

Limitedbrands

STORE DESIGN & CONSTRUCTION

Bath and Body Works Project Manual Table of Contents

Included you will find the following information:

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- Excess Material & Return Procedure
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- PiPP Rivet Rack and Movable Shelving Installation
- Manager Workstation Installation Instructions-Continental Office Furniture
- CCTV Information
- Burglar Alarm Information

Please note the following:

1. Your Purchasing Agent is your primary contact for all issues relating to owner supplied materials. Please directly contact only those vendors listed on the Superintendent Contact List.
2. Your Purchasing Agent's telephone is answered via a phonemail system. It is important that you leave a detailed message including store name and number, what the problem is, and whenever possible, reference a purchase order, item number and vendor's name.
3. If flame spread information is needed, please call your Purchasing Agent.

Sent Via FedEx:

- Owner Supplied Materials (OSM) Delivery Schedule
- Parts List (Materials for Beginning to End of Construction)
- Presentation Parts List (sent 2 weeks prior to the Construction Completion Date)

****If you have any questions please contact your Purchasing Agent.****

Bath & Body Works Superintendent's Contact List

Only the vendors listed below are to be contacted directly by the General Contractor.
Please contact your Purchasing Agent with concerns or questions regarding any other vendor.

Equipment	Supplier	Phone / Fax	Contact Name
Grille Installer:	Metro Door	Tel: 800-669-3667 Mobile: 516-639-4105 Fax: 866-520-9544 gcapozzi@metrodoor.com	Gayle Capozzi (ext. 640)
Ceiling & Grid Systems	Armstrong World Industries	Tel: 800-442-4212 Fax: 717-396-4994	Phyllis Miller
Awning	Capital City Awning	Tel: 614-221-5404 Fax: 614-365-9420	Brian McCaw or Tim Kellog
HVAC Equip. - Schedule Delivery Dates	Trane	Toll Fr: 866-415-2499 Direct: 614-473-3500 Fax: 614-473-3501 Email: dcschondelmayer@trane.com Email: Vicki.tayner@trane.com Email: jsowers@trane.com	Dan Schondelmayer (P) Vicki Tayner (S)
HVAC Equip. – Schedule Start Up & Commissioning	Trane	Toll Fr: 866-415-2499 Direct: 614-473-3500	Vicki Tayner (P) Dan Schondelmayer (S)
HVAC Equip. & Controls - Technical Assistance	Trane	Toll Fr: 866-415-2499 Direct: 614-473-3500 Email: jsowers@trane.com	Jody Sowers (P) Dan Schondelmayer (S)
Switch Gear	WR Controls	Toll Fr: 800-417-7543 Direct: 614-875-6522 Fax: 614-875-7778	Doug Deardourff (P) Doug King (S)
Security	Security Resources, Inc.	Tel: 856-310-9463 Email: centraldispatch@securityresources.biz Fax: 856-796-9151	Robert Hill-Williams
Signage	Ruggles Sign Company	Tel: 800-755-3950 Fax: 859-879-8683	John Fitch
Phone Installation & Wiring	(Coordinates w/Spencer)	Tel: 614-415-1147	Mario Mays
Electric, Water & Gas Service	<i>Follow Utility Set Up Process Escalate Issues to Project Manager</i>		

Package 1 and 2 Presentation Parts

LSP Supplied Materials

Unit 5

Package 1 and 2



Cashwrap

1 per store



Backwrap

1 Per Store



Demo Sink

1 Per Store

Package 1 and 2



52853

16" Metal Shelf

80 Per Store



52965

16" Shelf Talker Extrusion

4 Per Large Tower

8 Per Feature Fixture

Plexi/Acrylic



53490

29 1/2" Shelf Talker Extrusion

4 Per Large Tower

Plexi/Acrylic



52966

19" Shelf Talker Extrusion

80 Per store

Plexi/Acrylic



53478

Metal Shelf Talker for Fixture

8 Per Large Tower

8 Per Second Feature Fixture

8 Per Third Feature Fixture

8 Per Fourth Feature Fixture



53237

20" x 20" x 10" Plexi Cube

4 Per Store



50632

10" x 6" Acrylic Cube

12 + 2 Per Every 3x3 Table +
4 Per Every 3x5 Table + 4 per
launch table.











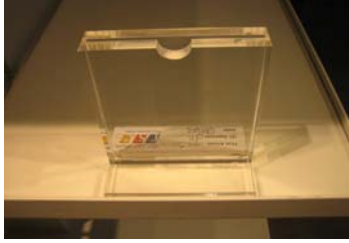



50631









10" x 10" Acrylic Cube









4 + 3 Per Every 3x3 Table +
4 Per Every 3x5 Table Over
The Count of 1 + 5 per launch table.



<p>53495 5 Compartment Bin 4" x 8 3/16" x 29 1/4" Includes 4 Fixed Dividers 1/4" Clear Acrylic</p> <p>8 Per Impulse Fixture</p> <p>8 Per Feature Fixture Over the Count of 1</p> 	<p>50633 28" x 13" Acrylic Sheet</p> <p>2 Per Every 3x3 Table + 2 Per Every 3x5 Table + 2 Per Launch Table.</p> 
<p>53499 Divided Rectangular Tray 11 15/16" x 20" x 3" Includes One Removable Divider 1/4" Clear Acrylic</p> <p>4 Per Small Tower + 8 Per Large Tower</p> 	<p>53500 5 Compartment Tray 4 11/16" x 29 3/8" x 3" Includes 4 Fixed Dividers 1/4" Clear Acrylic</p> <p>4 Per Small Tower</p> 
<p>53496 Small Square Tray 8" x 8 3/16" x 3" 1/4" Clear Acrylic</p> <p>8 Per Second Mod Fixture + 8 Per Third Mod Fixture</p> 	<p>53497 4 Compartment Tray 5 11/16" x 19 3/8" x 3" 1/4" Clear Acrylic</p> <p>8 Per Second Mod Fixture + 8 Per Third Mod Fixture</p> 
<p>53493 2 Compartment Angled Bin 5 1/2" x 7 3/4" x 10 3/8" Includes One Fixed Divider 1/4" Clear Acrylic</p> <p>4 Per Feature Fixture Over the Count of 1</p> 	<p>53498 Large Square Tray 12 11/16" x 12 11/16" x 3" 1/4" Clear Acrylic</p> <p>8 Per Large Tower</p> 
<p>53494 3 Compartment Angled Bin 8 5/8" x 11 7/8" x 20 3/4" Includes 2 Fixed Dividers 1/4" Clear Acrylic</p> <p>16 Per Impulse Fixture + 4 Per Feature Fixture Over the Count of 1</p> 	<p>50280 Acrylic Block 6 1/2" x 3" x 8" Block Sign Holder Clear Acrylic</p> <p>100 Per Store</p> 
<p>50279 Acrylic Tent 4 1/2" x 3" x 4 1/2" Tent Sign Holder Clear Acrylic</p> <p>20 Per Store</p> 	<p>50278 Acrylic Frame 10" x 4" x 11 1/2" Frame Sign Holder Clear Acrylic</p> <p>16 Per Store</p> 

<p>50409 Acrylic Table Signholder 19" x 19"</p> <p>12 Per Store</p> 	<p>Navigation Frame</p> <p>33% of cabinets</p> 
<p>53477 Hangbar Brackets</p> <p>12 Per Store</p> 	<p>53479 Puck</p> <p>4 Per Store</p> 
<p>53481 Right Hand Hangbar Bracket</p> <p>4 Per Store</p> 	<p>53480 Left Hand Hangbar Bracket</p> <p>4 Per Store</p> 
<p>53511 Elevated Puck</p> <p>4 Per Store</p> 	<p>49920 8" Peg Hooks for 1" Hangrail</p> <p>Metal Finished in Satin Nickel</p> <p>24 Hooks Per Store</p> <p>Used on Feature Fixture</p> 
<p>53476 Hangbar 20" x 1" x 1/2" 4 Holes for Saddle Bracket Pins Finish: Satin Nickel/Pewter Satin Finish</p> <p>10 Per Store</p> 	<p>49921 Cup Adaptor "The Works"</p> <p>8 Per Store</p> 
<p>49919 Hangrail "The Works"</p> <p>4 Per Store</p> 	<p>12" Peg Hook</p> <p>14 Per Store</p> 

<p>55463 Platform White 3/4" MDF Knockdown 17-3/4" x 27" x 36" H 4 Per Store FF-11 Typically 2 stacked on top of one another</p> 	<p>53471 Large Tower 1 per store FF-13 400 lbs. on skid 60" x 60" x 66" H (1) per skid</p> 
<p>53472 Small Tower Count Per Floor Plan FF-14 225 lbs. on skid 32" x 33" x 89" H (1) per skid</p> 	<p>53473 Feature/Impulse Fixture Count Per Floor Plan FF-17/FF-9b 350 lbs. on skid 62" x 36" x 75" H (1) per skid</p> 
<p>53491 Feature Fixture Short Metal Shelf - Left 21" x 12 1/8" x 3/4" W/ 3/8" x 1/8" Lip Around Front and Left Side of Shelf Includes Channels to Receive Brackets Spaced at 13 23/32" On Center Latch to Connect Shelves and Opening to Receive Adjustable Sleeve Finish: White Powdercoat 6 Per Store</p>	<p>53492 Feature Fixture Short Metal Shelf - Right 21" x 12 1/8" x 3/4" W/ 3/8" x 1/8" Lip Across the Front and Right Side of Shelf Includes Channels to Receive Brackets Spaced at 13 23/32" On Center Adjustable Sleeve W/Closed End Finish: White Powdercoat 6 Per Store</p>
<p>53474 Mod Fixture W/3 Shelves Count Per Floor Plan FF-15a</p> 	<p>53508 Mod Fixture W/4 Shelves Count Per Floor Plan FF-15b</p> 
<p>53475 Pedestal 1 Per Store FF-16</p> 	<p>53253 3 x 3 Table Count Per Floor Plan FF-4</p> 
<p>53254 3 x 5 Table Count Per Floor Plan FF-5</p> 	<p>54254 Launch Table 3x5 or 3x7 Count Per Floor Plan FF- 18a or FF-18b</p> 

<p>49475 Timeless Image Frame 18" x 21" x 1 1/4"</p> <p>66% of cabinets</p>		<p>27965 Two-Sided Easel</p> <p>1 per entrance</p>	
<p>Anti-Fatigue Mat</p> <p>4 Register (also used on 5 reg. compressed)- 15'x41" 5 Register (also used on 6 reg.compressed)- 19'x41" 7 Register- 21'6"x41-1/2"</p>		<p>45345 Shopping Bag Rack Satin Nickel</p> <p>3 Per Store</p>	
<p>45380 96" Marketing Channel</p> <p>Per Floor Plan Counts</p>		<p>45384 Telescoping Marketing Hangar</p> <p>4 Per Storefront Table Area 4 Per Window</p>	
<p>45383 Single Marketing Hangar</p> <p>12 Per Storefront Table Area 12 Backwrap Area 12 per 5' Storefront Windows 18 for Storefront Window over 5'</p>		<p>50985 Standard B-Rated Retail Safe</p> <p>1 Per Store</p>	
<p>53819 Locked Backroom Container</p> <p>1 Per New Store</p>			

Limitedbrands

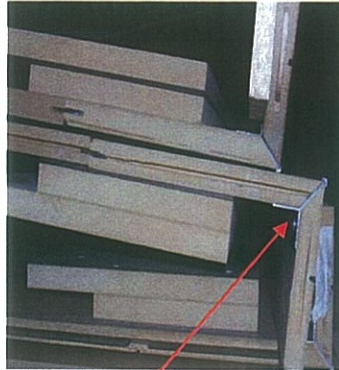
STORE DESIGN & CONSTRUCTION

Bath & Body Works

Construction Photo Collection

Construction Photo Collection

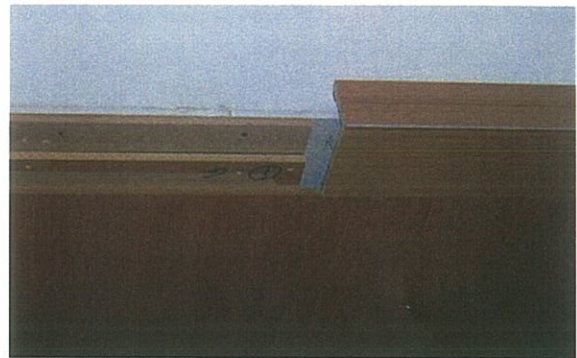
Items Delivered for Transition Area



Fry Reglet

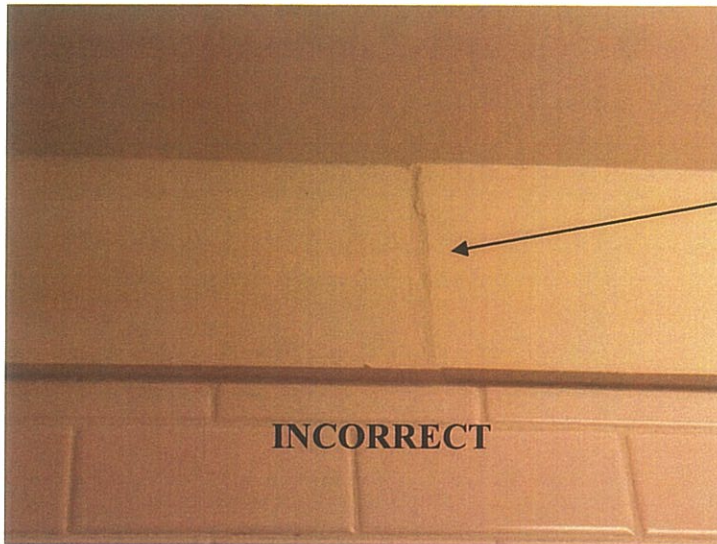


Pictures of Transition Area



Construction Photo Collection

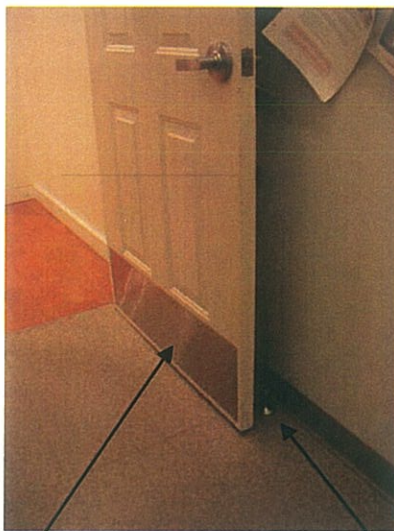
Miscellaneous



Hardwood butt joints should be tight and clean with minimal filler. Sand all joints to smooth finish prior to painting for fully concealed joint condition.

Angle lap and glue joints such as this (No butt joints in running hardwood trim)

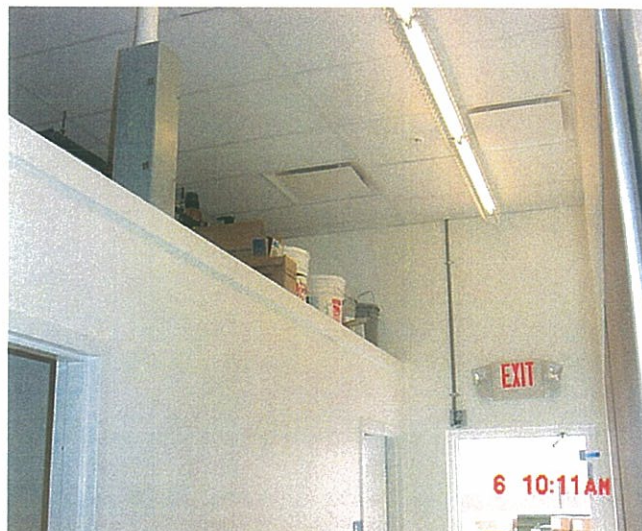
Hardwood trim detail



Sales/Nonsales Door

Door stop with hold open hook

SS Kickplate



Non-Sales

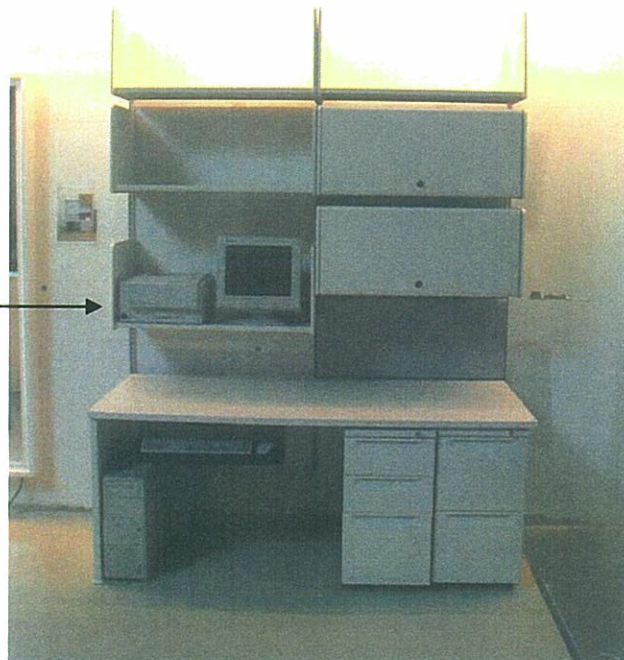
Extra materials stacked neatly on mezzanine

Report excessive extra materials to LSD&C Purchasing Agent

Construction Photo Collection



K Series Quadrant Locking Damper as required
Per Plans and Specifications



Managers work station assembled by GC

Section 4 – Construction

Section 4 - Trane HVAC Commissioning

Issue Date: 5/5/2006

Revised: 10/18/2006

Process Owner: Director of Construction Operations

Partners: Trane, SD&C Project Manager, SD&C Purchasing Agent, SD&C Project Manager

Process: SD&C purchases and supplies major HVAC equipment through Trane including:

- Roof Top Units (RTU)
- Chilled Water Air Handlers
- Split System Compressors
- Air Handlers / Chilled Water Air Handlers
- VAV Boxes

The GC is responsible for installing the control wiring supplied by Trane. Controls are factory-installed eliminating many of the problems from previous HVAC systems. Refer to the construction documents and manufacturers installation instructions.

Contact the SD&C Purchasing Agent regarding delivery issues. Do not contact Trane directly on delivery issues unless specifically directed by the Purchasing Agent.

Shipping Coordination

Dan Schondelmayer	Project Manager
2300 City Gate Drive	Phone: 866-415-2499
Suite 100	Fax: 614-473-3501
Columbus, OH 43219	Email: dcschondelmayer@trane.com

Vicki Tayner	Resource Coordinator
2300 City Gate Drive	Phone: 866-415-2499
Suite 100	Fax: 614-473-3501
Columbus, OH 43219	Email: vicki.tayner@trane.com

Note: Vicki is the first back up for Dan

Technical Support / Trane Service Information / Trane Installation Information

Jody Sowers	Application Specialist
2300 City Gate Drive	Phone: 866-415-2499
Suite 100	Fax: 614-473-3501
Columbus, OH 43219	Email: jsowers@trane.com

Dan Schondelmayer	Project Manager
2300 City Gate Drive	Phone: 866-415-2499
Suite 100	Fax: 614-473-3501
Columbus, OH 43219	Email: dcschondelmayer@trane.com

Note: Dan is the first back up for Jody

Reference: *HVAC Commissioning Process, Construction Documents, Manufacturer's Instructions and Guidelines*

Section 4 – Construction

HVAC Start Up & Commissioning Process

There are 3 site visits conducted by Trane and coordinated closely with the GC. The GC Superintendent is contacted by Trane at the start of construction to schedule these visits.

A eight (8) digit control number is issued by Trane at the end of the third visit. No interim control numbers are issued.

Site Visit #1

This visit is to inspect the HVAC equipment installation prior to initial start up.

The following items must be completed prior to the inspection:

- HVAC Unit mounted and electrically connected to the panel
- Duct work installed
- Temporary sensor hooked up (permanent control wiring and installation not required)
- Filters installed on return ducts to prevent construction dust from clogging unit coils

The intent is to have the unit started as soon as possible to condition the space.

The GC must complete Trane's Site Visit #1 Survey prior to the visit being scheduled. The GC must address the punchlist items from this site visit prior to Site Visit #2.

Site Visit #2

This visit is to inspect HVAC control installation

The following items must be completed prior to the inspection:

- Controls connected
- Field Installed sensors (smoke detectors, CO2 sensors, etc.) installed and wired if specified.
- Permanent or temporary phone service available. Trane needs to connect to the control system via telephone.

The GC must complete Trane's Site Visit #2 Survey prior to the visit being scheduled. The GC must address the punchlist items from this site visit prior to Site Visit #3.

Section 4 – Construction

Site Visit #3

This visit is a final inspect HVAC control installation. This visit must take place prior to construction completion.

The following items must be completed prior to the inspection:

- HVAC System installation is complete - no open punchlist items except for possibly the permanent phone line.
- Air Balance is complete.

The GC must complete Trane's Site Visit #3 Survey prior to the visit being scheduled.

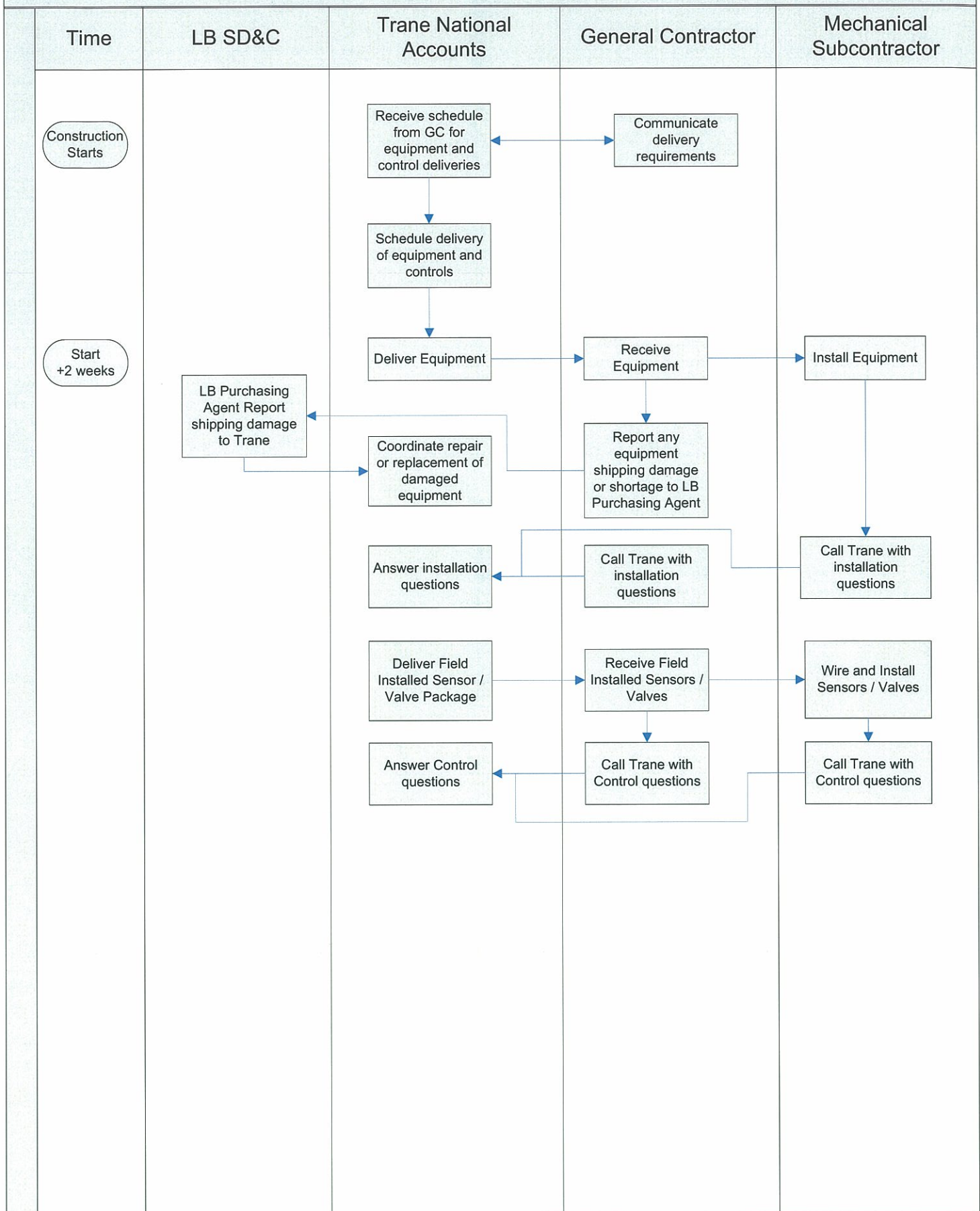
The HVAC control number will be issued at the end of the visit provided there are no unresolved HVAC punchlist items.

The Trane technician will write the HVAC control number on the sticker inside the WR Controls panel (IFS Panel).

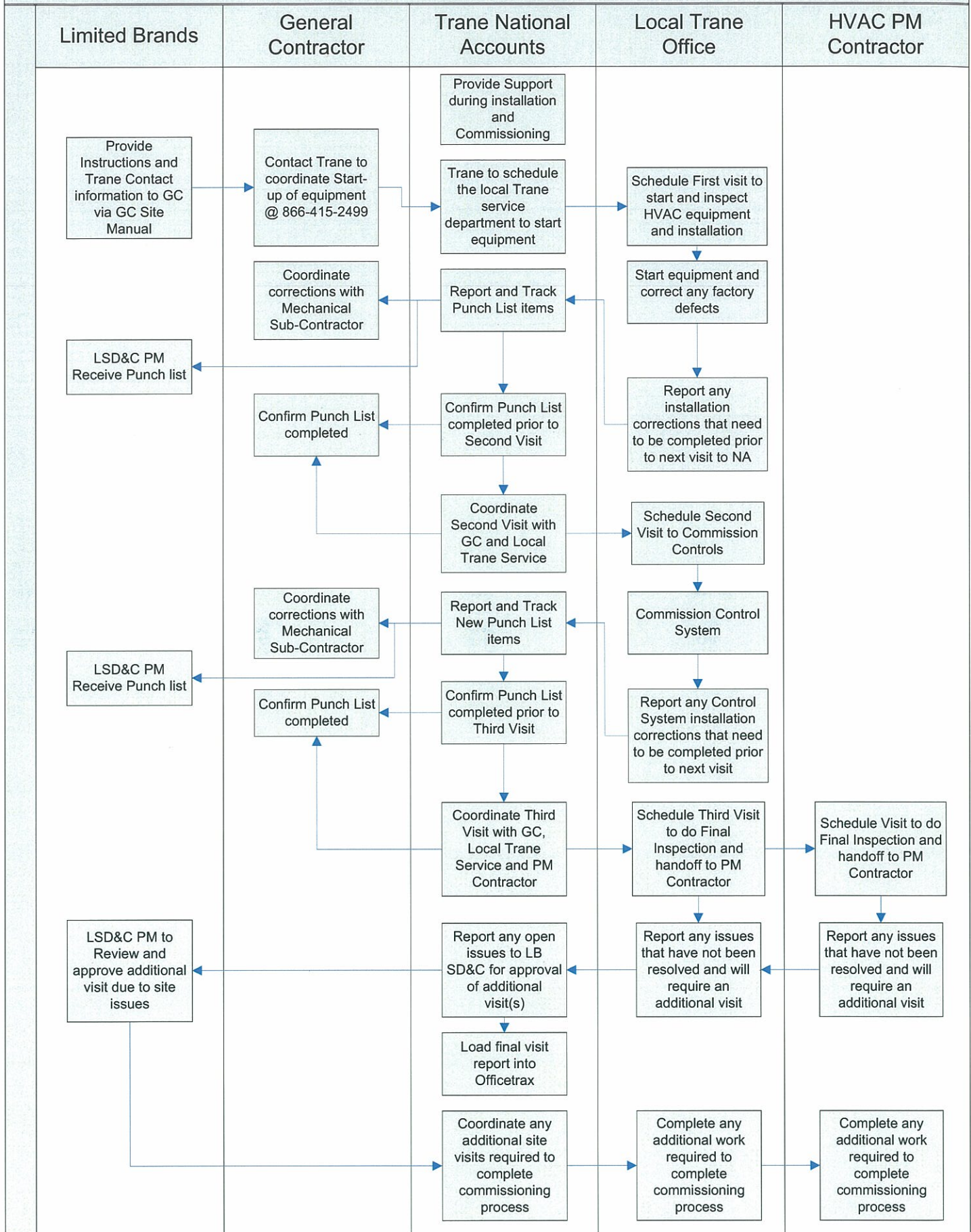
Typical Control Number

Control Number: 06TX8019

Purchasing, Ordering, Delivery and Installation Support



HVAC Commissioning Process



Test & Balance Certification

Date _____

Brand _____
Mall _____
Store # _____
City _____
State _____

Contractor _____
GC PM _____
Superintendent _____

Balance Contractor _____
Date _____

Name _____
Phone () _____ - _____

Notes:

Attach this cover sheet with the Test & Air Balance report and post to Buzzsaw as part of the closeout package.

Air Balance

- A. Test and Balance can be done at any time prior to the construction completion date. Complete the Test & Balance prior to the store opening.
- B. Testing and Balancing does not need to be coordinated with controls commissioning no longer needs to be coordinated with the controls commissioning. Complete the air balance any time after the controls are commissioned by Trane.

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	The report is prepared by a NEBB Certified Contractor or AABC Certified Test & Balance Engineer.
<input type="checkbox"/>	<input type="checkbox"/>	All voltages are within 2% from phase to phase as required by the unit nameplate specifications.
<input type="checkbox"/>	<input type="checkbox"/>	All input and output air temperatures are within acceptable range for this unit for each mode and stage.
<input type="checkbox"/>	<input type="checkbox"/>	Landlord supplied media (air or water) temperature is within 5% of design.
<input type="checkbox"/>	<input type="checkbox"/>	Landlord supplied media (air or water) flow is within 5% of design.
<input type="checkbox"/>	<input type="checkbox"/>	All supply diffusers, return air grilles, duct traverses, and static pressures are within 10% of design based on latest revision of the drawings.
<input type="checkbox"/>	<input type="checkbox"/>	All balance points have been marked with indelible markers on all balancing damper and valve positions.

Air Balance Contractor's Seal (Required)

TRANE NATIONAL ACCOUNTS
VISIT 1 – HVAC START UP QUESTIONNAIRE FOR JOB SUPERINTENDENT
Chilled Water SYSTEM CHECK SHEET AND START UP REQUEST

This form must be filled out and returned by JS / GC before start up visit can be scheduled. Please fax completed form to Vicki Tayner @ 614.473.3587. If you have any questions, please contact Vicki Tayner @ 866.415.2499.

Store # _____ Store Type _____ Today's Date _____

Mall _____ City _____ ST _____

JS _____ JS phone _____ fax or email _____

The following items are being installed and will be completed by: Date _____

- | | | CIRCLE ONE | |
|----|--|------------|----|
| 1. | Unit Location & Mounting | | |
| | a. Unit has recommended service clearances around unit | Yes | No |
| | b. Unit is secured to mounting surfaces | Yes | No |
| | c. Unit is level | Yes | No |
| | d. All loose shipped accessories installed | Yes | No |
| | e. Is condensation drain piped | Yes | No |
| 2. | Is the CW/HW piped and proper flow and temperature available | Yes | No |
| 3. | Power Supply Wiring – AHU, VAV | | |
| | a. Wiring connections have been checked to insure tightness | Yes | No |
| | b. Power is available | Yes | No |
| 4. | Control Wiring | | |
| | a. Are water valves and economizer actuators installed and wired | Yes | No |
| | b. Zone sensors mounted and wired | Yes | No |
| | c. Outside Air Sensor mounted outside | Yes | No |
| | d. CO2 sensor (carbon dioxide) installed | Yes | No |
| 5. | Total System | | |
| | a. Is duct work completed | Yes | No |
| | b. Is condensate piping complete | Yes | No |

This is to certify that the split system(s) is properly installed and the applicable items listed above are complete. Additional time required to complete startup and adjustments due to improper or incomplete installation will be invoiced at prevailing rates.

Check list completed by:

Name _____

Company _____

Signed _____

Date _____

*1. Advance notification is required to allow us to schedule start up on requested date.

*2. This check list must be completed and returned to Trane National Accounts before this equipment can be started. Our fax # is 614.473.3587 or email Vicki.tayner@trane.com.

TRANE NATIONAL ACCOUNTS
VISIT 1 – HVAC START UP QUESTIONNAIRE FOR JOB SUPERINTENDENT
SPLIT SYSTEM CHECK SHEET AND START UP REQUEST

This form must be filled out and returned by JS / GC before start up visit can be scheduled. Please fax completed form to Vicki Tayner @ 614.473.3587. If you have any questions, please contact Vicki Tayner @ 866.415.2499.

Store # _____ Store Type _____ Today's Date _____

Mall _____ City _____ ST _____

JS _____ JS phone _____ fax or email _____

The following items are being installed and will be completed by: Date _____

		CIRCLE ONE	
1.	Unit Location & Mounting		
	a. Unit has recommended service clearances around unit	Yes	No
	b. Unit is secured to mounting surfaces	Yes	No
	c. Unit is level	Yes	No
	d. Condensation drain piped	Yes	No
2.	Refrigerant Piping		
	a. Refrigerant piping is installed:	Yes	No
	b. Piping has been pressure and leak tested	Yes	No
	c. Suction line has been insulated	Yes	No
	d. Vacuum pulled on system	Yes	No
	e. System charged with refrigerant. Additional refrigerant on site and available for Trane during start-up	Yes	No
3.	Power Supply Wiring – AHU, CU, and VAV		
	a. Wiring connections have been checked to insure tightness	Yes	No
	b. Power is available	Yes	No
4.	Control Wiring		
	a. Proper interlocks have been made to solenoid valves and hotgas bypass valve (if applicable)	Yes	No
	b. Zone sensors mounted and wired	Yes	No
	c. Outside Air Sensor mounted outside	Yes	No
	d. CO2 sensor (carbon dioxide) installed	Yes	No
5.	Total System		
	a. Is duct work completed	Yes	No
	b. Is condensate piping complete	Yes	No

This is to certify that the split system(s) is properly installed and the applicable items listed above are complete. Additional time required to complete startup and adjustments due to improper or incomplete installation will be invoiced at prevailing rates.

Check list completed by:

Name _____

Company _____

Signed _____

Date _____

*1. Advance notification is required to allow us to schedule start up on requested date.

*2. This check list must be completed and returned to Trane National Accounts before this equipment can be started. Our fax # is 614.473.3587 or email Vicki.tayner@trane.com.

TRANE NATIONAL ACCOUNTS
VISIT 1 – HVAC START UP QUESTIONNAIRE FOR JOB SUPERINTENDENT
RTU SYSTEM CHECK SHEET AND START UP REQUEST

This form must be filled out and returned by JS / GC before start up visit can be scheduled. Please fax completed form to Vicki Tayner @ 614.473.3501. If you have any questions, please contact Vicki Tayner @ 866.415.2499.

Store # _____ Store Type _____ Today's Date _____

Mall _____ City _____ ST _____

JS _____ JS phone _____ fax or email _____

The following items are being installed and will be completed by: Date _____

- | | | CIRCLE ONE | |
|----|---|------------|----|
| 1. | Unit Location & Mounting | | |
| | a. Unit has recommended service clearances around unit | Yes | No |
| | b. Unit is secured to mounting surfaces | Yes | No |
| | c. Unit is level | Yes | No |
| | d. All ship loose accy's installed (economizer, power exhaust, etc) | Yes | No |
| 2. | Power Supply Wiring – RTU, VAV | | |
| | a. Wiring connections have been checked to insure tightness | Yes | No |
| | b. Power is available | Yes | No |
| 3. | Gas - RTU | | |
| | a. Gas connected to RTU and turned on | Yes | No |
| 4. | Control Wiring | | |
| | a. Zone sensors mounted and wired | Yes | No |
| | b. CO2 sensor (carbon dioxide) installed | Yes | No |
| 5. | Total System | | |
| | a. Is duct work completed | Yes | No |
| | b. Is condensate piping complete | | |

This is to certify that the split system(s) is properly installed and the applicable items listed above are complete. Additional time required to complete startup and adjustments due to improper or incomplete installation will be invoiced at prevailing rates.

Check list completed by:

Name _____

Company _____

Signed _____

Date _____

*1. Advance notification is required to allow us to schedule start up on requested date.

*2. This check list must be completed and returned to Trane National Accounts before this equipment can be started. Our fax # is 614.473.3501 or email Vicki.tayner@trane.com.

TRANE NATIONAL ACCOUNTS
VISIT 1 – HVAC START UP QUESTIONNAIRE FOR JOB SUPERINTENDENT
VAV SYSTEM CHECK SHEET AND START UP REQUEST

This form must be filled out and returned by JS / GC before start up visit can be scheduled. Please fax completed form to Vicki Tayner @ 614.473.3501. If you have any questions, please contact Vicki Tayner @ 866.415.2499.

Store # _____ Store Type _____ Today's Date _____

Mall _____ City _____ ST _____

JS _____ JS phone _____ fax or email _____

The following items are being installed and will be completed by: Date _____

CIRCLE ONE

- | | | | | |
|----|---|-----|----|--|
| 1. | Unit Location & Mounting | | | |
| | a. Unit has recommended service clearances around unit | Yes | No | |
| | b. Unit is secured to mounting surfaces | Yes | No | |
| | c. Unit is level | | | |
| | d. All loose shipped accessories installed | Yes | No | |
| 2. | Power Supply Wiring | | | |
| | a. Wiring connections have been checked to insure tightness | Yes | No | |
| | b. Power is available | Yes | No | |
| 3. | Control Wiring | | | |
| | a. Zone sensors mounted and wired | Yes | No | |
| 4. | Total System | | | |
| | a. Is all duct work completed | Yes | No | |

This is to certify that the split system(s) is properly installed and the applicable items listed above are complete. Additional time required to complete startup and adjustments due to improper or incomplete installation will be invoiced at prevailing rates.

Check list completed by:

Name _____

Company _____

Signed _____

Date _____

*1. Advance notification is required to allow us to schedule start up on requested date.

*2. This check list must be completed and returned to Trane National Accounts before this equipment can be started. Our fax # is 614.473.3501 or email Vicki.tayner@trane.com.

**TRANE NATIONAL ACCOUNTS
VISIT 2 - CONTROLS COMMISSIONING QUESTIONNAIRE FOR
JOB SUPERINTENDENT**

Store # _____ Store Type _____ Today's Date _____

Mall _____ City _____ State _____

JS _____ JS phone _____ fax or email _____

The following items must be completed before controls commissioning visit, please check each item as it is completed:

- | | |
|-------|---|
| _____ | Control wiring completed |
| _____ | Does site need more wire – if so, how much is needed _____ |
| _____ | All sensors (zone, CO2, supply air) installed and terminated per Trane prints |
| _____ | Punch list from first visit completed – Return copy of completed punch list |
| | • If items left incomplete from punch list, please advise of incomplete items and when they will be completed (if you need more space, please fax a separate sheet along with this sheet) |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

Y N Is the construction close to being on schedule

- If not, please explain why

Y N Can Trane assist you with anything at this time?

ATTENTION JS: MC and EC must be onsite for this visit. Trane will schedule appointment for specific date / time, and will notify you.

If visit cannot be scheduled now – when should JS be recalled to verify above _____

Please note: You are responsible to contact Vicki Tayner of Trane @ 866.415.2499 if it is necessary to change this appointment once it is made. In the event that a Trane representative appears for the scheduled visit, and he/she are unable to perform commissioning due to the job not being prepared, your company will receive a backcharge from Limited Brands for an unnecessary trip charge, and you will be contacted to reschedule.

By signing below, you are agreeing that the above is accurate and you understand the terms of commissioning this site by TRANE. Again, by signing this form, you are accepting all responsibility to ensure job is ready when the Trane representative arrives.

_____	_____	_____
Name	Title	Date

****Please fax this to Vicki Tayner at 614.473.3587 or email to Vicki.tayner@trane.com after filling out and signing.****

TRANE NATIONAL ACCOUNTS

VISIT 3 - FINAL VISIT QUESTIONNAIRE FOR JOB SUPERINTENDENT

This form must be filled out and returned by JS / GC before final visit can be scheduled. Please fax completed form to Vicki Tayner @ 614.473.3587 or email to Vicki.tayner@trane.com. If you have any questions, please contact Vicki Tayner @ 866.415.2499.

Store # _____ Store Type _____ Today's Date _____

Mall _____ City _____ State _____

JS _____ JS phone _____ fax or email _____

The following items must be completed before this visit, please check each item as it is completed:

- _____ Punch lists from first two visits completed – Return copy of completed punch lists
- If items left incomplete from punch list, please advise of incomplete items and when they will be completed (if you need more space, please fax a separate sheet along with this sheet)

Please note: Filters will be replaced during this visit. **Filters are to be on site, and provided by, GC.** Trane technician will replace while on site.

Y N Are replacement filters on site for Trane technician to replace?

LINE 1 PHONE # _____

LINE 2 PHONE # _____

The above numbers are necessary even if they are only temporary phone lines.

Y N Is the construction close to being on schedule

- If not, please explain why

Y N Can Trane assist you with anything at this time?

ATTENTION JS: MC and EC must be onsite for this visit. Trane will schedule appointment for specific date / time, and will notify you.

If visit cannot be scheduled now – when should JS be recalled to verify above _____

Please note: You are responsible to contact Vicki Tayner of Trane @ 866.415.2499 if it is necessary to change this appointment once it is made. In the event that a Trane representative appears for the scheduled visit, and he/she are unable to perform commissioning due to the job not being prepared, your company will receive a backcharge from Limited Brands for an unnecessary trip charge, and you will be contacted to reschedule.

By signing below, you are agreeing that the above is accurate and you understand the terms of signing over this site to Service Provider by TRANE. Again, by signing this form, you are accepting all responsibility to ensure job is ready when the Trane representative arrives.

Name	Title	Date
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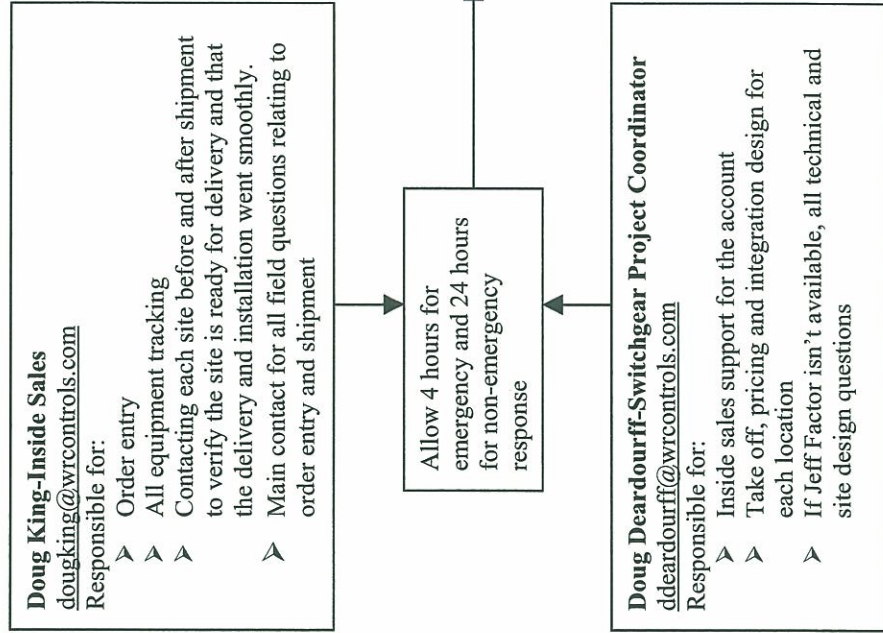
****Please fax this to Vicki Tayner at 614.473.3587 or email to Vicki.tayner@trane.com after filling out and signing.****

Limited brands

STORE DESIGN & CONSTRUCTION

WR Controls Issue Resolution and Escalation Chart

All WR Controls contacts can be reached at 1-800-417-7543



-Attention Job Superintendent-
PLEASE READ CAREFULLY

This sheet contains information about the
WR Controls Integrated SwitchGear System
that you may be receiving for this project.

The WR Controls SwitchGear is a large cabinet that will replace your typical breaker panel, transformer and lighting contactor configuration.

In order for Limited Store Planning to fully incorporate the convenience of this cabinet, a few points need to be observed:

1. The cabinet is large and heavy. The typical sizes on the complete cabinet will be 24 inches deep, 90 inches tall and could extend up to 92 inches long. The cabinet will be shipped on two or more shrink-wrapped skids. You may need a forklift to unload.
2. A representative from WR Controls will be contacting you during the first week of construction to make shipping arrangements.
3. The transformer section (if applicable) will be on a separate skid than the rest of the cabinet.
4. The cabinet will have to be bolted together and then bolted to the floor.
5. The distribution panel wiring will be rolled up in the distribution panels. The electrical contractor will have to unroll the cable and connect it to the load side of the transformer.
6. The electrician will have to connect the lighting circuits to the load side of the circuit breaker.
7. A full installation packet will be included in the cabinet to answer any installation questions.

If there are any questions, you may contact
WR Controls @ (800) 417-7543.



Cutler-Hammer

Pow-R-Line® Switchboards

Instruction Manual

New Information



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Safety Measures

This publication contains instructions on the installation of Cutler-Hammer® brand Pow-R-Line low voltage distribution switchboards from Eaton's Electrical business. Any person or persons that design, purchase, install, operate or maintain new systems utilizing these products must understand the equipment, its markings and limitations.

Hazardous voltages in distribution switchboards and all other electrical equipment pose a potential hazard to life and property. Please follow instructions, labeling and applicable codes and standards for installation, maintenance and operation of this equipment and its components. Only "Qualified Persons" should install and/or service this equipment. NFPA 70 – National Electrical Code® defines a "Qualified Person" as "One who has skills and knowledge related to the construction and operation of electrical equipment and installations and has received safety training on the hazards involved."

Standard symbols have been established for recognition of potentially hazardous situations and conditions. Please review and understand the critical warning symbols shown below. These symbols will appear on safety labels affixed to the product. Installer should always read and understand these labels before working on equipment.

Symbol	Meaning
	The addition of either symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.
	This is the safety alert symbol. It is used to alert you to potential personal hazards. Obey all safety messages that follow this symbol to avoid possible injury and death.

DANGER

"DANGER" INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY.

WARNING

"WARNING" INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, CAN RESULT IN DEATH OR SERIOUS INJURY.

CAUTION

"CAUTION" INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, CAN RESULT IN MINOR OR MODERATE INJURY.

CAUTION

"CAUTION", USED WITHOUT THE SAFETY ALERT SYMBOL, INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, CAN RESULT IN PROPERTY DAMAGE.

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Introduction

This instruction manual is designed to supplement other industry standards including all local, state and federal codes and safety regulations, such as OSHA, NFPA 70 (National Electrical Code), NFPA 70E (Standard for Electrical Safety Requirements for Employee Workplaces), NEMA® PB2.1 – *General Instructions for Proper Handling, Installation, Operation and Maintenance of Deadfront Distribution Switchboards Rated 600 Volts and Less*, other workplace, electrical installation requirements and all safety rules.

Safety

Due to the weight and size of switchboards and dangers from electrical hazards, every precaution should be taken to maintain safe working conditions when handling this equipment. Due to the custom nature of switchboards and the site variables, every potential situation cannot be anticipated. Safety must always be the overriding factor.

Always follow all instructions and all safety guidelines published by OSHA and other industry and local, state and federal agencies.

Pre-Installation: Receiving, Handling and Storage

Receiving

Upon delivery, use the packing list to confirm the number of items against what was received to ensure that the shipment is complete. Any discrepancies should be noted on the freight bill before signing. Report any shortages or damage to the freight carrier immediately.

Immediately upon receipt of the switchboard, the plastic covering should be carefully removed and a thorough inspection of each section should be made to detect any damage incurred during shipment. Any damage should be noted on the bill of lading (freight bill) and the consignee receiving the equipment should notify the freight carrier. **FAILURE TO NOTIFY THE FREIGHT CARRIER OF DAMAGE IN A TIMELY MANNER MAY RESULT IN THE CONSIGNEE ASSUMING THE COSTS ASSOCIATED WITH REPAIR OR REPLACEMENT OF DAMAGED EQUIPMENT.**

After inspection, it is recommended that a plastic covering be used to protect the equipment from dust, dirt, moisture and damage until ready for installation.

The switchboard should remain attached to its shipping skid until it has been moved into its final installation position.

Handling

⚠ WARNING

SWITCHBOARD IS TOP HEAVY. USE CARE IN HANDLING.

Switchboards are top heavy. Switchboard sections may weigh over 2000 pounds. Before moving or lifting, verify that the equipment used to handle the switchboard is within safe limits of its lifting capacity.

Switchboard shipping lengths will vary. Each shipping section is bolted with lag bolts to heavy wooden skids that extend beyond all sides of the switchboard.

Utilizing Lifting Means

Lifting means are bolted to each switchboard shipping length. Lifting a switchboard by crane is the recommended method for moving this equipment.

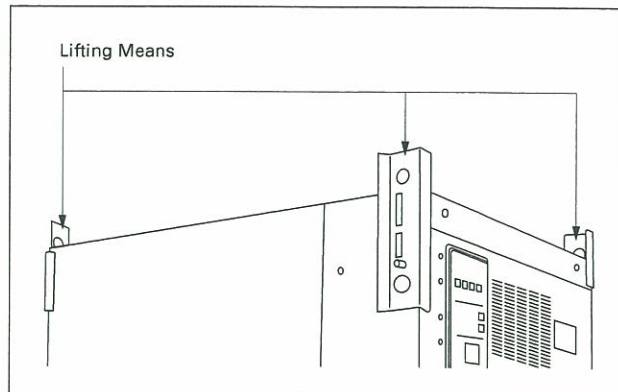


Figure 1. Typical Indoor Lifting Means

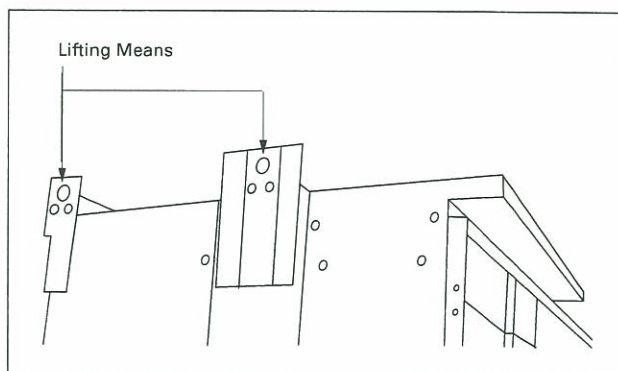


Figure 2. Typical Outdoor Lifting Means

DO NOT pass cables or chains through the holes in the lifting means. Utilize cables or chain with hooks or shackles rated for the load and weight of the switchboard shipping length to be lifted.

Prepare a sling and a spanner or spreader. (See **Figures 3 and 4.**) Eaton does not provide chain, cables, shackles, hooks, spanner or spreader.

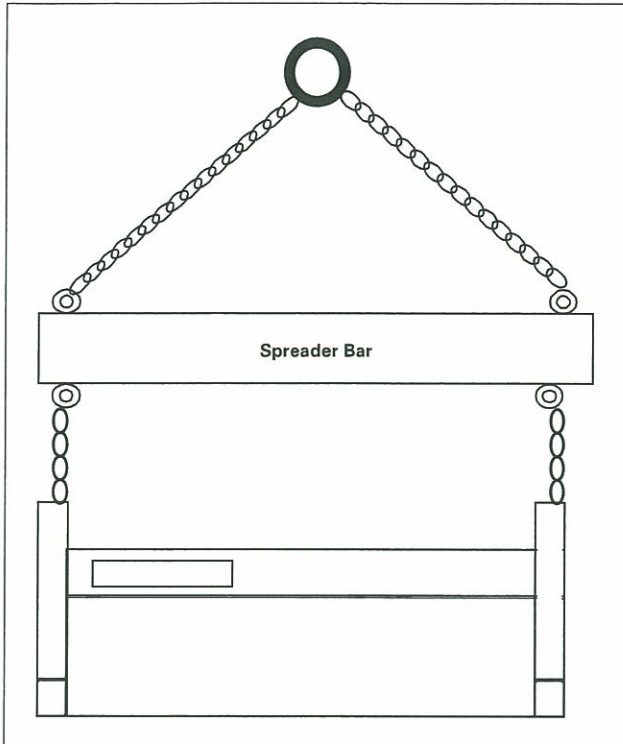


Figure 3. Front View

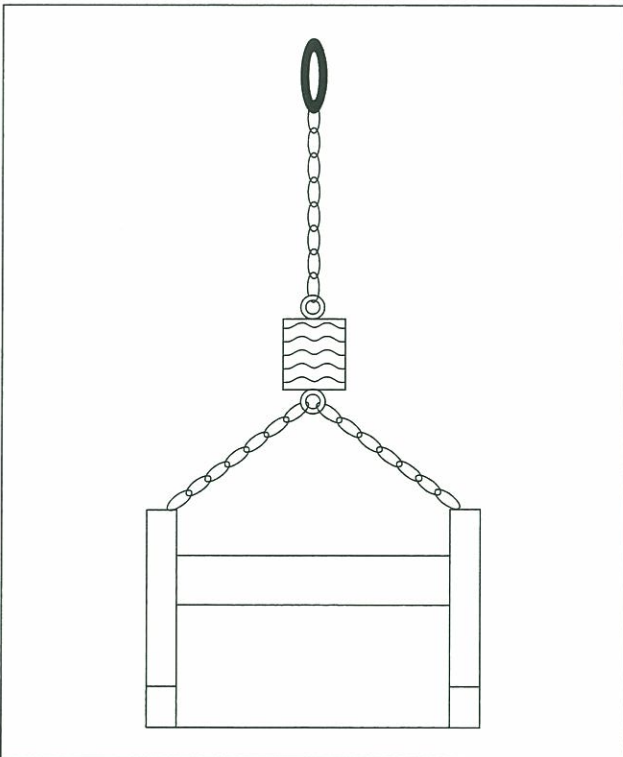


Figure 4. Side View

Chains/cables must be securely attached to hooks, eyes and shackles and the spanner/spreader. Prior to lifting, check the security of the rigging assembly. Use the crane to bring the assembly taut without raising the switchboard from the floor.

Check the security of the rigging, again. Make any adjustments necessary before moving the equipment.

Slowly lift equipment to the minimum height from the floor required to safely relocate it. Move the equipment to approximately 2 inches above its resting place. Safely make a visual inspection of the rigging. If necessary, return the switchboard to its original resting place to make any modifications necessary to the rigging.

Forklifts

A forklift may be utilized for handling switchboards. Only personnel trained for that equipment should operate forklifts.

Be sure that the ground surface is solid and follow all safety recommendations for operating the forklift. Be aware of wet or slick floors and surfaces, which can affect stopping and turning. Check labeling on the switchboard packaging material for additional information.

Verify that the forklift load and lifting ratings are within safe limits for the weight of the switchboard being lifted.

Do not lift switchboard from the front. Damage to components, such as breakers, fusible switches and metering, can result.

CAUTION

SWITCHBOARD IS TOP HEAVY. USE CARE IN HANDLING.

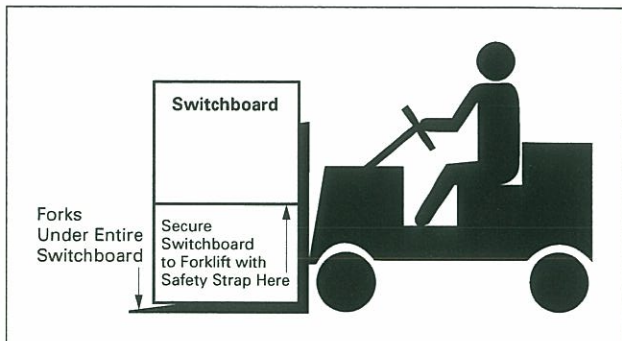


Figure 5. Forklift

Note: Always use caution when moving switchboards, which are top-heavy equipment.

The forks or blades of the forklift must run through the entire switchboard shipping length and shall be extended to the outermost sides of the wooden shipping skids. (See Figure 5.)

Secure the switchboard with a safety strap, belt or leash approved for this purpose. Take care in positioning of the strap to ensure stability of the equipment and confirm that it is not in an area that will damage components.

Slowly lift equipment to the minimum height from the floor required to safely relocate it.

Rollers

Rollers should only be used on solid and flat surfaces, such as a finished floor. Only use rollers suitable for this purpose.

Storage

Switchboards, which cannot be immediately installed and energized, should be stored in an indoor dry, clean and heated environment.

Do not store in areas where conditions such as dampness, changes in temperature, cement dust or a corrosive atmosphere is present.

Should the storage area be prone to moisture condensation, take precaution by making sure that the switchboard is covered and install temporary heating equipment. Approximately 250 watts per vertical section are required for average conditions.

Switchboards should be placed on solid, level surfaces for storage. Switchboard sections must remain in an upright position at all times. Laying switchboard sections on their back or side can result in permanent damage to components and the switchboard structure.

Outdoor switchboards are not weather resistant until completely and properly installed and energized. Additionally, utilizing temporary heating as described above should keep an un-energized outdoor switchboard dry internally.

Pre-Installation Preparation

The permanent location of switchboards must be on a smooth, solid and level foundation. Alignment is verified in the factory prior to shipment.

An uneven foundation can cause misalignment of sections, units, doors and other parts.

If a housekeeping pad is utilized, check factory drawings and verify handle height rules relative to the National Electrical Code (NEC) and utility meter heights where applicable.

When embedded anchors or channel sills are used, materials and attachments must be adequate to support the structure(s). Switchboard sections must be aligned and level over the length of the installation.

From manufacturer's drawings, determine the layout of the electrical distribution equipment for each location. Verify and confirm that the available equipment space and equipment location(s) is in compliance with the minimum working space clearances per the NEC.

Refer to the manufacturer's switchboard drawings for available conduit area in each section before installing the finished grade flooring. (See **Figure 6.**) Conduits must be installed in conduit area shown to ensure compliance with NEC wire bending space requirements.

Note: Conduit areas may vary in each section of a multi-section switchboard lineup.

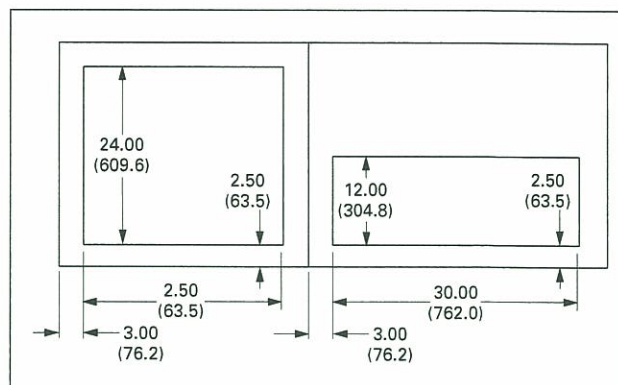


Figure 6. Conduit Space Drawing — Floor Plan

Note: Used for reference only. See drawings for actual space.

The preferred method of anchoring the switchboard is by fastening the switchboard to steel channels that are properly and permanently embedded in a concrete floor or by using anchors designed for this purpose.

Conduits, floor and/or wall openings, such as busway or other penetrations, should be located relative to the space shown on the manufacturer's drawings.

Refer to the National Electrical Code for installations in damp locations for additional requirements.

Final preparation of the entire area and around the switchboard should be thoroughly cleaned of all debris.

Considerations for Seismic Qualified Installations

Switchboards that are "Seismically Qualified" require additional considerations. Since electrical equipment is installed as part of a system, pre-engineering layouts are critical in seismic applications.

When seismic qualified and marked Cutler-Hammer brand switchboards are used, anchoring the switchboard recommended by the design engineer is critical. Experienced engineers in seismic requirements should select methods and techniques of attachment and tested anchoring systems. Embedded concrete anchors or steel attachments must be adequate to resist the forces established by the local building code. Bolts of the proper grade of steel must be correctly sized and torqued. The embedded anchors must be correctly installed in accordance with the method specified by the anchor manufacturer.

Conduit layout in concrete for loads entering and/or exiting the bottom must be designed and installed to prevent damage from an earthquake. If top entry is necessary, seismic fittings or flexible conduit is needed.

Consult applicable local building codes and regulatory agencies for other specific requirements for seismic installations.

Additionally, six (6) inches of space should be added to the length of the switchboard assembly to accommodate seismic anchor plates. Contact Eaton for additional information.

Installation

Use caution and appropriate equipment and practices when moving switchboard into its final position.

⚠ CAUTION

SWITCHBOARD IS TOP HEAVY. USE CARE IN HANDLING.

Determine the switchboard orientation with the use of manufacturer's drawings and markings on the switchboard sections. Switchboards may be shipped either in individual sections or in two or more sections joined by the manufacturer. (See **Figures 7 and 8.**)

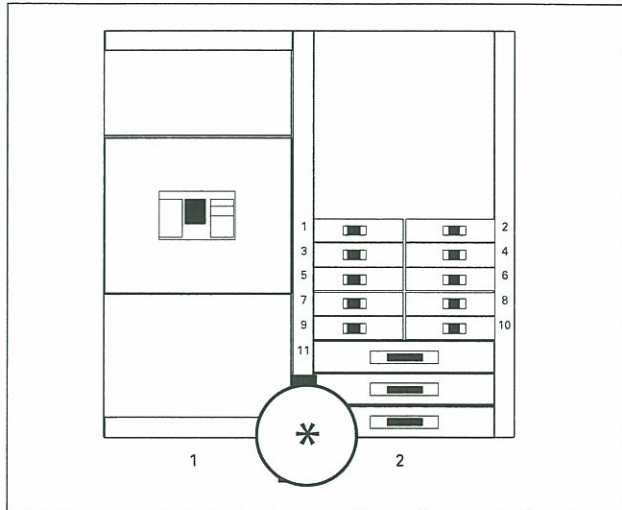


Figure 7. Switchboard A — Front View

Note: Switchboard A has a shipping split between Sections 1 and 2. This is depicted by "*" within the circle between sections.

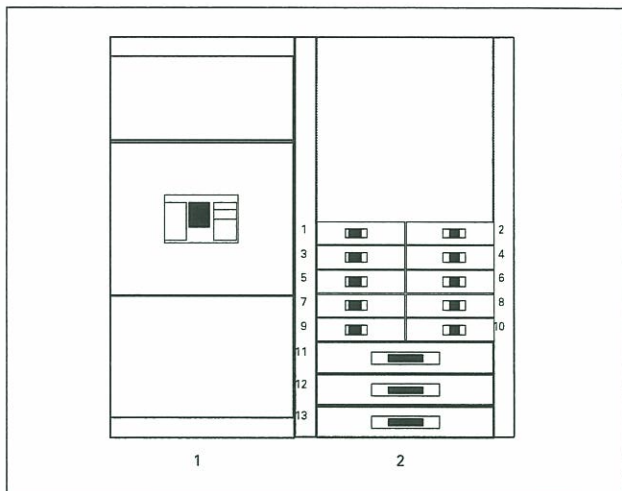


Figure 8. Switchboard B — Front View

Note: Switchboard B, without an asterisk, ships with sections bolted together.

The drawing supplied with the switchboard will indicate the correct orientation of sections by section number. Each section will have a label with the UL listing mark designating "Deadfront Distribution Switchboard Section ___ of ___." The manufacturer will fill in the blanks prior to shipment. An example, the first section of a three-section switchboard will read "Section 1 of 3." Section 2 of 3 would be mounted adjacent per the manufacturer's drawings. (See **Figure 9.**)

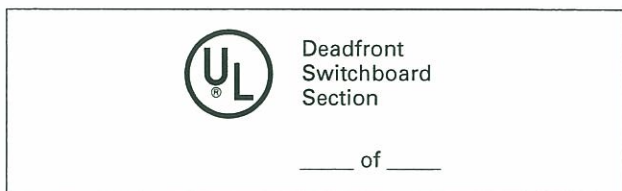


Figure 9. Label Illustration

Alignment of multi-section switchboards is designed to be front and rear aligned or rear (only) aligned. Drawings provided by the manufacturer and located in the switchboard will show footprint details. Orientation, as shown on the drawings, must be maintained. (See **Figures 10 and 11.**)

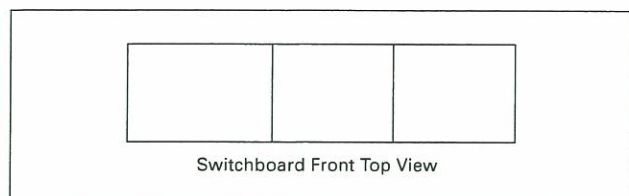


Figure 10. Example of Front and Rear Aligned Switchboard

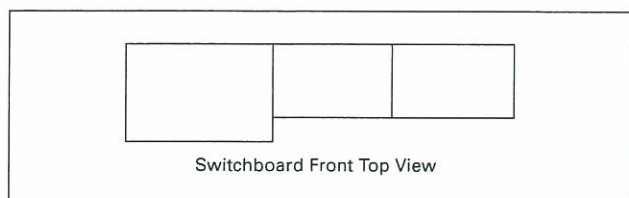


Figure 11. Example of Rear Aligned Switchboard

Sections may contain factory cross bus and/or cable to connect power between switchboard structures and other components. Installers should note the location and orientation of all splice plates and/or cables as reference for installation once sections are joined.

If supplied, remove splice plates and associated hardware, again noting the orientation for re-installation once switchboard is in place. If additional hardware is needed to complete these connections, extra hardware will be provided. For shipping purposes, it will typically be secured inside one of the structures. Keep bus and hardware in a clean and protected environment to guard against damage until re-installation. Protect any factory-installed cables (wire) used to connect components between sections from damage when moving switchboard sections into place.

An outdoor multi-section switchboard will ship with un-installed intermediate roof cap(s) for each joint between sections. Remove roof cap(s) prior to moving sections into their permanent position. Retain roof cap(s) and associated hardware for re-installation. Keep roof caps and associated hardware in a clean and protected environment to guard against damage awaiting re-installation.

There are two roof designs for outdoor switchboards. These are the flat roof design and the sloped roof design.

The standard outdoor switchboard utilizes a flat roof design. This design does not require any sealant when the intermediate roof cap is correctly installed in the field.

The optional sloped roof outdoor design also uses an intermediate roof cap design. When a break occurs between sections for shipping purposes, the intermediate roof cap on the optional outdoor sloped roof design shall have a 3/16" minimum bead of silicone sealant (RTV 732) applied to the underneath side of the roof cap. Each roof cap should have two (2) continuous beads of sealant from end to end. Each bead must be located between the row of mounting holes and the outer edge of the roof cap. A tube of sealant is provided with every outdoor switchboard for customer's use.

Use caution and appropriate equipment and practices when moving switchboard into its final position.

⚠ WARNING

SWITCHBOARD IS TOP HEAVY. USE CARE IN HANDLING.

Exercise caution while maneuvering top-heavy switchboard sections into place. Switchboard sections must always remain in the upright position during installation. Use care when moving the switchboard so not to damage the section, including the structural base and frame. Some switchboards house sensitive components, which can be damaged by rough handling.

Prior to moving the switchboard sections into its permanent position, make note of all obstacles including conduit stubs. Implement a plan for safe transition and appropriate means to accommodate these obstructions. Take note of conduits entering through the bottom of the switchboard, rear of the switchboard, and at the top of the switchboard to ensure appropriate clearances from chassis, structure, cross bus, ground, neutral and components.

Provide space for a minimum 1/2" clearance from back of switchboard and any wall for front accessible switchboards installed indoors.

Front accessible switchboards, which are built and marked for outdoor installation, must maintain a 6-inch minimum clearance from any wall or building structure. For other required clearances, including rear-connected switchboard, refer to the National Electrical Code (NEC) clearances.

When unpacking the switchboard, exercise care not to scratch or mar the finish. Repair all scratches with touch-up paint, which is available from Eaton. Remove shipping skids and all packaging material. Remove any temporary shipping braces or spacers. Remove lifting angles and associated hardware. Plug lifting angle holes with hole plugs supplied by the manufacturer. (See **Figure 12.**)

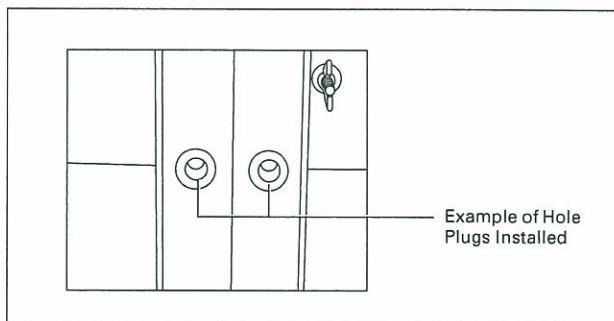


Figure 12. Hole Plugs Installed

Where two or more switchboard sections are to be joined together, they should first be aligned and all sections leveled.

Once aligned and level, attach switchboard sections together.

Attaching Switchboard Sections

The manufacturer has provided hardware with the equipment to join switchboard sections. The hardware includes 3/8" x 1" carriage bolts and 3/8" hex nuts with captive Belleville-type washer. (See **Figure 13**.)

Holes are provided on the side of each switchboard section for this purpose. Three holes are located on the side of each section towards the front and back. Switchboards with deep designs, including rear-connected switchboards, may have an additional three holes for attachment on the center vertical section support. (See **Figure 14**.)

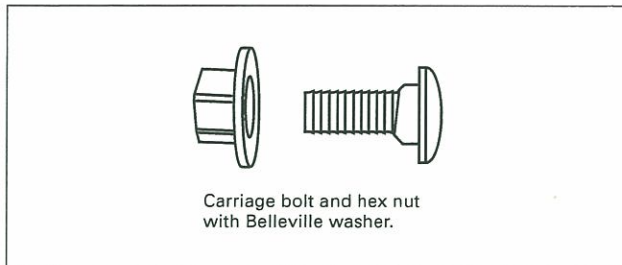


Figure 13. Hardware

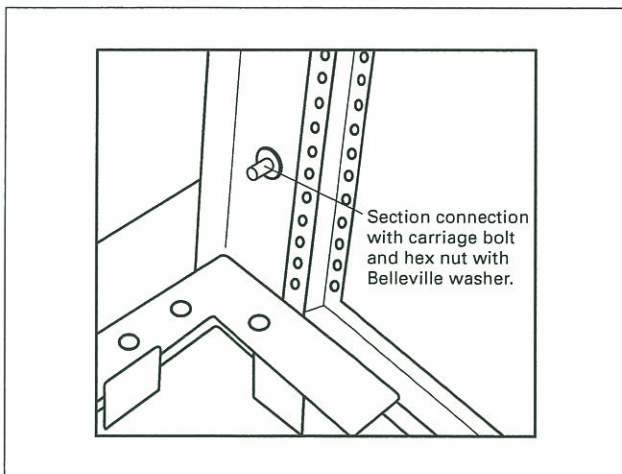


Figure 14. Switchboard Section Connection

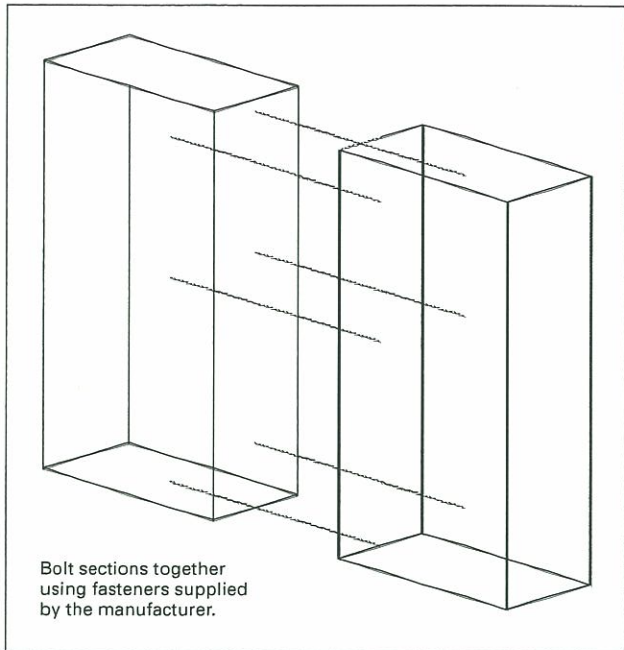


Figure 15. Joining Switchboard Sections

Join sections utilizing the carriage bolts and hex nuts with captive Belleville-type washer through the holes provided. (See **Figure 15**.) While maintaining level and alignment of the structures, torque each connection to the values shown in Appendix **Table 2**.

If switchboard sections are outdoor type, re-install roof cap(s). Visually inspect the roof cap to ensure a reliable, permanent watertight fit prior to energizing the switchboard.

Once the switchboard structures are attached, visually inspect the board for foreign objects and visually inspect the structure for proper clearances of live parts.

Electrical Connection of Switchboard Sections

Several methods may be used to make electrical connections within switchboards. More than one of these methods may be used in a section and/or switchboard lineup. These include bus splice plates, factory installed cable and busway connections. Consult the manufacturer's drawings for details for each switchboard section.

Remove structure deadfront covers and side sheets as needed to access switchboard chassis and components. Retain all cover mounting hardware and covers for re-assembly. Protect hardware and parts from moisture, debris and damage.

Splice Plates

Splice plates are short pieces of bus bar that join the main bus running horizontally through multiple section switchboards. Depending on the configuration and alignment of the switchboard, the splice plates used for the main cross bus may vary. These plates may either be flat or "Z" shaped. (See Figures 16 and 17.)

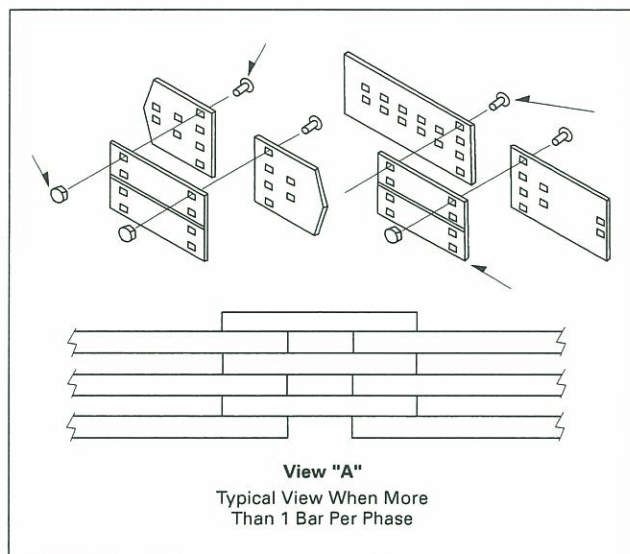


Figure 16. Splice Plates

For larger amperage switchboards, multiple splice plates are to be used on the same phase. Maintain the orientation, by phase and sequence of the splice plates. The orientation of the splice plates must remain identical as they were shipped from the manufacturer. Clearances must be maintained. If unsure about the correct orientation or questions about the installation, contact Eaton before installing the splice plates.

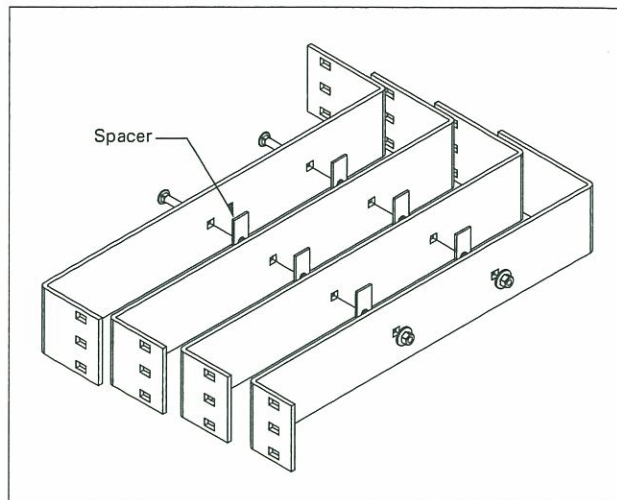


Figure 17. Spacer Locations Between Splice Plates
(Typical for All Widths)

Splice plates are used to attach the main horizontal bus between switchboard sections or shipping splits. While maintaining the correct phase orientation and sequence, install splice plates with the carriage bolts and hex nuts with captive Belleville washers supplied by the manufacturer. Refer to Appendix Table 2 for torque values.

Carriage bolts must align with the corresponding rectangular holes in the fixed horizontal bus and the splice plates. If multiple splice plates are used, install in the same sequence as shipped from the manufacturer. The neutral (when furnished) and ground bus should be connected in the same manner.

Inspect splice plates and main fixed horizontal bus prior to installation. If there is any suspected damage, contact the manufacturer immediately for replacements. NEVER ENERGIZE ANY SWITCHBOARD WITH DAMAGED BUS OR COMPONENTS.

To accommodate future serviceability, the manufacturer recommends that the head of the carriage bolt should be mounted from the rear of the switchboard for FRONT ACCESSIBLE switchboards with the hex nut with Belleville washer positioned to the front.

For REAR ACCESSIBLE switchboards, the manufacturer recommends that the head of the carriage bolt should be mounted from the front of the switchboard with the hex nut and Belleville washer positioned to the rear.

Repeat the process until all holes in the horizontal bus are connected with bolts and nuts for each shipping split. Inspect connections to ensure that there is no foreign material at the connection point and that all connections are properly aligned and bolts are seated.

Torque all connections to torque requirements on labels affixed to each switchboard and as shown in Appendix Table 2.

IFS Switchboard Factory Cabling

Some switchboards utilize cable/wire for some connections in lieu of bus. Cabling is typical in Integrated Facility System™ (IFS™) type switchboards that incorporate lighting and appliance branch circuit panelboards and dry-type distribution transformers within a switchboard lineup.

Eaton's selection of wire and cable follows UL891 switchboard procedures, National Electrical Manufacturers Association, Federal Specification standards, and the National Electrical Code standards for IFS switchboards.

The manufacturer identifies each phase conductor by means of color-coded tape with markings "Factory Installed" in IFS switchboards. Markings are affixed to both the line and load ends of the conductors. Markings follow the industry accepted phase colors. (See **Figure 18** and **Table 1**.)



Figure 18. Typical Phase "A" 240 Vac Wire Label

Table 1. Wire Label Color Codes

240 Vac Systems and Below Nominal		Systems Above 240 Vac Nominal	
Phase A	Black	Phase A	Brown
Phase B	Red	Phase B	Orange
Phase C	Blue	Phase C	Yellow
Neutral	White	Neutral	Gray
Ground	Green	Ground	Green

Conductors installed by the manufacturer have been cut and stripped to pre-determined lengths for connection between components. When conductors are intended to run between components in two different sections that are joined by the manufacturer, the manufacturer will connect both the line and load ends of the conductors.

Note: The National Electrical Code restricts the field installation of conductors that run horizontally through switchboard vertical sections. Refer to the NEC for specifics.

When there is a shipping split between sections that are cabled, the factory connects one end of the conductors. The remainder of the conductors are coiled and secured in the section with the connection.

Factory drawings included in the switchboard clearly indicate the required field connections for the coiled conductors.

Inspect conductors/cables for damage. Any damaged conductors must be replaced. Contact manufacturer for replacement.

Factory color-coded markings indicate phasing/neutral and are marked on both the line and load ends of the conductors.

Using the factory drawings, the installer connects conductors to the component(s) indicated on the drawings keeping phases correctly oriented. Care should be taken in forming insulated cables to ensure that no insulation is forced permanently against edges of any metal parts.

Torque both line and load connections to values indicated on the labeling on the switchboard. Refer to Appendix **Table 2** for torque values.

Installation of Incoming Switchboard Connections

⚠ DANGER

DE-ENERGIZE SWITCHBOARD — HAZARDOUS VOLTAGE. WILL CAUSE SEVERE INJURY OR DEATH.

DO NOT work on electrical equipment while energized. Verify power entering the equipment is de-energized at the source.

Power is normally brought into a switchboard either by cable or by busway (busduct).

Remove structure covers as needed to access switchboard chassis and components. Retain all cover mounting hardware and covers for re-assembly. Protect hardware and parts from moisture, debris and damage.

Note: As a minimum, all switchboard connections are rated for use with 75°C or higher rated conductors. When wire is used with temperature ratings above 75°C, it shall be sized based on the ampacity of wire rated 75°C.

Wire/Cabling

When cable connections are used, either mechanical set screw or compression lugs are typically supplied. (See **Figure 19**.) See factory drawing for specific lug terminations and wire ranges. Some utilities make their own service entrance connections. In these cases, the manufacturer typically supplies lug landing provisions or a landing pad in lieu of lugs. These are designed to the specific utility's requirements. Refer to the manufacturer's drawings for specifics covering this connection.

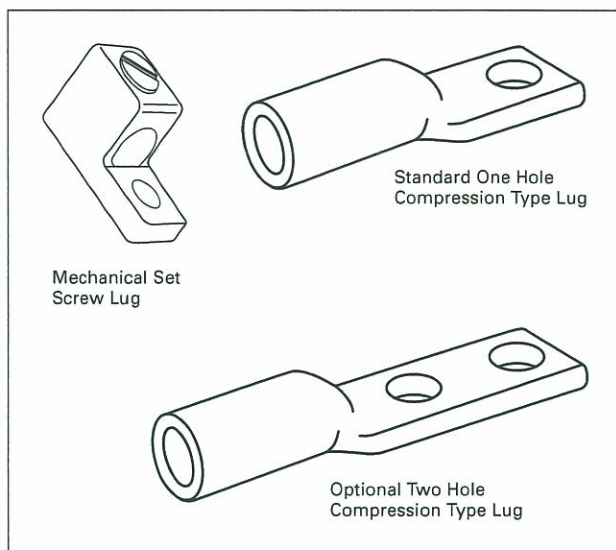


Figure 19. Screw and Compression Lugs

Unless a switchboard specifically restricts entry to a single means or area, cables may enter through the top, bottom, side or back of the main incoming section. These restrictions are typically required to conform to wire bending space requirements of the NEC. Consult the manufacturer's drawings for conduit entry data.

Once the conductors are pulled inside the main section, the cables should be formed in the space provided. Clearly identify and segregate conductors by phase and neutral. Care should be taken in forming insulated cables to ensure that no insulation is forced permanently against the edges of any metal parts.

Using appropriate tools, the installer must strip the conductor insulation sufficiently to fill the entire barrel of the connector with bare, un-insulated conductor. Conductor must be stripped without damage to the conductor strands. Bare strands should be of equal length (flush) on the end cut.

Do not strip off more insulation than needed. Exposure of bare conductor outside lug can compromise clearances.

The connector and conductor should be free of all foreign debris.

Never clip cable/wire strands in order to fit within connectors. If cable/wire does not match the rating of the connector, contact the manufacturer.

Mechanical set screw lugs are the most common. Use an antioxidant compound, if required. Insert bare conductor into lug so the bare conductor fills the full length of the lug body. Tighten lug, then torque to levels indicated on the switchboard label.

If compression lugs are utilized and supplied with the switchboard, the lugs will be mounted on the incoming lug pad. Remove lugs from the pad. Use an antioxidant compound, if required. Use a crimping tool approved for that specific lug manufacturer and lug size. Follow instructions provided by the manufacturer of the crimp tool.

Once the lug is affixed to the conductor, re-install the lug on the lug pad utilizing the existing hardware. Torque hardware using information provided on switchboard labeling. Refer to Appendix **Table 2** for torque values.

Other Requirements for Rear Connected Switchboards

On systems that require short circuit current ratings above 10,000 amperes rms, Cable Bracing may be required to restrict cable movement. Lashing and lacing cables accomplish this.

Cable Bracing Instructions

For short-circuit ratings above 10,000 amperes rms, install cable braces per the following instructions:

1. The material required for the cable braces is 3/8" diameter nylon rope ① or any rope having a minimum tensile strength of 2,000 pounds. ②
2. All cable conductors of a load circuit are to be bundled together with five adjacent wraps of rope at distances of 6 inches and 12 inches from the supply terminals for ratings up to 200 amperes maximum. (See **Figures 20 and 21.**)

① Wellington Puritan Mills, Inc., Madison, GA., Catalog Number 10989

② Norva Products, Carrollton, GA., Catalog Number TPR12

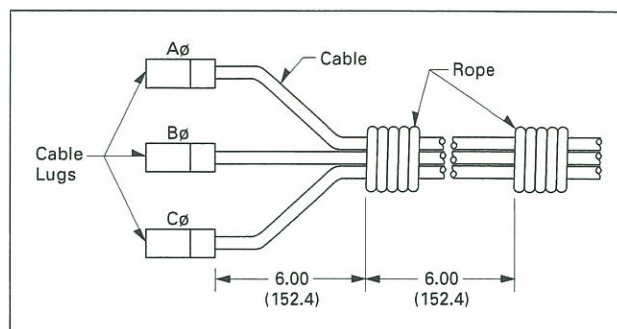


Figure 20. Cable Bracing

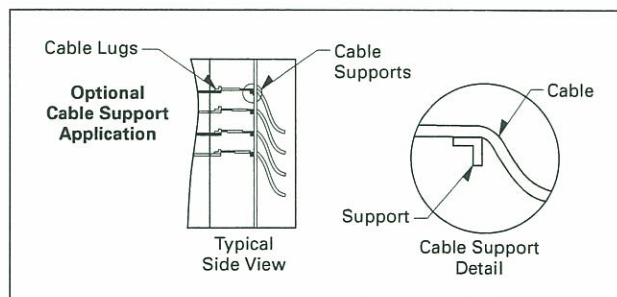


Figure 21. Cable Bracing

Busway

A switchboard may include one or more provisions for connection to Cutler-Hammer brand busway. Busway can feed the switchboard, be fed from the load side of an overcurrent device within the switchboard, or both.

Switchboards with busway connection(s) contain flange connection 'tie-bar(s)' assembled in the appropriate section. The tie-bars will accept the corresponding busway flange extension. Consult switchboard and busway drawings for specifics. The tie-bars are a transition between the switchboard conductors and the busway flange extension, and are assembled as part of the switchboard section.

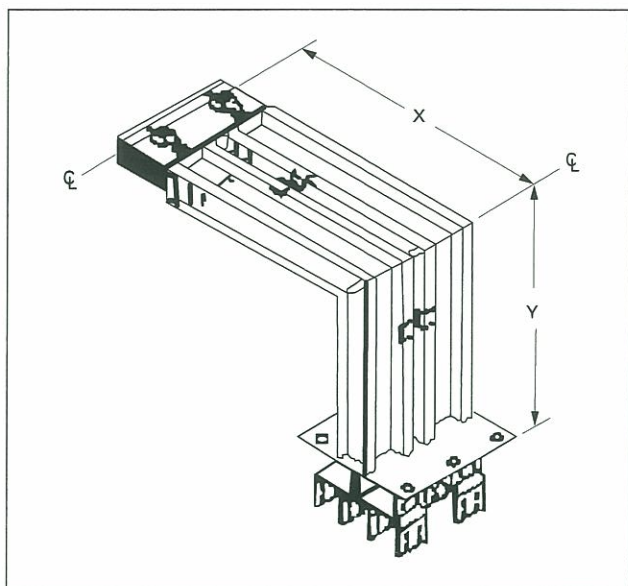


Figure 22. Downward Elbow Right Flange

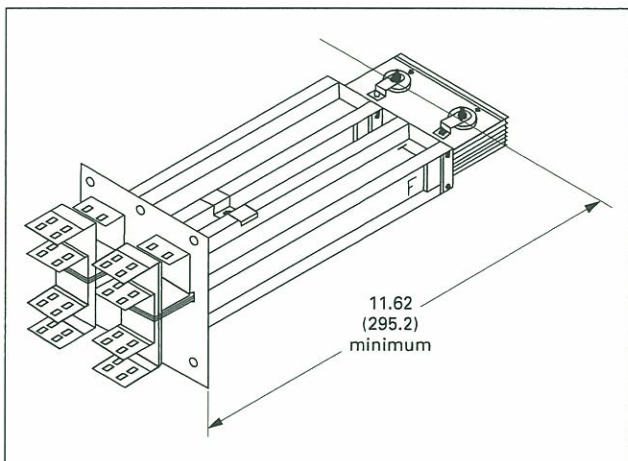


Figure 23. Standard Flange

The switchboard flange has a corresponding piece shipped with the busway run. The busway installer attaches the two flange pieces together prior to energization. (See **Figures 22 and 23.**)

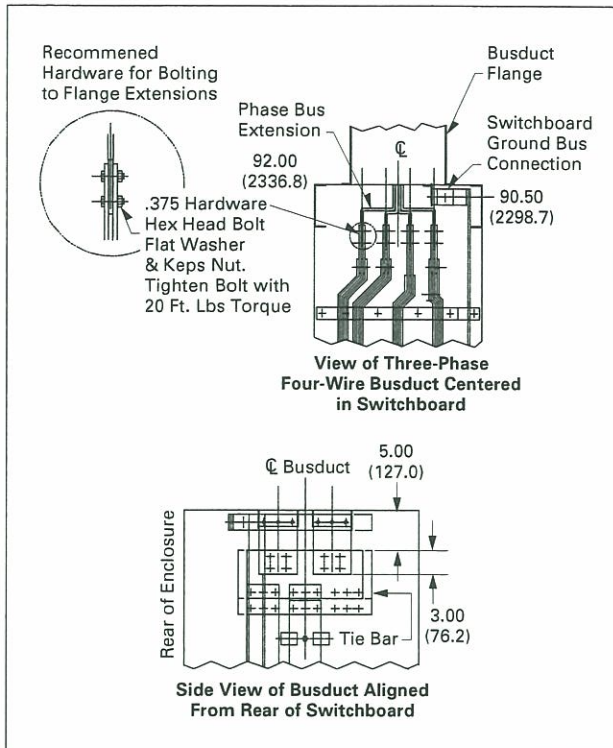


Figure 24. Busway/Busduct

The bus assembly is completely formed and drilled for connections, including phase bussing and neutral, if needed. Additionally, grounding connections are supplied.

Busway typically enters a switchboard section through the top. However, busway may attach from the bottom, back or side of the switchboard in special configurations. (See **Figure 24.**)

Temporary bracing may be provided to support the busway assembly in the switchboard during shipment. All temporary bracing must be removed after connections are completed.

The switchboard structure should NOT be used to support any busway run or flange and extension.

Bolts and hex nuts with captive Belleville washers are supplied by the manufacturer with the switchboard to connect the switchboard installed flange and the busway flange. Follow instructions shipped with the switchboard and with busway flange.

When a busway connection is supplied on an outdoor switchboard, sealing the busway connection is very critical. Upon completing the necessary bus connection, the installer is responsible for sealing the connection point where the busway flange connects to the chimney top cover or side/rear cover. A tube of RTV 732 silicone sealant and a roll of gasketing material are provided with the switchboard for this purpose.

For installation instructions on busway runs, please refer to NEMA publication BU 1.1-2000, *General Instructions for Handling, Installation, Operation and Maintenance of Busway Rated 600 Volts or Less.*

Pre-Energizing Procedures and Inspection

Before energizing any switchboard, perform a comprehensive inspection to make certain that the switchboard is ready to be energized. This includes the following steps:

1. Verify that the switchboard is not energized.
2. Visually inspect the switchboard and remove all foreign materials, such as, tools, scraps of wire and other debris from all switchboard sections.
3. Remove and discard all packing materials and temporary shipping braces from the switchboard.
4. Any accumulation of dust and dirt should be removed with a vacuum cleaner. Use a lint-free cloth to remove dust and dirt on other surfaces. Never use compressed air as this may blow contaminants into electrical and/or electronic components. Never use solvents or other chemicals to clean surfaces or components.
5. Visually inspect all ventilation points to ensure that there is no blockage or debris. Remove all debris, if present.
6. Verify all field bus and wire connections have the proper torque per instructions on the switchboard and on components.
7. All factory connections are made utilizing calibrated power tools. However, vibrations do occur in transit and handling. Verify factory connections by checking at least 10% of the total factory connections for tightness. If this spot check reveals loose connections, proceed to check all factory connections. These connections include bus hardware connections, circuit breaker and switch terminals, contactors, metering and other connections, including the incoming terminals.
8. Visually inspect switchboard insulators, bus bar and conductors for damage. **DO NOT ENERGIZE IF DAMAGE IS FOUND.** Contact Eaton.
9. If fusible switch type overcurrent devices are used, verify proper fusing has been selected and installed. Eaton does not typically supply switchboards with these fuses.

Overcurrent Devices

Overcurrent devices are typically shipped in either the open (OFF) or "tripped" position. Manually close, and then open these devices to ensure they are functioning properly. At the completion of this process, be sure that the overcurrent device is in the "OFF" or "tripped" position.

Inspect overcurrent devices for any visible damage. If damage is found, **DO NOT ENERGIZE** the switchboard. Contact Eaton.

Circuit Breakers

Some circuit breaker types include the ability to adjust trip settings. When shipped, settings are typically at the minimum rating. There are two types of trip units included in this group. These types are adjustable thermal magnetic and electronic trip units.

Thermal magnetic trip units may have an adjustable magnetic setting. Use the engineering study recommendations, if available, to adjust to the proper setting. Low magnetic settings feeding high inrush loads, such as motors, could nuisance trip on startup. For specifics on breaker types, consult the circuit breaker instruction leaflets shipped with the switchboard.

Electronic trip units have several settings depending on the breaker ordered. Electronic trip units may include long-time (L), short-time (S), instantaneous (I) and ground fault (G) settings. These trip units are available in combinations LS, LSI, LSG and LSIG. Check the electrical drawings, engineering study or the engineer's recommendations for these trip unit settings. For details on each type, refer to the Eaton circuit breaker and electronic trip unit instruction leaflets shipped with the switchboard.

For certain breakers with electronic trip units, a portable test kit is available from Eaton. An auxiliary power module is included in the test kit. This auxiliary power module powers the electronic trip unit when the board is de-energized and allows testing. The kit includes complete instructions and test times for testing long-time, short-time/instantaneous operations and optional ground fault operation of the circuit breakers.

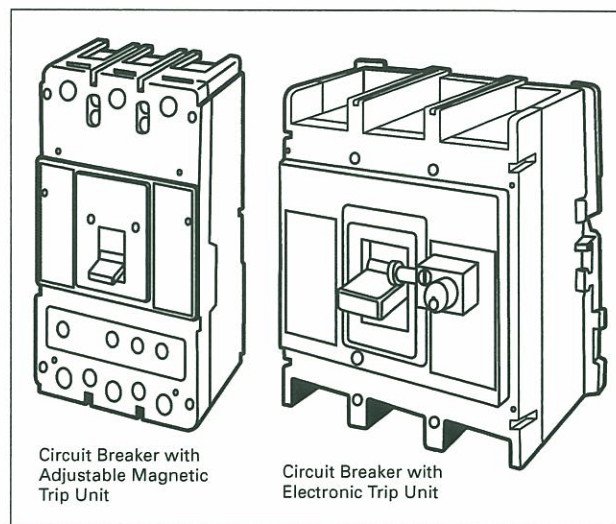


Figure 25. Circuit Breakers

Overcurrent Devices with Ground Fault Protection

This switchboard may contain overcurrent devices with Ground Fault Protection (GFP). The National Electrical Code may require ground fault protection for this installation. Other GFP applications may be used including multi-level ground fault protection. Refer to the switchboard drawings and electrical construction drawings for usage and placement within the switchboard.

Ground fault protection may be installed integral to overcurrent device(s) or as a separate system. Separate systems typically are connected to a shunt tripping mechanism on an overcurrent device.

Visibly inspect connections on GFP systems, neutral sensors and ground connections. Refer to manufacturer's instructions for details.

Prior to shipment, the manufacturer has pre-set the ground fault protection at minimum set points. Adjust settings per engineered electrical plan drawings. If this information is not readily available, contact the design engineer or other qualified persons responsible for the specifics of the installation and system design.

Prior to testing the GFP system, remove the neutral disconnect link(s) on the switchboard to isolate the neutral of the system from the supply and ground.

Confirm that the neutral connection has been run from the supply to the service equipment per the National Electrical Code.

The National Electrical Code, Article 230-95 requires that any GFP systems must be performance tested when first installed. Conduct tests in accordance with the approved instructions provided with the equipment. A written test report must be available for the Authority Having Jurisdiction (AHJ). Refer to the National Electrical Code for specific requirement or contact Eaton.

For certain breakers with electronic trip units, a portable test kit is available from Eaton, at additional cost. The kit includes complete instructions and test times for testing long-time, short-time/instantaneous operations and ground fault operation of the circuit breakers. Use of testing equipment other than that supplied by Eaton can cause permanent damage to the circuit breaker trip unit and will void the warranty.

⚠ CAUTION

DO NOT TEST A CIRCUIT BREAKER WHILE IT'S IN-SERVICE AND ENERGIZED.

⚠ CAUTION

TESTING OF A CIRCUIT BREAKER THAT RESULTS IN THE TRIPPING OF THE CIRCUIT BREAKER SHOULD BE DONE ONLY WHEN THE SWITCHBOARD IS DE-ENERGIZED.

Field-testing of ground fault protection must follow instructions provided with each GFP device. Due to the varied types of GFP systems, testing instructions can vary from device to device. Refer to the specific testing instructions for each device. Refer to instruction leaflets that are shipped with each switchboard containing GFP or contact Eaton.

Current Transformers

Switchboards containing metering and monitoring equipment may contain current transformers (CTs) integral to the switchboard. Ensure that the load side of the CTs are connected or are shorted together with terminal block shorting means. Remove shorting means for normal CT operation with metering equipment. For additional information and instructions, refer to instruction leaflet shipped with the switchboard.

Preparing Switchboard for Insulation/Megger Testing

⚠ CAUTION

FAILURE TO SHORT OR DISCONNECT DURING SWITCHBOARD TESTING WILL RESULT IN FAILURE OF ELECTRONIC COMPONENTS.

Devices Installed with Control Power Fusing

Devices, which require control power fusing, can be easily damaged beyond repair if not disconnected during the testing phase. These devices include, but are not limited to, customer metering equipment, electronic breaker trip units, motor operators and communication equipment.

⚠ WARNING

DISCONNECT POWER AT SOURCE BEFORE REMOVING OR INSTALLING FUSES. HAZARDOUS VOLTAGE WILL CAUSE SEVERE INJURY OR DEATH.

Prior to testing the switchboard, turn off all control power devices in the switchboard to prevent damage to components. The control power may be turned off by utilizing the control power switch or by removing the fuses. Components that use power supplies include customer metering and certain breaker accessories and these must be isolated before testing.

The following label will appear on the equipment.

Warning

**TO AVOID EQUIPMENT DAMAGE
DO NOT HI-POT OR MEGGER
THIS DEVICE.**

**CONTROL DISCONNECT IS LOCATED
BEHIND DOOR WITH LABEL WHICH
IDENTIFIES LOCATION OF "ON-OFF"
SWITCH. TURN SWITCH "OFF" AND
DISCONNECT NEUTRAL AT IQ DEVICE.**

900P127H01 R2

⚠ CAUTION

FAILURE TO DISCONNECT CONTROL POWER DURING SWITCHBOARD TESTING WILL RESULT IN FAILURE OF ELECTRONIC COMPONENTS.

Failure to disconnect control power during switchboard testing will result in failure of electronic components and void manufacturer's warranty.

Transient Voltage Surge Suppression (TVSS) and Surge Protective Devices (SPD)

Prior to testing the switchboard, disconnect line and neutral connections to all TVSS and/or SPD units in the switchboard. Keep hardware in a clean and protected environment to guard against damage until re-installation.

⚠ CAUTION

FAILURE TO DISCONNECT LINE AND NEUTRAL DURING TESTING WILL CAUSE THE TVSS AND SPD SURGE PROTECTION SYSTEM TO FAIL AND WILL VOID THE WARRANTY ON THE DEVICE.

Failure to disconnect line and neutral during testing will cause the TVSS and SPD surge protection system to fail and will void the warranty on the device. After testing, re-install all connections.

The following label will appear on the equipment.

**Warning**

**TO AVOID EQUIPMENT DAMAGE
DO NOT HI-POT OR MEGGER
THIS DEVICE.**

**CONTROL DISCONNECT IS LOCATED
BEHIND DOOR WITH LABEL WHICH
IDENTIFIES LOCATION OF "ON-OFF"
SWITCH. TURN SWITCH "OFF" AND
DISCONNECT NEUTRAL AT TVSS DEVICE.**

900P130H01 R2

Pre-Energizing Switchboard Insulation Testing

Exercise extreme care to prevent the equipment from being connected to the power source while tests are being conducted.

Prior to energizing the switchboard, perform a Megger or DC test of the switchboard's insulation. With the neutral isolated from the ground and the switches and/or circuit breakers open, conduct electrical insulation resistance tests from phase to phase, phase to ground, phase to neutral, and neutral to ground. Retain results for use to compare to results produced in the future. A form for recording test results is provided in the Appendix of this document. Prior to testing, remove all control power fusing and connections to products, which will be damaged in this test. See above.

⚠ WARNING

TO PREVENT DAMAGE TO GROUND FAULT CONTROL CIRCUITS, METERING CIRCUITS, OR OTHER CONTROL CIRCUITS WHEN MEGGERING SWITCHBOARD, ISOLATE CIRCUITS FROM SWITCHBOARD SYSTEM BEFORE BEGINNING THE MEGGER OPERATION. BE SURE TO RECONNECT THOSE CIRCUITS AFTER MEGGER TESTS ARE COMPLETED.

NOTE: SOME GROUND FAULT CIRCUITS MAY NOT BE FUSED, THEREFORE ISOLATION OF THOSE CIRCUITS REQUIRES DISCONNECTING WIRING FROM BUS BARS.

DO NOT USE AC dielectric testing.

⚠ WARNING

DO NOT USE AC DIELECTRIC/MEGGER TESTING.

Test resulting in readings at or above 1 megohm is satisfactory.

Post-Testing

After testing, and with the switchboard de-energized, reconnect all devices, control fusing and disconnects removed prior to testing. Re-attach Transient Voltage Surge Suppressors (TVSS) and Surge Protective Devices (SPD).

Securing the Switchboard

Re-install all side covers, deadfront plates, doors and trim parts on the switchboard using hardware supplied by the manufacturer. Take caution that conductors are not pinched between parts when installing the deadfront, cover plates, side sheets and filler plates. All parts should be aligned and secured when installed. Do not leave holes or gaps in the deadfront construction. Clean up any debris in and around the switchboard.

Energizing Switchboard

⚠ WARNING

HAZARDOUS VOLTAGE WILL CAUSE SEVERE INJURY OR DEATH.

⚠ WARNING

ONLY THOSE PROFESSIONALS TRAINED AND QUALIFIED ON ELECTRICAL DISTRIBUTION SWITCHBOARDS SHOULD INSTALL AND/OR SERVICE THIS EQUIPMENT.

Extreme hazards can exist when energizing electrical distribution equipment and switchboards. Take all precautions necessary to protect people and property when energizing the equipment. Short circuits and ground faults may exist as a result from inadequate installation. Short circuits and ground faults within the switchboard can cause catastrophic damage, injury and death.

1. Prior to energizing the switchboard, turn OFF all over-current devices and loads internal to the switchboard plus mains in downstream equipment.
2. Verify and follow the sequence of energizing circuits and loads. Verify phase sequencing on loads, such as motors, which can be damaged or destroyed by incorrect phase connections.
3. If provided, use remote operators to close and energize switchboard, overcurrent devices and loads.
4. Beginning with the main(s), turn ON each overcurrent device.

Maintenance

It is essential to maintain the equipment in satisfactory condition.

To ensure continued quality service, a systematic maintenance schedule is vital. Facility operation and local conditions vary to such an extent that the schedule must be prepared to suit the conditions. The maintenance schedule for individual devices, such as circuit breakers, meters, fusible switches, etc., should be based upon recommendations contained in the individual instruction leaflet for each device. Inspection and test operations should be coordinated with an overall testing program to result in the least operating inconvenience and system shutdowns.

⚠ DANGER

HAZARDOUS VOLTAGE WILL CAUSE SEVERE INJURY OR DEATH. DE-ENERGIZE SWITCHBOARD PRIOR TO SERVICING.

⚠ WARNING

ONLY THOSE PROFESSIONALS TRAINED AND QUALIFIED ON ELECTRICAL DISTRIBUTION SWITCHBOARDS SHOULD INSTALL AND/OR SERVICE THIS EQUIPMENT.

Prior to performing any maintenance on the switchboard, first de-energize the switchboard at the source. Use lock-out/tag-out precautions as prescribed in OSHA, NFPA 70E and other safety manuals.

The switchboard should be given a thorough maintenance check annually.

Exercise extreme care to prevent the equipment from being connected to the power source while tests are being conducted.

Switchboard Insulation Resistance Testing

Maintenance Before Cleaning

Prior to cleaning, perform an initial Megger or DC test of the switchboard insulation, between phases and ground. Inspect for symptoms which may indicate overheating or weakened insulation. Record test readings. Refer to NEMA publication AB-4 *Guidelines for Inspection and Preventative Maintenance of Molded Case Circuit Breakers Used in Commercial and Industrial Application*.

Prior to testing, remove all control power fusing and connections to products, which will be damaged in this test. This includes all components with control wire fusing, Transient Voltage Surge Suppression, Surge Protective Devices, metering equipment, etc.

⚠ WARNING

TO PREVENT DAMAGE TO GROUND FAULT CONTROL CIRCUITS, METERING CIRCUITS, TRANSIENT VOLTAGE SURGE PROTECTION (TVSS) OR OTHER CONTROL CIRCUITS, WHEN MEGGERING SWITCHBOARD, ISOLATE CIRCUITS FROM SWITCHBOARD SYSTEM BEFORE BEGINNING THE MEGGER OPERATION. BE SURE TO RECONNECT THOSE CIRCUITS AFTER MEGGER TESTS ARE COMPLETED.

NOTE: SOME GROUND FAULT CIRCUITS MAY NOT BE FUSED, THEREFORE ISOLATION OF THOSE CIRCUITS REQUIRES DISCONNECTING WIRING FROM BUS BARS.

DO NOT USE AC dielectric testing.

⚠ WARNING

DO NOT USE ALTERNATING CURRENT (AC) DIELECTRIC/ MEGGER TESTING. DAMAGE TO COMPONENTS WILL OCCUR.

Cleaning

While the switchboard is de-energized, remove dust and debris from bus bars, connections, supports and enclosure surfaces. A vacuum cleaner with a long nozzle will be of assistance. Wipe clean with a lint-free cloth. Do not use solvents to clean equipment as damage to surfaces can occur.

Should the switchboard be exposed to adverse conditions, such as, airborne contaminants, more frequent inspections and cleaning may be required.

⚠ WARNING

DO NOT USE COMPRESSED AIR TO CLEAN OR BLOW OUT DEBRIS OR DUST IN SWITCHBOARDS.

Use of compressed air to clean or blow out debris in switchboards may imbed the contaminants within overcurrent devices, metering equipment and other components. Damage to insulation and other surface materials can occur. Do Not Use Compressed Air in cleaning.

Switchboard Insulation Resistance Testing

Maintenance After Cleaning

After cleaning, perform a second Megger or DC test of the switchboard insulation between phases and ground.

Prior to testing, remove all control power fusing and connections to products, which will be damaged in this test. This includes all components with control wire fusing, Transient Voltage Surge Suppression, Surge Protective Devices, metering equipment, etc.

⚠ WARNING

TO PREVENT DAMAGE TO GROUND FAULT CONTROL CIRCUITS, METERING CIRCUITS, TRANSIENT VOLTAGE SURGE PROTECTION (TVSS) OR OTHER CONTROL CIRCUITS, WHEN MEGGERING SWITCHBOARD, ISOLATE CIRCUITS FROM SWITCHBOARD SYSTEM BEFORE BEGINNING THE MEGGER OPERATION. BE SURE TO RECONNECT THOSE CIRCUITS AFTER MEGGER TESTS ARE COMPLETED.

NOTE: SOME GROUND FAULT CIRCUITS MAY NOT BE FUSED, THEREFORE ISOLATION OF THOSE CIRCUITS REQUIRES DISCONNECTING WIRING FROM BUS BARS.

DO NOT USE AC dielectric testing.

⚠ WARNING

DO NOT USE ALTERNATING CURRENT (AC) DIELECTRIC/ MEGGER TESTING. DAMAGE TO COMPONENTS WILL OCCUR.

Test resulting in readings at or above 1 megaohm is satisfactory.

Compare these test readings with prior readings and retain with previous testing for future comparisons. Trends of lowered insulation resistance are signs of potential problems. A form is provided in the Appendix to record readings.

Bus and Cable Connections

1. Inspect bus bar and cables for visible damage.
2. Visually inspect connections for overheating and damage.
3. All bus bar and cable connections should be checked and torqued in accordance with labeling on the switchboard. Refer to Appendix **Table 2** for torque values.
4. Inspect for broken wire strands and pinched or damaged insulation on cable connections.

Insulation

All bus bar and structure insulation in the switchboard including bus supports, bus shields, bus bracing, insulating barriers, etc., should be visually checked for damage. Replace damaged parts. The life of insulation material is dependent on keeping the material dry and clean.

Overcurrent Devices

Maintenance instructions and field-testing for overcurrent devices are included with the instruction leaflet for each device within a family. One instruction leaflet per frame or family type was included with this installation booklet inside the switchboard. Refer to the leaflet on each device. If leaflets are missing, contact Eaton for replacement.

Circuit Breakers

Visually inspect circuit breakers for signs of discoloration, cracking, scorching, overheating or broken parts. Exercise the breaker operating mechanism making sure it is opening and closing. A breaker showing signs of any one of these issues should be replaced. Refer to NEMA publication AB-4 *Guidelines for Inspection and Preventative Maintenance of Molded Case Circuit Breakers Used in Commercial and Industrial Applications*.

Fusible Overcurrent Devices

Visually inspect the switching mechanism and fuse connections. Visually inspect the fusible devices for signs of discoloration, cracking, scorching, overheating or broken parts. Replace any worn parts or the entire switch.

Fuse Replacement

DANGER

HAZARDOUS VOLTAGE WILL CAUSE SEVERE INJURY OR DEATH. DE-ENERGIZE BOARD PRIOR TO SERVICING FUSIBLE DEVICES.

Be sure the switch mechanism is turned to the OFF position before attempting to remove fuses. Visually inspect the switch contacts, blades and mechanism to ensure that the mechanism is in the open/off position.

Check fuses to ensure that they are of the proper class, ampere, voltage and interrupting rating. Ensure that non-current limiting fuses are not used as replacements for current limiting fuses. Never attempt to defeat rejection mechanisms which are provided to prevent the installation of the incorrect class of fuse.

Meters, Controllers, Surge Equipment and Other Devices

Individual devices should be maintained according to the specific instructions supplied for each device. Remove dust and dirt from exterior with a dry lint-free cloth. Unless specifically instructed in the individual device instruction leaflet, do not attempt to open sealed cases or containers.

WARNING

NEVER USE COMPRESSED AIR TO CLEAN OR BLOW OUT DEBRIS OR DUST IN SWITCHBOARDS.

Secondary Wiring

Check all wiring connections for tightness, including those at the current and potential transformers, if present, and at all terminal blocks. Check all secondary wiring connections to ensure they are properly connected to the switchboard ground bus, where indicated. Look for broken wire strands and pinched or damaged insulation.

Ventilation

Check all grills and ventilation ports for obstructions and accumulations of dirt. Clean ventilation ports, if necessary. For switchboards installed outdoors, inspect the air space under the switchboard to be sure that it is clean and clear of debris, leaves and obstructions.

Records

It is essential to maintain the equipment in satisfactory condition.

Maintain a permanent record of all maintenance activities and testing for future reference. (See **Appendix B**.)

The condition of each switchboard should be recorded as a guide for anticipating the need for any replacement parts or components or special attention at the next regular maintenance period. It is recommended that a series of inspections be made at quarterly intervals until the progressive effects of local conditions can be analyzed to determine a regular schedule.

Switchboard Events and Service Interruptions

Short Circuits, Ground Faults and Overloads

WARNING

DO NOT ATTEMPT TO RE-ENERGIZE SWITCHBOARD OVERCURRENT DEVICES AFTER ELECTRICAL EVENTS, SUCH AS SHORT CIRCUITS, GROUND FAULTS AND OVERLOADS, UNTIL THE CAUSE OF THE EVENT HAS BEEN IDENTIFIED AND CORRECTED.

A thorough assessment, identification and correction of the event origin must be completed. An additional assessment of the conductor insulation and other insulating materials should be made. Replace all damaged insulation materials, conductors and overcurrent devices. Original switchboard parts, insulators, insulation material and overcurrent devices must be replaced with renewal parts from Eaton. (See **Renewal Parts Page 19**.)

Do not attempt to re-energize switchboard overcurrent components after electrical events, such as short circuits, ground faults and overloads, until the cause of the event has been identified and corrected.

After the event has been rectified, test equipment per the maintenance process described in this publication.

Physical Damage

Any physical damage to the switchboard that occurs after the switchboard is installed must be corrected. A thorough inspection, which includes the exterior enclosure and dead-front, plus interior components in the damaged portion of the switchboard, should be conducted. Replace all damaged parts and components. Ensure that there are no gaps in the switchboard enclosure that could cause exposure to live parts. Contact Eaton for renewal parts and assistance.

After the physical damage has been corrected, test equipment per the maintenance process described in this publication.

Water Damage

⚠ DANGER

WET SWITCHBOARDS PRESENT A HAZARDOUS CONDITION AND MAY CAUSE INJURY OR DEATH. DE-ENERGIZE POWER TO ALL EQUIPMENT BEFORE SERVICING.

DO NOT WORK ON SURFACES OR FLOORS WHERE THERE IS STANDING WATER.

⚠ DANGER

DO NOT WORK ON SWITCHBOARDS OR ENTER AREAS THAT HAVE STANDING WATER. DE-ENERGIZE ALL EQUIPMENT IN AREAS WITH STANDING WATER.

DO NOT WORK ON WET ENERGIZED ELECTRICAL EQUIPMENT.

Major accumulation of water or moisture on any part of the switchboard can cause catastrophic damage to the switchboard. If a switchboard has been submerged by more than 2 inches or where running or standing water has had contact with current carrying parts, it has sustained significant damage.

⚠ WARNING

SWITCHBOARD COMPONENTS, INCLUDING CIRCUIT BREAKERS, FUSIBLE SWITCHES, METERING, ETC., SUBJECTED TO WATER OR MOISTURE MAY BE RENDERED UNSAFE. REPLACEMENT IS REQUIRED.

The switchboard and its components may be damaged beyond repair and may need replacement.

1. **Do not attempt to clean or repair water damaged equipment or components.**
2. **De-energize the switchboard at its source.**
3. **Do not energize.**
4. **Contact Eaton for replacement.**

Minor accumulations of moisture, such as condensation, over a short period of time may be corrected using heat.

De-energize switchboard.

Apply approximately 250 watts per vertical section for a sufficient period of time until the moisture disappears, then remove all heat sources and materials used for drying.

Inspect for damage to components and any corrosion. If any damage or corrosion is present, contact Eaton. **DO NOT RE-ENERGIZE SWITCHBOARD.**

After the switchboard has completely dried, remove all materials and tools from the equipment. Inspect all connections for damage and torque. Re-install all covers, fillers, deadfront assemblies and side sheets. Conduct switchboard insulation resistance testing described in this publication.

Renewal Parts

Switchboards can be complex assemblies with unique parts to fit the specific application and need. The manufacturer offers expertise with renewal part identification. To ensure safety and to maintain UL listing, it is essential that only new parts and components from Eaton be utilized.

When ordering renewal parts or when requesting information on the switchboard, it is essential to include as much information as possible.

Each switchboard will have a nameplate and other identification marks with details that will help expedite information requests and orders. The following may be required to help identify parts and information requests.

- GO or General Order Number
- Item number
- Description of the equipment
- Supply voltage
- Equipment ratings
- Catalog number or style number of part, if available
- Description of the part
- Drawing numbers
- Rating of part(s)

Electrical distribution equipment has a limited life span. As such, the manufacturer cannot guarantee the availability of obsolete equipment or parts. Equipment replacement may be recommended.

Appendix

Appendix A

Table 2. Torque Values for Copper or Aluminum Bus Bar Connections

Bolt Size	Torque Inch Lbs	Torque Foot Lbs
#10	30 Inch Lbs.	2.5 Foot Lbs.
1/4"	65 Inch Lbs.	5.4 Foot Lbs.
5/16"	130 Inch Lbs.	10.8 Foot Lbs.
3/8"	240 Inch Lbs.	20.0 Foot Lbs.
1/2"	600 Inch Lbs.	50.0 Foot Lbs.

Note: For other torque values, refer to instruction leaflet for the specific component.

Appendix B

Switchboard Maintenance, Testing and Inspection Logs

Refer to Maintenance section of this document on **Page 16** for detailed information.

⚠ DANGER

**HAZARDOUS VOLTAGE WILL CAUSE SEVERE INJURY OR DEATH.
DE-ENERGIZE BOARD PRIOR TO SERVICING FUSIBLE DEVICES
ONLY "QUALIFIED PERSONS" SHOULD INSTALL AND OR SERVICE THIS EQUIPMENT.**

⚠ WARNING

TO PREVENT DAMAGE TO GROUND FAULT CONTROL CIRCUITS, METERING CIRCUITS, TRANSIENT VOLTAGE SURGE PROTECTION (TVSS) OR OTHER CONTROL CIRCUITS, WHEN MEGGERING SWITCHBOARD, ISOLATE CIRCUITS FROM SWITCHBOARD SYSTEM BEFORE BEGINNING THE MEGGER OPERATION. BE SURE TO RECONNECT THOSE CIRCUITS AFTER MEGGER TESTS ARE COMPLETED.

NOTE: SOME GROUND FAULT CIRCUITS MAY NOT BE FUSED, THEREFORE ISOLATION OF THOSE CIRCUITS REQUIRES DISCONNECTING WIRING FROM BUS BARS.

⚠ WARNING

DO NOT USE ALTERNATING CURRENT (AC) DIELECTRIC/ MEGGER TESTING. DAMAGE TO COMPONENTS WILL OCCUR.

Table 3. Initial Insulation Resistance Test Record

Date	ALL OVERCURRENT DEVICES OPEN						
	Phase to Phase Connections			Phase to Ground Connections			Neutral-Ground Connection
	A-B	A-C	B-C	A – Ground	B – Ground	C – Ground	
Date	ALL OVERCURRENT DEVICES CLOSED						
	Phase to Phase Connections			Phase to Ground Connections			Neutral-Ground Connection
	A-B	A-C	B-C	A – Ground	B – Ground	C – Ground	
Notes:							

Date	ALL OVERCURRENT DEVICES OPEN						
	Phase to Phase Connections			Phase to Ground Connections			Neutral-Ground Connection
	A-B	A-C	B-C	A – Ground	B – Ground	C – Ground	
Date	ALL OVERCURRENT DEVICES CLOSED						
	Phase to Phase Connections			Phase to Ground Connections			Neutral-Ground Connection
	A-B	A-C	B-C	A – Ground	B – Ground	C – Ground	
Notes:							

Date	ALL OVERCURRENT DEVICES OPEN						
	Phase to Phase Connections			Phase to Ground Connections			Neutral-Ground Connection
	A-B	A-C	B-C	A – Ground	B – Ground	C – Ground	
Date	ALL OVERCURRENT DEVICES CLOSED						
	Phase to Phase Connections			Phase to Ground Connections			Neutral-Ground Connection
	A-B	A-C	B-C	A – Ground	B – Ground	C – Ground	
Notes:							

Date	ALL OVERCURRENT DEVICES OPEN						
	Phase to Phase Connections			Phase to Ground Connections			Neutral-Ground Connection
	A-B	A-C	B-C	A – Ground	B – Ground	C – Ground	
Date	ALL OVERCURRENT DEVICES CLOSED						
	Phase to Phase Connections			Phase to Ground Connections			Neutral-Ground Connection
	A-B	A-C	B-C	A – Ground	B – Ground	C – Ground	
Notes:							

Table 4. Switchboard Inspection Log

Date	Check List	✓	Notes and Actions Taken
	Cleaning		
	Bus and Cable Connections		
	Insulation Inspection		
	Overcurrent Device Inspection		
	Meters		
	Controllers		
	Surge Protective Devices		
	Other Protective Devices		
	Secondary/Control Wiring		
	Clean Ventilation		

Date	Check List	✓	Notes and Actions Taken
	Cleaning		
	Bus and Cable Connections		
	Insulation Inspection		
	Overcurrent Device Inspection		
	Meters		
	Controllers		
	Surge Protective Devices		
	Other Protective Devices		
	Secondary/Control Wiring		
	Clean Ventilation		

Date	Check List	✓	Notes and Actions Taken
	Cleaning		
	Bus and Cable Connections		
	Insulation Inspection		
	Overcurrent Device Inspection		
	Meters		
	Controllers		
	Surge Protective Devices		
	Other Protective Devices		
	Secondary/Control Wiring		
	Clean Ventilation		

Note: Refer to Maintenance section on **Page 16**.

National Electrical Code and NEC are registered trademarks of the National Fire Protection Association, Quincy, Mass. UL is a federally registered trademark of Underwriters Laboratories Inc. NEMA is the registered trademark and service mark of the National Electrical Manufacturers Association. Cutler-Hammer and Pow-R-Line are federally registered trademarks of Eaton Corporation.

Notes

Notes

Eaton Electrical Inc.
1000 Cherrington Parkway
Moon Township, PA 15108-4312
USA
tel: 1-800-525-2000
www.EatonElectrical.com

Limitedbrands

STORE DESIGN & CONSTRUCTION

Security Resources, Inc.

Telephone: (856) 310-9463 (ext. 0)

Contact: Central Dispatch

Hours of Operation: 9:00 a.m. to 5 p.m. EST

If security is required during construction of this store, it is the responsibility of the contractor to contact the security company to schedule the arrangements within 48 hours of the day security will be required.

Clark will require the following information when contacted:

1. Brand Name
2. Location: Store#, Mall Name, Address, City, State & Zip
3. Your Name, Phone Number, Name of the Limited Brands Store Design & Construction Project Manager
4. Description of work scheduled and is the guard service to be backcharged to the General Contractor
5. Date(s) & Time(s) security service required
6. For stores already open, note the store's opening and closing time (Store manager will turn over door keys only – no register keys – to the guard at store closing time and the guard will turn over door keys to the store manager at store opening the following day)

It is the responsibility of the contractor to notify the store manager, in advance, of security arrangements. You will receive confirmation from Security Resources within 24 hours including local contact name and phone number in the event of an emergency.

If coverage cannot be confirmed by Security Resources, you will be referred to the Store Design & Construction Purchasing Agent.

IMPORTANT: If a guard fails to appear at the store or is late, please contact Security Resources immediately at (856) 310-9463. Advance notice with the security company is required for all cancellations.

Limited brands

COMMERCIAL UTILITY ACCOUNT SET UP

Contractor LB Project Manager

Brand Store Number Space #

Store Address City State

☐ Check if the service address is different than above:

Address City State

Project Type: Select only one (Complete Separate Form for Temp Space)

☐ Temp Space ☐ New Store ☐ Expansion ☐ Relocation ☐ Remodel

Mall Name Mall Ops Manager Phone #

☐ Check if previous tenant was in this location Previous Tenant Name

UTILITY COMPANY ACCOUNT INFORMATION

Gas	Electric	Water
Gas Service At Mall? Y/N <input type="checkbox"/>	<input type="checkbox"/> Landlord Supplied Electricity	<input type="checkbox"/> Landlord Supplied Water
Gas Service in Space? Y/N <input type="checkbox"/>	<input type="checkbox"/> Electric Submeter is used	<input type="checkbox"/> Water Submeter is used
Gas Service Used? Y/N <input type="checkbox"/>	Mall Contact <input type="text"/>	Mall Contact <input type="text"/>
If Gas Service used, please provide information below:	Phone # <input type="text"/>	Phone # <input type="text"/>
Utility Co. <input type="text"/>	If electric account is needed, please provide information below:	If water account is needed, please provide information below:
Phone # <input type="text"/>	Utility Co. <input type="text"/>	Utility Co. <input type="text"/>
Meter # (#'s) <input type="text"/>	Phone # <input type="text"/>	Phone # <input type="text"/>
Account # <input type="text"/>	Meter # (#'s) <input type="text"/>	Meter # (#'s) <input type="text"/>
Date Established <input type="text"/>	Account # <input type="text"/>	Account # <input type="text"/>
Acct Effective Date <input type="text"/>	Date Established <input type="text"/>	Date Established <input type="text"/>
<input type="checkbox"/> Check if Gas Set Up is Delayed	Acct Effective Date <input type="text"/>	Acct Effective Date <input type="text"/>
Reason for delay? <input type="text"/>	<input type="checkbox"/> Check if Electric Set Up is Delayed	<input type="checkbox"/> Check if Water Set Up is Delayed
Est. Set Up Date? <input type="text"/>	Reason for delay? <input type="text"/>	Reason for delay? <input type="text"/>
	Est. Set Up Date? <input type="text"/>	Est. Set Up Date? <input type="text"/>

Notes:

Prepared By

Date

10/20/06

[Print Form](#)

COMMERCIAL UTILITY ACCOUNT SET UP INSTRUCTIONS

This is an Adobe Acrobat form. Fill out form using Adobe Acrobat 7.0 or higher to save the form.

Note: Adobe Acrobat Reader (the free program) will not allow you to save the form data, only Adobe Acrobat.

General Contractor Instructions:

Reset Form

Step 1 - Establish, Transfer, or Verify Utility Accounts

- A. Establish utilities within 14 days of construction start. For temporary spaces, establish utilities within 5 days of construction start.
- B. Meet with the Mall Operations Manager to:
 - Determine what utilities need to be set up in Limited Brands name (Account must reflect the appropriate brand)
 - Verify the service address if different than the store address
 - Determine if there was a previous tenant - If Yes, provide name of tenant
 - Obtain utility company contact information
- C. Provide the Utility Company name, phone number, account number(s), meter number(s), date called for set up, and date service is established.
- D. If the utilities are landlord billed, indicate the person that you spoke with, the date, and provide any account information they have for the utilities.
- E. If a utility company will not allow you to set up service regardless of the provided Power of Attorney (POA), contact Christy Webster in Energy Services (614) 415-2697. In this rare instance, Limited Brands will call for service. The site must be ready for service - all inspections completed before Christy calls for service.
- F. If a utility company will not provide account information, write the date and the person(s) that you spoke with in the Notes section of the form.

Step 2: Deposit Requests

- A. If no deposit is required, go to Step #3.
- B. **Do not pay any utility deposit or agree that Limited Brands will pay a deposit.** Do not pay any utility deposit or agree that Limited Brands will pay a deposit. Contact the Limited Brands PM immediately if a deposit is requested. The PM will contact Limited Brands Energy Services for guidance. Limited Brands Energy Services may be able to have the deposit waived. Unauthorized deposits made by the GC are subject to be rejected for reimbursement by Limited Brands. Provide the following information to request a deposit:
 - Brand and Store #
 - Service Address and Location Name (Mall Name)
 - Utility Company Remit to Address
 - Account Number to Reference
 - Meter #
 - Amount of Deposit requested - do not agree to pay!
- C. The Limited Brands PM will notify the GC if the deposit has been made or if the utility deposit issue is resolved.

Step 3: Submit the Utility Set Up Form

- A. Email the form to Store Design & Construction Accounts Payable (SDCAP@limitedbrands.com) no later than the third week of construction. Include the following information in the Subject Line - Utility Form Submission, Brand, Store #, Mall Name
Example: **Utility Form Submission - VSS 1234 Oakdale Mall**
- B. Ensure that a future service connection date indicated on the form is a standing order. Energy Services will call to confirm the connection date. Do not make the service date contingent on inspections, any type of GC payment to the utility, or any other reason.

Quick Tips:

- Include the meter numbers for each account.
- For utilities billed by the mall – Check the appropriate boxes and include sub-meter numbers if available.
- For utilities available but not used – For example - gas service is available in the space but is not used, select the appropriate box.
- For remodels and internal expansions – Verify existing utility set up, space number and billing with each utility company and make account changes as needed. Complete the form and return it.
- For temporary spaces – Establish utilities for the temporary space as well as the permanent space. Complete and submit a separate form for the temp space and another for the permanent location. Indicate the different space numbers and meter numbers (if applicable).
- For internal relocations – Transfer the existing utility accounts to the new store.

1. Email the completed utility set up form to SD&C Accounts Payable (SDCAP@limitedbrands.com).

2. Provide a copy of the completed form to the Limited Brands Project Manager at the Punchlist Walkthrough.



2009

STORE DESIGN AND CONSTRUCTION

ROUTING GUIDE

Limited brands

STORE DESIGN & CONSTRUCTION

Dear Vendors;

Enclosed is the 2009, Store Design and Construction Routing Guide – please discard any old Guides that you have in your possession. **Please Note:** there have been changes in Truckload carrier selection matrices (both for into and out of Canada) since the last publication of this routing guide, and in addition, an intra-Canada selection matrix has been added as well.

- ◆ T/L carrier selection for domestic shipments has been slightly modified to have Fischer Trucking as the first choice carrier for all shipments (Atlas Van Lines and Andrews Moving and Storage are to be secondary options). The state to state selection matrix has been removed.
- ◆ T/L carrier selection for shipments originating in Canada has been **updated**; please refer to the updated selection matrix on **pages 11-12**.
- ◆ T/L Carriers – For shipments originating in United States, destined to Canada, please use the Canadian Truckload State Selection Matrix in Appendix B (**pages 23-28**).
- ◆ T/L Carriers – For shipments that will travel intra-Canada, please use the Canadian Truckload Selection Matrix in Appendix B(4) on **page 28**.

As usual, continue to note Purchase Order numbers as well as the Brand and Mall on all Bs/L that you create. If you have any issues with the carriers, such as no-shows, excessive damage, late deliveries, etc., please contact either your Purchasing Agent or Nathan Yolles, 614-415-3532, nyolles@limited-logistics.com.

Please note that there is a “Proof of Receipt” located on page 3 of this document that must signed and returned to Nathan Yolles, Limited Store Design and Construction, 3 Limited Parkway, Columbus, OH 43230.

Sincerely,

Limited Logistics Services

Limited brands

STORE DESIGN & CONSTRUCTION

Proof of Receipt

This is to acknowledge that the 2008 Limited Store Design and Construction Routing Guide has been received by your company.

Please return this signed page to the following address:

Limited Store Design and Construction
% Nathan Yolles, Transportation Manager
3 Limited Parkway
Columbus, OH 43230

Company Name _____

Company Associate _____

Title _____

Date Received _____

Limited brands

STORE DESIGN & CONSTRUCTION

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SECTION 2: North America Shipments

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B – LTL Shipments

C – Truckload Shipments

SECTION 3: Liability/Claims

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SECTION 5: Appendix

SECTION 1

GENERAL SHIPPING PRODECURES

Limited brands

STORE DESIGN & CONSTRUCTION

SHIPPING PROCEDURES

1. **ALL SHIPMENTS** must be dispatched in a timely fashion to meet the in-store date without having to expedite the shipment.
2. **SD&C** will not reimburse you for prepaid freight charges unless you receive written permission from LSD&C. If special permission is granted, you must attach a copy of the fax/email along with a copy of the freight bill.
3. It is imperative that all pertinent information (store, store number, destination, site, contact, phone number, purchase order number, etc.) is contained on the BOL and/or airbill. If the items ship from one of your suppliers, it is your responsibility as our vendor to share this information with the other party so that our guidelines are followed.
4. For billing purposes, all BsOL must contain the following information:

Third Party Billed to:

**Limited Logistics Services
Transportation
2 Limited Parkway
Columbus, Ohio 43230**

This is the only way the freight carriers know to bill us instead of billing you as the shipper. Failure to follow these procedures may result in a backcharge to your company.

SECTION 2

NORTH AMERICAN SHIPMENTS

**AIR/SMALL PARCEL
LTL
TRUCKLOAD
SPECIAL INSTRUCTIONS**

Limited brands

STORE DESIGN & CONSTRUCTION

AIR SHIPMENTS/PARCEL SHIPMENTS

Air shipments are to be used in the following situation:

- 1) When it is imperative that the item be delivered in a shorter time span than with normal LTL or T/L transit time or has been requested by Purchasing (please include name of Purchasing Agent on airbill)

All airbills must contain the following information

- 1) Purchase Order number
- 2) Correct weight
- 3) Date of shipment
- 4) Destination and origin addresses
- 5) **Site contact and phone number**
- 6) Type of service requested (next day priority, next day, second day or deferred)
- 7) Any special arrangements (inside delivery, early delivery, etc.)
- 8) Third Party Billing area marked with account number

If air service is utilized, the carrier selection will be:

- 1) For **domestic** shipments less than 150 lbs – **FedEx Parcel**– ship Standard Overnight or 2 Day Service – account number **293930627**
- 2) From **Canada to the US**, shipments less than 150 lbs – **ship via UPS** – account number **662V7V**; select from the below services:
 - US Express (next day AM)
 - US Express Saver (next day PM) – *preferred service for normal shipments*
 - US Expedited (second day)
 - US 3 Day Select (3 day delivery) – *utilize when timing is not critical*
- 3) For all (**domestic and Canadian**) shipments over 150 lbs. – **UPS Supply Chain Solutions** (formerly Menlo/Emery) – account number **604405175**, **Bax Global**– account number **411773961**, **Target Logistics** (oversize, expedited) – account number **627654** or **Associated Global** (signage vendors) – account number **4023825** (**do not use BAX for any oversize shipments – oversize shipments exceed 120 inches in length, 84 inches in width or 74 inches in height**)

For carrier contact information see page 17 – 18.

Service Request:

- 1) Use the longest available service for your specific shipment. If the item is to arrive in 2 days, use 2nd day service, not next day – if the item does not need to be delivered for 3 to 5 days, use Ground Service.
- 2) Time your shipping so that next day services are only used in emergencies

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STORE DESIGN & CONSTRUCTION

LTL SHIPMENTS

Vendors will be responsible for calling LTL carriers per the LTL state matrix to route freight. **Please reference the carrier selection matrix in Appendix A (pages 20-22).** Please be sure to call at least 24 hours prior to shipping to prevent missed pick-ups.

LTL shipments should be used as follows:

- 1) When the item shipped is over 150 lbs. – please follow Appendix A, State to State Matrix (pages 19-21).
- 2) To determine estimated delivery date - see estimated transit times below. Transit stated does not include weekend or holiday days.
- 3) If the shipment needs to be delivered prior to the Estimated Transit Times noted below, please contact your Purchasing Agent or your contact in the Transportation Department.
- 4) When the shipment is less than 10,000 pounds

The following information must be included on your Bills of Lading:

- 1) Origin and destination address with zip code
- 2) Brand identification and purchase order number
- 3) **The contact person at site and phone number with the note: Call 24 hours prior to delivery**
- 4) Any special instructions (inside delivery, liftgate, etc.)
- 5) Description of freight and class
- 6) Correct weight
- 7) Carrier name
- 8) Date of shipment
- 9) Designate that the shipment is to be Third Party Billed
- 10) Third Party Billing area marked with LLS remit to address

Domestic LTL blanket wrap, air ride carriers – **Andrews Moving and Storage or Specialty Moving**
For carrier contact information see pages 17-18 .

Estimated Transit Times

0 – 500 miles – 1 day
501 – 750 miles – 2 days
751 – 1000 miles – 3 days
1001 – 1500 miles – 4 days
1501 – 2000 miles – 5 days
2001 – 2500 miles – 6 days
Over 2500 miles – 7 – 10 days

For specific transit times, see carrier websites

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STORE DESIGN & CONSTRUCTION

TRUCKLOAD SHIPMENTS

Vendors will notify T/L carriers at least 48 hours prior to the pick-up date – the earlier the better to avoid a lack of equipment or driver availability.

Truckload carriers are used for the following shipments:

- 1) When the shipment is in excess of 10,000 pounds and/or
- 2) When air-ride equipment is required (all fixture loads)

The following information must be included on your Bills of Lading:

- 1) Origin and destination addresses with zip codes
- 2) Brand identification and purchase order number
- 3) **The contact person at site and phone number with the note: Call 24 hours prior to delivery**
- 4) Any special instructions (inside delivery, liftgate, etc.)
- 5) Purchase Order Number
- 6) Carrier name
- 7) Date of shipment
- 8) Designate the shipment is to be Third Party Billed
- 9) Third Party Billing area marked with the LLS remit to address

Canada To US T/L Shipments – please select the appropriate carrier from the Province to State matrix on pages 11-12.

Domestic T/L Shipments – Fischer Trucking is the preferred blanket wrap T/L carrier for domestic shipments. Atlas Van Lines and Andrews Moving and Storage may be used as backup carriers should Fischer not have the capacity to support your current need. Please reference carrier contact information at the top of page 17.

US To Canada T/L Shipments – please select the appropriate carrier from the State to Canada matrix in Appendix C (pages 26-27). **Please Note:** there is a separate matrix for each Province of final destination.

Intra-Canada Shipments - for T/L Shipments originating in Ontario to a destination in Ontario (and all provinces west of Ontario), select OPDI as the primary carrier (contact information is on page 18).

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STORE DESIGN & CONSTRUCTION

Canada To US Shipments: Carrier Selection Matrix (Cont'd on pg.12)

Refer to Carrier Contact Information On Page 18

TL Origin ON	Primary Carrier	2nd Choice	3rd Choice
AL	JBT	VTL	GN
AR	JBT	VTL	GN
AZ	OPDI	VTL	JBT
CA	OPDI	VTL	GN
CO	GN	VTL	KDAC
CT	VTL	KDAC	GN
Washington, DC	VTL	JBT	OPDI
DE	VTL	JBT	OPDI
FL	OPDI	VTL	GN
GA	VTL	JBT	OPDI
IA	GN	VTL	JBT
ID	KDAC	VTL	OPDI
IL	GN	VTL	JBT
IN	GN	VTL	KDAC
KS	JBT	VTL	GN
KY	GN	VTL	JBT
LA	JBT	VTL	GN
MA	VTL	KDAC	GN
MD	OPDI	VTL	JBT
ME	VTL	KDAC	GN
Detroit, MI	OPDI	VTL	KDAC
MI	JBT	VTL	OPDI
MN	JBT	VTL	GN
MO	JBT	VTL	GN
MS	JBT	VTL	GN
MT	KDAC	VTL	GN
NC	GN	VTL	JBT
ND	KDAC	VTL	GN
NE	GN	VTL	JBT
NH	VTL	GN	JBT
Newark , NJ	OPDI	KDAC	GN
NJ	OPDI	VTL	KDAC
NM	OPDI	VTL	GN
NV	OPDI	VTL	JBT
Buffalo, NY	KDAC	OPDI	VTL
Syracuse, NY	KDAC	OPDI	VTL
NYCity	VTL	GN	KDAC
NY	GN	VTL	KDAC
Cincinnati, OH	VTL	GN	JBT
Cleveland, OH	VTL	KDAC	GN

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STORE DESIGN & CONSTRUCTION

Columbus, OH	VTL	JBT	KDAC
OH	VTL	GN	KDAC
OK	JBT	VTL	GN
OR	OPDI	VTL	GN
Philadelphia, PA	JBT	VTL	OPDI
Pittsburgh, PA	OPDI	VTL	JBT
PAW	OPDI	JBT	VTL
PAE	JBT	VTL	OPDI
RI	VTL	KDAC	GN
SC	VTL	JBT	GN
SD	GN	VTL	KDAC
TN	JBT	VTL	GN
TX	OPDI	VTL	JBT
UT	JBT	VTL	GN
Alexandria, VA	VTL	KDAC	OPDI
VA	JBT	KDAC	VTL
VT	VTL	KDAC	JBT
WA	OPDI	VTL	KDAC
WI	GN	VTL	JBT
WV	KDAC	VTL	GN
WY	KDAC	VTL	GN

CANADIAN STRAIGHT TRUCK (28') LOADS - ONTARIO

When a straight truck is required due to a relatively small load or height/length restrictions at the mall, please contact the following two carriers – both have straight trucks that can accommodate your needs.

- 1) **K-DAC**
- 2) **GN Transport**

CANADIAN T/L CARRIERS - QUEBEC

If the load originates in Quebec, Canada, either T/L or LTL, the following carriers are to be used:

- 1) **VTL**

OTHER MODES OF TRANSPORTATION

Limited brands

STORE DESIGN & CONSTRUCTION

If you are a carpet vendor – see Approved Carrier List, Contact Information; page 18

If there is a need for flat bed equipment – see Approved Carrier List, Contact Information; page 18

SPECIAL INSTRUCTIONS

AIR

Do **NOT** use Bax Global for any shipments that exceed 120 inches in length, 84 inches in width or 74 inches in height.

LTL

Roadtex is the preferred carrier for Innovative Marble, regardless of final destination.

SECTION 3

LIABILITY/CLAIMS

Limited brands

STORE DESIGN & CONSTRUCTION

CLAIMS

SD&C has attempted to use carriers that take exceptional care in the transport of our goods. However, it is the nature of the industry that occasionally damage and/or loss of the products occur. As in the past, it is the responsibility of the vendor to contact the carrier and file the claim. The vendor is responsible for packing, loading and carrier handling instructions to ensure damage-free delivery of all shipments. The carrier will need the following information:

- 1) A written demand for payment due to damage (these can be obtained from the carrier's claim department)
- 2) Copy of the carrier's freight bill
- 3) Copy of the Bill of Lading covering the shipment
- 4) Commercial invoice
- 5) Signed delivery receipt noting damage
- 6) If an inspection was made, a copy of the inspection report
- 7) Any other information that may assist a carrier to properly investigate the claim

Although the time frame for filing claims is determined many times by the individual trucking companies, it is to your best interest to file for damages/losses within 30 days with a written notice of intent to file a claim. Be sure all documentation is submitted and you get a response that a claim has been filed and the trucking company is investigating your claim.

SECTION 4

APPROVED CARRIER LIST – CONTACT INFORMATION

Limited brands

STORE DESIGN & CONSTRUCTION

APPROVED CARRIER LIST/CONTACT INFORMATION

Truckload Carriers	Website	Phone
Andrews Moving and Storage	www.unitedvanlines.com	800-321-8680
Cara Meagrow	cmeagrow@andrewsmoving.com	800-321-8680
Atlas Van Lines (Specialty Moving)	www.atlasvanlines.com	800-323-4594
Wes Wodka	wesw@specialtymoving.com	800-323-4594
Fischer Trucking	www.fischertrucking.com	800-486-8660
Ken Brookhart	kbrookhart@fischertrucking.com	Ext - 106

LTL Carriers

ABF	www.abfs.com	Local Terminal
Jay Wiggins	jwiggins@abf.com	614-294-3537
FedEx Freight	www.fedex.com	866-393-4585
Greg McMains	greg.mcmains@fedex.com	330-665-8877
New England Motor Freight	www.nemf.com	570-386-2311
Thomas Ringwood	tringwood@nemf.com	315-452-0587
Roadtex	www.roadtex.com	800-394-7389
Lynne Szalus	lszalus@roadtex.com	800-762-3839
Sooner	www.soonerlogistics.com	805-522-0915
Bill Scott	bill@soonerlogistics.com	805-522-0915

Air Shipments

Associated Global	www.agsystems.com	800-323-0737
Kathy Brubaker	kathy.brubaker@agsystems.com	847-238-5555
Bax Global	www.baxglobal.com	800-225-5229
Ron Baldwin	rbaldwin@baxglobal.com	614-575-3201
FedEx Parcel	www.fedex.com	Local Terminal
Jack Deloatch	michael.deloatch@fedex.com	614-475-7241
UPS Parcel	www.ups.com	800-742-5877
Dale Cox	dcox@ups.com	614-582-9865
UPS Supply Chain Solutions (Formerly Menlo/Emery)	www.upsscs.com	800-742-5727
Jay Wise	wise.jay@ups-scs.com	614-385-9100
Target Logistics	www.targetlogistics.com	800-283-8888
John Griffin	john.griffin@targetlogistics.com	614-253-3322

Limited brands

STORE DESIGN & CONSTRUCTION

Canadian Carriers

GN Transport	www.gntransport.com	905-760-2888
Barry Nisan	barry@gntransport.com	905-760-2888
JBT	www.jbttransport.com	519-622-3604
Randy Bowman	randy.b@jbttransport.com	519-622-3604
K-DAC	www.k-dac.com	888-532-2669
Steve McIver	smciver@k-dac.com	888-532-2669
OPDI	www.opdi.ca	800-494-6025
John Giordano	jgopdi@bellnet.ca	800-494-6025
VTL	www.vtltransport.com	450-975-2451 – Quebec 416-283-3041 – Ontario
Stephanie Ansell	sansell@vtltransport.com	800-561-8194

Carpet Hauler

Xpress Global (CSI/Crown)	www.expressglobal.com	800-367-4416
Dave Curvin	dcurvin@xpressglobalsystems.com	800-367-4416

Flatbed Carrier

TMC	www.annettholdings.com	800-247-2460
Ted Levernz	ted@annettholdings.com	800-247-2460

Section 5

Appendix A, B and C

- **LTL State-to-State Matrix (A)**
- **US to Canada T/L Matrix (B)**
- **SOP for Shipments Into Canada (C)**

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For Carrier Contact Information, See Page 17

Appendix A: State to State LTL Matrix

From	AL	AZ	AR	CA	CO	CT	DE	FL	GA	ID	IL	IN	IA	KS	KY	LA	ME	MD	MA	MI
AL	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF
AZ	ABF	FedEx	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF
AR	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF
CA	ABF	FedEx	ABF	Sooner - LA Intra CA - FedEx	FedEx	Roadtex	Roadtex	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	Roadtex	Roadtex	Roadtex	ABF
CO	ABF	FedEx	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF
CT	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
DE	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
FL	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF
GA	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF
ID	ABF	FedEx	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF
IL	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx
IN	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	FedEx	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx
IA	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	FedEx	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx
KS	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF
KY	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	FedEx	FedEx	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx
LA	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF
ME	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
MD	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
MA	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
MI	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	FedEx	FedEx	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx
MN	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	FedEx	FedEx	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx
MS	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF
MO	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	FedEx	FedEx	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx
MT	ABF	FedEx	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF
NE	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF
NV	ABF	FedEx	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF
NH	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
NJ - West	ABF	ABF	ABF	Roadtex	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
NJ - East	ABF	ABF	ABF	Roadtex	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
NM	ABF	FedEx	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF
NY - West	ABF	ABF	ABF	Roadtex	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
NY - East	ABF	ABF	ABF	Roadtex	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
NC	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF
ND	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF
OH	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	NEMF	NEMF	FedEx
OK	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF
OR	ABF	FedEx	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF
PA - West	ABF	ABF	ABF	Roadtex	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
PA - East	ABF	ABF	ABF	Roadtex	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
RI	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
SC	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF
SD	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF
TN	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF
TX	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF
UT	ABF	FedEx	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF
VT	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF
VA	FedEx	ABF	FedEx	ABF	ABF	NEMF	NEMF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	NEMF	NEMF	NEMF	ABF
WA	ABF	FedEx	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF
WV	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	ABF
WI	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	FedEx	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx
WY	ABF	FedEx	ABF	FedEx	FedEx	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF

Limited brands

STORE DESIGN & CONSTRUCTION

Appendix A: State to State LTL Matrix (Continued)

From	To	MN	MS	MO	MT	NE	NV	NH	NJ - West	NJ - East	NM	NY - West	NY - East	NC	ND	OH	OK	OR	PA - West	PA - East	RI
AL		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
AZ		ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF
AR		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
CA		ABF	ABF	ABF	FedEx	ABF	FedEx	Roadtex	Roadtex	Roadtex	FedEx	Roadtex	Roadtex	ABF	ABF	Roadtex	ABF	FedEx	Roadtex	Roadtex	Roadtex
CO		ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF
CT		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
DE		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
FL		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
GA		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
ID		ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF
IL		Fedex	ABF	Fedex	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF
IN		Fedex	ABF	Fedex	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF	ABF	ABF	ABF	ABF
IA		Fedex	ABF	Fedex	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF	ABF	ABF	ABF	ABF
KS		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
KY		Fedex	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF	ABF	ABF	ABF	ABF
LA		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
ME		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
MD		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
MA		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
MI		Fedex	ABF	Fedex	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF	ABF	ABF	ABF	ABF
MN		Fedex	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF	ABF	ABF	ABF	ABF
MS		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
MO		Fedex	ABF	Fedex	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF	ABF	ABF	ABF	ABF
MT		ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF
NE		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
NV		ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF
NH		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
NJ - West		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
NJ - East		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
NM		ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF
NY - West		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
NY - East		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
NC		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
ND		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
OH		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
OK		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
OR		ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF
PA - West		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
PA - East		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
RI		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
SC		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
SD		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
TN		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
TX		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
UT		ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF
VT		ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	ABF	ABF	NEMF	ABF	ABF	NEMF	NEMF	NEMF
VA		ABF	FedEX	ABF	ABF	FedEX	ABF	NEMF	NEMF	NEMF	ABF	NEMF	NEMF	FedEX	FedEX	NEMF	FedEX	ABF	NEMF	NEMF	NEMF
WA		ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF
WV		ABF	FedEX	ABF	ABF	FedEX	ABF	ABF	ABF	ABF	ABF	ABF	ABF	FedEX	FedEX	ABF	FedEX	ABF	ABF	ABF	ABF
WI		Fedex	ABF	Fedex	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF	ABF	ABF	ABF	ABF
WY		ABF	ABF	ABF	FedEx	ABF	FedEx	ABF	ABF	ABF	FedEx	ABF	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	ABF

Limited brands

STORE DESIGN & CONSTRUCTION

Appendix A: State to State LTL Matrix (Continued)

From	To	SC	SD	TN	TX	UT	VT	VA	WA	WV	WI	WY
AL	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
AZ	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	FedEx	ABF	ABF	FedEx
AR	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
CA	ABF	ABF	ABF	ABF	ABF	FedEx	Roadtex	ABF	FedEx	ABF	ABF	FedEx
CO	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	FedEx	ABF	ABF	FedEx
CT	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
DE	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
FL	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
GA	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
ID	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	FedEx	ABF	ABF	FedEx
IL	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF
IN	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF
IA	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF
KS	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
KY	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF
LA	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
ME	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
MD	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
MA	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
MI	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF
MN	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF
MS	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
MO	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF
MT	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	FedEx	ABF	ABF	FedEx
NE	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
NV	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	FedEx	ABF	ABF	FedEx
NH	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
NJ - West	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
NJ - East	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
NM	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	FedEx	ABF	ABF	FedEx
NY - West	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
NY - East	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
NC	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
ND	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
OH	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	Fedex	ABF
OK	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
OR	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	FedEx	ABF	ABF	FedEx
PA - West	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
PA - East	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
RI	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
SC	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
SD	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
TN	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
TX	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
UT	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	FedEx	ABF	ABF	FedEx
VT	ABF	ABF	ABF	ABF	ABF	ABF	NEMF	NEMF	ABF	ABF	ABF	ABF
VA	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	NEMF	NEMF	ABF	FedEX	ABF	ABF
WA	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	FedEx	ABF	ABF	FedEx
WV	FedEX	FedEX	FedEX	FedEX	FedEX	ABF	ABF	FedEX	ABF	FedEX	ABF	ABF
WI	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	ABF	Fedex	ABF
WY	ABF	ABF	ABF	ABF	ABF	FedEx	ABF	ABF	FedEx	ABF	ABF	FedEx

Limited brands

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Appendix B(1): State To Ontario, Canada TL Matrix

US To ONTARIO, Canada Shipments: Carrier Selection Matrix (Cont'd On Page 24)

Refer to Carrier Contact Information On Page 18

TL Destination ON	Primary Carrier	2nd Choice	3rd Choice
AL	GN	JBT	VTL
AR	GN	JBT	VTL
AZ	GN	JBT	VTL
CA	GN	KDAC	JBT
Denver , CO	JBT	KDAC	GN
CO	JBT	GN	KDAC
CT	VTL	JBT	GN
Washington, DC	GN	VTL	JBT
DE	GN	JBT	KDAC
FL	GN	KDAC	JBT
GA	GN	KDAC	JBT
IA	GN	KDAC	JBT
ID	JBT	VTL	GN
IL	GN	KDAC	VTL
IN	GN	KDAC	VTL
KS	GN	JBT	VTL
KY	GN	KDAC	VTL
LA	JBT	GN	VTL
MA	VTL	JBT	GN
MD	GN	VTL	JBT
ME	VTL	JBT	GN
Detroit, MI	GN	KDAC	VTL
Grand Rapids, MI	VTL	KDAC	GN
MI	VTL	GN	KDAC
MN	GN	JBT	VTL
MO	GN	KDAC	VTL
MS	GN	JBT	VTL
MT	JBT	KDAC	VTL
NC	GN	VTL	JBT
ND	JBT	GN	KDAC
NE	GN	JBT	VTL
NH	VTL	JBT	KDAC
NJ	VTL	JBT	GN
NM	GN	JBT	KDAC
NV	GN	KDAC	JBT
Buffalo, NY	KDAC	VTL	JBT
Syracuse, NY	KDAC	JBT	VTL
NYCity	VTL	JBT	GN
NY	GN	KDAC	VTL
OH	GN	KDAC	VTL
OK	GN	KDAC	JBT
OR	JBT	GN	KDAC
Philadelphia , PA	VTL	JBT	GN
Pittsburgh, PA	GN	VTL	JBT
PAW	GN	VTL	JBT

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PAE	VTL	JBT	GN
RI	VTL	JBT	KDAC
SC	GN	VTL	JBT
SD	GN	KDAC	JBT
TN	GN	VTL	JBT
TX	GN	JBT	VTL
UT	JBT	GN	KDAC
Alexandria, VA	VTL	JBT	GN
VA	VTL	GN	JBT
VT	JBT	VTL	GN
WA	GN	JBT	VTL
WI	GN	VTL	JBT
WV	VTL	GN	KDAC
WY	JBT	GN	KDAC

Limited brands

STORE DESIGN & CONSTRUCTION

Appendix B(2): State To Alberta, Canada TL Matrix

US To Alberta, Canada Shipments: Carrier Selection Matrix (Cont'd On Page 26)

Refer to Carrier Contact Information On Page 18

TL Destination AB	Primary Carrier	2nd Choice	3rd Choice
AL	JBT	GN	KDAC
AR	JBT	GN	
AZ	GN	JBT	
CA	GN	JBT	
CO	GN	JBT	
CT	JBT	KDAC	GN
Washington, DC	JBT	KDAC	GN
DE	JBT	KDAC	GN
FL	JBT	KDAC	GN
GA	JBT	KDAC	GN
IA	JBT	GN	
ID	GN	JBT	
IL	JBT	GN	
IN	JBT	GN	KDAC
KS	JBT	GN	
KY	JBT	KDAC	GN
LA	JBT	KDAC	GN
MA	JBT	GN	KDAC
MD	JBT	GN	KDAC
ME	JBT	GN	KDAC
MI	JBT	GN	KDAC
MN	GN	JBT	
MO	JBT	GN	
MS	JBT	GN	
MT	GN	JBT	
NC	JBT	GN	KDAC
ND	GN	JBT	
NE	JBT	KDAC	GN
NH	JBT	KDAC	GN
NJ	JBT	KDAC	GN
NM	GN	JBT	
NV	GN	JBT	
NYCity	GN	JBT	
NY	JBT	GN	KDAC
OH	JBT	GN	KDAC
OK	JBT	GN	
OR	KDAC	GN	JBT
PA	JBT	KDAC	GN
RI	JBT	KDAC	GN
SC	JBT	GN	KDAC
SD	GN	JBT	
TN	JBT	GN	KDAC
TX	JBT	GN	KDAC
UT	GN	JBT	
VA	JBT	GN	KDAC

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VT	JBT	KDAC	GN
WA	KDAC	GN	JBT
WI	JBT	GN	
WV	JBT	GN	
WY	GN	JBT	

Limited brands

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Appendix B(3): State To British Columbia, Canada TL Matrix

US To British Columbia, Canada Shipments: Carrier Selection Matrix (Cont'd On Page 28)

Refer to Carrier Contact Information On Page 18

TL Destination BC	Primary Carrier	2nd Choice	3rd Choice
AL	JBT	GN	KDAC
AR	JBT	GN	
AZ	GN	JBT	
CA	GN	JBT	
CO	KDAC	GN	JBT
CT	JBT	GN	KDAC
Washington, DC	JBT	GN	KDAC
DE	JBT	GN	KDAC
FL	JBT	GN	KDAC
GA	JBT	GN	KDAC
IA	JBT	GN	
ID	GN	JBT	
IL	JBT	GN	
IN	JBT	GN	KDAC
Kansas City, KS	JBT	GN	
Wichita, KS	JBT	GN	
KS	JBT	KDAC	GN
KY	JBT	GN	KDAC
LA	JBT	GN	KDAC
MA	JBT	GN	KDAC
MD	JBT	GN	KDAC
ME	JBT	GN	KDAC
MI	JBT	KDAC	GN
MN	GN	JBT	
MO	JBT	GN	
MS	JBT	GN	
MT	GN	JBT	
NC	JBT	GN	KDAC
ND	GN	JBT	
NE	GN	JBT	KDAC
NH	JBT	GN	KDAC
NJ	JBT	GN	KDAC
NM	GN	JBT	
NV	GN	JBT	
Buffalo, NY	JBT	KDAC	GN
Syracuse, NY	JBT	KDAC	GN
NYCity	GN	JBT	
NY	JBT	GN	KDAC
OH	JBT	GN	KDAC
OK	JBT	GN	
OR	KDAC	GN	JBT
PA	JBT	GN	KDAC
RI	JBT	GN	KDAC
SC	JBT	GN	KDAC
SD	GN	JBT	

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TN	JBT	GN	KDAC
TX	JBT	GN	KDAC
UT	GN	JBT	
VA	JBT	GN	KDAC
VT	JBT	GN	KDAC
WA	KDAC	GN	JBT
WI	JBT	GN	
WV	JBT	GN	
WY	GN	JBT	

Appendix B(4): Intra-Canadian TL Matrix

Intra-Canada TL (Refer to Carrier Contact Information On Pages XX)

Ontario to:	Primary Carrier	2nd Choice
British Columbia	OPDI	KDAC
Alberta	OPDI	KDAC
Sashatchewan	OPDI	JBT
Manitoba	OPDI	JBT
Ontario	OPDI	KDAC
Quebec	VTL	KDAC
New Brunswick	VTL	JBT
Nova Scotia	VTL	JBT

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Appendix C: SOP For Shipments Into Canada

BBW and VS (Pink) Canada Stores' Non-merc Shipments – **Vendor Information/SOP**

1. All email communication on BBW Canada Corp or VSS Canada Corp shipments should include the below email group. (Associates from Limited Brands, Global Trade Compliance, Limited Store Planning, Inc., BBW Canada, Inc., VSS Canada, Inc. etc.). EMAIL subject line should read: BBW Canada Store Shipment / MBOL # / Supplier Name **OR** VSS [Pink if Appropriate] Canada Store Shipment / MBOL # / Supplier Name
 - a. Limited Brands Exports - LCSEExports@limitedbrands.com
 - b. Limited Brands Store Design –
 - i. agoodwin@limitedbrands.com (BBW Only)
 - ii. pfinley@limitedbrands.com (BBW Only)
 - iii. kconrad@limitedbrands.com (VSS / Pink Only)
 - c. LCS Import Planning - LCSNonApparelClassification@ltdcs.com
 - d. Logistics – Nathan Yolles NYolles@limited-logistics.com
2. You must email your packing list and invoice at least 4 hours prior to shipment to the distro group. **A Limited Brands' commercial invoice will be returned to you to include with the shipment (please do not ship without invoice).**
 - a. Packing list and/or invoice must contain the following information:
 - i. Invoice Packing List must contain enough information to describe the product in detail (composition and dimensions). If the items are 'parts' that make up a 'whole' then we need to know what the finished product would be (for example, wood products that assemble into a cabinet).
 - ii. **Spare parts must be identified separately with a value (even if sold free of charge)**
 - iii. Country of origin for each item
 - iv. PO – please list the Limited Store Planning, Inc. P.O. No.
 - v. Unit cost/Quantity
 - vi. Number of Cartons
 - vii. Reporting quantity of weights – see chart below
 - viii. Cartons must be labeled with Item Numbers and Purchase Order numbers to identify the shipment.
3. You must include the below paperwork with the shipment.
 - a. 1 set w/ the driver and one set in envelope on lead pallet
 - i. **Limited Brands' Commercial Invoice, BOL, Packing List, and NAFTA Certificate** (if applicable)
 - ii. Commercial Invoice and NAFTA certificate will be provided by Limited Brands. (**Do NOT include your supplier invoice to Limited Brands** with the documents to the driver).
4. You must email/fax the signed BOL back to the distro group within 1 day after pick-up. Drivers will have a PARS* label to apply to the documents – please make a copy and fax with signed BOL.
 - a. If you cannot email please fax to: 614-577-3050
 - b. You must also include the PL updated with the trailer and MBOL information.

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Additional Information:	
<p>MBOL must show consignee as:</p> <p>BBW Canada, Corp 1608 St-Regis Blvd Dorval, Quebec H9P 1H6</p> <p>Appropriate Ship to:/Deliver to address BBW Store/contractor</p> <p>OR</p> <p>VSS Canada Corp 1608 St-Regis Blvd Dorval, Quebec H9P 1H6</p> <p>Appropriate Ship to:/Deliver to address VSS Store/contractor</p>	<p>Notify Party (Customs broker) is: Russel A. Farrow, Limited (effective 4/5/09)</p> <ul style="list-style-type: none"> • PARS Fax Number 1-877-8-Farrow (1-877-832-7769) • Farrow Group Email Address(always include): limitedbrands@farrow.com • Contact 8:30AM until 5:00PM: Josephine Kelly 416-622-3777, josephine.kelly@farrow.com • Contact 5:00PM until 8:30AM and Weekends Steve Vardy 514-636-1941, steve.vardy@farrow.com
Reporting Quantity per item:	
Aluminum sheet pieces for store front	KG
Touch up paint	LTR/KG
Light bulbs	No.
Wood Flooring	M2
Adhesive	KG
Security Gates	Kg

<p>Contacts: (as appropriate per purchase order placement)</p> <p><i>BBW</i> - Patti Finley – 614-415-7341 <i>BBW</i> - Angi Goodwin – 614-415-6830 <i>BBW</i> - LEEANNE Mampieri – 614-415-1452 <i>VSS (Pink)I</i> – Kristina Conrad – 614-415-2229 <i>VSS (Pink)</i> - Erin Kinsey – 614-415-7296</p>	<p>Cindy Golden 614-415-3583 after hours cell 614-783-6123 Chris McCray 614-415-5144 Ellen Jarvis 514-421-8709 Tara Peck 614-415-3582</p>
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*PARS – Pre Arrival Release System: Shipments destined to Canada are delivered using carriers and drivers authorized to clear Canadian Customs using the Pre Arrival Release System. Carriers have pre-assigned and Customs approved labels that allow them to cross the border. Please be sure to obtain a copy of the label and/or the PARS number for your shipment prior to the truck leaving your facility.

Excess Material & Return Procedure

**ALL EXCESS MATERIALS MUST BE RETURNED
PRIOR TO THE STORE'S COMPLETION DATE**

- Project Manager to discuss with the General Contractor the proper amount of materials to be left on site.
- General Contractor to complete Excess Material Form (provided in this book) and return by fax to the Purchasing Agent two weeks prior to his completion date.
- Purchasing Agent will make arrangements for the material pick up and notify the General Contractor of this date.
- General Contractor is responsible for providing sufficient packing of the material to ensure safe return and full credit from our vendor.
- General Contractor is responsible for having material ready for pick up on the date established by the Purchasing Agent.

Limitedbrands

STORE DESIGN & CONSTRUCTION

MATERIAL RETURN REQUEST FORM

Location: _____

Superintendent: _____

Purchasing Agent: _____

Date: _____

Company Receiving Materials: _____

MATERIAL BEING RETURNED:

ITEM#	QTY	DESCRIPTION	REASON FOR RETURN		SCHEDULED PICK UP DATE

PLEASE MAKE SURE THAT ALL MATERIAL IS READY TO BE PICKED UP.

"RETURN THIS FORM TO YOUR PURCHASING AGENT AT 614-415-7438"

Store Number: _____ Mall Name: _____ City: _____ State: _____	Bath & Body Works 2008 Fall/Spring Punchlist Package 1 & 2 Stores	Punch List Date: _____																																																																					
General Contractor: _____ GC Project Manager: _____ Superintendent: _____ District Manager: _____ Store Manager: _____	Limited Project Manager: _____ Limited Brand Manager: _____	Completion Date: _____ Turnover Date: _____ Supply Date: _____ Merchandise Date: _____ Store Opening Date: _____																																																																					
INITIAL PUNCHLIST PREPARATION: _____ DATE: _____																																																																							
PUNCHLIST COMPLETION: _____ DATE: _____																																																																							
Standard Instructions to General Contractors: <ol style="list-style-type: none"> The following list includes items requiring correction and/or completion as soon as possible. The General Contractor is required to contact the SD&C Project Manager once all items are completed. A final inspection of the store will be conducted as soon as practical after the SD&C Project Manager is notified. The superintendent is required to remain on site through store opening and completion of all punch list items Arrange for all inspections and procurement of the Certificate of Occupancy Prior to the Construction Completion date, arrange for balancing of the HVAC system by an independent, NEBB or AABE licensed HVAC balancing contractor. Instruct the balancing contractor to use the SD&C Air Balance form. Seal it and provide it with the Air Balance Report. Return the entire package with your closeout package to release final payment. Complete all open punchlist items. Items not resolved seven (7) calendar days after store opening are subject to resolution by the SD&C Project Manager through a third party. The General Contractor is subject to a backcharge for associated costs to complete the punchlist items. 																																																																							
Codes C Complete CC Complete w/ comment NC Not Complete NA Not Applicable																																																																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">No</th> <th style="width: 10%;">Area</th> <th style="width: 35%;">Line Item</th> <th style="width: 10%;">Status</th> <th style="width: 35%;">Comments</th> <th style="width: 5%;">Date Completed</th> </tr> </thead> <tbody> <tr style="background-color: yellow;"> <td colspan="6">INTERIOR STOREFRONT</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">STOREFRONT</td> <td> Motorized rolling grille - Limits adjusted, EM release tested - Uchange installed, properly locks - Keyswitches secured to framing - Bottom of grille aligns with underside of canopy when open </td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">STOREFRONT</td> <td> Entry doors - Swing does not interfere with canopy or finished floor - Uchange installed, properly locks; dustproof strikes installed, flush with floor, secure - Metal perimeter and glazing channels installed and gasketed - Schluter strip installed, floor finishes level with each other </td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">STOREFRONT</td> <td>Neutral piers</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">STOREFRONT</td> <td>Mall bulkhead</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">5</td> <td style="text-align: center;">STOREFRONT</td> <td>Perimeter reveal</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">6</td> <td style="text-align: center;">STOREFRONT</td> <td> Shiplap planking - Tight to metal - Corner reglet installed and does not interfere with reveal between base and planking - Mitered inside corners - Wood trim at exposed ends of planking if indicated </td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">7</td> <td style="text-align: center;">STOREFRONT</td> <td>Metal panels</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">8</td> <td style="text-align: center;">STOREFRONT</td> <td> Metal base - Caulked to finish floor </td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">9</td> <td style="text-align: center;">STOREFRONT</td> <td> Canopy - Light reflector and fluorescent lighting installed, top of canopy finished if visible from above - Signage installed plumb and true - Downlights and recessed sprinkler escutcheons </td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						No	Area	Line Item	Status	Comments	Date Completed	INTERIOR STOREFRONT						1	STOREFRONT	Motorized rolling grille - Limits adjusted, EM release tested - Uchange installed, properly locks - Keyswitches secured to framing - Bottom of grille aligns with underside of canopy when open				2	STOREFRONT	Entry doors - Swing does not interfere with canopy or finished floor - Uchange installed, properly locks; dustproof strikes installed, flush with floor, secure - Metal perimeter and glazing channels installed and gasketed - Schluter strip installed, floor finishes level with each other				3	STOREFRONT	Neutral piers				4	STOREFRONT	Mall bulkhead				5	STOREFRONT	Perimeter reveal				6	STOREFRONT	Shiplap planking - Tight to metal - Corner reglet installed and does not interfere with reveal between base and planking - Mitered inside corners - Wood trim at exposed ends of planking if indicated				7	STOREFRONT	Metal panels				8	STOREFRONT	Metal base - Caulked to finish floor				9	STOREFRONT	Canopy - Light reflector and fluorescent lighting installed, top of canopy finished if visible from above - Signage installed plumb and true - Downlights and recessed sprinkler escutcheons			
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No	Area	Line Item	Status	Comments	Date Completed
10	STOREFRONT	Tiffany boxes - Lock functions, light operational - Interior clean and painted - Tempered glass installed, metal frame caulked to metal panels			
11	STOREFRONT	Operable display windows - Lock functions, tempered glazing installed - Interior painted; 1-inch relief air slot - Lighting, marketing rails, outlets, recessed sprinkler escutcheons			
12	STOREFRONT	Glazing system - Square joints; edges polished, no scratches - Glazing channels installed and gasketed - Recessed glazing channels at display windows - Downlights and fully recessed sprinkler escutcheons installed			
13	STOREFRONT	Signage and Graphics - Canopy signage installed plumb and true - Plaque signage installed on 5th row of planking, 3" from outside corner and mirrored on metal panel side. Mounting nuts secured with lock-tite. - Window graphics with no bubbles - Blade sign plumb and true			
14	STOREFRONT	Mall tile - Flush transition between mall and store finishes			
15	STOREFRONT	Barricade removed, mall finishes repaired.			
16	STOREFRONT	Landlord punchlist walkthru complete (if req'd by LL)			
17	STOREFRONT				
18	STOREFRONT				
19	STOREFRONT				
20	STOREFRONT				
EXTERIOR STOREFRONT					
1	STOREFRONT	Storefront doors - Hardware complete, U-change installed, latches and locks - Kickdown hold opens - Door contacts			
2	STOREFRONT	Storefront System and Glazing			
3	STOREFRONT	Glazing film on interior face			
4	STOREFRONT	Canopy			
5	STOREFRONT	Metal Panels			
6	STOREFRONT	Shiplap Planking			
7	STOREFRONT	Metal base			
8	STOREFRONT	Tile Base			
9	STOREFRONT	Recessed Vestibule - Finished floor			
10	STOREFRONT	Signage and Graphics - Canopy signage installed plumb and true - Illuminated signage - Plaque signage installed. Mounting nuts secured with lock-tite. - Window graphics with no bubbles - Street/suite address - Blade sign plumb and true - Pylon signage			
11	STOREFRONT	Mall bulkhead, neutral piers and sidewalk			
12	STOREFRONT	Storefront barricade removed			
13	STOREFRONT	Sidewalk steam cleaned			
14	STOREFRONT	Landlord punchlist walkthru complete (if req'd by LL)			
15	STOREFRONT				

No	Area	Line Item	Status	Comments	Date Completed
16	STOREFRONT				
17	STOREFRONT				
18	STOREFRONT				
ROOM 1					
1	DISPLAY	Ceiling - Tracklighting and recessed trough - Marketing rails - Recessed sprinkler escutcheons - Ceiling outlet			
2	DISPLAY	Walls and Electrical Outlet			
3	DISPLAY	Platform			
4	DISPLAY	Perimeter wood trim - Painted metal angle below			
5	DISPLAY	Transom LED lighting - Access panel - LED lighting operational - Frosted glazing film installed - Relief air slot			
6	DISPLAY	Blind Door - Hardware as scheduled - Tight even joints at perimeter			
7	DISPLAY				
8	DISPLAY				
9	ROOM 1 Entry	Traffic counter(s)			
10	ROOM 1 Entry	Access panel(s) for motorized grille - Flush / tape-in type			
11	ROOM 1 Entry	Walk-off mat (exterior locations)			
12	ROOM 1 Entry	Storefront sill and trim (exterior locations)			
13	ROOM 1 Entry	Motion detector (exterior locations)			
14	ROOM 1 Ceiling	Ceiling - Gypsum board			
15	ROOM 1 Ceiling	Ceiling - ACT - Proper alignments of grid, light fixtures and MEP fixtures			
16	ROOM 1 Ceiling	Access panels (if applicable)			
17	ROOM 1 Ceiling	CCTV System - Ceiling hung monitor and grommet - Security cameras			
18	ROOM 1 Ceiling	Sprinkler Heads - Centered in ceiling tiles or - Recessed with escutcheons fit tight to ceiling - White finish			
19	ROOM 1 Ceiling	Lighting - Downlights fit tight to ceiling - Tracklighting: types per plan, perimeter lighting aimed, others set at 45 degrees - All lamps working			
20	ROOM 1 Ceiling	Emergency lights/ Exit signs - EM lights turn on when power disconnected			
21	ROOM 1 Ceiling	Speakers - Energized			
22	ROOM 1 Ceiling	Diffusers			
23	ROOM 1 Walls	Wall surfaces and paint			
24	ROOM 1 Walls	Wall base - On floor finishes, sanded smooth and caulked			
25	ROOM 1 Walls	Electrical Outlets			
26	ROOM 1 Walls	Temp Sensors/ Thermostats/ Fire strobes/ Fire alarm - No equipment of sensors mounted in displays or on gables			

No	Area	Line Item	Status	Comments	Date Completed
27	ROOM 1 Walls	Unit 1 Cabinets - Wood trim, nails holes filled, joints tight, proper finish - Shelving installed - Fixed shelf illuminated (Pkg 1 only) - Shelf talkers and timeless image frames installed - Protective plastic removed - Metal angles screwed to wall and gables - Horizontal outlets installed - Base cabinet operational and secured per plans			
28	ROOM 1 Flooring	Tile Floor - 1/8" grout joints - Tiles level, no tripping hazards - Floor is sealed - Free of dust, dirt, marks and scratches			
29	ROOM 1 Flooring	Wood flooring - Random pattern - Fits smooth and level, tight fit, no "Hollow" areas - Expansion joints per plans - Free of dust, dirt, marks and scratches			
30	ROOM 1 Flooring	Floor outlets - Operational and sitting tight to floor			
31	ROOM 1				
32	ROOM 1				
33	ROOM 1				
34	ROOM 1				
PASS-THRU 1					
1	PASS-THRU 1	Ceiling - Gypsum board - PT7 painted sprinkler escutcheon plates - Tracklighting			
2	PASS-THRU 1	Ceiling - Wood Panels and Trim - Mitered corners, tight joints - Panels screwed to soffit along top edge - PT7 painted sprinkler escutcheon plates - Recessed MT-2 light trough and tracklighting			
3	PASS-THRU 1	Unit 1 Cabinets - Wood trim, nails holes filled, joints tight, proper finish - Shelving installed - Fixed shelf illuminated (Pkg 1 only) - Shelf talkers and timeless image frames installed - Protective plastic removed - Metal angles screwed to wall and gables - Horizontal outlets installed - Base cabinet operational and secured per plans			
4	PASS-THRU 1 Demo Sink	Soffit - Downlights operational, in correct location and tight to soffit - Painted per plans			
5	PASS-THRU 1 Demo Sink	Walls - Tile installed - Recessed niche with proper tile orientation - Corian shelf with eased edges, caulked and sealed at perimeter - Mirror installed at ADA height, fixed to wall with screws at cleats			
6	PASS-THRU 1 Demo Sink	Counter and Sink - Correct ADA height and clearances below - Splash caulked to counter and tiles - Sink caulked to counter - Hot and cold water functioning - Faucets do not interfere with mirror - Wood trim does not interfere with counter			
7	PASS-THRU 1 Demo Sink	Below Counter - Walls painted, base caulked to wall and floor - Proper support for counter - Insta-hot installed on underside of counter, close to wall - Protective ADA wrap at P-trap - Access panel for ejector pump - Ejector pump operational, shut-off valves functioning			
8	PASS-THRU 1				
9	PASS-THRU 1				
10	PASS-THRU 1				
ROOM 2					
1	ROOM 2 Ceiling	Ceiling - Gypsum board			
2	ROOM 2 Ceiling	Ceiling - ACT - Proper alignments of grid, light fixtures and MEP fixtures			

No	Area	Line Item	Status	Comments	Date Completed
3	ROOM 2 Ceiling	Access panels (if applicable)			
4	ROOM 2 Ceiling	CCTV System - Security cameras			
5	ROOM 2 Ceiling	Sprinkler Heads - Centered in ceiling tiles or - Recessed with escutcheons fit tight to ceiling - White finish			
6	ROOM 2 Ceiling	Lighting - Downlights fit tight to ceiling - Tracklighting: types per plan, perimeter lighting aimed, others set at 45 degrees - All lamps working			
7	ROOM 2 Ceiling	Emergency lights/ Exit signs - EM lights turn on when power disconnected			
8	ROOM 2 Ceiling	Speakers - Energized			
9	ROOM 2 Ceiling	Diffusers			
10	ROOM 2 Walls	Wall surfaces and paint			
11	ROOM 2 Walls	Wall base - On floor finishes, sanded smooth and caulked			
12	ROOM 2 Walls	Electrical Outlets			
13	ROOM 2 Walls	Temp Sensors/ Thermostats/ Fire strobes/ Fire alarm - No equipment of sensors mounted in displays or on gables			
14	ROOM 2 Walls	Unit 1 Cabinets - Wood trim, nails holes filled, joints tight, proper finish - Shelving installed - Fixed shelf illuminated (Pkg 1 only) - Shelf talkers and timeless image frames installed - Protective plastic removed - Metal angles screwed to wall and gables - Horizontal outlets installed - Base cabinet operational and secured per plans			
15	ROOM 2 Floor	Tile Floor - 1/8" grout joints - Tiles level, no tripping hazards - Floor is sealed - Free of dust, dirt, marks and scratches			
16	ROOM 2 Floor	Wood flooring - Random pattern - Fits smooth and level, tight fit, no "Hollow" areas - Expansion joints per plans - Free of dust, dirt, marks and scratches			
17	ROOM 2 Floor	Floor outlets - Operational and sitting tight to floor			
18	ROOM 2				
19	ROOM 2				
20	ROOM 2				
21	ROOM 2				
PASS-THRU 2					
1	PASS-THRU 2	Ceiling - Gypsum board - PT7 painted sprinkler escutcheon plates - Tracklighting			
2	PASS-THRU 2	Ceiling - Wood Panels and Trim - Mitered corners, tight joints - Panels screwed to soffit along top edge - PT7 painted sprinkler escutcheon plates - Recessed MT-2 light trough and tracklighting			
3	PASS-THRU 2	Unit 1 Cabinets - Wood trim, nails holes filled, joints tight, proper finish - Shelving installed - Fixed shelf illuminated (Pkg 1 only) - Shelf talkers and timeless image frames installed - Protective plastic removed - Metal angles screwed to wall and gables - Horizontal outlets installed - Base cabinet operational and secured per plans			
4	PASS-THRU 2 Demo Sink	Soffit - Downlights operational, in correct location and tight to soffit - Painted per plans			

No	Area	Line Item	Status	Comments	Date Completed
5	PASS-THRU 2 Demo Sink	Walls - Tile installed - Recessed niche with proper tile orientation - Corian shelf with eased edges, caulked and sealed at perimeter - Mirror installed at ADA height, fixed to wall with screws at cleats			
6	PASS-THRU 2 Demo Sink	Counter and Sink - Correct ADA height and clearances below - Splash caulked to counter and tiles - Sink caulked to counter - Hot and cold water functioning - Faucets do not interfere with mirror - Wood trim does not interfere with counter			
7	PASS-THRU 2 Demo Sink	Below Counter - Walls painted, base caulked to wall and floor - Proper support for counter - Insta-hot installed on underside of counter, close to wall - Protective ADA wrap at P-trap - Access panel for ejector pump - Ejector pump operational, shut-off valves functioning			
8	PASS-THRU 2				
9	PASS-THRU 2				
10	PASS-THRU 2				
ROOM 3					
1	ROOM 3 Ceiling	Ceiling - Gypsum board			
2	ROOM 3 Ceiling	Ceiling - ACT - Proper alignments of grid, light fixtures and MEP fixtures			
3	ROOM 3 Ceiling	Access panels (if applicable)			
4	ROOM 3 Ceiling	CCTV System - Security cameras			
5	ROOM 3 Ceiling	Sprinkler Heads - Centered in ceiling tiles or - Recessed with escutcheons fit tight to ceiling - White finish			
6	ROOM 3 Ceiling	Lighting - Downlights fit tight to ceiling - Tracklighting; types per plan, perimeter lighting aimed, others set at 45 degrees - All lamps working			
7	ROOM 3 Ceiling	Emergency lights/ Exit signs - EM lights turn on when power disconnected			
8	ROOM 3 Ceiling	Speakers - Energized			
9	ROOM 3 Ceiling	Diffusers			
10	ROOM 3 Walls	Wall surfaces and paint			
11	ROOM 3 Walls	Wall base - On floor finishes, sanded smooth and caulked			
12	ROOM 3 Walls	Electrical Outlets			
13	ROOM 3 Walls	Temp Sensors/ Thermostats/ Fire strobes/ Fire alarm - No equipment of sensors mounted in displays or on gables			
14	ROOM 3 Walls	Unit 1 Cabinets - Wood trim, nails holes filled, joints tight, proper finish - Shelving installed - Fixed shelf illuminated (Pkg 1 only) - Shelf talkers and timeless image frames installed - Protective plastic removed - Metal angles screwed to wall and gables - Horizontal outlets installed - Base cabinet operational and secured per plans			
15	ROOM 3 Floor	Tile Floor - 1/8" grout joints - Tiles level, no tripping hazards - Floor is sealed - Free of dust, dirt, marks and scratches			
16	ROOM 3 Floor	Wood flooring - Random pattern - Fits smooth and level, tight fit, no "Hollow" areas - Expansion joints per plans - Free of dust, dirt, marks and scratches			
17	ROOM 3 Floor	Floor outlets - Operational and sitting tight to floor			

No	Area	Line Item	Status	Comments	Date Completed
18	ROOM 3				
19	ROOM 3				
20	ROOM 3				
21	ROOM 3				
UNIT 4 CABINET, CASHWRAP / BACKWRAP, SALES FLOOR CLOSET AND FIXTURES					
1	UNIT 4 CABINET	<ul style="list-style-type: none"> - Wood trim, nails holes filled, joints tight, proper finish - Shelving level, not tight to trim - Garcy studs, clean wall finish - Fixed shelf illuminated (Pkg 1 only) - Outlets installed 			
2	UNIT 4 CABINET	<ul style="list-style-type: none"> - 3/8" gap between base cabinet and trim - Filler installed behind trim - Base cabinet functional and screwed to wall 			
3	UNIT 4 CABINET				
4	CASHWRAP	<ul style="list-style-type: none"> - Counter top - Tight seams between units and end panels - Cashwrap front and end panels - Full width plinth blocks installed below end panels 			
5	CASHWRAP	Base at Toe kick			
6	CASHWRAP	<ul style="list-style-type: none"> - Drawers and Shelves - Operational - Protective paper removed from interior dividers - Interior shelving present 			
7	CASHWRAP	<ul style="list-style-type: none"> - Electrical outlets / Convenience outlets - Dedicated circuits identified - Access panels installed 			
8	CASHWRAP	<ul style="list-style-type: none"> - ADA ledges installed at proper height - Hinges swing freely and supports installed 			
9	CASHWRAP	Registers installed			
10	CASHWRAP				
11	CASHWRAP				
12	BACKWRAP	<ul style="list-style-type: none"> - Wood trim, base - Nail holes filled, joints tight, proper finish 			
13	BACKWRAP	<ul style="list-style-type: none"> - Soffit - Painted per plans - Marketing rail installed, at least 3" clear at each end - Fluorescent lighting operational 			
14	BACKWRAP	Walls			
15	BACKWRAP	<ul style="list-style-type: none"> - Counter top - Tight seams between units - Backsplash - Paper roll secured to cabinet, proper orientation - End infill panels 			
16	BACKWRAP	<ul style="list-style-type: none"> - Drawers and Shelves - 3/4" undercut to clear anti-fatigue mat - Operational - Protective paper removed from interior dividers - Interior shelving present 			
17	BACKWRAP	<ul style="list-style-type: none"> - Electrical outlets / Data outlets/ Buzzer - Dedicated circuits identified 			
18	BACKWRAP	Base at toe kick			
19	BACKWRAP	Anti-fatigue mat			
20	BACKWRAP				
21	BACKWRAP				
22	CLOSET	<ul style="list-style-type: none"> - Doors - Hardware per schedule 			
23	CLOSET	<ul style="list-style-type: none"> - Interior - Shelving and wall standards - Light mounted above door with protective cage 			

No	Area	Line Item	Status	Comments	Date Completed
24	CLOSET				
25	FIXTURES	Fixtures placed per fixture plan			
26	FIXTURES	Finishes - Free of dents, nicks or damage - All protective packaging removed			
27	FIXTURES	Doors and drawers - Operational - Protective paper removed from interior dividers - Interior shelving present			
28	FIXTURES				
29	FIXTURES				

EXIT CORRIDOR / HALLWAY, CLOSET

1	EXIT CORRIDOR	Ceiling - Lighting with protective cages - Exit lighting - Sprinkler heads and diffusers - Security camera, motion sensor (if specified)			
2	EXIT CORRIDOR	Walls and base - FRP installed - Corner guards			
3	EXIT CORRIDOR	Floor			
4	EXIT CORRIDOR	Door - Sales to Hallway - Wood trim - Hardware per schedule			
5	EXIT CORRIDOR	Door - Hallway to Stock - Hardware per schedule			
6	EXIT CORRIDOR	Door - Rear Exit Door - Arm-a-door with U-change lock - NRP hinges on all exterior doors - Hardware per schedule - BBW sign on exterior side of door - Exterior side per mall standards - Buzzer - Door contact if exterior location			
7	EXIT CORRIDOR				
8	EXIT CORRIDOR				
9	CLOSET	Doors - Hardware per schedule			
10	CLOSET	Interior - Shelving and wall standards - Light mounted above door with protective cage			
11	CLOSET				

TOILET ROOMS, MOP SINK, HOT WATER TANK AND DRINKING FOUNTAIN

1	TOILET ROOM	Ceiling - Lighting (sensor switch working) - Exhaust fan (sensor switch working) - Sprinkler heads			
2	TOILET ROOM	Walls - Wainscot (FRP or tile) - Switches, Outlets at 42" AFF - ADA coat hook at 42" AFF - Baby changing table (if specified) - Horn/strobe (if specified)			
3	TOILET ROOM	Shelving and/or wall cabinet - Exposed corners of shelving cut at 45 degrees			
4	TOILET ROOM	Toilet Paper Dispenser, Paper Towel Holder, Grab Bars (Electric hand dryer if specified)			
5	TOILET ROOM	Mirror above sink - Installed per plans - Screws at top and bottom channels - Bottom channel lip 3/8" high; top lip 5/8" high - Gap between top of mirror and underside of top channel - Clear silicone at mirror perimeter			
6	TOILET ROOM	Mirror at door - Installed per plans - Screws at top and bottom channels - Bottom channel lip 3/8" high; top lip 5/8" high - Gap between top of mirror and underside of top channel - Clear silicone at mirror perimeter			


No	Area	Line Item	Status	Comments	Date Completed
7	TOILET ROOM	Lavatory - As specified - Caulked to wall - ADA protective wrap at P-trap			
8	TOILET ROOM	Water Closet - As specified - Caulked to floor			
9	TOILET ROOM	Door - Hardware as specified - ADA signage per local codes - Coat hook			
10	TOILET ROOM	Floor - Drain installed, neat floor finish at drain			
11	TOILET ROOM				
12	TOILET ROOM				
13	MOP SINK	Walls - FRP, caulked to mop sink			
14	MOP SINK	Shelving			
15	MOP SINK	Mop holders installed to drip in sink			
16	MOP SINK	Faucet - Hose and hose bracket			
17	MOP SINK	Sink - Caulked to floor and walls			
18	MOP SINK				
19	HOT WATER TANK	Hot Water Tank - Drain pan installed - Drain piping routed per local codes - Tank secured per local codes - Hot and cold water piping insulated			
20	HOT WATER TANK				
21	DRINKING FOUNTAIN	Alcove - FRP, base, corner guards - Wall tile, base, corner guards (if specified)			
22	DRINKING FOUNTAIN	Non Alcove - ADA protective railing (if specified)			
23	DRINKING FOUNTAIN				
STOCKROOM					
1	STOCKROOM	Ceiling - ACT - Proper alignments of grid, light fixtures and MEP fixtures			
2	STOCKROOM	Ceiling - OTS - Existing structure fairly clean, no demo required			
3	STOCKROOM	Ceiling - Lighting - Protective cages, emergency and exit lighting			
4	STOCKROOM	Ceiling - Sprinkler - Correct heads - No heads within 18" of shelving or structure below - Heads away from ledge above restrooms, offices - Recessed heads above ledge if ACT ceiling			
5	STOCKROOM	Ceiling - Plumbing - All lines insulated			
6	STOCKROOM	Ceiling - HVAC - Grilles per plan - Transfer grille between stock and sales (if specified)			
7	STOCKROOM	Ceiling - Security - Motion sensors (if specified)			
8	STOCKROOM	Walls - FRP, corner guards, base			
9	STOCKROOM	Walls - Outlets, telephone j-boxes - Temp sensors, thermostats, horn/strobes			
10	STOCKROOM	Walls - Plan tube holder - Lockers - Buzzer - Apron hooks - Framed C of O and GC/Subcontractor list			

No	Area	Line Item	Status	Comments	Date Completed
11	STOCKROOM	Ledge - Painted wood trim - Plywood top, clean - Minimal exposed piping, sprinkler lines, ductwork at ledge - Red line painted 18" below sprinkler head and letters stating "Do not stack above this line" - Maximum loading capacity sign			
12	STOCKROOM	Manager's Workstation - Furring strips per plan and attached to wall with (3) screws per stud - Undershelf light - Outlets, data per plans - Music system installed and operational - Safe mounted on floor below			
13	STOCKROOM	Wall Shelving - Furring strips per plan and attached to wall with (3) screws per stud - Standards no more than 24" apart			
14	STOCKROOM	Wall Shelving - Shelves secured to bracket with (2) clips, (2) screws per clip - Cantilever of shelf does not exceed 6" - Exposed corners of shelves cut at 45° if hazard			
15	STOCKROOM	Fixed Shelving Units - Furring strips per plan and attached to wall with (3) screws per stud - Each vertical post screwed to furring with (2) screws - Each front post anchored to floor			
16	STOCKROOM	Fixed Shelving Units - Bottom shelf not installed, but left, right and rear shelf supports installed - Top shelf at top of vertical posts (posts do not project) - Shelving installed and spacing per plans			
17	STOCKROOM	Freestanding Shelving Units - Connected to wall/each other with bracing/bolts - Diagonal bracing (2) per 10', (1) per 8' - Each post anchored to floor			
18	STOCKROOM	Freestanding Shelving Units - Bottom shelf not installed, but left, right and rear shelf supports installed - Top shelf at top of vertical posts (posts do not project) - Shelving installed and spacing per plans			
19	STOCKROOM	Mobile Shelving Units - Diagonal bracing (2) per 10', (1) per 8' - Track anchored to floor, carriage runs smooth - Wheel stops at each end of each track - Tracks located minimum 6" from adjacent shelving			
20	STOCKROOM	Mobile Shelving Units - Nuts on J-bolts connecting carriage to posts are tight - 3" bumpers installed at 7'-0" AFF at each outside vertical post providing minimum 6" gap between units - Top shelf at top of vertical posts (posts do not project) - Shelving installed and spacing per plans			
21	STOCKROOM	Shelving Units - General - Pegboard, white boards, flip-up ledges and ladder hook installed per plans			
22	STOCKROOM	Floor - Clean and waxed - FC-5 vinyl installed in front to switchgear - FC-12 vinyl installed in designated processing area			
23	STOCKROOM	Switchgear - Lockouts installed per plan - Circuit ID list typed and posted in panel doors - Top is clean			
24	STOCKROOM	Phone Board - Plywood board - Lines brought to demarc			
25	STOCKROOM	Extra Materials - Stacked neatly on Ledge			
26	STOCKROOM				
27	STOCKROOM				
28	STOCKROOM				
OFFICE(S)					
1	OFFICE	Ceiling			
2	OFFICE	Walls, base - Outlets, data			
3	OFFICE	Wall Shelving - Installed per plans			

No	Area	Line Item	Status	Comments	Date Completed
4	OFFICE	Door - U-change cylinder - Coat hook - Framed C of O and GC/Subcontractor list			
5	OFFICE	Floor			
6	OFFICE				
7	OFFICE				
GENERAL					
1	GENERAL	Fire extinguishers mounted, located per FM			
2	GENERAL	Meter locations identified and address marked			
3	GENERAL				
4	INSPECTIONS	All inspections complete - Certificate of Occupancy on hand			
5	ELECTRICAL	Mall Electrical Room, Service - Store service identified and labeled			
6	PLUMBING	Water lines insulated			
7	HVAC	Commissioning complete			
8	HVAC	Air balance complete			
9	HVAC	Quadrant locking dampers installed and tagged			
10	HVAC	Rooftop Unit - Filters changed after final clean - Properly flashed and attached to curb - Condensate drain and properly discharged/supported - Gas piping properly supported - Store identified and labeled - Area cleaned of debris			
11	HVAC	Interior Air Handling Unit - Filters changed after final clean - Hung from structure per structural plans - Vibration isolation springs installed - Drain pan and condensate drain and properly discharged			
12	FIRE ALARM	Installed, functioning			
13	SECURITY SYSTEM	Installed, Functioning			
14	MISCELLANEOUS				
15	MISCELLANEOUS				
16	MISCELLANEOUS				
17	MISCELLANEOUS				
STORE TURNOVER LIST - SUPERINTENDENT TO PREPARE PRIOR TO STORE TURNOVER MEETING W/ SM AND DM AT 12 NOON, DAY PRIOR TO SUPPLY DAY					
1	TURNOVER	Prior to Store Turnover meeting with SM/DM - • Clean-up materials/tools prior to SM arrival ensuring that all is confined to one area so that store team can fully use the space. • Review dates/times for any inspections that still need to occur.			
2	TURNOVER	C. of O. and Subcontractor list in picture frames secured to wall adjacent to electrical panel			
3	TURNOVER	Signed off Presentation List - DM/ SM to review and sign off. Unpack all plexi items and neatly arrange together on the tables.			
4	TURNOVER	Keys to Store Manager - Each key clearly identified			
5	TURNOVER	Cleaning - Prior to Supply day, discuss schedule with store manager. Clean all cabinet shelving prior to Supply day.			
6	TURNOVER	One dumpster (30 yard) for initial Merchandising packaging materials. Point out location of dumpster			
7	TURNOVER	All punchlist items must be complete. Review with SM outstanding punchlist that have not been completed (if applicable) and give SM a copy of punchlist			
8	TURNOVER	Install Lockers arriving on supply day. Safe arrives earlier. Install Safe per plan.			

No	Area	Line Item	Status	Comments	Date Completed
9	TURNOVER	Owner fixtures and Hardware installed in place.			
10	TURNOVER	Move fixture/s to be reused from temp. space or old space to new store. Coordinate with SM			
11	TURNOVER	GC to show store personnel how to use marketing rail and hooks			
12	TURNOVER	Point out to SM location of loading dock or loading area and discuss restrictions (if applicable)			
13	TURNOVER	GC to show store personnel how to operate movable shelving units: • How to slide rolling racks • How to lock rolling racks • Review safety issues of rolling racks and tracks and code violation if any			
14	TURNOVER	Panic Alarms • Review with SM how to operate the panic bar on rear service doors and make sure they are working properly • Review how to change battery in panic bar			
15	TURNOVER	Storefront Rolling Gate: • Demonstrate emergency release • Demonstrate to SM and verify that motorized gate works properly • Check u-change cylinder locks are working properly. DM to change lock at store turnover.			
16	TURNOVER	HVAC: • Point out to SM control override buttons and explain use • Point out to SM where temperature sensors are located throughout the store			
17	TURNOVER	Plumbing: • Point out main water shut-off valve (if applicable) • Point shut off valves fro the toilets, sinks, and water fountains (if applicable)			
18	TURNOVER	Electrical: • Locate electrical panel and explain use of panel. Explain why store need to maintain 3'-0" clearance in front of panels at all times. • Open panel and point out labeled breaker identification cards • Explain the red tiled areas (Fire Code) • Point out main electric disconnect • Explain why lockouts are installed			
19	TURNOVER	Lighting: • Store lighting is on a timed schedule. Verify that lights turn on ---- in the morning and ---- prior to closing • Demonstrate how to adjust storefront lights as well as changing lamp (track, spot, and fluorescent) • Demonstrate how to change track lighting bulbs and heads • Demonstrate how to change fluorescent lights in the sales and non-sales • Demonstrate how to change cabinet lamps if applicable • Show which extra bulbs in the backroom are for what fixture in store and make sure store has enough extra of each type • Store is 100% lit on opening day			
20	TURNOVER	Non-sales: • Explain weight constraints of the ledge (if applicable) and any OSHA restrictions. • Point out location of extra construction materials that need to be kept for future repairs (tile, paint, VCT floor, etc.). Dispose of additional construction materials that SM does not want to keep. • Explain to SM that items stacked (product, fixtures, etc.) require a minimum of 18" from sprinkler heads as mandated by most fire codes. • Install bulletin boards.			
21	TURNOVER	DMX/Sound System: • Verify music system is working properly and music can be heard in all rooms with speakers • Verify music level in each room of the store are even • Review w/ SM on how to operate system			
22	TURNOVER	Hand over equipment manuals to SM (if applicable)			
23	TURNOVER	Prior to turnover, GC to provide cardboard protection on all door frames, corners of walls, wood trim at pass-thru (if applicable)			
24	TURNOVER	(6) Final Cleaning - After Merchandising discuss schedule with store manager. SM must sign off on cleaning			
25	TURNOVER	Barricade Removal - Evening prior to Opening Repair finishes, neutral piers			
26	TURNOVER				
DE-IMAGING TEMP SPACE OR EXISTING STORE					
1	DE-IMAGING	Remove storefront sign, window decal, and any BBW graphics and logos			
2	DE-IMAGING	Destroy and dispose of unused fixtures (refer to de-imaging notes in the CD set)			

No	Area	Line Item	Status	Comments	Date Completed
3	DE-IMAGING	Remove utilities from Limited Brands name			
4	DE-IMAGING				
FEEDBACK					
1	FEEDBACK				
2	FEEDBACK				
3	FEEDBACK				
4	FEEDBACK				
5	FEEDBACK				
6	FEEDBACK				

Store #:		 STORE DESIGN & CONSTRUCTION	Visit date:	
Store Name:		MID-SITE VISIT RECORD		
City, State				
General Contractor:				
GC Project Manager				
Superintendent:				
SD&C PM:		Const START:		
Brand Manager:		Const END:		
Status Options: C = Complete CC = Complete with Comments NC = Not Complete NA = Not Applicable				
KEY ELEMENTS	Status	No.	Issues to be addressed by GC	
FRAMING				
<u>Storefront framing:</u> - box columns: size per struct drawings - box beams: size per struct drawings - structural steel as per structural drawings - tube steel framed / canopy connection per drawings - cantilever framed per drawings - Measure framing (i.e.: cabinet bay widths)		1		
		2		
		3		
		4		
<u>Interior partitions:</u> - stud size & gauge, and MAX height per details - support & bracing to deck per details - bridging installed - GARC Y studs installed per plan, straight vertically & aligned horizontally		5		
		6		
		7		
		8		
<u>Transition or pass-thru framing:</u> - stud size & gauge per details - stud framing & ceiling support per details - j-box (if applicable) for outlet in base, centered		9		
		10		
<u>Rolling grilles</u> - tube steel supports: correct locations, anchored to slab & structure above as per plans - grille & motor installed		11		
		12		
BLOCKING				
<u>Storefront:</u> - metal blocking for marketing rails / grid per details		1		
		2		
<u>Sales area:</u> - Cabinet bays per drawings - All Focal walls per details - Blocking for all graphics per detail - Backwrap area per detail - Demo sink & mirror per detail - CCTV monitor support (if applicable)		3		
		4		
		5		
		6		
<u>Toilet room:</u> as per details - Mirror over sink - Full length mirror - wall shelving / storage cabinet - grab bars		7		
		8		
		9		
<u>Fitting area:</u> as per details - FR mirrors - Hook strips - HC bench - Bra wardrober fixture		10		
		11		
		12		

KEY ELEMENTS	Status	No.	Issues to be addressed by GC
Manager's Office: as per details - desk		13	
<u>Stockroom</u> : as per details - Storage platform framing		14	
- break area blocking for cabinetry (if applicable)		15	
- ALL UNIT (ACES) steel supports & angles		16	
- Coat rack in break area			
- Rear door metal LP shield in wall (store side)			
DRYWALL			
<u>Drywall</u> : - start installation		1	
- start taping & mudding		2	
- corner bead locations			
MECHANICAL, ELECTRICAL, PLUMBING, SPRINKLERS			
<u>HVAC</u> - new roof top penetrations & structural supports in place		1	
- main ducts installed: check size, location		2	
- duct insulation installed		3	
- supply duct drops		4	
- locking quadrant dampers		5	
- conical or 45 degree transitions from rectangular to round duct			
- VAV or AHU support w/ isolation connections			
<u>Electrical</u> - all rooms roughed in for lighting and outlets		6	
- home run <u>conduits</u> back to main switchgear		7	
- conduit from entries to switchgear for traffic counters		8	
- power & data/phones roughed in at Mgr office		9	
- cashwrap power stub			
- floor outlets piped			
- 3- wire to all connection points / grounding			
<u>Plumbing</u> - new water & sewer lines roughed in		10	
- check if code allows PVC piping allowed above ceiling		11	
- rough in to wall for toilet & sink, dimensions per details (ADA clearance)		12	
<u>Sprinklers</u> - mains and head locations roughed in		13	
- check for any clearance issues		14	
GENERAL INFORMATION			
SCHEDULE		1	
		2	
INSPECTIONS (Rough, Sprinkler, Plumbing, Electrical, Mechanical)		3	
REVISIONS		4	
OSM		5	
		6	
DESIGN INTENT & DETAILS		7	
		8	
OTHER		9	
		10	

BATH AND BODY WORKS

BACKROOM SHELVING INSTALLATION INSTRUCTIONS **2008**

Shelving Heights

Fixed Shelving - 8' High - 4 Shelves
Mobile Shelving - 8' High - 5 Shelves
Fixed Shelving - 10" High - 5 Shelves
Mobile Shelving - 10" High - 6 Shelves

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PARTS

LIST

PARTS LIST

ITEM # DESCRIPTION

Uprights

1	96" "L" Post
1A	120" "L" Post
1B	96" "T" Post
1C	120" "T" Post

Shelf Supports

2A	18" Shelf Support
2C	30" Shelf Support
2D	36" Shelf Support
2F	48" Shelf Support HD - 11GA.
3A	36" Z Beam
3B	48" Z Beam
24	30" Center Support

Shelves

10A	36" x 18" Particle Board Shelf
10C	36" x 30" Particle Board Shelf
10E	48" x 18" Particle Board Shelf
10G	48" x 30" Particle Board Shelf
10H	36" x 18" Metal Perforated Shelf (When required for code)
10J	36" x 30" Metal Perforated Shelf (When required for code)
10L	48" x 18" Metal Perforated Shelf (When required for code)
10M	48" x 30" Metal Perforated Shelf (When required for code)

Crossbrace Hardware Set - QLM411

5	43 ⁵ / ₈ " Crossbrace
6	1/4-20 x 3/4" Hex Head Machine Screw
6A	1/4-20 Stop Nut
6B	1/4" Flat Washer
9	1/4" T-27 Tamper Proof Insert Bit
9A	T-27 Tamper Proof L-Key .197 x 2 ³ / ₄ " Long

Floor Anchor Kit - QLM405

4	Anchor Clip
4A	1/4-20 Nut
4B	Keps Nut
4C	1/4-20 x 1" Bolt
4D	1/4" x 3 1/4" Anchor (Hilti II)
4E	Flat Washer

ITEM # DESCRIPTION

Back-To-Back Bolting Kit - QLM416

6	Hex Head Machine Screw 1/4-20 x 1" (6 Lobe)
6A	1/4-20 Lock Nut
7A	Spacer

Stationary Upright Kit - QLM409

8	#12 x 2" SM Screw or 1/4-20 x 2" Torx Head S/M Screw
8A	1/4" Flat Washer

Track Parts

11	Flat Track - Cut to Length
11A	In-Track Anti-Tip Flat Track - Cut to Length
11B	3/16 x 1 3/4" PHFH TAPCON Screw
11C	1/4 x 3 1/4" Hilti II
11D	Rubber Bumper End Stop

End Cap Kit - QLM420

20	#10 x 1" Tek Screw
21	1" Fender Washer

Base Hardware Kit

19	#12 x 1 1/4" Self Drilling Screw
19A	#12 x 3" Self Drilling Screw

Bumper Extension Kit - QLM410

18	Bumper Extension
18A	1/4" Fender Washer
18B	1/4" Lock Washer
18C	1/4-20 Screw

Drive Box Hardware

27A	Drive Box Hardware Kit
-----	------------------------

PARTS LIST

ITEM #	DESCRIPTION
--------	-------------

Accessory Parts

MDF Handle

39	MDF Handle
17A	¼ Allen HD Screw
17B	¼" Flange Nut

Ladder Holders

40	36" Ladder Holder
40A	48" Ladder Holder

Pegboard Kit

25A	48" x 18" Pegboard Panel
25B	48" x 30" Pegboard Panel
25C	6" Peg Hooks
25D	18" Peg Hooks
25E	Hardware

Dry Erase Kits

26A	18" x 11" Dry Erase Board Kit
26B	30" x 12" Dry Erase Board Kit

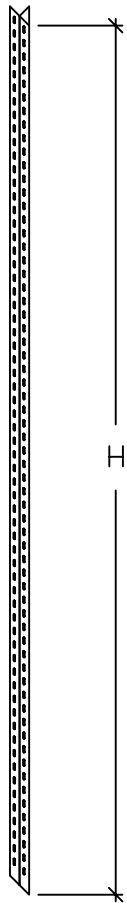
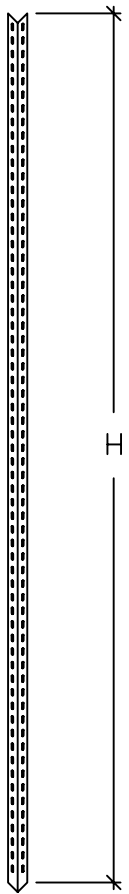
Folding Table

28	Folding Table
----	---------------

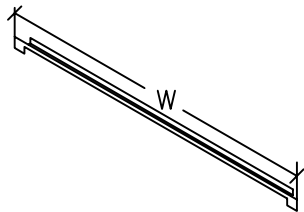
Wall Standards and Brackets

29A	8" High Standard
29B	14" Bracket
29C	Shelf Clip with Screws
29D	Wall Standard Screw

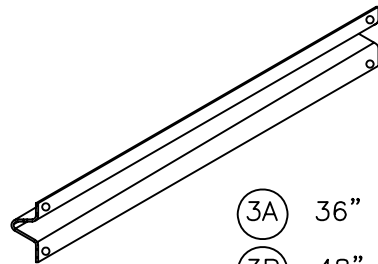
GENERAL PARTS



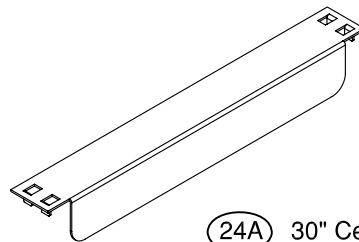
- (1) 96" "L" POST (1B) 96" "T" POST
- (1A) 120" "L" POST (1C) 120" "T" POST



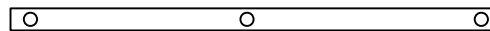
- (2A) 18" SHELF SUPPORT
- (2C) 30" SHELF SUPPORT
- (2D) 36" SHELF SUPPORT
- (2F) 48" SHELF SUPPORT
HEAVY DUTY - 11GA.



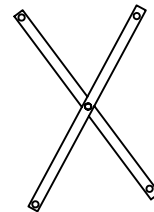
- (3A) 36" Z BEAM
- (3B) 48" Z BEAM



- (24A) 30" Center Support



- (5) CROSSBRACE
(USE ON 30" DEEP UNITS ONLY)

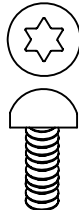


CROSSBRACE HARDWARE KIT

KIT
QTY.

5

(6)



BUTTON HEAD TORX
MACHINE SCREW
1/4-20 x 3/4"

5

(6A)



1/4-20 STOP NUT

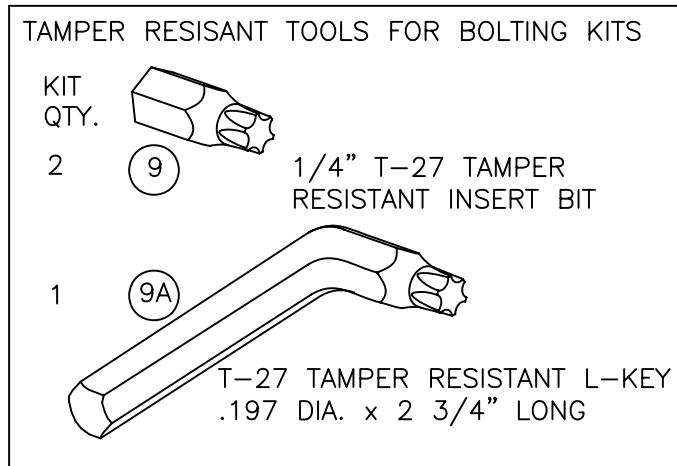
5

(6B)

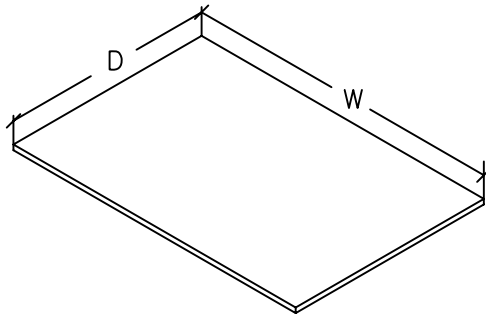


1/4 FLAT WASHER

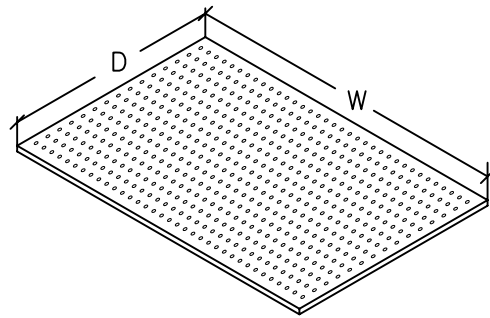
GENERAL PARTS



NOTE: TAMPER PROOF TOOLS
ARE TO BE REMOVED FROM
PROJECT SITE AT END OF
CONSTRUCTION.





5/8" PARTICLE BOARD SHELF			
NO.	W		D
(10A)	36"	x	18"
(10C)	36"	x	30"
(10E)	48"	x	18"
(10G)	48"	x	30"

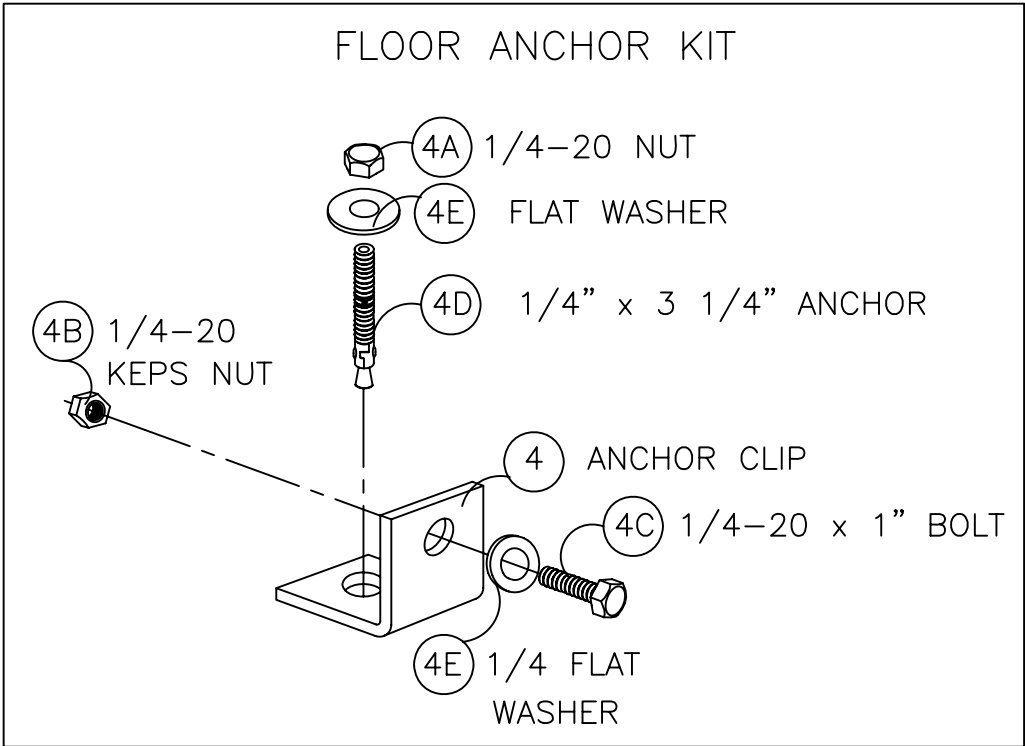


METAL PERFORATED SHELVES (WHEN REQUIRED FOR CODE)			
NO.	W		D
(10H)	36"	x	18"
(10J)	36"	x	30"
(10L)	48"	x	18"
(10M)	48"	x	30"

STATIONARY PARTS

STATIONARY UPRIGHTS TO FURRING STRIP KIT		
KIT		
QTY.		
20	(8)	#12 X 2" HEX HEAD S/M SCREW
20	(8A)	 1/4 FLAT WASHER

ENDCAP KIT		
	DESCRIPTION	QTY
(20)	#10x1" TEK SCREW	10
(21)	1"X1/4 FLAT FENDER WASHER	10

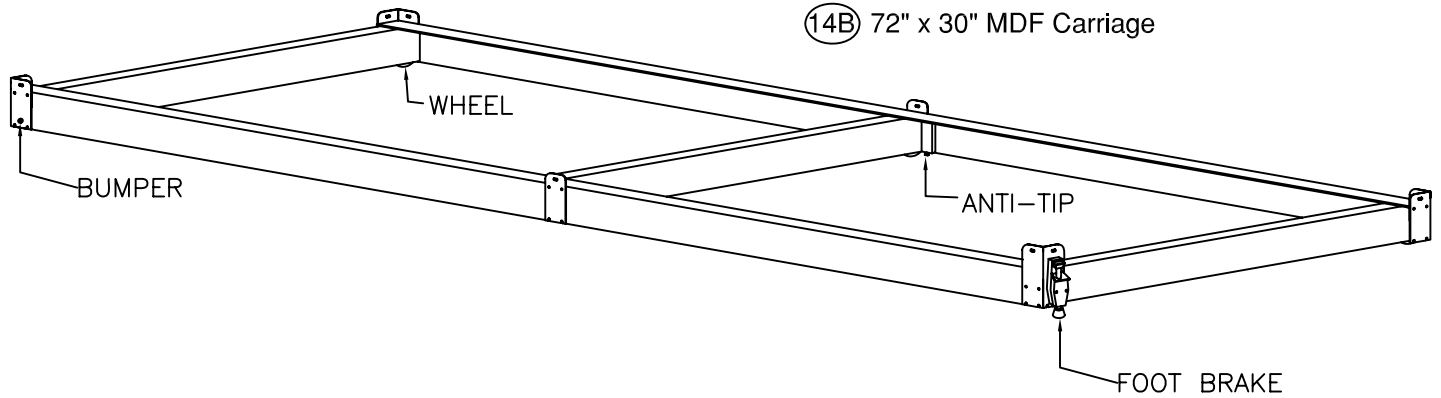


MOVABLE PARTS

(14) 36" x 30" MDF Carriage

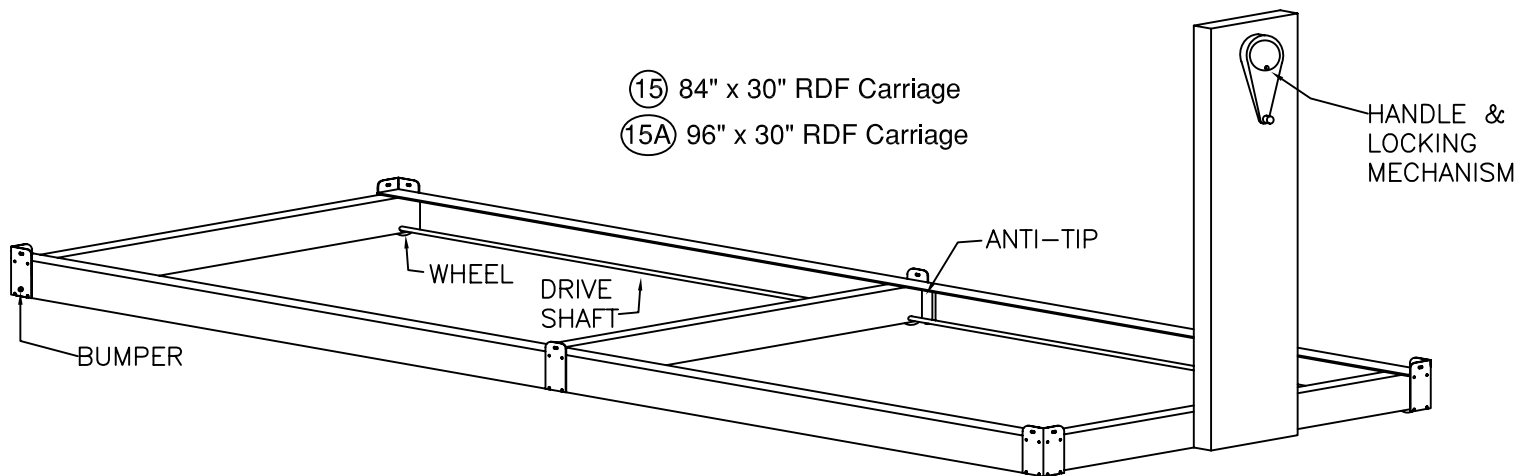
(14A) 48" x 30" MDF Carriage

(14B) 72" x 30" MDF Carriage




(15) 84" x 30" RDF Carriage

(15A) 96" x 30" RDF Carriage




BASE HARDWARE KIT

"L" POST

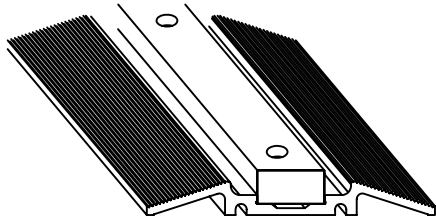
(19)  #12 x 1 1/4 SELF DRILLING SCREW

"T" POST

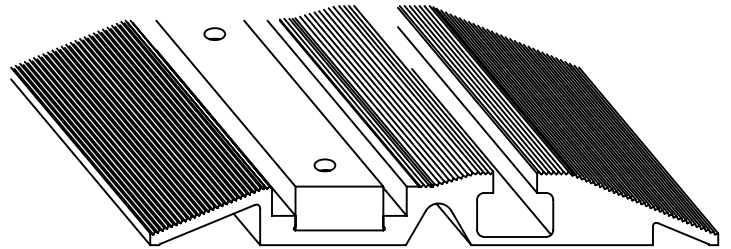
(19A)  #12 x 3" SELF DRILLING SCREW

MOVABLE PARTS

⑪ RDF/MDF Flat Track - FT5031



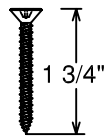
⑪A RDF/MDF In-Track Anti-Tip Flat Track - ALU088



TRACK HARDWARE KIT (PER RUN OF TRACK)

PART NUMBER	DESCRIPTION
----------------	-------------

TRA301	3/16 X 1-3/4" PHFH TAPCON SCREW
--------	--



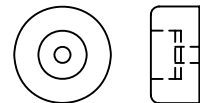
TRA200	HILTI II, SEISMIC, 1/4X3-1/4
--------	------------------------------------



END STOP KIT

PART NUMBER	DESCRIPTION
----------------	-------------

CAR410	RUBBER BUMPER
--------	------------------

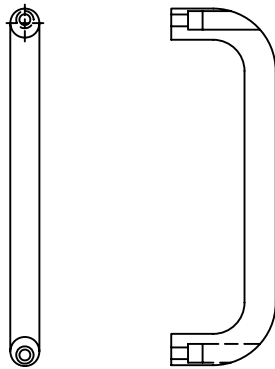


TRA200	HILTI II, 1/4X3-1/4
--------	------------------------



ACCESSORY PARTS

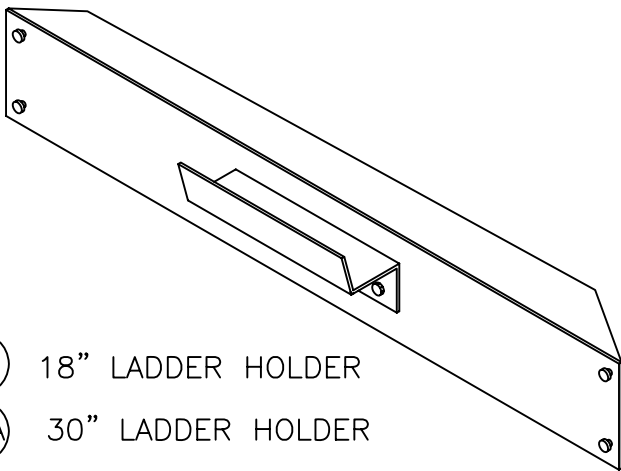
(39) HANDLE



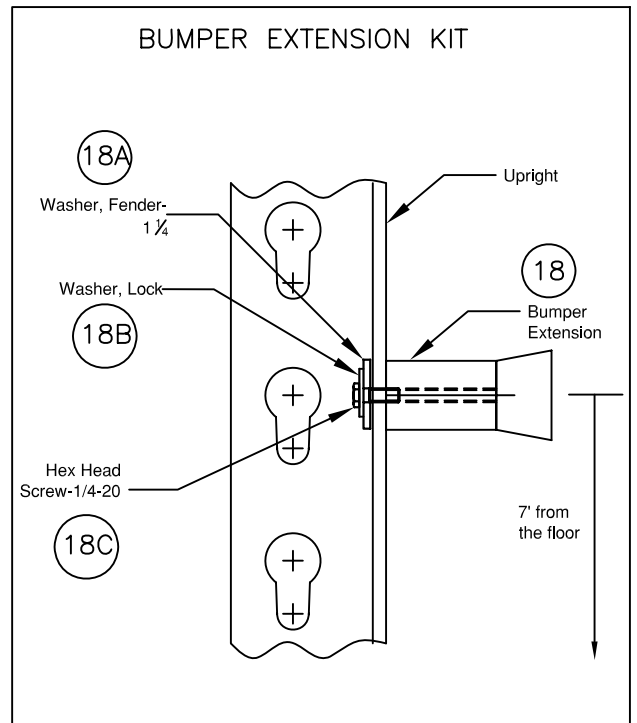
(17A) 1/4" ALLEN HD
(2) REQ'D



(17B) 1/4" FLANGE NUT
(2) REQ'D



- (40) 18" LADDER HOLDER
- (40A) 30" LADDER HOLDER
- (40B) 36" LADDER HOLDER
- (40C) 48" LADDER HOLDER



HANDLE AND BUMPER EXTENSION INSTALLATION

Step 1

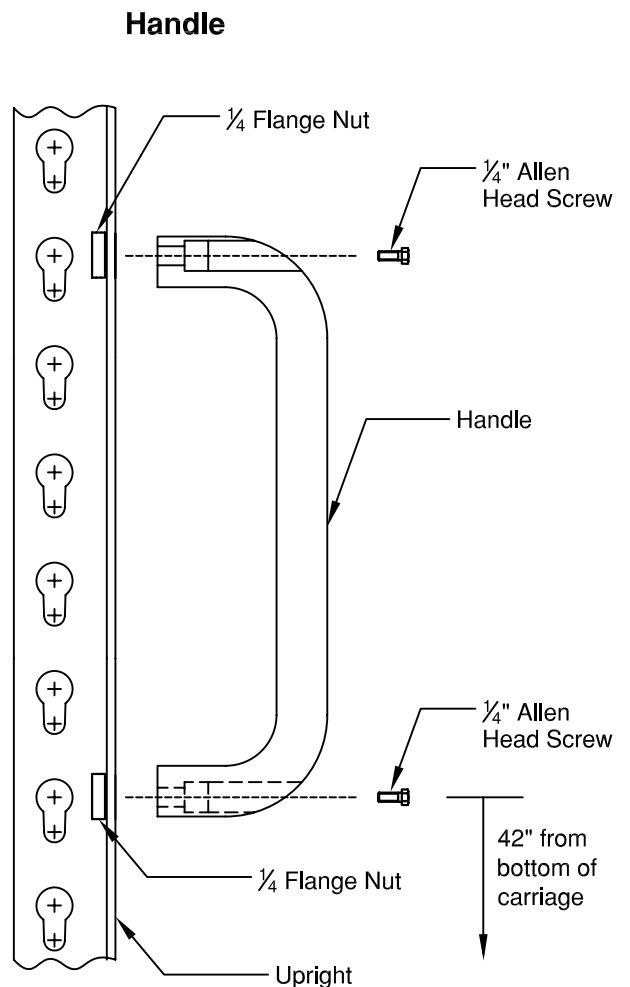
Locate the eyelet on the upright that is approximately 42" from the bottom of the carriage. This is the location for the bottom of the handle.

Step 2

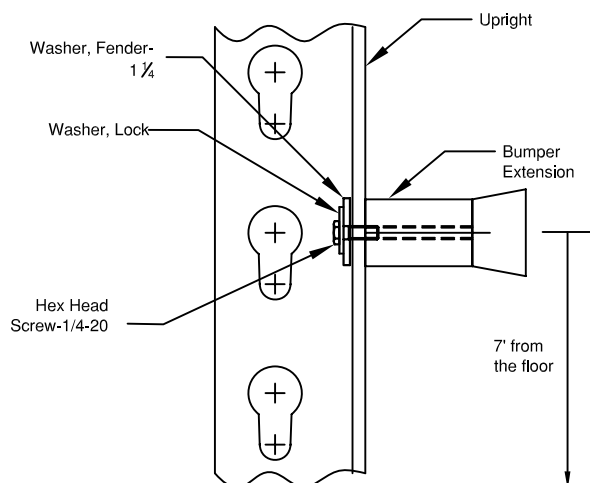
Attach handle using a $\frac{1}{4}$ " Allen head screw (from the front to the rear) and a $\frac{1}{4}$ flange nut on the back side of the upright. Repeat at the top location of the handle.

Step 3

Repeat on every mobile shelving assembly.



Bumper Extension



Step 1

Locate the eyelet on the upright that is approximately 7' from the floor.


Step 2

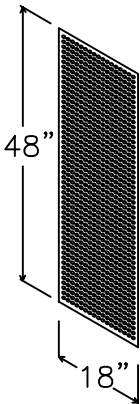
Attach bumper extension using a $\frac{1}{4}$ -20 Screw and $\frac{1}{4}$ x $1\frac{1}{4}$ washer.

Step 3

Repeat on every "L" Post" (4 per carriage)

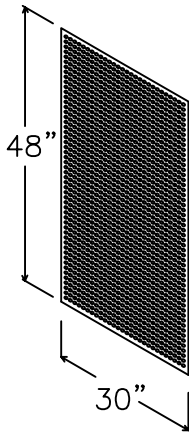
ACCESSORY PARTS

-  (25C) 6" PEG HOOK
- (25D) 12" PEG HOOK



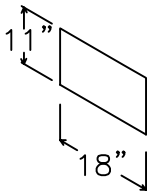
PEGBOARD PANEL

(25A) 48" x 18"H



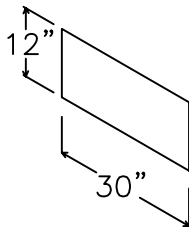
PEGBOARD PANEL

(25B) 48" x 30"H



DRY ERASE BOARD

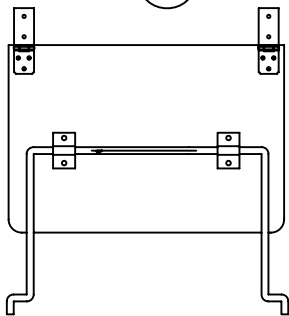
(26A) 18" x 11"



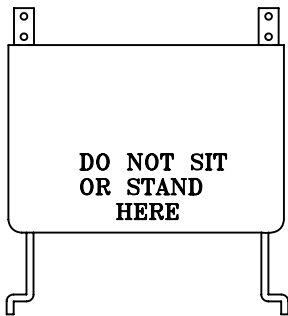
DRY ERASE BOARD

(26B) 30" x 12"

(28) FOLDING TABLE



BACK



FRONT

STATIONARY

INSTALLATION

INSTRUCTIONS

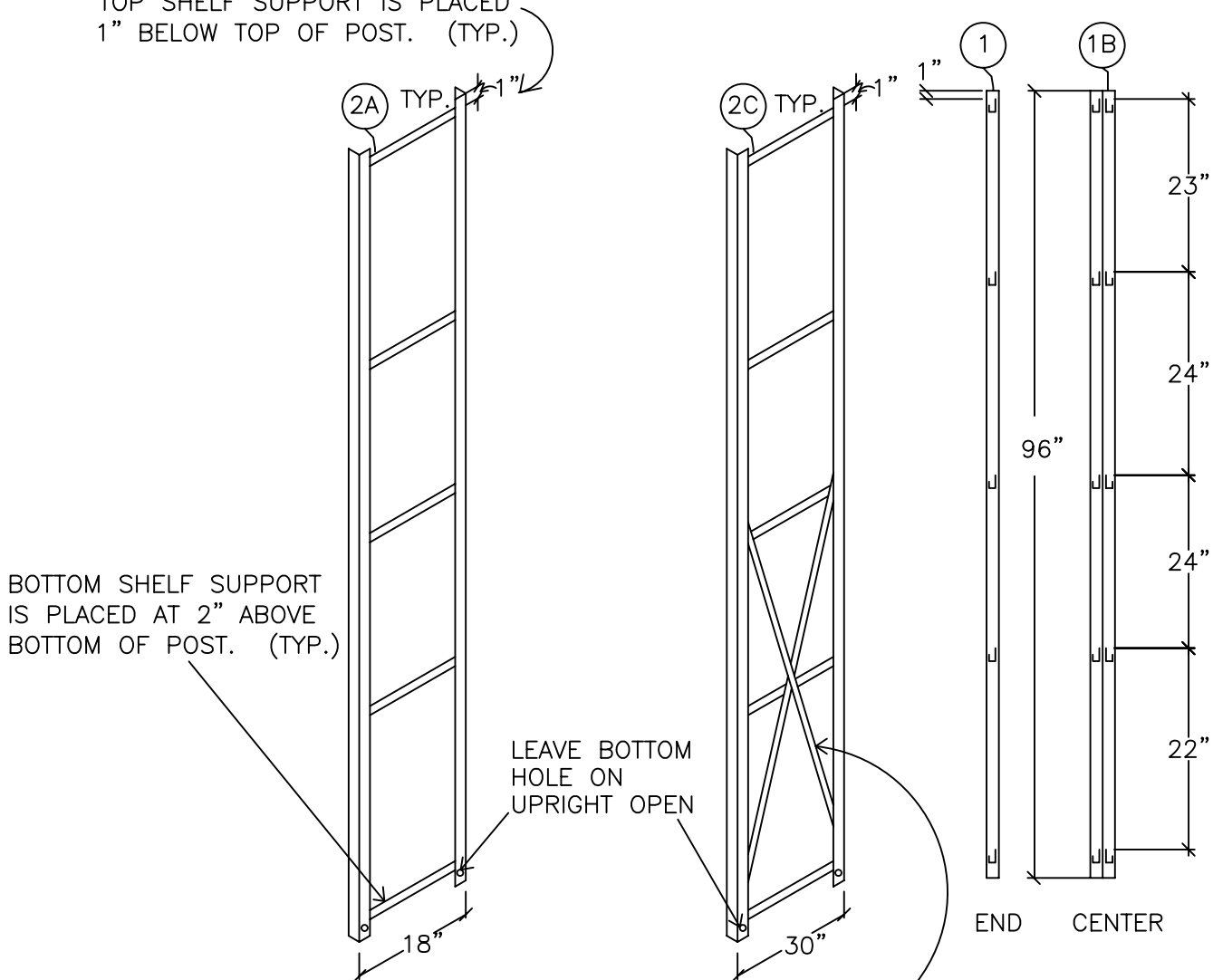
STATIONARY INSTRUCTIONS

GENERAL

1. INSTALL FURRING STRIP TO WALLS PER ARCHITECTURAL DRAWINGS. (BY GC)
2. ASSEMBLE ALL UPRIGHT ASSEMBLIES.
3. INSTALL SHELVING SUPPORTS IN LOCATIONS SPECIFIED ON ARCHITECTURAL DRAWING.
4. ATTACH ADDER UNITS TO STARTER UNITS.
5. BOLT OR SCREW UPRIGHTS TOGETHER FOR ANY BACK-TO-BACK UNITS OR ENDCAP UNITS.
6. SCREW ALL FIXED PERIMETER SHELVING UPRIGHTS TO FURRING STRIPS WHERE PROVIDED.
7. INSTALL CROSS BRACING WHEN REQUIRED. (30" WIDE UNITS ONLY)
8. INSTALL FLOOR ANCHORS ON FIXED UNITS.
9. INSTALL MISCELLANEOUS ACCESSORIES AND HARDWARE.
10. REMOVE TAMPER PROOF TOOLS FROM PROJECT SITE AT END OF CONSTRUCTION.

96" STATIONARY UPRIGHT ASSEMBLY (REFER TO A14 SHELVING ELEVATION DETAILS)

TOP SHELF SUPPORT IS PLACED
1" BELOW TOP OF POST. (TYP.)



BOTTOM SHELF SUPPORT
IS PLACED AT 2" ABOVE
BOTTOM OF POST. (TYP.)

LEAVE BOTTOM
HOLE ON
UPRIGHT OPEN

ON 30" UNITS ONLY, ONE CROSS BRACE
SUPPORT IS INSTALLED ON END ASSEMBLIES
ONLY PER CROSS BRACE INSTRUCTIONS ON
PAGE 22.

STEP 1 END UPRIGHTS

PRE-ASSEMBLE END UPRIGHT ASSEMBLIES
USING TWO (1) "L" POSTS (96") AND
FIVE (2A) 18" OR (2C) 30" SHELF SUPPORTS.
ALWAYS PLACE ONE SHELF SUPPORT AT TOP
AND BOTTOM PER ILLUSTRATIONS ABOVE.

ON (2C) (30") WIDE ASSEMBLIES, ONE CROSS
BRACE SUPPORT IS INSTALLED ON THE END
ASSEMBLIES ONLY PER THE CROSS BRACE
INSTRUCTIONS ON PAGE 22.

CENTER UPRIGHTS

STEP 1

PRE-ASSEMBLE CENTER UPRIGHT ASSEMBLIES
USING TWO (1B) "T" POSTS (96") AND
TEN (2A) 18" OR (2C) 30" SHELF SUPPORTS
(FIVE PER SIDE).

ALWAYS PLACE ONE SHELF SUPPORT AT TOP
AND BOTTOM PER ILLUSTRATIONS ABOVE.

120" STATIONARY UPRIGHT ASSEMBLY (REFER TO A14 SHELVING ELEVATION DETAILS)

TOP SHELF SUPPORT IS PLACED
1" BELOW TOP OF POST. (TYP.)

BOTTOM SHELF SUPPORT
IS PLACED AT 2" ABOVE
BOTTOM OF POST. (TYP.)

LEAVE BOTTOM
HOLE ON
UPRIGHT OPEN

ON 30" UNITS ONLY, 2 CROSS BRACE
SUPPORTS ARE INSTALLED ON END
ASSEMBLIES ONLY PER CROSS BRACE
INSTRUCTIONS ON PAGE 22.

STEP 1 END UPRIGHTS

PRE-ASSEMBLE END UPRIGHT ASSEMBLIES
USING TWO (1A) "L" POSTS (120") AND
SIX (2A) 18" OR (2C) 30" SHELF SUPPORTS.

ALWAYS PLACE ONE SHELF SUPPORT AT TOP
AND BOTTOM PER ILLUSTRATIONS ABOVE.

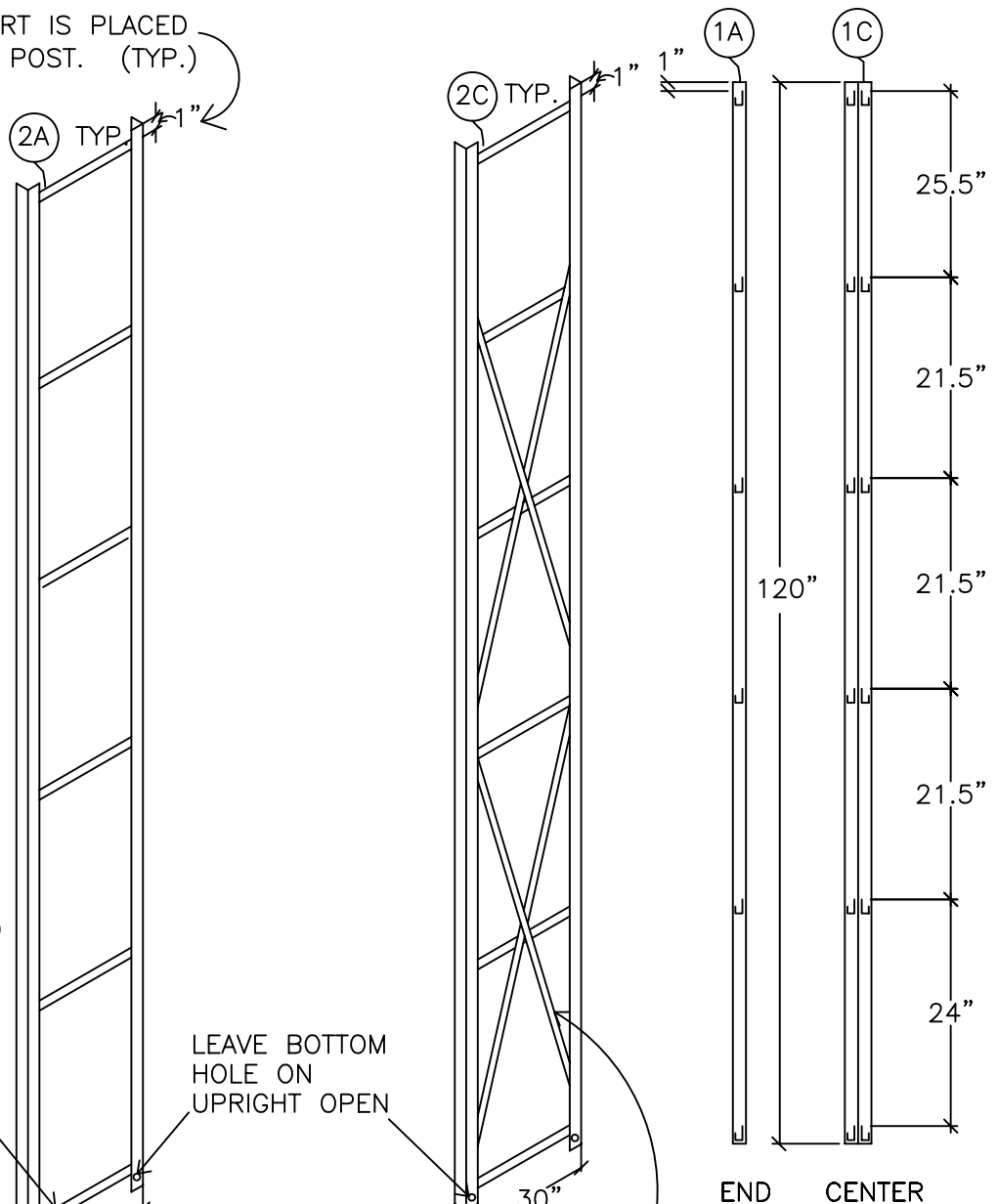
ON (2C) (30") WIDE ASSEMBLIES, TWO CROSS
BRACE SUPPORTS ARE INSTALLED ON THE
END ASSEMBLIES ONLY PER THE CROSS
BRACE INSTRUCTIONS ON PAGE 22.

CENTER UPRIGHTS

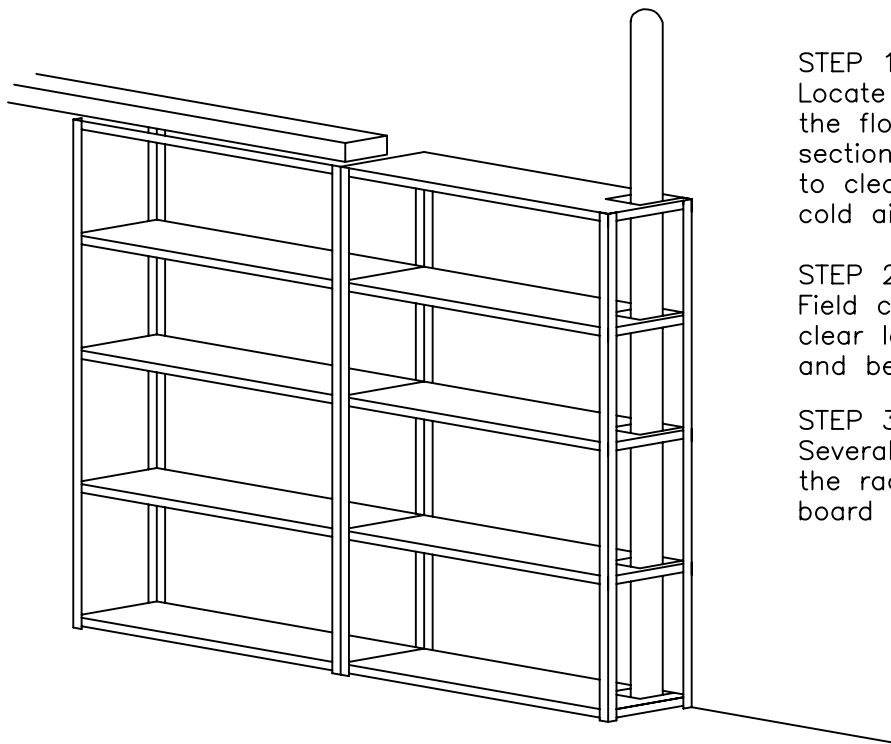
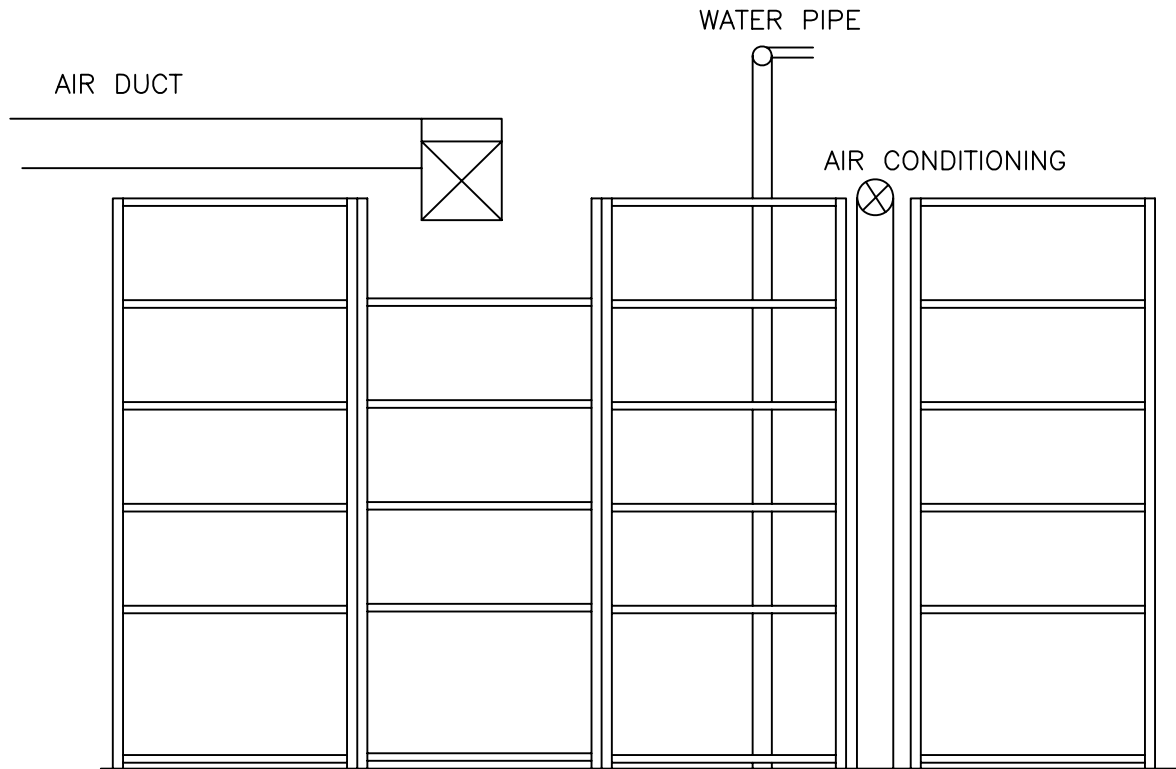
STEP 1

PRE-ASSEMBLE CENTER UPRIGHT ASSEMBLIES
USING TWO (1C) "T" POSTS (120") AND
TWELVE (2A) 18" OR (2C) 30" SHELF SUPPORTS
(SIX PER SIDE).

ALWAYS PLACE ONE SHELF SUPPORT AT TOP
AND BOTTOM PER ILLUSTRATIONS ABOVE.



FIXED SHELVING ON PERIMETER WALLS INSTALLATION



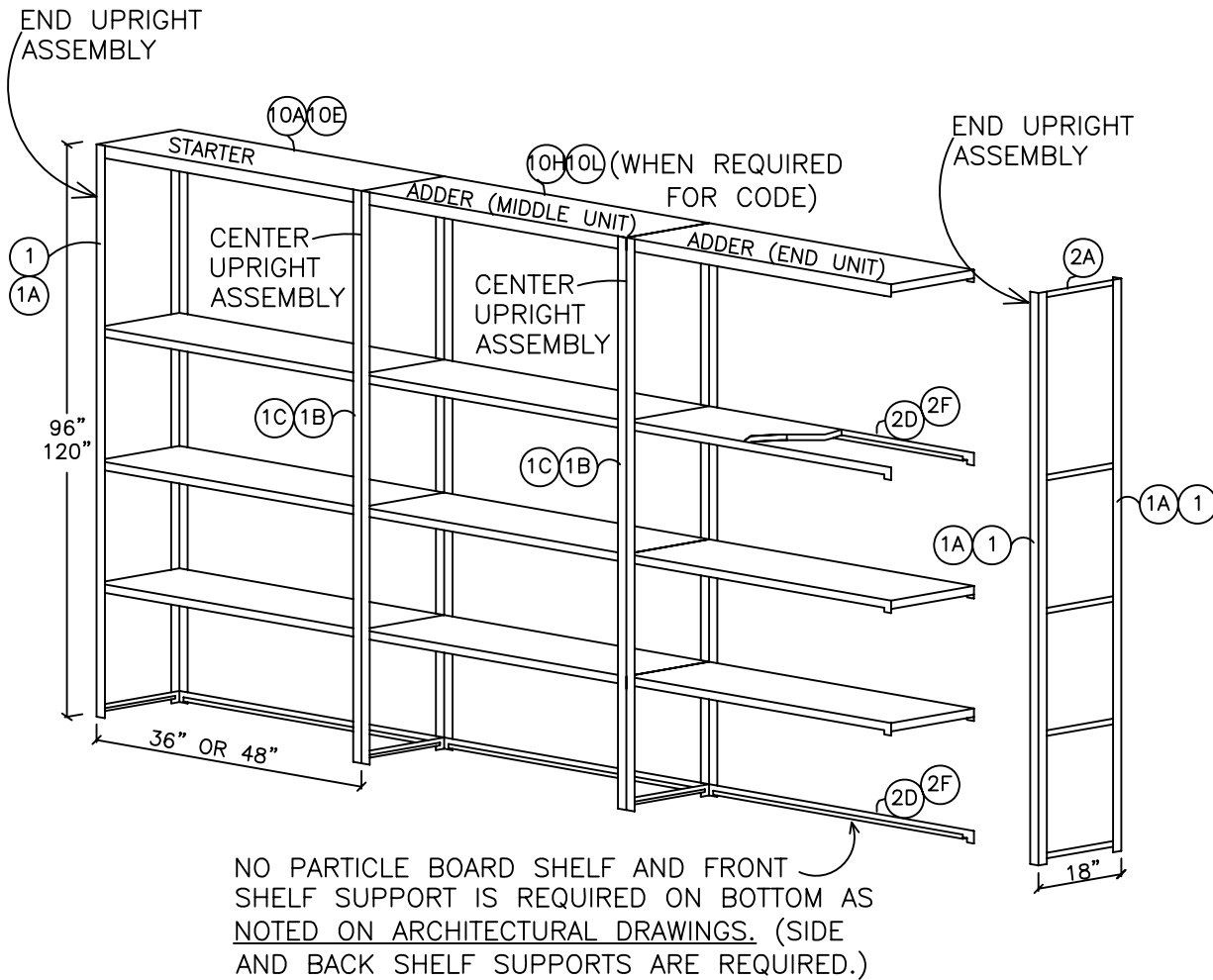
STEP 1:
Locate the perimeter wall shelving on the floor plan. Assemble each section and relocate shelf supports to clear air ducts, water pipes and cold air return vents.

STEP 2:
Field cut the angle posts to clear low air ducts, water pipes and beams.

STEP 3:
Several pipes can be enclosed in the racks by notching the particle board shelves as shown.

18" DEEP STATIONARY **SHELVING** STARTER AND ADDERS

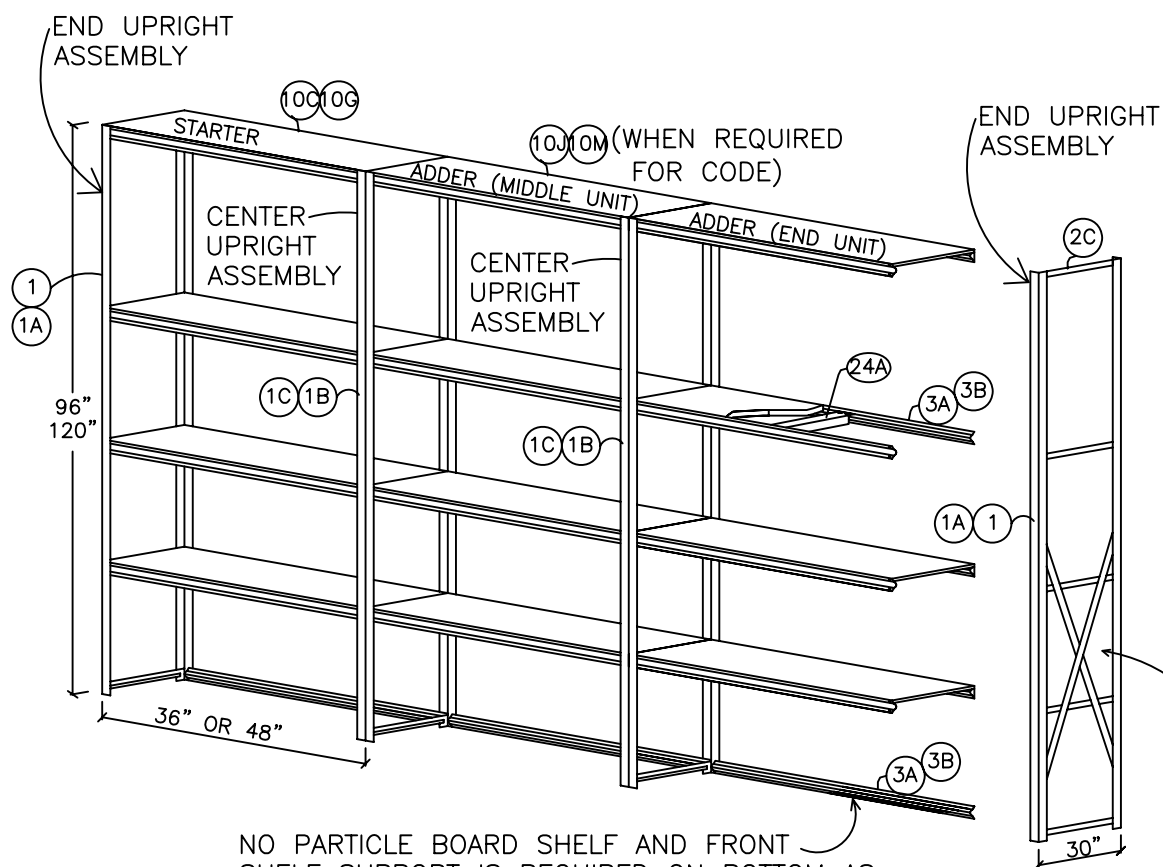
18" DEEP ASSEMBLIES (NO BOTTOM SHELF)



ASSEMBLE STATIONARY SHELVING UNITS BY INSTALLING (2D) 36" OR (2F) 48" SHELF SUPPORTS BETWEEN UPRIGHT ASSEMBLIES. INSTALL (10A) 36" x 18" OR (10E) 48" x 18" PARTICLE BOARD SHELVES ON SHELF SUPPORTS. DO NOT INSTALL PARTICLE BOARD SHELF AT BOTTOM LEVEL.

30" DEEP STATIONARY **SHELVING** STARTER AND ADDERS

30" DEEP ASSEMBLIES – NO BOTTOM SHELF



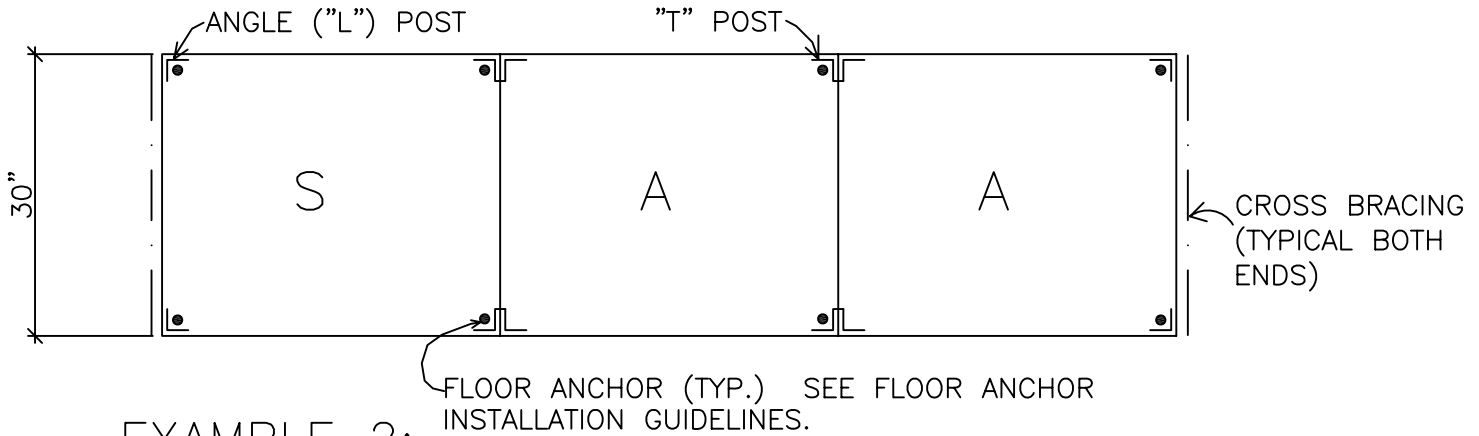
NO PARTICLE BOARD SHELF AND FRONT SHELF SUPPORT IS REQUIRED ON BOTTOM AS NOTED ON ARCHITECTURAL DRAWINGS. (SIDE SHELF SUPPORTS AND BACK Z BEAMS ARE REQUIRED.)

ONE CROSS BRACING IS INSTALLED ON 30"D, 96" HIGH. TWO CROSS BRACING IS INSTALLED ON 30"D, 120" HIGH. 30"D FIXED END ASSEMBLIES ONLY. REFER TO PAGE 22 FOR CROSSBRACE INSTALLATION.

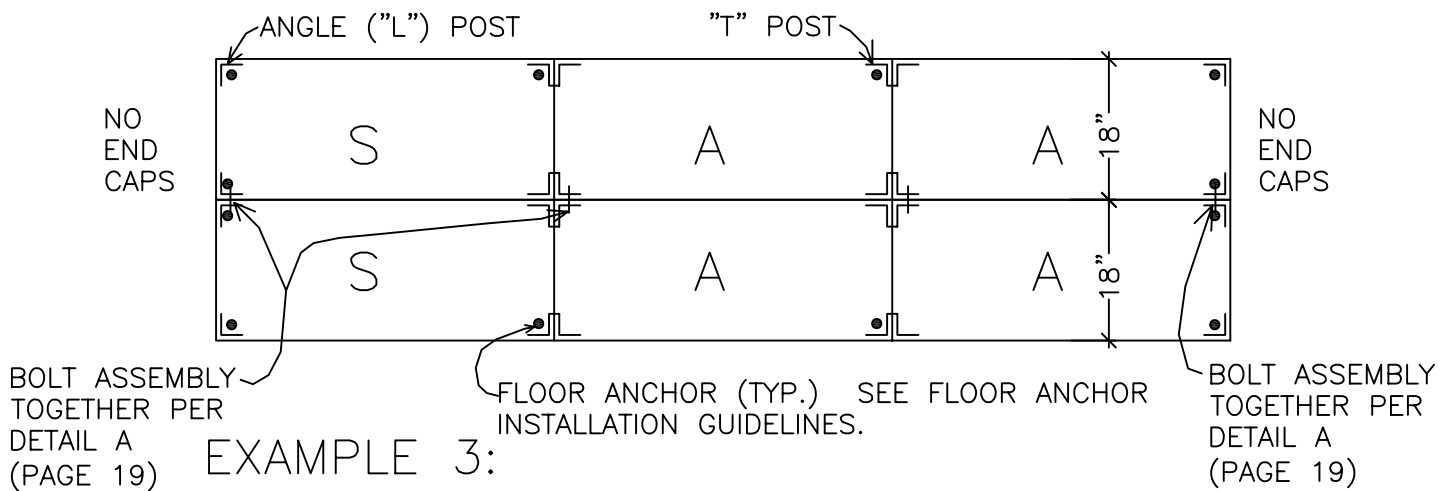
ASSEMBLE STATIONARY SHELVING UNITS BY INSTALLING (3A) 36" OR (3B) 48" Z BEAMS BETWEEN UPRIGHT ASSEMBLIES. ATTACH (24A) 30" CENTER SUPPORT TO Z BEAMS. INSTALL (10C) 36" x 30" OR (10G) 48" x 30" PARTICLE BOARD SHELVES ON Z BEAMS. DO NOT INSTALL PARTICLE BOARD SHELF AT BOTTOM LEVEL. REFER TO PAGE 22 FOR INSTALLATION OF CROSS BRACING (1 CROSS BRACE FOR 30"D, 96" HIGH. 2 CROSS BRACES FOR 30"D, 120" HIGH).

FREESTANDING SHELF LAYOUTS

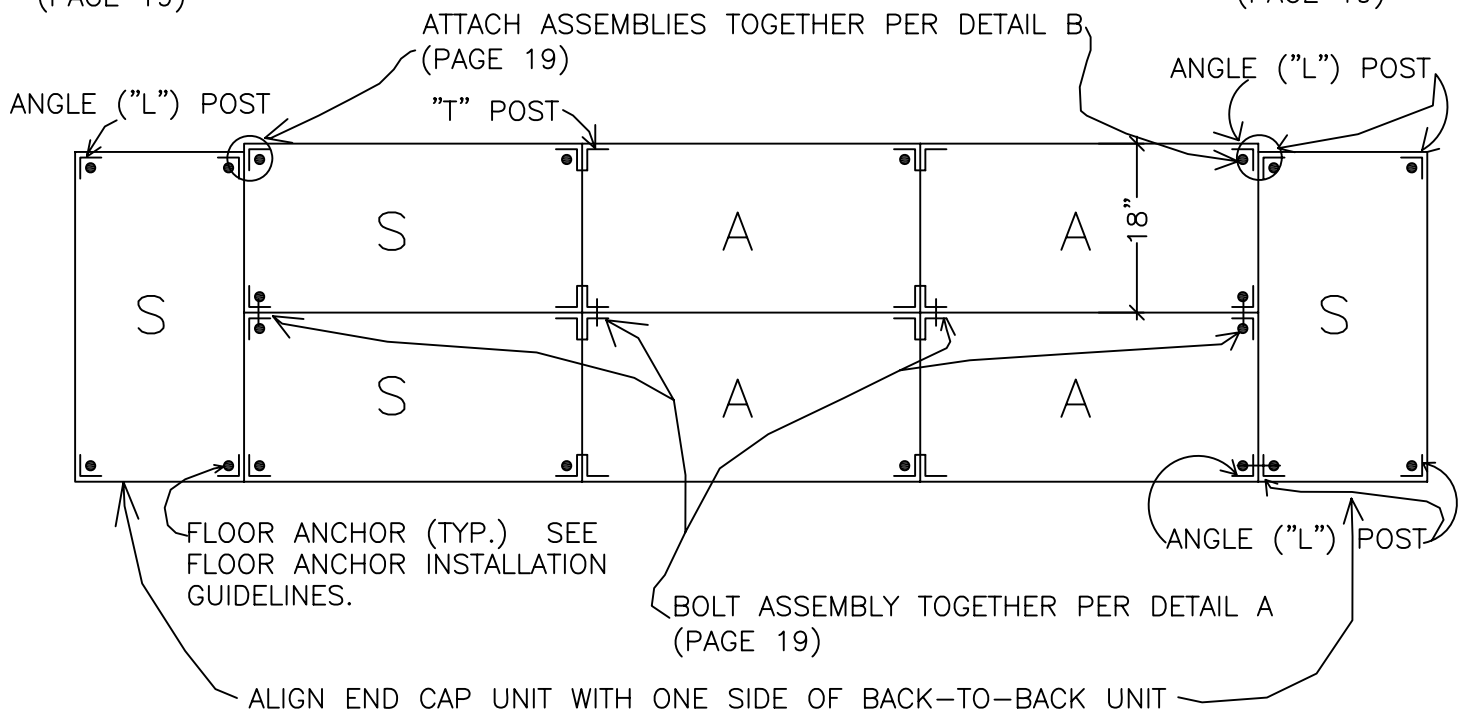
EXAMPLE 1:



EXAMPLE 2:



EXAMPLE 3:



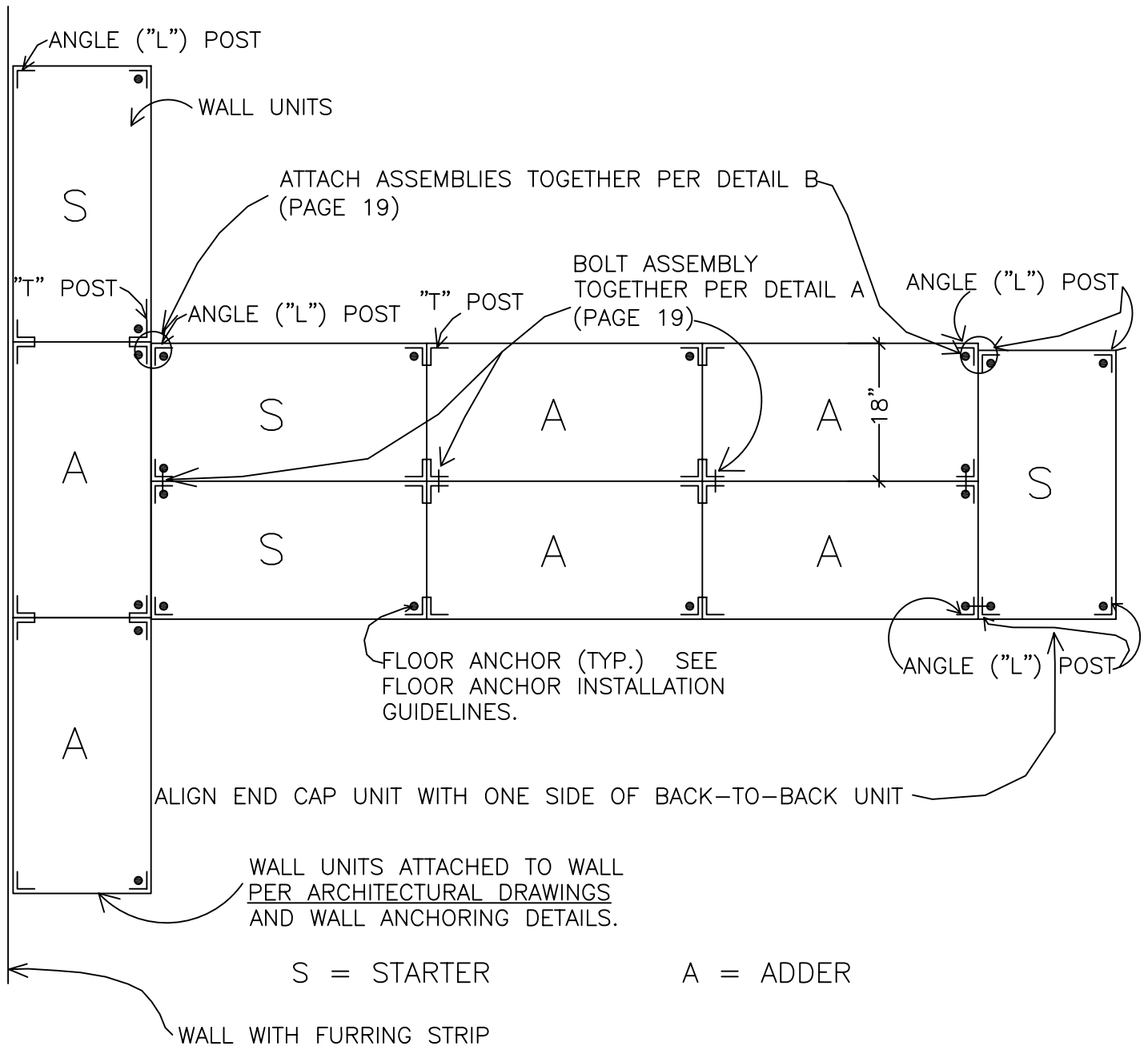
S = STARTER

A = ADDER

NO CROSS BRACING IS NEEDED IN EXAMPLE 3.

FREESTANDING SHELF LAYOUTS

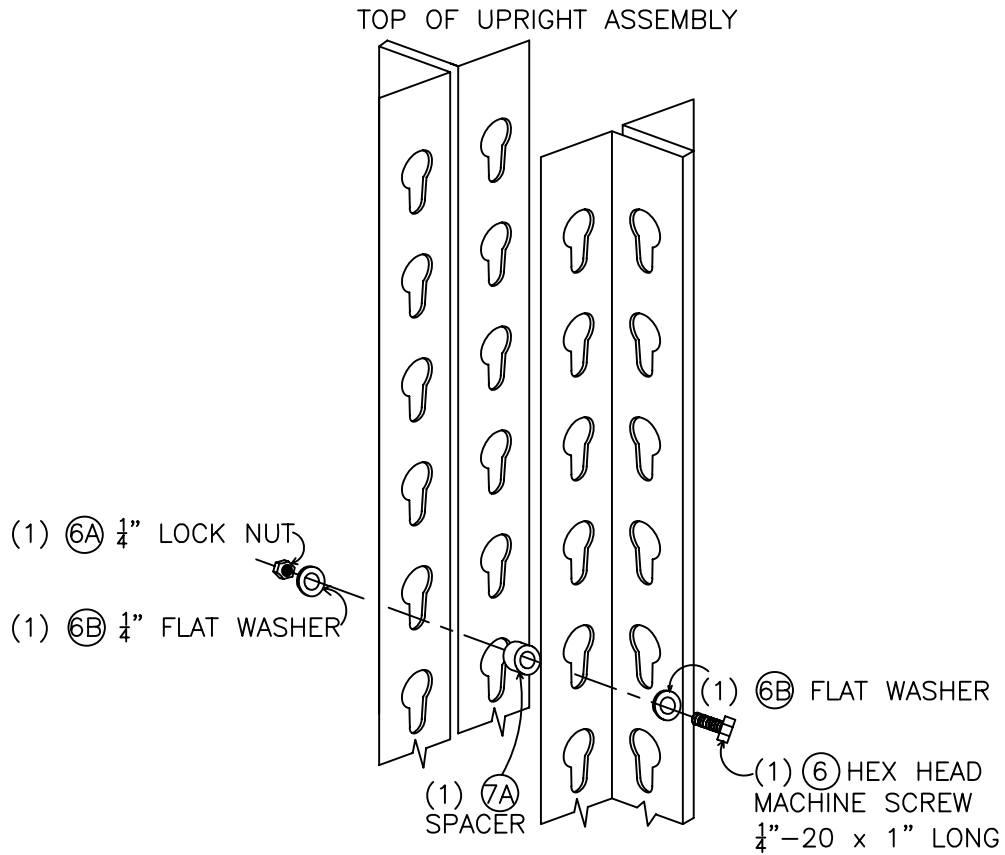
EXAMPLE 4:



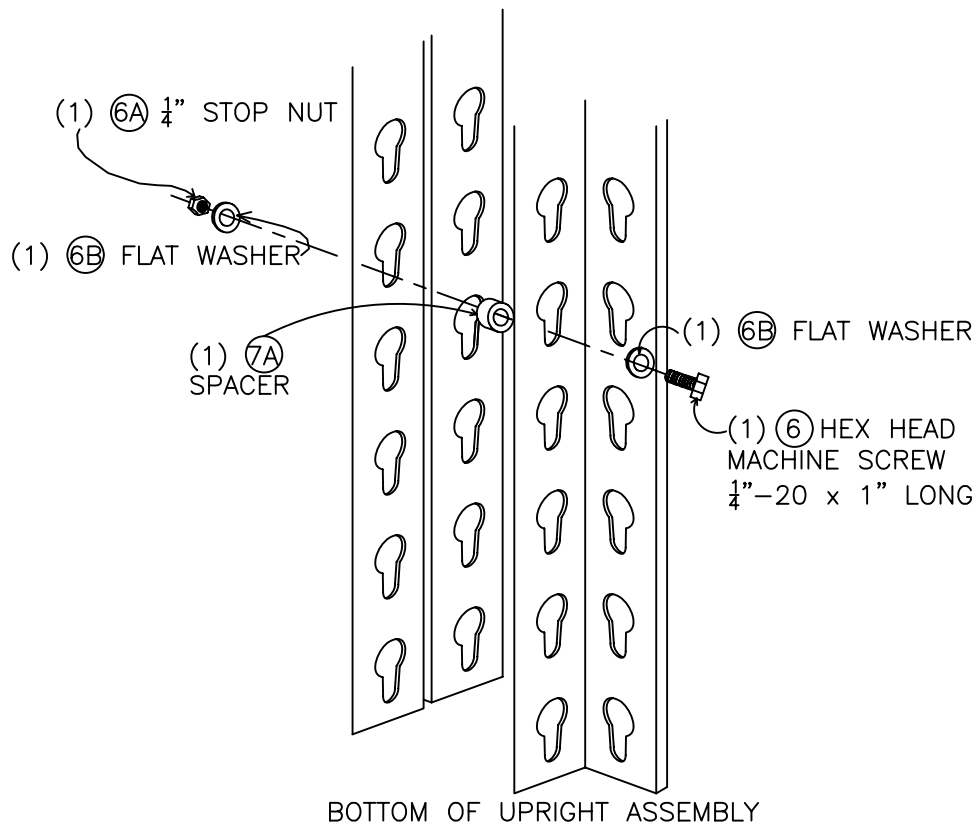
NO CROSS BRACING IS NEEDED IN EXAMPLE 4.

BACK-TO-BACK UPRIGHT ATTACHMENT DETAILS

DETAIL A: BOLT ASSEMBLY

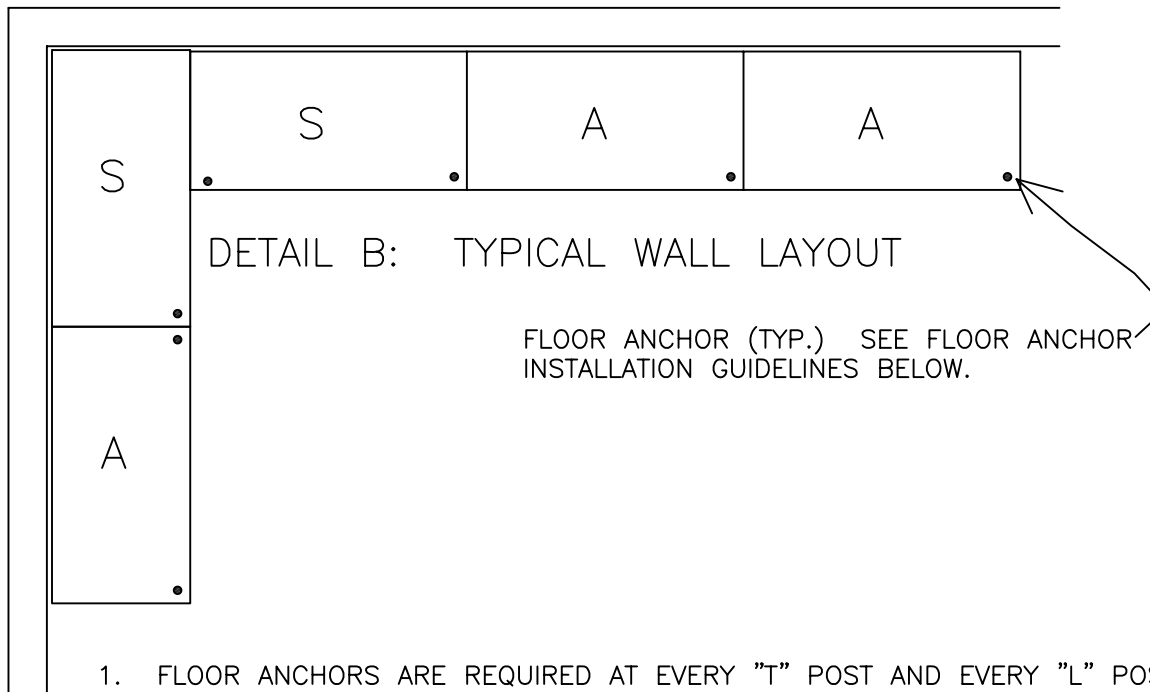
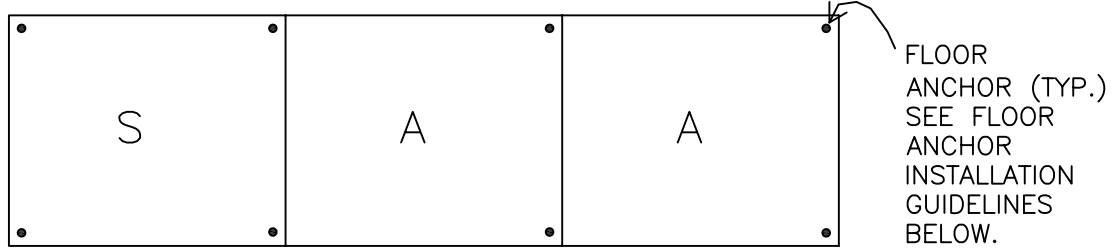


ASSEMBLE UPRIGHTS TOGETHER USING THE 5TH
SLOT FROM THE TOP AND BOTTOM OF UPRIGHTS.

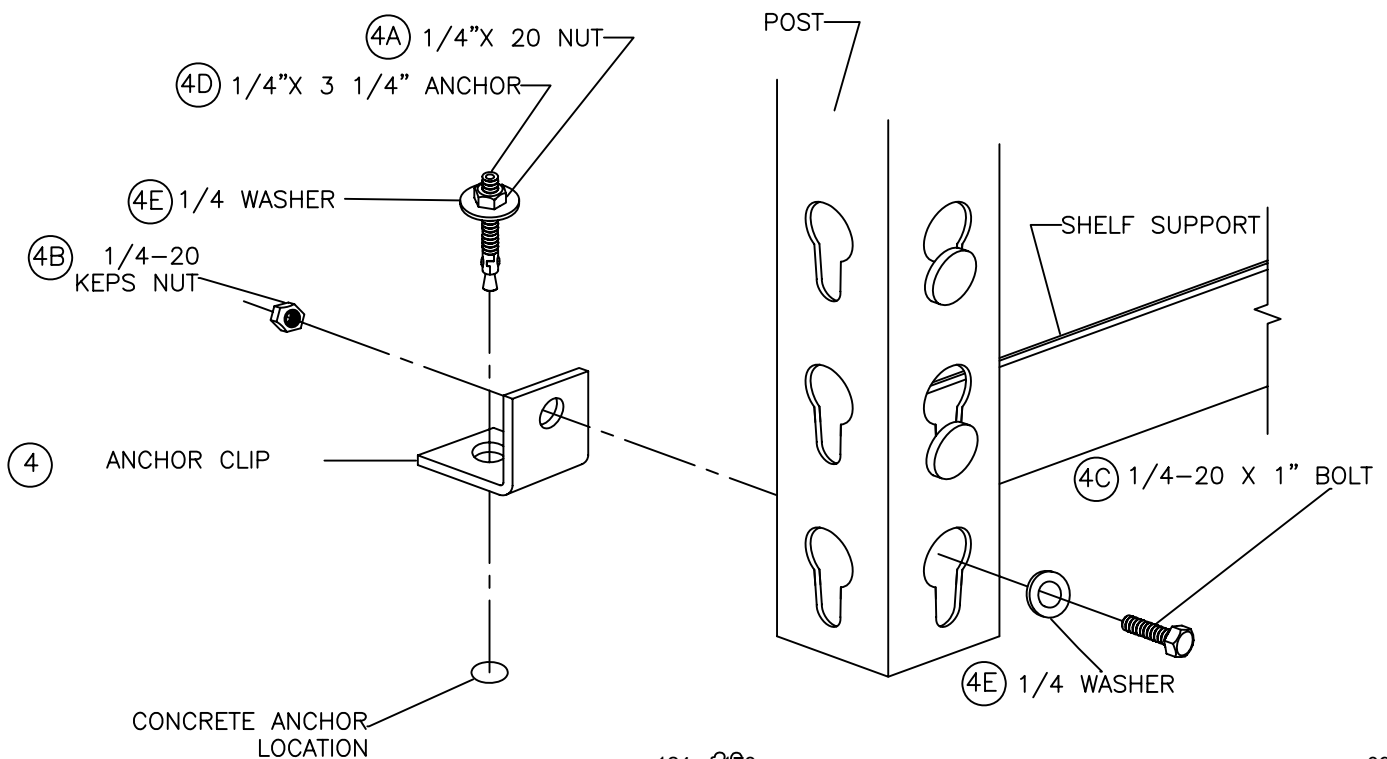


FLOOR ANCHORING

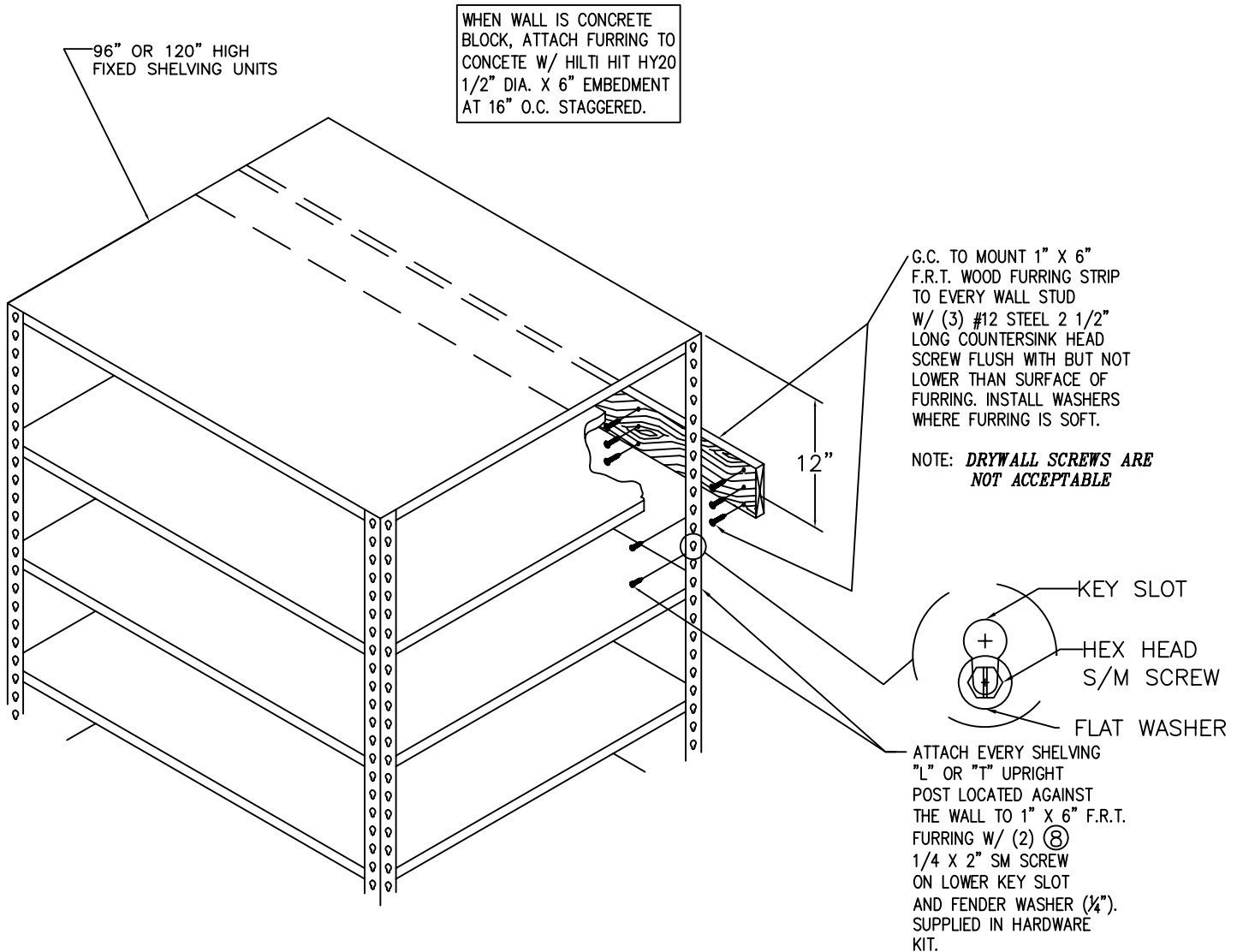
DETAIL A: FREESTANDING LAYOUT



1. FLOOR ANCHORS ARE REQUIRED AT EVERY "T" POST AND EVERY "L" POST FOR FREESTANDING SHELVING (SEE DETAIL A)
2. FLOOR ANCHORS ARE REQUIRED AT EVERY "T" AND "L" POST LOCATED AWAY FROM WALL FOR WALL SHELVING. (SEE DETAIL B.)



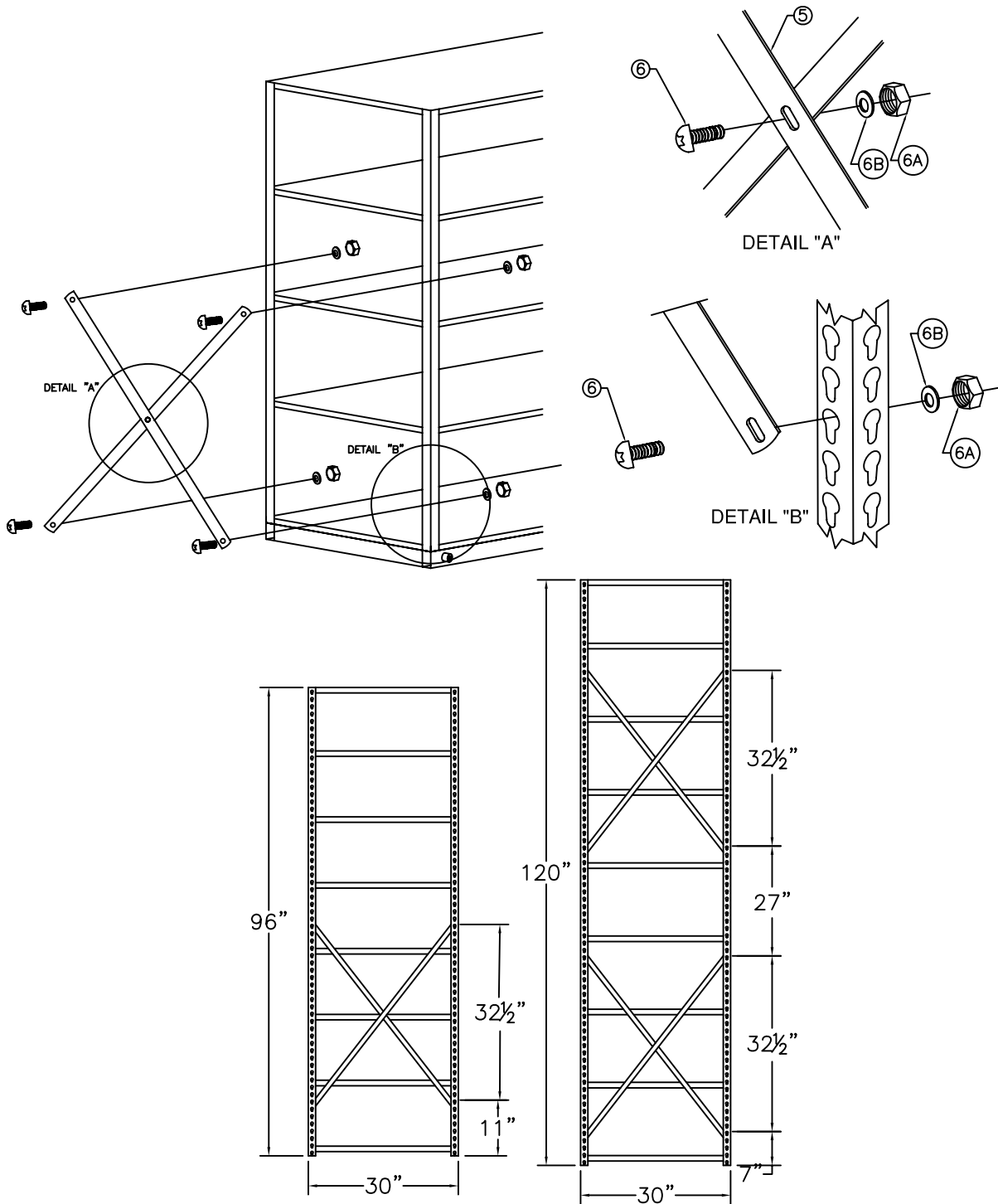
WALL ANCHORING



STATIONARY ASSEMBLY ATTACHED TO WALL FURRING

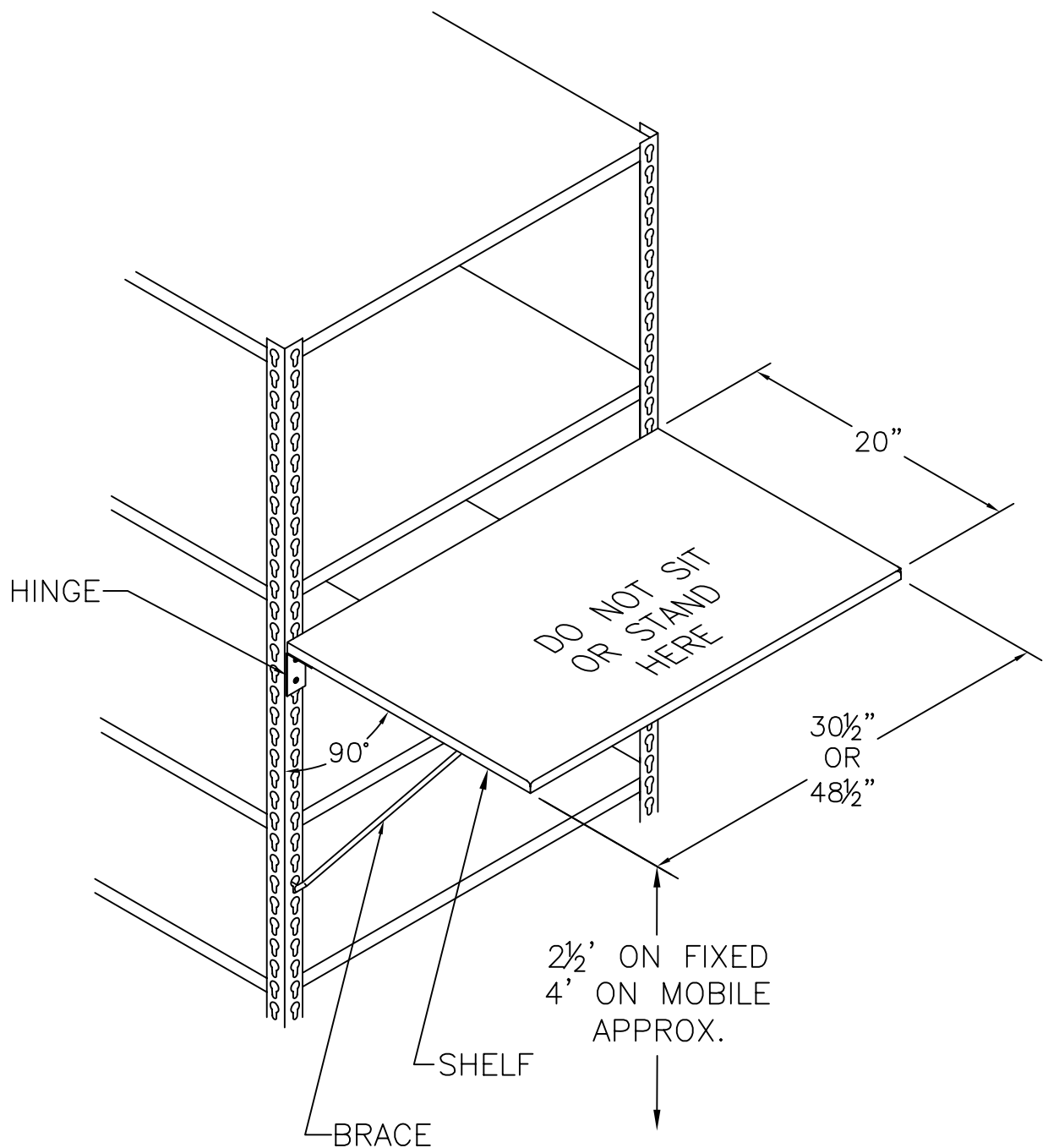
1. SECURE CONTINUOUS 1" X 6" WHITE PINE WOOD FURRING (#2 MINIMUM, KNOTS ARE TO BE NO CLOSER THAN 18" APART) TO EVERY WALL STUD TO ENSURE LATERAL STABILITY OF FULLY STOCKED WALL SHELVING.
2. ATTACH EVERY " L " OR " T " POST LOCATED AGAINST THE WALL PER INSTRUCTIONS ABOVE.

CROSSBRACE INSTALLATION



1. Mount crossbrace assembly to both end upright assemblies.
 (1) pair on both ends of 96" high, 30" deep stationary units
 (2) pairs on both ends of 120" high, 30" deep stationary units
2. Bolt two (5) crossbrace straps together with one (6) 1/4-20 button head torx 3/4" long screw and one (6A) 1/4-20 stop nut and one (6B) washer.
3. Bolt to top and bottom of end upright assembly with one each (6) 1/4-20 button head torx 3/4" long screw, (6B) 1/4 flat washer, and (6A) 1/4-20 stop nut.

FOLDING SHELF INSTALLATION

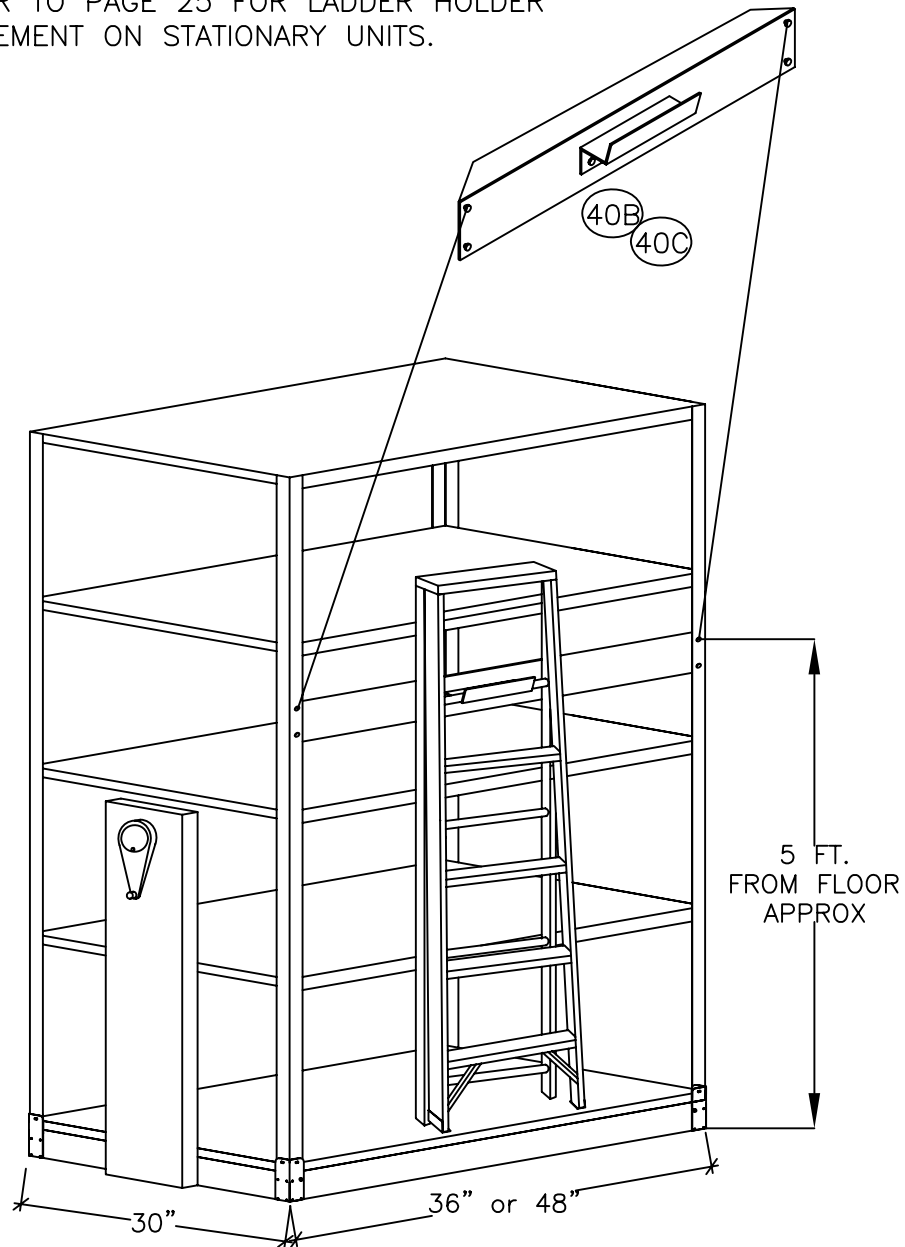


1. PLACE HINGES APPROX 2 1/2 FEET FROM THE FLOOR ON FIXED UNITS AND 4 FEET FROM FLOOR ON MOBILE UNITS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION. ATTACH TO THE UPRIGHT USING (2) 1/4-20 X 3/4" BOLTS, (2) 1/4" FLAT WASHERS, AND (2) 1/4-20 LOCKNUTS
2. OPEN SHELF TO A 90 DEGREE FROM UPRIGHT.
3. INSERT BRACE WIRE INTO CORRECT SLOTS MAINTAINING YOUR 90 DEGREE ON THE SHELF AND UPRIGHT.

LADDER HOLDER ASSEMBLY ON MOBILE UNITS

NOTE: SINGLE SECTION MDF SYSTEM GETS ONE LADDER HOLDER,
DOUBLE SECTION RDF SYSTEM GETS TWO LADDER HOLDERS.
LADDER HOLDERS TO BE PLACED ALONG THE LENGTH OF CARRIAGE
ON THE LEAST ACCESSIBLE SECTION ON THE OUTSIDE END.

IF THERE ARE NO MOBILE UNITS IN STOCKROOM,
REFER TO PAGE 25 FOR LADDER HOLDER
PLACEMENT ON STATIONARY UNITS.



STEP 1

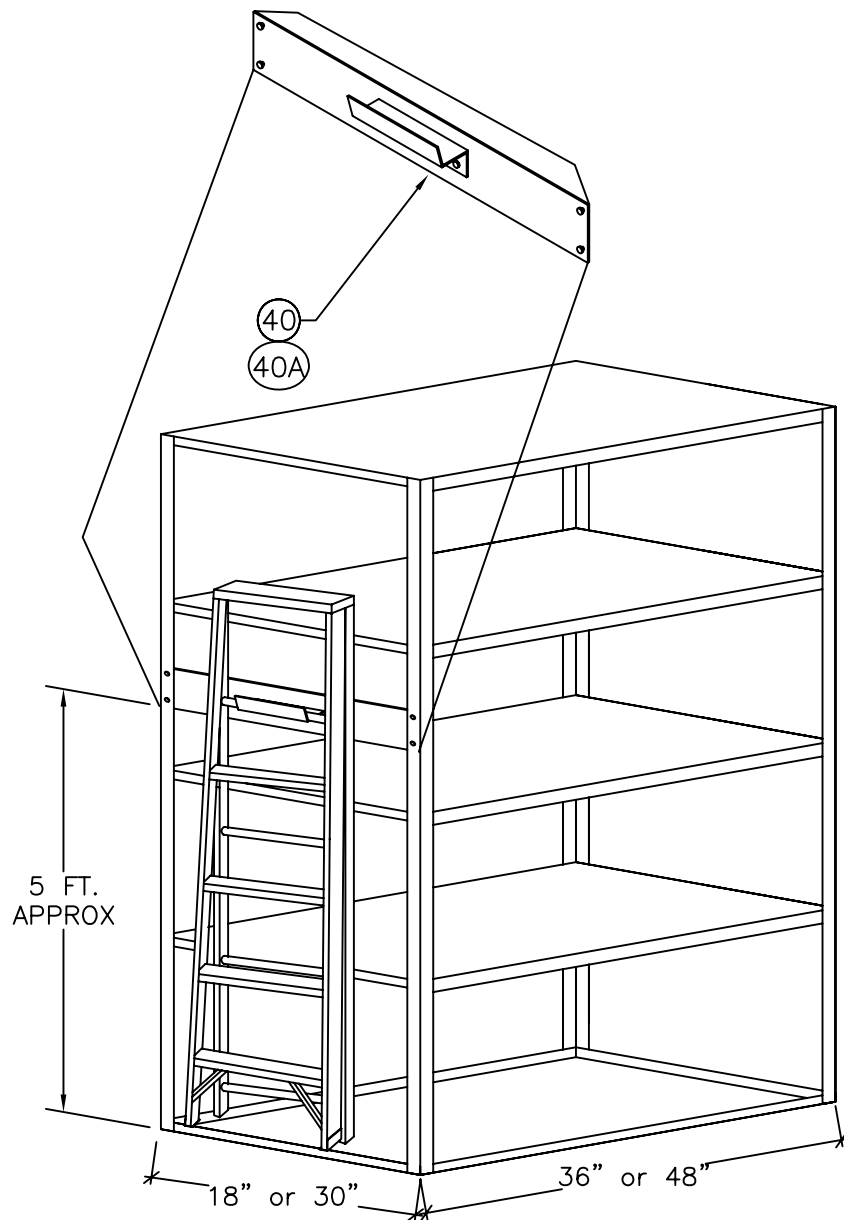
LOCATE THE TWO KEY SLOTS ON UPRIGHT APPROX 5 FT FROM FLOOR.

STEP 2

LAY THE (40B) 36" OR (40C) 48" LADDER HOLDER RIVETS OVER THOSE KEY SLOTS
AND TAP IN TO POST AS SHOWN.

LADDER HOLDER ASSEMBLY ON STATIONARY UNITS

NOTE: PLACEMENT OF LADDER HOLDER ON STATIONARY UNITS IS ONLY NEEDED IF THERE ARE NO MOBILE UNITS IN THE STOCKROOM.



STEP 1

LOCATE THE TWO KEY SLOTS ON UPRIGHT APPROX 5 FT FROM FLOOR.

STEP 2

LAY THE (40) 18\" OR (40A) 30\" LADDER HOLDER RIVETS OVER THOSE KEY SLOTS AND TAP IN TO POST AS SHOWN.

MOVABLE

INSTALLATION

INSTRUCTIONS

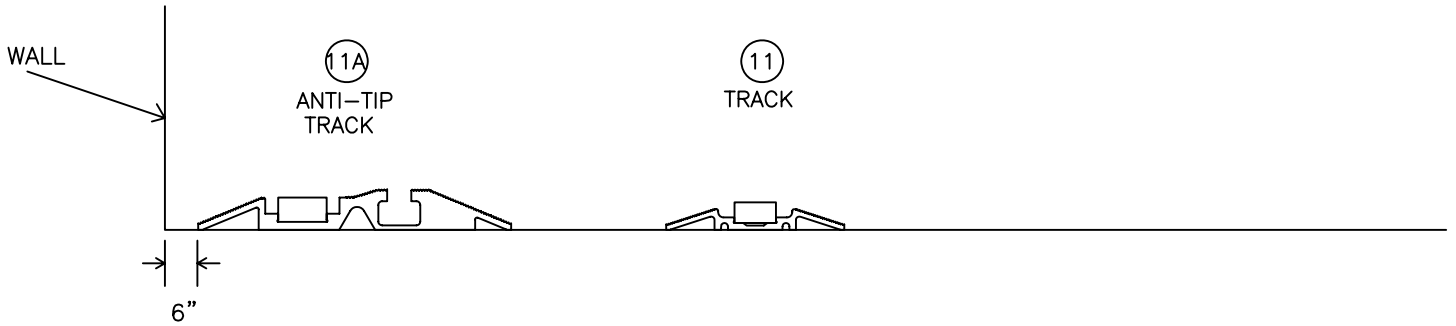
MOVABLE INSTRUCTIONS

GENERAL

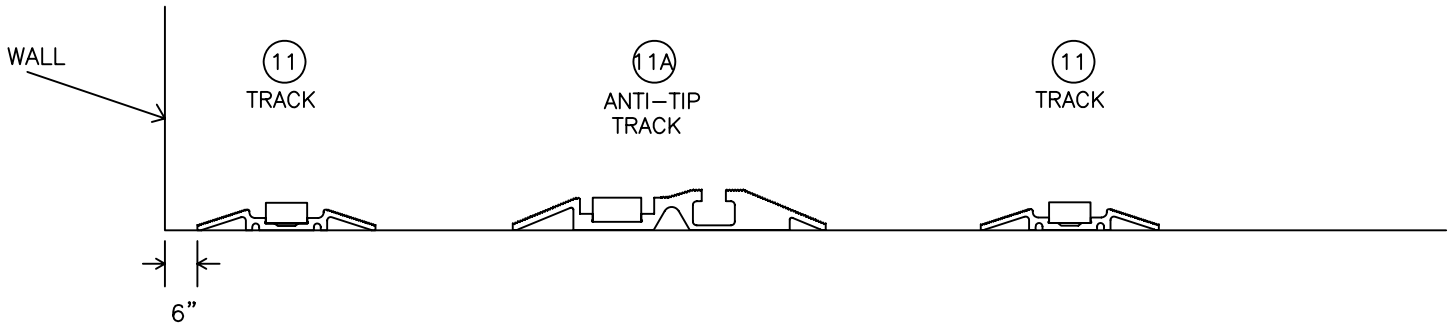
1. LAYOUT MOVABLE SHELVES PER ARCHITECTURAL DRAWINGS.
2. INSTALL TRACK TO FLOOR.
3. ASSEMBLE UPRIGHT ASSEMBLIES AND SPACE SHELF SUPPORTS PER ARCHITECTURAL DRAWINGS.
4. INSTALL FOOT BRAKE.
5. PLACE BASES ON TRACKS, ROLL BACK AND FORTH TO ASSURE TRACKS ARE LEVEL AND PARALLEL. TRACKS MUST BE LEVEL AND PARALLEL.
6. INSTALL UPRIGHTS AND SHELF SUPPORTS PER ARCHITECTURAL DRAWINGS.
7. INSTALL CROSS BRACING WHERE REQUIRED. (TYPICAL OF BOTH ENDS OF EACH MOVABLE UNIT).
8. INSTALL HANGBARS, HANDLES, LADDER HOLDER, PEG BOARDS, DRY ERASE BOARDS AND FOLDING TABL
9. TIGHTEN ALL NUTS AND BOLTS.
10. REMOVE TAMPER PROOF TOOLS FROM PROJECT SITE AT THE END OF CONSTRUCTION.

LAYOUTS OF TRACK

36"x30" and 48"x30" Carriages



72"x30", 84"x30" and 96"x30" Carriages

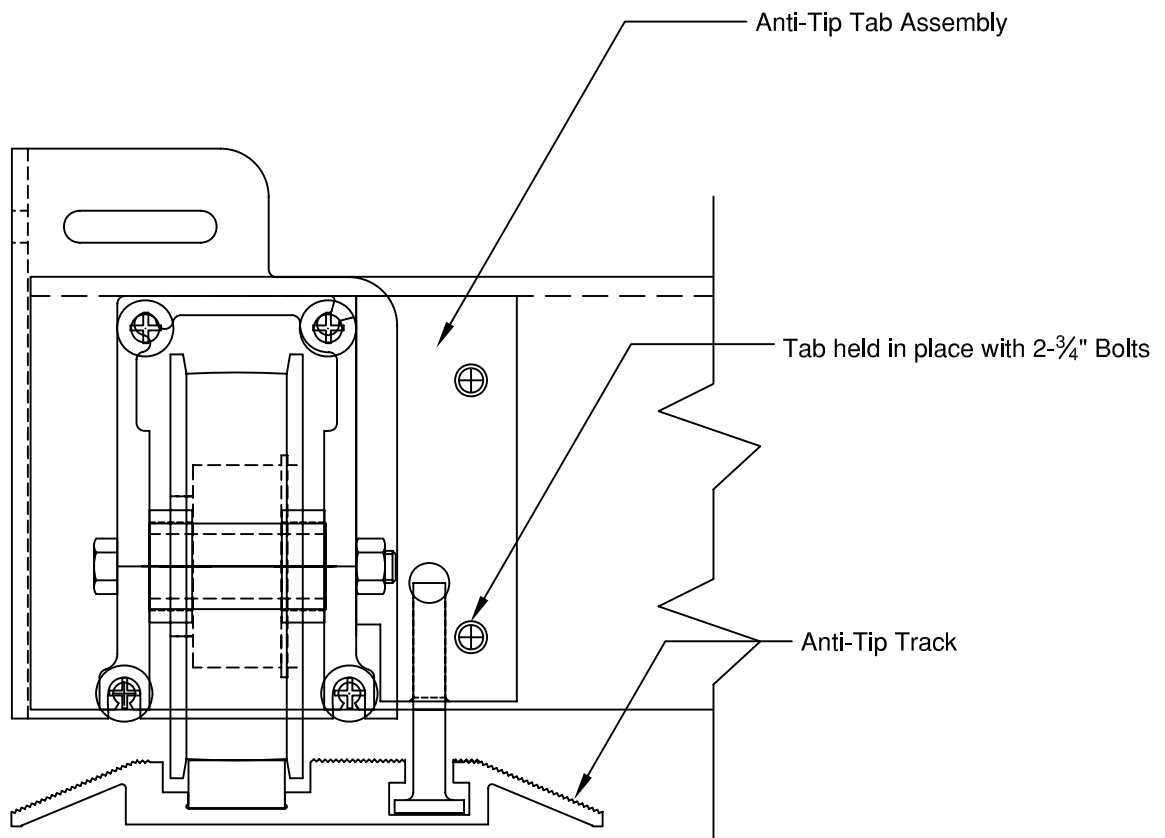


NOTE: PLACEMENT OF TRACK WILL PLACE SHELVING 6" FROM THE WALL

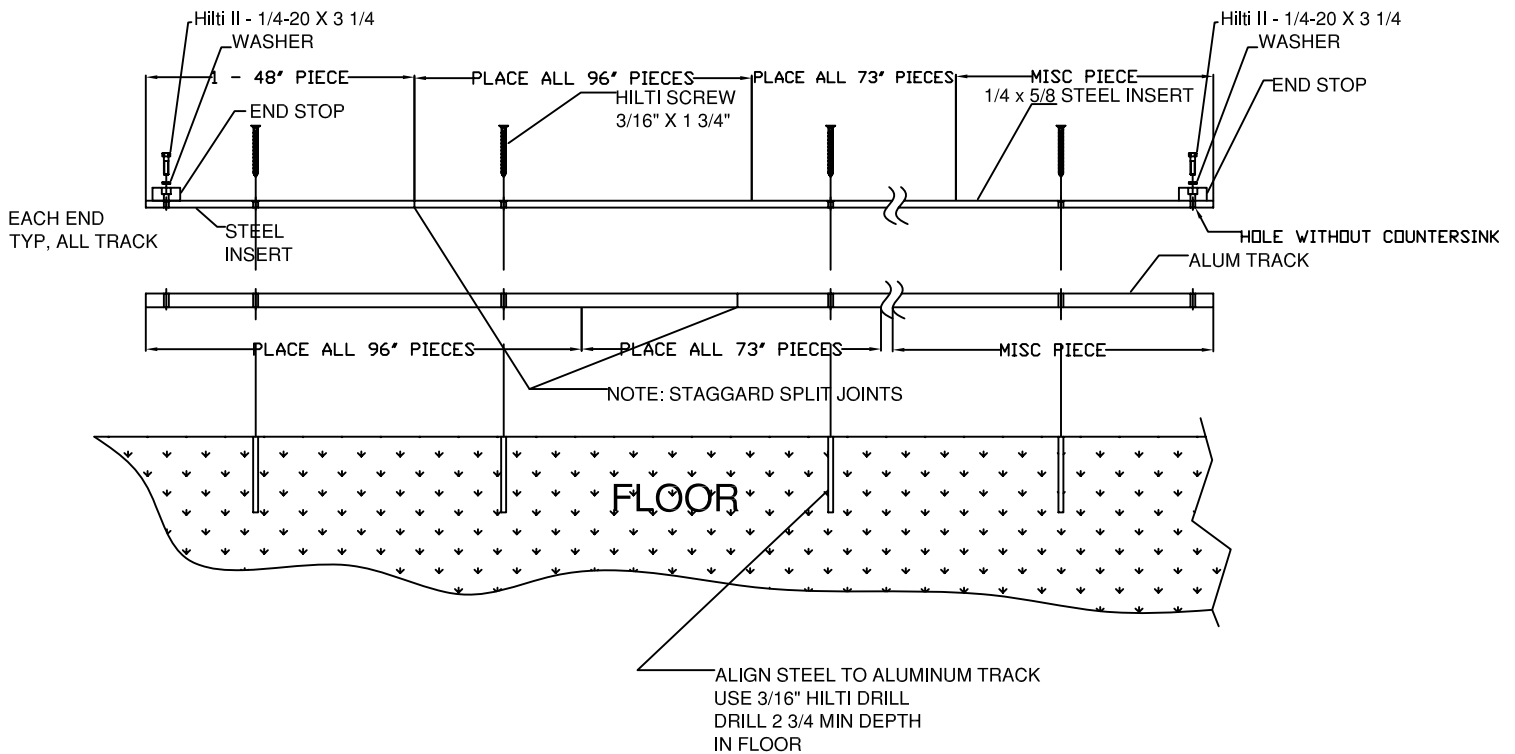
INSTALLATION OF IN-TRACK ANTI-TIP SYSTEM

General Notes

1. Installation of the In-Track Anti-Tip begins with the layout of the floor plan. It is imperative for the proper operation of the system that the tracks be **parallel** and **square**. On a two track system, the In-Track Anti-Tip is the rear track. On a three or more track system, the In-Track Anti-Tip track is the track second from the front.
2. The carriage with the anti-tip guide is designed to be inserted into the track after the track is in the approximate location, but prior to completely securing it to the floor. This will eliminate the need to disassemble the guide from the carriage.
3. The carriage is shipped completely assembled. Because of the anti-tip tab the carriages cannot be dropped down with the track in place; they must be slid on from one end. However, if the anti-tip guide assembly cannot be inserted into the track, it is possible to remove and reinstall the mount assembly. Loosen $\frac{1}{4}$ " bolts and remove anti-tip brackets. Place carriage on track. Care must be taken to properly place the mounts tightly to the channel and angle of the carriage during re-assembly. Reuse fasteners.



INSTALLATION OF FIRST TRACK



Caution: Steel track insert and Aluminum track splices must stagger.

Note: Track has been pre-assembled and match drilled for ease of assembly.

Step 1

Confirm anti-tip track is parallel to the wall. Use $\frac{1}{4}$ " Hilti drill bit to drill holes in floor for the anti-tip fastening. Fasteners for the In-Track Anti-Tip are Hilti II's.

Step 2

Use special Hilti drill bit ($\frac{3}{16}$ " dia.) for securing track. The track has been pre-drilled. Start by placing all the 96" pieces of aluminum followed by any 73" pieces ending with a misc. piece. Then place the steel in the aluminum starting with 1 -48" steel, followed by all 96" pieces then the 73" piece ending with 1 piece with a non-countersunk hole at the end. Be sure the holes in the steel insert and the holes in the aluminum track line up. Using the track as a guide, drill through the steel and aluminum in the floor. Carefully clean out the hole. With torx bit provided, drive in the Hilti $\frac{3}{16}$ " x $1\frac{3}{4}$ " cement screws.

Note: Heads of screws must be below running surface of track. By design the screw heads will sit below the track running surface. If screws are installed crooked, heads of screws will sit high and must be filed flush.

Step 3

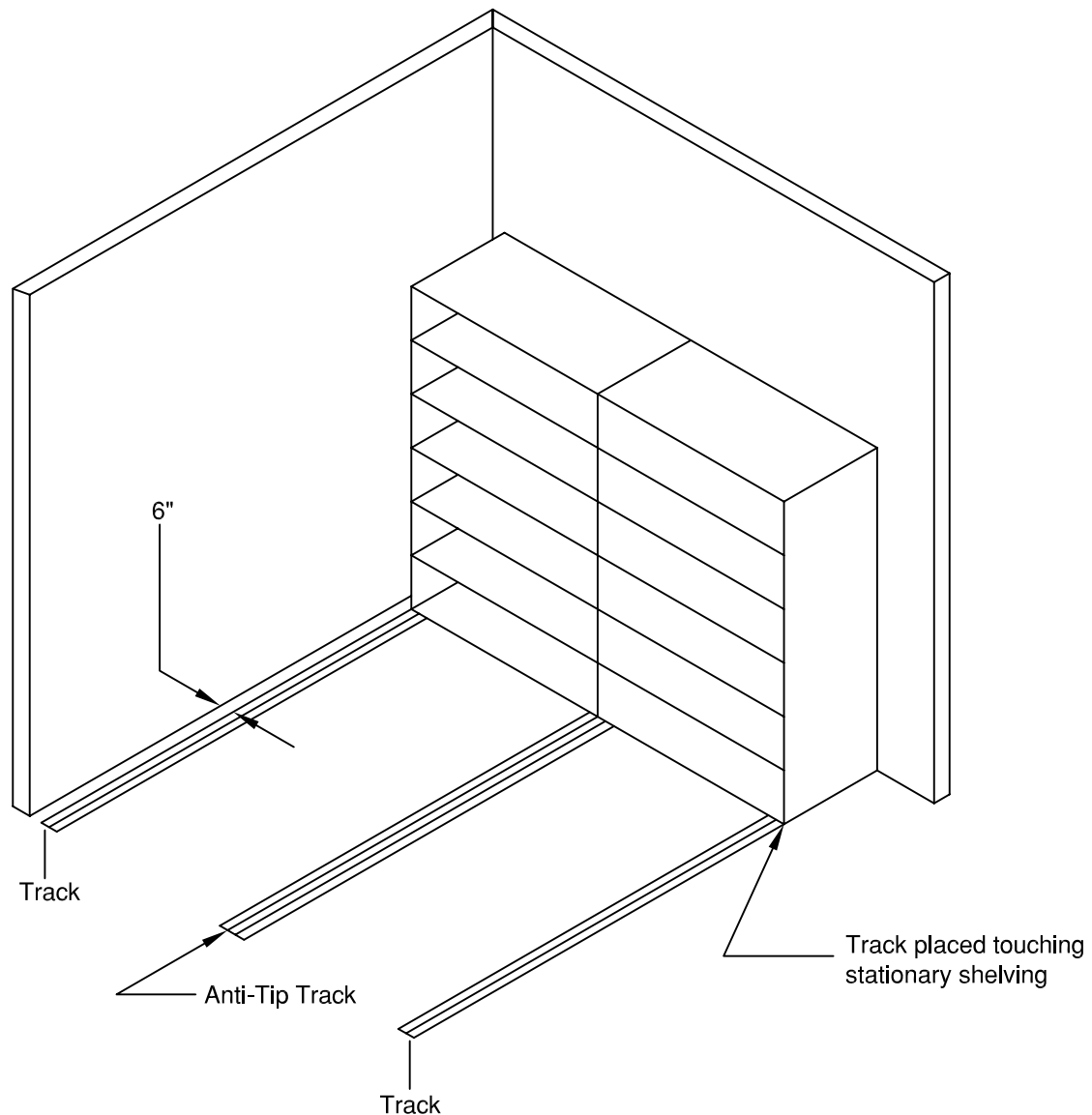
Install end stop using the $3\frac{1}{4}$ " long, Hilti II and washer. One per each end of track. Note: 48" piece will need to be drilled out to accommodate Hilti II fastener.

Step 4

Maintaining careful alignment of the In-Track Anti-Tip track, drill and install mid-track (Hilti Kwik Bolt II) fasteners in every available anchor point in the track. The strength of the anti-tip is in the anchors. Make sure they are tightened properly.

Note: Hole depth for Hilti Kwik Bolt must be consistent to prevent tripping hazard.

SET UP FOR INSTALLATION OF FIRST TRACK, THE ANTI-TIP TRACK



Step 1

Assemble one stationary unit at the end of the track run per layout. Use stationary shelving to assist in aligning track and mobile carriage. Place track flush with stationary shelving.

Step 2

Layout all track (**use carriage to affirm track spacing by rolling carriage on loose track**). Refer to page 27 for guidelines for track placement.

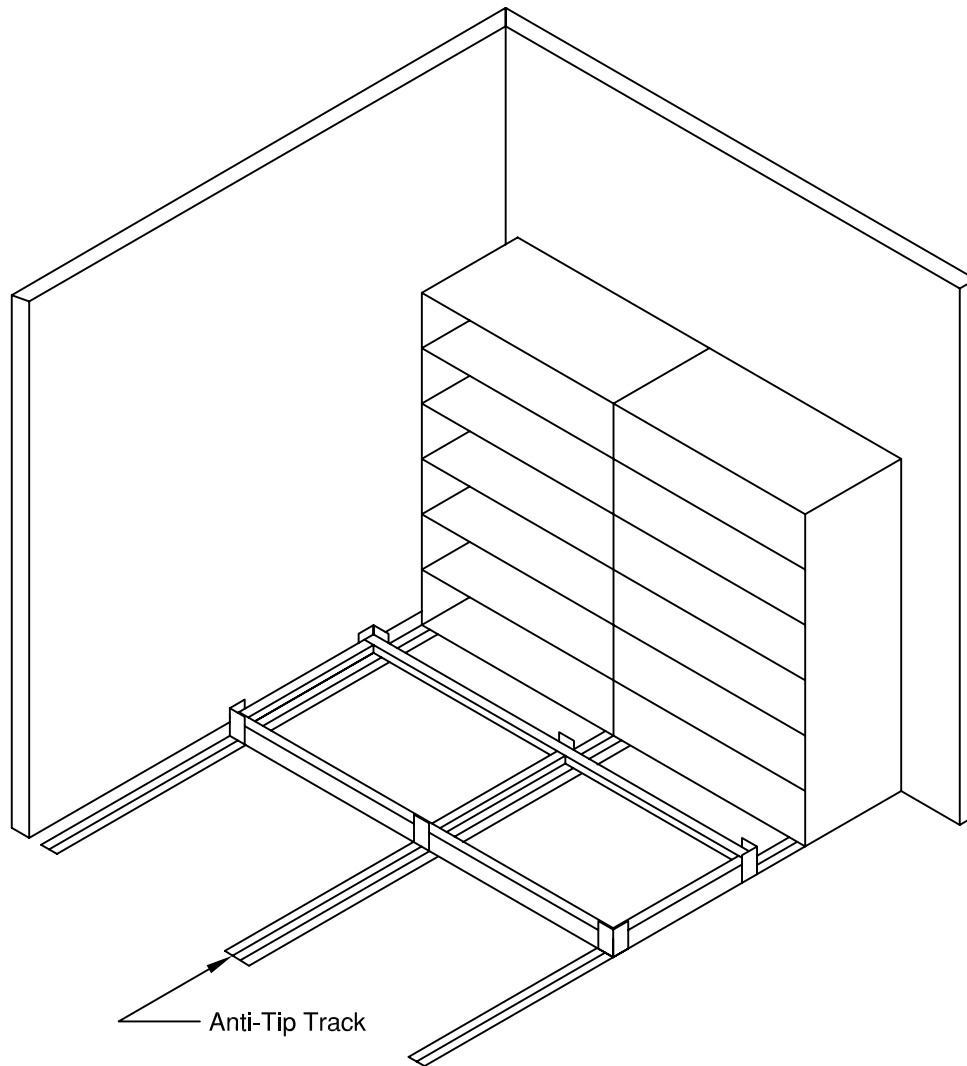
Step 3

Verify you will end up with 6" clearance from the wall and the stationary shelving to the track run when system complete. (See track layout page 27).

Step 4

When wall spacing has been met and the carriage moves freely the length of the track run, proceed to install the anti-tip track. (See track layout page 27).

INSTALLATION OF TRACK AND CARRIAGES



Step 5

Once first track (the anti-tip track) is secure, the remaining tracks may be set into place. Use carriages as a guide for track placement. Measure to ensure tracks are truly parallel and square.

Note: Wheel channel closest to the anti-tip tab is a non-floating wheel channel.

Step 6

Slide one carriage on the track to determine spacing. Verify carriage wheels are centered in the channels and in the track.

Step 7

The tracks must be parallel and square to each other to ensure proper operation. Measure each set of tracks and the entire system, corner to corner, to verify that each distance is the same.

Step 8

Install all end stops nearest the stationary shelving and install the balance of the carriages. **Shelving end only.**

Step 9

Install remaining track anchors.

Step 10

Slide the remaining carriages on the track, verify smooth operation. Install the remaining end stops.

INSTALLATION OF THE RDF DRIVE BOX (THIN-LINE) (REFER TO DRAWING ON PAGE 33)

NOTE: APPLICABLE ONLY ON RDF CARRIAGES - CARRIAGE SIZES 84" X 30" AND 96" X 30"

1. Remove the cover (fig E) from the responsive drive box.
2. Slide the responsive drive box using top two mounting holes over the two ½" - 13 bolts (fig B) extending from the center of the carriage. These bolts are held in place by jam nuts (fig A) which are left in position.
3. When the responsive drive box is seated against the jam nuts (fig A), install ½ inch washers (fig C) and tighten the two ½" - 13 nylon nuts (fig D), which are in the accessories bag.
4. Attach chain to middle sprockets assembly, to the bottom sprocket assembly (front drive channel) and around the chain idler. **Only use master link.** (half link not required)
5. Assemble the end-shelving unit. This can be done after the responsive drive box assembly has begun. The type of shelving used will determine how the responsive drive is fastened to the shelving.
6. At this time secure the drive box at the top, as well as the bottom. Make sure the responsive drive box is square and parallel to the shelving. Using the hardware provided (2 Bolts, 4 Washers, 2 Plastic Spacers, and 2 Nylock Nuts) fasten the drive box to the shelving. Place the provided DA30 so it covers the slots on the back of the drive box. Using a ¼" drill, drill 2 holes through the slots and DA30. Place a washer on the bolt and run it through one of the slots in the back of the drive box. Place the plastic spacer on the bolt between the drive box and the DA30 and secure with the nylock nut. Repeat for the other bolt. When the upper screws are secure and the responsive drive is properly positioned, you may tighten the two ½" nuts at the bottom (fig D).



7. Install the cover (fig E) using the six sheet metal screws provided (fig F) ATTACH E-CLIP TO HANDLE SHAFT.
8. Install (fig N, fig O), detent locking plate, using two ¼-20 C' sink screws.
9. Install the handle (fig K) using the 3/16" x 3/16" x ½" square key (fig J). Install the 1-1/16" Jam Nut (fig L). Tighten the jam nut (fig L) with the 1-1/16" thin wall socket (not provided) **BE SURE BACK OF HANDLE IS SEATED AGAINST THE E-CLIP ON THE SHAFT.** Install the black dome plug (fig M).
10. The responsive drive installation is complete and you may now install the remainder of the shelving.

INSTALLATION OF RDF DRIVE BOX (THIN-LINE) (REFER TO INSTRUCTIONS ON PAGE 32)

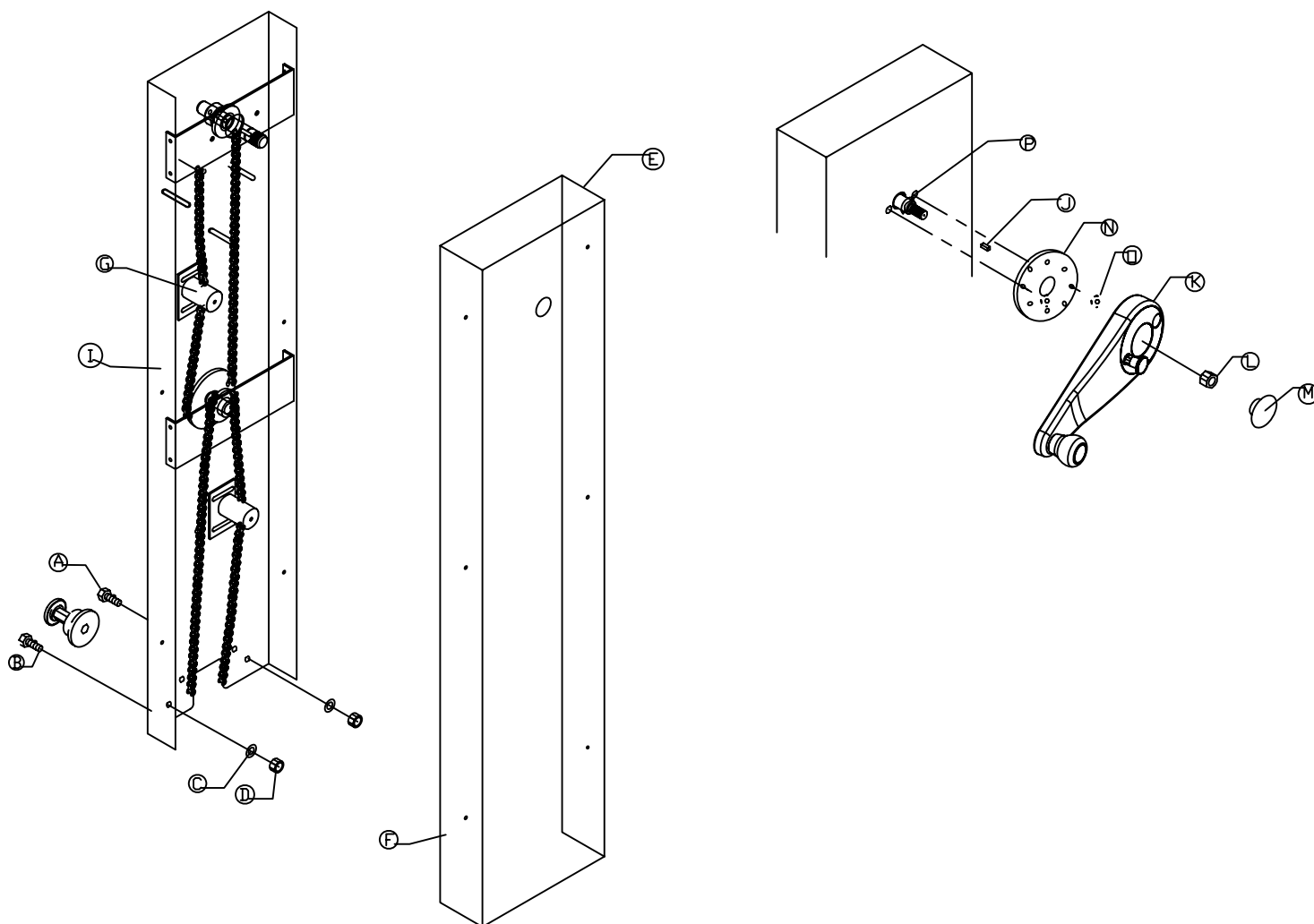
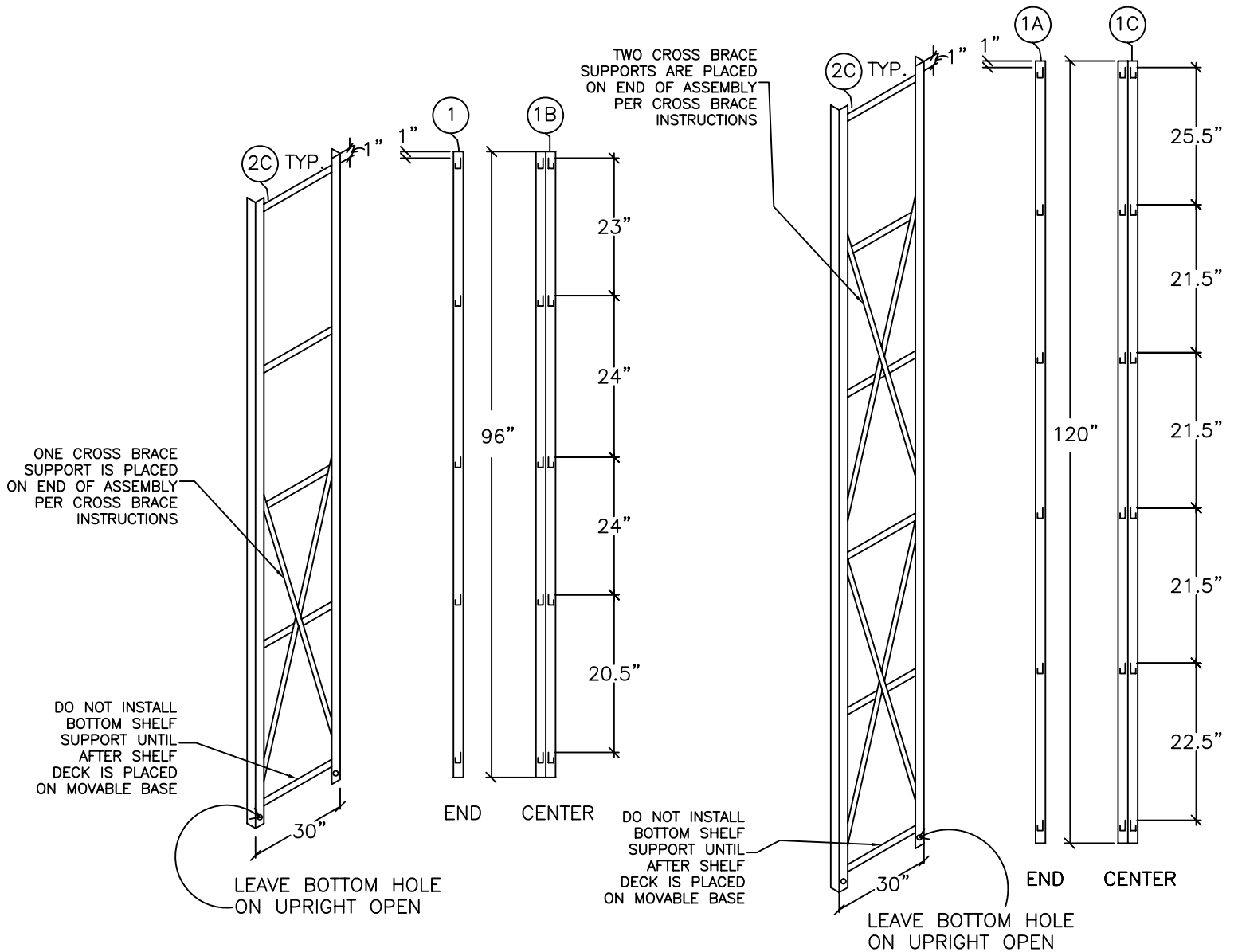


FIGURE	QTY.	DESCRIPTION
A	4	1/2-13 NUT (INSTALLED ON CARRIAGE)
B	2	1/2-13 HEX BOLT (INSTALLED ON CARRIAGE)
C	2	1/2 INCH FLAT WASHER
D	2	1/2-13 NYLOCK NUT
E	1	COVER
F	6	COLOR COORDINATED S/M SCREW
G	2	CHAIN TENSIONER
I	1	MECHANICAL ASSIST HOUSING
J	1	3/16" SQUARE KEY FOR HANDLE
K	1	HANDLE ASSEMBLY
L	1	3/4 INCH NYLOCK NUT
M	1	DOME PLUG
N	1	DETENT LOCKING PLATE
O	2	1/4-20 C'SINK SCREWS
P	1	3/4" E-CLIP

NOTE: OBSERVE THE LOWER CHAIN ROUTING. CHAIN MAY NOT FIT PROPERLY IF ROUTED DIFFERENTLY.

96" OR 120" MOVABLE UPRIGHT ASSEMBLY (REFER TO A14 SHELVING ELEVATION DETAILS)



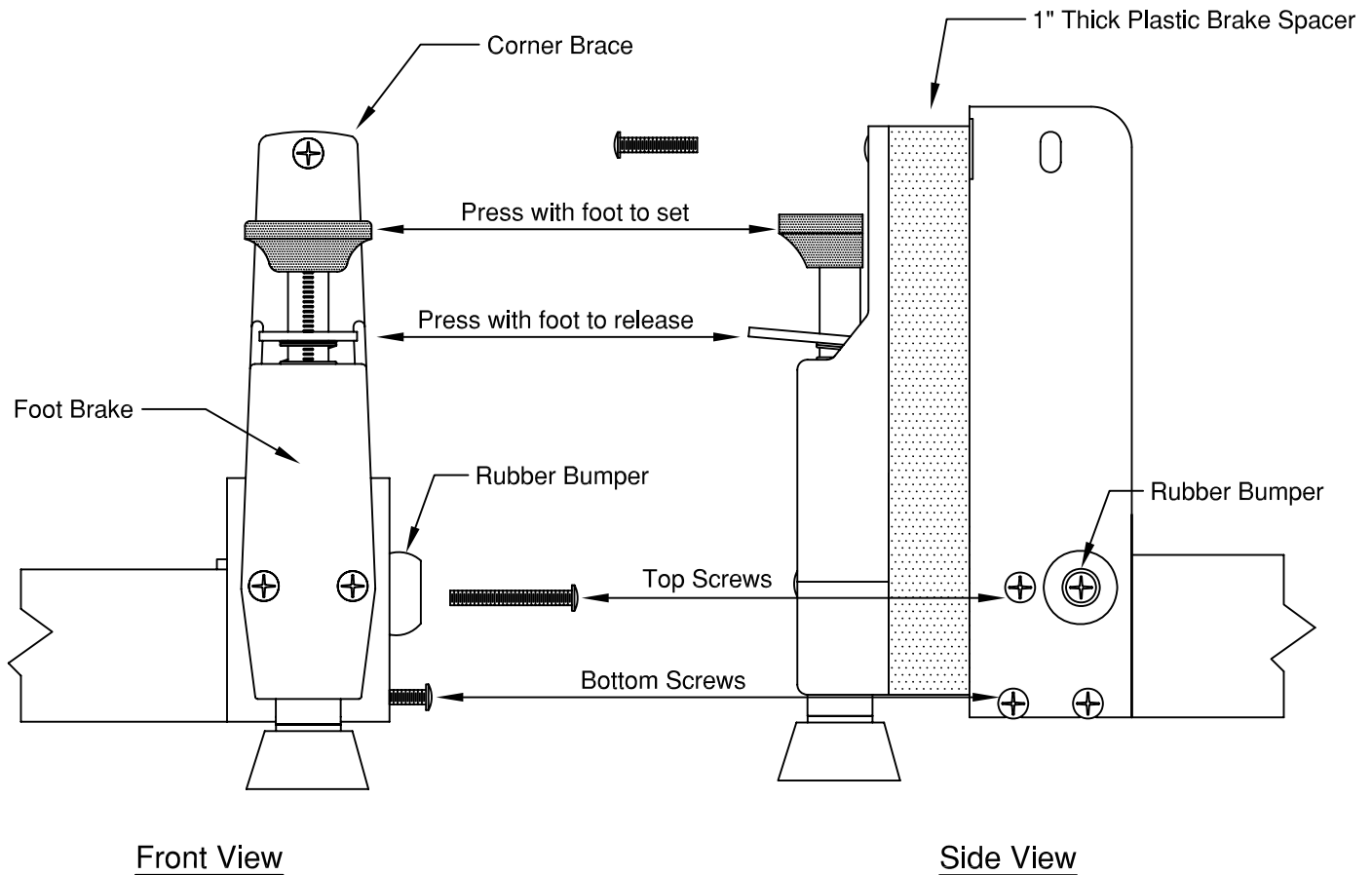
END UPRIGHTS

PRE-ASSEMBLE END UPRIGHT ASSEMBLIES USING TWO ① 96" "L" POSTS OR ①A 120" "L" POSTS AND THE CORRECT NUMBER OF ② 30" SHELF SUPPORTS PER ELEVATIONS ABOVE. ALWAYS PLACE ONE SHELF SUPPORT AT TOP PER INSTRUCTIONS ABOVE. DO NOT INSTALL THE BOTTOM SHELF SUPPORT UNTIL AFTER THE SHELF DECK IS PLACED ON THE MOVABLE BASE. LOOSELY INSTALL CROSS BRACES PER CROSS BRACE INSTRUCTIONS ON PAGE 22.

CENTER UPRIGHTS

PRE-ASSEMBLE CENTER UPRIGHT ASSEMBLIES USING TWO ①B 96" "T" POST OR ①C 120" "T" POST AND THE CORRECT NUMBER OF ② SHELF SUPPORTS PER ELEVATIONS ABOVE. ALWAYS PLACE ONE SHELF SUPPORT AT TOP PER INSTRUCTIONS ABOVE. DO NOT INSTALL THE BOTTOM SHELF SUPPORT UNTIL AFTER THE SHELF DECK IS PLACED ON THE MOVABLE BASE.

INSTALLATION OF FOOT BRAKE ON MANUAL CARRIAGES (36", 48", 72")



Step 1

Remove the two top screws on the corner of the carriage where foot brake is to be installed.

Step 2

Loosen bottom two screws approximately $\frac{1}{4}$ " on same corner.

Step 3

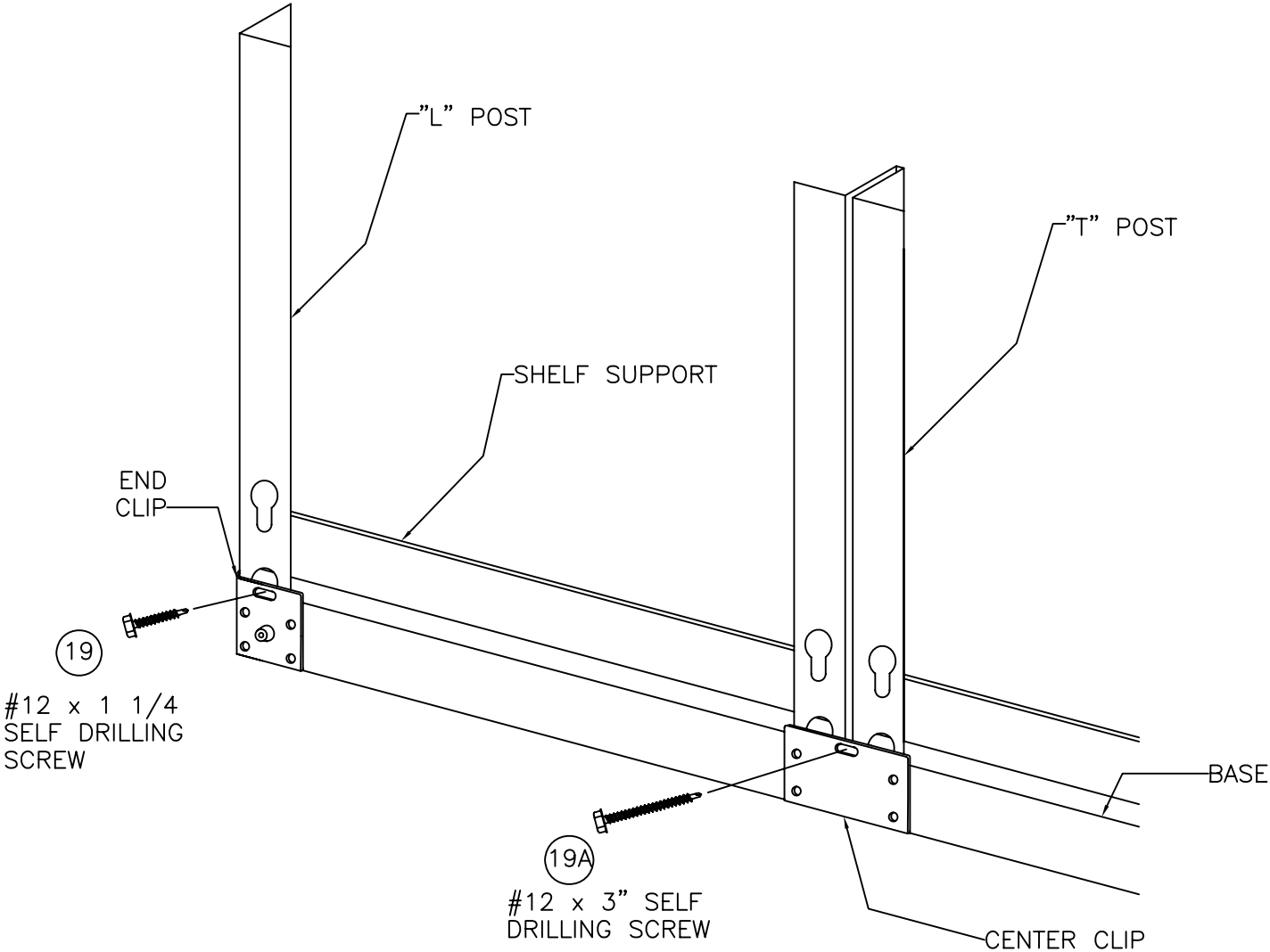
Install foot brake. Partial holes in bottom of brake plate to sit on top of bottom two screws.

Step 4

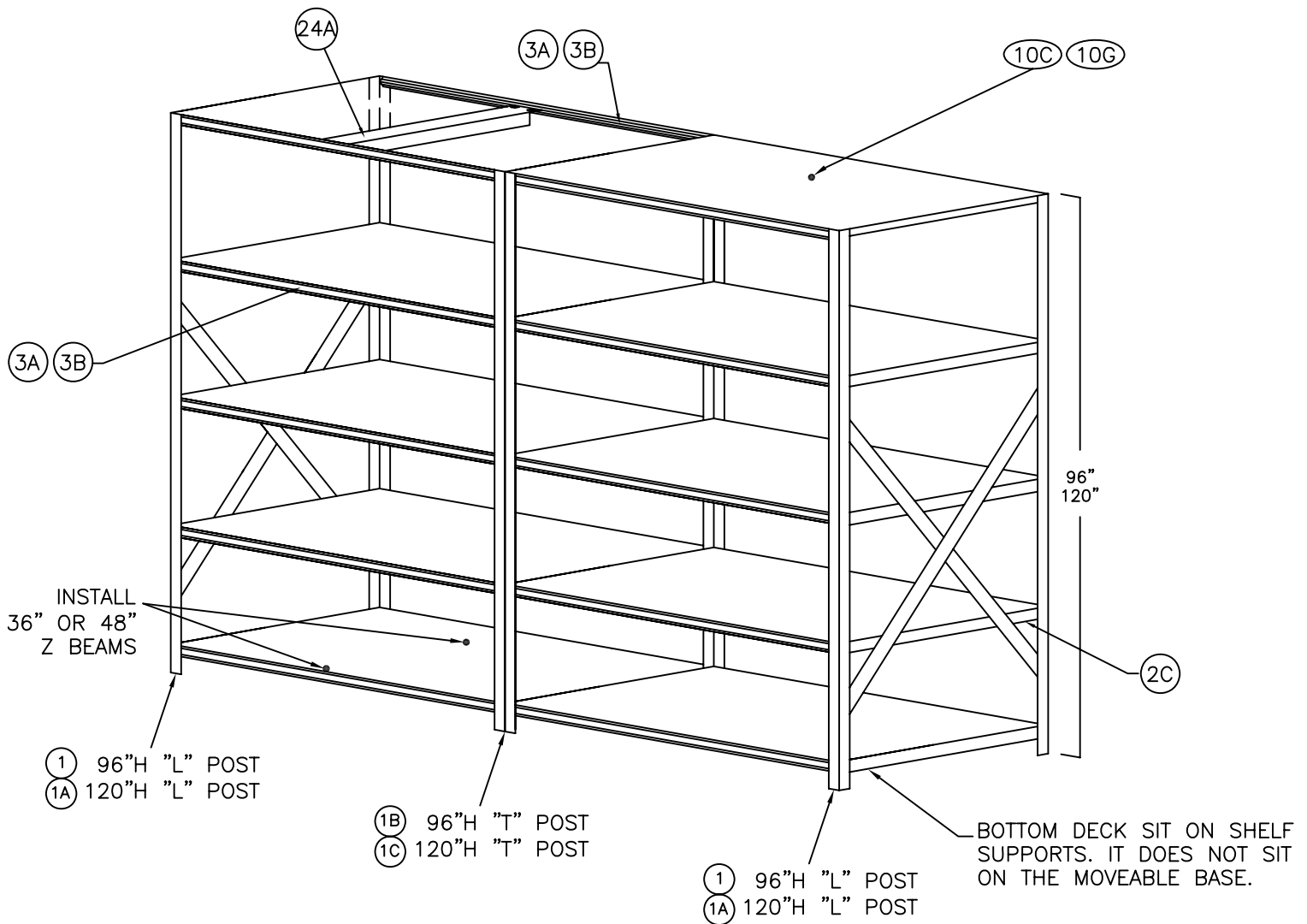
Replace top screws and tighten bottom screws. Rubber bumper to be secured to the carriage by the top screw. **Note: Bumpers on ALL inside four corners**

Note: Once secured, rubber bumper should clear the track and hold fast to the floor.

ATTACHING SHELVING TO BASES



UPRIGHT ASSEMBLIES (SHELVING)



1. ATTACH **3A** 36" OR **3B** 48" Z BEAMS TO UPRIGHT ASSEMBLIES.

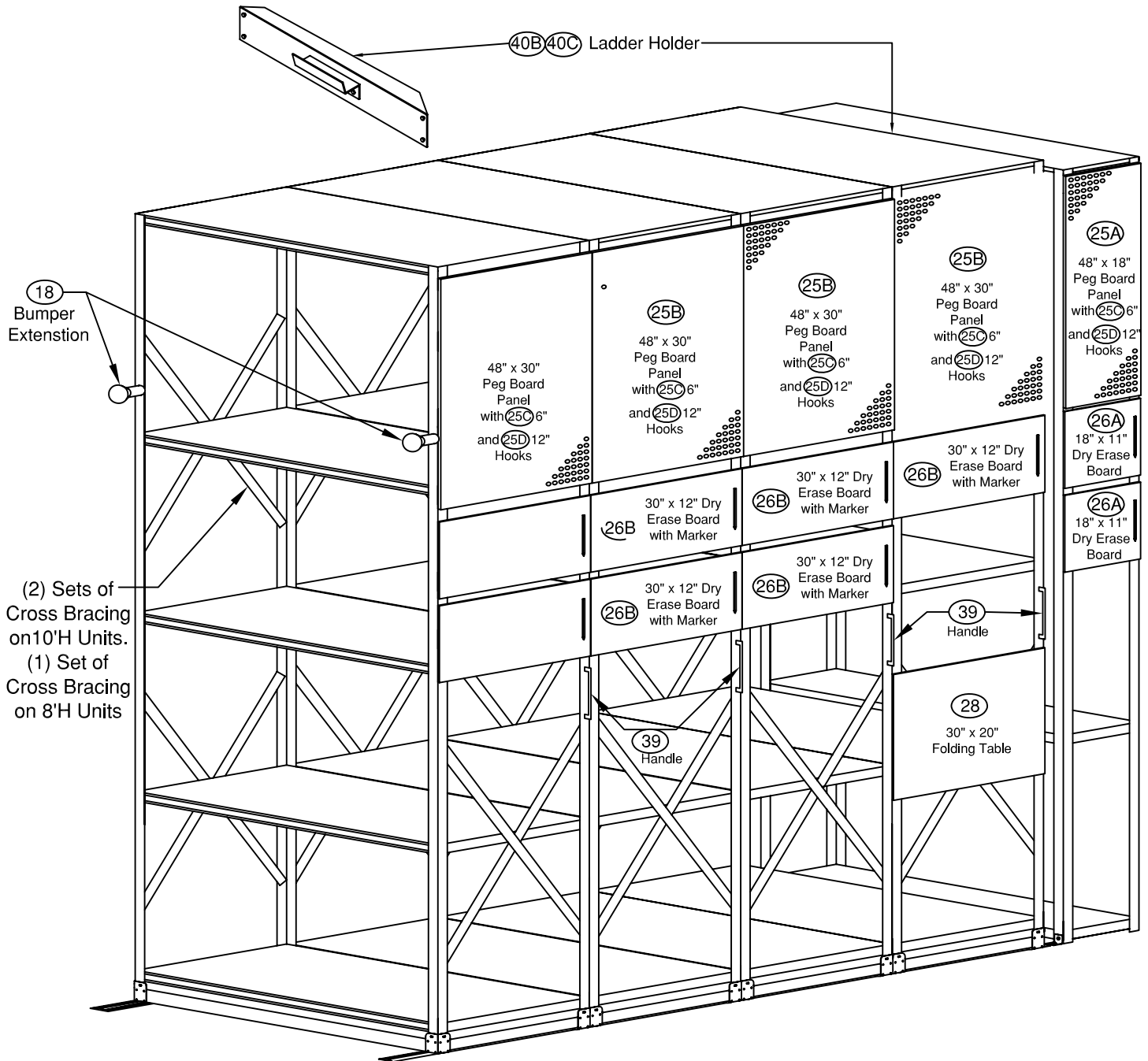
2. ATTACH **24A** 30" CENTER SUPPORTS TO Z BEAMS.

3. ADD **10C** 36" X 30" OR **10G** 48" X 30" DECKS, BOTTOM DECK SITS ON Z BEAMS, NOT ON BASE.

3. SQUARE UP UNITS AND TIGHTEN CROSS BRACE. REFER TO PAGE 22 FOR INSTALLATION OF CROSS BRACE. 96" HIGH HAS 1 CROSS BRACE, 120" HIGH HAS 2 CROSS BRACE.

4. FOR MDF ASSEMBLIES – ADD HANDLE TO FRONT OF EACH UNIT. REFER TO HANDLE INSTALLATION INSTRUCTIONS ON PAGE 9.

STANDARD CONFIGURATION OF ACCESSORIES ON UNITS



(26A)(26B) - Dry Erase Boards attach with Velcro

(25A)(25B) - Use pegboard hardware kit provided to attach peg board panels

(28) - Folding table attaches to key holes in uprights. One folding table goes on a mobile unit, if applicable. The second folding table attaches along the length (the 36"/48" side) of a stationary unit. Refer to page 23 for installation heights.

(40B)(40C) - The ladder holder attaches to mobile units, refer to page 24 for proper placement. A single section MDF system gets one ladder holder, a double section RDF system gets two ladder holders. Attach ladder holder along the length of the carriage (the 36"/48" side) on least accessible section on the outside end. **If there are no mobile units** in the stockroom, refer to page 25 for placement of (40) and (40A) ladder holder on stationary units.

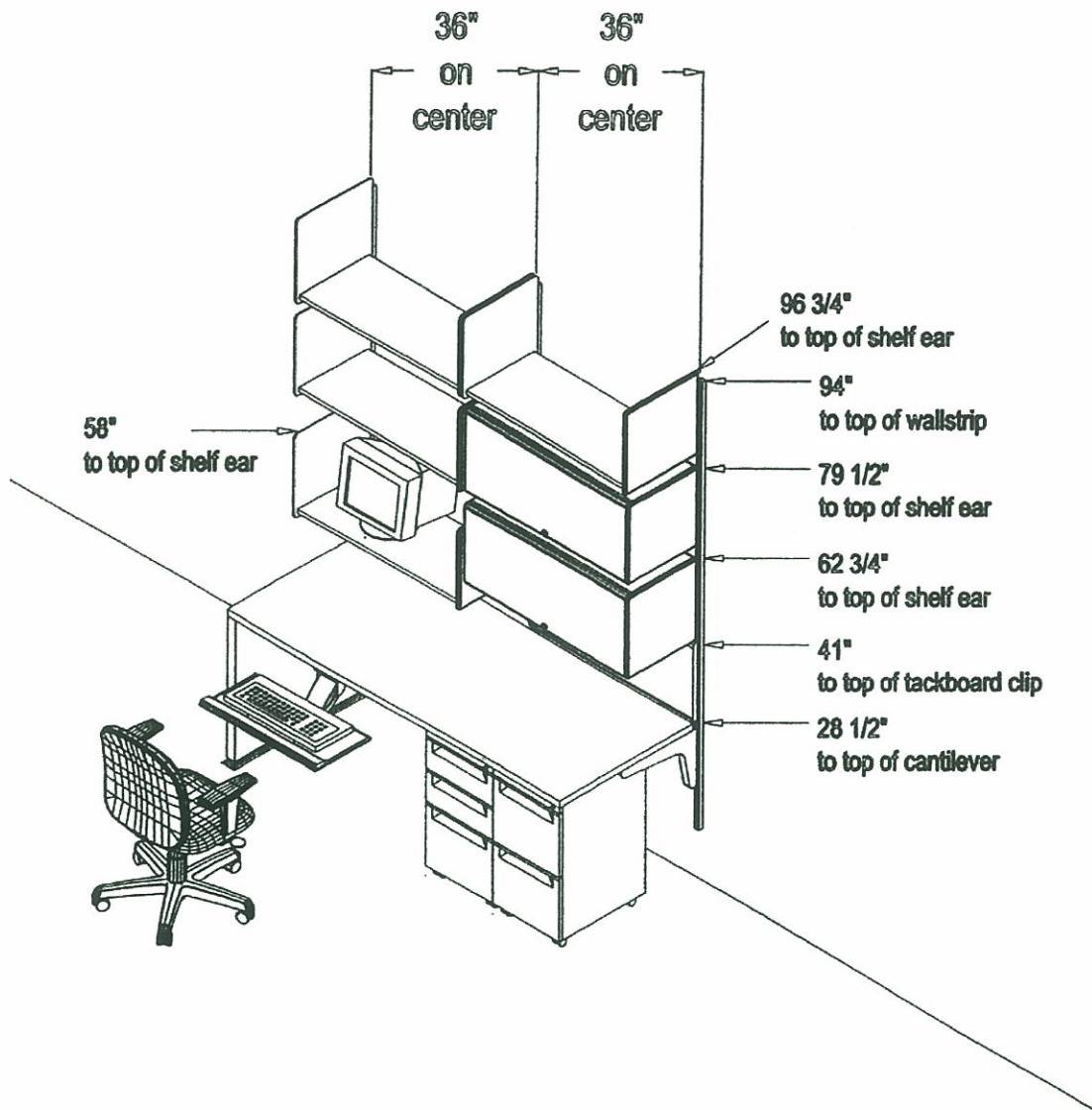
(18)(39) - Use kits provided to attach (18) bumper extensions and (39) handle to each mobile unit. Refer to page 9 for assembly instructions.

BBW
DIRECTOR'S STATION
PRODUCT IDENTIFICATION
&
INSTALLATION MANUAL

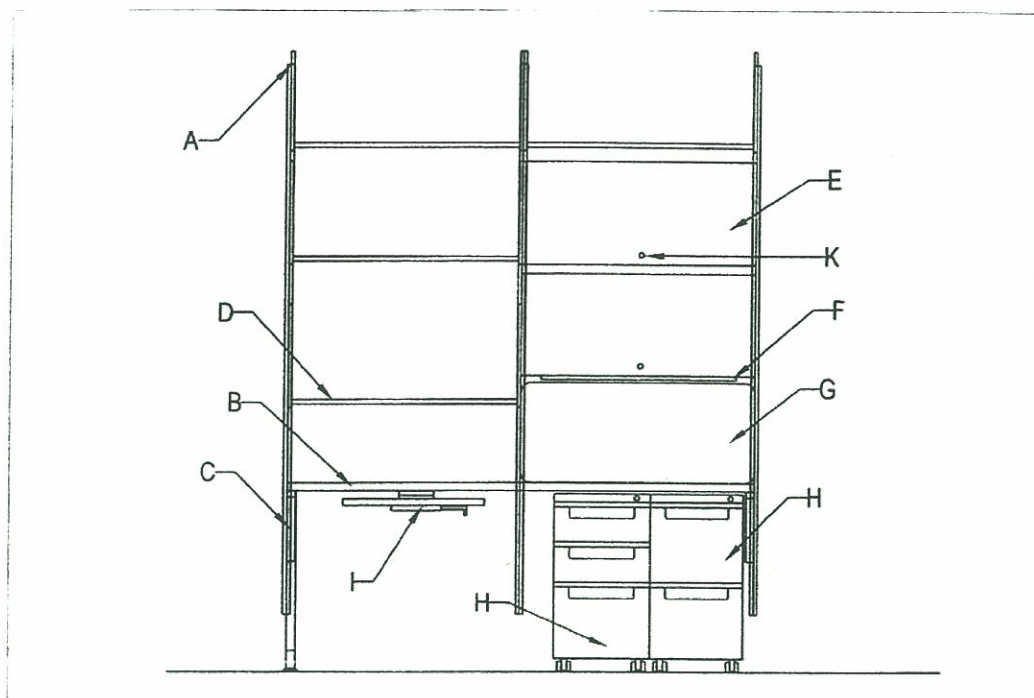
January 2005



PRODUCT ELEVATION DIAGRAM



PRODUCT IDENTIFICATION LIST



Item	Qty	Part #	Part Description
A	3	AO213.84	84" Wallstrip
B	1	AO417.3072L	30" x 72" Worksurface
C	1	A2380.30L	Worksurface Support Panel
D	4	A3210.1636	36" Shelf
E	2	A3353.1636	36" Flipper Door Unit
F	1	G6132.30MNS	30" Task Light
G	1	AO610.1636	16" x 36" Tackboard
H	2	FAS11.2015B & FAS11.2015F	Mobile Pedestals
I	1	G7715.04K & G7790.	Keyboard Platform & Arm
J	1	40TA15	Task Chair <small>(not shown)</small>
K	4	232092-300	Lock plug and key set
L	100	AO291.3	Wall Fastener

A
Herman Miller
AO213.84
84" Wallstrip
Qty: 3



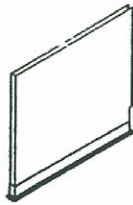
B
Herman Miller
AO417.3072L
30" x 72" Worksurface
Qty: 1



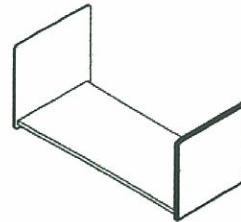
*Comes with 3 cantilevers



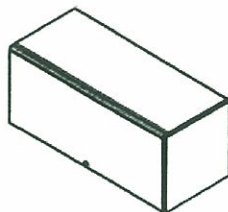
C
Herman Miller
A2380.30L
Worksurface Support Panel
Qty: 1



D
Herman Miller
A3210.1636
36" Shelf
Qty: 4



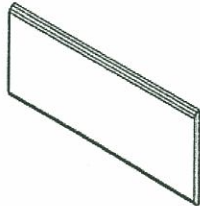
E
Herman Miller
A3353.1636
Flipper Door Unit.
Qty: 2



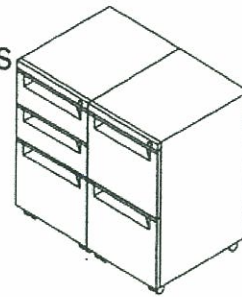
F
Herman Miller
G6132.30MNS
30" Tasklight
Qty: 1



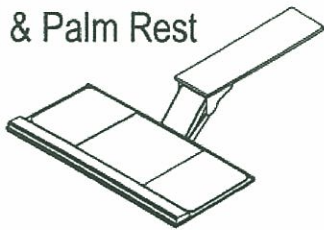
G
Herman Miller
AO610.1636
16" x 36" Tackboard
Qty: 1



H
Herman Miller
FAS11.2015B
FAS11.2015F
Mobile Pedestals
Qty: 2



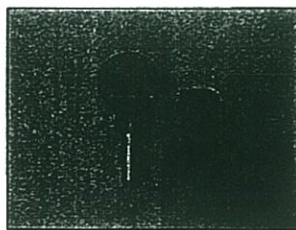
I
Herman Miller
G7715.04K
G7790.
Keyboard & Palm Rest
Qty: 1



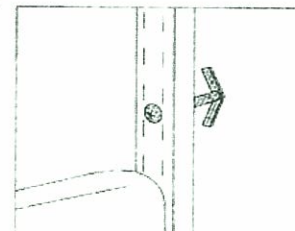
J
Sit On It
40TA15
Task Chair
Qty: 1



K
Herman Miller
232092-300
Lock Plug & Key Set
Qty: 4



L
Herman Miller
AO291.3
Wall Fastener
Qty: 100



Tools Required

A	.....	Ladder
B	.....	Drill Motor
C	.....	Chalk or Tap Line
D	.....	Tape Measure
E	.....	#2 Phillips Screwdriver
F	.....	11/32" Hex Driver
G	.....	5/32" Allen wrench
H	.....	5/16" Wrench
I	.....	.125" Drill Bit

Order Of Installation

Sequence	Product	Important Notes
Step 1..... 94"	Wall Strips.....	Top of wall strips must be From the Floor
Step 2	Shelving Units.....	You must leave a 1.5" gap for the flipper doors
Step 3..... shelves & ears	Flipper Units.....	Install directly onto
Step 4..... Light.....	Task	
Step 5.....	Support Panel.....	Top of support panel must be installed 28.5" from the floor, and must be installed on the far left wall strip
Step 6.....	Cantilevers & Worksurface.....	Top of cantilevers must be installed 28.5" from the floor
Step 7..... Tackboard.....		
Step 8.....	Keyboard Tray.....	
Step 9.....	Mobile Pedestals & Chair.....	

**** Important Notice:** Utilize the *Product Identification List* and *Product Evaluation Diagram* often. These are the most important tools included in the Installation Manual.

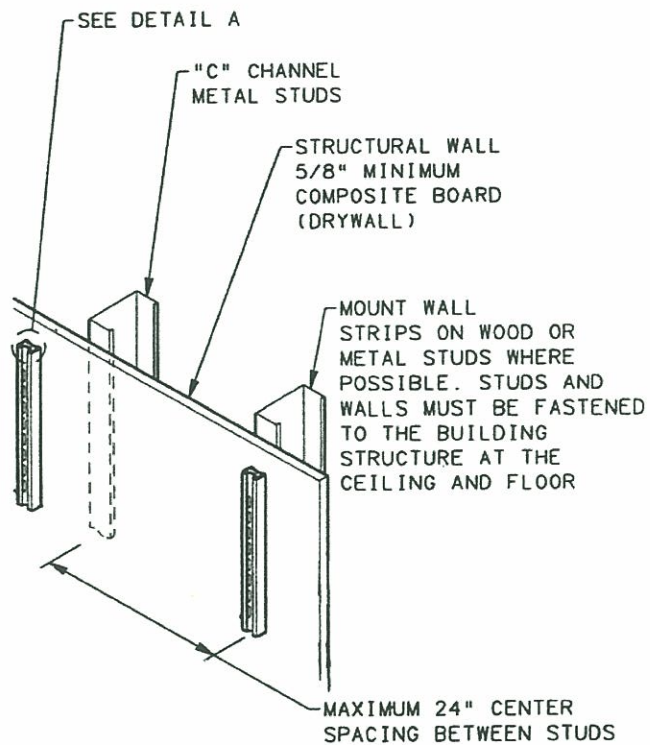
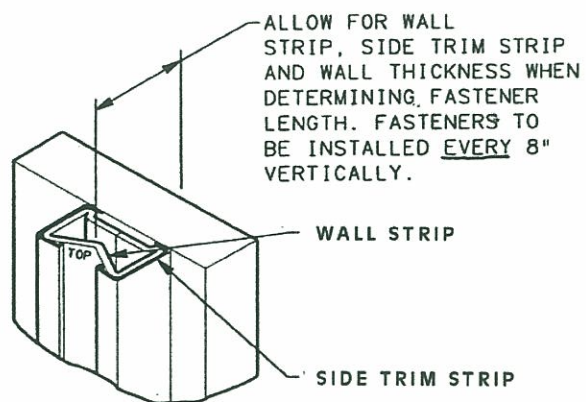


Figure 2



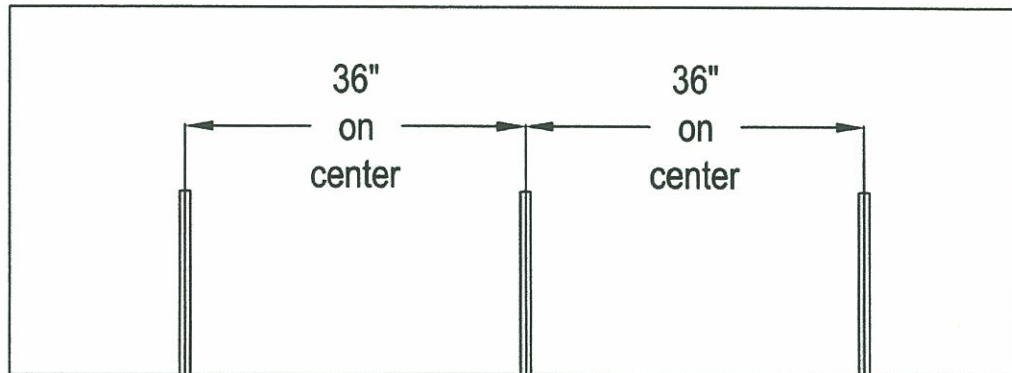
Detail A

Step 1: Installing Wall Strips

Considerations:

Notice: Herman Miller defines a structural wall as a load-bearing wall constructed of materials such as poured concrete, concrete block, or a composite board, typically referred to as drywall, attached to metal or wood studs.

The drywall must be a minimum of 5/8" thick. Wood studs must be a nominal 2" x 4" size. Metal studs must be "C" channel 20 GA. thick nominal 2" x 4" size. The metal or wood studs must be on centers no greater than 24", limited to a maximum height of 14' and restrained at the floor and ceiling. See **Figure below**.



Do not cut wall strips to shorter lengths.

Fasteners, also referred to as togglers, for fastening into drywall.

Notice: Refer to toggler manufacturer's specifications for pilot hole sizes. It is the responsibility of the installer to properly install the included fastener hardware. Herman Miller, Inc. does not assume liability for their misuse.

Installation:

Warning: Improper installation can cause product damage and serious personal injury.

1. Establish a level chalk line mark on the wall 94" from the floor. This line marks where to install the top of the wall strips. Since most floors are not level, it is important that the wall strip line is *perfectly* level.
2. Place first wall strip at desired location with the "top" marked end at the top. Mark and drill first mounting hole. (If possible, plan your installation so that at least one wall strip can be installed into a stud. For each wall strip which cannot be installed into a stud, ***you must install one toggle into each hole of the wall strip***). Attach wall strip to wall using the top hole only.
3. Use a carpenter's level to position the wall strip vertically, also termed "plum." Mark hole locations every 8" one wall through the holes in the wall strip.
4. Again, if you cannot install directly into a stud, drill holes and install togglers into each hole in the wall strip.
5. Wall strips are to be mounted 36" on-center, repeating steps 2, 3, and 4. See **Figure 2 and Detail A**.

Step 2: Installing Shelving Units

Considerations:

Warning: Tighten all screws! Failure to do so may cause product damage or serious personal injury.

Build the highest two shelves first, and ensure to install the uppermost tooth, also termed a hook, into the uppermost wall strip slot. **See Figure 3.**

Please note that when installed, the highest shelf ears, or end-panel, will rest about 2" above the wall strip. Make sure to **use "Product Elevation"** to identify heights at which to hang your shelf ears.

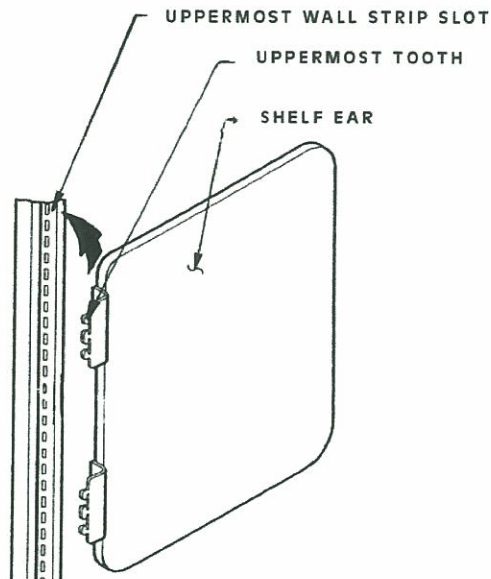


Figure 3

Installation:

1. When installing ears and shelf, allow 1.5" vertical clearance between product. This will allow for flipper door movement, and maintain visual integrity throughout the entire unit. **See Figure 4.**
For steps 2 through 4, see Figures 5a and 5b
2. With ears at equal heights and shelf mounting screws facing inward, insert teeth on wall strip slots.
3. Lock ears in place by pushing down until teeth are fully seated in wall strips.
4. Install shelf onto ears by engaging vertical slots of shelf over shelf mounting screws in ears.
5. Make sure shelf is fully seated onto shelf mounting screws. **Tighten all shelf-mounting screws.**

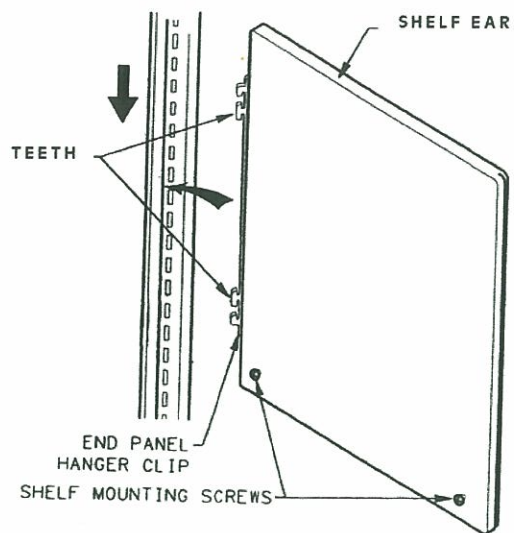


Figure 4

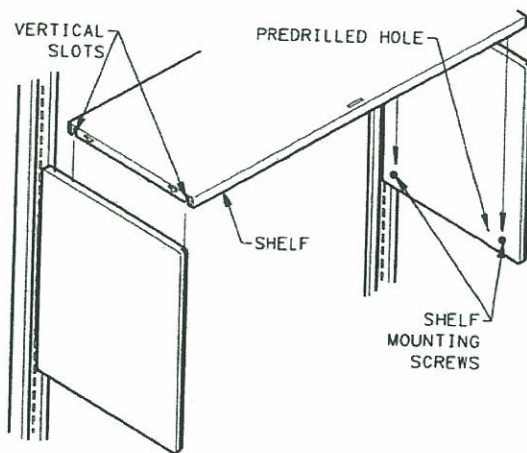


Figure 5a

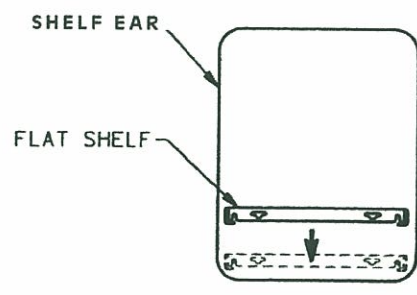


Figure 5b

Step 3: Installing Flipper Units

Considerations:

Warning: Tighten all screws! Failure to do so may cause product damage or serious personal injury. Flipper door unit is ready to attach to standard shelf units.

As stated in step 1 of shelf installation, allow 1.5" vertical clearance between ear installation. This gap will allow the flipper door to remain untouched in the open position.

Installation:

1. Install ears and shelf bottom. To do so, refer to steps 1 through 5 of shelf installation.
2. Insert (4) screws provided into predrilled holes near tops of ears. Leave enough clearance between screw heads and end panels to allow engagement of door guide slots onto mounting screws.
3. Slide door/cover assembly back until front slots in door guides drop over front mounting screws.
See Figure 6.
4. Make sure door/cover assembly is fully seated onto mounting screws. Tighten all mounting screws.
See Figure 6.

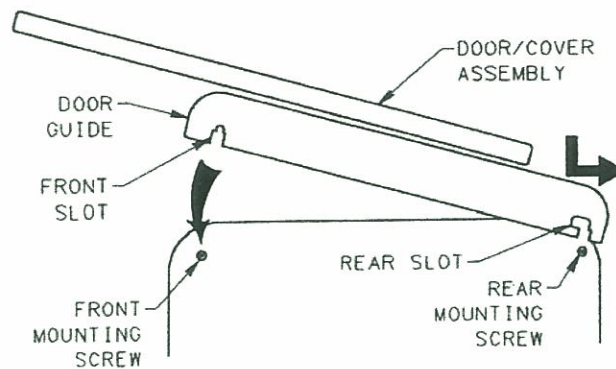


Figure 6

Step 4: Task Light Installation

Installation:

1. Attach spring bracket tab into light fixture by sliding spring bracket tab into mounting slot. Align hole in spring bracket with hole in light fixture and secure with screws provided. Repeat for other end of light fixture. See Figure 7.
2. Rest front of spring brackets on inside of front lip of shelf. See Figure 8.
3. Pull light fixture forward, this will deflect front of spring brackets, until back of spring-bracket clears rear lip of shelf. Raise fixture up flat against bottom of shelf. See Figure 9.
4. Move light fixture back so that back of spring bracket is resting on rear shelf lip. See Figure 10.

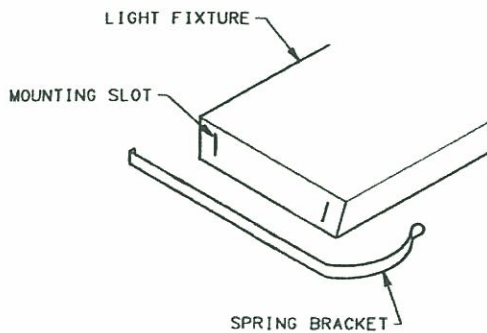


Figure 7

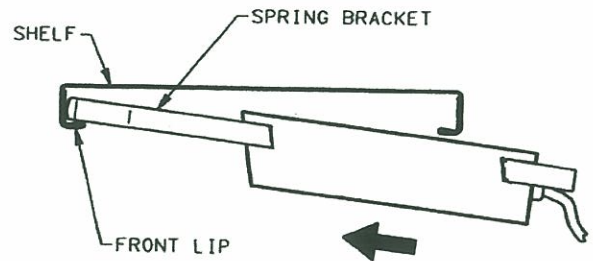


Figure 8

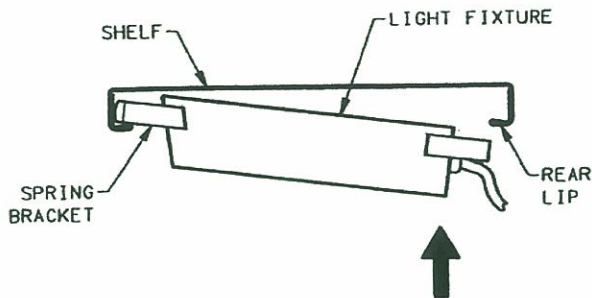


Figure 9

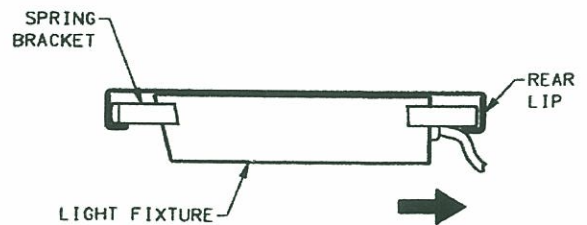


Figure 10

Step 5: Surface Support Panel Installation

Considerations:

Note: Orientation of hanger bracket to support panel determines right or left-hand support panel configuration. Determine installation requirements prior to assembling.

Note: Installation dimensions noted below will vary slightly due to individual panel glide adjustments.

Note: The end panel *must* be installed on the *furthest left of the three wall strips*.

Installation:

1. Assemble hanger bracket to support panel with bracket teeth along desired outer, or visible, surface of panel. Align top of hanger bracket flush with top edge of panel. Insert (5) # 10 x 2 " screw provided into pilot holes and tighten. **See Top of Figure 11.**
2. Install safety clip into wall strip so that top of safety clip is approximately 14.5" from the floor. Safety clips must be installed into the same wall strip, far left, as the end panel. **See Figure 12.**
3. Install work surface support panel to wall strip so that the top of the support panel is approximately 28.5" from the floor. Insert hanger bracket teeth into the same wall strip. Push down to make sure bracket completely engages hanger frame. **See Figure 12.**
4. **Warning: Ensure to engage safety clip on support panel. Failure to comply will cause product damage or personal injury.**
5. Slide safety clip up to align holes in clip with holes in support panel. Insert (2) 1/4-20 x 3/4" screws and tighten screws. **See Figure 12.**
6. Install (2) plastic plugs provided into (2) holes opposite of safety clip. **See Figure 12**

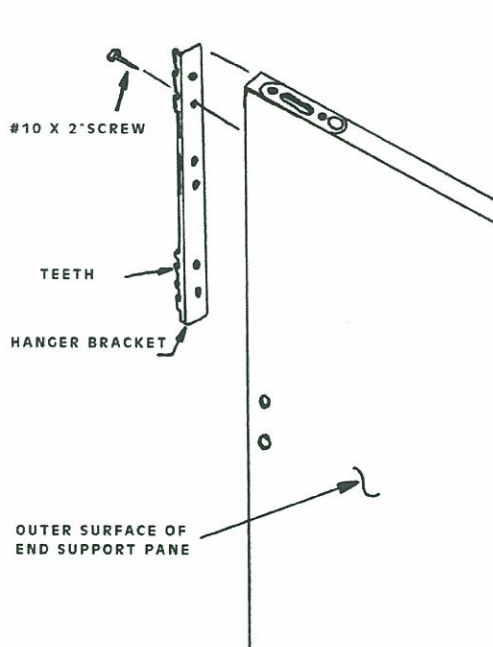


Figure 11

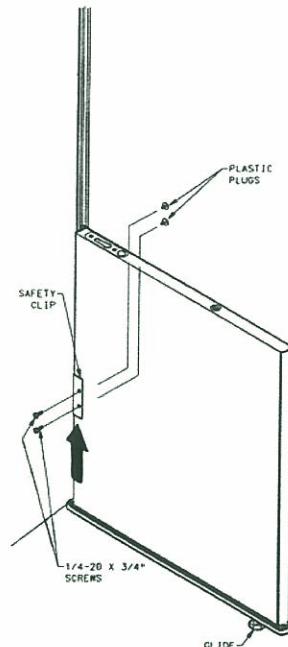


Figure 12

Step 6: Cantilever and Work Surface Installation

Considerations:

Notice: Herman Miller, Inc. will not under any circumstances guarantee or assume responsibility for loading performance beyond individual component load capacities listed below.

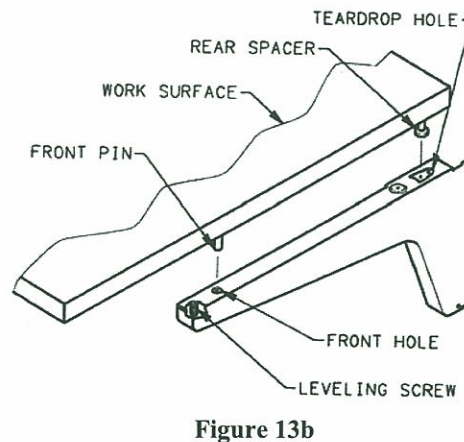
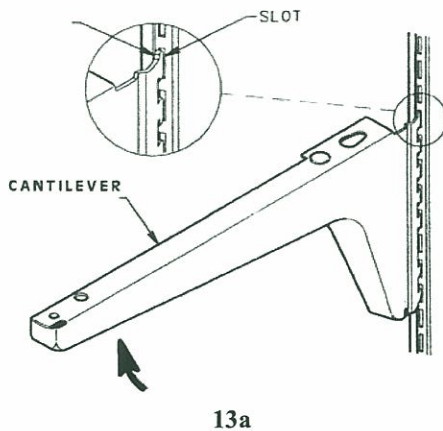
With your work surface, you will receive three L shaped support brackets, also called cantilevers. You will only use two of them.

Warning: Load capacities as listed below for work surfaces include the total load of fully loaded components attached to the underside of the work surface plus the load placed on the top of the work surface. Failure to observe the recommended practices, will result in unsafe usage conditions and may result in failure of components and personal injury.

Load capacity for work surface 72' wide X 30" deep with three supports (2 cantilevers and one work surface end panel) is 225 pounds.

Installation:

1. Install only two of your three cantilevers. They should be installed on the middle and right-hand wall strips.
2. Position cantilever at slot openings with top tooth aligned with opening of slot. **See Figure 13a.**
3. Raise front of cantilever at a slight angle until top tooth enters wall strip slot. Lower front of cantilever to place other teeth into slots. **See Figure 13b.**
4. Push down cantilever to until properly seated.
5. Install work surface onto cantilevers and end panel (one side at a time) by inserting rear spacers through teardrop holes in rear of cantilevers. Push work surface back until front pins engage front holes in cantilevers. **See Figure 14.**
6. Work surfaces can be adjusted to level using 5/32" allen wrench to turn leveling screw. **See Figure 13b.**
7. Hand tighten the leveling screw of the center support.



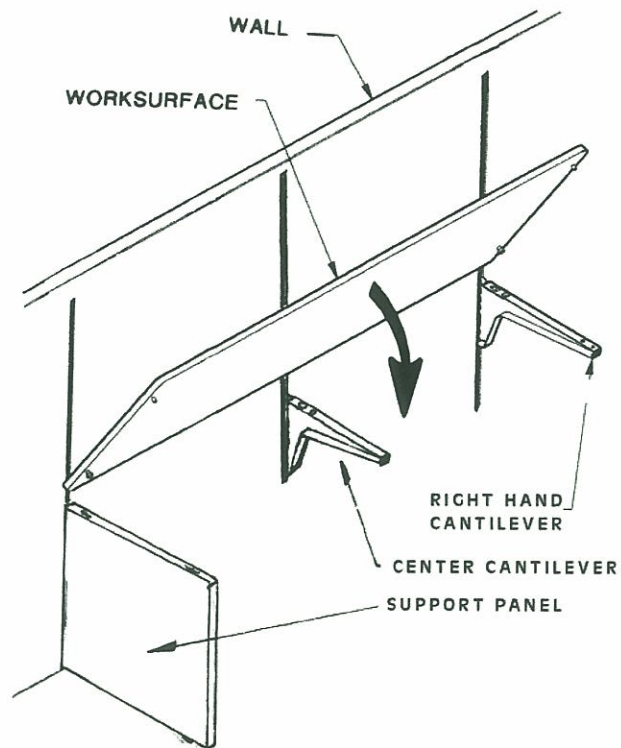


Figure 14

Step 7: Tackboard Installation

Considerations:

Caution: When installing screws to fasten tray, use hand pressure only. Do not use a power screwdriver. Failure to comply may result in product damage.

Installation:

1. Position and engage hanger clips in the right-hand and center wall strips, so that the top of the hanger clip is 41" from the floor. See **Figure 15a**.
2. Position board with the mounting screws above the hanger clips and force down to engage the screws in the slots in the top of the hanger clips. See **Figure 15b**.



Figure 15a

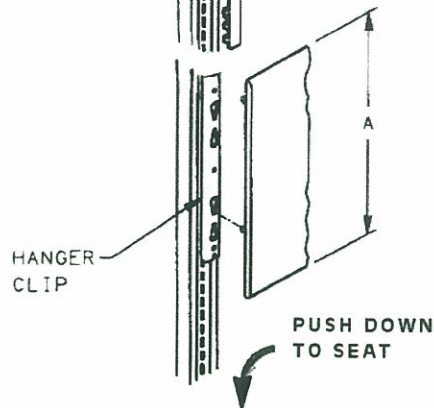


Figure 15b

Step 8: Installing Keyboard Tray

Considerations:

Hand-tighten all screws. Do not over tighten because this will strip the threads. Install track prior to assembly or install of the keyboard tray.

Installation:

1. Place track in desired location on underside of work surface. Place front edge of track approximately $\frac{1}{2}$ " back and parallel with the front edge of work surface.
2. Using track as a template, drill $10 \frac{1}{8}$ " diameter holes $\frac{5}{8}$ " deep in underside of work surface.
3. Insert 8 #8 x $\frac{5}{8}$ " screw through rear bumper and into rear hole in center of track. Tighten all screws. See figure 16.

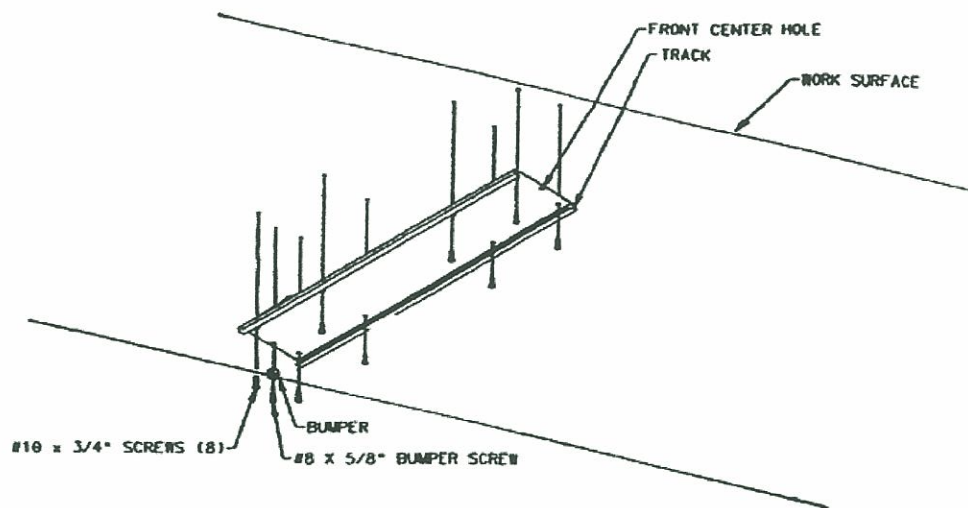
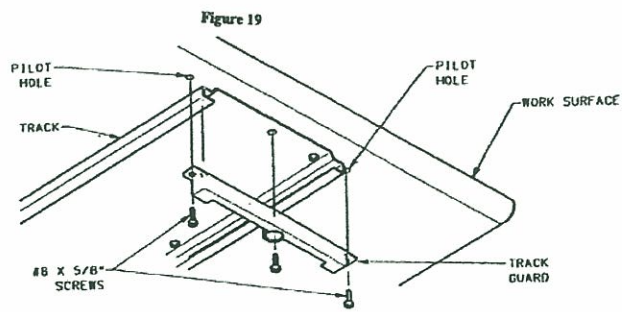
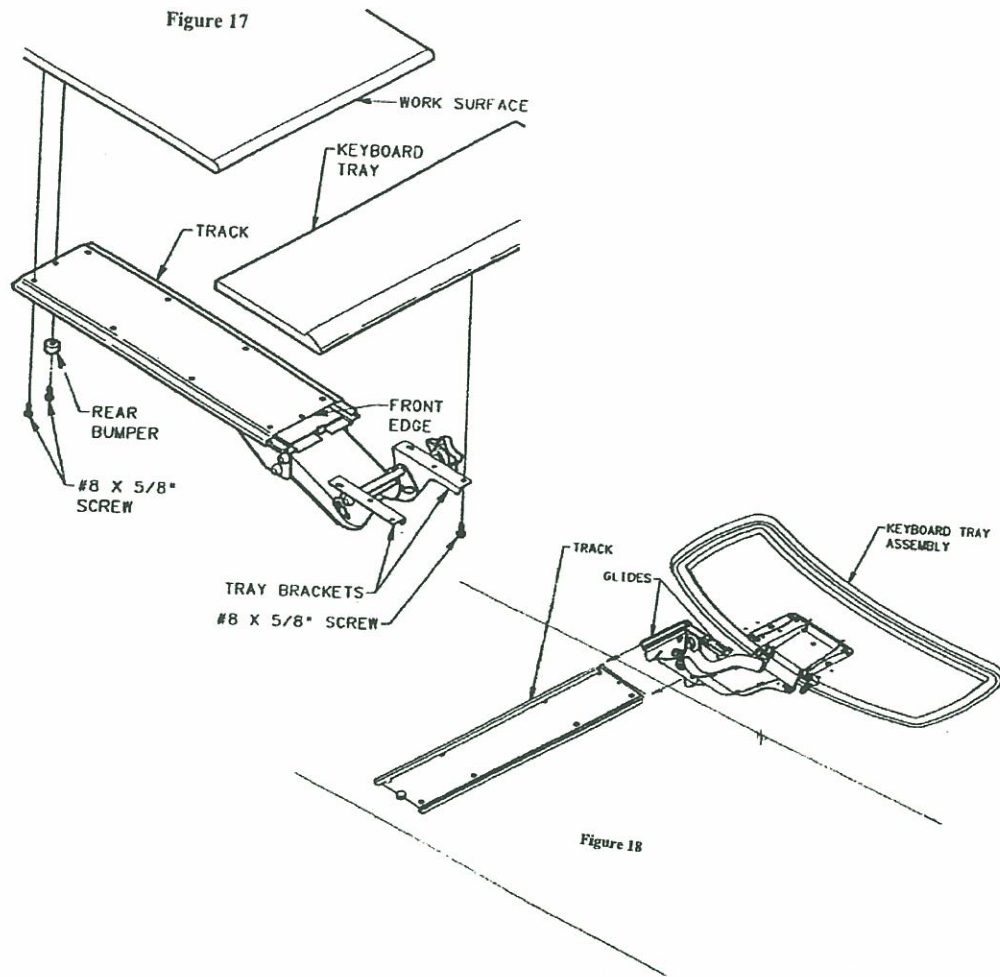


FIGURE 16

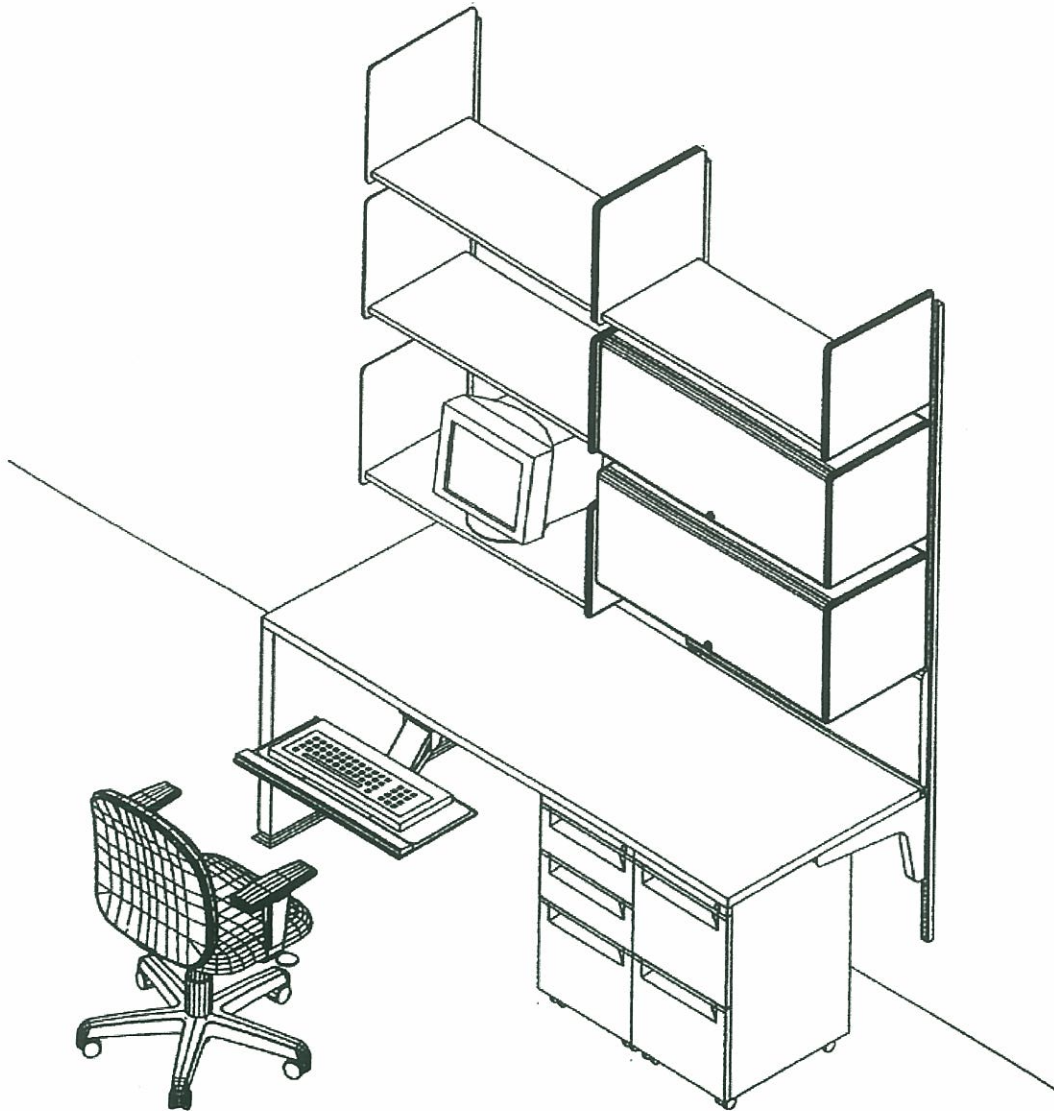
4. Install keyboard tray *first* to tray brackets using Step 5.
5. Align holes of tray brackets with holes in keyboard tray. Insert 6 #8 x $\frac{5}{8}$ " screws and tighten. See figure 17.
6. Then slide mechanism into grooves in track until mechanism contacts rear bumper. See figure 18.
7. Position track guard over front end of track. Insert #8 x $\frac{5}{8}$ " screw in center hole of track guard through center hole in track. Using track guard as template, drill $2 \frac{1}{8}$ " diameter pilot holes $\frac{5}{8}$ " deep into work surface. Insert 2 #8 $\frac{5}{8}$ " screws and tighten. See figure 19.



Step 9: Installing Mobile Pedestal and Chair

Installation:

1. Place the mobile pedestal and the chair in the locations specified according to the diagram below. This completes the installation of the Director's Station.



Limitedbrands

STORE DESIGN & CONSTRUCTION

Memo

To: PM's (all brands), Brand Design Standards Managers
From:
CC:
Date: 2/22/2008
Re: Limited Brands Vendor installed systems

Several technology systems utilizing low voltage network cabling are installed by Limited Brands Vendors during the construction process. The installation occurs roughly two weeks prior to store opening.

Requirements vary by system and location and are outlined below. For locations which low voltage wiring to be in conduit reference "Low Voltage in conduit" section at end of document.

Low Voltage Conduit

Description LSP GC's to install conduit for Low Voltage wiring only when required by building code(s). Limited Brands vendor is responsible for all low voltage wiring permits.

Criteria Some building departments/ inspectors require all low voltage wiring to be installed in conduit. Specific locations that we are aware of are (check local codes for each store):

- Chicago, IL
- New York City, NY
- Las Vegas, NV
- Sacramento, CA
- Certain locations in Florida

Camera surveillance system (CCTV)

Description: System designed to monitor and record activity within a store for security purposes through use of cameras, monitors and DVR.

Criteria: Based on specific locations (criteria set by Limited Brand's LP Dept)

- All front entrances locations with street access
- All locations with a high Loss Prevention CAP or risk score (CAP index list by mall provided by Limited Brands Loss Prevention).
- Locations that currently have a camera system
- Locations that are 10k sales floor or 10 million in projected sales

Requirements:

DVR/ Monitor

Located in Non-Sales, typically near manager's desk.

Brand Design manager to identify location for DVR/ Monitor

- 24"W x 24"D shelf mounted at 44" a.f.f.
- (1) Quad receptacle and (1) Duplex receptacle (non-dedicated, 24 hour)
- Quad J-box in the wall @ 48" a.f.f. with a 2" diameter conduit to an 8" x 8" J-box above @ 9'-6" a.f.f

Viewing Monitor (weight = 26 lbs)

- a. One view monitor per store with the exception of a corner street location (which will be evaluated on a case by case basis) that has two entrances facing two streets which will require one monitor per entrance. Note that if there are two entrances for the same street, only install one monitor at the primary entrance.
- b. Locate inside entry doors as located per sketch below. Note: If the store fixturing creates issues with this location, place on left side or get direction from Brand Standards Manager.
- c. Vendor to ship view monitor pole mount to the store upon receiving the PO.
- d. GC to provide structural support and mount view monitor pole per the installation details prior to gypsum board ceiling installation.
- e. Mount bottom of monitor at 9' a.f.f. If the ceiling is higher than 11', extend pole to maximum length. If the ceiling is less than 11', minimize pole to lowest length allowed as long as the bottom of the monitor does not go below 8' a.f.f. If a monitor cannot be installed 8' a.f.f. or higher, do not install a view monitor.
- f. Mount bottom of monitor at maximum length of pole (26"). Do not allow the monitor to extend below 9'-0" a.f.f. unless the ceiling preferred for ceiling between 10'-6" and . (8'-0" a.f.f. minimum for 10' ceiling)
- g. Install ceiling mounted duplex receptacle (non-dedicated, **24 hour**) above ceiling.

Cameras (weight = 3 lbs)

- a. Quantity of cameras:
 - BBW/Bigelow: 2 rooms = 3 cameras plus monitor; 3 rooms = 4 cameras plus monitor to cover all registers, entrance/sales floor and any exits
 - VSS: 9 cameras or as needed to cover all registers, front entrances/sales floor, all exits, beauty, angels, BBV. Larger locations (10k sales and high risk) with consideration of additional cameras
- b. Camera locations:
 - Always one camera on all rear exit door(s).

- Always one camera per cashwrap (more if 4 or more registers are designed in order to cover area).
 - Primary objective, one camera/room starting with room with an entrance.
 - Cameras are typically installed at the corners of each room 2-3' from each corner wall.
 - Please refer to the locations on each Brand's Master Template.
 - Any room without a camera will have a drone installed.
 - Vendor to architect print of camera placement after vendor is supplied with the survey and print information.
- c. Field installed by camera vendor. Camera does not require any additional structural support or electric.

Camera power supply

- Install on wall adjacent to DVR/ Monitor
 - Duplex receptacle (non-dedicated, 24 hour) adjacent to DVR/ Monitor quad receptacle
- Brand Design manager to provide wall space for Camera power supply adjacent to DVR

Low Voltage Conduit - **only when required by code**

Install only when required for Low Voltage wiring by building codes

- Vendor responsible to pull Low Voltage permit
- 3/4" conduit with pull string is acceptable for all low voltage wiring. GC to install conduit and pull string. LMT Vendor to install wiring.
- J-box at each camera location and at Viewing monitor. Home run back to DVR location for each camera and View monitor. Typically 3 - 4 per store.
- It is not acceptable to pull more than one wire type through a conduit due to potential interference between systems.

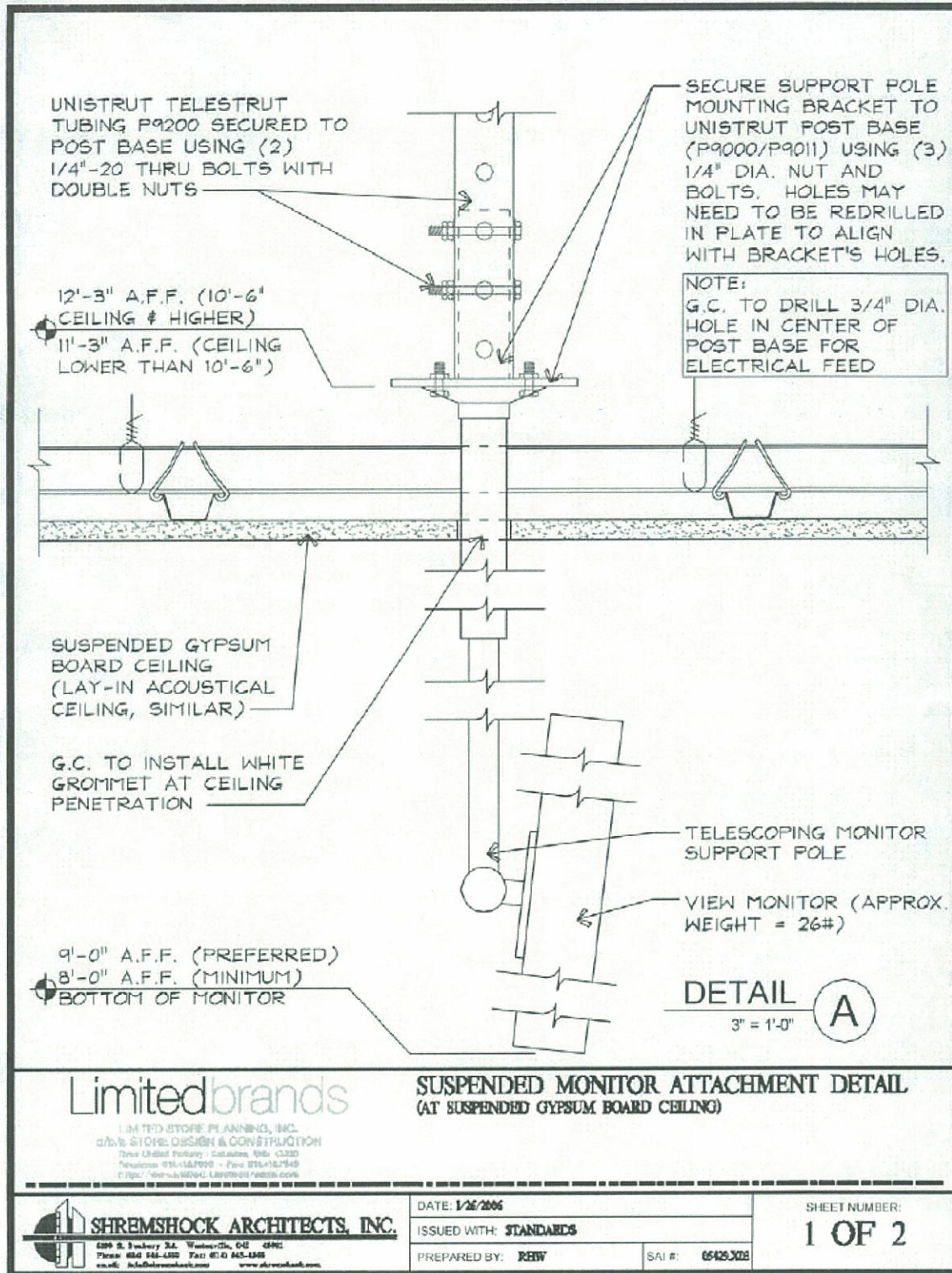
Process

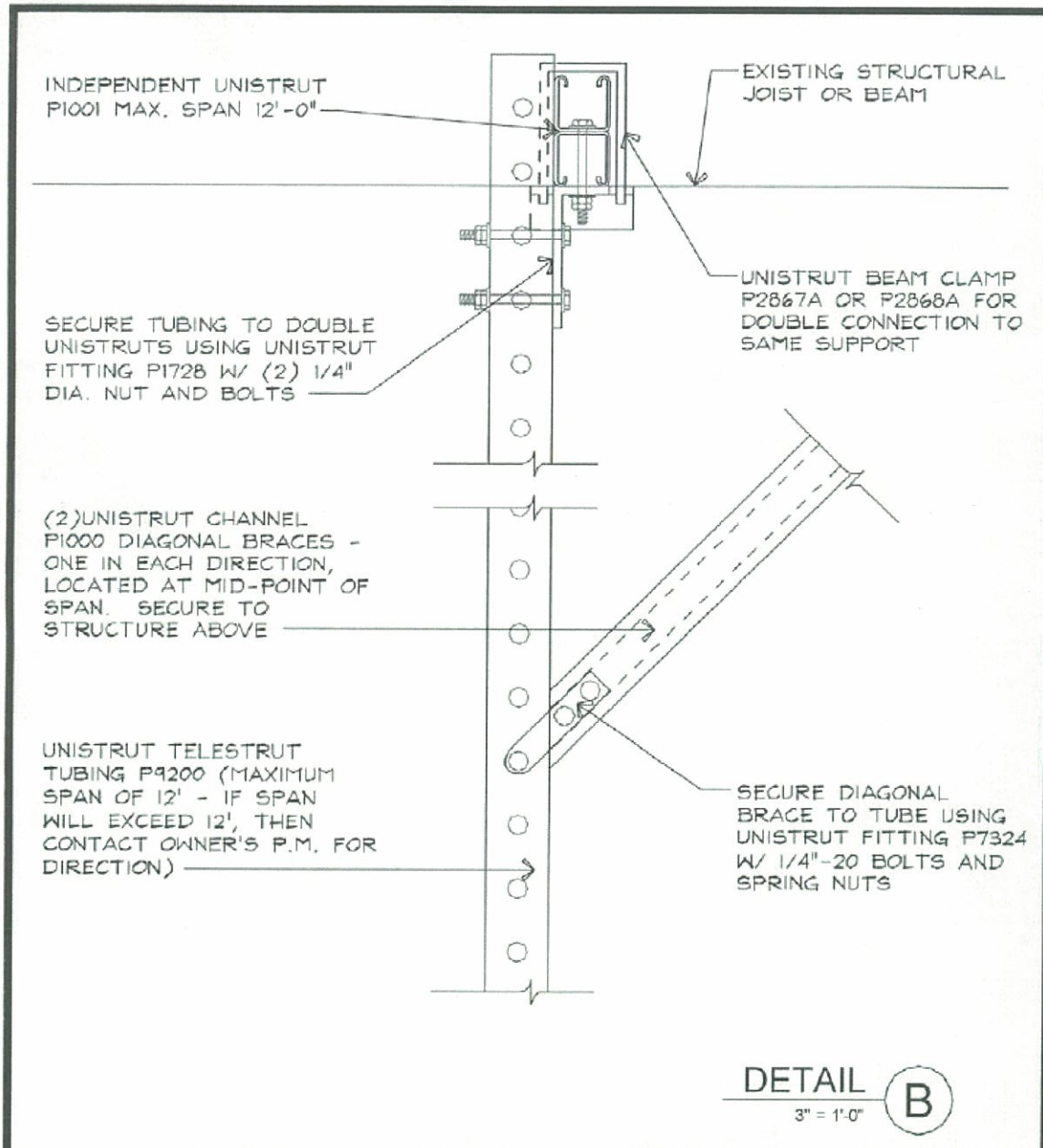
- Vendor will provide a notice to the architects, PM, and purchase agent if a store qualifies for CCTV/monitor once the survey and print information is forwarded to the vendor. **Upon approval by Limited Brand's LP dept**, a copy of the store prints showing the cameras and head end equipment will be sent to the PM and architect by the vendor
- Store designer to verify if CCTV system is required based on criteria **provided by Limited Brands**.
- If required store designer to notify vendor contact when the SD drawings are posted on Tririga.
- Vendor to provide camera and view monitor locations within 1 week of notification. Post drawing with locations to Tririga
- Architect to locate camera and view monitor locations on CD set. Include detail in drawings for view monitor support.
- Engineer to provide power for view monitor and DVR/ Monitor equipment.
- GC and camera vendor to install system requirements per the CD set.
- Locations requiring low voltage wiring in conduits, the engineer is also responsible to specify on the CD set continuous conduit runs (with pull string) for low-voltage wiring. GC to install j-boxes and conduit per CD set.
- Camera system vendor to all wiring and install devices prior to construction completion. Vendor to coordinate schedule directly with onsite GC superintendent.

Contacts:

Loss Prevention	Bob Whitaker	x57111
ADT-Sensormatic	Sheryl Mack Bruce Secor	x58329 (317) 598-8876

GC to install Public View Mount per below specifications:





Limitedbrands

LIMITED STORE PLANNING, INC.
STORE DESIGN & CONSTRUCTION
Three United Nations - Columbus, Ohio 43220
Telephone: 614.451.7000 - FAX: 614.451.7049
E-MAIL: info@limitedbrands.com

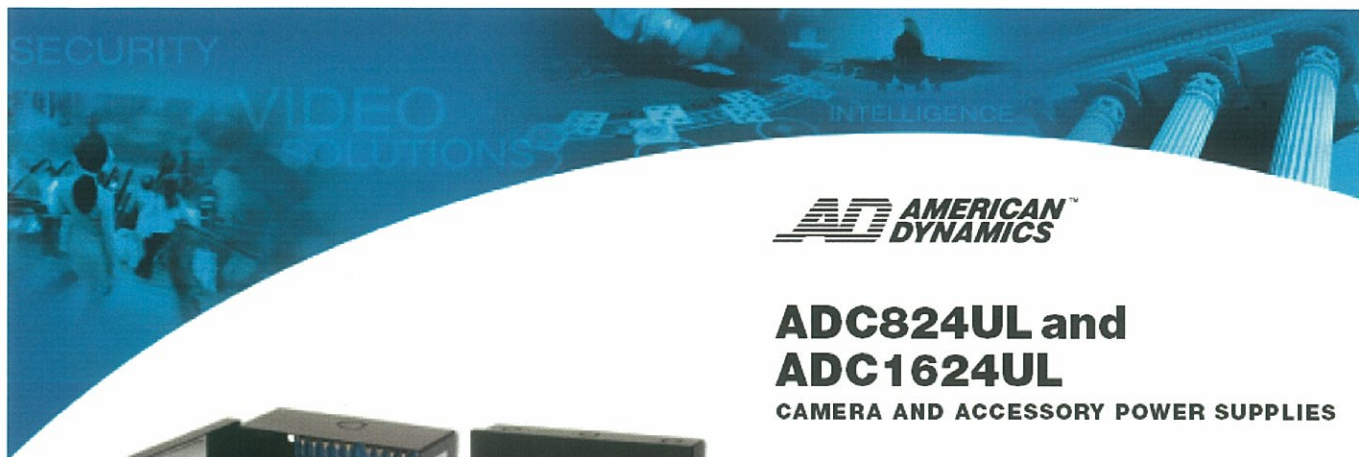
**SUSPENDED MONITOR ATTACHMENT DETAIL
(AT SUSPENDED GYPSUM BOARD CEILING)**



SHREMSHOCK ARCHITECTS, INC.
600 S. Oakway St. - Columbus, OH 43220
Phone: 614.546.4550 Fax: 614.546.4555
E-MAIL: info@shremshock.com www.shremshock.com

DATE: 1/25/2006
ISSUED WITH: STANDARDS
PREPARED BY: RHW SAI #: 05429.X006

SHEET NUMBER:
2 OF 2



ADC824UL and ADC1624UL

CAMERA AND ACCESSORY POWER SUPPLIES



SPECIFICATIONS

Model Numbers

ADC824ULPower Supply, 8 Outputs, 120 VAC to 24 VAC
ADC1624ULPower Supply, 16 Outputs, 120 VAC to 24 VAC

Operational

Indicator LEDsPower on
PowerOn/off switch

Electrical

Input Voltage115 VAC @ 50/60 Hz
Input Current9A (ADC824UL), 2.9A (ADC1624UL)

Mechanical

Wall Mounting OptionsConcrete, wood, and sheet rock
Dimensions (H x W x D)
ADC824UL203 x 184 x 89 mm (8 x 7.25 x 3.5 in)
ADC1624UL343 x 330 x 83 mm (13.5 x 13.0 x 3.25 in)

Environmental

EnvironmentIndoor
Operating Temperature0° to 50° C (32° to 122° F)
Storage Temperature-40° to 70° C (-40° to 158° F)
Relative Humidity0 to 95% RH (non-condensing)

Regulatory

SafetyUL2044

The ADC824UL and ADC1624UL camera and accessory power supplies are designed for powering CCTV cameras and other video accessories. They provide 24 VAC power via eight (ADC824UL) or sixteen (ADC1624UL) fused outputs. The ADC824UL provides a total of 3.5 amps continuous supply current, and the ADC1624UL provides a total of 7 amps of continuous supply current.

Features

- Input 115 VAC @ 50/60 Hz
- 24 VAC output
- Eight individually fuse protected, power limited outputs, with 3.5 amps (85 VA) total supply current (ADC824UL)
- Sixteen individually fuse protected, power limited outputs, with 7 amps (170 VA) total supply current (ADC1624UL)
- UL 2044 listed
- Output, main and inline fuses rated at 3.5 amps/250 VAC
- Built-in surge protection
- AC power LED indicator, with on/off switch
- Unit maintains camera synchronization
- Easy to install in seven simple steps

Product specifications and availability subject to change without notice.
Certain product names mentioned herein may be trade names and/or
registered trademarks of other companies.

tyco / Safety
Products

CE
VS342-01 1/04 L
©2004 Sensormatic Electronics Corporation

www.americandynamics.net



**Color CRT
Monitor with
3-Year Warranty**

Diagonal Size: 17"

Viewable Size: 16"

Display Type: Standard display/CRT conventional - desktop

Depth: 16.22"

Features: Anti-static/anti-reflection coating, Plug-and-play

Height: 15.75" (with base), 13.66" (without base)

Weight: 33.07 lbs

Width: 15.7"

Analog Video Format: 0.7 Vpp, positive at 75 ohm

Color Support: Yes

Compliant Standards: VESA DPMS, TCO'03/TCO'99, MPR II

Connectivity Technology: Cable

Device Type: Standard display/CRT conventional - desktop

Diagonal Size (Viewable Size): 17" (16")

Dimensions (WxDxH) / Weight: 15.7" x 16.2" x 15.7" / 33.07 lbs

Dot Pitch: 0.27 mm

Enclosure Color: Midnight Gray

Environmental Parameters: Temperature:- Operating: 32°F to 104°F, Non-operating: -4°F to 140°F; Humidity:- 10% to 90% (non-condensing);

Altitude:- Operating: 0 ft to 10,000 ft, Non-operating: 0 ft to 35,000 ft; Thermal Dissipation:- 307 BTU/hour (maximum), 239 BTU/hour (typical)

Factory Preset Resolution Modes: 720x400 @ 70.09 Hz, 640x480 @ 59.94 Hz, 640x480 @ 85.08 Hz, 800x600 @ 75 Hz, 800x600 @ 85.06 Hz, 1024x768 @ 75.03 Hz, 1024x768 @ 84.98 Hz

Max Resolution: 1024x768 pixels at 85 Hz

Max Sync Rate (V x H): 160 Hz x 70 KHz (automatic)

Port(s) Total (Free) / Connector Type: 1 x 15-Pin D-Subminiature

Power Consumption Operational: 90 Watt (maximum), 70 Watt (typical)

Power Consumption Operational (Standby): Less than 5 Watt

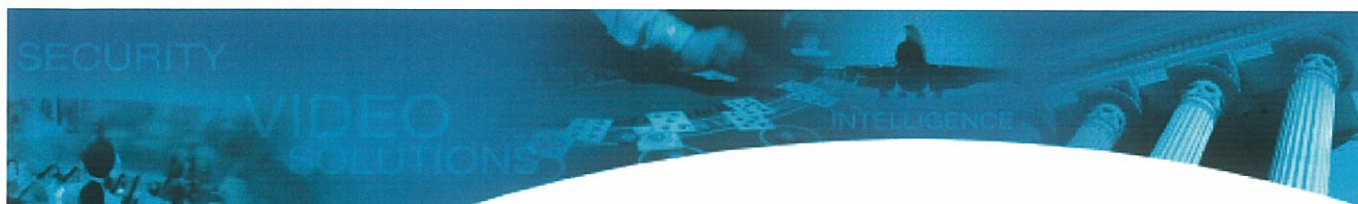
Voltage Required: 100 to 240 VAC, 50/60 Hz

Warranty: 3-Year

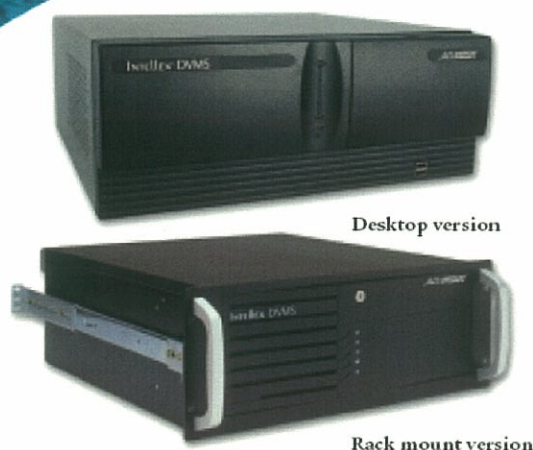
Max Altitude Operating: 10,000 ft

Compatibility: PC

Display Screen Coating: Anti-reflective Faceplate coating with anti-static properties



Intellex® DIGITAL VIDEO MANAGEMENT SYSTEM



Desktop version

Rack mount version

FEATURES

- Improved dome control—now you can set presets, patterns and dome configuration right from the Intellex GUI using selective devices
- Manage storage of video, audio or text to network-attached storage (NAS) using Intellex Archive Manager software (sold separately)
- Get Advanced Security and integrate Intellex into existing Windows®-based network security with Intellex Policy Manager software (sold separately)
- Set up any number of cameras in “covert” mode with viewing rights only to authorized personnel
- Capture critical information with higher frame rates for certain cameras and assign the remainder of the 120* fps to non-critical cameras
- Monitor and audit changes made to settings and configurations with the activity log
- Use Video Analysis Tools to schedule recording and search for video if the movement of an object meets specified size, speed and direction criteria
- Specify text criteria in Advanced Text to schedule recording and search for video
- Archive up to 160 GB of video to external SDLT tapes
- Simplify steps by searching for a specific ASCII text stream and reviewing video with time-synchronized text
- Review events from different angles with multi-camera playback
- Review up to five minutes of pre-alarm data
- Remotely view, manage and review video with Network Client™ remote management software (included)
- Remotely view live video with the browser web-based viewer (included)
- Export video, audio and text to CD-RW or DVD-RW
- Integrate video into other software applications using the Intellex API
- Choose from two pre-configured packages (Deluxe and Premier) for easy ordering
- Store more than 1,400 hours of real-time multiplexed video using Active Content Compression (system record speed of 30 ips NTSC with a 750 GB database)
- Use Smart Search to instantly retrieve motion-based search results

* Available only on 16 channel systems

Intellex is an intelligent digital video management system that combines multiplexing, alarm/event detection, video, audio, text recording and much more. Intellex will simultaneously a) display live and recorded video along with associated audio and text, b) host multiple remote users, c) archive data, and d) search for data—all while recording multiple video, audio and text streams.

Intellex provides intelligence in search tools and management capabilities beyond many standard DVRs. Define motion based on object size, speed and direction, and IntellexCord® software records only those events you want to see. Or use the Advanced Text capability to record only the video associated with text that contains the transactions of interest. This, combined with audio recording, makes Intellex a productive investigation tool.

Once images and text are recorded, define the type of recorded events you want to see and Smart Search instantly locates and replays them with digital precision. Video Analysis Tools and Advanced Text are now part of Smart Search so users can search based on the dynamics of motion as well as the content of a transaction, all while recording live events. With the ability to set cameras to covert, audit the activity log and simultaneously view multiple angles of a single recorded event, Intellex provides an even more effective security management tool. What's more, the option to set up Intellex in Advanced Security mode enables both IT and security managers to collectively integrate Intellex into existing networks without compromising the existing security protocols.

Intellex is offered in a desktop or rack mount chassis with Deluxe and Premier packages, each containing a pre-configured set of features. This means simplified packaging for easier ordering, maintenance and configuration.

And because Intellex is networkable and easily integrates with other equipment and software applications, it's a cost effective solution for many new and existing applications.

SPECIFICATIONS

Operational

Video Recording System

*Internal Media Format	IDE hard drives provide storage capacities of 235 GB, 485 GB, 735 GB for recording, depending on the hardware configuration
Removable Media Format	DVD±RW 5.25-inch half-height IDE; CD-RW 5.25-inch; half-height IDE, one 1.44 MB 3.5 in half-height diskette
Archiving Format†	Optional external DAT drive, DDS-4, 5.25-inch half-height, SCSI-3 connection
Record Mode	Linear or continuous, selectable
Video Standard	NTSC/EIA (RS-170A compliant) or PAL/CCIR
Image Rate Settings (images per second)	
NTSC/EIA	120 [†] , 60, 30, 15, 7.5, 2.5 and 1
PAL/CCIR	100 [†] , 50, 25, 12.5, 6.25, 2 and 0.8
Resolution	High (640 x 240), recorded Low (320 x 240), recorded 640 x 480 live display, 800 x 600 full screen
Quality/Capacity Settings	
Extended Record	Maximum compression
Normal	Medium compression
Super	Minimum compression
Video Sensitivity	
Normal	Medium delta threshold
High	Low delta threshold
Gain Control	Reduce gain, normal increase gain low (500 ft Cat 5 run) increase gain medium (1,000 ft. Cat 5 run) increase gain high (1,500 ft Cat 5 run)
Alarm Recording	
Settings	Image rate, quality and sensitivity can be independently set for alarm conditions on each camera
Adjustable Duration	Pre-alarm is programmable from five seconds to five minutes; post alarm is programmable from five seconds to five minutes
Schedule	Programmable recording times for each day of the week, in thirty minute increments
Desktop Front Panel Controls and Indicators	
Media Cover	CD-RW or DVD±RW, diskette drive
Discrete LED Indicators	Power, alarm, record
Pinhole	Power and reset
Rack Mount Front Panel Controls and Indicators	
Discrete LED Indicators	Power (2), alarm, record, disk activity
Front Panel Cover	Power, reset, fan, floppy, CD and DVD
Setup/Operation Menus	Accessed locally via software interface, or remotely from Network Client v3.2

On-Screen Displays	Camera title, date/time, alarm name, video loss – can be turned on and off in playback mode only
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Inputs/Outputs

Video Inputs	16 looping composite [‡] , 1 Vp-p, selectable 75 Ω or High-Z, BNC
Alarm Inputs and Outputs	8 or 16, one per camera, activated by contact closure or TTL/CMOS signal Inputs: programmable polarity Outputs: active high
Analog Output	One composite, 1 Vp-p, 75 Ω
Digital SVGA Monitor	800 x 600 pixel resolution, horizontal 31 to 47 kHz, vertical 50 to 75 Hz
Call/Spot Monitor†	Optional Call/Spot monitor provides an additional real-time composite output (1 Vp-p, 75 Ω), included in Premier package
Network Host Interface	TCP/IP Ethernet interface allows simultaneous network access to video by up to five Network Client users (up to two for 8-channel systems)

Rear Panel Connectors

Camera Inputs	8 or 16, composite, BNC
Camera Looping Outputs	16, composite, BNC, passive loop through [†] , software programmable termination
Alarm Inputs and Outputs	Four grounded 12-pin connectors with screw terminals
Power	One, IEC-320-C13
Keyboard	PS/2-style
Mouse	One, 5-pin DIN connector, PS/2-style with pins 1, 3 and 5 active
Monitor	One, SVGA, DB15-S
Video Output	One composite BNC, and an additional with Call/Spot monitor option [†]
TV Output	One S-video (S-video/RCA adapter included) [†]
Printer	One, DB25-S, parallel
USB	Floppy drive, USB to RS-232 (DB9), CD-RW drive connector
IEEE 1394 (FireWire®)	Includes interface to Extended Storage Module
Com2	One, RS-232, DB9-P
Modem	RJ-11, 56 kb
Network	RJ-45, Cat 3 or Cat 5 twisted-pair Ethernet
Audio	RCA type line or microphone-in, line-out
SCSI-3†	One 68-pin female is included with external DAT drive kit

* 15 GB of hard drive capacity reserved for Intellex system software and operation

† Available only on 16 channel systems

‡ DV8000 has eight non-looping video inputs

AMERICAN DYNAMICS INTELLEX DIGITAL VIDEO MANAGEMENT SYSTEM

Electrical

Power 100/240 VAC, 50/60 Hz, 2.0/1.0 A

Mechanical

Desktop Chassis

Dimensions (H x W x D) 172 x 432 x 445 mm

(6.75 x 17.0 x 17.5 in)

Unit Weight 14.50 kg (31.90 lbs)

Shipping Weight 16.93 kg (37.25 lbs)

Rack Mount Chassis

Dimensions (H x W x D) 177.8 x 482.6 x 558.8 mm

(7.0 x 19.0 x 22.0 in)

Unit Weight 20.39 kg (44.95 lbs)

Shipping Weight 27.24 kg (60.05 lbs)

Environmental

Operating Temperature 5° to 40° C (41° to 104° F)

Humidity 5% to 95% RH (non-condensing)

Storage Conditions -10° to 60° C (14° to 140° F)

Maximum Operating Tilt 15°

Operating Altitude 0 to 3,048 m (0 to 10,000 ft)

Regulatory

Emissions FCC 15b, Class A

EN55022 (1995) Class A

EN61000-3-2 (1995)

EN61000-3-3 (1995)

Immunity EN50130-4 (1996)

Safety EN60950 Amendments 1, 2, and 3

UL1950, CUL1950, Third Edition

Accessories

ADD5NC32 Network Client

ESM480, ESM640 480 GB or 640 GB Extended Storage

Module (up to three per Intellex unit)

DVRM-01 Intellex Front Rack Mount Kit

UHRM09 Intellex BNC Rack Mount Extension Kit

RDVSPK01 Speakers

RDVEXP01 One to four Text Data Port Expander

RDVEXP02 One to eight Text Data Port Expander

RDVDAT01 SCSI external DAT drive*

RDVCDRX02 External USB CD-RW

RDVUPGSCSI01 SCSI 3 Adapter card

RDVUSB23201 USB TO RS-232 Adapter

ADACSNET USB CCTV Control Module w/CBL

* Includes SCSI Interface Card

PRODUCT CODE CONFIGURATION

ADD6 00 32D 050 P

Video Standard
Null = NTSC (60 ips)
P = PAL (50 ips)

Internal Storage
025 = 250 GB
050 = 500 GB
075 = 750 GB

Software Revision Number
32 = Version 3.2

OO = Desktop
RO = Rack mount

ADD6 = 16 Channels

ADD8 = 8 Channels

Note: Rack mount option only available on 16-channel Deluxe and Premier systems with 250, 500 or 750 GB storage

Intellex Packages	Deluxe	Premier
Software Features		
Windows® 2000	*	*
8 or 16 video input and output channels*	*	*
Record up to 60 ips (NTSC) 50 ips (PAL) [pvs000]	*	*
Record up to 120 ips (NTSC) 100 ips (PAL) [pvs000]	*	*
Simultaneously record, play back, view remotely, conduct a search and more	*	*
Search based on date, time, camera, alarm	*	*
Smart Search (motion, perimeter, light)	*	*
Multi-channel playback	*	*
Image printing and enhancement tools	*	*
Individual camera sensitivity and quality settings	*	*
Individual camera scheduling (record all, alarmed recording, etc.)	*	*
Alarm quality and sensitivity settings	*	*
Covert camera	*	*
Camera selectable frame rate	*	*
Scheduled archiving to external DAT or SDLT†	*	*
Export still images to floppy	*	*
Export support on Intellex with player download capabilities to CD-RW Deluxe or DVD±RW Premier	*	*
Activity logging	*	*
One license of Network Client Remote Management Software	*	*
Control domes from Intellex and Network Client*	*	*
Support for remote Smart Search	*	*
Support for remote Intellex configuration and management	*	*
Single channel of live and recorded audio	*	*
Single channel RS-232 text recording (expandable to 8 with additional hardware)	*	*
Text-based searching and exception recording	*	*
Support for remote text-based searching	*	*
Video Analysis Tools (size, speed, direction)	*	*
Support for remote Video Analysis Tools	*	*
Hardware Features		
250 to 750 GB storage space	*	*
Two monitor outputs (one analog, one SVGA)	*	*
Network Interface (TCP/IP Ethernet)	*	*
8 or 16 alarm inputs and outputs	*	*
Internal CD-RW with export support on Intellex	*	*
Internal DVD±RW with export support on Intellex	*	*
Interface for external storage (FireWire)	*	*
56k modem (except in Europe)	*	*
3rd monitor output (analogue call/spot monitor)†	*	*
Rack mount chassis option*	*	*
1 to 1 USB to RS-232 converter for text	*	*

* Outputs available only on 16 channel systems

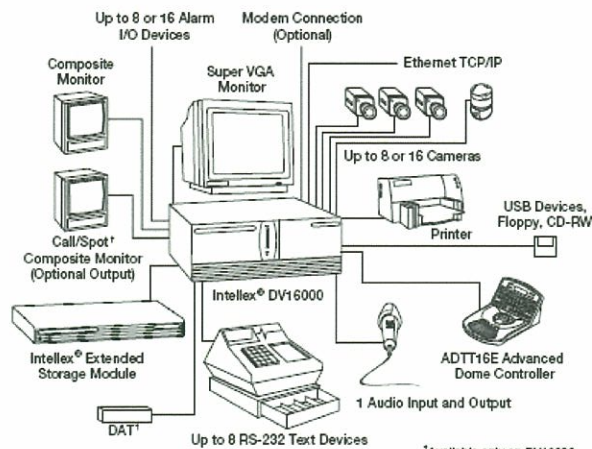
† Available only on 16 channel systems

* Requires ADTT16E Advanced Dome Controller, AD168, AD1024, or MP48 Plus

° Available in 250, 500 and 750 GB storage options

Note: The use of an uninterruptible power supply (UPS) is highly recommended as standard practice to protect mission-critical computing systems from power fluctuations that may cause loss of data.

BASIC SYSTEM DIAGRAM





Discover™ Series Mini-Domes

Features that make a difference:

- High Impact vandal resistant housing that retains shape even after forceful impact
- High Impact vandal resistant polycarbonate bubbles (clear and tinted)
- Snap-on bubble liner for an extra level of covertness
- Advanced pivoting axis provides greater viewing flexibility
- Three quality auto iris lens options for better image quality and improved low light performance
- Multiple camera options, including WDR model with latest Pixim technology
- Night-Saver mode for extreme low light conditions
- Easy installation with eight mounting options (surface, flush, pendant, wall, wall-pole, wall-exterior corner, inside corner, electrical box)
- Discover Drone option
- IP66 and NEMA4X-rated for -30° to 50°C (-22° to 122°F)

The Discover series of Mini-Domes delivers a vandal resistant camera solution at a non-vandal resistant price. This series of high performance Mini-Domes includes high impact, vandal resistant dome housings built to withstand even the harshest environments. Unlike other dome housings in the industry, which are made of metal, the Discover series housing is made with extremely durable composite and polycarbonate materials that have "shape memory". The Discover housing comes with a choice of clear or tinted vandal resistant bubbles and includes a bubble liner to make it more covert. An advanced pivoting axis lets you position the camera at exactly the angle you need, while optimal white balance provides the clearest, most color-perfect images possible.

With three different types of mini-domes to choose from, there's a Discover solution just right for your particular requirements.

The Discover wide dynamic range (WDR) Mini-Dome uses over 504 lines of resolution and a pixel-by-pixel shutter speed that lets you see better in areas where both very bright and dark areas exist, such as an entranceway. This model also features up to a 2x digital zoom to get an even closer view of the action. Night-Saver mode improves performance in low light

situations, automatically switching from color to monochrome as light dims and reverting back to color once light is restored. The WDR mini-dome also includes a DVR-Saver mode which helps conserve valuable hard drive space, reducing the size of video files by up to 30% when used with an Intellex® digital video management system.

The Discover high resolution Mini-Dome has 540 TVL and also includes a user-selectable Night-Saver mode. For challenging lighting environments, a selectable expanded auto white balance mode is available. Vivid colors and powerful low light performance provide some of the best images available on the market today.

The Discover standard resolution camera offers a cost effective solution for the value-conscious with 330 TVL. It is available with a 3.8 – 9.5 mm vari-focal, auto iris lens.

The Discover series includes a drone option—which looks like a mini-dome from the outside but without a camera inside—and is perfect for crime deterrence at an even greater cost savings.

tyco Fire & Security

Limitedbrands

STORE DESIGN & CONSTRUCTION

Memo

To:

From:

CC:

Date: 2/22/2008

Re: Limited Brands Vendor installed systems

Several technology systems utilizing low voltage network cabling are installed by Limited Brands Vendors during the construction process. The installation occurs roughly two weeks prior to store opening.

Requirements vary by system and location and are outlined below. For locations which low voltage wiring to be in conduit reference "Low Voltage in conduit" section at end of document.

Low Voltage Conduit

Description	LSP GC's to install conduit for Low Voltage wiring only when required by building code(s). Limited Brands vendor is responsible for all low voltage wiring permits.
Criteria	Some building departments/ inspectors require all low voltage wiring to be installed in conduit. Specific locations that we are aware of are (check local codes for each store): <ul style="list-style-type: none">▪ Chicago, IL▪ New York City, NY▪ Las Vegas, NV▪ Sacramento, CA▪ Certain locations in Florida

Burglar Alarm System

Description System designed to secure/ monitor store from burglary robbery in high risk locations when no store personnel are present.

Criteria Based on specific locations.

- Locations designated as high risk:
- ⇒ Locations that have one or more doors that exit to the exterior
- ⇒ Cap over 700,
- ⇒ *Locations of 10k sales floor or 10 million projected sales,
- ⇒ *Locations in high burglary zones of (VA, NC, SC).
 - (*requires a rear door vector system when no exterior doors)

Requirements

Electrical:

Install Duplex receptacle (dedicated, 24 hour) adjacent to phone Demark.

Keypad:

- **Space for a 5"W x 3"H keypad in Non-Sales adjacent to Sales door. (Prefer space reserved for the keypad to be 6" H X 10" W)**

Panel:

- **Space for a 13"W x 14-3/4"H x 3-3/4"D control box near Demark. (Prefer space reserved for the (Control box) to be 16"W x 18"H x 3-3/4"D W).**

Motion Sensors / Door contacts

- At locations as indicated by vendor

Door contacts:

- Installed at every entrance door/rolling grille
- Installed at every exit door

Rj31X Phone Jack to be installed next to the Duplex receptacle

Motion Sensors

- Installed at every entrance door/rolling grille
- Installed at every exit door
- Installed in the ceiling above every cashwrap

Pre-wire

- Keypad: Install J-box at keypad location with a conduit that goes to the ceiling
- Panel: Install a conduit (1.5") from the ceiling to the panel location (no J-box)

Low Voltage Conduit - **only when required by code**

- Vendor responsible to pull Low Voltage permit
- 3/4" conduit with pull string is acceptable for all low voltage wiring.

GC to install conduit and pull string. LMT Vendor to install wiring.

- Install conduit for each contact/sensor to the panel. Install one conduit from the panel to the keypad.
- It is not acceptable to pull more than one wire type through a conduit due to potential interference between systems.

Process

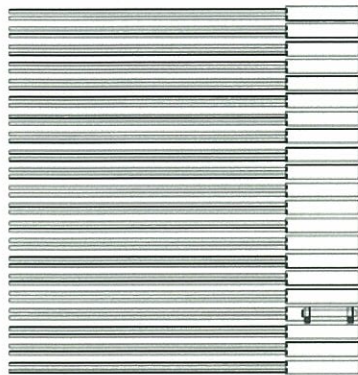
- Vendors will receive notification when site information (surveys, prints, etc.) are available in Tririga. Vendor will view site information and determine if location qualifies for a Vector burglar alarm system. Criteria consists of:
 - ⇒ Locations that have one or more doors that exit to the exterior
 - ⇒ Locations designated as high risk (Cap over 700, *location of 10k sales floor or 10 million projected sales, * location in high burglary zones of VA, NC, SC). (*requires a rear door vector system when no exterior doors)
- Store designer will also verify if Burglar Alarm system is required based on criteria.
- Architect to locate Burglar alarm devices on the floor plan for engineer in DD set.
- Electrical engineer to specify on the CD set j-box and conduit (with pull string) as required for all devices.
- At locations requiring low voltage wiring in conduits, the engineer is also responsible to specify on the CD set continuous conduit runs (with pull string) for low-voltage wiring. GC to install j-boxes and conduit per CD set.
- Burglar alarm vendor to pull alarm wiring and prior to construction completion. **Vendor will in advance coordinate schedule directly with onsite GC superintendent.** All devices and training to be completed before the merchandise date.
- LP Vendor will be making two trips. The first trip to install the system (Note that the phone systems needs to be installed in order to program and test the system). The second trip to train the store personnel.

Contacts

Loss Prevention	Bob Whitaker	x57111
Vector Security	Glenn Oldenburg	(571) 229-1026
	gmoldenburg@vectorsecurity.com	
Vector Liaison	Jennifer Rowe	x52547

Roll Gate Specifications

HORIZONTAL MESH GATE
VIEW FROM INSIDE THE STORE



1/2" EMT CONDUIT STUB UP FROM GANG BOX
TO ABOVE FINISHED CEILING.
EC SUPPLIED AND INSTALLED.

SINGLE GANG BOX FLUSH TO GATE TRIM.
W/BRUSHED STAINLESS STEEL FACEPLATE.
LOCATED 12" A.F.F. TO LOWER EDGE.
EC SUPPLIED AND INSTALLED.
ARMORED CABLE

2505 CONTACT MOUNTED TO
WALL 6" A.F.F. TO LOWER EDGE.

SIDE VIEW

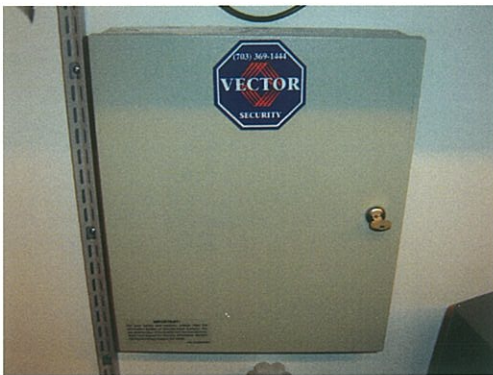


1/2" EMT CONDUIT STUB UP FROM GANG BOX
TO ABOVE FINISHED CEILING.
EC SUPPLIED AND INSTALLED.

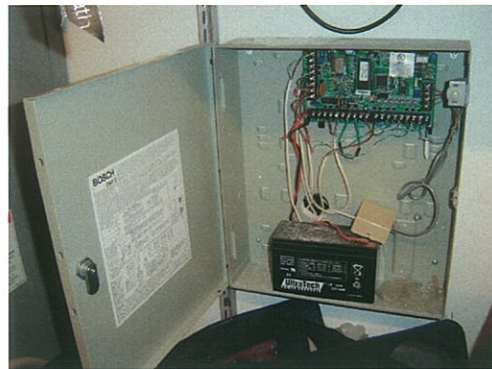
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ARMORED CABLE

2505 CONTACT MOUNTED TO
WALL 6" A.F.F. TO LOWER EDGE.

Photos



Typical Control Box



Typical Control Box – (inside view)



Typical Keypad control



Typical motion sensor

