

ELEVATOR REVIEW

BY SENTRY ELEVATOR INSPECTIONS



PREFACE

The purpose of this report is to assess the condition of the equipment and associated parts of one passenger elevator located at Ocean Condos of Florida. This assessment was conducted using methods and procedures consistent with acceptable industry codes and/or standards, and represents conditions that existed on the date of the on-site visit. Additionally, opinions and observations expressed in this report are believed to be accurate to a reasonable degree of professional certainty and will be used for the purpose of review by elevator owner. Elevator maintenance performance is also evaluated.

This equipment was examined by [Technician], technician for Sentry Elevator Inspections, CET #XXXX.

The elevators assessed have been assigned the following designators:

Traction Elevator 1 bearing state serial number #####

The assessment includes evaluations of:

- Type and age of equipment
- Condition of equipment
- Level of maintenance being performed
- Equipment for which modernization is recommended

Elevator equipment examined includes, access routes, machine spaces, hoistway, pit, top of elevator cab, elevator lobby, and elevator cab interior.

NOTE: The following is not a code inspection. This just evaluates the accessible condition of the equipment and the service being provided for your review. This evaluation is a non-obtrusive observation of accessible equipment and does not claim to be conclusive or extensive and is only to provide information to the owner/manager of the unit.

GENERAL

Ride Quality and performance reviews relevant to elevator car speed, floor-to-floor performance times, door opening and closing times, door closing pressure, door hold open delay time for car and hall calls were made on each elevator covered in this report were applicable.

ELEVATOR CAR SPEED

Elevator car speed is measured with a digital tachometer/accelerometer with an allowance +/-1 FPM for accuracy. Elevator speed is tested while the elevator makes a full run through the hoistway with no load in the car, in both directions of travel. The speed of the elevator should be maintained +/- 10% of rated speed for hydraulic and +/- 5% of rated speed for traction elevators. The rated speed is recorded on the car top data tag and/or governor data tag of each elevator.

B. FLOOR-TO-FLOOR PERFORMANCE

Floor-to-floor performance times are measured from the instant the car begins to move at a typical floor until the car stops at the next successive typical floor in both directions of travel or for a full hoistway run from the top floor to the bottom floor. Typical floor rise is used for evaluation of floor to-floor performance times.

C. DOOR OPENING TIME

Door opening time is measured from the time the doors are 1 inch from fully closed until the doors are 1 inch from fully open for center parting openings and 2 inches from fully closed until the doors are 2 inches from fully open for side openings. Door opening time should be as fast as possible with smooth acceleration and deceleration.

D. DOOR CLOSING TIME

Door closing time is measured from the time the doors are 1 inch from fully open until the doors are 1 inch from fully closed for center parting openings and 2 inches from fully open until the doors are 2 inches from fully closed for side openings. The ASME A171, Safety Code for Elevators and Escalators, limits the level of kinetic energy (in foot-pounds of force) that can be generated during door closing operations, therefore limiting door closing time. Manufacturer information is used to calculate the weight of the moving mass and determine minimum times.

E. DOOR CLOSING FORCE

Door closing force is tested with a spring pressure gauge on the leading edge of the car door, at any point between one third and two thirds of the door travel, as the doors attempt to close. The measured value is the force required to prevent the doors from closing under power. The force required to prevent the door from closing shall not exceed 30 ft-lbs.

F. DOOR OPEN DWELL TIME FOR HALL CALLS

Door open dwell time for hall calls is measured from the instant the doors are fully open, until the doors begin to close, when the car stops in response to a hall call. ADA requires a minimum time of 5 seconds. The minimum time may be increased depending on the distance from the furthest hall call button controlling that elevator car to the center of its hoistway door.

G. DOOR OPEN DWELL TIME FOR CAR CALLS

Door open dwell time for car calls is measured from the instant the doors are fully open, until the doors begin to close, when the elevator car stops in response to a car call. ADA requires a minimum time of 3 seconds.

H. DOOR NUDGING TIME

Door nudging time is measured from the time the doors reach the fully open position, until the door nudging buzzer sounds and the doors begin to close, ignoring car door re-opening devices. ADA requires a minimum 20 second delay before nudging can be activated. Car door nudging is not recommended for use in buildings such as hospitals, retirement homes, etc., but is required if full height car door protection is used on installations that include Fireman's Service Operation.

I. ACCELERATION AND DECELERATION

Acceleration and deceleration should be smooth, without any noticeable steps from zero to normal elevator operating speed. Stopping should be smooth. ADA requires stopping accuracy to be +/- 1/2 inch at all floors, loaded or empty, regardless of door position.

J. JERK

Jerk is a term used to describe a change in acceleration, and is measured by a special accelerometer. In mathematical terms, a jerk is equal to a change in acceleration of one foot per second per second, in one second of time, or a rate change of 0.03108 g's in one second. Acceptable jerk measurement is 15.0 or less.

The majority of items noted under "Equipment Commentary" would normally be completed as part of a service contract under terms for such agreements that are standard for the industry. Items not normally included in service agreements are listed under the "Recommended System Replacement/Upgrades" section.

Any reference to A17.1 refers to the American Society of Mechanical Engineers (ASME) A17.1 Safety Code for Elevators and Escalators. Under Florida law Chapter 399.03, each elevator must meet the edition of the code that was in effect at the time the permit application for the installation of the elevator was applied for.

In summary, the traction elevator equipment at this location was of a newer design at the time of installation and as such, several changes have occurred to this product line. The level of maintenance provided does not appear adequate to achieve the average life expectancy for similar elevators. The equipment is however of adequate quality which can compensate to some extent for substandard maintenance practices.

PART I - ELEVATOR EQUIPMENT

This elevator is the left-hand car in a two-car, traction group operation. Schindler Elevator Company installed this unit in 2006 using Schindler equipment and components. Elevator #1 is located in a common hoistway and machine room with Elevator #2. This car serves front and rear entrances at the bottom level and rear entrances at levels 2-8. Levels designated G and L are the same level of the building. This original equipment was installed to comply with ASME A17.1, Safety Code for Elevators and Escalators 2000 Edition, effective in Florida 10/01/2005 beginning with serial number 89682. Schindler Elevator is the current maintenance provider and operates in Florida as a global, full-service elevator manufacturer, installer, and maintenance firm.

Ocean Condos of Florida	
Designation	Details
Building	486
Unit Designation	Elevator 1
Landings	9 Front, 0 Rear
Floor Designations	G, 1-8
Capacity	2500 lbs
Rated Speed	200 FPM
Equipment Type	Traction
Controller Type	MCE
Travel	28m

PART II - EQUIPMENT CONDITION

#	ITEM	FINDINGS	NOTES
1	Performance	Satisfactory	Overall operation and performance is good
2	Floor Stops	Satisfactory	Floor stops not more than 1/4 inch off of floor level at floors in both directions. ADA requires stops within 1/2 inch.
3	Car High Speed	200 FPM up 200 FPM down	Acceptable up and down. Should be within 5% of rated speed of 200 FPM in both directions.
4	Floor to Floor Time	24.6 secs. up 24.7 secs. dn	Acceptable up and down. This measurement is to compare operation with similar elevators within the same building.
5	Start g-forces	0.06 up 0.06 down	Acceptable up and down; Optimal is 0.04 – 0.09 g's.
6	Acceleration g-forces	0.06 up 0.06 down	Acceptable up and down; Optimal is 0.04 – 0.09 g's.
7	Deceleration g-forces	0.06 up 0.06 down	Acceptable up and down; Optimal is 0.04 – 0.09 g's.
8	Door Dwell time - Car call	5.26 secs. front 4.60 secs. rear	Satisfactory - minimum time is 3.0 seconds per ADA
9	Door Dwell time – Hall call	13.86 sec front 14.04 sec rear	Satisfactory– minimum time 5.0 seconds per ADA.
10	Machine Room Lighting	217 lux	Acceptable – meets the code required minimum illumination level of 200 Lux minimum (19 ft-candles.)
11	Machine Room Ambient Sound Level – running	75.2 decibels Running	Satisfactory; For reference only – to compare to any replacement equipment in the future.
12	Machine Room Ambient Temperature – running	77.6 °F	For reference only – Current codes require control of temperature and humidity in the machine room. Usually this is accomplished by air conditioning or by forced flow of conditioned air.
13	Machine Room Relative Humidity	44 % RH	For reference only – Current codes require control of temperature and humidity in the machine room. Usually this is accomplished by air conditioning or by forced flow of conditioned air.

PART III - SERVICE REVIEW

#	ITEM	RATING (1-5)	NOTES
14	Emergency Phone Operation	5	Clean and working
15	Machine Room Condition	3	Non-elevator materials stored, should be removed
16	Pit Condition	2	Oil in pit. Should be evaluated
17	Elevator Fan Operation	2	Excessive noise, should be evaluated
18	Hoistway Door Track Condition	4	Clean and Clear
19	Hoistway Interlock Condition	5	Good
20	Sill Track Condition	4	Minor wear on 3rd floor
21	Maintenance Control Program	5	Available
22	Emergency Evacuation Procedures	1	Not viewable onsite, should be included
23	Log Book Evaluation	4	Good
24	- Up-to-date	4	Yes
25	- Frequency of Service Visits	4	Quarterly
26	Wiring Diagrams	4	Onsite and readable
27	Door Operation	5	Excellent
28	Door Gaps	3	2nd Floor door gap exceeds .5" should be adjusted
29	Push Button Lighting/Operation	2	Car 4th floor button light not operational
30	Braille Condition	4	Good, minor damage on car call braille
31	Fire Extinguisher	5	Good. Expires Sept 2024

Rating Key

- 1 - Very Poor, need immediate attention
- 2 - Poor, review with your service company
- 3 - Acceptable, maintained but may need attention in the near future
- 4 - Very Good, above average service
- 5 - Excellent, exceeds expectations on service

PART IV - OPERATION NOTATIONS

Attached you can find the collected data of motion and noise and their graphs UP Direction.

Duration 49.7 s

Acceleration min -0.627 m/sec^2

Acceleration max 0.685 m/sec^2

Jerk min -1.865 m/sec^3

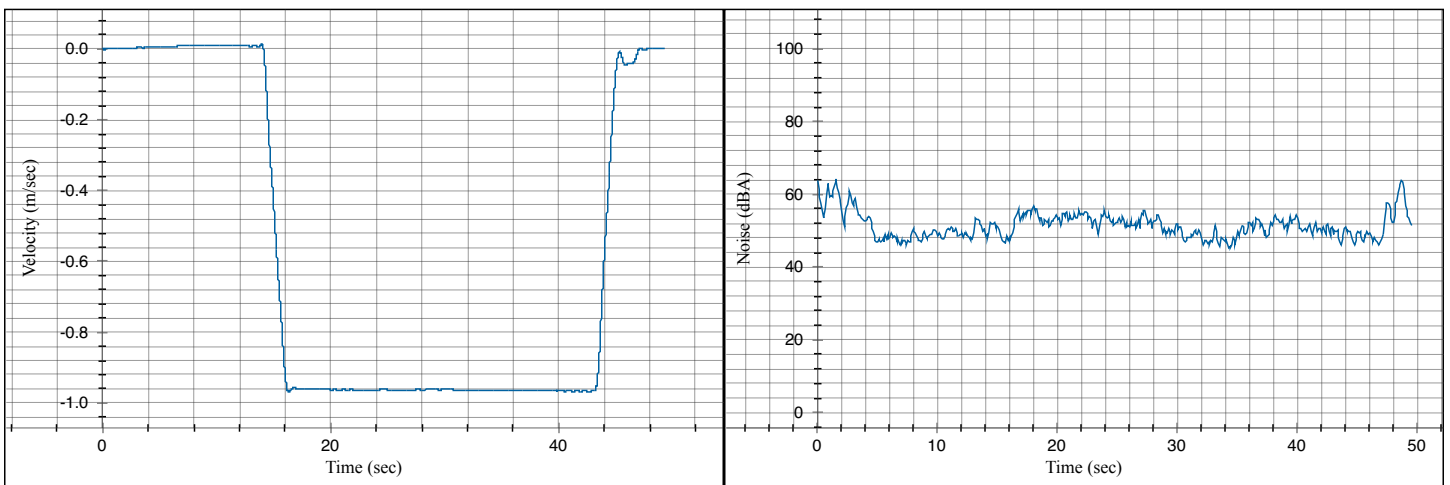
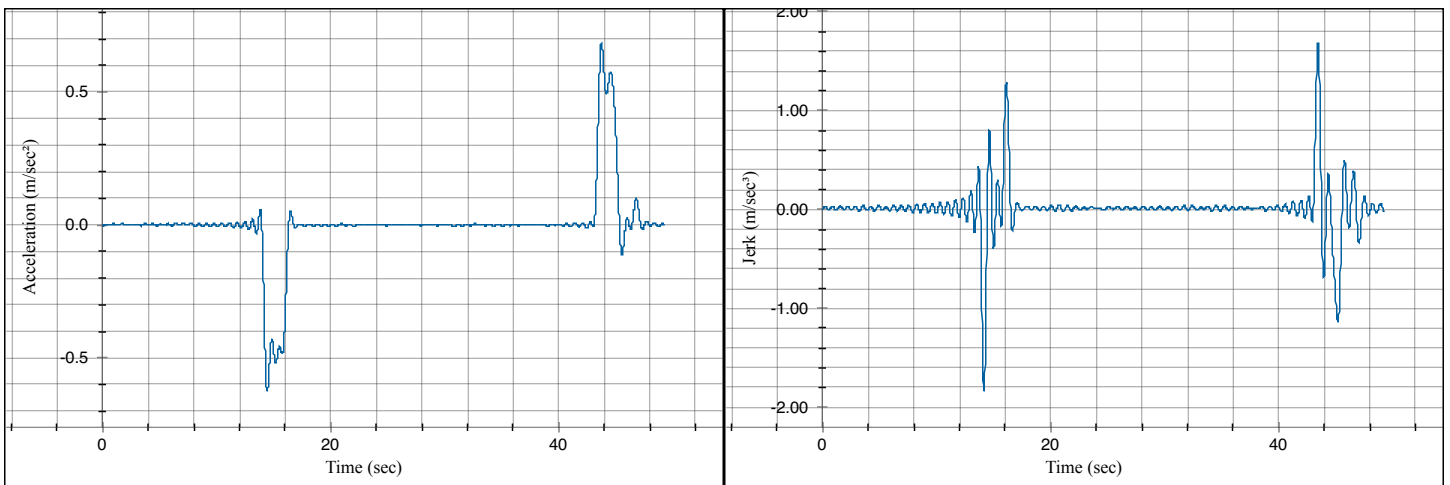
Jerk max 1.685 m/sec^3

Velocity max -0.970 m/sec

Distance travelled -28.030 m

Noise min 45.3 dBA

Noise max 64.3 dBA



Attached you can find the collected data of motion and noise and their graphs DOWN Direction.

Duration 48.5 s

Acceleration min -0.618 m/sec^2

Acceleration max 0.578 m/sec^2

Jerk min -1.494 m/sec^3

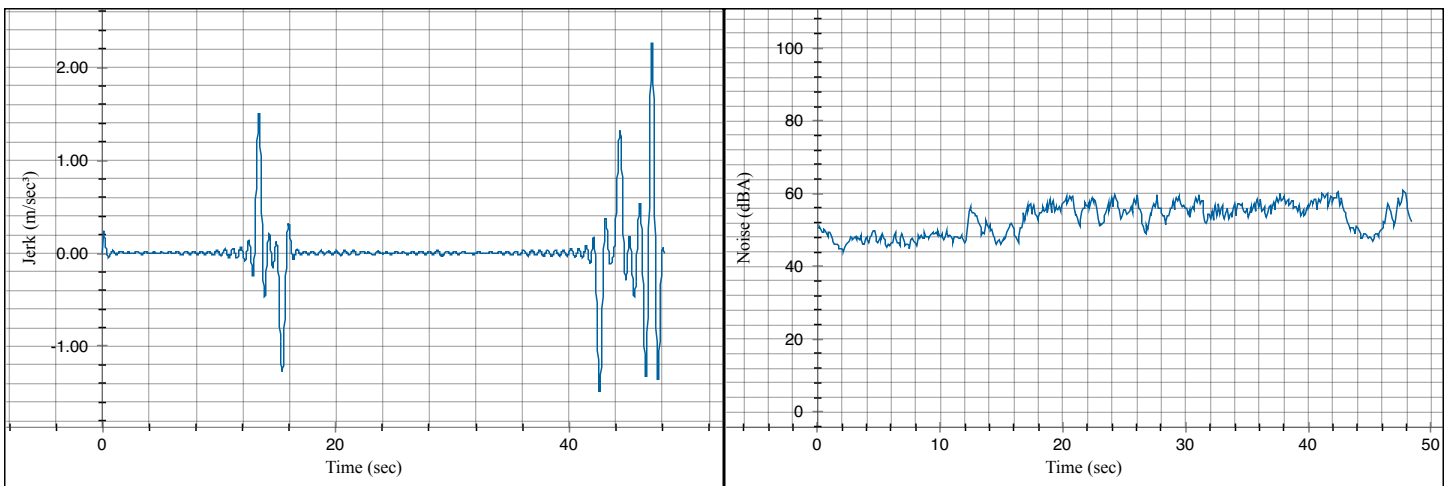
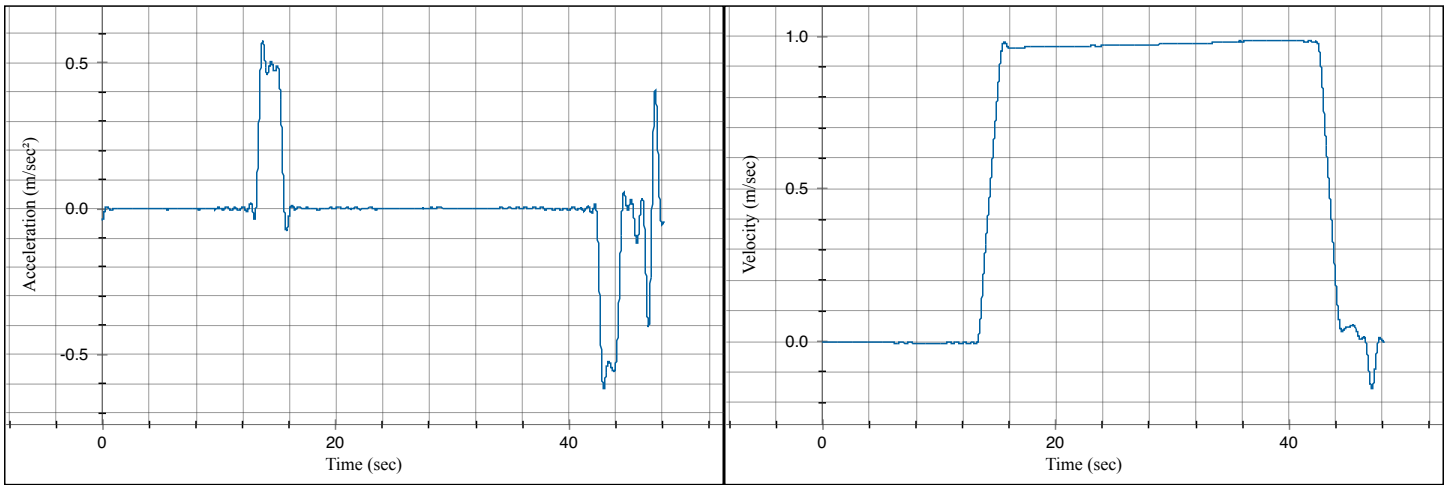
Jerk max 2.263 m/sec^3

Velocity max 0.987 m/sec

Distance travelled 28.397 m

Noise min 44.0 dBA

Noise max 60.7 dBA



PART V - PHOTOS



#15 machine room clean up needed



#28 door gap exceeds .5"



#30 Damaged Braille



#16 Oil and water in pit