i.e. plaster line), measure from the wall to center of the hangers. Again, *use the same base datum point that was used to locate any bracing in the head block beams.* Record the shapes and dimensions of the hangers and how they are attached to the structure above. Are they attached to the head block beams or the roof? Remember, hangers will often interfere with the rigging system, so locate and dimension them accurately. Brackets are often larger where they attach to other structure – Check!

Other Gallery Structures – It's good to locate and dimension items such as ladders, railings, and kickplates. If the locking rail or pin rail is to attach to the gallery, you need to identify and dimension the structural shapes (i.e. channels or I-beams) to which the rail will attach.

Gridirons:

Elevations – Measure from the finished floor to the structural members to which the loft blocks may attach (if it's an upright system). Also be sure to measure the clear distance from the floor to the lowest part of the underside of the structure as this sets the available batten travel distance. Depending on the design of your rigging system, it may also be necessary to measure to the top of the deck channels/deck as well at the top of the well channels.

Grid Wells – The center of the wells below loft block beams need to be located in relation to the loft block beams. Be sure to measure the clear distance of the opening and record the dimensions of the members making up the well (channels, I-beams, etc.). Include their depth, width, and flange thicknesses. Also, note if the top of the well structures are level with the grid deck, or above or below. You'll need to record any

differences in elevations.

Hangers – Using your common datum point (i.e. the plaster line), measure to the center of each row of hangers. Again, *use the same base datum point that was used to locate any bracing in the head block beams.* Record the shapes and dimensions of the hangers and how they are attached to the structure above. Are they attached to the loft block beams or the roof? Remember, often times hangers will interfere with the rigging system, so locate and dimension them accurately.

Other Areas/Items:

There may be other structures or items that are peculiar to your project. These special items include winch platforms, catwalks, etc. Your specific rigging system design will dictate what areas need to be checked, or we may have noted these areas on your shop drawings.

Other structural items that you may need to verify include columns, doors, vents, or concrete build-outs on the rigging guide wall, proscenium wall or other areas near where rigging will be installed. The general rule is to establish a common datum point (i.e. the same as used for the head block beams an/or hangers) and take all the measurements from there. Be sure to record the size and elevation of each member or structure.

You must verify if the rigging guide wall is smooth and plumb. Use either a plumb bob or self-leveling laser. If the wall is significantly out of plumb (+/- 1"), measure the distance between the plumb line and the wall approximately every 5'-0". The location of the plumb line should be referenced to your offstage common datum point (the same one used for the head block beams). Also locate and note any columns or setbacks in the wall. Verify that there are no electrical boxes, pipes, ducts or other obstructions that will interfere with the guide system.

Rigging Pit

If the system includes a rigging counterweight pit, you need to measure its length, width, and depth. Be sure to use the same datum points used for the

head block beams and rigging guide wall, as all these items are interrelated.

If the locking rail is to attach to the onstage edge of the pit, note its construction and dimension all relevant structures. You may need to verify with the project's engineer if the construction is sufficient to accept the loads (including up loads) imposed by the rigging system.

Orchestra Pits

While nearly every orchestra pit is different, some common procedures can be followed. The manufacturer of the pit lift or filler will indicate specific dimensions on their shop drawings that will need verification.

As always, establish common datum points from which to take all measurements.

Verify that all walls are plumb and smooth. The edges at the pit openings at each level must vertically align with each other. Consult with the manufacturer for acceptable tolerances.

The floor of the pit needs to be level, smooth and dry. Locate and dimension any sump pits, electrical stub outs, etc. If caissons have been provided for hydraulic or screw jack type lifts, you need to locate and dimension those as well.

Guide chases and embeds provided for attachments of guides or other items need to be verified, located, and dimensioned. Conduit locations should match our drawings. If there are any discrepancies between the field dimensions and J.R. Clancy's shop drawings, notify all parties immediately.

Architectural Elements:

If certain items in the building's architecture relate to the rigging systems, they should be verified, located and dimensioned. These may include:

- Build-outs & Trims
- Doorways
- Windows
- Spiral Stairs
- Railings & Kickplates
- Ladders and Cages
- Hatches and Traps
- Stage Floor

Often the finished stage floor will not be installed until after the rigging system is installed. If this is the case in your project, be sure to verify the finished floor thickness before determining and communicating the final elevations of the rigging beams, grids, galleries, etc.

HVAC Systems

HVAC ducts are often placed in the way of rigging systems and can cause serious conflicts. These must always be coordinated early with your rigging system.

Once on site, you need to verify, locate and dimension all HVAC ductwork (supply and return) near the rigging system. Depending upon their locations, elevations may also need to be determined.

In some cases, supply or return air grills may be placed in the proscenium or rigging guide walls. These must be located and dimensioned to verify they do not conflict with the fire curtain, smoke pockets, or rigging guide wall brackets. Also, return air ducts may be located at the base of the rigging pit or in the floor below where the arbor guides are to be installed. If the project has these, locate and dimension them and consult us if you need further assistance.

If you think that the hangers for the ductwork may interfere with your system, locate and dimension them as for the gallery and/or grid structural hangers (see above). Will the ducts blow into the stage curtains or scenery?

Plumbing/Sprinklers

Again, coordinating these items before they are installed will prevent headaches later.

Once in the field, you must verify, locate and dimension all plumbing supply, waste, roof drain and sprinkler feed lines near the rigging system. If these items look like they may conflict with the rigging systems, elevations may also need to be determined. Also record the diameter of any pipes that may cause interference.

Sprinklers must be located so that the heads are positioned either above the bottom flange of the loft block beams, or a minimum of 8" below. The feed lines should not cross any beams where rigging equipment is to be installed. If questionable situations are found, locate and dimension the conflicts, again using the common datum points you established for other structures.

Roof drains often conflict with rigging systems. Locate and dimension these if in doubt. Remember to verify if they will be acoustically insulated, as this will add to their diameter.

Electrical

Locate any feed panels and disconnects that will be used to power the rigging system. You must also verify the available power (voltage, amperage, and the number of phases).

Locate any lighting fixtures that may conflict with the rigging system (i.e. work lights in the high steel or on the galleries). Conduit runs to these items should be verified and located if you think they may be in conflict with the rigging system.

If the rigging system is to include dedicated stage electrics or spot lines to raise and lower lighting distribution cables, then locate and dimension all the lighting junction boxes. Again, use common datum points so that all items can be related to other structures and equipment used in your system. If motorized rigging equipment is being provided, verify junction box and disconnect locations.

Other Items

There are many other common items that may need to be verified, located and dimensioned. How these relate to each rigging system will vary from project to project. These include:

- Fire hose cabinets
- Wall mounted lighting and sound panels
- Lighted exit signs

Verify that there are no electrical boxes, pipes, ducts or other obstructions that will interfere with the guide system. Knowing the requirements of your system will identify what will need to be checked. If in doubt, call us.

7. What if my job is a renovation or I'm installing in an existing building?

In general, all the items found in new construction will be found in existing buildings or structures undergoing renovation.

With existing or renovated structures, it is important to consider and verify:

1. Wall construction – for anchors to attach equipment
2. Are the walls plumb? Smooth?
   (i.e. old brick face or terra cotta tile)
3. What is being removed and what is remaining?
4. What hidden items have been exposed during construction?
5. What are the lighting conditions?
6. How will new equipment interface with existing equipment?
7. How will the new equipment get to the areas where they are installed (i.e. doorways, hatches, etc.)

If existing equipment is to be duplicated, it is a good idea to provide us with a sample of the equipment to be duplicated. If that is not possible, ACCURATE dimensions must be taken of the equipment, including mounting holes, guide shoe centers, guide centers, etc.

When replacing or adding equipment to older rigging systems, it is common to find dimensions that are very different from today's industry standards. Contact us to determine what dimensions or information may be needed to correctly fabricate the equipment.

8. What about fire curtains?

Fire curtains have special conditions that need to be addressed even before you get on site. Like all rigging systems, fire curtains need to be

coordinated with the building structures and other building systems.

In most cases, fire curtains are installed because local codes require them. If there is anything that conflicts with the fire curtain, it could make the system non-compliant.

There are a number of items that you must field verify for fire curtains:

Head block and loft block steel

Locate these and record the dimensions as you would for standard rigging systems. See the section above for details.

Proscenium opening

The width and height of the opening must be measured. Also verify the heights above the opening to the underside of the grid or other rigging support structures to make sure there is sufficient travel above the opening for the fire curtain to operate. Before measuring make sure that all trim is present and that the opening size will not change.

Proscenium wall

The entire area above the opening and to at least 5 feet either side of the opening should be free of any pipes, duct work, louvers, or any other item that might interfere with the travel of the fire curtain or the installation of ancillary equipment like releases and the fire line. If you notice anything, you need to locate them and their sizes. Bring any conflicts to your customer's attention immediately.

If there are any setbacks or build-outs on the wall, or if the sides of the opening is made up of columns that then step back to the wall, you will need to dimension all of them. Use the plaster line (the upstage side of the opening) as your datum point.

You also need to verify the wall's construction. If the wall is not concrete or concrete block, blocking may be needed for the attachment of smoke pockets, lattice guide tracks, smoke seals, and other equipment. It helps to identify these structures well in advance when looking at the contact documents to ensure that blocking is added BEFORE the walls go up!

Other items

If you have a motorized system, you'll need to make sure that there is proper power available for the system. Most systems require 3-phase power. Confirm what voltage is available.

If your system will be tied into rate of rise or smoke detectors, you need to coordinate their locations with the local code requirements. Also, single-phase power is usually needed at the electromechanical release (such as a Sureguard™) or electro-thermal links (ETL's). Once you've coordinated these with the electrical systems, you'll need to verify if junction boxes have been located per your requirements.

With many systems, a hand winch may be located at the stage floor. You must be sure that the floor is constructed in such a way to resist the upload the winch may see. Additional blocking or concrete may be needed in this area. After coordinating these requirements, field verify that they have been installed per your requirements.

9. What do I do if I find a problem or conflict?

If you discover a problem or conflict during the field check, bring it to the attention of your customer immediately. Show them specifically where the conflict is located and the nature of the conflict.

It is always helpful and appreciated if you can suggest remedies that will have little or no cost impact. Call us for assistance. If this is not possible, double check your dimensions, take photographs of the conflict, and note the parties present.

Are you responsible for coordination between trades? If so copy them when conflicts occur so they can be included in the resolution.

Follow up the site visit immediately with a written report to the customer. Document any conflicts with sketches, photographs, or narratives. If the conditions are not in agreement with the contract documents, or the shop drawings of other trades, you will be in a good position to receive a change order if the situation has a cost impact on your project.

This is why it is important to review the shop drawings and the contract documents of other trades to avoid conflicts BEFORE they occur. Often change orders are not approved because a contractor failed to properly document potential conflicts in a manner that becomes part of the job record of their customers before they occurred in the field.

10. How do I communicate my dimensions to Clancy?

The best way to communicate dimensional information to the manufacturer is through sketches, drawings, and photographs. Narratives (such as "the beams are 12" apart") are usually not sufficient as they often raise other questions ("Well, is it the center of the beams or the flanges that are 12" apart?" will be the response you get from your supplier!)

If we've provided shop or system drawings for your approval, they will often be notated with specific items and dimensions that they need you to verify. Copy these drawings or details and provide the dimensions right on the drawings themselves.

If you are providing complicated field data on dimensions or situations, provide clear and accurate hand drafted or CAD drawings. These should be to scale, because "not to scale" drawings can be confusing and do not accurately represent the spatial relationships between items. Providing photographs of complex arrangements is especially useful.

NEVER send direct copies of your original notes/drawings taken in the field. These are often "muddy" and confusing to anyone but the person who took them. "Cleaning up" the raw data before sending it will avoid delays and call backs from us.

11. Anything else?

Sure. We can't anticipate every situation. That's why it's very important that you know your system and the field conditions that may affect it.

Common sense is your best tool.

We hope this guide will give some indication of the importance of an accurate and timely field check. It will help keep your job profitable. As always, please consult us with any questions or if special conditions arise.

WHEN IN DOUBT, CHECK IT OUT!

12. Field Check Worksheet

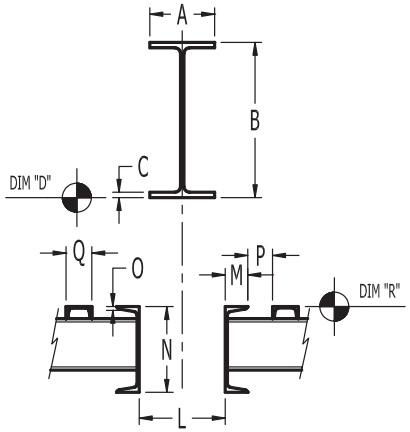
JOB NAME	DATE COMPLETED
JOB LOCATION	COMPLETED BY
ROOM/VENUE	COMPANY NAME

Fax completed information to Dealer Project Manager at

315-451-1766

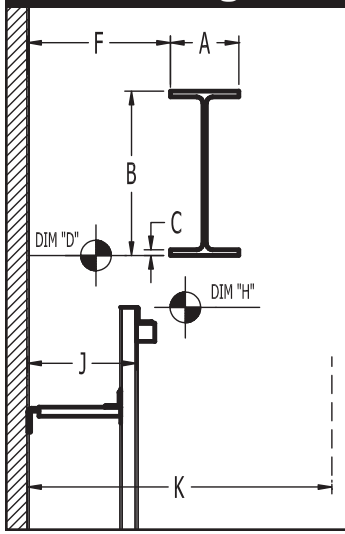
Special Conditions

Loft Block Mounting



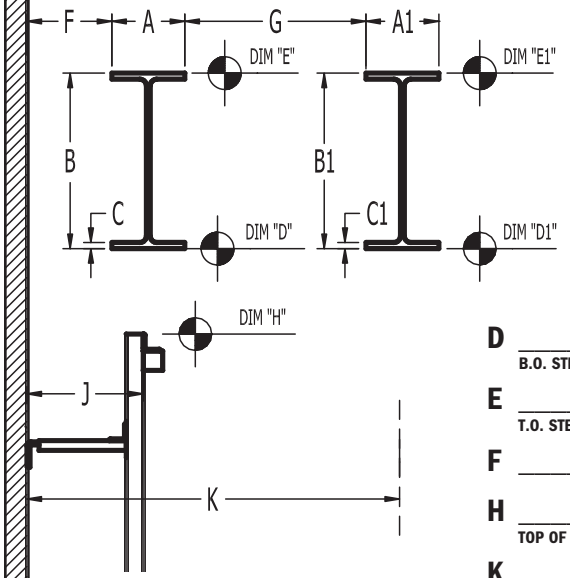
A _____ M _____
B _____ N _____
C _____ O _____
D _____ P _____
B.O. STEEL
L _____ Q _____
R _____
TOP OF GRID

Single Head Block Beam Mounting



A _____
B _____
C _____
D _____
B.O. STEEL
F _____
H _____
TOP OF GUIDE
J _____
K _____
EDGE OF GALLERY

Double Head Block Beam Mounting



A _____
A1 _____
B _____
B1 _____
C _____
C1 _____
D _____ D1 _____
B.O. STEEL B.O. STEEL
E _____ E1 _____
T.O. STEEL T.O. STEEL
F _____ G _____
H _____ J _____
TOP OF GUIDE
K _____
EDGE OF GALLERY

Measure space between head block beams (Dimension G) at each end and center.