MOVFE 2500

LINEAR DOOR OPERATOR

MECHANICAL MANUAL

GAL CANADA

6500 Gottardo Court
Mississauga, Ontario
L5T 2A2 Canada
1 (416) 747-7967
1 (800) 446-4850
http://www.galcanada.com

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LINEAR

2500-3071

FOREWORD

It is the intent of this manual to give the reader certain key points of information critical to the proper installation of the door operator. It is not intended to give comprehensive installation procedures nor does it cover the installation of door headers, track, hangers, etcetera.

It is hoped that the procedures presented in this manual will reduce the installation and adjustment time and result in a smooth, long lasting door operation.

When properly installed, GAL door operators will give many years of trouble free service.

COMMENTS:

All GAL door operators are factory adjusted and tested for the actual job requirements. When installed correctly, they may require minor adjustments to suit actual job conditions.

IMPORTANT NOTES:

All equipment must be installed, adjusted, tested and maintained to comply with all Federal, State/Provincial, and Local codes.

Kinetic Energy and Stall Force must be adjusted to comply with ASME, A17.1, Rule 112.4/5, and CSA/B44, Rule 2.13.4/5.

Before mounting the operator, check that the car door is plumb, free and moves easily without bind. Check the attached standard measurement sheets. Install the operator according to the measurements supplied.

Contact GAL if the following label is missing from the door operator.

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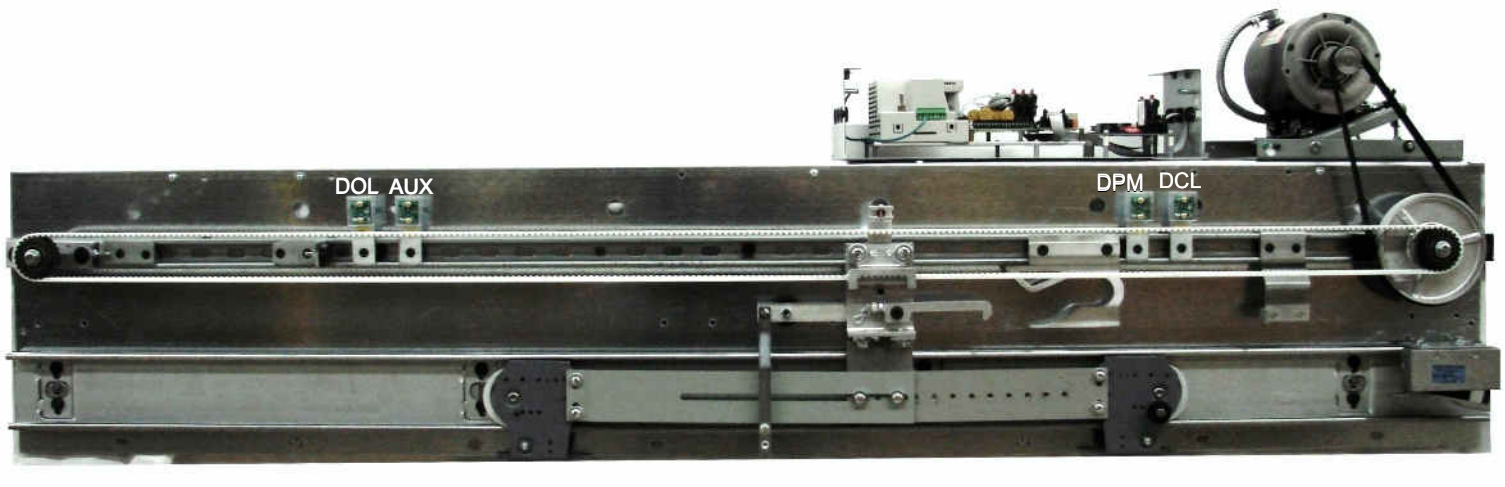
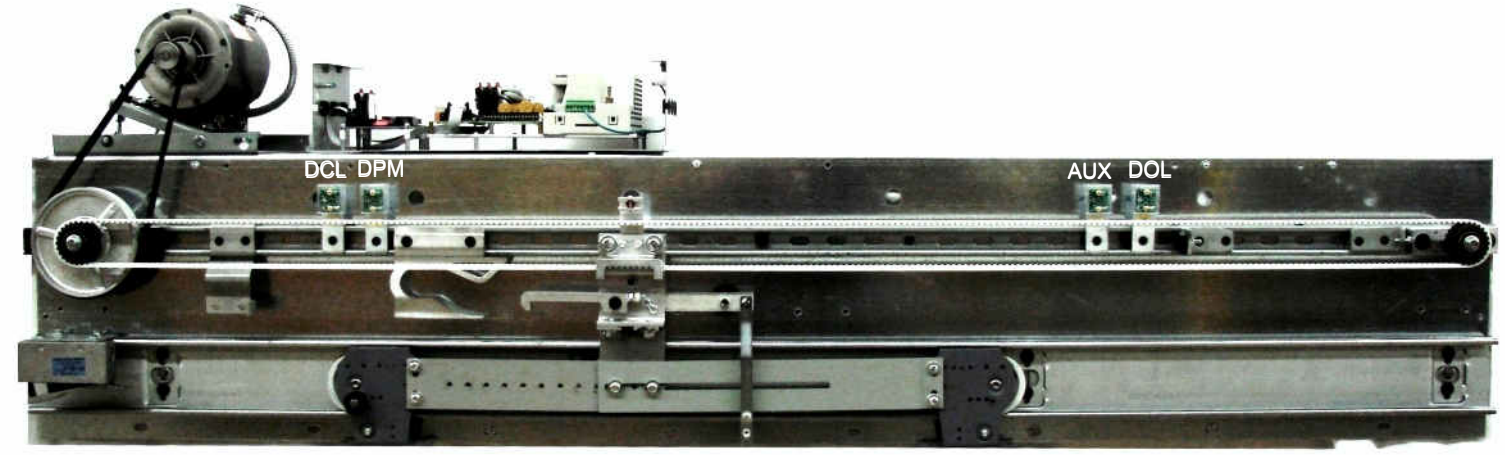
NOTES

ILLUSTRATIONS OF THE MOVFE2500 LINEAR DOOR OPERATORS

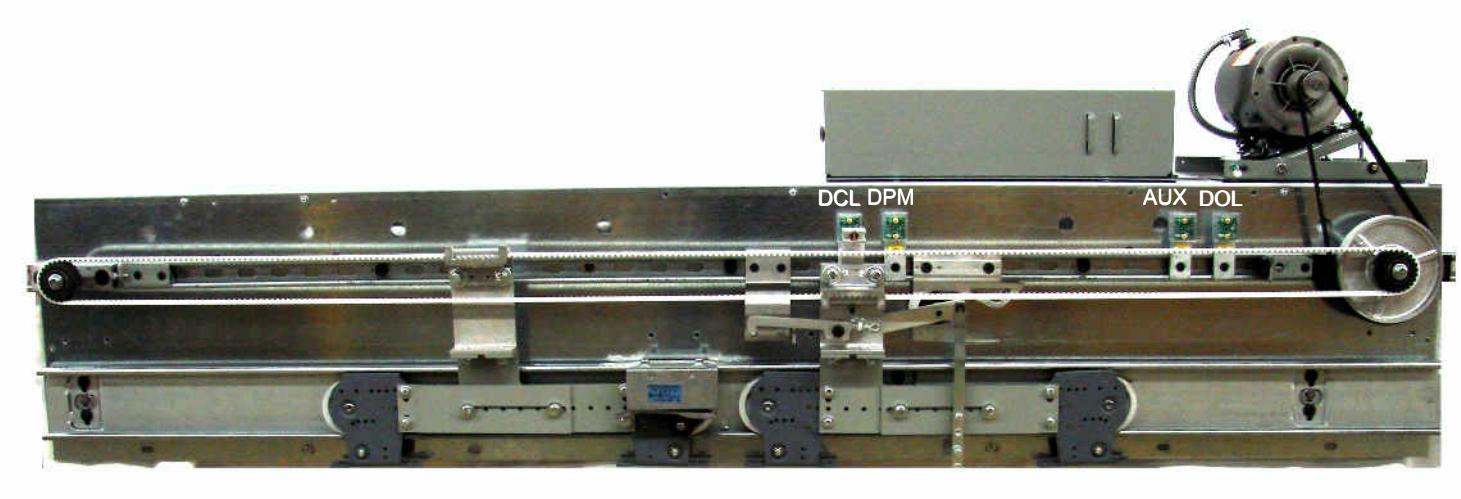
MOVFE2500 linear door operator utilizes a ½ HP AC motor for the heavy duty models and 91W AC geared motor for light duty models. The controller includes a closed-loop VVVF Drive, 3 basic hall-effect sensor boards, 1 optional hall-effect sensor board for the narrower door, and an optional I/O board for special jobs. The following illustrations show 3 available models for each type: Right hand, Left hand and Center Parting.



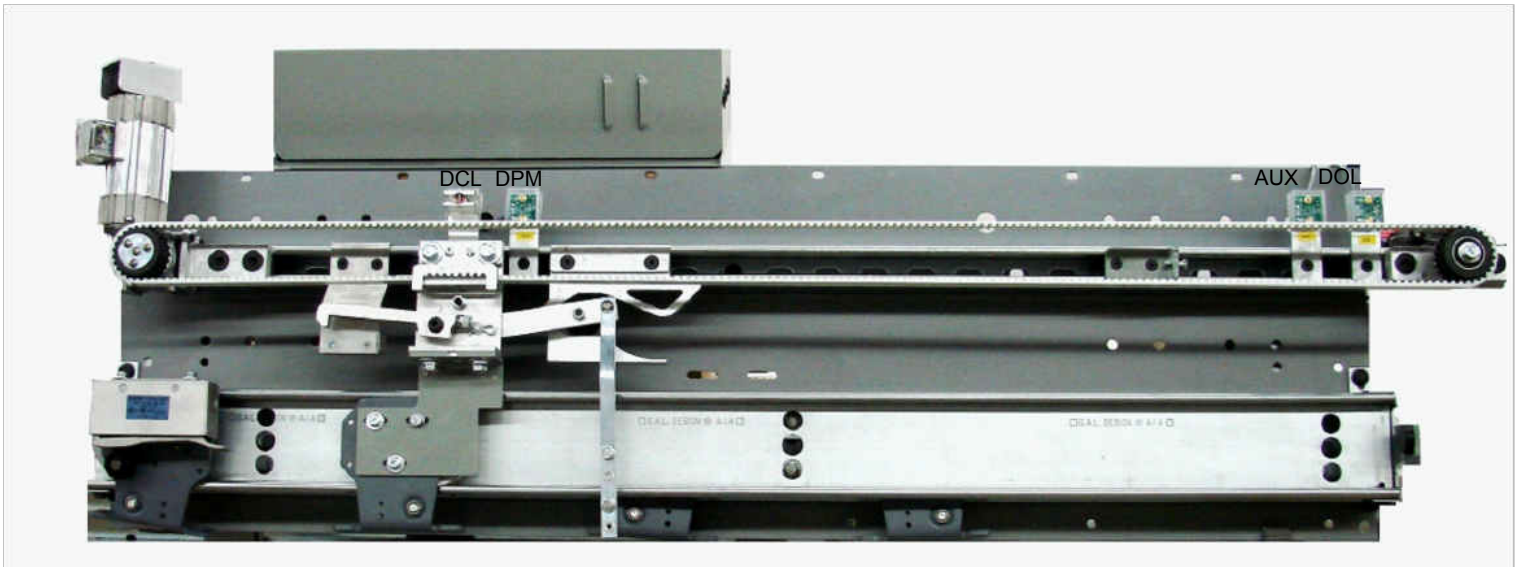
RIGHT HAND HEAVY DUTY LINEAR MODEL



LEFT HAND HEAVY DUTY LINEAR MODEL



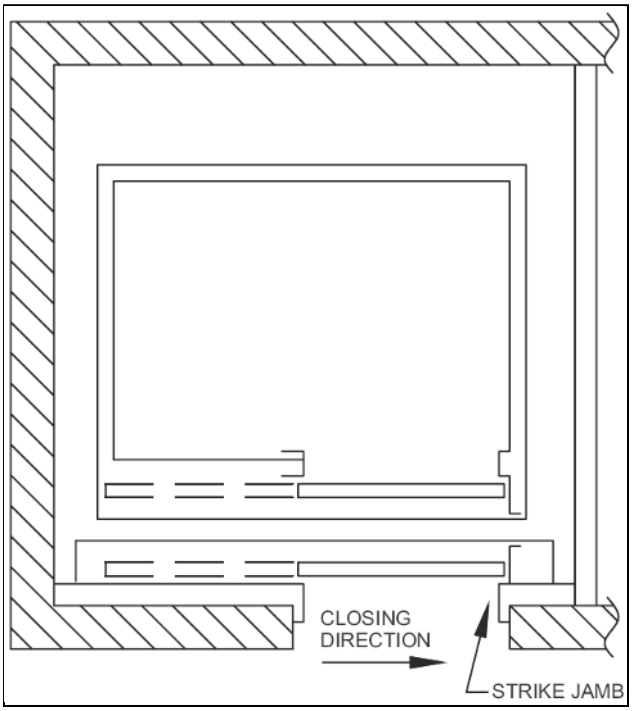
CENTRE PARTING HEAVY DUTY LINEAR MODEL



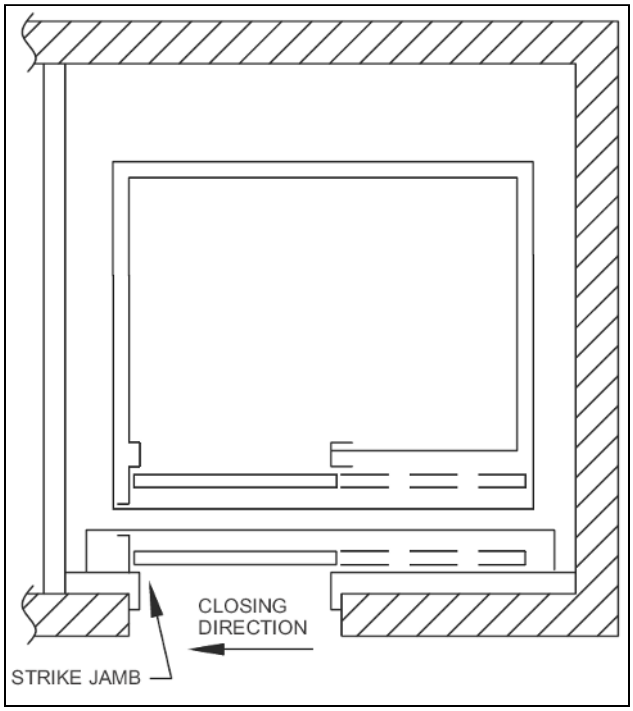
LEFT HAND 2 SPEED LIGHT DUTY LINEAR MODEL

DETERMINING THE HAND OF THE DOOR

GAL door operators are available for Right hand doors, Left hand doors and Center Parting doors. To determine the hand of the door, stand in the lobby facing the elevator door(s). If the door closes to the Left, it is a Left hand door. If the door closes to the Right it is a Right hand door. The Left hand, Center parting and Right hand operators are **field interchangeable**. Figures below illustrate the door hand.



RIGHT HAND DOOR



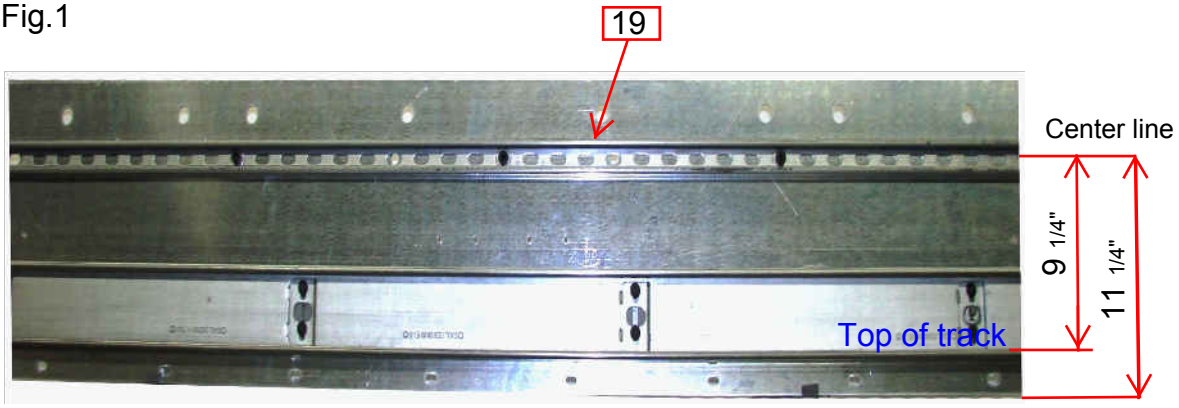
LEFT HAND DOOR

MECHANICAL SETUP INSTRUCTIONS

Determine the door and hanger type of the system.

I. Side Opening (S/O), left or right hand, and single-piece hanger.
II. Side Opening (S/O), left or right hand, and two-piece hanger.
III. Center parting (C/P) door and a single piece hanger.
IV. Center parting (C/P) door and two piece hanger.

1. If the header has not yet been installed; mount the fixing strut # 19 onto the header before installing the header assembly.
   Fasten the header with five ½" bolts at a distance of 9¼" from the track rolling surface.
   The fixing strut length should be equal to or longer than the header width, as shown in the Fig.1

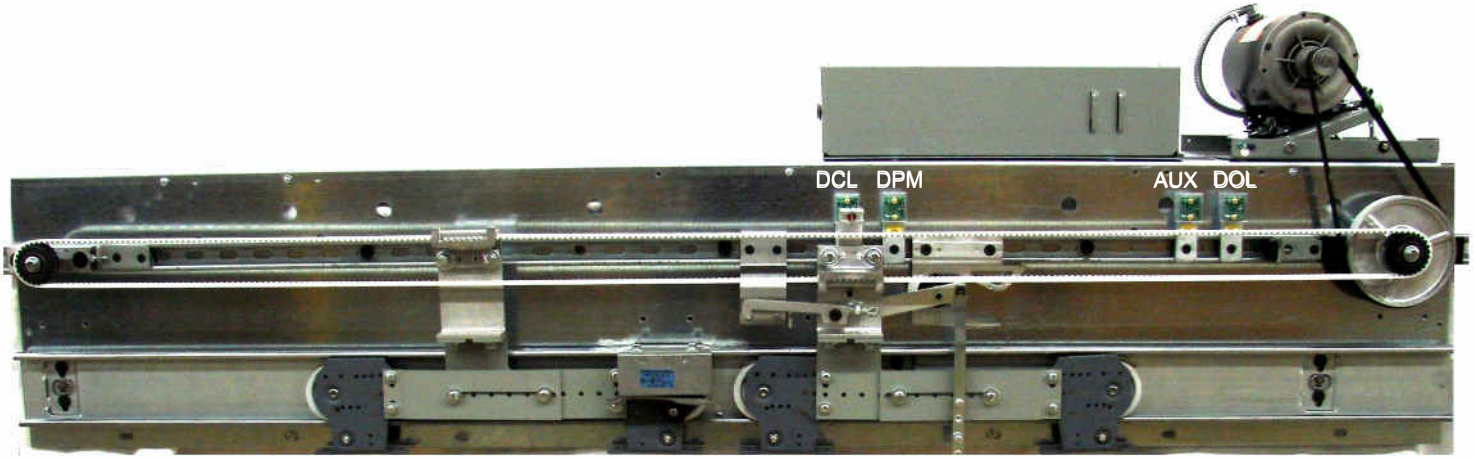


HEADER PLATE & TRACK

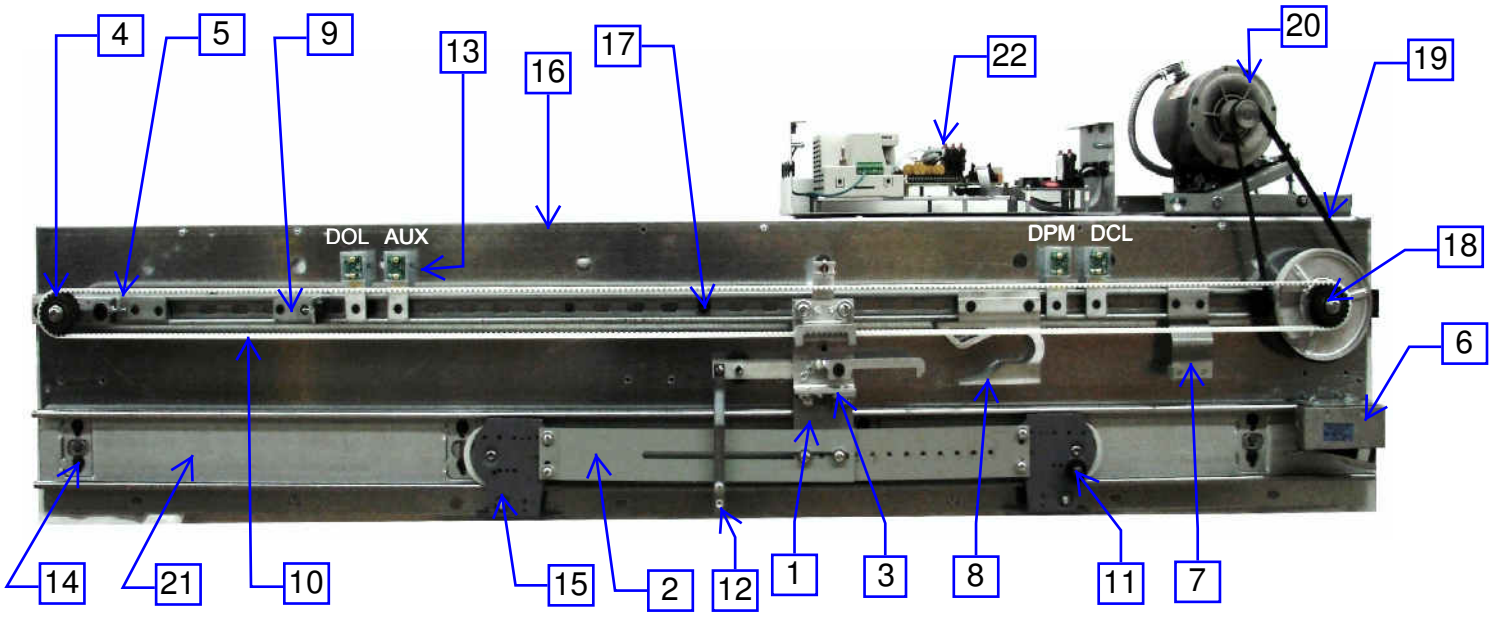
Figure 1

2. Check the distance from the door track centerline to the face of the header. Distance should be 1¼". If the centerline of the track is farther than 1¼" from header, you need to shim the strut by the difference. Misalignment would cause wear and noise to the belt.

3. Install the car door hangers, if necessary.



CENTRE PARTING



SINGLE SLIDE RH SHOWN

Figure 3

4. Mount the universal plate # 1 or # 23 (C/P) with bend towards the door open side using four 5/16” bolts.

5. For the two-piece hanger system, mount the extension arm # 2 or # 24 (C/P) to the opposite hanger and secure to the universal plate # 1 or # 23 with 5/16 bolts.

6. For the single-piece hanger system, mount the universal plate # 1 or # 23 directly to the hanger, using at least two 5/16” bolts.

7. Install the belt bracket # 3 onto the top of the universal plate # 1 or # 23 with the clutch roller facing the header. Use 3/8” bolts.

8. For the keeper clutch installation refer to Fig. 3 for S/O door, Or Fig. 4 for C/P doors. For the standard clutch assemblies, item # 7 and hook are not used.

9. Insert the drive pulley # 18 and pulley # 4 at the extreme ends of the fixing strut or header plate. For S/O doors, locate the motor control unit # 20 on the closing side, collinear with the header plate. For the C/P doors, locate the motor control unit # 20 on the right side looking from the hall. The two pulleys can be mounted reversed if the car top does not allow the space for the control Box # 22 on the correct side.

10. Hang the motor belt # 19 loosely onto the large pulley.

11. Position the DCL, DPM, DOL, and AUX. hall-effect sensors. Header plate comes pre-drilled, with 7/8" holes, with plastic window bushings, Heyco # 2874, for best cable protection.

12. Feed the hall sensor cables to the back of the header. Later, these will be inserted into the Signals transfer board inside the control box. # 22

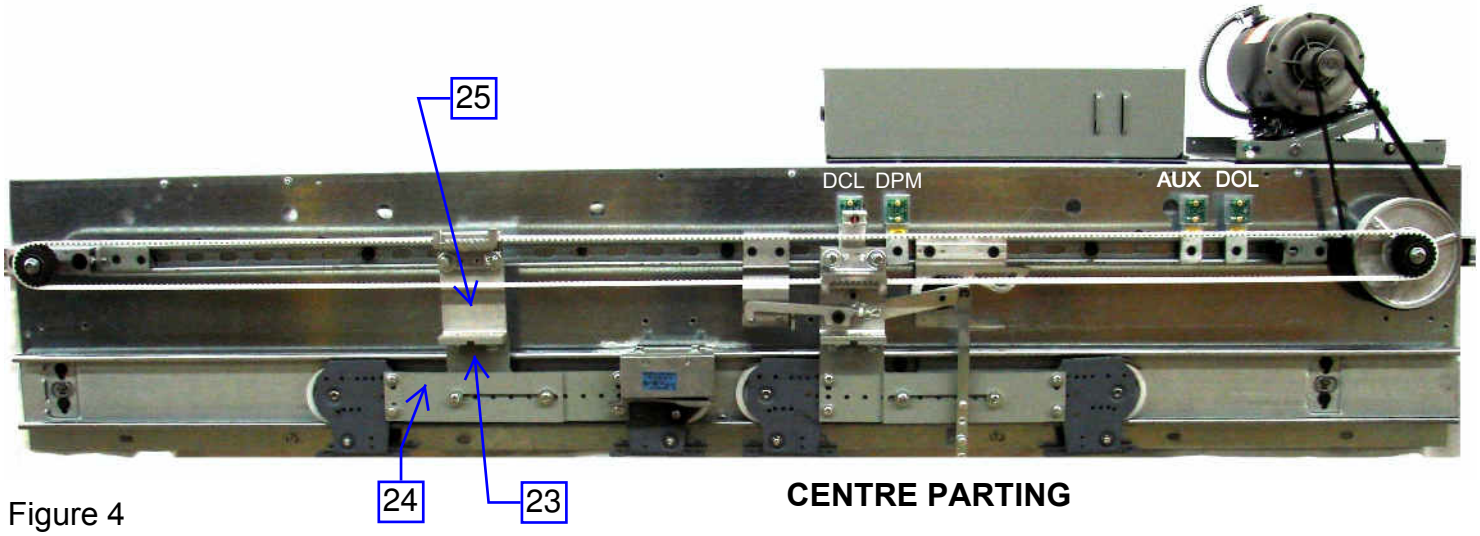


Figure 4 **CENTRE PARTING**

13. Mount the tension block # 5 to the fixing strut. Put the hex screw toward the take up pulley.

14. With the door in fully opened position, install the open door stop # 9 in contact with the lower belt Bracket # 3. Firmly secure the stop.

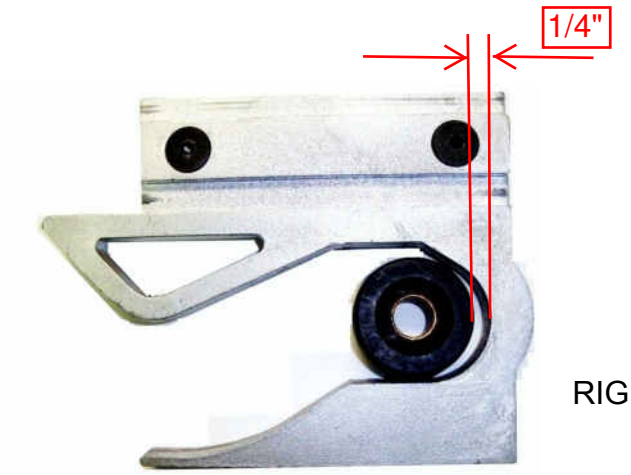
15. Locate the gate switch assembly # 6 underneath large pulley at closed position.
For S/O doors refer to Fig. 3. For C/P doors refer to Fig. 4.The gate switch roller # 11 on the Sheave bracket has to engage the flipper fully.

To install the gate switch on a single piece hanger you will have to drill an 11/32” hole in the Hanger Tighten the gate switch assembly.

16. If the keeper style clutch is being used; mount the keeper bracket # 7 to the right for R.H. or left, for L.H. (item # 3 on Fig. 3) Secure the keeper bracket assembly.

17. With the door in fully closed position, place the clutch cam # 8 as shown in Fig. 3. Adjust the clutch cam so that the short release bar is fully retracted.
With the door slightly open, adjust the eccentric roller on the back of the belt bracket # 3 to keep the roller in position. Use a 5/32” Allen key and 1/2” open-end wrench. Secure the clutch assembly.

IMPORTANT: A minimum 1/4” space is required between the roller and the inside of the clutch Cam #8.



RIGHT HAND SHOWN

18. Install drive belt # 10 and clamp the two open ends equally in the lower belt bracket # 3, cutting is required for desired length. C/P doors need clamping in upper belt bracket # 25, as well, see Fig. 4. Move the doors from closed to open position and adjust the belt brackets so that belts are parallel to each other looking from top.

19. Tension the drive belt with the tension block # 5 so that the upper and lower sides can be Squeezed, together using moderate pressure. (A loose belt can jump teeth. An overly tightened belt is noisy.)

20. Install the motor operator unit assembly # 20. It is extremely important that the motor axle is, parallel to the drive pulley axle. Rubber pads are supplied to shim between, header Angles, and drive unit box assembly. This will reduce noise and vibration.

21. Lower the motor mounting plate to its bottom position. Install the motor belt # 19 over the motor pulley and slide the motor control box into the correct position. Hand-tighten the clamping bars. Correct the pulley alignment with a straight edge. This is the most critical part of the installation to reduce belt wear, noise and vibration.

22. Tension the motor belt # 19 by means of adjusting the wing nuts on the motor mounting plate equally. Do not over tighten the motor belt.

23. Secure the motor control box by tightening the clamps and doweling. Move the doors by hand to verify proper operation.

24. Start the electrical set up.

CENTRE PARTING

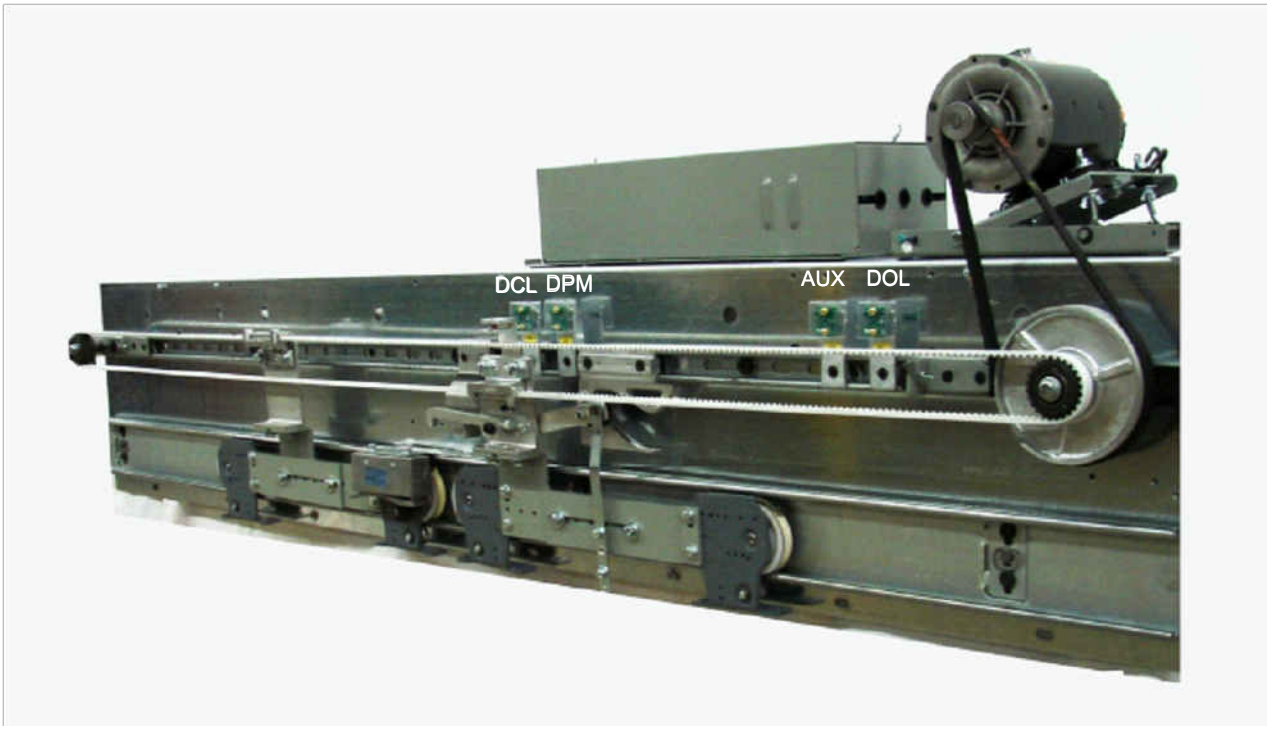


Figure 5

Requirement 2.13.4.2.4 of ASME A17.1 2000 stipulates that a data tag must be attached to the door operator or car crosshead. If you are in a jurisdiction that has adopted the 2000 code, you need to read and understand this requirement, and all of the related requirements. (see attached)

The data tag is required to show:

- The minimum closing code time for the door system that will result in average kinetic energy of less than 7.37 foot-pounds.
- The minimum code closing time for the door system, when in nudging, that will result in average kinetic energy of less than 2.5 foot-pounds.

The attached data tables are designed to give GAL customers the information necessary to comply with these requirements. If you use all GAL equipment, and follow GAL instructions, these sheets will give you the minimum closing code time for all of the normal door configurations, sizes, and operator models available.

Notes:

Code Closing Distance / Time

On side opening, the code distance starts 2" from the jamb and goes to 2" from full close. (opening size – 4") On center opening, code distance starts 1" from the jamb and goes to 1" from full close. (still opening size – 4") Times shown are minimums for the code closing distance

Average Kinetic Energy (7.37 ft lbs)

This is the requirement for which the times shown on the data tables were calculated. The rotational inertia of the motor and operator is included in these calculations. GAL's calculations include equipment rigidly connected thereto and accommodate all hangers, rollers, clutches, closers, releases, and any normal reopening devices

Actual (peak) Kinetic Energy (17 ft lbs)

Using GAL equipment and following GAL instructions, you will not exceed the requirement for actual (peak) KE.

Nudging Kinetic Energy (2.5 ft lbs)

If taking the minimum closing code time for your application and doubling it, you will have a safe time to use for the requirement under nudging. (Note – this is a very conservative time, if you want to close your door more quickly while in nudging, call GAL for an absolute minimum)

Non Standard Systems

A non-standard application, like three speed doors, or panels that are so heavy or light that they fall outside the range shown on the data tables, you can call GAL and we will calculate closing code time for your job.

The following paragraphs are excerpted from ASME 17.1 2000. They are provided here for your convenience only.

2.13.4.2.4 Data Plate. A data plate conforming to 2.16.3.3 shall be attached to the power door operator or to the car crosshead and shall contain the following information:
(a) minimum door closing time in seconds for the doors to travel the code zone distance as specified in 2.13.4.2.2 corresponding to the kinetic energy limits specified in 2.13.4.2.1(b)(2);
(b) minimum door closing time in seconds for the doors to travel the Code zone distance as specified in 2.13.4.2.2 corresponding to the kinetic energy limits specified in 2.13.4.2.1(c)(2), if applicable [see 2.27.3.1.6(e)];

(c) where heavier hoistway doors are used at certain floors, the minimum door closing time in seconds corresponding to the kinetic energy limits specified in 2.13.4.2.1(b)(2) and 2.13.4.2.1(c)(2), if applicable, for the corresponding floors shall be included on the data plate.

2.13.4.2.1 Kinetic Energy…

(a) Where the hoistway door and the car door/gate are closed in such a manner that stopping either one manually will stop both, the kinetic energy of the closing door system shall be based upon the sum of the hoistway and the car door weights, as well as all parts rigidly connected thereto, including the rotational inertia effects of the door operator and the connecting transmission to the door panels.

(b)Where a reopening device conforming to 2.13.5 is used, the closing door system shall conform to the following requirements.

(1) The kinetic energy computed for the actual closing speed at any point in the Code zone distance defined by 2.13.4.2.2 shall not exceed 23 J (17 ft-lbf); and
(2) The kinetic energy computed for the average closing speed as determined in accordance with 2.13.4.2.2 shall not exceed 10 J (7.37 ft-lbf).

(c) Where a reopening device is not used, or has been rendered inoperative (see 2.13.5), the closing door system shall conform to the following requirements:

(1) The kinetic energy computed for the actual closing speed at any point in the code zone distance defined by 2.13.4.2.2 shall not exceed 8 J (6 ft-lbf).
(2) The kinetic energy computed for the average closing speed within the code zone distance (see 2.13.4.2.2), or in any exposed opening width, including the last increment of door travel, shall not exceed 3.5 J (2.5 ft-lbf).

The following tables show the minimum closing code time for MOVFE2500 doors:

NOTE:

The term “Door Weight” in the tables refers to the combined weight of all doors, including all car door (s) and all hoistway door(s) (of one floor only).

Also, note that if the weight of the hoistway door(s) varies by floor, different settings of the code distance closing time must be used from the table.

MINIMUM CLOSING TIME FOR SINGLE SPEED S/O DOOR

Heavy Duty Linear Operator

SINGLE SPEED SLIDING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
30"	225	39	26	7.37	1.89	3.24
	250	39	26	7.37	1.96	3.35
	275	39	26	7.37	2.02	3.45
	300	39	26	7.37	2.08	3.56
	325	39	26	7.37	2.14	3.66
	350	39	26	7.37	2.20	3.75
	375	39	26	7.37	2.25	3.85
	400	39	26	7.37	2.31	3.94
32"	225	39	28	7.37	2.04	3.48
	250	39	28	7.37	2.11	3.60
	275	39	28	7.37	2.17	3.72
	300	39	28	7.37	2.24	3.83
	325	39	28	7.37	2.30	3.94
	350	39	28	7.37	2.36	4.04
	375	39	28	7.37	2.42	4.14
	400	39	28	7.37	2.48	4.24
34"	250	39	30	7.37	2.26	3.86
	275	39	30	7.37	2.33	3.98
	300	39	30	7.37	2.40	4.10
	325	39	30	7.37	2.47	4.22
	350	39	30	7.37	2.53	4.33
	375	39	30	7.37	2.60	4.44
	400	39	30	7.37	2.66	4.55
	425	39	30	7.37	2.72	4.65
36"	275	39	32	7.37	2.48	4.25
	300	39	32	7.37	2.56	4.38
	325	39	32	7.37	2.63	4.50
	350	39	32	7.37	2.70	4.62
	375	39	32	7.37	2.77	4.74
	400	39	32	7.37	2.84	4.85
	425	39	32	7.37	2.90	4.96
	450	39	32	7.37	2.97	5.07
38"	275	39	34	7.37	2.64	4.51
	300	39	34	7.37	2.72	4.65
	325	39	34	7.37	2.80	4.78
	350	39	34	7.37	2.87	4.91
	375	39	34	7.37	2.94	5.03
	400	39	34	7.37	3.01	5.15
	425	39	34	7.37	3.08	5.27
	450	39	34	7.37	3.15	5.39
40"	275	39	36	7.37	2.80	4.78
	300	39	36	7.37	2.88	4.92
	325	39	36	7.37	2.96	5.06
	350	39	36	7.37	3.04	5.20
	375	39	36	7.37	3.12	5.33
	400	39	36	7.37	3.19	5.46
	425	39	36	7.37	3.27	5.58
	450	39	36	7.37	3.34	5.71

SINGLE SPEED SLIDING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
42"	325	39	38	7.37	3.12	5.34
	350	39	38	7.37	3.21	5.49
	375	39	38	7.37	3.29	5.63
	400	39	38	7.37	3.37	5.76
	425	39	38	7.37	3.45	5.89
	450	39	38	7.37	3.52	6.02
	475	39	38	7.37	3.60	6.15
	500	39	38	7.37	3.67	6.27
44"	325	39	40	7.37	3.29	5.62
	350	39	40	7.37	3.38	5.77
	375	39	40	7.37	3.46	5.92
	400	39	40	7.37	3.55	6.06
	425	39	40	7.37	3.63	6.20
	450	39	40	7.37	3.71	6.34
	475	39	40	7.37	3.79	6.47
	500	39	40	7.37	3.86	6.60
46"	350	39	42	7.37	3.55	6.06
	375	39	42	7.37	3.64	6.22
	400	39	42	7.37	3.72	6.37
	425	39	42	7.37	3.81	6.51
	450	39	42	7.37	3.89	6.66
	475	39	42	7.37	3.98	6.80
	500	39	42	7.37	4.06	6.94
	525	39	42	7.37	4.13	7.07
48"	375	39	44	7.37	3.81	6.51
	400	39	44	7.37	3.90	6.67
	425	39	44	7.37	3.99	6.82
	450	39	44	7.37	4.08	6.97
	475	39	44	7.37	4.16	7.12
	500	39	44	7.37	4.25	7.27
	525	39	44	7.37	4.33	7.41
	550	39	44	7.37	4.41	7.55
50"	375	39	46	7.37	3.98	6.81
	400	39	46	7.37	4.08	6.97
	425	39	46	7.37	4.17	7.13
	450	39	46	7.37	4.26	7.29
	475	39	46	7.37	4.35	7.44
	500	39	46	7.37	4.44	7.60
	525	39	46	7.37	4.53	7.74
	550	39	46	7.37	4.61	7.89
52"	400	39	48	7.37	4.26	7.28
	425	39	48	7.37	4.35	7.44
	450	39	48	7.37	4.45	7.61
	475	39	48	7.37	4.54	7.77
	500	39	48	7.37	4.63	7.93
	525	39	48	7.37	4.73	8.08
	550	39	48	7.37	4.81	8.23
	600	39	48	7.37	4.99	8.53

MINIMUM CLOSING TIME FOR TWO SPEED S/O DOOR

Heavy Duty Linear Operator

TWO SPEED SLIDING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
30"	225	50	26	7.37	1.69	2.89
	250	50	26	7.37	1.73	2.97
	275	50	26	7.37	1.78	3.04
	300	50	26	7.37	1.82	3.12
	325	50	26	7.37	1.86	3.19
	350	50	26	7.37	1.90	3.26
	375	50	26	7.37	1.94	3.33
	400	50	26	7.37	1.98	3.39
32"	225	50	28	7.37	1.82	3.11
	250	50	28	7.37	1.87	3.19
	275	50	28	7.37	1.92	3.28
	300	50	28	7.37	1.96	3.35
	325	50	28	7.37	2.01	3.43
	350	50	28	7.37	2.05	3.51
	375	50	28	7.37	2.09	3.58
	400	50	28	7.37	2.14	3.65
34"	250	50	30	7.37	2.00	3.42
	275	50	30	7.37	2.05	3.51
	300	50	30	7.37	2.10	3.59
	325	50	30	7.37	2.15	3.68
	350	50	30	7.37	2.20	3.76
	375	50	30	7.37	2.24	3.84
	400	50	30	7.37	2.29	3.92
	425	50	30	7.37	2.33	3.99
36"	275	50	32	7.37	2.19	3.74
	300	50	32	7.37	2.24	3.83
	325	50	32	7.37	2.29	3.92
	350	50	32	7.37	2.34	4.01
	375	50	32	7.37	2.39	4.09
	400	50	32	7.37	2.44	4.18
	425	50	32	7.37	2.49	4.26
	450	50	32	7.37	2.54	4.34
38"	275	50	34	7.37	2.33	3.98
	300	50	34	7.37	2.38	4.07
	325	50	34	7.37	2.44	4.17
	350	50	34	7.37	2.49	4.26
	375	50	34	7.37	2.54	4.35
	400	50	34	7.37	2.59	4.44
	425	50	34	7.37	2.65	4.52
	450	50	34	7.37	2.69	4.61
40"	300	50	36	7.37	2.52	4.31
	325	50	36	7.37	2.58	4.41
	350	50	36	7.37	2.64	4.51
	375	50	36	7.37	2.69	4.60
	400	50	36	7.37	2.75	4.70
	425	50	36	7.37	2.80	4.79
	450	50	36	7.37	2.85	4.88
	475	50	36	7.37	2.90	4.97
42"	325	50	38	7.37	2.72	4.66
	350	50	38	7.37	2.78	4.76
	375	50	38	7.37	2.84	4.86
	400	50	38	7.37	2.90	4.96
	425	50	38	7.37	2.96	5.06
	450	50	38	7.37	3.01	5.15
	475	50	38	7.37	3.07	5.24
	500	50	38	7.37	3.12	5.33
44"	325	50	40	7.37	2.87	4.90
	350	50	40	7.37	2.93	5.01
	375	50	40	7.37	2.99	5.12
	400	50	40	7.37	3.05	5.22
	425	50	40	7.37	3.11	5.32
	450	50	40	7.37	3.17	5.42
	475	50	40	7.37	3.23	5.52
	500	50	40	7.37	3.28	5.62

TWO SPEED SLIDING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
46"	350	50	42	7.37	3.08	5.26
	375	50	42	7.37	3.14	5.37
	400	50	42	7.37	3.21	5.48
	425	50	42	7.37	3.27	5.59
	450	50	42	7.37	3.33	5.69
	475	50	42	7.37	3.39	5.80
	500	50	42	7.37	3.45	5.90
	525	50	42	7.37	3.51	6.00
48"	375	50	44	7.37	3.29	5.63
	400	50	44	7.37	3.36	5.74
	425	50	44	7.37	3.42	5.85
	450	50	44	7.37	3.49	5.96
	475	50	44	7.37	3.55	6.07
	500	50	44	7.37	3.61	6.18
	525	50	44	7.37	3.67	6.28
	550	50	44	7.37	3.73	6.38
50"	375	50	46	7.37	3.44	5.88
	400	50	46	7.37	3.51	6.00
	425	50	46	7.37	3.58	6.12
	450	50	46	7.37	3.65	6.23
	475	50	46	7.37	3.71	6.35
	500	50	46	7.37	3.78	6.46
	525	50	46	7.37	3.84	6.57
	550	50	46	7.37	3.90	6.67
52"	400	50	48	7.37	3.66	6.26
	425	50	48	7.37	3.73	6.39
	450	50	48	7.37	3.80	6.51
	475	50	48	7.37	3.87	6.62
	500	50	48	7.37	3.94	6.74
	525	50	48	7.37	4.01	6.85
	550	50	48	7.37	4.07	6.96
	575	50	48	7.37	4.14	7.07
54"	400	50	50	7.37	3.82	6.53
	425	50	50	7.37	3.89	6.65
	450	50	50	7.37	3.96	6.78
	475	50	50	7.37	4.03	6.90
	500	50	50	7.37	4.10	7.02
	525	50	50	7.37	4.17	7.14
	550	50	50	7.37	4.24	7.25
	575	50	50	7.37	4.31	7.37
56"	400	50	52	7.37	3.97	6.79
	425	50	52	7.37	4.05	6.92
	450	50	52	7.37	4.12	7.05
	475	50	52	7.37	4.20	7.17
	500	50	52	7.37	4.27	7.30
	525	50	52	7.37	4.34	7.42
	550	50	52	7.37	4.41	7.54
	575	50	52	7.37	4.48	7.66
58"	425	50	54	7.37	4.20	7.18
	450	50	54	7.37	4.28	7.32
	475	50	54	7.37	4.36	7.45
	500	50	54	7.37	4.43	7.58
	525	50	54	7.37	4.51	7.71
	550	50	54	7.37	4.58	7.83
	575	50	54	7.37	4.65	7.96
	600	50	54	7.37	4.72	8.08
59"	450	50	55	7.37	4.36	7.45
	475	50	55	7.37	4.44	7.59
	500	50	55	7.37	4.52	7.72
	525	50	55	7.37	4.59	7.85
	550	50	55	7.37	4.67	7.98
	575	50	55	7.37	4.74	8.10
	600	50	55	7.37	4.81	8.23
	625	50	55	7.37	4.88	8.35

MINIMUM CLOSING TIME FOR SINGLE SPEED C/P DOOR

Heavy Duty Linear Operator

SINGLE SPEED CENTER PARTING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance **per side** (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
30"	225	50	13	7.37	0.96	1.64
	250	50	13	7.37	0.99	1.70
	275	50	13	7.37	1.02	1.75
	300	50	13	7.37	1.05	1.80
	325	50	13	7.37	1.08	1.85
	350	50	13	7.37	1.11	1.90
	375	50	13	7.37	1.14	1.94
	400	50	13	7.37	1.16	1.99
32"	225	50	14	7.37	1.03	1.77
	250	50	14	7.37	1.07	1.83
	275	50	14	7.37	1.10	1.88
	300	50	14	7.37	1.13	1.94
	325	50	14	7.37	1.16	1.99
	350	50	14	7.37	1.20	2.04
	375	50	14	7.37	1.22	2.09
	400	50	14	7.37	1.25	2.14
34"	250	50	15	7.37	1.14	1.96
	275	50	15	7.37	1.18	2.02
	300	50	15	7.37	1.21	2.08
	325	50	15	7.37	1.25	2.13
	350	50	15	7.37	1.28	2.19
	375	50	15	7.37	1.31	2.24
	400	50	15	7.37	1.34	2.30
	425	50	15	7.37	1.37	2.35
36"	275	50	16	7.37	1.26	2.15
	300	50	16	7.37	1.30	2.22
	325	50	16	7.37	1.33	2.28
	350	50	16	7.37	1.37	2.34
	375	50	16	7.37	1.40	2.39
	400	50	16	7.37	1.43	2.45
	425	50	16	7.37	1.47	2.51
	450	50	16	7.37	1.50	2.56
38"	275	50	17	7.37	1.34	2.29
	300	50	17	7.37	1.38	2.35
	325	50	17	7.37	1.41	2.42
	350	50	17	7.37	1.45	2.48
	375	50	17	7.37	1.49	2.54
	400	50	17	7.37	1.52	2.60
	425	50	17	7.37	1.56	2.66
	450	50	17	7.37	1.59	2.72
40"	300	50	18	7.37	1.46	2.49
	325	50	18	7.37	1.50	2.56
	350	50	18	7.37	1.54	2.63
	375	50	18	7.37	1.57	2.69
	400	50	18	7.37	1.61	2.76
	425	50	18	7.37	1.65	2.82
	450	50	18	7.37	1.68	2.88
	475	50	18	7.37	1.72	2.94
42"	325	50	19	7.37	1.58	2.70
	350	50	19	7.37	1.62	2.77
	375	50	19	7.37	1.66	2.84
	400	50	19	7.37	1.70	2.91
	425	50	19	7.37	1.74	2.98
	450	50	19	7.37	1.78	3.04
	475	50	19	7.37	1.81	3.10
	500	50	19	7.37	1.85	3.16
44"	325	50	20	7.37	1.66	2.85
	350	50	20	7.37	1.71	2.92
	375	50	20	7.37	1.75	2.99
	400	50	20	7.37	1.79	3.06
	425	50	20	7.37	1.83	3.13
	450	50	20	7.37	1.87	3.20
	475	50	20	7.37	1.91	3.27
	500	50	20	7.37	1.95	3.33

SINGLE SPEED CENTER PARTING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance **per side** (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
46"	350	50	21	7.37	1.79	3.07
	375	50	21	7.37	1.84	3.14
	400	50	21	7.37	1.88	3.22
	425	50	21	7.37	1.92	3.29
	450	50	21	7.37	1.96	3.36
	475	50	21	7.37	2.01	3.43
	500	50	21	7.37	2.05	3.50
	525	50	21	7.37	2.08	3.56
48"	375	50	22	7.37	1.92	3.29
	400	50	22	7.37	1.97	3.37
	425	50	22	7.37	2.01	3.45
	450	50	22	7.37	2.06	3.52
	475	50	22	7.37	2.10	3.59
	500	50	22	7.37	2.14	3.66
	525	50	22	7.37	2.18	3.73
	550	50	22	7.37	2.22	3.80
50"	375	50	23	7.37	2.01	3.44
	400	50	23	7.37	2.06	3.52
	425	50	23	7.37	2.11	3.60
	450	50	23	7.37	2.15	3.68
	475	50	23	7.37	2.20	3.76
	500	50	23	7.37	2.24	3.83
	525	50	23	7.37	2.28	3.90
	550	50	23	7.37	2.32	3.98
52"	400	50	24	7.37	2.15	3.68
	425	50	24	7.37	2.20	3.76
	450	50	24	7.37	2.25	3.84
	475	50	24	7.37	2.29	3.92
	500	50	24	7.37	2.34	4.00
	525	50	24	7.37	2.38	4.07
	550	50	24	7.37	2.43	4.15
	575	50	24	7.37	2.47	4.22
54"	400	50	25	7.37	2.24	3.83
	425	50	25	7.37	2.29	3.92
	450	50	25	7.37	2.34	4.00
	475	50	25	7.37	2.39	4.08
	500	50	25	7.37	2.43	4.16
	525	50	25	7.37	2.48	4.24
	550	50	25	7.37	2.53	4.32
	575	50	25	7.37	2.57	4.40
56"	400	50	26	7.37	2.33	3.98
	425	50	26	7.37	2.38	4.07
	450	50	26	7.37	2.43	4.16
	475	50	26	7.37	2.48	4.25
	500	50	26	7.37	2.53	4.33
	525	50	26	7.37	2.58	4.41
	550	50	26	7.37	2.63	4.49
	575	50	26	7.37	2.67	4.57
58"	425	50	27	7.37	2.47	4.23
	450	50	27	7.37	2.53	4.32
	475	50	27	7.37	2.58	4.41
	500	50	27	7.37	2.63	4.50
	525	50	27	7.37	2.68	4.58
	550	50	27	7.37	2.73	4.67
	575	50	27	7.37	2.78	4.75
	600	50	27	7.37	2.83	4.83
59"	450	50	27.5	7.37	2.57	4.40
	475	50	27.5	7.37	2.63	4.49
	500	50	27.5	7.37	2.68	4.58
	525	50	27.5	7.37	2.73	4.67
	550	50	27.5	7.37	2.78	4.75
	575	50	27.5	7.37	2.83	4.84
	600	50	27.5	7.37	2.88	4.92
	625	50	27.5	7.37	2.93	5.00

MINIMUM CLOSING TIME FOR TWO SPEED C/P DOOR

Heavy Duty Linear Operator

TWO SPEED CENTER PARTING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance **per side** (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
36"	275	84	16	7.37	1.15	1.97
	300	84	16	7.37	1.18	2.01
	325	84	16	7.37	1.20	2.05
	350	84	16	7.37	1.23	2.10
	375	84	16	7.37	1.25	2.14
	400	84	16	7.37	1.27	2.18
	425	84	16	7.37	1.30	2.21
	450	84	16	7.37	1.32	2.25
38"	275	84	17	7.37	1.22	2.09
	300	84	17	7.37	1.25	2.14
	325	84	17	7.37	1.28	2.18
	350	84	17	7.37	1.30	2.23
	375	84	17	7.37	1.33	2.27
	400	84	17	7.37	1.35	2.31
	425	84	17	7.37	1.38	2.35
	450	84	17	7.37	1.40	2.39
40"	300	84	18	7.37	1.32	2.26
	325	84	18	7.37	1.35	2.31
	350	84	18	7.37	1.38	2.36
	375	84	18	7.37	1.41	2.40
	400	84	18	7.37	1.43	2.45
	425	84	18	7.37	1.46	2.49
	450	84	18	7.37	1.48	2.53
	475	84	18	7.37	1.51	2.58
42"	325	84	19	7.37	1.43	2.44
	350	84	19	7.37	1.46	2.49
	375	84	19	7.37	1.48	2.54
	400	84	19	7.37	1.51	2.58
	425	84	19	7.37	1.54	2.63
	450	84	19	7.37	1.56	2.68
	475	84	19	7.37	1.59	2.72
	500	84	19	7.37	1.62	2.76
44"	325	84	20	7.37	1.50	2.57
	350	84	20	7.37	1.53	2.62
	375	84	20	7.37	1.56	2.67
	400	84	20	7.37	1.59	2.72
	425	84	20	7.37	1.62	2.77
	450	84	20	7.37	1.65	2.82
	475	84	20	7.37	1.67	2.86
	500	84	20	7.37	1.70	2.91
46"	350	84	21	7.37	1.61	2.75
	375	84	21	7.37	1.64	2.80
	400	84	21	7.37	1.67	2.86
	425	84	21	7.37	1.70	2.91
	450	84	21	7.37	1.73	2.96
	475	84	21	7.37	1.76	3.01
	500	84	21	7.37	1.79	3.05
	525	84	21	7.37	1.81	3.10
48"	375	84	22	7.37	1.72	2.94
	400	84	22	7.37	1.75	2.99
	425	84	22	7.37	1.78	3.04
	450	84	22	7.37	1.81	3.10
	475	84	22	7.37	1.84	3.15
	500	84	22	7.37	1.87	3.20
	525	84	22	7.37	1.90	3.25
	550	84	22	7.37	1.93	3.30

TWO SPEED CENTER PARTING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance **per side** (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
50"	375	84	23	7.37	1.80	3.07
	400	84	23	7.37	1.83	3.13
	425	84	23	7.37	1.86	3.18
	450	84	23	7.37	1.89	3.24
	475	84	23	7.37	1.93	3.29
	500	84	23	7.37	1.96	3.35
	525	84	23	7.37	1.99	3.40
	550	84	23	7.37	2.02	3.45
52"	400	84	24	7.37	1.91	3.26
	425	84	24	7.37	1.94	3.32
	450	84	24	7.37	1.98	3.38
	475	84	24	7.37	2.01	3.44
	500	84	24	7.37	2.04	3.49
	525	84	24	7.37	2.07	3.55
	550	84	24	7.37	2.11	3.60
	575	84	24	7.37	2.14	3.65
54"	425	84	25	7.37	2.02	3.46
	450	84	25	7.37	2.06	3.52
	475	84	25	7.37	2.09	3.58
	500	84	25	7.37	2.13	3.64
	525	84	25	7.37	2.16	3.69
	550	84	25	7.37	2.19	3.75
	575	84	25	7.37	2.23	3.81
	600	84	25	7.37	2.26	3.86
56"	425	84	26	7.37	2.10	3.60
	450	84	26	7.37	2.14	3.66
	475	84	26	7.37	2.18	3.72
	500	84	26	7.37	2.21	3.78
	525	84	26	7.37	2.25	3.84
	550	84	26	7.37	2.28	3.90
	575	84	26	7.37	2.31	3.96
	600	84	26	7.37	2.35	4.01
58"	450	84	27	7.37	2.22	3.80
	475	84	27	7.37	2.26	3.87
	500	84	27	7.37	2.30	3.93
	525	84	27	7.37	2.33	3.99
	550	84	27	7.37	2.37	4.05
	575	84	27	7.37	2.40	4.11
	600	84	27	7.37	2.44	4.17
	625	84	27	7.37	2.47	4.23
59"	450	84	27.5	7.37	2.26	3.87
	475	84	27.5	7.37	2.30	3.94
	500	84	27.5	7.37	2.34	4.00
	525	84	27.5	7.37	2.38	4.06
	550	84	27.5	7.37	2.41	4.13
	575	84	27.5	7.37	2.45	4.19
	600	84	27.5	7.37	2.48	4.25
	625	84	27.5	7.37	2.52	4.31

MINIMUM CLOSING TIME FOR SINGLE SPEED S/O DOOR

Light Duty Geared Linear Operator

SINGLE SPEED SLIDING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
30"	225	39	26	7.37	1.67	2.85
	250	39	26	7.37	1.74	2.97
	275	39	26	7.37	1.81	3.09
	300	39	26	7.37	1.88	3.21
	325	39	26	7.37	1.94	3.32
	350	39	26	7.37	2.00	3.43
	375	39	26	7.37	2.06	3.53
	400	39	26	7.37	2.12	3.63
32"	225	39	28	7.37	1.80	3.07
	250	39	28	7.37	1.87	3.20
	275	39	28	7.37	1.95	3.33
	300	39	28	7.37	2.02	3.46
	325	39	28	7.37	2.09	3.58
	350	39	28	7.37	2.16	3.69
	375	39	28	7.37	2.22	3.80
	400	39	28	7.37	2.29	3.91
34"	250	39	30	7.37	2.01	3.43
	275	39	30	7.37	2.09	3.57
	300	39	30	7.37	2.17	3.70
	325	39	30	7.37	2.24	3.83
	350	39	30	7.37	2.31	3.95
	375	39	30	7.37	2.38	4.07
	400	39	30	7.37	2.45	4.19
	425	39	30	7.37	2.52	4.30
36"	275	39	32	7.37	2.23	3.81
	300	39	32	7.37	2.31	3.95
	325	39	32	7.37	2.39	4.09
	350	39	32	7.37	2.47	4.22
	375	39	32	7.37	2.54	4.35
	400	39	32	7.37	2.61	4.47
	425	39	32	7.37	2.68	4.59
	450	39	32	7.37	2.75	4.71
38"	275	39	34	7.37	2.37	4.05
	300	39	34	7.37	2.45	4.20
	325	39	34	7.37	2.54	4.34
	350	39	34	7.37	2.62	4.48
	375	39	34	7.37	2.70	4.62
	400	39	34	7.37	2.78	4.75
	425	39	34	7.37	2.85	4.88
	450	39	34	7.37	2.93	5.00
40"	275	39	36	7.37	2.51	4.28
	300	39	36	7.37	2.60	4.44
	325	39	36	7.37	2.69	4.60
	350	39	36	7.37	2.77	4.75
	375	39	36	7.37	2.86	4.89
	400	39	36	7.37	2.94	5.03
	425	39	36	7.37	3.02	5.17
	450	39	36	7.37	3.10	5.30

SINGLE SPEED SLIDING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
42"	325	39	38	7.37	2.84	4.85
	350	39	38	7.37	2.93	5.01
	375	39	38	7.37	3.02	5.16
	400	39	38	7.37	3.10	5.31
	425	39	38	7.37	3.19	5.45
	450	39	38	7.37	3.27	5.59
	475	39	38	7.37	3.35	5.73
	500	39	38	7.37	3.43	5.86
44"	325	39	40	7.37	2.99	5.11
	350	39	40	7.37	3.08	5.27
	375	39	40	7.37	3.18	5.43
	400	39	40	7.37	3.27	5.59
	425	39	40	7.37	3.36	5.74
	450	39	40	7.37	3.44	5.89
	475	39	40	7.37	3.53	6.03
	500	39	40	7.37	3.61	6.17
46"	350	39	42	7.37	3.24	5.54
	375	39	42	7.37	3.34	5.70
	400	39	42	7.37	3.43	5.87
	425	39	42	7.37	3.52	6.03
	450	39	42	7.37	3.61	6.18
	475	39	42	7.37	3.70	6.33
	500	39	42	7.37	3.79	6.48
	525	39	42	7.37	3.87	6.62
48"	375	39	44	7.37	3.49	5.98
	400	39	44	7.37	3.59	6.15
	425	39	44	7.37	3.69	6.31
	450	39	44	7.37	3.79	6.47
	475	39	44	7.37	3.88	6.63
	500	39	44	7.37	3.97	6.79
	525	39	44	7.37	4.06	6.94
	550	39	44	7.37	4.14	7.09
50"	375	39	46	7.37	3.65	6.25
	400	39	46	7.37	3.76	6.43
	425	39	46	7.37	3.86	6.60
	450	39	46	7.37	3.96	6.77
	475	39	46	7.37	4.06	6.93
	500	39	46	7.37	4.15	7.10
	525	39	46	7.37	4.24	7.25
	550	39	46	7.37	4.33	7.41
52"	400	39	48	7.37	3.92	6.71
	425	39	48	7.37	4.03	6.89
	450	39	48	7.37	4.13	7.06
	475	39	48	7.37	4.23	7.24
	500	39	48	7.37	4.33	7.40
	525	39	48	7.37	4.43	7.57
	550	39	48	7.37	4.52	7.73
	600	39	48	7.37	4.70	8.04

MINIMUM CLOSING TIME FOR SINGLE SPEED C/P DOOR

Light Duty Geared Linear Operator

SINGLE SPEED CENTER PARTING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance **per side** (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
30"	225	50	13	7.37	0.83	1.42
	250	50	13	7.37	0.87	1.48
	275	50	13	7.37	0.90	1.54
	300	50	13	7.37	0.94	1.60
	325	50	13	7.37	0.97	1.66
	350	50	13	7.37	1.00	1.71
	375	50	13	7.37	1.03	1.76
	400	50	13	7.37	1.06	1.81
32"	225	50	14	7.37	0.90	1.53
	250	50	14	7.37	0.93	1.60
	275	50	14	7.37	0.97	1.66
	300	50	14	7.37	1.01	1.72
	325	50	14	7.37	1.04	1.78
	350	50	14	7.37	1.08	1.84
	375	50	14	7.37	1.11	1.90
	400	50	14	7.37	1.14	1.95
34"	250	50	15	7.37	1.00	1.71
	275	50	15	7.37	1.04	1.78
	300	50	15	7.37	1.08	1.85
	325	50	15	7.37	1.12	1.91
	350	50	15	7.37	1.15	1.97
	375	50	15	7.37	1.19	2.03
	400	50	15	7.37	1.22	2.09
	425	50	15	7.37	1.26	2.15
36"	275	50	16	7.37	1.11	1.90
	300	50	16	7.37	1.15	1.97
	325	50	16	7.37	1.19	2.04
	350	50	16	7.37	1.23	2.10
	375	50	16	7.37	1.27	2.17
	400	50	16	7.37	1.30	2.23
	425	50	16	7.37	1.34	2.29
	450	50	16	7.37	1.37	2.35
38"	275	50	17	7.37	1.18	2.02
	300	50	17	7.37	1.22	2.09
	325	50	17	7.37	1.27	2.17
	350	50	17	7.37	1.31	2.24
	375	50	17	7.37	1.35	2.30
	400	50	17	7.37	1.39	2.37
	425	50	17	7.37	1.42	2.44
	450	50	17	7.37	1.46	2.50
40"	300	50	18	7.37	1.30	2.22
	325	50	18	7.37	1.34	2.29
	350	50	18	7.37	1.38	2.37
	375	50	18	7.37	1.43	2.44
	400	50	18	7.37	1.47	2.51
	425	50	18	7.37	1.51	2.58
	450	50	18	7.37	1.55	2.64
	475	50	18	7.37	1.58	2.71
42"	325	50	19	7.37	1.42	2.42
	350	50	19	7.37	1.46	2.50
	375	50	19	7.37	1.51	2.58
	400	50	19	7.37	1.55	2.65
	425	50	19	7.37	1.59	2.72
	450	50	19	7.37	1.63	2.79
	475	50	19	7.37	1.67	2.86
	500	50	19	7.37	1.71	2.93
44"	325	50	20	7.37	1.49	2.55
	350	50	20	7.37	1.54	2.63
	375	50	20	7.37	1.59	2.71
	400	50	20	7.37	1.63	2.79
	425	50	20	7.37	1.68	2.86
	450	50	20	7.37	1.72	2.94
	475	50	20	7.37	1.76	3.01
	500	50	20	7.37	1.80	3.08

SINGLE SPEED CENTER PARTING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance **per side** (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
46"	350	50	21	7.37	1.62	2.76
	375	50	21	7.37	1.66	2.85
	400	50	21	7.37	1.71	2.93
	425	50	21	7.37	1.76	3.01
	450	50	21	7.37	1.80	3.09
	475	50	21	7.37	1.85	3.16
	500	50	21	7.37	1.89	3.23
	525	50	21	7.37	1.93	3.31
48"	375	50	22	7.37	1.74	2.98
	400	50	22	7.37	1.79	3.07
	425	50	22	7.37	1.84	3.15
	450	50	22	7.37	1.89	3.23
	475	50	22	7.37	1.94	3.31
	500	50	22	7.37	1.98	3.39
	525	50	22	7.37	2.03	3.46
	550	50	22	7.37	2.07	3.54
50"	375	50	23	7.37	1.82	3.12
	400	50	23	7.37	1.88	3.21
	425	50	23	7.37	1.93	3.29
	450	50	23	7.37	1.98	3.38
	475	50	23	7.37	2.02	3.46
	500	50	23	7.37	2.07	3.54
	525	50	23	7.37	2.12	3.62
	550	50	23	7.37	2.16	3.70
52"	400	50	24	7.37	1.96	3.35
	425	50	24	7.37	2.01	3.44
	450	50	24	7.37	2.06	3.53
	475	50	24	7.37	2.11	3.61
	500	50	24	7.37	2.16	3.70
	525	50	24	7.37	2.21	3.78
	550	50	24	7.37	2.26	3.86
	575	50	24	7.37	2.30	3.94
54"	400	50	25	7.37	2.04	3.49
	425	50	25	7.37	2.09	3.58
	450	50	25	7.37	2.15	3.67
	475	50	25	7.37	2.20	3.76
	500	50	25	7.37	2.25	3.85
	525	50	25	7.37	2.30	3.94
	550	50	25	7.37	2.35	4.02
	575	50	25	7.37	2.40	4.10
56"	400	50	26	7.37	2.12	3.63
	425	50	26	7.37	2.18	3.72
	450	50	26	7.37	2.23	3.82
	475	50	26	7.37	2.29	3.91
	500	50	26	7.37	2.34	4.01
	525	50	26	7.37	2.39	4.09
	550	50	26	7.37	2.45	4.18
	575	50	26	7.37	2.50	4.27
58"	425	50	27	7.37	2.26	3.87
	450	50	27	7.37	2.32	3.97
	475	50	27	7.37	2.38	4.06
	500	50	27	7.37	2.43	4.16
	525	50	27	7.37	2.49	4.25
	550	50	27	7.37	2.54	4.34
	575	50	27	7.37	2.59	4.43
	600	50	27	7.37	2.64	4.52
59"	450	50	27.5	7.37	2.36	4.04
	475	50	27.5	7.37	2.42	4.14
	500	50	27.5	7.37	2.48	4.24
	525	50	27.5	7.37	2.53	4.33
	550	50	27.5	7.37	2.59	4.42
	575	50	27.5	7.37	2.64	4.51
	600	50	27.5	7.37	2.69	4.60
	625	50	27.5	7.37	2.74	4.69

MINIMUM CLOSING TIME FOR TWO SPEED C/P DOOR

Light Duty Geared Linear Operator

TWO SPEED CENTER PARTING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance **per side** (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
36"	275	84	16	7.37	0.99	1.69
	300	84	16	7.37	1.02	1.74
	325	84	16	7.37	1.05	1.79
	350	84	16	7.37	1.07	1.83
	375	84	16	7.37	1.10	1.88
	400	84	16	7.37	1.13	1.93
	425	84	16	7.37	1.15	1.97
	450	84	16	7.37	1.18	2.01
38"	275	84	17	7.37	1.05	1.79
	300	84	17	7.37	1.08	1.85
	325	84	17	7.37	1.11	1.90
	350	84	17	7.37	1.14	1.95
	375	84	17	7.37	1.17	2.00
	400	84	17	7.37	1.20	2.05
	425	84	17	7.37	1.22	2.09
	450	84	17	7.37	1.25	2.14
40"	300	84	18	7.37	1.14	1.96
	325	84	18	7.37	1.18	2.01
	350	84	18	7.37	1.21	2.06
	375	84	18	7.37	1.24	2.12
	400	84	18	7.37	1.27	2.17
	425	84	18	7.37	1.30	2.22
	450	84	18	7.37	1.32	2.26
	475	84	18	7.37	1.35	2.31
42"	325	84	19	7.37	1.24	2.12
	350	84	19	7.37	1.27	2.18
	375	84	19	7.37	1.31	2.23
	400	84	19	7.37	1.34	2.29
	425	84	19	7.37	1.37	2.34
	450	84	19	7.37	1.40	2.39
	475	84	19	7.37	1.43	2.44
	500	84	19	7.37	1.46	2.49
44"	325	84	20	7.37	1.31	2.23
	350	84	20	7.37	1.34	2.29
	375	84	20	7.37	1.37	2.35
	400	84	20	7.37	1.41	2.41
	425	84	20	7.37	1.44	2.46
	450	84	20	7.37	1.47	2.52
	475	84	20	7.37	1.50	2.57
	500	84	20	7.37	1.53	2.62
46"	350	84	21	7.37	1.41	2.41
	375	84	21	7.37	1.44	2.47
	400	84	21	7.37	1.48	2.53
	425	84	21	7.37	1.51	2.58
	450	84	21	7.37	1.54	2.64
	475	84	21	7.37	1.58	2.70
	500	84	21	7.37	1.61	2.75
	525	84	21	7.37	1.64	2.80
48"	375	84	22	7.37	1.51	2.59
	400	84	22	7.37	1.55	2.65
	425	84	22	7.37	1.58	2.71
	450	84	22	7.37	1.62	2.77
	475	84	22	7.37	1.65	2.82
	500	84	22	7.37	1.69	2.88
	525	84	22	7.37	1.72	2.94
	550	84	22	7.37	1.75	2.99

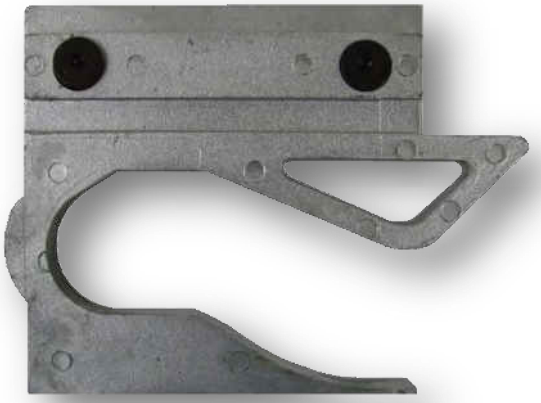
TWO SPEED CENTER PARTING DOOR						
DOOR WIDTH (Inch)	Door Weight (lbs)	Equipment Weight (lbs)	Code Distance **per side** (Inch)	Average Kinetic Energy (ft-lbs)	Minimum Code Time (seconds)	Minimum Code Time When Door Protection Disabled (Nudging) (seconds)
50"	375	84	23	7.37	1.58	2.70
	400	84	23	7.37	1.62	2.77
	425	84	23	7.37	1.66	2.83
	450	84	23	7.37	1.69	2.89
	475	84	23	7.37	1.73	2.95
	500	84	23	7.37	1.76	3.01
	525	84	23	7.37	1.80	3.07
	550	84	23	7.37	1.83	3.13
52"	400	84	24	7.37	1.69	2.89
	425	84	24	7.37	1.73	2.95
	450	84	24	7.37	1.77	3.02
	475	84	24	7.37	1.80	3.08
	500	84	24	7.37	1.84	3.14
	525	84	24	7.37	1.87	3.20
	550	84	24	7.37	1.91	3.26
	575	84	24	7.37	1.94	3.32
54"	425	84	25	7.37	1.80	3.08
	450	84	25	7.37	1.84	3.14
	475	84	25	7.37	1.88	3.21
	500	84	25	7.37	1.91	3.27
	525	84	25	7.37	1.95	3.34
	550	84	25	7.37	1.99	3.40
	575	84	25	7.37	2.02	3.46
	600	84	25	7.37	2.06	3.52
56"	425	84	26	7.37	1.87	3.20
	450	84	26	7.37	1.91	3.27
	475	84	26	7.37	1.95	3.34
	500	84	26	7.37	1.99	3.41
	525	84	26	7.37	2.03	3.47
	550	84	26	7.37	2.07	3.54
	575	84	26	7.37	2.10	3.60
	600	84	26	7.37	2.14	3.66
58"	450	84	27	7.37	1.99	3.40
	475	84	27	7.37	2.03	3.47
	500	84	27	7.37	2.07	3.54
	525	84	27	7.37	2.11	3.60
	550	84	27	7.37	2.15	3.67
	575	84	27	7.37	2.19	3.74
	600	84	27	7.37	2.22	3.80
	625	84	27	7.37	2.26	3.87
59"	450	84	27.5	7.37	2.02	3.46
	475	84	27.5	7.37	2.06	3.53
	500	84	27.5	7.37	2.11	3.60
	525	84	27.5	7.37	2.15	3.67
	550	84	27.5	7.37	2.19	3.74
	575	84	27.5	7.37	2.23	3.81
	600	84	27.5	7.37	2.26	3.87
	625	84	27.5	7.37	2.30	3.94

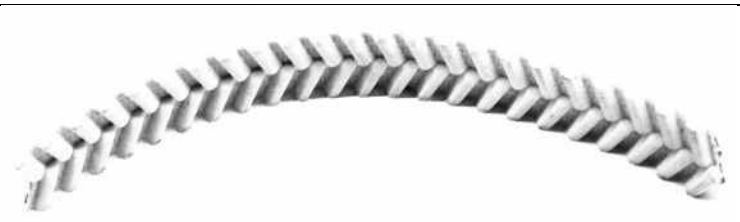
PARTS LIST

The following parts can be purchased from GAL

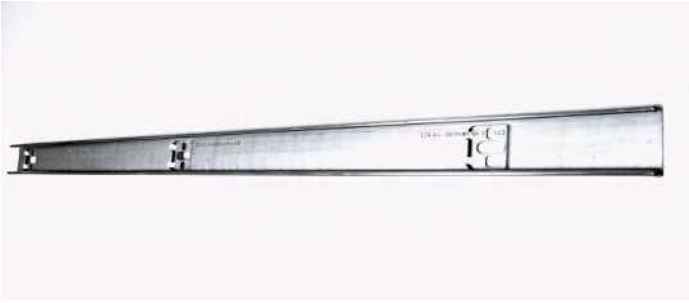
Note: GAL reserves the right to replace any items in this list at any time without notice.

Item	Description	Picture	GAL Par No.
1	SINGLE SIDE SLIDE UNIVERSAL PLATE (RH, LH)		2000-1031-R 2000-1031-L
2	SINGLE SIDE SLIDE EXTENSION ARM (18”, 30”, 39”)		2000-1037-A 2000-1038-A 2000-1039-A
3	LOWER BELT BRACKET KEEPER ASSEMBLY R.H.SHOWN		2500-3068- L L.H. 2500-3068-R RH.
4	TAKE-UP PULLEY ASSEMBLY		2500-3075
5	LINEAR BELT TENSION BLOCK ASSEMBLY		2500-3080

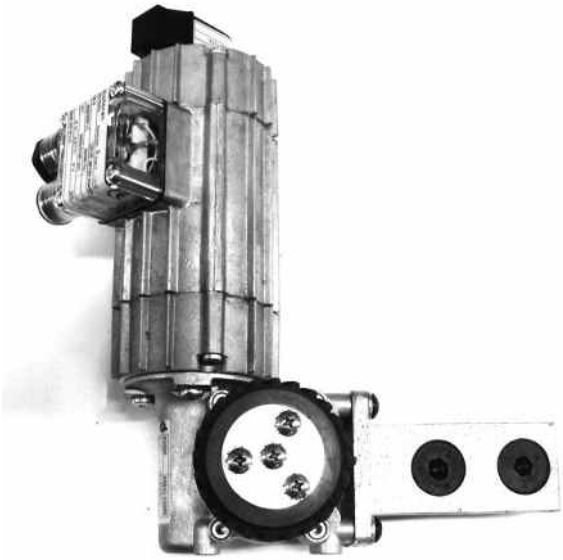
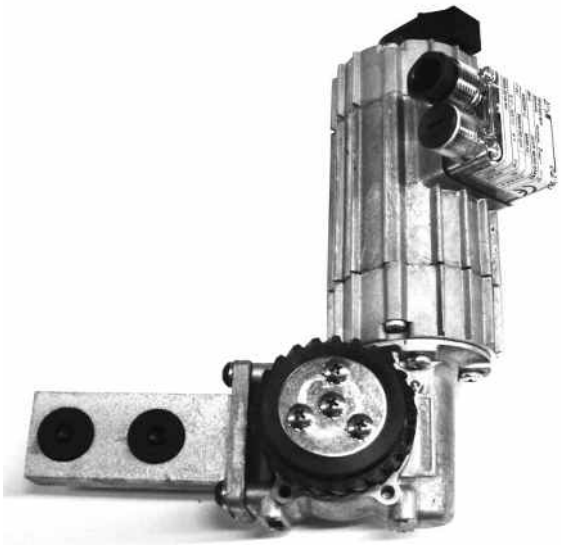
6	GATE SWITCH ASSEMBLY		SW1-0001N
7	LEFT HAND SHOWN KEEPER BRACKET ASSEMBLY		2500-3092-L L.H. 2500-3092-R R.H.
8	CLUTCH CAM ASSEMBLY		2500-3084
9	FIXING STRUT OPEN DOOR STOP		2500-3088

10	2-SPEED SIDE SLIDE OPEN-CLOSED DOOR STOP		2500-3089
11	LINEAR DRIVE BELT		2500-5009
12	GATE SWITCH ROLLER		SW1-0007N
13	CLUTCH LINKAGE ARM ASSEMBLY		2000-3085
14	DCL & DOL SENSOR BLOCK ASSEMBLY		2500-5019
15	2-SPEED UNIVERSAL BRACKET SIDE SLIDE		2000-1040-2S
16	TRACK SHIM		HH1-0032N

17	DOOR SHEAVE ASSEMBLY		INQUIRE WITH GAL/ECI FOR APROPRIATE SHEAVES FOR YOUR APPLICATION
18	HEADER ANGLE-SSL/CP		909-SERIES
19	FIXING STRUT		2000-3066 (SSL) 2000-3067 (2 SP)
20	DRIVE PULLEY ASSEMBLY		2500-3074
21	MULTI “V” MOTOR BELT		2500-2075-1(8') 2500-2075-2 (8'-6") 2500-2075-3 (9') 2500-2075-4 (9'-6") 2500-2075-5 (10')

22	½ HP 3-PH MOTOR ASSEMBLY + PIVOT AND BASE PLATE		2500-3059
23	KEEPER CLUTCH ASSEMBLY		892-5008 & 892-2007
24	TRACK		INQUIRE WITH GAL/ECI FOR APROPRIATE APLLICATION

25	COMPLETE DRIVE UNIT BOX ASSEMBLY		2500-3054
26	UNIVERSAL PLATE-CP		2000-1040-D-4
27	EXTENSION ARM-CP (10”, 14”)		2000-1041-A 2000-1042-A
28	UPPER BELT BRACKET USE ON C/P ONLY		2000-3069

29	MOVFE2500 GEARED MOTOR MOUNTING		2500-5024
30	HEAVY DUTY LINEAR BELT PULLEY		2500-1012
31	GEARED MOTOR ASSEMBLY – LEFT HAND		2500-3072-L
32	GEARED MOTOR ASSEMBLY – RIGHT HAND		2500-3072-R

NOTES