Series 2300 Sliding Door
Operation and Maintenance Manual
INSTALLATION INSTRUCTIONS

Refer to Approved Submittal Drawings for typical installation dimensions and locations.

Preparation - New Construction

The surface on which the DDS Sliding Door Operator is to be mounted should be free of excess mortar splatter, true to architectural dimensions and flat in respect to the door opening. If the Architectural Plans and Specifications require embedded steel plates for welding the DDS Sliding Door Operator in place, these embed plates are to be installed by the General Contractor prior to installation of the DDS Sliding Door Operator and must all be in the same plane. The DDS Sliding Door Operator can be bolted directly to the wall, but DDS recommends the use of embedded steel plates and welding these items securely to the wall. Any items located within harm’s way of the installation should be protected from damage.

Preparation - Existing Construction (retrofit)

All ceilings, floors, walls and glass should be protected from any damage that could occur during the demolition of the existing devices. Fans should be used to suck out all dust, smoke and fumes caused by demolition, preparation and installation of the new DDS Sliding Door Operator. If existing embeds are able to be used for the new installation it will be noted on the Architectural Plans and Specifications.

Layout

A. To determine the bottom height of the DDS Sliding Door Operator use the door opening height from the Architectural Door Schedule.
   1. Mark this height (above Finish Floor) at the Lock Pilaster Column side of the door opening, then use a precision leveling device to transfer this height towards the open side by twice the door width, then snap a line between the end marks (check this line for level).

B. For DDS Sliding Door Operator that are bolted to the wall (not welded)
   1. To determine the bottom mounting holes height, snap a parallel line 3” above the bottom height line (check this line for level).
   2. To determine the top mounting holes height, snap a parallel line 10-1/2” above the bottom height line (check this line for level).
   3. To determine the center mounting hole locations
      a. Determine the center-line of the Rear Lock Tube, then measure 4” from this center-line towards the open side of the DDS Sliding Door Operator and make a vertical line between the two horizontal chalk lines.
   4. To determine the left and right mounting hole locations
      a. Measure the hole centers on the back of the DDS Sliding Door Operator then transfer them to the appropriate side making a vertical line between the two horizontal chalk lines.
   5. Use only high quality 1/2” or 5/8” concrete anchor bolts to fasten the DDS Sliding Door Operator to the wall. Make sure the mounting holes are drilled accurately.

C. For DDS Sliding Door Operators that are bolted to the wall (top only) and welded at the bottom
   1. To determine the top mounting hole height, snap a parallel line 10-1/2” above the bottom height line (check this line for level).
2. To determine the center mounting hole locations
   a. Determine the center-line of the Rear Lock Tube, then measure 4" from this center-line towards the open
      side of the DDS Sliding Door Operator and mark on the horizontal chalk line.

3. To determine the left and right mounting hole locations
   a. Measure the hole centers on the back of the DDS Sliding Door Operator then transfer them to the appropriate side marking on the horizontal chalk line.

4. Use only high quality 1/2" or 5/8" concrete anchor bolts to fasten the DDS Sliding Door Operator to the wall. Make sure the mounting holes are drilled accurately.

5. Make sure that the embeds installed by the General Contractor are in the same plane as the wall and are installed per the Architectural Plans and Specifications.

Device Housing
A. Remove the Cover Screws open the Transom Cover to be able to remove the Transom Access Panel saving all the hardware for re-installing.
B. Tack weld and/or fasten the Device Housing exactly as shown on this drawing, paying particular attention to the Device Housing being level from left to right and front to back.

Lock Pilaster Column
A. Tack weld the Lock Pilaster Column in place exactly as shown on this drawing, paying particular attention to keeping it perpendicular and square to the transom.

Rear Lock Tube
A. Un-assemble the (1) 1/2 X 3/4 shoulder bolt at the top of the Lock Bar.
B. Slide the Rear Lock Tube assembled with the Lock Bar (top threaded tab facing towards the wall) up through the 1 1/4" X 1 1/2" rectangular hole located at the bottom of the Device Housing.
C. With the Lock Bar in place push the Rear Lock Tube up to the Device Housing, check that it is perpendicular to the transom and tack weld in place paying particular attention not to get any weld splatter on the Lock Bar.

Wall Guide
A. Install the Wall Guide exactly as shown on the drawing holding the dimensions and it must remain parallel with the Device Housing. Be sure not to burn through the Door Lock Tube while welding the Wall Guide as this will cause the Lock Bar to not function properly.

Door Hanger and Guide
A. Install the Door Hanger and Bottom Door Guide exactly as shown. Pay particular attention to the dimensions on the drawing as they must be welded true to the back plane of the door.

Finish Welding
A. Check all of the installed components for dimension accuracy
B. Weld in strict accordance with the Architectural Plans and Specifications
C. Clean all weld splatter, dress welds and touch up primer.

Locking Device

A. Make sure the Door Position Switch and Limit Switch are moved up as far as possible to avoid damage to the switches during installation of the Carriage Assembly.
B. Install the Locking Device Assembly (make sure that the door numbers match) using the (4) Back Plate Bolts and (4) Back Plate Washers.

Door Open Switch

A. Make sure the Limit Switch are moved up as far as possible to avoid damage to the switches during installation of the Carriage Assembly.
B. Install the Door Open Switch Assembly as shown on the drawings using the screws supplied on the transom mount.
C. Run the wires through the "U" shaped switch mount on the back transom plate and secure them out of the way of any moving parts.

Carriage Assembly

A. Remove the nylon tie straps that hold the Motor Mount Assembly for shipping, then move the Unlock Master Bar towards the side that the door closes. This will put the Pinion Gear out of the way.
B. Install the Carriage Assembly (make sure the door numbers match) as shown on the drawing.

Door

A. Install the door on the Carriage Assembly.
B. Snug the 1/2" nuts up on the Eccentric Door Hanger Bolts but not tight enough that you can not adjust the door.
C. Adjust the door so that it lines up with the Rear Lock Tube and the Eccentric Door Hanger Bolts are as close to center height as possible. Now tighten the 1/2" nuts.
D. Make sure the Pinion Gear is still disengaged from the Rack using manual means then move the door open to closed a few times to make sure there are no obstructions and the door travels freely with out binding.

Door Receiver

A. The notch at one end of the Door Receiver is to be placed at the bottom towards the back of the operator. Do not deviate from the clearance dimensions at the top of the Door Receiver as this is required to clear the Access Cover.
B. Make sure that the door mates with the Door Receiver leaving equal space on both edges. Now tack the Door Receiver to the Lock Pilaster Column. Open and close the door a few times to assure the proper fit, ten finish welding per the Architectural Plans and Specifications.

Pilaster Lock

A. Remove the Access Cover located on the front of the Vertical Lock Pilaster Column.
B. Install the Cleavis Mount supplied to your lock modified per DDS DRAWING with the bolts supplied.

C. Attach the Cleavis Linkage supplied to the Pivot Assembly located in the transom above the Vertical Lock Pilaster Column.

D. Now attach the Yoke Assembly to the Lock Cleavis Mount Assembly and bolt up the deadlock.

Final Adjustments

A. Check the adjustment of the door hanger so that the door travels freely throughout the entire travel.
   1. Make sure that the door is adjusted parallel with the rear lock tube.

B. Next adjust the gear lash pressure by using the motor lock plate.

C. Next make sure that while applying a light drag to the door during travel that the Cam Follower stops approximately 1/8" beyond the upper Dead Lock Bar.
   1. If it doesn't stop correctly adjust the door travel limit switch to make it stop correctly.

D. Next adjust the Door Bumper Assembly so that they just make contact with the Carriage Assembly.

E. Next adjust the door position in relation with the rear deadlock rod.
   1. If the Dead Lock Bar is not properly seated with the Bottom Door Guide.
      a. Loosen the door hanger bolts and by using a pole clamp move the door until the Dead Lock Bar just drops into place, then move the door and additional 1/8" to assure that it is in the center of the slot on the Door Bottom Guide.

F. Adjust the Cleavis Linkage with the deadlock in the up position so that the Pivot Assembly hole at the Yoke Assembly is positioned 5/16" above the Pivot Bolt.

G. Move the Unlock Master Bar to the door opened side as far as possible.

H. Now attach the Pivot to Master Bar Linkage to the Pivot Assembly.
   1. Then adjust the Yoke Assembly and attach the Unlock Master Bar, this should slip on freely without moving either part.
   2. Try the Paracentric Lock a few times making sure the motor and dead lock release freely.


J. Adjust the Limit Switch so that it just makes contact (audible click) when the Lift Pivot is in the full deadlock position.

K. Adjust the Motor Cutoff Limit Switch so that it just makes contact (audible click) when the Unlock Master Bar touches it. Be sure that the switch lever is not touching the switch body.

L. Electrical Hookup
   1. Refer to the Wiring Diagram on the next page for the factory wiring of the limit switches and motor.
   2. Secure all lines at completion to the Access Cover with the nylon wire ties supplied.
   3. Try the door a few times under power until you are satisfied with the operation.

M. Secure the device by using the Cover Screws supplied to securely fasten the Housing Cover to the transom.

Special Components

A. See Approved Submittal for drawings and instructions
Special Electrical Components

A. See Approved Submittal for drawings and instructions

Wiring Diagram

This wiring diagram represents the wiring hook up for all standard *Series 2300 Sliding Door Operators*, if your facility has operators with non-standard conditions referenced in the Approved Submittal.
Series 2300 Rack & Pinion Corridor Device

A. Entry and Vestibule Door Operation Device – Door weight not to exceed 400 lbs

1. Housing unit entry and vestibule doors for Level III and Administrative Segregation Housing Units shall have fully automatic sliding doors with functions and components as follows:
   a. Unlock, open and lock open by electric switch, a 36 inch wide door in not more than eight seconds.
   b. Unlock, close and deadlock closed, by electric switch, a 36 inch door in not more that eight seconds.
   c. Stop the movement of any door in mid-travel, leaving the door fixed at that point, so that it cannot be moved by hand in either direction until mechanically released with the paracentric key at the door lock pilaster.
   d. Instantly reverse the direction of movement of any individual door.
   e. When a door is blocked and blocking object is removed, the door automatically continues movement to the open or closed position if switch is still depressed.
   f. Sally port or vestibule doors are able to be interlocked so that only one door can be opened at a time using electric controls. Interlocking circuit shall be provided at Control Console under provisions of Division 17.
   g. Force exerted by the door in travel is between 40 to 50 lbs.
   h. Each door automatically deadlocks closed at two concealed points at the rear of the door.
   i. Individual doors may be unlocked mechanically from both sides of the door by the same paracentric key.
   j. Each door has a limit switch at the closed end and rear deadlock to provide status indication. The Controls Contractor can use these switches for a red a light to indicate unlocked status and a green light to indicate closed and locked.

2. Components
   a. Motors are 1/10 HP., single phase, 120v, 60 Hertz U.L. listed as manufactured by Reliance Electric or equal. Motor draws no more than 1.5amp under full load current. Motor is thermal protected with automatic reset feature.
   b. #10 pitch x 14 1/2 degree rack & pinion and gear reducers are by nationally recognized manufacturer.

Door Device Transoms, Covers and Common Components

A. Door Device Transoms and Covers

1. Horizontal transoms for sliding door mechanisms are constructed of 3/16” steel plate. Transoms are either rectangular or sloped as indicated. Mezzanine level transoms are sloped 24 degrees. Transom covers are 10ga HR steel. All openings in transoms are baffled, including bottom slot for hanger to prevent wires or contraband from entering the transom.

2. Transom covers are hinged at the top of the track box and secured with security screws.

3. A wire tray is provided at the bottom of the transom.

4. Transom back plate is factory punched for anchor bolts.
6. The entire inside and outside of transom except rack, rollers and drive mechanism is painted with rust inhibiting primer.

B. Components

1. Vertical Lock Bar: Cover is constructed of 10ga HR steel. The vertical lock bar cover is not be removable unless the transom is opened and the door is removed.

2. Door Hanger and Guide: Is constructed of ¼" HR steel plate, 75% of door width. Hanger interlocks with the transom baffle not more than ¼". Door wall guide is constructed from 3/16" HR steel. The guides overlap a minimum of 1" vertically and 4" horizontally when the door is in the closed position. There is a 3/4" – 1” contact between lock bar and door guide and no more than 1/16 inch on either side and top to bottom.

3. Hanger Support Rollers: Turned from solid alloy steel, 2-3/4" OD. grooved 3/8" deep to engage on the 5/8" CR round steel track. Rollers have anti-friction ball bearings with hardened members and grease shields on both sides. Roller axles are ½” GR-5 hex head bolts with a self-locking nut.

4. Door Hanger Adjuster studs: ½” GR-5 hex head bolts with eccentric bushing for adjustment and a self-locking nut.

5. Door Stops: Heavy duty 2-1/2" rubber bumpers to quiet and cushion the door at each end of travel.

6. Receiver: 10ga HR steel 1” inside dimension.

Electrical Work

A. Factory Wiring

1. Internal wiring and final connections are provided within the transom of sliding door devices. Controls Contractor is responsible for hook up of wire harness to the terminal block at each door.

Fabrication - General

A. Factory assemble items where practicable, true to line and free of distortion of defects.

B. Welding

1. Steel and stainless steel components not plant fabricated shall be designed for field-welded connections.

2. Plug or stitch welds unless otherwise indicated.

3. Weld according to American Welding Society standards.

4. Remove burrs and rough edges.

C. Equipment is fully fabricated, assembled and finished, ready for final installation and as follows:

1. Work, including wiring, within transoms and emergency release cabinets for sliding doors shall be completed at the factory.

2. Hardware (when supplied by D.D.S.) that is essentially non-projecting shall be installed in doors and frames, at the factory, including the following:
   a. Mechanical locks and their associated strikes, keepers and escutcheons.
   b. Hinges, either screwed or welded, shall be fastened to the doors.
   c. Flush pulls.

3. Other hardware (when supplied by D.D.S.) shall be field installed; including door receiver, rear lock tube assembly, door hanger, door guide and wall guide.
4. The field installed hardware group for each opening shall be separately packaged, accompanying the doors and clearly identified with its opening.
PRODUCT WARRANTY

Warranty - Standard Products

DETENTION DEVICE SYSTEMS (DDS) warrants each standard product manufactured and sold by it to be free of defects in materials and workmanship for such period of time and under such conditions as are specified herein or as may be specified by DDS on the face of its quotation or otherwise reduced to writing and expressly approved by DDS. The warranty period so specified by DDS shall commence on the date of shipment from DDS to the original purchaser. If no period of time is stated, then DDS’s Warranty for Standard Products is limited to one (1) year from the date of delivery.

Repair or at DDS’s option, replacement of defective parts shall be the sole and exclusive remedy under warranty, provided that, DDS may, as an alternative, elect to refund an equitable portion of the purchase price of the Product, items expendable in normal use are not covered by this warranty. All warranty replacement or repair of parts shall be limited to Product malfunctions which, in the sole opinion of DDS, are due or traceable to defects in original materials or workmanship. All obligations of DDS under this warranty shall cease in the event of abuse, accident, alteration, misuse or neglect of the Product. In-warranty repaired or replacement parts are warranted only for the remaining unexpired portion of the original warranty period applicable to the repaired or replaced parts. After expiration of the applicable warranty period, Buyer shall be charged at the then current prices for parts, labor, and transportation.

Reasonable care must be used to avoid hazards. DDS expressly disclaims responsibility for loss or damage caused by use of its Products other than in accordance with proper operation procedures.

No warranty is provided by DDS for products sold hereunder which are not manufactured by DDS, but the manufacturer's warranty for such products, if any, shall be assigned to the Buyer without recourse to DDS.

THIS WARRANTY IS EXPRESSLY IN LIEU OF AND EXCLUDES ALL OTHER EXPRESSED OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR PARTICULAR PURPOSE, USE, OR APPLICATION, AND ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF DDS, UNLESS SUCH OTHER WARRANTIES, OBLIGATIONS OR LIABILITIES ARE EXPRESSLY AGREED TO IN WRITING BY DDS.

Warranty - Expendable Products

DDS warrants that at the time of delivery expendable items or Products manufactured and sold by it hereunder are free of defects in material and workmanship and conform with DDS’s specifications or other specifications expressly agreed to in writing by DDS, BUT DDS SHALL HAVE NO OTHER OR FURTHER RESPONSIBILITY THEREFORE, WHATSOEVER, AND DDS DISCLAIMS IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS WITH RESPECT THERETO.

Authorized By _____________________________  Date  ____________
PARTS LISTS

Note: When order parts for the following items, always refer first to the Door Number and the appropriate Part No.'s on the Bill of Materials. Some of the parts are sold as assembled items only.

Series 2300 General Assembly (LH as shown, RH opposite)
Carriage Assembly  (LH as shown, RH opposite)
Locking Device Assembly  (LH as shown, RH opposite)

Door Open Switch Assembly  (LH as shown, RH opposite)
ADDITIONAL CONDITIONS

Maintenance - Every 12 Months

- Check for loose bolts
- Check wires for tightness and make sure they are not interfering with any moving parts
- Check for abnormal wheel wear
- Clean out any debris buildup

Adjustments - Non Factory

- All adjustments to the device are to be made by Certified Factory Technicians only, any adjustments by un-authorized personnel will Void Warranty.

FACTORY INFORMATION

Location
Detention Device Systems
25545 Seaboard Lane
Hayward, California  94545

Hours
8:00 AM to 4:30 PM  Monday thru Friday except Holidays

Phones
(510) 783-0771
FAX (510) 783-5409 and (510) 785-4379
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