# SECTION 08711 - DOOR HARDWARE (SCHEDULED BY NAMING PRODUCTS)

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

### 1.2 SUMMARY

A. This Section includes the following:

1. Commercial door hardware for the following:

a. Swinging doors.
b. Folding doors.
c. Other doors to the extent indicated.

B. Related Sections include the following:

1. Division 8 Section "Flush Wood Doors" for astragals provided as part of a fire-rated labeled assembly.
2. Division 8 Section "Access Doors" for access door hardware, except cylinders.

### 1.3 SUBMITTALS

A. Product Data: Include installation details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening.

a. Organize door hardware sets in same order as in the Door Hardware Schedule at the end of Part 3.

3. Content: Include the following information:

a. Type, style, function, size, label, hand, and finish of each door hardware item.
b. Manufacturer of each item.
c. Fastenings and other pertinent information.
d. Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.

e. Explanation of abbreviations, symbols, and codes contained in schedule.
f. Mounting locations for door hardware.
g. Door and frame sizes and materials.

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
5. Submittal Sequence: Submit initial draft of final schedule along with essential Product Data to facilitate the fabrication of other work that is critical in the Project construction schedule. Submit the final Door Hardware Schedule after Samples, Product Data, coordination with Shop Drawings of other work, delivery schedules, and similar information has been completed and accepted.

C. Product Certificates: Signed by manufacturers of electrified door hardware certifying that products furnished comply with requirements.

1. Certify that door hardware approved for use on types and sizes of labeled fire doors complies with listed fire door assemblies.

D. Qualification Data: For firms and persons specified in "Quality Assurance" Article.

1. Include lists of completed projects with project names and addresses of architects and owners, and other information specified.

E. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, indicating current products comply with requirements.

F. Maintenance Data: For each type of door hardware to include in maintenance manuals specified in Division 1.

G. Warranties: Special warranties specified in this Section.

## 1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.

1. Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated. Manufacturers that are listed to perform electrical modifications, by a testing and inspecting agency acceptable to authorities having jurisdiction, are acceptable.

B. Regulatory Requirements: Comply with provisions of the following:

1. Where indicated to comply with accessibility requirements, comply with Americans with Disabilities Act (ADA), "Accessibility Guidelines for Buildings and Facilities (ADAAG)," as follows:

a. Handles, Pulls, Latches, Locks, and other Operating Devices: Shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.
b. Door Closers: Comply with the following maximum opening-force requirements indicated:

1) Interior Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.

c. Thresholds: Not more than 1/2 inch (13 mm) high. Bevel raised thresholds with a slope of not more than 1:2.

2. NFPA 101: Comply with the following for means of egress doors:

a. Door Closers: Not more than 30 lbf (133 N) to set door in motion and not more than 15 lbf (67 N) to open door to minimum required width.
b. Thresholds: Not more than 1/2 inch (13 mm) high.

## 1.5 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

## 1.6 COORDINATION

A. Coordinate layout and installation of recessed pivots and closers with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 3 Section "Cast-in-Place Concrete."

B. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

## 1.7 WARRANTY

A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Special Warranty: Written warranty, executed by manufacturer agreeing to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of operators and door hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

C. Warranty Period: Three years from date of Substantial Completion, unless otherwise indicated.

D. Warranty Period for Manual Closers: Three years from date of Substantial Completion.

## 1.8 EXTRA MATERIALS

A. Furnish full-size units of door hardware described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Door Hardware: One cylindrical lockset of each function.

PART 2 - PRODUCTS

2.1 FINISH HARDWARE

A. HINGES:

1. All hinges for this project shall be, steel, stainless steel, solid bronze, ball bearing type except as noted.

2. The following is a guide for hinge size and type required for this specification.

a.

| | MANUFACTURER | EXTERIOR | INTERIOR |
|---|---|---|---|
| 1 3/4" Wood Doors | Stanley | FBB199-4 1/2" | FBB179-1/2" |
| | Hager | BB1199-4 1/2" | BB1279-4 1/2" |
| | McKinney | T4A3386-4 1/2" | TB2714-4 1/2" |
| 1 3/4" Hollow Metal (Steel) Doors | Stanley | FBB199-4 1/2" | FBB168-4 1/2" |
| | Hager | BB1199-4 1/2" | BB1168-4 1/2" |
| | McKinney | T4A3386-4 1/2" | T4B3786-4 1/2" |

b. The width of hinges shall be sufficient to clear all trim.

c. Wood fire rated doors with hinge stiles not properly constructed to receive full mortise hinges, shall have half-surface hinges of a comparable weight as listed for full mortise hinges.

d. Doors in channel iron frames shall have half mortise hinges of a comparable weight as listed for full mortise hinges.

e. Hinges of foreign manufacture shall not be considered acceptable for this project.

3. Two hinges shall be provided for each door leaf up to and including five feet (5'0") in height. An additional hinge shall be required for each additional two and one half (2'6") or fraction thereof in height.

4. All exterior doors shall be furnished with non-removable pins (NRP).

5. Refer to finish section for hinge finish.

B. CONTINUOUS HINGE:

1. Where specified in the hardware set numbers, provide a half-surface extra heavy duty continuous extruded aluminum hinge – Roton 780-112 HD or Equal.

C. ELECTRICAL CONDUCTOR HINGES:

1. Where called for in the hardware set numbers, provide electric conductor hinges of the same material, size, and gauge, as required by the hinge specification Section A.

2. Each electric conductor hinge shall have four (4) or eight (8) concealed wires capable of conducting 6-12-24 or 48 volts of AC or DC current.

3. This supplier shall provide to the hollow metal frame manufacturer, a .077 steel zinc plated junction box and mortar shield, with knockouts, for protection or wiring to the electric conductor hinge.

4. For standardization, electric hinges shall be by the same manufacturer as the balance of the hinges on this project.

D. MORTISE LEVER HANDLE LOCKSETS:

1. Locksets for this project shall be mortise type with lever handle sectional trim.

2. The following is a guide to the manufacturers and designs acceptable for this project.

| | | | | |
|---|---|---|---|---|
| Schlage | L9000 | Series | 03 | Design |
| Sargent | 8200 | Series | LNJ | Design |
| Best | 35H | Series | 3H | Design |

3. Locksets for labeled fire doors shall have a fusible link or other mechanism to prevent latchbolt retraction in the event of fire.

4. Cylinders for mortise locks shall be key removable core type, 6 pin tumbler and keyed in accordance with Section "Keying 2.05E".

5. The following is a list of lock functions as indicated under "hardware sets":

| FUNCTION | BEST | SARGENT | SCHLAGE |
|---|---|---|---|
| A | EW | 04 | 80 |
| B | E | 05 | 53 |
| C | N | 15 | 10 |
| D | J | 37 | 70 |
| E | G | 16 | 60 |
| F | LF | 65 | 40 |
| G | | 38 | 71 |

E. MORTISE DEADLOCKS:

1. Where mortise deadlock functions are listed in the hardware set numbers, provide 2 3/4" backset mortise deadlock having a heavy gauge wrought steel case. The case size shall be no less than 3 3/4" x 2 3/4" x 1" with a bronze adjustable lock front 1 1/8" x 4 5/8" (bevel adjustment 1/8" in 2").

2. The deadbolt shall be 1" throw cast or extruded bronze.

3. The following manufacturers and model numbers will be acceptable:

| | |
|---|---|
| Sargent | 4800 Series |
| Schlage | L9000 Series |
| Best | 38H |

4. The following functions shall be required where specified:

| FUNCTION | BEST | SARGENT | SCHLAGE |
|---|---|---|---|
| I | L | 4 | 2 |
| II | K | 5 | 0 |
| III | M | 6 | 4 |
| IV | R | 7 | 3 |

F. EXIT DEVICES:

1. All exit devices for this project shall be of the same series and design, and shall be manufactured by one manufacturer.

2. They shall have a continuous solid stainless steel horizontal housing and touch bar and shall be of the same size, and the same configuration, for all doors throughout.

3. The chassis shall be a solid cast pressure formed almag or non-ferrous alloy and shall be mounted directly to the door with four (4) wood screws, machine screws, or, for wood fire rated doors, through bolted for positive attachment.

4. The chassis cover shall be cold formed stainless steel, fastened to the solid cast pressure formed chassis, by four (4) Phillip head machine screws, at the side of the chassis cover.

5. The rail assembly shall be heavy wrought stainless steel. The rail assembly shall consist of a stainless steel case with a heavy wrought stainless push rail, touch bar.

6. The end cap shall be a high impact resistant black lexan, fastened to the rail assembly by means of two, stainless steel Phillips head machine screws.

7. The rail assembly shall activate the latch retractor by means of lever arm for easy operation. The touch bar shall activate the latch retractor by means of a pressure applied directly to the door plane.

8. All exit devices, regardless of function, except for fire rated devices, shall have one point dogging.

9. Trim for exit devices shall be one of the following as specified:

   (a) Pull handles as specified in Section Push and Pull Bars.

   (b) Cast bronze lever handle with cast bronze escutcheon with cylinder for all fire rated doors.

10. Devices for fire rated fire doors shall have the same function numbers as those for non-rated doors but with the appropriate prefix or suffix to indicate a U.L. approved device.

11. Exit devices, as manufactured by Sargent & Company shall be considered acceptable for this project.

12. Provide rim exit devices for single doors and mortise lock devices with open back strike and vertical rod devices for pairs of doors.

G. KEYING:

1. All locks and cylinders shall be keyed to an existing Sargent masterkey system.

2. It is required that the key system have visual key control and that all keys and cylinders be stamped with the alphanumeric key symbol designated for each key change as

recommended by the Nomenclature for Masterkey Systems established by the Door and Hardware Institute.

3. Provide six (6) construction masterkeys to be supplied with the locksets to the General Contractor. The construction masterkey shall operate all locks and cylinders, and shall permit access to all areas by the General Contractor, during the construction period, prior to the owner assuming control of the building.

4. Upon completion of the building, the contractor or owner shall remove the construction masterkey bitting section by means of an extractor key to be supplied by the finish hardware contractor. The removal of the construction masterkey bitting section shall prohibit the operation of the construction masterkey from that moment on.

5. Provide a total of _6_ masterkeys for each group and _6_ grand masterkeys. Each keyed different change shall have minimum of four (4) change keys.

6. All change keys, master and grand masterkeys shall be delivered directly to the owner by the hardware subcontractor who shall obtain a receipt for delivery of same.

H. KEY CABINET:

1. Furnish a wall mounted key cabinet in grey neutratone finish with a capacity capable of containing all the keyed different and alike changes required for this project and an additional 20% greater quantity for future expansion.

2. Provide a complete cross-indexing system, including:
   1. Hook number,
   2. Key number,
   3. Description of item to which key belongs.

3. It shall be the responsibility of the hardware supplier to receive the keys from the lock manufacturer. He shall then prepare a complete typewritten cross-file index system as prescribed in the manufacturers key index manual. It shall also be the hardware supplier's responsibility to attach the keys to the fibre tags and to install on corresponding numbered hook in the key cabinet.

4. It shall be the general contractor's responsibility to install the key cabinet where directed by the Owner.

5. Key control systems of the following manufacturers will be acceptable for this project:

   Telkee, Inc.
   Key Control Systems, Inc.

I. DOOR CLOSERS:

1. All door closers for this project shall be the product of one manufacturer, and shall have cast iron cases and be full rack and pinion type construction, non-handed and non-sized with adjustable back-check and with full cover.

2. Door Closer Series 4040 as manufactured by LCN Closers, or Sargent & Company Series 281 shall be provided for this project.

3. The hardware contractor shall insert in the hardware schedule, beside each door listing, the required degree of opening for each door. If the door swing is over 140 degrees, parallel arm

type closers shall be used. Door closers mounted on brackets, or top jamb application, shall not be permitted.

4. Provide hold open arms, where specified, in accordance with the hardware set numbers.

5. Where door closers are specified to have Cush-N-Stop arms, they shall have heavy forged steel parallel arms and soffit plates attached to the frame by six (6) screws. The forged steel arm shall have a positive stop bracket with an adjustable tension hold-open feature controlled with a slotted screw permitting adjustment from no hold-open to full restraint of door movement.

6. Where door closers are noted to require delayed action feature, provide closers as specified herein, but having a separate delayed action valve, to permit adjustment of delayed action cycle. When adjusted, the door closer shall close at a controlled rate of speed, through the delayed action cycle range.

7. The installing contractor shall be responsible for proper installation of door closers in accordance with degree of opening indicated on hardware schedule. Adjustment of all valves, for proper control of closing speed, latching speed, delayed action, backcheck, and spring power adjustments, shall be the responsibility of the installing contractor as set forth in Part III Execution.

J. LOW ENERGY DOOR OPERATOR:

1. The operator shall be a self-contained electro-mechanical design, powered open with a DC motor working through six helical reduction gears. Closing shall be by spring force. The motor is to be off when the door is in the closing mode. The door can be manually operated with power on or off without damage to the operator. The operator shall be mounted and concealed in a textured Kydex cover, size 4" x 5 3/4" x 20". Provide Horton 4100LE series.

2. Provide 6" round stainless steel push-button switches, marked with the handicapped logo, and mounted on each side of the opening as shown on drawings.

3. Power shall be 120 VAC, 15 Amp to be supplied under Section 16000.

K. PUSH - KICK - MOP ARMOR PLATES:

1. Push plates shall be .050 gauge solid bronze 16" high by 8" wide.

2. Kick plates shall be .050 gauge solid bronze 12" high by 1 1/2" less door width.

3. Kick plates shall be applied on the push side of all doors requiring door closers except for storage, electrical and mechanical rooms.

L. BIFOLD DOOR HARDWARE:

1. Shall be equal to Stanley Hardware Series 2700 for panels 1 1/8” or more, weighing up to 125 lbs. Each. Track to be extruded aluminum, twin channel with V shaped rails. Hangers to be top mounted with four large diameter high performance lubricated thermoplastic wheels on steel shafts mounted in ball bearings. Top and bottom pivots to be heavy duty with ball bearing bottom socket assembly for smooth, long lasting operation.

M. PULLS AND PUSH BARS**:**

1. Offset pulls for doors shall be 1" diameter solid stainless steel round bar, 10" center to center, with a projection of 2 1/2", a clearance of 1 2"and 3" offset.

2. Pulls shall be fastened with thru-bolts, one at each base.

3. Push bars, where specified, shall be 1" diameter solid bronze round bar with a projection of 2 1/2" and a 1 1/2" clearance. The bases for each push bar shall span the door width and be centered on each door stile. Where used on flush doors, the center to center dimensions shall be equal to the door width minus the standard lock backset for each stile.

4. Where push bars are used in conjunction with pulls, provide a thru-bolt, with a cone head, for the top base of the pull. The push bar base shall fit over the cone head bolt and be fastened to it by means of an allen set screw in the push bar base. The opposite base of the push bar (at the hinge stile) shall have a thru-bolt fastening. The bottom base of the pull shall also have thru-bolt fastening.

N. DOOR STOPS:

1. It shall be the responsibility of the hardware supplier to provide door stops for all doors in accordance with the following requirements.

2. Wall type bumpers with a concealed type flange shall be used wherever possible and shall be one of the following:

Ives - 407 1/2
Glynn Johnson - WB60M
Baldwin Mfg. Company

3. Where wall type bumpers cannot be used, such as on unreinforced partitions or in situations where door comes in contact with material such as glass, provide floor door stops as per the following listing:

Ives - 441 x Machine Screws
Glynn Johnson - FB19E x Machine Screws
Baldwin Mfg. Co. - 4511 x Machine Screws

O. SILENCERS**:**

1. Unless furnished by metal door frame manufacturer, provide rubber silencers for all interior pressed steel (hollow metal) frames. Silencers shall be pneumatic type 1/2" diameter with 1/8" projection.

2. Provide 3 silencers for the strike jamb of metal frames for single doors and two for the head for metal frames for pairs of doors. Provide 4 silencers for the strike jamb for frames for single dutch doors.

P. THRESHOLDS - WEATHERSTRIPPING - DOOR BOTTOMS:

1. Provide extruded or cast aluminum thresholds, as detailed on door schedule drawings. The thresholds shall be 7" and 8" wide by full width of door opening for all doors as required in the door schedule. Thresholds shall be 1/2" high and shall have beveled edges and a corrugated surface. Anchor thresholds with no less than four (4) machine screw anchors for 3'0" lengths. Provide non ferrous solid brass or stainless steel screws.

2. Provide premium quality aluminum and vinyl weatherstrip door seal for head and jambs for all door frames specified to require weatherstripping in the remarks column of the door schedule. The seals shall be an airfoil design to permit full and positive closure between door and jamb. The aluminum housing shall have a factory applied pressure sensitive two way tape to permit adhesive application of the weatherstripping, prior to installation of Tech-Type

self drilling screws. After the weatherstripping is adhesive applied, Tech-Type self drilling screws shall be used to fasten the aluminum housing in place.

3. The door bottom seal shall be concealed in the bottom of the door and shall be a flexible synthetic vinyl that will not take a formal set, nor break or flake in cold weather. The door bottom seal shall extend the full width of the door and shall also extend below the door bottom and compress against the top for the threshold, for complete closure. The door bottom seal shall be fastened to the recessed channel with 3 or 4 screws through the seal or the seal chassis.

4. Surface applied door bottoms shall not be considered acceptable. Concealed door bottoms must be installed before the door is in place.

Q FINISH:

1. With the exceptions of hinges, door closers, plates, coordinators, thresholds and weatherstripping, all hardware items shall be furnished in satin bronze finish US10.

2. Exceptions are as follows:

| | |
|---|---|
| Exit Devices: | Satin Bronze US10 |
| Door Closers: | Sprayed Bronze |
| Pulls & Plates: | Satin Bronze US10 |
| Thresholds: | Aluminum |
| Weatherstripping: | Aluminum |

2.2 HARDWARE SET NUMBERS

A. The Hardware Sets listed below indicate the items of hardware required for each opening. It is the bidder's responsibility to accurately furnish the proper quantities, items, sizes, weights and functions as required by the plans and this specification. If an opening has, through error, been omitted from the following hardware set numbers listings, it shall be the bidders responsibility to supply hardware of equivalent quality and quantity, as that which is specified for a comparable opening.

HW 16

Doors 102, 216, 218, 219, 220, 221, 222, 224, 225, 226, 227, 228, 229, 230, 231
Each Leaf Shall Have: Hinges, Lockset Function C, Door Stop, Silencers, Lockset

HW 17

Doors 101, 217, 225,
Each Leaf Shall Have: Hinges, Lockset Function F, Door Stop, Silencers

HW 18

Doors 107, 109
Each Leaf Shall Have: Hinges, Lockset Function H, Door Closure, Door Stop, Silencers

HW 19

Doors 106A, 106B
Each Leaf Shall Have: Spring Hinges, Lockset Function F, Door Stop, Silencers

HW 20

Doors 237, 238, 239, 240
Each Leaf Shall Have: Hinges, Lockset Function K, Electric Strike, Operated by Card Swipe, Corridor Side, Power Supply, Closure, Door Stop, Silencers

HW 21

Doors 234, 235, 110, 111A
Each Leaf Shall Have: Hinges, Lockset Function A, Closure, Door Stop, Silencers

HW 22

Door 108
Each Leaf Shall Have: Hinges, Guides, Tracks by Manufacturer

HW 23

Doors 232, 236
Each Leaf Shall Have: Hinges, Exit Device (Function G), Closure, Door Stop, Silencer

HW 24

Door 212
Each Leaf Shall Have: Hinges, Flush Bolts, Lockset (Function K), Power Supply, Exit Device, Closure, Doors Stops, Silencers

HW 25

Door 214
Each Leaf Shall Have: Hinges, Lockset (Function K), Closure, Power Supply, Electro Magnetic Door Release, Door Stops, Silencers"

PART 3 - EXECUTION

3.01 INSPECTION

B. It shall be the general contractor's responsibility to inspect all door openings and doors to determine that each door and door frame has been properly prepared for the required hardware. If errors in dimensions or preparation are encountered, they are to be corrected by the responsible parties prior to the installation of hardware.

3.02 PREPARATION

A. All doors and frames, requiring field preparation for finish hardware, shall be carefully mortised, drilled for pilot holes, or tapped for machine screws for all items of finish hardware in accordance with the manufacturer's templates and instructions.

3.0.3 INSTALLATION/ADJUSTMENT/LOCATION

A. All materials shall be installed in a workmanlike manner following the manufacturer's recommended instructions.

B. Exit devices shall be carefully installed so as to permit friction free operation of crossbar, touch bar, thumb latch, lever or knob. Latching mechanism shall also operate freely without friction or binding.

C. Door closers shall be installed in accordance with the manufacturer's instructions. Each door closer shall be carefully installed, on each door, at the degree of opening indicated on the hardware schedule. Arm position shall be as shown on the instruction sheets and required by the finish hardware schedule.

D. The adjustments for all door closers shall be the contractor's responsibility and these adjustments shall be made at the time of installation of the door closer. The closing speed and latching speed valves, shall be adjusted individually to provide a smooth, continuous closing action without slamming. The delayed action feature or back check valve shall also be adjusted so as to permit the corrected delayed action cycle

or hydraulic back check cushioning of the door in the opening cycle. All valves must be properly adjusted at the time of installation. Each door closer has adjustable spring power capable of being adjusted, in the field, from size 2 thru 6. It shall be the contractor's responsibility to adjust the spring power for each door closer in exact accordance with the spring power adjustment chart illustrated in the door closer installation sheet packed with each door closer.

e. Installation of all other hardware, including locksets, push-pull latches, overhead holders, door stops, plates and other items, shall be carefully coordinated with the hardware schedule and the manufacturers instruction sheets.

f. Locations for finish hardware shall be in accordance with dimensions listed in the pamphlet "Recommended locations for Builders' Hardware" published by the Door and Hardware Institute.

3.04 PROTECTION

A. All exposed portions of finish hardware shall be carefully protected, by use of cloth, adhesive backed paper or other materials, immediately after installation of the hardware item on the door. The finish shall remain protected until completion of the project. Prior to acceptance of the project by the architect and owner, the general contractor shall remove the protective material exposing the hardware finish.

3.05 CLEANING

A. It shall be the responsibility of the general contractor to clean all items of finish hardware and to remove any remaining pieces of protective materials and labels.

3.06 INSTRUCTIONS AND TOOLS

A. It shall be the responsibility of the finish hardware supplier to provide installation and repair manuals and adjusting tools, wrenches, etc... for the following operating products:

(1) Locksets (all types)
(2) Exit devices (all types)
(3) Door closers

END OF SECTION 08711