



A comprehensive guide for the operation,
service, and support of
Syntégra Integrated Doors Systems

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1. Overview

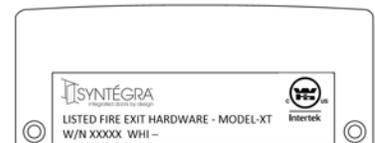
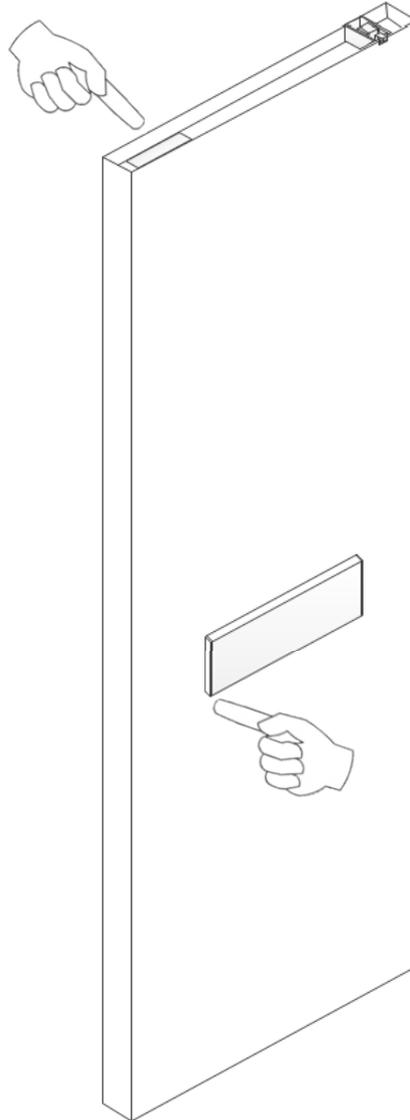
Syntégra Integrated Door systems are designed and tested to ensure years of trouble-free operation. In order to achieve the best possible outcome, it is important to have the frame and door installed by qualified technicians that can identify and resolve challenges that arise during the installation. We have taken the complexity and time out of the process by pre-installing and pre-adjusting the hardware in the factory. However, we realize that there are challenges beyond installing the hardware. Our system, while very forgiving and easy to install, will not overcome a poor installation.

The installer must be able to identify when a frame is fabricated, labeled, and set properly before attempting to mount the door system. ANSI/SDI A250.11 *American National Standard Recommended Erection Instructions for Steel Frames* was developed to provide industry professionals a 'best practices' guide for ensuring frames are installed properly. This document, as well as other technical standards, is available for viewing by the Steel Door Institute (www.steeldoor.org).

As mentioned, our goal is to create the best possible outcome for every installation. This manual is designed to further this goal in providing the essential information needed for the installation, operation, service, and support of the various Syntégra system models and options. If questions arise that are not covered in this manual, then we encourage you to contact us for support via email (customercare@syntegrausa.com) or by phone (800-592-8066).

Identification:

Due to the extensive use of continuous hinges in the Syntégra door systems, the rating label can be found in the top channel.



The model information is shown on hinge-side of pushpad end cap. The label is only viewable when the pushpad is fully extended. LX Model information included in the top channel adjacent to the fire labeling when applicable.

3. Shipping and Handling

Orders are always shipped FOB factory. The shipment is the customer's responsibility once the shipment departs our freight dock.

Carefully inspect your shipment upon receipt. If there is visible damage, photograph the shipment and note this on the waybill.

In case of freight damage, contact Syntégra, LLC Customer Support immediately. Although Syntégra, LLC is not responsible for freight-damaged items, we are able to assist with the claims process.

Shortages:

Note on the waybill EXACTLY which item is short and have the shortage verified by the driver.

Visible Damage:

Note on the waybill EXACTLY what is damaged and the extent of damage. Be as specific as possible and photograph the damage. (E.g. Crate crushed, hole found in crate showing damage to frame, etc.) Have the driver verify the damage.

Concealed Damage:

Report to carrier IMMEDIATELY any damages discovered after delivery. The carrier will either waive inspection or send an inspector to examine. Hold the packaging and shipping container for the inspection. DO NOT DISPOSE of the shipment unless you are advised in writing by the carrier to do so.

Documents:

Your claim MUST include the invoice covering the value of goods while in transit and, where applicable, the repair invoice and inspection report. Needless to say KEEP all documents until the claim is settled.

Storage and Handling

To ensure the aesthetic and structural integrity of the door and frame assemblies, care must be taken at all times throughout the delivery and installation phase of each project. It is the responsibility of the distributor and contractor to verify that these materials are properly stored and protected.

- Refer to NAAMM Standard 840: *Guide Specifications for Installation and Storage of Hollow Metal Doors and Frames.*
- Doors must remain in a climate controlled environment at all times.
- In no instance should doors be stored in an exterior location.

- Materials should be covered to protect them from damage but in a manner as to permit air circulation.

Doors laminated in Surfacequest material

- Doors with Surfacequest should be handled and protected similar to that of finished wood doors.
- Extra care should be taken in handling edges and door face cutouts.
- Do not deliver or install Surfacequest laminated doors until the building's temperature and humidity have been stabilized.
- The doors should be stored in the original shipping container whenever possible. If doors are stored flat, then a minimum of 4 non-marring spacers should be placed between each door. No more than 10 doors per stack.
- Surfacequest laminated doors should be installed once substantial completion of the project has been achieved to avoid damage.
- Syntégra will not warranty nor assume responsibility for doors that have not been handled as prescribed.

4. Finishing

Syntégra exclusively uses galvanized cold rolled steel to extend the life of the opening. Many specifications only call for cold rolled steel doors with factory-applied primer; however this type of coating only protects the outside surface of the door. With other manufacturers, the raw cold rolled material on the inside of the hollow metal door remains unprotected; the result is often premature failure in exterior doors and interior doors subject to moisture.

Prior to application of finish coats, the substrate shall be inspected by the Painting Contractor. All Architectural Specification requirements along with all requirements of the paint manufacturer shall be followed. These will generally include scuff sanding of the substrate to remove foreign materials, scratches or abrasions from construction processes, along with any special or mandatory requirements for primer touch-up or additional primers required by the paint system.

In addition to storage and handling precautions noted in Section 3, it is imperative that the work of all other rough trades must be completed prior to the

installation of a finished painted product. It is advised that the standard primer typically should receive a finish coat of paint within 30 days of receipt of materials. After that period of time, the material will likely need to be sanded and touched up before applying the finish coat(s) of paint.

Cleaning Surfacequest Architectural Films



For general cleaning, Surfacequest films can be easily maintained by using household products such as a solution of dishwashing liquid and water. Other non-bleach spray type cleaners are acceptable as well. In other cases, a denatured alcohol will remove most stains if present. For severe stains, it is possible to use lacquer thinner. However, this should only be used after other methods have been exhausted. Please note the following:

Note: It is highly advisable to test any strong solvent's compatibility with the film in an inconspicuous area prior to applying the solvent to a visible area. Read the following topic for solvent resistance. It is important to refrain from using abrasive cleaners on any vinyl film because it could damage the surface.

Solvent Resistance

The exterior-grade films are more resistant to strong solvents than the Interior-grade series. This is because of an anti-corrosive film layer that is incorporated with the exterior series. (Consult the factory if you are in doubt as to whether the Surfacequest film on your doors is exterior or interior grade. Most often the film used is interior grade.)

It is not advisable to use the following solvents:

- Toluene
- MEK (Methyl Ethyl Ketone)
- Acetone

5. Basic Operation

Syntégra door systems share the same locking mechanism regardless of the door model. The only difference between the various door models is the operating hardware with the XT Series being an Exit Device, the PX being a pushpad operator, and the LX having lever operators. With only the operator changing between the models, many of the same functions, options, and fire ratings are shared between the series. All fire listings and life-safety approvals were achieved with only the top latch. In most cases, top latching is sufficient with the exception of high security applications. Single doors in all applications use a fire pin installed 6" from the door bottom. The fire pin activates only in case of a fire.

XT Series

The XT Series is a full exit device that complies to UL305 Panic Hardware requirements for life safety and UL10C Positive Pressure Fire Tests of Door Assemblies.

Depressing the full width pushpad or rotating the optional exterior lever retracts the latch(es) for egress. The pushpad will remain retracted while the door is in the open position. Once the trigger from the top latch contacts the frame stop, the latches release to secure the door. The latches can also be retracted by a use of a keyed cylinder if desired. The key also locks and unlocks the exterior lever.

The exterior lever, as with the PX and LX series is equipped with a break-away clutch mechanism. This anti-vandal feature protects the mechanism from abuse. It is easily reset by returning the lever to the horizontal position.

PX Series

The PX Series uses a shorter version of the same pushpad profile used in the XT Series. However, the PX is not considered a full exit device due to the width of the pushpad.

The functional aspects of the PX series are identical to that of the XT series including the pushpad holding near-flush to the door face when the door is in the open position.

LX Series

The LX Series provides the durability and functionality of a mortise lockset in a vertically latching platform. The interior lever is always available for egress, and

the exterior lever is locked or unlocked as needed with a keyed cylinder or with electrified lever (ELS) option.

6. Installation

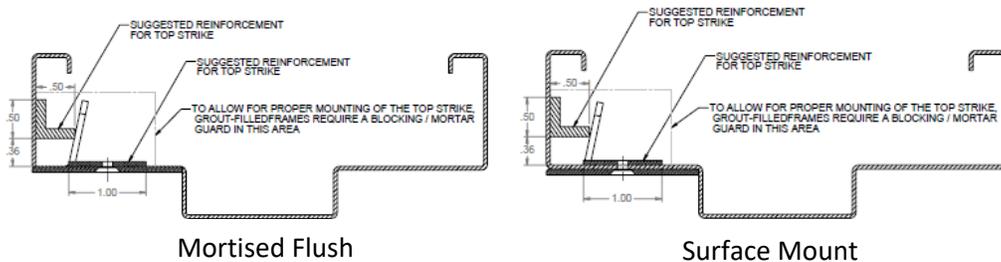
Each Syntégra Integrated Door System includes the following items depending on how the door is configured by the customer. The flexible nature of the system allows for customers to select ancillary items that complement the overall package. In some instances, the customer's preference on items such as the hinge type will affect the look and function of the opening.

Typical Package:

Description	How Supplied
Syntégra Door with Integrated Hardware	Pre-installed
Continuous hinge	Pre-installed
Top Strike	Packed loose for field installation
Lever handle(s)	Packed loose for field installation
Pushbar release tool	Packed loose for owner
Power Supply (if electrified hardware)	Packed loose for field installation
Door Closer	Packed loose for field installation
Hold-open Wall Magnets	Packed loose for field installation
Fire pin in single doors applications	Pre-installed

Strike Installation

The universal top strike is designed to surface mount for retrofit applications or mortised flush for new construction. The hardened steel strike is to be painted to match the frame. Mounting screws are provided for each application type.



Fire pin installation (Single doors only)

A 1" hole must be drilled in frame 6" from door bottom in line with the installed fire pin in the door. Install the supplied cover.

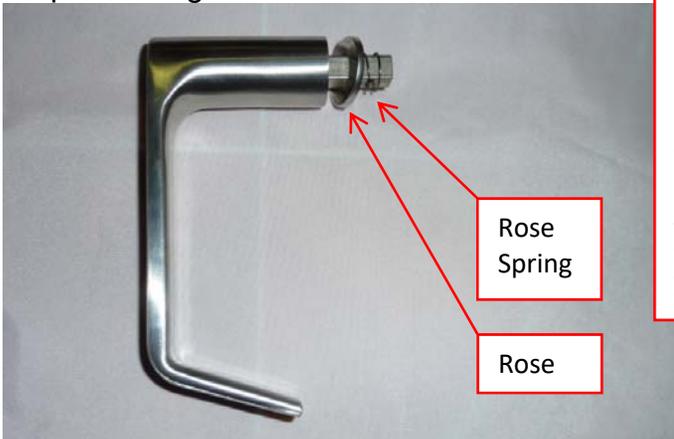
Lever Installation

Note: Install levers prior to applying the leading edge seal !

Tools Required:

- #2 Phillips Screwdriver
- Flat Blade Screwdriver
- 1/8" Allen Wrench approximately 4" in length

Step 1: Configure Lever



Each handle set includes the handle/shaft assembly, rose, and the rose spring. The handle must be installed configured as shown.

Ensure that the recessed side of the rose is facing towards the door.

Step 2 – Install Lever into lock case



Trip the latch trigger at the top of the door to extend the top latch.

Fully insert the handle shaft into the lock case hub. Ensure that the rose sits inside the hole in the door face.

For dual lever models, install secondary lever at this time.

Step 4 – Securing the Handles



There are two openings in the lock mounting plate in line with the horizontal handle location. Only tighten the setscrew adjacent to the handle being installed.

Secure the handle(s) by passing the 1/8" Allen Wrench through the lock mounting plate to access the handle setscrew(s). Tighten securely (Not just snug!), and reinstall door edge.

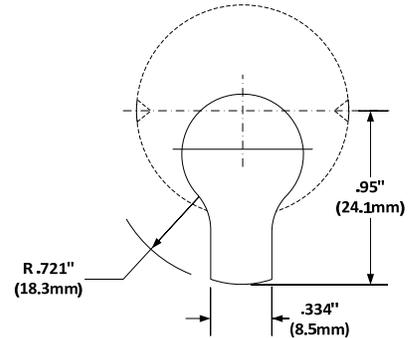
Keyed Cylinder Installation

Tools Required:

- #2 Phillips Screwdriver
- Flat Blade Screwdriver
- 5/64" Allen Wrench approximately 4" in length

Cylinder Requirements:

- Single Cylinder Configurations:
 - Standard 1-5/32" diameter Mortise Cylinder with 'standard' cam dimensioned as shown. Can accept 1" or greater length. Up to 1-1/8" cylinders (with full threads) do not require a collar, but one can be used if desired.
- Back-to-Back Cylinder Configurations:
 - Requires a 1/4" collar for a 1" cylinder length. For longer cylinders, add the dimension in excess of the 1" cylinder length to the collar thickness. (Example 1-1/4" cylinder requires a 1/2" collar)



Note: Install cylinders prior to applying the leading edge seal !

Cylinder Installation

Step 1 – Remove leading door edge

Step 2 – Thread cylinder into the lock case

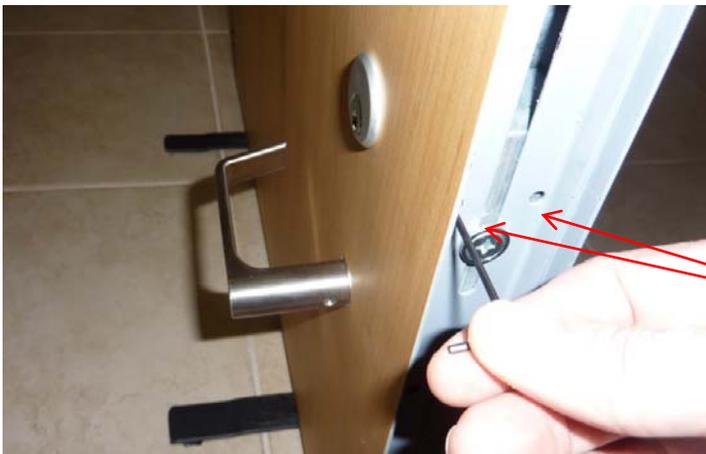


Insert the cylinder into the lock case opening.



Rotate the mortise cylinder clockwise until it reaches the desired depth and with the key opening oriented in the six o'clock position.

Step 3 – Secure the Cylinder



There are two openings in the lock mounting plate in line with the horizontal cylinder location. Only tighten the setscrew adjacent to the cylinder being installed.

Secure the cylinder(s) by passing the 5/64" Allen Wrench through the lock mounting plate to access the cylinder setscrew(s). Tighten securely, and reinstall door edge.

Door Closer

Installation varies depending on the model selected. Follow the instructions included with the closer and retain for future reference.

Hold-open Wall Magnets

Installation varies depending on the model selected. Follow the instructions included with the magnet and retain for future reference.

7. Adjustments

Leading Edge Adjustment

The leading edge of the active leaf in a pair of doors is fitted with adjustable screws approximately every 18" to allow the installer to fine tune the gap between the two doors. Adjusting the screws clockwise will increase the gap in the center, and adjusting counter-clockwise decreases the gap. Typically, fire codes allow the gap to be 1/8" +/- 1/16". However, it is advised to consult with the local AHJ to ensure compliance with local requirements.

The adjustable edge allows the installer to move the edge in or out in different increments depending on the need of the particular opening. As the building settles, this adjustment can be revisited to ensure compliance for the life of the opening.

Latch Adjustment

The functional travel of the individual components is matched to ensure full retraction and full extension of the latch. These settings are fixed at the factory, and do not require field adjustments.

8. Service and Preventive Maintenance

The Syntégra door systems are tested and cycled in environments typical to the installed applications. However, environments can vary greatly. Extremely dirty, dusty, or abusive environments could require service attention such as cleaning and lubrication from time to time to assure reliability. While lubrication of some parts such as the latch can be beneficial, care should be used in applying lubrication to the lock case. The only areas that can be lubricated are where return springs are visible. Adding lubrication inside the lock case is not advised and will void the manufacturer's warranty.

Additional service checkpoints include:

- Ensuring pushbar end cap screws are secure
- Ensuring that the top and bottom latch (if present) mounting screws are secure
- Ensuring that the top strike mounting screws are secure
- Ensuring that the pushbar mounting screws are secure

9. Electrical Options

Motorize Latch Retraction (ML)

The ML option (Motorized Latch Retraction) allows for remote operation of Syntégra's XT and LX door systems. With the application of a regulated 24 VDC signal from the Power Supply, the high-speed motor retracts the latches directly allowing it to be interfaced with access control and door automation systems.

The ML option is preinstalled from the factory with the wire connections terminated at the hinge-side of the door via a thru-wire hinge or other power transfer devices. The internally mounted, low current, motor is rated for intermittent and continuous duty. As long as the 24 VDC signal is applied, the latches, along with the XT model's pushbar, will remain retracted. The ML feature is a fail-secure system to comply with fire code and security requirements. When power is interrupted, the locking system defaults to a latched condition.

The Syntégra PS210 and PS202 Series Power Supplies are specifically designed to meet the power and functional requirements of the ML option. Using an alternate power supply is not advised and will void the Syntégra Limited Warranty. If battery backup is required, then specify the PS202B.

Electrical Specifications

Voltage	Duty	Current
24VDC (+/- 10%)	Cont. / Intermittent	800 mA pull 225 mA hold

Electronic Calibration and Diagnostics Tools

ML Retraction Point Adjustment

The Syntégra door systems are factory adjusted prior to shipping. If updates or upgrades in hardware are performed, it might be necessary to readjust the ML option to ensure proper operation.

The motor controller resides on the back end of the motor where the two wire harnesses terminate. An adjustment potentiometer is provided to achieve the



proper retraction point. A thin blade potentiometer adjustment tool (shown) or similar is required to make this adjustment. Rotating the potentiometer clockwise increases retraction and rotating the potentiometer counterclockwise decreases retraction.

Caution!
 Forcing the potentiometer beyond its limits will permanently damage the control board!

Adjustment Steps

1. Use the pushbar release tool to set the outer pushbar into the 'service' position to expose the end cap mounting screws.
2. Remove latch-side end cap, and slide the pushbar off to expose the backbar assembly.
3. Activate and hold the control switch that initiates sending power to the device, and verify that the motor retracts the holds the latch(es) fully retracted without over-travel resulting in a 'bounce' condition.
4. If necessary, adjust potentiometer (see below) in small increments (5°-10°) to the point where the latch(es) fully retract without bouncing.
5. Reinstall the pushbar, and cycle the device to ensure proper operation.

Troubleshooting/Diagnostics

The onboard controller will emit tones to help determine the status of the ML option. See below for explanation of these tones and how they can assist in ensuring proper operation of the system.

Symptoms/Beeps	Explanation	Solution
2	Over Voltage	Measure & adjust voltage to 24 VDC +/- 10%.
3	Under Voltage	Measure & adjust voltage to 24 VDC +/- 10%.
5	Pushbar forced from retracted position	Device will automatically re-engage within 5 seconds
7	Over-travel or obstruction	Remove obstruction. Depress pushbar until beeping stops and release
Buzzing when unit is energized	Supplying AC power or unregulated/unfiltered DC power	Ensure the rated voltage is being supplied. This includes voltage level and type. Change supply to ensure regulated and filtered 24VDC (+/- 10%) is being supplied to the unit.
ML unit does not re-lock when power is removed	Switch or relay not releasing	Verify voltage at the door. If power is still present when in a de-energized state, then the switch/relay is likely faulty or not being properly controlled.

Electrified Lever (ELS)

The ELS option electrically enables the secure-side lever with the application of a 24 VDC signal (12 VDC available on special order). The ELS option is preinstalled from the factory, and the connections are terminated at the hinge side of the door via a thru-wire hinge or other power transfer devices. The internally mounted, low current, solenoid is rated for intermittent and continuous duty, and is factory set for fail-secure or fail-safe operation. Refer to supplied power source manual for specific wiring instructions.

Fail-Secure - As long as the 24VDC signal remains, the lever can be rotated to retract the top (or top and bottom) latches. Once the power is removed, the lever handle cannot be rotated.

Fail-Safe – With no power applied, the secure-side lever can be turned to retract the latch(es). With 24VDC power applied, the lever cannot be rotated.

Fire Alarm Control Panel (FACP) - Since the ELS option does not interfere with the positive latching requirements of fire doors, connection to the fire alarm panel is at the discretion of the AHJ.

Electrical Specs:

Voltage	Duty	Coil Res.	Power	Current
24VDC (+/- 10%)	Cont. / Intermittent	116 Ω	5 watts	207mA

Troubleshooting

Symptom	Likely Cause	Solution
Buzzing when unit is energized	Supplying AC power instead of DC power	Ensure the rated voltage is being supplied. This includes voltage level and type. Change supply to ensure 24VDC (+/- 10%) is being supplied to the unit.
Energizes but the lever does not release	Insufficient power	Ensure 24VDC (+/- 10%) is being supplied. This voltage must be taken with the unit in the circuit.
Lever does not re-lock when power is removed	Switch not releasing or bleeding current through the circuit	Verify voltage at the door. If power is still present when in a de-energized state, then the switch/relay is likely faulty or not being properly controlled. Illuminated switches are not advised as they require minimal current to flow in order to light the switch.
Supplying power does not release the lever (fail secure)	Faulty solenoid	Verify the resistance noted in the Electrical Specs. If the reading is more than 5% off from the value shown, then replace the solenoid.
Supplying power does not lock lever (fail safe)	Faulty solenoid	Verify the resistance noted in the Electrical Specs. If the reading is more than 5% off from the value shown, then replace the solenoid.

10. Service Parts

Replacement parts can be obtained from the supplier listed on page 4. If at any time you cannot reach the supplier of record, then please contact the factory for assistance.

Description	Part Number
Top Strike	TSK-1
Top Latch	S41-0002
Rod Assembly	
For up to 8' tall doors	S41-0003-01
From 8' to 10' tall doors	S41-0003-03
Lock Case	
Exit Only - LHR	S41-0001-03
Exit Only - RHR	S41-0001-04
LHR/LH – Lever Trim Enabled/Clutched	S41-0001-01
RHR/RH – Lever Trim Enabled/Clutched	S41-0001-02
Back Bar Assembly	
For PX devices	S41-0006-02
For up to 24" openings	S41-0006-24
For 30" openings	S41-0005-30
For 36" openings	S41-0005-36
For 42-48" openings	S41-0005-42
Pushpad Base Bar	
For PX devices – 7-3/4" Width – Clear Anodized	S24-0002-02-628
For PX devices – 7-3/4" Width – Dark Bronze Anodized	S24-0002-02-313
For XT devices – 14-3/4" Width – Clear Anodized	S24-0002-24-628
For XT devices – 14-3/4" Width – Dark Bronze Anodized	S24-0002-24-313
For XT devices – 17-3/4" Width – Clear Anodized	S24-0002-30-628
For XT devices – 17-3/4" Width – Dark Bronze Anodized	S24-0002-30-313
For XT devices – 23-3/4" Width – Clear Anodized	S24-0002-36-628
For XT devices – 23-3/4" Width – Dark Bronze Anodized	S24-0002-36-313
For XT devices – 29-3/4" Width – Clear Anodized	S24-0002-42-628
For XT devices – 29-3/4" Width – Dark Bronze Anodized	S24-0002-42-313
Pushpad Finish Insert	
For PX devices – 7-7/8" Width	22-0055-02-XXX*
For XT devices – 14-7/8" Width	22-0055-24-XXX*
For XT devices – 17-7/8" Width	22-0055-30-XXX*
For XT devices – 23-7/8" Width	22-0055-36-XXX*
For XT devices – 29-7/8" Width	22-0055-42-XXX*
End Cap Kit	S91-0001-01-XXX
Pushbar Release Tool	S28-0080
Lever	
Curved	LK-03-XXX
Tubular	LK-02-XXX
Square	LK-01-XXX
Bottom Bolt Assembly	S41-0004

* Specify Finish

11. Warranty

Syntégra, LLC Limited Warranty

Syntégra, LLC (hereinafter Syntégra) manufactures its products in a manner to be free from defects. Should any defect of manufacture (in material or workmanship) occur in its products within a period of 60 months after first shipment, Syntégra, upon prompt notification and proof to its satisfaction that the product was defective in manufacture for the use intended by Syntégra, will at its option, exchange the product, repair the defect or refund the price charged by Syntégra, FOB factory.

The Warranty includes the door assembly as supplied by Syntégra and all mechanical parts.

Exceptions to the above:

- All electrical hardware functions shall be warranted for a period of 36 months from date of first shipment.
- Continuous Hinges: Ten (10) years from date of first shipment
- Door closers: Ten (10) years from date of first shipment
- All doors finished with Surfacequest© Architectural Fusions – the Surfacequest© finish shall be warranted for a period of 36 months from date of first shipment.

Limitations and exclusions

This is a limited warranty and is in lieu of all other representations and expressed and implied warranties (including the implied warranties of merchantability and fitness for use) and under no circumstances shall Syntégra be liable for any incidental or consequential damages or losses. This warranty does not cover damages from such causes as abuse, neglect, fire, freight damage or improper storage.

How to Obtain Replacement Parts and Service

The merchandise you have purchased from us has been carefully engineered and manufactured under Syntégra's rigid quality standards and should give many years of satisfactory and dependable operation. However, like all mechanical merchandise, it may require replacement parts or maintenance.

Should there be an instance that a product needs service or parts, contact your local Syntégra dealer, representative or the Syntégra offices at (800) 592-8066.