

08 71 00 – Door Hardware

DIVISION 8 - Openings



STATEMENT OF PURPOSE & BACKGROUND

- Scope:
 - Field applied commercial mechanical finish door hardware surface-applied by drilling and tapping doors and frames.
- Statement of goals:
 - Provide a consistent, high quality door hardware that is functional and aesthetic:
 - Is durable, safe, and secure.
 - Saving the district money in both initial cost and long term cost.
- Revision history of section:
 - 03/22/13
 - 09/06/16
 - 02/04/19
 - 02/19/21

SELECTION AND APPLICATION CRITERIA

Application	Selection	Notes
Primary Exterior	Card Access & Entry Lockset	Von Duprin panic device
Interior Classroom	Classroom Intruder Lockset: Corbin ML 2052 (Mortise) Typical - See Locks and Latches below	Locking either side, no visual indicator
Secondary Exterior	Entry Lockset with or without Card Access as specified	Von Duprin panic device as specified
Single-User Toilet Room, Mothers Room	Entrance or Dormitory Lockset Corbin ML 2065 (see Part 2 below for specific locations)	Privacy lock function, thumb turn inside and visual indicator both sides
Gathering Spaces	Classroom Intruder Lockset as required – ML 2052	Locking either side, no visual indicator
Administration Offices	Office Function Corbin ML 2051	No visual indicator
Other Spaces	See specific Hardware Groups	

OUTLINE SPECIFICATION

- Part 1 General
 - Extra Materials
 - Contractor to not supply any additional attic stock unless directed otherwise by Owner.
 - Pre-Installation Meeting and Inspections:
 - Before hardware installation, General Contractor/Construction Manager shall coordinate a hardware installation seminar to be conducted on the installation of hardware, specifically of locksets, closers, exit devices and overhead stops.
 - Manufacturer's representative of the above products to present seminar. Seminar to be held at the job site and attended by installers of hardware (including low voltage hardware) for aluminum, hollow metal and wood doors. Training to include use of installation manuals, hardware schedule, templates and physical product samples.

- Upon the start of installation of each major hardware group, an install verification check will be performed after no more than five (5) units have been completed. This verification check shall be documented as a Project Observation Report and will be conducted by the project Architect, GC/CM, and SPPS Project Manager and/or SPPS lock shop. Items noted as deficient against manufacturers' installation instructions, industry standards and/or Owner requirements shall be corrected by the Contractor at their expense. One or more subsequent installation verification checks may be conducted at the discretion of the Architect and/or Owner.
- The Lock, Exit Device and Door Closer Manufacturers Representative shall complete a post installation review for proper adjustment and installation prior to building turnover to the Owner. The Architect, Owner, and GC/CMA shall attend this review. A report shall be submitted to the Architect for review and information.
- See Part 3 Execution at end of this Section for additional notes.

- Part 2 Products

- Equivalent manufacturers **approved, in writing, in advance, by the Architect, may be substituted as an alternate bid product**, in accordance with the provisions of the Contract, except where noted as "no substitution."
- Products listed herein are to be used without substitution on new construction and modernization projects unless products are listed as an alternate.

- Butt Hinges

- Acceptable manufacturers and respective catalog numbers:

	Ives	Hager	McKinney
Standard Weight, Ball Bearing	5BB1	BB1279	TB2714
Heavy Weight, Ball Bearing	5BB1HW	BB1191	T4B3786
Heavy Weight, Ball Bearing, Non-Ferrous	5BB1HW	BB1168	T4B3386

- Application Criteria:

- Furnish the following hinge quantities for each door leaf:
 - 3 hinges for doors up to 90 inches.
 - 1 additional hinge for every 30 inches on doors over 90 inches.
 - 4 hinges for Dutch door applications.
 - 4 hinges for doors 38 inches and greater in width.
- Furnish hinge weight and type as follows:
 - Standard weight: 3 ball bearing hinge 5BB1 for interior openings 37 inches and less in width
 - Heavyweight: 4 ball bearing hinge 5BB1HW for interior openings 38 inches and greater in width, and for all vestibule doors.
 - Heavyweight: 4 ball bearing hinge 5BB1HWss for exterior openings unless otherwise listed in groups.
- Furnish hinges for exterior doors, fabricated from brass, bronze, or stainless steel. Unless otherwise specified, hinges for interior doors may be fabricated from steel.
- Furnish hinges in the following sizes:
 - 5" x 5" 2-1/4" thick doors
 - 4-1/2" x 4-1/2" 1-3/4" thick doors
 - 3-1/2" x 3-1/2" 1-3/8" thick doors

- Furnish hinges with flat button tips with non-rising pins at interior doors, non-removable loose pins (NRP) at exterior and out-swinging interior doors.
 - Furnish all hinges to template standards.
- Electrified Hinges

- Acceptable manufacturers and respective catalog numbers:

	Ives	McKinney
Electrified hinges	Xcon	QC

- Application Criteria:
 - Utilize standardized wires and quick connects.

- Continuous Hinges (only in locations where approved by SPPS)

- Acceptable manufacturers and respective catalog numbers:

	Ives	Select	McKinney
Continuous Hinge, Gear Type	224 HD	SL 11	----
Edge Mount Pin & Barrel Stainless Steel Continuous Hinge	700 Series	300	300 Series

- Power Transfers

- Acceptable manufacturers and respective catalog numbers (no substitutions):

	Von Duprin
Concealed Two Wire	EPT-2 Xcon
Concealed Ten Wire	EPT-10 Xcon
Armored Door Cord Four Wire	788C-12
Armored Door Cord Four Wire	788C-18

- Concealed power transfers shall be concealed in the door and frame when the door is closed.
- Concealed power transfers shall have a steel tube to protect wires from being cut.
- Concealed power transfers shall be supplied with a mud box to house all terminations.
- Note: Electrified Hinges to be used only where EPT power transfers are not practical.

- Flush Bolts and Dust Proof Strikes

- Acceptable manufacturers and respective catalog numbers (no substitutions):

	Ives	Hager	Rockwood
Dust Proof Strike	DP2	280X	570
Auto Flush Bolt (Metal Door)	FB31P	292D	2842
Auto Flush Bolt (Wood Door)	FB41P	291D	2942
Manual Flush Bolt	FB458	282D	555

- Exit Devices

- Acceptable manufacturers and respective catalog numbers (no substitutions):

	Von Duprin
Wide Stile, Push Pad	99 Series
Lever Trim	996 Series

- Application criteria:

Rim Panic	99 Series
Surface Vertical Rod Device	9927 (secure area)
Surface Vertical Rod Device	9927 LBR (non secure area)
Concealed Vertical Rod Device (hollow metal or aluminum drs only)	9949 (secure area)
Concealed Vertical Rod Device (hollow metal or aluminum drs only)	9949 LBR (non secure area)
Exterior Trim (including vestibule doors)	990 Series
Lever Trim (no lever trim on exterior)	996L-17
Electrified Lever Trim (interior only)	E996L
Cylinder Dogging (CD) w/interchangeable core cylinder	All non rated locked doors
Classroom/Intruder type function Indicator on all classroom panic and fire-rated devices	-2SI, HDSI, CDSI
Quiet latch retraction	QEL
Power transfer (required on doors with electrified devices or locks)	EPT Xcon
Delayed egress (exit only)	CX99EO
Delayed egress (mechanical entry from pull side)	CX9975L
Power Supply (QEL latch retraction devices)	PS902 x 902RS
Power Supply (Delayed Egress devices)	PS902

- Use rim exit device applications whenever possible.
- Classroom/Intruder type function Indicator on all classroom panic and fire rated devices.
- All devices end cap brackets are to be through bolted.
- No concealed vertical rod devices or mortise devices are to be used other than Impact type.
- No lever trim to be used on exterior applications.
- Interior metal door pairs receiving lever trim, lever on active leaf only. No trim on inactive leaf.
- Wood single doors that are (EO) Exit Only are to have blank escutcheon trim (996-EO).
- Interior wood door pairs receiving lever trim, lever on active leaf, blank escutcheon (996-EO) on inactive leaf.
- All non-rated exit devices to be hex key dogging.
- All new and re-used exit doors receiving surface vertical rod devices; to have through bolt mounted latch cases.
- Provide glass bead kits as required to accommodate door conditions.

- Where specified, provide compatible keyed removable mullions with interchangeable core cylinder for pairs of doors.
- For access control with delayed egress application; use electric strike in conjunction with Delayed Egress (DE) mortise exit device. Electrified trim with this application is NOT acceptable.

○ Keyed Removable Mullions

- Acceptable manufacturers and respective catalog numbers (no substitution):

Keyed Removable Mullion with Corbin IC Cylinder	Von Duprin KR4954/KR9954
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○ Locks and Latches

- Acceptable manufacturers and respective catalog numbers (no substitution):

Grade 1 Mortise	Corbin ML 2000 PSM
Grade 1 Cylindrical	Schlage ND SPA
Mortise Electric Lock	ML 20900 Function 03/04

- All corridor classroom door locks shall be Corbin ML2052 “Classroom/Intruder” type function. Lockset can be secured from both exterior and interior of the classroom (no substitution).
- All single-user toilet rooms/stalls with full height doors, including all stalls at inclusive restrooms, shall have the following hardware:
 - Corbin ML2065-PS-VN-RH-626-V21-EMB-M34-CL6
 - ML2065 – Mortise lock deadbolt function with keyed cylinder outside, thumbturn inside.
 - PS – Princeton lever style (district standard)
 - VN – Indicator escutcheon
 - RH – Right hand door (verify at opening)
 - 626 – Satin chrome finish
 - V21 – Vacant/Occupied indicator outside and Unlocked/Locked indicator inside; green/red colors
 - EMB – Laser engraving inside above thumbturn with the word “Lock” and arrow
 - M34 – Larger ADA ergonomic thumbturn
 - CL6 – Corbin Russwin LFIC cylinder supplied less core
- Minimize transmission of heat to lock trim. Provide temperature control modules (TCM) on all electrified locks when cataloged by the lock manufacturer.

○ Keying

- Acceptable manufacturers and respective catalog numbers:

Exterior	Best Access Systems 7 pin (IC) core- WG Keyway. Furnish a Best cylinder on trim/pull side of all weather exposed door lock applications as specified in hardware groups. Best cylinders on exterior face of door. Corbin/Russwin 6 pin (IC).
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Interior	<p>Corbin/Russwin 6 pin (IC). Restricted Keyways: Furnish Corbin/Russwin cylinders on all key removable mullions and interior/ non-weather exposed locksets.</p> <ol style="list-style-type: none"> 1) All cylinders to be keyed per school district lockshop requirements. 2) All cylinders to be (IC) interchangeable core, uncombined.. 3) All exterior (weather exposed) permanent cores to be Best WG keyway. 4) All interior Corbin door locks to have construction cores when specified by school district lockshop. 5) All interior permanent cores to be Corbin/Russwin uncombined cores and provided in the keyway specified by the school district lockshop.
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- Furnish a total of 4 keys per cylinder. Actual quantity of cut keys to be determined by owner.
- Permanent cores and keys to be delivered in person or by registered mail to the School District Lock Shop at 1930 Como Avenue, St. Paul, MN 55108. District will pin permanent cores.

○ Key Cabinets

- Change keys shall be delivered in a set-up 80-120 key cabinet. Construction cores and keys shall be delivered to the Contractor.
- Construction cylinders/cores shall be returned to the distributor once permanent cylinders/cores are installed by the owner or owner's representative.

○ Pulls, Pushbars, Push/Pull Plates

- Acceptable manufacturers and respective catalog numbers:

	Burns	Hiawatha	Hager	Ives
Straight Pull (1" dia., 10" ctc)	26C	536B	4J	8103EZ-0
Offset Door Pull (1" dia., 10" ctc)	39C	658A	12J	8190-0
Pull / Push-Bar (1" dia., 10" ctc Pull)	422 x 26C	536B x 1081LBP	153	9103EZ-0
Offset Pull / Push-Bar (1" dia., 10" ctc Pull)	422 x 39C	658A x 1081LBP	157	9190-0
Push Plate (.050 4"X 16")	54	200F	30S 4 x16	8200 4 x 16
Push Plate (.050 6"X 16")	56	200H	30S 6 x16	8200 6" x 16"
Pull Plate (1" dia., 10" ctc - .050" 6" x 16")	5626C	---	34J 6 x 16	8303EZ-0 6" x 16"

○ Coordinators

- Acceptable manufacturers and respective catalog numbers:

	Ives
Bar Coordinator	COR x FL
Mounting Bracket	MB Series

○ Closers

- Acceptable manufacturers and respective catalog numbers (no substitution):

	LCN
	4011/4111 EDA
Use 4111 parallel arm EDA in all high traffic areas to reduce vandalism	

- All new and re-used doors receiving closers are to be through bolted and installed with reinforcement washers.
- Closers to be mounted parallel arm in all cases when possible.
- Provide extra heavy duty arm (EDA / HD) when closer is to be installed using parallel arm mounting.
- When Cush stop arms are used, must be Spring Cush type.
- Full height doors at single-user toilet rooms/stalls shall only close to within 10 degrees of full closure.
 - Closer shall be 4111 x Tele Edaw/62G x SRI ST-2730.
- Wood doors to be through-bolted with sex bolts mounted as per manufacturers' recommendations.
- Obtain door closers from a single manufacturer, although several may be indicated as offering products complying with requirements.
- Closers shall use high strength cast iron cylinders, forged main arms, and 1 piece forged steel pistons.
- Closers shall utilize a stable fluid withstanding temperature range of +120deg F to -30deg F without seasonal adjustment of closer speed to properly close the door. Closers for fire-rated doors shall be provided with temperature stabilizing fluid that complies with standards UL10C.
- Install closers on the room side of corridor doors, stair side of stairways and interior side of exterior doors.
- Closers shall be furnished complete with all mounting brackets and cover plates as required by door and frame conditions, and by adjacent hardware.

○ Low Energy Electro-Mechanical Automatic Operators

- Acceptable manufacturers and respective catalog numbers (no substitution):

	LCN
Electro-Hydraulic Operator	4630/ 4640
Electro-Mechanical Operator	9500 Sr. Swing

- 4630/ 4640 to be used in all general areas.
- 9500 Sr. Swing to be used on all constant/ high use areas.
- Hard wire actuators used whenever possible and for new construction.
- Remote wireless actuators used only when necessary for retrofit applications (requires District approval).
- All operators to have time delay feature applied.
 - 1: An auxiliary stop must be used in conjunction with all operators. If an overhead stop is used, mount operator in the flush ceiling mounting position.
 - 2: Use LCN tapered escutcheon actuator plate #8310-874. Bollard post to be LCN #8310-866.
 - 3: Automatic Operators to be tied to card readers when located at main entry, or at designated handicapped entry per owner's direction.

- Kick Plates and Mop Plates
 - Furnish protective plates as specified in hardware groups.
 - Where specified, provide 10" kick plates, 36" armor plates. Mop plates are not required.
 - Unless otherwise specified, metal protective plates shall be .050" thick; plastic plates shall be 1/8" thick.
 - Protective plates shall be 2" less door width, or 1" less door width at pairs.
 - All protective plates shall be beveled 4 sides and counter sunk.
 - Protection plates over 16" shall not be provided for labeled doors unless specifically approved by door manufacturers listing.
 - Where required by adjacent hardware, protection plates shall be factory drilled for cylinders or other mortised hardware.

- Overhead Stops

- Acceptable manufacturers and respective catalog numbers:

	Glynn-Johnson	Sargent
Heavy Duty Surface Mount	GJ900 Series	590
Heavy Duty Concealed Mount	GJ100 Series	690
Medium Duty Surface Mount	GJ450 Series	1540
Medium Duty Concealed Mount (verify locations)	GJ410	1530

- Note: When mounting OH Stops in conjunction with door closers and other hardware, refer to manufacturer's special template instructions within each product provided (See Below).
- Special Door Applications:
 - Non - fire rated, high traffic or entrance/exit doors with no barrier stop:
 - Door Closer: LCN 4111 x 62G x ST2730 x Bent Arm
 - Door Stops: Glynn Johnson 904H
 - Restroom application where specified: GEN-NET
 - Fire rated, high traffic corridor with no barrier stop:
 - Door Closer: LCN 4111 x 62G x ST2730 x Bent Arm
 - Door Hold Open: LCN Sentronic SEH
 - Door Stops: Glynn Johnson 904SE

- Wall Stops and Holders

- Acceptable manufacturers and respective catalog numbers:

	Ives	Hager	Burns	Rockwood
Wrought Convex Wall Bumper	WS406CVX	232W	570	406
Wrought Concave Wall Bumper	WS406CCV	236W	575	409
Extended Wall Stop	WS11/WS11 X	255W	530	475
Extended Wall Stop	WS33/WS33 X	----	----	487
Automatic Wall Holder	WS40	254W	533	490

- Furnish a stop or holder for all doors. Furnish floor stops only where approved by District.
- Where wall stops are not applicable, furnish overhead stops.
- Do not provide holder function for labeled doors.
- Reinforce stud/gyp. bd. walls with wood blocking behind all wall stops.

- Magnetic Hold Opens

- Acceptable manufacturers and respective catalog numbers:

	LCN	ABH	Rixon
Wall Holder with Metal Housing	SEM 7800	2000	998M 99-Checkmate

- LCN SHE Magnetic Holder Track, no substitution.
 - Magnetic holder's housing and armature shall be constructed of a die cast zinc material and be Tri-Voltage design, field selectable 12VDC/24/VAC/DC and 120 VAC with 35 lbs. holding force.

- Weatherstrip, Gasketing

- Acceptable manufacturers and respective catalog numbers:

	Zero	Pemko	NGP	Reese
Weatherstrip (do not cut to install other hardware)	429	2891_PK	700NA	755
Adhesive Gasket	188	S88	5050	797
Mullion Seal/Silencer	8780	5110	5100N	
Meeting Edge Seals	8193	18041	9605	959
Adhesive Edge Seal	****	S77	5060	****
Automatic Door Bottom (Surface Mtd.)	321	4131	222	320
Automatic Door Bottom (HD Concealed, semi-recessed) (When Sealing Against A Solid Surface)	360	434_RL	423N	430
Automatic Door Bottom (HD Concealed, semi-recessed) (When Sealing Against Carpet)	360	434_NBL	683	943
Sweep w/ drip	8198	345_N	C627	354
Drip Cap	142	346	16	R201

- Sound Seals

- Acceptable manufacturers and respective catalog numbers:

	Zero	Pemko	NGP	Reese
Adjustable Perimeter Sound Seals	870AA	379CPK	*****	*****
Adjustable Perimeter Sound Seals	770SP	322CSN	105NA	599C
Mullion Seal/Silencer	8780	5110	5100N	
Meeting Edge Seals	55AA X 555AA	351CS	140SA	95CP
Automatic Door Bottom (Surface Mounted)	321	4131	222	320
Automatic Door Bottom (HD Concealed) (When Sealing Against A Solid Surface)	360	434_RL	423N	430
Automatic Door Bottom (HD Concealed) (When Sealing Against Carpet)	360	434_NBL	683	943

Automatic Door bottom (HD Concealed with Magnet used to hold seal up)	369A	*****	*****	*****
Threshold	566A	2001AT	950	257A

- Where specified in the hardware groups, furnish the above products unless otherwise detailed in groups.
- Provide intumescent and other required edge sealing systems as required by individual fire door listings to comply with positive pressure standards UL 10C.

○ Thresholds

- Acceptable manufacturers and respective catalog numbers:

	Zero	Pemko	NGP	Reese
Saddle Thresholds	8655	171	425	S205
Half Saddle Thresholds	1674	227	324	S239

- Hardware supplier shall verify all finish floor conditions and coordinate proper threshold as required to insure a smooth transition between threshold and interior floor finish.
- Threshold Types:
 - Unless otherwise specified, provide saddle threshold similar to Zero 8655 for all exterior openings with an interior floor finish less than or equal to 1/4" in height.
 - Unless otherwise specified, provide half saddle threshold similar to Reese S239 for all exterior openings with an interior floor finish greater than 1/4" in height. Threshold height shall match thickness of interior floor finish.

○ Electrified Hardware

- All electrified hardware to be supplied with plug connectors.

○ Electric Strikes

- Acceptable manufacturers and respective catalog numbers:

	Von Duprin		HES
Surface Applied preferred – no substitution	6300 Series		9600 Series
Mortise Type 1	6000 Series		4500 Series 1600 Series

○ Magnetic Locks

- Acceptable manufacturers and respective catalog numbers:

	Schlage Electronics	
Direct Hold	400 Series	
Shear Lock	GF 3000 Series	

○ Door Position Switches

- Acceptable manufacturers and respective catalog numbers:

	Schlage Electronics	Sentrol	Securitron
Concealed	679 Series	1076W	DPS

- Manually Programmed Locks

- Acceptable manufacturers and respective catalog numbers:

	Schlage Electronics
Cylindrical Lockset	CO100 CY
Mortise Lockset	CO100 MS
Exit Device	CO100 993 Series

- Computer Managed Locks

- Acceptable manufacturers and respective catalog numbers:

	Schlage Electronics
Cylindrical Locksets	AD 200 CY
Mortise Locksets	AD 200 MS
Exit Device Trim	AD 200 993 Series
Cylindrical Classroom Security	CO 220 CY Series
Mortise Classroom Security	CO 220 MS Series
Exit Device Trim	CO 220 993 Series

- Application criteria:

- Lever trim shall match locksets when available.
 - Provide cylinders as required.
 - Functions, such as card reader, PIN reader or FOB reader called out in hardware groups.

- Software:

- Schlage Utility Software: SUS (on hand held device)
 - Schlage Electronics: HHD Kit (hand held device with cables)
 - Provide manufacturer's software complete with all cables.
 - Provide 2 hours onsite training of software and programming of lock hardware as required by the manufacturer.

- Network Managed Locks

- Acceptable Manufacturers and respective catalog numbers (no substitution):

- Cylindrical lockset: Schlage Electronics, NDE Sparta

- Application Criteria:

- Lever trim shall match locksets when available.
 - Provide cylinders as required.
 - Functions such as card reader or FOB reader called out in hardware groups.
 - Install/Provide manufacturer's Web and Mobile Apps.
 - Provide manufacturer's credential enrollment reader complete with all cables.
 - Provide 2 hours onsite training of software and programming of lock hardware.

- Door Reinforcers

- Acceptable manufacturers and respective catalog numbers (no substitution):

- Mortise Retrofit: MAG 504-S
 - Cylindrical Retrofit: MAG 4-S-2

- Latch Protectors:
 - Acceptable manufacturers and respective catalog numbers:
 - Don-Jo PLP-111/211
 - Latch-Gard LG100/110
- Coat Hooks:
 - Ives, 511BC Century Coat Hook, concealed mount
- Door Applications:
 - Acceptable manufacturers and respective catalog numbers:

	LCN	Glynn Johnson
Non-fire rated, high traffic or entrance/exit doors with no barrier stop: Door Closer	4111x62GxST2730x Bent Arm	*****
Non-fire rated, high traffic or entrance/exit doors with no barrier stop: Door Stops	*****	904H
Fire rated, high traffic corridor with no barrier stop: Door Closer	411x62GxST2730x Bent Arm	*****
Fire rated, high traffic corridor with no barrier stop: Door Hold Open	Sentronic SEH	*****
Door Stops	*****	904SE

- Finishes and Base Materials
 - Unless otherwise indicated in the hardware groups or herein, hardware finishes shall be applied over base metals as specified in the following finish schedule:

	BHMA Finish and Base Material
Butt Hinges: Exterior, or Non-Ferrous	630 (US32D)
Butt Hinges: Interior	652 (US26D)
Continuous Hinges	630 (US32D)
Flush Bolts	626 (US26D)
Exit Devices	626 (US26D)
Locks and Latches	626 (US26D)
Coat Hooks	626 (US26D)
Pulls and Push Plates/Bars	630 (US32D)
Coordinators	600 (Prime painted or mill alum.)
Closers	689 (Powder Coat Aluminum)
Protective Plates	630 (US32D)
Overhead Stops	630 (US32D)
Wall Stops and Holders	630 (US32D)
Thresholds	628 (Mill Aluminum)
Weather-strip, Sweeps Drip Caps	Aluminum Anodized
Magnetic Holders	Sprayed Aluminum
Magnetic Locks	628 (US28)

- Note 1) Pool areas, corrosive areas, and hardware exposed to the elements are to utilize stainless steel US32D material.
- Note 2) Remodel and addition projects may use US10 or US10B as required by existing finishes.

- Part 3 Execution
 - Per Consultant and / or manufacturer specification.
 - Refer to Part 1 above for information on hardware installation verification checks.

 - Hardware Adjustment
 - Prior to completion of Project:
 - Ascertain that the door closers are in adjustment so closer completes its full closing cycle in less than 4 to 6 seconds without abrupt change of speed between “sweep” and “latch” speeds.
 - Adjust “backcheck” according to manufacturers’ instructions.
 - Verify that levers are free from binding.
 - Ensure that latchbolts and deadbolts are engaged into strike and hardware is functioning.
 - Turn over wrenches and adjusting tools, provided with hardware, to Owner.
 - **Used of electronic screwdrivers is not allowed on exposed flush screws. Contractor will be responsible to replace doors/frames/hardware where screw heads are stripped or broken off during installation.**

End of Section